UNIVERSITY OF CALIFORNIA, SAN DIEGO

SCRIPPS INSTITUTION OF OCEANOGRAPHY

LA JOLLA, CALIFORNIA 92093-0227

PHYSICAL, CHEMICAL AND BIOLOGICAL DATA

CalCOFI Cruise 0001
7 – 27 January 2000

CalCOFI Cruise 0004
7 – 29 April 2000

SIO Reference 00-16
21 October 2000

Approved for distribution:

_____
Charles F. Kennel, Director

CONTENTS

INTRODUCTION

The data in this report were collected during cruises 0001* and 0004 of the California Cooperative Oceanic Fisheries Investigations (CalCOFI) program aboard the RV *New Horizon* of Scripps Institution of Oceanography, University of California, San Diego and the NOAA ship RV *David Starr Jordan*. 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 the cruises 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. CalCOFI data presented in this report and collected on previous cruises can be accessed via the World Wide Web (http://www-mlrg.ucsd.edu/calcofi.html).

STANDARD PROCEDURES

CTD/Rosette Cast Data

At each station on these cruises a Sea-Bird Electronics, Inc., Conductivity-Temperature-Depth (CTD) instrument was deployed with a 24-place 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. The sample spacing was designed to sample depth intervals as close as 10 meters around the sharp upper thermocline features such as the chlorophyll, oxygen, nitrite maxima and the shallow salinity minimum. 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.

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 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 P134. 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 there was doubt concerning the accuracy of the analytical results the salinities were reported to two decimal places.

Dissolved oxygen samples were collected in calibrated 100 ml iodine flasks, allowing at least 200% overflow. The dissolved oxygen samples were analyzed at sea 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).

Nutrient samples were analyzed at sea for dissolved silicate, phosphate, nitrate and nitrite using procedures similar to those described in Gordon et al., 1993. Samples were collected in 45 ml high density polypropylene screw-capped tubes which were rinsed three times prior to filling. Standardizations were done at the beginning and end of each group of samples with a set of mid-concentration range standards prepared fresh for each run. Samples

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

not analyzed immediately after collection were refrigerated and run the following day. Sets of six different concentration standards were analyzed periodically to determine the deviation from linearity as a function of concentration, primarily for the silicate and nitrate analyses. Final sample concentrations were corrected for deviations from linearity.

Samples for chlorophyll-*a* and phaeopigments were collected in calibrated 138 ml polyethylene bottles and 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 water sample 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).

Primary Productivity Sampling

Primary productivity samples were taken each day shortly before local apparent noon (LAN). Primary production was estimated from ^{14}C uptake using a simulated *in situ* technique. Light penetration was estimated from the Secchi depth (assuming that the 1% light level is three times the Secchi depth). 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 µCi of ^{14}C as $NaHCO_3$ (200 µl of 50 µCi/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% HCl was added to each sample. The sample was then allowed to sit, without a cap, at room temperature for 12 hours (after Lean and Burnison, 1979). Following this, 10 ml of scintillation fluor were added to each sample and the samples were returned to SIO where the radioactivity was determined with a scintillation counter. Salinity, oxygen, nutrients, chlorophyll-*a* and phaeopigments were determined from all rosette productivity bottles.

Macrozooplankton Net Tows

Macrozooplankton was sampled with a 71 cm mouth diameter paired net (bongo net) equipped with 0.505µm 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). An Optical Plankton Counter (OPC) was routinely used in one side of the paired bongo net frame. The purpose of the OPC is to obtain information on the vertical distributions of size categories of zooplankton, using data from the counter, without affecting the ongoing time series of data obtained from the catches of the integrative bongo net.

Avifauna Observations

On cruise 0004 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*. Sea water was pumped onboard the ship by two separate pumps using two different flow systems. Continuous near surface measurements of temperature, salinity and chlorophyll fluorescence were recorded from water pumped through the ship's uncontaminated seawater system. The data were logged at one-minute intervals. Pelagic fish eggs were collected underway throughout the entire CalCOFI pattern with a separate large volume pump system. This pump drew a continuous subsurface sample of approximately 640 liters per minute, which was concentrated and then collected by a 505µm sieve. Subsamples were taken at intervals ranging from 10 to 30 minutes, depending on the egg concentration, for enumeration of all retained fish eggs. On Cruise 0004 the underway sampling of physical and chemical properties as well as egg pumping extended north of the usual CalCOFI cruise track to sample line 43 from stations 61 to 70.

2) *ADCP*. Continuous profiles of ocean currents and acoustic backscatter between 20 and 400 meters deep were measured along the shiptrack from a hull-mounted 150 kHz Acoustic Doppler Current Profiler (ADCP). The ADCP data were averaged over 3-minute intervals. Sixty 8-meter depth bins were recorded.

3) *Bio-optics. In-situ* measurements of apparent and inherent optical properties of seawater were obtained daily using a bio-optical package consisting of a MER-2048 (Multi-channel Environmental Radiometer), a Sea-Bird CTD, a transmissometer and a Wetlabs AC-9. Also integrated into the profiling system was a Fast Repetition Rate Fluorometer (FRRF), which provided vertical profiles of chlorophyll-*a* variable fluorescence and a Hydroscat-6 which measured spectral backscattering at six wavelengths. On both cruises measurements were obtained daily at the primary productivity station in the upper 200 meters of the water column. Water samples were collected from the CTD/Rosette casts at the same stations as MER deployments, to determine particulate, detrital, and soluble absorption. Measurements of phytoplankton pigment concentrations were made using HPLC in addition to determination of particulate organic carbon, nitrogen, phycoerythrin concentrations and particle size distribution using flow-cytometry and Coulter Counter techniques.

TABULATED DATA

CTD/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 are 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 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 ($cm^3/1000m^3$ strained) and as the total volume minus the volume of larger organisms under the heading "Small." Tow times are given in local PST (+8) time.

FOOTNOTES

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

D: CTD salinity value listed in place of normal shipboard 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.

LITERATURE CITED

Anderson, G. C., compiler, 1971. "Oxygen Analysis," Marine Technician's Handbook, SIO Ref. No. 71-8, Sea Grant Pub. No. 9.

Carpenter, J. H., 1965. The Chesapeake Bay Institute technique for the Winkler dissolved oxygen method. *Limnol. Oceanogr., 10*: 141-143.

Carter, D. J. T., 1980. Echo-sounding correction tables. Third Edition. Hydrographic Department, Ministry of Defence, Taunton, U.K., NP 139: 150 pp.

Fitzwater, S. E., G. A. Knauer and J. H. Martin, 1982. Metal contamination and its effect on primary production measurements. *Limnol. Oceanogr., 27*: 544-551.

Gordon, L. I., J. C. Jennings, Jr., A. A. Ross, and J. M. Krest, 1993. A suggested protocol for continuous flow automated analysis of seawater nutrients (phosphate, nitrate, nitrite and silicic acid) in the WOCE Hydrographic Program and the Joint Global Ocean Fluxes Study. WOCE Operations Manual, Part 3.1.3 "WHP Operations and Methods," *WHP Office Report WHPO 91-1*.

Holm-Hansen, O., C. J. Lorenzen, R. W. Holmes and J. D. H. Strickland, 1965. Fluorometric determination of chlorophyll. *J. Cons. perm. int. Explor. Mer, 30*: 3-15.

Klein, H. T., 1973. A new technique for processing physical oceanographic data. SIO Ref. No. 73-14.

Kramer, D., M. J. Kalin, E. G. Stevens, J. R. Thrailkill and J. R. Zweifel, 1972. Collecting and processing data on fish eggs and larvae in the California Current region. *NOAA Technical Report NMFS CIRC-370:* 38 pp.

Lean, D. R. S. and B. K. Burnison, 1979. An evaluation of errors in the ^{14}C method of primary production measurement. *Limnol. Oceanogr., 24*: 917-928.

Reid, J. L. and A. W. Mantyla, 1976. The effect of the geostrophic flow upon coastal sea elevations in the northern North Pacific Ocean. *J. Geophys. Res., 81:* 3100-3110.

Parsons, T. R., Y. Maita, C. M. Lalli, 1984. *A Manual of Chemical and Biological Methods for Seawater Analysis*. Pergamon Press Ltd., 3-28.

Saunders, P. M., 1981. Practical conversion of pressure to depth. *J. Phys. Oceanogr., 11*: 573-574.

Scripps Institution of Oceanography, University of California, 1991. Physical, Chemical and Biological Data, CalCOFI Cruises 9003 and 9004. SIO Ref. 91-4, 96 pp.

UNESCO, 1981, a. Background papers and supporting data on the Practical Salinity Scale, 1978. *UNESCO Tech. Pap. in Mar. Sci., No. 37.*

UNESCO, 1981, b. Background papers and supporting data on the International Equation of State 1980. *UNESCO Tech. Pap. in Mar. Sci., No. 38.*

Venrick, E. L. and T. L. Hayward, 1984. Determining chlorophyll on the 1984 CalCOFI surveys. *CalCOFI Rep., Vol. XXV*: 74-79.

Weiss, R. F., 1970. The solubility of nitrogen, oxygen and argon in water and seawater. *Deep-Sea Res., 17:* 721-735.

Yentsch, C. S. and D. W. Menzel, 1963. A method for the determination of phytoplankton, chlorophyll and phaeophytin by fluorescence. *Deep-Sea Res., 10:* 221-231.

FIGURES

Cruise 0001

1. CalCOFI Cruise 0001, track and station positions.

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

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

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

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

CALCOFI CRUISE 0001

7 - 27 January 2000

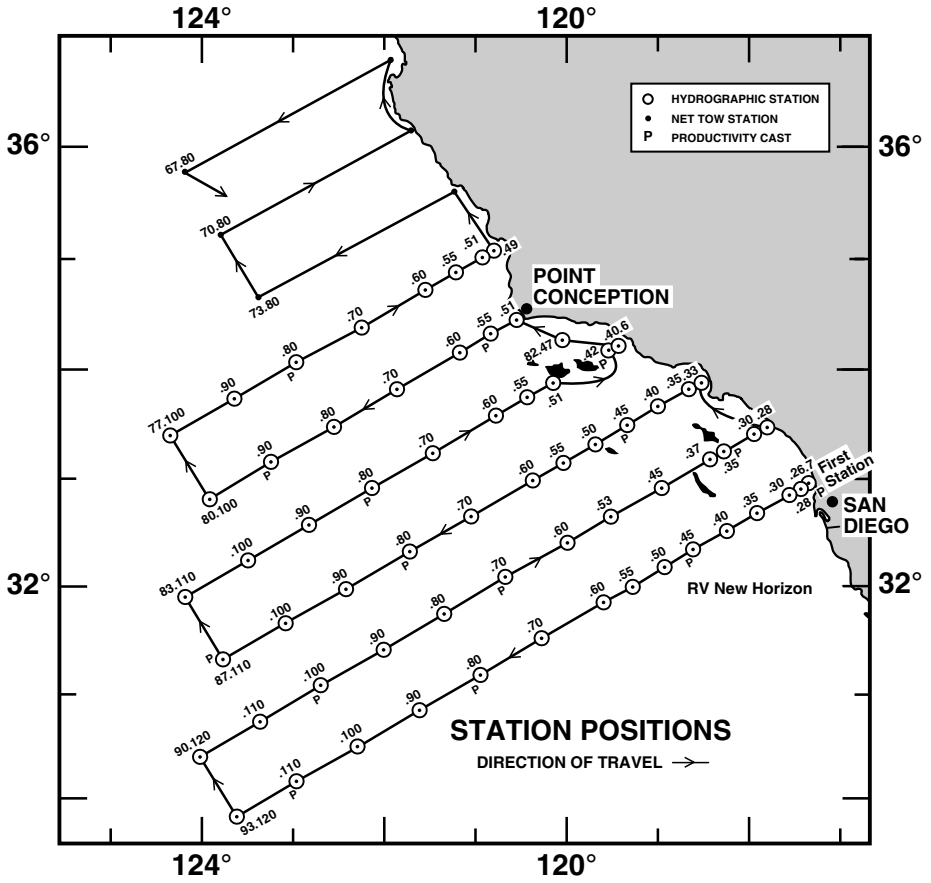

FIGURE 1

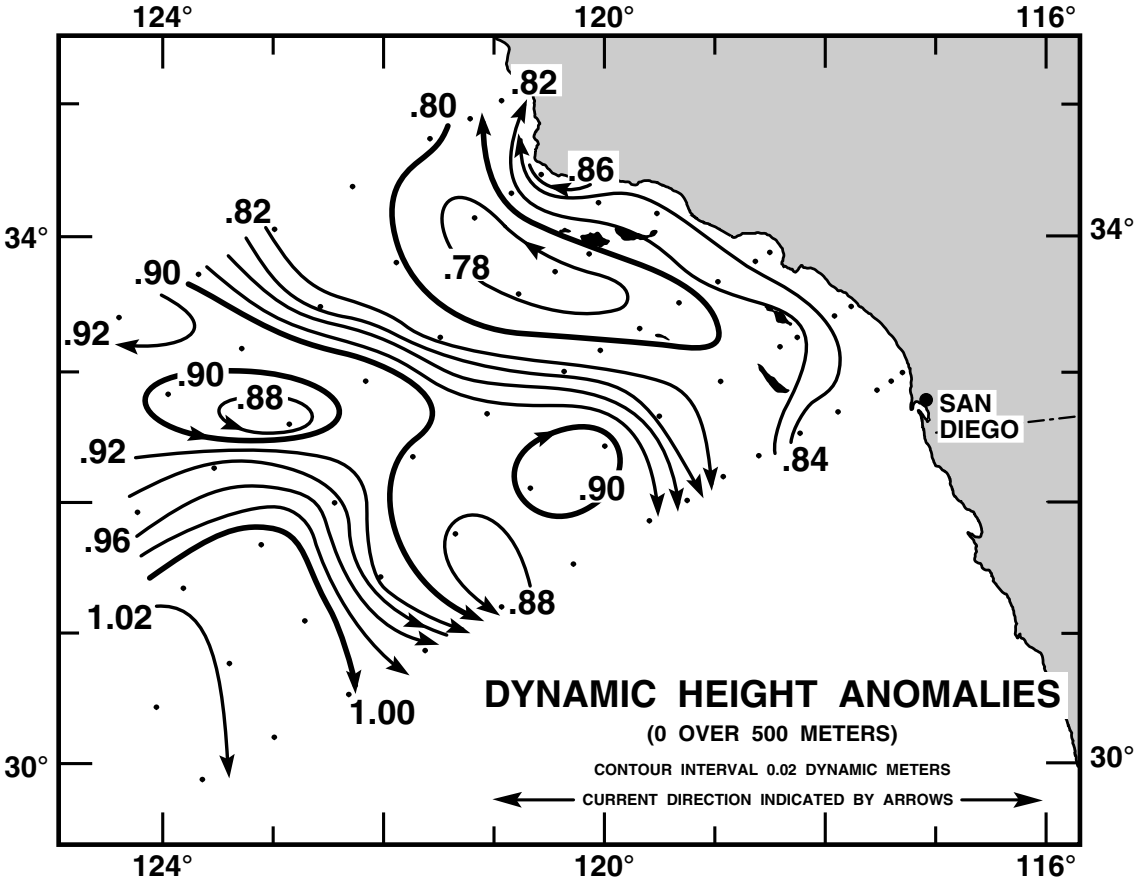

FIGURE 2

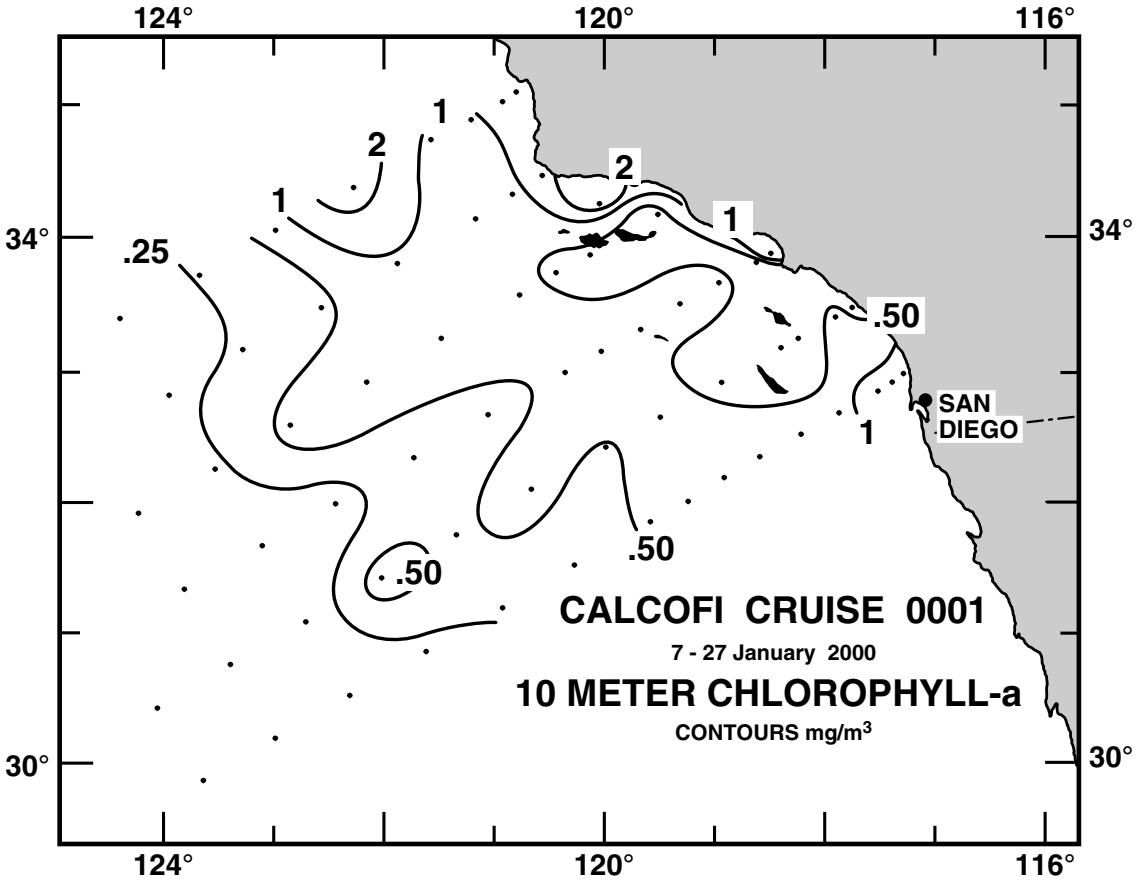

FIGURE 3A

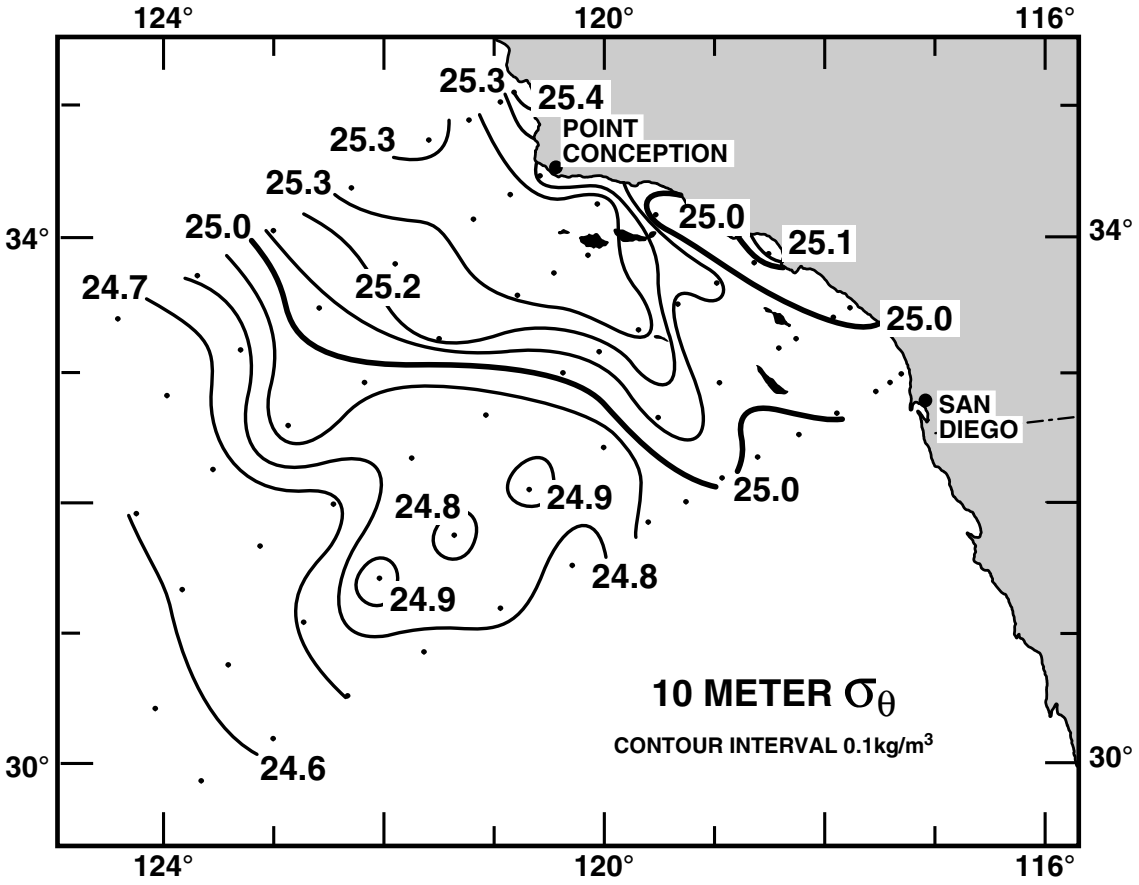

FIGURE 3B

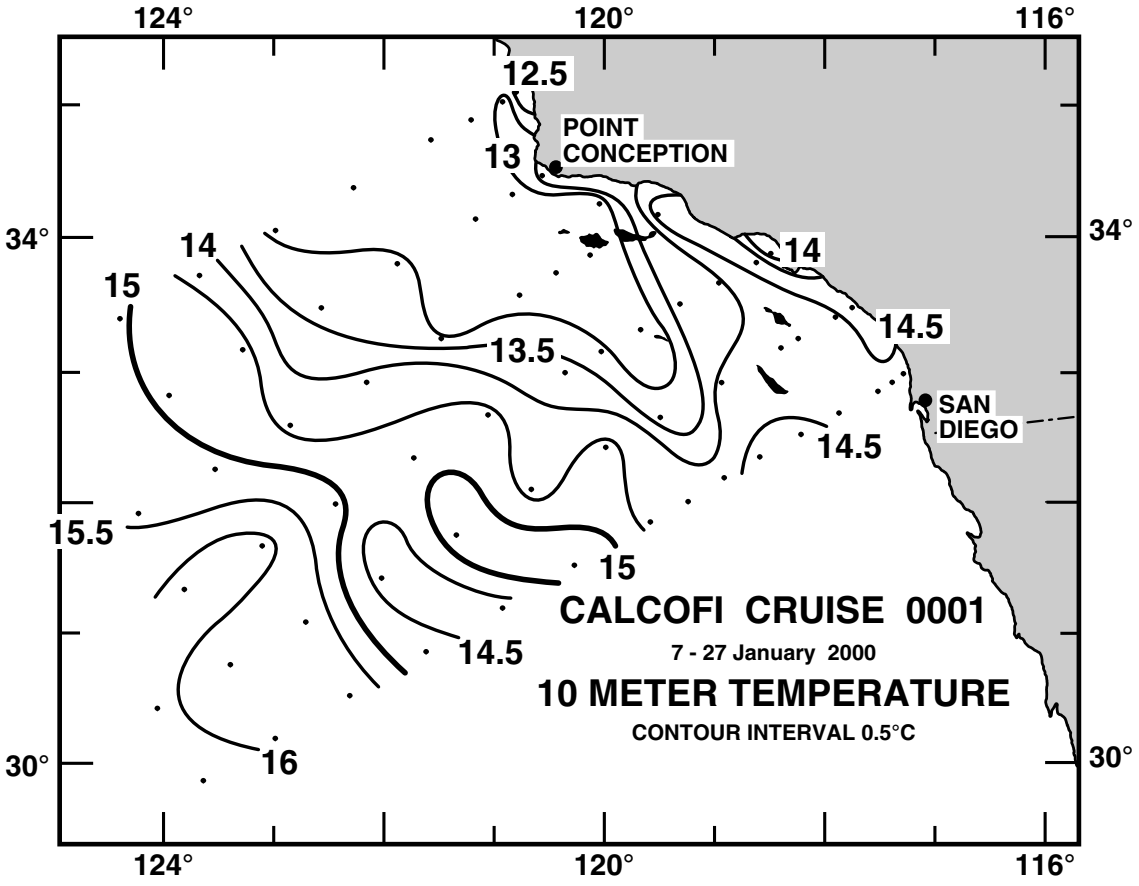

FIGURE 3C

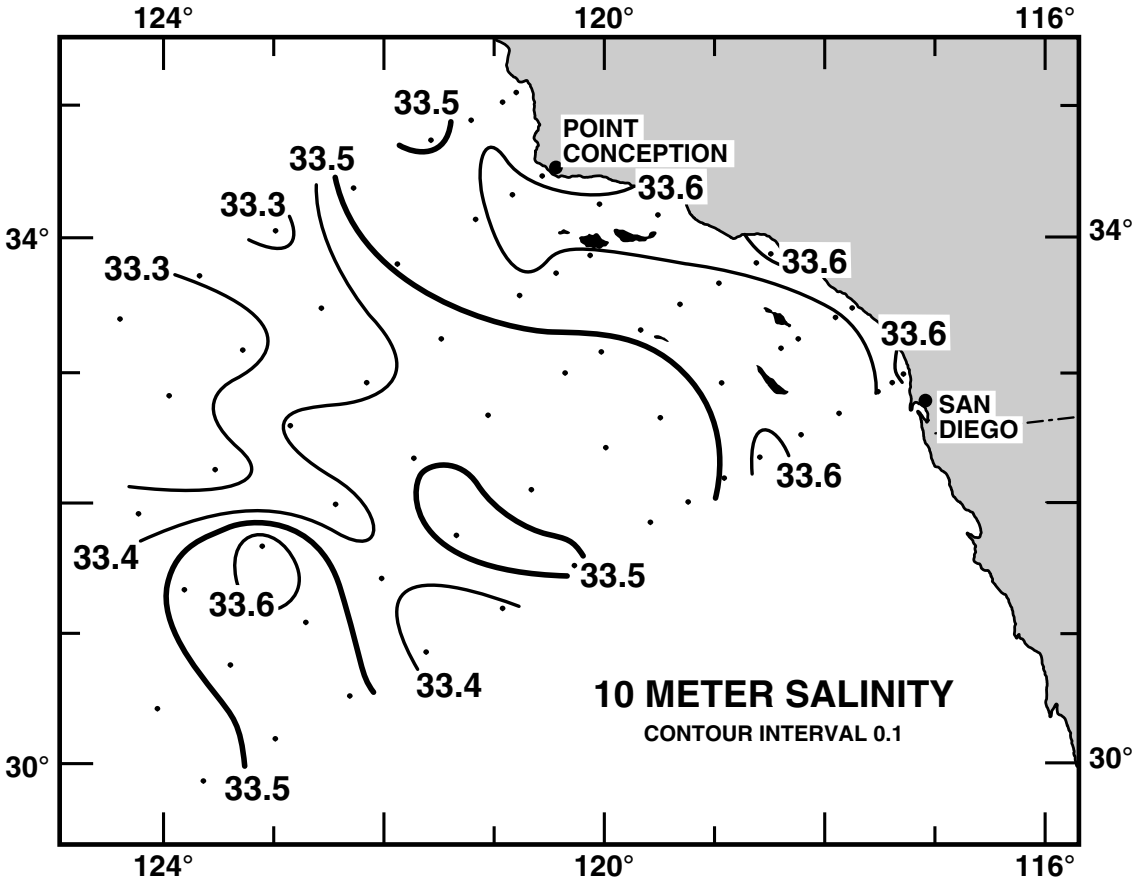

FIGURE 3D

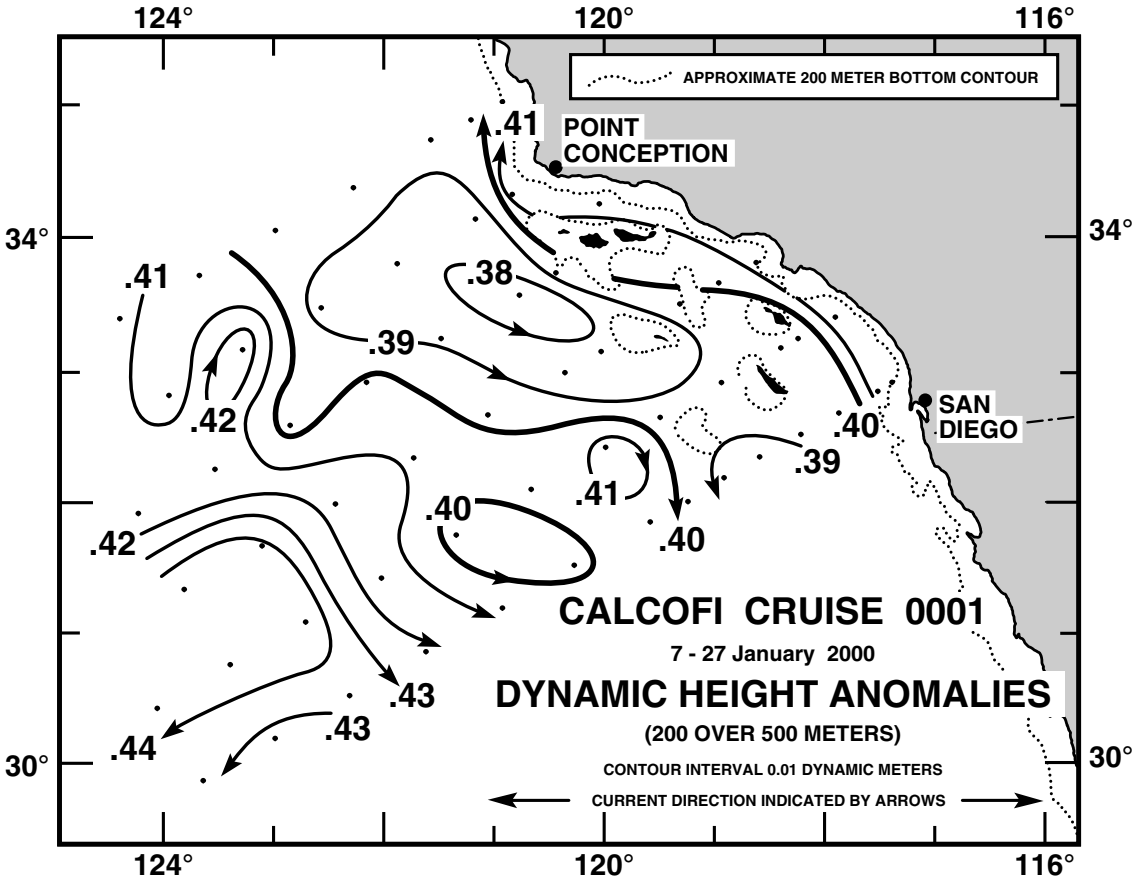

FIGURE 4A

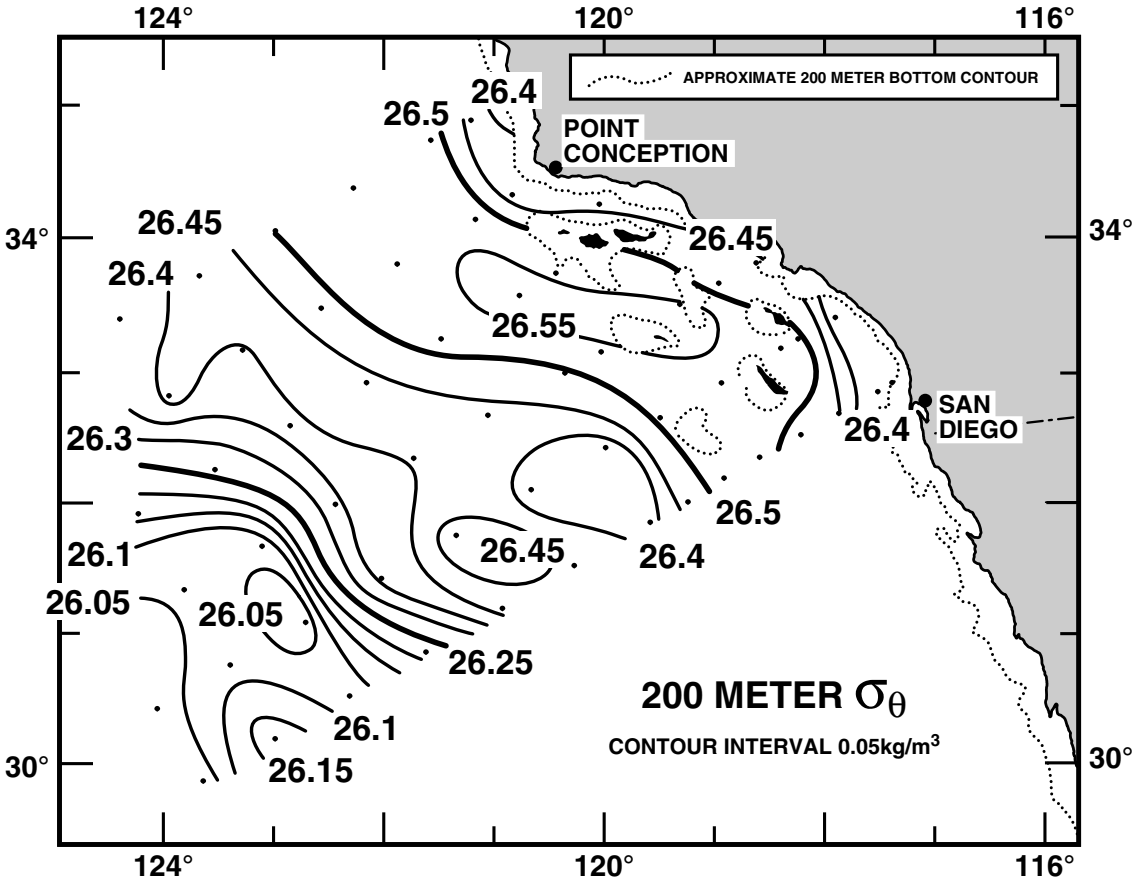

FIGURE 4B

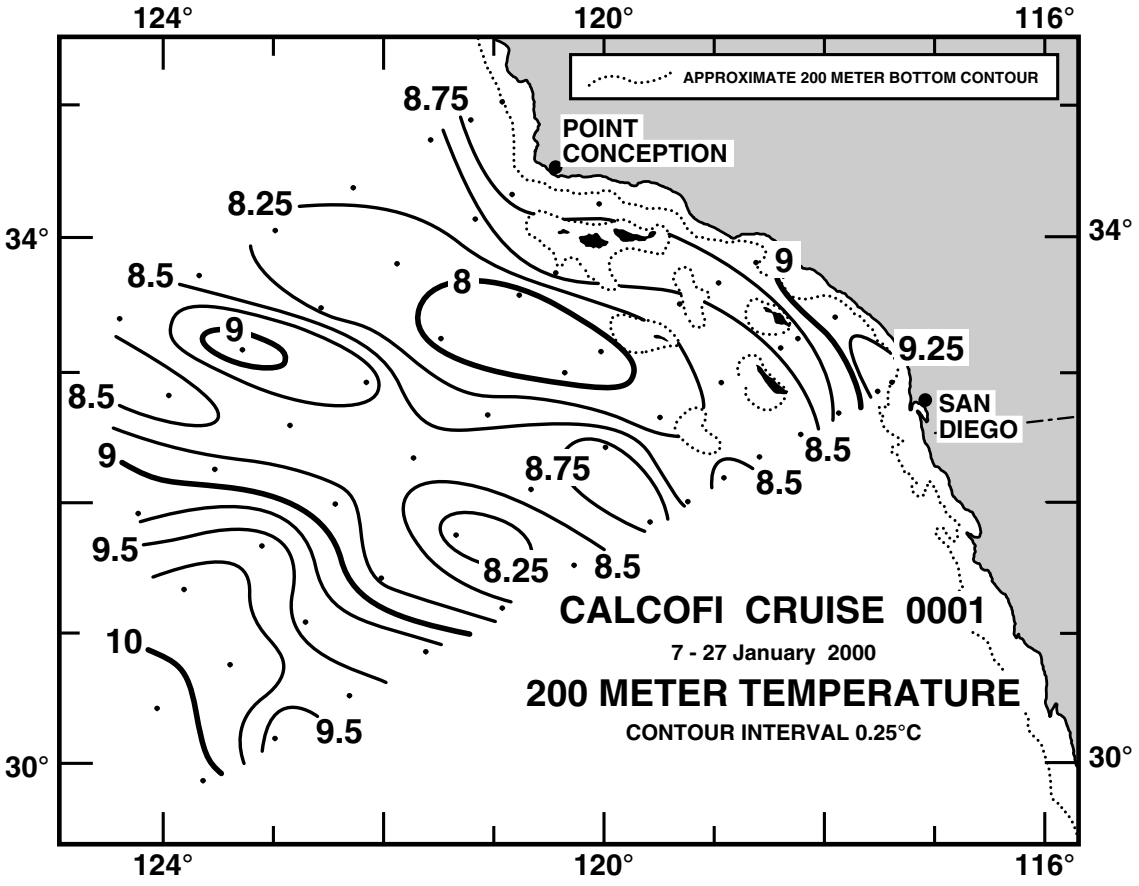

FIGURE 4C

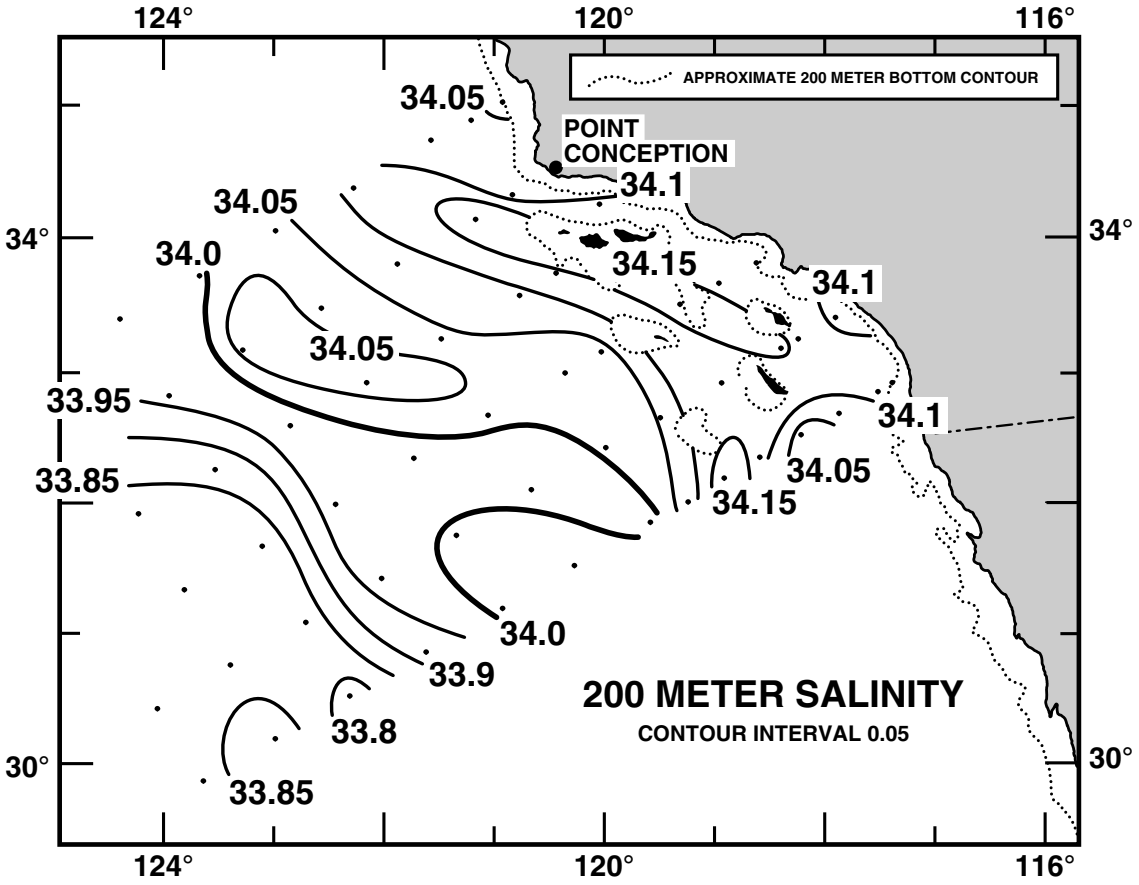

FIGURE 4D

CALCOFI CRUISE 0001

11 - 15 JANUARY 2000

POTENTIAL DENSITY (σ_θ) ALONG CALCOFI LINE 90

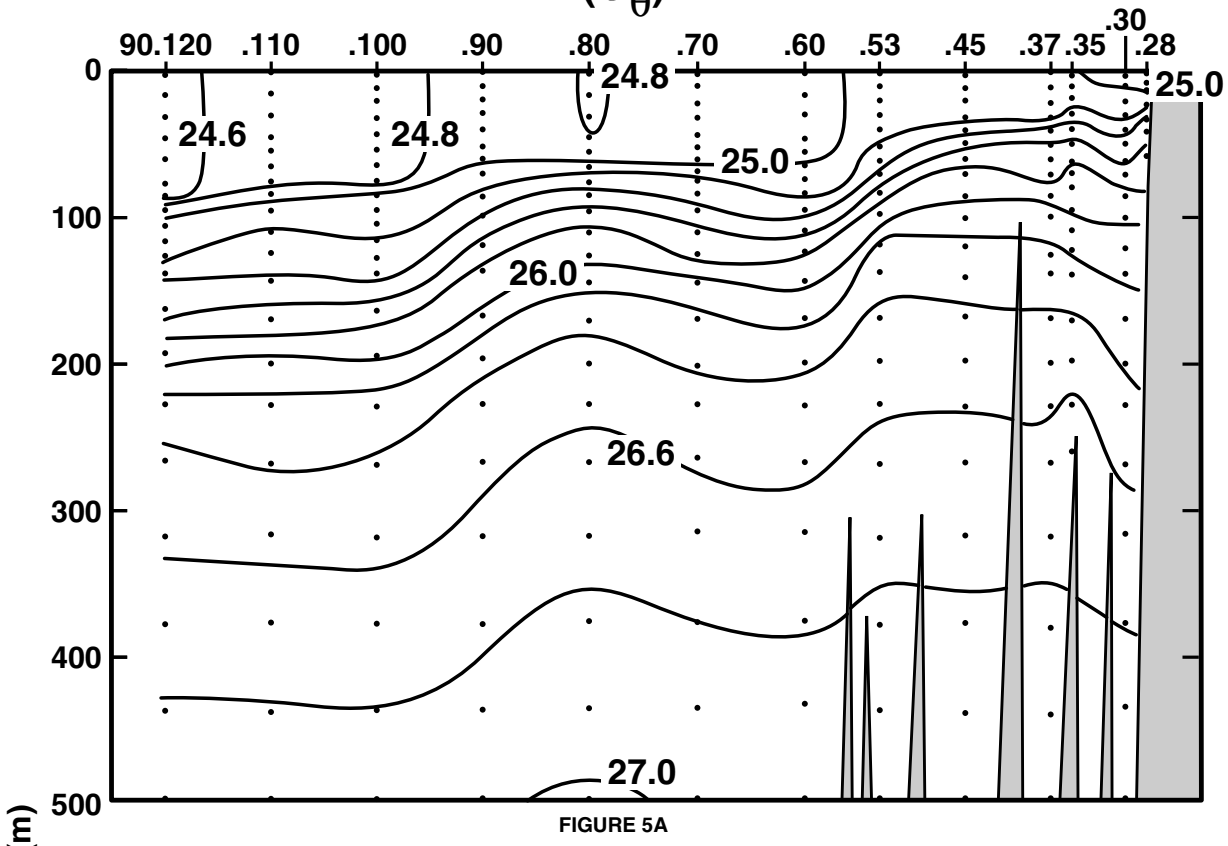

FIGURE 5A

TEMPERATURE (°C) ALONG CALCOFI LINE 90

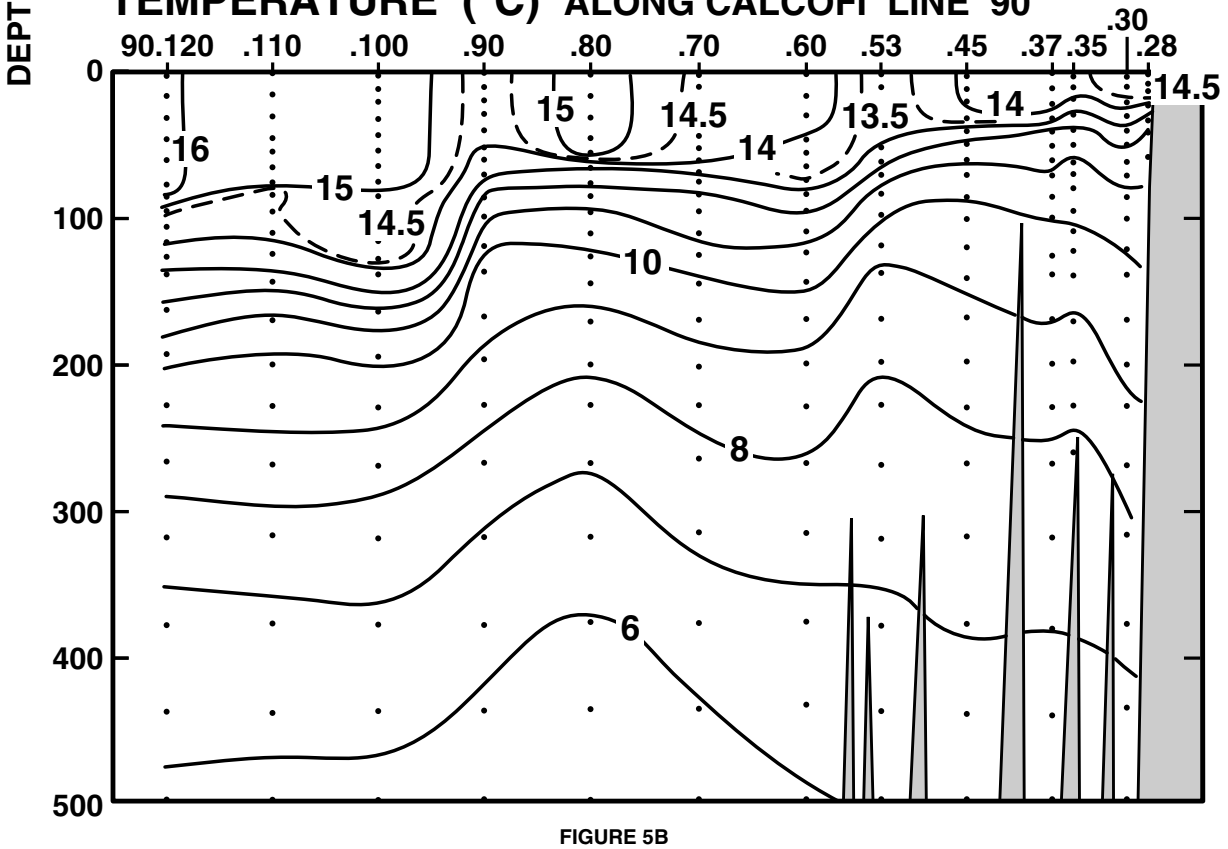

FIGURE 5B

CALCOFI CRUISE 0001

11 - 15 JANUARY 2000

SALINITY ALONG CALCOFI LINE 90

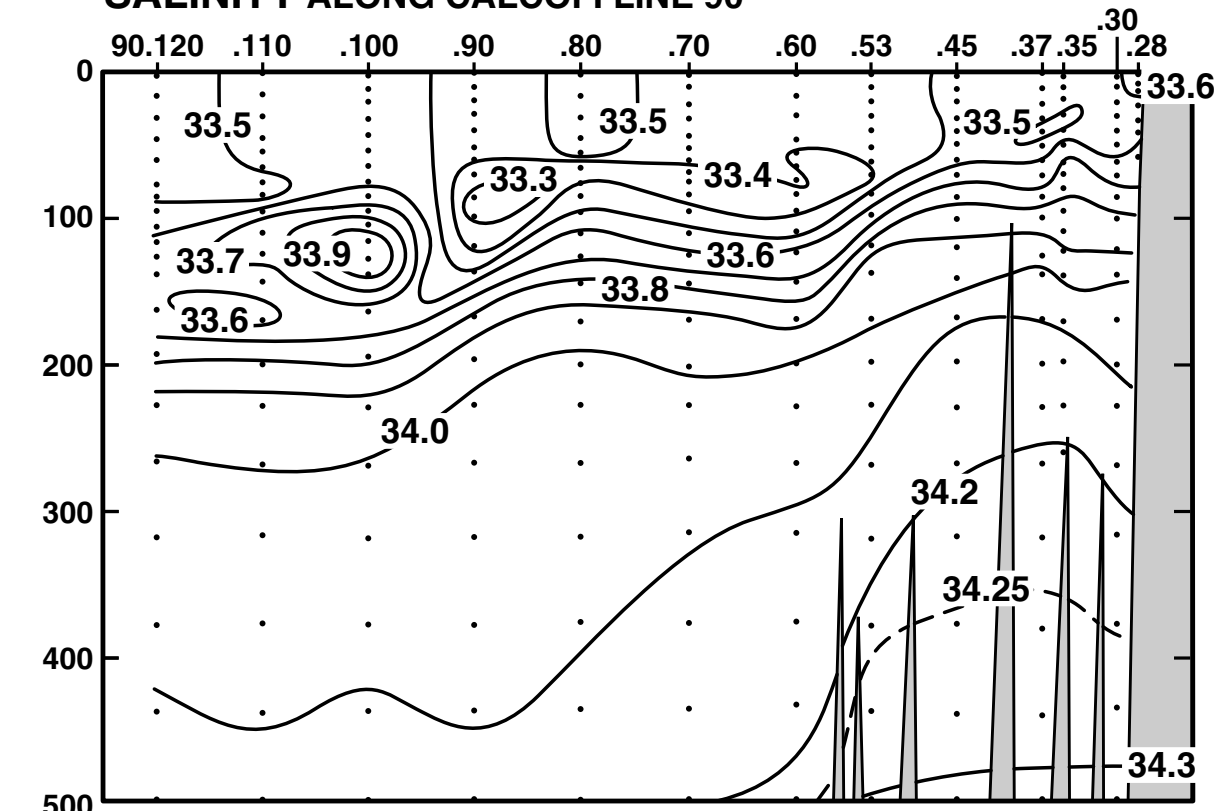

FIGURE 5C

SILICATE (μM/l) ALONG CALCOFI LINE 90

DEPTH (m)

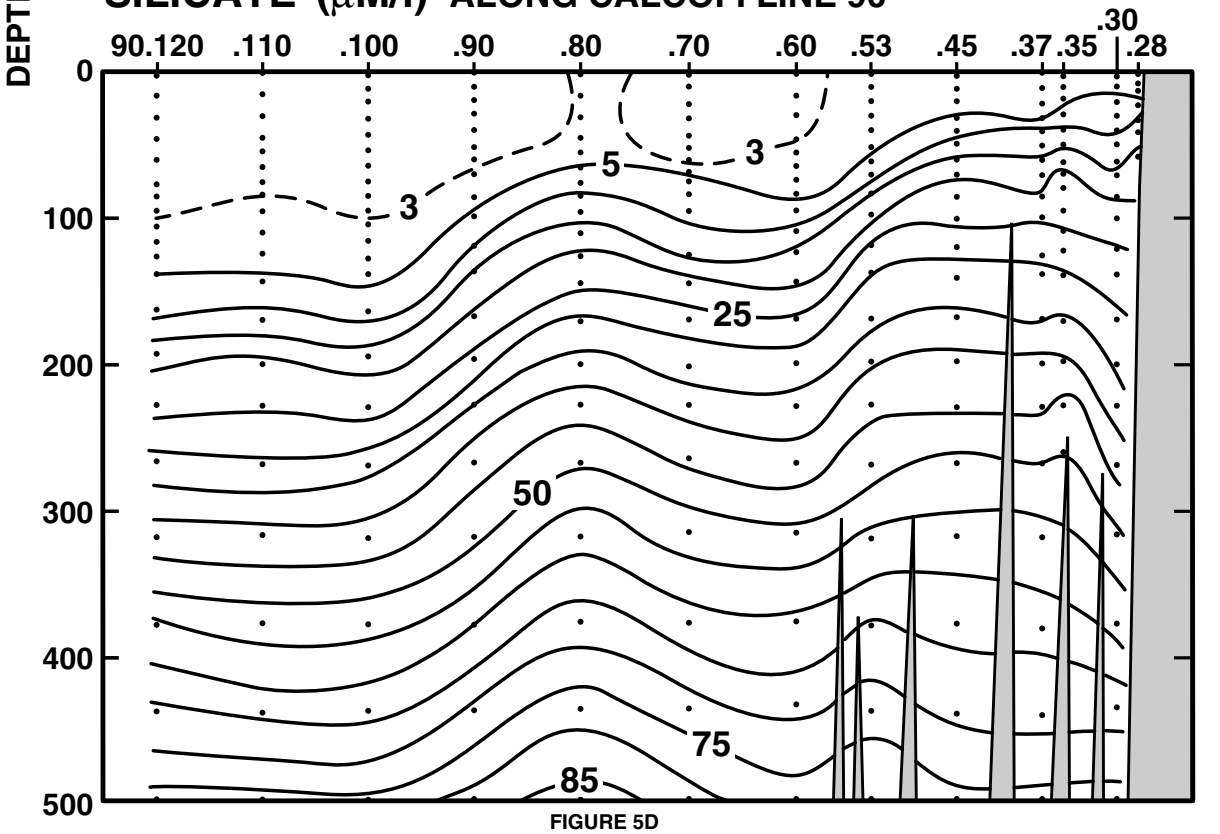

FIGURE 5D

CALCOFI CRUISE 0001

11 - 15 JANUARY 2000

NITRATE (μM/l) ALONG CALCOFI LINE 90

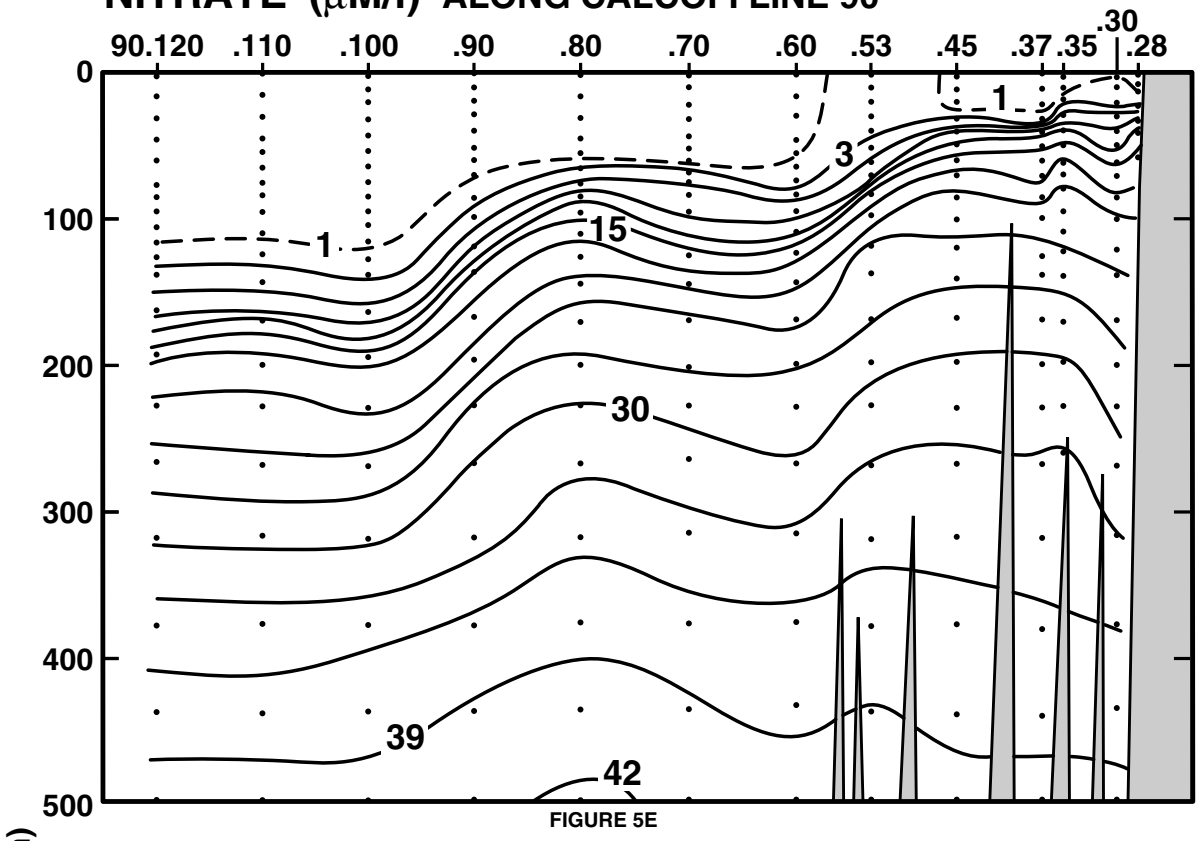

FIGURE 5E

PHOSPHATE (μM/l) ALONG CALCOFI LINE 90

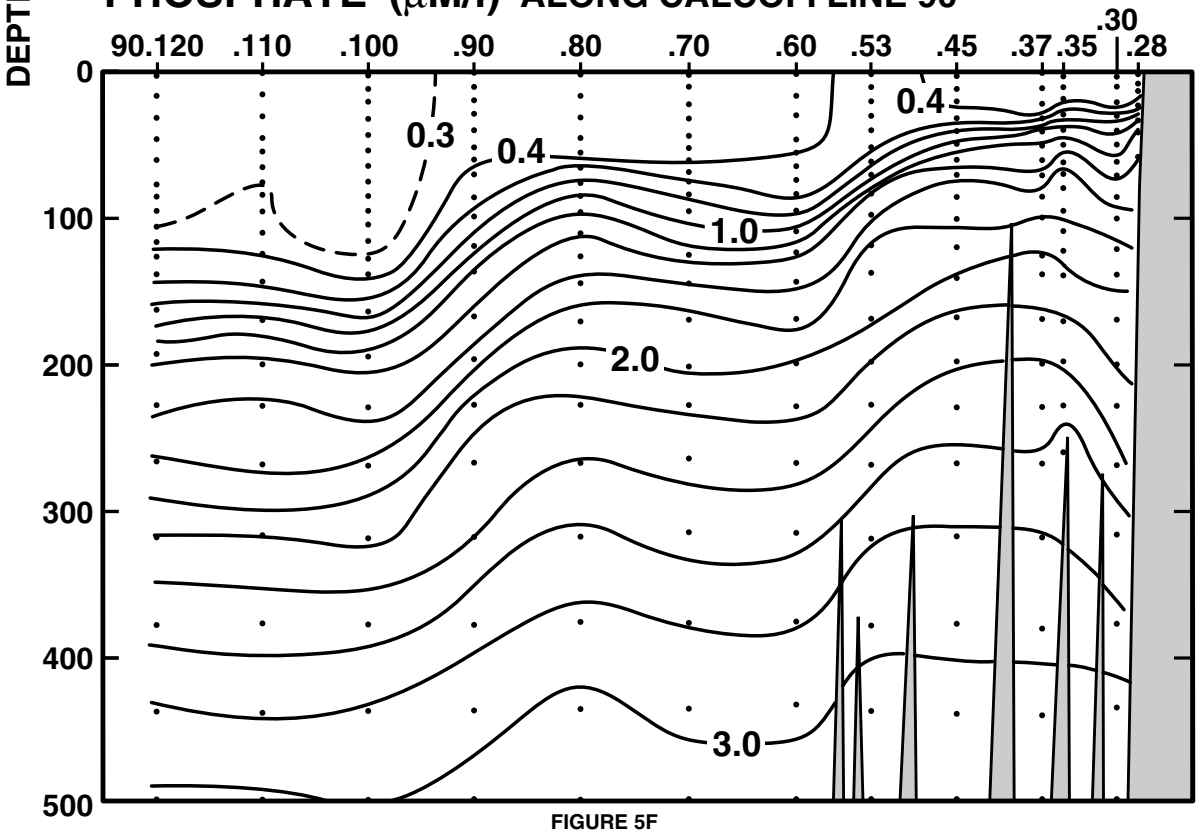

FIGURE 5F

CALCOFI CRUISE 0001

11 - 15 JANUARY 2000

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

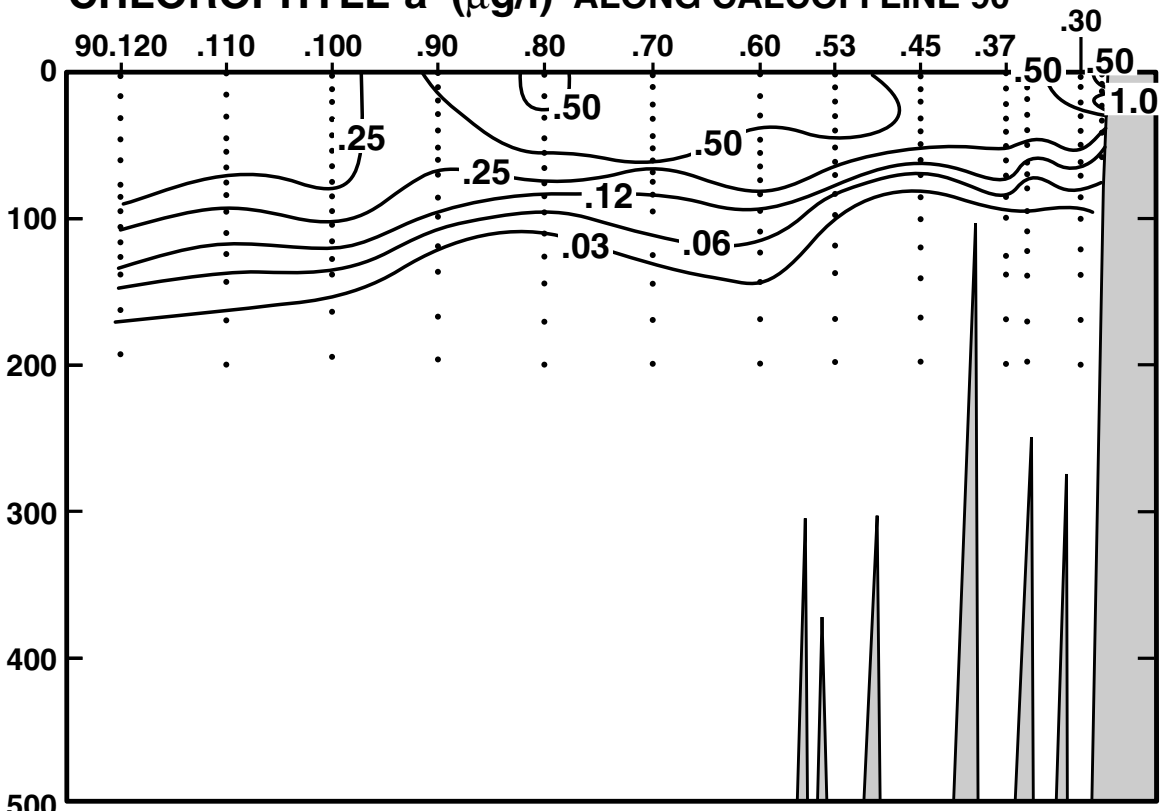

FIGURE 5G

OXYGEN SATURATION (%) ALONG CALCOFI LINE 90

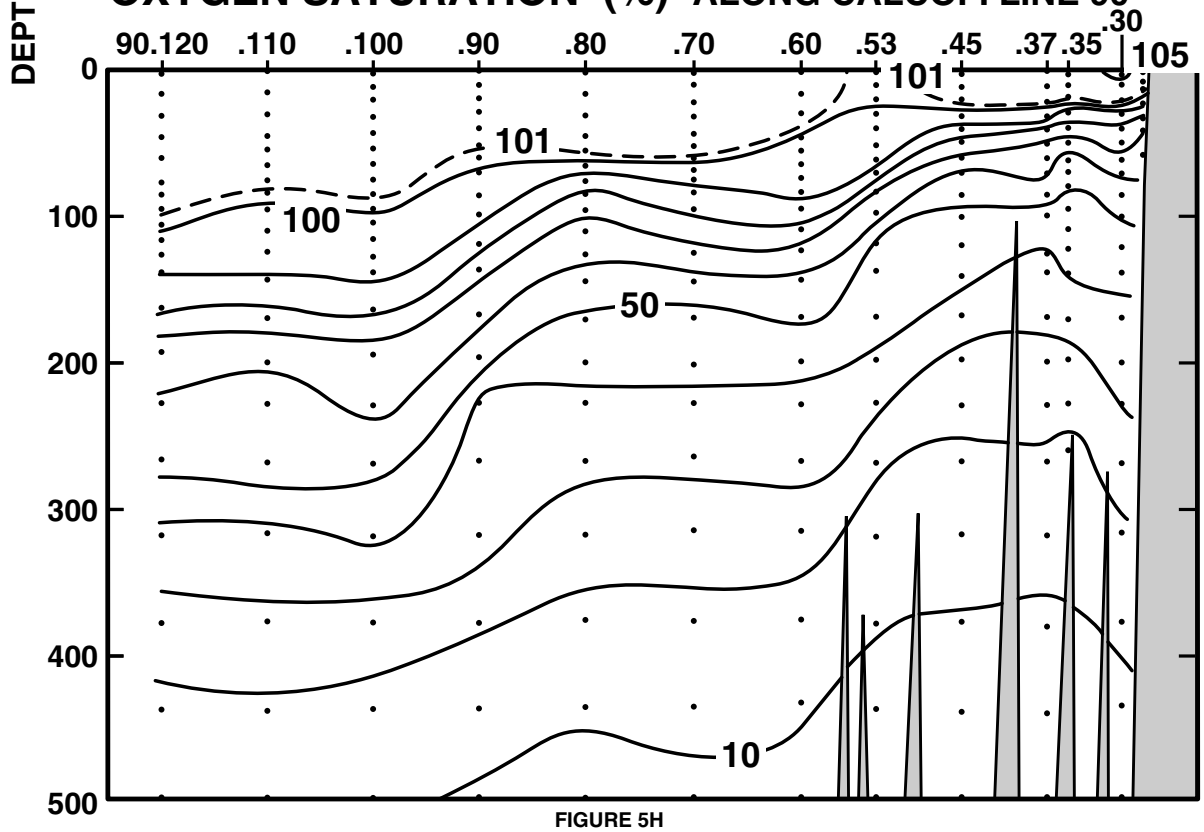

FIGURE 5H

CALCOFI CRUISE 0001

11 - 15 JANUARY 2000

OXYGEN (ml/l) ALONG CALCOFI LINE 90

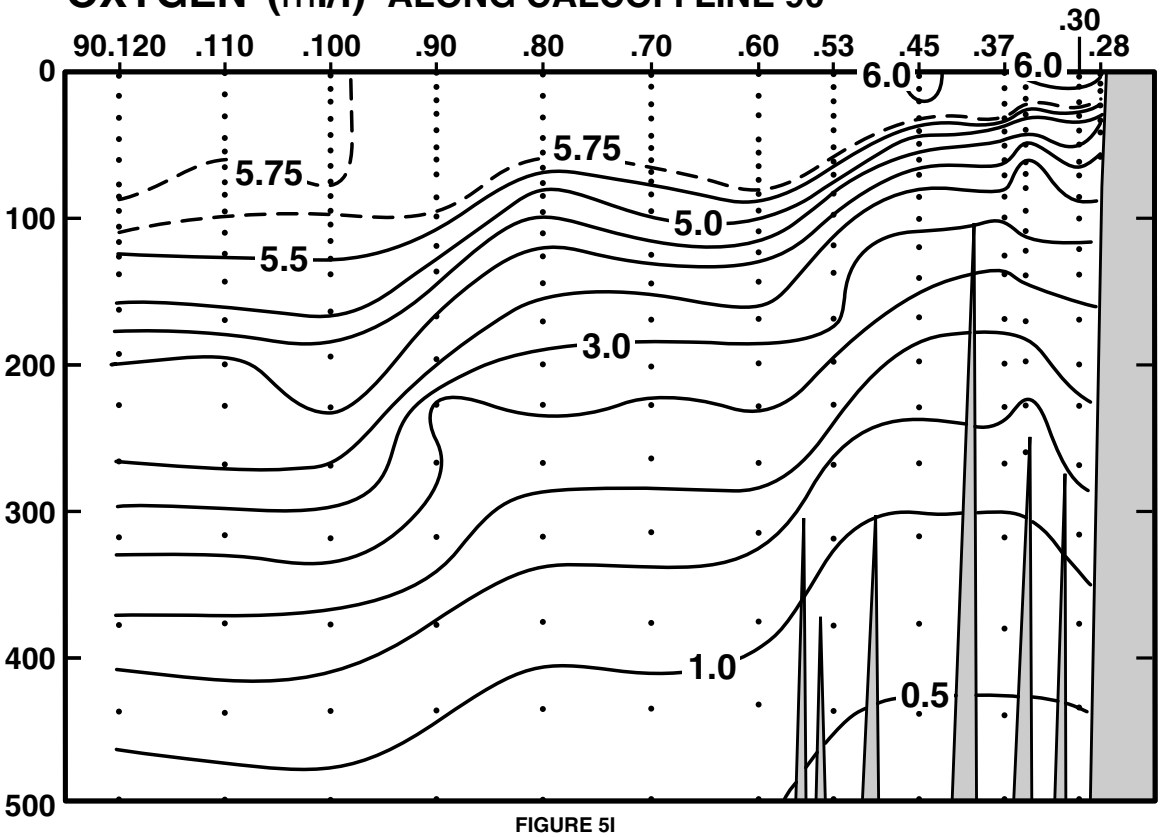

FIGURE 5I

NITRITE (μM/l) ALONG CALCOFI LINE 90

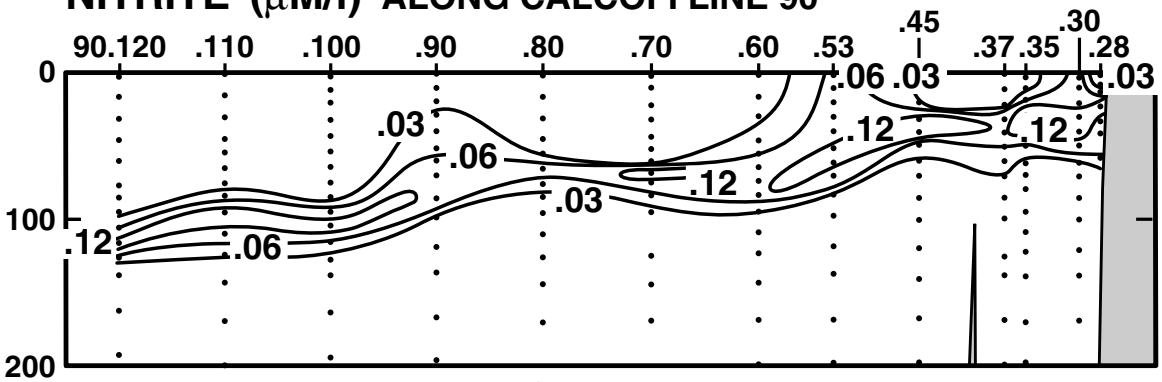

FIGURE 5J

PHAEOPIGMENTS (μg/l) ALONG CALCOFI LINE 90

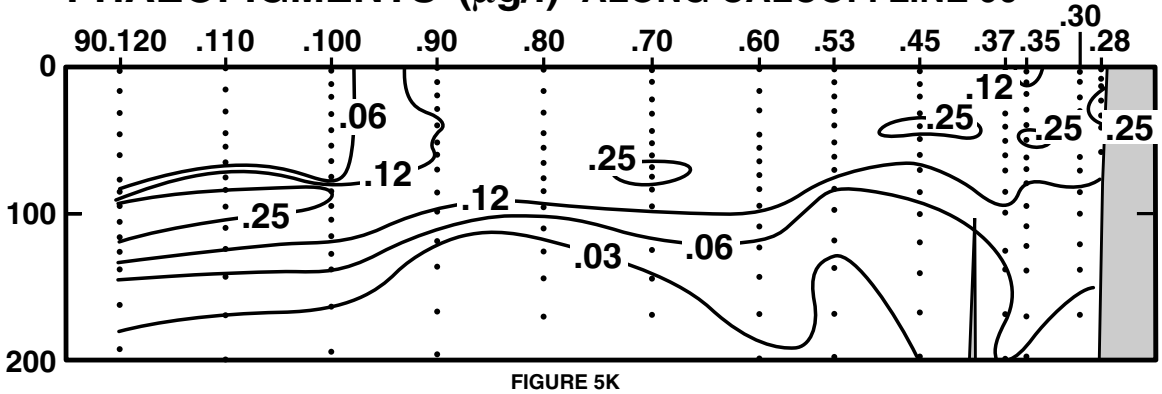

FIGURE 5K

PERSONNEL

CalCOFI Cruise 0001

SHIP'S CAPTAIN

John P. Manion, RV *New Horizon*

PERSONNEL PARTICIPATING IN THE COLLECTION OF DATA

		Participation (Leg)
Renger, Edward H. (Chief Scientist)	Staff Research Associate, SIO	1,2
Becker, Susan M.	Staff Research Associate, SIO	1,2
Bograd, Steven J.	Post Graduate Researcher, SIO	1,2
Carter, Melissa L.	Staff Research Associate, SIO	1,2
Curtis, K. Alexandra	Graduate Student, SIO	1,2
Dotson, Ronald C.	Fishery Biologist, NMFS	1,2
Field, David B.	Graduate Student, SIO	1,2
Griffith, David A.	Fishery Biologist, NMFS	2
Gruber, Dennis W.	Staff Research Associate, SIO	1,2
Hays, Amy E.	Fishery Biologist, NMFS	1,2
Moisan, Tiffany A.	Post Graduate Researcher, SIO	1
Poteau, Antoine	Visiting Scientist, SIO	1,2
Ramirez, Fernando	Staff Research Associate, SIO	2
Simmons, Sean	Engineer, RD Instruments	1
Storms, Scott A.	Staff Research Associate, SIO	1,2
Wilkinson, James R.	Programmer/Analyst, SIO	1
Wolgast, David M.	Staff Research Associate, SIO	1,2

Leg 1: San Diego to San Diego, California, 7 – 13 January, 2000
Leg 2: San Diego to San Diego, California, 13 – 27 January, 2000

RV NEW HORIZON CALCOFI CRUISE 0001 STATION 77 49

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
35 5.4 N	120 46.6 W	23/01/00	1540 UTC	69 m	080 13 kn	080 01 07	2	1019.2 mb	12.9 C	11.5 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	12.42	12.42	33.550	25.384	258.3	0.000	5.64	93.2	9.6	0.82	7.7	0.24	2.17	0.49	0	
2		12.42	12.42	33.550	25.384	258.3	0.005	5.64	93.2	9.6	0.82	7.7	0.24	2.17	0.49	2	208
6		12.43	12.43	33.557	25.387	258.1	0.015	5.56	91.9	9.6	0.83	7.9	0.24	2.18	0.48	6	207
10	ISL	12.37	12.37	33.592	25.426	254.5	0.026	5.23	86.3	10.7	0.90	9.0	0.25	1.55	0.50	10	
11		12.34	12.34	33.602	25.440	253.2	0.028	5.13	84.6	11.0	0.92	9.3	0.25	1.36	0.50	11	206
20	ISL	11.99	11.99	33.640	25.536	244.3	0.051	4.57	74.9	13.4	1.11	12.3	0.18	0.76	0.39	20	
21		11.95	11.95	33.642	25.545	243.5	0.053	4.52	74.0	13.7	1.13	12.6	0.17	0.74	0.37	21	205
29		11.69	11.69	33.667	25.613	237.2	0.072	4.25	69.2	15.7	1.26	14.3	0.20	0.52	0.31	29	204
30	ISL	11.68	11.68	33.667	25.615	237.0	0.075	4.24	69.0	15.8	1.26	14.3	0.20	0.50	0.31	30	
40		11.61	11.60	33.673	25.633	235.6	0.098	4.18	67.9	16.4	1.29	14.7	0.23	0.42	0.31	40	203
50		11.56	11.55	33.676	25.645	234.7	0.122	4.17	67.7	16.9	1.32	14.9	0.26	0.38	0.30	50	202
61		11.48	11.47	33.679	25.662	233.3	0.148	4.13	66.9	17.3	1.35	15.3	0.29	0.31	0.30	61	201

RV NEW HORIZON CALCOFI CRUISE 0001 STATION 77 51

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
35 1.4 N	120 55.2 W	23/01/00	1329 UTC	243 m	090 17 kn			1018.9 mb	12.3 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	13.15	13.15	33.571	25.257	270.3	0.000	6.02	101.0	7.2	0.51	3.3	0.18	1.94	0.59	0	
1		13.15	13.15	33.571	25.257	270.4	0.003	6.02	101.0	7.2	0.51	3.3	0.18	1.94	0.59	1	215
10		13.10	13.10	33.583	25.276	268.8	0.027	5.95	99.7	7.5	0.56	4.1	0.18	1.63	0.49	10	214
19		12.91	12.91	33.588	25.318	265.0	0.051	5.79	96.7	8.4	0.67	5.7	0.17	1.33	0.62	19	213
20	ISL	12.90	12.90	33.588	25.320	264.9	0.054	5.78	96.5	8.4	0.67	5.8	0.17	1.28	0.60	20	
30	ISL	12.73	12.73	33.597	25.361	261.3	0.080	5.59	93.0	9.0	0.74	6.8	0.19	0.79	0.35	30	
31		12.71	12.71	33.599	25.366	260.8	0.083	5.56	92.4	9.1	0.75	6.9	0.19	0.74	0.32	31	212
41		12.29	12.28	33.628	25.470	251.1	0.108	5.05	83.2	11.3	0.96	9.9	0.26	0.56	0.39	41	211
50	ISL	12.12	12.11	33.632	25.506	247.9	0.131	4.83	79.3	12.0	1.03	11.1	0.21	0.50	0.34	50	
51		12.08	12.07	33.628	25.510	247.5	0.133	4.79	78.6	12.1	1.04	11.3	0.21	0.49	0.34	51	210
61		11.01	11.00	33.723	25.781	221.9	0.157	3.61	57.9	18.9	1.50	18.4	0.02	0.11	0.16	61	209
71		10.74	10.73	33.762	25.860	214.7	0.178	3.41	54.4	20.8	1.59	19.9	0.03	0.09	0.14	71	208
75	ISL	10.63	10.62	33.777	25.891	211.8	0.187	3.33	53.0	21.5	1.63	20.5	0.03	0.08	0.14	75	
87		10.31	10.30	33.821	25.981	203.5	0.212	3.09	48.9	23.7	1.74	22.1	0.02	0.05	0.13	87	207
99		10.02	10.01	33.870	26.068	195.4	0.236	2.91	45.7	25.9	1.84	23.5	0.01	0.03	0.10	100	206
100	ISL	9.99	9.98	33.874	26.077	194.6	0.238	2.89	45.4	26.2	1.85	23.6	0.01	0.03	0.10	101	
120		9.51	9.50	33.945	26.212	182.1	0.275	2.48	38.6	31.4	2.04	26.1	0.03	0.02	0.11	121	205
125	ISL	9.47	9.46	33.950	26.223	181.2	0.284	2.47	38.4	31.6	2.05	26.3	0.03	0.02	0.11	126	
139		9.42	9.40	33.956	26.236	180.2	0.310	2.43	37.7	32.2	2.07	26.5	0.03	0.01	0.10	140	204
150	ISL	9.33	9.31	33.973	26.264	177.7	0.329	2.36	36.5	33.0	2.10	26.9	0.03	0.01	0.10	151	
169		9.16	9.14	34.003	26.315	173.2	0.363	2.24	34.6	34.5	2.15	27.7	0.02	0.01	0.09	170	203
198		8.96	8.94	34.019	26.360	169.5	0.412	2.20	33.8	36.4	2.20	28.3	0.04	0.01	0.12	199	202
200	ISL	8.91	8.89	34.021	26.370	168.6	0.416	2.19	33.6	36.8	2.21	28.4	0.04			201	
228		8.19	8.17	34.059	26.510	155.5	0.461	2.09	31.6	42.6	2.32	30.1	0.07			229	201

RV NEW HORIZON CALCOFI CRUISE 0001 STATION 77 55

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
34 53.3 N	121 12.0 W	23/01/00	0935 UTC	568 m	100 10 kn			1019.4 mb	12.4 C	11.7 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	13.11	13.11	33.538	25.239	272.0	0.000	5.95	99.7	7.5	0.55	4.0	0.19	1.38	0.42	0	
2		13.11	13.11	33.538	25.239	272.1	0.005	5.95	99.7	7.5	0.55	4.0	0.19	1.38	0.42	2	220
10		12.74	12.74	33.598	25.359	260.9	0.027	5.72	95.2	9.1	0.73	6.6	0.17	0.90	0.48	10	219
19		12.06	12.06	33.646	25.527	245.1	0.050	5.03	82.5	12.3	1.01	10.6	0.38	0.41	0.33	19	218
20	ISL	12.04	12.04	33.647	25.532	244.7	0.052	5.01	82.2	12.4	1.02	10.8	0.38	0.40	0.33	20	
30		11.88	11.88	33.650	25.564	241.8	0.076	4.83	78.9	13.4	1.10	12.0	0.36	0.31	0.31	30	217
40		11.42	11.42	33.678	25.672	231.9	0.100	4.28	69.3	16.3	1.32	15.6	0.18	0.22	0.26	40	216
50		10.76	10.75	33.763	25.856	214.5	0.122	3.35	53.5	21.2	1.62	20.1	0.02	0.09	0.18	50	215
59		10.27	10.26	33.829	25.993	201.7	0.141	3.05	48.2	24.1	1.76	22.2	0.02	0.04	0.17	59	214
70		10.06	10.05	33.866	26.058	195.7	0.163	2.89	45.5	26.0	1.84	23.4	0.01	0.02	0.09	70	213
75	ISL	9.90	9.89	33.888	26.102	191.6	0.173	2.80	43.9	27.1	1.88	24.1	0.01	0.01	0.09	75	
84		9.61	9.60	33.925	26.180	184.4	0.189	2.66	41.4	28.9	1.96	25.2	0.01	0.01	0.09	84	212
98		9.42	9.41	33.954	26.234	179.5	0.215	2.54	39.4	30.5	2.03	26.2	0.01	0.01	0.08	99	211
100	ISL	9.41	9.40	33.956	26.237	179.3	0.219	2.53	39.3	30.6	2.03	26.2	0.01	0.01	0.08	101	
119		9.36	9.35	33.974	26.259	177.6	0.252	2.48	38.4	31.2	2.05	26.5	0.01	0.00	0.08	120	210
125	ISL	9.32	9.31	33.982	26.272	176.4	0.263	2.45	37.9	31.6	2.07	26.7	0.01	0.00	0.08	126	
139		9.22	9.20	34.000	26.303	173.8	0.288	2.37	36.6	32.6	2.11	27.3	0.00	0.00	0.08	140	209
150	ISL	9.16	9.14	34.012	26.322	172.2	0.307	2.36	36.4	33.2	2.13	27.6	0.00	0.00	0.08	151	
168		9.06	9.04	34.033	26.355	169.4	0.337	2.33	35.9	34.3	2.17	28.1	0.01	0.00	0.09	169	208
198		8.85	8.83	34.075	26.421	163.7	0.387	2.05	31.4	36.7	2.25	28.9	0.01	0.00	0.07	199	207
200	ISL	8.83	8.81	34.080	26.428	163.0	0.391	2.02	31.0	37.0	2.26	29.0	0.01			201	
229		8.51	8.49	34.143	26.528	154.0	0.437	1.60	24.3	41.8	2.44	31.0	0.01			230	206
250	ISL	8.23	8.20	34.163	26.586	148.7	0.468	1.44	21.8	45.2	2.53	32.1	0.00			252	
269		7.92	7.89	34.166	26.635	144.3	0.496	1.36	20.4	48.5	2.59	33.1	0.00			271	205
300	ISL	7.24	7.21	34.137	26.710	137.3	0.540	1.34	19.8	54.5	2.67	34.7	0.01			302	
317		6.88	6.85	34.119	26.745	134.0	0.563	1.33	19.5	57.8	2.71	35.6	0.01			319	204
375		6.26	6.23	34.116	26.825	126.8	0.639	1.11	16.0	66.2	2.85	37.9	0.01			378	203
400	ISL	6.14	6.10	34.133	26.854	124.3	0.670	0.97	14.0	69.2	2.90	38.5	0.01			403	
437		6.04	6.00	34.169	26.896	120.8	0.715	0.76	10.9	73.2	2.98	39.2	0.01			440	202
500	ISL	5.91	5.87	34.238	26.967	114.8	0.789	0.48	6.9	79.3	3.11	40.0	0.01			504	
521		5.87	5.82	34.261	26.991	112.8	0.813	0.39	5.6	81.4	3.15	40.2	0.01			525	201

RV NEW HORIZON CALCOFI CRUISE 0001 STATION 77 60

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
34 43.5 N	121 32.9 W	23/01/00	0522 UTC	924 m	170 04 kn			1019.1 mb	12.9 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	12.89	12.89	33.483	25.240	271.9	0.000	6.17	102.9	5.4	0.53	3.6	0.16	0.81	0.32	0	
2	12.89	12.89	33.483	25.240	272.0	0.005	6.17	102.9	5.4	0.53	3.6	0.16	0.81	0.32	2	220
10	12.87	12.87	33.498	25.256	270.7	0.027	6.16	102.7	5.6	0.55	3.8	0.16	0.87	0.35	10	219
19	12.76	12.76	33.511	25.288	267.9	0.051	6.10	101.5	6.0	0.60	4.6	0.21	0.88	0.45	19	218
20 ISL	12.73	12.73	33.516	25.298	267.0	0.054	6.08	101.1	6.1	0.62	4.8	0.23	0.87	0.46	20	
29	12.44	12.44	33.566	25.393	258.2	0.078	5.88	97.2	7.1	0.76	6.8	0.35	0.77	0.54	29	217
30 ISL	12.43	12.43	33.572	25.399	257.5	0.080	5.87	97.0	7.3	0.77	6.9	0.35	0.75	0.53	30	
39	12.39	12.38	33.614	25.440	253.9	0.103	5.78	95.5	9.3	0.84	7.9	0.29	0.55	0.43	39	216
50	12.18	12.17	33.633	25.495	249.0	0.131	5.61	92.3	10.4	0.92	9.1	0.30	0.35	0.38	50	215
58	11.10	11.09	33.503	25.594	239.7	0.150	5.08	81.6	11.5	1.11	12.6	0.12	0.16	0.19	58	214
68	10.53	10.52	33.526	25.712	228.6	0.174	4.43	70.3	15.8	1.34	16.4	0.02	0.22	0.03	68	213
75 ISL	10.45	10.44	33.616	25.797	220.7	0.190	3.93	62.3	18.7	1.50	18.7	0.02	0.16	0.07	75	
84	10.40	10.39	33.744	25.905	210.6	0.209	3.39	53.7	22.1	1.67	21.2	0.01	0.06	0.15	84	212
98	9.81	9.80	33.831	26.073	194.8	0.237	3.08	48.2	25.8	1.82	23.7	0.02	0.02	0.10	99	211
100 ISL	9.76	9.75	33.839	26.088	193.5	0.241	3.05	47.7	26.1	1.83	23.9	0.02	0.02	0.10	101	
118	9.49	9.48	33.891	26.173	185.7	0.275	2.87	44.6	28.4	1.91	25.1	0.01	0.01	0.10	119	210
125 ISL	9.39	9.38	33.913	26.207	182.6	0.288	2.79	43.3	29.4	1.95	25.6	0.01	0.01	0.10	126	
138	9.20	9.18	33.953	26.269	177.0	0.312	2.63	40.6	31.2	2.02	26.5	0.01	0.01	0.10	139	209
150 ISL	9.04	9.02	33.987	26.321	172.2	0.333	2.50	38.5	32.9	2.08	27.3	0.01	0.01	0.10	151	
168	8.80	8.78	34.033	26.396	165.4	0.363	2.31	35.4	35.5	2.17	28.5	0.00	0.00	0.09	169	208
198	8.39	8.37	34.087	26.502	155.8	0.411	1.98	30.0	40.4	2.32	30.3	0.01	0.00	0.06	199	207
200 ISL	8.36	8.34	34.088	26.507	155.4	0.414	1.97	29.9	40.7	2.33	30.4	0.01			201	
218	8.12	8.10	34.097	26.550	151.5	0.442	1.90	28.7	42.8	2.37	31.1	0.00			219	206
250 ISL	7.86	7.83	34.123	26.610	146.3	0.490	1.65	24.7	46.5	2.48	32.3	0.00			252	
267	7.73	7.70	34.139	26.641	143.5	0.514	1.49	22.3	48.9	2.55	33.0	0.00			269	205
300 ISL	7.28	7.25	34.166	26.727	135.7	0.560	1.18	17.5	55.8	2.70	35.0	0.00			302	
318	7.03	7.00	34.179	26.772	131.6	0.584	1.03	15.2	59.6	2.78	36.1	0.00			320	204
376	6.61	6.58	34.193	26.841	125.7	0.659	0.81	11.8	66.1	2.91	37.7	0.00			379	203
400 ISL	6.33	6.29	34.180	26.867	123.3	0.689	0.76	11.0	69.6	2.95	38.6	0.00			403	
436	5.92	5.88	34.166	26.909	119.5	0.733	0.68	9.7	75.1	3.01	40.0	0.00			439	202
500 ISL	5.57	5.53	34.218	26.993	112.0	0.807	0.47	6.7	83.1	3.12	41.3	0.00			504	
520	5.46	5.42	34.234	27.019	109.6	0.829	0.40	5.7	85.6	3.16	41.7	0.00			524	201

RV NEW HORIZON CALCOFI CRUISE 0001 STATION 77 70

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
34 23.3 N	122 15.0 W	22/01/00	2313 UTC	4017 m	150 04 kn	290 02 08	2	1018.8 mb	13.1 C	11.7 C	09m	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	12.87	12.87	33.576	25.316	264.7	0.000	6.22	103.8	8.0	0.69	5.9	0.17	1.77	0.55	0	
2	12.87	12.87	33.576	25.316	264.7	0.005	6.22	103.8	8.0	0.69	5.9	0.17	1.77	0.55	2	220
10	12.70	12.70	33.575	25.349	261.8	0.026	6.23	103.6	7.8	0.69	5.9	0.17	2.04	0.64	10	219
20	12.54	12.54	33.600	25.400	257.3	0.052	5.93	98.2	9.2	0.78	7.1	0.18	1.33	0.66	20	218
30	12.39	12.39	33.626	25.449	252.8	0.078	5.74	94.8	10.0	0.84	7.8	0.20	0.76	0.46	30	217
39	12.35	12.34	33.630	25.460	252.0	0.101	5.67	93.6	10.2	0.87	8.1	0.21	0.60	0.41	39	216
49	12.16	12.15	33.636	25.501	248.4	0.126	5.37	88.3	11.2	0.97	9.7	0.28	0.45	0.34	49	215
50 ISL	12.13	12.12	33.634	25.505	248.0	0.128	5.32	87.4	11.3	0.99	10.0	0.28	0.43	0.33	50	
59	11.79	11.78	33.625	25.563	242.7	0.150	4.82	78.6	13.1	1.15	12.9	0.29	0.29	0.26	59	214
69	11.29	11.28	33.660	25.682	231.6	0.174	4.22	68.1	16.3	1.35	16.2	0.09	0.17	0.22	69	213
75 ISL	11.01	11.00	33.691	25.757	224.6	0.188	3.90	62.6	18.2	1.46	17.9	0.07	0.13	0.19	75	
85	10.60	10.59	33.748	25.874	213.7	0.209	3.46	55.0	21.0	1.62	20.2	0.04	0.09	0.15	85	212
100	10.14	10.13	33.820	26.009	201.0	0.241	3.11	49.0	24.3	1.79	22.7	0.02	0.05	0.13	101	211
119	9.63	9.62	33.885	26.146	188.4	0.278	2.91	45.3	27.7	1.91	24.6	0.02	0.02	0.10	120	210
125 ISL	9.48	9.47	33.909	26.189	184.4	0.289	2.81	43.6	28.9	1.95	25.3	0.02	0.02	0.10	126	
139	9.18	9.16	33.965	26.282	175.8	0.314	2.58	39.8	31.7	2.05	26.7	0.02	0.01	0.10	140	209
150 ISL	9.00	8.98	33.995	26.334	171.0	0.333	2.48	38.1	33.3	2.11	27.5	0.02	0.00	0.10	151	
170	8.73	8.71	34.043	26.414	163.7	0.366	2.29	35.0	36.2	2.21	28.7	0.01	0.00	0.10	171	208
198	8.44	8.42	34.124	26.523	153.8	0.411	1.75	26.6	41.4	2.41	30.9	0.02	0.01	0.09	199	207
200 ISL	8.42	8.40	34.126	26.528	153.4	0.414	1.73	26.3	41.6	2.42	31.0	0.02			201	
228	8.19	8.17	34.138	26.572	149.6	0.456	1.61	24.3	44.4	2.49	31.9	0.01			229	206
250 ISL	7.92	7.89	34.133	26.609	146.4	0.489	1.57	23.6	46.7	2.53	32.5	0.01			252	
268	7.71	7.68	34.131	26.638	143.9	0.515	1.53	22.9	48.7	2.57	33.1	0.01			270	205
300 ISL	7.52	7.49	34.162	26.690	139.4	0.560	1.28	19.0	52.5	2.67	34.3	0.01			302	
319	7.42	7.39	34.184	26.722	136.6	0.587	1.11	16.5	55.0	2.74	35.1	0.01			321	204
377	6.89	6.85	34.207	26.814	128.5	0.664	0.87	12.8	63.4	2.90	37.0	0.01			380	203
400 ISL	6.48	6.44	34.178	26.846	125.4	0.693	0.85	12.3	67.8	2.95	38.1	0.01			403	
436	5.89	5.85	34.143	26.894	120.8	0.737	0.82	11.7	74.2	3.01	39.8	0.01			439	202
500 ISL	5.84	5.80	34.241	26.979	113.7	0.812	0.51	7.3	79.5	3.13	40.6	0.01			504	
521	5.83	5.78	34.273	27.005	111.4	0.836	0.41	5.9	81.3	3.17	40.8	0.01			525	201

RV NEW HORIZON CALCOFI CRUISE 0001 STATION 77 80

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
34 3.5 N	122 56.6 W	22/01/00	1803 UTC	4236 m	110 08 kn	170 02 07	2	1020.1 mb	13.7 C	12.2 C	14m	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	12.76	12.76	33.268	25.099	285.4	0.000	6.22	103.3	2.8	0.53	3.1	0.14	0.61	0.19	0	
1		12.76	12.76	33.268	25.099	285.4	0.003									1	222
2	A	12.76	12.76	33.268	25.099	285.4	0.006	6.22	103.3	2.8	0.53	3.1	0.14	0.61	0.19	2	221
9	A	12.71	12.71	33.280	25.118	283.8	0.026	6.20	102.9	2.8	0.54	3.2	0.14	0.60	0.16	9	220
10	ISL	12.69	12.69	33.291	25.131	282.6	0.028	6.20	102.8	2.8	0.54	3.3	0.15	0.60	0.17	10	
19	A	12.51	12.51	33.390	25.243	272.2	0.053	6.21	102.7	2.5	0.58	4.0	0.22	0.65	0.29	19	219
20	ISL	12.50	12.50	33.395	25.248	271.7	0.056	6.20	102.5	2.5	0.58	4.0	0.22	0.65	0.29	20	
30	A	12.40	12.40	33.405	25.276	269.3	0.083	6.15	101.5	2.6	0.59	4.1	0.26	0.64	0.34	30	218
37	A	12.20	12.20	33.391	25.303	266.9	0.102	5.94	97.6	3.3	0.67	5.0	0.35	0.45	0.26	37	217
47		12.08	12.07	33.490	25.403	257.6	0.128	6.09	99.8	3.2	0.73	6.2	0.40	0.50	0.34	47	216
50	ISL	11.91	11.90	33.476	25.424	255.7	0.136	6.00	98.0	3.8	0.77	6.8	0.41	0.41	0.28	50	
52	A	11.76	11.75	33.461	25.441	254.1	0.141	5.91	96.2	4.3	0.80	7.3	0.41	0.34	0.24	52	215
62		10.69	10.68	33.368	25.561	242.8	0.166	5.30	84.3	9.3	1.00	10.7	0.05	0.12	0.12	62	214
69		10.20	10.19	33.420	25.686	231.0	0.182	4.85	76.3	13.4	1.19	13.9	0.02	0.08	0.09	69	213
75	ISL	10.11	10.10	33.481	25.749	225.1	0.196	4.61	72.4	15.5	1.30	15.7	0.02	0.06	0.08	75	
85		9.96	9.95	33.556	25.833	217.4	0.218	4.20	65.8	18.4	1.47	18.4	0.02	0.04	0.07	85	212
98		9.90	9.89	33.756	26.000	201.8	0.245	3.22	50.4	24.4	1.81	23.6	0.01	0.03	0.06	99	211
100	ISL	9.86	9.85	33.776	26.022	199.8	0.249	3.13	49.0	25.1	1.84	24.1	0.01	0.03	0.06	101	
119		9.44	9.43	33.898	26.187	184.4	0.286	2.61	40.5	29.8	2.03	26.7	0.01	0.01	0.06	120	210
125	ISL	9.33	9.32	33.924	26.225	180.9	0.297	2.51	38.9	30.8	2.07	27.2	0.01	0.01	0.06	126	
139		9.10	9.08	33.967	26.296	174.4	0.322	2.36	36.4	32.8	2.13	28.0	0.01	0.00	0.06	140	209
150	ISL	8.89	8.87	33.988	26.346	169.8	0.341	2.34	35.9	34.1	2.15	28.5	0.01	0.00	0.06	151	
169		8.55	8.53	34.010	26.416	163.4	0.372	2.31	35.2	36.2	2.18	29.2	0.01	0.00	0.05	170	208
198		8.19	8.17	34.041	26.496	156.3	0.419	2.12	32.0	39.7	2.28	30.5	0.01	0.00	0.04	199	207
200	ISL	8.17	8.15	34.043	26.500	155.9	0.422	2.10	31.7	40.0	2.29	30.6	0.01			201	
229		7.84	7.82	34.063	26.565	150.1	0.466	1.91	28.6	44.6	2.42	32.1	0.01			230	206
250	ISL	7.52	7.50	34.064	26.612	145.9	0.497	1.88	28.0	47.3	2.46	32.8	0.01			252	
268		7.25	7.22	34.063	26.650	142.5	0.523	1.87	27.6	49.5	2.48	33.3	0.01			270	205
300	ISL	6.93	6.90	34.074	26.703	137.7	0.568	1.69	24.8	54.0	2.58	34.5	0.01			302	
319		6.78	6.75	34.085	26.732	135.2	0.594	1.54	22.5	56.8	2.65	35.2	0.01			321	204
378		6.41	6.38	34.150	26.833	126.3	0.671	0.96	13.9	66.0	2.88	37.8	0.01			380	203
400	ISL	6.29	6.25	34.174	26.868	123.2	0.699	0.81	11.7	69.5	2.95	38.5	0.01			403	
435		6.08	6.04	34.207	26.921	118.5	0.741	0.62	8.9	74.8	3.05	39.4	0.00			438	202
500	ISL	5.58	5.54	34.224	26.997	111.7	0.816	0.45	6.4	83.3	3.15	41.2	0.00			504	
522		5.41	5.37	34.231	27.023	109.2	0.840	0.39	5.5	86.2	3.18	41.8	0.00			526	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV NEW HORIZON CALCOFI CRUISE 0001 STATION 77 90

