UNIVERSITY OF CALIFORNIA, SAN DIEGO SCRIPPS INSTITUTION OF OCEANOGRAPHY

data report

PHYSICAL, CHEMICAL AND BIOLOGICAL DATA

CalCOFI Cruise 9602
29 January – 16 February 1996

CalCOFI Cruise 9604
15 April – 3 May 1996

SIO Reference 96-19
8 October 1996

UNIVERSITY OF CALIFORNIA, SAN DIEGO

SCRIPPS INSTITUTION OF OCEANOGRAPHY

LA JOLLA, CALIFORNIA 92093-0227

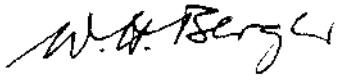
PHYSICAL, CHEMICAL AND BIOLOGICAL DATA

CalCOFI Cruise 9602
29 January - 16 February 1996

CalCOFI Cruise 9604
15 April - 3 May 1996

SIO Reference 96-19
8 October 1996

Approved for distribution:



Wolfgang H. Berger, Interim Director

CONTENTS

INTRODUCTION

The data in this report were collected during cruises 9602* and 9604 of the California Cooperative Oceanic Fisheries Investigations (CalCOFI) program aboard 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 CalCOFI cruises 9602 and 9604 were collected and processed by personnel of the Marine Life Research Group and the Southwest Fisheries Science Center. Volunteers and other SIO staff members also assisted in the collection of data and chemical analyses at sea.

STANDARD PROCEDURES

Rosette Cast Data

At each station on cruises 9602 and 9604 a Sea-Bird Electronics, Inc., Conductivity-Temperature-Depth (CTD) instrument was deployed with a 24-place General Oceanics rosette. The rosette was equipped with 24 ten-liter plastic (PVC) bottles. The CTD/rosette cast usually sampled 20 depths to a maximum sampling depth of 525 meters, bottom depth permitting. Occasional stations have multiple bottles tripped at the same depth to provide more water for ancillary programs. Pressures and temperatures assigned to the water sample data were derived from the CTD signals recorded just prior to the bottle trip. Pressures have been converted to depths by the Saunders (1981) pressure-to-depth conversion technique. CTD temperatures reported with the bottle data have been rounded to the nearest hundredth of a degree Celsius. Salinity, oxygen and nutrients were determined at sea for all depths sampled. Chlorophyll-a and phaeopigments were determined at sea within the top 200 meters, bottom depth permitting.

Salinity samples were collected from all rosette bottles and analyzed at sea using a Guildline model 8410 Portasal salinometer. The results were compared with the CTD salinity in order to verify that the rosette bottle did not mis-trip or leak. The salinometer was standardized before and after each group of samples with substandard seawater. Periodic checks on the conductivity of the substandard were made by comparison with IAPSO Standard Seawater batch P127. Salinity values have been calculated from the algorithms for the Practical Salinity Scale, 1978 (UNESCO, 1981a) and were reported to three decimal places, provided that accepted standards were met. If only one determination per sample was obtained, or there was doubt concerning the accuracy of the analytical results, the salinities were reported to two decimal places.

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

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

Samples for chlorophyll-a and phaeopigments were filtered onto Whatman GF/F filters. The pigments were extracted with a cold extraction technique in 90% acetone (Venrick and Hayward, 1984), and the fluorescence determined before and after acidification with a Turner Designs fluorometer (Yentsch and Menzel, 1963; Holm-Hansen *et al.* 1965).

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

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

Primary Productivity Sampling

Primary productivity samples were taken each day shortly before local apparent noon (LAN). Primary production was estimated from C uptake using a simulated *in situ* technique. Light penetration was estimated from the Secchi depth (assuming that the 1% light level is three times the Secchi depth). The depths with ambient light intensities corresponding to light levels simulated by the on-deck incubators were identified and sampled on the up rosette cast. Occasionally an extra bottle or two were tripped in addition to the usual 20 levels sampled in the combined rosette-productivity cast in order to maintain the normal sampling depth resolution. The ten-liter bottles were equipped with epoxy-coated springs and Viton O-rings. Triplicate samples (two light and one dark control) were drawn from each productivity sample depth into 250 ml polycarbonate incubation bottles. Samples were inoculated with 10 uCi of ^{4}C as $NaHC0_3$ (200 ul of 50 uCi/ml stock) prepared in a 0.3 g/liter solution of sodium carbonate (Fitzwater *et al.* 1982). Samples were incubated from LAN to civil twilight in seawater-cooled incubators with neutral-density screens which simulate *in situ* light levels. At the end of the incubation, the samples were filtered onto Millipore HA filters and placed in scintillation vials. One half ml of 10% HC1 was added to each sample. The sample was then allowed to sit, without a cap, at room temperature for 12 hours (after Lean and Burnison, 1979). Following this, 10 ml of scintillation fluor were added to each sample and the samples were returned to SIO where the radioactivity was determined with a scintillation counter. Salinity, oxygen, nutrients, chlorophyll-a and phaeopigments were determined from all rosette productivity bottles.

Macrozooplankton Net Tows

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

Ancillary Programs

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

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

2) *Avifauna Observation.* 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.

3) *Benthic sampling.* Bottom samples were taken at two sites on cruise 9602 and three sites on 9604. Samples were preserved for subsequent analysis of benthic foraminifera, organic carbon analysis, and other faunal and geochemical analyses.

4) *Bio-optics.* On 9602 and 9604 Bio-optical profiles were measured almost daily using a variety of sensors, and spectral absorption by particulate and soluble fractions was measured. On 9602 the bio-optics program also included cyanobacteria microscopic counts by epifluorescence and phycoerythrin pigment concentration determined by fluorescence spectroscopy.

5) *Pigment studies.* These included measurement of ^{14}C incorporation into pigments in incubated samples, phytoplankton pigment analyses of euphoric zone samples using high performance liquid chromatography, phytoplankton fluorescence measurements before and after DCMU addition, and nutrient enrichment experiments to assess changes in phytoplankton populations as indicated by pigment concentrations.

6) *Underway Data.* Continuous near surface measurements of temperature, salinity and chlorophyll fluorescence were made from water pumped through the ship, and the data were logged at one minute intervals. On 9604 sardine and anchovy eggs were collected underway with a separate large volume pump. This pump drew a continuous sample of approximately 640 liters per minute from which eggs were concentrated and collected by a 505 urn sieve system. Samples were sequentially collected from this system periodically for enumeration of sardine and anchovy eggs at sea and again ashore.

TABULATED DATA

Rosette Cast Data

The time reported is the Coordinated Universal Time (UTC) of the first rosette bottle trip on the up cast. The rosette bottles tripped on the up cast are reported as cast 2, where cast 1 is considered to be the down CTD cast. The sample number reported is the cast number followed by a two digit rosette bottle number. Bottom depths, determined acoustically, have been corrected using British Admiralty Tables (Carter, 1980) and are reported in meters. Weather conditions have been coded using WMO code 4501. Secchi depths and Forel water color scales are also reported for most daylight stations.

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

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

Primary Productivity Data

In addition to the normal hydrographic data also reported in the rosette cast data section, the tabulated data include: the *in situ* light levels at which the samples were collected, the uptake from each of the replicate light bottles, uptake 1 and uptake 2, (which have been corrected for dark uptake by subtracting the dark value), the mean of the two uptake values and the dark uptake. The uptake values are totals for the incubation period. Also shown are the times of LAN, civil twilight, and the value of the mean uptake integrated from the surface to the deepest sample, assuming the shallowest value continues to the surface and that negative values (when dark uptake exceeds light uptake) are zero. The uptake data have been presented to two significant digits (values <1.00) or one decimal (values >1.00). Precision of the higher production values may not warrant all of the digits presented. Incubation time, LAN, and civil twilight are given in local Pacific Standard Time (PST); to convert to UTC, add eight hours to the PST time. Incubation light intensities are listed in a footnote at the bottom of each page.

Macrozooplankton Data

Macrozooplankton biomass volumes are tabulated as total biomass volume ($cm^3/1000m^3$ 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 ship-board salinity analysis.
ISL: After a depth value indicates that this is an interpolated or extrapolated standard level.
U: Uncertain value. Values which are not used in interpolation because they seem to be in error without apparent reason.

LITERATURE CITED

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

Atlas, E. L., J. C. Callaway, R. D. Tomlinson, L. I. Gordon, L. Barstow and P. K. Park, 1971. *A Practical Manual for Use of the Technicon^{R} AutoAnalyzer* in Sea Water Nutrient Analysis;* Revised. Oregon State University Technical Report 215, Reference No. 71-22.

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.

Holm-Hansen, O., C. J. Lorenzen, R. W. Holmes and J. D. H. Strickland, 1965. Fluorometric determination of chlorophyll. /. *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. /. *Geophys. Res., 81:* 3100-3110.

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. Set, No. 37.*

UNESCO, 1981, b. Background papers and supporting data on the International Equation of State 1980. *UNESCO Tech. Pap. in Mar. Scu, 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: TlX-ThX.*

PERSONNEL

CalCOFI Cruise 9602

SHIP'S CAPTAIN

James M. Herkelrath, *RV David Starr Jordan*

PERSONNEL PARTICIPATING IN THE COLLECTION OF DATA

		Participation (Leg)
Dotson, Ronald C. (Chief Scientist)	Fishery Biologist, NMFS	1,2,3
Abramenkoff, Dimitry N.	Fishery Biologist, NMFS	1,2
Fandino, Laura B.	Graduate Student, SIO	3
Flatau, Piotr J.	Assistant Research Physicist, SIO	1
Gruber, Dennis W.	Marine Technician, SIO	1,2,3
Hays, Amy E.	Biological Technician, NMFS	1,2,3
Larson, Amy A.	Lab Assistant, SIO	3
McGinnis, Jean L.	Staff Research Associate, SIO	1,2,3
Mitchell, B. Greg	Associate Research Biologist, SIO	1
Nisly, Barry J.	Development Engineer, SIO	1,2,3
Ramirez, Fernando	Staff Research Associate, SIO	1,2,3
Rathburn, Anthony E.	Post Graduate Researcher, SIO	3
Renger, Edward H.	Staff Research Associate, SIO	1,2,3
Santamaria, Andres P.	Student, UCSD	3
Subramaniam, Ajit	Bio-optical Scientist, NOAA	1
Veit, Richard R.	Research Scientist, University of Washington	1,2,3
Wilkinson, James R.	Programmer/Analyst, SIO	1,2,3

Leg 1: San Diego to Port Hueneme, Ca., 29 Jan.-10 Feb., 1996
Leg 2: Port Hueneme to Port San Luis, Ca., 10 Feb.-14 Feb., 1996
Leg 3: Port San Luis to San Diego, Ca., 14 Feb.-16 Feb., 1996

FIGURES

Cruise 9602

1. CalCOFI Cruise 9602, 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 87 (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.