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
33 43.5 N	123 38.0 W	22/01/00	1042 UTC	4271 m	120 10 kn			1019.3 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	14.39	14.39	33.309	24.800	313.8	0.000	5.93	101.9	2.6	0.31	0.0	0.00	0.26	0.08	0	
1		14.39	14.39	33.309	24.800	313.9	0.003	5.93	101.9	2.6	0.31	0.0	0.00	0.26	0.08	1	220
10		14.40	14.40	33.314	24.802	313.9	0.031	5.95	102.3	2.5	0.31	0.0	0.00	0.26	0.08	10	219
20		14.38	14.38	33.346	24.831	311.5	0.063	5.97	102.6	2.5	0.31	0.0	0.00	0.32	0.12	20	218
30		14.16	14.16	33.415	24.931	302.2	0.093	6.04	103.4	2.5	0.32	0.0	0.00	0.47	0.20	30	217
40		14.04	14.03	33.422	24.961	299.6	0.123	5.96	101.8	2.5	0.34	0.2	0.03	0.65	0.33	40	216
50		13.97	13.96	33.422	24.976	298.5	0.153	5.89	100.4	2.6	0.36	0.4	0.06	0.40	0.22	50	215
59		13.94	13.93	33.426	24.986	297.8	0.180	5.89	100.3	2.5	0.37	0.4	0.06	0.29	0.18	59	214
70		13.89	13.88	33.424	24.995	297.3	0.213	5.88	100.1	2.6	0.38	0.5	0.08	0.22	0.13	70	213
75	ISL	13.46	13.45	33.409	25.071	290.1	0.228	5.78	97.5	3.5	0.48	2.1	0.07	0.17	0.12	75	
85		12.35	12.34	33.383	25.270	271.3	0.256	5.49	90.5	6.0	0.73	6.4	0.05	0.09	0.10	85	212
100		11.04	11.03	33.385	25.514	248.2	0.295	4.98	79.8	10.7	1.03	11.6	0.02	0.08	0.11	100	211
119		10.41	10.40	33.556	25.757	225.4	0.340	4.21	66.6	17.1	1.42	17.6	0.01	0.04	0.07	120	210
125	ISL	10.19	10.18	33.626	25.850	216.7	0.353	3.93	61.9	19.5	1.54	19.5	0.01	0.03	0.06	126	
140		9.66	9.64	33.786	26.064	196.6	0.384	3.33	51.9	24.9	1.78	23.3	0.01	0.01	0.04	141	209
150	ISL	9.41	9.39	33.838	26.146	189.0	0.403	3.25	50.4	26.7	1.84	24.4	0.01	0.01	0.04	151	
169		9.04	9.02	33.896	26.250	179.3	0.438	3.10	47.7	29.1	1.89	25.4	0.01	0.00	0.03	170	208
199		8.49	8.47	33.995	26.414	164.2	0.490	2.75	41.8	34.9	2.05	27.8	0.01	0.00	0.03	200	207
200	ISL	8.48	8.46	33.997	26.417	163.9	0.491	2.73	41.5	35.1	2.06	27.9	0.01			201	
229		8.11	8.09	34.041	26.508	155.7	0.538	2.20	33.2	40.2	2.27	30.5	0.01			230	206
250	ISL	7.78	7.76	34.055	26.568	150.2	0.570	2.14	32.0	43.5	2.34	31.3	0.01			251	
267		7.51	7.48	34.059	26.610	146.4	0.595	2.10	31.2	46.0	2.38	31.8	0.01			269	205
300	ISL	7.01	6.98	34.055	26.677	140.2	0.642	1.99	29.2	51.3	2.47	33.2	0.01			302	
319		6.76	6.73	34.054	26.710	137.2	0.669	1.89	27.6	54.4	2.53	34.1	0.01			321	204
379		6.36	6.33	34.114	26.811	128.3	0.748	1.18	17.1	64.4	2.81	37.3	0.00			381	203
400	ISL	6.20	6.16	34.130	26.844	125.3	0.775	1.01	14.6	68.1	2.88	38.2	0.00			403	
437		5.89	5.85	34.150	26.900	120.3	0.820	0.80	11.5	74.4	2.98	39.5	0.00			440	202
500	ISL	5.36	5.32	34.156	26.969	114.0	0.894	0.65	9.2	83.1	3.09	41.3	0.00			503	
515		5.24	5.20	34.158	26.985	112.5	0.911	0.61	8.6	85.2	3.12	41.7	0.00			519	201

RV NEW HORIZON CALCOFI CRUISE 0001 STATION 77 100

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
33 23.5 N	124 19.6 W	22/01/00	0507	UTC	4491 m	140	06 kn			1021.3 mb	15.3 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	15.04	15.04	33.239	24.607	332.2	0.000	5.83	101.5	3.0	0.28	0.0	0.00	0.14	0.04	0	
2		15.04	15.04	33.239	24.607	332.3	0.007	5.83	101.5	3.0	0.28	0.0	0.00	0.14	0.04	2	220
10	ISL	15.06	15.06	33.257	24.616	331.6	0.033	5.84	101.7	2.9	0.28	0.0	0.00	0.14	0.04	10	
16		15.07	15.07	33.272	24.626	330.9	0.053	5.84	101.7	2.9	0.28	0.0	0.00	0.14	0.04	16	219
20	ISL	15.07	15.07	33.304	24.651	328.6	0.066	5.83	101.6	2.9	0.27	0.0	0.00	0.15	0.04	20	
30	ISL	15.08	15.08	33.380	24.708	323.5	0.099	5.82	101.5	2.9	0.26	0.0	0.00	0.18	0.06	30	
31		15.08	15.08	33.388	24.714	323.0	0.102	5.82	101.5	2.9	0.26	0.0	0.00	0.18	0.06	31	218
44		15.07	15.06	33.396	24.723	322.5	0.144	5.83	101.6	3.0	0.27	0.0	0.00	0.19	0.07	44	217
50	ISL	14.94	14.93	33.381	24.739	321.1	0.163	5.84	101.5	2.9	0.27	0.0	0.00	0.25	0.09	50	
54		14.86	14.85	33.372	24.750	320.2	0.176	5.85	101.5	2.9	0.27	0.0	0.00	0.29	0.13	54	216
64		13.41	13.40	33.414	25.085	288.5	0.207	6.05	101.9	3.4	0.31	0.1	0.04	0.34	0.36	64	215
75		12.94	12.93	33.435	25.195	278.2	0.238	5.99	100.0	3.7	0.34	0.4	0.09	0.30	0.37	75	214
85		12.51	12.50	33.419	25.267	271.6	0.265	5.95	98.4	3.9	0.38	0.9	0.12	0.27	0.34	85	213
94		12.02	12.01	33.402	25.347	264.1	0.289	5.88	96.2	4.2	0.42	1.6	0.08	0.23	0.22	94	212
100	ISL	11.51	11.50	33.364	25.412	258.0	0.305	5.80	93.9	5.0	0.50	3.0	0.05	0.16	0.15	100	
109		10.69	10.68	33.299	25.508	248.9	0.328	5.67	90.1	6.7	0.66	5.7	0.01	0.06	0.08	110	211
124		9.65	9.64	33.222	25.624	237.9	0.364	5.58	86.6	10.5	0.95	9.9	0.01	0.02	0.04	125	210
125	ISL	9.66	9.65	33.239	25.636	236.8	0.367	5.54	86.0	10.7	0.96	10.2	0.01	0.02	0.04	126	
143		9.76	9.74	33.578	25.885	213.7	0.407	4.67	72.8	15.5	1.20	14.8	0.01	0.01	0.02	144	209
150	ISL	9.58	9.56	33.662	25.980	204.7	0.422	4.45	69.2	17.9	1.31	16.7	0.01	0.01	0.02	151	
168		9.01	8.99	33.814	26.191	184.9	0.457	3.93	60.4	24.5	1.61	21.5	0.01	0.01	0.02	169	208
199		8.61	8.59	33.965	26.372	168.2	0.512	2.72	41.4	34.1	2.06	27.8	0.00	0.00	0.04	200	207
200	ISL	8.60	8.58	33.968	26.376	167.8	0.513	2.70	41.1	34.3	2.07	27.9	0.00			201	
229		8.26	8.24	34.018	26.468	159.6	0.561	2.41	36.4	38.0	2.19	29.5	0.00			230	206
250	ISL	7.97	7.94	34.034	26.524	154.5	0.594	2.32	34.8	40.9	2.25	30.3	0.00			251	
269		7.70	7.67	34.041	26.569	150.4	0.623	2.25	33.6	43.7	2.31	31.1	0.00			271	205
300	ISL	7.22	7.19	34.047	26.642	143.7	0.668	2.00	29.5	49.2	2.44	32.9	0.00			302	
319		6.95	6.92	34.053	26.684	139.9	0.695	1.82	26.7	52.7	2.52	34.0	0.00			321	204
381		6.46	6.43	34.117	26.800	129.4	0.779	1.15	16.7	63.8	2.90 U	37.1	0.01			383	203
400	ISL	6.29	6.25	34.122	26.827	127.1	0.803	1.05	15.2	66.6	2.82	37.9	0.01			403	
438		5.94	5.90	34.127	26.875	122.7	0.851	0.91	13.0	72.1	2.94	39.3	0.00			441	202
500	ISL	5.34	5.30	34.162	26.976	113.3	0.924	0.66	9.3	83.5	3.08	41.3	0.00			503	
509		5.25	5.21	34.167	26.991	111.9	0.934	0.62	8.7	85.2	3.10	41.6	0.00			512	201

RV NEW HORIZON CALCOFI CRUISE 0001 STATION 80 51

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
34 27.0 N	120 31.5 W	20/01/00	1313	UTC	74 m	240	07 kn			1018.4 mb	15.2 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	13.61	13.61	33.563	25.158	279.8	0.000	6.04	102.3	6.0	0.40	1.9	0.11	1.65	0.46	0	
2		13.61	13.61	33.563	25.158	279.8	0.006	6.04	102.3	6.0	0.40	1.9	0.11	1.65	0.46	2	209
5		13.59	13.59	33.568	25.166	279.1	0.014	6.00	101.6	6.4	0.43	2.2	0.14	1.56	0.49	5	208
10	ISL	13.57	13.57	33.569	25.171	278.8	0.028	5.98	101.2	6.4	0.43	2.3	0.14	1.52	0.46	10	
11		13.57	13.57	33.568	25.170	278.9	0.031	5.98	101.2	6.4	0.43	2.3	0.14	1.51	0.45	11	207
20	ISL	13.50	13.50	33.573	25.188	277.4	0.056	5.89	99.5	6.7	0.47	2.6	0.17	1.65	0.50	20	
21		13.49	13.49	33.574	25.191	277.2	0.059	5.88	99.4	6.7	0.48	2.6	0.18	1.66	0.50	21	206
30	ISL	13.34	13.34	33.579	25.226	274.1	0.083	5.74	96.7	7.3	0.53	3.1	0.22	1.17	0.39	30	
31		13.32	13.32	33.580	25.230	273.7	0.086	5.72	96.3	7.4	0.54	3.2	0.23	1.10	0.38	31	205
41		13.15	13.14	33.588	25.271	270.1	0.113	5.55	93.1	7.7	0.61	4.7	0.37	0.58	0.39	41	204
50		13.03	13.02	33.591	25.297	267.8	0.137	5.42	90.7	8.2	0.67	5.6	0.39	0.47	0.37	50	203
60		12.88	12.87	33.597	25.332	264.8	0.164	5.29	88.3	9.1	0.72	6.2	0.38	0.45	0.33	60	202
70		12.75	12.74	33.609	25.367	261.7	0.190	5.00	83.2	10.6	0.83	7.8	0.36	0.38	0.31	70	201

RV NEW HORIZON CALCOFI CRUISE 0001 STATION 80 55

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
34 20.0 N	120 48.8 W	20/01/00	1859	UTC	758 m	320	08 kn	310 02 07	2	1021.1 mb	14.9 C	13.3 C	15m	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	13.18	13.18	33.579	25.257	270.3	0.000	5.86	98.4	9.0	0.69	6.1	0.12	0.97	0.22	0	
1		13.18	13.18	33.578	25.256	270.4	0.003									1	222
1	A	13.18	13.18	33.579	25.257	270.3	0.003	5.86	98.4	9.0	0.69	6.1	0.12	0.97	0.22	1	221
9	A	12.85	12.85	33.611	25.347	262.0	0.024	5.65	94.2	9.4	0.73	6.9	0.13	0.62	0.28	9	220
10	ISL	12.81	12.81	33.613	25.357	261.1	0.027	5.62	93.7	9.5	0.74	7.1	0.14	0.61	0.30	10	
20	A	12.28	12.28	33.634	25.476	250.0	0.052	5.08	83.7	11.6	0.94	10.0	0.19	0.56	0.40	20	219
30	ISL	11.31	11.31	33.690	25.701	228.9	0.076	4.07	65.7	17.0	1.33	16.3	0.16	0.33	0.29	30	
31	A	11.21	11.21	33.696	25.724	226.7	0.078	3.97	64.0	17.5	1.37	16.9	0.15	0.31	0.27	31	218
40	A	10.74	10.74	33.734	25.837	216.1	0.098	3.61	57.6	19.9	1.54	19.4	0.09	0.17	0.15	40	217
48		10.47	10.46	33.788	25.927	207.8	0.115	3.31	52.5	21.8	1.63	20.8	0.05	0.07	0.12	48	216
50	ISL	10.43	10.42	33.796	25.940	206.5	0.119	3.28	52.0	22.2	1.65	21.0	0.05	0.07	0.12	50	
56	A	10.37	10.36	33.810	25.961	204.6	0.132	3.23	51.1	23.0	1.70	21.5	0.05	0.06	0.11	56	215
63		10.36	10.35	33.818	25.969	204.0	0.146	3.18	50.3	23.4	1.71	21.7	0.07	0.07	0.14	63	214
70		10.35	10.34	33.822	25.974	203.7	0.160	3.18	50.3	23.6	1.72	21.7	0.08	0.06	0.13	70	213
75	ISL	10.27	10.26	33.834	25.997	201.6	0.170	3.12	49.3	24.2	1.75	22.1	0.07	0.05	0.12	75	
83		10.12	10.11	33.858	26.042	197.5	0.186	2.99	47.1	25.4	1.80	22.9	0.04	0.04	0.10	83	212
100		9.91	9.90	33.895	26.107	191.7	0.220	2.83	44.4	27.2	1.88	24.0	0.04	0.03	0.09	101	211
119		9.65	9.64	33.947	26.191	184.1	0.255	2.68	41.8	28.8	1.95	25.1	0.03	0.01	0.08	120	210
125	ISL	9.62	9.61	33.954	26.201	183.2	0.266	2.66	41.5	29.1	1.96	25.3	0.03	0.01	0.08	126	
138		9.56	9.54	33.964	26.219	181.8	0.290	2.62	40.8	29.8	1.99	25.6	0.04	0.01	0.07	139	209
150	ISL	9.47	9.45	33.978	26.245	179.6	0.312	2.54	39.5	30.6	2.02	26.1	0.04	0.01	0.07	151	
169		9.28	9.26	34.008	26.300	174.7	0.345	2.37	36.7	32.5	2.10	27.1	0.04	0.00	0.06	170	208
199		8.86	8.84	34.075	26.420	163.8	0.396	1.98	30.4	37.2	2.28	29.5	0.01	0.00	0.06	200	207
200	ISL	8.85	8.83	34.077	26.423	163.5	0.398	1.97	30.2	37.3	2.29	29.6	0.01			201	
228		8.61	8.59	34.140	26.510	155.7	0.442	1.60	24.4	41.3	2.44	31.1	0.01			229	206
250	ISL	8.40	8.37	34.169	26.565	150.8	0.476	1.42	21.6	44.1	2.53	32.1	0.01			252	
269		8.22	8.19	34.184	26.604	147.4	0.504	1.31	19.8	46.3	2.59	32.8	0.01			271	205
300	ISL	8.01	7.98	34.193	26.643	144.1	0.550	1.19	17.9	49.0	2.65	33.6	0.00			302	
319		7.87	7.84	34.193	26.664	142.4	0.577	1.15	17.2	50.7	2.68	34.0	0.00			321	204
377		7.23	7.19	34.186	26.751	134.7	0.657	1.05	15.5	57.9	2.79	35.8	0.00			380	203
400	ISL	7.06	7.02	34.192	26.779	132.2	0.688	0.97	14.3	60.2	2.84	36.4	0.00			403	
439		6.80	6.76	34.209	26.829	128.0	0.739	0.81	11.9	64.4	2.92	37.4	0.01			442	202
500	ISL	6.33	6.28	34.257	26.929	118.9	0.814	0.53	7.7	73.5	3.07	39.3	0.00			504	
511		6.25	6.20	34.266	26.947	117.3	0.827	0.48	6.9	75.1	3.10	39.6	0.00			515	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV NEW HORIZON CALCOFI CRUISE 0001 STATION 80 60

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
34 8.9 N	121 8.8 W	20/01/00	2200 UTC	2155 m	310 11 kn	310 02 09	4	1020.4 mb	12.9 C	12.4 C	14m	8/8	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	13.08	13.08	33.566	25.267	269.4	0.000	5.88	98.5	8.5	0.72	6.3	0.11	1.34	0.30	0	
1		13.08	13.08	33.566	25.267	269.4	0.003	5.88	98.5	8.5	0.72	6.3	0.11	1.34	0.30	1	220
10		12.83	12.83	33.593	25.337	262.9	0.027	5.75	95.8	8.9	0.76	6.8	0.11	0.87	0.31	10	219
20		12.52	12.52	33.619	25.418	255.5	0.053	5.33	88.3	10.3	0.88	8.8	0.16	0.69	0.34	20	218
30		12.00	12.00	33.645	25.538	244.3	0.078	4.74	77.7	12.9	1.09	12.0	0.22	0.57	0.34	30	217
40		11.01	11.01	33.720	25.778	221.7	0.101	3.72	59.7	18.3	1.48	18.0	0.08	0.24	0.26	40	216
49		10.75	10.74	33.756	25.853	214.8	0.121	3.47	55.4	20.1	1.58	19.6	0.03	0.17	0.21	49	215
50	ISL	10.72	10.71	33.761	25.862	214.0	0.123	3.45	55.0	20.3	1.59	19.8	0.03	0.16	0.20	50	
60		10.46	10.45	33.798	25.936	207.1	0.144	3.26	51.7	21.9	1.68	21.1	0.03	0.10	0.15	60	214
70		10.40	10.39	33.805	25.952	205.8	0.164	3.22	51.0	22.3	1.70	21.4	0.02	0.09	0.16	70	213
75	ISL	10.23	10.22	33.830	26.001	201.3	0.175	3.14	49.6	23.5	1.75	22.2	0.02	0.06	0.14	75	
85		9.84	9.83	33.895	26.118	190.3	0.194	2.90	45.4	26.5	1.87	24.0	0.02	0.01	0.09	85	212
99		9.48	9.47	33.963	26.231	179.8	0.220	2.53	39.3	30.1	2.02	25.9	0.02	0.01	0.09	100	211
100	ISL	9.46	9.45	33.967	26.237	179.3	0.222	2.52	39.1	30.3	2.03	26.0	0.02	0.01	0.09	101	
120		9.21	9.20	34.028	26.326	171.2	0.257	2.33	36.0	32.6	2.13	27.3	0.02	0.01	0.10	121	210
125	ISL	9.16	9.15	34.038	26.342	169.8	0.265	2.28	35.2	33.2	2.15	27.5	0.02	0.01	0.09	126	
138		9.04	9.03	34.062	26.380	166.4	0.287	2.16	33.3	34.7	2.21	28.1	0.02	0.00	0.06	139	209
150	ISL	8.92	8.90	34.091	26.422	162.6	0.307	2.04	31.3	36.2	2.27	28.8	0.02	0.00	0.06	151	
169		8.73	8.71	34.131	26.483	157.1	0.337	1.85	28.3	38.6	2.35	29.8	0.01	0.00	0.06	170	208
198		8.47	8.45	34.153	26.541	152.1	0.382	1.65	25.1	41.9	2.44	30.9	0.01	0.00	0.05	199	207
200	ISL	8.45	8.43	34.155	26.546	151.7	0.385	1.62	24.6	42.2	2.45	31.0	0.01			201	
229		8.11	8.09	34.182	26.619	145.2	0.428	1.29	19.5	47.0	2.60	32.8	0.01			230	206
250	ISL	7.96	7.93	34.189	26.647	142.9	0.459	1.25	18.8	48.6	2.64	33.3	0.01			252	
267		7.84	7.81	34.190	26.666	141.3	0.483	1.22	18.3	49.9	2.66	33.6	0.01			269	205
300	ISL	7.39	7.36	34.192	26.732	135.3	0.528	1.11	16.5	55.3	2.75	35.0	0.00			302	
319		7.10	7.07	34.192	26.773	131.6	0.554	1.04	15.3	58.9	2.81	35.9	0.00			321	204
376		6.38	6.35	34.188	26.867	123.0	0.626	0.81	11.7	68.5	2.96	38.4	0.00			379	203
400	ISL	6.28	6.24	34.208	26.896	120.6	0.656									403	
437		6.20	6.16	34.244	D 26.935	117.3	0.700									440	202
500	ISL	5.93	5.89	34.278	26.997	112.1	0.772									504	
521		5.84	5.79	34.290	D 27.017	110.3	0.795									525	201

RV NEW HORIZON CALCOFI CRUISE 0001 STATION 80 70

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
33 49.2 N	121 51.0 W	21/01/00	0349 UTC	3636 m	350 08 kn			1020.8 mb	13.0 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	13.16	13.16	33.475	25.180	277.6	0.000	6.18	103.7	4.9	0.57	3.9	0.16	0.97	0.28	0	
2		13.16	13.16	33.475	25.180	277.7	0.006	6.18	103.7	4.9	0.57	3.9	0.16	0.97	0.28	2	220
10		13.03	13.03	33.507	25.231	273.0	0.028	6.17	103.2	5.8	0.60	4.6	0.19	0.91	0.30	10	219
20		12.68	12.68	33.567	25.347	262.3	0.054	6.06	100.7	7.0	0.71	6.0	0.28	0.85	0.41	20	218
30		12.61	12.61	33.588	25.377	259.7	0.080	6.03	100.0	7.9	0.75	6.6	0.34	0.74	0.40	30	217
40		12.48	12.47	33.609	25.419	256.0	0.106	5.79	95.8	8.5	0.81	7.6	0.43	0.64	0.41	40	216
49		12.29	12.28	33.621	25.465	251.8	0.129	5.79	95.4	9.0	0.89	8.2	0.33	0.47	0.40	49	215
50	ISL	12.28	12.27	33.622	25.468	251.6	0.132	5.78	95.2	9.0	0.89	8.2	0.33	0.45	0.39	50	
60		12.23	12.22	33.627	25.481	250.5	0.157	5.69	93.7	9.0	0.91	8.5	0.33	0.28	0.28	60	214
70		12.22	12.21	33.626	25.483	250.7	0.182	5.67	93.3	9.2	0.93	8.6	0.34	0.22	0.24	70	213
75	ISL	11.91	11.90	33.628	25.543	245.0	0.194	5.20	85.0	11.3	1.07	11.1	0.26	0.18	0.22	75	
84		11.14	11.13	33.655	25.705	229.7	0.216	4.17	67.1	16.6	1.40	16.9	0.09	0.12	0.19	84	212
99		9.99	9.98	33.803	26.021	199.8	0.248	3.15	49.5	25.2	1.85	23.9	0.01	0.04	0.14	100	211
100	ISL	9.95	9.94	33.810	26.033	198.7	0.250	3.11	48.8	25.5	1.87	24.1	0.01	0.04	0.14	101	
120		9.38	9.37	33.916	26.211	182.2	0.288	2.65	41.1	30.3	2.05	26.8	0.01	0.00	0.09	121	210
125	ISL	9.24	9.23	33.936	26.249	178.6	0.297	2.59	40.0	31.3	2.08	27.3	0.01	0.00	0.09	126	
140		8.88	8.87	33.984	26.344	169.8	0.323	2.45	37.6	34.1	2.16	28.5	0.01	0.00	0.09	141	209
150	ISL	8.72	8.70	34.011	26.391	165.6	0.340	2.31	35.3	35.8	2.21	29.2	0.01	0.00	0.08	151	
170		8.47	8.45	34.049	26.459	159.4	0.372	2.08	31.6	38.9	2.30	30.3	0.01	0.00	0.07	171	208
200		8.07	8.05	34.066	26.533	152.7	0.419	2.04	30.7	42.3	2.38	31.5	0.01	0.00	0.05	201	207
230		7.71	7.69	34.093	26.608	146.1	0.464	1.81	27.0	46.8	2.49	32.8	0.00			231	206
250	ISL	7.46	7.44	34.111	26.658	141.5	0.493	1.59	23.6	50.4	2.59	34.0	0.00			252	
269		7.22	7.19	34.123	26.701	137.6	0.519	1.39	20.5	54.0	2.68	35.1	0.00			271	205
300	ISL	6.75	6.72	34.115	26.760	132.3	0.561	1.27	18.6	59.7	2.78	36.7	0.00			302	
319		6.49	6.46	34.110	26.790	129.5	0.586	1.22	17.7	63.1	2.83	37.6	0.00			321	204
380		6.04	6.01	34.159	26.887	120.8	0.662	0.78	11.2	72.9	3.02	39.9	0.00			383	203
400	ISL	5.92	5.89	34.170	26.911	118.7	0.686	0.69	9.9	75.4	3.06	40.4	0.00			403	
437		5.70	5.66	34.186	26.952	115.2	0.729	0.57	8.1	79.8	3.11	41.2	0.00			440	202
500	ISL	5.24	5.20	34.201	27.019	109.2	0.800	0.46	6.5	88.0	3.20	42.6	0.00			504	
509		5.18	5.14	34.203	27.027	108.4	0.810	0.45	6.3	89.2	3.21	42.8	0.00			513	201

RV NEW HORIZON CALCOFI CRUISE 0001 STATION 80 80

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT TYPE
33 29.0 N	122 31.8 W	21/01/00	0940 UTC	3976 m	290 08 kn			1021.5 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	13.85	13.85	33.309	24.912	303.1	0.000	6.01	102.1	2.5	0.41	1.2	0.05	0.50	0.15	0	
1	13.85	13.85	33.309	24.912	303.2	0.003	6.01	102.1	2.5	0.41	1.2	0.05	0.50	0.15	1	220
10	13.29	13.29	33.353	25.060	289.3	0.030	6.06	101.8	2.5	0.50	2.5	0.12	0.49	0.16	10	219
20 ISL	12.66	12.66	33.418	25.235	272.9	0.058	6.10	101.2	2.6	0.61	4.2	0.21	0.47	0.23	20	
21	12.61	12.61	33.424	25.250	271.6	0.061	6.10	101.1	2.6	0.62	4.3	0.22	0.47	0.24	21	218
30 ISL	12.37	12.37	33.435	25.305	266.6	0.085	6.01	99.1	2.7	0.68	4.9	0.30	0.34	0.22	30	
31	12.35	12.35	33.435	25.309	266.2	0.087	6.00	98.9	2.7	0.68	4.9	0.31	0.32	0.22	31	217
40	12.24	12.23	33.440	25.334	264.1	0.111	5.97	98.2	3.1	0.71	5.5	0.37	0.28	0.19	40	216
50	12.08	12.07	33.447	25.370	260.9	0.138	5.85	95.9	3.8	0.77	6.5	0.41	0.27	0.20	50	215
60	11.87	11.86	33.455	25.416	256.7	0.163	5.93	96.8	4.2	0.80	7.0	0.39	0.28	0.23	60	214
70	11.65	11.64	33.455	25.457	253.1	0.189	5.78	93.9	5.3	0.87	8.2	0.32	0.24	0.21	70	213
75 ISL	11.14	11.13	33.455	25.550	244.3	0.201	5.51	88.5	7.8	0.98	10.1	0.22	0.19	0.18	75	
85	10.09	10.08	33.455	25.733	227.0	0.225	4.79	75.2	14.0	1.27	15.0	0.03	0.09	0.12	85	212
100	10.11	10.10	33.680	25.905	210.9	0.258	3.55	55.8	21.7	1.72	21.9	0.02	0.05	0.11	101	211
119	9.70	9.69	33.823	26.086	194.1	0.296	2.93	45.7	26.9	1.94	25.4	0.01	0.01	0.10	120	210
125 ISL	9.56	9.55	33.845	26.126	190.4	0.308	2.91	45.3	27.8	1.96	25.8	0.01	0.01	0.09	126	
139	9.23	9.21	33.880	26.207	182.9	0.334	2.87	44.3	29.4	1.98	26.3	0.01	0.01	0.08	140	209
150 ISL	9.01	8.99	33.918	26.272	176.9	0.354	2.77	42.6	31.1	2.02	27.0	0.01	0.01	0.07	151	
169	8.69	8.67	33.979	26.370	167.8	0.386	2.57	39.2	34.1	2.11	28.2	0.01	0.00	0.05	170	208
199	8.26	8.24	34.032	26.478	158.0	0.435	2.30	34.8	38.5	2.24	29.9	0.00	0.00	0.05	200	207
200 ISL	8.25	8.23	34.033	26.480	157.8	0.437	2.29	34.6	38.6	2.24	29.9	0.00			201	
228	7.91	7.89	34.056	26.549	151.6	0.480	2.11	31.7	42.5	2.34	31.1	0.00			229	206
250 ISL	7.60	7.58	34.067	26.603	146.8	0.513	1.98	29.5	45.8	2.42	32.2	0.00			251	
268	7.36	7.33	34.076	26.645	143.0	0.539	1.85	27.4	48.8	2.50	33.2	0.00			270	205
300 ISL	7.02	6.99	34.108	26.717	136.4	0.584	1.47	21.6	54.9	2.66	35.0	0.00			302	
317	6.86	6.83	34.125	26.753	133.3	0.607	1.26	18.5	58.3	2.74	36.0	0.00			319	204
377	6.21	6.18	34.153	26.861	123.4	0.684	0.85	12.3	69.2	2.97	38.8	0.00			379	203
400 ISL	6.06	6.03	34.171	26.895	120.4	0.712	0.73	10.5	72.6	3.03	39.6	0.00			403	
437	5.86	5.82	34.202	26.944	116.0	0.755	0.56	8.0	77.5	3.10	40.5	0.00			440	202
500 ISL	5.51	5.47	34.250	27.026	108.8	0.826	0.37	5.3	85.1	3.18	41.3	0.00			503	
521	5.39	5.35	34.266	27.053	106.4	0.849	0.31	4.4	87.6	3.21	41.5	0.00			525	201

RV NEW HORIZON CALCOFI CRUISE 0001 STATION 80 90

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT TYPE
33 9.5 N	123 13.6 W	21/01/00	1808 UTC	4216 m	290 04 kn	290 04 08	1	1022.7 mb	14.7 C	12.2 C	25m	5/8 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	14.71	14.71	33.265	24.698	323.6	0.000	5.90	102.0	2.7	0.31	0.1	0.00	0.22	0.05	0	
2 A	14.71	14.71	33.265	24.698	323.6	0.006	5.90	102.0	2.7	0.31	0.1	0.00	0.22	0.05	2	222
2	14.71	14.71	33.265	24.698	323.6	0.006									2	223
10 ISL	14.61	14.61	33.272	24.725	321.3	0.032	5.94	102.5	2.7	0.31	0.1	0.00	0.26	0.08	10	
15 A	14.50	14.50	33.282	24.756	318.4	0.048	5.96	102.6	2.6	0.31	0.1	0.00	0.31	0.10	15	221
20 ISL	14.39	14.39	33.301	24.794	315.0	0.064	5.96	102.4	2.5	0.32	0.1	0.00	0.41	0.17	20	
24	14.32	14.32	33.316	24.821	312.6	0.077	5.95	102.1	2.5	0.33	0.1	0.00	0.48	0.21	24	220
30 ISL	14.31	14.31	33.321	24.827	312.1	0.095	5.96	102.3	2.4	0.32	0.1	0.00	0.47	0.19	30	
34 A	14.30	14.30	33.325	24.832	311.8	0.108	5.97	102.4	2.4	0.32	0.1	0.00	0.46	0.17	34	219
42	14.08	14.07	33.381	24.921	303.5	0.132	5.96	101.8	2.3	0.34	0.2	0.02	0.63	0.25	42	218
50 ISL	13.95	13.94	33.419	24.978	298.3	0.157	5.97	101.7	2.3	0.36	0.3	0.04	0.49	0.23	50	
52 A	13.93	13.92	33.425	24.987	297.5	0.162	5.97	101.7	2.3	0.37	0.3	0.04	0.43	0.23	52	217
60	13.84	13.83	33.425	25.006	295.9	0.186	5.90	100.3	2.4	0.39	0.6	0.07	0.29	0.16	60	216
68 A	13.77	13.76	33.425	25.020	294.8	0.210	5.89	100.0	2.3	0.41	0.8	0.10	0.23	0.13	68	215
75	13.31	13.30	33.401	25.095	287.8	0.230	5.76	96.8	3.4	0.51	2.4	0.15	0.17	0.10	75	214
85	12.23	12.22	33.392	25.300	268.4	0.258	5.43	89.2	6.3	0.78	7.3	0.02	0.09	0.07	85	213
93 A	11.31	11.30	33.381	25.462	253.1	0.279	5.07	81.7	9.2	0.97	10.2	0.02	0.08	0.08	93	212
100 ISL	10.87	10.86	33.478	25.616	238.5	0.296	4.55	72.7	13.2	1.22	14.1	0.02	0.07	0.07	100	
110	10.57	10.56	33.663	25.813	220.0	0.319	3.74	59.4	18.9	1.56	19.6	0.01	0.05	0.06	111	211
123	10.35	10.34	33.823	25.976	204.7	0.347	2.92	46.2	23.5	1.81	23.1	0.01	0.03	0.05	124	210
125 ISL	10.31	10.30	33.835	25.992	203.2	0.351	2.86	45.2	24.0	1.83	23.4	0.01	0.03	0.05	126	
143	9.88	9.86	33.898	26.115	191.9	0.386	2.59	40.6	27.3	1.97	25.2	0.01	0.01	0.04	144	209
150 ISL	9.73	9.71	33.927	26.163	187.5	0.400	2.47	38.6	28.7	2.03	25.9	0.01	0.01	0.04	151	
169	9.37	9.35	34.001	26.280	176.7	0.434	2.18	33.8	32.2	2.16	27.7	0.00	0.00	0.03	170	208
198	9.04	9.02	34.075	26.391	166.6	0.484	1.88	28.9	35.9	2.30	29.4	0.00	0.00	0.03	199	207
200 ISL	9.02	9.00	34.079	26.397	166.0	0.487	1.86	28.6	36.1	2.31	29.5	0.00			201	
227	8.81	8.79	34.126	26.468	159.8	0.531	1.63	25.0	39.2	2.41	30.6	0.01			228	206
250 ISL	8.68	8.65	34.154	26.510	156.2	0.568	1.49	22.8	41.2	2.47	31.2	0.01			251	
268	8.58	8.55	34.170	26.539	153.8	0.595	1.40	21.3	42.6	2.51	31.6	0.00			270	205
300 ISL	8.37	8.34	34.193	26.589	149.5	0.644	1.25	19.0	45.2	2.59	32.4	0.00			302	
318	8.23	8.20	34.202	26.618	147.0	0.671	1.17	17.7	47.0	2.64	32.9	0.00			320	204
378	7.51	7.47	34.215	26.734	136.5	0.756	0.93	13.8	55.9	2.79	35.2	0.00			380	203
400 ISL	7.25	7.21	34.209	26.767	133.7	0.785	0.90	13.3	58.6	2.83	35.9	0.00			403	
440	6.84	6.80	34.203	26.819	129.0	0.838	0.84	12.3	63.5	2.91	37.2	0.00			443	202
500 ISL	6.43	6.38	34.247	26.908	121.0	0.913	0.56	8.1	71.6	3.04	38.9	0.00			503	
511	6.36	6.31	34.255	26.924	119.6	0.926	0.51	7.4	73.1	3.06	39.2	0.00			514	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV NEW HORIZON CALCOFI CRUISE 0001 STATION 80 100

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
32 49.2 N	123 54.4 W	21/01/00	2319 UTC	4415 m	150 02 kn	280 03 06	2	1021.0 mb	15.1 C	12.0 C	26m	8/8	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	14.95	14.95	33.269	24.649	328.2	0.000	5.88	102.2	2.7	0.30	0.1	0.00	0.16	0.04	0	
2	14.95	14.95	33.269	24.649	328.2	0.007	5.88	102.2	2.7	0.30	0.1	0.00	0.16	0.04	2	220
10 ISL	14.80	14.80	33.265	24.679	325.7	0.033	5.91	102.4	2.6	0.31	0.1	0.00	0.19	0.05	10	
14	14.68	14.68	33.265	24.705	323.3	0.046	5.93	102.5	2.6	0.31	0.1	0.00	0.21	0.05	14	219
20 ISL	14.55	14.55	33.283	24.746	319.5	0.065	5.95	102.6	2.6	0.31	0.1	0.00	0.31	0.12	20	
30	14.25	14.25	33.314	24.834	311.5	0.097	5.97	102.3	2.5	0.33	0.1	0.00	0.46	0.23	30	218
45	13.50	13.49	33.315	24.990	297.0	0.142			2.0	0.40	0.7	0.07	0.38	0.21	45	217
50 ISL	13.08	13.07	33.320	25.078	288.7	0.157	6.00	100.4	2.6	0.40	0.8	0.12	0.35	0.21	50	
55	12.64	12.63	33.329	25.171	279.9	0.171	6.01	99.6	3.2	0.41	0.9	0.17	0.31	0.21	55	216
64	12.00	11.99	33.352	25.311	266.8	0.196	5.93	97.0	3.9	0.45	1.6	0.16	0.23	0.22	64	215
74	11.26	11.25	33.336	25.435	255.1	0.222	5.81	93.5	4.8	0.54	3.4	0.03	0.15	0.16	74	214
75 ISL	11.18	11.17	33.329	25.444	254.3	0.224	5.81	93.3	4.9	0.55	3.6	0.03	0.14	0.15	75	
84	10.57	10.56	33.263	25.501	249.0	0.247	5.79	91.8	6.1	0.66	5.2	0.02	0.09	0.10	84	213
95	10.07	10.06	33.252	25.578	241.9	0.274	5.66	88.7	8.1	0.81	7.7	0.01	0.05	0.05	95	212
100 ISL	9.94	9.93	33.258	25.604	239.4	0.286	5.58	87.2	8.5	0.84	8.2	0.01	0.04	0.04	100	
110	9.75	9.74	33.321	25.685	231.9	0.310	5.43	84.5	10.4	0.95	10.0	0.01	0.02	0.03	111	211
124	9.53	9.52	33.579	25.923	209.6	0.340	4.37	67.8	18.5	1.40	17.6	0.01	0.01	0.02	125	210
125 ISL	9.53	9.52	33.594	25.935	208.5	0.343	4.29	66.6	19.0	1.43	18.1	0.01	0.01	0.02	126	
144	9.61	9.59	33.812	26.092	194.0	0.381	3.04	47.3	27.1	1.95	25.6	0.01	0.02	0.03	145	209
150 ISL	9.49	9.47	33.848	26.140	189.5	0.392	3.00	46.6	28.4	1.96	25.9	0.01	0.02	0.03	151	
169	8.98	8.96	33.912	26.272	177.2	0.427	2.86	43.9	30.6	2.01	26.8	0.01	0.01	0.03	170	208
198	8.34	8.32	33.957	26.407	164.8	0.477	3.56	53.9	31.6	1.82	25.0	0.01	0.00	0.01	199	207
200 ISL	8.30	8.28	33.960	26.416	164.0	0.480	3.53	53.4	32.0	1.83	25.2	0.01			201	
227	7.86	7.84	33.997	26.510	155.3	0.523	2.93	43.9	38.2	2.08	28.4	0.01			228	206
250 ISL	7.55	7.53	34.001	26.558	150.9	0.558	2.75	40.9	41.6	2.18	29.7	0.00			251	
269	7.35	7.32	34.003	26.589	148.3	0.587	2.63	38.9	44.1	2.25	30.6	0.00			271	205
300 ISL	7.14	7.11	34.046	26.652	142.7	0.632	2.06	30.4	49.7	2.47	33.1	0.00			302	
318	7.02	6.99	34.073	26.690	139.3	0.657	1.72	25.3	53.1	2.59	34.5	0.00			320	204
379	6.31	6.28	34.096	26.803	129.0	0.739	1.31	18.9	64.2	2.80	37.3	0.00			381	203
400 ISL	6.06	6.03	34.097	26.836	125.9	0.766	1.21	17.4	67.8	2.86	38.2	0.00			403	
436	5.71	5.67	34.107	26.888	121.2	0.810	1.05	15.0	73.6	2.95	39.7	0.00			439	202
500 ISL	5.54	5.50	34.200	26.983	112.9	0.885	0.59	8.4	81.7	3.12	41.2	0.00			503	
521	5.49	5.45	34.230	27.013	110.3	0.909	0.44	6.2	84.3	3.18	41.7	0.00			525	201

RV NEW HORIZON CALCOFI CRUISE 0001 STATION 82 47

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
34 16.4 N	120 1.6 W	20/01/00	0126 UTC	581 m	250 15 kn	270 02 11	2	1020.3 mb	15.8 C	13.4 C		8/8	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	13.17	13.17	33.596	25.272	268.9	0.000	6.36	106.8	7.5	0.56	3.1	0.15	5.78	0.53	0	
1 A	13.17	13.17	33.596	25.272	268.9	0.003	6.36	106.8	7.5	0.56	3.1	0.15	5.78	0.53	1	224
10 ISL	12.78	12.78	33.605	25.356	261.1	0.027	5.97	99.4	8.4	0.66	4.9	0.17	3.23	0.55	10	
11	12.73	12.73	33.607	25.368	260.1	0.029	5.92	98.5	8.5	0.68	5.2	0.17	2.88	0.55	11	223
19	12.66	12.66	33.610	25.384	258.7	0.050	5.82	96.7	8.7	0.73	6.0	0.17	2.48	0.58	19	222
20 ISL	12.66	12.66	33.610	25.384	258.8	0.052	5.82	96.7	8.7	0.73	6.0	0.17	2.67	0.59	20	
30	12.62	12.62	33.611	25.393	258.2	0.078	5.82	96.6	8.6	0.72	6.1	0.17	3.99	0.64	30	221
40	12.37	12.36	33.633	25.459	252.2	0.104	5.25	86.7	10.9	0.90	8.5	0.26	0.94	0.58	40	220
50	11.71	11.70	33.679	25.619	237.1	0.128	4.30	70.0	14.9	1.23	13.9	0.18	0.43	0.35	50	219
60	11.23	11.22	33.715	25.735	226.3	0.151	3.78	60.9	18.1	1.46	17.3	0.08	0.16	0.17	60	218
69	11.04	11.03	33.734	25.785	221.8	0.172	3.56	57.2	19.3	1.55	18.7	0.01	0.12	0.17	69	217
75 ISL	10.88	10.87	33.754	25.829	217.7	0.185	3.42	54.7	20.4	1.60	19.5	0.01	0.09	0.16	75	
84	10.61	10.60	33.791	25.905	210.6	0.204	3.21	51.1	22.1	1.68	20.7	0.01	0.05	0.13	84	216
100	10.12	10.11	33.872	26.053	196.9	0.237	2.89	45.5	25.2	1.84	23.0	0.03	0.05	0.10	101	215
118	9.73	9.72	33.943	26.174	185.7	0.271	2.63	41.1	28.4	1.97	24.9	0.03	0.01	0.08	119	214
125 ISL	9.62	9.61	33.966	26.211	182.4	0.284	2.53	39.4	29.6	2.02	25.6	0.03	0.01	0.08	126	
138	9.46	9.44	34.002	26.265	177.4	0.307	2.36	36.7	31.5	2.10	26.7	0.03	0.01	0.08	139	213
150 ISL	9.33	9.31	34.021	26.302	174.2	0.328	2.22	34.4	32.8	2.16	27.6	0.02	0.01	0.07	151	
168	9.15	9.13	34.044	26.349	170.0	0.359	2.01	31.0	34.8	2.25	28.9	0.01	0.01	0.07	169	212
198	8.84	8.82	34.101	26.443	161.6	0.409	1.60	24.5	39.6	2.42	31.0	0.01	0.01	0.11	199	211
200 ISL	8.83	8.81	34.103	26.446	161.3	0.412	1.59	24.4	39.8	2.42	31.0	0.01			201	
230	8.71	8.69	34.127	26.484	158.3	0.460	1.47	22.5	42.3	2.49	31.2	0.01			231	210
250 ISL	8.55	8.52	34.142	26.521	155.1	0.492	1.24	18.9	45.0	2.59	32.4	0.00			252	
267	8.37	8.34	34.153	26.557	151.9	0.518	1.03	15.6	47.7	2.69	33.6	0.00			269	209
300 ISL	7.96	7.93	34.170	26.633	145.1	0.567	0.78	11.7	53.2	2.82	35.3	0.00			302	
318	7.73	7.70	34.178	26.673	141.5	0.593	0.68	10.2	56.4	2.88	36.0	0.00			320	208
377	7.11	7.07	34.207	26.784	131.5	0.673	0.51	7.5	67.4	3.06	36.7	0.00			379	207
400 ISL	6.88	6.84	34.216	26.823	128.0	0.703	0.44	6.5	72.0	3.13	36.5	0.00			403	
437	6.58	6.54	34.228	26.873	123.5	0.749	0.33	4.8	79.5	3.23	36.3	0.00			440	206
500 ISL	6.32	6.27	34.242	26.919	119.9	0.826	0.16	2.3	93.4	3.40	32.5	0.00			504	
512	6.30	6.25	34.243	26.922	119.7	0.841	0.14	2.0	95.0	3.41	32.0	0.00			516	205
544	6.27	6.22	34.244	26.927	119.7	0.879	0.16	2.3	93.2	3.37	32.9	0.00			548	204
555	6.26	6.21	34.244	26.929	119.7	0.892	0.15	2.2	92.5	3.37	33.4	0.00			559	203
560	6.26	6.21	34.245	26.930	119.7	0.898	0.13	1.9	92.9	3.36	32.8	0.02			564	202
566	6.26	6.21	34.245	26.930	119.8	0.905	0.14	2.0	93.9	3.36	32.8	0.05			570	201

A) SANTA BARBARA BASIN STATION.

RV NEW HORIZON CALCOFI CRUISE 0001 STATION 83 40.6

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
34 13.4 N	119 24.7 W	19/01/00	2052 UTC	35 m	290 06 kn	030 02 09	1	1021.5 mb	16.8 C	15.2 C	18m	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	14.81	14.81	33.612	24.944	300.1	0.000	6.01	104.4	3.6	0.29	0.1	0.00	0.64	0.27	0	
2	14.81	14.81	33.612	24.944	300.2	0.006	6.01	104.4	3.6	0.29	0.1	0.00	0.64	0.27	2	205
6	14.72	14.72	33.608	24.960	298.7	0.018	6.03	104.5	3.6	0.29	0.2	0.00	0.62	0.25	6	204
10	14.55	14.55	33.607	24.996	295.4	0.030	6.05	104.5	3.5	0.30	0.2	0.00	0.79	0.30	10	203
20	13.84	13.84	33.576	25.121	283.8	0.059	5.65	96.2	5.4	0.50	2.5	0.29	0.92	0.50	20	202
28	13.58	13.58	33.579	25.177	278.7	0.081	5.40	91.4	6.7	0.66	3.4	0.29	0.88	0.56	28	201

RV NEW HORIZON CALCOFI CRUISE 0001 STATION 83 42

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
34 10.9 N	119 30.7 W	19/01/00	1823 UTC	121 m	100 03 kn	070 01 08	1	1022.1 mb	16.8 C	14.9 C	20m	5/8	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	14.86	14.86	33.623	24.942	300.3	0.000	5.95	103.4	3.6	0.29	0.1	0.00	0.35	0.13	0	
1	14.88	14.88	33.623	24.937	300.8	0.003									1	214
1 A	14.86	14.86	33.623	24.942	300.4	0.003	5.95	103.4	3.6	0.29	0.1	0.00	0.35	0.13	1	213
10 ISL	14.69	14.69	33.618	24.975	297.5	0.030	6.00	103.9	3.8	0.29	0.2	0.00	0.42	0.17	10	
13 A	14.64	14.64	33.616	24.984	296.7	0.039	6.00	103.8	3.9	0.29	0.2	0.00	0.45	0.18	13	212
19	14.23	14.23	33.589	25.050	290.6	0.056	5.93	101.7	4.4	0.37	0.9	0.07	1.40	0.39	19	211
20 ISL	14.20	14.20	33.588	25.056	290.1	0.059	5.92	101.5	4.5	0.38	0.9	0.08	1.36	0.39	20	
26 A	14.06	14.06	33.582	25.080	287.9	0.077	5.86	100.2	4.8	0.40	1.1	0.12	1.15	0.40	26	210
30 ISL	13.91	13.91	33.565	25.099	286.3	0.088	5.82	99.2	4.9	0.43	1.5	0.17	1.02	0.41	30	
34	13.71	13.71	33.549	25.127	283.6	0.100	5.74	97.4	5.1	0.48	2.3	0.21	0.91	0.42	34	209
42 A	13.16	13.15	33.545	25.236	273.5	0.122	5.32	89.3	6.8	0.70	5.1	0.26	0.73	0.44	42	208
48	12.54	12.53	33.556	25.366	261.2	0.138	4.80	79.5	9.3	0.93	8.8	0.13	0.48	0.44	48	207
50 ISL	12.46	12.45	33.555	25.381	259.8	0.143	4.75	78.5	9.5	0.96	9.2	0.11	0.45	0.44	50	
55 A	12.31	12.30	33.557	25.411	257.1	0.156	4.65	76.6	10.0	1.01	10.0	0.09	0.40	0.40	55	206
64	11.51	11.50	33.632	25.620	237.4	0.178	4.04	65.5	14.4	1.29	14.7	0.02	0.13	0.19	64	205
74 A	11.01	11.00	33.703	25.766	223.7	0.201	3.69	59.2	17.4	1.46	17.6	0.01	0.05	0.11	74	204
75 ISL	10.98	10.97	33.707	25.774	222.9	0.204	3.67	58.8	17.6	1.47	17.8	0.01	0.05	0.11	75	
87	10.64	10.63	33.750	25.868	214.2	0.230	3.47	55.2	19.8	1.58	19.5	0.01	0.04	0.09	87	203
100 ISL	10.23	10.22	33.818	25.992	202.7	0.257	3.18	50.2	23.1	1.73	21.9	0.01	0.02	0.07	101	
102	10.18	10.17	33.827	26.008	201.2	0.261	3.14	49.5	23.5	1.75	22.2	0.01	0.02	0.07	103	202
115	10.13	10.12	33.841	26.028	199.6	0.287	3.06	48.2	24.1	1.79	22.6	0.01	0.02	0.08	116	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV NEW HORIZON CALCOFI CRUISE 0001 STATION 83 51

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
33 52.6 N	120 8.1 W	19/01/00	1207 UTC	103 m	300 02 kn			1020.0 mb	14.9 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	13.86	13.86	33.534	25.084	286.8	0.000	5.99	102.0	4.7	0.41	1.4	0.06	0.55	0.19	0	
1	13.86	13.86	33.534	25.084	286.8	0.003	5.99	102.0	4.7	0.41	1.4	0.06	0.55	0.19	1	210
10 ISL	12.70	12.70	33.599	25.368	260.1	0.027	5.13	85.3	9.8	0.84	7.2	0.17	0.49	0.29	10	
11	12.53	12.53	33.609	25.408	256.2	0.030	5.01	83.0	10.6	0.90	8.1	0.19	0.48	0.30	11	209
20	11.82	11.82	33.606	25.541	243.8	0.053	4.67	76.2	13.0	1.10	11.7	0.23	0.44	0.28	20	208
30	11.36	11.36	33.624	25.640	234.6	0.076	4.31	69.6	15.3	1.28	14.7	0.15	0.31	0.22	30	207
40	10.97	10.97	33.680	25.754	224.0	0.099	3.93	63.0	18.0	1.44	17.4	0.08	0.20	0.16	40	206
50	10.88	10.87	33.723	25.804	219.5	0.122	3.71	59.4					0.17	0.20	50	205
60	10.87	10.86	33.725	25.808	219.4	0.144	3.70	59.2	19.5	1.52	18.2	0.10	0.16	0.16	60	204
70	10.85	10.84	33.733	25.818	218.7	0.165	3.66	58.5	19.7	1.53	18.3	0.11	0.15	0.15	70	203
75 ISL	10.85	10.84	33.734	25.818	218.7	0.176	3.66	58.5	19.7	1.53	18.3	0.11	0.14	0.15	75	
80	10.85	10.84	33.734	25.819	218.8	0.187	3.65	58.4	19.6	1.54	18.4	0.11	0.14	0.16	80	202
90	10.77	10.76	33.751	25.846	216.4	0.209	3.57	57.0	20.3	1.56	18.8	0.11	0.15	0.18	90	201

RV NEW HORIZON CALCOFI CRUISE 0001 STATION 83 55

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT TYPE
33 44.7 N	120 24.8 W	19/01/00	0831 UTC	1029 m	190 05 kn			1022.1 mb	14.1 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	12.85	12.85	33.566	25.312	265.1	0.000	5.95	99.2	7.4	0.67	5.7	0.18	0.41	0.14	0	
2	12.85	12.85	33.566	25.312	265.1	0.005	5.95	99.2	7.4	0.67	5.7	0.18	0.41	0.14	2	220
10 ISL	12.80	12.80	33.585	25.337	263.0	0.026	5.87	97.8	7.9	0.70	6.2	0.18	0.41	0.18	10	
11	12.79	12.79	33.590	25.343	262.4	0.029	5.85	97.4	8.0	0.71	6.3	0.18	0.41	0.19	11	219
20 ISL	12.56	12.56	33.611	25.404	256.8	0.052	5.65	93.7	9.3	0.80	7.7	0.19	0.36	0.23	20	
21	12.53	12.53	33.613	25.412	256.2	0.055	5.63	93.3	9.6	0.81	7.8	0.19	0.35	0.23	21	218
30	10.99	10.99	33.591	25.681	230.7	0.077	4.41	70.7	15.4	1.29	15.5	0.12	0.20	0.16	30	217
40	10.23	10.23	33.773	25.956	204.8	0.099	3.31	52.2	23.0	1.71	21.7	0.03	0.12	0.12	40	216
50	10.12	10.11	33.807	26.001	200.7	0.119	3.18	50.1	24.4	1.77	22.4	0.02	0.07	0.11	50	215
60	10.06	10.05	33.821	26.023	198.9	0.139	3.13	49.2	24.6	1.78	22.8	0.02	0.06	0.09	60	214
69	9.77	9.76	33.882 D	26.119	189.9	0.156	2.89	45.2	27.2	1.89	24.3	0.02	0.02	0.07	69	213
75 ISL	9.66	9.65	33.913	26.162	185.9	0.168	2.78	43.4	28.2	1.93	24.8	0.02	0.02	0.07	75	
85	9.54	9.53	33.950	26.211	181.5	0.186	2.65	41.2	29.3	1.98	25.4	0.02	0.01	0.08	85	212
99	9.40	9.39	33.974	26.253	177.8	0.211	2.55	39.6	30.7	2.02	26.1	0.01	0.00	0.08	100	211
100 ISL	9.39	9.38	33.977	26.256	177.4	0.213	2.54	39.4	30.8	2.03	26.2	0.01	0.00	0.08	101	
119	9.14	9.13	34.031	26.339	169.9	0.246	2.25	34.7	33.9	2.16	27.7	0.03	0.00	0.06	120	210
125 ISL	9.07	9.06	34.046	26.362	167.8	0.256	2.17	33.4	34.9	2.19	28.1	0.02	0.00	0.06	126	
139	8.92	8.91	34.079	26.412	163.4	0.279	2.00	30.7	36.9	2.26	29.0	0.01	0.00	0.06	140	209
150 ISL	8.83	8.81	34.100	26.443	160.6	0.297	1.90	29.1	38.1	2.31	29.5	0.02	0.00	0.06	151	
168	8.71	8.69	34.126	26.483	157.2	0.326	1.76	26.9	39.8	2.37	30.1	0.04	0.00	0.05	169	208
199	8.53	8.51	34.148	26.528	153.4	0.374	1.60	24.4	42.0	2.44	31.0	0.01	0.00	0.05	200	207
200 ISL	8.52	8.50	34.149	26.530	153.2	0.375	1.60	24.4	42.1	2.44	31.0	0.01			201	
228	8.33	8.31	34.173	26.579	149.1	0.418	1.44	21.8	44.8	2.52	31.8	0.01			229	206
250 ISL	8.07	8.04	34.196	26.636	143.9	0.450	1.24	18.7	48.4	2.61	32.8	0.02			252	
268	7.84	7.81	34.211	26.682	139.8	0.475	1.08	16.2	51.6	2.69	33.7	0.02			270	205
300 ISL	7.48	7.45	34.201	26.726	135.9	0.520	1.02	15.2	55.5	2.75	34.8	0.01			302	
318	7.31	7.28	34.194	26.745	134.3	0.544	1.01	15.0	57.4	2.78	35.3	0.01			320	204
377	7.03	6.99	34.251	26.830	127.1	0.621	0.63	9.3	64.3	2.96	36.9	0.01			380	203
400 ISL	6.90	6.86	34.254	26.850	125.4	0.650	0.58	8.5	66.2	2.99	37.4	0.01			403	
440	6.66	6.62	34.255	26.884	122.7	0.700	0.55	8.0	69.4	3.02	38.1	0.00			443	202
500 ISL	6.28	6.24	34.283	26.956	116.3	0.771	0.43	6.2	76.8	3.12	39.5	0.00			504	
517	6.17	6.12	34.291	26.977	114.5	0.791	0.39	5.6	78.9	3.15	39.9	0.00			521	201

RV NEW HORIZON CALCOFI CRUISE 0001 STATION 83 60

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT TYPE
33 34.7 N	120 45.3 W	19/01/00	0433 UTC	1401 m	110 05 kn			1020.9 mb	14.8 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	13.28	13.28	33.591	25.246	271.3	0.000	6.03	101.5	7.7	0.60	4.6	0.12	0.58	0.23	0	
2	13.28	13.28	33.591	25.246	271.4	0.005	6.03	101.5	7.7	0.60	4.6	0.12	0.58	0.23	2	220
9	13.01	13.01	33.596	25.304	266.1	0.024	6.07	101.6	7.6	0.60	4.7	0.13	0.69	0.26	9	219
10 ISL	12.99	12.99	33.598	25.310	265.6	0.027	6.06	101.4	7.6	0.60	4.7	0.13	0.70	0.28	10	
18	12.91	12.91	33.608	25.333	263.5	0.048	5.97	99.7	7.9	0.62	5.1	0.15	0.76	0.38	18	218
20 ISL	12.89	12.89	33.609	25.338	263.1	0.053	5.96	99.5	8.0	0.64	5.3	0.16	0.76	0.38	20	
28	12.75	12.75	33.612	25.368	260.5	0.074	5.89	98.0	8.8	0.72	6.4	0.20	0.75	0.32	28	217
30 ISL	12.72	12.72	33.612	25.374	260.0	0.079	5.87	97.6	9.1	0.73	6.8	0.21	0.68	0.30	30	
39	12.31	12.30	33.618	25.458	252.2	0.103	5.49	90.5	10.3	0.86	8.4	0.25	0.32	0.23	39	216
49	10.98	10.97	33.655	25.733	226.2	0.126	4.18	67.0	17.7	1.41	17.4	0.06	0.19	0.19	49	215
50 ISL	10.92	10.91	33.657	25.745	225.0	0.129	4.13	66.1	18.0	1.43	17.7	0.06	0.18	0.19	50	
59	10.58	10.57	33.674	25.819	218.3	0.149	3.87	61.5	19.7	1.53	19.3	0.02	0.16	0.16	59	214
69	10.23	10.22	33.725	25.919	208.9	0.170	3.58	56.5	22.3	1.67	21.3	0.02	0.12	0.13	69	213
75 ISL	10.00	9.99	33.775	25.997	201.6	0.182	3.33	52.3	24.4	1.77	22.8	0.02	0.08	0.11	75	
84	9.69	9.68	33.853	26.110	191.0	0.200	2.97	46.3	27.4	1.91	24.8	0.01	0.03	0.09	84	212
99	9.39	9.38	33.933	26.222	180.7	0.228	2.74	42.5	30.4	2.04	26.4	0.01	0.01	0.08	100	211
100 ISL	9.37	9.36	33.937	26.229	180.1	0.230	2.72	42.2	30.6	2.05	26.5	0.01	0.01	0.08	101	
118	9.10	9.09	34.000	26.322	171.6	0.261	2.38	36.7	33.7	2.16	27.8	0.01	0.00	0.10	119	210
125 ISL	8.99	8.98	34.017	26.352	168.7	0.273	2.32	35.7	34.6	2.19	28.2	0.01	0.00	0.09	126	
141	8.74	8.73	34.044	26.413	163.2	0.300	2.26	34.6	36.6	2.24	29.0	0.01	0.00	0.07	142	209
150 ISL	8.59	8.57	34.054	26.444	160.4	0.314	2.22	33.8	37.8	2.27	29.5	0.01	0.00	0.06	151	
167	8.32	8.30	34.068	26.497	155.7	0.341	2.14	32.4	40.1	2.32	30.4	0.01	0.00	0.05	168	208
198	7.95	7.93	34.089	26.569	149.3	0.388	1.95	29.3	44.3	2.42	31.8	0.01	0.00	0.05	199	207
200 ISL	7.92	7.90	34.091	26.575	148.7	0.391	1.93	29.0	44.6	2.43	31.9	0.01			201	
227	7.55	7.53	34.114	26.647	142.2	0.431	1.65	24.6	49.3	2.56	33.3	0.02			228	206
250 ISL	7.28	7.26	34.125	26.694	138.0	0.463	1.50	22.2	53.1	2.65	34.3	0.02			252	
268	7.09	7.06	34.128	26.723	135.4	0.488	1.43	21.1	55.9	2.70	35.0	0.01			270	205
300 ISL	6.77	6.74	34.119	26.760	132.3	0.530	1.37	20.0	60.4	2.77	36.3	0.01			302	
316	6.61	6.58	34.114	26.778	130.7	0.551	1.33	19.4	62.7	2.80	36.9	0.01			318	204
376	5.98	5.95	34.139	26.879	121.5	0.627	0.92	13.2	72.7	3.00	39.4	0.00			379	203
400 ISL	5.89	5.86	34.174	26.918	118.0	0.656	0.74	10.6	75.9	3.07	40.0	0.00			403	
435	5.83	5.79	34.230	26.970	113.6	0.696	0.51	7.3	79.9	3.15	40.6	0.00			438	202
500 ISL	5.78	5.74	34.299	27.032	108.6	0.769	0.35	5.0	84.2	3.23	41.3	0.00			504	
522	5.76	5.72	34.322	27.053	106.9	0.792	0.30	4.3	85.7	3.26	41.5	0.00			526	201

RV NEW HORIZON CALCOFI CRUISE 0001 STATION 83 70

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
33 14.7 N	121 26.6 W	18/01/00	2251 UTC	3800 m	130 07 kn	260 03 08	1	1019.2 mb	15.0 C	14.3 C	13m	6/8	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	13.37	13.37	33.452	25.120	283.3	0.000	6.24	105.1	2.2	0.50	2.4	0.12	0.80	0.22	0	
2	13.37	13.37	33.452	25.121	283.4	0.006	6.24	105.1	2.2	0.50	2.4	0.12	0.80	0.22	2	220
9	13.01	13.01	33.463	25.201	275.9	0.025	6.19	103.5	2.4	0.51	2.5	0.13	0.83	0.28	9	219
10 ISL	13.00	13.00	33.469	25.208	275.3	0.028	6.18	103.3	2.4	0.51	2.5	0.13	0.83	0.28	10	
19	12.91	12.91	33.487	25.240	272.5	0.053	6.14	102.4	2.5	0.53	2.8	0.15	0.79	0.30	19	218
20 ISL	12.90	12.90	33.488	25.243	272.2	0.055	6.14	102.4	2.5	0.53	2.8	0.15	0.78	0.30	20	
29	12.84	12.84	33.491	25.257	271.1	0.080	6.10	101.6	2.6	0.56	3.1	0.19	0.63	0.29	29	217
30 ISL	12.84	12.84	33.492	25.258	271.0	0.083	6.10	101.6	2.6	0.56	3.1	0.20	0.62	0.29	30	
40	12.76	12.75	33.500	25.280	269.2	0.110	6.01	100.0	3.1	0.60	3.6	0.25	0.53	0.31	40	216
49	12.57	12.56	33.490	25.309	266.6	0.134	5.85	96.9	3.9	0.67	4.6	0.29	0.31	0.22	49	215
50 ISL	12.53	12.52	33.486	25.314	266.2	0.136	5.83	96.5	4.1	0.68	4.8	0.29	0.30	0.22	50	
60	11.97	11.96	33.468	25.407	257.6	0.163	5.44	89.0	7.0	0.86	8.0	0.25	0.23	0.20	60	214
70	11.26	11.25	33.538	25.592	240.1	0.187	4.48	72.2	13.0	1.29	15.1	0.05	0.15	0.15	70	213
75 ISL	10.80	10.79	33.563	25.694	230.5	0.199	4.25	67.8	15.6	1.42	17.3	0.05	0.12	0.12	75	
85	9.98	9.97	33.623	25.882	212.7	0.221	3.96	62.1	20.1	1.59	20.3	0.04	0.06	0.07	85	212
100	9.55	9.54	33.759	26.060	196.1	0.252	3.44	53.5	24.9	1.79	23.5	0.03	0.02	0.04	101	211
120	9.00	8.99	33.894	26.255	177.9	0.289	2.98	45.8	30.2	1.96	26.4	0.03	0.01	0.04	121	210
125 ISL	8.93	8.92	33.914	26.281	175.5	0.298	2.90	44.5	31.0	1.99	26.9	0.03	0.01	0.04	126	
140	8.74	8.73	33.954	26.343	169.9	0.324	2.75	42.0	32.9	2.06	27.8	0.02	0.00	0.04	141	209
150 ISL	8.54	8.52	33.975	26.390	165.5	0.341	2.83	43.1	34.0	2.05	27.9	0.02	0.00	0.04	151	
169	8.18	8.16	34.008	26.471	158.1	0.372	2.94	44.4	36.3	2.04	28.1	0.03	0.00	0.03	170	208
196	7.99	7.97	34.042	26.526	153.3	0.414	2.29	34.4	41.0	2.28	30.8	0.02	0.00	0.03	197	207
200 ISL	7.96	7.94	34.047	26.535	152.6	0.420	2.22	33.3	41.6	2.31	31.1	0.02			201	
227	7.73	7.71	34.074	26.590	147.7	0.460	1.86	27.8	45.5	2.44	32.7	0.02			228	206
250 ISL	7.43	7.41	34.075	26.634	143.8	0.494	1.82	27.0	48.5	2.51	33.7	0.02			252	
267	7.18	7.15	34.070	26.665	141.0	0.518	1.79	26.4	50.8	2.54	34.3	0.02			269	205
300 ISL	6.73	6.70	34.060	26.719	136.1	0.564	1.70	24.8	55.8	2.61	35.6	0.02			302	
319	6.50	6.47	34.059	26.749	133.4	0.589	1.61	23.4	58.8	2.66	36.4	0.02			321	204
378	6.08	6.05	34.110	26.844	124.9	0.666	1.06	15.2	68.6	2.89	39.2	0.02			380	203
400 ISL	5.96	5.93	34.133	26.877	122.0	0.693	0.90	12.9	72.0	2.96	40.0	0.02			403	
438	5.77	5.73	34.173	26.933	117.1	0.738	0.67	9.6	77.5	3.06	41.1	0.02			441	202
500 ISL	5.50	5.46	34.237	27.017	109.7	0.808	0.41	5.8	85.5	3.19	42.3	0.01			503	
515	5.43	5.39	34.252	27.037	107.9	0.825	0.35	5.0	87.4	3.22	42.6	0.01			519	201

RV NEW HORIZON CALCOFI CRUISE 0001 STATION 83 80

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
32 54.6 N	122 7.2 W	18/01/00	1757 UTC	4177 m	150 09 kn	210 03 07	1	1019.0 mb	15.8 C	14.8 C	15m	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	14.17	14.17	33.380	24.901	304.2	0.000	6.01	102.9	2.5	0.33	0.2	0.00			0	
1 A	14.17	14.17	33.380	24.901	304.2	0.003	6.01	102.9	2.5	0.33	0.2	0.00			1	221
1	14.16	14.16	33.380	24.903	304.0	0.003									1	222
9 A	14.12	14.12	33.388	24.918	302.9	0.027	6.00	102.6	2.5	0.33	0.2	0.00	0.64	0.21	9	220
10 ISL	14.12	14.12	33.389	24.918	302.8	0.030	6.00	102.6	2.5	0.33	0.2	0.00	0.64	0.21	10	
20 A	14.11	14.11	33.399	24.928	302.2	0.061	6.01	102.7	2.4	0.33	0.2	0.00	0.62	0.21	20	219
30 A	14.09	14.09	33.408	24.940	301.4	0.091	5.97	102.0	2.5	0.33	0.2	0.01	0.56	0.22	30	218
40 A	14.07	14.06	33.409	24.945	301.1	0.121	5.97	102.0	2.4	0.34	0.2	0.01	0.49	0.21	40	217
48	14.04	14.03	33.409	24.952	300.7	0.145	5.96	101.7	2.4	0.35	0.3	0.02	0.44	0.21	48	216
50 ISL	14.02	14.01	33.410	24.957	300.3	0.151	5.93	101.2	2.4	0.36	0.3	0.03	0.40	0.20	50	
55 A	13.94	13.93	33.411	24.974	298.8	0.166	5.86	99.8	2.5	0.38	0.5	0.08	0.28	0.15	55	215
62	13.79	13.78	33.411	25.005	296.0	0.187	5.81	98.7	2.8	0.43	1.1	0.19	0.19	0.10	62	214
69	13.60	13.59	33.409	25.043	292.6	0.207	5.80	98.1	2.9	0.47	1.4	0.23	0.16	0.09	69	213
75 ISL	13.50	13.49	33.413	25.066	290.6	0.225	5.80	97.9	3.0	0.49	1.8	0.22	0.15	0.09	75	
85	13.22	13.21	33.421	25.129	284.8	0.254	5.79	97.2	3.1	0.52	2.5	0.20	0.13	0.09	85	212
100 ISL	12.10	12.09	33.433	25.356	263.4	0.295	5.39	88.4	6.7	0.83	7.8	0.04	0.05	0.06	100	
101	12.02	12.01	33.435	25.373	261.8	0.297	5.35	87.6	7.0	0.86	8.2	0.03	0.04	0.06	101	211
120	10.96	10.95	33.515	25.629	237.7	0.345	4.55	72.8	13.4	1.23	14.3	0.03	0.03	0.05	121	210
125 ISL	10.74	10.73	33.553	25.698	231.3	0.357	4.35	69.3	15.2	1.33	15.9	0.03	0.03	0.05	126	
138	10.23	10.21	33.664	25.873	214.8	0.386	3.86	60.9	19.7	1.56	19.8	0.02	0.02	0.04	139	209
150 ISL	9.84	9.82	33.767	26.019	201.1	0.411	3.45	54.0	23.1	1.72	22.5	0.02	0.01	0.04	151	
168	9.37	9.35	33.912	26.210	183.2	0.445	2.87	44.5	27.9	1.93	25.7	0.02	0.00	0.04	169	208
197	8.85	8.83	34.088	26.431	162.7	0.495	1.95	29.9	36.9	2.29	30.0	0.02	0.00	0.03	198	207
200 ISL	8.81	8.79	34.097	26.445	161.4	0.500	1.90	29.1	37.5	2.31	30.2	0.02			201	
228	8.49	8.47	34.144	26.531	153.6	0.544	1.61	24.5	41.8	2.45	31.8	0.02			229	206
250 ISL	8.15	8.12	34.171	26.604	147.0	0.577	1.37	20.7	46.1	2.57	33.3	0.02			251	
269	7.89	7.86	34.190	26.658	142.1	0.605	1.19	17.9	49.6	2.66	34.4	0.02			271	205
300 ISL	7.72	7.69	34.211	26.700	138.6	0.648	1.02	15.2	52.5	2.74	35.2	0.02			302	
320	7.66	7.63	34.221	26.717	137.3	0.676	0.95	14.2	53.8	2.78	35.5	0.02			322	204
379	7.41	7.37	34.246	26.773	132.8	0.756	0.74	11.0	58.3	2.87	36.6	0.02			381	203
400 ISL	7.24	7.20	34.252	26.802	130.3	0.783	0.68	10.1	60.9	2.91	37.2	0.02			403	
439	6.88	6.84	34.262	26.860	125.1	0.833	0.59	8.7	66.1	2.99	38.4	0.02			442	202
500 ISL	6.41	6.36	34.283	26.939	118.1	0.907	0.45	6.5	73.6	3.10	39.9	0.02			503	
512	6.32	6.27	34.288	26.955	116.6	0.921	0.42	6.1	75.1	3.12	40.2	0.02			515	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV NEW HORIZON CALCOFI CRUISE 0001 STATION 83 90

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT TYPE
32 34.7 N	122 48.6 W	18/01/00	1049 UTC	4276 m	150 10 kn			1017.5 mb	15.3 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	14.24	14.24	33.392	24.895	304.7	0.000	6.01	103.0	2.6	0.33	0.2	0.00	0.61	0.19	0	
2	14.24	14.24	33.392	24.895	304.8	0.006	6.01	103.0	2.6	0.33	0.2	0.00	0.61	0.19	2	220
10 ISL	14.18	14.18	33.411	24.923	302.4	0.030	6.03	103.2	2.7	0.33	0.2	0.00	0.67	0.22	10	
11	14.17	14.17	33.414	24.927	302.0	0.033	6.03	103.2	2.7	0.33	0.2	0.00	0.68	0.23	11	219
20	14.06	14.06	33.435	24.967	298.5	0.060	5.99	102.3	2.8	0.35	0.4	0.03	0.66	0.27	20	218
30 ISL	13.96	13.96	33.449	24.999	295.8	0.090	5.99	102.1	3.0	0.37	0.5	0.04	0.65	0.31	30	
31	13.95	13.95	33.450	25.001	295.5	0.093	5.99	102.1	3.0	0.37	0.5	0.04	0.65	0.31	31	217
41	13.81	13.80	33.456	25.035	292.6	0.123	5.95	101.1	3.1	0.39	0.9	0.08	0.58	0.31	41	216
50 ISL	13.53	13.52	33.458	25.094	287.2	0.149	5.81	98.2	3.9	0.50	2.2	0.18	0.43	0.27	50	
51	13.48	13.47	33.458	25.104	286.3	0.151	5.79	97.7	4.1	0.52	2.4	0.19	0.41	0.27	51	215
61	12.71	12.70	33.448	25.250	272.6	0.179			6.5	0.78	6.8	0.09	0.27	0.23	61	214
71	11.94	11.93	33.390	25.352	263.0	0.206	5.30	86.6	7.5	0.87	8.4	0.02	0.17	0.15	71	213
75 ISL	11.71	11.70	33.379	25.387	259.8	0.217	5.23	85.0	8.1	0.91	9.1	0.02	0.16	0.14	75	
85	11.27	11.26	33.386	25.473	251.8	0.242	5.03	81.0	10.0	1.04	11.1	0.02	0.14	0.12	85	212
100	10.88	10.87	33.495	25.628	237.4	0.279	4.52	72.2	13.9	1.31	15.5	0.02	0.10	0.11	100	211
120	10.01	10.00	33.655	25.903	211.5	0.324	3.81	59.8	20.6	1.63	20.7	0.02	0.02	0.04	121	210
125 ISL	9.88	9.87	33.686	25.949	207.2	0.334	3.69	57.7	21.8	1.68	21.6	0.02	0.02	0.04	126	
140	9.57	9.55	33.770	26.066	196.4	0.365	3.38	52.6	24.9	1.81	23.7	0.01	0.01	0.04	141	209
150 ISL	9.36	9.34	33.828	26.146	188.9	0.384	3.15	48.8	27.1	1.90	25.1	0.01	0.01	0.04	151	
171	8.97	8.95	33.929	26.287	175.8	0.422	2.73	41.9	31.3	2.05	27.5	0.01	0.00	0.03	172	208
200 ISL	8.60	8.58	33.990	26.393	166.2	0.472	2.48	37.8	34.9	2.16	29.0	0.01	0.00	0.03	201	
201	8.59	8.57	33.991	26.396	166.0	0.473	2.48	37.8	35.0	2.16	29.0	0.01	0.00	0.03	202	207
231	7.92	7.90	34.035	26.531	153.4	0.521	2.32	34.8	41.0	2.28	30.8	0.01			232	206
250 ISL	7.64	7.62	34.050	26.584	148.6	0.550	2.15	32.1	44.3	2.38	32.0	0.01			251	
270	7.37	7.34	34.055	26.627	144.7	0.579	1.98	29.3	47.6	2.47	33.1	0.01			272	205
300 ISL	6.79	6.76	34.041	26.696	138.3	0.622	1.93	28.2	53.3	2.54	34.4	0.01			302	
317	6.50	6.47	34.036	26.730	135.1	0.645	1.90	27.6	56.5	2.57	35.1	0.01			319	204
378	6.24	6.21	34.106	26.820	127.3	0.725	1.18	17.0	65.7	2.86	38.1	0.01			380	203
400 ISL	6.04	6.01	34.112	26.850	124.6	0.753	1.05	15.1	69.4	2.92	39.0	0.01			403	
437	5.68	5.64	34.120	26.902	119.9	0.798	0.90	12.8	75.6	3.00	40.3	0.01			440	202
500 ISL	5.36	5.32	34.170	26.980	112.9	0.871	0.59	8.3	84.0	3.14	42.0	0.01			503	
509	5.31	5.27	34.177	26.992	111.9	0.881	0.55	7.8	85.2	3.16	42.2	0.01			512	201

RV NEW HORIZON CALCOFI CRUISE 0001 STATION 83 100

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT TYPE
32 14.8 N	123 29.3 W	18/01/00	0513 UTC	4174 m	170 08 kn			1016.7 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	15.07	15.07	33.256	24.613	331.6	0.000	5.82	101.4	2.8	0.29	0.1	0.00	0.16	0.03	0	
1	15.07	15.07	33.256	24.613	331.6	0.003	5.82	101.4	2.8	0.29	0.1	0.00	0.16	0.03	1	220
10 ISL	15.06	15.06	33.267	24.624	330.9	0.033	5.83	101.5	2.7	0.29	0.1	0.00	0.16	0.03	10	
15	15.06	15.06	33.282	24.636	329.9	0.050	5.83	101.5	2.7	0.29	0.1	0.00	0.16	0.03	15	219
20 ISL	14.99	14.99	33.288	24.656	328.1	0.066	5.85	101.7	2.7	0.29	0.1	0.00	0.17	0.04	20	
30	14.81	14.81	33.289	24.696	324.6	0.099	5.88	101.9	2.7	0.29	0.1	0.00	0.20	0.05	30	218
43	14.53	14.52	33.255	24.730	321.8	0.141	5.89	101.5	2.8	0.30	0.1	0.00	0.30	0.12	43	217
50 ISL	14.42	14.41	33.259	24.756	319.4	0.163	5.89	101.2	2.7	0.31	0.1	0.00	0.37	0.18	50	
54	14.35	14.34	33.268	24.778	317.5	0.176	5.89	101.1	2.7	0.31	0.1	0.00	0.40	0.21	54	216
64	14.01	14.00	33.308	24.880	308.0	0.207	5.92	100.9	2.7	0.33	0.2	0.03	0.39	0.22	64	215
73	13.03	13.02	33.308	25.079	289.2	0.234	5.96	99.6	3.4	0.38	0.8	0.11	0.34	0.26	73	214
75 ISL	12.93	12.92	33.320	25.108	286.5	0.240	5.91	98.5	3.6	0.40	1.2	0.10	0.31	0.25	75	
85	12.45	12.44	33.354	25.228	275.3	0.268	5.71	94.3	4.3	0.48	2.8	0.04	0.18	0.18	85	213
93	11.61	11.60	33.294	25.339	264.7	0.290	5.81	94.2	4.5	0.51	2.8	0.03	0.14	0.16	93	212
100 ISL	11.15	11.14	33.277	25.410	258.1	0.308	5.81	93.2	4.9	0.55	3.3	0.02	0.10	0.12	100	
110	10.71	10.70	33.277	25.488	250.9	0.333	5.81	92.4	5.8	0.62	4.7	0.01	0.06	0.06	111	211
125 ISL	10.06	10.05	33.284	25.605	239.9	0.370	5.64	88.4	8.2	0.79	7.7	0.01	0.03	0.04	126	
129	9.94	9.93	33.294	25.633	237.3	0.380	5.56	86.9	9.0	0.85	8.6	0.01	0.03	0.04	130	210
143	9.80	9.78	33.384	25.727	228.7	0.412	5.13	80.0	11.9	1.05	12.0	0.01	0.03	0.03	144	209
150 ISL	9.69	9.67	33.445	25.793	222.5	0.428	4.89	76.1	14.0	1.16	13.9	0.01	0.03	0.03	151	
169	9.34	9.32	33.627	25.992	203.9	0.469	4.28	66.1	19.9	1.44	18.6	0.01	0.01	0.02	170	208
198	8.84	8.82	33.882	26.271	177.8	0.524	3.72	56.9	26.8	1.70	23.1	0.01	0.00	0.01	199	207
200 ISL	8.80	8.78	33.890	26.284	176.6	0.527	3.71	56.7	27.2	1.71	23.3	0.01			201	
228	8.21	8.19	33.954	26.425	163.6	0.575	3.53	53.3	32.6	1.84	25.4	0.01			229	206
250 ISL	7.90	7.87	34.004	26.510	155.7	0.610	2.86	42.9	38.4	2.10	28.5	0.01			251	
267	7.69	7.66	34.032	26.563	150.9	0.636	2.33	34.8	42.8	2.30	30.9	0.01			268	205
300 ISL	7.19	7.16	34.026	26.630	144.9	0.685	2.30	33.9	47.5	2.40	32.4	0.01			302	
316	6.97	6.94	34.019	26.654	142.6	0.708	2.29	33.6	49.3	2.41	32.7	0.01			318	204
377	6.57	6.54	34.085	26.761	133.2	0.792	1.43	20.8	59.2	2.72	36.3	0.01			379	203
400 ISL	6.37	6.33	34.103	26.801	129.5	0.822	1.20	17.4	63.5	2.82	37.5	0.01			402	
434	6.07	6.03	34.128	26.860	124.2	0.866	0.93	13.4	69.7	2.95	39.1	0.01			437	202
500 ISL	5.72	5.68	34.187	26.950	116.2	0.945	0.60	8.6	78.6	3.10	40.7	0.01			503	
519	5.62	5.58	34.204	26.976	113.9	0.967	0.51	7.3	81.2	3.14	41.2	0.01			522	201

RV NEW HORIZON CALCOFI CRUISE 0001 STATION 83 110

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
31 54.9 N	124 10.0 W	17/01/00	2350 UTC	4212 m	160 13 kn	160 03 08	6	1017.0 mb	16.1 C	15.3 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	15.41	15.41	33.325	24.592	333.6	0.000	5.84	102.5	2.7	0.29	0.1	0.00	0.16	0.03	0	
1	15.41	15.41	33.325	24.592	333.6	0.003	5.84	102.5	2.7	0.29	0.1	0.00	0.16	0.03	1	220
10 ISL	15.31	15.31	33.316	24.607	332.5	0.033	5.83	102.1	2.7	0.29	0.1	0.00	0.16	0.04	10	
15	15.25	15.25	33.325	24.628	330.7	0.050	5.83	102.0	2.7	0.29	0.1	0.00	0.16	0.04	15	219
20 ISL	15.01	15.01	33.298	24.659	327.8	0.066	5.85	101.8	2.7	0.29	0.1	0.00	0.20	0.06	20	
29	14.57	14.57	33.253	24.719	322.4	0.096	5.90	101.7	2.8	0.30	0.1	0.00	0.28	0.09	29	218
30 ISL	14.57	14.57	33.254	24.720	322.3	0.099	5.90	101.7	2.8	0.30	0.1	0.00	0.29	0.09	30	
45	14.45	14.44	33.281	24.767	318.3	0.147	5.92	101.8	2.8	0.30	0.1	0.00	0.35	0.14	45	217
50 ISL	14.14	14.13	33.264	24.819	313.4	0.163	5.95	101.7	2.7	0.33	0.2	0.01	0.37	0.18	50	
54	13.92	13.91	33.258	24.860	309.6	0.175	5.96	101.4	2.7	0.35	0.2	0.02	0.38	0.21	54	216
65	14.10	14.09	33.340	24.886	307.5	0.209	5.91	101.0	2.6	0.35	0.2	0.02	0.30	0.16	65	215
74	13.45	13.44	33.302	24.990	297.7	0.236	5.96	100.4	2.9	0.39	0.5	0.10	0.27	0.18	74	214
75 ISL	13.36	13.35	33.302	25.009	296.0	0.239	5.96	100.2	3.0	0.39	0.5	0.10	0.27	0.19	75	
85	12.35	12.34	33.310	25.213	276.7	0.268	5.98	98.5	3.7	0.43	1.2	0.15	0.25	0.23	85	213
96	11.27	11.26	33.283	25.393	259.7	0.297	5.90	94.9	4.7	0.51	2.7	0.04	0.16	0.18	96	212
100 ISL	11.03	11.02	33.279	25.433	255.9	0.308	5.88	94.1	5.0	0.54	3.2	0.04	0.13	0.15	100	
112	10.57	10.56	33.272	25.508	248.9	0.338	5.85	92.7	5.8	0.61	4.6	0.02	0.06	0.08	113	211
125 ISL	10.30	10.29	33.268	25.552	245.0	0.370	5.83	91.8	6.4	0.67	5.6	0.02	0.04	0.06	126	
126	10.28	10.27	33.268	25.555	244.7	0.373	5.83	91.8	6.5	0.67	5.7	0.02	0.04	0.06	127	210
144	9.77	9.75	33.295	25.662	234.8	0.416	5.60	87.2	9.2	0.84	8.6	0.02	0.02	0.04	145	209
150 ISL	9.71	9.69	33.344	25.710	230.3	0.430	5.40	84.0	10.7	0.93	10.2	0.02	0.02	0.03	151	
170	9.61	9.59	33.552	25.890	213.7	0.474	4.54	70.6	17.0	1.30	16.3	0.02	0.01	0.02	171	208
200	9.15	9.13	33.828	26.180	186.6	0.534	3.27	50.4	27.9	1.85	24.8	0.02	0.01	0.02	201	207
231	8.23	8.21	33.955	26.423	163.8	0.588	3.44	52.0	33.1	1.87	25.8	0.02			232	206
250 ISL	7.88	7.86	33.988	26.501	156.6	0.619	3.35	50.2	36.6	1.96	27.1	0.02			251	
269	7.58	7.55	34.000	26.554	151.8	0.648			40.4	2.08	28.7	0.02			270	205
300 ISL	6.96	6.93	33.995	26.637	144.0	0.694	2.82	41.4	47.3	2.26	31.2	0.02			302	
319	6.61	6.58	33.990	26.680	140.0	0.721	2.50	36.4	51.7	2.37	32.8	0.02			321	204
374	6.03	6.00	34.035	26.791	129.8	0.795	1.58	22.7	64.4	2.73	37.2	0.02			376	203
400 ISL	5.94	5.91	34.074	26.833	126.1	0.828	1.24	17.8	68.6	2.85	38.4	0.02			402	
437	5.87	5.83	34.131	26.887	121.5	0.874	0.87	12.4	73.8	2.98	39.7	0.02			440	202
500 ISL	5.53	5.49	34.188	26.974	113.7	0.948	0.57	8.1	82.6	3.12	41.4	0.02			503	
520	5.42	5.38	34.206	27.002	111.2	0.971	0.47	6.7	85.4	3.16	41.9	0.02			523	201

RV NEW HORIZON CALCOFI CRUISE 0001 STATION 87 33

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
33 53.3 N	118 29.6 W	15/01/00	0834 UTC	59 m	280 03 kn			1018.2 mb	15.6 C	13.9 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	14.02	14.02	33.559	25.070	288.1	0.000	6.34	108.3	6.2	0.38	1.4	0.20	1.08	0.31	0	
1	14.02	14.02	33.559	25.070	288.1	0.003	6.34	108.3	6.2	0.38	1.4	0.20	1.08	0.31	1	207
6	13.95	13.95	33.560	25.086	286.8	0.017	6.37	108.7	6.2	0.37	1.4	0.20	1.04	0.29	6	206
10 ISL	13.73	13.73	33.559	25.130	282.7	0.029	6.27	106.5	6.2	0.38	1.6	0.22	1.34	0.39	10	
11	13.67	13.67	33.559	25.143	281.5	0.031	6.22	105.5	6.2	0.38	1.6	0.22	1.42	0.42	11	205
20 ISL	13.26	13.26	33.550	25.219	274.5	0.056	5.41	91.0	7.9	0.68	5.0	0.46	1.37	0.34	20	
21	13.21	13.21	33.549	25.228	273.6	0.059	5.30	89.0	8.2	0.73	5.5	0.48	1.36	0.32	21	204
30	12.51	12.51	33.546	25.364	260.9	0.083	4.57	75.6	11.4	1.05	10.1	0.42	0.64	0.32	30	203
41	12.23	12.22	33.567	25.434	254.5	0.112	4.31	70.9	13.0	1.19	12.0	0.38	0.69	0.36	41	202
50 ISL	12.06	12.05	33.589	25.484	250.0	0.134	4.11	67.4	14.6	1.31	13.2	0.40	0.44	0.34	50	
52	12.02	12.01	33.594	25.495	249.0	0.139	4.06	66.5	15.0	1.34	13.5	0.41	0.39	0.33	52	201

RV NEW HORIZON CALCOFI CRUISE 0001 STATION 87 35

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
33 49.5 N	118 37.8 W	15/01/00	1041 UTC	665 m	230 05 kn			1017.3 mb	16.0 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	14.99	14.99	33.632	24.920	302.4	0.000	5.89	102.7	3.6	0.30	0.1	0.00	0.36	0.14	0	
2	14.99	14.99	33.632	24.920	302.4	0.006	5.89	102.7	3.6	0.30	0.1	0.00	0.36	0.14	2	220
10	14.97	14.97	33.632	24.925	302.2	0.030	5.90	102.8	3.6	0.30	0.1	0.00	0.39	0.14	10	219
20 ISL	14.73	14.73	33.614	24.963	298.9	0.060	5.87	101.8	4.1	0.34	0.6	0.03	0.59	0.26	20	
21	14.69	14.69	33.611	24.969	298.3	0.063	5.87	101.7	4.2	0.34	0.7	0.04	0.61	0.27	21	218
30	14.10	14.10	33.581	25.071	288.8	0.090	5.62	96.2	5.5	0.50	2.6	0.13	0.57	0.35	30	217
41	12.75	12.74	33.572	25.338	263.7	0.120	4.91	81.7	9.0	0.89	8.3	0.11	0.59	0.57	41	216
50 ISL	12.01	12.00	33.575	25.482	250.2	0.143	4.49	73.5	11.6	1.10	11.8	0.03	0.29	0.39	50	
51	11.94	11.93	33.577	25.497	248.8	0.146	4.44	72.6	11.9	1.12	12.2	0.02	0.25	0.36	51	215
61	11.29	11.28	33.658	25.680	231.6	0.170	3.78	61.0	16.8	1.40	16.9	0.00	0.08	0.15	61	214
69	11.10	11.09	33.694	25.743	225.8	0.188	3.70	59.5	17.7	1.46	17.5	0.00	0.07	0.13	69	213
75 ISL	10.91	10.90	33.725	25.801	220.4	0.201	3.57	57.2	18.9	1.52	18.3	0.00	0.05	0.11	75	
85	10.60	10.59	33.777	25.896	211.5	0.223	3.35	53.3	21.0	1.62	19.8	0.00	0.03	0.09	85	212
99	10.36	10.35	33.829	25.979	204.0	0.252	3.17	50.2	22.8	1.71	21.4	0.00	0.02	0.07	100	211
100 ISL	10.34	10.33	33.833	25.985	203.4	0.254	3.16	50.0	22.9	1.72	21.5	0.00	0.02	0.07	101	
119	9.95	9.94	33.899	26.103	192.5	0.292	2.93	46.0	25.9	1.83	23.4	0.01	0.01	0.08	120	210
125 ISL	9.82	9.81	33.925	26.146	188.6	0.303	2.80	43.8	27.2	1.89	24.1	0.02	0.01	0.08	126	
138	9.56	9.54	33.978	26.230	180.8	0.327	2.53	39.4	29.8	2.02	25.4	0.04	0.01	0.09	139	209
150 ISL	9.41	9.39	34.002	26.274	176.9	0.349	2.50	38.8	30.7	2.05	26.0	0.03	0.01	0.08	151	
169	9.24	9.22	34.036	26.328	172.0	0.382	2.46	38.0	32.0	2.09	26.7	0.00	0.00	0.05	170	208
198	9.00	8.98	34.144	26.452	160.9	0.430	1.78	27.4	37.7	2.35	29.4	0.00	0.00	0.04	199	207
200 ISL	8.98	8.96	34.148	26.458	160.3	0.433	1.76	27.1	38.0	2.36	29.5	0.00			201	
228	8.65	8.63	34.178	26.534	153.5	0.477	1.58	24.1	41.3	2.46	30.7	0.00			229	206
250 ISL	8.45	8.42	34.187	26.572	150.2	0.511	1.48	22.5	43.5	2.52	31.5	0.00			252	
268	8.31	8.28	34.191	26.596	148.2	0.537	1.41	21.4	45.2	2.56	32.0	0.01			270	205
300 ISL	8.05	8.02	34.207	26.648	143.7	0.584	1.24	18.7	48.2	2.63	32.9	0.02			302	
318	7.91	7.88	34.216	26.676	141.3	0.610	1.14	17.1	50.1	2.68	33.4	0.02			320	204
377	7.39	7.35	34.239	26.770	133.0	0.691	0.82	12.2	58.1	2.87	35.7	0.01			379	203
400 ISL	7.24	7.20	34.249	26.799	130.5	0.721	0.73	10.8	60.5	2.92	36.2	0.01			403	
438	7.02	6.98	34.266	26.844	126.8	0.770	0.60	8.8	64.4	2.99	36.9	0.01			441	202
500 ISL	6.61	6.56	34.301	26.927	119.4	0.846	0.42	6.1	72.1	3.12	38.5	0.01			503	
522	6.47	6.42	34.314	26.956	116.9	0.872	0.36	5.2	74.8	3.16	39.0	0.01			526	201

RV NEW HORIZON CALCOFI CRUISE 0001 STATION 87 40

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT TYPE
33 39.6 N	118 58.7 W	15/01/00	1436 UTC	784 m	270 04 kn			1015.4 mb	15.8 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	13.72	13.72	33.531	25.110	284.3	0.000	5.97	101.3	4.4	0.43	2.0	0.08	0.54	0.23	0	
1	13.72	13.72	33.531	25.110	284.3	0.003	5.97	101.3	4.4	0.43	2.0	0.08	0.54	0.23	1	220
10	13.72	13.72	33.531	25.111	284.5	0.028	5.99	101.7	4.4	0.43	2.0	0.08	0.54	0.23	10	219
20	13.71	13.71	33.534	25.115	284.4	0.057	5.95	101.0	4.5	0.43	2.1	0.09	0.64	0.31	20	218
30	13.64	13.64	33.530	25.127	283.5	0.085	5.90	100.0	4.6	0.46	2.5	0.11	0.65	0.31	30	217
40	12.98	12.97	33.538	25.266	270.5	0.113	5.52	92.3	7.2	0.69	5.9	0.16	0.44	0.28	40	216
50	11.65	11.64	33.517	25.504	248.0	0.139	4.62	75.1	11.7	1.11	12.4	0.06	0.30	0.28	50	215
61	11.36	11.35	33.550	25.583	240.8	0.166	4.41	71.2	13.5	1.22	14.1	0.05	0.25	0.23	61	214
70	11.00	10.99	33.630	25.711	228.8	0.187	4.07	65.3	16.6	1.39	16.8	0.04	0.16	0.18	70	213
75 ISL	10.83	10.82	33.669	25.771	223.2	0.198	3.87	61.8	17.9	1.47	18.1	0.03	0.12	0.15	75	
85	10.52	10.51	33.737	25.879	213.2	0.220	3.50	55.6	20.3	1.61	20.2	0.02	0.06	0.10	85	212
100	10.14	10.13	33.813	26.004	201.5	0.251	3.10	48.8	24.0	1.79	22.7	0.02	0.03	0.09	101	211
120	9.77	9.76	33.892	26.128	190.1	0.290	2.77	43.3	27.0	1.94	24.7	0.01	0.01	0.08	121	210
125 ISL	9.66	9.65	33.903	26.155	187.6	0.300	2.74	42.7	27.7	1.96	25.1	0.01	0.01	0.08	126	
139	9.36	9.34	33.928	26.224	181.3	0.326	2.70	41.8	29.6	2.01	26.0	0.01	0.00	0.07	140	209
150 ISL	9.17	9.15	33.947	26.269	177.2	0.345	2.64	40.7	31.0	2.05	26.7	0.01	0.00	0.07	151	
179	8.82	8.80	34.019	26.382	167.0	0.395	2.30	35.2	34.9	2.19	28.5	0.01	0.00	0.07	180	208
199	8.72	8.70	34.102	26.463	159.7	0.428	1.86	28.4	38.2	2.33	30.0	0.01	0.00	0.05	200	207
200 ISL	8.71	8.69	34.104	26.466	159.4	0.429	1.85	28.3	38.3	2.33	30.1	0.01			201	
229	8.31	8.29	34.122	26.542	152.6	0.475	1.68	25.4	42.2	2.43	31.4	0.00			230	206
250 ISL	8.11	8.08	34.140	26.586	148.7	0.506	1.51	22.8	44.8	2.52	32.3	0.00			252	
268	7.97	7.94	34.157	26.620	145.7	0.533	1.36	20.4	47.0	2.59	33.1	0.01			270	205
300 ISL	7.74	7.71	34.194	26.684	140.1	0.579	1.10	16.5	51.5	2.71	34.2	0.01			302	
317	7.63	7.60	34.213	26.715	137.4	0.602	0.98	14.6	53.8	2.76	34.7	0.01			319	204
376	7.23	7.19	34.248	26.800	130.1	0.681	0.73	10.8	60.4	2.90	36.1	0.01			378	203
400 ISL	6.99	6.95	34.264	26.846	125.9	0.712	0.61	9.0	64.3	2.97	37.0	0.01			403	
438	6.62	6.58	34.288	26.915	119.7	0.758	0.43	6.3	70.5	3.08	38.4	0.00			441	202
500 ISL	6.31	6.26	34.312	26.975	114.6	0.831	0.33	4.8	76.7	3.16	39.2	0.01			503	
520	6.21	6.16	34.320	26.995	112.9	0.854	0.30	4.3	78.7	3.18	39.4	0.01			524	201

RV NEW HORIZON CALCOFI CRUISE 0001 STATION 87 45

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT TYPE
33 29.7 N	119 19.4 W	15/01/00	1846 UTC	1651 m	280 10 kn	280 01 09	1	1017.5 mb	15.5 C	13.6 C	19m	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	13.84	13.84	33.541	25.094	285.9	0.000	6.02	102.4	4.4	0.41	1.4	0.07	0.59	0.21	0	
1	13.84	13.84	33.550	25.100	285.2	0.003									1	222
1 A	13.84	13.84	33.541	25.094	285.9	0.003	6.02	102.4	4.4	0.41	1.4	0.07	0.59	0.21	1	221
10 ISL	13.83	13.83	33.542	25.097	285.9	0.029	6.05	102.9	4.4	0.40	1.4	0.07	0.58	0.23	10	
12 A	13.82	13.82	33.542	25.099	285.7	0.034	6.05	102.9	4.4	0.40	1.4	0.07	0.57	0.24	12	220
19	13.79	13.79	33.542	25.105	285.3	0.054	6.02	102.3	4.5	0.41	1.5	0.07	0.55	0.27	19	219
20 ISL	13.72	13.72	33.545	25.122	283.7	0.057	6.00	101.8	4.7	0.43	1.8	0.08	0.56	0.27	20	
25 A	13.28	13.28	33.561	25.224	274.2	0.071	5.91	99.4	6.1	0.56	3.9	0.14	0.58	0.30	25	218
30 ISL	12.90	12.90	33.571	25.307	266.4	0.085	5.82	97.1	7.2	0.67	5.6	0.18	0.53	0.33	30	
32	12.77	12.77	33.576	25.337	263.6	0.090	5.77	96.0	7.6	0.71	6.2	0.20	0.52	0.34	32	217
39 A	12.43	12.42	33.609	25.428	255.0	0.108	5.51	91.1	9.3	0.86	8.4	0.26	0.61	0.36	39	216
50 ISL	11.13	11.12	33.610	25.671	232.1	0.135	4.47	71.9	15.3	1.28	15.2	0.21	0.36	0.26	50	
52 A	10.88	10.87	33.617	25.722	227.4	0.139	4.25	68.0	16.6	1.37	16.6	0.20	0.30	0.23	52	215
62	10.20	10.19	33.760 D	25.951	205.7	0.161	3.38	53.3	23.0	1.71	22.0	0.03	0.16	0.16	62	214
70 A	9.98	9.97	33.785	26.008	200.4	0.177	3.26	51.2	24.2	1.77	22.9	0.03	0.12	0.14	70	213
75 ISL	9.83	9.82	33.812	26.055	196.1	0.187	3.13	49.0	25.4	1.83	23.7	0.03	0.09	0.12	75	
84	9.59	9.58	33.862	26.134	188.8	0.205	2.91	45.3	27.5	1.93	25.1	0.02	0.03	0.10	84	212
99	9.35	9.34	33.914	26.214	181.4	0.232	2.76	42.8	29.8	2.00	26.2	0.01	0.01	0.08	100	211
100 ISL	9.33	9.32	33.917	26.219	180.9	0.234	2.75	42.6	29.9	2.01	26.3	0.01	0.01	0.08	101	
118	9.05	9.04	33.969	26.305	173.1	0.266	2.53	38.9	32.5	2.10	27.5	0.02	0.00	0.08	119	210
125 ISL	8.95	8.94	33.989	26.337	170.2	0.278	2.48	38.1	33.4	2.12	27.9	0.02	0.00	0.07	126	
139	8.76	8.75	34.029	26.398	164.6	0.301	2.37	36.3	35.1	2.17	28.6	0.01	0.00	0.06	140	209
150 ISL	8.66	8.64	34.057	26.436	161.2	0.319	2.26	34.5	36.5	2.22	29.1	0.01	0.00	0.06	151	
169	8.52	8.50	34.101	26.492	156.2	0.350	2.02	30.7	39.0	2.31	30.0	0.02	0.00	0.05	170	208
198	8.35	8.33	34.154	26.560	150.3	0.394	1.48	22.4	43.4	2.50	32.2	0.01	0.00	0.04	199	207
200 ISL	8.34	8.32	34.156	26.563	150.0	0.397	1.46	22.1	43.7	2.51	32.3	0.01			201	
228	8.13	8.11	34.177	26.612	145.9	0.438	1.30	19.6	46.7	2.60	33.1	0.02			229	206
250 ISL	8.01	7.98	34.189	26.639	143.6	0.470	1.19	17.9	48.5	2.65	33.7	0.01			252	
268	7.91	7.88	34.198	26.661	141.8	0.496	1.10	16.5	49.9	2.69	34.1	0.01			270	205
300 ISL	7.70	7.67	34.215	26.706	138.0	0.541	0.96	14.3	53.6	2.77	34.9	0.03			302	
321	7.55	7.52	34.227	26.737	135.3	0.569	0.87	13.0	56.4	2.82	35.5	0.04			323	204
379	7.08	7.04	34.267	26.835	126.7	0.645	0.59	8.7	64.1	2.97	37.2	0.01			382	203
400 ISL	6.95	6.91	34.276	26.861	124.5	0.672	0.53	7.8	66.3	3.01	37.6	0.01			403	
438	6.71	6.67	34.289	26.904	120.8	0.718	0.45	6.6	70.3	3.08	38.3	0.01			441	202
500 ISL	6.24	6.20	34.318	26.989	113.2	0.791	0.33	4.8	78.4	3.17	39.6	0.00			504	
510	6.16	6.11	34.323	27.003	111.9	0.802	0.31	4.5	79.7	3.19	39.8	0.00			514	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV NEW HORIZON CALCOFI CRUISE 0001 STATION 87 50

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
33 19.4 N	119 39.8 W	15/01/00	2327 UTC	80 m	110	11 kn	310 02 10	2	1015.4 mb	15.8 C	13.1 C	23m	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	12.98	12.98	33.585	25.301	266.1	0.000	5.91	98.8	7.8	0.70	6.0	0.18	0.73	0.19	0	
1	12.98	12.98	33.585	25.301	266.1	0.003	5.91	98.8	7.8	0.70	6.0	0.18	0.73	0.19	1	209
5	12.87	12.87	33.585	25.323	264.1	0.013	5.95	99.3	7.8	0.70	6.0	0.18	0.58	0.19	5	208
10 ISL	12.85	12.85	33.585	25.327	263.9	0.026	5.93	98.9	7.8	0.70	6.0	0.18	0.51	0.21	10	
11	12.84	12.84	33.585	25.329	263.7	0.029	5.92	98.7	7.8	0.70	6.0	0.18	0.51	0.21	11	207
20	12.76	12.76	33.590	25.349	262.1	0.053	5.82	96.9	8.2	0.73	6.5	0.18	0.52	0.25	20	206
30	12.68	12.68	33.595	25.369	260.5	0.079	5.75	95.5	8.7	0.76	7.0	0.18	0.52	0.24	30	205
40	12.38	12.37	33.611	25.440	254.0	0.105	5.42	89.5	10.3	0.88	8.9	0.17	0.53	0.26	40	204
50	11.12	11.11	33.650	25.704	229.0	0.129	4.37	70.3	16.3	1.32	16.0	0.13	0.23	0.16	50	203
60	10.51	10.50	33.701	25.852	215.1	0.151	3.81	60.5	20.0	1.56	19.6	0.10	0.20	0.23	60	202
72	10.04	10.03	33.824	26.029	198.5	0.176	3.23	50.8	25.6	1.80	22.9	0.14	0.18	0.22	72	201

RV NEW HORIZON CALCOFI CRUISE 0001 STATION 87 55

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
33 9.3 N	120 0.6 W	16/01/00	0314 UTC	1203 m		00 kn			1016.3 mb	15.1 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	14.02	14.02	33.428	24.969	297.7	0.000	6.01	102.6	2.5	0.36	0.4	0.04	0.69	0.17	0	
2	14.02	14.02	33.428	24.969	297.8	0.006	6.01	102.6	2.5	0.36	0.4	0.04	0.69	0.17	2	221
10	13.19	13.19	33.410	25.124	283.2	0.029	5.90	99.0	3.4	0.51	2.7	0.16	0.62	0.24	10	220
20	12.68	12.68	33.413	25.228	273.7	0.057	5.82	96.6	4.6	0.63	4.7	0.20	0.64	0.28	20	219
29	12.18	12.18	33.424	25.332	263.9	0.081	5.74	94.3	6.5	0.74	6.4	0.19	0.62	0.32	29	218
30 ISL	12.18	12.18	33.435	25.341	263.1	0.084	5.74	94.3	6.7	0.75	6.5	0.20	0.59	0.32	30	
38	12.19	12.19	33.502	25.391	258.5	0.105	5.74	94.3	7.8	0.80	7.4	0.27	0.38	0.27	38	217
48	12.16	12.15	33.533	25.421	255.9	0.130	5.74	94.3	8.3	0.82	7.8	0.30	0.30	0.24	48	216
50 ISL	12.01	12.00	33.523	25.442	254.0	0.136	5.63	92.2	8.7	0.86	8.5	0.28	0.27	0.22	50	
59	11.20	11.19	33.478	25.556	243.3	0.158	5.06	81.4	11.2	1.07	12.0	0.17	0.16	0.15	59	215
69	10.66	10.65	33.492	25.663	233.3	0.182	4.66	74.1	13.9	1.25	14.7	0.08	0.10	0.09	69	214
75 ISL	10.33	10.32	33.535	25.754	224.7	0.195	4.37	69.0	16.5	1.39	17.0	0.06	0.07	0.07	75	
84	9.92	9.91	33.634	25.901	210.9	0.215	3.87	60.6	20.7	1.61	20.5	0.04	0.04	0.05	84	213
99	9.74	9.73	33.852	26.101	192.2	0.245	2.94	45.9	27.0	1.92	24.8	0.02	0.03	0.07	100	212
100 ISL	9.73	9.72	33.858	26.108	191.6	0.247	2.93	45.8	27.2	1.92	24.8	0.02	0.03	0.07	101	
119	9.40	9.39	33.908	26.201	183.1	0.283	2.81	43.6	29.2	1.98	25.8	0.02	0.02	0.06	120	211
125 ISL	9.28	9.27	33.916	26.227	180.7	0.294	2.87	44.4	29.4	1.97	25.8	0.02	0.02	0.06	126	
137	9.01	9.00	33.931	26.282	175.7	0.315	3.00	46.1	29.9	1.94	25.9	0.01	0.01	0.05	138	210
150 ISL	8.66	8.64	33.957	26.358	168.7	0.338	2.97	45.3	31.9	1.96	26.5	0.01	0.01	0.04	151	
168	8.23	8.21	33.997	26.455	159.7	0.367	2.93	44.3	35.5	2.04	27.8	0.01	0.01	0.03	169	209
198	7.91	7.89	34.043	26.539	152.1	0.414	2.35	35.3	41.4	2.27	30.5	0.01	0.01	0.03	199	208
200 ISL	7.89	7.87	34.046	26.544	151.6	0.417	2.32	34.8	41.8	2.28	30.6	0.01			201	
227	7.55	7.53	34.078	26.619	144.9	0.457	2.01	29.9	46.7	2.43	32.3	0.01			228	207
250 ISL	7.26	7.24	34.081	26.662	141.0	0.490	1.87	27.6	50.1	2.51	33.4	0.00			252	
267	7.07	7.04	34.085	26.692	138.3	0.514	1.76	25.9	52.8	2.57	34.2	0.01			269	206
269	7.05	7.02	34.082	26.693	138.3	0.516	1.76	25.9	52.8	2.57	34.2	0.00			271	205
300 ISL	6.84	6.81	34.118	26.750	133.3	0.558	1.42	20.8	57.6	2.70	35.6	0.00			302	
318	6.74	6.71	34.141	26.781	130.5	0.582	1.22	17.8	60.3	2.77	36.4	0.00			320	204
378	6.36	6.33	34.173	26.858	123.9	0.658	0.87	12.6	68.1	2.95	38.5	0.00			380	203
400 ISL	6.23	6.19	34.192	26.890	121.1	0.685	0.74	10.7	71.2	3.02	39.2	0.00			403	
437	6.04	6.00	34.230	26.944	116.3	0.729	0.55	7.9	76.1	3.12	40.2	0.00			440	202
500 ISL	5.89	5.85	34.298	27.017	110.1	0.801	0.35	5.0	81.6	3.20	41.0	0.00			503	
519	5.84	5.79	34.319	27.040	108.1	0.821	0.29	4.2	83.3	3.22	41.3	0.00			523	201

RV NEW HORIZON CALCOFI CRUISE 0001 STATION 87 60

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
32 59.4 N	120 20.9 W	16/01/00	0725 UTC	720 m		00 kn			1018.9 mb	14.9 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	13.72	13.72	33.416	25.022	292.7	0.000	6.06	102.8	2.6	0.39	0.8	0.05	0.62	0.16	0	
1	13.72	13.72	33.416	25.022	292.7	0.003	6.06	102.8	2.6	0.39	0.8	0.05	0.62	0.16	1	220
10	13.58	13.58	33.421	25.054	289.9	0.029	6.04	102.2	2.6	0.40	0.9	0.05	0.60	0.18	10	219
19	13.12	13.12	33.420	25.146	281.4	0.055	5.95	99.7	3.1	0.50	2.5	0.13	0.54	0.21	19	218
20 ISL	13.06	13.06	33.425	25.162	279.9	0.058	5.95	99.5	3.3	0.52	2.8	0.14	0.56	0.22	20	
29	12.62	12.62	33.487	25.297	267.3	0.082	5.93	98.3	5.8	0.66	5.2	0.21	0.71	0.31	29	217
30 ISL	12.62	12.62	33.498	25.305	266.5	0.085	5.93	98.3	6.0	0.67	5.4	0.22	0.71	0.31	30	
40	12.60	12.59	33.573	25.368	260.9	0.111	5.96	98.8	7.8	0.74	6.7	0.27	0.71	0.34	40	216
50	12.54	12.53	33.606	25.405	257.6	0.137	5.92	98.1	8.7	0.79	7.5	0.31	0.55	0.33	50	215
59	12.46	12.45	33.605	25.420	256.3	0.160	5.86	96.9	8.8	0.82	7.8	0.33	0.31	0.24	59	214
70	11.09	11.08	33.403	25.518	247.1	0.188	5.37	86.1	9.6	0.93	9.6	0.13	0.18	0.16	70	213
75 ISL	10.70	10.69	33.399	25.584	240.9	0.200	5.13	81.6	10.9	1.02	11.1	0.08	0.13	0.12	75	
85	10.23	10.22	33.462	25.714	228.7	0.224	4.68	73.7	14.2	1.23	14.5	0.02	0.06	0.07	85	212
100 ISL	10.12	10.11	33.575	25.821	218.8	0.257	4.13	64.9	18.2	1.47	18.5	0.01	0.04	0.06	101	
101	10.11	10.10	33.582	25.829	218.2	0.259	4.10	64.4	18.5	1.49	18.7	0.01	0.04	0.06	102	211
121	9.58	9.57	33.769	26.063	196.2	0.301	3.32	51.6	25.5	1.83	23.9	0.01	0.01	0.04	122	210
125 ISL	9.47	9.46	33.801	26.106	192.2	0.309	3.21	49.8	26.6	1.87	24.6	0.01	0.01	0.04	126	
138	9.14	9.13	33.889	26.229	180.8	0.333	2.97	45.8	29.4	1.96	26.1	0.01	0.01	0.04	139	209
150 ISL	8.91	8.89	33.944	26.308	173.4	0.354	2.94	45.1	31.1	1.98	26.7	0.01	0.01	0.04	151	
167	8.61	8.59	33.990	26.391	165.8	0.383	2.89	44.0	33.1	2.00	27.0	0.01	0.00	0.04	168	208
197	8.03	8.01	34.000	26.487	157.0	0.431	2.92	43.9	37.3	2.06	28.1	0.01	0.00	0.03	198	207
200 ISL	7.98	7.96	34.001	26.495	156.3	0.436	2.91	43.7	37.8	2.07	28.3	0.01			201	
227	7.56	7.54	34.019	26.571	149.4	0.477	2.64	39.3	42.6	2.21	30.0	0.01			228	206
250 ISL	7.37	7.35	34.062	26.632	143.9	0.511	2.15	31.9	46.9	2.39	31.9	0.01			251	
267	7.23	7.20	34.092	26.675	140.0	0.535	1.78	26.3	50.3	2.52	33.3	0.01			269	205
300 ISL	6.71	6.68	34.097	26.751	133.1	0.580	1.47	21.5	57.8	2.68	35.6	0.01			302	
318	6.44	6.41	34.096	26.786	129.8	0.604	1.36	19.7	61.6	2.75	36.6	0.01			320	204
378	6.27	6.24	34.163	26.861	123.5	0.680	0.84	12.1	68.8	2.95	38.5	0.01			380	203
400 ISL	6.16	6.12	34.188	26.895	120.5	0.707	0.70	10.1	71.8	3.01	39.1	0.01			403	
436	5.97	5.93	34.224	26.948	115.8	0.749	0.53	7.6	76.3	3.08	40.0	0.01			439	202
500 ISL	5.66	5.62	34.254	27.011	110.4	0.822	0.44	6.3	80.6	3.14	40.7	0.01			503	
521	5.56	5.52	34.264 D	27.031	108.7	0.845	0.41	5.8	82.0	3.16	40.9	0.01			525	201

RV NEW HORIZON CALCOFI CRUISE 0001 STATION 87 70

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
32 39.7 N	121 1.8 W	16/01/00	1340 UTC	3789 m	190 07 kn			1019.6 mb	15.8 C	15.1 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	14.98	14.98	33.491	24.814	312.5	0.000	5.82	101.3	2.6	0.32	0.1	0.00	0.27	0.09	0	
2	14.98	14.98	33.491	24.814	312.6	0.006	5.82	101.3	2.6	0.32	0.1	0.00	0.27	0.09	2	220
10 ISL	14.96	14.96	33.488	24.816	312.6	0.031	5.84	101.6	2.6	0.32	0.0	0.00	0.28	0.09	10	
15	14.93	14.93	33.485	24.821	312.3	0.047	5.85	101.7	2.6	0.32	0.0	0.00	0.28	0.10	15	219
20 ISL	14.91	14.91	33.484	24.824	312.1	0.062	5.85	101.7	2.6	0.32	0.0	0.00	0.30	0.11	20	
30	14.85	14.85	33.477	24.832	311.6	0.094	5.84	101.4	2.6	0.32	0.0	0.00	0.35	0.13	30	218
45	14.67	14.66	33.448	24.849	310.5	0.140	5.85	101.2	2.6	0.33	0.0	0.00	0.47	0.22	45	217
50 ISL	14.61	14.60	33.439	24.855	310.1	0.156	5.85	101.1	2.6	0.33	0.1	0.01	0.47	0.22	50	
55	14.55	14.54	33.431	24.862	309.6	0.171	5.85	100.9	2.6	0.33	0.1	0.01	0.46	0.21	55	216
65	14.50	14.49	33.426	24.869	309.2	0.202	5.84	100.6	2.7	0.34	0.1	0.01	0.35	0.18	65	215
75 ISL	14.16	14.15	33.411	24.929	303.7	0.233	5.78	98.9	3.1	0.39	0.8	0.05	0.26	0.17	75	
76	14.13	14.12	33.409	24.934	303.3	0.236	5.77	98.7	3.1	0.40	0.9	0.06	0.25	0.17	76	214
85	12.40	12.39	33.349	25.234	274.7	0.262	5.52	91.0	5.5	0.66	4.9	0.08	0.23	0.24	85	213
94	11.69	11.68	33.347	25.366	262.3	0.286	5.33	86.6	7.0	0.78	7.0	0.03	0.18	0.19	94	212
100 ISL	11.35	11.34	33.431	25.494	250.2	0.302	4.95	79.9	9.7	0.97	10.2	0.02	0.13	0.14	100	
110	10.89	10.88	33.595	25.704	230.4	0.326	4.28	68.4	14.6	1.30	15.6	0.01	0.06	0.07	111	211
124	10.31	10.30	33.685	25.875	214.3	0.357	3.88	61.3	18.8	1.50	18.9	0.01	0.02	0.03	125	210
125 ISL	10.28	10.27	33.691	25.885	213.4	0.359	3.85	60.8	19.1	1.51	19.1	0.01	0.02	0.03	126	
144	9.77	9.75	33.796	26.053	197.7	0.398	3.41	53.3	23.6	1.72	22.3	0.01	0.01	0.03	145	209
150 ISL	9.61	9.59	33.837	26.112	192.2	0.410	3.27	50.9	25.1	1.78	23.2	0.01	0.01	0.03	151	
168	9.15	9.13	33.949	26.275	177.1	0.443	2.91	44.9	29.6	1.94	25.5	0.01	0.00	0.02	169	208
199	8.48	8.46	34.027	26.441	161.7	0.495	2.65	40.3	35.4	2.11	27.8	0.01	0.00	0.02	200	207
200 ISL	8.46	8.44	34.028	26.445	161.3	0.497	2.64	40.1	35.6	2.11	27.9	0.01			201	
228	7.90	7.88	34.034	26.534	153.1	0.541	2.50	37.5	40.5	2.22	29.8	0.01			229	206
250 ISL	7.54	7.52	34.042	26.592	147.8	0.574	2.32	34.5	44.5	2.32	31.1	0.01			251	
270	7.27	7.24	34.051	26.638	143.6	0.603	2.13	31.5	48.0	2.42	32.1	0.01			272	205
300 ISL	6.97	6.94	34.070	26.694	138.6	0.646	1.84	27.0	52.8	2.55	33.7	0.01			302	
322	6.81	6.78	34.089	26.731	135.3	0.676	1.61	23.5	56.2	2.64	34.9	0.01			324	204
377	6.56	6.53	34.164	26.824	127.2	0.748	0.96	14.0	64.7	2.89	37.5	0.01			379	203
400 ISL	6.40	6.36	34.184	26.861	123.9	0.777	0.79	11.5	68.0	2.97	38.3	0.01			403	
435	6.15	6.11	34.211	26.915	119.1	0.819	0.60	8.6	72.9	3.06	39.4	0.01			438	202
500 ISL	5.78	5.74	34.271	27.010	110.7	0.894	0.38	5.4	81.2	3.18	41.0	0.01			503	
516	5.69	5.65	34.286	27.033	108.6	0.911	0.32	4.6	83.3	3.21	41.4	0.01			520	201

RV NEW HORIZON CALCOFI CRUISE 0001 STATION 87 80

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
32 20.1 N	121 41.8 W	16/01/00	1938 UTC	4099 m	010 15 kn	360 02 06	2	1022.7 mb	14.0 C	13.0 C	16m	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	14.92	14.92	33.493	24.828	311.1	0.000	5.87	102.1	2.9	0.33	0.1	0.00	0.35	0.13	0	
2	14.92	14.92	33.493	24.828	311.2	0.006									2	223
2 A	14.92	14.92	33.493	24.828	311.2	0.006	5.87	102.1	2.9	0.33	0.1	0.00	0.35	0.13	2	222
10 A	14.92	14.92	33.492	24.828	311.5	0.031	5.86	101.9	2.8	0.31	0.1	0.00	0.36	0.12	10	221
20 ISL	14.92	14.92	33.492	24.828	311.7	0.062	5.87	102.1	2.8	0.32	0.1	0.00	0.36	0.12	20	
22 A	14.92	14.92	33.492	24.828	311.8	0.069	5.87	102.1	2.8	0.32	0.1	0.00	0.36	0.12	22	220
30 ISL	14.92	14.92	33.495	24.831	311.8	0.093	5.87	102.1	2.8	0.32	0.1	0.00	0.38	0.13	30	
34 A	14.93	14.92	33.498	24.831	311.9	0.106	5.87	102.1	2.8	0.32	0.1	0.00	0.39	0.13	34	219
44 A	14.96	14.95	33.515	24.838	311.5	0.137	5.86	102.0	2.8	0.32	0.1	0.00	0.46	0.18	44	218
50 ISL	14.90	14.89	33.507	24.845	311.0	0.156	5.85	101.7	2.6	0.32	0.1	0.00	0.44	0.16	50	
52	14.88	14.87	33.504	24.847	310.9	0.162	5.85	101.6	2.6	0.32	0.1	0.00	0.43	0.16	52	217
60 A	14.36	14.35	33.475	24.936	302.6	0.187	5.69	97.8	3.6	0.44	1.6	0.10	0.44	0.28	60	216
69	12.47	12.46	33.374	25.239	273.8	0.212	5.49	90.7	5.8	0.69	5.5	0.07	0.25	0.24	69	215
75	11.94	11.93	33.373	25.339	264.4	0.229	5.33	87.1	7.2	0.82	7.6	0.03	0.16	0.17	75	214
86	11.51	11.50	33.450	25.479	251.3	0.257	4.94	80.0	9.6	0.98	10.4	0.02	0.11	0.11	86	213
94	11.20	11.19	33.501	25.575	242.3	0.277	4.69	75.5	11.7	1.12	12.6	0.02	0.07	0.08	94	212
100 ISL	11.05	11.04	33.540	25.632	237.0	0.291	4.52	72.5	13.0	1.20	13.9	0.02	0.05	0.06	100	
108	10.84	10.83	33.594	25.712	229.6	0.310	4.28	68.4	14.9	1.31	15.7	0.02	0.04	0.05	109	211
124	10.15	10.14	33.725	25.934	208.7	0.345	3.70	58.3	20.3	1.57	20.0	0.02	0.01	0.04	125	210
125 ISL	10.11	10.10	33.733	25.947	207.5	0.347	3.67	57.7	20.6	1.58	20.2	0.02	0.01	0.04	126	
144	9.54	9.52	33.865	26.145	188.9	0.385	3.23	50.2	25.4	1.79	23.5	0.02	0.01	0.03	145	209
150 ISL	9.39	9.37	33.888	26.188	185.0	0.396	3.19	49.4	26.6	1.83	24.1	0.02	0.01	0.03	151	
169	9.01	8.99	33.935	26.286	175.9	0.430	3.07	47.2	29.3	1.91	25.3	0.02	0.00	0.02	170	208
198	8.57	8.55	33.986	26.395	166.0	0.480	3.28	49.9	31.3	1.88	25.4	0.02	0.00	0.02	199	207
200 ISL	8.54	8.52	33.989	26.402	165.4	0.483	3.26	49.6	31.6	1.89	25.5	0.02			201	
229	8.13	8.11	34.013	26.483	158.0	0.530	2.91	43.9	36.5	2.06	27.9	0.02			230	206
250 ISL	7.84	7.82	34.019	26.531	153.7	0.563	2.78	41.6	39.3	2.14	28.9	0.01			251	
268	7.59	7.56	34.020	26.568	150.4	0.590	2.69	40.1	41.8	2.20	29.6	0.01			270	205
300 ISL	7.06	7.03	34.022	26.644	143.4	0.637	2.37	34.9	47.9	2.37	31.9	0.01			302	
317	6.79	6.76	34.025	26.683	139.7	0.661	2.18	31.9	51.4	2.46	33.2	0.01			319	204
379	6.21	6.18	34.058	26.786	130.5	0.745	1.54	22.2	62.2	2.73	36.6	0.01			381	203
400 ISL	6.04	6.01	34.076	26.822	127.2	0.772	1.32	19.0	66.2	2.81	37.7	0.01			403	
437	5.79	5.75	34.112	26.882	121.9	0.818	0.97	13.9	72.9	2.95	39.4	0.01			440	202
500 ISL	5.49	5.45	34.180	26.973	113.8	0.892	0.60	8.5	81.9	3.11	41.1	0.01			503	
522	5.38	5.34	34.204	27.005	110.9	0.917	0.47	6.6	85.1	3.17	41.7	0.01			526	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV NEW HORIZON CALCOFI CRUISE 0001 STATION 87 90

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT TYPE
31 59.3 N	122 23.7 W	17/01/00	0221 UTC	4124 m	070 16 kn			1019.8 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	15.36	15.36	33.391	24.654	327.7	0.000	5.85	102.6	2.5	0.29	0.1	0.00	0.16	0.04	0	
2		15.36	15.36	33.391	24.654	327.8	0.007	5.85	102.6	2.5	0.29	0.1	0.00	0.16	0.04	2	220
10	ISL	15.37	15.37	33.390	24.651	328.3	0.033	5.83	102.2	2.5	0.29	0.1	0.00	0.17	0.04	10	
13		15.37	15.37	33.390	24.651	328.4	0.043	5.82	102.1	2.5	0.29	0.1	0.00	0.17	0.04	13	219
20	ISL	15.37	15.37	33.390	24.651	328.6	0.066	5.82	102.1	2.5	0.29	0.1	0.00	0.17	0.04	20	
28		15.37	15.37	33.391	24.653	328.7	0.092	5.82	102.1	2.5	0.29	0.1	0.00	0.17	0.04	28	218
30	ISL	15.37	15.37	33.390	24.652	328.8	0.099	5.82	102.1	2.5	0.29	0.1	0.00	0.17	0.04	30	
42		15.35	15.34	33.387	24.654	329.0	0.138	5.82	102.0	2.5	0.29	0.1	0.00	0.20	0.06	42	217
50	ISL	14.87	14.86	33.320	24.707	324.1	0.164	5.91	102.6	2.6	0.31	0.1	0.00	0.32	0.15	50	
54		14.59	14.58	33.289	24.744	320.8	0.177	5.95	102.6	2.7	0.32	0.1	0.00	0.38	0.20	54	216
66		14.00	13.99	33.288	24.867	309.3	0.215	5.96	101.6	2.6	0.35	0.2	0.03	0.39	0.27	66	215
74		13.45	13.44	33.246	24.947	301.8	0.239	5.99	100.9	3.1	0.38	0.4	0.08	0.34	0.33	74	214
75	ISL	13.34	13.33	33.245	24.969	299.8	0.242	5.98	100.5	3.2	0.39	0.5	0.09	0.33	0.33	75	
85		12.38	12.37	33.291	25.193	278.6	0.271	5.91	97.4	3.8	0.45	1.5	0.15	0.23	0.30	85	213
95		12.37	12.36	33.416	25.292	269.5	0.299	5.64	93.0	4.9	0.53	3.4	0.03	0.12	0.16	95	212
100	ISL	12.16	12.15	33.427	25.340	264.9	0.312	5.62	92.2	5.3	0.56	4.0	0.03	0.09	0.12	100	
109		11.58	11.57	33.398	25.426	256.9	0.335	5.58	90.4	6.0	0.63	5.1	0.02	0.07	0.09	109	211
123		10.40	10.39	33.296	25.557	244.5	0.371	5.63	88.9	7.9	0.78	7.4	0.01	0.05	0.06	124	210
125	ISL	10.39	10.38	33.326	25.582	242.2	0.375	5.49	86.7	8.9	0.86	8.6	0.01	0.05	0.06	126	
142		10.35	10.33	33.602	25.804	221.5	0.415	4.08	64.5	18.5	1.54	19.3	0.02	0.04	0.07	143	209
150	ISL	10.05	10.03	33.679	25.915	211.0	0.432	3.94	61.9	21.1	1.59	20.3	0.02	0.03	0.06	151	
169		9.24	9.22	33.810	26.151	188.8	0.470	3.61	55.7	24.9	1.71	22.7	0.02	0.00	0.03	170	208
197		8.86	8.84	33.965	26.333	171.9	0.521	3.53	54.1	28.4	1.76	23.8	0.02	0.00	0.02	198	207
200	ISL	8.82	8.80	33.972	26.345	170.9	0.526	3.52	53.9	28.8	1.77	23.9	0.02			201	
229		8.36	8.34	34.001	26.439	162.3	0.574	3.39	51.4	32.8	1.87	25.4	0.02			230	206
250	ISL	8.00	7.97	34.012	26.502	156.6	0.608	3.15	47.3	36.7	1.99	27.2	0.01			251	
269		7.69	7.66	34.019	26.553	151.9	0.637	2.89	43.1	40.5	2.12	28.9	0.01			271	205
300	ISL	7.29	7.26	34.032	26.620	145.8	0.683	2.47	36.5	46.2	2.31	31.2	0.01			302	
321		7.06	7.03	34.042	26.660	142.2	0.713	2.17	31.9	50.0	2.43	32.7	0.01			323	204
377		6.50	6.47	34.091	26.775	131.8	0.790	1.40	20.3	61.0	2.74	36.5	0.01			379	203
400	ISL	6.23	6.19	34.100	26.817	127.9	0.820	1.21	17.5	65.7	2.83	37.7	0.01			402	
436		5.85	5.81	34.115	26.877	122.4	0.865	0.99	14.2	72.7	2.94	39.3	0.01			439	202
500	ISL	5.55	5.51	34.179	26.965	114.6	0.941	0.60	8.5	81.4	3.10	41.1	0.01			503	
518		5.46	5.42	34.197	26.990	112.4	0.961	0.49	6.9	83.8	3.14	41.6	0.01			521	201

RV NEW HORIZON CALCOFI CRUISE 0001 STATION 87 100

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT TYPE
31 39.7 N	123 4.3 W	17/01/00	0828 UTC	4132 m	150 09 kn			1019.3 mb	16.2 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	16.17	16.17	33.662	24.681	325.2	0.000	5.67	101.2	2.4	0.24	0.1	0.00	0.15	0.05	0	
1		16.17	16.17	33.662	24.681	325.2	0.003	5.67	101.2	2.4	0.24	0.1	0.00	0.15	0.05	1	220
10	ISL	16.16	16.16	33.659	24.681	325.5	0.033	5.67	101.2	2.3	0.25	0.1	0.00	0.14	0.05	10	
15		16.15	16.15	33.655	24.681	325.7	0.049	5.67	101.2	2.3	0.25	0.1	0.00	0.14	0.05	15	219
20	ISL	16.13	16.13	33.649	24.681	325.8	0.065	5.67	101.1	2.3	0.25	0.1	0.00	0.14	0.05	20	
30		16.09	16.09	33.638	24.682	326.1	0.098	5.68	101.2	2.3	0.25	0.1	0.00	0.15	0.05	30	218
45		16.09	16.08	33.635	24.680	326.7	0.147	5.68	101.2	2.3	0.25	0.1	0.00	0.15	0.05	45	217
50	ISL	16.08	16.07	33.633	24.681	326.8	0.163	5.68	101.2	2.3	0.25	0.1	0.00	0.16	0.05	50	
60		16.03	16.02	33.619	24.682	327.0	0.196	5.68	101.1	2.4	0.25	0.1	0.00	0.18	0.06	60	216
74		15.84	15.83	33.572	24.689	326.7	0.241	5.71	101.2	2.4	0.25	0.1	0.00	0.21	0.08	74	215
75	ISL	15.84	15.83	33.572	24.689	326.8	0.245	5.71	101.2	2.4	0.25	0.1	0.00	0.21	0.08	75	
85		15.80	15.79	33.573	24.699	326.1	0.277	5.71	101.1	2.4	0.25	0.1	0.00	0.20	0.09	85	214
95		14.24	14.23	33.524	25.000	297.6	0.309	5.83	100.0	2.8	0.29	0.2	0.06	0.21	0.28	95	213
100	ISL	13.85	13.84	33.516	25.075	290.5	0.323	5.80	98.7	3.1	0.32	0.5	0.12	0.20	0.28	100	
105		13.63	13.62	33.522	25.125	285.8	0.338	5.73	97.0	3.3	0.35	0.9	0.16	0.18	0.28	105	212
116		13.45	13.43	33.602	25.224	276.7	0.369	5.57	94.0	3.7	0.41	2.0	0.04	0.13	0.19	117	211
124		13.14	13.12	33.610	25.292	270.4	0.390	5.46	91.6	4.3	0.46	3.0	0.02	0.11	0.13	125	210
125	ISL	13.10	13.08	33.609	25.300	269.7	0.393	5.45	91.3	4.4	0.47	3.1	0.02	0.11	0.13	126	
137		12.56	12.54	33.599	25.398	260.5	0.425	5.35	88.6	5.5	0.55	4.5	0.01	0.06	0.10	138	209
150	ISL	12.08	12.06	33.610	25.499	251.2	0.458	5.14	84.3	7.2	0.68	6.7	0.01	0.04	0.07	151	
164		11.56	11.54	33.642	25.621	239.8	0.493	4.87	79.0	9.6	0.85	9.5	0.01	0.03	0.05	165	208
195		10.00	9.98	33.796	26.016	202.4	0.561	4.28	67.2	17.8	1.31	17.1	0.00	0.01	0.01	196	207
200	ISL	9.86	9.84	33.818	26.057	198.6	0.571	4.18	65.4	19.0	1.37	18.0	0.00			201	
229		9.27	9.24	33.919	26.233	182.3	0.626	3.71	57.3	25.2	1.65	22.3	0.00			230	206
250	ISL	8.79	8.76	33.974	26.352	171.2	0.664	3.57	54.6	29.3	1.76	24.1	0.00			251	
269		8.36	8.33	34.009	26.446	162.4	0.695	3.46	52.4	32.9	1.84	25.4	0.00			270	205
300	ISL	7.75	7.72	34.022	26.547	153.0	0.744	3.01	45.0	39.6	2.07	28.4	0.00			302	
320		7.41	7.38	34.022	26.596	148.5	0.774	2.67	39.6	44.0	2.22	30.3	0.00			322	204
381		6.77	6.73	34.063	26.717	137.6	0.862	1.79	26.2	55.5	2.59	34.8	0.00			383	203
400	ISL	6.57	6.53	34.071	26.750	134.6	0.887	1.60	23.3	58.8	2.67	35.9	0.00			402	
442		6.17	6.13	34.088	26.816	128.6	0.943	1.26	18.2	66.0	2.82	37.9	0.00			445	202
500	ISL	5.73	5.69	34.128	26.903	120.7	1.015	0.87	12.4	75.9	3.00	40.2	0.01			503	
509		5.66	5.62	34.135	26.917	119.4	1.026	0.81	11.5	77.4	3.03	40.6	0.01			512	201

RV NEW HORIZON CALCOFI CRUISE 0001 STATION 87 110

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
31 20.1 N	123 44.6 W	17/01/00	1824 UTC	4042 m	180 09 kn	290 04 09	6	1019.1 mb	17.8 C	16.7 C	35m	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	16.01	16.01	33.537	24.621	330.9	0.000	5.71	101.5	2.3	0.25	0.1	0.00	0.15	0.04	0	
2		16.01	16.01	33.536	24.620	331.0	0.007									2	223
3	A	16.01	16.01	33.537	24.621	330.9	0.010	5.71	101.5	2.3	0.25	0.1	0.00	0.15	0.04	3	222
10	ISL	16.01	16.01	33.538	24.622	331.1	0.033	5.71	101.5	2.4	0.25	0.1	0.00	0.15	0.04	10	
11		16.01	16.01	33.538	24.622	331.1	0.036	5.71	101.5	2.4	0.25	0.1	0.00	0.15	0.04	11	221
20	ISL	16.05	16.05	33.554	24.626	331.1	0.066	5.69	101.2	2.4	0.25	0.1	0.00	0.15	0.04	20	
22	A	16.06	16.06	33.559	24.627	331.0	0.073	5.69	101.3	2.4	0.25	0.1	0.00	0.15	0.04	22	220
30	ISL	16.10	16.10	33.575	24.631	330.9	0.099	5.70	101.5	2.4	0.24	0.1	0.00	0.16	0.04	30	
34		16.13	16.12	33.586	24.633	330.8	0.113	5.70	101.6	2.4	0.24	0.1	0.00	0.16	0.04	34	219
47	A	16.26	16.25	33.646	24.650	329.7	0.155	5.68	101.5	2.3	0.24	0.1	0.00	0.21	0.06	47	218
50	ISL	16.26	16.25	33.647	24.651	329.7	0.165	5.68	101.5	2.3	0.24	0.1	0.00	0.21	0.06	50	
57		16.27	16.26	33.651	24.652	329.8	0.188	5.67	101.4	2.3	0.25	0.1	0.00	0.21	0.07	57	217
71	A	16.05	16.04	33.608	24.669	328.6	0.235	5.68	101.1	2.3	0.25	0.1	0.00	0.19	0.05	71	216
75	ISL	16.05	16.04	33.612	24.672	328.4	0.248	5.68	101.1	2.3	0.24	0.1	0.00	0.20	0.05	75	
81		16.05	16.04	33.619	24.678	328.0	0.267	5.69	101.3	2.3	0.24	0.1	0.00	0.21	0.06	81	215
94	A	14.77	14.76	33.652	24.986	298.9	0.308	5.72	99.2	2.9	0.28	0.2	0.09	0.20	0.21	94	214
100	ISL	14.77	14.76	33.693	25.018	296.1	0.326	5.70	98.9	3.0	0.29	0.3	0.11	0.20	0.20	100	
104		14.77	14.75	33.707	25.029	295.2	0.338	5.67	98.4	3.0	0.30	0.5	0.12	0.20	0.20	104	213
114		14.76	14.74	33.851	25.143	284.7	0.367	5.49	95.3	3.3	0.33	1.3	0.07	0.15	0.18	114	212
120		14.47	14.45	33.838	25.195	279.8	0.384	5.45	94.1	3.5	0.36	1.8	0.04	0.12	0.14	121	211
125	ISL	13.98	13.96	33.782	25.254	274.2	0.398	5.44	92.9	3.9	0.40	2.3	0.03	0.10	0.12	126	
129	A	13.56	13.54	33.735	25.305	269.4	0.408	5.43	91.9	4.3	0.43	2.8	0.02	0.09	0.10	130	210
148		12.93	12.91	33.756	25.448	256.2	0.458	5.17	86.4	5.9	0.58	5.3	0.02	0.06	0.06	149	209
150	ISL	12.80	12.78	33.759	25.476	253.6	0.463	5.11	85.2	6.4	0.62	5.9	0.02	0.06	0.06	151	
163		11.91	11.89	33.779	25.662	235.9	0.495	4.67	76.4	10.2	0.89	10.4	0.01	0.03	0.04	164	208
195		10.09	10.07	33.825	26.023	201.8	0.565	4.12	64.8	18.3	1.35	17.7	0.02	0.00	0.01	196	207
200	ISL	9.94	9.92	33.846	26.065	197.9	0.575	4.10	64.3	19.1	1.38	18.2	0.02			201	
231		9.33	9.30	33.964	26.258	179.9	0.634	4.00	61.9	23.7	1.52	20.6	0.01			232	206
250	ISL	8.93	8.90	33.985	26.339	172.5	0.667	3.71	56.9	27.4	1.67	22.8	0.01			251	
267		8.58	8.55	33.992	26.399	166.9	0.696	3.39	51.6	31.1	1.83	24.9	0.01			268	205
300	ISL	7.94	7.91	34.021	26.519	155.9	0.749	2.76	41.4	39.0	2.12	28.7	0.01			302	
318		7.62	7.59	34.036	26.577	150.4	0.777	2.43	36.2	43.3	2.27	30.6	0.01			320	204
379		6.79	6.75	34.076	26.724	136.8	0.865	1.68	24.6	56.0	2.61	34.8	0.01			381	203
400	ISL	6.59	6.55	34.091	26.763	133.3	0.893	1.46	21.2	59.7	2.71	36.0	0.01			402	
438		6.27	6.23	34.114	26.823	127.9	0.943	1.14	16.5	66.1	2.85	37.9	0.01			441	202
500	ISL	5.69	5.65	34.136	26.914	119.6	1.019	0.85	12.1	76.4	2.99	40.1	0.01			503	
515		5.55	5.51	34.142	26.936	117.5	1.037	0.78	11.1	78.9	3.03	40.6	0.01			518	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV NEW HORIZON CALCOFI CRUISE 0001 STATION 90 28

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
33 29.1 N	117 46.1 W	15/01/00	0200 UTC	69 m	290 08 kn			1018.0 mb	17.1 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	14.95	14.95	33.636	24.932	301.2	0.000	6.00	104.5	3.3	0.29	0.1	0.00	0.31	0.12	0	
1		14.95	14.95	33.636	24.932	301.2	0.003	6.00	104.5	3.3	0.29	0.1	0.00	0.31	0.12	1	207
7		14.80	14.80	33.633	24.962	298.6	0.021	5.97	103.7	3.4	0.28	0.1	0.00	0.31	0.13	7	206
10	ISL	14.72	14.72	33.626	24.974	297.5	0.030	5.97	103.5	3.5	0.29	0.2	0.01	0.49	0.19	10	
12		14.65	14.65	33.619	24.984	296.7	0.036	5.97	103.3	3.7	0.30	0.2	0.02	0.63	0.24	12	205
20	ISL	13.95	13.95	33.568	25.092	286.6	0.059	5.64	96.2	5.3	0.50	2.7	0.16	1.12	0.29	20	
22		13.71	13.71	33.557	25.133	282.7	0.065	5.50	93.3	6.0	0.58	3.7	0.19	1.17	0.30	22	204
30	ISL	12.60	12.60	33.567	25.363	261.1	0.087	4.77	79.1	9.9	0.96	9.6	0.12	0.62	0.32	30	
32		12.35	12.35	33.575	25.417	255.9	0.092	4.59	75.7	10.8	1.05	11.0	0.10	0.44	0.32	32	203
41		11.98	11.97	33.591	25.500	248.2	0.115	4.28	70.1	12.5	1.22	13.3	0.11	0.21	0.22	41	202
50	ISL	11.60	11.59	33.629	25.601	238.9	0.136	4.04	65.6	14.5	1.32	15.0	0.08	0.14	0.18	50	
57		11.30	11.29	33.659	25.679	231.6	0.153	3.86	62.3	16.0	1.40	16.4	0.05	0.08	0.15	57	201

RV NEW HORIZON CALCOFI CRUISE 0001 STATION 90 30

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
33 25.1 N	117 54.5 W	14/01/00	2245 UTC	614 m	290 04 kn	310 02 08	1	1018.6 mb	17.1 C	14.5 C	22m	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	14.88	14.88	33.599	24.919	302.5	0.000	6.04	105.0	4.4	0.37	1.0	0.08	0.87	0.20	0	
2		14.88	14.88	33.599	24.919	302.6	0.006	6.04	105.0	4.4	0.37	1.0	0.08	0.87	0.20	2	220
9		14.48	14.48	33.591	24.999	295.2	0.027	6.01	103.6	4.6	0.38	1.2	0.09	0.61	0.15	9	219
10	ISL	14.47	14.47	33.592	25.001	294.9	0.030	6.01	103.6	4.6	0.38	1.2	0.09	0.61	0.15	10	
20		14.34	14.34	33.587	25.025	292.9	0.059	5.97	102.7	4.7	0.39	1.4	0.11	0.67	0.19	20	218
29		13.53	13.53	33.542	25.159	280.5	0.085	5.25	88.8	7.3	0.73	5.4	0.22	0.45	0.23	29	217
30	ISL	13.43	13.43	33.540	25.177	278.7	0.088	5.19	87.6	7.5	0.76	5.8	0.22	0.43	0.23	30	
39		12.61	12.60	33.538	25.339	263.6	0.112	4.77	79.1	9.3	0.96	9.1	0.19	0.26	0.19	39	216
49		12.17	12.16	33.559	25.440	254.2	0.138	4.56	74.9	10.7	1.07	11.4	0.09	0.26	0.23	49	215
50	ISL	12.11	12.10	33.563	25.454	252.9	0.141	4.53	74.3	10.9	1.08	11.7	0.08	0.25	0.23	50	
60		11.60	11.59	33.612	25.588	240.3	0.165	4.19	68.0	13.4	1.24	14.4	0.03	0.15	0.21	60	214
70		11.33	11.32	33.667	25.680	231.8	0.189	3.85	62.2	16.1	1.37	16.2	0.02	0.09	0.17	70	213
75	ISL	11.15	11.14	33.689	25.730	227.2	0.200	3.73	60.0	17.2	1.43	17.1	0.02	0.07	0.14	75	
85		10.78	10.77	33.734	25.831	217.7	0.223	3.52	56.2	19.3	1.54	18.8	0.01	0.04	0.10	85	212
99		10.37	10.36	33.820	25.970	204.8	0.252	3.23	51.1	22.3	1.69	21.1	0.01	0.02	0.09	100	211
100	ISL	10.35	10.34	33.824	25.976	204.2	0.254	3.21	50.8	22.5	1.70	21.2	0.01	0.02	0.09	101	
120		10.07	10.06	33.886	26.073	195.4	0.294	2.95	46.4	25.0	1.82	22.8	0.01	0.01	0.06	121	210
125	ISL	10.02	10.01	33.902	26.094	193.5	0.304	2.88	45.3	25.6	1.85	23.2	0.01	0.01	0.06	126	
138		9.88	9.86	33.944	26.151	188.4	0.329	2.71	42.5	27.3	1.93	24.2	0.01	0.01	0.06	139	209
150	ISL	9.72	9.70	33.979	26.205	183.5	0.351	2.58	40.3	28.8	1.99	25.1	0.01	0.01	0.06	151	
169		9.48	9.46	34.029	26.284	176.3	0.385	2.42	37.6	31.0	2.08	26.4	0.01	0.00	0.06	170	208
200		9.23	9.21	34.089	26.372	168.5	0.439	2.21	34.2	33.5	2.17	27.5	0.01	0.00	0.04	201	207
228		8.86	8.84	34.125	26.459	160.7	0.485	1.96	30.1	37.3	2.29	29.0	0.01			229	206
250	ISL	8.63	8.60	34.152	26.517	155.5	0.520	1.78	27.2	40.2	2.39	30.1	0.01			251	
269		8.45	8.42	34.173	26.561	151.6	0.549	1.62	24.6	42.7	2.47	31.0	0.01			271	205
300	ISL	8.11	8.08	34.203	26.636	144.9	0.595	1.34	20.2	47.5	2.60	32.4	0.01			302	
317		7.93	7.90	34.216	26.673	141.5	0.619	1.20	18.0	50.1	2.67	33.1	0.01			319	204
378		7.34	7.30	34.242	26.780	132.1	0.703	0.83	12.3	58.5	2.87	35.8	0.00			380	203
400	ISL	7.08	7.04	34.256	26.827	127.8	0.731	0.69	10.2	62.5	2.94	36.7	0.00			403	
436		6.68	6.64	34.281	26.901	120.9	0.776	0.50	7.3	68.9	3.05	38.1	0.00			439	202
500	ISL	6.24	6.20	34.313	26.985	113.6	0.851	0.34	4.9	76.6	3.18	39.6	0.00			503	
522		6.09	6.04	34.325	27.014	111.0	0.876	0.28	4.0	79.3	3.22	40.1	0.00			526	201

RV NEW HORIZON CALCOFI CRUISE 0001 STATION 90 35

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
33 15.4 N	118 15.3 W	14/01/00	1825 UTC	267 m	290 03 kn	200 02 07	1	1021.7 mb	16.0 C	14.7 C	29m	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	14.36	14.36	33.572	25.009	293.9	0.000	6.02	103.6	3.7	0.33	0.3	0.01	0.38	0.10	0	
1		14.36	14.36	33.572	25.009	293.9	0.003									1	218
2	A	14.36	14.36	33.572	25.009	294.0	0.006	6.02	103.6	3.7	0.33	0.3	0.01	0.38	0.10	2	217
10		14.29	14.29	33.571	25.023	292.8	0.029	5.98	102.7	3.8	0.34	0.4	0.02	0.36	0.11	10	216
18	A	13.92	13.92	33.567	25.098	286.0	0.053	5.93	101.1	4.8	0.38	1.3	0.06	0.35	0.19	18	215
20	ISL	13.71	13.71	33.550	25.128	283.2	0.058	5.82	98.8	5.2	0.44	2.1	0.10	0.35	0.19	20	
28		12.81	12.81	33.495	25.266	270.2	0.080	5.25	87.4	7.5	0.74	6.4	0.22	0.35	0.20	28	214
30	ISL	12.63	12.63	33.501	25.306	266.5	0.086	5.13	85.1	8.2	0.81	7.5	0.21	0.34	0.20	30	
39	A	11.94	11.94	33.556	25.480	250.1	0.109	4.59	75.1	11.6	1.09	12.2	0.13	0.26	0.23	39	213
49		11.42	11.41	33.611	25.620	237.0	0.133	4.00	64.7	14.8	1.34	15.8	0.06	0.22	0.26	49	212
50	ISL	11.37	11.36	33.620	25.636	235.5	0.136	3.94	63.7	15.2	1.36	16.1	0.06	0.21	0.25	50	
61	A	10.92	10.91	33.721	25.796	220.5	0.161	3.44	55.1	18.9	1.57	19.2	0.02	0.11	0.17	61	211
69		10.72	10.71	33.755	25.858	214.8	0.178	3.28	52.3	20.6	1.64	20.4	0.01	0.07	0.15	69	210
75	ISL	10.59	10.58	33.773	25.895	211.4	0.191	3.22	51.2	21.5	1.68	21.0	0.01	0.05	0.13	75	
79	A	10.52	10.51	33.784	25.915	209.5	0.199	3.19	50.7	22.0	1.71	21.3	0.01	0.04	0.12	79	209
94		10.28	10.27	33.825	25.989	202.8	0.230	3.01	47.6	23.6	1.78	22.4	0.01	0.03	0.20	94	208
100	ISL	10.12	10.11	33.835	26.024	199.6	0.242	3.04	47.9	24.2	1.80	22.8	0.01	0.02	0.16	101	
108	A	9.90	9.89	33.850	26.073	195.1	0.258	3.07	48.1	25.0	1.82	23.3	0.01	0.01	0.09	109	207
122		9.68	9.67	33.904	26.152	187.8	0.285	2.87	44.8	27.1	1.90	24.5	0.01	0.01	0.09	123	206
125	ISL	9.63	9.62	33.918	26.172	186.0	0.291	2.82	44.0	27.6	1.92	24.8	0.01	0.01	0.09	126	
139		9.37	9.35	33.983	26.265	177.4	0.316	2.60	40.3	30.1	2.02	26.1	0.00	0.00	0.07	140	205
150	ISL	9.21	9.19	34.022	26.322	172.2	0.335	2.42	37.4	31.9	2.09	27.0	0.00	0.00	0.07	151	
170		8.94	8.92	34.078	26.409	164.3	0.369	2.13	32.7	35.2	2.22	28.5	0.00	0.00	0.07	171	204
198		8.54	8.52	34.136	26.517	154.4	0.414	1.85	28.2	40.2	2.37	30.2	0.01	0.00	0.04	199	203
200	ISL	8.51	8.49	34.140	26.525	153.7	0.417	1.82	27.7	40.6	2.38	30.3	0.01			201	
228		8.09	8.07	34.182	26.622	144.9	0.458	1.44	21.7	46.3	2.56	32.2	0.02			229	202
250	ISL	7.97	7.94	34.198	26.652	142.3	0.490	1.31	19.7	48.6	2.62	32.8	0.02			252	
260		7.91	7.88	34.205	26.667	141.1	0.504	1.25	18.8	49.7	2.65	33.1	0.02			262	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV NEW HORIZON CALCOFI CRUISE 0001 STATION 90 37

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
33 11.3 N	118 23.6 W	14/01/00	1434 UTC	1182 m	280 04 kn			1020.1 mb	14.9 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	14.30	14.30	33.581	25.029	292.1	0.000	5.96	102.4	3.7	0.34	0.5	0.02	0.35	0.19	0	
1		14.30	14.30	33.581	25.029	292.1	0.003	5.96	102.4	3.7	0.34	0.5	0.02	0.35	0.19	1	220
10		14.30	14.30	33.581	25.029	292.3	0.029	5.94	102.1	3.7	0.34	0.5	0.02	0.33	0.14	10	219
20	ISL	14.26	14.26	33.580	25.037	291.8	0.058	5.96	102.3	3.8	0.34	0.5	0.02	0.32	0.14	20	
21		14.26	14.26	33.580	25.037	291.9	0.061	5.96	102.3	3.8	0.34	0.5	0.02	0.32	0.14	21	218
30	ISL	13.78	13.78	33.564	25.125	283.8	0.087	5.83	99.1	4.9	0.41	1.8	0.08	0.33	0.17	30	
31		13.67	13.67	33.560	25.144	281.9	0.090	5.82	98.7	5.0	0.42	1.9	0.09	0.33	0.18	31	217
40		11.83	11.82	33.497	25.455	252.5	0.114	4.68	76.3	10.7	1.04	11.4	0.11	0.37	0.23	40	216
50		11.36	11.35	33.577	25.604	238.5	0.139	4.23	68.3	13.8	1.26	14.7	0.06	0.27	0.23	50	215
60		11.16	11.15	33.614	25.669	232.5	0.162	4.05	65.2	15.2	1.35	16.1	0.05	0.18	0.20	60	214
70		10.96	10.95	33.653	25.736	226.4	0.185	3.84	61.5	16.8	1.43	17.3	0.03	0.14	0.19	70	213
75	ISL	10.83	10.82	33.681	25.781	222.3	0.196	3.70	59.1	17.9	1.49	18.2	0.02	0.11	0.18	75	
85		10.54	10.53	33.747	25.883	212.7	0.218	3.40	54.0	20.5	1.63	20.2	0.01	0.06	0.17	85	212
99		10.04	10.03	33.854	26.053	196.9	0.247	3.01	47.3	24.4	1.80	22.9	0.01	0.01	0.08	100	211
100	ISL	10.01	10.00	33.860	26.062	196.0	0.249	2.99	47.0	24.6	1.81	23.1	0.01	0.01	0.08	101	
125		9.50	9.49	33.969	26.233	180.2	0.296	2.56	39.8	29.3	2.01	25.7	0.00	0.00	0.06	126	210
138		9.29	9.27	34.005	26.295	174.5	0.319	2.50	38.7	30.9	2.06	26.4	0.01	0.00	0.06	139	209
150	ISL	9.17	9.15	34.041	26.343	170.2	0.340	2.39	36.9	32.3	2.11	27.0	0.01	0.00	0.06	151	
169		9.01	8.99	34.094	26.410	164.2	0.371	2.15	33.1	34.9	2.21	28.0	0.01	0.00	0.05	170	208
199		8.56	8.54	34.151	26.526	153.6	0.419	1.75	26.7	40.4	2.40	30.3	0.01	0.00	0.07	200	207
200	ISL	8.55	8.53	34.151	26.527	153.5	0.421	1.75	26.7	40.5	2.40	30.3	0.01			201	
229		8.23	8.21	34.145	26.572	149.7	0.464	1.65	25.0	43.3	2.46	31.4	0.01			230	206
250	ISL	8.03	8.00	34.180	26.629	144.5	0.495	1.45	21.8	46.8	2.56	32.3	0.01			252	
268		7.87	7.84	34.214	26.680	140.0	0.521	1.26	18.9	50.0	2.66	33.1	0.01			270	205
300	ISL	7.61	7.58	34.231	26.732	135.5	0.565	1.01	15.1	53.9	2.76	34.3	0.00			302	
319		7.46	7.43	34.234	26.756	133.5	0.591	0.89	13.2	56.0	2.81	34.9	0.00			321	204
381		7.00	6.96	34.260	26.841	126.1	0.671	0.61	9.0	63.4	2.96	36.9	0.00			383	203
400	ISL	6.91	6.87	34.266	26.858	124.7	0.695	0.56	8.2	65.0	2.99	37.3	0.00			403	
441		6.70	6.66	34.278	26.896	121.5	0.745	0.47	6.9	68.4	3.05	38.2	0.00			444	202
500	ISL	6.24	6.20	34.310	26.983	113.8	0.815	0.32	4.6	76.2	3.16	39.7	0.00			503	
512		6.15	6.10	34.317	27.000	112.2	0.828	0.29	4.2	77.8	3.18	40.0	0.00			516	201

RV NEW HORIZON CALCOFI CRUISE 0001 STATION 90 45

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT TYPE
32 55.1 N	118 56.2 W	14/01/00	0902 UTC	1695 m	310 11 kn			1021.1 mb	14.3 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	14.06	14.06	33.545	25.051	289.9	0.000	6.02	102.9	4.0	0.35	0.8	0.03	0.36	0.17	0	
2	14.06	14.06	33.545	25.051	290.0	0.006	6.02	102.9	4.0	0.35	0.8	0.03	0.36	0.17	2	220
10 ISL	14.06	14.06	33.544	25.051	290.3	0.029	6.01	102.7	3.9	0.35	0.8	0.03	0.37	0.16	10	
11	14.06	14.06	33.544	25.051	290.3	0.032	6.01	102.7	3.9	0.35	0.8	0.03	0.37	0.16	11	219
20	14.05	14.05	33.543	25.052	290.4	0.058	6.00	102.5	4.0	0.36	0.8	0.03	0.41	0.16	20	218
30 ISL	13.63	13.63	33.523	25.124	283.9	0.087	5.84	98.9	5.1	0.50	2.9	0.15	0.43	0.19	30	
31	13.55	13.55	33.521	25.138	282.5	0.090	5.82	98.4	5.2	0.53	3.3	0.16	0.43	0.20	31	217
40	12.28	12.27	33.521	25.389	258.8	0.114	5.19	85.5	9.3	0.92	9.4	0.22	0.46	0.30	40	216
49	11.69	11.68	33.517	25.497	248.7	0.137	4.74	77.1	11.8	1.10	12.3	0.03	0.26	0.22	49	215
50 ISL	11.63	11.62	33.521	25.511	247.4	0.139	4.69	76.2	12.2	1.12	12.7	0.03	0.24	0.21	50	
60	11.01	11.00	33.587	25.675	232.0	0.163	4.18	67.0	15.9	1.35	16.2	0.03	0.12	0.16	60	214
70	10.46	10.45	33.676	25.841	216.3	0.186	3.74	59.3	19.5	1.55	19.3	0.01	0.06	0.10	70	213
75 ISL	10.30	10.29	33.712	25.897	211.1	0.196	3.59	56.7	21.1	1.63	20.5	0.01	0.04	0.09	75	
85	10.05	10.04	33.772	25.987	202.8	0.217	3.36	52.8	23.2	1.73	22.1	0.01	0.02	0.07	85	212
100	9.56	9.55	33.850	26.129	189.5	0.246	3.11	48.4	23.2	1.73	22.1	0.01	0.01	0.05	101	211
120	9.24	9.23	33.926	26.241	179.2	0.283	2.89	44.7	29.4	1.95	25.6	0.01	0.00	0.05	121	210
125 ISL	9.20	9.19	33.938	26.257	177.8	0.292	2.86	44.2	29.9	1.97	25.9	0.01	0.00	0.05	126	
141	9.10	9.08	33.976	26.303	173.8	0.320	2.73	42.1	31.0	2.01	26.3	0.01	0.00	0.04	142	209
150 ISL	9.04	9.02	34.015	26.343	170.1	0.336	2.53	38.9	32.6	2.09	27.1	0.01	0.00	0.04	151	
168	8.87	8.85	34.089	26.428	162.4	0.366	2.11	32.4	36.2	2.25	28.8	0.01	0.00	0.04	169	208
198	8.41	8.39	34.125	26.528	153.3	0.413	1.88	28.5	40.8	2.38	30.3	0.01	0.00	0.03	199	207
200 ISL	8.39	8.37	34.127	26.533	152.9	0.416	1.86	28.2	41.0	2.39	30.4	0.01			201	
230	8.14	8.12	34.160	26.597	147.3	0.461	1.58	23.8	44.8	2.50	31.8	0.01			231	206
250 ISL	7.96	7.93	34.180	26.640	143.5	0.490	1.36	20.4	48.1	2.60	32.8	0.01			252	
268	7.81	7.78	34.196	26.675	140.5	0.516	1.18	17.7	51.0	2.68	33.7	0.01			270	205
300 ISL	7.57	7.54	34.215	26.725	136.2	0.560	0.99	14.8	54.6	2.77	34.7	0.01			302	
318	7.45	7.42	34.224	26.749	134.1	0.584	0.91	13.5	56.3	2.81	35.2	0.01			320	204
378	7.03	6.99	34.254	26.832	126.9	0.663	0.65	9.6	62.9	2.95	36.8	0.01			380	203
400 ISL	6.89	6.85	34.262	26.858	124.7	0.690	0.58	8.5	65.2	3.00	37.4	0.01			403	
440	6.63	6.59	34.276	26.904	120.7	0.740	0.47	6.9	69.3	3.07	38.4	0.01			443	202
500 ISL	6.25	6.21	34.309	26.981	114.0	0.810	0.33	4.8	76.1	3.15	39.6	0.00			503	
518	6.14	6.09	34.319	27.003	112.0	0.830	0.29	4.2	78.2	3.18	39.9	0.00			522	201

RV NEW HORIZON CALCOFI CRUISE 0001 STATION 90 53

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT TYPE
32 38.8 N	119 29.0 W	13/01/00	0434 UTC	1318 m	320 11 kn			1023.4 mb	11.8 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	13.14	13.14	33.422	25.143	281.1	0.000	5.96	99.9	3.6	0.48	2.3	0.08	0.63	0.22	0	
1	13.14	13.14	33.422	25.143	281.1	0.003	5.96	99.9	3.6	0.48	2.3	0.08	0.63	0.22	1	220
10	13.14	13.14	33.423	25.144	281.3	0.028	5.97	100.1	3.6	0.47	2.3	0.08	0.67	0.20	10	219
20	13.15	13.15	33.424	25.143	281.7	0.056	5.97	100.1	3.6	0.47	2.3	0.08	0.67	0.20	20	218
30	13.14	13.14	33.425	25.146	281.6	0.084	5.96	99.9	3.7	0.48	2.4	0.09	0.65	0.20	30	217
40	13.12	13.11	33.450	25.170	279.7	0.113	5.93	99.3	4.1	0.51	2.8	0.11	0.60	0.22	40	216
50 ISL	12.99	12.98	33.470	25.212	276.0	0.140	5.91	98.8	4.8	0.55	3.6	0.13	0.45	0.20	50	
51	12.98	12.97	33.475	25.218	275.5	0.143	5.91	98.7	4.9	0.56	3.7	0.13	0.43	0.20	51	215
61	12.12	12.11	33.412	25.335	264.4	0.170	5.61	92.0	6.7	0.72	6.2	0.13	0.28	0.20	61	214
70	11.44	11.43	33.403	25.455	253.2	0.193	5.30	85.7	8.8	0.87	8.7	0.09	0.18	0.15	70	213
75 ISL	11.00	10.99	33.457	25.576	241.7	0.206	4.88	78.2	12.0	1.08	12.2	0.06	0.13	0.11	75	
83	10.38	10.37	33.562	25.767	223.7	0.224	4.21	66.6	17.2	1.42	17.6	0.01	0.06	0.06	83	212
98	10.04	10.03	33.630	25.878	213.4	0.257	3.98	62.5	19.6	1.53	19.5	0.01	0.03	0.04	98	211
100 ISL	9.96	9.95	33.655	25.911	210.3	0.261	3.89	61.0	20.4	1.56	20.0	0.01	0.03	0.04	100	
119	9.25	9.24	33.894	26.214	181.8	0.299	3.08	47.6	27.9	1.86	24.7	0.01	0.01	0.03	120	210
125 ISL	9.12	9.11	33.922	26.257	177.8	0.309	3.07	47.3	28.8	1.88	25.0	0.01	0.01	0.03	126	
137	8.91	8.90	33.949	26.312	172.8	0.330	3.04	46.6	30.0	1.91	25.5	0.00	0.01	0.03	138	209
150 ISL	8.66	8.64	33.971	26.368	167.6	0.353	3.04	46.4	31.6	1.93	26.0	0.00	0.01	0.03	151	
169	8.35	8.33	33.995	26.435	161.6	0.384	3.03	45.9	34.3	1.97	26.9	0.00	0.01	0.02	170	208
199	8.08	8.06	34.050	26.519	154.1	0.431	2.46	37.1	39.7	2.20	29.2	0.00	0.00	0.03	200	207
200 ISL	8.07	8.05	34.051	26.521	153.9	0.433	2.45	36.9	39.9	2.21	29.3	0.00			201	
228	7.81	7.79	34.079	26.582	148.5	0.475	2.13	31.9	43.8	2.34	30.9	0.00			229	206
250 ISL	7.82	7.80	34.118	26.612	146.1	0.507	1.74	26.1	46.2	2.47	32.2	0.00			251	
269	7.84	7.81	34.152	26.636	144.2	0.535	1.41	21.1	48.4	2.58	33.2	0.00			271	205
300 ISL	7.53	7.50	34.177	26.700	138.4	0.579	1.13	16.8	53.2	2.71	34.6	0.00			302	
320	7.28	7.25	34.188	26.745	134.4	0.606	1.02	15.1	56.5	2.78	35.4	0.00			322	204
379	6.79	6.75	34.227	26.844	125.6	0.683	0.72	10.5	65.2	2.94	37.4	0.01			381	203
400 ISL	6.64	6.60	34.246	26.879	122.5	0.709	0.60	8.7	68.3	3.00	38.1	0.01			403	
438	6.39	6.35	34.279	26.938	117.2	0.754	0.42	6.1	73.2	3.09	39.1	0.00			441	202
500 ISL	6.13	6.09	34.301	26.990	113.0	0.826	0.34	4.9	78.0	3.16	40.0	0.00			503	
518	6.05	6.00	34.308	27.005	111.7	0.846	0.32	4.6	79.4	3.18	40.2	0.00			522	201

RV NEW HORIZON CALCOFI CRUISE 0001 STATION 90 60

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
32 24.8 N	119 57.5 W	12/01/00	2327 UTC	904 m	300 07 kn	320 04 09	4	1022.4 mb	13.6 C	12.8 C	18m	5/8	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	14.72	14.72	33.455	24.842	309.8	0.000	5.91	102.3	2.6	0.32	0.0	0.00	0.47	0.12	0	
1		14.72	14.72	33.455	24.842	309.8	0.003	5.91	102.3	2.6	0.32	0.0	0.00	0.47	0.12	1	220
10	ISL	14.63	14.63	33.449	24.857	308.7	0.031	5.92	102.3	2.6	0.33	0.1	0.00	0.49	0.14	10	
16		14.52	14.52	33.443	24.876	307.0	0.049	5.93	102.3	2.6	0.33	0.1	0.00	0.52	0.16	16	219
20	ISL	14.46	14.46	33.438	24.885	306.3	0.062	5.93	102.1	2.6	0.33	0.1	0.00	0.55	0.17	20	
30		14.29	14.29	33.425	24.911	304.1	0.092	5.93	101.8	2.6	0.33	0.1	0.01	0.59	0.19	30	218
46		13.88	13.87	33.407	24.983	297.7	0.140	5.86	99.7	3.0	0.39	0.9	0.05	0.41	0.19	46	217
50	ISL	13.86	13.85	33.401	24.983	297.9	0.152	5.85	99.5	3.1	0.40	1.0	0.06	0.39	0.19	50	
55		13.85	13.84	33.397	24.982	298.1	0.167	5.85	99.5	3.1	0.40	1.0	0.06	0.37	0.19	55	216
65		13.75	13.74	33.397	25.003	296.4	0.197	5.84	99.1	3.1	0.42	1.2	0.07	0.33	0.19	65	215
74		13.49	13.48	33.413	25.068	290.3	0.223	5.91	99.7	2.7	0.44	1.5	0.08	0.28	0.14	74	214
75	ISL	13.44	13.43	33.407	25.074	289.9	0.226	5.90	99.5	2.8	0.45	1.6	0.09	0.28	0.14	75	
84		12.85	12.84	33.355	25.151	282.6	0.252	5.73	95.4	4.0	0.56	3.4	0.12	0.23	0.16	84	213
95		12.08	12.07	33.393	25.329	265.9	0.282	5.27	86.3	6.9	0.79	7.2	0.03	0.12	0.14	95	212
100	ISL	11.76	11.75	33.423	25.412	258.0	0.295	5.10	83.0	8.2	0.88	8.7	0.02	0.10	0.12	100	
109		11.25	11.24	33.492	25.559	244.2	0.318	4.79	77.1	10.7	1.04	11.4	0.01	0.08	0.09	110	211
124		10.68	10.67	33.627	25.766	224.8	0.353	4.13	65.7	16.1	1.37	16.8	0.01	0.04	0.05	125	210
125	ISL	10.65	10.64	33.633	25.776	223.8	0.355	4.10	65.2	16.3	1.38	17.0	0.01	0.04	0.05	126	
144		10.20	10.18	33.725	25.926	209.9	0.396	3.74	59.0	19.7	1.54	19.6	0.01	0.03	0.04	145	209
150	ISL	9.99	9.97	33.757	25.986	204.3	0.409	3.66	57.4	20.9	1.58	20.4	0.01	0.02	0.04	151	
169		9.35	9.33	33.860	26.173	186.8	0.446	3.39	52.5	25.2	1.73	23.0	0.00	0.00	0.05	170	208
200		8.77	8.75	34.013	26.385	167.1	0.501	2.74	41.9	33.1	2.03	26.9	0.00	0.00	0.02	201	207
229		8.39	8.37	34.044	26.468	159.6	0.548	2.56	38.8	36.5	2.13	28.3	0.00			230	206
250	ISL	8.17	8.14	34.060	26.514	155.5	0.581	2.40	36.2	39.1	2.22	29.3	0.00			251	
268		7.98	7.95	34.072	26.552	152.1	0.609	2.23	33.5	41.7	2.30	30.2	0.00			270	205
300	ISL	7.57	7.54	34.104	26.637	144.4	0.656	1.83	27.2	47.7	2.47	32.3	0.00			302	
316		7.36	7.33	34.120	26.680	140.5	0.679	1.63	24.2	50.9	2.56	33.3	0.00			318	204
377		6.76	6.73	34.152	26.788	130.8	0.762	1.12	16.4	60.6	2.79	36.3	0.00			379	203
400	ISL	6.58	6.54	34.162	26.820	127.9	0.792	0.98	14.3	63.8	2.86	37.2	0.00			403	
434		6.34	6.30	34.178	26.865	124.0	0.835	0.80	11.6	68.3	2.95	38.3	0.00			437	202
500	ISL	5.94	5.90	34.216	26.946	116.8	0.914	0.57	8.2	76.4	3.07	39.9	0.00			503	
522		5.80	5.75	34.229	26.974	114.3	0.939	0.49	7.0	79.1	3.11	40.4	0.00			526	201

RV NEW HORIZON CALCOFI CRUISE 0001 STATION 90 70

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
32 5.6 N	120 39.1 W	12/01/00	1823 UTC	3796 m	340 13 kn	340 03 09	1	1025.0 mb	14.2 C	13.3 C	16m	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	14.31	14.31	33.413	24.897	304.6	0.000	5.93	101.8	2.9	0.36	0.2	0.01	0.56	0.21	0	
2	A	14.31	14.31	33.413	24.897	304.7	0.006	5.93	101.8	2.9	0.36	0.2	0.01	0.56	0.21	2	222
2		14.31	14.31	33.413	24.897	304.7	0.006									2	223
10	A	14.29	14.29	33.413	24.901	304.5	0.030	5.92	101.6	2.9	0.35	0.2	0.01	0.60	0.20	10	221
20	ISL	14.28	14.28	33.413	24.904	304.5	0.061	5.93	101.7	2.8	0.34	0.2	0.01	0.61	0.20	20	
22	A	14.28	14.28	33.413	24.904	304.6	0.067	5.93	101.7	2.8	0.34	0.2	0.01	0.61	0.20	22	220
30	ISL	14.28	14.28	33.413	24.904	304.8	0.091	5.93	101.7	2.8	0.34	0.2	0.01	0.61	0.20	30	
32	A	14.28	14.28	33.413	24.904	304.8	0.097	5.93	101.7	2.8	0.34	0.2	0.01	0.61	0.20	32	219
44	A	14.28	14.27	33.414	24.905	305.1	0.134	5.92	101.6	2.8	0.34	0.2	0.01	0.60	0.21	44	218
50	ISL	14.28	14.27	33.414	24.905	305.2	0.152	5.93	101.7	2.8	0.34	0.2	0.01	0.55	0.25	50	
52		14.28	14.27	33.414	24.905	305.3	0.158	5.93	101.7	2.8	0.34	0.2	0.01	0.54	0.26	52	217
60	A	14.26	14.25	33.414	24.910	305.1	0.183	5.92	101.5	2.7	0.34	0.2	0.01	0.53	0.19	60	216
68		13.01	13.00	33.343	25.110	286.1	0.207	5.64	94.2	4.4	0.56	3.3	0.14	0.24	0.25	68	215
75		12.67	12.66	33.379	25.205	277.3	0.226	5.54	91.9	5.3	0.63	4.6	0.08	0.20	0.27	75	214
84		11.82	11.81	33.342	25.338	264.7	0.251	5.41	88.1	7.0	0.78	7.1	0.05	0.12	0.18	84	213
95		11.84	11.83	33.461	25.427	256.6	0.279	5.13	83.7	7.8	0.83	8.2	0.01	0.09	0.13	95	212
100	ISL	11.65	11.64	33.491	25.485	251.1	0.292	4.97	80.7	8.6	0.89	9.2	0.01	0.08	0.11	100	
110		11.18	11.17	33.533 D	25.604	240.0	0.317									111	211
125		10.78	10.76	33.604	25.731	228.2	0.352	4.16	66.4	14.9	1.29	15.5	0.00	0.04	0.05	126	210
145		9.78	9.76	33.788	26.046	198.5	0.394	3.71	58.0	21.7	1.60	20.8	0.00	0.01	0.02	146	209
150	ISL	9.64	9.62	33.821	26.095	193.9	0.404	3.57	55.6	23.1	1.66	21.7	0.00	0.01	0.02	151	
170		9.27	9.25	33.919	26.232	181.2	0.442	3.10	47.9	27.6	1.85	24.5	0.00	0.00	0.02	171	208
200	ISL	8.72	8.70	33.988	26.373	168.2	0.494	2.89	44.1	32.4	1.98	26.7	0.00	0.00	0.02	201	
202		8.69	8.67	33.991	26.380	167.5	0.497	2.88	44.0	32.7	1.99	26.8	0.00	0.00	0.02	203	207
228		8.30	8.28	34.047	26.484	158.0	0.540	2.43	36.8	38.1	2.19	29.2	0.00			229	206
250	ISL	8.00	7.97	34.069	26.547	152.3	0.574	2.25	33.8	41.5	2.29	30.3	0.00			251	
265		7.80	7.77	34.076	26.582	149.2	0.596	2.17	32.5	43.6	2.34	30.9	0.00			267	205
300	ISL	7.35	7.32	34.089	26.657	142.4	0.648	1.87	27.7	49.2	2.48	32.7	0.00			302	
316		7.16	7.13	34.094	26.687	139.6	0.670	1.73	25.5	51.8	2.55	33.6	0.00			318	204
378		6.48	6.45	34.120	26.800	129.4	0.753	1.22	17.7	62.7	2.80	36.9	0.00			380	203
400	ISL	6.26	6.22	34.124	26.832	126.5	0.782	1.09	15.7	66.2	2.86	37.9	0.00			403	
436		5.94	5.90	34.133	26.880	122.2	0.826	0.89	12.8	71.8	2.95	39.3	0.00			439	202
500	ISL	5.48	5.44	34.191	26.983	112.8	0.902	0.55	7.8	82.5	3.12	41.3	0.00			503	
516		5.36	5.32	34.206	27.009	110.4	0.919	0.47	6.6	85.2	3.16	41.8	0.00			519	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV NEW HORIZON CALCOFI CRUISE 0001 STATION 90 80

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT TYPE
31 44.8 N	121 19.3 W	12/01/00	0847 UTC	3731 m	330 15 kn			1022.9 mb	14.0 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	15.31	15.31	33.565	24.799	313.9	0.000	5.77	101.2	3.1	0.31	0.1	0.00	0.47	0.17	0	
2		15.31	15.31	33.565	24.799	314.0	0.006	5.77	101.2	3.1	0.31	0.1	0.00	0.47	0.17	2	220
10	ISL	15.31	15.31	33.566	24.800	314.1	0.031	5.78	101.4	3.0	0.31	0.1	0.00	0.48	0.16	10	
16		15.32	15.32	33.567	24.799	314.4	0.050	5.79	101.5	3.0	0.31	0.1	0.00	0.49	0.16	16	219
20	ISL	15.32	15.32	33.567	24.799	314.6	0.063	5.79	101.5	3.0	0.31	0.1	0.00	0.49	0.16	20	
30	ISL	15.33	15.33	33.567	24.797	315.0	0.094	5.79	101.6	3.0	0.31	0.1	0.00	0.50	0.16	30	
31		15.33	15.33	33.567	24.797	315.1	0.097	5.79	101.6	3.0	0.31	0.1	0.00	0.50	0.16	31	218
45		15.31	15.30	33.566	24.801	315.1	0.142	5.79	101.5	3.0	0.31	0.1	0.00	0.53	0.17	45	217
50	ISL	15.28	15.27	33.560	24.803	315.1	0.157	5.79	101.5	3.0	0.31	0.1	0.00	0.52	0.17	50	
55		15.25	15.24	33.553	24.805	315.1	0.173	5.79	101.4	2.9	0.32	0.1	0.00	0.50	0.17	55	216
66		12.92	12.91	33.354	25.136	283.6	0.206	5.56	92.7	5.1	0.61	3.9	0.08	0.48	0.41	66	215
75	ISL	12.12	12.11	33.410	25.334	264.9	0.231	5.27	86.4	7.7	0.85	7.9	0.05	0.27	0.24	75	
76		12.07	12.06	33.422	25.353	263.1	0.233	5.23	85.7	8.0	0.87	8.4	0.04	0.24	0.22	76	214
85		11.54	11.53	33.490	25.505	248.9	0.256	4.79	77.6	10.7	1.06	11.7	0.01	0.12	0.23	85	213
96		10.87	10.86	33.533	25.659	234.3	0.283	4.51	72.1	13.6	1.20	14.2	0.01	0.06	0.07	96	212
100	ISL	10.67	10.66	33.553	25.710	229.6	0.292	4.41	70.2	14.7	1.26	15.1	0.01	0.05	0.06	100	
110		10.26	10.25	33.606	25.822	219.0	0.315	4.19	66.1	17.3	1.39	17.3	0.01	0.03	0.03	111	211
125	ISL	9.88	9.87	33.686	25.949	207.2	0.347	3.94	61.7	20.2	1.52	19.6	0.01	0.01	0.03	126	
126		9.86	9.85	33.692	25.957	206.5	0.349	3.93	61.5	20.4	1.53	19.7	0.01	0.01	0.03	127	210
145		9.35	9.33	33.844	26.160	187.5	0.386	3.69	57.1	24.6	1.67	22.2	0.01	0.00	0.02	146	209
150	ISL	9.22	9.20	33.874	26.204	183.4	0.395	3.60	55.6	25.9	1.71	22.9	0.01	0.00	0.02	151	
171		8.69	8.67	33.967	26.361	168.7	0.432	3.21	49.0	31.2	1.89	25.7	0.00	0.00	0.02	172	208
200		8.10	8.08	34.012	26.486	157.2	0.480	2.94	44.3	37.0	2.05	27.9	0.00	0.00	0.02	201	207
228		7.64	7.62	34.026	26.565	150.0	0.523	2.59	38.6	42.5	2.22	30.1	0.00			229	206
250	ISL	7.32	7.30	34.034	26.617	145.3	0.555	2.36	34.9	46.6	2.33	31.6	0.00			251	
268		7.07	7.04	34.040	26.657	141.7	0.581	2.19	32.2	49.9	2.42	32.7	0.00			270	205
300	ISL	6.66	6.63	34.048	26.719	136.1	0.625	1.88	27.4	55.8	2.56	34.6	0.00			302	
319		6.45	6.42	34.054	26.751	133.1	0.651	1.71	24.8	59.2	2.64	35.7	0.00			321	204
377		5.97	5.94	34.083	26.836	125.5	0.726	1.22	17.5	68.7	2.84	38.5	0.00			379	203
400	ISL	5.80	5.77	34.102	26.872	122.3	0.754	1.03	14.7	72.6	2.92	39.5	0.00			403	
437		5.56	5.52	34.135	26.928	117.3	0.799	0.77	10.9	78.6	3.04	40.8	0.00			440	202
500	ISL	5.22	5.18	34.190	27.012	109.7	0.870	0.51	7.2	87.5	3.16	42.4	0.00			503	
518		5.12	5.08	34.206	27.037	107.5	0.890	0.43	6.0	90.0	3.19	42.9	0.00			522	201

RV NEW HORIZON CALCOFI CRUISE 0001 STATION 90 90

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT TYPE
31 24.9 N	121 59.4 W	12/01/00	0213 UTC	3896 m	340 06 kn			1022.7 mb	13.1 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	14.26	14.26	33.435	24.924	302.0	0.000	5.99	102.7	2.7	0.34	0.1	0.01	0.53	0.16	0	
1		14.26	14.26	33.435	24.924	302.0	0.003	5.99	102.7	2.7	0.34	0.1	0.01	0.53	0.16	1	220
10		14.15	14.15	33.420	24.936	301.1	0.030	5.98	102.3	2.6	0.35	0.2	0.02	0.52	0.18	10	219
19		14.11	14.11	33.423	24.947	300.4	0.057	5.94	101.6	2.7	0.36	0.3	0.02	0.47	0.15	19	218
20	ISL	14.10	14.10	33.424	24.950	300.1	0.060	5.94	101.5	2.7	0.36	0.3	0.02	0.47	0.15	20	
29		14.04	14.04	33.429	24.966	298.8	0.087	5.92	101.1	2.7	0.37	0.4	0.04	0.43	0.15	29	217
30	ISL	14.04	14.04	33.428	24.966	298.9	0.090	5.92	101.1	2.7	0.37	0.4	0.04	0.42	0.15	30	
40		14.01	14.00	33.426	24.971	298.7	0.120	5.91	100.8	2.6	0.37	0.4	0.04	0.37	0.11	40	216
50	ISL	14.00	13.99	33.426	24.973	298.8	0.150	5.93	101.2	2.7	0.37	0.4	0.04	0.37	0.13	50	
51		14.00	13.99	33.426	24.973	298.8	0.153	5.93	101.2	2.7	0.37	0.4	0.04	0.37	0.13	51	215
60		13.82	13.81	33.403	24.993	297.2	0.180	5.93	100.8	2.8	0.39	0.6	0.07	0.28	0.12	60	214
70		13.39	13.38	33.359	25.047	292.3	0.209	5.91	99.5	3.2	0.43	1.0	0.11	0.22	0.14	70	213
75	ISL	12.89	12.88	33.318	25.114	285.9	0.224	5.89	98.1	3.5	0.46	1.4	0.11	0.20	0.15	75	
86		11.76	11.75	33.257	25.283	270.0	0.254	5.83	94.8	4.5	0.54	2.8	0.11	0.17	0.17	86	212
99		11.15	11.14	33.297	25.425	256.6	0.288	5.73	92.0	5.9	0.64	4.8	0.02	0.08	0.09	99	211
100	ISL	11.09	11.08	33.299	25.438	255.5	0.291	5.72	91.7	6.1	0.65	5.0	0.02	0.08	0.09	100	
119		10.02	10.01	33.365	25.675	233.1	0.337	5.29	82.9	10.2	0.93	9.8	0.01	0.03	0.03	120	210
125	ISL	9.87	9.86	33.408	25.733	227.7	0.351	5.07	79.2	12.1	1.04	11.7	0.01	0.02	0.03	126	
137		9.71	9.69	33.514	25.843	217.5	0.378	4.63	72.1	15.9	1.26	15.3	0.01	0.02	0.02	138	209
150	ISL	9.70	9.68	33.663	25.961	206.5	0.406	4.28	66.7	18.2	1.38	17.5	0.01	0.02	0.01	151	
168		9.68	9.66	33.860	26.119	192.0	0.441	3.95	61.6	20.9	1.49	19.6	0.01	0.01	0.01	169	208
197		8.79	8.77	33.971	26.349	170.4	0.494	3.76	57.5	27.9	1.70	23.2	0.01	0.00	0.01	198	207
200	ISL	8.73	8.71	33.978	26.364	169.1	0.499	3.64	55.6	28.9	1.75	23.8	0.01			201	
228		8.27	8.25	34.015	26.464	159.9	0.545	2.49	37.7	37.5	2.18	29.2	0.00			229	206
250	ISL	7.90	7.87	34.022	26.524	154.4	0.580	2.53	37.9	40.7	2.21	29.8	0.00			251	
268		7.61	7.58	34.021	26.566	150.6	0.607	2.56	38.1	42.5	2.23	30.2	0.00			270	205
300	ISL	7.18	7.15	34.026	26.631	144.7	0.654	2.44	36.0	46.8	2.32	31.5	0.00			302	
319		6.97	6.94	34.031	26.664	141.8	0.682	2.29	33.6	49.6	2.40	32.4	0.00			321	204
379		6.48	6.45	34.078	26.767	132.6	0.764	1.44	20.9	60.4	2.73	36.4	0.00			381	203
400	ISL	6.23	6.19	34.082	26.803	129.3	0.791	1.29	18.6	64.4	2.80	37.5	0.00			402	
438		5.80	5.76	34.093	26.866	123.4	0.839	1.08	15.4	71.6	2.90	39.1	0.00			441	202
500	ISL	5.41	5.37	34.163	26.969	114.1	0.913	0.64	9.1	82.4	3.09	41.2	0.00			503	
516		5.31	5.27	34.181	26.995	111.7	0.931	0.53	7.5	85.2	3.14	41.8	0.00			519	201

RV NEW HORIZON CALCOFI CRUISE 0001 STATION 90 100

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
31 5.2 N	122 40.1 W	11/01/00	1901 UTC	3975 m	330 13 kn	330 04 07	1	1024.9 mb	15.7 C	14.0 C	31m	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	15.84	15.84	33.593	24.703	323.1	0.000	5.71	101.2	2.6	0.26	0.0	0.00	0.15	0.05	0	
2		15.84	15.84	33.593	24.703	323.2	0.006									2	223
3	A	15.84	15.84	33.593	24.703	323.2	0.010	5.71	101.2	2.6	0.26	0.0	0.00	0.15	0.05	3	222
10	ISL	15.82	15.82	33.594	24.708	322.9	0.032	5.73	101.5	2.6	0.26	0.0	0.00	0.16	0.05	10	
11		15.82	15.82	33.594	24.708	322.9	0.036	5.73	101.5	2.6	0.26	0.0	0.00	0.16	0.05	11	221
20	A	15.82	15.82	33.593 D	24.708	323.2	0.065	5.72	101.3	2.5	0.25	0.0	0.00	0.15	0.04	20	220
30	ISL	15.82	15.82	33.592	24.707	323.6	0.097	5.72	101.3	2.6	0.25	0.0	0.00	0.15	0.05	30	
32		15.82	15.82	33.592	24.707	323.7	0.103	5.72	101.3	2.6	0.25	0.0	0.00	0.15	0.05	32	219
43	A	15.82	15.81	33.593	24.708	323.9	0.139	5.71	101.2	2.5	0.25	0.0	0.00	0.15	0.05	43	218
50	ISL	15.81	15.80	33.592	24.710	324.0	0.162	5.72	101.3	2.5	0.25	0.0	0.00	0.15	0.04	50	
54		15.81	15.80	33.592	24.710	324.1	0.175	5.73	101.5	2.5	0.25	0.0	0.00	0.15	0.04	54	217
64	A	15.80	15.79	33.590	24.711	324.3	0.207	5.71	101.1	2.4	0.25	0.0	0.00	0.15	0.04	64	216
75		15.79	15.78	33.589	24.713	324.5	0.243	5.73	101.4	2.4	0.25	0.0	0.00	0.14	0.04	75	215
85	A	14.80	14.79	33.692	25.010	296.4	0.274	5.85	101.6	2.8	0.26	0.1	0.02	0.31	0.25	85	214
95		14.75	14.74	33.753	25.068	291.1	0.303	5.77	100.1	3.0	0.27	0.1	0.10	0.27	0.23	95	213
100	ISL	14.82	14.81	33.798	25.088	289.4	0.318	5.73	99.6	3.0	0.27	0.2	0.14	0.25	0.22	100	
105		14.90	14.88	33.851	25.112	287.3	0.332	5.68	98.9	3.0	0.26	0.3	0.16	0.23	0.22	105	212
116	A	14.88	14.86	33.984	25.219	277.5	0.363	5.56	96.9	3.2	0.27	0.8	0.05	0.15	0.13	117	211
125	ISL	14.64	14.62	33.977	25.266	273.3	0.388	5.52	95.7	3.3	0.30	1.2	0.02	0.10	0.10	126	
128		14.51	14.49	33.961	25.281	271.9	0.396	5.51	95.3	3.4	0.31	1.4	0.02	0.09	0.09	129	210
139		13.88	13.86	33.904	25.370	263.6	0.426	5.44	92.8	4.1	0.37	2.3	0.01	0.05	0.06	140	209
150	ISL	12.91	12.89	33.787	25.476	253.6	0.454	5.31	88.7	5.6	0.52	4.4	0.01	0.03	0.04	151	
164		11.64	11.62	33.668	25.626	239.3	0.489	5.06	82.2	8.4	0.76	8.0	0.01	0.02	0.03	165	208
195		10.09	10.07	33.791	25.997	204.3	0.557	4.20	66.1	18.0	1.34	17.4	0.00	0.00	0.02	196	207
200	ISL	9.95	9.93	33.819	26.042	200.0	0.567	4.16	65.2	18.9	1.37	18.1	0.00			201	
230		9.29	9.26	33.964	26.265	179.3	0.624	4.06	62.8	23.4	1.50	20.5	0.00			231	206
250	ISL	8.81	8.78	33.995	26.366	169.9	0.659	3.79	58.0	27.9	1.66	22.8	0.00			251	
270		8.36	8.33	34.003	26.441	162.9	0.693	3.46	52.4	32.7	1.84	25.2	0.00			271	205
300	ISL	7.83	7.80	34.013	26.528	154.9	0.740	3.04	45.5	38.6	2.04	28.0	0.00			302	
320		7.53	7.50	34.017	26.575	150.6	0.771	2.76	41.0	42.4	2.17	29.7	0.00			322	204
379		6.86	6.82	34.062	26.704	138.8	0.856	1.83	26.8	54.1	2.55	34.2	0.00			381	203
400	ISL	6.69	6.65	34.081	26.742	135.4	0.885	1.57	22.9	57.8	2.65	35.5	0.00			402	
438		6.38	6.34	34.110	26.806	129.6	0.935	1.20	17.4	64.2	2.81	37.4	0.00			441	202
500	ISL	5.70	5.66	34.122	26.901	120.7	1.013	0.90	12.8	75.5	2.97	39.9	0.00			503	
517		5.51	5.47	34.127	26.929	118.2	1.033	0.82	11.6	78.6	3.02	40.6	0.00			520	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV NEW HORIZON CALCOFI CRUISE 0001 STATION 90 110

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
30 44.9 N	123 20.1 W	11/01/00	1227 UTC	4014 m	320 11 kn			1022.8 mb	14.2 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	15.70	15.70	33.511	24.671	326.1	0.000	5.74	101.4	2.6	0.28	0.1	0.00	0.14	0.04	0	
1		15.70	15.70	33.511	24.671	326.1	0.003	5.74	101.4	2.6	0.28	0.1	0.00	0.14	0.04	1	220
10	ISL	15.70	15.70	33.511	24.671	326.4	0.033	5.74	101.4	2.5	0.27	0.1	0.00	0.13	0.04	10	
15		15.70	15.70	33.511	24.671	326.6	0.049	5.74	101.4	2.5	0.27	0.1	0.00	0.13	0.04	15	219
20	ISL	15.70	15.70	33.510	24.671	326.8	0.065	5.74	101.4	2.5	0.27	0.1	0.00	0.13	0.04	20	
30		15.70	15.70	33.509	24.670	327.1	0.098	5.73	101.2	2.4	0.27	0.1	0.00	0.14	0.04	30	218
45		15.69	15.68	33.508	24.672	327.4	0.147	5.74	101.4	2.4	0.27	0.1	0.00	0.13	0.04	45	217
50	ISL	15.68	15.67	33.508	24.675	327.3	0.163	5.75	101.5	2.4	0.27	0.1	0.00	0.13	0.03	50	
54		15.68	15.67	33.507	24.674	327.5	0.177	5.75	101.5	2.4	0.27	0.1	0.00	0.14	0.03	54	216
65		15.67	15.66	33.504	24.674	327.8	0.213	5.75	101.5	2.4	0.27	0.1	0.00	0.15	0.05	65	215
75		15.26	15.25	33.463	24.734	322.4	0.245	5.80	101.5	2.5	0.29	0.1	0.00	0.28	0.16	75	214
84		14.19	14.18	33.427	24.935	303.4	0.273	5.89	100.9	3.0	0.33	0.3	0.05	0.32	0.28	84	213
95		14.38	14.37	33.645	25.064	291.5	0.306	5.78	99.5	3.3	0.30	0.3	0.15	0.23	0.27	95	212
100	ISL	14.33	14.32	33.699	25.116	286.7	0.320	5.74	98.7	3.3	0.31	0.4	0.14	0.20	0.26	100	
110		14.09	14.07	33.748	25.205	278.5	0.349	5.66	96.9	3.3	0.32	0.9	0.09	0.15	0.23	110	211
125		13.63	13.61	33.717	25.276	272.0	0.390	5.56	94.3	4.0	0.39	2.0	0.03	0.09	0.12	126	210
144		12.33	12.31	33.618	25.457	255.0	0.440	5.40	89.0	5.5	0.56	4.5	0.01	0.05	0.05	145	209
150	ISL	11.92	11.90	33.593	25.516	249.5	0.455	5.27	86.1	6.8	0.66	6.1	0.01	0.04	0.05	151	
170		10.73	10.71	33.581	25.722	230.0	0.503	4.72	75.2	12.2	1.05	12.3	0.00	0.02	0.03	171	208
200		9.85	9.83	33.842	26.077	196.7	0.567	3.89	60.9	21.0	1.49	19.7	0.00	0.00	0.01	201	207
229		9.29	9.26	33.918	26.229	182.7	0.622	3.68	56.9	24.7	1.63	22.0	0.00			230	206
250	ISL	8.93	8.90	33.965	26.323	174.0	0.660	3.63	55.7	27.4	1.69	23.0	0.00			251	
269		8.61	8.58	33.998	26.399	167.0	0.692	3.59	54.7	30.2	1.76	24.1	0.00			270	205
300	ISL	8.03	8.00	34.023	26.507	157.0	0.742	3.02	45.4	37.2	2.03	27.5	0.00			302	
318		7.70	7.67	34.030	26.561	152.0	0.770	2.63	39.3	41.5	2.20	29.6	0.00			320	204
378		6.91	6.87	34.058	26.694	139.8	0.858	1.92	28.1	52.8	2.52	33.7	0.00			380	203
400	ISL	6.65	6.61	34.068	26.737	135.9	0.888	1.69	24.6	57.0	2.62	35.1	0.00			402	
439		6.24	6.20	34.090	26.808	129.3	0.940	1.32	19.0	64.6	2.79	37.3	0.00			442	202
500	ISL	5.73	5.69	34.152	26.922	118.9	1.015	0.78	11.1	76.4	3.01	40.1	0.00			503	
515		5.60	5.56	34.168	26.950	116.2	1.033	0.65	9.2	79.3	3.07	40.8	0.00			518	201