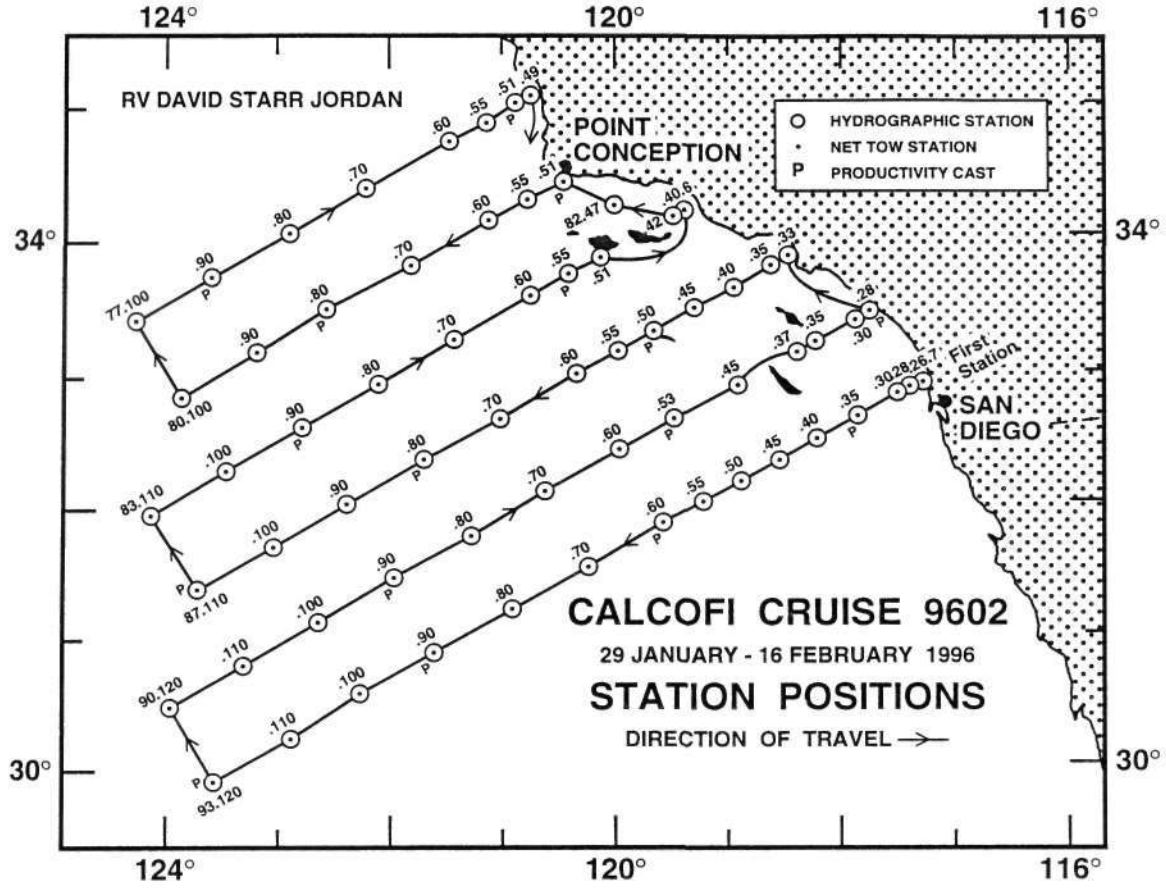


FIGURE 1

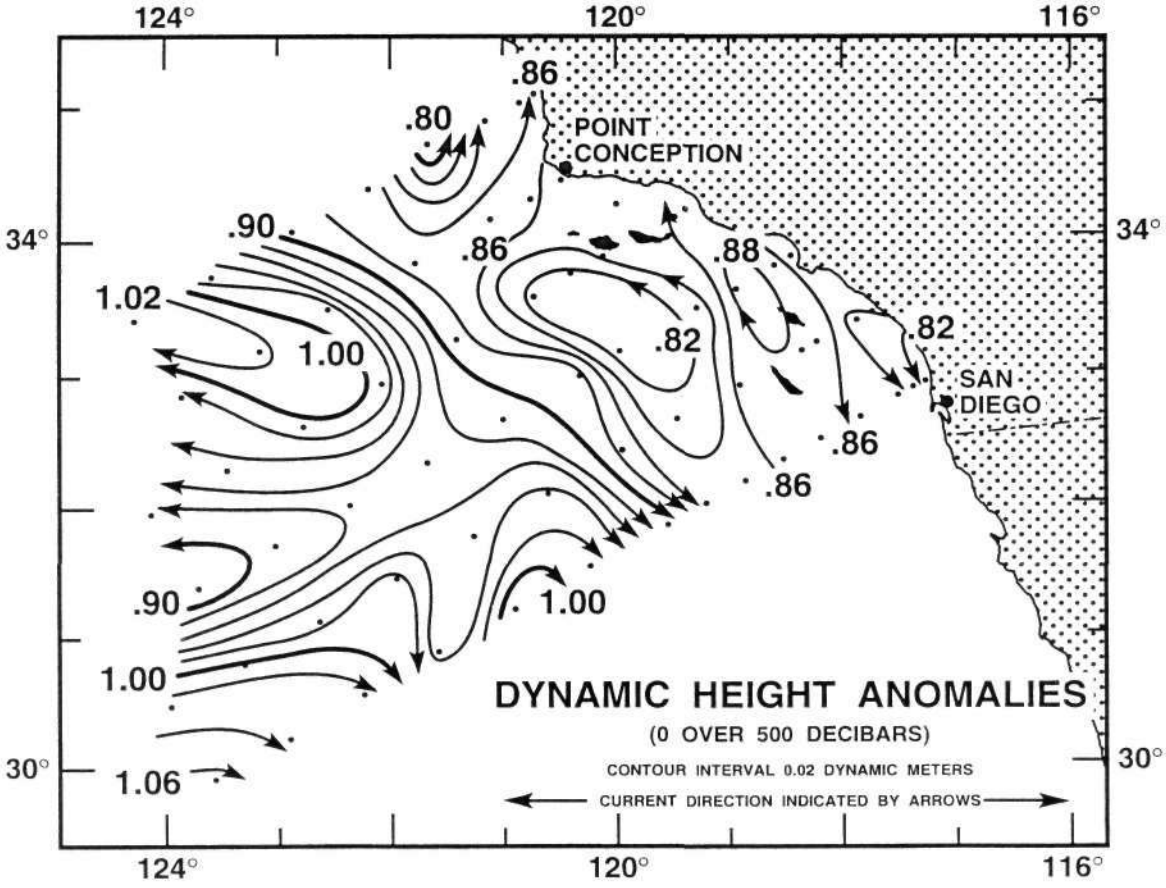


FIGURE 2

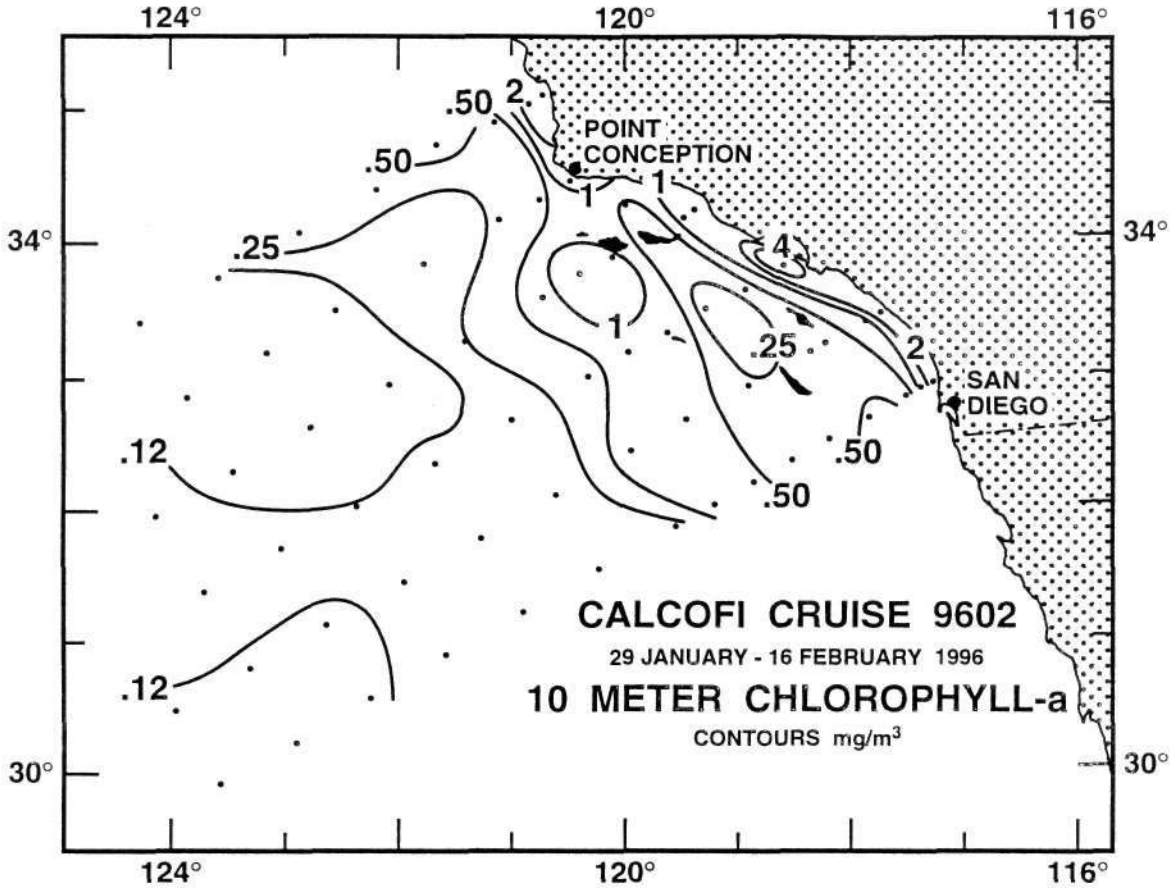


FIGURE 3A

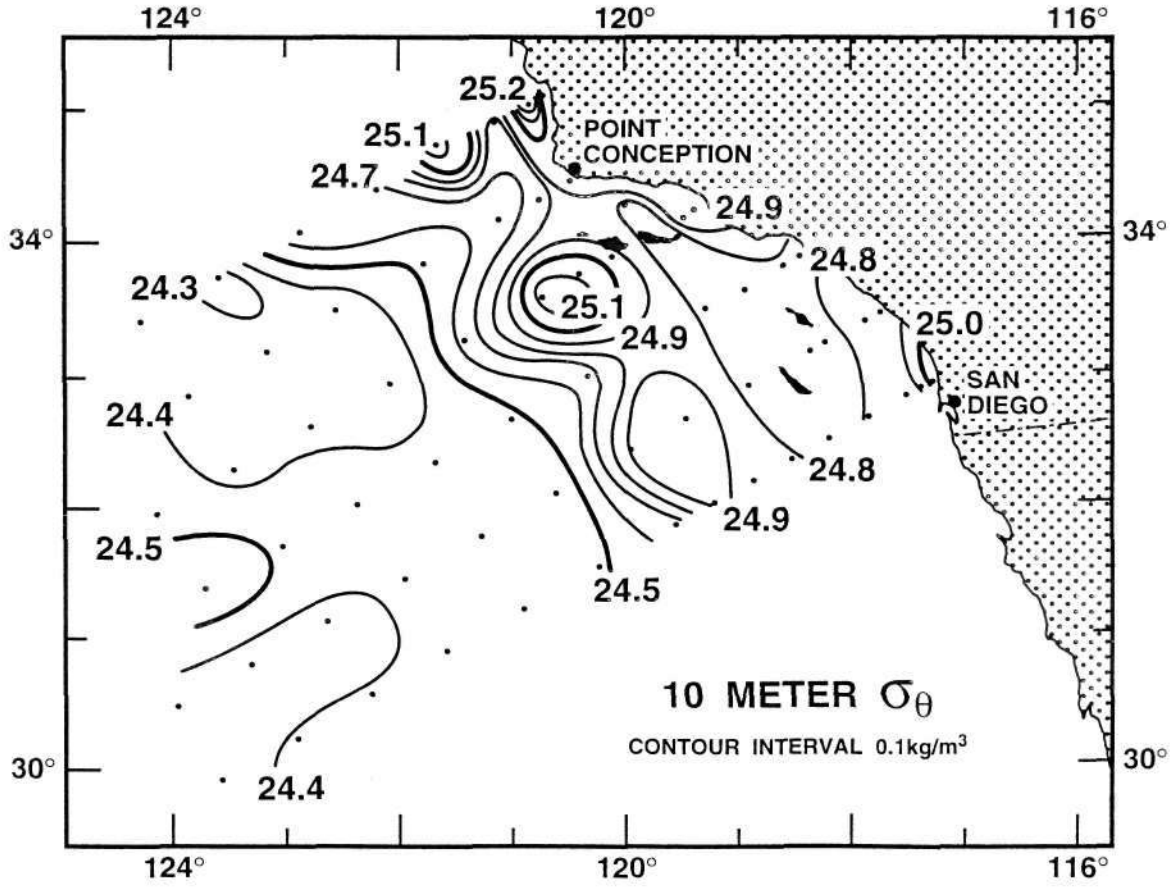


FIGURE 3B

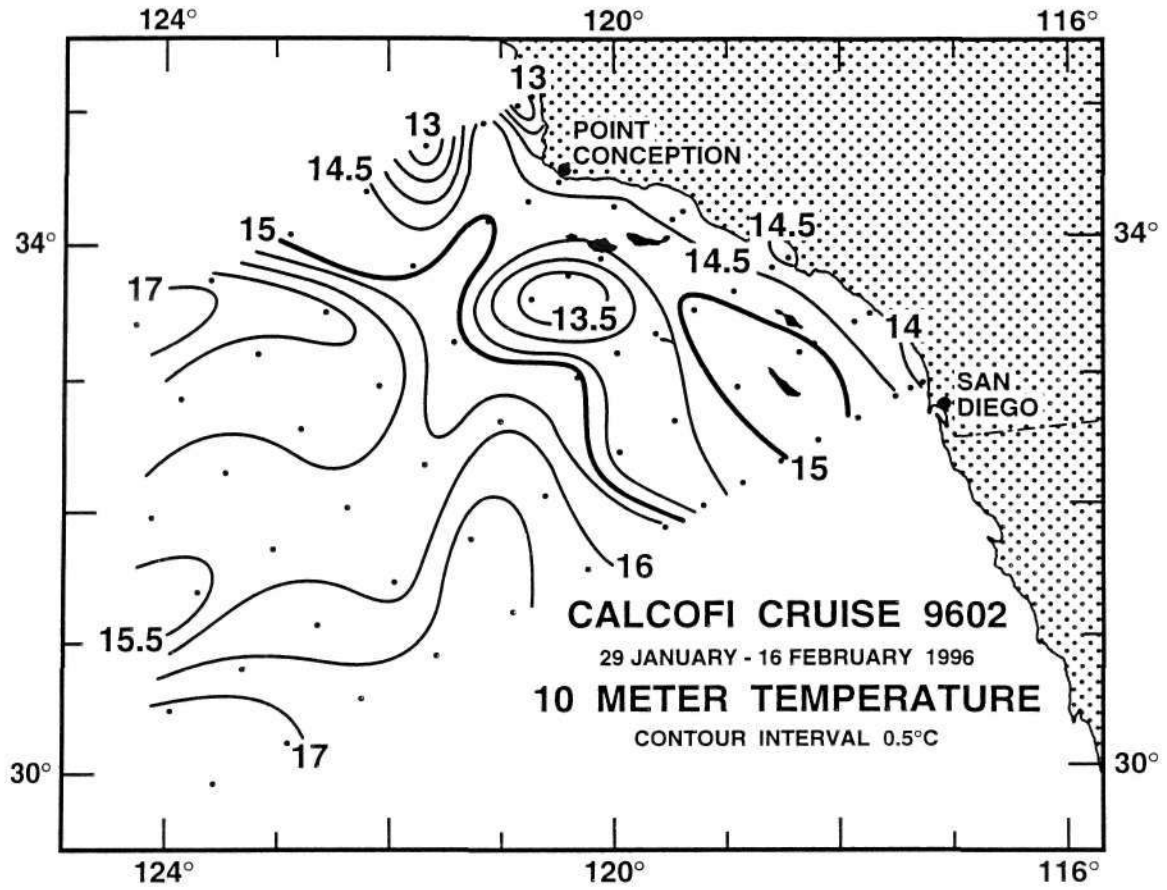


FIGURE 3C

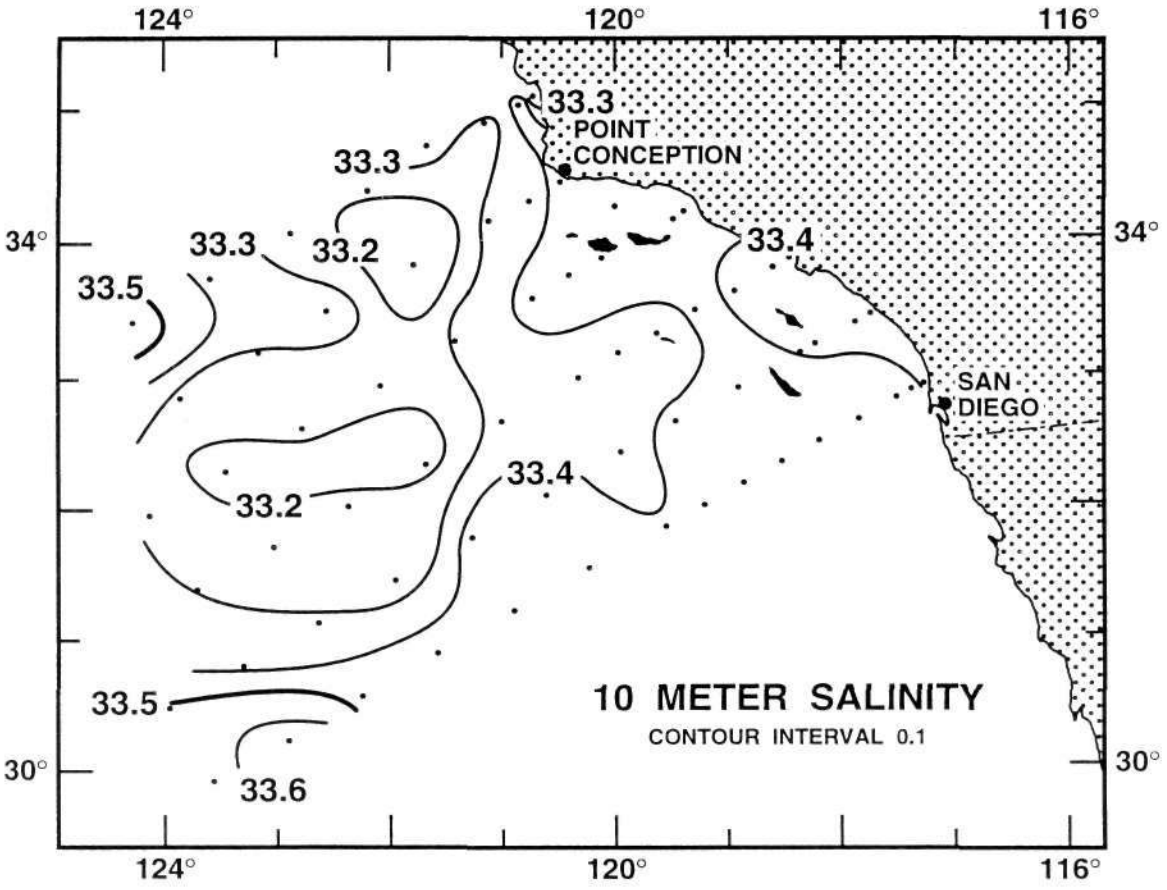


FIGURE 3D

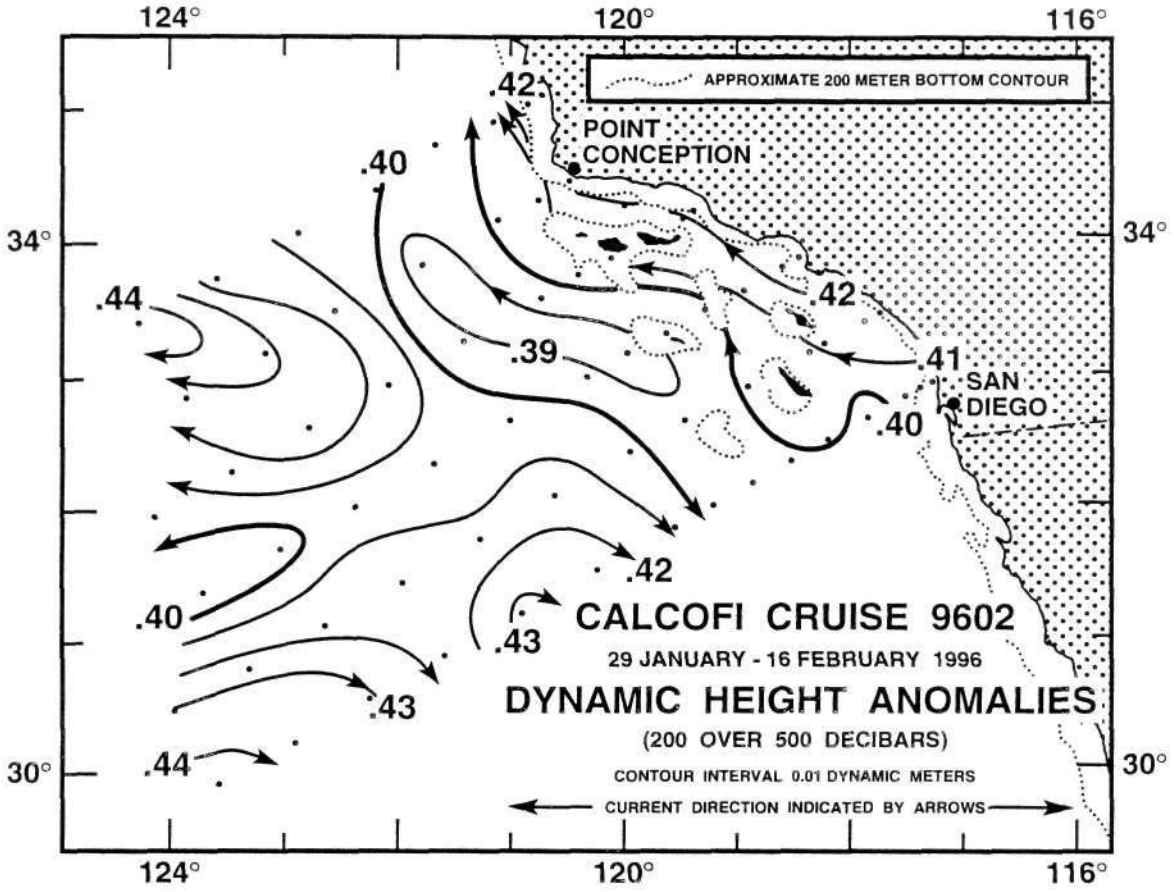


FIGURE 4A

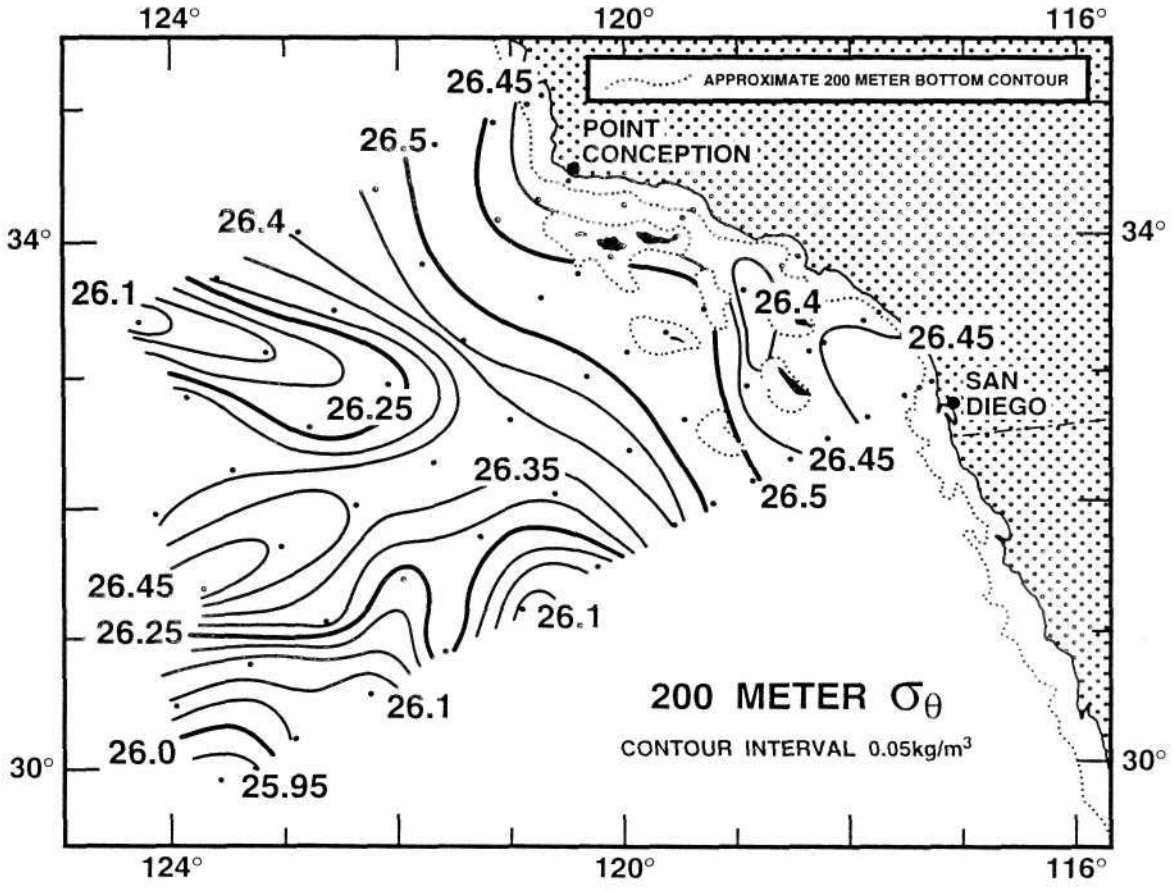


FIGURE 4B

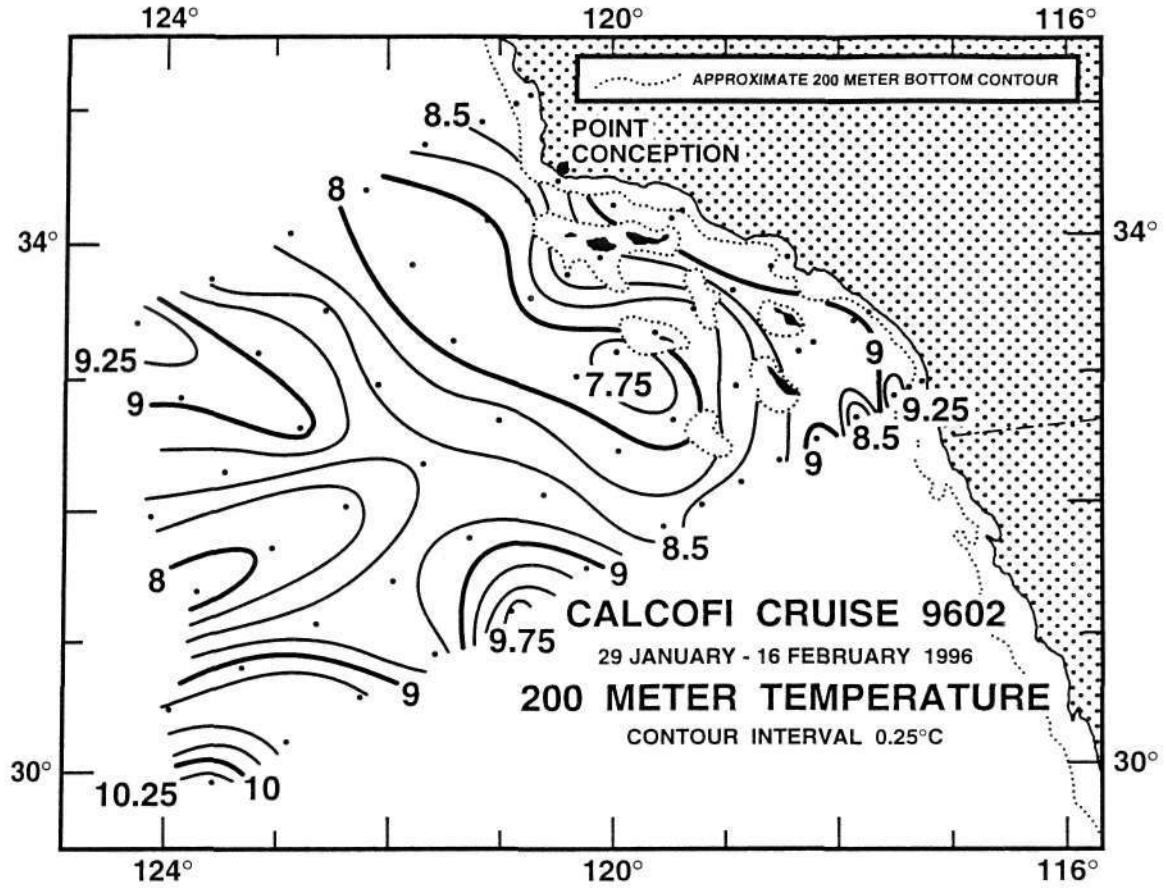


FIGURE 4C

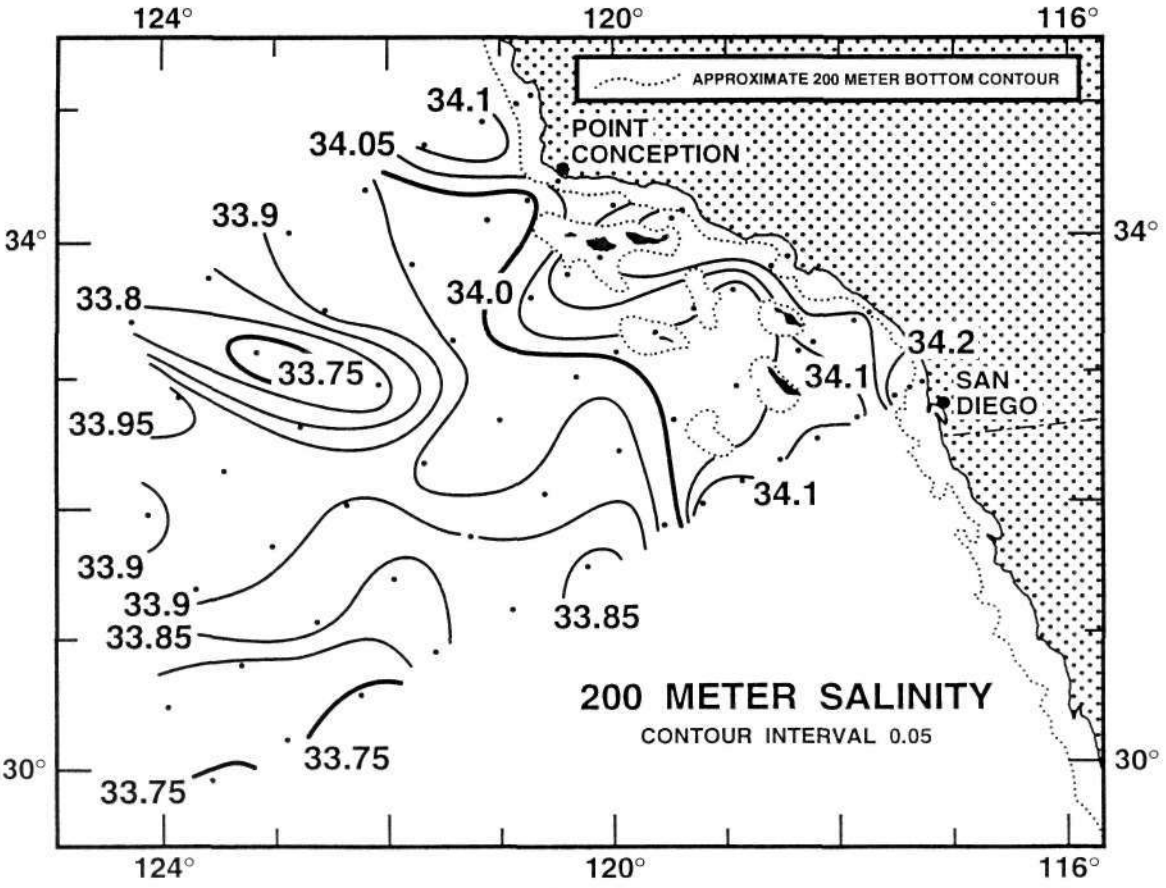


FIGURE 4D

CALCOFI CRUISE 9602

6 - 8 FEBRUARY 1996

POTENTIAL DENSITY (σ_θ) ALONG CALCOFI LINE 87