RV NEW HORIZON CALCOFI CRUISE 0001 STATION 90 120

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
30 25.2 N	123 59.9 W	11/01/00	0559 UTC	4233 m	360	14 kn			1024.8 mb	14.5 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	16.03	16.03	33.482	24.574	335.3	0.000	5.71	101.5	2.8	0.27	0.0	0.00	0.13	0.04	0	
2	16.03	16.03	33.482	24.574	335.4	0.007	5.71	101.5	2.8	0.27	0.0	0.00	0.13	0.04	2	220
10 ISL	16.03	16.03	33.483	24.575	335.5	0.034	5.70	101.3	2.7	0.27	0.0	0.00	0.13	0.04	10	
16	16.03	16.03	33.483	24.576	335.7	0.054	5.70	101.3	2.6	0.27	0.0	0.00	0.13	0.04	16	219
20 ISL	16.03	16.03	33.483	24.576	335.8	0.067	5.70	101.3	2.6	0.27	0.0	0.00	0.13	0.04	20	
30 ISL	16.03	16.03	33.483	24.576	336.1	0.101	5.70	101.3	2.7	0.27	0.0	0.00	0.14	0.04	30	
31	16.03	16.03	33.483	24.576	336.1	0.104	5.70	101.3	2.7	0.27	0.0	0.00	0.14	0.04	31	218
46	16.04	16.03	33.482	24.574	336.8	0.155	5.72	101.7	2.7	0.27	0.0	0.00	0.15	0.04	46	217
50 ISL	16.04	16.03	33.483	24.575	336.9	0.168	5.72	101.7	2.7	0.27	0.0	0.00	0.15	0.04	50	
60	16.04	16.03	33.486	24.577	337.0	0.202	5.70	101.4	2.7	0.27	0.0	0.00	0.14	0.04	60	216
75 ISL	16.04	16.03	33.487	24.578	337.3	0.252	5.70	101.3	2.5	0.26	0.0	0.00	0.14	0.04	75	
77	16.04	16.03	33.487	24.579	337.4	0.259	5.70	101.3	2.5	0.26	0.0	0.00	0.14	0.04	77	215
85	15.99	15.98	33.486	24.589	336.6	0.286	5.72	101.6	2.5	0.27	0.0	0.00	0.17	0.06	85	214
95	14.57	14.56	33.530	24.935	303.8	0.318	5.89	101.7	2.9	0.28	0.0	0.01	0.28	0.26	95	213
100 ISL	14.27	14.26	33.520	24.991	298.6	0.333	5.87	100.7	3.0	0.29	0.1	0.03	0.27	0.27	100	
106	14.13	14.11	33.516	25.017	296.2	0.351	5.85	100.1	3.1	0.30	0.2	0.06	0.25	0.29	106	212
116	14.05	14.03	33.618	25.113	287.4	0.380	5.65	96.6	3.5	0.35	1.0	0.13	0.21	0.27	116	211
125 ISL	13.87	13.85	33.656	25.180	281.3	0.406	5.49	93.5	4.0	0.42	2.2	0.05	0.18	0.18	126	
126	13.83	13.81	33.658	25.190	280.3	0.408	5.48	93.3	4.1	0.43	2.3	0.04	0.18	0.17	127	210
138	12.91	12.89	33.662	25.379	262.5	0.441	5.41	90.3	5.0	0.50	3.6	0.01	0.07	0.07	139	209
150 ISL	12.27	12.25	33.628	25.477	253.3	0.472	5.24	86.3	6.5	0.64	5.8	0.01	0.06	0.06	151	
163	11.69	11.67	33.601	25.565	245.1	0.504	4.96	80.7	9.0	0.84	8.8	0.01	0.04	0.04	164	208
193	10.23	10.21	33.768	25.955	208.3	0.572	4.06	64.0	18.2	1.37	17.7	0.00	0.01	0.02	194	207
200 ISL	10.01	9.99	33.807	26.023	201.9	0.587	3.98	62.5	19.5	1.43	18.7	0.00			201	
228	9.32	9.29	33.936	26.238	181.8	0.640	3.84	59.4	24.1	1.57	21.2	0.00			229	206
250 ISL	8.80	8.77	33.986	26.360	170.4	0.679	3.67	56.2	28.4	1.70	23.2	0.00			251	
267	8.43	8.40	34.006	26.433	163.7	0.708	3.50	53.1	31.9	1.81	24.8	0.00			268	205
300 ISL	7.84	7.81	34.024	26.536	154.2	0.760	2.96	44.3	38.7	2.06	28.1	0.00			302	
319	7.55	7.52	34.026	26.579	150.2	0.789	2.62	39.0	42.6	2.20	29.9	0.00			321	204
379	6.72	6.69	34.054	26.716	137.5	0.875	1.86	27.1	55.1	2.55	34.4	0.00			381	203
400 ISL	6.56	6.52	34.074	26.754	134.2	0.904	1.60	23.3	58.9	2.65	35.6	0.00			402	
438	6.32	6.28	34.113	26.816	128.6	0.954	1.18	17.1	65.4	2.82	37.5	0.00			441	202
500 ISL	5.82	5.78	34.171	26.926	118.6	1.030	0.71	10.1	76.5	3.02	40.0	0.00			503	
518	5.67	5.63	34.188	26.958	115.7	1.051	0.58	8.3	79.7	3.08	40.7	0.00			521	201

RV NEW HORIZON CALCOFI CRUISE 0001 STATION 93 26.7

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
32 57.5 N	117 18.2 W	07/01/00	2019 UTC	62 m	280	05 kn	290 01 08	1	1023.9 mb	16.1 C	13.0 C	09m	5/8	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	14.40	14.40	33.593	25.017	293.2	0.000	6.01	103.5	4.1	0.33	0.3	0.03	1.43	0.45	0	
1 A	14.40	14.40	33.593	25.017	293.2	0.003	6.01	103.5	4.1	0.33	0.3	0.03	1.43	0.45	1	208
2	14.42	14.42	33.592	25.012	293.7	0.006									2	209
6 A	14.22	14.22	33.588	25.051	290.1	0.018	6.04	103.6	4.2	0.33	0.4	0.04	1.22	0.51	6	207
10 ISL	14.09	14.09	33.599	25.087	286.8	0.029	6.02	103.0	4.7	0.36	0.7	0.05	1.67	0.86	10	
11 A	14.06	14.06	33.602	25.095	286.0	0.032	6.02	102.9	4.8	0.37	0.8	0.05	1.80	0.94	11	206
19 A	13.91	13.91	33.607	25.131	282.9	0.055	5.91	100.8	5.0	0.39	1.2	0.10	1.67	0.75	19	205
20 ISL	13.85	13.85	33.604	25.141	282.0	0.058	5.84	99.4	5.2	0.42	1.6	0.14	1.60	0.75	20	
25 A	13.45	13.45	33.587	25.209	275.5	0.071	5.42	91.5	6.9	0.63	4.2	0.34	1.17	0.71	25	204
30 ISL	12.96	12.96	33.564	25.290	268.0	0.085	4.99	83.4	9.4	0.88	7.5	0.43	0.76	0.53	30	
34 A	12.59	12.59	33.551	25.352	262.1	0.096	4.68	77.6	11.5	1.06	10.0	0.46	0.47	0.37	34	203
45	12.01	12.00	33.580 D	25.486	249.7	0.124	4.04 U	66.2U	15.0 U	1.25 U	14.0 U	0.17 U	0.12 U	0.19 U	45	202
50 ISL	11.71	11.70	33.598	25.556	243.1	0.136	4.23	68.9	14.6	1.23	13.3	0.23	0.20	0.23	50	
56	11.34	11.33	33.620	25.641	235.1	0.150	4.06	65.6	15.7	1.30	14.6	0.15	0.10	0.18	56	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV NEW HORIZON CALCOFI CRUISE 0001 STATION 93 28

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
32 54.6 N	117 23.5 W	07/01/00	2347 UTC	643 m		00 kn	290 01 08		1022.0 mb	15.8 C	13.4 C	11m	6/8	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	14.73	14.73	33.593	24.946	299.9	0.000	6.01	104.2	3.6	0.30	0.0	0.00	0.69	0.25	0	
2	14.73	14.73	33.593	24.947	299.9	0.006	6.01	104.2	3.6	0.30	0.0	0.00	0.69	0.25	2	220
10	14.47	14.47	33.604	25.011	294.0	0.030	6.07	104.7	3.8	0.30	0.0	0.00	1.01	0.52	10	219
19	14.34	14.34	33.603	25.038	291.7	0.056	6.01	103.4	4.0	0.31	0.1	0.01	1.83	0.88	19	218
20 ISL	14.23	14.23	33.593	25.053	290.3	0.059	5.94	101.9	4.3	0.35	0.6	0.03	1.74	0.85	20	
29	13.14	13.14	33.513	25.215	275.2	0.084	5.25	88.0	7.1	0.72	5.7	0.18	0.65	0.41	29	217
30 ISL	13.06	13.06	33.515	25.232	273.5	0.087	5.19	86.9	7.4	0.75	6.1	0.17	0.59	0.39	30	
40	12.44	12.43	33.562	25.390	258.7	0.114	4.73	78.2	9.9	0.97	9.7	0.05	0.25	0.25	40	216
50	11.80	11.79	33.583	25.528	245.8	0.139	4.38	71.4	12.1	1.12	12.6	0.02	0.13	0.16	50	215
60	11.26	11.25	33.663	25.689	230.7	0.163	3.83	61.8	16.6	1.35	15.9	0.01	0.08	0.12	60	214
70	11.11	11.10	33.723	25.763	223.8	0.186	3.48	56.0	18.9	1.48	17.6	0.01	0.05	0.10	70	213
75 ISL	10.99	10.98	33.743	25.801	220.4	0.197	3.41	54.7	19.7	1.52	18.2	0.01	0.04	0.09	75	
84	10.79	10.78	33.774	25.860	214.9	0.216	3.34	53.4	21.0	1.57	19.0	0.01	0.03	0.08	84	212
100	10.68	10.67	33.836	25.928	208.8	0.250	3.03	48.3	22.9	1.69	20.3	0.00	0.02	0.07	101	211
118	10.21	10.20	33.869	26.036	198.9	0.287	3.06	48.3	24.0	1.74	21.7	0.01	0.01	0.05	119	210
125 ISL	10.14	10.13	33.904	26.075	195.3	0.301	2.91	45.9	25.2	1.80	22.4	0.01	0.01	0.05	126	
139	10.05	10.03	33.977	26.148	188.7	0.328	2.56	40.3	27.7	1.92	23.8	0.01	0.00	0.06	140	209
150 ISL	9.89	9.87	34.009	26.200	184.0	0.348	2.45	38.4	29.0	1.98	24.6	0.01	0.00	0.06	151	
168	9.61	9.59	34.047	26.276	177.0	0.381	2.33	36.3	30.9	2.05	25.7	0.00	0.00	0.05	169	208
199	9.27	9.25	34.115	26.386	167.2	0.434	2.00	31.0	34.9	2.20	27.6	0.00	0.00	0.04	200	207
200 ISL	9.26	9.24	34.117	26.389	166.9	0.436	1.99	30.8	35.0	2.20	27.7	0.00			201	
228	8.94	8.92	34.166	26.479	158.9	0.481	1.76	27.0	38.4	2.32	29.1	0.00			229	206
250 ISL	8.78	8.75	34.195	26.527	154.7	0.516	1.57	24.0	40.8	2.40	30.0	0.00			251	
269	8.66	8.63	34.215	26.562	151.7	0.545	1.41	21.5	42.8	2.47	30.6	0.00			271	205
300 ISL	8.40	8.37	34.237	26.619	146.7	0.591	1.23	18.7	46.0	2.56	31.5	0.00			302	
318	8.23	8.20	34.245	26.652	143.8	0.617	1.14	17.2	48.0	2.61	32.1	0.00			320	204
377	7.50	7.46	34.263	26.774	132.8	0.699	0.80	11.9	57.3	2.80	34.8	0.00			379	203
400 ISL	7.23	7.19	34.265	26.813	129.2	0.729	0.70	10.3	60.9	2.87	35.7	0.00			403	
438	6.82	6.78	34.271	26.875	123.6	0.777	0.55	8.1	66.4	2.97	37.1	0.01			441	202
500 ISL	6.38	6.33	34.302	26.958	116.2	0.851	0.38	5.5	73.7	3.08	38.8	0.01			503	
520	6.24	6.19	34.313	26.985	113.8	0.874	0.32	4.6	76.0	3.12	39.4	0.01			524	201

RV NEW HORIZON CALCOFI CRUISE 0001 STATION 93 30

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT TYPE
32 51.0 N	117 31.8 W	08/01/00	0256 UTC	836 m	230 05 kn			1021.9 mb	14.5 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	14.72	14.72	33.629	24.976	297.0	0.000	6.03	104.5	3.9	0.31	0.1	0.01	0.70	0.38	0	
1	14.72	14.72	33.629	24.976	297.0	0.003	6.03	104.5	3.9	0.31	0.1	0.01	0.70	0.38	1	220
10	14.43	14.43	33.624	25.035	291.8	0.029	6.11	105.3	4.3	0.31	0.0	0.00	1.25	0.81	10	219
20	13.55	13.55	33.566	25.173	278.9	0.058	5.30	89.7	6.9	0.67	4.9	0.16	1.13	0.64	20	218
29	12.30	12.30	33.586	25.435	254.1	0.082	4.44	73.2	11.8	1.08	11.4	0.03	0.27	0.25	29	217
30 ISL	12.27	12.27	33.588	25.443	253.4	0.085	4.42	72.8	12.1	1.09	11.6	0.03	0.26	0.25	30	
40	11.98	11.97	33.603	25.509	247.3	0.110	4.19	68.6	13.5	1.19	13.1	0.02	0.17	0.21	40	216
49	11.85	11.84	33.618	25.546	244.1	0.132	4.08	66.6	14.4	1.25	13.9	0.02	0.13	0.19	49	215
50 ISL	11.83	11.82	33.620	25.551	243.6	0.134	4.06	66.3	14.5	1.26	14.0	0.02	0.13	0.19	50	
59	11.60	11.59	33.644	25.613	238.0	0.156	3.92	63.7	15.5	1.32	15.0	0.01	0.10	0.15	59	214
70	11.35	11.34	33.668	25.677	232.1	0.182	3.76	60.8	17.1	1.40	16.3	0.01	0.07	0.13	70	213
75 ISL	11.23	11.22	33.689	25.715	228.5	0.193	3.69	59.5	17.7	1.43	16.9	0.01	0.06	0.12	75	
85	10.99	10.98	33.736	25.795	221.1	0.216	3.53	56.6	19.1	1.51	18.2	0.01	0.04	0.10	85	212
100	10.67	10.66	33.803	25.904	211.1	0.248	3.27	52.1	21.9	1.66	20.1	0.01	0.02	0.08	101	211
120	10.18	10.17	33.887	26.055	197.1	0.289	3.08	48.6	24.6	1.79	22.2	0.00	0.01	0.06	121	210
125 ISL	10.11	10.10	33.906	26.082	194.7	0.299	2.99	47.1	25.3	1.82	22.6	0.00	0.01	0.06	126	
144	9.93	9.91	33.970	26.163	187.4	0.335	2.65	41.6	27.8	1.93	24.1	0.01	0.00	0.06	145	209
150 ISL	9.85	9.83	33.988	26.190	184.9	0.346	2.57	40.3	28.5	1.96	24.5	0.01	0.00	0.06	151	
178	9.52	9.50	34.058	26.300	175.0	0.397	2.29	35.6	31.8	2.11	26.4	0.01	0.00	0.05	179	208
199	9.37	9.35	34.103	26.360	169.7	0.433	2.08	32.3	34.0	2.22	27.5	0.00	0.00	0.05	200	207
200 ISL	9.36	9.34	34.104	26.363	169.5	0.434	2.08	32.3	34.1	2.22	27.5	0.00			201	
228	9.07	9.05	34.136	26.435	163.1	0.481	1.94	29.9	36.6	2.29	28.6	0.00			229	206
250 ISL	8.88	8.85	34.174	26.495	157.7	0.516	1.67	25.6	39.5	2.39	29.7	0.00			251	
267	8.73	8.70	34.202	26.541	153.7	0.543	1.45	22.2	42.0	2.48	30.6	0.00			269	205
300 ISL	8.31	8.28	34.233	26.630	145.6	0.592	1.20	18.2	46.9	2.62	32.1	0.00			302	
317	8.08	8.05	34.243	26.672	141.8	0.617	1.11	16.7	49.4	2.68	32.8	0.00			319	204
377	7.44	7.40	34.247	26.770	133.2	0.699	0.84	12.5	57.2	2.84	35.2	0.00			379	203
400 ISL	7.20	7.16	34.254	26.809	129.6	0.729	0.72	10.6	60.6	2.91	36.2	0.00			403	
436	6.84	6.80	34.269	26.871	124.0	0.775	0.55	8.1	66.1	3.01	37.7	0.00			439	202
500 ISL	6.34	6.29	34.305	26.966	115.5	0.852	0.35	5.1	74.6	3.14	39.3	0.00			503	
522	6.17	6.12	34.318	26.998	112.6	0.877	0.28	4.0	77.5	3.18	39.9	0.00			526	201

RV NEW HORIZON CALCOFI CRUISE 0001 STATION 93 35

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT TYPE
32 40.7 N	117 52.6 W	08/01/00	0708 UTC	614 m	330 05 kn			1022.6 mb	13.8 C	11.4 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	14.27	14.27	33.520	24.988	295.9	0.000	5.98	102.6	3.3	0.34	0.4	0.04	0.57	0.20	0	
2	14.27	14.27	33.520	24.988	296.0	0.006	5.98	102.6	3.3	0.34	0.4	0.04	0.57	0.20	2	220
10	14.18	14.18	33.530	25.015	293.7	0.030	6.00	102.8	3.5	0.36	0.8	0.05	0.61	0.19	10	219
19	13.97	13.97	33.539	25.066	289.1	0.056	6.00	102.4	3.9	0.38	1.2	0.08	0.69	0.25	19	218
20 ISL	13.96	13.96	33.540	25.069	288.8	0.059	6.00	102.3	3.9	0.38	1.2	0.08	0.68	0.26	20	
29	13.82	13.82	33.526	25.087	287.3	0.085	6.04	102.7	4.1	0.43	1.9	0.14	0.56	0.29	29	217
30 ISL	13.78	13.78	33.521	25.091	286.9	0.087	6.02	102.3	4.2	0.45	2.1	0.16	0.54	0.29	30	
39	13.19	13.18	33.459	25.163	280.3	0.113	5.79	97.2	5.1	0.62	4.3	0.27	0.35	0.29	39	216
49	12.16	12.15	33.369	25.294	268.0	0.140	5.73	94.0	7.0	0.78	7.0	0.05	0.19	0.24	49	215
50 ISL	12.09	12.08	33.370	25.308	266.7	0.143	5.68	93.1	7.2	0.80	7.3	0.05	0.18	0.23	50	
59	11.67	11.66	33.404	25.413	256.9	0.167	5.18	84.1	9.2	0.93	9.4	0.03	0.13	0.14	59	214
69	11.46	11.45	33.449	25.487	250.1	0.192	4.89	79.1	10.9	1.06	11.3	0.03	0.09	0.14	69	213
75 ISL	11.31	11.30	33.472	25.532	246.0	0.207	4.78	77.1	11.8	1.12	12.3	0.03	0.08	0.12	75	
84	11.04	11.03	33.518	25.617	238.1	0.229	4.59	73.6	13.6	1.22	14.1	0.02	0.06	0.09	84	212
99	10.39	10.38	33.663	25.844	216.7	0.263	4.00	63.3	19.0	1.51	18.8	0.01	0.02	0.07	99	211
100 ISL	10.37	10.36	33.672	25.854	215.8	0.265	3.96	62.6	19.3	1.52	19.0	0.01	0.02	0.07	100	
119	10.14	10.13	33.820	26.010	201.4	0.305	3.33	52.5	23.3	1.72	21.9	0.01	0.01	0.05	120	210
125 ISL	10.05	10.04	33.843	26.043	198.4	0.317	3.24	50.9	24.2	1.76	22.5	0.01	0.01	0.05	126	
139	9.82	9.80	33.882	26.112	192.0	0.344	3.11	48.7	25.9	1.83	23.6	0.01	0.00	0.05	140	209
150 ISL	9.61	9.59	33.916	26.174	186.4	0.365	3.03	47.2	27.4	1.88	24.4	0.01	0.00	0.05	151	
170	9.22	9.20	33.979	26.287	176.0	0.401	2.88	44.5	30.5	1.97	25.9	0.01	0.00	0.04	171	208
197	8.81	8.79	34.065	26.420	163.8	0.447			35.3	2.17	28.1	0.01	0.00	0.03	198	207
200 ISL	8.76	8.74	34.071	26.432	162.6	0.452	2.55	39.0	35.8	2.18	28.3	0.01			201	
228	8.36	8.34	34.112	26.526	154.1	0.496	2.18	33.1	40.5	2.31	29.8	0.01			229	206
250 ISL	8.11	8.08	34.149	26.593	148.0	0.529	1.86	28.0	44.5	2.44	31.1	0.00			251	
268	7.95	7.92	34.179	26.641	143.8	0.555	1.60	24.0	47.8	2.55	32.2	0.00			270	205
300 ISL	7.75	7.72	34.234	26.714	137.3	0.600	1.16	17.4	52.8	2.72	33.8	0.00			302	
317	7.65	7.62	34.258	26.747	134.4	0.624	0.96	14.3	55.3	2.80	34.5	0.00			319	204
376	7.08	7.04	34.273	26.840	126.2	0.700	0.70	10.3	63.3	2.95	36.7	0.00			378	203
400 ISL	6.84	6.80	34.280	26.879	122.7	0.730	0.62	9.1	66.9	3.01	37.6	0.00			403	
436	6.52	6.48	34.291	26.931	118.1	0.774	0.53	7.7	71.9	3.08	38.9	0.00			439	202
500 ISL	6.19	6.15	34.315	26.993	112.8	0.847	0.40	5.8	77.9	3.16	40.1	0.00			503	
522	6.08	6.03	34.324	27.014	110.9	0.872	0.36	5.2	79.9	3.19	40.5	0.00			526	201

RV NEW HORIZON CALCOFI CRUISE 0001 STATION 93 40

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
32 30.8 N	118 12.9 W	08/01/00	1119 UTC	1649 m	050 04 kn			1021.4 mb	12.1 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	14.52	14.52	33.554	24.961	298.5	0.000	5.98	103.2	3.0	0.31	0.1	0.00	0.65	0.28	0	
1		14.52	14.52	33.554	24.961	298.5	0.003	5.98	103.2	3.0	0.31	0.1	0.00	0.65	0.28	1	220
10		14.52	14.52	33.554	24.961	298.7	0.030	5.99	103.4	2.9	0.31	0.1	0.00	0.66	0.26	10	219
20		14.52	14.52	33.555	24.963	298.9	0.060	5.98	103.2	2.9	0.31	0.1	0.00	0.65	0.27	20	218
30	ISL	14.47	14.47	33.556	24.974	298.1	0.090	5.98	103.1	3.0	0.32	0.2	0.01	0.66	0.32	30	
31		14.46	14.46	33.556	24.976	297.9	0.093	5.98	103.1	3.0	0.32	0.2	0.01	0.66	0.32	31	217
40		14.23	14.22	33.556	25.025	293.5	0.119	5.88	100.9	3.9	0.39	1.0	0.10	0.65	0.52	40	216
50		13.07	13.06	33.481	25.204	276.7	0.148	5.58	93.4	5.3	0.66	5.1	0.44	0.30	0.26	50	215
61		12.20	12.19	33.411	25.319	265.9	0.178	5.26	86.4	7.3	0.81	7.6	0.04	0.18	0.21	61	214
71		11.28	11.27	33.430	25.505	248.5	0.203	4.84	78.0	10.6	1.03	11.4	0.02	0.10	0.14	71	213
75	ISL	11.21	11.20	33.501	25.573	242.1	0.213	4.59	73.9	12.2	1.13	13.0	0.02	0.08	0.12	75	
86		11.03	11.02	33.657	25.727	227.7	0.239	3.95	63.4	16.1	1.38	16.8	0.01	0.06	0.10	86	212
100		10.78	10.77	33.746	25.841	217.2	0.270	3.62	57.8	18.4	1.50	18.7	0.01	0.04	0.08	100	211
120		10.01	10.00	33.849	26.054	197.2	0.311	3.16	49.6	24.0	1.74	22.4	0.00	0.01	0.05	121	210
125	ISL	9.87	9.86	33.878	26.100	192.9	0.321	3.06	47.9	25.1	1.79	23.0	0.00	0.01	0.05	126	
139		9.54	9.52	33.948	26.210	182.7	0.348	2.85	44.3	27.9	1.90	24.5	0.00	0.00	0.04	140	209
150	ISL	9.26	9.24	33.975	26.277	176.5	0.367	2.78	43.0	29.8	1.96	25.5	0.00	0.00	0.04	151	
169		8.82	8.80	33.999	26.366	168.3	0.400	2.70	41.3	32.8	2.03	26.9	0.00	0.00	0.04	170	208
200		8.37	8.35	34.043	26.470	158.8	0.451	2.47	37.4	37.3	2.16	28.7	0.00	0.00	0.03	201	207
229		7.99	7.97	34.105	26.576	149.2	0.495	2.01	30.2	43.4	2.36	30.8	0.00			230	206
250	ISL	7.88	7.85	34.141	26.621	145.3	0.526	1.73	26.0	46.1	2.47	31.8	0.00			251	
269		7.80	7.77	34.166	26.652	142.6	0.554	1.52	22.8	48.3	2.55	32.6	0.00			271	205
300	ISL	7.47	7.44	34.183	26.714	137.1	0.597	1.28	19.0	53.1	2.66	34.1	0.00			302	
318		7.27	7.24	34.190	26.748	134.1	0.621	1.16	17.2	56.0	2.72	34.9	0.00			320	204
377		6.92	6.88	34.246	26.841	126.0	0.698	0.68	10.0	64.0	2.92	37.0	0.00			379	203
400	ISL	6.77	6.73	34.262	26.874	123.1	0.727	0.57	8.3	66.7	2.98	37.7	0.00			403	
436		6.52	6.48	34.283	26.924	118.7	0.770	0.44	6.4	70.8	3.06	38.6	0.00			439	202
500	ISL	6.09	6.05	34.319	27.009	111.1	0.844	0.31	4.5	78.9	3.16	40.2	0.00			503	
520		5.96	5.91	34.331	27.035	108.8	0.866	0.27	3.9	81.4	3.19	40.7	0.00			524	201

RV NEW HORIZON CALCOFI CRUISE 0001 STATION 93 45

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
32 20.9 N	118 34.7 W	08/01/00	1832 UTC	1427 m	350 03 kn	300 03 06	1	1022.3 mb	14.2 C	11.8 C	14m	3/8	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	14.97	14.97	33.621	24.916	302.8	0.000	5.93	103.3	3.7	0.31	0.1	0.00	0.83	0.40	0	
2	A	14.97	14.97	33.621	24.916	302.8	0.006	5.93	103.3	3.7	0.31	0.1	0.00	0.83	0.40	2	222
9	A	14.89	14.89	33.619	24.932	301.5	0.027	5.94	103.3	3.7	0.31	0.1	0.00	0.87	0.44	9	220
10	ISL	14.89	14.89	33.619	24.932	301.5	0.030	5.94	103.3	3.7	0.31	0.1	0.00	0.88	0.44	10	
18	A	14.87	14.87	33.620	24.938	301.2	0.054	5.95	103.4	3.6	0.31	0.1	0.00	0.93	0.45	18	219
20	ISL	14.86	14.86	33.619	24.939	301.2	0.060	5.94	103.2	3.6	0.31	0.1	0.00	0.93	0.46	20	
29	A	14.82	14.82	33.615	24.945	300.9	0.087	5.90	102.5	3.7	0.32	0.3	0.01	0.93	0.48	29	218
30	ISL	14.60	14.60	33.598	24.979	297.7	0.090	5.85	101.1	4.0	0.37	1.0	0.04	0.86	0.46	30	
38	A	12.78	12.77	33.482	25.262	270.8	0.113	5.42	90.2	6.6	0.75	6.7	0.21	0.32	0.26	38	217
47		12.15	12.14	33.467	25.372	260.6	0.137	5.11	83.9	8.7	0.90	9.2	0.05	0.19	0.19	47	216
50	ISL	11.96	11.95	33.473	25.412	256.8	0.145	5.01	81.9	9.5	0.96	10.1	0.04	0.17	0.18	50	
52	A	11.85	11.84	33.480	25.438	254.3	0.150	4.95	80.8	10.1	1.00	10.7	0.04	0.16	0.17	52	215
61		11.56	11.55	33.546	25.544	244.5	0.172	4.67	75.7	12.4	1.14	13.1	0.04	0.13	0.15	61	214
69		10.72	10.71	33.596	25.734	226.6	0.191	4.21	67.1	16.4	1.36	16.7	0.02	0.07	0.10	69	213
75	ISL	10.41	10.40	33.626	25.811	219.3	0.205	4.05	64.1	17.9	1.44	18.0	0.02	0.05	0.09	75	
86		10.17	10.16	33.682	25.896	211.5	0.228	3.85	60.6	19.7	1.53	19.4	0.02	0.03	0.07	86	212
100	ISL	9.94	9.93	33.784	26.015	200.5	0.257	3.34	52.4	23.8	1.74	22.4	0.01	0.02	0.07	101	
101		9.93	9.92	33.791	26.022	199.8	0.259	3.30	51.7	24.1	1.76	22.6	0.01	0.02	0.07	102	211
120		9.47	9.46	33.909	26.191	184.1	0.296	2.83	43.9	28.5	1.94	25.3	0.00	0.00	0.05	121	210
125	ISL	9.39	9.38	33.930	26.220	181.4	0.305	2.77	42.9	29.3	1.98	25.7	0.00	0.00	0.05	126	
138		9.23	9.21	33.972	26.279	176.0	0.328	2.66	41.1	31.1	2.06	26.6	0.00	0.00	0.05	139	209
150	ISL	9.10	9.08	33.997	26.320	172.4	0.349	2.54	39.1	32.4	2.10	27.2	0.00	0.00	0.05	151	
170		8.88	8.86	34.034	26.384	166.6	0.383	2.33	35.7	34.7	2.16	28.2	0.00	0.00	0.05	171	208
199		8.47	8.45	34.118	26.514	154.8	0.429	1.95	29.6	40.2	2.34	30.2	0.00	0.00	0.03	200	207
200	ISL	8.46	8.44	34.120	26.517	154.5	0.431	1.94	29.5	40.4	2.35	30.3	0.00			201	
228		8.10	8.08	34.157	26.601	146.9	0.473	1.59	24.0	45.4	2.50	31.9	0.00			229	206
250	ISL	7.86	7.83	34.183	26.657	141.9	0.505	1.36	20.4	49.1	2.61	32.9	0.00			251	
269		7.67	7.64	34.201	26.699	138.1	0.532	1.18	17.6	52.3	2.69	33.8	0.00			271	205
300	ISL	7.31	7.28	34.220	26.766	132.1	0.573	0.94	13.9	57.7	2.81	35.4	0.00			302	
319		7.10	7.07	34.229	26.802	128.8	0.598	0.82	12.1	60.7	2.87	36.3	0.00			321	204
379		6.73	6.69	34.262	26.879	122.2	0.674	0.57	8.3	67.5	3.02	37.9	0.00			381	203
400	ISL	6.56	6.52	34.273	26.911	119.4	0.699	0.49	7.1	70.3	3.06	38.6	0.00			403	
437		6.26	6.22	34.291	26.964	114.6	0.742	0.38	5.5	75.1	3.13	39.7	0.00			440	202
500	ISL	5.94	5.90	34.322	27.030	109.0	0.813	0.29	4.2	81.1	3.20	40.8	0.00			503	
513		5.87	5.83	34.329	27.045	107.7	0.827	0.27	3.9	82.3	3.22	41.0	0.00			517	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV NEW HORIZON CALCOFI CRUISE 0001 STATION 93 50

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
32 10.6 N	118 53.5 W	08/01/00	2138 UTC	1465 m	330 07 kn	330 04 07	1	1021.1 mb	13.4 C	11.9 C	11m	1/8	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	14.24	14.24	33.565	25.029	292.0	0.000	6.05	103.8	3.7	0.36	1.0	0.04	0.89	0.25	0	
2	14.24	14.24	33.565	25.029	292.1	0.006	6.05	103.8	3.7	0.36	1.0	0.04	0.89	0.25	2	220
9	14.08	14.08	33.561	25.059	289.4	0.026	6.08	104.0	3.7	0.36	1.0	0.05	0.80	0.26	9	219
10 ISL	14.07	14.07	33.561	25.062	289.2	0.029	6.07	103.8	3.7	0.36	1.0	0.05	0.81	0.27	10	
19	13.99	13.99	33.559	25.077	288.0	0.055	6.02	102.8	3.9	0.40	1.5	0.08	0.85	0.34	19	218
20 ISL	13.97	13.97	33.557	25.080	287.8	0.058	6.01	102.5	4.0	0.41	1.6	0.09	0.84	0.34	20	
29	13.59	13.59	33.540	25.145	281.8	0.084	5.82	98.5	4.7	0.52	3.3	0.20	0.65	0.31	29	217
30 ISL	13.50	13.50	33.538	25.162	280.2	0.086	5.77	97.5	5.0	0.55	3.7	0.22	0.62	0.30	30	
39	12.55	12.54	33.529	25.343	263.2	0.111	5.24	86.8	8.3	0.86	8.4	0.34	0.35	0.25	39	216
50	11.32	11.31	33.530	25.575	241.3	0.139	4.45	71.8	12.9	1.19	13.7	0.03	0.21	0.22	50	215
60	10.94	10.93	33.583	25.685	231.1	0.162	4.16	66.6	15.2	1.32	15.9	0.02	0.14	0.16	60	214
70	10.63	10.62	33.639	25.783	221.9	0.185	3.94	62.7	17.6	1.44	17.8	0.01	0.08	0.11	70	213
75 ISL	10.49	10.48	33.677	25.837	216.9	0.196	3.80	60.3	19.0	1.51	18.9	0.01	0.06	0.09	75	
85	10.27	10.26	33.751	25.933	208.0	0.217	3.51	55.4	21.5	1.64	20.9	0.01	0.03	0.06	85	212
100	10.07	10.06	33.814	26.016	200.3	0.248	3.20	50.3	24.0	1.76	22.5	0.01	0.03	0.07	101	211
120	9.78	9.77	33.899	26.132	189.8	0.287	2.86	44.7	27.0	1.89	24.4	0.00	0.01	0.07	121	210
125 ISL	9.66	9.65	33.931	26.177	185.6	0.296	2.75	42.9	28.2	1.94	25.0	0.00	0.01	0.06	126	
138	9.33	9.31	34.010	26.293	174.8	0.319	2.49	38.6	31.4	2.07	26.6	0.00	0.00	0.04	139	209
150 ISL	9.13	9.11	34.044	26.352	169.4	0.340	2.38	36.7	33.1	2.13	27.4	0.00	0.00	0.04	151	
168	8.92	8.90	34.075	26.410	164.2	0.370	2.25	34.5	35.3	2.19	28.3	0.00	0.00	0.04	169	208
199	8.60	8.58	34.162	26.528	153.4	0.419	1.72	26.2	40.7	2.41	30.4	0.01	0.00	0.03	200	207
200 ISL	8.59	8.57	34.163	26.531	153.2	0.421	1.71	26.1	40.9	2.41	30.5	0.01			201	
227	8.25	8.23	34.183	26.599	147.2	0.461	1.49	22.5	45.2	2.52	31.8	0.01			228	206
250 ISL	7.92	7.89	34.186	26.650	142.5	0.495	1.36	20.4	48.8	2.59	32.9	0.00			251	
269	7.66	7.63	34.188	26.690	138.9	0.522	1.26	18.8	51.6	2.65	33.7	0.00			271	205
300 ISL	7.40	7.37	34.211	26.746	134.0	0.564	1.02	15.1	56.1	2.76	35.0	0.00			302	
316	7.29	7.26	34.225	26.772	131.7	0.585	0.90	13.3	58.3	2.82	35.6	0.00			318	204
378	6.83	6.79	34.256	26.861	124.0	0.664	0.58	8.5	66.0	2.99	37.6	0.02			380	203
400 ISL	6.71	6.67	34.268	26.887	121.8	0.691	0.52	7.6	68.3	3.03	38.1	0.01			403	
437	6.52	6.48	34.287	26.927	118.4	0.736	0.46	6.7	71.9	3.08	38.8	0.00			440	202
500 ISL	6.16	6.12	34.312	26.995	112.6	0.809	0.33	4.8	78.0	3.16	40.0	0.00			503	
520	6.04	5.99	34.320	27.016	110.7	0.831	0.29	4.2	80.0	3.18	40.4	0.00			524	201

RV NEW HORIZON CALCOFI CRUISE 0001 STATION 93 55

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
32 0.2 N	119 14.3 W	09/01/00	0214 UTC	1734 m	320 10 kn			1020.4 mb	14.0 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	14.19	14.19	33.416	24.924	302.0	0.000	5.97	102.2	2.9	0.35	0.2	0.03	0.53	0.15	0	
2	14.19	14.19	33.416	24.924	302.0	0.006	5.97	102.2	2.9	0.35	0.2	0.03	0.53	0.15	2	220
10 ISL	14.19	14.19	33.416	24.925	302.2	0.030	5.99	102.6	2.8	0.34	0.2	0.02	0.53	0.15	10	
11	14.19	14.19	33.416	24.925	302.3	0.033	5.99	102.6	2.8	0.34	0.2	0.02	0.53	0.15	11	219
19	14.19	14.19	33.416	24.925	302.5	0.057	5.99	102.6	2.9	0.35	0.2	0.02	0.53	0.16	19	218
20 ISL	14.18	14.18	33.416	24.927	302.3	0.060	5.99	102.6	2.9	0.35	0.2	0.02	0.53	0.16	20	
29	14.09	14.09	33.415	24.945	300.8	0.088	5.98	102.2	2.9	0.35	0.3	0.02	0.56	0.19	29	217
30 ISL	14.07	14.07	33.415	24.949	300.4	0.091	5.98	102.2	2.9	0.35	0.3	0.02	0.56	0.20	30	
39	13.88	13.87	33.414	24.988	297.0	0.117	5.97	101.6	2.9	0.37	0.6	0.04	0.58	0.23	39	216
49	13.83	13.82	33.415	25.000	296.2	0.147	5.95	101.1	2.7	0.40	0.7	0.07	0.41	0.17	49	215
50 ISL	13.78	13.77	33.410	25.006	295.6	0.150	5.93	100.7	2.8	0.41	0.8	0.08	0.39	0.17	50	
60	12.99	12.98	33.345	25.115	285.4	0.179	5.72	95.5	4.4	0.56	3.2	0.18	0.25	0.15	60	214
71	11.66	11.65	33.309	25.341	264.0	0.209	5.44	88.3	7.1	0.78	7.0	0.08	0.17	0.17	71	213
75 ISL	11.38	11.37	33.349	25.424	256.3	0.220	5.23	84.4	8.8	0.90	9.0	0.07	0.14	0.15	75	
84	10.96	10.95	33.468	25.592	240.4	0.242	4.74	75.8	12.6	1.17	13.3	0.06	0.08	0.10	84	212
99	10.60	10.59	33.594	25.754	225.3	0.277	4.19	66.6	16.3	1.37	16.8	0.01	0.05	0.07	99	211
100 ISL	10.56	10.55	33.602	25.767	224.1	0.279	4.15	65.9	16.7	1.39	17.1	0.01	0.05	0.07	100	
120	9.69	9.68	33.767	26.044	198.1	0.322	3.46	53.9	24.3	1.78	22.7	0.00	0.01	0.05	121	210
125 ISL	9.54	9.53	33.807	26.100	192.9	0.331	3.36	52.2	25.5	1.83	23.4	0.00	0.01	0.05	126	
140	9.20	9.18	33.907	26.233	180.4	0.359	3.17	48.9	28.3	1.91	24.6	0.00	0.01	0.05	141	209
150 ISL	9.02	9.00	33.941	26.289	175.3	0.377	3.11	47.8	29.7	1.93	25.2	0.00	0.01	0.05	151	
170	8.74	8.72	33.982	26.365	168.4	0.411	2.99	45.7	32.2	1.98	26.3	0.00	0.00	0.04	171	208
200 ISL	8.39	8.37	34.066	26.485	157.4	0.460	2.47	37.5	37.7	2.18	28.7	0.00	0.00	0.02	201	
202	8.37	8.35	34.071	26.492	156.8	0.463	2.43	36.8	38.1	2.20	28.9	0.00	0.00	0.02	203	207
229	8.05	8.03	34.112	26.573	149.5	0.505	2.07	31.2	42.8	2.36	30.6	0.00			230	206
250 ISL	7.81	7.79	34.120	26.615	145.8	0.536	1.88	28.2	45.9	2.46	31.8	0.00			251	
270	7.60	7.57	34.122	26.647	143.0	0.565	1.73	25.8	48.7	2.55	32.8	0.00			272	205
300 ISL	7.34	7.31	34.143	26.701	138.3	0.607	1.43	21.2	53.2	2.66	34.2	0.00			302	
318	7.21	7.18	34.158	26.731	135.6	0.632	1.25	18.5	55.8	2.72	35.0	0.00			320	204
378	6.81	6.77	34.197	26.817	128.1	0.711	0.89	13.0	63.4	2.95	37.2	0.00			380	203
400 ISL	6.65	6.61	34.218	26.855	124.7	0.738	0.74	10.8	66.7	3.00	38.0	0.00			403	
436	6.40	6.36	34.253	26.916	119.3	0.782	0.52	7.5	71.8	3.07	39.1	0.00			439	202
500 ISL	6.08	6.04	34.301	26.996	112.3	0.856	0.32	4.6	78.5	3.22	40.6	0.00			503	
505	6.05	6.01	34.305	27.003	111.7	0.862	0.30	4.3	79.0	3.23	40.7	0.00			508	201

RV NEW HORIZON CALCOFI CRUISE 0001 STATION 93 60

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT TYPE
31 50.8 N	119 34.4 W	09/01/00	0616 UTC	1904 m	320 10 kn			1022.0 mb	14.1 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	14.21	14.21	33.423	24.926	301.9	0.000	5.95	101.9	2.7	0.35	0.3	0.03	0.52	0.16	0	
2		14.21	14.21	33.423	24.926	301.9	0.006	5.95	101.9	2.7	0.35	0.3	0.03	0.52	0.16	2	220
10		14.23	14.23	33.424	24.922	302.4	0.030	5.95	102.0	2.7	0.35	0.3	0.03	0.53	0.17	10	219
19		14.22	14.22	33.423	24.924	302.6	0.057	5.95	102.0	2.7	0.34	0.3	0.03	0.53	0.17	19	218
20	ISL	14.22	14.22	33.423	24.924	302.6	0.060	5.95	102.0	2.7	0.34	0.3	0.03	0.53	0.17	20	
30		14.21	14.21	33.422	24.926	302.7	0.091	5.95	101.9	2.6	0.34	0.3	0.03	0.53	0.18	30	217
40		13.75	13.74	33.382	24.990	296.8	0.121	5.86	99.4	3.0	0.41	1.2	0.15	0.38	0.18	40	216
50		12.87	12.86	33.300	25.104	286.2	0.150	5.74	95.6	4.1	0.55	3.1	0.21	0.25	0.19	50	215
59		12.45	12.44	33.317	25.199	277.4	0.175	5.61	92.6	5.0	0.64	4.7	0.08	0.15	0.16	59	214
69		12.02	12.01	33.265	25.240	273.7	0.203	5.55	90.7	5.7	0.67	5.1	0.04	0.17	0.24	69	213
75	ISL	11.93	11.92	33.288	25.275	270.5	0.219	5.47	89.3	6.2	0.71	5.8	0.03	0.15	0.21	75	
83		11.83	11.82	33.347	25.340	264.5	0.240	5.30	86.3	7.2	0.79	7.3	0.02	0.11	0.14	83	212
99		11.22	11.21	33.471	25.548	245.0	0.281	4.77	76.8	11.0	1.06	11.8	0.01	0.06	0.08	99	211
100	ISL	11.19	11.18	33.480	25.561	243.8	0.284	4.73	76.1	11.3	1.08	12.1	0.01	0.06	0.08	100	
119		10.67	10.66	33.647	25.783	223.0	0.328	4.04	64.3	16.9	1.40	17.4	0.01	0.03	0.05	120	210
125	ISL	10.48	10.47	33.684	25.845	217.2	0.341	3.88	61.5	18.4	1.48	18.6	0.01	0.02	0.04	126	
139		10.06	10.04	33.757	25.974	205.2	0.371	3.59	56.4	21.6	1.63	21.0	0.01	0.01	0.03	140	209
150	ISL	9.77	9.75	33.817	26.070	196.3	0.393	3.40	53.1	23.8	1.72	22.4	0.01	0.00	0.03	151	
169		9.33	9.31	33.906	26.212	183.1	0.429	3.14	48.6	27.3	1.83	24.2	0.01	0.00	0.03	170	208
199		8.78	8.76	33.980	26.358	169.7	0.482	2.88	44.1	31.9	1.98	26.4	0.00	0.00	0.03	200	207
200	ISL	8.76	8.74	33.983	26.363	169.1	0.484	2.86	43.7	32.1	1.99	26.5	0.00			201	
217		8.38	8.36	34.028	26.457	160.4	0.512	2.59	39.3	36.5	2.13	28.3	0.00			218	206
250	ISL	7.92	7.89	34.081	26.568	150.3	0.563	2.11	31.7	43.0	2.35	30.9	0.00			251	
266		7.78	7.75	34.098	26.602	147.3	0.587	1.91	28.6	45.6	2.43	31.9	0.00			268	205
300	ISL	7.51	7.48	34.136	26.671	141.2	0.636	1.54	22.9	50.7	2.59	33.4	0.00			302	
317		7.38	7.35	34.150	26.701	138.6	0.659	1.39	20.6	53.2	2.65	34.1	0.00			319	204
376		6.66	6.63	34.159	26.807	128.9	0.738	1.08	15.7	62.8	2.83	36.9	0.00			378	203
400	ISL	6.54	6.50	34.189	26.847	125.4	0.769	0.87	12.7	66.3	2.92	37.7	0.00			403	
436		6.41	6.37	34.240	26.905	120.4	0.813	0.57	8.3	71.1	3.04	38.8	0.00			439	202
500	ISL	6.05	6.01	34.281	26.984	113.4	0.888	0.40	5.8	77.7	3.15	40.2	0.00			503	
521		5.93	5.88	34.295	27.010	111.1	0.911	0.35	5.0	79.9	3.18	40.6	0.00			525	201

RV NEW HORIZON CALCOFI CRUISE 0001 STATION 93 70

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT TYPE
31 31.1 N	120 15.3 W	09/01/00	1240 UTC	3943 m	320 18 kn			1021.8 mb	13.6 C	12.4 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	15.19	15.19	33.501	24.776	316.1	0.000	5.80	101.4	2.7	0.31	0.0	0.00	0.27	0.09	0	
2		15.19	15.19	33.501	24.776	316.2	0.006	5.80	101.4	2.7	0.31	0.0	0.00	0.27	0.09	2	220
10	ISL	15.19	15.19	33.501	24.776	316.4	0.032	5.80	101.4	2.6	0.31	0.0	0.00	0.28	0.09	10	
15		15.19	15.19	33.501	24.776	316.5	0.047	5.80	101.4	2.6	0.31	0.0	0.00	0.29	0.09	15	219
20	ISL	15.19	15.19	33.501	24.776	316.7	0.063	5.80	101.4	2.6	0.31	0.0	0.00	0.30	0.09	20	
30		15.19	15.19	33.501	24.777	316.9	0.095	5.80	101.4	2.6	0.31	0.0	0.00	0.30	0.10	30	218
46		15.19	15.18	33.499	24.776	317.5	0.146	5.80	101.4	2.5	0.31	0.0	0.00	0.29	0.10	46	217
50	ISL	15.16	15.15	33.496	24.780	317.3	0.158	5.80	101.3	2.5	0.32	0.0	0.00	0.30	0.11	50	
55		15.13	15.12	33.493	24.785	317.0	0.174	5.81	101.5	2.6	0.34	0.0	0.00	0.32	0.12	55	216
65		13.69	13.68	33.383	25.004	296.2	0.205	5.82	98.6	3.8	0.50	2.1	0.13	0.49	0.30	65	215
75	ISL	12.50	12.49	33.411	25.262	271.8	0.233	5.53	91.4	6.1	0.75	6.3	0.17	0.24	0.19	75	
76		12.40	12.39	33.416	25.285	269.6	0.236	5.49	90.6	6.3	0.77	6.7	0.17	0.21	0.17	76	214
86		11.63	11.62	33.377	25.400	258.8	0.262	5.20	84.4	8.0	0.86	8.4	0.02	0.16	0.16	86	213
94		11.62	11.61	33.452	25.460	253.3	0.283	4.93	80.0	9.5	0.99	10.5	0.02	0.14	0.16	94	212
100	ISL	11.25	11.24	33.511	25.574	242.6	0.298	4.69	75.5	11.7	1.11	12.6	0.02	0.10	0.12	100	
110		10.52	10.51	33.619	25.787	222.4	0.321	4.22	66.9	16.0	1.33	16.4	0.01	0.03	0.05	111	211
125		10.15	10.14	33.787	25.982	204.2	0.353	3.43	54.0	22.1	1.68	21.7	0.00	0.02	0.04	126	210
145		9.56	9.54	33.884	26.157	187.9	0.392	3.05	47.4	26.3	1.86	24.3	0.00	0.01	0.03	146	209
150	ISL	9.43	9.41	33.905	26.195	184.4	0.402	2.98	46.2	27.3	1.89	24.8	0.00	0.01	0.03	151	
172		8.94	8.92	33.978	26.331	171.7	0.441	2.76	42.4	31.5	2.00	26.6	0.00	0.00	0.03	173	208
200	ISL	8.43	8.41	34.025	26.447	161.1	0.487	2.56	38.9	35.8	2.12	28.3	0.00	0.00	0.02	201	
202		8.40	8.38	34.027	26.453	160.5	0.491	2.55	38.7	36.1	2.13	28.4	0.00	0.00	0.02	203	207
229		8.06	8.04	34.068	26.537	152.9	0.533	2.26	34.0	40.8	2.28	30.1	0.00			230	206
250	ISL	7.76	7.74	34.079	26.590	148.1	0.564	2.09	31.3	44.3	2.37	31.3	0.00			251	
270		7.49	7.46	34.084	26.633	144.3	0.594	1.93	28.7	47.5	2.45	32.4	0.00			272	205
300	ISL	7.19	7.16	34.104	26.691	139.1	0.636	1.66	24.5	52.3	2.58	33.9	0.00			302	
320		7.02	6.99	34.118	26.726	136.0	0.664	1.47	21.6	55.5	2.66	34.9	0.00			322	204
379		6.48	6.45	34.157	26.829	126.7	0.741	0.97	14.1	65.3	2.89	37.8	0.00			381	203
400	ISL	6.21	6.17	34.149	26.858	124.0	0.768	0.89	12.8	69.0	2.94	38.8	0.00			403	
437		5.80	5.76	34.144	26.906	119.6	0.813	0.78	11.1	75.0	3.02	40.2	0.00			440	202
500	ISL	5.66	5.62	34.243	27.002	111.2	0.885	0.44	6.3	82.0	3.16	41.3	0.00			503	
514		5.63	5.59	34.265	27.023	109.4	0.901	0.36	5.1	83.6	3.19	41.5	0.00			517	201

RV NEW HORIZON CALCOFI CRUISE 0001 STATION 93 80

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
31 11.4 N	120 54.3 W	09/01/00	1927 UTC	3894 m	330 15 kn	290 06 07	1	1024.6 mb	15.8 C	13.7 C	18m	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	14.48	14.48	33.384	24.839	310.1	0.000	5.94	102.3	2.6	0.32	0.0	0.00	0.26	0.09	0	
2	A	14.48	14.48	33.384 D	24.839	310.2	0.006	5.94	102.3	2.6	0.32	0.0	0.00	0.26	0.09	2	222
2		14.48	14.48	33.384	24.839	310.2	0.006									2	223
10	ISL	14.47	14.47	33.384	24.841	310.2	0.031	5.93	102.1	2.6	0.31	0.0	0.00	0.26	0.08	10	
12	A	14.46	14.46	33.384	24.843	310.1	0.037	5.93	102.1	2.6	0.31	0.0	0.00	0.26	0.08	12	221
20	ISL	14.44	14.44	33.387	24.850	309.7	0.062	5.94	102.2	2.6	0.32	0.0	0.00	0.27	0.09	20	
24	A	14.43	14.43	33.387	24.852	309.5	0.074	5.95	102.4	2.6	0.32	0.0	0.00	0.29	0.09	24	220
30	ISL	14.37	14.37	33.407	24.880	307.0	0.093	5.97	102.6	2.7	0.32	0.0	0.00	0.34	0.11	30	
38	A	14.29	14.28	33.432	24.917	303.8	0.117	5.98	102.6	2.8	0.33	0.1	0.01	0.40	0.15	38	219
45		14.28	14.27	33.432	24.919	303.8	0.139	5.96	102.3	2.8	0.34	0.2	0.02	0.40	0.17	45	218
50	A	14.26	14.25	33.430	24.922	303.7	0.154	5.96	102.2	2.8	0.36	0.2	0.02	0.38	0.15	50	217
59		13.25	13.24	33.309	25.036	293.0	0.181	5.96	100.0	3.3	0.41	0.7	0.13	0.29	0.22	59	216
67	A	12.22	12.21	33.325	25.249	272.8	0.203	5.94	97.6	4.2	0.45	1.7	0.16	0.19	0.17	67	215
75	ISL	12.61	12.60	33.556	25.353	263.1	0.225	5.56	92.2	4.9	0.51	3.5	0.05	0.11	0.11	75	
76		12.65	12.64	33.578	25.363	262.3	0.227	5.51	91.5	5.0	0.52	3.8	0.03	0.10	0.10	76	214
85		11.20	11.19	33.356	25.462	252.8	0.251	5.22	83.9	6.4	0.67	5.6	0.02	0.08	0.12	85	213
96		10.78	10.77	33.476	25.630	237.0	0.277	4.62	73.6	13.6	1.23	14.6	0.02	0.05	0.07	96	212
100	ISL	10.64	10.63	33.530	25.697	230.8	0.287	4.47	71.1	15.0	1.26	15.2	0.02	0.04	0.06	100	
110		10.37	10.36	33.657	25.843	217.1	0.309	4.28	67.7	16.7	1.34	16.7	0.01	0.02	0.04	111	211
125		10.17	10.16	33.769	25.965	205.8	0.341	4.45	70.1	15.9	1.22	15.5	0.01	0.01	0.02	126	210
144		9.25	9.23	33.840	26.173	186.2	0.378	3.38	52.2	26.7	1.80	24.0	0.00	0.01	0.03	145	209
150	ISL	9.11	9.09	33.871	26.219	181.9	0.389	3.41	52.5	26.7	1.77	23.7	0.00	0.01	0.03	151	
169		8.88	8.86	33.959	26.325	172.2	0.423	3.79	58.1	26.5	1.67	22.9	0.00	0.00	0.03	170	208
199		8.53	8.51	34.000	26.412	164.4	0.473	3.53	53.7	31.0	1.80	24.5	0.00	0.00	0.02	200	207
200	ISL	8.51	8.49	34.001	26.416	164.0	0.475	3.51	53.4	31.2	1.81	24.6	0.00			201	
228		8.00	7.98	34.017	26.505	155.8	0.520	3.05	45.8	37.2	2.02	27.6	0.00			229	206
250	ISL	7.69	7.67	34.026	26.558	151.1	0.554	2.74	40.9	41.0	2.16	29.4	0.00			251	
268		7.47	7.44	34.034	26.596	147.7	0.580	2.50	37.1	44.1	2.27	30.7	0.00			270	205
300	ISL	7.07	7.04	34.059	26.672	140.8	0.627	2.01	29.6	50.8	2.47	33.1	0.00			302	
317		6.89	6.86	34.076	26.710	137.3	0.650	1.76	25.8	54.2	2.57	34.3	0.00			319	204
378		6.69	6.66	34.150	26.796	130.0	0.732	1.11	16.2	61.9	2.82	36.8	0.00			380	203
400	ISL	6.59	6.55	34.172	26.827	127.3	0.760	0.94	13.7	64.5	2.89	37.5	0.00			403	
438		6.39	6.35	34.211	26.884	122.3	0.807	0.69	10.0	69.4	3.00	38.6	0.00			441	202
500	ISL	5.93	5.89	34.292	27.008	111.0	0.880	0.40	5.7	79.7	3.17	40.6	0.00			503	
520		5.78	5.74	34.319	27.048	107.4	0.902	0.30	4.3	83.0	3.22	41.3	0.00			524	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV NEW HORIZON CALCOFI CRUISE 0001 STATION 93 90

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
30 50.8 N	121 35.4 W	10/01/00	0309 UTC	4103 m	350 18 kn			1023.2 mb	14.4 C	12.4 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	14.81	14.81	33.331	24.727	320.7	0.000	5.89	102.1	2.4	0.30	0.0	0.00	0.20	0.07	0	
1		14.81	14.81	33.331 D	24.727	320.8	0.003	5.89	102.1	2.4	0.30	0.0	0.00	0.20	0.07	1	220
10	ISL	14.81	14.81	33.333	24.729	320.9	0.032	5.88	101.9	2.4	0.31	0.0	0.00	0.20	0.08	10	
16		14.81	14.81	33.335	24.731	320.9	0.051	5.87	101.8	2.4	0.31	0.0	0.00	0.20	0.09	16	219
20	ISL	14.81	14.81	33.335	24.731	321.0	0.064	5.87	101.8	2.4	0.31	0.0	0.00	0.20	0.08	20	
30	ISL	14.81	14.81	33.336	24.732	321.2	0.096	5.88	101.9	2.3	0.30	0.0	0.00	0.20	0.07	30	
32		14.81	14.81	33.336	24.732	321.2	0.103	5.88	101.9	2.3	0.30	0.0	0.00	0.20	0.07	32	218
46		14.65	14.64	33.322	24.756	319.4	0.148	5.93	102.4	2.3	0.31	0.0	0.00	0.26	0.09	46	217
50	ISL	14.62	14.61	33.318	24.759	319.2	0.160	5.92	102.2	2.3	0.31	0.0	0.00	0.27	0.09	50	
60		14.59	14.58	33.315	24.764	319.0	0.192	5.90	101.8	2.2	0.31	0.0	0.00	0.28	0.10	60	216
75		14.64	14.63	33.341	24.774	318.5	0.240	5.89	101.7	2.2	0.31	0.0	0.00	0.31	0.11	75	215
84		14.58	14.57	33.338	24.784	317.8	0.269	5.90	101.8	2.2	0.32	0.0	0.00	0.29	0.11	84	214
95		14.05	14.04	33.369	24.920	305.1	0.303	5.86	100.0	2.7	0.35	0.4	0.08	0.19	0.15	95	213
100	ISL	13.89	13.88	33.450	25.016	296.1	0.318	5.81	98.9	3.1	0.36	0.7	0.13	0.17	0.15	100	
103		13.75	13.74	33.488	25.074	290.6	0.327	5.78	98.1	3.3	0.37	1.0	0.15	0.16	0.15	103	212
116		11.94	11.93	33.280	25.268	272.2	0.363	5.86	95.6	4.3	0.50	2.4	0.09	0.13	0.17	117	211
125		12.69	12.67	33.627	25.394	260.6	0.387	5.31	88.2	5.5	0.57	4.8	0.02	0.07	0.08	126	210
140		10.66	10.64	33.391	25.586	242.2	0.425	5.36	85.2	8.5	0.81	8.2	0.01	0.03	0.04	141	209
150	ISL	10.55	10.53	33.523	25.708	230.8	0.449	5.02	79.6	11.2	0.97	11.0	0.00	0.02	0.03	151	
163		10.40	10.38	33.685	25.861	216.6	0.478	4.49	71.1	14.8	1.17	14.6	0.00	0.01	0.02	164	208
194		9.53	9.51	33.895	26.171	187.5	0.540	4.02	62.5	21.7	1.48	19.8	0.00	0.00	0.01	195	207
200	ISL	9.35	9.33	33.918	26.219	183.1	0.552	3.81	59.0	23.8	1.58	21.2	0.00			201	
228		8.61	8.59	33.983	26.387	167.4	0.601	2.94	44.8	32.9	1.99	26.8	0.00			229	206
250	ISL	8.21	8.18	34.005	26.465	160.2	0.637	3.03	45.8	35.8	2.00	27.2	0.00			251	
268		7.93	7.90	34.012	26.512	155.9	0.665	3.11	46.7	37.6	2.00	27.5	0.00			269	205
300	ISL	7.39	7.36	34.023	26.599	147.9	0.714	2.62	38.8	44.4	2.23	30.4	0.00			302	
317		7.12	7.09	34.027	26.640	144.1	0.738	2.29	33.7	48.4	2.37	32.2	0.00			319	204
377		6.34	6.31	34.049	26.762	132.8	0.822	1.73	25.0	59.7	2.63	35.8	0.00			379	203
400	ISL	6.16	6.12	34.066	26.799	129.5	0.852	1.49	21.5	63.6	2.72	37.0	0.00			402	
440		5.91	5.87	34.099	26.857	124.4	0.903	1.10	15.8	70.3	2.87	38.8	0.00			443	202
500	ISL	5.44	5.40	34.149	26.954	115.5	0.974	0.72	10.2	80.7	3.04	41.0	0.00			503	
512		5.35	5.31	34.159	26.973	113.7	0.988	0.64	9.0	82.8	3.08	41.5	0.00			515	201

RV NEW HORIZON CALCOFI CRUISE 0001 STATION 93 100

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
30 30.8 N	122 15.9 W	10/01/00	0928 UTC	4176 m	330 18 kn			1024.4 mb	15.0 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	15.66	15.66	33.546	24.707	322.7	0.000	5.73	101.2	2.9	0.28	0.0	0.00	0.18	0.05	0	
2		15.66	15.66	33.546	24.707	322.8	0.006	5.73	101.2	2.9	0.28	0.0	0.00	0.18	0.05	2	220
10	ISL	15.65	15.65	33.544	24.708	322.9	0.032	5.73	101.1	2.9	0.27	0.0	0.00	0.18	0.06	10	
16		15.65	15.65	33.542	24.706	323.2	0.052	5.73	101.1	2.9	0.27	0.0	0.00	0.18	0.06	16	219
20	ISL	15.65	15.65	33.542	24.706	323.3	0.065	5.73	101.1	2.9	0.27	0.0	0.00	0.18	0.06	20	
30	ISL	15.66	15.66	33.541	24.704	323.9	0.097	5.73	101.2	2.8	0.27	0.0	0.00	0.18	0.06	30	
31		15.66	15.66	33.541	24.704	323.9	0.100	5.73	101.2	2.8	0.27	0.0	0.00	0.18	0.06	31	218
46		15.64	15.63	33.535	24.704	324.4	0.149	5.74	101.3	2.8	0.27	0.0	0.01	0.17	0.06	46	217
50	ISL	15.64	15.63	33.534	24.704	324.6	0.162	5.73	101.1	2.8	0.27	0.0	0.01	0.17	0.06	50	
61		15.63	15.62	33.533	24.705	324.7	0.198	5.72	100.9	2.7	0.27	0.0	0.00	0.18	0.06	61	216
75		15.64	15.63	33.534	24.704	325.3	0.243	5.73	101.1	2.7	0.27	0.0	0.00	0.18	0.06	75	215
85		15.49	15.48	33.511	24.720	324.0	0.275	5.75	101.1	2.7	0.27	0.0	0.00	0.21	0.07	85	214
95		14.91	14.90	33.718	25.007	297.0	0.307	5.68	98.9	3.3	0.29	0.2	0.10	0.18	0.21	95	213
100	ISL	14.65	14.64	33.725	25.068	291.3	0.321	5.66	98.0	3.4	0.31	0.4	0.14	0.18	0.19	100	
105		14.38	14.36	33.703	25.109	287.5	0.336	5.64	97.1	3.5	0.33	0.6	0.15	0.18	0.16	105	212
115		13.77	13.75	33.679	25.218	277.3	0.364	5.61	95.4	3.9	0.37	1.4	0.07	0.12	0.14	115	211
125		13.40	13.38	33.688	25.301	269.7	0.391	5.59	94.3	4.0	0.38	1.8	0.02	0.07	0.08	126	210
140		12.50	12.48	33.621	25.427	257.8	0.431	5.26	87.1	6.2	0.59	5.2	0.01	0.06	0.06	141	209
150	ISL	11.87	11.85	33.625	25.550	246.3	0.456	5.01	81.8	8.4	0.76	8.0	0.00	0.04	0.04	151	
165		11.00	10.98	33.667	25.742	228.1	0.492	4.64	74.4	12.2	1.03	12.2	0.00	0.02	0.02	166	208
196		9.81	9.79	33.770	26.027	201.3	0.558	3.99	62.4	20.3	1.47	19.3	0.00	0.00	0.01	197	207
200	ISL	9.67	9.65	33.796	26.071	197.2	0.566	3.95	61.6	21.3	1.50	19.9	0.00			201	
229		8.82	8.80	33.973	26.346	171.3	0.620	3.78	57.9	27.9	1.67	23.1	0.00			230	206
250	ISL	8.50	8.47	34.007	26.423	164.3	0.655	3.61	54.9	31.1	1.77	24.6	0.00			251	
269		8.26	8.23	34.006	26.459	161.2	0.686	3.41	51.5	33.9	1.87	25.8	0.00			270	205
300	ISL	7.63	7.60	34.012	26.556	152.1	0.734	2.92	43.5	41.2	2.11	29.1	0.00			302	
318		7.27	7.24	34.015	26.610	147.1	0.761	2.61	38.6	45.6	2.25	31.0	0.00			320	204
379		6.65	6.62	34.053	26.725	136.7	0.848	1.81	26.4	56.7	2.59	35.2	0.00			381	203
400	ISL	6.42	6.38	34.063	26.763	133.1	0.876	1.59	23.0	60.8	2.69	36.5	0.00			402	
438		6.01	5.97	34.084	26.833	126.7	0.925	1.24	17.8	68.3	2.84	38.6	0.00			441	202
500	ISL	5.50	5.46	34.142	26.941	116.7	1.001	0.77	10.9	80.2	3.05	40.9	0.00			503	
519		5.35	5.31	34.160	26.974	113.8	1.023	0.62	8.8	83.9	3.11	41.6	0.00			522	201

RV NEW HORIZON CALCOFI CRUISE 0001 STATION 93 110

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
30 11.2 N	122 56.3 W	10/01/00	1836 UTC	3978 m	350 18 kn	360 05 07	2	1026.2 mb	15.2 C	14.1 C	23m	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	15.91	15.91	33.522	24.632	329.8	0.000	5.75	102.0	2.5	0.28	0.1	0.00	0.14	0.03	0	
2		15.91	15.91	33.522	24.632	329.9	0.007							0.14	0.03	2	220
3	A	15.91	15.91	33.522	24.632	329.9	0.010	5.75	102.0	2.5	0.28	0.1	0.00	0.14	0.04	3	219
10	ISL	15.90	15.90	33.522	24.635	329.9	0.033	5.73	101.6	2.5	0.27	0.1	0.00	0.14	0.03	10	
15	A	15.90	15.90	33.522	24.635	330.0	0.049	5.72	101.5	2.5	0.27	0.1	0.00	0.14	0.03	15	218
20	ISL	15.90	15.90	33.522	24.635	330.2	0.066	5.73	101.6	2.5	0.27	0.1	0.00	0.14	0.03	20	
30	ISL	15.91	15.91	33.524	24.635	330.5	0.099	5.75	102.0	2.5	0.27	0.1	0.00	0.14	0.04	30	
31	A	15.91	15.91	33.524	24.635	330.5	0.102	5.75	102.0	2.5	0.27	0.1	0.00	0.14	0.04	31	217
47	A	15.91	15.90	33.523	24.635	331.1	0.155	5.71	101.3	2.4	0.27	0.1	0.00	0.14	0.04	47	216
50	ISL	15.91	15.90	33.523	24.635	331.2	0.165	5.71	101.3	2.4	0.27	0.1	0.00	0.14	0.04	50	
63	A	15.91	15.90	33.523	24.635	331.5	0.208	5.73	101.6	2.4	0.27	0.1	0.00	0.14	0.04	63	215
74		15.51	15.50	33.474	24.687	326.9	0.244	5.76	101.3	2.5	0.28	0.1	0.00	0.22	0.10	74	214
75	ISL	15.35	15.34	33.462	24.713	324.4	0.248	5.78	101.3	2.5	0.28	0.1	0.00	0.23	0.11	75	
85	A	13.72	13.71	33.359	24.980	299.1	0.279	5.96	101.0	3.0	0.34	0.4	0.06	0.29	0.25	85	213
96		13.00	12.99	33.348 D	25.116	286.3	0.311									96	200
100	ISL	12.99	12.98	33.371	25.136	284.5	0.323	5.81	97.0	3.6	0.42	1.5	0.08	0.22	0.23	100	
105		12.97	12.96	33.395	25.159	282.5	0.337	5.76	96.1	3.8	0.45	2.0	0.09	0.18	0.22	105	212
114		12.94	12.92	33.484	25.234	275.6	0.362	5.60	93.5	4.3	0.50	3.1	0.04	0.14	0.14	114	211
124		12.32	12.30	33.472	25.345	265.1	0.389	5.53	91.1	5.0	0.58	3.9	0.02	0.09	0.10	125	210
125	ISL	12.33	12.31	33.491	25.358	263.9	0.391	5.50	90.6	5.1	0.59	4.1	0.02	0.09	0.10	126	
139		12.66	12.64	33.795	25.531	248.0	0.427	4.94	82.1	7.5	0.72	7.3	0.01	0.05	0.05	140	209
150	ISL	12.06	12.04	33.804	25.653	236.5	0.454	4.65	76.3	10.2	0.91	10.4	0.00	0.03	0.03	151	
164		10.97	10.95	33.739	25.803	222.3	0.486	4.37	70.0	14.1	1.17	14.3	0.00	0.02	0.02	165	208
194		9.63	9.61	33.861	26.128	191.6	0.548	3.74	58.3	22.5	1.57	21.0	0.00	0.00	0.01	195	207
200	ISL	9.43	9.41	33.885	26.180	186.8	0.560	3.66	56.8	24.0	1.62	21.9	0.00			201	
227		8.71	8.69	33.974	26.364	169.5	0.608	3.35	51.2	30.2	1.82	24.9	0.00			228	206
250	ISL	8.31	8.28	34.009	26.453	161.3	0.646	3.08	46.6	34.6	1.98	26.9	0.00			251	
266		8.09	8.06	34.021	26.496	157.5	0.671	2.88	43.4	37.4	2.09	28.1	0.00			267	205
300	ISL	7.59	7.56	34.044	26.587	149.1	0.723	2.40	35.7	43.9	2.29	30.9	0.00			302	
318		7.36	7.33	34.058	26.631	145.1	0.750	2.12	31.4	47.5	2.40	32.3	0.00			320	204
380		6.80	6.76	34.158	26.788	130.9	0.835	1.09	15.9	61.1	2.85	36.7	0.00			382	203
400	ISL	6.68	6.64	34.189	26.828	127.3	0.861	0.87	12.7	64.6	2.93	37.6	0.00			402	
439		6.47	6.43	34.243	26.899	121.0	0.910	0.56	8.1	70.5	3.03	38.9	0.00			442	202
500	ISL	6.16	6.12	34.287	26.975	114.4	0.981	0.38	5.5	77.1	3.15	39.8	0.00			503	
515		6.08	6.03	34.298	26.994	112.8	0.998	0.34	4.9	78.7	3.18	40.0	0.00			518	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	CLD AMT	TYPE
29 50.9 N	123 35.2 W	10/01/00	2358 UTC	4132 m	010 14 kn	020 04 06	2	1024.3 mb	15.0 C	14.1 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	16.18	16.18	33.483	24.541	338.5	0.000	5.69	101.5	2.5	0.28	0.0	0.00	0.12	0.03	0	
1		16.18	16.18	33.483	24.541	338.5	0.003	5.69	101.5	2.5	0.28	0.0	0.00	0.12	0.03	1	220
10	ISL	16.17	16.17	33.481	24.542	338.7	0.034	5.70	101.6	2.5	0.28	0.0	0.00	0.12	0.03	10	
15		16.16	16.16	33.477	24.542	338.9	0.051	5.71	101.8	2.5	0.28	0.0	0.00	0.12	0.03	15	219
20	ISL	16.14	16.14	33.474	24.544	338.9	0.068	5.71	101.7	2.5	0.28	0.0	0.00	0.12	0.03	20	
29		16.09	16.09	33.468	24.551	338.5	0.098	5.70	101.4	2.4	0.28	0.0	0.00	0.13	0.03	29	218
30	ISL	16.09	16.09	33.468	24.551	338.5	0.102	5.70	101.4	2.4	0.28	0.0	0.00	0.13	0.03	30	
44		16.06	16.05	33.463	24.554	338.6	0.149	5.68	101.0	2.4	0.28	0.0	0.00	0.13	0.04	44	217
50	ISL	16.05	16.04	33.463	24.557	338.6	0.169	5.70	101.4	2.4	0.28	0.0	0.00	0.13	0.04	50	
59		16.05	16.04	33.463	24.557	338.8	0.200	5.72	101.7	2.4	0.28	0.0	0.00	0.14	0.04	59	216
74		16.04	16.03	33.463	24.560	339.0	0.251	5.70	101.3	2.4	0.27	0.0	0.00	0.16	0.05	74	215
75	ISL	16.03	16.02	33.463	24.562	338.9	0.254	5.70	101.3	2.4	0.27	0.0	0.00	0.17	0.05	75	
85		15.96	15.95	33.463	24.578	337.6	0.288	5.73	101.7	2.4	0.27	0.0	0.00	0.28	0.05	85	214
94		14.72	14.71	33.461	24.850	311.9	0.317	5.94	102.8	2.6	0.29	0.1	0.00	0.26	0.22	94	213
100	ISL	14.41	14.40	33.477	24.928	304.5	0.336	5.88	101.2	2.7	0.29	0.1	0.02	0.26	0.24	100	
103		14.34	14.33	33.490	24.953	302.3	0.345	5.82	100.0	2.8	0.30	0.1	0.04	0.26	0.25	103	212
114		14.08	14.06	33.583	25.080	290.5	0.377	5.64	96.4	3.2	0.37	0.9	0.16	0.23	0.22	114	211
125		13.58	13.56	33.603	25.198	279.4	0.409	5.52	93.4	3.9	0.42	2.1	0.04	0.16	0.17	126	210
140		13.18	13.16	33.693	25.349	265.4	0.449	5.27	88.5	5.2	0.55	4.4	0.01	0.08	0.10	141	209
150	ISL	12.80	12.78	33.705	25.434	257.5	0.476	5.08	84.6	6.4	0.66	6.2	0.01	0.06	0.07	151	
164		12.15	12.13	33.706	25.560	245.7	0.511	4.79	78.7	8.9	0.84	9.2	0.01	0.05	0.05	165	208
195		10.29	10.27	33.804	25.973	206.6	0.581	4.04	63.8	18.1	1.36	17.6	0.00	0.01	0.02	196	207
200	ISL	10.08	10.06	33.823	26.024	201.8	0.591	3.93	61.8	19.4	1.43	18.6	0.00			201	
230		9.15	9.12	33.934	26.264	179.3	0.648	3.34	51.5	27.1	1.77	23.6	0.00			231	206
250	ISL	8.69	8.66	33.997	26.386	167.9	0.683	3.04	46.4	32.1	1.93	25.9	0.00			251	
268		8.38	8.35	34.045	26.471	160.0	0.713	2.78	42.2	36.2	2.06	27.6	0.00			269	205
300	ISL	8.10	8.07	34.111	26.566	151.5	0.762	2.18	32.9	42.1	2.30	30.0	0.00			302	
320		7.94	7.91	34.132	26.606	148.0	0.792	1.86	27.9	45.5	2.43	31.2	0.00			322	204
379		6.84	6.80	34.081	26.722	137.2	0.877	1.65	24.1	57.0	2.62	35.0	0.00			381	203
400	ISL	6.52	6.48	34.083	26.766	133.0	0.905	1.48	21.5	61.3	2.71	36.3	0.00			402	
438		6.05	6.01	34.103	26.843	125.8	0.954	1.13	16.2	68.7	2.86	38.3	0.00			441	202
500	ISL	5.76	5.72	34.165	26.928	118.3	1.030	0.71	10.1	77.3	3.03	40.3	0.00			503	
514		5.69	5.65	34.179	26.948	116.6	1.046	0.61	8.7	79.2	3.07	40.7	0.00			517	201

PRIMARY PRODUCTIVITY CASTS

RV NEW HORIZON | CALCOFI CRUISE 0001 | STATION 77 80

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
34 3.5 N	122 56.6 W	22/01/00	1803 UTC	14 m		1223 - 1800 PST	1223 PST	1800 PST	148.9 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	12.76	33.268	25.099	6.22	103.3	2.8	0.53	3.1	0.14	0.61	0.19	80. A	7.6	7.5	7.5	0.08
9	12.71	33.280	25.118	6.20	102.9	2.8	0.54	3.2	0.14	0.60	0.16	37.	6.4	6.5	6.4	0.08
19	12.51	33.390	25.243	6.21	102.7	2.5	0.58	4.0	0.22	0.65	0.29	12.	3.5	3.8	3.6	0.07
30	12.40	33.405	25.276	6.15	101.5	2.6	0.59	4.1	0.26	0.64	0.34	3.7	1.2	1.4	1.3	0.05
37	12.20	33.391	25.303	5.94	97.6	3.3	0.67	5.0	0.35	0.45	0.26	1.7	0.32	0.35	0.33	0.03
47	12.08	33.490	25.403	6.09	99.8	3.2	0.73	6.2	0.40	0.50	0.34					
52	11.76	33.461	25.441	5.91	96.2	4.3	0.80	7.3	0.41	0.34	0.24	0.33	0.01	0.04	0.02	0.05

RV NEW HORIZON | CALCOFI CRUISE 0001 | STATION 80 55

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
34 20.0 N	120 48.8 W	20/01/00	1859 UTC	15 m		1215 - 1750 PST	1214 PST	1750 PST	231.0 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	13.18	33.579	25.257	5.86	98.4	9.0	0.69	6.1	0.12	0.97	0.22	90. A	18.7	18.7	18.7	0.09
9	12.85	33.611	25.347	5.65	94.2	9.4	0.73	6.9	0.13	0.62	0.28	40.	9.3	8.9	9.1	0.08
20	12.28	33.634	25.476	5.08	83.7	11.6	0.94	10.0	0.19	0.56	0.40	13.	3.8	3.8	3.8	0.06
31	11.21	33.696	25.724	3.97	64.0	17.5	1.37	16.9	0.15	0.31	0.27	4.2	0.73	0.75	0.74	0.04
40	10.74	33.734	25.837	3.61	57.6	19.9	1.54	19.4	0.09	0.17	0.15	1.7	0.15	0.15	0.15	0.03
48	10.47	33.788	25.927	3.31	52.5	21.8	1.63	20.8	0.05	0.07	0.12					
56	10.37	33.810	25.961	3.23	51.1	23.0	1.70	21.5	0.05	0.06	0.11	0.32	-0.01	0.00	0.00	0.03

RV NEW HORIZON | CALCOFI CRUISE 0001 | STATION 80 90

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
33 9.5 N	123 13.6 W	21/01/00	1808 UTC	25 m		1215 - 1803 PST	1224 PST	1803 PST	164.0 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
2	14.71	33.265	24.698	5.90	102.0	2.7	0.31	0.1	0.00	0.22	0.05	88. A	2.3	2.4	2.3	0.06
15	14.50	33.282	24.756	5.96	102.6	2.6	0.31	0.1	0.00	0.31	0.10	40.	3.4	3.3	3.3	0.10
24	14.32	33.316	24.821	5.95	102.1	2.5	0.33	0.1	0.00	0.48	0.21					
34	14.30	33.325	24.832	5.97	102.4	2.4	0.32	0.1	0.00	0.46	0.17	12.	3.1	3.0	3.1	0.13
42	14.08	33.381	24.921	5.96	101.8	2.3	0.34	0.2	0.02	0.63	0.25					
52	13.93	33.425	24.987	5.97	101.7	2.3	0.37	0.3	0.04	0.43	0.23	4.1	1.5	1.6	1.6	0.03
60	13.84	33.425	25.006	5.90	100.3	2.4	0.39	0.6	0.07	0.29	0.16					
68	13.77	33.425	25.020	5.89	100.0	2.3	0.41	0.8	0.10	0.23	0.13	1.5	0.32	0.35	0.34	0.02
75	13.31	33.401	25.095	5.76	96.8	3.4	0.51	2.4	0.15	0.17	0.10					
85	12.23	33.392	25.300	5.43	89.2	6.3	0.78	7.3	0.02	0.09	0.07					
93	11.31	33.381	25.462	5.07	81.7	9.2	0.97	10.2	0.02	0.08	0.08	0.33	0.01	0.02	0.01	0.02

RV NEW HORIZON | CALCOFI CRUISE 0001 | STATION 83 42

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
34 10.9 N	119 30.7 W	19/01/00	1823 UTC	20 m		1209 - 1744 PST	1209 PST	1744 PST	330.2 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
1	14.86	33.623	24.942	5.95	103.4	3.6	0.29	0.1	0.00	0.35	0.13	93. A	4.9	5.0	4.9	0.08
13	14.64	33.616	24.984	6.00	103.8	3.9	0.29	0.2	0.00	0.45	0.18	37.	7.4	6.8	7.1	0.10
19	14.23	33.589	25.050	5.93	101.7	4.4	0.37	0.9	0.07	1.40	0.39					
26	14.06	33.582	25.080	5.86	100.2	4.8	0.40	1.1	0.12	1.15	0.40	14.	10.2	10.5	10.3	0.10
34	13.71	33.549	25.127	5.74	97.4	5.1	0.48	2.3	0.21	0.91	0.42					
42	13.16	33.545	25.236	5.32	89.3	6.8	0.70	5.1	0.26	0.73	0.44	4.0	3.0	3.2	3.1	0.06
48	12.54	33.556	25.366	4.80	79.5	9.3	0.93	8.8	0.13	0.48	0.44					
55	12.31	33.557	25.411	4.65	76.6	10.0	1.01	10.0	0.09	0.40	0.40	1.5	0.80	0.80	0.80	0.03
64	11.51	33.632	25.620	4.04	65.5	14.4	1.29	14.7	0.02	0.13	0.19					
74	11.01	33.703	25.766	3.69	59.2	17.4	1.46	17.6	0.01	0.05	0.11	0.34	0.00	0.01	0.01	0.03

A) INCUBATION LIGHT INTENSITIES WERE 96, 38, 12, 4.0, 1.5, 0.32 PERCENT RESPECTIVELY.

PRIMARY PRODUCTIVITY CASTS

RV NEW HORIZON | CALCOFI CRUISE 0001 | STATION 83 80

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
32 54.6 N	122 7.2 W	18/01/00	1757 UTC	15 m		1219 - 1746 PST	1219 PST	1746 PST	221.7 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
1	14.17	33.380	24.901	6.01	102.9	2.5	0.33	0.2	0.00			90. A	2.8	3.1	3.0	0.06
9	14.12	33.388	24.918	6.00	102.6	2.5	0.33	0.2	0.00	0.64	0.21	40.	9.1	9.1	9.1	0.07
20	14.11	33.399	24.928	6.01	102.7	2.4	0.33	0.2	0.00	0.62	0.21	13.	6.9	6.5	6.7	0.05
30	14.09	33.408	24.940	5.97	102.0	2.5	0.33	0.2	0.01	0.56	0.22	4.6	3.2	3.4	3.3	0.04
40	14.07	33.409	24.945	5.97	102.0	2.4	0.34	0.2	0.01	0.49	0.21	1.7	1.2	1.4	1.3	0.04
48	14.04	33.409	24.952	5.96	101.7	2.4	0.35	0.3	0.02	0.44	0.21					
55	13.94	33.411	24.974	5.86	99.8	2.5	0.38	0.5	0.08	0.28	0.15	0.36	0.06	0.10	0.08	0.04

RV NEW HORIZON | CALCOFI CRUISE 0001 | STATION 87 45

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
33 29.7 N	119 19.4 W	15/01/00	1846 UTC	19 m		1206 - 1741 PST	1206 PST	1741 PST	242.8 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	13.84	33.541	25.094	6.02	102.4	4.4	0.41	1.4	0.07	0.59	0.21	92. A	9.9	9.7	9.8	0.11
12	13.82	33.542	25.099	6.05	102.9	4.4	0.40	1.4	0.07	0.57	0.24	38.	7.7	7.8	7.8	0.11
19	13.79	33.542	25.105	6.02	102.3	4.5	0.41	1.5	0.07	0.55	0.27					
25	13.28	33.561	25.224	5.91	99.4	6.1	0.56	3.9	0.14	0.58	0.30	13.	4.3	4.2	4.3	0.07
32	12.77	33.576	25.337	5.77	96.0	7.6	0.71	6.2	0.20	0.52	0.34					
39	12.43	33.609	25.428	5.51	91.1	9.3	0.86	8.4	0.26	0.61	0.36	4.3	1.6	1.8	1.7	0.04
52	10.88	33.617	25.722	4.25	68.0	16.6	1.37	16.6	0.20	0.30	0.23	1.5	0.29	0.30	0.29	0.03
62	10.20	33.760 D	25.951	3.38	53.3	23.0	1.71	22.0	0.03	0.16	0.16					
70	9.98	33.785	26.008	3.26	51.2	24.2	1.77	22.9	0.03	0.12	0.14	0.35	-0.01	0.01	0.00	0.03

RV NEW HORIZON | CALCOFI CRUISE 0001 | STATION 87 80

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
32 20.1 N	121 41.8 W	16/01/00	1938 UTC	16 m		1230 - 1755 PST	1217 PST	1755 PST	82.8 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	14.92	33.493	24.828	5.87	102.1	2.9	0.33	0.1	0.00	0.35	0.13	83. A	4.2	4.2	4.2	0.10
10	14.92	33.492	24.828	5.86	101.9	2.8	0.31	0.1	0.00	0.36	0.12	38.	3.3	3.2	3.3	0.08
22	14.92	33.492	24.828	5.87	102.1	2.8	0.32	0.1	0.00	0.36	0.12	12.	1.4	1.4	1.4	0.08
34	14.93	33.498	24.831	5.87	102.1	2.8	0.32	0.1	0.00	0.39	0.13	3.8	0.42	0.51	0.47	0.06
44	14.96	33.515	24.838	5.86	102.0	2.8	0.32	0.1	0.00	0.46	0.18	1.5	0.18	0.20	0.19	0.04
52	14.88	33.504	24.847	5.85	101.6	2.6	0.32	0.1	0.00	0.43	0.16					
60	14.36	33.475	24.936	5.69	97.8	3.6	0.44	1.6	0.10	0.44	0.28	0.32	0.01	0.02	0.02	0.04

RV NEW HORIZON | CALCOFI CRUISE 0001 | STATION 87 110

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
31 20.1 N	123 44.6 W	17/01/00	1824 UTC	35 m		1225 - 1803 PST	1225 PST	1803 PST	66.4 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
3	16.01	33.537	24.621	5.71	101.5	2.3	0.25	0.1	0.00	0.15	0.04	88. A	1.5	1.7	1.6	0.06
11	16.01	33.538	24.622	5.71	101.5	2.4	0.25	0.1	0.00	0.15	0.04					
22	16.06	33.559	24.627	5.69	101.3	2.4	0.25	0.1	0.00	0.15	0.04	38.	1.1	1.1	1.1	0.07
34	16.13	33.586	24.633	5.70	101.6	2.4	0.24	0.1	0.00	0.16	0.04					
47	16.26	33.646	24.650	5.68	101.5	2.3	0.24	0.1	0.00	0.21	0.06	13.	0.60	0.64	0.62	0.02
57	16.27	33.651	24.652	5.67	101.4	2.3	0.25	0.1	0.00	0.21	0.07					
71	16.05	33.608	24.669	5.68	101.1	2.3	0.25	0.1	0.00	0.19	0.05	4.4	0.15	0.16	0.15	0.02
81	16.05	33.619	24.678	5.69	101.3	2.3	0.24	0.1	0.00	0.21	0.06					
94	14.77	33.652	24.986	5.72	99.2	2.9	0.28	0.2	0.09	0.20	0.21	1.6	0.11	0.13	0.12	0.02
104	14.77	33.707	25.029	5.67	98.4	3.0	0.30	0.5	0.12	0.20	0.20					
114	14.76	33.851	25.143	5.49	95.3	3.3	0.33	1.3	0.07	0.15	0.18					
120	14.47	33.838	25.195	5.45	94.1	3.5	0.36	1.8	0.04	0.12	0.14					
129	13.56	33.735	25.305	5.43	91.9	4.3	0.43	2.8	0.02	0.09	0.10	0.35	0.00	0.00	0.00	0.03

A) INCUBATION LIGHT INTENSITIES WERE 96, 38, 12, 4.0, 1.5, 0.32 PERCENT RESPECTIVELY.

PRIMARY PRODUCTIVITY CASTS

RV NEW HORIZON | CALCOFI CRUISE 0001 | STATION 90 35

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
33 15.4 N	118 15.3 W	14/01/00	1825 UTC	29 m		1202 - 1732 PST	1202 PST	1732 PST	202.7 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	14.36	33.572	25.009	6.02	103.6	3.7	0.33	0.3	0.01	0.38	0.10	90. A	6.4	7.2	6.8	0.04
10	14.29	33.571	25.023	5.98	102.7	3.8	0.34	0.4	0.02	0.36	0.11					
18	13.92	33.567	25.098	5.93	101.1	4.8	0.38	1.3	0.06	0.35	0.19	39.	5.0	5.0	5.0	0.04
28	12.81	33.495	25.266	5.25	87.4	7.5	0.74	6.4	0.22	0.35	0.20					
39	11.94	33.556	25.480	4.59	75.1	11.6	1.09	12.2	0.13	0.26	0.23	13.	1.6	1.7	1.6	0.04
49	11.42	33.611	25.620	4.00	64.7	14.8	1.34	15.8	0.06	0.22	0.26					
61	10.92	33.721	25.796	3.44	55.1	18.9	1.57	19.2	0.02	0.11	0.17	4.0	0.31	0.33	0.32	0.02
69	10.72	33.755	25.858	3.28	52.3	20.6	1.64	20.4	0.01	0.07	0.15					
79	10.52	33.784	25.915	3.19	50.7	22.0	1.71	21.3	0.01	0.04	0.12	1.5	0.06	0.07	0.06	0.02
94	10.28	33.825	25.989	3.01	47.6	23.6	1.78	22.4	0.01	0.03	0.20					
108	9.90	33.850	26.073	3.07	48.1	25.0	1.82	23.3	0.01	0.01	0.09	0.33	-0.01	0.00	0.00	0.02

RV NEW HORIZON | CALCOFI CRUISE 0001 | STATION 90 70

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
32 5.6 N	120 39.1 W	12/01/00	1823 UTC	16 m		1211 - 1742 PST	1211 PST	1740 PST	192.9 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	14.31	33.413	24.897	5.93	101.8	2.9	0.36	0.2	0.01	0.56	0.21	83. A	2.8	2.9	2.9	0.06
10	14.29	33.413	24.901	5.92	101.6	2.9	0.35	0.2	0.01	0.60	0.20	38.	7.1	6.8	6.9	0.06
22	14.28	33.413	24.904	5.93	101.7	2.8	0.34	0.2	0.01	0.61	0.20	12.	5.5	5.3	5.4	0.05
32	14.28	33.413	24.904	5.93	101.7	2.8	0.34	0.2	0.01	0.61	0.20	4.6	2.6	2.8	2.7	0.04
44	14.28	33.414	24.905	5.92	101.6	2.8	0.34	0.2	0.01	0.60	0.21	1.5	1.0	1.3	1.2	0.03
52	14.28	33.414	24.905	5.93	101.7	2.8	0.34	0.2	0.01	0.54	0.26					
60	14.26	33.414	24.910	5.92	101.5	2.7	0.34	0.2	0.01	0.53	0.19	0.32	0.05	0.11	0.08	0.04

RV NEW HORIZON | CALCOFI CRUISE 0001 | STATION 90 100

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
31 5.2 N	122 40.1 W	11/01/00	1901 UTC	31 m		1219 - 1750 PST	1219 PST	1750 PST	104.1 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	15.84	33.593	24.703	5.71	101.2	2.6	0.26	0.0	0.00	0.15	0.05	86. A	0.49	0.45	0.47	0.04
11	15.82	33.594	24.708	5.73	101.5	2.6	0.26	0.0	0.00	0.16	0.05					
20	15.82	33.593 D	24.708	5.72	101.3	2.5	0.25	0.0	0.00	0.15	0.04	37.	1.7	1.6	1.6	0.05
32	15.82	33.592	24.707	5.72	101.3	2.6	0.25	0.0	0.00	0.15	0.05					
43	15.82	33.593	24.708	5.71	101.2	2.5	0.25	0.0	0.00	0.15	0.05	12.	1.3	1.3	1.3	0.05
54	15.81	33.592	24.710	5.73	101.5	2.5	0.25	0.0	0.00	0.15	0.04					
64	15.80	33.590	24.711	5.71	101.1	2.4	0.25	0.0	0.00	0.15	0.04	4.2	0.65	0.69	0.67	0.02
75	15.79	33.589	24.713	5.73	101.4	2.4	0.25	0.0	0.00	0.14	0.04					
85	14.80	33.692	25.010	5.85	101.6	2.8	0.26	0.1	0.02	0.31	0.25	1.5	0.88	0.91	0.89	0.02
95	14.75	33.753	25.068	5.77	100.1	3.0	0.27	0.1	0.10	0.27	0.23					
105	14.90	33.851	25.112	5.68	98.9	3.0	0.26	0.3	0.16	0.23	0.22					
116	14.88	33.984	25.219	5.56	96.9	3.2	0.27	0.8	0.05	0.15	0.13	0.32	0.05	0.08	0.06	0.01

RV NEW HORIZON | CALCOFI CRUISE 0001 | STATION 93 26.7

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
32 57.5 N	117 18.2 W	07/01/00	2019 UTC	9 m		1258 - 1730 PST	1155 PST	1726 PST	314.6 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	14.40	33.593	25.017	6.01	103.5	4.1	0.33	0.3	0.03	1.43	0.45	84. A	25.8	23.1	24.5	0.45
6	14.22	33.588	25.051	6.04	103.6	4.2	0.33	0.4	0.04	1.22	0.51	36.	20.8	20.6	20.7	0.25
11	14.06	33.602	25.095	6.02	102.9	4.8	0.37	0.8	0.05	1.80	0.94	15.	12.8	13.1	13.0	0.27
19	13.91	33.607	25.131	5.91	100.8	5.0	0.39	1.2	0.10	1.67	0.75	3.9	4.5	4.4	4.4	0.15
25	13.45	33.587	25.209	5.42	91.5	6.9	0.63	4.2	0.34	1.17	0.71	1.4	1.4	1.1	1.3	0.12
34	12.59	33.551	25.352	4.68	77.6	11.5	1.06	10.0	0.46	0.47	0.37	0.30	0.08	0.07	0.07	0.09

A) INCUBATION LIGHT INTENSITIES WERE 96, 38, 12, 4.0, 1.5, 0.32 PERCENT RESPECTIVELY.

PRIMARY PRODUCTIVITY CASTS

RV NEW HORIZON | CALCOFI CRUISE 0001 | STATION 93 45

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
32 20.9 N	118 34.7 W	08/01/00	1832 UTC	14 m		1200 - 1745 PST	1200 PST	1735 PST	386.2 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	14.97	33.621	24.916	5.93	103.3	3.7	0.31	0.1	0.00	0.83	0.40	80. A	13.1	12.4	12.7	0.14
9	14.89	33.619	24.932	5.94	103.3	3.7	0.31	0.1	0.00	0.87	0.44	37.	17.3	17.0	17.2	0.15
18	14.87	33.620	24.938	5.95	103.4	3.6	0.31	0.1	0.00	0.93	0.45	14.	11.6	12.3	12.0	0.18
29	14.82	33.615	24.945	5.90	102.5	3.7	0.32	0.3	0.01	0.93	0.48	4.2	4.9	5.3	5.1	0.10
38	12.78	33.482	25.262	5.42	90.2	6.6	0.75	6.7	0.21	0.32	0.26	1.6	0.62	0.66	0.64	0.04
47	12.15	33.467	25.372	5.11	83.9	8.7	0.90	9.2	0.05	0.19	0.19					
52	11.85	33.480	25.438	4.95	80.8	10.1	1.00	10.7	0.04	0.16	0.17	0.33	0.03	0.06	0.05	0.03

RV NEW HORIZON | CALCOFI CRUISE 0001 | STATION 93 80

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
31 11.4 N	120 54.3 W	09/01/00	1927 UTC	18 m		1220 - 1746 PST	1211 PST	1746 PST	152.1 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	14.48	33.384D	24.839	5.94	102.3	2.6	0.32	0.0	0.00	0.26	0.09	84. A	1.9	2.0	1.9	0.07
12	14.46	33.384	24.843	5.93	102.1	2.6	0.31	0.0	0.00	0.26	0.08	36.	4.9	4.6	4.7	0.06
24	14.43	33.387	24.852	5.95	102.4	2.6	0.32	0.0	0.00	0.29	0.09	13.	3.5	3.2	3.3	0.07
38	14.29	33.432	24.917	5.98	102.6	2.8	0.33	0.1	0.01	0.40	0.15	3.9	2.4	2.6	2.5	0.05
45	14.28	33.432	24.919	5.96	102.3	2.8	0.34	0.2	0.02	0.40	0.17					
50	14.26	33.430	24.922	5.96	102.2	2.8	0.36	0.2	0.02	0.38	0.15	1.4	0.75		0.75	0.04
59	13.25	33.309	25.036	5.96	100.0	3.3	0.41	0.7	0.13	0.29	0.22					
67	12.22	33.325	25.249	5.94	97.6	4.2	0.45	1.7	0.16	0.19	0.17	0.33	0.08	0.11	0.10	0.02

RV NEW HORIZON | CALCOFI CRUISE 0001 | STATION 93 110

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
30 11.2 N	122 56.3 W	10/01/00	1836 UTC	23 m		1219 - 1759 PST	1219 PST	1759 PST	52.4 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
3	15.91	33.522	24.632	5.75	102.0	2.5	0.28	0.1	0.00	0.14	0.04	82. A	0.96	0.93	0.94	0.04
15	15.90	33.522	24.635	5.72	101.5	2.5	0.27	0.1	0.00	0.14	0.03	37.	1.5	1.5	1.5	0.05
31	15.91	33.524	24.635	5.75	102.0	2.5	0.27	0.1	0.00	0.14	0.04	13.	0.89	0.89	0.89	0.06
47	15.91	33.523	24.635	5.71	101.3	2.4	0.27	0.1	0.00	0.14	0.04	4.3	0.37		0.37	0.04
63	15.91	33.523	24.635	5.73	101.6	2.4	0.27	0.1	0.00	0.14	0.04	1.5	0.10	0.12	0.11	0.03
74	15.51	33.474	24.687	5.76	101.3	2.5	0.28	0.1	0.00	0.22	0.10					
85	13.72	33.359	24.980	5.96	101.0	3.0	0.34	0.4	0.06	0.29	0.25	0.34	0.03	0.09	0.06	0.02

A) INCUBATION LIGHT INTENSITIES WERE 96, 38, 12, 4.0, 1.5, 0.32 PERCENT RESPECTIVELY.