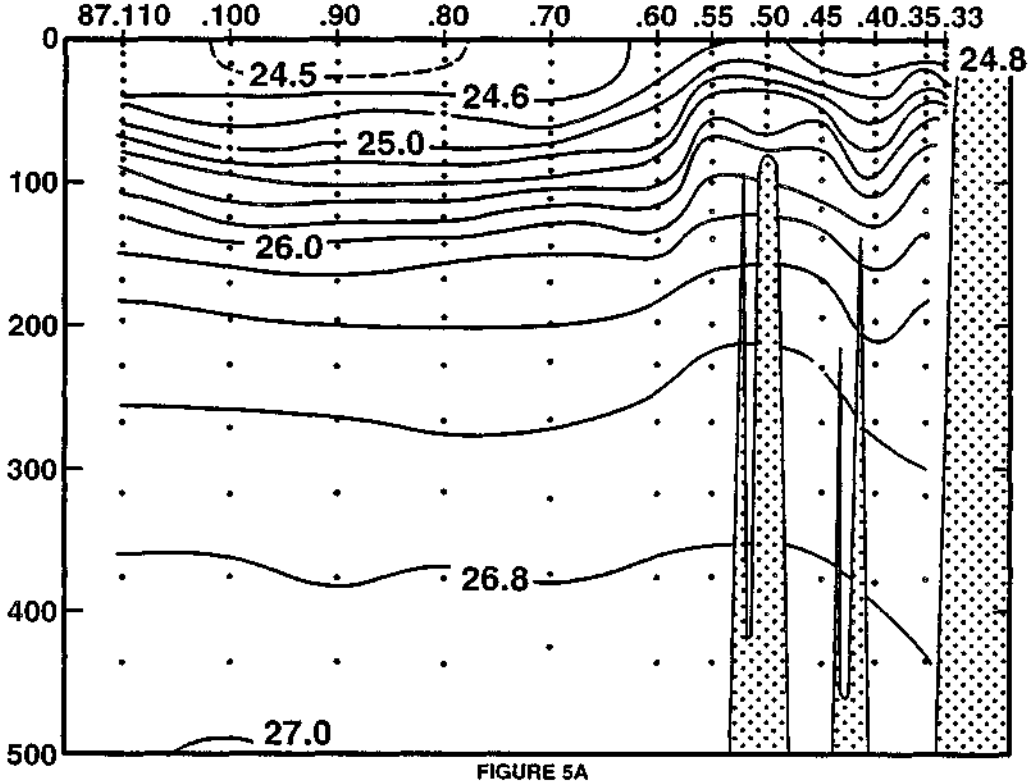


FIGURE 5A

TEMPERATURE (°C) ALONG CALCOFI LINE 87

DEPTH (m)

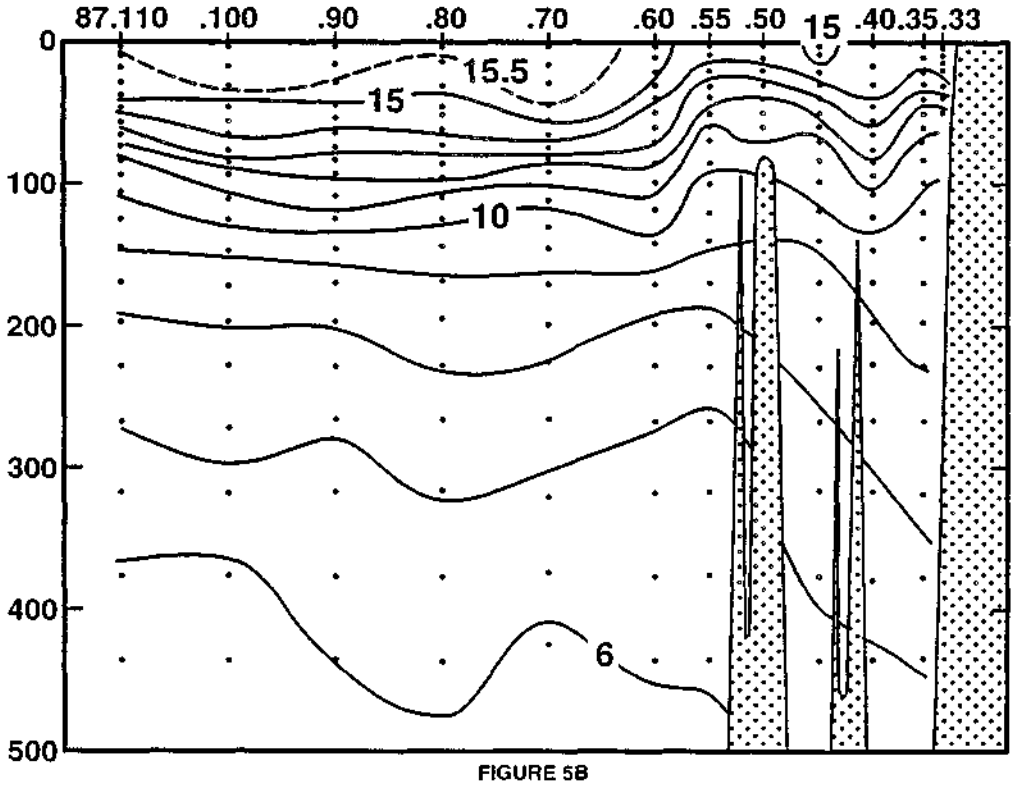


FIGURE 5B

CALCOFI CRUISE 9602

6 - 8 FEBRUARY 1996

SALINITY ALONG CALCOFI LINE 87

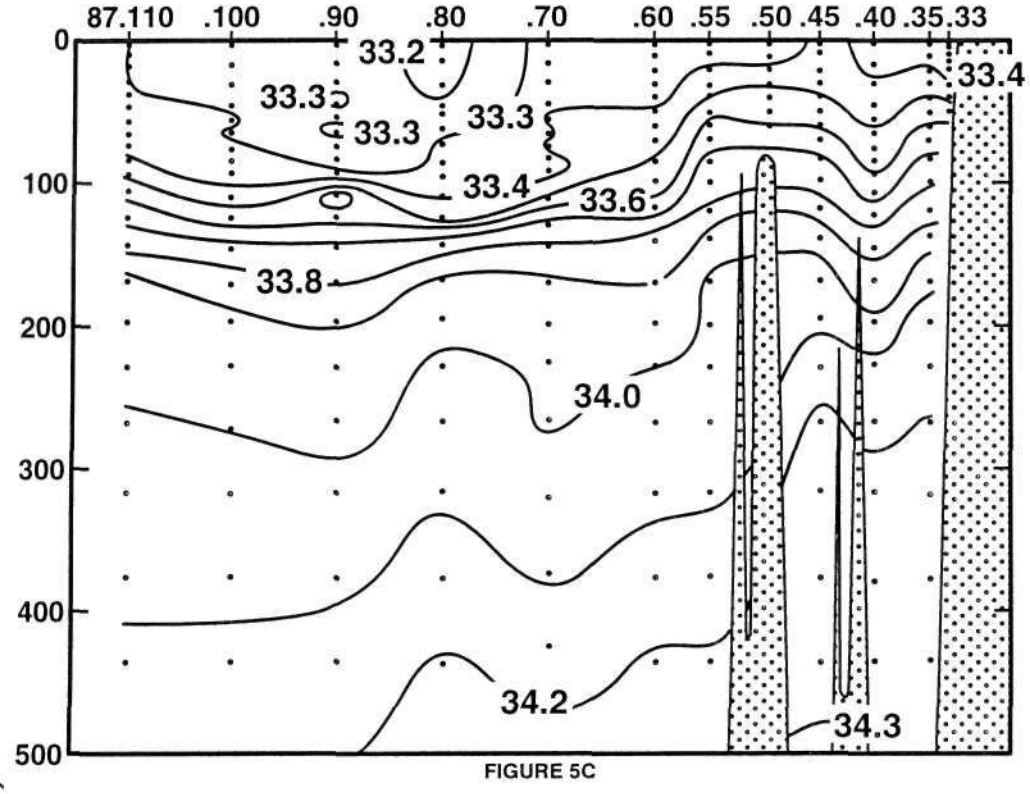


FIGURE 5C

DEPTH (m)