CalCOFI Cruise 0001

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^3)	Max. Tow Depth (m)	Volume per 1000 m^3 Strained Total (cm^3)	Volume per 1000 m^3 Strained Small (cm^3)
77	49	35 06.0	120 46.2	01/23	0821	0826	101	42	527	129
77	51	35 02.0	120 54.5	01/23	0620	0639	400	178	295	295
77	55	34 53.7	121 11.6	01/23	0257	0319	438	207	231	103
77	60	34 44.3	121 31.9	01/22	2252	2313	432	198	217	217
77	70	34 23.3	122 14.2	01/22	1637	1658	439	204	164	164
77	80	34 03.5	122 57.9	01/22	0818	0840	440	205	102	102
77	90	33 43.5	123 37.6	01/22	0346	0408	450	207	96	96
77	100	33 24.2	124 18.6	01/21	2207	2228	466	199	109	36
80	51	34 26.7	120 32.0	01/20	0601	0606	108	55	102	102
80	55	34 19.2	120 49.2	01/20	0905	0926	425	200	47	47
80	60	34 08.6	121 09.9	01/20	1505	1527	447	207	83	83
80	70	33 49.4	121 52.4	01/20	2056	2117	469	196	286	177
80	80	33 28.9	122 32.1	01/21	0243	0305	450	203	173	173
80	90	33 09.2	123 12.2	01/21	0819	0841	450	209	69	69
80	100	32 49.1	123 55.4	01/21	1623	1644	444	208	232	47
82	47	34 17.9	120 02.2	01/19	2204	2225	430	198	288	288
83	40.6	34 12.9	119 24.7	01/19	1332	1336	74	28	40	40
83	42	34 11.2	119 30.4	01/19	1146	1156	213	86	66	66
83	51	33 52.8	120 07.9	01/19	0444	0453	189	90	63	63
83	55	33 44.8	120 24.1	01/19	0140	0202	474	194	321	321
83	60	33 35.0	120 45.0	01/18	2141	2203	448	203	167	167
83	70	33 14.9	121 24.9	01/18	1554	1615	464	202	101	101
83	80	32 54.5	122 08.5	01/18	0818	0840	474	193	70	70
83	90	32 34.4	122 47.3	01/18	0345	0407	465	205	95	95
83	100	32 15.4	123 28.3	01/17	2209	2231	473	203	30	30
83	110	31 55.0	124 08.8	01/17	1641	1702	463	204	58	58
87	33	33 53.3	118 30.3	01/15	0114	0120	113	48	142	142
87	35	33 49.5	118 38.7	01/15	0340	0401	451	197	55	55
87	40	33 39.4	118 57.9	01/15	0731	0752	436	207	57	57
87	45	33 30.0	119 19.3	01/15	1230	1251	438	215	43	43
87	50	33 19.6	119 39.6	01/15	1616	1624	157	68	255	255
87	55	33 08.9	120 01.3	01/15	2025	2047	461	203	204	204
87	60	32 59.7	120 20.9	01/16	0027	0048	435	210	106	106
87	70	32 39.9	121 01.8	01/16	0634	0655	456	206	50	50
87	80	32 21.1	121 42.3	01/16	1320	1341	438	210	50	50
87	90	31 59.7	122 23.1	01/16	1919	1941	429	210	49	49
87	100	31 39.6	123 03.3	01/17	0128	0150	459	208	26	26
87	110	31 20.8	123 44.2	01/17	0822	0843	467	206	24	24
90	28	33 29.3	117 46.8	01/14	1848	1858	216	98	172	172
90	30	33 25.4	117 54.8	01/14	1613	1634	434	209	46	46
90	35	33 15.1	118 15.2	01/14	1139	1201	411	211	353	114
90	37	33 11.0	118 22.8	01/14	0747	0809	449	197	91	60
90	45	32 55.5	118 57.6	01/14	0217	0238	448	209	125	103
90	53	32 38.3	119 29.9	01/12	2153	2214	474	204	146	146
90	60	32 25.2	119 57.2	01/12	1647	1709	460	207	46	46
90	70	32 04.3	120 37.9	01/12	0841	0902	458	205	70	44
90	80	31 45.9	121 20.3	01/12	0212	0234	481	200	87	87
90	90	31 24.9	122 00.0	01/11	1927	1949	452	207	93	60
90	100	31 05.7	122 41.8	01/11	1258	1320	488	207	20	20
90	110	30 45.1	123 20.9	01/11	0539	0601	435	220	51	51
90	120	30 26.3	124 00.2	01/10	2323	2344	461	205	26	26
93	26.7	32 57.3	117 18.6	01/07	1426	1434	163	72	37	37
93	28	32 54.6	117 23.7	01/07	1702	1724	456	208	46	46
93	30	32 51.1	117 32.4	01/07	2008	2030	443	212	77	77
93	35	32 40.8	117 53.3	01/08	0022	0043	456	196	208	107
93	40	32 30.9	118 13.8	01/08	0434	0455	450	208	91	91
93	45	32 20.8	118 34.0	01/08	0829	0850	449	204	91	91
93	50	32 10.0	118 54.1	01/08	1456	1518	430	210	49	49
93	55	31 59.5	119 15.2	01/08	1919	1941	440	216	98	98
93	60	31 51.3	119 35.5	01/08	2329	2350	456	205	61	61
93	70	31 31.5	120 17.2	01/09	0618	0638	434	187	51	51
93	80	31 12.2	120 55.3	01/09	1321	1343	482	200	44	44
93	90	30 51.0	121 32.2	01/09	2013	2035	463	210	43	43
93	100	30 30.9	122 16.1	01/10	0327	0349	454	213	37	37
93	110	30 10.2	122 54.8	01/10	0839	0900	487	204	21	21
93	120	29 51.4	123 35.7	01/10	1657	1718	489	204	20	20

PERSONNEL

CalCOFI Cruise 0004

SHIP'S CAPTAIN

John E. Herring, RV *David Starr Jordan*

PERSONNEL PARTICIPATING IN THE COLLECTION OF DATA

		Participation (Leg)
Griffith, David A. (Chief Scientist)	Fishery Biologist, NMFS	1,2
Collier, Natalia S.	Field Biologist, Pt. Reyes Bird Observatory	1,2,3
Dotson, Ronald C.	Fishery Biologist, NMFS	1,2,3
Gruber, Dennis W.	Staff Research Associate, SIO	1,2,3
Hays, Amy E.	Fishery Biologist, NMFS	1,2,3
Hyrenbach, K. David	Graduate Student, SIO	1
Masten, Douglas M.	Staff Research Associate, SIO	1,2
Poteau, Antoine	Visiting Scientist, SIO	1,2
Ramirez, Fernando	Staff Research Associate, SIO	1,2
Renger, Edward H.	Staff Research Associate, SIO	1,2
Storms, Scott A.	Staff Research Associate, SIO	1,2
Thimgan, Michael P.	Staff Research Associate, SIO	1,2
Wolgast, David M.	Staff Research Associate, SIO	1,2

Leg 1: San Diego to Dana Point, California, 7– 14 April, 2000
Leg 2: Dana Point to Monterey, California, 14– 25 April, 2000
Leg 3: Monterey to San Diego, California, 25– 29 April, 2000

FIGURES

Cruise 0004

1. CalCOFI Cruise 0004, track and station positions.

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

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

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

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

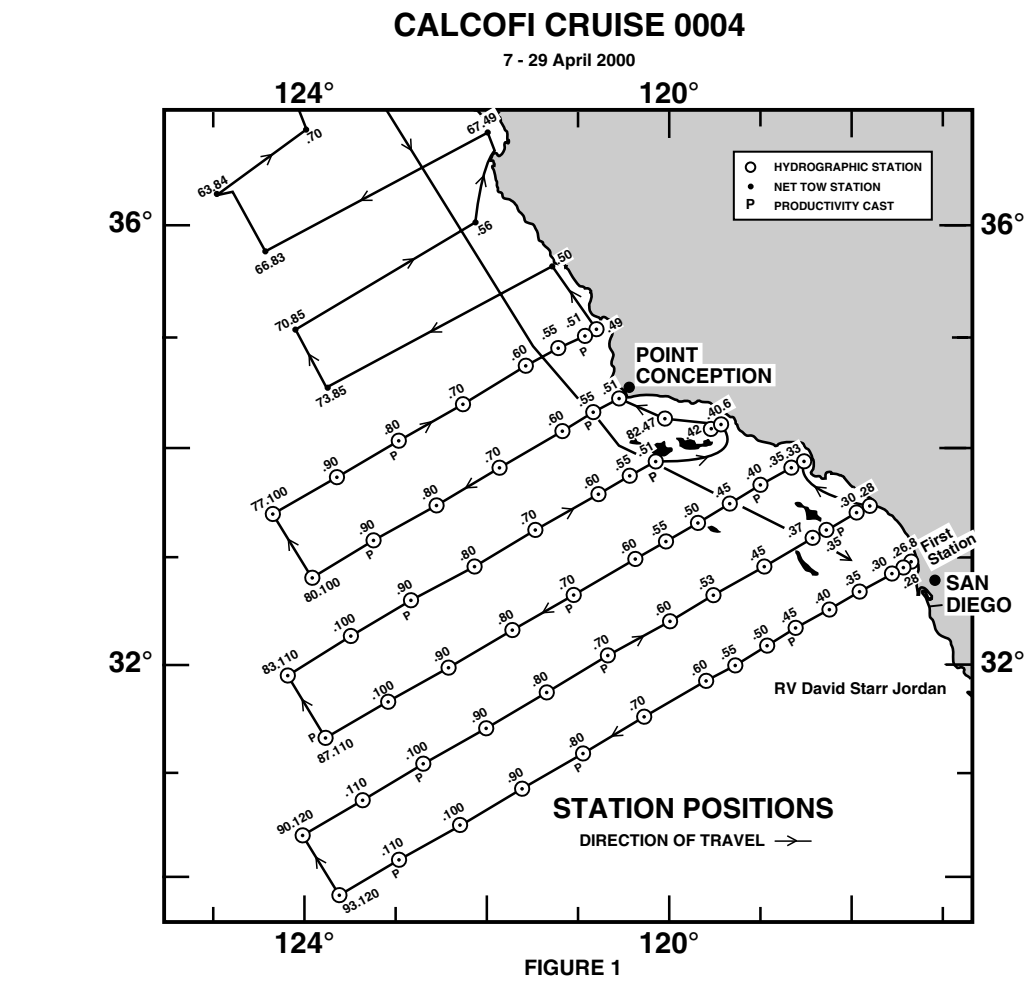

FIGURE 1

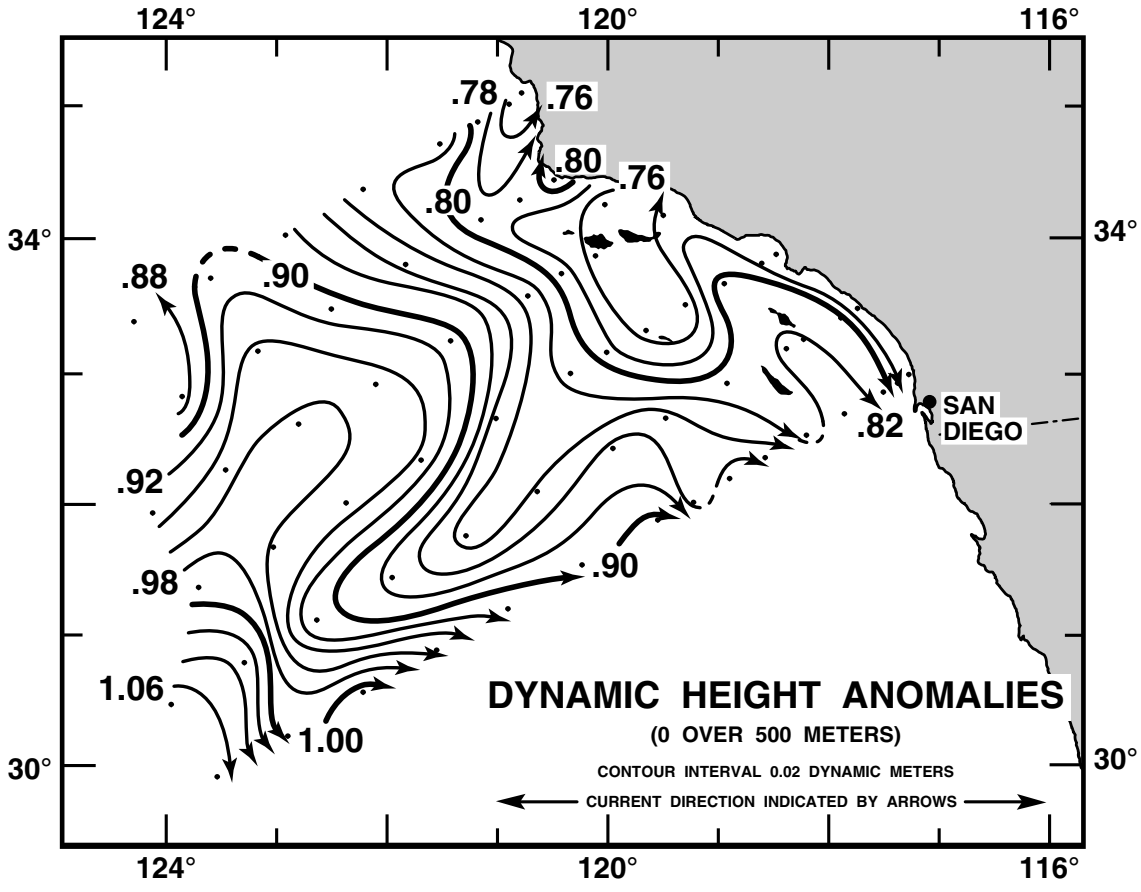

FIGURE 2

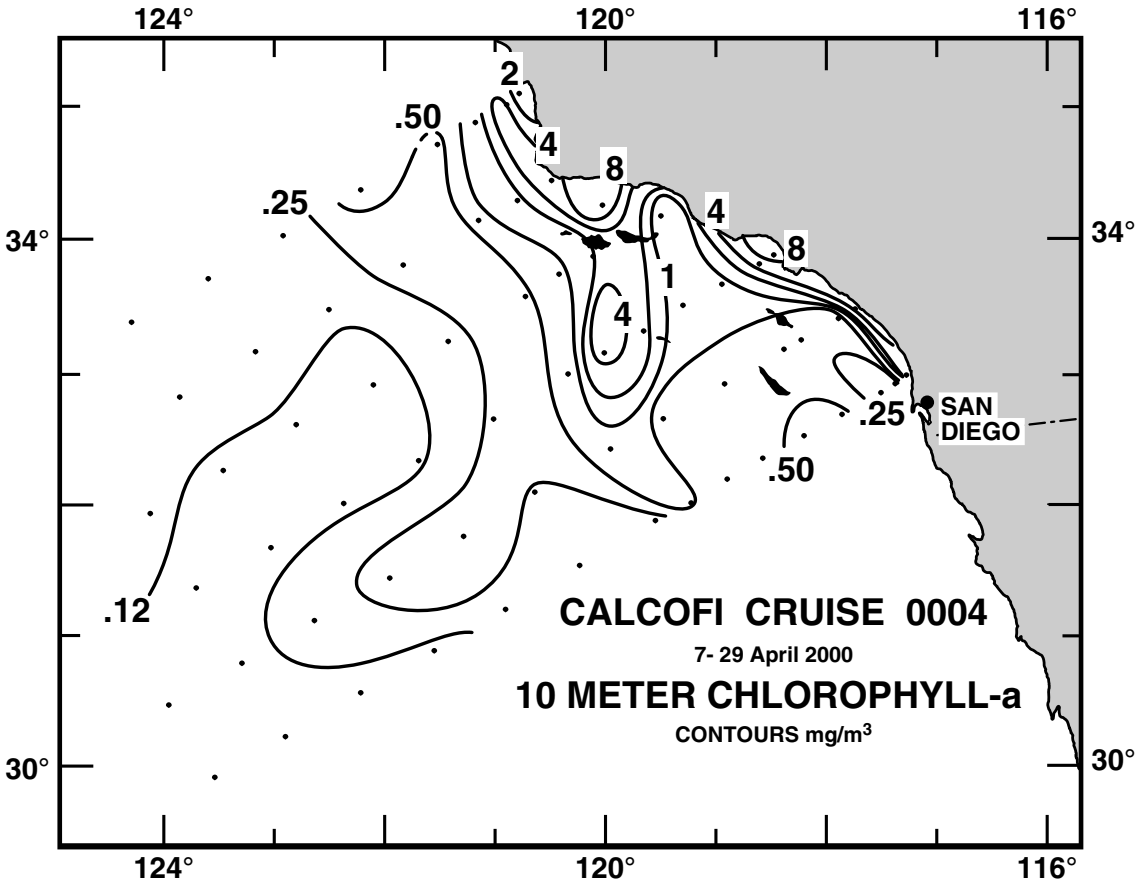

FIGURE 3A

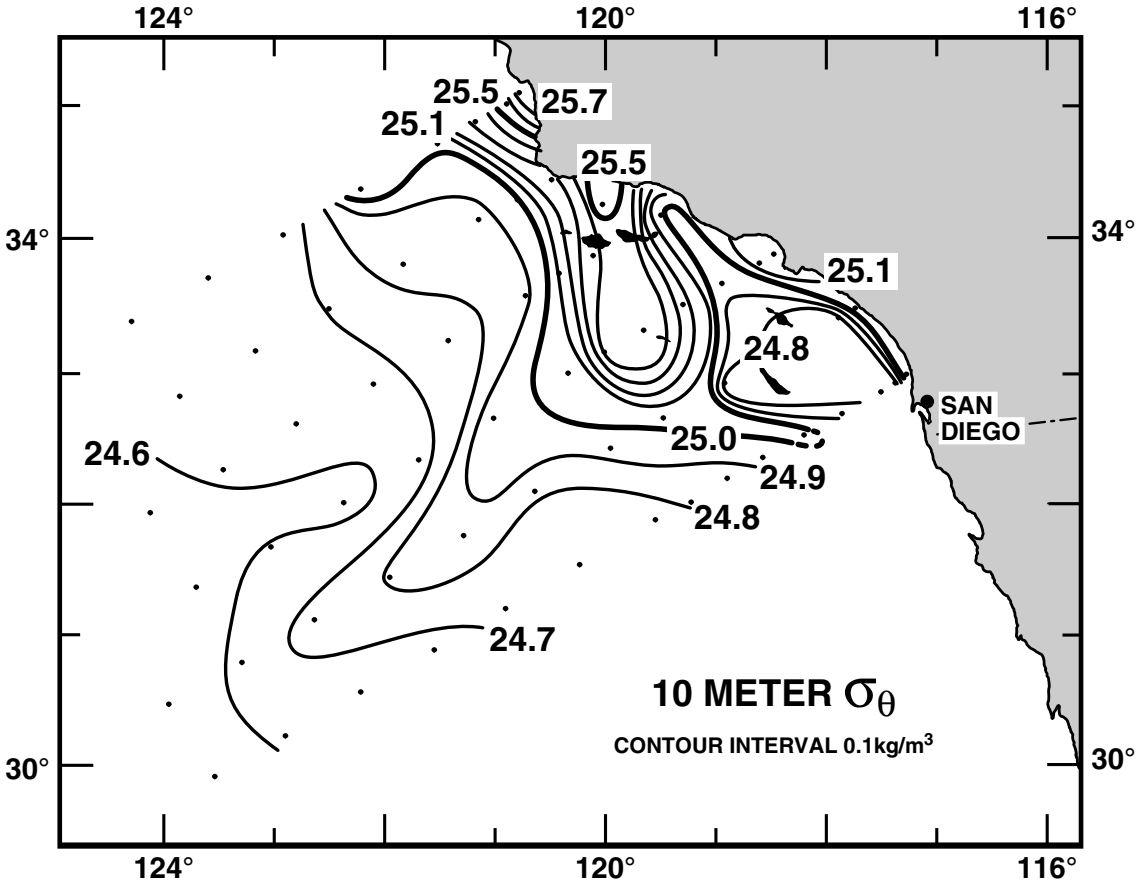

FIGURE 3B

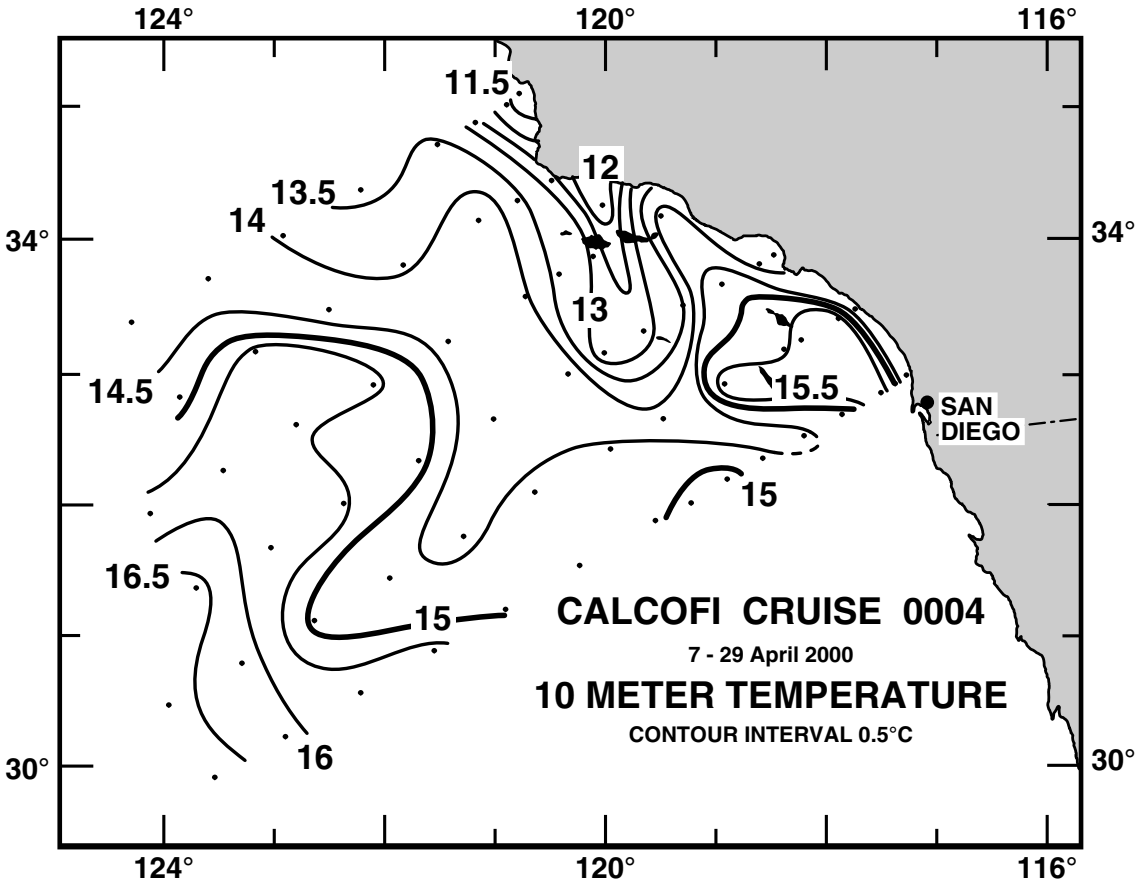

FIGURE 3C

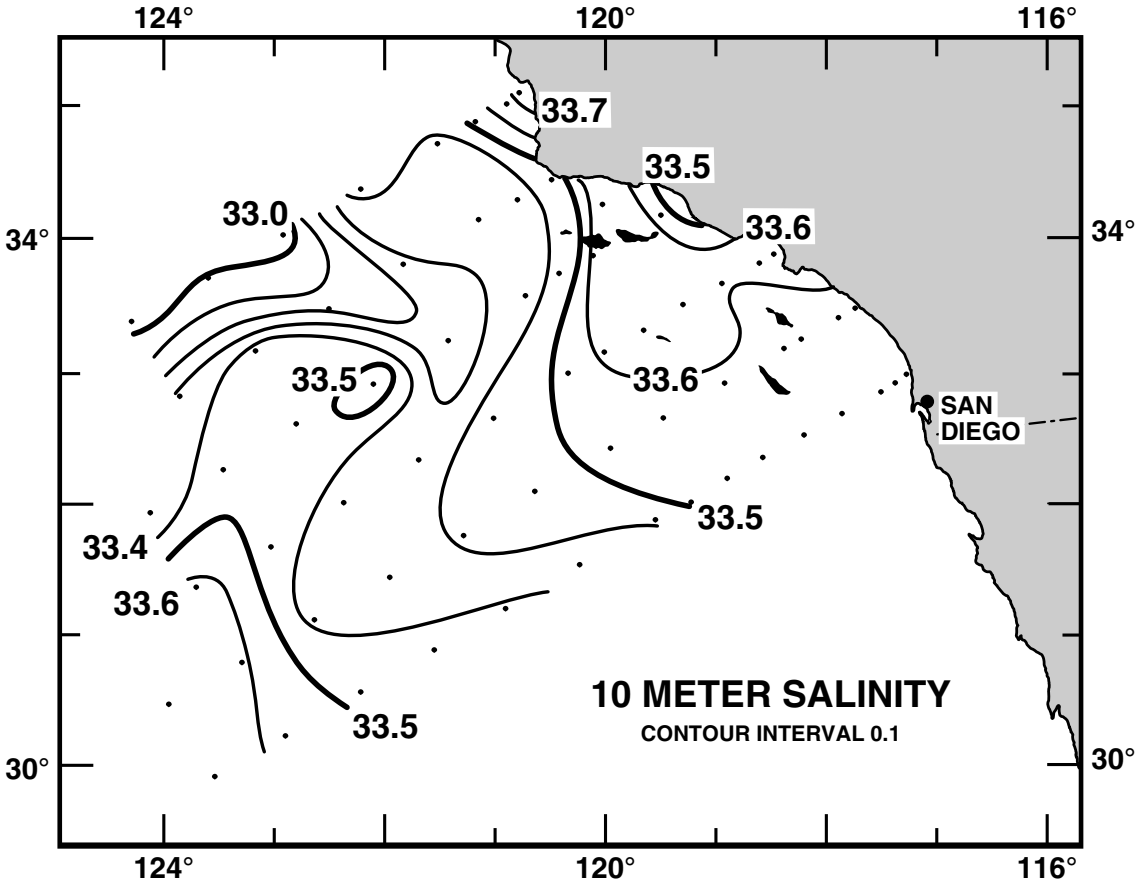

FIGURE 3D

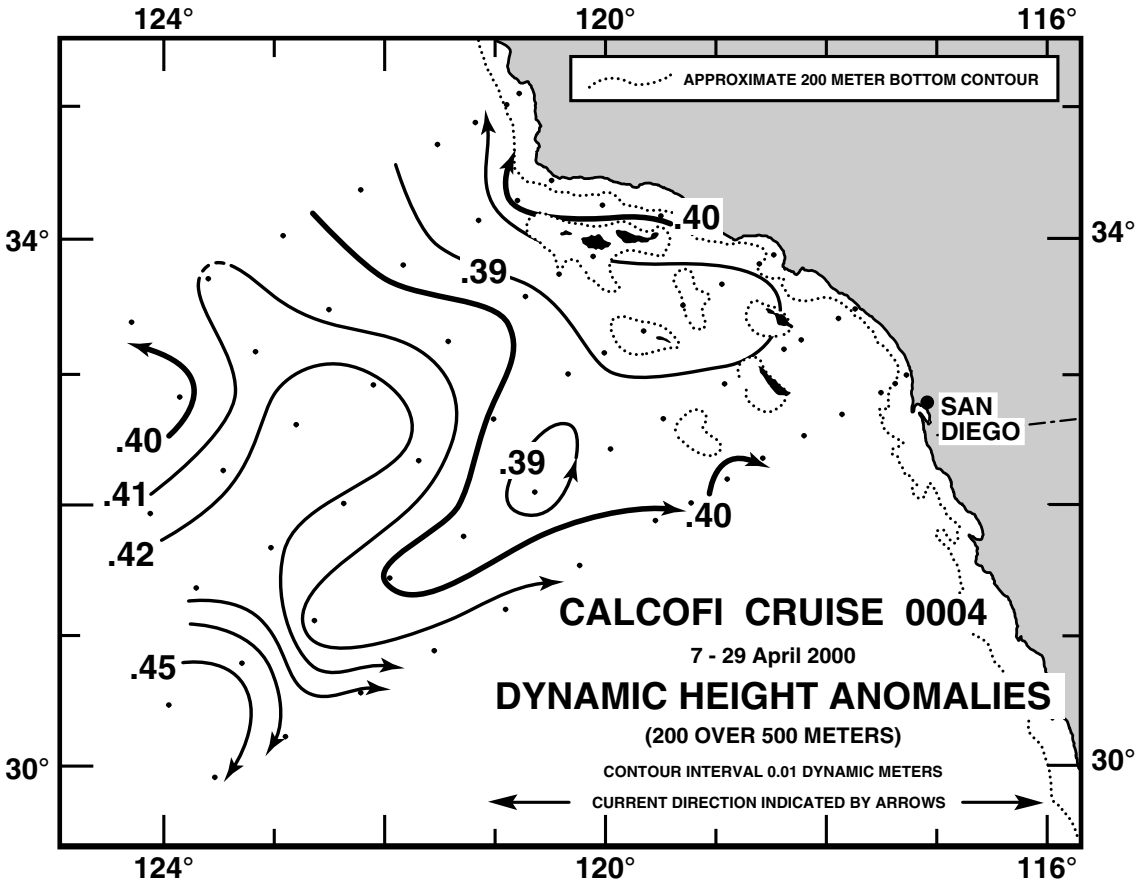

FIGURE 4A

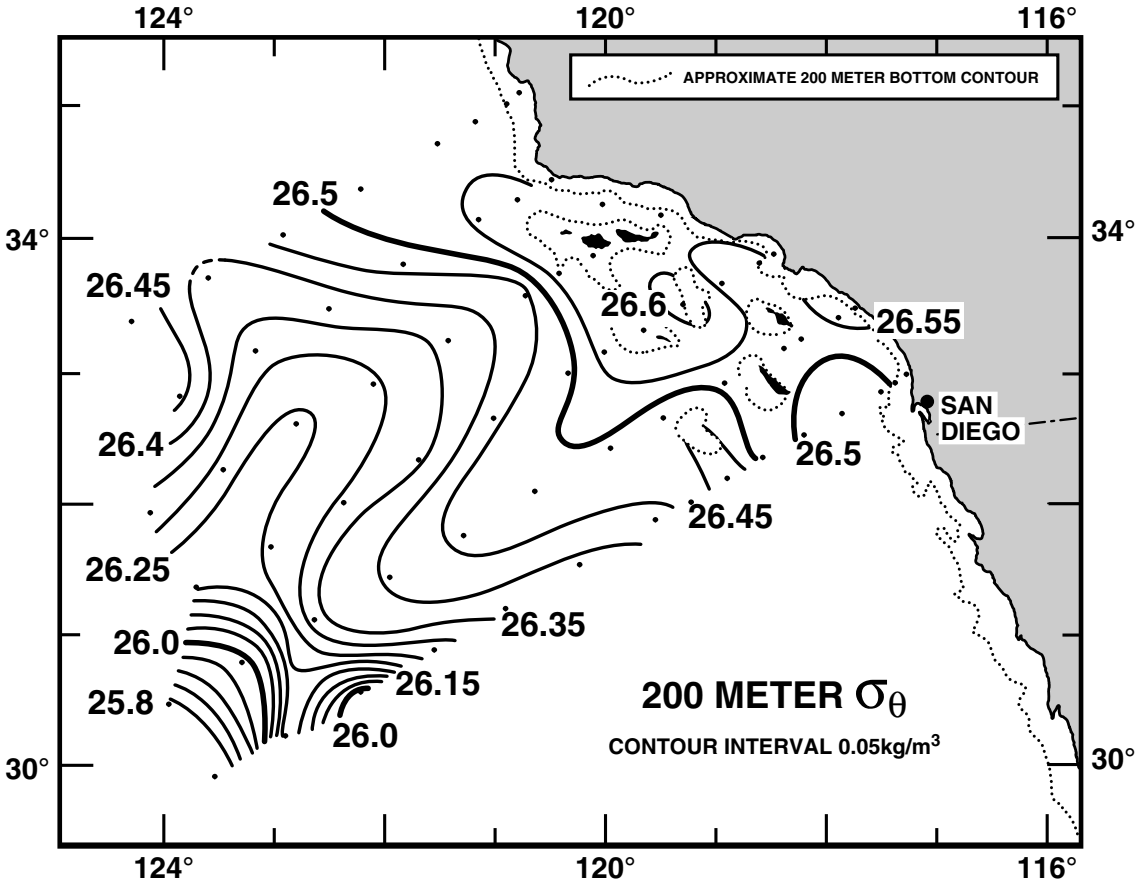

FIGURE 4B

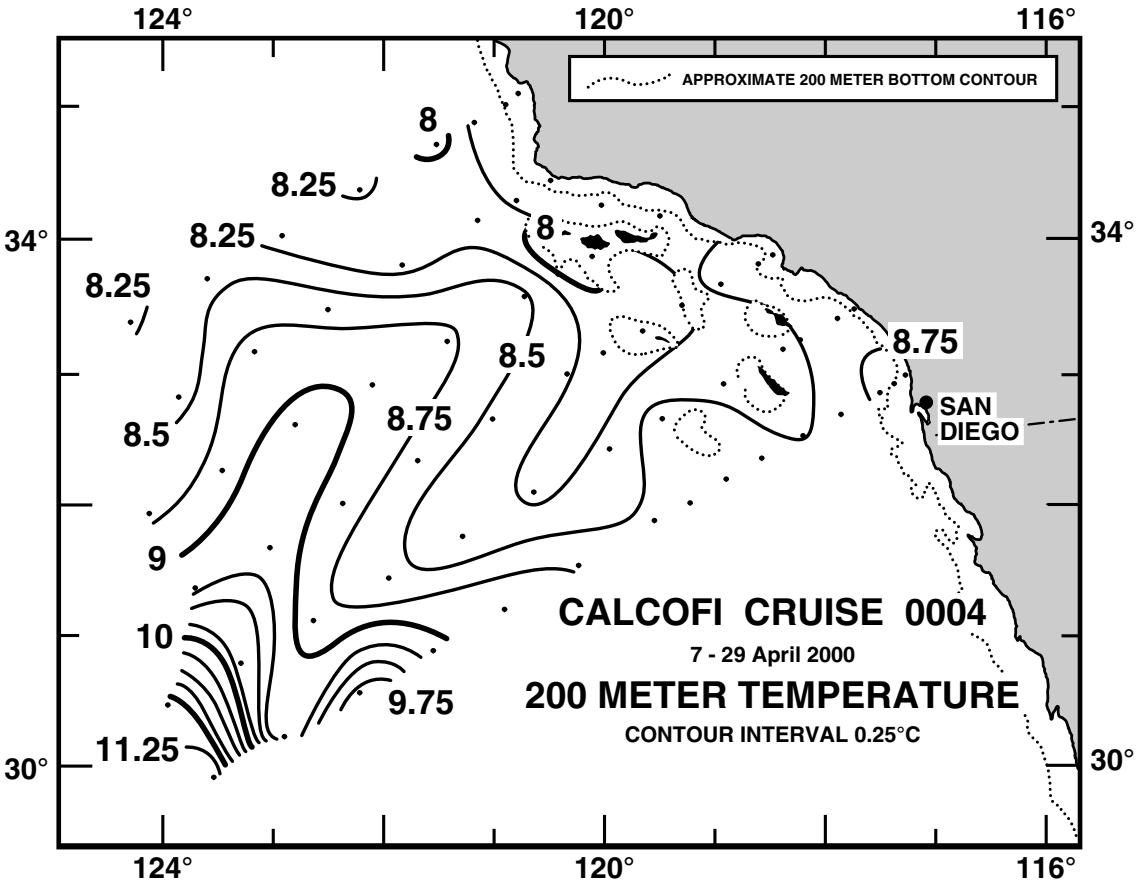

FIGURE 4C

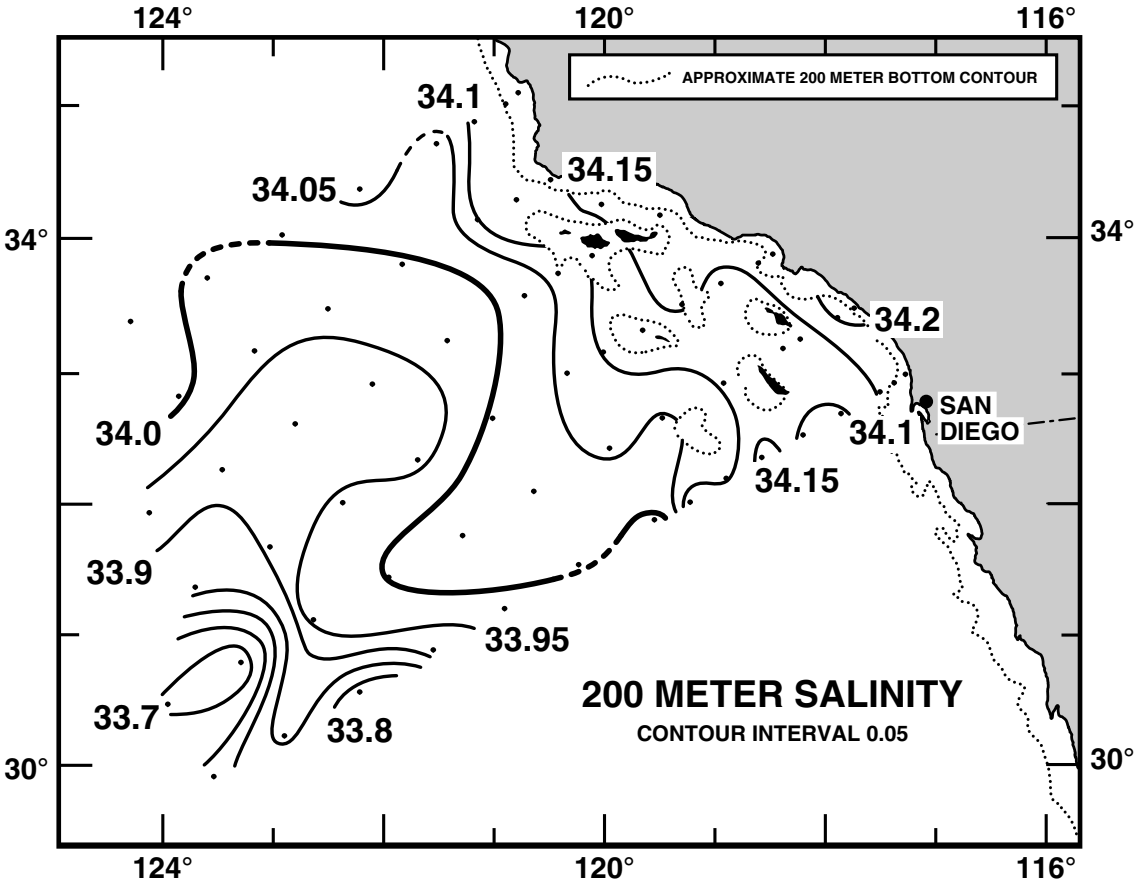

FIGURE 4D

CALCOFI CRUISE 0004

11 - 14 April 2000

POTENTIAL DENSITY (σ_θ) ALONG CALCOFI LINE 90

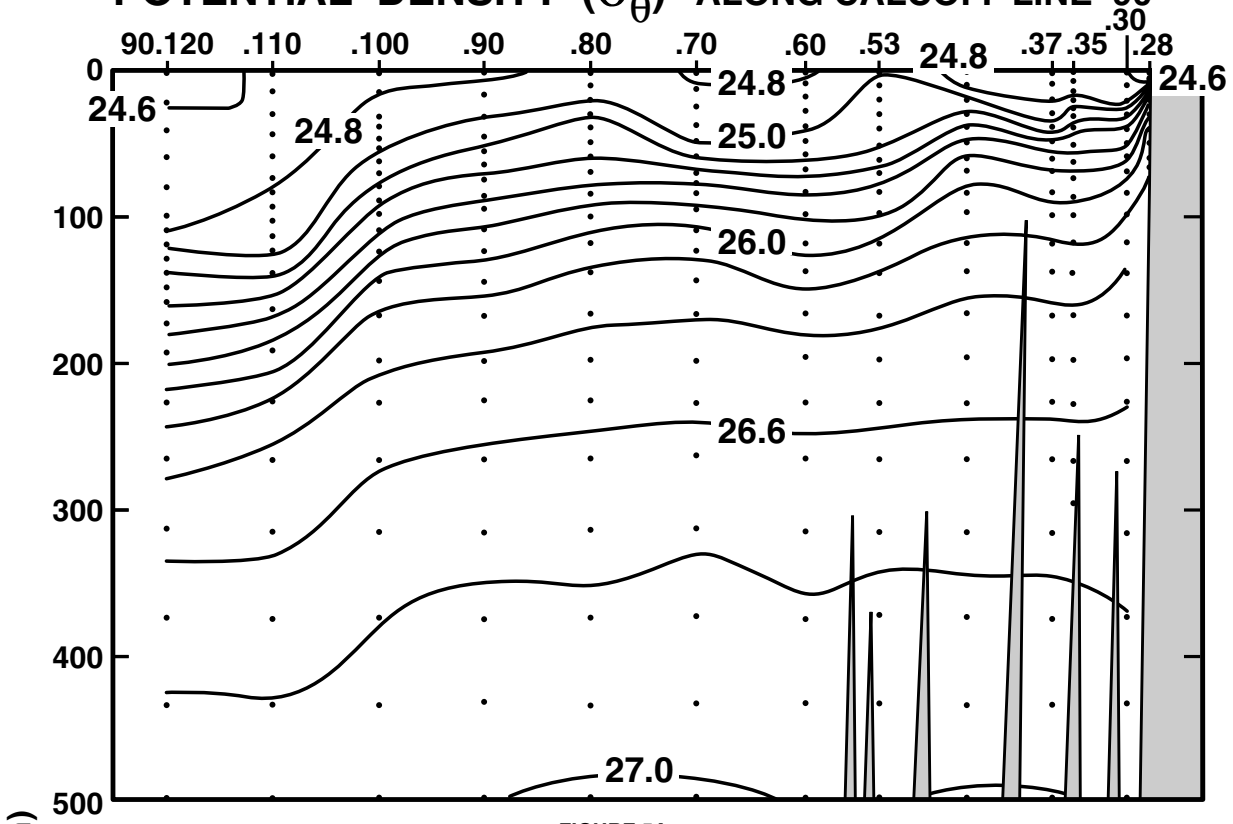

FIGURE 5A

TEMPERATURE (°C) ALONG CALCOFI LINE 90

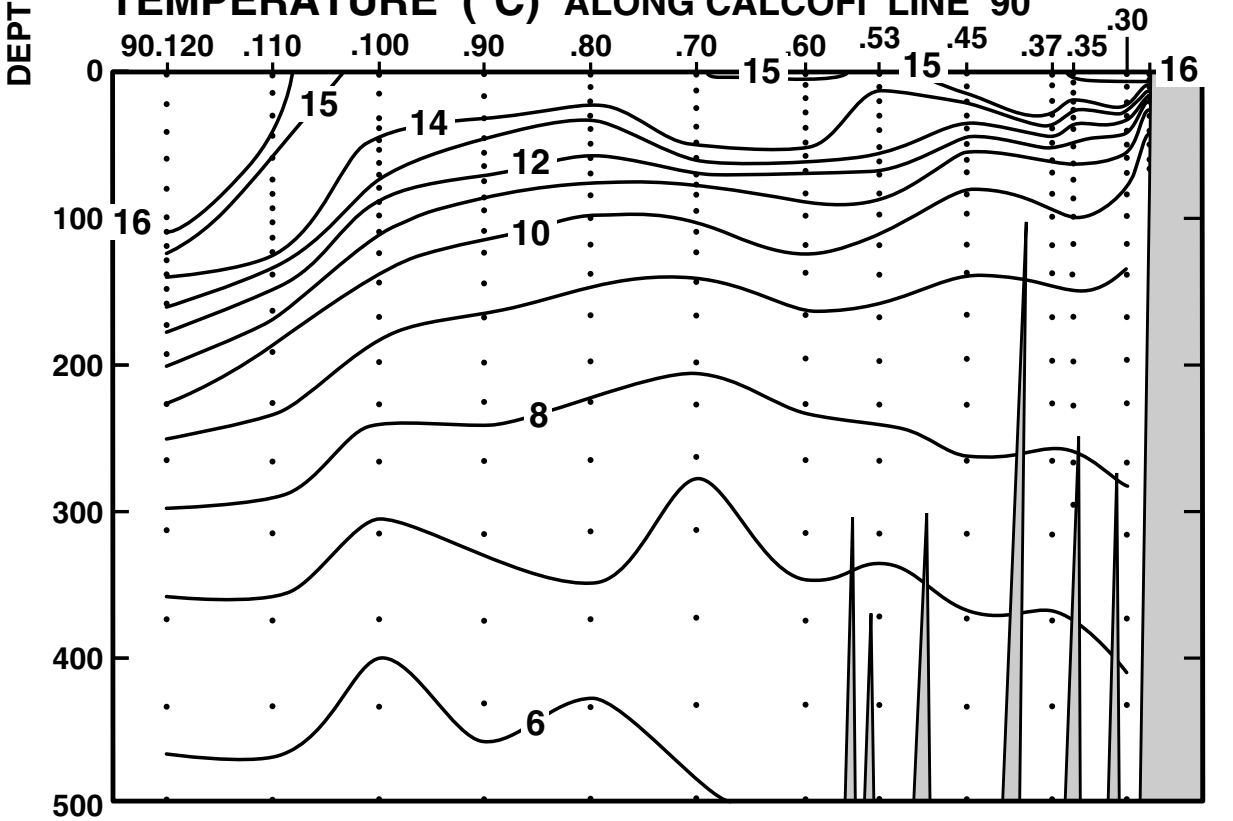

FIGURE 5B

CALCOFI CRUISE 0004

11 - 14 April 2000

SALINITY ALONG CALCOFI LINE 90

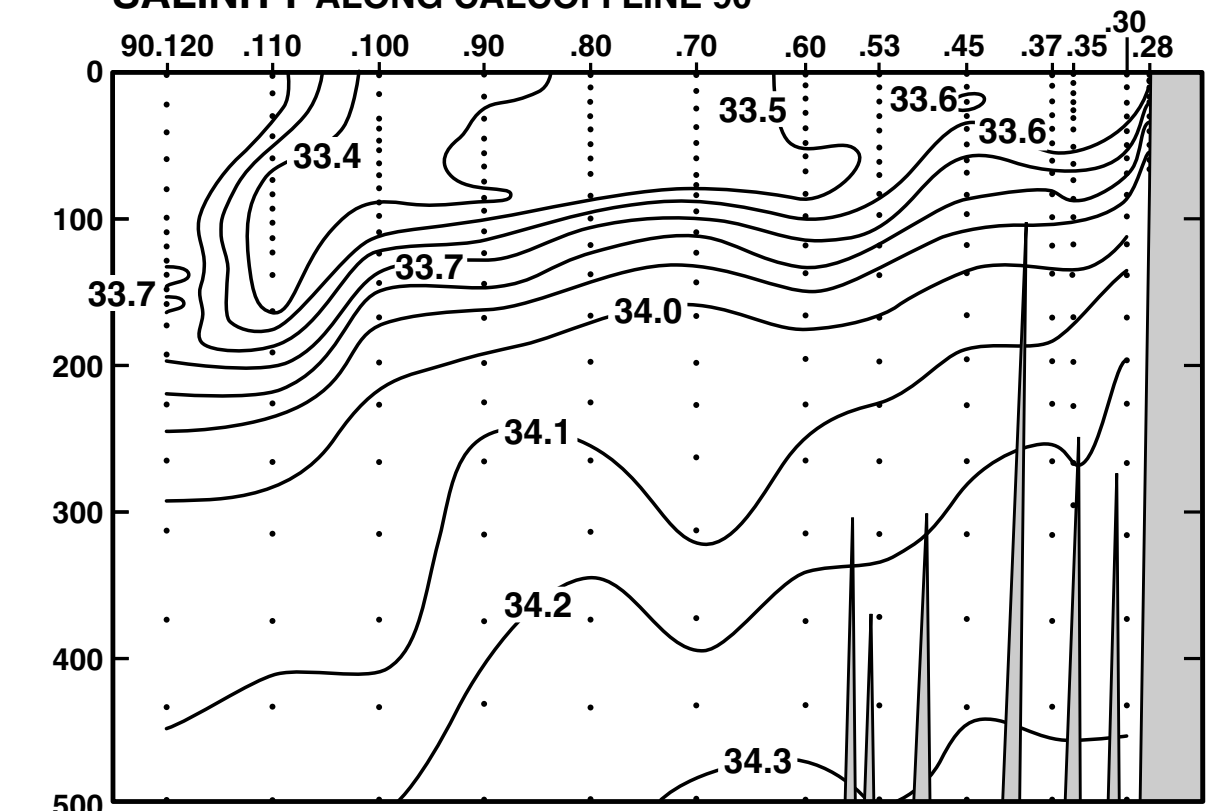

FIGURE 5C

SILICATE (μM/l) ALONG CALCOFI LINE 90

DEPTH (m)

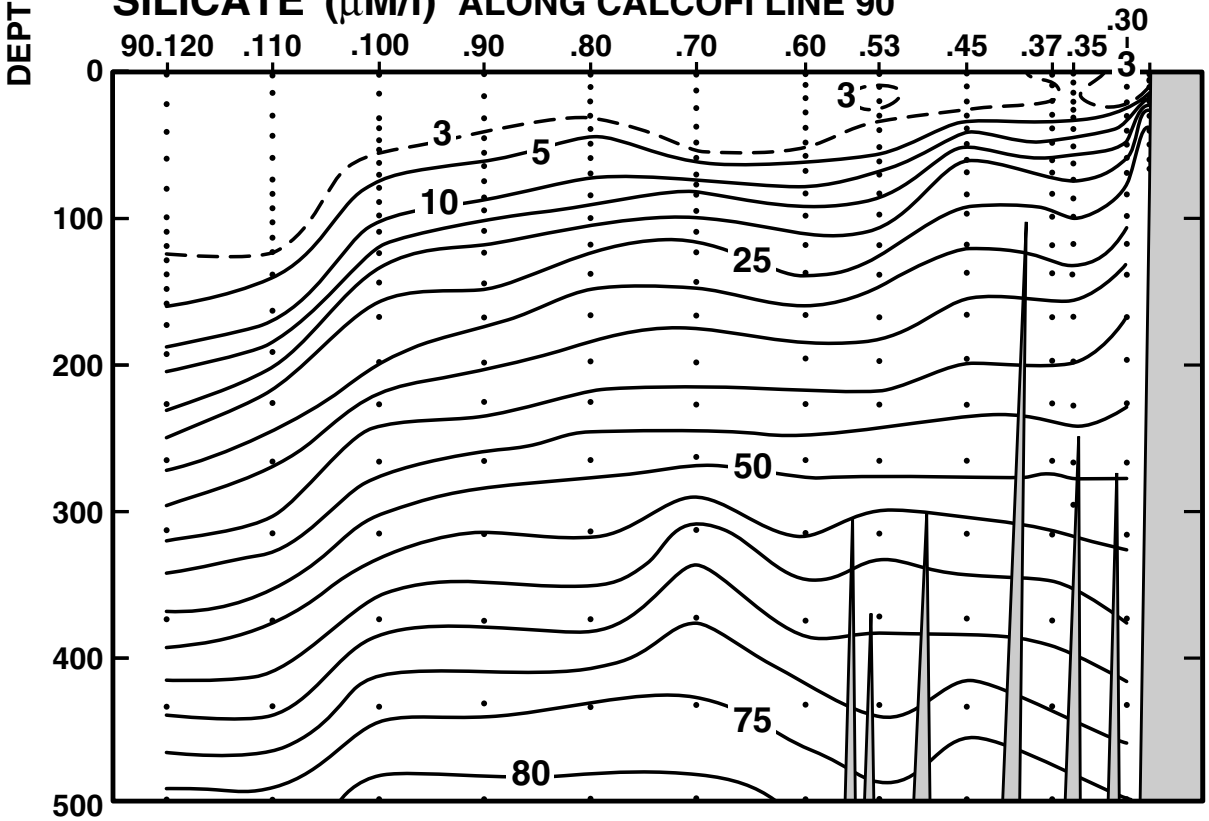

FIGURE 5D

CALCOFI CRUISE 0004

11 - 14 April 2000

NITRATE (μM/l) ALONG CALCOFI LINE 90

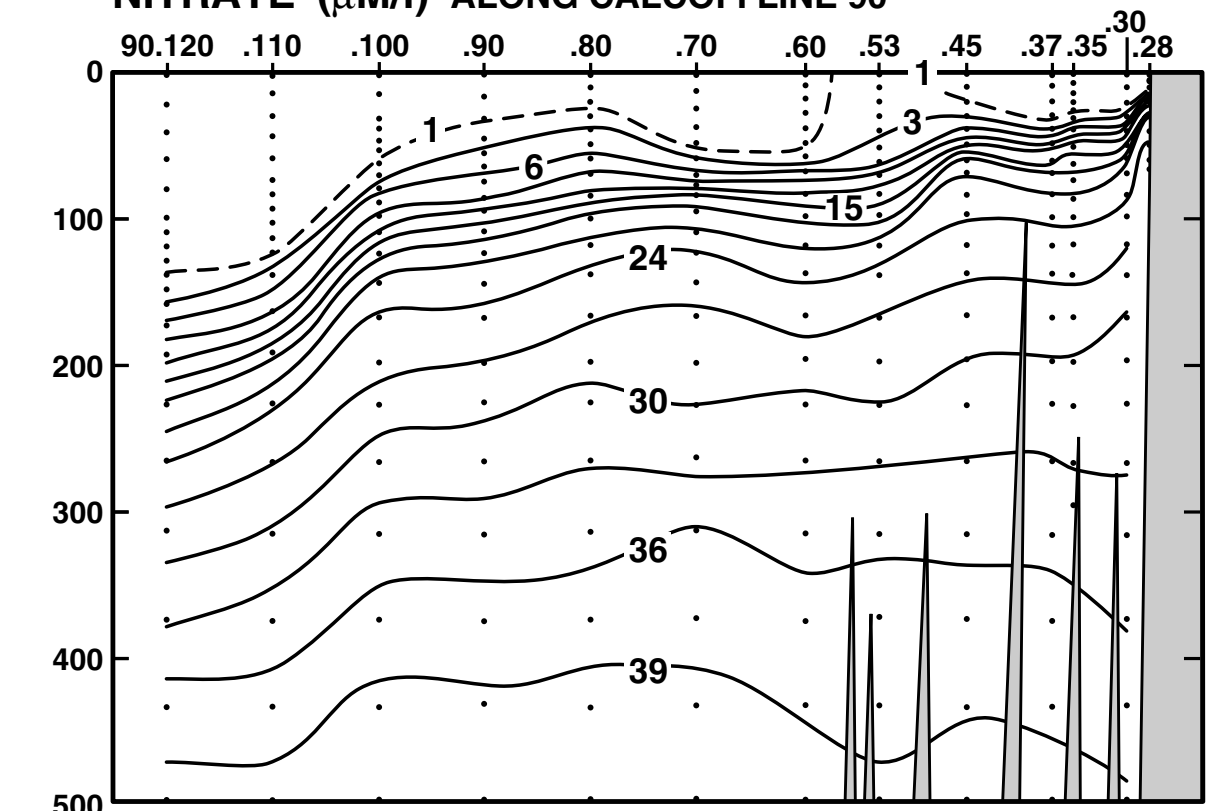

FIGURE 5E

PHOSPHATE (μM/l) ALONG CALCOFI LINE 90

DEPTH (m)

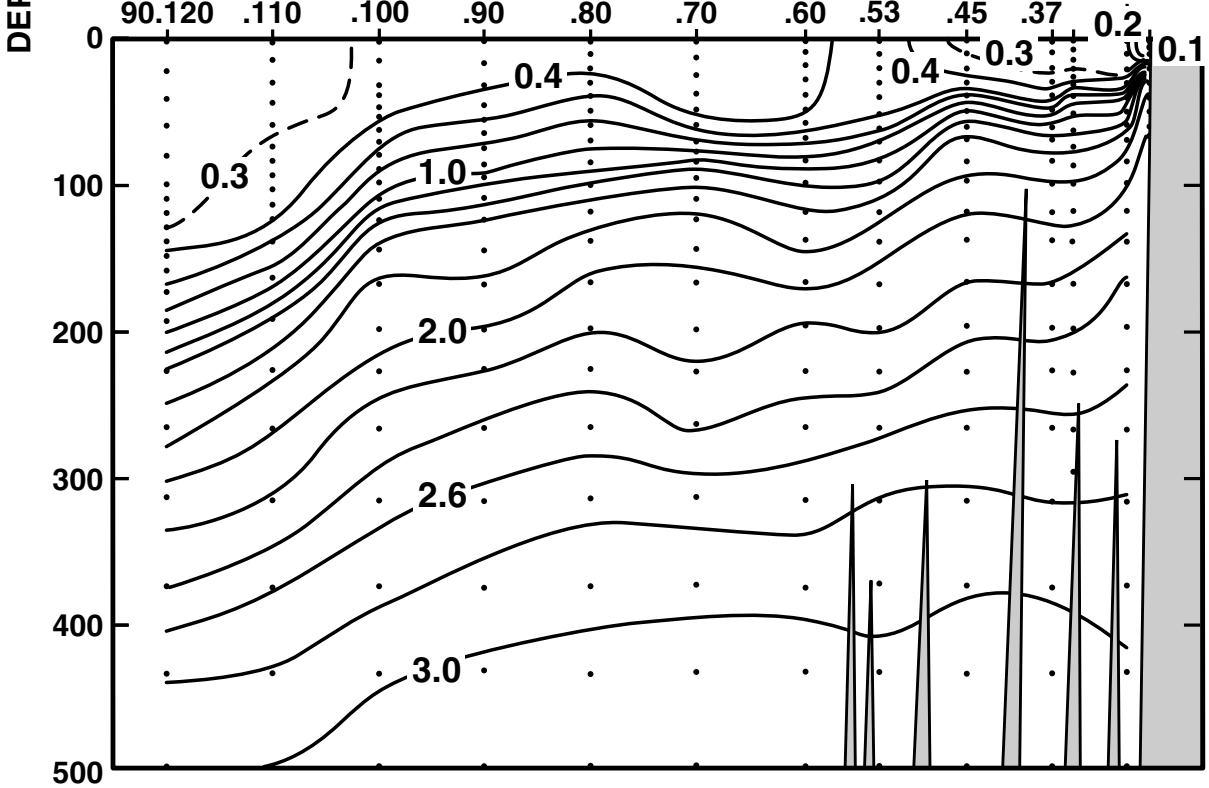

FIGURE 5F

CALCOFI CRUISE 0004

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

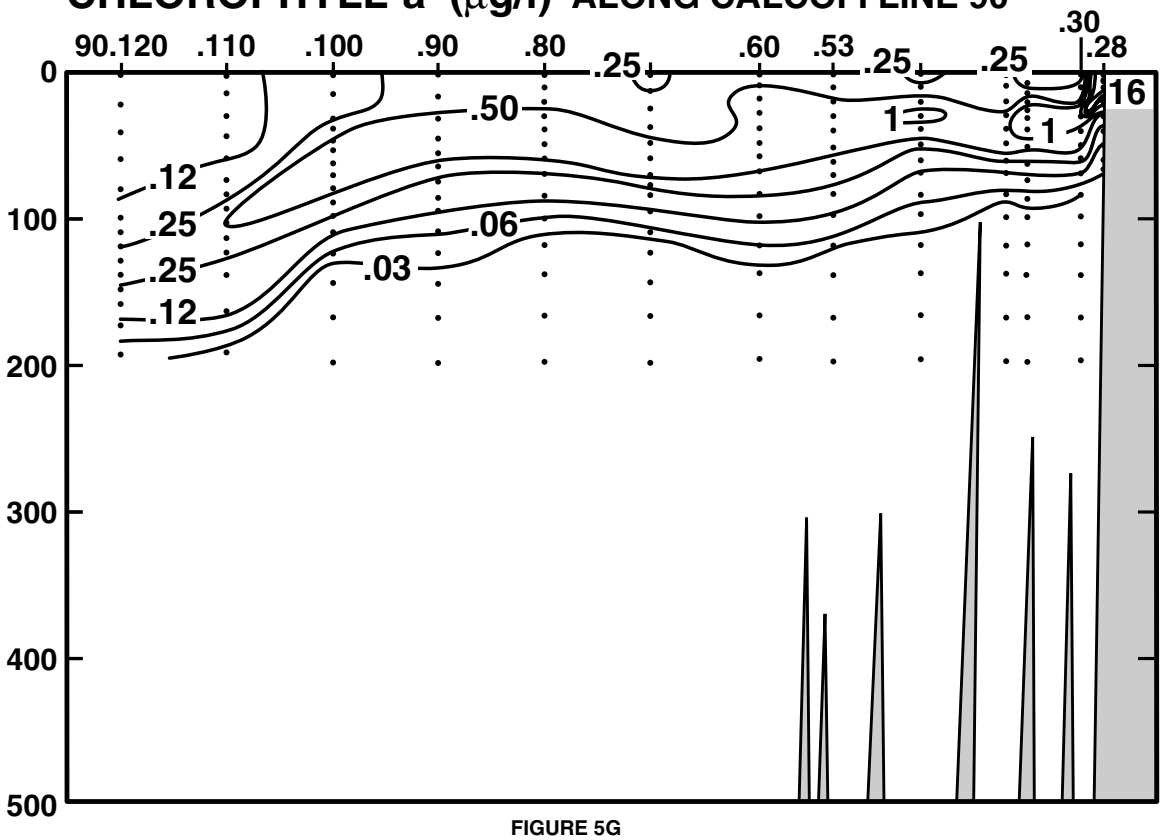

FIGURE 5G

OXYGEN SATURATION (%) ALONG CALCOFI LINE 90

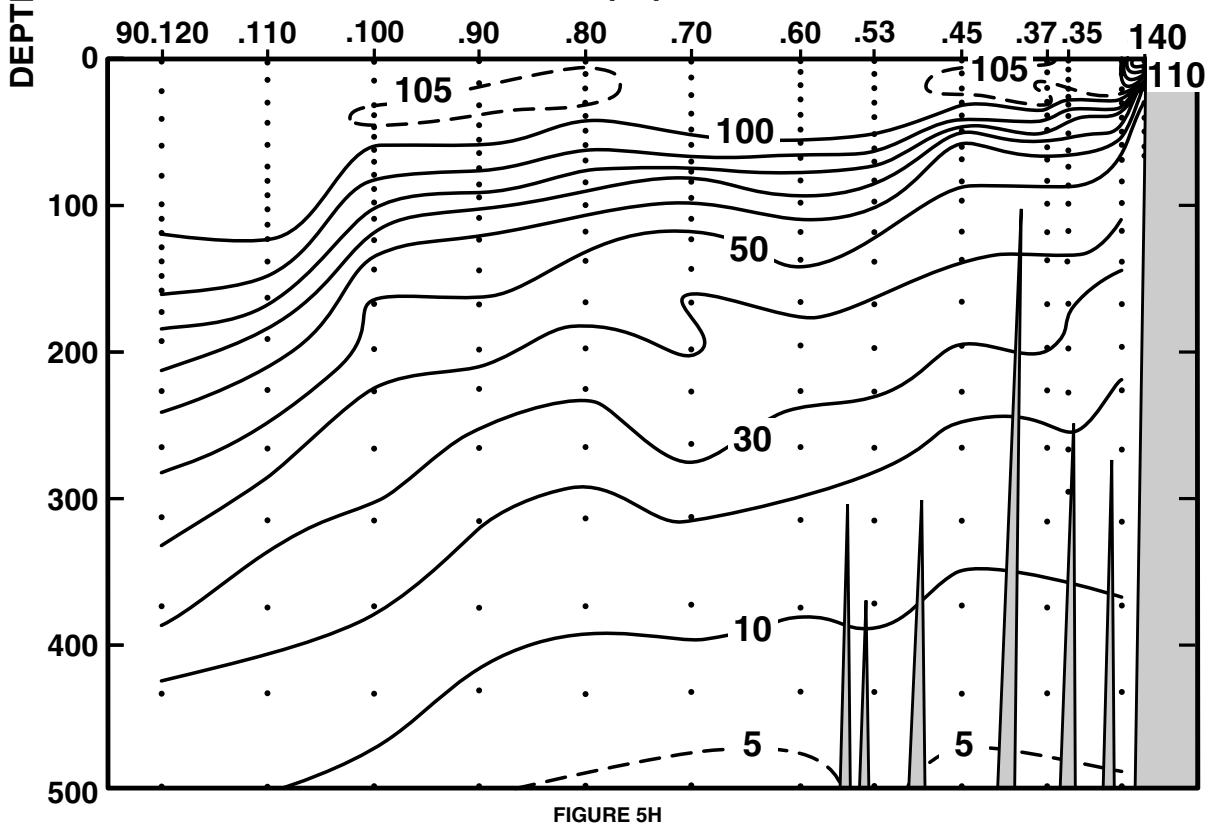

FIGURE 5H

CALCOFI CRUISE 0004

11 - 14 April 2000

OXYGEN (ml/l) ALONG CALCOFI LINE 90

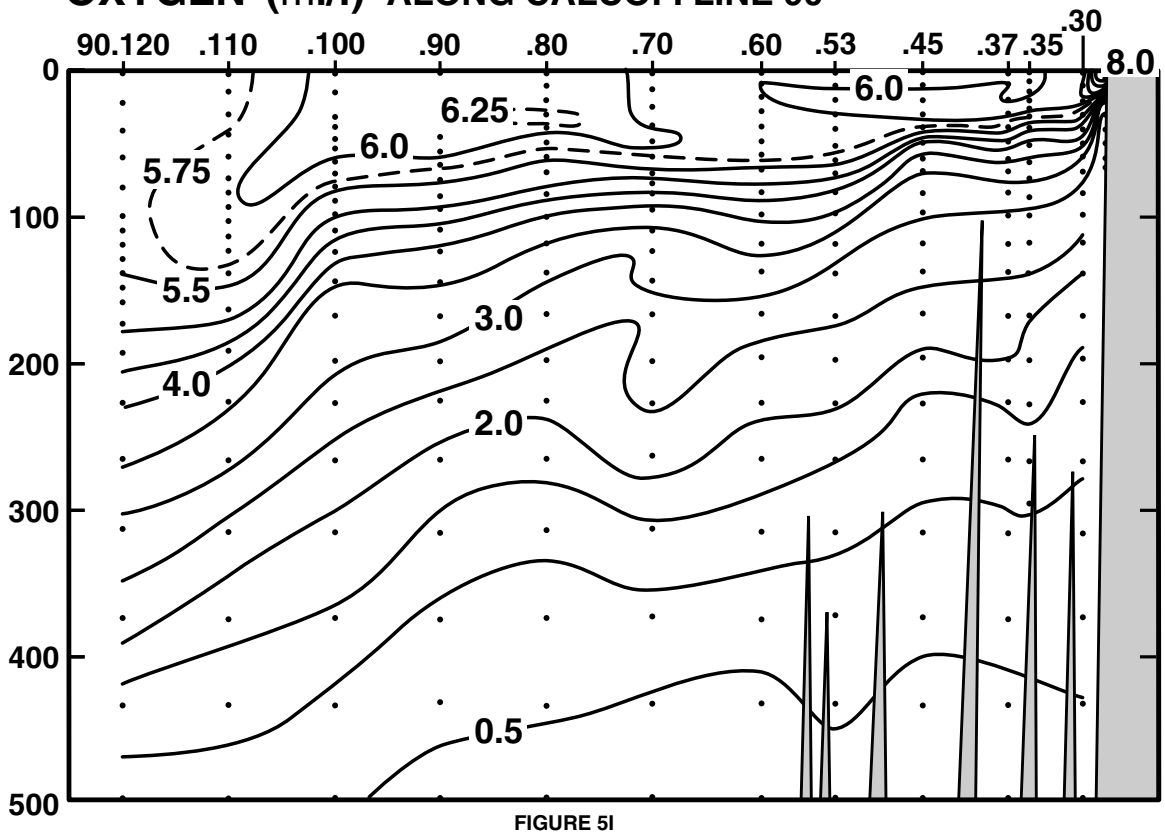

FIGURE 5I

NITRITE (μM/l) ALONG CALCOFI LINE 90

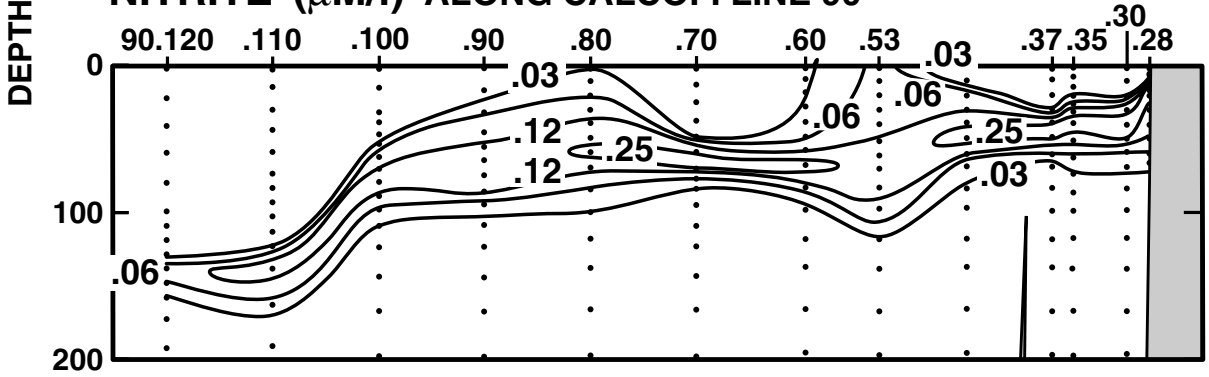

FIGURE 5J

PHAEOPIGMENTS (μg/l) ALONG CALCOFI LINE 90

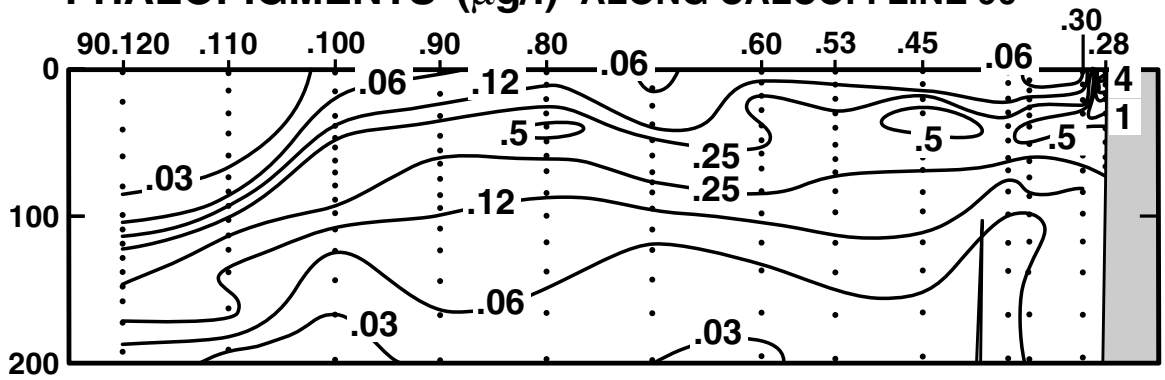

FIGURE 5K

RV DAVID STARR JORDAN CALCOFI CRUISE 0004 STATION 77 49

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
35 5.4 N	120 46.6 W	22/04/00	2042 UTC	65 m	290 16 kn	290 03 29	1	1022.1 mb	15.8 C	14.5 C		1/8	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	11.28	11.28	33.745	25.748	223.6	0.000	5.12	82.7	13.4	1.31	13.1	0.20	2.25	1.10	0	
1		11.28	11.28	33.745	25.748	223.6	0.002	5.12	82.7	13.4	1.31	13.1	0.20	2.25	1.10	1	208
6		11.26	11.26	33.745	25.752	223.4	0.013	5.13	82.8	13.4	1.31	13.0	0.19	2.29	1.26	6	207
10	ISL	11.06	11.06	33.750	25.792	219.7	0.022	4.92	79.1	14.1	1.37	13.5	0.20	1.28	1.08	10	
11		11.00	11.00	33.753	25.805	218.5	0.024	4.84	77.7	14.4	1.39	13.7	0.20	1.00	1.03	11	206
20	ISL	10.39	10.39	33.823	25.967	203.3	0.043	3.96	62.7	20.4	1.68	17.7	0.22	0.63	1.11	20	
21		10.33	10.33	33.831	25.984	201.7	0.045	3.87	61.2	21.1	1.71	18.2	0.22	0.59	1.12	21	205
30		10.29	10.29	33.842	25.999	200.4	0.064	3.77	59.6	22.5	1.74	18.8	0.23	0.79	1.23	30	204
41		10.23	10.23	33.850	26.016	199.1	0.086	3.70	58.4	23.0	1.76	19.2	0.23	0.86	1.39	41	203
49		10.18	10.17	33.855	26.029	198.1	0.101	3.60	56.8	23.6	1.80	19.6	0.23	0.65	1.59	49	202
50	ISL	10.17	10.16	33.856	26.031	197.8	0.103	3.58	56.5	23.8	1.80	19.7	0.23	0.65	1.60	50	
57		10.13	10.12	33.866	26.046	196.6	0.117	3.46	54.5	24.9	1.83	20.2	0.24	0.69	1.66	57	201

RV DAVID STARR JORDAN CALCOFI CRUISE 0004 STATION 77 51

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
35 1.4 N	120 55.0 W	22/04/00	1907 UTC	235 m	320 14 kn	320 04 08	1	1021.3 mb	15.2 C	12.0 C	07m	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	12.22	12.22	33.666	25.512	246.1	0.000	6.55	107.8	4.9	0.73	5.9	0.15	8.54	1.73	0	
1	A	12.22	12.22	33.666	25.512	246.1	0.002	6.55	107.8	4.9	0.73	5.9	0.15	8.54	1.73	1	218
1		12.24	12.24	33.666	25.508	246.5	0.002									1	219
6	A	11.94	11.94	33.667	25.566	241.1	0.015	6.43	105.2	5.4	0.80	6.3	0.15	7.03	1.92	6	217
10	A	11.90	11.90	33.668	25.574	240.4	0.024	6.32	103.3	5.5	0.84	6.6	0.15	6.27	1.77	10	216
14	A	11.89	11.89	33.669	25.577	240.2	0.034	6.31	103.2	5.3	0.81	6.6	0.15	7.56	2.99	14	215
19	A	11.83	11.83	33.670	25.589	239.2	0.046	6.11	99.8	6.2	0.89	7.3	0.16	5.47	2.68	19	214
20	ISL	11.80	11.80	33.671	25.595	238.6	0.048	6.10	99.5	6.6	0.90	7.6	0.16	4.85	2.51	20	
27	A	11.61	11.61	33.675	25.634	235.1	0.065	5.62	91.3	9.1	1.10	9.7	0.17	1.09	1.21	27	213
30	ISL	11.02	11.02	33.689	25.752	223.9	0.072	4.86	78.0	14.1	1.35	14.0	0.22	0.79	0.81	30	
34		10.28	10.28	33.725	25.910	209.0	0.080	3.91	61.8	20.6	1.66	19.4	0.27	0.39	0.46	34	212
40		10.18	10.18	33.802	25.987	201.8	0.093	3.72	58.7	22.4	1.75	20.2	0.25	0.37	0.49	40	211
50		9.96	9.95	33.868	26.076	193.5	0.112	3.39	53.2	25.3	1.88	21.4	0.24	0.22	0.65	50	210
60		9.82	9.81	33.902	26.126	189.0	0.132	3.15	49.3	27.4	1.97	22.5	0.25	0.20	0.70	60	209
70		9.66	9.65	33.923	26.169	185.1	0.150	2.90	45.2	29.5	2.04	23.8	0.26	0.18	0.76	70	208
75	ISL	9.52	9.51	33.942	26.208	181.6	0.159	2.67	41.5	31.6	2.11	24.8	0.26	0.17	0.77	75	
85		9.27	9.26	33.979	26.277	175.1	0.177	2.26	35.0	35.4	2.24	26.7	0.26	0.15	0.79	85	207
98		9.19	9.18	33.990	26.299	173.3	0.200	2.17	33.5	36.3	2.27	27.2	0.26	0.12	0.81	99	206
100	ISL	9.17	9.16	33.993	26.305	172.8	0.203	2.15	33.2	36.6	2.28	27.3	0.26	0.12	0.80	101	
119		8.93	8.92	34.027	26.370	167.0	0.236	1.93	29.6	39.5	2.35	28.7	0.23	0.11	0.71	120	205
125	ISL	8.88	8.87	34.033	26.382	165.9	0.246	1.89	29.0	39.9	2.36	28.9	0.22	0.10	0.68	126	
139		8.80	8.79	34.043	26.403	164.2	0.269	1.82	27.9	40.6	2.39	29.3	0.21	0.08	0.61	140	204
150	ISL	8.75	8.73	34.050	26.416	163.1	0.287	1.79	27.4	41.1	2.40	29.6	0.20	0.07	0.57	151	
170		8.64	8.62	34.066	26.446	160.6	0.319	1.74	26.5	42.1	2.42	30.1	0.19	0.07	0.52	171	203
195		8.37	8.35	34.097	26.512	154.8	0.359	1.62	24.6	44.5	2.49	31.1	0.15	0.05	0.44	196	202
200	ISL	8.31	8.29	34.108	26.530	153.1	0.366	1.57	23.8	45.3	2.51	31.4	0.14			201	
220		8.09	8.07	34.152	26.598	147.0	0.396	1.36	20.5	48.3	2.61	32.6	0.09			221	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV DAVID STARR JORDAN CALCOFI CRUISE 0004 STATION 77 55

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
34 53.3 N	121 11.9 W	22/04/00	1223 UTC	560 m	300 16 kn			1020.7 mb	13.0 C	10.5 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	12.60	12.60	33.533	25.336	262.8	0.000	5.99	99.3	6.1	0.76	6.5	0.13	1.12	0.55	0	
2		12.60	12.60	33.533	25.336	262.9	0.005	5.99	99.3	6.1	0.76	6.5	0.13	1.12	0.55	2	220
10		12.60	12.60	33.533	25.336	263.1	0.026	5.98	99.2	6.1	0.76	6.5	0.13	1.11	0.52	10	219
20		12.44	12.44	33.539	25.372	259.9	0.052	5.81	96.0	6.8	0.84	7.1	0.15	1.06	0.52	20	218
30		11.47	11.47	33.583	25.588	239.5	0.077	5.17	83.7	10.8	1.14	10.3	0.22	0.75	0.39	30	217
41		11.15	11.14	33.634	25.686	230.5	0.103	4.76	76.6	13.8	1.31	13.2	0.28	0.37	0.23	41	216
50		10.77	10.76	33.690	25.798	220.1	0.124	4.43	70.7	17.3	1.50	16.2	0.30	0.16	0.17	50	215
60		10.43	10.42	33.730	25.889	211.6	0.145	4.00	63.4	20.5	1.64	18.7	0.28	0.09	0.17	60	214
70		10.07	10.06	33.755	25.970	204.1	0.166	3.56	56.0	23.3	1.77	21.5	0.27	0.09	0.21	70	213
75	ISL	9.94	9.93	33.774	26.007	200.7	0.176	3.40	53.3	24.6	1.83	22.6	0.26	0.08	0.22	75	
85		9.78	9.77	33.810	26.062	195.7	0.196	3.17	49.5	26.6	1.91	24.0	0.24	0.06	0.23	85	212
100		9.72	9.71	33.830	26.088	193.5	0.225	3.07	47.9	27.4	1.94	24.6	0.23	0.05	0.22	101	211
120		9.39	9.38	33.907	26.202	183.0	0.263	2.63	40.8	30.8	2.06	26.8	0.07	0.04	0.24	121	210
125	ISL	9.29	9.28	33.931	26.237	179.8	0.272	2.52	39.0	31.8	2.10	27.3	0.05	0.04	0.25	126	
139		9.01	9.00	33.992	26.330	171.2	0.296	2.27	34.9	34.5	2.19	28.4	0.03	0.04	0.26	140	209
150	ISL	8.89	8.87	34.016	26.368	167.8	0.315	2.17	33.3	35.7	2.23	28.9	0.03	0.03	0.25	151	
168		8.74	8.72	34.044	26.414	163.7	0.345	2.03	31.0	37.5	2.28	29.6	0.03	0.02	0.21	169	208
199		8.38	8.36	34.134	26.540	152.2	0.394	1.52	23.1	43.3	2.50	31.8	0.01	0.01	0.10	200	207
200	ISL	8.37	8.35	34.136	26.543	151.9	0.395	1.51	22.9	43.5	2.51	31.9	0.01			201	
228		8.00	7.98	34.172	26.627	144.3	0.437	1.26	19.0	48.4	2.64	33.3	0.01			229	206
250	ISL	7.86	7.83	34.189	26.661	141.4	0.468	1.16	17.4	50.5	2.69	33.9	0.01			252	
269		7.72	7.69	34.191	26.684	139.6	0.495	1.12	16.7	52.0	2.72	34.4	0.01			271	205
300	ISL	7.17	7.14	34.157	26.735	134.8	0.537	1.13	16.7	56.4	2.76	35.5	0.01			302	
320		6.82	6.79	34.136	26.767	131.9	0.564	1.14	16.7	59.3	2.78	36.2	0.01			322	204
379		6.57	6.54	34.171	26.829	126.8	0.640	0.91	13.2	65.2	2.91	37.6	0.01			382	203
400	ISL	6.38	6.34	34.179	26.860	124.0	0.667	0.82	11.9	68.4	2.96	38.4	0.01			403	
435		6.05	6.01	34.194	26.914	119.0	0.709	0.69	9.9	73.9	3.04	39.6	0.00			438	202
500	ISL	5.75	5.71	34.237	26.986	112.8	0.785	0.50	7.1	81.7	3.15	40.6	0.02			504	
518		5.67	5.63	34.249	27.006	111.2	0.805	0.45	6.4	83.8	3.18	40.9	0.02			522	201

RV DAVID STARR JORDAN CALCOFI CRUISE 0004 STATION 77 60

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
34 43.5 N	121 32.7 W	22/04/00	0808 UTC	918 m	330 16 kn			1020.1 mb	14.0 C	11.7 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	13.62	13.62	33.370	25.006	294.2	0.000	6.09	103.1	3.1	0.44	1.6	0.06	0.38	0.15	0	
2		13.62	13.62	33.370	25.006	294.2	0.006	6.09	103.1	3.1	0.44	1.6	0.06	0.38	0.15	2	220
10	ISL	13.62	13.62	33.370	25.007	294.4	0.029	6.11	103.4	3.1	0.44	1.6	0.06	0.39	0.15	10	
15		13.62	13.62	33.370	25.007	294.5	0.044	6.12	103.6	3.1	0.44	1.6	0.06	0.39	0.15	15	219
20	ISL	13.62	13.62	33.370	25.007	294.7	0.059	6.12	103.6	3.1	0.44	1.6	0.06	0.39	0.15	20	
30		13.62	13.62	33.370	25.007	294.9	0.088	6.13	103.7	3.0	0.44	1.6	0.06	0.40	0.16	30	218
45		13.12	13.11	33.428	25.153	281.4	0.132	6.18	103.5	3.0	0.50	2.2	0.08	0.70	0.32	45	217
50	ISL	13.04	13.03	33.450	25.186	278.4	0.146	6.15	102.9	3.0	0.52	2.3	0.09	0.72	0.40	50	
55		12.90	12.89	33.463	25.224	274.9	0.159	6.13	102.2	3.1	0.55	2.7	0.12	0.74	0.44	55	216
65		12.06	12.05	33.428	25.359	262.2	0.186	5.79	94.8	5.1	0.73	5.0	0.23	0.57	0.28	65	215
74		10.71	10.70	33.437	25.612	238.3	0.209	4.83	76.9	12.3	1.15	13.0	0.09	0.26	0.16	74	214
75	ISL	10.68	10.67	33.449	25.626	236.9	0.211	4.78	76.0	12.7	1.17	13.4	0.08	0.25	0.16	75	
85		10.36	10.35	33.524	25.740	226.3	0.234	4.38	69.2	15.8	1.36	16.4	0.04	0.19	0.14	85	213
95		10.12	10.11	33.664	25.891	212.2	0.256	3.75	59.0	20.6	1.62	20.4	0.03	0.11	0.09	95	212
100	ISL	10.00	9.99	33.705	25.943	207.3	0.267	3.56	55.9	22.1	1.70	21.6	0.03	0.08	0.07	101	
110		9.69	9.68	33.764	26.041	198.1	0.287	3.34	52.1	24.4	1.79	23.1	0.02	0.03	0.06	111	211
123		9.09	9.08	33.851	26.207	182.5	0.312	3.28	50.5	27.7	1.86	24.5	0.01	0.01	0.07	124	210
125	ISL	9.05	9.04	33.859	26.219	181.4	0.315	3.27	50.3	28.0	1.87	24.6	0.01	0.01	0.07	126	
146		8.83	8.81	33.913	26.297	174.4	0.353	3.19	48.8	29.9	1.90	25.5	0.01	0.01	0.05	147	209
150	ISL	8.79	8.77	33.925	26.312	173.0	0.360	3.18	48.6	30.2	1.91	25.6	0.01	0.01	0.05	151	
170		8.57	8.55	33.979	26.389	166.0	0.394	3.07	46.7	32.6	1.96	26.4	0.01	0.01	0.05	171	208
199		7.97	7.95	34.025	26.516	154.3	0.440	2.63	39.5	39.2	2.17	29.2	0.01	0.00	0.04	200	207
200	ISL	7.95	7.93	34.026	26.520	154.0	0.442	2.61	39.2	39.4	2.18	29.3	0.01			201	
230		7.55	7.53	34.055	26.601	146.6	0.487	2.12	31.5	45.4	2.38	31.8	0.01			231	206
250	ISL	7.35	7.33	34.064	26.636	143.5	0.516	1.96	29.0	48.1	2.46	32.7	0.01			252	
269		7.19	7.16	34.069	26.663	141.2	0.543	1.86	27.4	50.4	2.51	33.4	0.01			271	205
300	ISL	6.88	6.85	34.075	26.710	137.0	0.586	1.66	24.3	54.6	2.61	34.7	0.00			302	
318		6.73	6.70	34.086	26.740	134.4	0.610	1.52	22.2	57.3	2.67	35.5	0.00			320	204
378		6.53	6.50	34.205	26.861	123.8	0.688	0.76	11.1	67.6	2.96	38.1	0.00			381	203
400	ISL	6.44	6.40	34.234	26.896	120.7	0.715	0.61	8.9	70.7	3.02	38.7	0.00			403	
437		6.26	6.22	34.271	26.948	116.1	0.758	0.45	6.5	75.2	3.10	39.5	0.00			440	202
500	ISL	5.91	5.87	34.301	27.017	110.1	0.830	0.35	5.0	81.6	3.18	40.8	0.00			504	
512		5.84	5.80	34.307	27.031	108.9	0.843	0.33	4.7	82.8	3.20	41.0	0.00			516	201

RV DAVID STARR JORDAN CALCOFI CRUISE 0004 STATION 77 70

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
34 23.2 N	122 14.8 W	22/04/00	0147 UTC	4015 m	320 22 kn	320 06 07	1	1019.1 mb	14.4 C	11.9 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	13.48	13.48	33.447	25.094	285.8	0.000	6.17	104.2	3.1	0.51	2.9	0.08	0.73	0.31	0	
3		13.48	13.48	33.447	25.094	285.9	0.009	6.17	104.2	3.1	0.51	2.9	0.08	0.73	0.31	3	220
10	ISL	13.49	13.49	33.449	25.094	286.1	0.029	6.17	104.2	3.1	0.51	2.9	0.08	0.76	0.32	10	
16		13.49	13.49	33.451	25.096	286.1	0.046	6.17	104.2	3.1	0.51	2.9	0.08	0.79	0.32	16	219
20	ISL	13.48	13.48	33.447	25.095	286.3	0.057	6.17	104.2	3.1	0.51	2.9	0.08	0.78	0.32	20	
30		13.44	13.44	33.437	25.096	286.5	0.086	6.18	104.2	3.0	0.51	2.8	0.08	0.76	0.31	30	218
45		13.01	13.00	33.407	25.159	280.9	0.128	6.17	103.1	2.9	0.53	2.8	0.09	0.90	0.38	45	217
50	ISL	12.50	12.49	33.465	25.303	267.2	0.142	5.99	99.1	4.1	0.68	4.5	0.13	0.84	0.39	50	
56		11.84	11.83	33.528	25.478	250.7	0.158	5.72	93.3	5.9	0.87	6.8	0.18	0.70	0.41	56	216
65		11.13	11.12	33.482	25.572	241.9	0.180	5.34	85.8	8.9	1.03	9.4	0.21	0.35	0.24	65	215
75		10.04	10.03	33.463	25.747	225.3	0.203	4.62	72.5	15.3	1.33	15.7	0.09	0.21	0.12	75	214
85		9.89	9.88	33.625	25.899	211.1	0.225	3.83	59.9	20.5	1.62	20.5	0.03	0.08	0.10	85	213
95		9.69	9.68	33.693	25.985	203.1	0.246	3.56	55.5	23.1	1.72	22.3	0.03	0.05	0.09	95	212
100	ISL	9.57	9.56	33.720	26.026	199.3	0.256	3.48	54.1	24.2	1.76	23.0	0.03	0.04	0.08	101	
110		9.38	9.37	33.779	26.104	192.1	0.275	3.28	50.8	26.3	1.84	24.2	0.02	0.02	0.08	111	211
125	ISL	9.32	9.31	33.907	26.214	182.0	0.303	2.66	41.2	29.8	2.02	26.3	0.01	0.02	0.10	126	
127		9.32	9.31	33.924	26.227	180.8	0.307	2.57	39.8	30.3	2.04	26.6	0.01	0.02	0.10	128	210
145		9.05	9.03	34.014	26.341	170.3	0.339	2.12	32.6	34.5	2.21	28.5	0.01	0.03	0.16	146	209
150	ISL	8.97	8.95	34.024	26.361	168.4	0.347	2.12	32.6	35.2	2.23	28.8	0.01	0.03	0.16	151	
169		8.66	8.64	34.042	26.424	162.7	0.379	2.10	32.0	37.1	2.26	29.5	0.01	0.02	0.15	170	208
199		8.26	8.24	34.070	26.508	155.2	0.426	1.98	29.9	40.7	2.34	30.6	0.01	0.02	0.13	200	207
200	ISL	8.25	8.23	34.071	26.510	155.0	0.428	1.98	29.9	40.8	2.34	30.6	0.01			201	
230		8.03	8.01	34.097	26.564	150.4	0.474	1.79	26.9	43.6	2.43	31.7	0.01			231	206
250	ISL	7.95	7.92	34.129	26.601	147.2	0.503	1.54	23.1	46.3	2.52	32.6	0.01			252	
268		7.82	7.79	34.148	26.635	144.2	0.530	1.35	20.2	49.0	2.60	33.4	0.01			270	205
300	ISL	7.17	7.14	34.102	26.692	138.9	0.575	1.49	22.0	53.5	2.62	34.5	0.01			302	
317		6.80	6.77	34.076	26.722	136.1	0.598	1.58	23.1	55.9	2.63	35.1	0.01			319	204
377		6.39	6.36	34.135	26.824	127.1	0.677	1.00	14.5	65.6	2.87	37.7	0.01			379	203
400	ISL	6.24	6.20	34.160	26.863	123.6	0.706	0.83	12.0	69.3	2.95	38.5	0.01			403	
437		6.03	5.99	34.204	26.925	118.1	0.751	0.60	8.6	74.8	3.05	39.7	0.00			440	202
500	ISL	5.81	5.77	34.294	27.024	109.4	0.822	0.36	5.1	82.4	3.18	40.8	0.00			504	
516		5.75	5.71	34.317	27.050	107.1	0.840	0.30	4.3	84.3	3.21	41.1	0.00			520	201

RV DAVID STARR JORDAN CALCOFI CRUISE 0004 STATION 77 80

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
34 3.2 N	122 56.9 W	21/04/00	1824 UTC	4234 m	310 16 kn	270 06 07	1	1019.2 mb	16.5 C	12.8 C	17m	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	13.98	13.98	32.961	24.617	331.3	0.000	6.09	103.6	2.4	0.32	0.0	0.00	0.17	0.03	0	
1	A	13.98	13.98	32.961	24.617	331.3	0.003	6.09	103.6	2.4	0.32	0.0	0.00	0.17	0.03	1	220
1		13.97	13.97	32.963	24.620	331.0	0.003									1	221
10	ISL	13.97	13.97	32.961	24.619	331.3	0.033	6.08	103.4	2.4	0.32	0.0	0.00	0.18	0.03	10	
11	A	13.97	13.97	32.961	24.619	331.4	0.036	6.08	103.4	2.4	0.32	0.0	0.00	0.18	0.03	11	219
20	ISL	13.18	13.18	33.019	24.824	312.1	0.065	6.28	105.1	2.3	0.33	0.0	0.00	0.22	0.05	20	
23	A	12.87	12.87	33.040	24.901	304.7	0.075	6.35	105.6	2.3	0.34	0.0	0.00	0.24	0.06	23	218
30	ISL	12.47	12.47	33.048	24.985	296.9	0.096	6.32	104.2	2.8	0.36	0.1	0.01	0.63	0.20	30	
35	A	12.27	12.27	33.043	25.020	293.8	0.110	6.26	102.8	3.1	0.38	0.2	0.02	0.88	0.31	35	217
46	A	12.02	12.01	33.021	25.050	291.1	0.143	6.21	101.4	3.1	0.42	0.5	0.05	0.76	0.36	46	216
50	ISL	11.97	11.96	33.020	25.059	290.4	0.154	6.19	100.9	3.1	0.44	0.6	0.07	0.66	0.33	50	
56		11.92	11.91	33.023	25.071	289.4	0.172	6.17	100.5	3.0	0.47	0.8	0.09	0.50	0.26	56	215
66	A	11.86	11.85	33.029	25.087	288.1	0.201	6.15	100.1	3.1	0.49	0.9	0.13	0.32	0.19	66	214
75		11.70	11.69	33.044	25.128	284.4	0.226	6.03	97.8	4.1	0.57	1.9	0.42	0.15	0.13	75	213
85		11.32	11.31	33.170	25.296	268.6	0.254	5.57	89.7	7.3	0.80	6.5	0.54	0.09	0.12	85	212
100		9.93	9.92	33.200	25.561	243.6	0.292	5.68	88.7	8.6	0.88	8.5	0.04	0.12	0.13	100	211
120		9.51	9.50	33.531	25.889	212.7	0.338	4.42	68.5	18.7	1.44	17.8	0.01	0.02	0.07	121	210
125	ISL	9.50	9.49	33.613	25.954	206.6	0.348	4.04	62.7	21.3	1.58	19.9	0.01	0.02	0.07	126	
139		9.45	9.43	33.807	26.115	191.7	0.376	3.12	48.4	27.6	1.90	24.8	0.01	0.01	0.08	140	209
150	ISL	9.17	9.15	33.875	26.213	182.5	0.397	3.09	47.7	30.0	1.93	25.5	0.01	0.01	0.07	151	
169		8.60	8.58	33.927	26.344	170.3	0.430	3.04	46.3	32.5	1.98	26.8	0.01	0.01	0.05	170	208
200		8.04	8.02	34.005	26.490	156.8	0.481	2.71	40.8	38.7	2.14	29.0	0.01	0.01	0.04	201	207
228		7.68	7.66	34.018	26.553	151.2	0.524	2.57	38.3	42.2	2.22	30.1	0.01			229	206
250	ISL	7.34	7.32	34.017	26.601	146.8	0.557	2.49	36.9	45.3	2.29	31.1	0.00			251	
270		7.04	7.01	34.014	26.640	143.3	0.586	2.41	35.4	48.1	2.35	32.0	0.00			272	205
300	ISL	6.76	6.73	34.017	26.681	139.7	0.629	2.23	32.6	51.8	2.44	33.1	0.00			302	
318		6.63	6.60	34.022	26.702	137.8	0.653	2.10	30.6	54.1	2.50	33.8	0.00			320	204
379		6.14	6.11	34.056	26.793	129.8	0.735	1.44	20.7	64.2	2.76	37.3	0.00			381	203
400	ISL	5.95	5.92	34.063	26.823	127.1	0.762	1.29	18.5	67.8	2.83	38.2	0.00			403	
439		5.63	5.59	34.081	26.877	122.2	0.811	1.05	14.9	74.3	2.94	39.7	0.00			442	202
500	ISL	5.35	5.31	34.148	26.964	114.4	0.883	0.67	9.5	83.8	3.09	41.3	0.00			503	
512		5.29	5.25	34.161	26.981	112.9	0.896	0.59	8.3	85.7	3.12	41.6	0.00			516	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV DAVID STARR JORDAN CALCOFI CRUISE 0004 STATION 77 90

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
33 43.1 N	123 38.1 W	21/04/00	1155 UTC	4132 m	330 18 kn			1017.9 mb	13.5 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	14.10	14.10	33.008	24.628	330.2	0.000	6.08	103.7	2.1	0.33	0.0	0.00	0.12	0.02	0	
1		14.10	14.10	33.008	24.628	330.2	0.003									1	221
1		14.10	14.10	33.008	24.628	330.2	0.003	6.08	103.7	2.1	0.33	0.0	0.00	0.12	0.02	1	220
10	ISL	14.10	14.10	33.008	24.628	330.4	0.033	6.07	103.5	2.1	0.33	0.0	0.00	0.12	0.02	10	
14		14.10	14.10	33.008	24.628	330.5	0.046	6.06	103.3	2.1	0.33	0.0	0.00	0.12	0.02	14	219
20	ISL	13.54	13.54	32.993	24.732	320.9	0.066	6.16	103.8	1.9	0.32	0.0	0.00	0.14	0.04	20	
29		12.67	12.67	32.980	24.894	305.6	0.094	6.30	104.3	1.6	0.32	0.0	0.00	0.17	0.07	29	218
30	ISL	12.66	12.66	32.981	24.897	305.4	0.097	6.30	104.2	1.6	0.32	0.0	0.00	0.17	0.07	30	
44		12.53	12.52	32.998	24.936	302.0	0.140	6.27	103.5	1.8	0.34	0.0	0.00	0.23	0.11	44	217
50	ISL	12.46	12.45	32.999	24.950	300.8	0.158	6.24	102.8	2.0	0.35	0.1	0.01	0.58	0.27	50	
55		12.39	12.38	33.002	24.966	299.4	0.173	6.20	102.0	2.3	0.37	0.1	0.02	0.83	0.37	55	216
65		12.26	12.25	33.029	25.012	295.3	0.202	6.02	98.8	2.9	0.45	0.5	0.13	0.60	0.25	65	215
74		12.11	12.10	33.107	25.101	287.0	0.229	5.97	97.7	3.5	0.55	1.6	0.29	0.30	0.18	74	214
75	ISL	12.11	12.10	33.119	25.110	286.2	0.231	5.96	97.5	3.6	0.56	1.8	0.29	0.31	0.18	75	
84		12.16	12.15	33.255	25.206	277.3	0.257	5.82	95.4	4.7	0.64	3.8	0.31	0.35	0.22	84	213
94		10.98	10.97	33.226	25.400	258.9	0.284	5.72	91.4	7.0	0.74	6.1	0.11	0.22	0.18	94	212
100	ISL	10.35	10.34	33.223	25.508	248.7	0.299	5.66	89.2	8.3	0.83	7.5	0.05	0.14	0.14	100	
109		9.66	9.65	33.247	25.642	235.9	0.321	5.52	85.7	10.4	0.97	9.8	0.02	0.05	0.08	110	211
125		9.57	9.56	33.380	25.761	225.0	0.358	4.96	76.9	14.7	1.22	14.2	0.01	0.04	0.05	126	210
143		9.47	9.45	33.684	26.015	201.2	0.396	3.74	58.0	23.6	1.69	21.9	0.01	0.02	0.05	144	209
150	ISL	9.35	9.33	33.746	26.083	194.9	0.410	3.49	54.0	25.8	1.79	23.5	0.01	0.02	0.05	151	
168		8.98	8.96	33.838	26.215	182.7	0.444	3.13	48.1	29.9	1.94	25.7	0.00	0.01	0.05	169	208
198		8.46	8.44	33.947	26.381	167.3	0.496	2.92	44.3	34.2	2.04	27.6	0.00	0.01	0.05	199	207
200	ISL	8.43	8.41	33.952	26.390	166.5	0.500	2.90	44.0	34.5	2.05	27.7	0.00			201	
229		8.01	7.99	34.002	26.492	157.1	0.546	2.62	39.4	38.7	2.16	29.4	0.00			230	206
250	ISL	7.77	7.75	34.025	26.546	152.3	0.579	2.28	34.1	42.0	2.27	30.7	0.00			251	
269		7.55	7.52	34.037	26.587	148.6	0.608	2.00	29.8	44.9	2.36	31.8	0.00			271	205
300	ISL	7.12	7.09	34.035	26.646	143.2	0.653	2.01	29.6	48.9	2.44	32.9	0.00			302	
318		6.87	6.84	34.031	26.677	140.4	0.678	2.02	29.6	51.4	2.48	33.5	0.00			320	204
380		6.17	6.14	34.046	26.782	130.9	0.762	1.49	21.5	63.0	2.72	37.0	0.00			382	203
400	ISL	6.05	6.02	34.065	26.812	128.2	0.788	1.31	18.8	66.3	2.80	37.9	0.00			403	
434		5.87	5.83	34.100	26.863	123.7	0.831	1.03	14.7	71.6	2.93	39.2	0.00			437	202
500	ISL	5.39	5.35	34.140	26.953	115.5	0.910	0.70	9.9	81.9	3.07	41.2	0.00			503	
513		5.30	5.26	34.148	26.970	114.0	0.925	0.63	8.9	83.9	3.10	41.6	0.00			517	201