SILICATE (μM/l) ALONG CALCOFI LINE 87

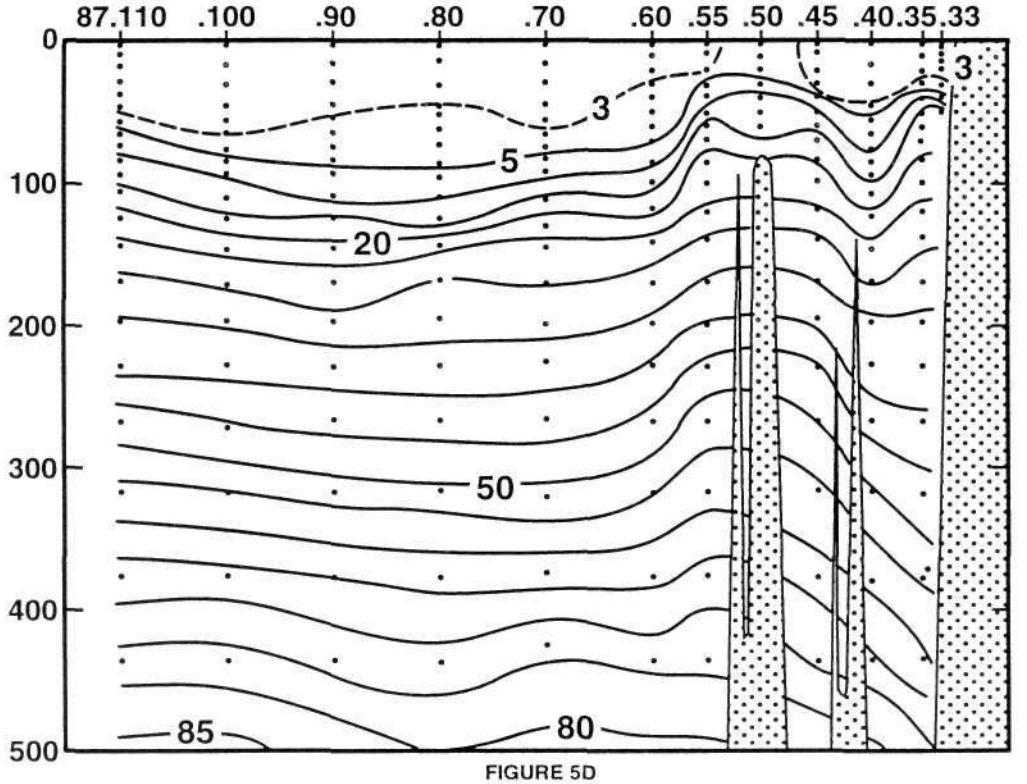


FIGURE 5D

CALCOFI CRUISE 9602

6 - 8 FEBRUARY 1996

NITRATE (μM/l) ALONG CALCOFI LINE 87

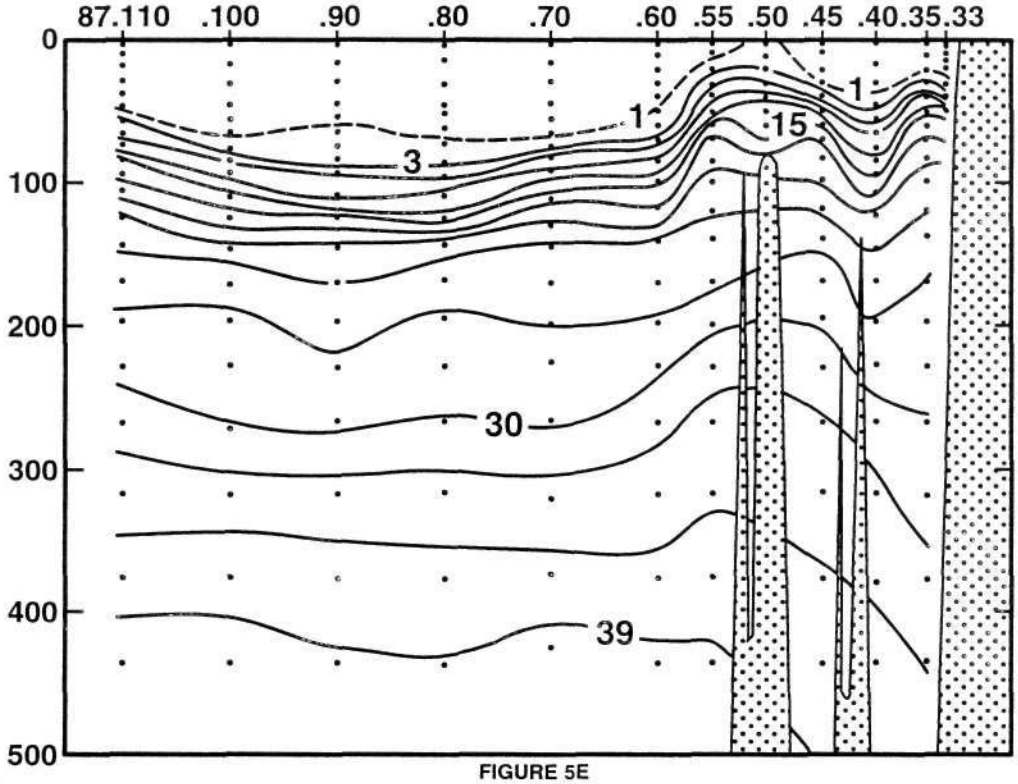


FIGURE 5E

DEPTH (m)