RV DAVID STARR JORDAN CALCOFI CRUISE 0004 STATION 77 100

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT TYPE
33 23.4 N	124 19.9 W	21/04/00	0524 UTC	4468 m	330 14 kn			1020.0 mb	14.8 C	12.1 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	14.30	14.30	33.017	24.593	333.5	0.000	6.05	103.6	1.7	0.30	0.0	0.00	0.14	0.04	0	
1		14.30	14.30	33.017	24.593	333.5	0.003	6.05	103.6	1.7	0.30	0.0	0.00	0.14	0.04	1	220
10	ISL	14.04	14.04	32.990	24.627	330.6	0.033	6.09	103.7	1.7	0.29	0.0	0.00	0.15	0.05	10	
15		13.85	13.85	32.989	24.665	327.1	0.050	6.12	103.8	1.7	0.29	0.0	0.00	0.16	0.05	15	219
20	ISL	13.80	13.80	33.039	24.714	322.5	0.066	6.16	104.4	1.8	0.30	0.0	0.00	0.24	0.07	20	
30		13.68	13.68	33.179	24.847	310.1	0.098	6.22	105.3	2.2	0.32	0.1	0.01	0.42	0.13	30	218
45		13.04	13.03	33.386	25.137	283.0	0.142	6.13	102.5	3.7	0.48	2.3	0.07	0.64	0.26	45	217
50	ISL	13.02	13.01	33.435	25.179	279.1	0.156	6.06	101.3	3.9	0.52	2.6	0.13	0.59	0.24	50	
55		13.00	12.99	33.466	25.207	276.6	0.170	5.98	99.9					0.51	0.21	55	216
65		12.62	12.61	33.453	25.271	270.7	0.197	5.76	95.5	5.3	0.68	4.7	0.27	0.36	0.19	65	215
75		11.28	11.27	33.367	25.456	253.2	0.224	5.40	87.0	7.9	0.87	8.2	0.26	0.26	0.20	75	214
85		11.07	11.06	33.443	25.553	244.2	0.248	4.98	79.9	10.8	1.07	11.7	0.07	0.21	0.17	85	213
95		10.40	10.39	33.453	25.678	232.4	0.272	4.74	74.9	13.4	1.23	14.3	0.04	0.17	0.13	95	212
100	ISL	10.20	10.19	33.502	25.751	225.5	0.284	4.48	70.5	15.5	1.34	16.1	0.03	0.13	0.10	100	
109		9.94	9.93	33.609	25.878	213.6	0.303	4.01	62.8	19.2	1.52	19.1	0.02	0.06	0.06	110	211
124		9.55	9.54	33.722	26.031	199.3	0.334	3.72	57.8	22.7	1.66	21.4	0.01	0.02	0.04	125	210
125	ISL	9.53	9.52	33.728	26.039	198.5	0.336	3.70	57.5	22.9	1.67	21.6	0.01	0.02	0.04	126	
145		9.09	9.07	33.829	26.190	184.6	0.375	3.39	52.2	27.1	1.82	24.2	0.01	0.01	0.04	146	209
150	ISL	9.00	8.98	33.856	26.225	181.3	0.384	3.34	51.3	28.0	1.84	24.6	0.01	0.01	0.04	151	
169		8.70	8.68	33.947	26.344	170.4	0.417	3.14	47.9	31.2	1.93	26.0	0.01	0.01	0.04	170	208
199		8.25	8.23	34.017	26.468	159.0	0.467	2.49	37.6	37.8	2.19	29.2	0.00	0.00	0.03	200	207
200	ISL	8.23	8.21	34.019	26.472	158.6	0.468	2.47	37.3	38.1	2.20	29.3	0.00			201	
229		7.75	7.73	34.056	26.573	149.4	0.513	2.03	30.3	44.5	2.39	31.8	0.00			230	206
250	ISL	7.38	7.36	34.035	26.609	146.0	0.544	2.22	32.9	46.6	2.37	31.8	0.00			251	
268		7.12	7.09	34.018	26.632	144.0	0.570	2.39	35.2	48.0	2.35	31.8	0.00			270	205
300	ISL	7.10	7.07	34.085	26.688	139.2	0.615	1.77	26.1	52.8	2.56	33.9	0.00			302	
319		7.09	7.06	34.124	26.721	136.5	0.642	1.30	19.1	55.8	2.71	35.3	0.00			321	204
380		6.70	6.66	34.166	26.807	129.0	0.722	0.91	13.3	63.5	2.88	37.2	0.00			382	203
400	ISL	6.58	6.54	34.182	26.836	126.4	0.748	0.80	11.6	66.3	2.94	37.8	0.00			403	
435		6.37	6.33	34.208	26.885	122.2	0.792	0.63	9.1	71.2	3.03	38.8	0.00			438	202
500	ISL	5.88	5.84	34.228	26.963	115.2	0.869	0.46	6.6	79.5	3.13	40.4	0.00			503	
513		5.78	5.74	34.232	26.979	113.7	0.884	0.43	6.1	81.2	3.15	40.7	0.00			517	201

RV DAVID STARR JORDAN CALCOFI CRUISE 0004 STATION 80 51

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT TYPE
34 26.9 N	120 31.4 W	19/04/00	1246 UTC	74 m	330 14 kn			1021.1 mb	12.7 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	12.85	12.85	33.436	25.212	274.6	0.000	6.36	106.0	5.7	0.61	2.8	0.13	7.21	1.86	0	
3		12.85	12.85	33.436	25.212	274.7	0.008	6.36	106.0	5.7	0.61	2.8	0.13	7.21	1.86	3	208
6		12.85	12.85	33.439	25.214	274.6	0.016	6.37	106.1	5.7	0.64	2.9	0.13	6.90	1.72	6	207
10	ISL	12.83	12.83	33.465	25.238	272.4	0.027	6.39	106.4	5.8	0.66	3.1	0.13	7.52	1.89	10	
11		12.82	12.82	33.477	25.250	271.3	0.030	6.40	106.6	5.8	0.66	3.1	0.13	7.70	1.94	11	206
20		12.50	12.50	33.640	25.438	253.6	0.054	5.77	95.5	9.6	0.83	6.4	0.15	6.27	1.60	20	205
30		12.26	12.26	33.672	25.510	247.1	0.079	5.66	93.3	9.2	0.88	7.0	0.17	7.30	1.60	30	204
40		11.63	11.62	33.756	25.694	229.8	0.103	4.89	79.5	14.2	1.17	11.3	0.21	7.92	1.95	40	203
49		10.82	10.81	33.824	25.893	211.0	0.122	3.92	62.7	21.1	1.54	17.4	0.25	2.60	1.17	49	202
50	ISL	10.74	10.73	33.831	25.913	209.1	0.125	3.83	61.1	21.8	1.57	17.9	0.25	2.49	1.16	50	
63		9.77	9.76	33.925	26.153	186.6	0.150	2.62	41.0	30.2	2.01	24.6	0.18	1.12	1.09	63	201

RV DAVID STARR JORDAN CALCOFI CRUISE 0004 STATION 80 55

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT TYPE
34 17.6 N	120 49.4 W	19/04/00	1832 UTC	785 m	330 10 kn	260 04 08	0	1022.1 mb	15.0 C	12.8 C	16m	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	14.24	14.24	33.346	24.860	308.1	0.000	6.08	104.2	3.1	0.38	0.8	0.03	0.68	0.11	0	
1		14.27	14.27	33.344	24.852	308.9	0.003									1	221
1	A	14.24	14.24	33.346	24.860	308.1	0.003	6.08	104.2	3.1	0.38	0.8	0.03	0.68	0.11	1	220
10	ISL	13.77	13.77	33.387	24.989	296.1	0.030	6.13	104.1	3.4	0.43	1.6	0.05	1.44	0.37	10	
11	A	13.69	13.69	33.395	25.012	294.0	0.033	6.14	104.1	3.5	0.44	1.7	0.05	1.52	0.43	11	219
20	ISL	13.07	13.07	33.469	25.194	276.8	0.059	6.07	101.6	4.4	0.54	3.3	0.09	4.70	1.27	20	
23	A	12.77	12.77	33.498	25.276	269.1	0.067	6.04	100.5	4.7	0.58	3.8	0.11	5.34	1.45	23	218
30	ISL	11.55	11.55	33.574	25.567	241.6	0.085	5.20	84.3	10.3	1.03	10.3	0.17	2.61	0.91	30	
32	A	11.24	11.24	33.598	25.642	234.5	0.090	4.96	79.9	11.9	1.16	12.1	0.19	1.74	0.74	32	217
41	A	11.17	11.16	33.667	25.708	228.4	0.111	4.84	77.9	12.7	1.25	13.2	0.20	2.10	0.99	41	216
50	ISL	11.03	11.02	33.688	25.750	224.6	0.131	4.70	75.4	13.6	1.32	14.3	0.21	2.14	1.23	50	
51		11.01	11.00	33.689	25.755	224.2	0.133	4.68	75.1	13.7	1.33	14.4	0.21	2.15	1.24	51	215
62	A	10.63	10.62	33.733	25.856	214.8	0.157	4.33	68.9	16.2	1.49	16.7	0.21	1.10	0.88	62	214
74		10.21	10.20	33.829	26.004	201.0	0.182	3.74	59.0	21.3	1.74	19.9	0.20	0.51	0.95	74	213
75	ISL	10.17	10.16	33.837	26.017	199.8	0.184	3.66	57.7	21.9	1.77	20.3	0.20	0.49	0.95	75	
85		9.76	9.75	33.906	26.140	188.2	0.204	2.91	45.5	27.9	1.99	23.9	0.23	0.34	0.98	85	212
99		9.31	9.30	33.951	26.249	178.1	0.229	2.40	37.1	31.9	2.11	27.1	0.12	0.12	0.66	100	211
100	ISL	9.29	9.28	33.955	26.255	177.5	0.231	2.37	36.7	32.1	2.12	27.2	0.12	0.12	0.64	101	
121		9.07	9.06	34.039	26.357	168.3	0.267	1.96	30.2	35.8	2.27	28.8	0.07	0.08	0.46	122	210
125	ISL	9.02	9.01	34.050	26.374	166.8	0.274	1.90	29.2	36.4	2.29	29.1	0.06	0.07	0.46	126	
140		8.81	8.80	34.082	26.432	161.5	0.299	1.73	26.5	38.6	2.37	30.1	0.04	0.05	0.44	141	209
150	ISL	8.69	8.67	34.097	26.463	158.7	0.315	1.67	25.5	39.8	2.41	30.6	0.04	0.05	0.40	151	
170		8.50	8.48	34.117	26.508	154.8	0.346	1.58	24.0	41.9	2.46	31.2	0.03	0.05	0.33	171	208
200		8.33	8.31	34.139	26.552	151.1	0.392	1.42	21.5	44.4	2.53	31.9	0.03	0.04	0.33	201	207
230		8.14	8.12	34.171	26.606	146.5	0.437	1.24	18.7	47.0	2.61	32.8	0.01			231	206
250	ISL	7.99	7.96	34.184	26.638	143.7	0.466	1.13	17.0	49.1	2.66	33.5	0.01			252	
269		7.86	7.83	34.194	26.666	141.4	0.493	1.05	15.7	51.1	2.71	34.0	0.01			271	205
300	ISL	7.70	7.67	34.212	26.704	138.2	0.536	0.96	14.3	53.4	2.76	34.4	0.02			302	
318		7.62	7.59	34.220	26.722	136.8	0.561	0.92	13.7	54.6	2.79	34.6	0.02			320	204
380		7.25	7.21	34.219	26.774	132.6	0.644	0.79	11.7	59.9	2.88	36.0	0.02			383	203
400	ISL	7.10	7.06	34.223	26.798	130.5	0.671	0.74	10.9	61.9	2.91	36.5	0.04			403	
436		6.84	6.80	34.234	26.843	126.6	0.717	0.66	9.7	65.6	2.97	37.4	0.08			439	202
500	ISL	6.52	6.47	34.259	26.906	121.3	0.796	0.50	7.3	71.3	3.06	38.6	0.08			504	
513		6.45	6.40	34.264	26.919	120.2	0.812	0.47	6.8	72.5	3.08	38.8	0.08			517	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV DAVID STARR JORDAN CALCOFI CRUISE 0004 STATION 80 60

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
34 8.9 N	121 9.4 W	19/04/00	2121 UTC	2220 m	320 12 kn	320 03 08	1	1022.1 mb	15.8 C	13.8 C	14m	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	14.32	14.32	33.369	24.861	308.0	0.000	6.08	104.4	2.8	0.39	1.0	0.04	0.49	0.10	0	
2	14.32	14.32	33.369	24.861	308.1	0.006	6.08	104.4	2.8	0.39	1.0	0.04	0.49	0.10	2	220
10 ISL	14.24	14.24	33.380	24.886	305.9	0.031	6.09	104.4	2.9	0.40	1.1	0.04	0.56	0.12	10	
15	14.13	14.13	33.369	24.901	304.6	0.046	6.10	104.3	3.0	0.40	1.1	0.04	0.61	0.13	15	219
20 ISL	13.95	13.95	33.369	24.938	301.2	0.061	6.11	104.1	3.2	0.42	1.5	0.05	0.80	0.18	20	
30	13.44	13.44	33.399	25.066	289.3	0.091	6.12	103.2	3.5	0.46	2.2	0.06	1.37	0.38	30	218
45	12.31	12.30	33.571	25.422	255.8	0.132	5.70	94.0	6.7	0.82	7.3	0.15	2.66	1.02	45	217
50 ISL	11.50	11.49	33.645	25.631	235.9	0.144	4.99	80.9	11.5	1.14	11.9	0.19	1.90	0.99	50	
55	10.72	10.71	33.722	25.832	217.0	0.155	4.21	67.1	16.9	1.47	16.8	0.22	1.01	0.96	55	216
65	10.02	10.01	33.826	26.034	197.9	0.176	3.18	50.0	25.4	1.86	23.1	0.26	0.26	0.68	65	215
75	9.81	9.80	33.874	26.106	191.2	0.195	2.92	45.7	27.7	1.95	24.5	0.25	0.22	0.59	75	214
85	9.72	9.71	33.909	26.149	187.4	0.214	2.82	44.0	29.2	1.99	24.9	0.28	0.28	0.72	85	213
95	9.53	9.52	33.945	26.209	181.9	0.233	2.59	40.3	30.9	2.04	25.6	0.24	0.21	0.57	96	212
100 ISL	9.33	9.32	33.952	26.247	178.3	0.242	2.52	39.0	31.6	2.07	26.4	0.20	0.17	0.60	101	
109	8.97	8.96	33.962	26.312	172.2	0.258	2.45	37.6	32.8	2.12	27.8	0.12	0.10	0.69	110	211
125	8.75	8.74	33.992	26.370	167.0	0.285	2.37	36.2	34.5	2.16	28.4	0.10	0.07	0.55	126	210
145	8.55	8.53	34.027	26.429	161.7	0.318	2.27	34.6	36.7	2.21	29.0	0.09	0.06	0.50	146	209
150 ISL	8.50	8.48	34.030	26.439	160.9	0.326	2.27	34.5	37.0	2.22	29.1	0.09	0.06	0.48	151	
169	8.33	8.31	34.046	26.478	157.5	0.356	2.20	33.3	38.5	2.26	29.7	0.07	0.04	0.39	170	208
199	8.12	8.10	34.118	26.567	149.6	0.402	1.67	25.2	43.9	2.46	31.7	0.02	0.03	0.37	200	207
200 ISL	8.11	8.09	34.119	26.569	149.4	0.403	1.66	25.0	44.0	2.46	31.7	0.02			201	
230	7.87	7.85	34.134	26.616	145.3	0.448	1.57	23.5	46.9	2.53	32.5	0.02			231	206
250 ISL	7.84	7.82	34.158	26.640	143.4	0.476	1.37	20.5	48.6	2.60	33.1	0.02			252	
269	7.78	7.75	34.177	26.664	141.5	0.504	1.18	17.7	50.5	2.66	33.8	0.01			271	205
300 ISL	7.23	7.20	34.160	26.729	135.4	0.546	1.15	17.0	56.1	2.74	35.1	0.01			302	
320	6.85	6.82	34.154	26.777	131.0	0.573	1.13	16.6	60.2	2.79	36.0	0.01			322	204
379	6.58	6.55	34.266	26.902	119.9	0.647	0.50	7.3	70.0	3.06	38.3	0.00			382	203
400 ISL	6.43	6.39	34.278	26.932	117.3	0.672	0.45	6.5	72.8	3.11	38.9	0.00			403	
437	6.17	6.13	34.286	26.972	113.8	0.715	0.37	5.3	76.9	3.16	39.7	0.00			440	202
500 ISL	5.88	5.84	34.308	27.026	109.2	0.785	0.35	5.0	82.2	3.20	40.7	0.00			504	
512	5.82	5.78	34.312	27.037	108.3	0.798	0.35	5.0	83.2	3.21	40.9	0.00			516	201

RV DAVID STARR JORDAN CALCOFI CRUISE 0004 STATION 80 70

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
33 48.9 N	121 50.5 W	20/04/00	0310 UTC	3600 m	320 12 kn	320 02 08	1	1021.4 mb	14.0 C	11.4 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	14.05	14.05	33.299	24.863	307.8	0.000	6.12	104.4	3.3	0.42	1.5	0.04	0.30	0.09	0	
2	14.05	14.05	33.299	24.863	307.9	0.006	6.12	104.4	3.3	0.42	1.5	0.04	0.30	0.09	2	220
10 ISL	13.99	13.99	33.300	24.877	306.8	0.031	6.13	104.5	3.3	0.42	1.5	0.04	0.33	0.10	10	
15	13.96	13.96	33.301	24.884	306.3	0.046	6.14	104.6	3.2	0.42	1.5	0.04	0.35	0.11	15	219
20 ISL	13.81	13.81	33.304	24.917	303.2	0.061	6.17	104.8	3.1	0.42	1.5	0.04	0.44	0.15	20	
30	13.47	13.47	33.316	24.996	296.0	0.091	6.22	104.9	3.0	0.42	1.5	0.05	0.63	0.24	30	218
45	13.15	13.14	33.357	25.092	287.2	0.135	6.20	103.9	3.0	0.47	2.1	0.07	0.74	0.32	45	217
50 ISL	12.86	12.85	33.380	25.168	280.2	0.149	6.15	102.4	3.0	0.52	2.5	0.09	0.85	0.39	50	
55	12.56	12.55	33.403	25.244	273.0	0.163	6.08	100.6	3.0	0.58	3.1	0.12	0.91	0.43	55	216
65	12.23	12.22	33.422	25.322	265.8	0.190	5.91	97.2	4.1	0.70	4.5	0.16	0.53	0.25	65	215
74	11.85	11.84	33.499	25.454	253.5	0.213	5.68	92.7	5.4	0.87	6.5	0.18	0.32	0.19	74	214
75 ISL	11.76	11.75	33.500	25.471	251.8	0.216	5.61	91.3	6.0	0.91	7.1	0.19	0.30	0.19	75	
85	10.97	10.96	33.529	25.638	236.1	0.240	4.87	78.0	12.7	1.25	13.0	0.25	0.16	0.14	85	213
95	10.92	10.91	33.664	25.752	225.5	0.263	4.68	74.9	14.5	1.40	14.0	0.22	0.32	0.01	95	212
100 ISL	10.58	10.57	33.709	25.847	216.5	0.274	4.16	66.1	17.7	1.56	17.3	0.15	0.25	0.02	100	
110	9.82	9.81	33.777	26.030	199.2	0.295	3.08	48.2	24.5	1.86	24.1	0.02	0.05	0.08	111	211
125	9.52	9.51	33.845	26.133	189.7	0.324	2.83	44.0	27.4	1.96	25.5	0.01	0.03	0.07	126	210
145	9.01	8.99	33.933	26.284	175.7	0.361	2.62	40.3	31.0	2.07	27.2	0.01	0.01	0.06	146	209
150 ISL	8.91	8.89	33.948	26.311	173.1	0.370	2.63	40.3	31.7	2.07	27.4	0.01	0.01	0.06	151	
170	8.55	8.53	33.988	26.399	165.1	0.403	2.68	40.8	34.0	2.08	27.8	0.01	0.01	0.06	171	208
199	8.09	8.07	33.998	26.477	158.1	0.450	2.95	44.4	36.5	2.04	27.8	0.01	0.00	0.03	200	207
200 ISL	8.08	8.06	33.999	26.479	157.9	0.452	2.94	44.3	36.6	2.05	27.9	0.01			201	
228	7.77	7.75	34.032	26.551	151.4	0.495	2.47	36.9	41.3	2.24	30.1	0.02			229	206
250 ISL	7.46	7.44	34.049	26.609	146.1	0.528	2.20	32.7	45.5	2.36	31.7	0.02			251	
269	7.20	7.17	34.059	26.654	142.1	0.555	2.02	29.8	49.0	2.45	32.8	0.01			271	205
300 ISL	6.86	6.83	34.059	26.701	137.9	0.599	1.85	27.1	53.3	2.54	34.1	0.01			302	
318	6.69	6.66	34.060	26.724	135.8	0.623	1.76	25.7	55.6	2.59	34.7	0.01			320	204
379	6.33	6.30	34.130	26.828	126.7	0.703	1.06	15.3	65.9	2.87	37.8	0.01			381	203
400 ISL	6.17	6.13	34.142	26.858	124.0	0.730	0.92	13.3	69.1	2.93	38.6	0.01			403	
438	5.88	5.84	34.162	26.910	119.3	0.776	0.74	10.6	74.9	3.02	39.8	0.00			441	202
500 ISL	5.46	5.42	34.216	27.005	110.7	0.847	0.48	6.8	84.8	3.16	41.5	0.00			503	
515	5.36	5.32	34.229	27.027	108.7	0.864	0.42	5.9	87.2	3.19	41.9	0.00			519	201

RV DAVID STARR JORDAN CALCOFI CRUISE 0004 STATION 80 80

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
33 29.3 N	122 31.8 W	20/04/00	0905 UTC	3983 m	320 12 kn			1021.9 mb	14.1 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	14.24	14.24	33.134	24.696	323.7	0.000	6.08	104.1	1.9	0.32	0.0	0.00	0.15	0.04	0	
1		14.24	14.24	33.134	24.696	323.7	0.003	6.08	104.1	1.9	0.32	0.0	0.00	0.15	0.04	1	220
10	ISL	14.06	14.06	33.112	24.717	322.0	0.032	6.12	104.3	1.8	0.31	0.0	0.00	0.14	0.04	10	
15		13.92	13.92	33.097	24.734	320.5	0.048	6.14	104.4	1.8	0.31	0.0	0.00	0.14	0.05	15	219
20	ISL	13.88	13.88	33.096	24.742	319.9	0.064	6.14	104.3	1.8	0.31	0.0	0.00	0.15	0.06	20	
30		13.81	13.81	33.098	24.758	318.6	0.096	6.13	104.0	1.8	0.32	0.0	0.00	0.17	0.07	30	218
45		13.56	13.55	33.304	24.969	299.0	0.143	6.34	107.1	2.9	0.37	0.4	0.02	0.57	0.22	45	217
50	ISL	13.43	13.42	33.312	25.001	296.0	0.157	6.30	106.1	3.0	0.39	0.6	0.03	0.57	0.25	50	
55		13.29	13.28	33.313	25.031	293.4	0.172	6.23	104.7	3.1	0.41	1.0	0.04	0.58	0.27	55	216
65		13.02	13.01	33.366	25.126	284.6	0.201	6.09	101.8	3.8	0.51	2.4	0.10	0.52	0.31	65	215
74		12.73	12.72	33.421	25.225	275.3	0.226	5.93	98.5	4.6	0.62	3.9	0.19	0.41	0.23	74	214
75	ISL	12.64	12.63	33.414	25.238	274.1	0.229	5.91	98.0	4.6	0.62	3.9	0.19	0.40	0.23	75	
85		11.64	11.63	33.334	25.365	262.1	0.256	5.65	91.7	5.6	0.66	4.9	0.24	0.30	0.25	85	213
93		10.97	10.96	33.343	25.493	250.0	0.276	5.49	87.8	7.7	0.84	7.8	0.18	0.25	0.19	93	212
100	ISL	10.61	10.60	33.351	25.563	243.5	0.294	5.39	85.5	8.8	0.92	9.2	0.11	0.20	0.15	100	
109		10.31	10.30	33.379	25.636	236.6	0.315	5.19	81.8	10.5	1.02	11.0	0.04	0.15	0.12	110	211
123		9.95	9.94	33.502	25.793	222.0	0.347	4.54	71.1	15.7	1.34	16.2	0.02	0.08	0.08	124	210
125	ISL	9.93	9.92	33.524	25.814	220.0	0.352	4.43	69.3	16.5	1.39	16.9	0.02	0.07	0.08	126	
144		9.76	9.74	33.723	25.998	202.9	0.392	3.47	54.2	23.2	1.76	22.4	0.01	0.04	0.06	145	209
150	ISL	9.66	9.64	33.767	26.049	198.2	0.404	3.28	51.1	24.7	1.83	23.5	0.01	0.03	0.05	151	
168		9.32	9.30	33.865	26.182	185.9	0.439	2.97	46.0	28.0	1.95	25.6	0.01	0.01	0.04	169	208
199		8.65	8.63	33.967	26.368	168.7	0.494	3.25	49.6	30.9	1.89	25.5	0.00	0.00	0.02	200	207
200	ISL	8.63	8.61	33.969	26.372	168.2	0.495	3.24	49.4	31.1	1.89	25.6	0.00			201	
228		8.06	8.04	34.003	26.486	157.7	0.541	2.97	44.7	36.7	2.05	27.9	0.00			229	206
250	ISL	7.78	7.76	34.014	26.536	153.3	0.575	2.76	41.3	40.0	2.15	29.3	0.00			251	
268		7.59	7.56	34.019	26.567	150.5	0.602	2.58	38.4	42.6	2.24	30.3	0.00			270	205
300	ISL	7.10	7.07	34.033	26.647	143.1	0.649	2.20	32.4	49.1	2.43	32.6	0.00			302	
318		6.86	6.83	34.044	26.689	139.3	0.675	1.75 U	25.6U	52.7	2.53	33.9	0.00			320	204
337		6.71	6.68	34.058	26.720	136.5	0.701	1.74	25.4	55.8	2.61	35.0	0.00			339	202
378		6.33	6.30	34.091	26.797	129.6	0.756	1.25	18.1	63.5	2.80	37.3	0.00			380	203
400	ISL	6.17	6.13	34.109	26.832	126.5	0.784	1.12	16.1	66.4	2.86	37.9	0.00			403	
437		5.95	5.91	34.141 D	26.885	121.7	0.830									440	200
500	ISL	5.74	5.70	34.207	26.964	114.9	0.904	0.54	7.7	79.8	3.11	40.6	0.00			503	
512		5.70	5.66	34.220	26.979	113.6	0.918	0.47	6.7	81.4	3.14	40.9	0.00			516	201

RV DAVID STARR JORDAN CALCOFI CRUISE 0004 STATION 80 90

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
33 9.9 N	123 13.1 W	20/04/00	1808 UTC	4229 m	330 10 kn	320 02 07	1	1021.4 mb	16.0 C	13.2 C	19m	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	15.60	15.60	33.432	24.632	329.8	0.000	5.88	103.6	2.6	0.30	0.0	0.00	0.15	0.02	0	
1		15.58	15.58	33.432	24.637	329.4	0.003									1	223
1		15.59	15.59	33.431	24.634	329.7	0.003									1	222
1	A	15.60	15.60	33.432	24.632	329.8	0.003	5.88	103.6	2.6	0.30	0.0	0.00	0.15	0.02	1	221
10	ISL	15.51	15.51	33.428	24.650	328.5	0.033	5.88	103.4	2.6	0.30	0.0	0.00	0.16	0.02	10	
13	A	15.48	15.48	33.428	24.656	327.9	0.043	5.88	103.4	2.6	0.30	0.0	0.00	0.16	0.02	13	220
20	ISL	15.49	15.49	33.447	24.669	326.9	0.066	5.88	103.4	2.6	0.30	0.0	0.00	0.17	0.03	20	
26	A	15.50	15.50	33.465	24.681	326.0	0.085	5.87	103.3	2.6	0.29	0.0	0.00	0.17	0.03	26	219
30	ISL	15.49	15.49	33.478	24.693	324.9	0.098	5.86	103.1	2.6	0.29	0.0	0.00	0.17	0.03	30	
39	A	15.47	15.46	33.506	24.719	322.7	0.127	5.85	102.9	2.6	0.28	0.0	0.00	0.18	0.03	39	218
45		15.46	15.45	33.523	24.735	321.4	0.147	5.85	102.9	2.6	0.27	0.0	0.00	0.18	0.04	45	217
50	ISL	15.28	15.27	33.549	24.795	315.9	0.163	5.85	102.5	2.7	0.27	0.0	0.00	0.19	0.04	50	
51	A	15.24	15.23	33.554	24.807	314.7	0.166	5.85	102.4	2.7	0.27	0.0	0.00	0.19	0.04	51	216
62		15.13	15.12	33.587	24.857	310.3	0.200	5.83	101.9	2.7	0.27	0.0	0.00	0.23	0.06	62	215
74	A	14.28	14.27	33.479	24.956	301.1	0.237	5.94	101.9	2.8	0.30	0.1	0.00	0.55	0.23	74	214
75	ISL	14.17	14.16	33.474	24.975	299.3	0.240	5.93	101.5	2.9	0.31	0.2	0.01	0.55	0.25	75	
84		13.20	13.19	33.447	25.153	282.5	0.266	5.81	97.5					0.54	0.37	84	213
94		12.53	12.52	33.410	25.256	272.9	0.294	5.71	94.5	4.5	0.52	2.9	0.11	0.42	0.34	94	212
100	ISL	12.21	12.20	33.383	25.297	269.1	0.310	5.64	92.6	5.0	0.59	3.9	0.10	0.36	0.31	100	
110		11.68	11.67	33.354	25.374	261.9	0.337	5.51	89.5	6.1	0.71	5.8	0.08	0.28	0.24	111	211
125		10.63	10.62	33.399	25.597	240.8	0.374	5.29	84.0	8.8	0.86	8.6	0.03	0.14	0.12	126	210
145		10.13	10.11	33.568	25.815	220.4	0.420	4.45	70.0	15.5	1.28	15.6	0.01	0.05	0.05	146	209
150	ISL	9.97	9.95	33.612	25.877	214.7	0.431	4.28	67.1	17.2	1.37	17.1	0.01	0.04	0.04	151	
170		9.36	9.34	33.777	26.106	193.1	0.472	3.66	56.6	23.8	1.69	22.1	0.00	0.01	0.02	171	208
200		8.78	8.76	33.955	26.338	171.5	0.527	2.73	41.8	32.4	2.05	27.3	0.00	0.00	0.03	201	207
229		8.26	8.24	34.019	26.468	159.5	0.575	2.46	37.2	37.8	2.19	29.3	0.00			230	206
250	ISL	7.99	7.96	34.037	26.523	154.6	0.608	2.36	35.5	40.4	2.25	30.2	0.00			251	
270		7.76	7.73	34.043	26.562	151.1	0.638	2.27	33.9	42.8	2.31	30.9	0.00			272	205
300	ISL	7.34	7.31	34.054	26.631	144.9	0.683	2.04	30.2	47.9	2.44	32.5	0.00			302	
317		7.09	7.06	34.057	26.668	141.4	0.707	1.91	28.1	51.1	2.51	33.5	0.00			319	204
380		6.08	6.05	34.030	26.780	130.9	0.793	1.72	24.7	62.8	2.68	36.4	0.00			382	203
400	ISL	5.91	5.88	34.044	26.813	128.0	0.819	1.52	21.8	66.5	2.76	37.5	0.00			403	
437		5.72	5.68	34.085	26.869	123.0	0.865	1.11	15.8	72.8	2.91	39.3	0.00			440	202
500	ISL	5.59	5.55	34.177	26.958	115.3	0.940	0.62	8.8	81.0	3.09	40.9	0.00			503	
510		5.57	5.53	34.191	26.972	114.1	0.952	0.54	7.7	82.3	3.12	41.2	0.00			513	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV DAVID STARR JORDAN CALCOFI CRUISE 0004 STATION 80 100

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
32 49.2 N	123 54.3 W	20/04/00	2325 UTC	4407 m	340 10 kn	350 02 07	1	1020.1 mb	16.3 C	13.3 C	16m	6/8	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	15.10	15.10	33.309	24.648	328.3	0.000	5.97	104.1	2.7	0.32	0.0	0.00	0.18	0.02	0	
1	15.05	15.05	33.308	24.658	327.4	0.003									1	221
1	15.10	15.10	33.309	24.648	328.3	0.003	5.97	104.1	2.7	0.32	0.0	0.00	0.18	0.02	1	220
10 ISL	14.86	14.86	33.306	24.698	323.9	0.033	6.01	104.3	2.7	0.32	0.0	0.00	0.19	0.03	10	
16	14.65	14.65	33.304	24.741	319.9	0.052	6.04	104.3	2.7	0.32	0.0	0.00	0.21	0.04	16	219
20 ISL	14.62	14.62	33.304	24.748	319.4	0.065	6.04	104.3	2.7	0.32	0.0	0.00	0.23	0.05	20	
30	14.47	14.47	33.302	24.778	316.8	0.097	6.05	104.1	2.7	0.32	0.0	0.00	0.29	0.07	30	218
45	13.52	13.51	33.287	24.964	299.5	0.143	6.15	103.8	2.9	0.36	0.3	0.02	0.70	0.27	45	217
50 ISL	13.23	13.22	33.272	25.011	295.1	0.158	6.12	102.7	3.0	0.39	0.8	0.04	0.69	0.32	50	
55	13.00	12.99	33.263	25.050	291.5	0.172	6.08	101.5	3.1	0.43	1.3	0.06	0.68	0.35	55	216
64	12.80	12.79	33.295	25.114	285.6	0.198	5.98	99.4	3.6	0.50	2.1	0.12	0.57	0.30	64	215
74	12.68	12.67	33.439	25.249	273.0	0.226	5.67	94.1	4.5	0.54	3.2	0.15	0.44	0.35	74	214
75 ISL	12.60	12.59	33.440	25.266	271.5	0.229	5.66	93.8	4.6	0.55	3.3	0.14	0.43	0.35	75	
84	11.70	11.69	33.406	25.410	257.9	0.253	5.55	90.2	5.9	0.64	4.9	0.07	0.29	0.32	84	213
94	10.71	10.70	33.367	25.558	243.9	0.278	5.33	84.8	8.5	0.83	8.2	0.03	0.16	0.18	94	212
100 ISL	10.43	10.42	33.391	25.625	237.5	0.292	5.12	80.9	10.4	0.97	10.4	0.03	0.11	0.12	100	
110	10.18	10.17	33.476	25.734	227.3	0.316	4.66	73.3	14.1	1.22	14.4	0.02	0.07	0.06	111	211
125	9.83	9.82	33.667	25.942	207.8	0.348	3.75	58.6	21.2	1.63	20.7	0.01	0.04	0.05	126	210
145	9.31	9.29	33.811	26.140	189.3	0.388	3.15	48.7	27.4	1.89	24.9	0.01	0.01	0.05	146	209
150 ISL	9.19	9.17	33.849	26.190	184.8	0.397	3.05	47.0	28.7	1.93	25.5	0.01	0.01	0.05	151	
169	8.77	8.75	33.972	26.353	169.6	0.431	2.74	41.9	32.8	2.05	27.3	0.01	0.00	0.04	170	208
198	8.37	8.35	34.032	26.461	159.6	0.479	2.34	35.5	37.7	2.21	29.4	0.00	0.00	0.05	199	207
200 ISL	8.34	8.32	34.035	26.468	159.0	0.482	2.31	35.0	38.1	2.22	29.6	0.00			201	
227	7.91	7.89	34.077	26.566	150.1	0.524	1.90	28.5	43.7	2.41	31.8	0.01			228	206
250 ISL	7.69	7.67	34.108	26.623	145.0	0.557	1.64	24.5	47.4	2.52	33.0	0.01			251	
267	7.56	7.53	34.127	26.656	142.0	0.582	1.49	22.2	49.8	2.58	33.6	0.00			269	205
300 ISL	7.27	7.24	34.154	26.719	136.5	0.628	1.23	18.2	54.6	2.70	34.9	0.00			302	
317	7.11	7.08	34.161	26.747	134.0	0.651	1.13	16.7	57.1	2.75	35.6	0.00			319	204
377	6.35	6.32	34.136	26.830	126.5	0.729	0.97	14.0	66.6	2.89	38.1	0.00			379	203
400 ISL	6.13	6.09	34.144	26.864	123.3	0.758	0.86	12.4	70.4	2.95	39.0	0.00			403	
437	5.84	5.80	34.164	26.917	118.6	0.802	0.68	9.7	76.2	3.04	40.2	0.00			440	202
500 ISL	5.41	5.37	34.189	26.989	112.1	0.875	0.53	7.5	84.7	3.12	41.5	0.00			503	
513	5.32	5.28	34.195	27.005	110.7	0.890	0.50	7.1	86.4	3.14	41.8	0.00			517	201

RV DAVID STARR JORDAN CALCOFI CRUISE 0004 STATION 82 47

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
34 17.0 N	120 1.6 W	19/04/00	0806 UTC	577 m	290 14 kn			1021.5 mb	13.1 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	12.23	12.23	33.684	25.524	244.9	0.000	6.23	102.6	11.2	0.78	7.9	0.21	8.45	1.87	0	
1 A	12.23	12.23	33.684	25.524	244.9	0.002	6.23	102.6	11.2	0.78	7.9	0.21	8.45	1.87	1	224
10	11.87	11.87	33.688	25.595	238.4	0.024	6.11	99.9	11.4	0.81	8.3	0.21	9.08	1.82	10	223
20	11.38	11.38	33.800	25.773	221.7	0.047	4.86	78.7	18.4	1.28	14.5	0.20	5.56	1.40	20	222
30	11.23	11.23	33.819	25.816	217.9	0.069	4.53	73.1	19.8	1.37	15.8	0.22	3.92	1.05	30	221
40	9.69	9.69	33.948	26.184	183.1	0.089	2.72	42.5	29.4	1.98	24.8	0.17	0.76	0.56	40	220
50	9.16	9.15	34.025	26.330	169.3	0.107	2.05	31.6	34.7	2.24	28.4	0.05	0.19	0.40	50	219
60	9.08	9.07	34.043	26.357	167.0	0.124	2.00	30.8	35.4	2.28	28.9	0.03	0.09	0.33	60	218
70	9.02	9.01	34.060	26.380	165.0	0.140	1.93	29.7	36.1	2.29	29.1	0.03	0.06	0.38	70	217
75 ISL	8.97	8.96	34.070	26.396	163.6	0.148	1.85	28.4	36.8	2.32	29.4	0.03	0.05	0.34	75	
84	8.88	8.87	34.088	26.425	161.0	0.163	1.70	26.1	38.1	2.37	30.0	0.02	0.05	0.26	84	216
99	8.81	8.80	34.105	26.449	159.0	0.187	1.57	24.1	39.4	2.42	30.5	0.03	0.03	0.30	100	215
100 ISL	8.80	8.79	34.106	26.452	158.8	0.189	1.56	23.9	39.5	2.42	30.5	0.03	0.03	0.30	101	
120	8.67	8.66	34.127	26.489	155.7	0.220	1.48	22.6	41.1	2.47	31.1	0.03	0.02	0.20	121	214
125 ISL	8.64	8.63	34.130	26.496	155.1	0.228	1.46	22.3	41.4	2.48	31.2	0.03	0.02	0.20	126	
140	8.57	8.56	34.137	26.512	153.8	0.251	1.41	21.5	42.3	2.51	31.5	0.04	0.02	0.22	141	213
150 ISL	8.51	8.49	34.141	26.525	152.8	0.266	1.35	20.5	43.2	2.54	31.8	0.05	0.02	0.22	151	
170	8.40	8.38	34.149	26.548	150.9	0.297	1.22	18.5	45.0	2.59	32.5	0.07	0.02	0.23	171	212
199	8.31	8.29	34.156	26.568	149.6	0.340	1.13	17.1	46.3	2.64	32.8	0.07	0.03	0.22	200	211
200 ISL	8.31	8.29	34.156	26.568	149.6	0.342	1.13	17.1	46.3	2.64	32.8	0.07			201	
229	8.20	8.18	34.164	26.591	147.9	0.385	1.00	15.1	48.2	2.68	33.4	0.04			230	210
250 ISL	7.98	7.95	34.173	26.631	144.3	0.416	0.89	13.4	51.5	2.75	34.1	0.03			252	
268	7.77	7.74	34.182	26.669	140.9	0.441	0.80	12.0	54.5	2.81	34.8	0.03			270	209
300 ISL	7.57	7.54	34.191	26.706	137.9	0.486	0.74	11.0	57.3	2.87	35.4	0.02			302	
319	7.48	7.45	34.195	26.722	136.7	0.512	0.71	10.6	58.7	2.90	35.7	0.02			321	208
381	7.06	7.02	34.212	26.795	130.5	0.595	0.53	7.8	66.5	3.02	36.4	0.01			384	207
400 ISL	6.89	6.85	34.218	26.823	128.0	0.619	0.47	6.9	70.9	3.09	36.3	0.01			403	
440	6.57	6.53	34.229	26.875	123.4	0.670	0.35	5.1	80.6	3.23	35.5	0.00			443	206
500 ISL	6.37	6.32	34.239	26.910	120.8	0.743	0.15	2.2	90.7	3.32	33.0	0.00			504	
512	6.36	6.31	34.240	26.912	120.7	0.757	0.11	1.6	92.9	3.33	32.2	0.00			516	205
524	6.34	6.29	34.241	26.916	120.6	0.772	0.07	1.0	96.0	3.35	31.1	0.00			528	204
530	6.33	6.28	34.241	26.917	120.5	0.779	0.09	1.3	95.9	3.34	31.1	0.00			534	203
548	6.31	6.26	34.242	26.921	120.4	0.801	0.04	0.6	97.8	3.35	30.4	0.00			552	202
565	6.29	6.24	34.244	26.925	120.2	0.821	0.00	0.0	101.2	3.38	29.0	0.02			569	201

A) SANTA BARBARA BASIN STATION.

RV DAVID STARR JORDAN CALCOFI CRUISE 0004 STATION 83 40.6

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
34 13.4 N	119 24.6 W	19/04/00	0154 UTC	33 m	260 05 kn	150 02 06	1	1021.0 mb	15.0 C	12.0 C		2/8	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	14.65	14.65	33.435	24.842	309.8	0.000	5.93	102.5	5.2	0.48	2.4	0.08	0.61	0.19	0	
2	14.65	14.65	33.435	24.842	309.9	0.006	5.93	102.5	5.2	0.48	2.4	0.08	0.61	0.19	2	205
6	14.31	14.31	33.436	24.915	303.1	0.018	5.30 U	91.0 U	5.3	0.49	2.4	0.08	0.68	0.20	6	204
10 ISL	14.13	14.13	33.441	24.956	299.2	0.031	5.97	102.1	5.3	0.49	2.5	0.08	0.92	0.33	10	
11	14.10	14.10	33.444	24.965	298.4	0.033	5.98	102.2	5.3	0.49	2.5	0.08	1.02	0.37	11	203
20 ISL	13.98	13.98	33.511	25.042	291.3	0.060	6.06	103.4	5.2	0.49	2.6	0.09	2.68	0.88	20	
21	13.97	13.97	33.522	25.053	290.4	0.063	6.07	103.6	5.2	0.49	2.6	0.09	2.90	0.93	21	202
29	13.66	13.66	33.614	25.188	277.7	0.086	6.01	101.9	5.9	0.58	3.6	0.12	4.22	1.03	29	201

RV DAVID STARR JORDAN CALCOFI CRUISE 0004 STATION 83 42

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
34 10.6 N	119 30.5 W	19/04/00	0336 UTC	153 m	270 07 kn			1020.0 mb	14.2 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	14.31	14.31	33.490	24.956	298.9	0.000	5.85	100.5	6.4	0.54	3.3	0.08	0.73	0.21	0	
1	14.31	14.31	33.490	24.956	299.0	0.003	5.85	100.5	6.4	0.54	3.3	0.08	0.73	0.21	1	212
10 ISL	14.04	14.04	33.514	25.031	292.1	0.030	5.83	99.6	6.4	0.54	3.3	0.08	0.81	0.26	10	
11	13.99	13.99	33.519	25.046	290.7	0.032	5.83	99.5	6.4	0.54	3.3	0.08	0.82	0.27	11	211
20	13.59	13.59	33.594	25.186	277.6	0.058	5.72	96.9	7.1	0.62	4.5	0.11	1.35	0.63	20	210
30	12.73	12.73	33.661	25.410	256.5	0.085	5.25	87.4	9.9	0.87	8.1	0.19	1.53	0.77	30	209
40	11.73	11.72	33.697	25.629	235.9	0.109	4.40	71.7	14.8	1.21	13.2	0.26	0.84	0.46	40	208
50	10.45	10.44	33.829	25.962	204.4	0.131	3.38	53.6	23.2	1.67	20.2	0.22	0.28	0.45	50	207
59	10.07	10.06	33.848	26.042	197.0	0.149	3.02	47.5	25.3	1.82	22.7	0.12	0.12	0.29	59	206
70	9.69	9.68	33.918	26.161	185.9	0.171	2.66	41.5	28.2	1.96	25.0	0.03	0.04	0.15	70	205
75 ISL	9.58	9.57	33.944	26.199	182.4	0.180	2.56	39.9	29.2	2.01	25.5	0.03	0.04	0.16	75	
85	9.39	9.38	33.995	26.270	175.8	0.198	2.38	36.9	31.2	2.09	26.4	0.04	0.04	0.20	85	204
100	9.05	9.04	34.094	26.403	163.5	0.223	2.00	30.8	35.7	2.26	28.4	0.04	0.02	0.12	101	203
120	8.97	8.96	34.108	26.427	161.6	0.256	1.90	29.2	36.8	2.30	28.9	0.05	0.03	0.14	121	202
125 ISL	8.93	8.92	34.114	26.438	160.6	0.264	1.86	28.6	37.3	2.32	29.1	0.05	0.03	0.15	126	
139	8.83	8.82	34.131	26.467	158.1	0.286	1.75	26.8	38.8	2.37	29.5	0.06	0.03	0.18	140	201

RV DAVID STARR JORDAN CALCOFI CRUISE 0004 STATION 83 51

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
33 52.4 N	120 8.3 W	18/04/00	1854 UTC	109 m	290 04 kn	230 04 08	1	1019.9 mb	15.8 C	13.0 C	08m	4/8	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	13.52	13.52	33.525	25.147	280.8	0.000	5.85	98.9	7.7	0.66	4.9	0.12	1.29	0.40	0	
1	13.63	13.63	33.522	25.122	283.2	0.003									1	213
2	13.65	13.65	33.519	25.116	283.8	0.006									2	214
2 A	13.52	13.52	33.525	25.147	280.9	0.006	5.85	98.9	7.7	0.66	4.9	0.12	1.29	0.40	2	212
6 A	13.22	13.22	33.562	25.236	272.5	0.017	5.66	95.1	9.1	0.77	6.2	0.13	1.42	0.51	6	211
10 ISL	12.99	12.99	33.611	25.320	264.6	0.027	5.44	91.0	10.4	0.83	7.3	0.14	1.60	0.62	10	
11 A	12.95	12.95	33.621	25.335	263.1	0.030	5.39	90.1	10.6	0.84	7.5	0.14	1.63	0.64	11	210
16 A	12.84	12.84	33.631	25.365	260.5	0.043	5.33	88.9	11.0	0.87	7.9	0.15	1.39	0.57	16	209
20 ISL	12.72	12.72	33.642	25.397	257.5	0.054	5.25	87.3	11.5	0.90	8.4	0.16	1.36	0.59	20	
21 A	12.68	12.68	33.646	25.408	256.5	0.056	5.23	86.9	11.7	0.91	8.6	0.16	1.35	0.59	21	208
30 ISL	12.30	12.30	33.694	25.519	246.2	0.079	4.87	80.3	14.1	1.06	10.8	0.17	1.50	0.73	30	
31 A	12.25	12.25	33.699	25.533	244.9	0.081	4.83	79.6	14.4	1.08	11.0	0.17	1.52	0.74	31	207
39	11.93	11.92	33.715	25.606	238.2	0.101	4.64	75.9	15.5	1.16	12.2	0.19	1.39	0.71	39	206
50	10.60	10.59	33.817	25.927	207.8	0.125	3.47	55.2	23.4	1.65	19.7	0.20	0.66	0.58	50	205
58	10.00	9.99	33.873	26.073	194.0	0.141	3.00	47.1	27.2	1.84	22.9	0.16	0.34	0.41	58	204
70	9.45	9.44	33.944	26.220	180.2	0.164	2.53	39.3	31.1	2.05	25.9	0.09	0.09	0.20	70	203
75 ISL	9.34	9.33	33.963	26.253	177.2	0.173	2.43	37.6	32.2	2.09	26.5	0.09	0.08	0.19	75	
85	9.20	9.19	33.997	26.303	172.7	0.190	2.27	35.1	34.3	2.16	27.4	0.09	0.06	0.17	85	202
98	8.91	8.90	34.057	26.396	164.1	0.212	2.00	30.7	37.9	2.28	28.8	0.08	0.05	0.20	99	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV DAVID STARR JORDAN CALCOFI CRUISE 0004 STATION 83 55

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
33 44.9 N	120 24.6 W	18/04/00	1500 UTC	987 m	280 12 kn	270 08 09	1	1016.5 mb	15.0 C	12.5 C	15m	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	13.37	13.37	33.471	25.135	281.9	0.000	6.14	103.4	2.1	0.52	3.1	0.09	0.80	0.39	0	
3	13.37	13.37	33.471	25.135	282.0	0.008	6.14	103.4	2.1	0.52	3.1	0.09	0.80	0.39	3	220
10	13.31	13.31	33.473	25.149	280.9	0.028	6.17	103.8	2.3	0.54	3.3	0.09	0.82	0.36	10	219
20	11.90	11.90	33.665	25.572	240.9	0.054	5.82	95.2	6.1	0.92	7.3	0.21	0.95	0.76	20	218
30	11.80	11.80	33.709	25.625	236.1	0.078	5.64	92.0	8.1	1.04	8.1	0.21	0.88	1.34	30	217
39	11.62	11.62	33.726	25.672	231.8	0.099	5.55	90.2	9.7	1.13	9.2	0.22	0.85	1.34	39	216
50	11.28	11.27	33.732	25.739	225.7	0.124	5.04	81.4	12.0	1.29	11.9	0.21	0.09	0.39	50	215
60	10.25	10.24	33.707	25.901	210.4	0.146	3.60	56.8	21.2	1.67	20.8	0.09	0.09	0.56	60	214
70	10.09	10.08	33.725	25.943	206.7	0.167	3.47	54.6	22.4	1.73	21.8	0.09	0.10	0.36	70	213
75 ISL	9.93	9.92	33.754	25.993	202.0	0.177	3.29	51.6	23.8	1.80	22.9	0.09	0.10	0.38	75	
85	9.61	9.60	33.814	26.093	192.7	0.197	2.96	46.1	26.6	1.92	24.9	0.07	0.08	0.47	85	212
99	9.49	9.48	33.840	26.133	189.1	0.224	2.92	45.3	27.8	1.96	25.4	0.04	0.06	0.41	100	211
100 ISL	9.47	9.46	33.845	26.140	188.4	0.226	2.90	45.0	28.0	1.97	25.5	0.04	0.06	0.40	101	
118	9.02	9.01	33.946	26.292	174.3	0.258	2.55	39.2	32.0	2.09	27.4	0.01	0.03	0.28	119	210
125 ISL	8.90	8.89	33.967	26.328	171.1	0.270	2.50	38.3	32.9	2.12	27.9	0.01	0.02	0.26	126	
139	8.69	8.68	33.996	26.383	166.0	0.294	2.43	37.1	34.6	2.16	28.7	0.01	0.02	0.25	140	209
150 ISL	8.49	8.47	34.016	26.430	161.7	0.312	2.31	35.1	36.7	2.22	29.5	0.01	0.02	0.23	151	
168	8.20	8.18	34.041	26.494	155.9	0.340	2.14	32.3	39.9	2.30	30.6	0.01	0.02	0.19	169	208
197	7.91	7.89	34.058	26.551	151.0	0.385	2.19	32.9	42.3	2.34	31.0	0.01	0.01	0.14	198	207
200 ISL	7.89	7.87	34.059	26.554	150.7	0.390	2.18	32.7	42.5	2.34	31.0	0.01			201	
229	7.72	7.70	34.066	26.585	148.2	0.433	2.04	30.5	44.5	2.39	31.6	0.01			230	206
250 ISL	7.44	7.42	34.074	26.632	144.0	0.464	1.88	27.9	48.0	2.48	32.7	0.00			252	
269	7.20	7.17	34.088	26.676	139.9	0.490	1.70	25.1	51.4	2.57	33.8	0.00			271	205
300 ISL	7.15	7.12	34.135	26.721	136.2	0.533	1.36	20.1	54.8	2.69	34.8	0.00			302	
317	7.13	7.10	34.161	26.744	134.3	0.556	1.18	17.4	56.6	2.75	35.2	0.00			319	204
379	6.56	6.53	34.184	26.840	125.7	0.637	0.84	12.2	66.0	2.93	37.7	0.00			382	202
400 ISL	6.50	6.46	34.217	26.874	122.8	0.663	0.76	11.0	68.4	2.97	38.2	0.00			403	
437	6.42	6.38	34.278 D	26.933	117.7	0.707									440	200
500 ISL	6.01	5.97	34.310	27.012	110.8	0.779	0.36	5.2	80.0	3.19	40.3	0.00			504	
516	5.91	5.86	34.318	27.031	109.1	0.797	0.30	4.3	81.8	3.22	40.7	0.00			520	201

RV DAVID STARR JORDAN CALCOFI CRUISE 0004 STATION 83 60

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
33 34.6 N	120 45.0 W	18/04/00	1056 UTC	1273 m	240 26 kn			1014.0 mb	14.0 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	14.17	14.17	33.363	24.888	305.5	0.000	6.04	103.4	2.9	0.39	0.9	0.03	0.27	0.08	0	
2	14.17	14.17	33.363	24.888	305.5	0.006	6.04	103.4	2.9	0.39	0.9	0.03	0.27	0.08	2	220
10 ISL	14.17	14.17	33.363	24.888	305.7	0.031	6.04	103.4	2.8	0.39	0.9	0.03	0.48	0.11	10	
11	14.17	14.17	33.363	24.888	305.8	0.034	6.04	103.4	2.8	0.39	0.9	0.03	0.51	0.11	11	219
20 ISL	14.09	14.09	33.372	24.912	303.7	0.061	6.02	102.9	2.9	0.40	1.1	0.04	0.38	0.13	20	
21	14.08	14.08	33.373	24.915	303.5	0.064	6.02	102.8	2.9	0.40	1.1	0.04	0.36	0.13	21	218
30	12.48	12.48	33.485	25.322	264.9	0.090	5.89	97.4	4.7	0.69	4.9	0.20	0.60	0.34	30	217
40	12.30	12.29	33.511	25.377	259.9	0.116	5.84	96.2	4.9	0.76	5.6	0.16	0.69	0.38	40	216
49	12.12	12.11	33.541	25.435	254.6	0.139	5.81	95.4	5.4	0.83	6.4	0.17	0.74	0.42	49	215
50 ISL	12.09	12.08	33.542	25.442	254.0	0.142	5.79	95.0	5.6	0.85	6.6	0.18	0.73	0.42	50	
60	11.77	11.76	33.569	25.523	246.5	0.167	5.45	88.8	8.8	1.03	8.9	0.24	0.52	0.41	60	214
70	11.55	11.54	33.651	25.627	236.8	0.191	5.09	82.6	12.8	1.22	11.4	0.29	0.18	0.23	70	213
75 ISL	11.41	11.40	33.695	25.687	231.2	0.202	5.01	81.1	13.5	1.28	12.1	0.28	0.23	0.31	75	
85	11.14	11.13	33.768	25.793	221.4	0.225	4.92	79.2	14.1	1.38	13.1	0.23	0.33	0.61	85	212
100	10.95	10.94	33.802	25.854	215.9	0.258	4.72	75.7	16.6	1.52	15.1	0.23	0.48	1.01	101	211
120	9.83	9.82	33.791	26.039	198.6	0.299	3.01	47.1	25.8	1.89	24.2	0.13	0.15	0.83	121	210
125 ISL	9.68	9.67	33.810	26.079	194.9	0.309	2.94	45.8	27.0	1.94	25.1	0.11	0.13	0.78	126	
141	9.35	9.33	33.888	26.194	184.2	0.340	2.72	42.1	29.7	2.03	26.4	0.07	0.08	0.64	142	209
150 ISL	9.17	9.15	33.924	26.251	178.9	0.356	2.60	40.1	31.3	2.08	27.2	0.06	0.06	0.60	151	
169	8.85	8.83	33.982	26.348	170.0	0.389	2.41	36.9	34.1	2.17	28.5	0.04	0.04	0.52	170	208
199	8.54	8.52	34.012	26.420	163.7	0.439	2.32	35.3	36.8	2.22	29.4	0.02	0.03	0.35	200	207
200 ISL	8.53	8.51	34.013	26.422	163.4	0.441	2.32	35.3	36.9	2.22	29.4	0.02			201	
230	8.18	8.16	34.041	26.498	156.7	0.489	2.18	32.9	40.3	2.30	30.4	0.01			231	206
250 ISL	7.82	7.80	34.063	26.568	150.2	0.519	1.97	29.5	44.7	2.41	31.8	0.01			251	
268	7.47	7.44	34.082	26.634	144.1	0.546	1.75	26.0	49.2	2.52	33.2	0.01			270	205
300 ISL	6.99	6.96	34.098	26.714	136.8	0.591	1.40	20.6	55.7	2.66	35.0	0.00			302	
317	6.78	6.75	34.104	26.747	133.7	0.614	1.24	18.1	58.9	2.72	35.8	0.00			319	204
376	6.31	6.28	34.139	26.837	125.7	0.690	0.97	14.0	68.2	2.91	38.2	0.00			378	203
400 ISL	6.16	6.12	34.156	26.870	122.8	0.720	0.84	12.1	71.5	2.98	39.0	0.00			403	
437	5.92	5.88	34.187	26.925	117.9	0.765	0.63	9.0	76.8	3.07	40.1	0.00			440	202
500 ISL	5.42	5.38	34.256	27.041	107.3	0.836	0.36	5.1	88.0	3.21	41.9	0.00			503	
512	5.32	5.28	34.270	27.064	105.1	0.848	0.31	4.4	90.1	3.24	42.3	0.00			516	201

RV DAVID STARR JORDAN CALCOFI CRUISE 0004 STATION 83 70

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
33 14.7 N	121 26.6 W	18/04/00	0507 UTC	3797 m	210 24 kn			1013.3 mb	14.9 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	14.36	14.36	33.241	24.754	318.2	0.000	6.00	103.0	2.4	0.32	0.1	0.00	0.17	0.04	0	
1	14.36	14.36	33.241	24.754	318.3	0.003	6.00	103.0	2.4	0.32	0.1	0.00	0.17	0.04	1	220
10 ISL	14.35	14.35	33.241	24.756	318.3	0.032	6.00	103.0	2.3	0.32	0.1	0.00	0.18	0.04	10	
16	14.35	14.35	33.241	24.756	318.4	0.051	6.00	103.0	2.3	0.32	0.1	0.00	0.19	0.04	16	219
20 ISL	14.31	14.31	33.244	24.767	317.5	0.064	6.01	103.1	2.3	0.32	0.1	0.00	0.20	0.04	20	
30 ISL	14.13	14.13	33.249	24.809	313.8	0.095	6.05	103.4	2.3	0.33	0.1	0.00	0.23	0.07	30	
31	14.10	14.10	33.249	24.815	313.3	0.098	6.05	103.3	2.3	0.33	0.1	0.00	0.24	0.07	31	218
46	13.49	13.48	33.238	24.932	302.5	0.145	6.15	103.7	2.6	0.36	0.4	0.01	0.41	0.16	46	217
50 ISL	13.45	13.44	33.238	24.940	301.8	0.157	6.16	103.8	2.6	0.36	0.4	0.01	0.41	0.16	50	
56	13.43	13.42	33.241	24.947	301.4	0.175	6.17	103.9	2.6	0.36	0.5	0.02	0.41	0.17	56	216
65	13.33	13.32	33.249	24.973	299.1	0.202	6.16	103.5	2.7	0.38	0.6	0.02	0.50	0.20	65	215
75	12.98	12.97	33.270	25.059	291.1	0.231	6.22	103.8	3.3	0.42	1.4	0.05	0.52	0.23	75	214
84	12.40	12.39	33.356	25.239	274.2	0.257	5.80	95.6	4.7	0.60	3.8	0.21	0.28	0.21	84	213
97	11.89	11.88	33.398	25.368	262.1	0.292	5.31	86.6	7.0	0.81	7.5	0.04	0.25	0.23	97	212
100 ISL	11.75	11.74	33.408	25.402	259.0	0.299	5.22	84.9	7.7	0.86	8.3	0.04	0.22	0.21	100	
109	11.28	11.27	33.428	25.504	249.4	0.322	5.01	80.7	9.6	0.98	10.4	0.02	0.13	0.13	110	211
123	10.38	10.37	33.407	25.646	236.0	0.356	4.99	78.8	11.4	1.07	11.9	0.02	0.10	0.09	124	210
125 ISL	10.29	10.28	33.424	25.675	233.3	0.361	4.90	77.2	12.2	1.12	12.7	0.02	0.09	0.09	126	
144	9.67	9.65	33.650	25.956	206.9	0.403	3.84	59.8	21.3	1.61	20.6	0.01	0.03	0.05	145	209
150 ISL	9.54	9.52	33.709	26.023	200.6	0.415	3.59	55.8	23.4	1.71	22.2	0.01	0.02	0.05	151	
167	9.25	9.23	33.847	26.179	186.1	0.448	3.05	47.1	28.1	1.92	25.4	0.00	0.01	0.04	168	208
199	8.80	8.78	33.981	26.355	169.9	0.505	2.51	38.4	33.5	2.11	27.9	0.00	0.00	0.04	200	207
200 ISL	8.79	8.77	33.985	26.360	169.5	0.506	2.49	38.1	33.7	2.12	28.0	0.00			201	
230	8.33	8.31	34.058 D	26.488	157.7	0.556	2.13	32.3	38.9	2.29	30.0	0.00			231	206
250 ISL	7.82	7.80	34.046	26.555	151.4	0.586	2.24	33.5	42.2	2.30	30.7	0.00			251	
267	7.40	7.37	34.026	26.600	147.3	0.612	2.38	35.3	45.0	2.31	31.2	0.00			269	205
300 ISL	6.99	6.96	34.029	26.659	141.9	0.660	2.21	32.5	49.9	2.42	32.6	0.00			302	
317	6.85	6.82	34.037	26.685	139.7	0.684	2.03	29.7	52.5	2.49	33.5	0.00			319	204
378	6.27	6.24	34.090	26.804	128.9	0.765	1.28	18.5	64.3	2.79	37.2	0.00			380	203
400 ISL	6.12	6.08	34.109	26.838	125.8	0.793	1.08	15.5	67.8	2.87	38.1	0.00			403	
438	5.91	5.87	34.141	26.890	121.2	0.840	0.82	11.7	73.3	2.99	39.4	0.00			441	202
500 ISL	5.61	5.57	34.184	26.961	115.0	0.914	0.58	8.2	81.0	3.10	40.8	0.00			503	
516	5.53	5.49	34.195	26.980	113.4	0.932	0.52	7.4	83.0	3.13	41.1	0.00			520	201

RV DAVID STARR JORDAN CALCOFI CRUISE 0004 STATION 83 80

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
32 54.8 N	122 7.8 W	17/04/00	2319 UTC	4188 m	230 17 kn	250 04 06	1	1013.0 mb	16.3 C	12.6 C	32m	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	15.82	15.82	33.552	24.675	325.7	0.000	5.75	101.9	2.6	0.28	0.0	0.00	0.08	0.01	0	
2	15.82	15.82	33.552	24.676	325.7	0.007	5.75	101.9	2.6	0.28	0.0	0.00	0.08	0.01	2	220
10 ISL	15.80	15.80	33.551	24.679	325.6	0.033	5.75	101.8	2.6	0.27	0.0	0.00	0.08	0.01	10	
15	15.77	15.77	33.550	24.686	325.2	0.049	5.76	101.9	2.6	0.27	0.0	0.00	0.08	0.01	15	219
20 ISL	15.74	15.74	33.547	24.690	324.9	0.065	5.77	102.0	2.6	0.27	0.0	0.00	0.08	0.01	20	
30	15.66	15.66	33.544	24.706	323.7	0.098	5.78	102.0	2.6	0.27	0.1	0.00	0.09	0.01	30	218
45	15.57	15.56	33.558	24.737	321.2	0.146	5.80	102.2	2.6	0.27	0.1	0.00	0.10	0.03	45	217
50 ISL	15.53	15.52	33.566	24.753	319.9	0.162	5.80	102.1	2.6	0.27	0.1	0.00	0.11	0.03	50	
55	15.44	15.43	33.566	24.773	318.1	0.178	5.80	102.0	2.6	0.27	0.1	0.00	0.13	0.03	55	216
64	15.09	15.08	33.518	24.813	314.5	0.206	5.87	102.4	2.6	0.28	0.1	0.00	0.19	0.05	64	215
75	14.34	14.33	33.386	24.872	309.2	0.241	5.99	102.9	2.7	0.31	0.1	0.00	0.30	0.11	75	214
85	13.53	13.52	33.281	24.958	301.1	0.271	6.06	102.3	2.9	0.37	0.4	0.03	0.69	0.41	85	213
94	13.02	13.01	33.353	25.116	286.2	0.298	5.81	97.1	3.8	0.51	2.4	0.21	0.41	0.36	94	212
100 ISL	12.47	12.46	33.347	25.219	276.5	0.314	5.73	94.6	4.5	0.57	3.4	0.18	0.31	0.32	100	
109	11.60	11.59	33.322	25.363	262.9	0.339	5.63	91.3	5.7	0.66	4.9	0.14	0.23	0.26	109	211
124	10.63	10.62	33.348	25.557	244.6	0.377	5.36	85.1	8.6	0.86	8.5	0.03	0.14	0.13	125	210
125 ISL	10.59	10.58	33.357	25.571	243.2	0.379	5.32	84.4	8.9	0.88	8.9	0.03	0.13	0.12	126	
145	10.10	10.08	33.576	25.826	219.3	0.425	4.33	68.0	16.4	1.35	16.5	0.01	0.03	0.04	146	209
150 ISL	10.02	10.00	33.627	25.880	214.4	0.436	4.10	64.3	18.1	1.45	18.0	0.01	0.03	0.04	151	
169	9.73	9.71	33.794	26.059	197.7	0.475	3.38	52.7	23.7	1.74	22.5	0.00	0.01	0.03	170	208
199	9.00	8.98	33.937	26.289	176.2	0.532	2.90	44.6	30.1	1.97	26.1	0.00	0.00	0.02	200	207
200 ISL	8.98	8.96	33.941	26.296	175.6	0.533	2.89	44.4	30.3	1.98	26.2	0.00			201	
229	8.50	8.48	34.021	26.433	162.9	0.582	2.63	40.0	35.2	2.11	28.0	0.00			230	206
250 ISL	8.27	8.24	34.052	26.493	157.6	0.616	2.44	36.9	38.1	2.20	29.1	0.00			251	
269	8.08	8.05	34.069	26.535	153.8	0.646	2.26	34.0	40.7	2.28	30.0	0.00			271	205
300 ISL	7.69	7.66	34.089	26.608	147.2	0.692	1.87	27.9	45.4	2.40	31.6	0.00			302	
317	7.48	7.45	34.098	26.646	143.8	0.717	1.67	24.8	48.1	2.47	32.5	0.00			319	204
377	6.89	6.85	34.135	26.757	133.8	0.800	1.29	18.9	58.2	2.73	35.6	0.00			379	203
400 ISL	6.68	6.64	34.151	26.798	130.1	0.831	1.10	16.0	62.1	2.82	36.7	0.00			403	
438	6.35	6.31	34.177	26.863	124.3	0.879	0.81	11.7	68.5	2.95	38.4	0.00			441	202
500 ISL	5.83	5.79	34.204	26.950	116.3	0.954	0.57	8.2	78.3	3.09	40.5	0.00			503	
516	5.69	5.65	34.212	26.974	114.1	0.972	0.51	7.3	80.8	3.12	41.0	0.00			519	201

RV DAVID STARR JORDAN CALCOFI CRUISE 0004 STATION 83 90

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
32 35.8 N	122 49.6 W	17/04/00	1813 UTC	4252 m	290 10 kn	280 04 07	6	1012.1 mb	12.0 C	11.0 C	33m	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	15.52	15.52	33.443	24.659	327.3	0.000	5.80	102.1	2.7	0.30	0.1	0.00	0.10	0.02	0	
1	A	15.52	15.52	33.443	24.659	327.3	0.003	5.80	102.1	2.7	0.30	0.1	0.00	0.10	0.02	1	221
1		15.52	15.52	33.443	24.659	327.3	0.003									1	222
10	ISL	15.50	15.50	33.441	24.662	327.3	0.033	5.81	102.2	2.7	0.30	0.1	0.00	0.10	0.02	10	
12		15.49	15.49	33.441	24.664	327.1	0.039	5.81	102.2	2.7	0.30	0.1	0.00	0.10	0.02	12	220
20	ISL	15.36	15.36	33.420	24.677	326.2	0.065	5.84	102.4	2.6	0.30	0.1	0.00	0.11	0.03	20	
23	A	15.28	15.28	33.408	24.685	325.5	0.075	5.85	102.4	2.6	0.30	0.1	0.00	0.12	0.03	23	219
30	ISL	15.03	15.03	33.374	24.714	322.9	0.098	5.91	102.9	2.6	0.31	0.1	0.00	0.15	0.04	30	
34		14.87	14.86	33.356	24.735	321.0	0.111	5.94	103.1	2.6	0.31	0.1	0.00	0.18	0.05	34	218
45	A	14.49	14.48	33.332	24.798	315.4	0.146	6.01	103.5	2.6	0.32	0.1	0.00	0.30	0.10	45	217
50	ISL	14.34	14.33	33.333	24.830	312.4	0.161	6.03	103.5	2.6	0.32	0.1	0.00	0.35	0.13	50	
57		14.16	14.15	33.343	24.876	308.2	0.183	6.06	103.7	2.6	0.33	0.1	0.00	0.44	0.19	57	216
70	A	13.93	13.92	33.381	24.953	301.2	0.223	6.19	105.4	2.6	0.34	0.1	0.01	0.65	0.35	70	215
75	ISL	13.69	13.68	33.380	25.002	296.7	0.238	6.11	103.5	2.6	0.39	0.8	0.03	0.55	0.34	75	
76		13.64	13.63	33.379	25.011	295.8	0.241	6.09	103.1	2.6	0.40	0.9	0.04	0.53	0.34	76	214
87	A	13.31	13.30	33.383	25.082	289.4	0.273	5.99	100.7	3.0	0.48	1.8	0.09	0.38	0.29	87	213
100	ISL	12.67	12.66	33.402	25.223	276.2	0.310	5.74	95.2	4.9	0.65	4.3	0.32	0.19	0.17	100	
101		12.61	12.60	33.403	25.235	275.0	0.312	5.72	94.8	5.1	0.66	4.5	0.33	0.18	0.16	101	212
116		11.63	11.62	33.402	25.420	257.6	0.352	5.32	86.3	7.8	0.84	8.1	0.12	0.13	0.13	117	211
125	ISL	11.05	11.03	33.384	25.511	249.0	0.375	5.27	84.4	8.6	0.87	8.8	0.05	0.11	0.11	126	
129	A	10.82	10.80	33.384	25.552	245.2	0.385	5.23	83.4	9.1	0.90	9.2	0.03	0.10	0.10	130	210
144		10.18	10.16	33.500	25.754	226.3	0.420	4.60	72.4	14.4	1.24	14.7	0.02	0.05	0.05	145	209
150	ISL	10.05	10.03	33.569	25.829	219.1	0.434	4.30	67.5	16.6	1.36	16.7	0.02	0.04	0.05	151	
170		9.79	9.77	33.787	26.044	199.2	0.476	3.43	53.6	23.2	1.70	22.1	0.01	0.01	0.03	171	208
197		9.26	9.24	33.910	26.227	182.2	0.527	2.98	46.1	28.4	1.91	25.2	0.00	0.00	0.03	198	207
200	ISL	9.21	9.19	33.920	26.243	180.7	0.533	2.95	45.5	28.9	1.92	25.4	0.00			201	
226		8.79	8.77	33.990	26.365	169.6	0.578	2.77	42.4	32.4	2.02	26.9	0.00			227	206
250	ISL	8.52	8.49	34.036	26.443	162.5	0.618	2.51	38.2	35.8	2.14	28.4	0.00			251	
268		8.32	8.29	34.058	26.491	158.2	0.647	2.33	35.3	38.3	2.22	29.4	0.00			269	205
300	ISL	7.83	7.80	34.064	26.568	151.1	0.696	2.21	33.1	42.8	2.32	30.8	0.00			302	
317		7.57	7.54	34.064	26.606	147.6	0.722	2.14	31.9	45.4	2.37	31.6	0.00			319	204
378		6.98	6.94	34.114	26.729	136.6	0.808	1.42	20.9	56.2	2.67	35.2	0.00			380	203
400	ISL	6.88	6.84	34.152	26.772	132.7	0.838	1.16	17.0	59.6	2.77	36.1	0.00			402	
439		6.66	6.62	34.210	26.848	126.0	0.888	0.79	11.5	65.8	2.93	37.5	0.00			442	202
500	ISL	5.81	5.77	34.195	26.946	116.7	0.962	0.61	8.7	78.6	3.13	40.3	0.00			503	
512		5.64	5.60	34.193	26.965	114.8	0.976	0.58	8.3	81.1	3.17	40.9	0.00			515	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV DAVID STARR JORDAN CALCOFI CRUISE 0004 STATION 83 100

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
32 14.5 N	123 29.7 W	17/04/00	0820 UTC	4142 m	280 07 kn			1011.5 mb	14.5 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	15.76	15.76	33.468	24.624	330.5	0.000	5.80	102.6	2.9	0.29	0.1	0.00	0.09	0.01	0	
1		15.76	15.76	33.468	24.624	330.6	0.003	5.80	102.6	2.9	0.29	0.1	0.00	0.09	0.01	1	220
10	ISL	15.75	15.75	33.468	24.627	330.6	0.033	5.82	102.9	2.9	0.29	0.1	0.00	0.09	0.01	10	
15		15.74	15.74	33.468	24.629	330.5	0.050	5.83	103.0	2.9	0.29	0.1	0.00	0.09	0.01	15	219
20	ISL	15.74	15.74	33.469	24.630	330.6	0.066	5.81	102.7	2.9	0.29	0.1	0.00	0.09	0.01	20	
29		15.73	15.73	33.471	24.634	330.5	0.096	5.80	102.5	2.8	0.29	0.1	0.00	0.09	0.02	29	218
30	ISL	15.68	15.68	33.467	24.642	329.8	0.099	5.81	102.6	2.8	0.29	0.1	0.00	0.09	0.02	30	
45		14.86	14.85	33.413	24.781	317.0	0.148	5.94	103.1	2.8	0.29	0.1	0.00	0.12	0.02	45	217
50	ISL	14.71	14.70	33.407	24.809	314.5	0.163	5.94	102.8	2.8	0.29	0.1	0.00	0.12	0.02	50	
60		14.53	14.52	33.403	24.844	311.4	0.195	5.95	102.6	2.9	0.30	0.1	0.00	0.13	0.03	60	216
74		14.37	14.36	33.407	24.882	308.2	0.238	5.98	102.8	2.8	0.30	0.1	0.00	0.20	0.06	74	215
75	ISL	14.33	14.32	33.399	24.884	308.0	0.241	5.99	102.8	2.8	0.30	0.1	0.00	0.21	0.07	75	
85		13.80	13.79	33.312	24.927	304.1	0.272	6.04	102.5	2.9	0.33	0.2	0.01	0.36	0.20	85	214
94		13.28	13.27	33.271	25.001	297.2	0.299	6.03	101.2	3.0	0.39	0.7	0.04	0.42	0.34	94	213
100	ISL	12.60	12.59	33.312	25.167	281.5	0.316	5.95	98.5	3.7	0.44	1.6	0.06	0.40	0.36	100	
105		12.01	12.00	33.354	25.312	267.7	0.330	5.86	95.8	4.5	0.50	2.6	0.07	0.39	0.38	105	212
115		11.32	11.31	33.348	25.435	256.2	0.356	5.62	90.6	6.1	0.66	5.2	0.05	0.30	0.31	116	211
124		11.07	11.05	33.373	25.499	250.2	0.379	5.47	87.7	7.0	0.73	6.5	0.04	0.23	0.21	125	210
125	ISL	11.03	11.01	33.375	25.508	249.4	0.381	5.46	87.4	7.1	0.74	6.7	0.04	0.22	0.20	126	
139		10.40	10.38	33.416	25.650	236.0	0.415	5.21	82.3	9.8	0.93	9.8	0.02	0.12	0.12	140	209
150	ISL	10.13	10.11	33.510	25.770	224.8	0.441	4.73	74.3	13.7	1.17	13.8	0.01	0.07	0.07	151	
163		9.88	9.86	33.642	25.915	211.3	0.469	4.10	64.1	18.9	1.46	18.6	0.01	0.03	0.03	164	208
193		9.05	9.03	33.874	26.232	181.5	0.528	3.21	49.4	28.0	1.86	24.9	0.01	0.00	0.02	194	207
200	ISL	8.86	8.84	33.906	26.287	176.4	0.541	3.22	49.3	29.3	1.89	25.4	0.01			201	
228		8.19	8.17	33.988	26.454	160.8	0.588	3.24	48.9	34.0	1.94	26.5	0.00			229	206
250	ISL	7.79	7.77	34.014	26.534	153.4	0.622	2.94	44.0	38.8	2.09	28.4	0.00			251	
268		7.53	7.50	34.021	26.577	149.5	0.650	2.63	39.1	42.7	2.22	30.1	0.00			269	205
300	ISL	7.15	7.12	34.035	26.642	143.6	0.696	2.24	33.0	48.2	2.39	32.3	0.00			302	
317		6.99	6.96	34.039	26.667	141.4	0.721	2.07	30.4	50.8	2.47	33.2	0.00			319	204
377		6.47	6.44	34.057	26.752	133.9	0.803	1.61	23.4	59.1	2.67	35.8	0.00			379	203
400	ISL	6.27	6.23	34.068	26.786	130.8	0.834	1.43	20.6	62.6	2.75	36.8	0.00			402	
437		5.97	5.93	34.089	26.841	125.9	0.881	1.15	16.5	68.6	2.88	38.5	0.00			440	202
500	ISL	5.50	5.46	34.140	26.940	116.9	0.958	0.75	10.6	80.5	3.05	41.0	0.00			503	
514		5.39	5.35	34.152	26.963	114.8	0.974	0.66	9.3	83.1	3.09	41.5	0.00			517	201

RV DAVID STARR JORDAN CALCOFI CRUISE 0004 STATION 83 110

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
31 55.0 N	124 9.9 W	17/04/00	0238 UTC	4212 m	220 04 kn	280 04 08	1	1009.1 mb	13.8 C	12.3 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	15.92	15.92	33.337	24.488	343.6	0.000	5.82	103.2	2.8	0.31	0.1	0.00	0.16	0.02	0	
2	15.92	15.92	33.337	24.488	343.6	0.007	5.82	103.2	2.8	0.31	0.1	0.00	0.16	0.02	2	220
10 ISL	15.70	15.70	33.346	24.544	338.5	0.034	5.87	103.6	2.8	0.31	0.1	0.00	0.15	0.02	10	
16	15.36	15.36	33.352	24.624	331.0	0.054	5.92	103.8	2.8	0.31	0.1	0.00	0.14	0.03	16	219
20 ISL	15.03	15.03	33.350	24.695	324.4	0.067	5.93	103.3	2.8	0.31	0.1	0.00	0.15	0.04	20	
30	14.22	14.22	33.339	24.859	309.0	0.099	5.97	102.2	2.9	0.31	0.1	0.00	0.18	0.05	30	218
47	13.63	13.62	33.290	24.944	301.4	0.151	6.17	104.4	3.0	0.34	0.0	0.01	0.50	0.20	47	217
50 ISL	13.62	13.61	33.298	24.952	300.7	0.160	6.14	103.8	3.0	0.34	0.0	0.01	0.51	0.22	50	
55	13.60	13.59	33.311	24.966	299.5	0.175	6.09	103.0	3.0	0.33	0.1	0.01	0.53	0.25	55	216
65	13.25	13.24	33.303	25.031	293.6	0.205	6.05	101.5	3.3	0.42	1.1	0.04	0.49	0.28	65	215
75 ISL	12.96	12.95	33.287	25.077	289.5	0.234	6.02	100.4	3.6	0.47	1.7	0.07	0.40	0.23	75	
76	12.94	12.93	33.286	25.080	289.2	0.237	6.02	100.4	3.6	0.47	1.7	0.07	0.39	0.22	76	214
85	12.80	12.79	33.300	25.118	285.8	0.263	5.97	99.2	4.1	0.53	2.3	0.10	0.30	0.16	85	213
95	12.30	12.29	33.395	25.289	269.7	0.290	5.63	92.7	5.3	0.58	3.8	0.11	0.26	0.31	95	212
100 ISL	11.88	11.87	33.389	25.363	262.7	0.304	5.57	90.9	5.8	0.62	4.6	0.09	0.22	0.28	100	
111	10.95	10.94	33.355	25.506	249.2	0.332	5.50	87.9	7.3	0.74	6.6	0.03	0.14	0.15	112	211
125 ISL	10.31	10.30	33.385	25.641	236.5	0.366	5.20	82.0	10.4	0.96	10.3	0.02	0.07	0.08	126	
126	10.28	10.27	33.390	25.650	235.7	0.368	5.17	81.5	10.7	0.98	10.6	0.02	0.07	0.08	127	210
146	9.93	9.91	33.563	25.845	217.6	0.413	4.27	66.8	17.8	1.40	17.4	0.01	0.03	0.04	147	209
150 ISL	9.82	9.80	33.609	25.899	212.5	0.422	4.10	64.0	19.3	1.47	18.6	0.01	0.02	0.03	151	
170	9.28	9.26	33.819	26.152	188.7	0.462	3.45	53.3	26.0	1.76	23.4	0.01	0.00	0.02	171	208
199	8.74	8.72	33.936	26.329	172.3	0.515	3.21	49.0	30.7	1.89	25.5	0.00	0.00	0.02	200	207
200 ISL	8.73	8.71	33.938	26.333	172.0	0.516	3.21	49.0	30.8	1.89	25.5	0.00			201	
227	8.44	8.42	33.976	26.407	165.3	0.562	3.13	47.5	33.5	1.94	26.5	0.00			228	206
250 ISL	8.10	8.07	34.003	26.480	158.7	0.599	2.92	44.0	37.2	2.04	27.9	0.00			251	
268	7.80	7.77	34.020	26.538	153.4	0.627	2.70	40.4	40.7	2.15	29.3	0.00			270	205
300 ISL	7.26	7.23	34.036	26.628	145.1	0.675	2.25	33.2	47.7	2.36	32.0	0.00			302	
318	6.98	6.95	34.043	26.672	141.0	0.701	2.00	29.4	51.7	2.48	33.5	0.00			320	204
379	6.38	6.35	34.079	26.781	131.2	0.784	1.37	19.8	62.5	2.74	36.8	0.00			381	203
400 ISL	6.20	6.16	34.092	26.814	128.1	0.811	1.20	17.3	66.0	2.82	37.7	0.00			402	
439	5.90	5.86	34.119	26.874	122.7	0.860	0.92	13.2	72.5	2.95	39.3	0.00			442	202
500 ISL	5.45	5.41	34.169	26.969	114.1	0.932	0.59	8.4	83.1	3.10	41.3	0.00			503	
514	5.35	5.31	34.181	26.990	112.1	0.948	0.52	7.3	85.5	3.14	41.7	0.00			517	201

RV DAVID STARR JORDAN CALCOFI CRUISE 0004 STATION 87 33

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
33 53.4 N	118 29.6 W	14/04/00	1051 UTC	57 m	260 14 kn			1015.9 mb	13.5 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	13.82	13.82	33.638	25.173	278.3	0.000	6.76	115.1	1.6	0.25	0.1	0.04	11.66	2.77	0	
1	13.82	13.82	33.638	25.173	278.4	0.003	6.76	115.1	1.6	0.25	0.1	0.04	11.66	2.77	1	207
5	13.80	13.80	33.637	25.176	278.2	0.014	6.78	115.3	1.4	0.27	0.1	0.08	11.97	2.63	5	206
10	13.79	13.79	33.638	25.179	278.0	0.028	6.75	114.8	1.4	0.27	0.1	0.09	12.10	2.39	10	205
20	11.16	11.16	33.640	25.689	229.7	0.053	3.58	57.6	19.6	1.80	17.8	0.68	1.70	0.97	20	204
29	10.82	10.82	33.644	25.753	223.9	0.074	3.33	53.2	21.9	2.02 A	19.8 A	0.58	0.95	0.83	29	203
30 ISL	10.80	10.80	33.652	25.762	222.9	0.076	3.31	52.9	22.0	2.01	19.9	0.57	0.89	0.79	30	
39	10.60	10.60	33.741	25.867	213.2	0.095	3.08	49.0	22.9	1.86	20.9	0.52	0.46	0.48	39	202
49	10.16	10.15	33.828	26.011	199.7	0.116	2.67	42.1	26.3	1.97	23.2	0.42	0.22	0.45	49	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 0004 STATION 87 35

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
33 49.7 N	118 38.1 W	14/04/00	1249 UTC	639 m	260 12 kn	270 02 05	1	1014.5 mb	15.0 C	13.0 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	13.68	13.68	33.619	25.187	277.0	0.000	6.21	105.4	3.7	0.40	2.7	0.16	6.76	2.25	0	
2	13.68	13.68	33.619	25.187	277.1	0.006	6.21	105.4	3.7	0.40	2.7	0.16	6.76	2.25	2	220
10	13.66	13.66	33.618	25.190	276.9	0.028	6.19	105.0	3.7	0.43	2.9	0.17	6.94	2.87	10	219
20	12.81	12.81	33.618	25.361	261.0	0.055	5.23	87.2	8.7	0.89	7.9	0.35	5.21	2.10	20	218
30	11.60	11.60	33.647	25.614	237.1	0.079	4.08	66.3	15.8	1.42	14.9	0.49	1.73	1.21	30	217
40	10.81	10.81	33.711	25.807	219.0	0.102	3.46	55.3	20.1	1.61	18.9	0.23	0.93	0.68	40	216
49	10.69	10.68	33.744	25.854	214.7	0.122	3.44	54.8	20.3	1.60	19.7	0.14	0.77	0.72	49	215
50 ISL	10.64	10.63	33.751	25.868	213.4	0.124	3.41	54.3	20.6	1.62	20.0	0.13	0.72	0.68	50	
59	10.14	10.13	33.823	26.011	200.0	0.143	3.08	48.5	24.1	1.79	22.6	0.06	0.31	0.34	59	214
69	9.90	9.89	33.871	26.089	192.7	0.162	2.86	44.8	26.0	1.88	23.9	0.03	0.18	0.29	69	213
75 ISL	9.77	9.76	33.899	26.133	188.7	0.174	2.81	43.9	26.8	1.91	24.4	0.03	0.14	0.26	75	
84	9.59	9.58	33.939	26.194	183.1	0.190	2.76	43.0	27.8	1.95	24.9	0.02	0.11	0.23	84	212
99	9.35	9.34	33.996	26.278	175.4	0.217	2.61	40.4	30.1	2.02	26.0	0.02	0.09	0.19	100	211
100 ISL	9.33	9.32	33.999	26.283	174.9	0.219	2.60	40.3	30.2	2.03	26.1	0.02	0.09	0.19	101	
119	9.04	9.03	34.053	26.373	166.7	0.251	2.37	36.5	33.0	2.13	27.3	0.02	0.07	0.16	120	210
125 ISL	8.98	8.97	34.067	26.393	164.9	0.261	2.29	35.2	33.9	2.16	27.7	0.02	0.06	0.15	126	
139	8.86	8.85	34.097	26.436	161.1	0.284	2.12	32.5	35.9	2.24	28.6	0.01	0.03	0.12	140	209
150 ISL	8.77	8.75	34.120	26.468	158.2	0.302	1.99	30.5	37.4	2.30	29.2	0.02	0.03	0.12	151	
170	8.65	8.63	34.153	26.513	154.3	0.333	1.78	27.2	39.7	2.39	30.0	0.03	0.02	0.11	171	208
200	8.56	8.54	34.169	26.540	152.3	0.379	1.61	24.5	41.4	2.45	30.5	0.03	0.02	0.10	201	207
227	8.29	8.27	34.212	26.615	145.6	0.419	1.30	19.7	45.7	2.58	31.9	0.03			228	206
250 ISL	8.16	8.13	34.230	26.649	142.7	0.452	1.18	17.8	47.8	2.64	32.5	0.02			252	
269	8.07	8.04	34.238	26.669	141.1	0.479	1.11	16.7	49.2	2.68	32.9	0.02			271	205
300 ISL	7.87	7.84	34.248	26.707	138.0	0.523	0.95	14.3	52.0	2.75	33.8	0.02			302	
318	7.73	7.70	34.253	26.732	135.9	0.547	0.86	12.9	53.9	2.79	34.3	0.02			320	204
379	7.12	7.08	34.276	26.837	126.5	0.627	0.60	8.8	62.5	2.96	36.5	0.02			382	203
400 ISL	6.97	6.93	34.283	26.863	124.3	0.654	0.56	8.2	64.8	3.00	37.1	0.02			403	
437	6.73	6.69	34.293	26.904	120.8	0.699	0.52	7.6	68.5	3.05	37.9	0.01			440	202
500 ISL	6.34	6.29	34.308	26.968	115.3	0.773	0.36	5.2	74.7	3.14	39.3	0.01			504	
512	6.26	6.21	34.311	26.981	114.1	0.787	0.33	4.8	75.9	3.16	39.6	0.01			516	201

RV DAVID STARR JORDAN CALCOFI CRUISE 0004 STATION 87 40

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
33 39.6 N	118 58.7 W	14/04/00	1812 UTC	784 m	280 10 kn	280 02 07	1	1015.9 mb	17.0 C	14.0 C	14m	6/8	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	14.79	14.79	33.603	24.941	300.4	0.000	6.14	106.6	2.4	0.33	0.3	0.02	0.73	0.29	0	
1 A	14.79	14.79	33.603	24.941	300.4	0.003	6.14	106.6	2.4	0.33	0.3	0.02	0.73	0.29	1	221
1	14.78	14.78	33.604	24.944	300.1	0.003									1	222
10 A	14.69	14.69	33.603	24.963	298.6	0.030	6.16	106.7	2.4	0.33	0.3	0.02	0.81	0.34	10	220
20 A	14.59	14.59	33.602	24.984	296.9	0.060	6.19	107.0	2.4	0.34	0.4	0.02	0.95	0.43	20	219
30 A	13.81	13.81	33.592	25.140	282.3	0.089	5.86	99.7	4.2	0.50	2.8	0.09	1.35	0.56	30	218
37 A	12.89	12.89	33.587	25.322	265.2	0.108	5.19	86.6	8.4	0.80	7.3	0.24	1.13	0.53	37	217
47	11.41	11.40	33.634	25.639	235.1	0.133	4.10	66.3	14.8	1.28	15.0	0.21	0.46	0.31	47	216
50 ISL	11.24	11.23	33.653	25.685	230.8	0.140	3.98	64.2	15.8	1.34	16.0	0.19	0.37	0.30	50	
55 A	11.10	11.09	33.683	25.734	226.3	0.151	3.86	62.0	17.1	1.40	16.9	0.15	0.28	0.28	55	215
62	10.91	10.90	33.719	25.796	220.5	0.167	3.67	58.8	18.9	1.50	18.3	0.11	0.20	0.26	62	214
71	10.73	10.72	33.739	25.843	216.2	0.187	3.54	56.5	19.8	1.56	19.1	0.07	0.17	0.23	71	213
75 ISL	10.64	10.63	33.753	25.870	213.8	0.195	3.46	55.1	20.4	1.60	19.7	0.06	0.15	0.23	75	
86	10.33	10.32	33.802	25.962	205.2	0.218	3.21	50.8	22.8	1.71	21.5	0.04	0.11	0.23	86	212
100	9.85	9.84	33.887	26.110	191.4	0.246	2.83	44.3	26.9	1.88	24.0	0.02	0.05	0.18	101	211
120	9.52	9.51	33.956	26.219	181.4	0.283	2.57	40.0	29.1	2.01	25.7	0.02	0.02	0.16	121	210
125 ISL	9.42	9.41	33.979	26.254	178.2	0.292	2.48	38.5	30.2	2.05	26.2	0.02	0.02	0.15	126	
139	9.17	9.15	34.041	26.343	170.0	0.317	2.22	34.3	33.3	2.16	27.7	0.02	0.01	0.13	140	209
150 ISL	9.02	9.00	34.065	26.386	166.1	0.335	2.10	32.3	35.0	2.21	28.4	0.02	0.01	0.12	151	
170	8.81	8.79	34.089	26.438	161.5	0.368	1.93	29.6	37.5	2.29	29.4	0.03	0.01	0.10	171	208
199	8.56	8.54	34.125	26.505	155.6	0.414	1.69	25.7	41.1	2.41	30.6	0.03	0.01	0.10	200	207
200 ISL	8.55	8.53	34.127	26.509	155.3	0.415	1.68	25.6	41.3	2.42	30.7	0.03			201	
229	8.18	8.16	34.175	26.603	146.8	0.459	1.33	20.1	46.7	2.58	32.6	0.02			230	206
250 ISL	8.05	8.02	34.196	26.639	143.6	0.490	1.21	18.2	48.3	2.63	33.2	0.02			252	
268	7.95	7.92	34.209	26.664	141.5	0.515	1.12	16.8	49.5	2.67	33.6	0.02			270	205
300 ISL	7.58	7.55	34.233	26.737	135.0	0.560	0.83	12.4	55.2	2.79	35.1	0.02			302	
318	7.36	7.33	34.245	26.778	131.3	0.584	0.68	10.1	58.8	2.86	35.9	0.02			320	204
378	6.86	6.82	34.275	26.872	123.0	0.660	0.53	7.8	66.3	3.00	37.5	0.01			380	203
400 ISL	6.69	6.65	34.287	26.904	120.1	0.687	0.47	6.9	69.3	3.04	38.0	0.01			403	
438	6.43	6.39	34.307 D	26.955	115.7	0.731	0.38	5.5	74.5	3.11	38.8	0.00			441	202
500 ISL	6.07	6.03	34.331	27.021	110.0	0.801	0.29	4.2	81.4	3.20	39.7	0.00			504	
515	5.98	5.93	34.337	27.037	108.6	0.818	0.27	3.9	83.1	3.22	39.9	0.00			519	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV DAVID STARR JORDAN CALCOFI CRUISE 0004 STATION 87 45

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
33 29.8 N	119 19.2 W	14/04/00	2221 UTC	1650 m	300 14 kn	290 01 08	1	1015.1 mb	14.8 C	13.8 C	12m	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	33.673	25.210	274.8	0.000	5.85	99.5	8.0	0.76	6.6	0.12	0.63	0.28	0	
1	13.77	13.77	33.673	25.210	274.8	0.003	5.85	99.5	8.0	0.76	6.6	0.12	0.63	0.28	1	220
10 ISL	13.49	13.49	33.676	25.270	269.4	0.027	5.85	98.9	8.2	0.77	6.8	0.13	0.76	0.35	10	
11	13.43	13.43	33.676	25.282	268.2	0.030	5.85	98.8	8.2	0.77	6.9	0.13	0.78	0.36	11	219
20 ISL	12.84	12.84	33.678	25.402	257.1	0.054	5.66	94.4	8.7	0.82	7.7	0.14	1.07	0.80	20	
21	12.76	12.76	33.679	25.418	255.6	0.056	5.61	93.4	8.8	0.83	7.8	0.14	1.10	0.85	21	218
30 ISL	11.86	11.86	33.720	25.623	236.3	0.078	4.77	78.0	13.5	1.13	12.4	0.16	1.15	0.89	30	
31	11.74	11.74	33.727	25.650	233.7	0.081	4.66	76.0	14.2	1.17	13.1	0.16	1.16	0.89	31	217
41	10.49	10.49	33.802	25.934	206.9	0.103	3.54	56.2	21.5	1.61	19.8	0.15	0.88	0.62	41	216
50	9.75	9.74	33.887	26.126	188.8	0.120	2.84	44.4	27.1	1.90	24.3	0.13	0.24	0.23	50	215
60	9.58	9.57	33.923	26.182	183.6	0.139	2.69	41.9	28.8	1.97	25.3	0.07	0.11	0.18	60	214
69	9.39	9.38	33.960	26.243	178.1	0.155	2.50	38.8	30.8	2.05	26.4	0.06	0.06	0.19	69	213
75 ISL	9.33	9.32	33.974	26.263	176.2	0.166	2.45	37.9	31.3	2.07	26.7	0.05	0.04	0.17	75	
85	9.25	9.24	33.993	26.291	173.8	0.183	2.40	37.1	32.0	2.10	27.1	0.03	0.03	0.14	85	212
99	9.06	9.05	34.028	26.349	168.5	0.207	2.22	34.2	34.2	2.17	28.1	0.04	0.02	0.15	100	211
100 ISL	9.05	9.04	34.029	26.352	168.3	0.209	2.21	34.0	34.3	2.17	28.1	0.04	0.02	0.15	101	
120	8.91	8.90	34.061	26.399	164.2	0.242	2.08	31.9	35.9	2.24	28.7	0.03	0.02	0.12	121	210
125 ISL	8.84	8.83	34.076	26.422	162.1	0.251	2.00	30.7	36.7	2.27	29.1	0.03	0.02	0.12	126	
139	8.65	8.64	34.119	26.486	156.3	0.273	1.78	27.2	39.2	2.37	30.2	0.02	0.01	0.11	140	209
150 ISL	8.58	8.56	34.143	26.516	153.7	0.290	1.68	25.6	40.4	2.41	30.7	0.03	0.01	0.10	151	
169	8.48	8.46	34.171	26.553	150.4	0.319	1.55	23.6	42.2	2.47	31.2	0.04	0.01	0.08	170	207
199	8.21	8.19	34.189	26.609	145.6	0.363	1.35	20.4	45.7	2.57	32.3	0.02	0.00	0.08	200	208
200 ISL	8.20	8.18	34.190	26.611	145.4	0.365	1.34	20.3	45.8	2.57	32.3	0.02			201	
228	7.95	7.93	34.203	26.659	141.3	0.405	1.17	17.6	49.2	2.65	33.4	0.02			229	206
250 ISL	7.81	7.79	34.213	26.688	138.9	0.436	1.04	15.6	51.4	2.71	34.2	0.01			252	
269	7.70	7.67	34.221	26.710	137.1	0.462	0.94	14.0	53.2	2.75	34.8	0.01			271	205
300 ISL	7.50	7.47	34.237	26.752	133.5	0.504	0.83	12.3	56.0	2.82	35.4	0.01			302	
317	7.39	7.36	34.246	26.775	131.6	0.526	0.78	11.6	57.6	2.85	35.7	0.01			319	204
378	6.97	6.93	34.272	26.854	124.7	0.604	0.55	8.1	65.0	2.98	37.3	0.01			381	203
400 ISL	6.79	6.75	34.282	26.887	121.8	0.632	0.48	7.0	67.8	3.03	37.9	0.01			403	
437	6.49	6.45	34.299	26.941	117.1	0.676	0.38	5.5	72.7	3.10	38.8	0.01			440	202
500 ISL	6.04	6.00	34.332	27.026	109.5	0.747	0.27	3.9	82.0	3.20	39.7	0.01			504	
512	5.96	5.92	34.339	27.041	108.1	0.760	0.25	3.6	83.8	3.22	39.9	0.01			516	201