PHOSPHATE (μM/l) ALONG CALCOFI LINE 87

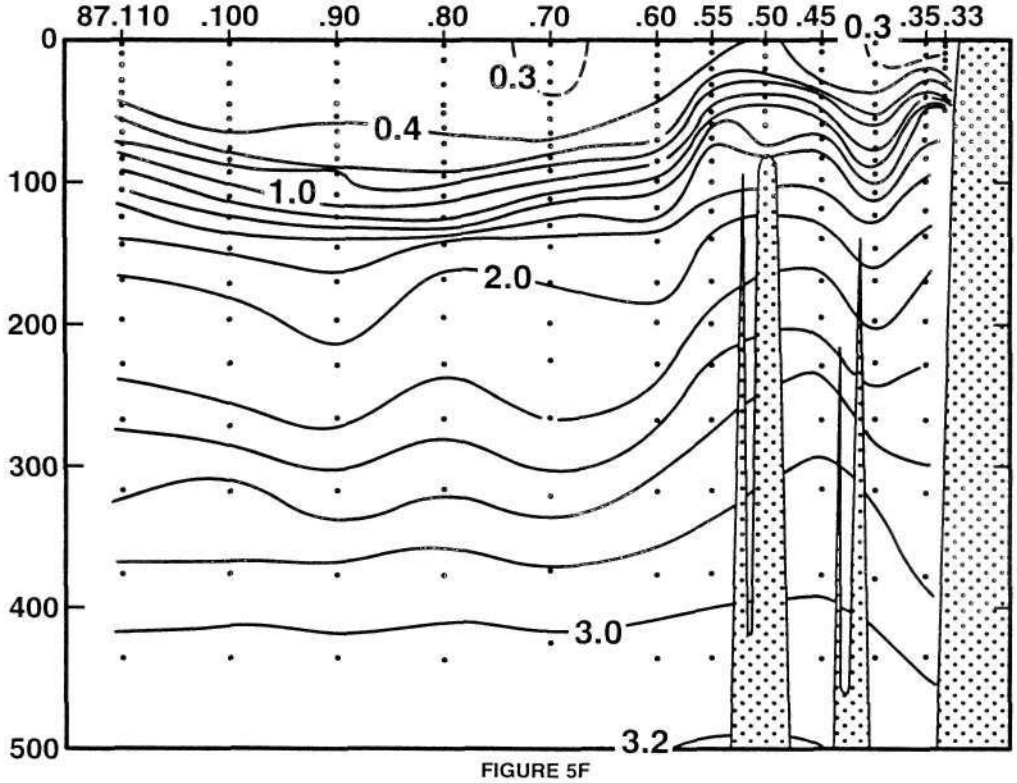


FIGURE 5F

CALCOFI CRUISE 9602

6 - 8 FEBRUARY 1996

CHLOROPHYLL-a (µg/l)) ALONG CALCOFI LINE 87

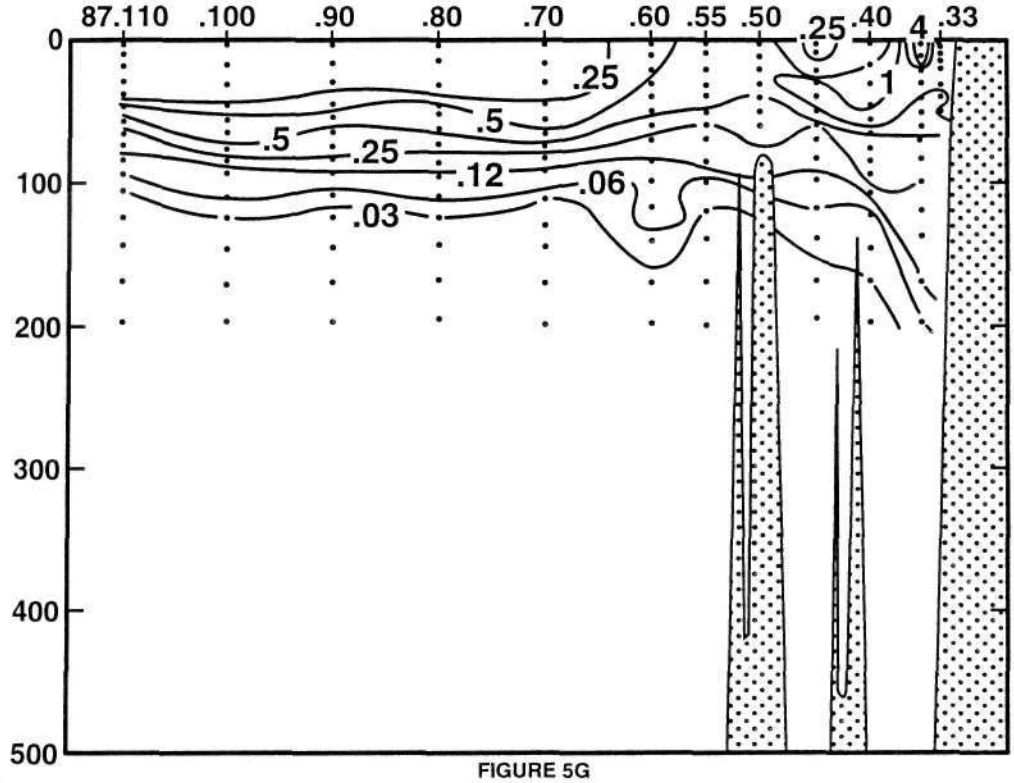


FIGURE 5G

OXYGEN SATURATION (%) ALONG CALCOFI LINE 87

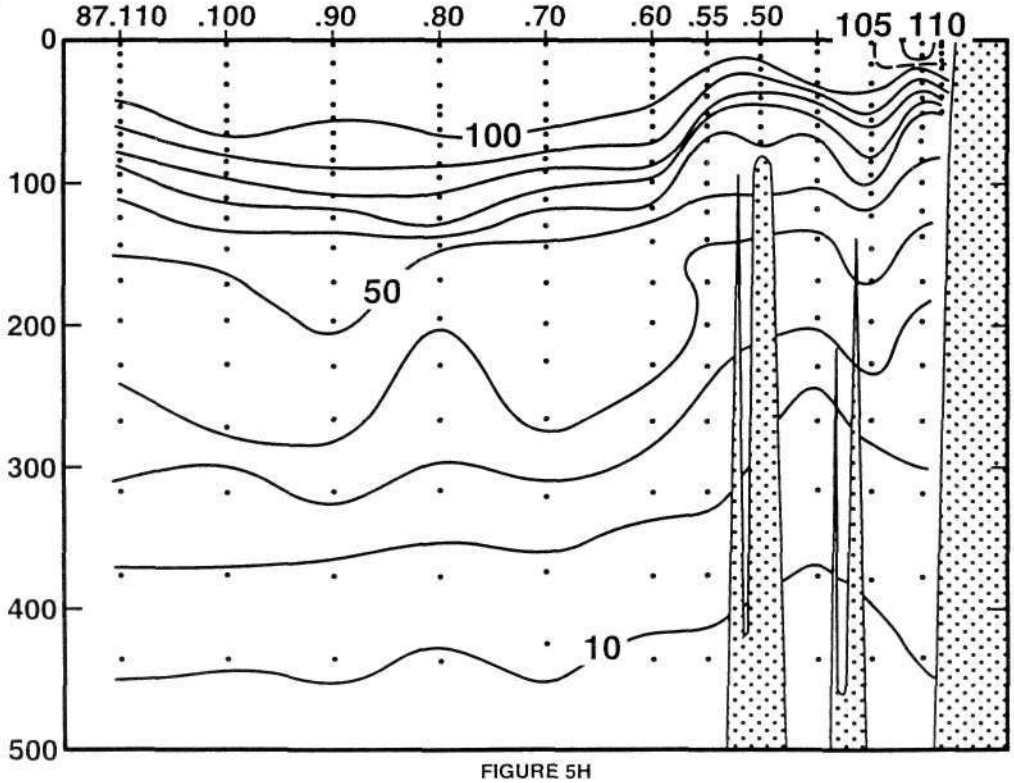


FIGURE 5H

CALCOFI CRUISE 9602

6 - 8 FEBRUARY 1996

OXYGEN (ml/l) ALONG CALCOFI LINE 87

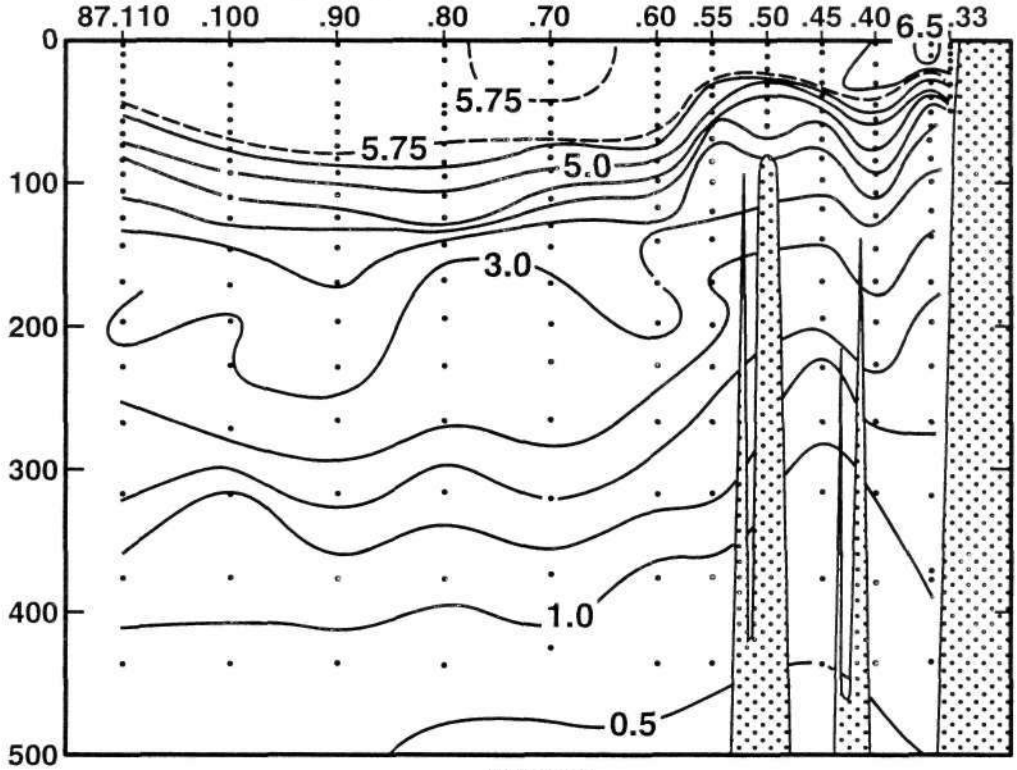


FIGURE 5I

DEPTH (m)

NITRITE (μM/l) ALONG CALCOFI LINE 87

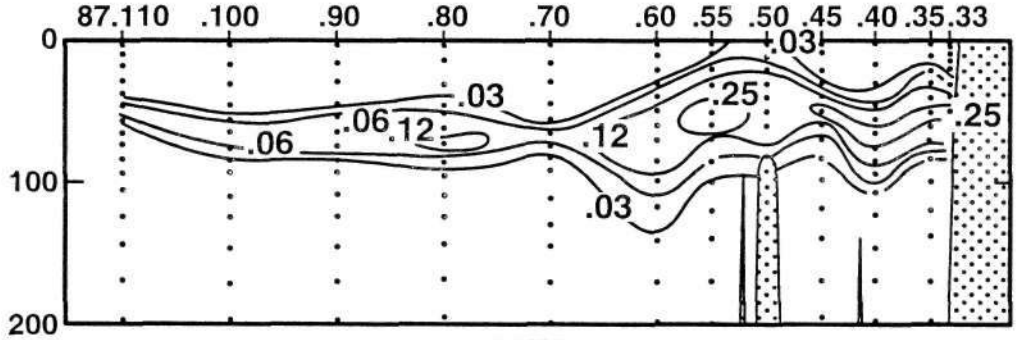


FIGURE 5J

PHAEOPIGMENTS (μg/l) ALONG CALCOFI LINE 87

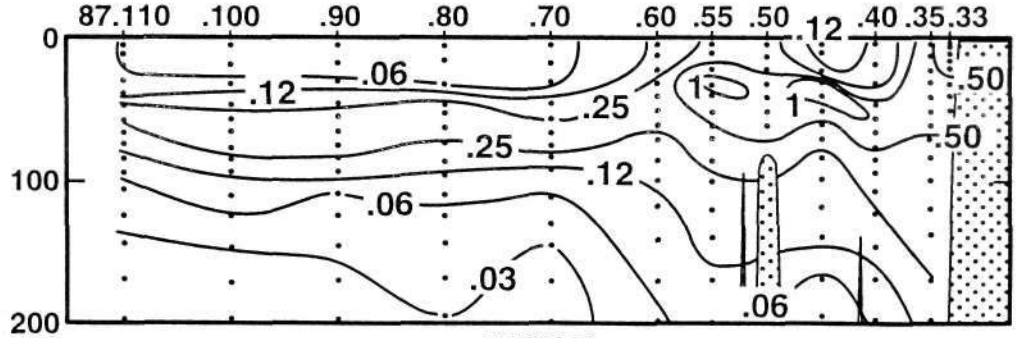


FIGURE 5K

RV DAVID STARR JORDAN CALCOFI CRUISE 9602 STATION 77 49

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
35 5.1 N	120 46i.7 W	14/02/96	2031 UTC	69 m	030 04 kn	180 01 06	0	1020.5 mb	18.0 C	16.1 C	07m 09	0/8	

DEPTH m	TEMP DES C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/I	OXY PCT	SI03 uM/I	P04 uM/1	N03 uM/I	N02 uM/I	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	13.87	13.87	33.264	24.873	306.8	0.000	6.10	103.7	9.4	0.69	5.0	0.13	2.03	0.49	0	
2	13.87	13.87	33.264	24.873	306.9	0.006	6.10	103.7	9.4	0.69	5.0	0.13	2.03	0.49	2	207
10	13.45	13.45	33.280	24.972	297.7	0.030	5.99	100.9	9.3	0.72	5.3	0.14	2.32	0.47	10	206
20	12.77	12.77	33.348	25.160	280.1	0.059	5.63	93.6	10.2	0.86	7.0	0.23	1.83	0.49	20	205
30 ISL	12.28	12.28	33.405	25.299	267.1	0.087	5.24	86.2	11.1	0.99	8.6	0.36	0.88	0.43	30	
31	12.25	12.25	33.410	25.308	266.2	0.089	5.21	85.7	11.2	1.00	8.7	0.37	0.79	0.42	31	204
41	12.09	12.08	33.468	25.384	259.3	0.116	5.06	83.0	11.8	1.07	9.3	0.38	0.63	0.47	41	203
50	11.97	11.96	33.523	25.449	253.3	0.139	4.93	80.7	12.3	1.15	9.7	0.36	0.52	0.61	50	202
59	11.78	11.77	33.577	25.527	246.1	0.161	4.59	74.8	14.6	1.29	11.1	0.36	0.36	1.38	59	201

RV DAVID STARR JORDAN CALCOFI CRUISE 9602 STATION 77 51

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
35 1.0 N	120 55.0 W	14/02/96	1818 UTC	236 m	010 05 kn	290 02 05	4	1022.2 mb	13,.8 C	13..2 C	07m 07		

DEPTH D	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/L	OXY PCT	SI03 uM/L	P04 uM/I	N03 uM/I	N02 uM/I	CHL-A ug/I	PHAEO ug/I	PRES db	SAMP
0 ISL	13.00	13.00	33.413	25.164	279.1	0.000	5.88	98.3	8.9	0.80	6.1	0.17	2.45	0.47	0	
2 A	13.00	13.00	33.413	25.164	279.2	0.006	5.88	98.3	8.9	0.80	6.1	0.17	2.45	0.47	2	218
5 A	12.95	12.95	33.414	25.175	278.3	0.014	5.86	97.8	8.8	0.80	6.1	0.17	2.45	0.65	5	217
9 A	12.89	12.89	33.425	25.195	276.4	0.025	5.86	97.7	8.8	0.81	6.1	0.17	2.58	0.68	9	216
10 ISL	12.86	12.86	33.425	25.201	275.9	0.028	5.83	97.1	8.8	0.82	6.2	0.18	2.48	0.68	10	
14 A	12.70	12.70	33.426	25.234	272.9	0.039	5.68	94.3	9.2	0.86	6.8	0.21	1.95	0.66	14	215
19 A	12.53	12.53	33.432	25.271	269.4	0.052	5.52	91.3	10.0	0.93	7.5	0.25	1.53	0.66	19	214
20 ISL	12.47	12.47	33.442	25.291	267.6	0.055	5.45	90.1	10.2	0.95	7.7	0.26	1.39	0.66	20	
26 A	12.11	12.11	33.515	25.416	255.8	0.071	5.03	82.5	11.7	1.10	9.1	0.33	0.56	0.67	26	213
30 ISL	11.90	11.90	33.539	25.474	250.4	0.081	4.83	78.9	12.7	1.17	10.1	0.36	0.45	0.67	30	
36	11.64	11.64	33.562	25.541	244.2	0.096	4.63	75.2	14.2	1.26	11.5	0.39	0.29	0.68	36	212
47	11.39	11.38	33.607	25.622	236.7	0.122	4.51	72.9	16.7	1.40	13.6	0.42	0.22	0.70	47	211
50 ISL	11.30	11.29	33.618	25.647	234.4	0.129	4.40	71.0	17.4	1.43	14.1	0.42	0.21	0.69	50	
56	11.12	11.11	33.638	25.695	230.0	0.143	4.17	67.0	18.8	1.49	15.0	0.42	0.20	0.68	56	210
66	10.99	10.98	33.670	25.744	225.6	0.166	3.94	63.2	20.7	1.60	17.1	0.44	0.16	0.57	66	209
75 ISL	10.72	10.71	33.680	25.799	220.5	0.186	3.77	60.1	21.6	1.65	17.7	0.44	0.15	0.60	75	
76	10.69	10.68	33.681	25.805	219.9	0.188	3.75	59.7	21.7	1.65	17.7	0.44	0.15	0.61	76	208
85	10.47	10.46	33.708	25.865	214.4	0.208	3.55	56.3	23.0	1.74	18.9	0.41	0.14	0.63	85	207
100	10.24	10.23	33.778	25.959	205.8	0.239	3.24	51.1	25.1	1.86	21.5	0.34	0.11	0.40	101	206
120	9.96	9.95	33.866	26.076	195.1	0.279	2.71	42.5	28.8	2.04	24.1	0.28	0.09	0.44	121	205
125 ISL	9.87	9.86	33.883	26.104	192.5	0.289	2.60	40.7	29.8	2.08	24.6	0.27	0.09	0.45	126	
139	9.60	9.58	33.926	26.183	185.3	0.315	2.35	36.6	32.4	2.19	25.8	0.25	0.08	0.46	140	204
150 ISL	9.33	9.31	33.954	26.249	179.2	0.336	2.33	36.1	33.8	2.23	26.7	0.20	0.07	0.38	151	
169	8.90	8.88	33.994	26.349	169.9	0.369	2.30	35.3	35.8	2.28	28.0	0.11	0.04	0.23	170	203
199	8.61	8.59	34.034	26.426	163.1	0.419	2.15	32.8	39.1	2.36	29.1	0.07	0.03	0.23	200	202
200 ISL	8.61	8.59	34.034	26.426	163.1	0.420	2.15	32.8	39.1	2.36	29.1	0.07			201	
227	8.55	8.53	34.039	26.440	162.3	0.464	2.14	32.6	39.6	2.37	29.2	0.09			228	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV DAVID STARR JORDAN CALCOFI CRUISE 9602 STATION 77 55

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
34 53.3 N	121 12.1 W	14/02/96	1440 UTC	560 m	220 05 kn	290 02 05	4	1020.5 mb	13..2 C	13.1 C			

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/I	OXY PCT	SI03 uM/I	P04 uM/I	N03 uM/I	N02 uM/I	CHL-A ug/l	PHAEO ug/I	PRES db	SAMP
0 ISL	14.53	14.53	33.272	24.742	319.4	0.000	5.98	103.0	3.5	0.38	0.1	0.01	0.44	0.17	0	
2	14.53	14.53	33.272	24.742	319.4	0.006	5.98	103.0	3.5	0.38	0.1	0.01	0.44	0.17	2	220
10	14.51	14.51	33.272	24.746	319.2	0.032	5.98	103.0	3.4	0.36	0.1	0.01	0.41	0.15	10	219
20 ISL	13.75	13.75	33.231	24.873	307.4	0.063	5.99	101.5	5.4	0.49	1.6	0.09	0.44	0.22	20	
21	13.64	13.64	33.231	24.896	305.3	0.066	5.99	101.3	5.6	0.51	1.8	0.11	0.44	0.23	21	218
30	12.69	12.69	33.345	25.173	279.1	0.093	5.52	91.6	6.8	0.71	4.9	0.40	0.47	0.26	30	217
41	12.39	12.38	33.417	25.287	268.5	0.123	5.53	91.2	8.7	0.88	6.8	0.32	0.34	0.33	41	216
50	11.78	11.77	33.461	25.437	254.5	0.146	4.82	78.5	11.4	1.08	10.8	0.20	0.24	0.26	50	215
60	11.43	11.42	33.545	25.567	242.3	0.171	4.46	72.1	14.2	1.27	13.6	0.35	0.22	0.28	60	214
70	10.85	10.84	33.661	25.761	224.0	0.194	3.66	58.5	19.3	1.60	18.2	0.14	0.19	0.31	70	213
75 ISL	10.54	10.53	33.670	25.823	218.2	0.205	3.52	55.9	20.4	1.66	19.4	0.08	0.14	0.26	75	
84	10.10	10.09	33.673	25.901	211.0	0.225	3.41	53.6	21.6	1.71	20.6	0.02	0.05	0.14	84	212
100	10.04	10.03	33.789	26.002	201.7	0.258	2.99	47.0	24.4	1.87	22.5	0.02	0.02	0.11	101	211
120	9.11	9.10	33.871	26.219	181.3	0.296	2.88	44.4	28.9	2.00	25.2	0.01	0.01	0.07	121	210
125 ISL	9.13	9.12	33.903	26.241	179.4	0.305	2.78	42.8	29.7	2.04	25.6	0.01	0.01	0.07	126	
139	9.19	9.17	33.960	26.276	176.3	0.330	2.50	38.6	31.4	2.13	26.5	0.01	0.01	0.09	140	209
150 ISL	9.13	9.11	33.986	26.306	173.7	0.349	2.42	37.3	32.3	2.17	27.0	0.01	0.01	0.09	151	
169	8.94	8.92	34.025	26.367	168.2	0.382	2.28	35.0	34.3	2.23	27.8	0.01	0.01	0.08	170	208
198	8.66	8.64	34.132	26.495	156.5	0.429	1.69	25.8	40.7	2.46	30.3	0.01	0.01	0.09	199	207
200 ISL	8.65	8.63	34.134	26.499	156.3	0.432	1.69	25.8	40.9	2.46	30.4	0.01			201	
228	8.46	8.44	34.141	26.534	153.4	0.475	1.68	25.5	42.2	2.49	30.8	0.02			229	206
250 ISL	8.31	8.28	34.161	26.573	150.1	0.509	1.54	23.3	44.5	2.55	31.5	0.02			252	
268	8.16	8.13	34.177	26.608	147.0	0.535	1.40	21.1	47.0	2.61	32.2	0.01			270	205
300 ISL	7.75	7.72	34.188	26.677	140.7	0.581	1.18	17.7	53.1	2.74	33.7	0.01			302	
318	7.52	7.49	34.191	26.713	137.5	0.607	1.07	15.9	56.4	2.81	34.4	0.01			320	204
378	7.18	7.14	34.189	26.760	133.8	0.688	0.94	13.9	61.6	2.90	35.3	0.01			381	203
400 ISL	7.05	7.01	34.199	26.786	131.6	0.717	0.87	12.8	63.5	2.94	35.9	0.00			403	
437	6.76	6.72	34.219	26.842	126.7	0.765	0.74	10.8	67.6	3.01	37.1	0.00			440	202
500 ISL	5.94	5.90	34.234	26.961	115.5	0.841	0.53	7.6	80.9	3.17	39.6	0.03			504	
514	5.76	5.72	34.239	26.987	113.0	0.857	0.48	6.9	83.9	3.21	40.1	0.04			518	201

RV DAVID STARR JORDAN CALCOFI CRUISE 9602 STATION 77 60

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
34 43i.3 N	121 32 .9 W	14/02/96	1056	UTC	937 m	040	05 kn			1020.5 mb	14..4 C	14 .0 C			

DEPTH m		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/ I	OXY PCT	SI03 uM/ I	P04 uM/ 1	N03 uM/ I	N02 uM/ I	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0	ISL	13.60	13.60	33.285	24.945	300.0	0 .000	6.03	101.9	6.8	0.66	3.7	0.12	0 . 49	0.16	0	
1		13.60	13.60	33.285	24.945	300.0	0.003	6.03	101.9	6.8	0.66	3.7	0.12	0. 49	0.16	1	220
10		12.86	12 .86	33.341	25.136	282. 1	0.029	5 .86	97.6	6.7	0.71	4.3	0.14	0.55	0.25	10	219
20	ISL	12.00	12.00	33.479	25.409	256.4	0.056	5.13	84. 0	10.4	1 .03	9.0	0.26	0.64	0.32	20	
21		11.91	11 .91	33.494	25.438	253.7	0.059	5 .04	82.3	10.9	1 .07	9. 6	0.27	0.64	0.33	21	218
30		11.11	11.11	33.576	25 .648	233.8	0.081	4.14	66.5	15.5	1 .39	15.1	0.34	0.46	0.34	30	217
40		10.82	10.82	33.642	25 .751	224.2	0. 104	3.80	60.7	18.2	1.55	17.4	0.37	0.22	0.31	40	216
50		10.52	10.51	33.671	25.827	217.3	0.126	3.54	56.2	20.3	1 .66	19.2	0.21	0.15	0.30	50	215
60		10.10	10.09	33.685	25.910	209.6	0.147	3.36	52 .8	22.0	1 .74	20.8	0.05	0.09	0.23	60	214
70		10. 00	9.99	33.765	25.989	202.2	0.168	3.00	47. 1	24.2	1 .87	22 .5	0.03	0.05	0.18	70	213
75	ISL	9.77	9.76	33.770	26.032	198.3	0.178	3.03	47. 3	24.7	1 .88	22 .9	0.03	0 . 04	0.17	75	
85		9.32	9.31	33.770	26.106	191.4	0. 197	3.15	48.7	25 .6	1 .90	23.5	0.02	0.02	0.15	85	212
100	ISL	9.33	9.32	33.839	26.158	186.7	0.225	2.85	44. 1	27.9	2.00	24.8	0.01	0. 02	0.14	101	
101		9.33	9.32	33.843	26.161	186.4	0.227	2.83	43.8	28. 1	2.01	24.9	0.01	0.02	0.14	102	211
120		8 . 90	8.89	33.866	26.248	178.5	0.262	2.93	44.9	29.4	2 .02	25.6	0.01	0.01	0.14	121	210
125	ISL	8.91	8.90	33.897	26.271	176.4	0.271	2 .79	42.8	30.3	2 .07	26. 1	0.01	0. 01	0.14	126	
140		9.02	9.00	33.998	26.333	170.9	0.297	2.30	35 .4	33.2	2 .22	27.5	0.01	0. 02	0.13	141	209
150	ISL	8. 97	8. 95	34.031	26.367	167.9	0.314	2.17	33.3	34.5	2.27	28.0	0.01	0.02	0.13	151	
169		8.77	8. 75	34.068	26.428	162.4	0.345	2 .04	31 .2	37.0	2.34	28.8	0.01	0.01	0.13	170	208
199		8.32	8.30	34.129	26.545	151.7	0.392	1 .72	26. 1	42.4	2 .50	30.9	0.01	0.01	0.09	200	207
200	ISL	8.31	8.29	34.131	26.548	151.4	0.394	1 .71	25 .9	42 .5	2.50	31 .0	0.01			201	
229		8.19	8.17	34.169	26.597	147.3	0.437	1 .43	21.6	46. 1	2 .60	32.2	0.01			230	206
250	ISL	8.01	7.98	34. 182	26.634	144.1	0.468	1 .30	19.6	48.8	2 .66	33.0	0.00			252	
269		7.82	7.79	34. 187	26.666	141.3	0.495	1 .22	18.3	51.3	2 .71	33.7	0.00			271	205
300	ISL	7.51	7.48	34.190	26.714	137.2	0.538	1.12	16.7	55.0	2.79	34.7	0.00			302	
319		7.33	7.30	34.192	26.741	134.8	0.564	1 . 06	15.7	57.2	2 .83	35 .2	0.00			321	204
377		6.93	6.89	34.219	26.818	128.1	0.640	0.80	11.7	63.4	2.95	36.9	0.00			380	203
400	ISL	6.65	6.61	34.213	26.851	125.1	0.669	0.74	10.8	66.7	3.00	37.8	0.00			403	
437		6.21	6.17	34.208	26.905	120.1	0.715	0.65	9.4	72.2	3.07	39. 1	0.00			440	202
500	ISL	5 .90	5 .86	34.275	26.998	111.9	0.788	0.40	5 .7	80.4	3.21	40. 5	0.00			504	
515		5 .83	5 .79	34.291	27.019	110.0	0.804	0.34	4.9	82 .3	3.24	40 .8	0.00			519	201

RV DAVID STARR JORDAN CALCOFI CRUISE 9602 STATION 77 70

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
34 23i .4 N	122 14 .6 W	14/02/96	0507	UTC	4013 m	170	05 kn			1021.2 mb	15 ..7 C	15,.2 C			