RV DAVID STARR JORDAN CALCOFI CRUISE 0004 STATION 87 50

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
33 19.4 N	119 40.0 W	15/04/00	0223 UTC	84 m	280 14 kn	290 02 09	1	1014.9 mb	14.5 C	12.3 C		3/8	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	13.49	13.49	33.681	25.273	268.8	0.000	6.09	103.0	7.7	0.74	6.7	0.12	1.95	0.69	0	
2	13.49	13.49	33.681	25.273	268.8	0.005	6.09	103.0	7.7	0.74	6.7	0.12	1.95	0.69	2	209
5	13.44	13.44	33.683	25.285	267.8	0.013	6.09	102.9	7.7	0.75	6.8	0.12	2.04	0.72	5	208
10	12.80	12.80	33.696	25.423	254.8	0.026	5.97	99.5	8.2	0.81	7.9	0.13	2.71	1.09	10	207
20	11.36	11.36	33.719 D	25.714	227.4	0.051	4.68	75.7	14.3	1.30	14.0	0.22	1.34	0.97	20	206
30	10.74	10.74	33.744	25.845	215.1	0.073	4.08	65.1	18.4	1.52	17.4	0.22	0.82	0.89	30	205
40	10.48	10.48	33.756	25.900	210.1	0.094	3.35 U	53.2U	20.5	1.63	19.5	0.21	0.51	0.58	40	204
50	10.25	10.24	33.768	25.949	205.7	0.115	3.56	56.2	21.8	1.70	20.7	0.21	0.36	0.60	50	203
61	9.80	9.79	33.829	26.073	194.1	0.137	3.09	48.3	25.4	1.84	23.4	0.17	0.15	0.38	61	202
71	9.65	9.64	33.884	26.141	187.8	0.156	2.86	44.6	28.0	1.92	24.4	0.17	0.09	0.32	71	201

RV DAVID STARR JORDAN CALCOFI CRUISE 0004 STATION 87 55

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
33 9.5 N	120 0.5 W	15/04/00	0545 UTC	1144 m	290 11 kn			1016.5 mb	14.0 C	12.1 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	12.96	12.96	33.632	25.342	262.3	0.000	6.68	111.7	2.3	0.53	4.2	0.21	4.02	1.03	0	
1	12.96	12.96	33.632	25.342	262.3	0.003	6.68	111.7	2.3	0.53	4.2	0.21	4.02	1.03	1	220
10	12.73	12.73	33.656	25.406	256.4	0.026	6.59	109.7	3.3	0.62	5.0	0.21	4.11	1.16	10	219
20	12.02	12.02	33.660	25.546	243.4	0.051	5.88	96.4	7.5	0.90	8.1	0.24	3.60	1.03	20	218
30	11.83	11.83	33.674	25.592	239.2	0.075	5.57	90.9	8.8	1.02	9.3	0.25	2.43	1.17	30	217
40	11.67	11.66	33.692	25.636	235.2	0.099	5.32	86.6	11.5	1.13	11.1	0.26	2.21	1.09	40	216
50	11.42	11.41	33.704	25.692	230.2	0.122	4.98	80.6	13.8	1.25	12.6	0.25	1.34	1.17	50	215
60	10.91	10.90	33.686	25.770	222.9	0.145	4.34	69.5	17.0	1.41	16.2	0.21	0.61	0.77	60	214
70	10.73	10.72	33.668	25.788	221.4	0.167	4.10	65.4	18.0	1.46	17.4	0.20	0.32	0.49	70	213
75 ISL	10.52	10.51	33.685	25.838	216.8	0.178	3.88	61.6	19.4	1.53	18.6	0.16	0.32	0.48	75	
84	10.09	10.08	33.736	25.952	206.1	0.197	3.47	54.6	22.4	1.69	21.2	0.08	0.31	0.45	84	212
100	9.53	9.52	33.834	26.122	190.2	0.229	2.97	46.2	27.0	1.91	24.8	0.07	0.13	0.41	101	211
120	9.17	9.16	33.949	26.271	176.5	0.265	2.56	39.5	31.6	2.06	26.7	0.03	0.07	0.34	121	210
125 ISL	9.11	9.10	33.971	26.297	174.0	0.274	2.44	37.6	32.6	2.10	27.3	0.03	0.07	0.34	126	
140	8.98	8.96	34.022	26.358	168.5	0.300	2.12	32.6	35.1	2.22	28.7	0.04	0.07	0.34	141	209
150 ISL	8.94	8.92	34.041	26.380	166.7	0.317	2.04	31.3	35.6	2.25	28.9	0.05	0.07	0.34	151	
170	8.79	8.77	34.070	26.426	162.6	0.349	1.94	29.7	37.0	2.29	29.3	0.07	0.05	0.34	171	208
198	8.14	8.12	34.137	26.578	148.5	0.393	1.54	23.2	44.6	2.51	32.1	0.05	0.02	0.19	199	207
200 ISL	8.12	8.10	34.140	26.584	148.0	0.396	1.52	22.9	44.9	2.52	32.2	0.05			201	
229	7.96	7.94	34.168	26.630	144.1	0.438	1.28	19.2	48.0	2.62	33.2	0.06			230	206
250 ISL	7.82	7.80	34.185	26.664	141.1	0.468	1.16	17.4	50.1	2.68	33.8	0.07			252	
269	7.67	7.64	34.196	26.695	138.5	0.495	1.09	16.3	52.0	2.72	34.3	0.07			271	205
300 ISL	7.39	7.36	34.199	26.738	134.8	0.537	1.02	15.1	55.2	2.77	35.1	0.03			302	
318	7.23	7.20	34.200	26.761	132.8	0.561	0.99	14.6	57.2	2.80	35.5	0.01			320	204
378	6.79	6.75	34.228	26.844	125.5	0.639	0.71	10.4	64.3	2.95	37.3	0.01			381	203
400 ISL	6.66	6.62	34.247	26.877	122.7	0.666	0.60	8.8	67.0	3.01	37.9	0.01			403	
438	6.46	6.42	34.282	26.931	117.9	0.712	0.42	6.1	71.5	3.10	38.9	0.00			441	202
500 ISL	6.14	6.10	34.315	26.999	112.1	0.783	0.31	4.5	77.4	3.18	40.0	0.00			504	
516	6.06	6.01	34.324	27.017	110.6	0.801	0.28	4.0	78.9	3.20	40.3	0.00			520	201

RV DAVID STARR JORDAN CALCOFI CRUISE 0004 STATION 87 60

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
32 59.7 N	120 20.7 W	15/04/00	0937 UTC	723 m	290 18 kn			1016.8 mb	14.0 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	14.11	14.11	33.523	25.024	292.5	0.000			3.1	0.53	3.1	0.09	0.49	0.16	0	
1	14.11	14.11	33.523	25.024	292.5	0.003	6.16 U	105.4 U	3.1	0.53	3.1	0.09	0.49	0.16	1	220
10	14.11	14.11	33.523	25.024	292.8	0.029	6.11	104.5	3.1	0.54	3.1	0.09	0.51	0.19	10	219
20 ISL	13.61	13.61	33.517	25.123	283.6	0.058	6.20	105.0	3.5	0.54	3.3	0.10	0.68	0.28	20	
21	13.55	13.55	33.518	25.136	282.4	0.061	6.21	105.0	3.5	0.54	3.3	0.10	0.70	0.29	21	218
30 ISL	13.36	13.36	33.571	25.215	275.1	0.086	6.17	104.0	3.0	0.57	3.7	0.11	0.84	0.42	30	
31	13.33	13.33	33.576	25.225	274.2	0.089	6.17	103.9	3.0	0.57	3.7	0.11	0.85	0.43	31	217
40	12.70	12.69	33.553	25.333	264.2	0.113	5.78	96.1	5.4	0.76	5.5	0.22	0.85	0.47	40	216
50	12.03	12.02	33.605	25.502	248.3	0.139	5.36	87.8	10.4	1.03	9.1	0.27	0.37	0.27	50	215
59	11.55	11.54	33.588	25.578	241.2	0.161	4.86	78.8	12.8	1.18	12.5	0.27	0.30	0.24	59	214
70	10.93	10.92	33.605	25.704	229.5	0.187	4.19	67.1	15.7	1.37	16.4	0.13	0.21	0.20	70	213
75 ISL	10.74	10.73	33.627	25.755	224.8	0.198	4.02	64.1	16.8	1.44	17.6	0.08	0.18	0.19	75	
84	10.41	10.40	33.681	25.854	215.4	0.218	3.76	59.5	19.2	1.56	19.6	0.03	0.14	0.17	84	212
100	9.62	9.61	33.816	26.093	193.0	0.250	3.06	47.7	26.0	1.88	24.5	0.01	0.05	0.14	101	211
121	9.24	9.23	33.913	26.231	180.2	0.290	2.81	43.4	29.3	1.98	25.9	0.01	0.03	0.11	122	210
125 ISL	9.20	9.19	33.927	26.249	178.7	0.297	2.77	42.8	29.8	2.00	26.1	0.01	0.03	0.11	126	
140	9.06	9.04	33.969	26.304	173.7	0.323	2.65	40.8	31.4	2.05	26.9	0.01	0.03	0.11	141	209
150 ISL	8.93	8.91	33.990	26.341	170.3	0.340	2.56	39.3	32.6	2.09	27.4	0.01	0.03	0.11	151	
166	8.72	8.70	34.017	26.396	165.4	0.367	2.44	37.3	34.5	2.14	28.2	0.01	0.02	0.10	167	208
198	8.34	8.32	34.049	26.479	157.9	0.419	2.32	35.2	37.8	2.23	29.3	0.03			199	207
200 ISL	8.32	8.30	34.051	26.484	157.5	0.422	2.31	35.0	38.0	2.24	29.4	0.03			201	
230	8.01	7.99	34.079	26.553	151.4	0.468	2.07	31.1	41.9	2.35	30.7	0.03			231	206
250 ISL	7.79	7.77	34.099	26.601	147.1	0.498	1.88	28.1	45.0	2.44	31.7	0.02			252	
269	7.59	7.56	34.121	26.647	142.9	0.526	1.67	24.9	48.3	2.53	32.8	0.01			271	205
300 ISL	7.32	7.29	34.167	26.722	136.2	0.569	1.27	18.8	54.1	2.70	34.5	0.01			302	
319	7.18	7.15	34.193	26.763	132.6	0.595	1.05	15.5	57.4	2.80	35.5	0.01			321	204
377	6.83	6.79	34.231	26.841	125.8	0.670	0.75	11.0	63.8	2.95	37.1	0.01			379	203
400 ISL	6.70	6.66	34.248	26.872	123.2	0.698	0.64	9.3	66.4	3.00	37.7	0.01			403	
438	6.51	6.47	34.273	26.918	119.3	0.744	0.49	7.1	70.4	3.08	38.6	0.00			441	202
500 ISL	6.23	6.19	34.288	26.967	115.3	0.817	0.41	5.9	75.0	3.14	39.5	0.00			503	

511	6.18	6.13	34.291	26.975	114.5	0.830	0.40	5.8	75.8	3.15	39.7	0.00		515	201

RV DAVID STARR JORDAN — CALCOFI CRUISE 0004 — STATION 87 70

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
32 38.9 N	121 2.1 W	15/04/00	1807 UTC	3817 m	330 06 kn	280 05 08	1	1018.0 mb	17.8 C	13.8 C	23m	2/8	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	14.26	14.26	33.484	24.962	298.4	0.000	6.17	105.9	2.0	0.46	1.5	0.07	0.34	0.09	0	
1 A	14.26	14.26	33.484	24.962	298.4	0.003	6.17	105.9	2.0	0.46	1.5	0.07	0.34	0.09	1	222
1	14.30	14.30	33.484	24.954	299.2	0.003									1	223
8	14.17	14.17	33.481	24.979	297.0	0.024	5.82 U	99.7 U	2.0	0.44	1.5	0.07	0.32	0.10	8	221
10 ISL	14.16	14.16	33.480	24.980	296.9	0.030	5.88	100.7	2.0	0.44	1.5	0.07	0.33	0.10	10	
15 A	14.12	14.12	33.478	24.987	296.4	0.045	6.12	104.7	2.1	0.45	1.5	0.07	0.36	0.11	15	220
20 ISL	13.62	13.62	33.455	25.073	288.4	0.059	6.22	105.3	2.6	0.46	1.7	0.08	0.52	0.22	20	
24	13.23	13.23	33.446	25.145	281.7	0.071	6.24	104.8	2.9	0.46	2.0	0.09	0.66	0.31	24	219
30 ISL	13.27	13.27	33.494	25.174	279.0	0.087	6.22	104.6	2.7	0.51	2.3	0.10	0.75	0.35	30	
32 A	13.29	13.29	33.501	25.175	279.0	0.093	6.21	104.4	2.6	0.52	2.4	0.10	0.76	0.36	32	218
39	13.05	13.04	33.465	25.196	277.2	0.113	6.16	103.1	2.9	0.52	2.5	0.11	0.76	0.42	39	217
47 A	12.95	12.94	33.459	25.211	276.0	0.135	6.09	101.7	3.1	0.55	2.7	0.13	0.80	0.49	47	216
50 ISL	12.93	12.92	33.462	25.217	275.4	0.143	6.09	101.6	3.1	0.56	2.8	0.13	0.80	0.48	50	
54	12.91	12.90	33.473	25.230	274.3	0.154	6.08	101.4	3.2	0.57	2.9	0.13	0.80	0.44	54	215
61 A	12.80	12.79	33.509	25.280	269.8	0.173	5.95	99.1	4.4	0.68	3.9	0.14	0.53	0.37	61	214
75 ISL	11.99	11.98	33.495	25.425	256.3	0.210	5.49	89.8	8.5	0.94	7.9	0.24	0.34	0.28	75	
76	11.91	11.90	33.494	25.439	254.9	0.212	5.44	88.9	8.9	0.96	8.3	0.25	0.33	0.28	76	213
89 A	10.87	10.86	33.568	25.686	231.6	0.244	4.57	73.0	15.1	1.31	15.2	0.26	0.12	0.20	89	212
100 ISL	10.30	10.29	33.526	25.753	225.4	0.269	4.53	71.5	15.0	1.30	15.3	0.10	0.11	0.17	100	
105	10.13	10.12	33.507	25.767	224.1	0.280	4.51	70.9	15.0	1.29	15.4	0.03	0.10	0.16	106	211
120	9.92	9.91	33.611	25.884	213.3	0.313	4.07	63.7	18.5	1.50	18.7	0.01	0.06	0.09	121	210
125 ISL	9.82	9.81	33.655	25.935	208.6	0.324	3.89	60.8	20.0	1.57	19.9	0.01	0.05	0.08	126	
139	9.49	9.47	33.775	26.083	194.7	0.352	3.46	53.7	24.2	1.75	22.7	0.01	0.02	0.06	140	209
150 ISL	9.20	9.18	33.838	26.179	185.7	0.373	3.40	52.5	26.4	1.81	23.8	0.01	0.02	0.06	151	
169	8.74	8.72	33.918	26.315	173.1	0.407	3.31	50.6	29.4	1.86	25.0	0.00	0.01	0.05	170	208
200	8.40	8.38	34.014	26.443	161.4	0.459	2.86	43.4	34.7	2.03	27.3	0.01	0.01	0.05	201	207
230	7.95	7.93	34.042	26.532	153.3	0.506	2.53	38.0	39.7	2.20	29.5	0.01			231	206
250 ISL	7.69	7.67	34.056	26.582	148.8	0.536	2.28	34.0	43.1	2.31	30.8	0.01			251	
269	7.49	7.46	34.074	26.625	145.0	0.564	2.02	30.0	46.3	2.42	32.0	0.01			271	205
300 ISL	7.39	7.36	34.135	26.687	139.5	0.608	1.54	22.8	51.1	2.60	33.6	0.01			302	
317	7.36	7.33	34.170	26.719	136.8	0.632	1.29	19.1	53.7	2.70	34.4	0.01			319	204
379	6.82	6.78	34.222	26.835	126.4	0.713	0.76	11.1	63.8	2.94	37.2	0.00			381	203
400 ISL	6.68	6.64	34.234	26.864	123.9	0.740	0.66	9.6	66.4	2.99	37.8	0.00			403	
438	6.45	6.41	34.257	26.913	119.7	0.786	0.52	7.5	70.5	3.06	38.7	0.00			441	202
500 ISL	6.16	6.12	34.310	26.993	112.7	0.858	0.33	4.8	77.0	3.17	40.0	0.00			503	
512	6.10	6.05	34.320	27.009	111.3	0.871	0.29	4.2	78.3	3.19	40.3	0.00			516	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV DAVID STARR JORDAN — CALCOFI CRUISE 0004 — STATION 87 80

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
32 19.2 N	121 42.9 W	15/04/00	2323 UTC		230 04 kn	300 04 09	1	1015.9 mb	16.5 C	13.8 C	43m	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	15.51	15.51	33.366	24.601	332.7	0.000	5.86	103.0	2.7	0.32	0.0	0.00	0.09	0.02	0	
1	15.51	15.51	33.366	24.601	332.7	0.003	5.86	103.0	2.7	0.32	0.0	0.00	0.09	0.02	1	220
10 ISL	15.13	15.13	33.364	24.684	325.2	0.033	5.89	102.8	2.7	0.32	0.0	0.00	0.09	0.02	10	
16	14.81	14.81	33.364	24.753	318.7	0.052	5.91	102.5	2.7	0.32	0.0	0.00	0.09	0.02	16	219
20 ISL	14.75	14.75	33.363	24.765	317.7	0.065	5.91	102.3	2.6	0.32	0.0	0.00	0.10	0.02	20	
29	14.68	14.68	33.360	24.778	316.7	0.094	5.92	102.4	2.5	0.32	0.0	0.00	0.13	0.03	29	218
30 ISL	14.66	14.66	33.360	24.783	316.4	0.097	5.92	102.3	2.5	0.32	0.0	0.00	0.14	0.03	30	
44	14.43	14.42	33.367	24.837	311.5	0.141	5.95	102.4	2.5	0.33	0.0	0.00	0.23	0.08	44	217
50 ISL	14.39	14.38	33.373	24.851	310.5	0.159	5.95	102.3	2.5	0.33	0.0	0.00	0.25	0.11	50	
59	14.32	14.31	33.378	24.870	308.9	0.187	5.93	101.8	2.5	0.33	0.1	0.00	0.32	0.18	59	216
74	14.00	13.99	33.356	24.920	304.5	0.233	5.89	100.4	2.6	0.37	0.3	0.03	0.63	0.44	74	215
75 ISL	13.96	13.95	33.356	24.928	303.8	0.236	5.88	100.2	2.6	0.38	0.4	0.04	0.62	0.44	75	
85	13.36	13.35	33.353	25.048	292.5	0.266	5.80	97.6	3.3	0.48	1.9	0.15	0.54	0.45	85	214
94	12.29	12.28	33.353	25.258	272.6	0.291	5.68	93.4	4.6	0.60	3.9	0.13	0.34	0.31	94	213
100 ISL	11.93	11.92	33.390	25.355	263.5	0.308	5.60	91.4	5.2	0.63	4.6	0.08	0.26	0.27	100	
103	11.82	11.81	33.409	25.390	260.2	0.315	5.57	90.8	5.4	0.63	4.8	0.05	0.23	0.26	103	212
114	11.58	11.57	33.415	25.440	255.7	0.344	5.52	89.5	5.7	0.66	5.2	0.04	0.20	0.19	115	211
124	11.03	11.01	33.415	25.539	246.4	0.369	5.37	86.0	7.4	0.78	7.3	0.02	0.13	0.13	125	210
125 ISL	10.97	10.95	33.418	25.552	245.2	0.371	5.33	85.3	7.8	0.81	7.7	0.02	0.12	0.12	126	
140	10.17	10.15	33.510	25.763	225.3	0.407	4.58	72.0	14.4	1.27	15.0	0.01	0.05	0.06	141	209
150 ISL	9.81	9.79	33.616	25.906	211.8	0.428	4.14	64.7	18.4	1.48	18.5	0.01	0.03	0.04	151	
164	9.43	9.41	33.766	26.086	194.9	0.457	3.63	56.3	23.2	1.69	22.0	0.01	0.01	0.03	165	208
194	8.77	8.75	33.914	26.307	174.3	0.512	3.15	48.2	29.8	1.91	25.6	0.01	0.00	0.02	195	207
200 ISL	8.69	8.67	33.927	26.330	172.2	0.523	3.11	47.5	30.3	1.93	25.9	0.01			201	
229	8.34	8.32	33.957	26.408	165.3	0.572	3.02	45.7	32.5	1.99	26.8	0.01			230	206
250 ISL	7.99	7.96	33.985	26.482	158.4	0.606	2.99	44.9	36.1	2.04	27.7	0.01			251	
268	7.68	7.65	34.007	26.545	152.6	0.634	2.93	43.7	39.6	2.10	28.7	0.01			270	205
300 ISL	7.21	7.18	34.019	26.621	145.7	0.681	2.59	38.2	45.5	2.27	30.8	0.00			302	
318	6.97	6.94	34.023	26.657	142.3	0.707	2.35	34.5	48.8	2.38	32.1	0.00			320	204
378	6.38	6.35	34.068	26.772	132.0	0.790	1.55	22.4	60.2	2.71	36.2	0.00			380	203
400 ISL	6.21	6.17	34.090	26.812	128.4	0.818	1.30	18.7	64.3	2.81	37.5	0.00			402	
437	5.96	5.92	34.127	26.873	122.9	0.865	0.94	13.5	70.8	2.95	39.2	0.00			440	202
500 ISL	5.61	5.57	34.177	26.956	115.5	0.940	0.61	8.7	79.1	3.10	40.8	0.00			503	
510	5.56	5.52	34.185	26.968	114.4	0.951	0.56	8.0	80.4	3.12	41.1	0.00			513	201

RV DAVID STARR JORDAN CALCOFI CRUISE 0004 STATION 87 90

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT TYPE
31 59.3 N	122 23.9 W	16/04/00	0516 UTC	4136 m	200 10 kn			1014.6 mb	15.9 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	15.93	15.93	33.373	24.513	341.1	0.000	5.81	103.0	2.9	0.32	0.0	0.00	0.11	0.01	0	
1	15.93	15.93	33.373	24.513	341.2	0.003	5.81	103.0	2.9	0.32	0.0	0.00	0.11	0.01	1	220
10 ISL	15.63	15.63	33.369	24.578	335.3	0.034	5.84	102.9	2.8	0.32	0.0	0.00	0.10	0.01	10	
15	15.39	15.39	33.367	24.629	330.5	0.050	5.86	102.8	2.7	0.32	0.0	0.00	0.10	0.01	15	219
20 ISL	15.24	15.24	33.367	24.662	327.5	0.067	5.87	102.7	2.7	0.32	0.0	0.00	0.10	0.01	20	
30	14.93	14.93	33.362	24.726	321.8	0.099	5.90	102.5	2.7	0.32	0.0	0.00	0.10	0.02	30	218
45	14.30	14.29	33.325	24.832	312.0	0.147	5.98	102.6	2.7	0.32	0.0	0.00	0.20	0.06	45	217
50 ISL	14.21	14.20	33.325	24.851	310.4	0.163	6.00	102.7	2.7	0.32	0.0	0.00	0.24	0.07	50	
59	14.10	14.09	33.333	24.881	307.8	0.190	6.02	102.8	2.7	0.33	0.0	0.00	0.33	0.13	59	216
75	13.85	13.84	33.348	24.944	302.2	0.239	5.96	101.3	2.9	0.37	0.4	0.03	0.65	0.40	75	215
85	13.38	13.37	33.336	25.031	294.1	0.269	5.87	98.8	3.3	0.45	1.4	0.10	0.46	0.34	85	214
94	12.39	12.38	33.340	25.229	275.4	0.295	5.69	93.8	4.6	0.56	3.2	0.16	0.34	0.31	94	213
100 ISL	11.93	11.92	33.351	25.325	266.4	0.311	5.58	91.1	5.5	0.64	4.6	0.11	0.26	0.25	100	
105	11.66	11.65	33.362	25.383	260.9	0.324	5.50	89.3	6.2	0.70	5.7	0.06	0.21	0.19	105	212
115	11.44	11.43	33.386	25.443	255.4	0.350	5.33	86.1	7.4	0.81	7.5	0.03	0.15	0.14	116	211
125	11.01	10.99	33.421	25.547	245.6	0.375	5.05	80.9	9.8	0.96	10.1	0.02	0.09	0.09	126	210
140	10.41	10.39	33.612	25.802	221.7	0.410	4.10	64.9	17.0	1.39	17.0	0.01	0.03	0.04	141	209
150 ISL	10.08	10.06	33.697	25.924	210.2	0.432	3.71	58.3	20.4	1.57	19.9	0.01	0.02	0.04	151	
166	9.64	9.62	33.798	26.077	195.9	0.464	3.32	51.7	24.5	1.76	22.9	0.01	0.01	0.03	167	208
196	8.95	8.93	33.950	26.307	174.4	0.520	2.91	44.7	30.8	1.96	26.0	0.00	0.00	0.03	197	207
200 ISL	8.86	8.84	33.963	26.332	172.2	0.526	2.87	44.0	31.6	1.98	26.4	0.00			201	
229	8.36	8.34	34.038	26.468	159.6	0.575	2.50	37.9	37.0	2.16	28.8	0.00			230	206
250 ISL	8.22	8.19	34.088	26.529	154.1	0.608	2.07	31.3	40.5	2.31	30.4	0.00			251	
268	8.16	8.13	34.124	26.566	150.9	0.635	1.71	25.8	43.3	2.44	31.6	0.00			269	205
300 ISL	7.94	7.91	34.168	26.634	145.0	0.682	1.33	20.0	48.3	2.60	33.3	0.00			302	
317	7.80	7.77	34.183	26.667	142.1	0.707	1.19	17.8	50.8	2.67	34.0	0.00			319	204
379	7.20	7.16	34.202	26.768	133.1	0.792	0.90	13.3	58.6	2.83	36.0	0.00			381	203
400 ISL	7.06	7.02	34.216	26.798	130.5	0.820	0.80	11.8	61.1	2.88	36.6	0.00			402	
438	6.83	6.79	34.242	26.851	125.9	0.868	0.63	9.2	65.6	2.97	37.6	0.00			441	202
500 ISL	6.33	6.28	34.263	26.934	118.5	0.944	0.46	6.7	73.6	3.09	39.4	0.00			503	
512	6.23	6.18	34.268	26.951	116.9	0.958	0.43	6.2	75.2	3.11	39.7	0.00			515	201

RV DAVID STARR JORDAN CALCOFI CRUISE 0004 STATION 87 100

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT TYPE
31 39.4 N	123 4.3 W	16/04/00	1306 UTC	4130 m	180 20 kn			1012.4 mb	15.0 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	15.66	15.66	33.411	24.603	332.6	0.000	5.82	102.7	2.5	0.30	0.0	0.00	0.10	0.01	0	
2	15.66	15.66	33.411	24.603	332.7	0.007	5.82	102.7	2.5	0.30	0.0	0.00	0.10	0.01	2	220
10 ISL	15.66	15.66	33.415	24.606	332.6	0.033	5.83	102.9	2.5	0.31	0.0	0.00	0.10	0.01	10	
15	15.66	15.66	33.418	24.609	332.5	0.050	5.84	103.0	2.5	0.31	0.0	0.00	0.10	0.01	15	219
20 ISL	15.64	15.64	33.418	24.613	332.2	0.067	5.84	103.0	2.5	0.31	0.0	0.00	0.10	0.01	20	
30	15.60	15.60	33.436	24.636	330.3	0.100	5.85	103.1	2.5	0.30	0.0	0.00	0.10	0.01	30	218
45	15.31	15.30	33.472	24.729	322.0	0.149	5.87	102.9	2.5	0.28	0.0	0.00	0.10	0.02	45	217
50 ISL	14.99	14.98	33.434	24.769	318.2	0.165	5.89	102.5	2.5	0.29	0.0	0.00	0.14	0.03	50	
53	14.81	14.80	33.411	24.791	316.3	0.174	5.90	102.3	2.5	0.30	0.0	0.00	0.16	0.04	53	216
65	14.60	14.59	33.408	24.834	312.5	0.212	5.89	101.7	2.5	0.31	0.0	0.00	0.23	0.08	65	215
75	14.27	14.26	33.374	24.877	308.6	0.243	5.96	102.2	2.5	0.33	0.0	0.00	0.42	0.21	75	214
84	13.94	13.93	33.387	24.956	301.3	0.270	5.89	100.3	2.8	0.38	0.5	0.05	0.73	0.45	84	213
92	13.27	13.26	33.370	25.080	289.7	0.294	5.89	98.9	3.3	0.49	2.0	0.13	0.50	0.33	92	212
100 ISL	12.51	12.50	33.355	25.218	276.7	0.317	5.79	95.7	4.2	0.56	3.2	0.10	0.38	0.26	100	
109	11.70	11.69	33.348	25.365	262.7	0.341	5.62	91.3	5.5	0.63	4.6	0.06	0.30	0.22	109	211
124	10.78	10.77	33.354	25.536	246.6	0.379	5.37	85.5	8.0	0.82	7.8	0.02	0.13	0.14	125	210
125 ISL	10.75	10.74	33.358	25.544	245.9	0.382	5.35	85.2	8.2	0.84	8.1	0.02	0.12	0.13	126	
144	10.31	10.29	33.481	25.717	229.8	0.427	4.74	74.8	13.3	1.17	13.6	0.01	0.05	0.05	145	209
150 ISL	10.20	10.18	33.550	25.789	223.0	0.440	4.43	69.7	15.5	1.30	15.7	0.01	0.04	0.05	151	
168	9.85	9.83	33.758	26.011	202.3	0.479	3.53	55.2	22.0	1.66	21.3	0.01	0.01	0.04	169	208
199	9.07	9.05	33.917	26.263	178.8	0.538	2.91	44.8	29.5	1.96	26.1	0.01	0.01	0.04	200	207
200 ISL	9.05	9.03	33.921	26.269	178.2	0.539	2.90	44.6	29.7	1.97	26.2	0.01			201	
228	8.51	8.49	34.004	26.419	164.3	0.587	2.72	41.4	34.1	2.07	27.8	0.01			229	206
250 ISL	8.20	8.17	34.032	26.488	158.0	0.623	2.54	38.4	37.4	2.16	29.1	0.01			251	
268	7.99	7.96	34.044	26.529	154.4	0.651	2.37	35.6	40.2	2.25	30.1	0.01			269	205
300 ISL	7.59	7.56	34.073	26.610	147.0	0.699	2.01	29.9	46.0	2.42	32.2	0.00			302	
316	7.40	7.37	34.086	26.648	143.6	0.722	1.83	27.1	49.0	2.51	33.2	0.00			318	204
377	6.75	6.72	34.123	26.767	132.8	0.807	1.32	19.3	59.0	2.73	35.9	0.00			379	203
400 ISL	6.48	6.44	34.125	26.804	129.3	0.837	1.20	17.4	62.9	2.80	37.0	0.00			402	
436	6.10	6.06	34.129	26.857	124.5	0.883	1.03	14.8	68.8	2.91	38.6	0.00			439	202
500 ISL	5.67	5.63	34.175	26.947	116.4	0.960	0.67	9.5	78.5	3.08	40.7	0.00			503	
517	5.56	5.52	34.187	26.970	114.4	0.979	0.57	8.1	81.1	3.12	41.2	0.00			520	201

RV DAVID STARR JORDAN CALCOFI CRUISE 0004 STATION 87 110

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
31 19.5 N	123 44.5 W	16/04/00	1930 UTC	4035 m	180 18 kn	180 05 07	2	1011.7 mb	17.5 C	16.0 C	27m	8/8	NS

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	16.71	16.71	33.612	24.518	340.7	0.000	5.67	102.3	2.6	0.25	0.1	0.00	0.08	0.01	0	
1	A	16.71	16.71	33.612	24.518	340.7	0.003	5.67	102.3	2.6	0.25	0.1	0.00	0.08	0.01	1	221
1		16.71	16.71	33.612	24.518	340.7	0.003									1	222
10	ISL	16.71	16.71	33.612	24.518	341.0	0.034	5.67	102.3	2.6	0.26	0.1	0.00	0.08	0.01	10	
18	A	16.71	16.71	33.612	24.519	341.2	0.061	5.67	102.2	2.6	0.26	0.0	0.00	0.08	0.01	18	220
20	ISL	16.69	16.69	33.614	24.525	340.7	0.068	5.68	102.4	2.6	0.26	0.0	0.00	0.08	0.01	20	
28		16.54	16.54	33.620	24.565	337.1	0.095	5.70	102.4	2.6	0.25	0.0	0.00	0.08	0.01	28	219
30	ISL	16.49	16.49	33.617	24.574	336.3	0.102	5.70	102.3	2.6	0.25	0.0	0.00	0.08	0.01	30	
37	A	16.30	16.29	33.620	24.620	332.2	0.125	5.71	102.1	2.6	0.25	0.0	0.00	0.09	0.01	37	218
46		15.99	15.98	33.695	24.749	320.2	0.155	5.78	102.8	2.5	0.25	0.0	0.00	0.09	0.02	46	217
50	ISL	15.88	15.87	33.697	24.775	317.8	0.168	5.78	102.6	2.5	0.25	0.0	0.00	0.09	0.02	50	
56	A	15.73	15.72	33.683	24.798	315.7	0.187	5.79	102.4	2.6	0.25	0.0	0.00	0.10	0.02	56	216
72	A	15.40	15.39	33.628	24.830	313.2	0.237	5.81	102.1	2.6	0.26	0.0	0.00	0.11	0.03	72	215
75	ISL	15.28	15.27	33.603	24.837	312.6	0.246	5.82	102.0	2.6	0.26	0.0	0.00	0.12	0.03	75	
82		15.00	14.99	33.550	24.858	310.8	0.268	5.84	101.7	2.7	0.27	0.0	0.00	0.16	0.05	82	214
94		14.71	14.70	33.535	24.909	306.3	0.305	5.80	100.4	2.8	0.29	0.0	0.00	0.23	0.12	94	213
100	ISL	14.28	14.27	33.534	25.000	297.8	0.323	5.79	99.4	3.2	0.32	0.4	0.02	0.30	0.23	100	
105	A	13.82	13.81	33.518	25.083	289.9	0.338	5.78	98.3	3.5	0.36	0.8	0.04	0.35	0.31	105	212
115		12.82	12.80	33.390	25.185	280.2	0.366	5.75	95.7	4.0	0.45	1.9	0.11	0.31	0.28	115	211
125		12.20	12.18	33.395	25.308	268.6	0.394	5.69	93.4	4.8	0.52	3.1	0.08	0.28	0.30	126	210
140		10.99	10.97	33.386	25.524	248.2	0.433	5.45	87.2	7.3	0.74	6.8	0.01	0.17	0.16	141	209
150	ISL	10.53	10.51	33.439	25.646	236.7	0.457	5.13	81.3	10.1	0.93	10.0	0.01	0.11	0.10	151	
164		10.09	10.07	33.550 D	25.808	221.5	0.489	4.60	72.2	14.7	1.22	14.6	0.00	0.05	0.05	165	208
194		9.22	9.20	33.832	26.172	187.3	0.550	3.55	54.8	25.5	1.72	22.9	0.00	0.00	0.02	195	207
200	ISL	9.09	9.07	33.866	26.220	182.9	0.561	3.46	53.3	26.8	1.77	23.7	0.00			201	
229		8.56	8.54	33.970	26.384	167.6	0.612	3.25	49.5	31.8	1.90	25.8	0.00			230	206
250	ISL	8.20	8.17	34.003	26.465	160.2	0.647	3.07	46.3	35.5	1.99	27.1	0.00			251	
269		7.90	7.87	34.015	26.519	155.2	0.677	2.91	43.6	38.6	2.07	28.2	0.00			270	205
300	ISL	7.55	7.52	34.025	26.578	150.0	0.724	2.67	39.7	42.7	2.19	29.8	0.00			302	
321		7.33	7.30	34.027	26.611	147.0	0.755	2.49	36.8	45.6	2.28	30.9	0.00			323	204
381		6.49	6.46	34.051	26.744	134.7	0.840	1.80	26.1	58.3	2.60	35.2	0.00			383	203
400	ISL	6.32	6.28	34.059	26.773	132.1	0.865	1.63	23.6	61.4	2.68	36.1	0.00			402	
435		6.07	6.03	34.080	26.822	127.8	0.910	1.34	19.3	66.9	2.80	37.6	0.00			438	202
500	ISL	5.61	5.57	34.157	26.940	117.0	0.990	0.74	10.5	79.4	3.04	40.6	0.00			503	
514		5.51	5.47	34.174	26.966	114.6	1.006	0.61	8.7	82.1	3.09	41.2	0.00			517	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV DAVID STARR JORDAN CALCOFI CRUISE 0004 STATION 90 28

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
33 29.0 N	117 46.2 W	14/04/00	0330 UTC	75 m	290 12 kn			1016.9 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	16.32	16.32	33.504	24.525	340.0	0.000	8.03	143.6	0.8	0.04	0.0	0.01	4.03	0.76	0	
1		16.32	16.32	33.504	24.525	340.0	0.003	8.03	143.6	0.8	0.04	0.0	0.01	4.03	0.76	1	210
5		16.15	16.15	33.508	24.567	336.1	0.017	8.09	144.2	0.7	0.04	0.0	0.01	4.30	0.64	5	209
10		14.27	14.27	33.579	25.034	291.9	0.033	7.02	120.5	0.8	0.10	0.0	0.02	5.61	1.81	10	208
16		13.20	13.20	33.604	25.273	269.3	0.049	5.42	91.0	4.2	0.67	5.3	0.20	19.54	5.15	16	207
20		11.60	11.60	33.644	25.612	237.1	0.060	3.78	61.4	16.8	1.46	14.7	0.49	2.46	1.77	20	206
30		10.55	10.55	33.751	25.883	211.4	0.082	3.21	51.0	21.6	1.70	21.1	0.22	0.44	0.70	30	205
40		10.03	10.03	33.827	26.032	197.5	0.102	2.91	45.7	25.3	1.90	23.6	0.13	0.15	0.43	40	204
50		9.88	9.87	33.869	26.090	192.2	0.122	2.79	43.7	26.5	1.93	24.2	0.12	0.12	0.35	50	203
60		9.65	9.64	33.928	26.175	184.4	0.141	2.70	42.1	27.9	1.96	24.9	0.06	0.09	0.42	60	202
66		9.64	9.63	33.938	26.184	183.6	0.152	2.63	41.0	28.7	1.98	25.0	0.06	0.08	0.38	66	201

RV DAVID STARR JORDAN CALCOFI CRUISE 0004 STATION 90 30

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
33 25.1 N	117 54.3 W	13/04/00	2228 UTC	611 m	290 12 kn	300 01 03	1	1017.8 mb	20.0 C	16.2 C	14m	2/8	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	16.22	16.22	33.586	24.611	331.8	0.000	6.15	109.8	2.6	0.27	0.0	0.00	0.23	0.05	0	
1		16.22	16.22	33.586	24.611	331.8	0.003	6.15	109.8	2.6	0.27	0.0	0.00	0.23	0.05	1	220
10		15.77	15.77	33.584	24.712	322.6	0.033	6.12	108.3	2.7	0.27	0.0	0.00	0.27	0.07	10	219
20		15.42	15.42	33.585	24.791	315.3	0.065	6.19	108.8	2.7	0.29	0.1	0.01	0.50	0.19	20	218
30		13.62	13.62	33.570	25.162	280.2	0.094	5.76	97.6	6.1	0.56	3.5	0.16	1.50	0.60	30	217
40		12.25	12.24	33.619	25.471	251.0	0.121	4.76	78.4	11.2	1.02	10.4	0.29	0.83	0.46	40	216
50		11.69	11.68	33.643	25.595	239.4	0.146	4.26	69.3	14.0	1.22	13.6	0.33	0.51	0.42	50	215
59		10.85	10.84	33.702	25.793	220.7	0.166	3.58	57.2	18.1	1.53	18.8	0.07	0.26	0.32	59	214
69		10.29	10.28	33.797	25.965	204.6	0.187	3.15	49.8	22.6	1.74	21.9	0.04	0.12	0.15	69	213
75	ISL	10.09	10.08	33.836	26.030	198.5	0.200	3.03	47.7	23.9	1.80	22.8	0.03	0.07	0.13	75	
84		9.87	9.86	33.883	26.104	191.7	0.217	2.93	45.9	25.3	1.85	23.6	0.02	0.03	0.10	84	212
99		9.47	9.46	33.956	26.227	180.2	0.245	2.74	42.6	28.4	1.96	25.3	0.02	0.01	0.10	100	211
100	ISL	9.46	9.45	33.960	26.232	179.8	0.247	2.73	42.4	28.6	1.97	25.4	0.02	0.01	0.10	101	
118		9.29	9.28	34.023	26.309	172.8	0.279	2.46	38.1	31.2	2.09	26.6	0.01	0.01	0.06	119	210
125	ISL	9.19	9.18	34.050	26.346	169.4	0.291	2.33	36.0	32.6	2.14	27.2	0.01	0.01	0.06	126	
139		8.98	8.97	34.101	26.420	162.6	0.314	2.06	31.7	35.5	2.24	28.5	0.01	0.06 U	0.56 U	140	209
150	ISL	8.88	8.86	34.134	26.462	158.9	0.331	1.89	29.0	37.2	2.31	29.2	0.01	0.02	0.07	151	
168		8.75	8.73	34.174	26.514	154.3	0.360	1.66	25.4	39.6	2.41	30.1	0.01	0.03	0.09	169	208
198		8.51	8.49	34.200	26.572	149.2	0.405	1.40	21.3	43.0	2.52	31.2	0.01	0.01	0.06	199	207
200	ISL	8.50	8.48	34.201	26.574	149.1	0.408	1.39	21.2	43.1	2.52	31.2	0.01			201	
228		8.42	8.40	34.213	26.596	147.5	0.450	1.31	19.9	44.5	2.57	31.6	0.01			229	206
250	ISL	8.29	8.26	34.229	26.629	144.7	0.482	1.20	18.2	46.3	2.62	32.1	0.01			252	
269		8.16	8.13	34.243	26.660	142.1	0.509	1.10	16.6	48.1	2.67	32.7	0.01			271	205
300	ISL	7.92	7.89	34.260	26.709	137.8	0.552	0.92	13.8	51.7	2.76	33.6	0.01			302	
319		7.77	7.74	34.268	26.738	135.4	0.578	0.82	12.3	53.9	2.81	34.2	0.01			321	204
378		7.35	7.31	34.276	26.805	129.7	0.657	0.67	9.9	59.5	2.91	35.7	0.01			380	203
400	ISL	7.19	7.15	34.282	26.832	127.4	0.685	0.60	8.9	61.8	2.95	36.4	0.01			403	
437		6.91	6.87	34.293	26.880	123.2	0.731	0.49	7.2	66.0	3.03	37.5	0.01			440	202
500	ISL	6.35	6.30	34.312	26.970	115.1	0.806	0.33	4.8	74.9	3.15	39.3	0.01			504	
513		6.24	6.19	34.316	26.988	113.5	0.821	0.30	4.3	76.7	3.18	39.7	0.01			517	201

RV DAVID STARR JORDAN CALCOFI CRUISE 0004 STATION 90 35

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
33 15.1 N	118 14.9 W	13/04/00	1756 UTC	307 m	270 09 kn	280 01 04	1	1019.7 mb	19.8 C	15.8 C	19m	3/8	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	16.11	16.11	33.586	24.636	329.4	0.000	5.93	105.7	3.2	0.28	0.0	0.00	0.21	0.04	0	
1 A	16.11	16.11	33.586	24.636	329.4	0.003	5.93	105.7	3.2	0.28	0.0	0.00	0.21	0.04	1	219
1	16.13	16.13	33.586	24.631	329.9	0.003									1	220
7	15.85	15.85	33.584	24.693	324.2	0.023	5.96	105.7	3.2	0.28	0.0	0.00	0.23	0.04	7	218
10 ISL	15.79	15.79	33.584	24.707	323.0	0.033	5.97	105.7	3.2	0.28	0.0	0.00	0.27	0.05	10	
14 A	15.64	15.64	33.581	24.739	320.1	0.045	5.99	105.7	3.1	0.28	0.0	0.00	0.32	0.08	14	217
20	14.98	14.98	33.569	24.875	307.3	0.064	6.06	105.6	3.1	0.30	0.1	0.01	0.73	0.19	20	216
26 A	14.05	14.05	33.548	25.056	290.2	0.082	6.06	103.6	4.2	0.39	1.0	0.05	1.55	0.42	26	215
30 ISL	13.72	13.72	33.547	25.124	283.9	0.094	5.89	100.0	4.7	0.47	2.4	0.10	1.40	0.47	30	
31	13.65	13.65	33.548	25.139	282.4	0.097	5.83	98.8	4.9	0.50	2.8	0.12	1.33	0.48	31	214
39 A	12.79	12.78	33.564	25.324	265.0	0.118	5.09	84.8	8.7	0.82	7.6	0.36	1.46	0.67	39	213
50 ISL	11.78	11.77	33.595	25.541	244.6	0.146	4.44	72.4	12.6	1.14	12.7	0.21	0.62	0.37	50	
51 A	11.70	11.69	33.599	25.559	242.9	0.149	4.39	71.4	12.9	1.16	13.1	0.18	0.53	0.33	51	212
62	11.06	11.05	33.666	25.728	227.0	0.175	3.91	62.8	16.4	1.39	16.7	0.06	0.22	0.20	62	211
74 A	10.63	10.62	33.730	25.854	215.3	0.201	3.57	56.8	19.2	1.55	19.2	0.03	0.09	0.20	74	210
75 ISL	10.60	10.59	33.735	25.863	214.4	0.203	3.54	56.3	19.4	1.56	19.4	0.03	0.09	0.19	75	
87	10.25	10.24	33.798	25.973	204.2	0.229	3.24	51.2	22.0	1.70	21.3	0.03	0.05	0.09	87	209
99	10.02	10.01	33.882	26.078	194.5	0.252	2.95	46.4	24.7	1.83	23.1	0.02	0.01	0.06	100	208
100 ISL	10.00	9.99	33.886	26.084	193.9	0.254	2.94	46.2	24.9	1.84	23.2	0.02	0.01	0.06	101	
119	9.60	9.59	33.938	26.192	184.0	0.290	2.79	43.5	27.5	1.93	24.8	0.01	0.01	0.06	120	207
125 ISL	9.50	9.49	33.957	26.223	181.1	0.301	2.73	42.4	28.3	1.97	25.3	0.01	0.01	0.06	126	
139	9.27	9.25	34.001	26.295	174.5	0.326	2.56	39.6	30.5	2.06	26.4	0.01	0.00	0.06	140	206
150 ISL	9.05	9.03	34.040	26.361	168.4	0.345	2.39	36.8	32.8	2.14	27.5	0.01	0.00	0.07	151	
169	8.72	8.70	34.099	26.460	159.4	0.376	2.10	32.1	36.7	2.27	29.1	0.02	0.00	0.08	170	205
200	8.51	8.49	34.144	26.528	153.4	0.425	1.59 U	24.2U	39.9	2.39	30.2	0.02	0.00	0.07	201	204
229	8.31	8.29	34.160	26.571	149.8	0.469	1.66	25.1	42.7	2.47	31.1	0.02			230	203
250 ISL	8.13	8.10	34.179	26.614	146.1	0.500	1.47	22.2	45.4	2.55	32.0	0.02			252	
269	7.96	7.93	34.197	26.653	142.6	0.527	1.30	19.5	48.1	2.63	32.9	0.02			271	202
299	7.68	7.65	34.221	26.714	137.3	0.569	1.05	15.7	52.5	2.75	34.1	0.02			301	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV DAVID STARR JORDAN CALCOFI CRUISE 0004 STATION 90 37

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
33 11.3 N	118 23.2 W	13/04/00	1501 UTC	1177 m	270 01 kn	280 01 04	0	1018.5 mb	18.4 C	15.1 C	18m	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	15.51	15.51	33.574	24.761	317.5	0.000	5.96	104.9	3.1	0.29	0.1	0.00	0.35	0.09	0	
2	15.51	15.51	33.574	24.762	317.5	0.006	5.96	104.9	3.1	0.29	0.1	0.00	0.35	0.09	2	220
9	15.49	15.49	33.572	24.765	317.5	0.029	6.00	105.6	2.9	0.29	0.1	0.00	0.35	0.10	9	219
10 ISL	15.49	15.49	33.572	24.765	317.5	0.032	6.00	105.6	2.9	0.29	0.1	0.00	0.35	0.10	10	
19	15.46	15.46	33.570	24.770	317.3	0.060	5.96	104.8	2.9	0.29	0.0	0.00	0.37	0.11	19	218
20 ISL	15.45	15.45	33.569	24.772	317.1	0.063	5.98	105.2	2.9	0.29	0.0	0.00	0.38	0.11	20	
29	15.11	15.11	33.557	24.837	311.1	0.092	6.05	105.6	3.6	0.32	0.3	0.02	0.55	0.17	29	217
30 ISL	15.00	15.00	33.555	24.860	309.0	0.095	6.03	105.1	3.7	0.33	0.5	0.03	0.59	0.19	30	
39	13.77	13.76	33.543	25.111	285.4	0.122	5.67	96.3	5.8	0.53	3.3	0.14	0.85	0.33	39	216
49	12.26	12.25	33.563	25.426	255.6	0.149	4.91	80.8	10.0	0.94	9.7	0.27	0.76	0.42	49	215
50 ISL	12.15	12.14	33.568	25.450	253.2	0.151	4.83	79.3	10.5	0.98	10.3	0.26	0.72	0.41	50	
59	11.37	11.36	33.625	25.640	235.3	0.173	4.19	67.7	14.7	1.26	14.8	0.08	0.30	0.26	59	214
69	10.80	10.79	33.704	25.804	219.9	0.196	3.72	59.4	18.5	1.50	18.3	0.02	0.12	0.15	69	213
75 ISL	10.58	10.57	33.748	25.877	213.1	0.209	3.50	55.6	20.1	1.59	19.7	0.02	0.07	0.11	75	
84	10.32	10.31	33.808	25.969	204.6	0.228	3.25	51.4	22.1	1.69	21.2	0.02	0.04	0.08	84	212
99	9.90	9.89	33.886	26.101	192.2	0.257	2.95	46.2	25.5	1.84	23.5	0.01	0.01	0.06	100	211
100 ISL	9.88	9.87	33.890	26.108	191.6	0.259	2.94	46.1	25.6	1.85	23.6	0.01	0.01	0.06	101	
119	9.54	9.53	33.949	26.210	182.2	0.295	2.78	43.2	28.2	1.94	25.0	0.01	0.01	0.05	120	210
125 ISL	9.42	9.41	33.971	26.247	178.8	0.306	2.70	41.9	29.3	1.98	25.5	0.01	0.01	0.05	126	
139	9.14	9.12	34.020	26.331	171.1	0.330	2.52	38.9	31.9	2.08	26.8	0.01	0.01	0.05	140	209
150 ISL	8.94	8.92	34.042	26.380	166.6	0.349	2.43	37.3	33.6	2.13	27.6	0.01	0.01	0.05	151	
169	8.67	8.65	34.070	26.445	160.8	0.380	2.29	35.0	36.2	2.21	28.7	0.01	0.00	0.04	170	208
199	8.50	8.48	34.125	26.515	154.7	0.427	2.00	30.4	39.8	2.35	30.1	0.01	0.00	0.04	200	207
200 ISL	8.49	8.47	34.127	26.518	154.4	0.429	1.98	30.1	39.9	2.36	30.2	0.01			201	
228	8.24	8.22	34.168	26.588	148.1	0.471	1.56	23.6	43.8	2.51	31.7	0.01			229	206
250 ISL	8.07	8.04	34.196	26.636	143.9	0.503	1.35	20.3	46.5	2.60	32.5	0.01			252	
268	7.94	7.91	34.213	26.669	141.1	0.529	1.22	18.3	48.7	2.66	33.1	0.01			270	205
300 ISL	7.67	7.64	34.225	26.718	136.8	0.573	1.03	15.4	52.6	2.75	34.3	0.01			302	
319	7.50	7.47	34.230	26.747	134.3	0.599	0.93	13.8	55.1	2.80	35.0	0.01			321	204
378	6.97	6.93	34.270	26.853	124.9	0.676	0.59	8.7	63.8	2.99	37.2	0.01			380	203
400 ISL	6.82	6.78	34.276	26.878	122.7	0.703	0.52	7.6	66.1	3.03	37.7	0.01			403	
438	6.59	6.55	34.284	26.916	119.5	0.749	0.44	6.4	69.8	3.08	38.5	0.01			441	202
500 ISL	6.14	6.10	34.319	27.003	111.8	0.821	0.32	4.6	78.3	3.18	40.1	0.01			503	
516	6.03	5.98	34.328	27.024	109.9	0.838	0.29	4.2	80.5	3.21	40.5	0.01			520	201

RV DAVID STARR JORDAN CALCOFI CRUISE 0004 STATION 90 45

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
32 55.4 N	118 56.4 W	13/04/00	0930 UTC	1694 m	270 07 kn			1020.8 mb	17.5 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	15.65	15.65	33.580	24.735	320.0	0.000	5.94	104.9	2.7	0.29	0.0	0.00	0.24	0.06	0	
2		15.65	15.65	33.580	24.735	320.1	0.006	5.94	104.9	2.7	0.29	0.0	0.00	0.24	0.06	2	220
10		15.57	15.57	33.580	24.753	318.6	0.032	5.96	105.1	2.7	0.30	0.0	0.01	0.28	0.08	10	219
20		14.01	14.01	33.602	25.106	285.2	0.062	6.24	106.6	2.5	0.39	1.7	0.07	0.92	0.42	20	218
30		13.45	13.45	33.599	25.219	274.8	0.090	6.11	103.2	3.4	0.51	3.1	0.10	1.03	0.63	30	217
40		12.45	12.44	33.613	25.428	255.1	0.117	5.55	91.8	6.9	0.90	7.1	0.22	0.85	0.57	40	216
50		11.48	11.47	33.667	25.652	234.0	0.141	4.46	72.3	14.2	1.28	13.3	0.28	0.27	0.32	50	215
60		10.62	10.61	33.710	25.840	216.3	0.164	3.71	59.0	19.6	1.55	19.0	0.21	0.16	0.32	60	214
69		10.29	10.28	33.739	25.920	208.8	0.183	3.52	55.6	21.4	1.64	20.7	0.05	0.12	0.25	69	213
75	ISL	10.14	10.13	33.761	25.963	204.9	0.195	3.42	53.9	22.4	1.68	21.4	0.04	0.10	0.23	75	
84		9.95	9.94	33.797	26.023	199.3	0.213	3.29	51.6	23.8	1.74	22.3	0.03	0.07	0.20	84	212
98		9.68	9.67	33.855	26.114	191.0	0.241	3.06	47.7	26.0	1.84	23.7	0.02	0.04	0.15	99	211
100	ISL	9.64	9.63	33.864	26.127	189.7	0.244	3.02	47.1	26.4	1.86	23.9	0.02	0.04	0.14	101	
119		9.27	9.26	33.948	26.254	178.1	0.279	2.71	41.9	29.9	2.00	26.0	0.01	0.02	0.10	120	210
125	ISL	9.18	9.17	33.967	26.283	175.4	0.290	2.68	41.4	30.6	2.02	26.3	0.01	0.02	0.09	126	
138		9.02	9.01	34.002	26.336	170.6	0.312	2.63	40.5	31.8	2.05	26.8	0.01	0.01	0.08	139	209
150	ISL	8.87	8.85	34.033	26.384	166.2	0.333	2.50	38.3	33.4	2.11	27.5	0.01	0.01	0.07	151	
168		8.68	8.66	34.072	26.445	160.7	0.362	2.27	34.7	36.0	2.20	28.6	0.01	0.01	0.06	169	208
197		8.48	8.46	34.108	26.504	155.6	0.408	1.97	30.0	39.2	2.33	30.0	0.02	0.01	0.05	198	207
200	ISL	8.46	8.44	34.114	26.512	154.9	0.413	1.92	29.2	39.7	2.35	30.2	0.02			201	
229		8.28	8.26	34.166	26.581	148.9	0.457	1.44	21.8	44.0	2.54	32.1	0.01			230	206
250	ISL	8.13	8.10	34.182	26.616	145.9	0.488	1.31	19.8	46.0	2.60	32.7	0.01			252	
268		7.99	7.96	34.190	26.643	143.5	0.514	1.25	18.8	47.7	2.63	33.1	0.01			270	205
300	ISL	7.66	7.63	34.217	26.713	137.3	0.559	0.99	14.8	52.9	2.76	34.5	0.01			302	
318		7.47	7.44	34.232	26.753	133.8	0.583	0.85	12.6	56.1	2.83	35.4	0.01			320	204
377		6.99	6.95	34.258	26.841	126.0	0.660	0.60	8.8	63.6	2.98	37.2	0.00			379	203
400	ISL	6.79	6.75	34.272	26.879	122.6	0.688	0.51	7.5	67.1	3.04	37.9	0.00			403	
438		6.47	6.43	34.295	26.940	117.1	0.734	0.39	5.7	72.6	3.12	38.9	0.00			441	202
500	ISL	6.11	6.07	34.321	27.008	111.2	0.805	0.32	4.6	79.1	3.20	40.1	0.00			503	
516		6.02	5.97	34.328	27.025	109.8	0.822	0.30	4.3	80.8	3.22	40.4	0.00			520	201

RV DAVID STARR JORDAN CALCOFI CRUISE 0004 STATION 90 53

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
32 39.0 N	119 29.2 W	13/04/00	0407 UTC	1312 m	290 09 kn			1019.8 mb	14.6 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	14.38	14.38	33.530	24.972	297.4	0.000	5.99	103.1	2.9	0.45	2.0	0.07	0.41	0.09	0	
1		14.38	14.38	33.530	24.972	297.4	0.003	5.99	103.1	2.9	0.45	2.0	0.07	0.41	0.09	1	220
10	ISL	14.09	14.09	33.528	25.032	292.0	0.029	6.00	102.6	3.0	0.45	2.1	0.08	0.44	0.12	10	
11		14.04	14.04	33.528	25.042	291.1	0.032	6.00	102.5	3.0	0.45	2.1	0.08	0.44	0.13	11	219
20	ISL	13.83	13.83	33.525	25.084	287.4	0.058	6.02	102.4	3.1	0.48	2.4	0.09	0.57	0.20	20	
21		13.81	13.81	33.525	25.088	287.0	0.061	6.02	102.4	3.1	0.48	2.4	0.09	0.59	0.21	21	218
30		13.72	13.72	33.524	25.106	285.5	0.087	6.00	101.8	2.9	0.49	2.6	0.09	0.71	0.28	30	217
40		13.66	13.65	33.525	25.119	284.6	0.116	5.98	101.4	3.3	0.50	2.8	0.10	0.80	0.28	40	216
50		13.29	13.28	33.511	25.184	278.7	0.144	5.95	100.1	3.7	0.59	3.6	0.11	0.58	0.31	50	215
60		12.80	12.79	33.520	25.288	269.0	0.171	5.68	94.6	5.9	0.74	5.8	0.16	0.44	0.30	60	214
70		11.94	11.93	33.545	25.473	251.6	0.197	5.09	83.2	10.0	1.00	10.0	0.20	0.33	0.26	70	213
75	ISL	11.64	11.63	33.557	25.538	245.5	0.210	4.83	78.5	11.6	1.10	11.7	0.20	0.28	0.24	75	
84		11.21	11.20	33.582	25.636	236.3	0.231	4.42	71.2	14.0	1.24	14.3	0.19	0.20	0.20	84	212
100		10.64	10.63	33.644	25.786	222.3	0.268	3.98	63.3	17.4	1.43	17.6	0.09	0.11	0.17	100	211
120		9.81	9.80	33.829	26.072	195.4	0.310	3.21	50.2	24.0	1.76	22.7	0.03	0.03	0.08	121	210
125	ISL	9.68	9.67	33.861	26.119	191.1	0.319	3.09	48.2	25.3	1.82	23.5	0.03	0.03	0.08	126	
140		9.38	9.36	33.934	26.225	181.2	0.347	2.82	43.7	28.7	1.94	25.1	0.02	0.02	0.07	141	209
150	ISL	9.18	9.16	33.965	26.282	176.0	0.365	2.71	41.8	30.4	2.00	26.0	0.02	0.02	0.06	151	
169		8.86	8.84	34.005	26.364	168.5	0.398	2.57	39.4	33.1	2.08	27.3	0.03	0.01	0.05	170	208
199		8.53	8.51	34.047	26.449	160.9	0.447	2.34	35.6	36.5	2.19	28.7	0.02	0.00	0.05	200	207
200	ISL	8.52	8.50	34.049	26.452	160.6	0.449	2.33	35.4	36.6	2.19	28.8	0.02			201	
230		8.15	8.13	34.101	26.549	151.8	0.496	2.03	30.6	41.3	2.34	30.4	0.01			231	206
250	ISL	7.86	7.83	34.124	26.610	146.2	0.526	1.79	26.8	45.3	2.46	31.7	0.01			251	
268		7.61	7.58	34.140	26.659	141.8	0.552	1.58	23.6	49.0	2.56	32.9	0.01			270	205
300	ISL	7.25	7.22	34.167	26.732	135.2	0.596	1.25	18.5	55.1	2.73	34.7	0.01			302	
319		7.08	7.05	34.182	26.768	132.1	0.621	1.08	15.9	58.3	2.81	35.6	0.01			321	204
376		6.84	6.80	34.230	26.839	126.0	0.695	0.74	10.8	64.2	2.94	37.0	0.01			378	203
400	ISL	6.76	6.72	34.241	26.859	124.5	0.725	0.66	9.7	66.0	2.98	37.4	0.01			403	
437		6.62	6.58	34.255	26.889	122.1	0.770	0.57	8.3	68.8	3.03	38.1	0.01			440	202
500	ISL	6.28	6.24	34.295	26.966	115.4	0.845	0.38	5.5	75.4	3.13	39.4	0.01			503	
515		6.20	6.15	34.305	26.984	113.8	0.862	0.34	4.9	77.0	3.16	39.7	0.01			519	201

RV DAVID STARR JORDAN CALCOFI CRUISE 0004 STATION 90 60

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT TYPE
32 25.2 N	119 57.8 W	12/04/00	2312 UTC	836 m	300 08 kn	320 01 10	0	1021.0 mb	19.0 C	15.9 C	17m	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	15.41	15.41	33.535	24.754	318.2	0.000	5.93	104.2	2.9	0.37	0.7	0.03	0.34	0.08	0	
1		15.41	15.41	33.535	24.754	318.2	0.003	5.93	104.2	2.9	0.37	0.7	0.03	0.34	0.08	1	220
10		14.58	14.58	33.530	24.930	301.7	0.031	6.00	103.6	2.7	0.35	0.4	0.03	0.57	0.16	10	219
18		14.42	14.42	33.527	24.962	298.9	0.055	5.99	103.1	2.7	0.35	0.4	0.03	0.73	0.26	18	218
20	ISL	14.39	14.39	33.524	24.966	298.6	0.061	5.98	102.9	2.7	0.35	0.4	0.03	0.73	0.26	20	
28		14.32	14.32	33.513	24.973	298.2	0.085	5.95	102.2	2.8	0.37	0.6	0.03	0.72	0.28	28	217
30	ISL	14.32	14.32	33.517	24.976	297.9	0.091	5.94	102.1	2.8	0.37	0.6	0.03	0.70	0.27	30	
39		14.29	14.28	33.533	24.995	296.4	0.118	5.91	101.5	2.9	0.38	0.8	0.04	0.59	0.22	39	216
49		14.15	14.14	33.515	25.010	295.2	0.147	5.90	101.0	2.8	0.39	0.9	0.04	0.57	0.24	49	215
50	ISL	14.14	14.13	33.518	25.015	294.8	0.150	5.89	100.8	2.9	0.39	1.0	0.04	0.58	0.25	50	
59		13.70	13.69	33.460	25.061	290.6	0.177	5.82	98.7	3.5	0.47	1.8	0.09	0.63	0.35	59	214
69		12.07	12.06	33.414	25.346	263.6	0.204	5.43	89.0	6.6	0.77	6.5	0.27	0.50	0.38	69	213
75	ISL	11.60	11.59	33.432	25.448	254.0	0.220	5.17	83.9	8.5	0.91	9.0	0.21	0.40	0.34	75	
84		11.22	11.21	33.484	25.558	243.7	0.242	4.77	76.8	11.4	1.10	12.2	0.07	0.26	0.25	84	212
99		10.67	10.66	33.593	25.741	226.6	0.277	4.16	66.2	16.1	1.37	16.6	0.02	0.14	0.14	99	211
100	ISL	10.65	10.64	33.600	25.750	225.8	0.280	4.12	65.5	16.4	1.38	16.8	0.02	0.13	0.14	100	
119		10.22	10.21	33.718	25.916	210.3	0.321	3.58	56.5	20.8	1.61	20.5	0.01	0.06	0.09	120	210
125	ISL	10.04	10.03	33.749	25.971	205.2	0.334	3.50	55.0	21.9	1.66	21.3	0.01	0.04	0.08	126	
139		9.62	9.60	33.819	26.096	193.5	0.361	3.34	52.0	24.5	1.75	22.9	0.01	0.01	0.05	140	209
150	ISL	9.35	9.33	33.884	26.191	184.6	0.382	3.15	48.8	26.9	1.84	24.2	0.01	0.01	0.04	151	
168		8.96	8.94	33.979	26.328	171.9	0.414	2.82	43.3	31.1	1.99	26.3	0.01	0.00	0.03	169	208
198		8.41	8.39	34.057	26.475	158.4	0.464	2.36	35.8	37.4	2.21	29.0	0.01	0.00	0.03	199	207
200	ISL	8.39	8.37	34.060	26.480	157.9	0.467	2.34	35.5	37.7	2.22	29.1	0.01			201	
229		8.07	8.05	34.082	26.546	152.0	0.512	2.12	31.9	41.0	2.32	30.4	0.01			230	206
250	ISL	7.81	7.79	34.098	26.597	147.4	0.543	1.94	29.0	44.5	2.41	31.5	0.00			251	
268		7.60	7.57	34.113	26.640	143.6	0.570	1.78	26.5	47.7	2.49	32.4	0.00			270	205
300	ISL	7.39	7.36	34.151	26.700	138.3	0.615	1.42	21.1	52.1	2.63	33.9	0.00			302	
318		7.30	7.27	34.174	26.731	135.7	0.639	1.22	18.1	54.5	2.71	34.7	0.00			320	204
379		6.82	6.78	34.232	26.843	125.7	0.719	0.71	10.4	64.5	2.95	37.4	0.00			381	203
400	ISL	6.67	6.63	34.250	26.878	122.6	0.745	0.59	8.6	67.4	3.01	38.0	0.00			403	
438		6.44	6.40	34.280	26.932	117.8	0.791	0.44	6.4	72.0	3.09	38.8	0.00			441	202
500	ISL	6.16	6.12	34.313	26.995	112.5	0.862	0.31	4.5	77.8	3.17	40.0	0.00			503	
512		6.10	6.05	34.320	27.009	111.3	0.876	0.29	4.2	78.9	3.18	40.2	0.00			516	201

RV DAVID STARR JORDAN CALCOFI CRUISE 0004 STATION 90 70

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT TYPE
32 5.0 N	120 38.8 W	12/04/00	1809 UTC	3807 m	290 05 kn	280 01 12	0	1021.2 mb	16.8 C	15.1 C	18m	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	14.98	14.98	33.445	24.778	315.9	0.000	5.95	103.6	2.7	0.32	0.0	0.00	0.23	0.05	0	
1	A	14.98	14.98	33.445	24.778	315.9	0.003	5.95	103.6	2.7	0.32	0.0	0.00	0.23	0.05	1	221
1		15.01	15.01	33.444	24.771	316.6	0.003									1	222
10	ISL	14.86	14.86	33.446	24.805	313.6	0.032	5.96	103.5	2.7	0.32	0.0	0.00	0.24	0.06	10	
13	A	14.81	14.81	33.447	24.817	312.6	0.041	5.97	103.6	2.7	0.32	0.0	0.00	0.25	0.06	13	220
20	ISL	14.80	14.80	33.449	24.821	312.4	0.063	5.97	103.5	2.7	0.32	0.0	0.00	0.26	0.06	20	
26	A	14.80	14.80	33.448	24.820	312.7	0.082	5.96	103.4	2.6	0.32	0.0	0.00	0.27	0.07	26	219
30	ISL	14.77	14.77	33.452	24.830	311.9	0.094	5.96	103.3	2.6	0.32	0.0	0.00	0.28	0.08	30	
38	A	14.71	14.70	33.459	24.849	310.3	0.119	5.95	103.0	2.5	0.32	0.0	0.00	0.36	0.10	38	218
48	A	14.12	14.11	33.473	24.984	297.6	0.149	6.16	105.4	1.8	0.33	0.1	0.01	0.61	0.26	48	217
50	ISL	13.96	13.95	33.467	25.013	295.0	0.155	6.12	104.3	2.0	0.37	0.5	0.04	0.66	0.30	50	
59		13.12	13.11	33.435	25.159	281.2	0.181	5.80	97.2	3.9	0.58	3.2	0.21	0.80	0.44	59	216
71	A	11.83	11.82	33.427	25.401	258.3	0.214	5.31	86.6	7.7	0.85	7.8	0.38	0.54	0.35	71	215
75	ISL	11.30	11.29	33.430	25.501	248.9	0.224	5.10	82.2	9.6	0.97	10.0	0.17	0.38	0.28	75	
77		11.07	11.06	33.439	25.550	244.3	0.229	4.97	79.7	10.7	1.04	11.2	0.07	0.31	0.24	77	214
85		10.73	10.72	33.570	25.712	229.0	0.248	4.25	67.7	15.3	1.33	15.9	0.03	0.19	0.17	85	213
96		10.47	10.46	33.672	25.837	217.3	0.272	3.82	60.6	18.8	1.52	18.9	0.02	0.11	0.12	96	212
100	ISL	10.28	10.27	33.704	25.895	211.9	0.281	3.70	58.4	20.0	1.58	19.8	0.02	0.09	0.10	100	
110		9.82	9.81	33.777	26.030	199.2	0.301	3.43	53.6	22.9	1.71	21.9	0.01	0.04	0.07	111	211
125		9.52	9.51	33.874	26.155	187.6	0.330	3.03	47.1	26.6	1.87	24.3	0.01	0.01	0.05	126	210
145		8.95	8.93	33.945	26.303	173.8	0.366	3.12	47.9	29.3	1.90	25.3	0.01	0.00	0.04	146	209
150	ISL	8.90	8.88	33.965	26.326	171.7	0.375	3.00	46.0	30.3	1.94	25.8	0.01	0.00	0.04	151	
168		8.76	8.74	34.021	26.392	165.7	0.405	2.53	38.7	33.8	2.11	27.7	0.01	0.00	0.05	169	208
200		8.13	8.11	34.029	26.495	156.4	0.457	2.71	40.9	37.3	2.12	28.4	0.01	0.00	0.03	201	207
230		7.63	7.61	34.034	26.573	149.3	0.503	2.55	38.0	42.1	2.23	30.0	0.01			231	206
250	ISL	7.39	7.37	34.038	26.610	146.0	0.532	2.41	35.7	44.9	2.31	31.0	0.01			251	
266		7.21	7.18	34.043	26.640	143.4	0.555	2.26	33.4	47.6	2.38	31.9	0.01			268	205
300	ISL	6.67	6.64	34.070	26.735	134.5	0.603	1.71	24.9	56.9	2.62	34.8	0.00			302	
316		6.44	6.41	34.087	26.779	130.5	0.624	1.44	20.9	61.3	2.73	36.2	0.00			318	204
377		6.27	6.24	34.166	26.864	123.2	0.701	0.85	12.3	69.6	2.95	38.4	0.00			379	203
400	ISL	6.26	6.22	34.205	26.896	120.5	0.729	0.68	9.8	72.0	3.01	38.9	0.00			403	
437		6.24	6.20	34.264	26.946	116.3	0.773	0.46	6.6	75.4	3.10	39.4	0.00			440	202
500	ISL	5.97	5.93	34.313	27.019	110.0	0.844	0.31	4.5	80.2	3.20	40.4	0.00			503	
515		5.90	5.86	34.325	27.038	108.4	0.861	0.28	4.0	81.4	3.22	40.6	0.00			519	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV DAVID STARR JORDAN CALCOFI CRUISE 0004 STATION 90 80

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT TYPE
31 45.4 N	121 18.9 W	12/04/00	0659 UTC	3687 m	330 03 kn			1019.9 mb	15.2 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	14.49	14.49	33.427	24.870	307.2	0.000	6.09	104.9	2.1	0.37	0.5	0.03	0.36	0.10	0	
1	14.49	14.49	33.427	24.870	307.2	0.003	6.09	104.9	2.1	0.37	0.5	0.03	0.36	0.10	1	220
10	14.45	14.45	33.432	24.882	306.3	0.031	6.13	105.6	1.9	0.37	0.5	0.04	0.40	0.12	10	219
20	14.24	14.24	33.450	24.941	301.0	0.061	6.14	105.3	1.8	0.38	0.6	0.04	0.40	0.16	20	218
30	13.09	13.09	33.462	25.185	278.0	0.090	6.29	105.3	2.4	0.51	2.1	0.09	0.94	0.39	30	217
40	12.79	12.78	33.455	25.239	273.1	0.118	6.03	100.3	4.1	0.63	3.5	0.13	0.93	0.51	40	216
50	12.44	12.43	33.447	25.301	267.4	0.145	5.83	96.3	5.7	0.71	5.0	0.18	0.87	0.47	50	215
60	11.95	11.94	33.442	25.391	259.1	0.171	5.58	91.2	7.8	0.84	7.0	0.26	0.50	0.25	60	214
70	11.18	11.17	33.421	25.516	247.4	0.196	5.27	84.7	9.5	0.94	9.2	0.21	0.24	0.17	70	213
75 ISL	11.00	10.99	33.432	25.557	243.6	0.208	5.09	81.5	10.2	1.00	10.3	0.16	0.19	0.15	75	
85	10.73	10.72	33.488	25.648	235.1	0.232	4.70	74.8	12.3	1.14	12.9	0.06	0.14	0.13	85	212
100 ISL	10.01	10.00	33.648	25.897	211.7	0.266	3.99	62.6	18.8	1.49	18.7	0.03	0.05	0.07	100	
101	9.96	9.95	33.660	25.915	210.0	0.268	3.95	61.9	19.3	1.51	19.1	0.03	0.04	0.07	101	211
120	9.49	9.48	33.796	26.099	192.8	0.306	3.48	54.0	23.9	1.71	22.3	0.02	0.02	0.06	121	210
125 ISL	9.40	9.39	33.825	26.136	189.3	0.316	3.35	51.9	25.1	1.76	23.1	0.02	0.02	0.06	126	
140	9.16	9.14	33.897	26.232	180.5	0.344	3.03	46.7	28.3	1.91	25.2	0.01	0.01	0.06	141	209
150 ISL	9.02	9.00	33.938	26.286	175.5	0.361	2.92	44.9	29.7	1.96	25.9	0.01	0.01	0.06	151	
169	8.76	8.74	33.998	26.374	167.5	0.394	2.77	42.4	32.1	2.03	26.8	0.01	0.01	0.06	170	208
200	8.34	8.32	34.037	26.470	158.8	0.445	2.41	36.5	37.0	2.19	29.1	0.01	0.01	0.06	201	207
228	7.97	7.95	34.060	26.544	152.2	0.488	2.13	32.0	41.4	2.33	31.0	0.01			229	206
250 ISL	7.74	7.72	34.087	26.599	147.3	0.521	1.92	28.7	45.0	2.44	32.0	0.01			251	
268	7.59	7.56	34.113	26.641	143.5	0.547	1.74	25.9	47.9	2.52	32.7	0.01			270	205
300 ISL	7.48	7.45	34.167	26.700	138.4	0.592	1.32	19.6	52.0	2.67	34.0	0.01			302	
318	7.41	7.38	34.193	26.730	135.8	0.617	1.10	16.3	54.2	2.75	34.8	0.01			320	204
378	6.72	6.69	34.207	26.837	126.2	0.696	0.79	11.5	63.9	2.92	37.3	0.01			380	203
400 ISL	6.42	6.38	34.202	26.873	122.8	0.723	0.71	10.3	68.3	2.98	38.4	0.01			403	
439	5.96	5.92	34.204	26.934	117.2	0.770	0.59	8.5	75.6	3.08	40.0	0.01			442	202
500 ISL	5.79	5.75	34.286	27.020	109.7	0.839	0.34	4.9	81.9	3.20	41.0	0.01			503	
513	5.75	5.71	34.304	27.040	108.0	0.853	0.29	4.1	83.2	3.22	41.2	0.01			517	201

RV DAVID STARR JORDAN CALCOFI CRUISE 0004 STATION 90 90

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT TYPE
31 24.8 N	121 59.4 W	12/04/00	0048 UTC	3887 m	360 04 kn	020 02 07	1	1018.9 mb	17.1 C	14.8 C		3/8

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	14.78	14.78	33.351	24.749	318.7	0.000	6.01	104.1	2.6	0.34	0.1	0.01	0.32	0.06	0	
2	14.78	14.78	33.351	24.749	318.7	0.006	6.01	104.1	2.6	0.34	0.1	0.01	0.32	0.06	2	220
10 ISL	14.57	14.57	33.361	24.802	313.9	0.032	6.04	104.2	2.6	0.34	0.2	0.01	0.32	0.07	10	
16	14.35	14.35	33.373	24.858	308.7	0.050	6.07	104.3	2.5	0.35	0.3	0.02	0.32	0.08	16	219
20 ISL	14.29	14.29	33.383	24.878	306.9	0.063	6.10	104.7	2.4	0.36	0.4	0.02	0.39	0.09	20	
30 ISL	14.03	14.03	33.404	24.949	300.5	0.093	6.16	105.1	2.3	0.38	0.7	0.04	0.55	0.16	30	
31	14.00	14.00	33.406	24.957	299.7	0.096	6.16	105.1	2.3	0.38	0.7	0.04	0.57	0.17	31	218
45	13.01	13.00	33.409	25.160	280.7	0.137	6.06	101.3	3.4	0.52	2.5	0.11	0.57	0.45	45	217
50 ISL	12.90	12.89	33.439	25.205	276.6	0.151	6.07	101.2	3.5	0.56	2.9	0.11	0.60	0.38	50	
56	12.78	12.77	33.469	25.252	272.3	0.167	6.08	101.1	3.8	0.61	3.5	0.12	0.63	0.27	56	216
65	12.33	12.32	33.459	25.332	264.9	0.191	5.77	95.1	5.6	0.74	5.1	0.17	0.28	0.21	65	215
75	11.81	11.80	33.431	25.408	257.8	0.217	5.57	90.8	7.3	0.84	7.1	0.20	0.23	0.20	75	214
85	11.12	11.11	33.385	25.499	249.3	0.243	5.35	85.9	8.5	0.89	8.7	0.16	0.20	0.19	85	213
95	10.45	10.44	33.434	25.655	234.6	0.267	4.93	78.0	11.6	1.07	12.0	0.04	0.12	0.13	95	212
100 ISL	10.30	10.29	33.480	25.717	228.8	0.279	4.71	74.3	13.4	1.18	13.7	0.03	0.09	0.11	100	
110	10.13	10.12	33.577	25.821	219.1	0.301	4.28	67.3	16.9	1.38	16.9	0.02	0.06	0.10	111	211
125	9.81	9.80	33.674	25.951	207.0	0.333	3.80	59.4	21.0	1.60	20.3	0.02	0.04	0.09	126	210
146	9.46	9.44	33.782	26.094	193.9	0.375	3.54	54.9	24.0	1.70	22.2	0.02	0.02	0.11	147	209
150 ISL	9.37	9.35	33.810	26.130	190.4	0.383	3.48	53.9	24.8	1.73	22.7	0.02	0.02	0.10	151	
170	8.95	8.93	33.940	26.299	174.7	0.419	3.19	49.0	29.1	1.86	25.0	0.02	0.01	0.05	171	208
200	8.51	8.49	34.008	26.421	163.5	0.470	2.88	43.8	34.0	2.01	27.0	0.01	0.01	0.04	201	207
228	8.22	8.20	34.069	26.514	155.2	0.514	2.45	37.0	38.9	2.19	29.0	0.01			229	206
250 ISL	7.97	7.94	34.106	26.580	149.2	0.548	2.11	31.7	42.9	2.33	30.5	0.01			251	
269	7.75	7.72	34.129	26.631	144.6	0.576	1.84	27.5	46.3	2.45	31.7	0.01			271	205
300 ISL	7.35	7.32	34.137	26.694	138.8	0.620	1.56	23.1	51.7	2.59	33.5	0.01			302	
319	7.12	7.09	34.138	26.728	135.9	0.646	1.42	20.9	55.0	2.66	34.5	0.01			321	204
379	6.61	6.58	34.182	26.832	126.5	0.725	0.90	13.1	64.7	2.89	37.3	0.01			381	203
400 ISL	6.45	6.41	34.196	26.864	123.7	0.751	0.77	11.2	67.9	2.95	38.1	0.01			403	
436	6.18	6.14	34.217	26.916	119.0	0.795	0.59	8.5	73.1	3.04	39.3	0.01			439	202
500 ISL	5.77	5.73	34.245	26.990	112.5	0.869	0.42	6.0	81.0	3.15	40.8	0.01			503	
516	5.67	5.63	34.253	27.009	110.8	0.887	0.38	5.4	83.0	3.18	41.2	0.01			519	201

RV DAVID STARR JORDAN CALCOFI CRUISE 0004 STATION 90 100

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
31 5.2 N	122 39.9 W	11/04/00	1829 UTC	3985 m	320 09 kn	350 04 06	1	1021.4 mb	16.8 C	14.5 C	23m	1/8	

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	14.87	14.87	33.385	24.756	318.0	0.000			2.7	0.33	0.0	0.00	0.19	0.04	0	
1	A	14.87	14.87	33.385	24.756	318.0	0.003			2.7	0.33	0.0	0.00	0.19	0.04	1	222
1		14.88	14.88	33.385	24.754	318.2	0.003									1	223
10	ISL	14.80	14.80	33.386	24.772	316.8	0.032			2.6	0.33	0.0	0.00	0.19	0.04	10	
15	A	14.73	14.73	33.386	24.787	315.5	0.048	6.04	104.6	2.6	0.33	0.0	0.00	0.19	0.05	15	221
20	ISL	14.64	14.64	33.377	24.800	314.4	0.063	6.06	104.7	2.6	0.33	0.0	0.00	0.20	0.06	20	
30	ISL	14.39	14.39	33.368	24.846	310.3	0.095	6.09	104.7	2.5	0.33	0.0	0.00	0.24	0.08	30	
32	A	14.33	14.33	33.368	24.859	309.1	0.101	6.10	104.7	2.5	0.33	0.0	0.00	0.25	0.08	32	220
39		14.08	14.07	33.390	24.928	302.7	0.122	6.19	105.7	2.4	0.34	0.0	0.00	0.31	0.13	39	219
47	A	13.93	13.92	33.382	24.953	300.6	0.146	6.16	104.9	2.4	0.35	0.0	0.01	0.63	0.25	47	218
50	ISL	13.91	13.90	33.383	24.958	300.2	0.155	6.14	104.5	2.6	0.35	0.1	0.02	0.70	0.29	50	
54		13.85	13.84	33.384	24.972	299.0	0.167	6.10	103.7	2.9	0.37	0.4	0.03	0.76	0.33	54	217
62	A	13.43	13.42	33.373	25.049	291.8	0.191	5.92	99.8	3.5	0.47	1.8	0.11	0.74	0.41	62	216
71		13.24	13.23	33.390	25.101	287.1	0.217	5.93	99.6	3.7	0.51	2.3	0.12	0.66	0.45	71	215
75	ISL	12.92	12.91	33.391	25.165	281.1	0.228	5.77	96.2	4.3	0.59	3.5	0.17	0.60	0.44	75	
80		12.48	12.47	33.392	25.251	272.9	0.242	5.54	91.5	5.3	0.69	5.3	0.22	0.51	0.43	80	214
90	A	11.93	11.92	33.404	25.365	262.3	0.269	5.32	86.9	6.8	0.80	7.6	0.08	0.31	0.26	90	213
99		11.57	11.56	33.430	25.453	254.1	0.292	5.08	82.3	8.7	0.93	9.8	0.05	0.22	0.19	99	212
100	ISL	11.52	11.51	33.433	25.464	253.1	0.295	5.06	81.9	8.9	0.94	10.0	0.05	0.21	0.18	100	
110		11.03	11.02	33.474	25.585	241.7	0.319	4.78	76.6	11.3	1.09	12.3	0.03	0.12	0.11	111	211
125		10.46	10.45	33.608	25.790	222.5	0.354	4.12	65.3	16.7	1.39	17.3	0.02	0.05	0.06	126	210
145		9.84	9.82	33.770	26.021	200.8	0.397	3.53	55.2	22.3	1.66	21.6	0.02	0.00	0.03	146	209
150	ISL	9.70	9.68	33.800	26.068	196.4	0.407	3.43	53.5	23.5	1.71	22.4	0.02	0.00	0.03	151	
169		9.23	9.21	33.886	26.212	183.0	0.443	3.19	49.3	27.0	1.84	24.4	0.02	0.01	0.03	170	208
200		8.77	8.75	33.964	26.347	170.7	0.497	3.22	49.2	29.9	1.87	25.2	0.02	0.00	0.03	201	207
229		8.19	8.17	34.020	26.480	158.4	0.545	2.63	39.7	37.1	2.12	28.8	0.01			230	206
250	ISL	7.82	7.80	34.031	26.543	152.6	0.578	2.49	37.3	40.8	2.22	30.1	0.01			251	
269		7.51	7.48	34.033	26.590	148.3	0.606	2.42	36.0	43.7	2.28	31.0	0.01			271	205
300	ISL	7.10	7.07	34.045	26.657	142.2	0.651	2.13	31.4	49.1	2.42	32.8	0.01			302	
319		6.87	6.84	34.051	26.693	138.9	0.678	1.93	28.3	52.6	2.51	33.9	0.01			321	204
378		6.14	6.11	34.061	26.797	129.4	0.757	1.46	21.0	63.7	2.74	37.1	0.01			380	203
400	ISL	5.99	5.96	34.079	26.831	126.4	0.785	1.25	17.9	67.3	2.83	38.1	0.01			402	
438		5.80	5.76	34.118	26.885	121.5	0.832	0.91	13.0	73.3	2.96	39.6	0.01			441	202
500	ISL	5.44	5.40	34.189	26.986	112.5	0.905	0.55	7.8	83.3	3.11	41.4	0.01			503	
514		5.36	5.32	34.205	27.008	110.5	0.921	0.47	6.6	85.5	3.14	41.8	0.01			517	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV DAVID STARR JORDAN CALCOFI CRUISE 0004 STATION 90 110

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
30 45.0 N	123 19.9 W	11/04/00	1114 UTC	4015 m	240 04 kn			1020.2 mb	14.2 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	16.23	16.23	33.609	24.626	330.4	0.000	5.71	102.0	2.5	0.25	0.0	0.00	0.07	0.01	0	
1		16.23	16.23	33.609	24.626	330.4	0.003	5.71	102.0	2.5	0.25	0.0	0.00	0.07	0.01	1	220
10	ISL	16.24	16.24	33.610	24.625	330.8	0.033	5.72	102.2	2.5	0.25	0.0	0.00	0.07	0.01	10	
14		16.24	16.24	33.610	24.625	330.9	0.046	5.72	102.2	2.5	0.25	0.0	0.00	0.07	0.01	14	219
20	ISL	16.23	16.23	33.609	24.627	330.9	0.066	5.72	102.2	2.5	0.25	0.0	0.00	0.07	0.01	20	
30		16.22	16.22	33.607	24.628	331.2	0.099	5.72	102.2	2.5	0.25	0.0	0.00	0.07	0.01	30	218
44		15.97	15.96	33.593	24.675	327.2	0.145	5.77	102.5	2.5	0.26	0.0	0.00	0.08	0.01	44	217
50	ISL	15.56	15.55	33.519	24.710	324.0	0.165	5.83	102.7	2.6	0.28	0.0	0.00	0.09	0.01	50	
59		14.95	14.94	33.410	24.760	319.4	0.194	5.91	102.8	2.7	0.30	0.0	0.00	0.12	0.02	59	216
74		14.77	14.76	33.393	24.786	317.4	0.242	5.92	102.6	2.7	0.30	0.0	0.00	0.16	0.04	74	215
75	ISL	14.76	14.75	33.392	24.787	317.3	0.245	5.92	102.5	2.7	0.30	0.0	0.00	0.16	0.04	75	
84		14.64	14.63	33.383	24.806	315.7	0.273	5.96	103.0	2.5	0.31	0.0	0.00	0.20	0.05	84	214
94		14.44	14.43	33.375	24.843	312.5	0.305	5.97	102.7	2.6	0.32	0.0	0.00	0.34	0.15	94	213
100	ISL	14.27	14.26	33.361	24.868	310.2	0.323	5.97	102.3	2.7	0.33	0.0	0.00	0.45	0.25	100	
104		14.17	14.15	33.353	24.883	308.9	0.336	5.97	102.1	2.7	0.34	0.1	0.00	0.50	0.30	104	212
114		14.06	14.04	33.356	24.908	306.8	0.366	5.92	101.0	2.7	0.37	0.3	0.02	0.43 A	0.25 A	114	211
124		14.01	13.99	33.367	24.928	305.2	0.397	5.91	100.8	2.8	0.39	0.5	0.03	0.37	0.24	125	210
125	ISL	13.95	13.93	33.368	24.941	304.0	0.400	5.90	100.5	2.9	0.40	0.7	0.04	0.36	0.23	126	
139		12.83	12.81	33.382	25.177	281.6	0.441	5.70	94.9	4.5	0.60	3.8	0.22	0.15	0.11	140	209
150	ISL	12.10	12.08	33.378	25.315	268.6	0.471	5.54	90.8	5.8	0.71	5.7	0.17	0.14	0.12	151	
165		11.25	11.23	33.396	25.486	252.5	0.510	5.24	84.3	8.3	0.87	8.6	0.04	0.13	0.13	166	208
194		9.90	9.88	33.623	25.898	213.6	0.578	4.25	66.5	17.8	1.40	17.7	0.01	0.02	0.03	195	207
200	ISL	9.74	9.72	33.673	25.963	207.4	0.591	4.09	63.8	19.4	1.48	19.0	0.01			201	
228		9.19	9.17	33.871	26.208	184.6	0.646	3.53	54.5	25.8	1.74	23.4	0.00			229	206
250	ISL	8.73	8.70	33.948	26.341	172.2	0.685	3.28	50.1	30.2	1.88	25.6	0.00			251	
269		8.37	8.34	33.983	26.424	164.5	0.717	3.10	47.0	33.7	1.97	26.9	0.00			270	205
300	ISL	7.96	7.93	34.015	26.511	156.6	0.767	2.58	38.7	38.5	2.12	28.9	0.00			302	
318		7.75	7.72	34.024	26.549	153.2	0.794	2.27	33.9	41.3	2.21	30.0	0.00			320	204
378		6.83	6.79	34.069	26.714	137.9	0.882	1.70	24.9	54.7	2.59	34.7	0.00			380	203
400	ISL	6.67	6.63	34.088	26.750	134.6	0.912	1.49	21.7	58.1	2.69	35.8	0.00			402	
438		6.45	6.41	34.116	26.802	130.1	0.962	1.16	16.8	63.6	2.82	37.3	0.00			441	202
500	ISL	5.80	5.76	34.145	26.907	120.3	1.040	0.79	11.3	75.2	3.00	39.9	0.00			503	
512		5.68	5.64	34.151	26.927	118.5	1.054	0.72	10.3	77.5	3.04	40.4	0.00			515	201

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

RV DAVID STARR JORDAN CALCOFI CRUISE 0004 STATION 90 120

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT TYPE
30 25.3 N	123 59.6 W	11/04/00	0508 UTC	4209 m	320 05 kn			1021.5 mb	15.3 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	16.88	16.88	33.689	24.537	338.8	0.000	5.65	102.3	2.7	0.24	0.0	0.00	0.07	0.01	0	
1	16.88	16.88	33.689	24.537	338.9	0.003	5.65	102.3	2.7	0.24	0.0	0.00	0.07	0.01	1	220
10 ISL	16.83	16.83	33.684	24.546	338.4	0.034	5.66	102.4	2.7	0.24	0.0	0.00	0.07	0.01	10	
20 ISL	16.77	16.77	33.679	24.556	337.7	0.068	5.67	102.4	2.6	0.24	0.0	0.00	0.08	0.01	20	
21	16.76	16.76	33.679	24.559	337.5	0.071	5.67	102.4	2.6	0.24	0.0	0.00	0.08	0.01	21	219
30 ISL	16.53	16.53	33.672	24.607	333.2	0.101	5.69	102.3	2.6	0.24	0.0	0.00	0.08	0.01	30	
41	16.26	16.25	33.669	24.667	327.8	0.138	5.70	101.9	2.6	0.24	0.0	0.00	0.08	0.01	41	218
50 ISL	16.23	16.22	33.684	24.686	326.3	0.167	5.70	101.9	2.6	0.24	0.0	0.00	0.08	0.01	50	
59	16.20	16.19	33.687	24.695	325.7	0.196	5.69	101.6	2.6	0.24	0.0	0.00	0.08	0.02	59	217
75 ISL	16.13	16.12	33.683	24.709	324.9	0.248	5.69	101.5	2.6	0.24	0.0	0.00	0.09	0.02	75	
80	16.11	16.10	33.681	24.712	324.8	0.265	5.69	101.4	2.6	0.24	0.0	0.00	0.09	0.02	80	216
99	16.06	16.04	33.689	24.730	323.7	0.326	5.68	101.1	2.5	0.24	0.0	0.00	0.16	0.05	99	215
100 ISL	16.06	16.04	33.690	24.731	323.6	0.329	5.68	101.1	2.5	0.24	0.0	0.00	0.16	0.05	100	
109	16.02	16.00	33.695	24.744	322.6	0.359	5.68	101.1	2.5	0.24	0.0	0.00	0.19	0.07	109	214
119	15.56	15.54	33.698	24.850	312.8	0.390	5.68	100.1	2.7	0.25	0.0	0.00	0.24	0.16	119	213
125 ISL	14.98	14.96	33.691	24.972	301.3	0.409	5.68	99.0	2.9	0.27	0.1	0.01	0.36	0.33	126	
129	14.60	14.58	33.695	25.057	293.2	0.421	5.68	98.2	3.1	0.29	0.1	0.01	0.42	0.43	130	212
139	14.28	14.26	33.769	25.182	281.5	0.449	5.55	95.4	3.6	0.35	1.1	0.07	0.31	0.34	140	211
149	13.54	13.52	33.682	25.268	273.4	0.477	5.46	92.4	4.1	0.43	2.3	0.06	0.24	0.24	150	210
150 ISL	13.52	13.50	33.684	25.274	272.9	0.480	5.46	92.3	4.1	0.43	2.4	0.06	0.23	0.24	151	
159	13.35	13.33	33.711	25.329	267.9	0.504	5.41	91.2	4.5	0.46	3.0	0.03	0.18	0.20	160	209
174	12.27	12.25	33.651	25.495	252.2	0.543	5.17	85.2	6.8	0.65	6.1	0.01	0.09	0.09	175	208
195	11.25	11.23	33.680	25.708	232.2	0.594	4.76	76.7	10.7	0.93	10.7	0.01	0.04	0.04	196	207
200 ISL	11.05	11.03	33.698	25.758	227.5	0.606	4.64	74.5	11.9	1.00	11.9	0.01			201	
229	10.01	9.98	33.823	26.036	201.3	0.668	4.02	63.1	19.3	1.40	18.3	0.00			230	206
250 ISL	9.32	9.29	33.913	26.221	183.9	0.708	3.76	58.2	24.3	1.60	21.5	0.00			251	
267	8.82	8.79	33.974	26.348	171.9	0.738	3.58	54.8	28.2	1.73	23.6	0.00			268	205
300 ISL	8.08	8.05	34.014	26.492	158.4	0.793	3.12	47.0	35.7	1.98	27.0	0.00			302	
317	7.77	7.74	34.017	26.540	154.0	0.819	2.89	43.2	39.4	2.09	28.5	0.00			319	204
378	6.86	6.82	34.028	26.677	141.3	0.910	2.29	33.5	50.8	2.40	32.6	0.00			380	203
400 ISL	6.61	6.57	34.048	26.727	136.8	0.940	1.94	28.2	55.7	2.54	34.3	0.00			402	
439	6.25	6.21	34.090	26.807	129.4	0.992	1.33	19.2	64.4	2.78	37.2	0.00			442	202
500 ISL	5.79	5.75	34.152	26.914	119.7	1.068	0.78	11.1	75.9	3.00	39.9	0.00			503	
507	5.74	5.70	34.159	26.926	118.6	1.076	0.72	10.3	77.2	3.03	40.2	0.00			510	201

RV DAVID STARR JORDAN CALCOFI CRUISE 0004 STATION 93 26.7

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT TYPE
32 57.5 N	117 18.2 W	07/04/00	2207 UTC	60 m	350 04 kn	340 01 06	1	1019.3 mb	16.1 C	14.6 C	07m	5/8 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	16.14	16.14	33.539	24.593	333.5	0.000	6.66	118.7	3.9	0.20	0.0	0.00	1.22	0.26	0	
1	16.14	16.14	33.539	24.593	333.5	0.003	6.66	118.7	3.9	0.20	0.0	0.00	1.22	0.26	1	207
1	16.15	16.15	33.539	24.591	333.8	0.003									1	208
7	15.75	15.75	33.538	24.681	325.4	0.023	6.64	117.4	4.2	0.23	0.2	0.02	1.39	0.37	7	206
10 ISL	14.11	14.11	33.539	25.036	291.6	0.032	6.38	109.2	6.2	0.38	1.2	0.10	3.15	0.77	10	
11	13.52	13.52	33.548	25.165	279.4	0.035	6.26	105.8	7.0	0.45	1.7	0.13	3.73	0.91	11	205
20 ISL	11.48	11.48	33.627	25.620	236.2	0.058	4.11	66.6	14.8	1.29	14.2	0.61	1.78	0.71	20	
21	11.41	11.41	33.634	25.639	234.5	0.061	3.86	62.4	15.6	1.38	15.7	0.65	1.56	0.69	21	204
30 ISL	10.64	10.64	33.729	25.851	214.6	0.081	3.30	52.5	19.9	1.62	20.2	0.18	0.37	0.40	30	
31	10.60	10.60	33.739	25.865	213.2	0.083	3.29	52.3	20.3	1.63	20.4	0.12	0.29	0.37	31	203
40	10.22	10.22	33.813	25.989	201.6	0.102	3.04	48.0	23.4	1.75	22.1	0.14	0.25	0.37	40	202
50 ISL	9.91	9.90	33.887	26.099	191.3	0.121	2.66	41.7	26.8	1.91	24.2	0.15	0.15	0.30	50	
51	9.88	9.87	33.895	26.111	190.3	0.123	2.62	41.1	27.1	1.93	24.4	0.15	0.14	0.29	51	201

RV DAVID STARR JORDAN CALCOFI CRUISE 0004 STATION 93 28

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT TYPE
32 54.5 N	117 23.9 W	08/04/00	0047 UTC	1632 m	310 09 kn	310 02 07	1	1018.7 mb	15.9 C	13.8 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	15.82	15.82	33.568	24.688	324.5	0.000	6.05	107.2	3.0	0.29	0.0	0.00	0.20	0.05	0	
1	15.82	15.82	33.568	24.688	324.5	0.003	6.05	107.2	3.0	0.29	0.0	0.00	0.20	0.05	1	220
10 ISL	15.47	15.47	33.558	24.758	318.1	0.032	6.11	107.5	2.9	0.30	0.0	0.00	0.23	0.10	10	
11	15.43	15.43	33.557	24.766	317.3	0.035	6.12	107.6	2.9	0.30	0.0	0.00	0.23	0.11	11	219
20 ISL	14.33	14.33	33.535	24.987	296.6	0.063	6.21	106.7	3.7	0.35	0.6	0.04	0.62	0.26	20	
21	14.18	14.18	33.534	25.018	293.7	0.066	6.22	106.6	3.9	0.36	0.7	0.04	0.67	0.28	21	218
30	12.98	12.98	33.545	25.271	269.8	0.091	5.42	90.6	7.2	0.71	5.6	0.29	0.99	0.51	30	217
40	11.13	11.13	33.672	25.719	227.3	0.116	3.60	57.9	17.7	1.52	18.1	0.64	0.37	0.32	40	216
50	10.54	10.53	33.741	25.878	212.4	0.138	3.45	54.8	19.8	1.59	19.7	0.07	0.15	0.25	50	215
61	10.05	10.04	33.831	26.032	198.0	0.161	3.14	49.4	23.5	1.75	22.3	0.02	0.04	0.21	61	214
71	9.80	9.79	33.879	26.112	190.6	0.180	2.98	46.6	25.5	1.83	23.5	0.02	0.02	0.10	71	213
75 ISL	9.72	9.71	33.898	26.140	188.0	0.188	2.91	45.4	26.3	1.86	23.9	0.02	0.02	0.09	75	
86	9.58	9.57	33.948	26.203	182.3	0.208	2.72	42.4	28.1	1.95	25.0	0.01	0.01	0.07	86	212
100 ISL	9.52	9.51	33.999	26.253	177.8	0.233	2.48	38.6	29.8	2.05	25.9	0.01	0.01	0.09	101	
101	9.52	9.51	34.002	26.255	177.6	0.235	2.46	38.3	29.9	2.06	26.0	0.01	0.01	0.09	102	211
121	9.22	9.21	34.060	26.349	169.0	0.270	2.20	34.0	33.1	2.18	27.6	0.01	0.01	0.09	122	210
125 ISL	9.17	9.16	34.072	26.367	167.4	0.276	2.15	33.2	33.8	2.20	27.9	0.01	0.01	0.08	126	
142	9.00	8.98	34.117	26.429	161.8	0.304	1.95	30.0	36.3	2.28	28.8	0.01	0.01	0.06	143	209
150 ISL	8.95	8.93	34.132	26.449	160.1	0.317	1.87	28.7	37.1	2.33	29.2	0.01	0.01	0.06	151	
172	8.87	8.85	34.160	26.484	157.2	0.352	1.68	25.8	38.8	2.45	29.9	0.01	0.01	0.06	173	208
200	8.77	8.75	34.182	26.518	154.5	0.396	1.55	23.7	40.6	2.46	30.4	0.01	0.00	0.06	201	207
231	8.62	8.60	34.218	26.570	150.2	0.443	1.39	21.2	42.8	2.52	31.0	0.01			232	206
250 ISL	8.48	8.45	34.236	26.606	147.1	0.471	1.26	19.2	44.9	2.58	31.6	0.01			252	
265	8.36	8.33	34.247	26.633	144.7	0.493	1.15	17.5	46.6	2.63	32.1	0.01			267	205
300 ISL	8.09	8.06	34.262	26.686	140.2	0.543	0.91	13.7	50.1	2.72	33.1	0.01			302	
318	7.94	7.91	34.266	26.711	138.0	0.568	0.81	12.2	52.0	2.77	33.6	0.01			320	204
381	7.31	7.27	34.286	26.818	128.5	0.652	0.61	9.0	60.8	2.93	35.8	0.00			384	203
400 ISL	7.11	7.07	34.291	26.851	125.6	0.676	0.55	8.1	63.4	2.97	36.5	0.00			403	
443	6.70	6.66	34.301	26.915	119.8	0.729	0.41	6.0	69.1	3.06	38.1	0.00			446	202
500 ISL	6.29	6.24	34.313	26.979	114.2	0.796			75.7	3.15	39.5	0.01			503	
502	6.28	6.23	34.314	26.981	114.0	0.798			75.9	3.15	39.6	0.01			506	201

RV DAVID STARR JORDAN CALCOFI CRUISE 0004 STATION 93 30

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT TYPE
32 50.8 N	117 32.3 W	08/04/00	0341 UTC	1924 m	300 09 kn			1018.7 mb	15.4 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	15.84	15.84	33.558	24.676	325.7	0.000	6.02	106.7	2.4	0.28	0.0	0.00	0.23	0.05	0	
1		15.84	15.84	33.558	24.676	325.7	0.003	6.02	106.7	2.4	0.28	0.0	0.00	0.23	0.05	1	220
10		15.71	15.71	33.555	24.703	323.4	0.032	6.09	107.6	2.4	0.28	0.0	0.00	0.23	0.06	10	219
20	ISL	15.01	15.01	33.549	24.853	309.4	0.064	6.28	109.4	2.9	0.29	0.0	0.00	0.28	0.12	20	
21		14.89	14.89	33.548	24.878	307.0	0.067	6.30	109.5	3.0	0.29	0.0	0.00	0.29	0.13	21	218
30		13.14	13.14	33.555	25.247	272.1	0.093	5.44	91.2	6.7	0.69	5.5	0.28	0.85	0.34	30	217
40		12.27	12.26	33.587	25.442	253.7	0.120	4.71	77.6	10.4	1.01	10.4	0.40	0.50	0.23	40	216
50		11.73	11.72	33.621	25.570	241.8	0.144	4.21	68.6	13.4	1.24	14.1	0.42	0.36	0.22	50	215
60		11.48	11.47	33.634	25.627	236.6	0.168	4.04	65.4	14.5	1.31	15.2	0.33	0.31	0.19	60	214
70		10.67	10.66	33.724	25.842	216.3	0.191	3.52	56.1	19.2	1.57	19.3	0.05	0.16	0.14	70	213
75	ISL	10.42	10.41	33.761	25.915	209.5	0.202	3.36	53.2	20.8	1.65	20.5	0.04	0.11	0.12	75	
85		10.08	10.07	33.825	26.023	199.4	0.222	3.15	49.6	23.1	1.75	22.1	0.02	0.04	0.10	85	212
100		9.71	9.70	33.911	26.152	187.4	0.251	2.91	45.4	26.2	1.87	24.0	0.02	0.01	0.06	101	211
120		9.50	9.49	33.995	26.253	178.2	0.288	2.47	38.4	29.7	2.04	26.0	0.02	0.01	0.07	121	210
125	ISL	9.46	9.45	34.005	26.267	176.9	0.296	2.47	38.4	30.1	2.05	26.1	0.02	0.01	0.07	126	
140		9.33	9.31	34.028	26.307	173.5	0.323	2.45	38.0	31.0	2.08	26.4	0.01	0.01	0.08	141	209
150	ISL	9.22	9.20	34.054	26.345	170.0	0.340	2.33	36.0	32.3	2.13	27.0	0.01	0.01	0.08	151	
170		9.02	9.00	34.110	26.421	163.2	0.373	2.02	31.1	35.4	2.26	28.4	0.01	0.01	0.07	171	208
199		8.85	8.83	34.171	26.496	156.6	0.420	1.64	25.2	38.9	2.40	29.8	0.01	0.00	0.06	200	207
200	ISL	8.83	8.81	34.171	26.500	156.3	0.421	1.64	25.1	39.0	2.40	29.8	0.01			201	
230		8.36	8.34	34.173	26.574	149.6	0.467	1.67	25.3	42.5	2.45	30.7	0.04			231	206
250	ISL	8.27	8.24	34.216	26.622	145.4	0.496	1.40	21.2	45.3	2.56	31.5	0.03			252	
269		8.23	8.20	34.259	26.662	141.9	0.524	1.09	16.5	48.0	2.67	32.3	0.02			271	205
300	ISL	7.96	7.93	34.277	26.717	137.2	0.567	0.87	13.1	52.0	2.77	33.5	0.01			302	
317		7.79	7.76	34.278	26.743	134.9	0.590	0.81	12.1	54.1	2.81	34.1	0.01			319	204
377		7.30	7.26	34.281	26.816	128.7	0.669	0.64	9.5	60.2	2.93	35.9	0.01			379	203
400	ISL	7.05	7.01	34.281	26.851	125.5	0.698	0.56	8.2	63.5	2.98	36.8	0.01			403	
437		6.66	6.62	34.284	26.906	120.5	0.744	0.45	6.6	68.8	3.06	38.1	0.01			440	202
500	ISL	6.33	6.28	34.311	26.972	114.9	0.818	0.32	4.6	74.9	3.15	39.5	0.00			503	
515		6.25	6.20	34.318	26.988	113.5	0.835	0.29	4.2	76.4	3.17	39.8	0.00			519	201

RV DAVID STARR JORDAN CALCOFI CRUISE 0004 STATION 93 35

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT TYPE
32 41.0 N	117 52.5 W	08/04/00	0754 UTC	622 m	300 02 kn			1019.2 mb	14.7 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	15.36	15.36	33.574	24.795	314.3	0.000	5.99	105.1	1.5	0.30	0.0	0.00	0.34	0.10	0	
1		15.36	15.36	33.574	24.795	314.3	0.003	5.99	105.1	1.5	0.30	0.0	0.00	0.34	0.10	1	220
10		14.94	14.94	33.564	24.879	306.6	0.031	6.04	105.1	1.4	0.31	0.2	0.01	0.52	0.22	10	219
20		14.80	14.80	33.559	24.906	304.3	0.062	6.07	105.3	1.7	0.33	0.5	0.02	0.60	0.22	20	218
30		14.66	14.66	33.558	24.935	301.8	0.092	6.06	104.9	1.7	0.35	0.6	0.03	0.69	0.28	30	217
40		13.23	13.22	33.543	25.220	274.9	0.121	5.48	92.1	5.5	0.66	5.0	0.25	0.78	0.44	40	216
50		12.10	12.09	33.553	25.448	253.4	0.147	4.76	78.1	9.8	0.97	9.9	0.26	0.48	0.39	50	215
60		11.63	11.62	33.593	25.567	242.3	0.172	4.40	71.5	12.7	1.16	13.2	0.13	0.30	0.27	60	214
70		10.92	10.91	33.681	25.765	223.7	0.195	3.87	62.0	17.2	1.43	17.5	0.04	0.13	0.18	70	213
75	ISL	10.74	10.73	33.709	25.818	218.7	0.206	3.72	59.3	18.4	1.50	18.6	0.03	0.11	0.15	75	
84		10.54	10.53	33.746	25.882	212.8	0.226	3.55	56.4	19.8	1.58	19.7	0.02	0.08	0.12	84	212
100		10.24	10.23	33.804	25.980	203.9	0.259	3.27	51.6	22.1	1.69	21.4	0.01	0.04	0.09	101	211
120		9.67	9.66	33.937	26.180	185.2	0.298	2.83	44.2	27.4	1.92	24.5	0.01	0.02	0.07	121	210
125	ISL	9.63	9.62	33.945	26.193	184.1	0.307	2.80	43.6	27.8	1.92	24.7	0.01	0.02	0.07	126	
140		9.56	9.54	33.954	26.211	182.6	0.335	2.75	42.8	28.4	1.94	25.0	0.01	0.01	0.06	141	209
150	ISL	9.39	9.37	33.977	26.257	178.4	0.353	2.64	40.9	29.9	1.99	25.7	0.01	0.01	0.06	151	
169		9.01	8.99	34.029	26.359	169.0	0.386	2.40	36.9	33.2	2.12	27.3	0.01	0.01	0.05	170	208
199		8.59	8.57	34.095	26.477	158.3	0.435	2.14	32.6	37.8	2.27	29.3	0.01	0.01	0.04	200	207
200	ISL	8.58	8.56	34.097	26.480	158.0	0.436	2.13	32.5	37.9	2.27	29.4	0.01			201	
228		8.29	8.27	34.136	26.556	151.3	0.480	1.88	28.5	41.9	2.41	30.7	0.01			229	206
250	ISL	8.02	7.99	34.167	26.621	145.4	0.512	1.57	23.6	46.1	2.54	32.0	0.01			251	
268		7.82	7.79	34.193	26.671	140.8	0.538	1.31	19.6	49.5	2.64	33.1	0.01			270	205
300	ISL	7.67	7.64	34.238	26.728	135.9	0.582	1.01	15.1	53.4	2.76	34.2	0.00			302	
318		7.59	7.56	34.259	26.757	133.5	0.607	0.88	13.1	55.4	2.82	34.7	0.00			320	204
377		6.96	6.92	34.282	26.864	123.8	0.683	0.54	7.9	64.6	3.00	37.2	0.00			379	203
400	ISL	6.79	6.75	34.293	26.896	121.0	0.711	0.47	6.9	67.3	3.04	37.8	0.00			403	
437		6.56	6.52	34.309	26.939	117.3	0.755	0.40	5.8	71.2	3.10	38.6	0.00			440	202
500	ISL	6.19	6.15	34.321	26.998	112.3	0.827	0.31	4.5	77.3	3.18	40.0	0.00			503	
516		6.09	6.04	34.325	27.014	110.9	0.845	0.29	4.2	78.8	3.20	40.3	0.00			520	201

RV DAVID STARR JORDAN CALCOFI CRUISE 0004 STATION 93 40

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
32 31.0 N	118 12.2 W	08/04/00	1221 UTC	1704 m	330 11 kn			1019.4 mb	14.8 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	14.35	14.35	33.587	25.023	292.6	0.000	6.02	103.5	3.0	0.37	1.0	0.04	0.51	0.17	0	
3		14.35	14.35	33.587	25.023	292.7	0.009	6.02	103.5	3.0	0.37	1.0	0.04	0.51	0.17	3	220
10		14.35	14.35	33.587	25.023	292.9	0.029	6.07 U	104.4 U	3.0	0.37	1.0	0.04	0.54	0.19	10	219
20		14.14	14.14	33.584	25.065	289.2	0.058	6.04	103.4	3.0	0.40	1.3	0.05	0.59	0.22	20	218
30		13.18	13.18	33.556	25.240	272.8	0.086	6.12	102.7	4.1	0.58	3.8	0.11	0.67	0.32	30	217
40		12.74	12.73	33.548	25.321	265.3	0.113	5.91	98.3	5.8	0.71	5.4	0.16	0.73	0.45	40	216
49		11.45	11.44	33.625	25.625	236.5	0.136	4.39	71.1	14.1	1.23	14.2	0.34	0.34	0.31	49	215
50	ISL	11.37	11.36	33.630	25.644	234.8	0.138	4.35	70.3	14.5	1.26	14.6	0.33	0.33	0.30	50	
60		10.90	10.89	33.668	25.758	224.1	0.161	3.98	63.7	16.7	1.39	16.9	0.17	0.24	0.23	60	214
70		10.64	10.63	33.710	25.837	216.8	0.183	3.75	59.7	18.5	1.49	18.5	0.09	0.17	0.20	70	213
75	ISL	10.51	10.50	33.722	25.869	213.9	0.194	3.69	58.6	19.2	1.53	19.1	0.06	0.15	0.19	75	
85		10.25	10.24	33.752	25.937	207.6	0.215	3.56	56.2	20.7	1.60	20.4	0.03	0.11	0.16	85	212
100		9.83	9.82	33.850	26.085	193.8	0.245	3.13	49.0	24.6	1.78	23.0	0.02	0.04	0.10	101	211
121		9.45	9.44	33.919	26.202	183.1	0.285	2.97	46.1	27.9	1.92	25.0	0.01	0.02	0.08	122	210
125	ISL	9.39	9.38	33.931	26.221	181.3	0.292	2.91	45.1	28.6	1.95	25.3	0.01	0.02	0.08	126	
140		9.19	9.17	33.972	26.286	175.4	0.319	2.68	41.4	31.1	2.04	26.4	0.01	0.01	0.08	141	209
150	ISL	9.08	9.06	33.994	26.321	172.3	0.336	2.61	40.2	32.0	2.07	26.9	0.01	0.01	0.08	151	
169		8.88	8.86	34.031	26.381	166.8	0.368	2.50	38.3	33.5	2.11	27.7	0.01	0.01	0.07	170	208
200	ISL	8.48	8.46	34.095	26.494	156.6	0.419	2.12	32.2	38.2	2.27	29.5	0.01	0.01	0.04	201	
201		8.47	8.45	34.097	26.497	156.3	0.420	2.11	32.1	38.4	2.28	29.6	0.01	0.01	0.04	202	207
229		8.22	8.20	34.142	26.571	149.8	0.463	1.77	26.8	42.6	2.43	31.1	0.01			230	206
250	ISL	7.97	7.94	34.170	26.630	144.4	0.494	1.48	22.3	46.6	2.55	32.4	0.00			251	
269		7.75	7.72	34.192	26.680	139.9	0.521	1.24	18.6	50.2	2.65	33.6	0.00			271	205
300	ISL	7.53	7.50	34.213	26.729	135.7	0.564	1.03	15.3	54.0	2.75	34.8	0.00			302	
318		7.42	7.39	34.222	26.752	133.8	0.588	0.94	14.0	55.9	2.80	35.4	0.00			320	204
379		6.96	6.92	34.263	26.849	125.3	0.667	0.58	8.5	64.8	2.97	37.3	0.00			381	203
400	ISL	6.83	6.79	34.273	26.875	123.1	0.693	0.52	7.6	67.0	3.01	37.8	0.00			403	
437		6.60	6.56	34.288	26.918	119.4	0.738	0.44	6.4	70.5	3.06	38.5	0.00			440	202
500	ISL	6.19	6.15	34.315	26.993	112.8	0.811	0.35	5.1	77.4	3.15	39.8	0.00			503	
510		6.13	6.08	34.320	27.005	111.7	0.822	0.33	4.8	78.5	3.16	40.0	0.00			514	201

RV DAVID STARR JORDAN CALCOFI CRUISE 0004 STATION 93 45

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
32 21.1 N	118 32.8 W	08/04/00	1831 UTC	1273 m	310 06 kn	310 02 04	1	1019.6 mb	15.2 C	13.6 C	20m	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	14.66	14.66	33.542	24.922	302.2	0.000	5.93	102.6	2.0	0.34	0.3	0.02	0.48	0.15	0	
1	A	14.66	14.66	33.542	24.922	302.2	0.003	5.93	102.6	2.0	0.34	0.3	0.02	0.48	0.15	1	221
1		14.66	14.66	33.542	24.922	302.2	0.003									1	222
10	ISL	14.64	14.64	33.542	24.927	302.1	0.030	5.93	102.6	2.0	0.34	0.3	0.02	0.46	0.16	10	
13	A	14.62	14.62	33.542	24.931	301.7	0.039	5.93	102.5	2.0	0.34	0.3	0.02	0.46	0.17	13	220
20	ISL	14.57	14.57	33.542	24.942	300.9	0.060	5.93	102.4	2.0	0.34	0.3	0.02	0.48	0.19	20	
28	A	14.51	14.51	33.542	24.955	299.9	0.084	5.92	102.1	2.1	0.34	0.4	0.02	0.52	0.22	28	219
30	ISL	14.51	14.51	33.542	24.955	300.0	0.090	5.92	102.1	2.1	0.34	0.4	0.02	0.52	0.22	30	
41	A	14.48	14.47	33.547	24.966	299.3	0.123	5.91	101.9	2.1	0.35	0.6	0.03	0.56	0.22	41	218
48		14.28	14.27	33.516	24.984	297.7	0.144	5.83	100.1	3.0	0.43	1.7	0.09	0.61	0.36	48	217
50	ISL	13.75	13.74	33.475	25.063	290.2	0.150	5.74	97.4	3.7	0.51	2.7	0.15	0.59	0.39	50	
54	A	12.57	12.56	33.412	25.249	272.5	0.161	5.51	91.2	5.6	0.69	5.3	0.26	0.53	0.42	54	216
66		11.40	11.39	33.568	25.590	240.2	0.192	4.41	71.3	12.7	1.18	13.5	0.05	0.23	0.24	66	215
75	ISL	11.30	11.29	33.605	25.637	236.0	0.214	4.23	68.2	13.9	1.26	14.7	0.04	0.21	0.22	75	
78	A	11.27	11.26	33.605	25.643	235.5	0.221	4.19	67.6	14.1	1.27	14.9	0.04	0.20	0.22	78	214
86		10.97	10.96	33.682	25.757	224.8	0.239	3.74	59.9	17.0	1.45	17.5	0.03	0.13	0.14	86	213
95		10.82	10.81	33.706	25.802	220.7	0.259	3.64	58.2	18.0	1.50	18.3	0.03	0.11	0.13	95	212
100	ISL	10.71	10.70	33.735	25.844	216.8	0.270	3.54	56.4	19.0	1.55	19.0	0.03	0.09	0.12	100	
110		10.44	10.43	33.799	25.942	207.7	0.291	3.32	52.6	21.2	1.65	20.7	0.02	0.05	0.09	111	211
125		9.99	9.98	33.860	26.066	196.2	0.322	3.08	48.4	24.0	1.78	22.7	0.01	0.02	0.07	126	210
146		9.28	9.26	34.007	26.299	174.4	0.360	2.55	39.5	30.4	2.03	26.2	0.01	0.01	0.06	147	209
150	ISL	9.22	9.20	34.024	26.322	172.2	0.367	2.49	38.5	31.2	2.06	26.6	0.01	0.01	0.06	151	
169		9.02	9.00	34.081	26.399	165.3	0.399	2.27	34.9	34.2	2.19	27.9	0.01	0.00	0.04	170	208
200		8.66	8.64	34.153	26.512	155.0	0.449	1.84	28.1	39.2	2.36	29.8	0.01	0.00	0.04	201	207
229		8.29	8.27	34.158	26.573	149.6	0.493	1.73	26.2	42.6	2.45	31.0	0.01			230	206
250	ISL	8.05	8.02	34.155	26.607	146.7	0.524	1.67	25.2	44.8	2.49	31.7	0.01			251	
270		7.85	7.82	34.158	26.639	143.9	0.553	1.57	23.5	47.1	2.54	32.4	0.00			272	205
300	ISL	7.60	7.57	34.200	26.709	137.7	0.596	1.23	18.3	52.2	2.69	33.9	0.00			302	
320		7.45	7.42	34.230	26.754	133.7	0.623	0.99	14.7	55.7	2.79	34.9	0.00			322	204
381		6.95	6.91	34.239	26.831	126.9	0.702	0.76	11.2	62.7	2.93	36.8	0.00			383	203
400	ISL	6.87	6.83	34.254	26.854	125.0	0.726	0.66	9.7	64.4	2.97	37.3	0.00			403	
439		6.71	6.67	34.288	26.903	120.9	0.774	0.47	6.9	68.2	3.06	38.2	0.00			442	202
500	ISL	6.25	6.21	34.329	26.996	112.5	0.845	0.31	4.5	76.6	3.18	40.0	0.00			503	
512		6.16	6.11	34.337	27.014	110.9	0.859	0.28	4.0	78.2	3.20	40.3	0.00			516	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV DAVID STARR JORDAN CALCOFI CRUISE 0004 STATION 93 50

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
32 11.1 N	118 53.1 W	08/04/00	2152 UTC	1443 m	310 12 kn	320 02 07	0	1019.3 mb	15.7 C	14.0 C	12m	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	15.26	15.26	33.573	24.816	312.3	0.000	5.85	102.5	2.9	0.29	0.1	0.00	0.43	0.12	0	
2		15.26	15.26	33.573	24.816	312.4	0.006	5.85	102.5	2.9	0.29	0.1	0.00	0.43	0.12	2	220
10	ISL	15.24	15.24	33.573	24.821	312.1	0.031	5.86	102.6	2.8	0.30	0.1	0.00	0.44	0.14	10	
15		15.21	15.21	33.572	24.827	311.7	0.047	5.87	102.7	2.8	0.30	0.1	0.00	0.46	0.15	15	219
20	ISL	15.18	15.18	33.571	24.833	311.3	0.062	5.87	102.7	2.4	0.30	0.1	0.00	0.49	0.16	20	
30	ISL	15.10	15.10	33.569	24.849	310.1	0.093	5.87	102.5	1.9	0.30	0.1	0.00	0.57	0.19	30	
31		15.09	15.09	33.569	24.851	309.9	0.097	5.87	102.5	1.9	0.30	0.1	0.00	0.58	0.19	31	218
46		14.84	14.83	33.564	24.902	305.5	0.143	5.79	100.6	3.1	0.36	0.8	0.03	0.76	0.26	46	217
50	ISL	14.50	14.49	33.555	24.968	299.3	0.155	5.49	94.7	4.9	0.52	3.2	0.08	0.75	0.32	50	
56		13.73	13.72	33.548 D	25.123	284.6	0.172	5.86 U	99.5 U	2.8 U	0.30 U	0.1 U	0.00 U	0.43 U	0.13 U	56	216
65		11.85	11.84	33.597	25.530	246.0	0.196	4.33	70.7	11.9	1.12	12.4	0.21	0.55	0.46	65	215
75	ISL	11.60	11.59	33.626	25.599	239.7	0.221	4.12	66.9	13.5	1.23	14.0	0.16	0.34	0.34	75	
76		11.58	11.57	33.629	25.605	239.1	0.223	4.10	66.6	13.6	1.24	14.1	0.15	0.32	0.32	76	214
86		11.15	11.14	33.700	25.739	226.6	0.246	3.67	59.1	16.9	1.43	17.1	0.06	0.19	0.23	86	213
94		10.86	10.85	33.750	25.830	218.1	0.264	3.43	54.9	19.0	1.55	18.8	0.03	0.13	0.22	94	212
100	ISL	10.68	10.67	33.788	25.891	212.4	0.277	3.29	52.4	20.4	1.62	19.8	0.03	0.10	0.19	100	
109		10.46	10.45	33.837	25.968	205.2	0.296	3.12	49.5	22.2	1.71	21.1	0.02	0.06	0.13	110	211
124		10.23	10.22	33.887	26.047	198.0	0.326	2.94	46.4	24.0	1.80	22.4	0.01	0.03	0.09	125	210
125	ISL	10.21	10.20	33.890	26.052	197.5	0.328	2.93	46.2	24.1	1.81	22.5	0.01	0.03	0.09	126	
145		9.74	9.72	33.949	26.178	185.9	0.366	2.75	43.0	27.0	1.93	24.5	0.01	0.02	0.06	146	209
150	ISL	9.65	9.63	33.961	26.202	183.7	0.375	2.71	42.3	27.6	1.95	24.9	0.01	0.02	0.06	151	
170		9.37	9.35	34.010	26.287	176.0	0.411	2.54	39.4	30.1	2.04	26.2	0.00	0.01	0.06	171	208
199		9.00	8.98	34.094	26.412	164.6	0.461	2.16	33.2	34.7	2.21	28.2	0.01	0.01	0.06	200	207
200	ISL	8.99	8.97	34.096	26.416	164.3	0.462	2.15	33.1	34.8	2.21	28.3	0.01			201	
230		8.73	8.71	34.142	26.493	157.4	0.511	1.88	28.8	38.5	2.33	29.6	0.01			231	206
250	ISL	8.62	8.59	34.185	26.544	153.0	0.542	1.63	24.9	41.1	2.44	30.5	0.01			251	
269		8.49	8.46	34.217	26.589	148.9	0.570	1.42	21.6	43.7	2.54	31.3	0.00			271	205
300	ISL	7.98	7.95	34.198	26.652	143.3	0.616	1.40	21.1	47.9	2.60	32.6	0.00			302	
319		7.66	7.63	34.181	26.685	140.3	0.643	1.38	20.6	50.5	2.63	33.4	0.00			321	204
378		7.23	7.19	34.239	26.793	130.8	0.723	0.85	12.6	58.9	2.85	35.8	0.00			380	203
400	ISL	7.04	7.00	34.254	26.831	127.4	0.751	0.72	10.6	62.2	2.92	36.6	0.00			403	
438		6.72	6.68	34.276	26.892	121.9	0.798	0.54	7.9	67.6	3.03	37.9	0.00			441	202
500	ISL	6.37	6.32	34.316	26.971	115.1	0.872	0.35	5.1	74.4	3.14	39.4	0.00			503	
515		6.28	6.23	34.326	26.990	113.3	0.889	0.30	4.3	76.1	3.17	39.8	0.00			519	201

RV DAVID STARR JORDAN CALCOFI CRUISE 0004 STATION 93 55

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
32 0.8 N	119 14.1 W	09/04/00	0208 UTC	1584 m	310 15 kn	320 04 06	1	1017.4 mb	14.1 C	13.0 C		2/8	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	15.22	15.22	33.566	24.819	312.0	0.000	5.86	102.6	1.2	0.30	0.0	0.00	0.50	0.15	0	
2		15.22	15.22	33.566	24.819	312.0	0.006	5.86	102.6	1.2	0.30	0.0	0.00	0.50	0.15	2	220
10	ISL	15.23	15.23	33.567	24.818	312.4	0.031	5.87	102.8	1.2	0.30	0.0	0.00	0.50	0.15	10	
15		15.23	15.23	33.567	24.818	312.5	0.047	5.87	102.8	1.2	0.30	0.0	0.00	0.50	0.15	15	219
20	ISL	15.20	15.20	33.566	24.824	312.1	0.062	5.86	102.5	1.2	0.30	0.0	0.00	0.52	0.16	20	
30		15.14	15.14	33.565	24.837	311.2	0.094	5.85	102.2	1.2	0.30	0.0	0.00	0.56	0.19	30	218
44		13.97	13.96	33.548	25.073	289.1	0.136	5.41	92.3	5.0	0.54	3.8	0.15	0.83	0.42	44	217
50	ISL	13.18	13.17	33.549	25.235	273.8	0.153	5.04	84.6	7.2	0.74	6.5	0.25	0.72	0.46	50	
54		12.67	12.66	33.555	25.340	263.8	0.163	4.78	79.4	8.7	0.88	8.4	0.29	0.61	0.47	54	216
65		11.90	11.89	33.589	25.514	247.5	0.191	4.30	70.3	11.9	1.13	12.4	0.17	0.40	0.41	65	215
75		11.31	11.30	33.657	25.676	232.3	0.215	3.81	61.5	15.5	1.35	15.9	0.06	0.22	0.29	75	214
85		11.03	11.02	33.703	25.763	224.3	0.238	3.57	57.3	17.5	1.47	17.7	0.03	0.15	0.21	85	213
95		10.75	10.74	33.762	25.858	215.4	0.260	3.31	52.8	19.9	1.60	19.6	0.02	0.09	0.16	95	212
100	ISL	10.64	10.63	33.785	25.896	211.9	0.271	3.23	51.4	20.7	1.64	20.3	0.02	0.07	0.14	100	
110		10.48	10.47	33.821	25.952	206.8	0.292	3.12	49.5	21.9	1.70	21.2	0.01	0.05	0.11	111	211
124		10.35	10.34	33.850	25.997	202.8	0.320	3.04	48.1	23.0	1.75	21.9	0.01	0.04	0.11	125	210
125	ISL	10.32	10.31	33.855	26.006	201.9	0.323	3.02	47.8	23.2	1.76	22.0	0.01	0.04	0.11	126	
145		9.65	9.63	33.971	26.210	182.8	0.361	2.66	41.5	28.0	1.96	25.0	0.01	0.01	0.07	146	209
150	ISL	9.55	9.53	33.994	26.245	179.6	0.370	2.58	40.2	28.9	2.00	25.5	0.01	0.01	0.07	151	
170		9.25	9.23	34.065	26.349	170.1	0.405	2.29	35.4	32.4	2.13	27.1	0.00	0.00	0.05	171	208
198		8.78	8.76	34.125	26.471	158.9	0.451	1.99	30.5	37.4	2.29	29.1	0.01	0.01	0.09	199	207
200	ISL	8.75	8.73	34.128	26.478	158.2	0.454	1.97	30.1	37.7	2.30	29.2	0.01			201	
228		8.35	8.33	34.150	26.558	151.1	0.498	1.77	26.8	41.7	2.42	30.7	0.01			229	206
250	ISL	8.05	8.02	34.159	26.610	146.4	0.530	1.63	24.5	45.0	2.50	31.7	0.00			251	
268		7.84	7.81	34.165	26.646	143.2	0.556	1.51	22.6	47.5	2.56	32.5	0.00			270	205
300	ISL	7.67	7.64	34.188	26.689	139.6	0.602	1.20	17.9	50.8	2.65	33.5	0.01			302	
317		7.60	7.57	34.203	26.711	137.7	0.625	1.03	15.4	52.6	2.70	34.0	0.01			319	204
377		7.09	7.05	34.268	26.835	126.7	0.704	0.64	9.4	62.0	2.94	36.6	0.00			379	203
400	ISL	6.89	6.85	34.278	26.870	123.5	0.733	0.54	7.9	65.2	3.00	37.4	0.00			403	
437		6.58	6.54	34.290	26.922	118.9	0.778	0.43	6.3	69.9	3.07	38.5	0.00			440	202
500	ISL	6.24	6.20	34.323	26.993	112.8	0.851	0.31	4.5	76.4	3.17	39.7	0.00			503	
516		6.15	6.10	34.332	27.012	111.2	0.869	0.28	4.0	78.0	3.19	40.0	0.00			520	201

RV DAVID STARR JORDAN | CALCOFI CRUISE 0004 | STATION 93 60

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT TYPE
31 51.0 N	119 34.1 W	09/04/00	0612 UTC	1870 m	320 16 kn			1019.0 mb	14.1 C	12.4 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	14.95	14.95	33.404	24.753	318.3	0.000	5.90	102.6	2.3	0.32	0.0	0.00	0.18	0.03	0	
1	14.95	14.95	33.404	24.753	318.3	0.003	5.90	102.6	2.3	0.32	0.0	0.00	0.18	0.03	1	220
10 ISL	14.95	14.95	33.405	24.754	318.5	0.032	5.91	102.8	2.3	0.32	0.0	0.00	0.18	0.03	10	
15	14.95	14.95	33.406	24.755	318.5	0.048	5.92	103.0	2.3	0.32	0.0	0.00	0.18	0.03	15	219
20 ISL	14.86	14.86	33.406	24.775	316.8	0.064	5.94	103.1	2.3	0.32	0.0	0.00	0.22	0.04	20	
30	14.66	14.66	33.405	24.817	313.1	0.095	5.99	103.6	2.2	0.33	0.0	0.00	0.29	0.06	30	218
44	14.57	14.56	33.399	24.832	312.0	0.139	6.01	103.7	2.1	0.33	0.0	0.00	0.31	0.08	44	217
50 ISL	14.48	14.47	33.394	24.848	310.7	0.158	6.02	103.7	2.1	0.33	0.0	0.00	0.33	0.09	50	
55	14.39	14.38	33.389	24.863	309.4	0.173	6.04	103.8	2.1	0.33	0.0	0.00	0.34	0.11	55	216
65	14.14	14.13	33.374	24.904	305.8	0.204	6.08	104.0	2.1	0.33	0.0	0.00	0.56	0.23	65	215
75	14.08	14.07	33.429	24.959	300.8	0.234	6.04	103.2	1.7	0.34	0.1	0.01	0.56	0.26	75	214
85	12.73	12.72	33.396	25.206	277.4	0.263	5.61	93.2	4.3	0.63	4.3	0.16	0.52	0.40	85	213
95	11.70	11.69	33.431	25.429	256.3	0.290	5.12	83.2	8.1	0.92	9.2	0.13	0.26	0.28	95	212
100 ISL	11.37	11.36	33.452	25.506	249.0	0.302	4.93	79.6	9.7	1.03	11.0	0.10	0.20	0.24	100	
110	10.91	10.90	33.501	25.627	237.7	0.327	4.61	73.7	12.4	1.19	13.8	0.03	0.15	0.17	111	211
125 ISL	10.33	10.32	33.593	25.800	221.5	0.361	4.25	67.1	16.0	1.37	16.8	0.01	0.06	0.08	126	
126	10.30	10.29	33.600	25.811	220.5	0.363	4.23	66.8	16.2	1.38	17.0	0.01	0.06	0.07	127	210
143	9.80	9.78	33.727	25.995	203.3	0.399	4.01	62.7	19.2	1.49	19.1	0.01	0.01	0.03	144	209
150 ISL	9.62	9.60	33.778	26.064	196.7	0.413	3.91	60.9	20.6	1.54	20.1	0.01	0.01	0.03	151	
170	9.14	9.12	33.900	26.238	180.6	0.451	3.63	55.9	24.9	1.68	22.6	0.00	0.01	0.04	171	208
200	8.55	8.53	33.991	26.402	165.4	0.503	3.35	51.0	30.7	1.85	25.2	0.00	0.00	0.02	201	207
230	7.98	7.96	34.014	26.506	155.8	0.551	3.03	45.5	36.7	2.02	27.6	0.00			231	206
250 ISL	7.69	7.67	34.022	26.555	151.4	0.582	2.80	41.8	40.0	2.13	29.0	0.00			251	
269	7.45	7.42	34.028	26.594	147.8	0.610	2.56	38.0	43.1	2.24	30.4	0.00			271	205
300 ISL	7.01	6.98	34.047	26.671	140.8	0.655	2.09	30.7	50.0	2.45	32.9	0.00			302	
317	6.80	6.77	34.060	26.710	137.3	0.679	1.84	26.9	53.8	2.56	34.2	0.00			319	204
379	6.42	6.39	34.111	26.801	129.3	0.761	1.25	18.1	62.6	2.79	36.9	0.00			381	203
400 ISL	6.35	6.31	34.141	26.834	126.4	0.788	1.03	14.9	65.7	2.87	37.7	0.00			403	
439	6.24	6.20	34.203	26.897	120.9	0.836	0.67	9.7	71.1	3.02	39.0	0.00			442	202
500 ISL	6.04	6.00	34.284	26.988	113.1	0.908	0.37	5.3	77.8	3.16	40.3	0.00			503	
514	5.99	5.94	34.303	27.009	111.2	0.924	0.30	4.3	79.3	3.19	40.6	0.00			517	201

RV DAVID STARR JORDAN | CALCOFI CRUISE 0004 | STATION 93 70

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT TYPE
31 31.1 N	120 14.8 W	09/04/00	1229 UTC	3928 m	340 22 kn			1018.4 mb	14.5 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	14.79	14.79	33.388	24.776	316.1	0.000	6.01	104.2	2.1	0.35	0.0	0.00	0.22	0.05	0	
4	14.79	14.79	33.388	24.776	316.2	0.013	6.01	104.2	2.1	0.35	0.0	0.00	0.22	0.05	4	220
10 ISL	14.79	14.79	33.389	24.776	316.3	0.032	6.00	104.0	2.1	0.34	0.0	0.00	0.22	0.05	10	
16	14.79	14.79	33.389	24.777	316.5	0.051	6.00	104.0	2.1	0.33	0.0	0.00	0.22	0.05	16	219
20 ISL	14.76	14.76	33.386	24.781	316.2	0.063	6.02	104.3	2.1	0.33	0.0	0.00	0.23	0.06	20	
30 ISL	14.57	14.57	33.376	24.814	313.3	0.095	6.06	104.6	2.2	0.34	0.1	0.00	0.26	0.08	30	
31	14.54	14.54	33.375	24.820	312.8	0.098	6.06	104.5	2.2	0.34	0.1	0.00	0.26	0.08	31	218
46	13.84	13.83	33.358	24.953	300.5	0.144	6.02	102.3	2.4	0.40	0.7	0.04	0.64	0.35	46	217
50 ISL	13.68	13.67	33.364	24.991	297.0	0.156	6.07	102.8	2.4	0.41	0.9	0.05	0.61	0.34	50	
56	13.48	13.47	33.374	25.040	292.6	0.174	6.12	103.2	2.4	0.43	1.2	0.06	0.54	0.30	56	216
64	13.28	13.27	33.375	25.081	288.8	0.197	5.97	100.3	2.7	0.48	1.7	0.09	0.52	0.32	64	215
75 ISL	12.45	12.44	33.389	25.255	272.5	0.228	5.56	91.8	4.9	0.68	5.1	0.18	0.41	0.41	75	
76	12.37	12.36	33.391	25.272	270.9	0.230	5.53	91.2	5.1	0.70	5.5	0.18	0.40	0.41	76	214
81	12.14	12.13	33.398	25.321	266.3	0.244	5.45	89.4	5.9	0.77	6.7	0.14	0.35	0.37	81	213
96	11.21	11.20	33.442	25.527	246.9	0.282	4.96	79.8	9.7	1.01	10.8	0.04	0.20	0.24	96	212
100 ISL	11.00	10.99	33.459	25.578	242.1	0.292	4.84	77.5	10.8	1.07	11.9	0.03	0.17	0.19	100	
108	10.64	10.63	33.498	25.672	233.3	0.311	4.62	73.4	12.9	1.19	13.9	0.02	0.11	0.11	109	211
125	10.31	10.30	33.602	25.811	220.5	0.350	4.13	65.2	16.8	1.41	17.5	0.01	0.05	0.06	126	210
145	9.64	9.62	33.770	26.055	197.6	0.391	3.44	53.6	23.4	1.73	22.6	0.01	0.01	0.04	146	209
150 ISL	9.52	9.50	33.813	26.108	192.6	0.401	3.30	51.3	24.8	1.78	23.4	0.01	0.01	0.04	151	
175	9.06	9.04	33.980	26.313	173.5	0.447	2.77	42.6	30.2	1.98	26.1	0.01	0.01	0.03	176	208
199	8.80	8.78	34.027	26.391	166.5	0.488	2.48	38.0	33.5	2.12	27.8	0.01	0.00	0.04	200	207
200 ISL	8.78	8.76	34.029	26.396	166.0	0.489	2.48	37.9	33.7	2.12	27.9	0.01			201	
230	8.20	8.18	34.059	26.509	155.7	0.538	2.40	36.2	38.4	2.22	29.3	0.01			231	206
250 ISL	7.78	7.76	34.047	26.562	150.8	0.568	2.43	36.3	41.4	2.25	30.1	0.01			251	
270	7.40	7.37	34.032	26.604	146.9	0.598	2.46	36.5	44.5	2.28	30.9	0.01			272	205
300 ISL	7.05	7.02	34.046	26.664	141.4	0.641	2.18	32.1	49.3	2.42	32.6	0.00			302	
317	6.89	6.86	34.059	26.697	138.6	0.665	1.96	28.7	52.2	2.51	33.7	0.00			319	204
379	6.20	6.17	34.087	26.810	128.2	0.748	1.28	18.5	64.8	2.80	37.6	0.00			381	203
400 ISL	6.03	6.00	34.100	26.842	125.3	0.774	1.12	16.1	68.3	2.87	38.4	0.00			403	
436	5.80	5.76	34.128	26.893	120.8	0.819	0.90	12.9	73.6	2.96	39.5	0.00			439	202
500 ISL	5.56	5.52	34.210	26.988	112.4	0.893	0.54	7.7	82.1	3.13	41.2	0.00			503	
517	5.49	5.45	34.232	27.014	110.1	0.912	0.44	6.2	84.4	3.17	41.6	0.00			520	201

RV DAVID STARR JORDAN CALCOFI CRUISE 0004 STATION 93 80

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
31 11.2 N	120 55.2 W	09/04/00	1912 UTC	3819 m	330 12 kn	330 07 07	1	1021.2 mb	15.5 C	14.0 C	20m	7/8	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	15.01	15.01	33.412	24.746	318.9	0.000	5.89	102.6	2.3	0.31	0.0	0.00	0.16	0.03	0	
1		15.01	15.01	33.413	24.747	318.9	0.003									1	222
2	A	15.01	15.01	33.412	24.746	319.0	0.006	5.89	102.6	2.3	0.31	0.0	0.00	0.16	0.03	2	221
10	ISL	14.99	14.99	33.412	24.751	318.8	0.032	5.88	102.3	2.2	0.31	0.0	0.00	0.16	0.03	10	
12	A	14.98	14.98	33.412	24.753	318.6	0.038	5.88	102.3	2.2	0.31	0.0	0.00	0.16	0.03	12	220
20	ISL	14.96	14.96	33.413	24.759	318.4	0.064	5.91	102.8	2.2	0.31	0.0	0.00	0.17	0.04	20	
27	A	14.94	14.94	33.413	24.763	318.1	0.086	5.94	103.3	2.2	0.32	0.0	0.00	0.17	0.04	27	219
30	ISL	14.90	14.90	33.407	24.767	317.8	0.096	5.95	103.4	2.2	0.32	0.0	0.00	0.18	0.05	30	
41	A	14.61	14.60	33.383	24.811	313.9	0.130	5.99	103.4	2.2	0.33	0.0	0.00	0.31	0.11	41	218
48		14.24	14.23	33.373	24.882	307.4	0.152	6.02	103.2	2.3	0.34	0.1	0.01	0.53	0.23	48	217
50	ISL	14.17	14.16	33.374	24.897	306.0	0.158	6.02	103.0	2.3	0.35	0.2	0.01	0.56	0.25	50	
54	A	14.05	14.04	33.378	24.926	303.4	0.170	6.01	102.6	2.4	0.38	0.4	0.02	0.59	0.28	54	216
65		13.52	13.51	33.370	25.029	293.9	0.203	5.96	100.6	2.9	0.45	1.3	0.07	0.51	0.33	65	215
75	ISL	13.16	13.15	33.371	25.102	287.1	0.232	5.79	97.0	3.3	0.53	2.5	0.17	0.38	0.30	75	
78	A	13.02	13.01	33.374	25.132	284.3	0.241	5.72	95.6	3.6	0.57	3.1	0.20	0.34	0.28	78	214
86		12.38	12.37	33.389	25.269	271.4	0.263	5.50	90.7	5.0	0.71	5.5	0.22	0.28	0.24	86	213
95		11.73	11.72	33.413	25.410	258.1	0.287	5.24	85.2	7.1	0.86	8.4	0.05	0.16	0.14	95	212
100	ISL	11.43	11.42	33.439	25.485	251.0	0.300	5.05	81.6	8.6	0.96	10.1	0.04	0.12	0.11	100	
112		10.76	10.75	33.506	25.657	234.8	0.329	4.62	73.6	12.6	1.19	13.8	0.01	0.06	0.06	113	211
125	ISL	9.95	9.94	33.558	25.837	217.8	0.358	4.37	68.4	16.5	1.38	16.9	0.01	0.03	0.03	126	
126		9.90	9.89	33.563	25.849	216.7	0.360	4.35	68.0	16.8	1.39	17.1	0.01	0.03	0.03	127	210
145		9.52	9.50	33.766	26.071	196.0	0.400	3.79	58.9	22.2	1.62	21.1	0.00	0.01	0.02	146	209
150	ISL	9.42	9.40	33.805	26.118	191.6	0.409	3.77	58.4	23.1	1.63	21.6	0.00	0.01	0.02	151	
168		9.09	9.07	33.912	26.255	178.9	0.443	3.68	56.7	25.5	1.68	22.7	0.00	0.00	0.02	169	208
198		8.69	8.67	33.995	26.383	167.2	0.495	3.68	56.2	28.7	1.73	23.6	0.00	0.00	0.01	199	207
200	ISL	8.66	8.64	33.997	26.390	166.6	0.498	3.67	56.0	28.9	1.74	23.7	0.00			201	
231		8.24	8.22	34.002	26.458	160.5	0.549	3.40	51.4	33.3	1.88	25.9	0.00			232	206
250	ISL	7.95	7.92	34.006	26.505	156.3	0.579	3.19	47.9	36.5	1.98	27.3	0.00			251	
273		7.60	7.57	34.014	26.562	151.1	0.614	2.88	42.9	40.7	2.12	29.1	0.00			275	205
300	ISL	7.23	7.20	34.032	26.629	145.0	0.654	2.42	35.7	46.4	2.32	31.4	0.00			302	
319		6.99	6.96	34.047	26.674	140.8	0.681	2.09	30.7	50.4	2.45	33.0	0.00			321	204
377		6.46	6.43	34.084	26.774	131.8	0.760	1.40	20.3	60.8	2.73	36.6	0.00			379	203
400	ISL	6.28	6.24	34.102	26.812	128.4	0.790	1.18	17.0	64.8	2.83	37.8	0.00			402	
440		6.01	5.97	34.136	26.874	122.9	0.840	0.87	12.5	71.4	2.97	39.4	0.00			443	202
500	ISL	5.71	5.67	34.196	26.959	115.4	0.912	0.57	8.1	79.3	3.10	40.9	0.00			503	
510		5.66	5.62	34.206	26.973	114.1	0.923	0.52	7.4	80.6	3.12	41.1	0.00			513	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV DAVID STARR JORDAN CALCOFI CRUISE 0004 STATION 93 90

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
30 51.1 N	121 35.3 W	10/04/00	0210 UTC	4089 m	320 18 kn	330 05 07	0	1020.0 mb	14.9 C	13.6 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	15.60	15.60	33.451	24.647	328.4	0.000	5.81	102.4	2.4	0.29	0.0	0.00	0.08	0.01	0	
3		15.60	15.60	33.451	24.647	328.5	0.010	5.81	102.4	2.4	0.29	0.0	0.00	0.08	0.01	3	220
10	ISL	15.60	15.60	33.451	24.647	328.7	0.033	5.82	102.6	2.4	0.29	0.0	0.00	0.07	0.01	10	
16		15.60	15.60	33.451	24.647	328.8	0.053	5.83	102.8	2.4	0.29	0.0	0.00	0.07	0.01	16	219
20	ISL	15.59	15.59	33.449	24.648	328.9	0.066	5.83	102.7	2.4	0.29	0.0	0.00	0.07	0.01	20	
30	ISL	15.55	15.55	33.458	24.664	327.7	0.099	5.82	102.5	2.3	0.29	0.0	0.00	0.08	0.01	30	
31		15.55	15.55	33.460	24.666	327.5	0.102	5.82	102.5	2.3	0.29	0.0	0.00	0.08	0.01	31	218
45		15.23	15.22	33.452	24.731	321.8	0.147	5.82	101.8	2.3	0.29	0.0	0.00	0.10	0.02	45	217
50	ISL	15.26	15.25	33.470	24.738	321.2	0.163	5.82	101.9	2.3	0.28	0.0	0.00	0.10	0.02	50	
61		15.37	15.36	33.520	24.753	320.2	0.199	5.82	102.1	2.2	0.27	0.0	0.00	0.13	0.04	61	216
75		15.29	15.28	33.563	24.804	315.7	0.243	5.79	101.5	2.2	0.28	0.0	0.00	0.22	0.09	75	215
86		14.19	14.18	33.561	25.039	293.6	0.277	5.81	99.6	2.8	0.34	0.3	0.02	0.53	0.36	86	214
95		13.67	13.66	33.653	25.218	276.8	0.302	5.62	95.3	3.6	0.42	1.9	0.10	0.36	0.28	95	213
100	ISL	13.23	13.22	33.626	25.286	270.3	0.316	5.57	93.6	4.0	0.47	2.6	0.09	0.31	0.25	100	
106		12.68	12.67	33.566	25.348	264.4	0.332	5.55	92.2	4.5	0.52	3.4	0.07	0.28	0.22	106	212
115		12.06	12.05	33.497	25.414	258.3	0.356	5.53	90.6	5.0	0.58	4.2	0.05	0.24	0.20	116	211
125	ISL	11.35	11.33	33.435	25.497	250.5	0.381	5.42	87.4	6.4	0.70	6.2	0.03	0.15	0.16	126	
126		11.29	11.27	33.432	25.506	249.7	0.384	5.40	87.0	6.6	0.72	6.5	0.03	0.14	0.16	127	210
141		10.79	10.77	33.514	25.659	235.3	0.420	4.60	73.3	12.5	1.18	13.6	0.01	0.08	0.08	142	209
150	ISL	10.54	10.52	33.586	25.759	226.0	0.441	4.19	66.5	15.6	1.37	16.7	0.00	0.05	0.06	151	
163		10.19	10.17	33.696	25.905	212.3	0.469	3.73	58.8	19.6	1.57	19.9	0.00	0.02	0.04	164	208
194		9.15	9.13	33.889	26.228	182.0	0.530	3.48	53.6	26.0	1.75	23.4	0.00	0.00	0.02	195	207
200	ISL	9.03	9.01	33.916	26.268	178.2	0.541	3.52	54.1	26.6	1.75	23.5	0.00			201	
230		8.52	8.50	34.004	26.417	164.5	0.592	3.67	55.8	29.9	1.75	24.0	0.00			231	206
250	ISL	8.11	8.08	34.012	26.486	158.2	0.625	3.42	51.5	34.1	1.88	25.9	0.00			251	
270		7.72	7.69	34.007	26.539	153.2	0.656	3.05	45.5	38.9	2.05	28.2	0.00			271	205
300	ISL	7.31	7.28	34.023	26.610	146.7	0.701	2.55	37.7	44.9	2.26	30.9	0.00			302	
319		7.09	7.06	34.037	26.652	143.0	0.728	2.24	33.0	48.8	2.39	32.5	0.00			321	204
377		6.34	6.31	34.089	26.794	129.9	0.808	1.36	19.7	62.8	2.76	36.9	0.00			379	203
400	ISL	6.16	6.12	34.105	26.830	126.6	0.837	1.16	16.7	66.6	2.85	38.0	0.00			402	
443		5.89	5.85	34.131	26.885	121.8	0.890	0.90	12.9	72.8	2.96	39.4	0.00			446	202
500	ISL	5.48	5.44	34.169	26.965	114.5	0.958	0.60	8.5	81.7	3.09	41.1	0.00			503	
509		5.42	5.38	34.175	26.977	113.4	0.968	0.55	7.8	83.1	3.11	41.4	0.00			512	201

RV DAVID STARR JORDAN CALCOFI CRUISE 0004 STATION 93 100

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT TYPE
30 30.9 N	122 15.3 W	10/04/00	0825 UTC	4161 m	320 15 kn			1021.2 mb	16.0 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	15.65	15.65	33.470	24.650	328.1	0.000	5.82	102.7	2.8	0.30	0.0	0.00	0.07	0.01	0	
1		15.65	15.65	33.470	24.650	328.1	0.003	5.82	102.7	2.8	0.30	0.0	0.00	0.07	0.01	1	220
10	ISL	15.65	15.65	33.470	24.651	328.3	0.033	5.83	102.9	2.7	0.29	0.0	0.00	0.07	0.01	10	
14		15.65	15.65	33.470	24.651	328.4	0.046	5.83	102.9	2.7	0.29	0.0	0.00	0.07	0.01	14	219
20	ISL	15.65	15.65	33.470	24.651	328.6	0.066	5.83	102.9	2.7	0.29	0.0	0.00	0.07	0.01	20	
30		15.65	15.65	33.470	24.651	328.9	0.099	5.84	103.0	2.8	0.29	0.0	0.00	0.07	0.01	30	218
44		15.61	15.60	33.522	24.701	324.6	0.144	5.81	102.5	2.7	0.28	0.0	0.00	0.08	0.01	44	217
50	ISL	15.53	15.52	33.513	24.712	323.8	0.164	5.82	102.5	2.7	0.28	0.0	0.00	0.08	0.01	50	
59		15.36	15.35	33.482	24.726	322.7	0.193	5.84	102.4	2.7	0.29	0.0	0.00	0.09	0.02	59	216
74		15.06	15.05	33.429	24.751	320.7	0.241	5.82	101.4	2.7	0.30	0.0	0.00	0.11	0.03	74	215
75	ISL	15.04	15.03	33.426	24.753	320.5	0.244	5.83	101.6	2.7	0.30	0.0	0.00	0.11	0.03	75	
84		14.81	14.80	33.403	24.785	317.7	0.273	5.88	101.9	2.8	0.30	0.0	0.00	0.17	0.06	84	214
95		14.54	14.53	33.388	24.832	313.6	0.308	5.92	102.1	2.8	0.31	0.0	0.00	0.25	0.14	95	213
100	ISL	14.48	14.47	33.450	24.893	308.0	0.323	5.89	101.5	2.9	0.31	0.1	0.01	0.35	0.20	100	
104		14.45	14.43	33.520	24.953	302.3	0.335	5.87	101.1	3.1	0.32	0.1	0.01	0.41	0.25	104	212
114		14.37	14.35	33.721	25.125	286.2	0.365	5.66	97.4	3.6	0.35	0.9	0.06	0.37	0.29	114	211
124		12.92	12.90	33.521	25.267	272.7	0.393	5.64	94.1	4.4	0.48	2.6	0.10	0.28	0.19	125	210
125	ISL	12.86	12.84	33.519	25.277	271.7	0.396	5.63	93.8	4.5	0.49	2.7	0.10	0.27	0.19	126	
140		12.35	12.33	33.588	25.430	257.5	0.435	5.41	89.2	5.9	0.61	5.0	0.04	0.17	0.17	141	209
150	ISL	11.87	11.85	33.596	25.527	248.4	0.461	5.20	84.9	7.6	0.74	7.2	0.02	0.12	0.12	151	
164		11.18	11.16	33.603	25.660	236.0	0.494	4.87	78.4	10.6	0.95	10.6	0.01	0.06	0.05	165	208
195		10.06	10.04	33.720	25.947	209.0	0.563	4.04	63.5	18.7	1.46	18.6	0.01	0.01	0.03	196	207
200	ISL	9.90	9.88	33.750	25.997	204.3	0.574	3.95	61.9	19.9	1.51	19.5	0.01			201	
228		9.12	9.10	33.910	26.250	180.6	0.628	3.56	54.8	26.3	1.72	23.2	0.01			229	206
250	ISL	8.64	8.61	33.971	26.373	169.1	0.666	3.20	48.8	31.1	1.90	25.7	0.00			251	
268		8.28	8.25	33.994	26.446	162.3	0.696	2.95	44.6	35.0	2.03	27.5	0.00			269	205
300	ISL	7.56	7.53	34.003	26.559	151.8	0.746	2.78	41.4	41.7	2.18	29.8	0.00			302	
317		7.22	7.19	34.003	26.607	147.2	0.772	2.70	39.8	45.1	2.25	30.8	0.00			319	204
380		6.60	6.57	34.066	26.742	135.0	0.861	1.65	24.0	57.4	2.63	35.4	0.00			382	203
400	ISL	6.45	6.41	34.090	26.781	131.5	0.887	1.38	20.0	61.2	2.74	36.7	0.00			402	
439		6.17	6.13	34.134	26.852	125.1	0.937	0.96	13.8	68.7	2.93	38.8	0.00			442	202
500	ISL	5.60	5.56	34.177	26.957	115.4	1.011	0.63	9.0	80.4	3.09	41.0	0.00			503	
512		5.49	5.45	34.186	26.978	113.5	1.024	0.56	7.9	82.7	3.12	41.4	0.00			515	201

RV DAVID STARR JORDAN CALCOFI CRUISE 0004 STATION 93 110

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT TYPE
30 9.8 N	122 56.2 W	10/04/00	1803 UTC	3291 m	340 13 kn	350 04 05	1	1020.7 mb	17.8 C	14.8 C	31m	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	16.10	16.10	33.550	24.611	331.8	0.000	5.75	102.4	2.7	0.27	0.0	0.00	0.07	0.01	0	
1	A	16.10	16.10	33.550	24.611	331.9	0.003	5.75	102.4	2.7	0.27	0.0	0.00	0.07	0.01	1	223
1		16.09	16.09	33.549	24.612	331.7	0.003									1	224
10	ISL	16.08	16.08	33.547	24.613	331.9	0.033	5.75	102.4	2.7	0.27	0.0	0.00	0.08	0.01	10	
11		16.08	16.08	33.546	24.613	332.0	0.037	5.75	102.4	2.7	0.27	0.0	0.00	0.08	0.01	11	222
20	ISL	16.09	16.09	33.583	24.639	329.8	0.066	5.74	102.2	2.5	0.26	0.0	0.00	0.08	0.01	20	
21	A	16.09	16.09	33.588	24.643	329.4	0.070	5.74	102.2	2.5	0.26	0.0	0.00	0.08	0.01	21	221
30	ISL	16.05	16.05	33.620	24.677	326.5	0.099	5.74	102.2	2.5	0.25	0.0	0.00	0.08	0.01	30	
32		16.03	16.02	33.625	24.685	325.8	0.106	5.74	102.1	2.5	0.25	0.0	0.00	0.08	0.01	32	220
42	A	15.88	15.87	33.633	24.726	322.2	0.138	5.75	102.0	2.5	0.25	0.0	0.00	0.08	0.02	42	219
50	ISL	15.69	15.68	33.593	24.738	321.3	0.164	5.77	102.0	2.6	0.26	0.0	0.00	0.09	0.02	50	
52		15.64	15.63	33.580	24.739	321.3	0.170	5.77	101.8	2.6	0.26	0.0	0.00	0.09	0.02	52	218
63	A	15.35	15.34	33.528	24.764	319.2	0.205	5.78	101.4	2.6	0.26	0.0	0.00	0.11	0.03	63	217
75		15.66	15.65	33.623	24.768	319.2	0.244	5.76	101.7	2.6	0.25	0.0	0.00	0.13	0.04	75	216
83	A	15.50	15.49	33.581	24.772	319.1	0.269	5.78	101.7	2.6	0.26	0.0	0.00	0.17	0.07	83	215
93		14.31	14.30	33.468	24.942	303.0	0.300	5.85	100.4	2.9	0.30	0.1	0.00	0.38	0.22	93	214
100	ISL	13.13	13.12	33.413	25.141	284.1	0.321	5.77	96.6	3.8	0.43	1.7	0.07	0.38	0.27	100	
102		12.84	12.83	33.410	25.196	278.8	0.327	5.74	95.6	4.1	0.47	2.2	0.09	0.38	0.28	102	213
112		12.60	12.59	33.522	25.330	266.3	0.354	5.57	92.3	4.9	0.53	3.5	0.07	0.31	0.24	112	212
120	A	11.31	11.30	33.340	25.431	256.7	0.375	5.53	89.1	6.3	0.69	5.8	0.04	0.21	0.16	121	211
125	ISL	11.16	11.14	33.368	25.479	252.1	0.387	5.44	87.4	7.1	0.75	6.9	0.03	0.17	0.14	126	
130		11.00	10.98	33.383	25.520	248.4	0.400	5.35	85.6	7.8	0.80	7.7	0.02	0.14	0.13	131	210
140		10.68	10.66	33.377	25.572	243.6	0.425	5.27	83.8	8.9	0.87	9.0	0.01	0.11	0.10	141	209
150	ISL	10.47	10.45	33.417	25.639	237.3	0.449	5.06	80.1	10.7	1.00	11.0	0.01	0.08	0.07	151	
165		10.18	10.16	33.525	25.774	224.8	0.483	4.61	72.5	14.4	1.23	14.8	0.01	0.04	0.04	166	208
195		9.29	9.27	33.824	26.155	189.0	0.545	3.53	54.6	25.0	1.73	23.0	0.00	0.00	0.02	196	207
200	ISL	9.19	9.17	33.854	26.194	185.3	0.555	3.53	54.4	25.8	1.74	23.2	0.00			201	
230		8.71	8.69	33.967	26.359	170.1	0.608	3.50	53.4	29.1	1.78	24.3	0.00			231	206
250	ISL	8.42	8.39	33.995	26.426	164.0	0.641	3.38	51.3	31.8	1.85	25.4	0.00			251	
270		8.14	8.11	34.004	26.475	159.5	0.674	3.19	48.1	34.9	1.95	26.7	0.00			271	205
300	ISL	7.67	7.64	34.025	26.561	151.7	0.720	2.70	40.3	41.0	2.16	29.4	0.00			302	
319		7.39	7.36	34.035	26.609	147.3	0.749	2.39	35.4	45.0	2.30	31.1	0.00			321	204
379		6.69	6.66	34.046	26.714	137.7	0.834	1.96	28.6	54.5	2.51	34.0	0.00			381	203
400	ISL	6.47	6.43	34.058	26.753	134.2	0.863	1.74	25.2	58.4	2.61	35.2	0.00			402	
437		6.11	6.07	34.086	26.822	127.9	0.911	1.33	19.1	65.6	2.78	37.4	0.00			440	202
500	ISL	5.65	5.61	34.150	26.930	118.0	0.989	0.79	11.2	77.3	3.00	40.1	0.00			503	
513		5.56	5.52	34.163	26.951	116.1	1.004	0.68	9.7	79.7	3.05	40.7	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	CLD AMT	TYPE
29 50.9 N	123 35.2 W	10/04/00	2354 UTC	4085 m	360 11 kn	100 04 07	1	1020.5 mb	16.0 C	14.8 C	42m	2/8	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	16.99	16.99	33.681	24.505	341.9	0.000	5.66	102.7	2.5	0.24	0.0	0.00	0.06	0.01	0	
1	16.99	16.99	33.681	24.505	341.9	0.003	5.66	102.7	2.5	0.24	0.0	0.00	0.06	0.01	1	219
10 ISL	16.88	16.88	33.674	24.526	340.2	0.034	5.67	102.6	2.5	0.24	0.0	0.00	0.07	0.01	10	
19	16.67	16.67	33.666	24.569	336.4	0.065	5.68	102.4	2.5	0.24	0.0	0.00	0.08	0.01	19	218
20 ISL	16.64	16.64	33.666	24.576	335.8	0.068	5.68	102.3	2.5	0.24	0.0	0.00	0.08	0.01	20	
30 ISL	16.38	16.38	33.667	24.638	330.3	0.101	5.71	102.3	2.4	0.24	0.0	0.00	0.08	0.01	30	
39	16.17	16.16	33.671	24.689	325.6	0.131	5.72	102.1	2.4	0.24	0.0	0.00	0.08	0.01	39	217
50 ISL	16.13	16.12	33.678	24.704	324.6	0.167	5.71	101.8	2.5	0.24	0.0	0.00	0.08	0.01	50	
59	16.10	16.09	33.683	24.715	323.8	0.196	5.69	101.4	2.6	0.24	0.0	0.00	0.09	0.02	59	216
75 ISL	16.12	16.11	33.700	24.724	323.5	0.247	5.69	101.5	2.4	0.24	0.0	0.00	0.12	0.04	75	
79	16.12	16.11	33.704	24.727	323.3	0.260	5.69	101.5	2.4	0.24	0.0	0.00	0.13	0.04	79	215
99	16.16	16.14	33.753	24.757	321.2	0.325	5.68	101.4	2.5	0.23	0.0	0.00	0.19	0.06	99	214
100 ISL	16.15	16.13	33.752	24.758	321.0	0.328	5.68	101.4	2.5	0.23	0.0	0.00	0.19	0.06	100	
119	15.96	15.94	33.742	24.794	318.2	0.389	5.68	101.0	2.5	0.24	0.0	0.00	0.25	0.12	119	213
125 ISL	15.43	15.41	33.680	24.865	311.5	0.408	5.71	100.4	2.6	0.26	0.0	0.00	0.30	0.22	126	
129	15.00	14.98	33.640	24.929	305.5	0.420	5.72	99.7	2.8	0.28	0.0	0.00	0.33	0.27	130	212
139	13.86	13.84	33.606	25.144	285.1	0.450	5.64	96.0	3.5	0.37	1.0	0.07	0.31	0.25	140	211
149	13.19	13.17	33.601	25.276	272.6	0.477	5.52	92.7	4.3	0.45	2.6	0.04	0.19	0.17	150	210
150 ISL	13.19	13.17	33.614	25.286	271.7	0.480	5.50	92.3	4.4	0.46	2.7	0.04	0.18	0.16	151	
159	13.18	13.16	33.722	25.372	263.8	0.504	5.35	89.9	5.0	0.50	3.6	0.03	0.15	0.13	160	209
174	12.50	12.48	33.708	25.495	252.3	0.543	5.15	85.3	6.6	0.63	5.9	0.02	0.09	0.09	175	208
193	11.60	11.58	33.737	25.688	234.1	0.589	4.86	79.0	9.6	0.85	9.6	0.01	0.04	0.03	194	207
200 ISL	11.26	11.24	33.754	25.763	227.0	0.605	4.70	75.8	11.4	0.96	11.4	0.01			201	
228	10.04	10.01	33.840	26.044	200.5	0.665	4.09	64.3	18.7	1.37	18.0	0.00			229	206
250 ISL	9.45	9.42	33.920	26.205	185.5	0.708	3.95	61.3	22.6	1.52	20.5	0.00			251	
268	9.08	9.05	33.975	26.308	175.9	0.740	3.85	59.3	25.5	1.60	21.9	0.00			269	205
300 ISL	8.36	8.33	34.008	26.446	163.0	0.794	3.20	48.5	32.3	1.83	25.1	0.00			302	
317	8.00	7.97	34.011	26.502	157.7	0.822	2.84	42.7	36.2	1.96	26.8	0.00			319	204
378	6.91	6.87	34.023	26.667	142.4	0.913	2.41	35.3	49.5	2.35	32.1	0.00			380	203
400 ISL	6.66	6.62	34.042	26.715	137.9	0.944	2.06	30.0	54.5	2.50	33.9	0.00			402	
438	6.31	6.27	34.080	26.791	131.0	0.995	1.43	20.7	62.8	2.73	36.8	0.00			441	202
500 ISL	5.79	5.75	34.136	26.902	120.8	1.073	0.90	12.9	74.8	2.97	39.7	0.00			503	
514	5.67	5.63	34.149	26.927	118.5	1.090	0.78	11.1	77.5	3.02	40.4	0.00			517	201

PRIMARY PRODUCTIVITY CASTS

RV DAVID STARR JORDAN — CALCOFI CRUISE 0004 — STATION 77 51

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
35 1.4 N	120 55.0 W	22/04/00	1907 UTC	7 m		1202 - 1908 PST	1202 PST	1908 PST	1852.1 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	12.22	33.666	25.512	6.55	107.8	4.9	0.73	5.9	0.15	8.54	1.73	80. A	157.1	148.8	152.9	0.80
6	11.94	33.667	25.566	6.43	105.2	5.4	0.80	6.3	0.15	7.03	1.92	27.	139.8	140.6	140.2	0.59
10	11.90	33.668	25.574	6.32	103.3	5.5	0.84	6.6	0.15	6.27	1.77	11.	93.4	91.6	92.5	0.51
14	11.89	33.669	25.577	6.31	103.2	5.3	0.81	6.6	0.15	7.56	2.99	4.6	47.7	56.7	52.2	0.42
19	11.83	33.670	25.589	6.11	99.8	6.2	0.89	7.3	0.16	5.47	2.68	1.6	13.0	11.8	12.4	0.33
27	11.61	33.675	25.634	5.62	91.3	9.1	1.10	9.7	0.17	1.09	1.21	0.27	0.19	0.08	0.14	0.20

RV DAVID STARR JORDAN — CALCOFI CRUISE 0004 — STATION 77 80

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
34 3.2 N	122 56.9 W	21/04/00	1824 UTC	17 m		1211 - 1913 PST	1211 PST	1913 PST	175.7 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
1	13.98	32.961	24.617	6.09	103.6	2.4	0.32	0.0	0.00	0.17	0.03	91. A	3.2	3.1	3.2	0.17
11	13.97	32.961	24.619	6.08	103.4	2.4	0.32	0.0	0.00	0.18	0.03	37.	4.0	3.9	3.9	0.12
23	12.87	33.040	24.901	6.35	105.6	2.3	0.34	0.0	0.00	0.24	0.06	13.	3.4	3.4	3.4	0.12
35	12.27	33.043	25.020	6.26	102.8	3.1	0.38	0.2	0.02	0.88	0.31	4.2	4.0	4.7	4.4	0.11
46	12.02	33.021	25.050	6.21	101.4	3.1	0.42	0.5	0.05	0.76	0.36	1.6	1.4	1.3	1.4	0.09
56	11.92	33.023	25.071	6.17	100.5	3.0	0.47	0.8	0.09	0.50	0.26					
66	11.86	33.029	25.087	6.15	100.1	3.1	0.49	0.9	0.13	0.32	0.19	0.26	0.04	0.06	0.05	0.05

RV DAVID STARR JORDAN — CALCOFI CRUISE 0004 — STATION 80 55

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
34 17.6 N	120 49.4 W	19/04/00	1832 UTC	16 m		1202 - 1906 PST	1202 PST	1907 PST	1634.4 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
1	14.24	33.346	24.860	6.08	104.2	3.1	0.38	0.8	0.03	0.68	0.11	91. A	16.2	14.6	15.4	0.13
11	13.69	33.395	25.012	6.14	104.1	3.5	0.44	1.7	0.05	1.52	0.43	35.	38.0	36.7	37.3	0.36
23	12.77	33.498	25.276	6.04	100.5	4.7	0.58	3.8	0.11	5.34	1.45	11.	83.4	90.1	86.8	0.50
32	11.24	33.598	25.642	4.96	79.9	11.9	1.16	12.1	0.19	1.74	0.74	4.6	13.1	13.6	13.3	0.40
41	11.17	33.667	25.708	4.84	77.9	12.7	1.25	13.2	0.20	2.10	0.99	2.0	5.9	6.4	6.2	0.40
51	11.01	33.689	25.755	4.68	75.1	13.7	1.33	14.4	0.21	2.15	1.24					
62	10.63	33.733	25.856	4.33	68.9	16.2	1.49	16.7	0.21	1.10	0.88	0.26	0.39	1.1	0.72	0.12

RV DAVID STARR JORDAN — CALCOFI CRUISE 0004 — STATION 80 90

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
33 9.9 N	123 13.1 W	20/04/00	1808 UTC	19 m		1213 - 1915 PST	1212 PST	1915 PST	135.2 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
1	15.60	33.432	24.632	5.88	103.6	2.6	0.30	0.0	0.00	0.15	0.02	92. A	3.4	3.2	3.3	0.16
13	15.48	33.428	24.656	5.88	103.4	2.6	0.30	0.0	0.00	0.16	0.02	35.	4.6	4.4	4.5	0.15
26	15.50	33.465	24.681	5.87	103.3	2.6	0.29	0.0	0.00	0.17	0.03	12.	2.6	2.3	2.5	0.36
39	15.47	33.506	24.719	5.85	102.9	2.6	0.28	0.0	0.00	0.18	0.03	4.3	1.2	1.4	1.3	0.15
45	15.46	33.523	24.735	5.85	102.9	2.6	0.27	0.0	0.00	0.18	0.04					
51	15.24	33.554	24.807	5.85	102.4	2.7	0.27	0.0	0.00	0.19	0.04	1.6	0.29	0.40	0.34	0.13
62	15.13	33.587	24.857	5.83	101.9	2.7	0.27	0.0	0.00	0.23	0.06					
74	14.28	33.479	24.956	5.94	101.9	2.8	0.30	0.1	0.00	0.55	0.23	0.25	0.09	0.12	0.10	0.09

RV DAVID STARR JORDAN — CALCOFI CRUISE 0004 — STATION 83 51

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
33 52.4 N	120 8.3 W	18/04/00	1854 UTC	8 m		1200 - 1902 PST	1201 PST	1901 PST	577.4 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	13.52	33.525	25.147	5.85	98.9	7.7	0.66	4.9	0.12	1.29	0.40	68. A	36.5	34.9	35.7	0.35
6	13.22	33.562	25.236	5.66	95.1	9.1	0.77	6.2	0.13	1.42	0.51	32.	41.3	44.4	42.9	0.69
11	12.95	33.621	25.335	5.39	90.1	10.6	0.84	7.5	0.14	1.63	0.64	12.	27.5	27.8	27.6	0.26
16	12.84	33.631	25.365	5.33	88.9	11.0	0.87	7.9	0.15	1.39	0.57	4.6	12.5	14.1	13.3	0.28
21	12.68	33.646	25.408	5.23	86.9	11.7	0.91	8.6	0.16	1.35	0.59	1.8	4.7	4.7	4.7	0.15
31	12.25	33.699	25.533	4.83	79.6	14.4	1.08	11.0	0.17	1.52	0.74	0.26	0.48	0.24	0.36	0.12

A) INCUBATION LIGHT INTENSITIES WERE 96, 36, 12, 4.2, 1.6, 0.25 PERCENT RESPECTIVELY.

PRIMARY PRODUCTIVITY CASTS

RV DAVID STARR JORDAN — CALCOFI CRUISE 0004 — STATION 83 90

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
32 35.8 N	122 49.6 W	17/04/00	1813 UTC	33 m		1208 - 1904 PST	1208 PST	1904 PST	308.4 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
1	15.52	33.443	24.659	5.80	102.1	2.7	0.30	0.1	0.00	0.10	0.02	95. A	1.2	1.1	1.1	0.06
12	15.49	33.441	24.664	5.81	102.2	2.7	0.30	0.1	0.00	0.10	0.02					
23	15.28	33.408	24.685	5.85	102.4	2.6	0.30	0.1	0.00	0.12	0.03	34.	2.0	2.0	2.0	0.10
34	14.87	33.356	24.735	5.94	103.1	2.6	0.31	0.1	0.00	0.18	0.05					
45	14.49	33.332	24.798	6.01	103.5	2.6	0.32	0.1	0.00	0.30	0.10	12.	3.3	3.5	3.4	0.13
57	14.16	33.343	24.876	6.06	103.7	2.6	0.33	0.1	0.00	0.44	0.19					
70	13.93	33.381	24.953	6.19	105.4	2.6	0.34	0.1	0.01	0.65	0.35	3.9	5.9	5.5	5.7	0.11
76	13.64	33.379	25.011	6.09	103.1	2.6	0.40	0.9	0.04	0.53	0.34					
87	13.31	33.383	25.082	5.99	100.7	3.0	0.48	1.8	0.09	0.38	0.29	1.7	1.8	1.6	1.7	0.04
101	12.61	33.403	25.235	5.72	94.8	5.1	0.66	4.5	0.33	0.18	0.16					
116	11.63	33.402	25.420	5.32	86.3	7.8	0.84	8.1	0.12	0.13	0.13					
129	10.82	33.384	25.552	5.23	83.4	9.1	0.90	9.2	0.03	0.10	0.10	0.25	0.07	0.07	0.07	0.03

RV DAVID STARR JORDAN — CALCOFI CRUISE 0004 — STATION 87 40

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
33 39.6 N	118 58.7 W	14/04/00	1812 UTC	14 m		1155 - 1855 PST	1156 PST	1854 PST	645.6 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	14.79	33.603	24.941	6.14	106.6	2.4	0.33	0.3	0.02	0.73	0.29	90. A	15.0	16.8	15.9	0.18
10	14.69	33.603	24.963	6.16	106.7	2.4	0.33	0.3	0.02	0.81	0.34	33.	22.1	21.0	21.5	0.21
20	14.59	33.602	24.984	6.19	107.0	2.4	0.34	0.4	0.02	0.95	0.43	11.	19.2	19.8	19.5	0.25
30	13.81	33.592	25.140	5.86	99.7	4.2	0.50	2.8	0.09	1.35	0.56	3.7	12.0	11.6	11.8	0.18
37	12.89	33.587	25.322	5.19	86.6	8.4	0.80	7.3	0.24	1.13	0.53	1.7	4.7	4.4	4.6	0.11
47	11.41	33.634	25.639	4.10	66.3	14.8	1.28	15.0	0.21	0.46	0.31					
55	11.10	33.683	25.734	3.86	62.0	17.1	1.40	16.9	0.15	0.28	0.28	0.24	0.15	0.10	0.12	0.06

RV DAVID STARR JORDAN — CALCOFI CRUISE 0004 — STATION 87 70

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
32 38.9 N	121 2.1 W	15/04/00	1807 UTC	23 m		1205 - 1904 PST	1204 PST	1903 PST	584.2 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
1	14.26	33.484	24.962	6.17	105.9	2.0	0.46	1.5	0.07	0.34	0.09	94. A	7.3	7.8	7.5	0.13
8	14.17	33.481	24.979	5.82U	99.7	2.0	0.44	1.5	0.07	0.32	0.10					
15	14.12	33.478	24.987	6.12	104.7	2.1	0.45	1.5	0.07	0.36	0.11	37.	12.1	11.7	11.9	0.14
24	13.23	33.446	25.145	6.24	104.8	2.9	0.46	2.0	0.09	0.66	0.31					
32	13.29	33.501	25.175	6.21	104.4	2.6	0.52	2.4	0.10	0.76	0.36	12.	12.5	12.7	12.6	0.13
39	13.05	33.465	25.196	6.16	103.1	2.9	0.52	2.5	0.11	0.76	0.42					
47	12.95	33.459	25.211	6.09	101.7	3.1	0.55	2.7	0.13	0.80	0.49	4.3	7.1	6.6	6.9	0.11
54	12.91	33.473	25.230	6.08	101.4	3.2	0.57	2.9	0.13	0.80	0.44					
61	12.80	33.509	25.280	5.95	99.1	4.4	0.68	3.9	0.14	0.53	0.37	1.7	1.7	1.9	1.8	0.06
76	11.91	33.494	25.439	5.44	88.9	8.9	0.96	8.3	0.25	0.33	0.28					
89	10.87	33.568	25.686	4.57	73.0	15.1	1.31	15.2	0.26	0.12	0.20	0.26	0.02	0.02	0.02	0.07

RV DAVID STARR JORDAN — CALCOFI CRUISE 0004 — STATION 87 110

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
31 19.5 N	123 44.5 W	16/04/00	1930 UTC	27 m		1215 - 1925 PST	1215 PST	1925 PST	52.7 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
1	16.71	33.612	24.518	5.67	102.3	2.6	0.25	0.1	0.00	0.08	0.01	94. A	1.6	1.7	1.6	0.09
18	16.71	33.612	24.519	5.67	102.2	2.6	0.26	0.0	0.00	0.08	0.01	36.	1.2	1.2	1.2	0.07
28	16.54	33.620	24.565	5.70	102.4	2.6	0.25	0.0	0.00	0.08	0.01					
37	16.30	33.620	24.620	5.71	102.1	2.6	0.25	0.0	0.00	0.09	0.01	12.	0.56	0.54	0.55	0.09
46	15.99	33.695	24.749	5.78	102.8	2.5	0.25	0.0	0.00	0.09	0.02					
56	15.73	33.683	24.798	5.79	102.4	2.6	0.25	0.0	0.00	0.10	0.02	4.1	0.18	0.19	0.18	0.10
72	15.40	33.628	24.830	5.81	102.1	2.6	0.26	0.0	0.00	0.11	0.03	1.7	0.06	0.10	0.08	0.07
82	15.00	33.550	24.858	5.84	101.7	2.7	0.27	0.0	0.00	0.16	0.05					
94	14.71	33.535	24.909	5.80	100.4	2.8	0.29	0.0	0.00	0.23	0.12					
105	13.82	33.518	25.083	5.78	98.3	3.5	0.36	0.8	0.04	0.35	0.31	0.26	0.02	0.02	0.02	0.04

RV DAVID STARR JORDAN — CALCOFI CRUISE 0004 — STATION 90 35

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
33 15.1 N	118 14.9 W	13/04/00	1756 UTC	19 m		1153 - 1850 PST	1153 PST	1850 PST	615.8 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	16.11	33.586	24.636	5.93	105.7	3.2	0.28	0.0	0.00	0.21	0.04	92. A	5.0	5.1	5.0	0.14
7	15.85	33.584	24.693	5.96	105.7	3.2	0.28	0.0	0.00	0.23	0.04					
14	15.64	33.581	24.739	5.99	105.7	3.1	0.28	0.0	0.00	0.32	0.08	32.	8.7	8.7	8.7	0.21
20	14.98	33.569	24.875	6.06	105.6	3.1	0.30	0.1	0.01	0.73	0.19					
26	14.05	33.548	25.056	6.06	103.6	4.2	0.39	1.0	0.05	1.55	0.42	12.	23.5	23.8	23.6	0.20
31	13.65	33.548	25.139	5.83	98.8	4.9	0.50	2.8	0.12	1.33	0.48					
39	12.79	33.564	25.324	5.09	84.8	8.7	0.82	7.6	0.36	1.46	0.67	4.3	11.4	11.5	11.4	0.10
51	11.70	33.599	25.559	4.39	71.4	12.9	1.16	13.1	0.18	0.53	0.33	1.6	1.7	1.9	1.8	0.05
62	11.06	33.666	25.728	3.91	62.8	16.4	1.39	16.7	0.06	0.22	0.20					
74	10.63	33.730	25.854	3.57	56.8	19.2	1.55	19.2	0.03	0.09	0.20	0.25	0.05	0.05	0.05	0.03

A) INCUBATION LIGHT INTENSITIES WERE 96, 36, 12, 4.2, 1.6, 0.25 PERCENT RESPECTIVELY.

PRIMARY PRODUCTIVITY CASTS

RV DAVID STARR JORDAN — CALCOFI CRUISE 0004 — STATION 90 70

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
32 5.0 N	120 38.8 W	12/04/00	1809 UTC	18 m		1204 - 1853 PST	1204 PST	1853 PST	197.9 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	14.98	33.445	24.778	5.95	103.6	2.7	0.32	0.0	0.00	0.23	0.05	92. A	2.3	2.5	2.4	0.10
13	14.81	33.447	24.817	5.97	103.6	2.7	0.32	0.0	0.00	0.25	0.06	33.	4.4	4.3	4.4	0.13
26	14.80	33.448	24.820	5.96	103.4	2.6	0.32	0.0	0.00	0.27	0.07	11.	3.7	3.7	3.7	0.14
38	14.71	33.459	24.849	5.95	103.0	2.5	0.32	0.0	0.00	0.36	0.10	3.9	2.8	2.8	2.8	0.13
48	14.12	33.473	24.984	6.16	105.4	1.8	0.33	0.1	0.01	0.61	0.26	1.7	2.9	2.7	2.8	0.11
59	13.12	33.435	25.159	5.80	97.2	3.9	0.58	3.2	0.21	0.80	0.44					
71	11.83	33.427	25.401	5.31	86.6	7.7	0.85	7.8	0.38	0.54	0.35	0.23	0.23	0.28	0.25	0.05

RV DAVID STARR JORDAN — CALCOFI CRUISE 0004 — STATION 90 100

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
31 5.2 N	122 39.9 W	11/04/00	1829 UTC	23 m		1213 - 1859 PST	1212 PST	1859 PST	262.9 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	14.87	33.385	24.756			2.7	0.33	0.0	0.00	0.19	0.04	94. A	1.9	1.7	1.8	0.07
15	14.73	33.386	24.787	6.04	104.6	2.6	0.33	0.0	0.00	0.19	0.05	37.	3.5	3.5	3.5	0.08
32	14.33	33.368	24.859	6.10	104.7	2.5	0.33	0.0	0.00	0.25	0.08	12.	3.1	3.2	3.2	0.12
39	14.08	33.390	24.928	6.19	105.7	2.4	0.34	0.0	0.00	0.31	0.13					
47	13.93	33.382	24.953	6.16	104.9	2.4	0.35	0.0	0.01	0.63	0.25	4.3	4.9	5.2	5.0	0.10
54	13.85	33.384	24.972	6.10	103.7	2.9	0.37	0.4	0.03	0.76	0.33					
62	13.43	33.373	25.049	5.92	99.8	3.5	0.47	1.8	0.11	0.74	0.41	1.6	3.0	2.9	3.0	0.05
71	13.24	33.390	25.101	5.93	99.6	3.7	0.51	2.3	0.12	0.66	0.45					
80	12.48	33.392	25.251	5.54	91.5	5.3	0.69	5.3	0.22	0.51	0.43					
90	11.93	33.404	25.365	5.32	86.9	6.8	0.80	7.6	0.08	0.31	0.26	0.25	0.20	0.29	0.25	0.02

RV DAVID STARR JORDAN — CALCOFI CRUISE 0004 — STATION 93 45

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
32 21.1 N	118 32.8 W	08/04/00	1831 UTC	20 m		1156 - 1814 PST	1156 PST	1845 PST	296.0 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	14.66	33.542	24.922	5.93	102.6	2.0	0.34	0.3	0.02	0.48	0.15	93. A	5.4	5.0	5.2	0.08
13	14.62	33.542	24.931	5.93	102.5	2.0	0.34	0.3	0.02	0.46	0.17	37.	6.7	6.7	6.7	0.11
28	14.51	33.542	24.955	5.92	102.1	2.1	0.34	0.4	0.02	0.52	0.22	12.	6.3	6.4	6.4	0.09
41	14.48	33.547	24.966	5.91	101.9	2.1	0.35	0.6	0.03	0.56	0.22	4.3	3.8	4.0	3.9	0.09
48	14.28	33.516	24.984	5.83	100.1	3.0	0.43	1.7	0.09	0.61	0.36					
54	12.57	33.412	25.249	5.51	91.2	5.6	0.69	5.3	0.26	0.53	0.42	1.6	1.5	1.5	1.5	0.05
66	11.40	33.568	25.590	4.41	71.3	12.7	1.18	13.5	0.05	0.23	0.24					
78	11.27	33.605	25.643	4.19	67.6	14.1	1.27	14.9	0.04	0.20	0.22	0.25	0.10	0.08	0.09	0.03

RV DAVID STARR JORDAN — CALCOFI CRUISE 0004 — STATION 93 80

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
31 11.2 N	120 55.2 W	09/04/00	1912 UTC	20 m		1205 - 1856 PST	1205 PST	1856 PST	115.5 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	15.01	33.412	24.746	5.89	102.6	2.3	0.31	0.0	0.00	0.16	0.03	86. A	1.3	1.2	1.2	0.06
12	14.98	33.412	24.753	5.88	102.3	2.2	0.31	0.0	0.00	0.16	0.03	40.	2.0	2.0	2.0	0.07
27	14.94	33.413	24.763	5.94	103.3	2.2	0.32	0.0	0.00	0.17	0.04	13.	1.7	1.6	1.7	0.07
41	14.61	33.383	24.811	5.99	103.4	2.2	0.33	0.0	0.00	0.31	0.11	4.3	1.8	1.8	1.8	0.08
48	14.24	33.373	24.882	6.02	103.2	2.3	0.34	0.1	0.01	0.53	0.23					
54	14.05	33.378	24.926	6.01	102.6	2.4	0.38	0.4	0.02	0.59	0.28	1.6	1.6	1.8	1.7	0.05
65	13.52	33.370	25.029	5.96	100.6	2.9	0.45	1.3	0.07	0.51	0.33					
78	13.02	33.374	25.132	5.72	95.6	3.6	0.57	3.1	0.20	0.34	0.28	0.25	0.14	0.14	0.14	0.02

RV DAVID STARR JORDAN — CALCOFI CRUISE 0004 — STATION 93 110

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
30 9.8 N	122 56.2 W	10/04/00	1803 UTC	31 m		1213 - 1903 PST	1213 PST	1903 PST	68.7 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
1	16.10	33.550	24.611	5.75	102.4	2.7	0.27	0.0	0.00	0.07	0.01	95. A	0.87	0.79	0.83	0.04
11	16.08	33.546	24.613	5.75	102.4	2.7	0.27	0.0	0.00	0.08	0.01					
21	16.09	33.588	24.643	5.74	102.2	2.5	0.26	0.0	0.00	0.08	0.01	35.	1.4	1.2	1.3	0.06
32	16.03	33.625	24.685	5.74	102.1	2.5	0.25	0.0	0.00	0.08	0.01					
42	15.88	33.633	24.726	5.75	102.0	2.5	0.25	0.0	0.00	0.08	0.02	12.	0.64	0.67	0.65	0.10
52	15.64	33.580	24.739	5.77	101.8	2.6	0.26	0.0	0.00	0.09	0.02					
63	15.35	33.528	24.764	5.78	101.4	2.6	0.26	0.0	0.00	0.11	0.03	4.4	0.44	0.41	0.43	0.08
75	15.66	33.623	24.768	5.76	101.7	2.6	0.25	0.0	0.00	0.13	0.04					
83	15.50	33.581	24.772	5.78	101.7	2.6	0.26	0.0	0.00	0.17	0.07	1.6	0.29	0.33	0.31	0.06
93	14.31	33.468	24.942	5.85	100.4	2.9	0.30	0.1	0.00	0.38	0.22					
102	12.84	33.410	25.196	5.74	95.6	4.1	0.47	2.2	0.09	0.38	0.28					
112	12.60	33.522	25.330	5.57	92.3	4.9	0.53	3.5	0.07	0.31	0.24					
120	11.31	33.340	25.431	5.53	89.1	6.3	0.69	5.8	0.04	0.21	0.16	0.26	0.09	0.10	0.09	0.01

A) INCUBATION LIGHT INTENSITIES WERE 96, 36, 12, 4.2, 1.6, 0.25 PERCENT RESPECTIVELY.

CalCOFI Cruise 0004

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^3)	Max. Tow Depth (m)	Volume per 1000 m^3 Strained Total (cm^3)	Volume per 1000 m^3 Strained Small (cm^3)
77	49	35 05.3	120 47.0	4/22	1322	1329	132	63	295	295
77	51	35 01.9	120 55.4	4/22	0821	0842	438	196	628	628
77	55	34 52.4	121 12.5	4/22	0524	0545	437	209	215	215
77	60	34 43.8	121 33.0	4/22	0115	0137	417	216	117	117
77	70	34 22.9	122 15.1	4/21	1854	1916	415	215	337	209
77	80	34 03.3	122 57.6	4/21	1144	1205	457	209	55	55
77	90	33 42.7	123 38.5	4/21	0451	0513	427	215	80	80
77	100	33 23.7	124 21.1	4/20	2223	2244	449	206	87	87
80	51	34 25.9	120 31.5	4/19	0529	0537	155	77	2043	297
80	55	34 17.4	120 50.2	4/19	0824	0845	473	189	85	85
80	60	34 08.4	120 10.6	4/19	1423	1444	448	199	103	103
80	70	33 48.8	121 50.7	4/19	2015	2036	398	218	156	156
80	80	33 29.3	122 31.9	4/20	0200	0221	408	215	137	137
80	90	33 09.3	123 13.9	4/20	0826	0847	420	212	38	38
80	100	32 49.5	123 54.4	4/20	1624	1645	416	213	91	91
82	47	34 17.7	120 01.7	4/19	0114	0136	417	213	180	132
83	40.6	34 13.2	119 24.8	4/18	1830	1833	47	21	426	426
83	42	34 10.2	119 31.1	4/18	2026	2046	378	193	217	198
83	51	33 51.6	120 08.6	4/18	1209	1231	421	215	242	124
83	55	33 45.1	120 25.0	4/18	0814	0835	420	216	150	150
83	60	33 33.3	120 43.5	4/18	0358	0420	544	163	127	127
83	70	33 14.3	121 25.5	4/17	2218	2239	537	178	73	73
83	80	32 54.5	122 07.3	4/17	1619	1641	438	220	43	43
83	90	32 34.5	122 49.1	4/17	0827	0849	429	217	42	42
83	100	32 13.9	123 30.3	4/17	0117	0139	436	213	48	48
83	110	31 55.2	124 09.2	4/16	1937	1959	420	213	50	50
87	33	33 52.9	118 30.2	4/14	0331	0336	97	48	445	445
87	35	33 49.4	118 38.7	4/14	0555	0617	404	209	163	163
87	40	33 39.1	118 59.1	4/14	0907	0928	402	215	234	92
87	45	33 29.9	119 19.5	4/14	1527	1548	408	214	147	147
87	50	33 19.0	119 40.5	4/14	1903	1909	119	54	160	160
87	55	33 09.3	120 00.9	4/14	2246	2308	399	209	341	341
87	60	32 59.1	120 20.5	4/15	0244	0306	409	212	132	132
87	70	32 39.3	121 02.6	4/15	0816	0837	403	210	112	112
87	80	32 19.0	121 43.0	4/15	1622	1644	405	217	37	37
87	90	31 58.0	122 21.9	4/15	2351	0012	430	215	58	58
87	100	31 39.7	123 04.0	4/16	0600	0621	410	211	44	44
87	110	31 19.4	123 42.9	4/16	1307	1328	449	207	22	22
90	28	33 28.7	117 46.7	4/13	2023	2044	385	211	156	156
90	30	33 24.3	117 53.7	4/13	1530	1551	426	204	84	84
90	35	33 14.6	118 14.7	4/13	1140	1201	408	214	64	64
90	37	33 10.9	118 23.4	4/13	0807	0828	404	212	67	67
90	45	32 55.6	118 56.8	4/13	0240	0301	411	210	209	151
90	53	32 38.7	119 29.8	4/12	2116	2137	414	211	157	157
90	60	32 25.2	119 58.3	4/12	1616	1638	409	213	66	66
90	70	32 04.8	120 38.9	4/12	0834	0855	420	214	81	81
90	80	31 44.9	121 19.8	4/12	0000	0021	435	211	120	120
90	90	31 24.6	121 59.5	4/11	1744	1806	388	214	83	83
90	100	31 04.7	122 40.6	4/11	0928	0949	421	210	52	52
90	110	30 45.0	123 20.1	4/11	0409	0431	424	213	57	57
90	120	30 25.5	123 59.7	4/10	2207	2229	408	214	17	17
93	26.7	32 56.9	117 17.7	4/07	1535	1539	90	33	156	156
93	28	32 53.5	117 24.6	4/07	1806	1828	429	202	159	96
93	30	32 50.9	117 32.9	4/07	2107	2128	398	208	198	121
93	35	32 41.0	117 52.4	4/08	0113	0134	400	213	112	112
93	40	32 30.8	118 12.0	4/08	0528	0549	392	212	102	102
93	45	32 20.5	118 33.3	4/08	0855	0916	402	216	50	50
93	50	32 10.9	118 52.9	4/08	1504	1525	484	197	31	31
93	55	32 00.7	119 14.5	4/08	1915	1937	452	208	84	84
93	60	31 50.8	119 34.6	4/08	2323	2344	460	197	83	83
93	70	31 30.8	120 14.6	4/09	0539	0600	425	212	85	85
93	80	31 11.4	120 56.2	4/09	1256	1318	428	213	35	35
93	90	30 51.6	121 35.1	4/09	1913	1934	427	216	468	30
93	100	30 30.0	122 14.9	4/10	0124	0146	423	213	33	33
93	110	30 10.4	122 55.4	4/10	0826	0847	441	212	16	16
93	120	29 50.7	123 36.0	4/10	1604	1626	426	209	28	28

FIGURES

Avifauna Observations

CalCOFI Cruise 0004

1a. Leach’s Storm-Petrel distribution.

1b. Brown Pelican distribution.

1c. Cook’s Petrel distribution.

1d. Sooty Shearwater distribution.

1e. Red and Red-necked Phalarope distribution.

1f. Western Gull distribution.

CalCOFI Cruise 0004