DEPTH m		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SI03 uM/ t	P04 uM/ I	N03 uM/l	N02 uM/ /	CHL-A ug/ I	PHAEO ug/ I	PRES db	SAMP
0	ISL	14.97	14.97	33.217	24.605	332.4	0.000	5 .94	103.2	3.4	0.37	0.0	0. 01	0.28	0.09	0	
2		14.97	14.97	33.217	24.605	332.5	0.007	5 .94	103.2	3.4	0.37	0.0	0.01	0.28	0.09	2	220
10		14.75	14.75	33.204	24.642	329. 1	0.033	5 .95	102.9	3.3	0.37	0.0	0 .01	0.27	0.10	10	219
20		14.51	14.51	33.226	24.711	322.9	0.066	5 .98	103.0	3.3	0.37	0.0	0 .01	0 .34	0.15	20	218
30		14.28	14.28	33.251	24.779	316.7	0.098	5 . 99	102.7	3.3	0.37	0.0	0.03	0.69	0.30	30	217
40		14.15	14.14	33.256	24.810	314.0	0.129	5 .94	101.5	3.4	0.40	0.2	0.11	0. 74	0.34	40	216
50		13.86	13.85	33.264	24.877	307.9	0.160	5 .85	99.4	3.6	0.44	0.8	0.11	0.45	0.28	50	215
60		12.87	12.86	33.328	25.126	284.4	0.190	5 .36	89.3	5.8	0.68	4. 7	0.14	0.21	0.16	60	214
70		11.84	11 .83	33.353	25.342	263.9	0.217	4.81	78.4	9. 1	0.98	9.7	0. 04	0.12	0.12	70	213
75	ISL	11.40	11.39	33.374	25.440	254.8	0.230	4.61	74. 4	10.6	1 .09	11.5	0.04	0.10	0.11	75	
85		10.66	10.65	33.431	25.616	238. 1	0.255	4.28	68.0	13.7	1 .28	14.5	0.03	0.07	0.09	85	212
100	ISL	9. 91	9.90	33.553	25.839	217.1	0.289	3.79	59.3	18.7	1 .56	19.0	0.02	0.02	0.05	100	
101		9.87	9.86	33.561	25 .852	215.9	0.291	3.76	58.8	19.0	1 . 58	19.3	0.02	0.02	0.05	101	211
120		9.26	9.25	33.671	26.039	198.5	0.331	3.62	55 .9	22 .9	1 . 71	21.6	0.01	0.01	0.01	121	210
125	ISL	9.14	9.13	33.696	26.077	194 .9	0.340	3.58	55.1	23.8	1 .74	22 .2	0.01	0.01	0.01	126	
139		8.84	8.83	33.759	26.174	185.9	0.367	3.47	53. 1	26.2	1 .83	23.6	0.01	0. 00	0 . 03	140	209
150	ISL	8.63	8.61	33.806	26.244	179.4	0.387	3.42	52 . 1	27.9	1 .88	24.4	0.01	0 . 00	0.03	151	
170		8.30	8.28	33.877	26.350	169.6	0.422	3.31	50. 1	30.9	1 . 95	25.6.	0.01	0.00	0.03	171	208
199		7.93	7. 91	33.938	26.453	160.2	0. 470	3.02	45 .3	35 .4	2 .08	27.6	0.01	0 . 00	0.03	200	207
200	ISL	7.93	7.91	33.941	26.456	160.0	0.472	3.00	45 .0	35.6	2 . 09	27.7	0.01			201	
229		7.78	7.76	34.010	26.532	153.2	0.517	2 .45	36.6	40.3	2 .26	29.9	0 .01			230	206
250	ISL	7.49	7.47	34.016	26.579	149.0	0.549	2 .42	35 .9	43.3	2 .33	30 . 8	0.01			251	
269		7.19	7.16	34.009	26.616	145.7	0.577	2.39	35 .3	46.0	2 .37	31 .5	0 .01			271	205
300	ISL	6.82	6.79	34.010	26.667	141.0	0.621	2.25	32.9	50.4	2.45	32 .8	0.00			302	
318		6.63	6 . 60	34.013	26.695	138.5	0.646	2.13	31 .0	53.3	2.50	33.6	0.00			320	204
377		5 .98	5.95	34.043	26.803	128.7	0.725	1 .47	21.1	65 .7	2 .79	37.4	0 .00			379	203
400	ISL	5 .79	5.76	34.066	26.845	124.8	0.754	1 .23	17.6	70.1	2 .89	38.6	0.00			403	
438		5 .54	5 . 50	34.107	26.908	119.1	0.801	0.88	12.5	76.9	3.03	40.2	0. 00			441	202
500	ISL	5 .23	5.19	34.167	26.993	111.6	0.872	0.56	7.9	86.2	3.19	41.8	0.00			503	
517		5.14	5.10	34. 183	27.016	109.5	0. 891	0.47	6.6	88.8	3.23	42 .2	0. 00			521	201

RV DAVID STARR JORDAN CALCOFI CRUISE 9602 STATION 77 80

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
34 3.0 N	122 56i.O W	13/02/96	2335	UTC	4227 m	090	05 kn	180 01 07'	0	1019.9 mb	19..2 C	17,.9 C	26m 02	0/8	

DEPTH n	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SI03 uN/ l	P04 uM/ l	N03 uM/ l	N02 uM/ l	CHL-A ug/ l	PHAEO ug/ l	PRES db	SAMP
0 ISL	14.77	14.77	33.228	24.656	327.5	0.000	5 .93	102 .6	3.4	0.36	0. 1	0.00	0.27	0.06	0	
2	14.77	14.77	33.228	24.656	327.5	0.007	5 .93	102 .6	3.4	0.36	0. 1	0.00	0.27	0.06	2	220
10 ISL	14.61	14.61	33.227	24.690	324.6	0.033	5 .94	102.5	3.4	0.36	0. 1	0.00	0.26	0.07	10	
15	14.48	14.48	33.227	24.718	322 . 1	0.049	5 .95	102 .4	3.4	0.36	0. 1	0.00	0.26	0 .08	15	219
20 ISL	14.42	14.42	33.228	24.731	320.9	0.065	5.94	102. 1	3.4	0.36	0. 1	0.00	0.32	0.13	20	
30 ISL	14.31	14.31	33.235	24.760	318.5	0.097	5.93	101.7	3.3	0.36	0. 1	0.00	0.47	0.25	30	
31	14.30	14.30	33.236	24.763	318.2	0. 100	5.93	101.7	3.3	0.36	0. 1	0.00	0.49	0.26	31	218
45	14.02	14.01	33.267	24.846	310.7	0.144	5.81	99. 1	3.4	0.41	0.5	0.19	0.64	0.34	45	217
SO ISL	13.88	13.87	33.260	24.870	308.6	0.160	5 .76	97. 9	3.8	0.44	1 .0	0.16	0.49	0.29	50	
55	13.74	13.73	33.299	24.929	303.1	0.175	5.68	96.3	4.3	0.49	1 .9	0.14	0.31	0.23	55	216
65	12.19	12.18	33.357	25.279	269.8	0.203	5 .30	87.0	5 .7	0. 71	5 .4	0 .03	0.14	0.14	65	215
75	11.24	11.23	33.369	25 .465	252.3	0.230	4.68	75.3	10.4	1 .05	11.0	0.02	0.10	0.12	75	214
85	10.66	10.65	33.450	25 .631	236.7	0.254	4.26	67.7	13.4	1 .25	14.1	0.02	0.06	0.08	85	213
95	10.30	10.29	33.524	25.751	225.5	0.277	4.01	63.3	17.0	1 .44	17.3	0.01	0.03	0.06	95	212
100 ISL	10.19	10.18	33.551	25.791	221.8	0.288	4.05	63.8	17.1	1 .42	17.2	0.01	0.03	0.05	100	
111	9.95	9.94	33.598	25.868	214.6	0.312	4.20	65.8	17.2	1 .39	17.1	0.01	0.02	0.04	112	211
125	9.46	9.45	33.649	25.989	203.3	0.342	4.13	64.0	19.6	1 .49	18.7	0.01	0 .01	0.02	126	210
Hi	9.06	9.04	33.711	26.102	192 .9	0.379	4.05	62.2	22.3	1 .58	20.4	0.01	0.01	0.02	145	209
150 ISL	8.97	8.95	33.753	26. 149	188.5	0.391	3.72	57.1	24.3	1 .70	22.0	0.01	0.01	0.02	151	
170	8.68	8.66	33.887	26.300	174.5	0.427	2 .80	42 .7	30.3	2.05	26.4	0.01	0.00	0.03	171	208
199	8.20	8.18	33.934	26.410	164.4	0.476	4 .05	61 .1	28.6	1 .70	22.7	0.01	0.00	0.01	200	207
200 ISL	8.18	8.16	33.935	26.414	164.1	0.478	4 .04	60.9	28.7	1 .71	22.7	0.01			201	
229	7.67	7.65	33.948	26.499	156.3	0.524	3.77	56.2	33.5	1 .85	25 .0	0.01			230	206
250 ISL	7.19	7.37	33.966	26.554	151.3	0.556	3.24	48.0	38.8	2 .06	27.7	0.01			251	
269	7.19	7.16	33.984	26.596	147.5	0.585	2 .73	40 .3	43.7	2 .25	30.2	0.01			271	205
300 ISL	6.90	6.87	34.005	26.653	142.5	0.630	2 .30	33.7	49.5	2 .42	32.5	0.00			302	
318	6.76	6.73	34.019	26.683	139.8	0.655	2.11	30.8	52.6	2 .50	33.5	0.00			320	204
379	6.40	6.37	34.099	26.794	129.9	0.738	1 .20	17.4	64.3	2 .83	37.3	0.00			381	203
400 ISL	6.27	6.23	34.117	26.825	127.2	0.765	1 .03	14.9	67.2	2 .92	38.1	0.00			403	
438	6.02	5.98	34.143	26.878	122.5	0.812	0.82	11.8	72.2	3.05	39.3	0.00			441	202
500 ISL	5.57	5.53	34.187	26.969	114.3	0.885	0.53	7.5	82 .1	3.16	41 .1	0.00			503	
514	5.47	5 .43	34.197	26.989	112.4	0.901	0.46	6.5	84.3	3.18	41 .5	0. 00			518	201

RV DAVID STARR JORDAN CALCOFI CRUISE 9602 STATION 77 90

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
33 43.1 N	123 37.6 W	13/02/96	1831	UTC	4264 m	190	08 kn	270 02 Ofil	0	1020.8 nib	19..8 C	18..0 C	56m 01	0/8	

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SI03 uM/ l	P04 uM/ l	N03 uM/ l	N02 uM/ l	CHL-A ug/ l	PHAEO ug/l	PRES db	SAMP
0 ISL	16.97	16.97	33.390	24.287	362 .7	0.000	5 .59	101.2	3.2	0.27	0. 1	0.00	0.07	0.02	0	
2 A	16.97	16.97	33.390	24.287	362 .8	0.007	5.59	101.2	3.2	0.27	0. 1	0.00	0.07	0.02	2	221
10 ISL	16.93	16.93	33.390	2 4.297	362 .1	0.036	5 .60	101.3	3.2	0.27	0. 1	0.00	0 .07	0.02	10	
19	16.87	16.87	33.390	24.311	361.0	0.069	5 .60	101.2	3.2	0.27	0. 1	0.00	0 .08	0. 02	1 9	220
20 ISL	16.87	16.87	33.391	24.312	361 .0	0.072	5.60	101.2	3.2	0.27	0. 1	0.00	0. 08	0. 02	20	
30 ISL	16.88	16.88	33.398	24.315	361 .0	0.108	5 .59	101.0	3.2	0.26	0. 1	0.00	0.08	0.03	30	
37 A	16.88	16.87	33.400	24.317	361 .0	0. 134	5 .58	100.8	3.2	0.26	0. 1	0.00	0.09	0.03	37	219
50	16.88	16.87	33.407	24.323	360.9	0.181	5 .57	100.6	3.2	0.26	0. 1	0.00	0.11	0.04	50	218
61	15.99	15 .98	33.418	24.536	340.9	0.219	5 .68	100.9	3.3	0.28	0. 1	0.00	0.17	0.10	61	217
73 A	14.29	14.28	33.291	24.809	315.1	0.259	5 .91	101.3	3.5	0.33	0.2	0.03	0.26	0.21	73	216
75 ISL	14.09	14.08	33.284	24.845	311.6	0.265	5 .90	100.7	3.5	0.33	0.2	0.05	0.27	0.21	75	
84	13.38	13.37	33.270	24.980	299.0	0.292	5 .88	98.9	3.7	0.35	0. 1	0.11	0.30	0.23	84	215
95	12.71	12 .70	33.256	25.102	287.6	0.325	5 .80	96.2	4. 1	0.43	1 .0	0.08	0.25	0.21	95	21 4
100 ISL	12.57	12.56	33.297	25.161	282.1	0.339	5 .60	92 .6	5 .0	0.51	2 .4	0.04	0.19	0.17	100	
103	12.48	12.47	33.323	25.199	278.5	0.347	5 .48	90.5	5 .5	0.56	3 .3	0 .02	0.15	0.15	103	213
113 A	11.80	11.79	33.347	25.346	264.7	0.374	5 .38	87 .6	6.3	0.65	5 .0	0 .02	0 .09	0 .09	1 13	212
124	11.31	11.29	33 .353	25.441	255.8	0 .403	5 .24	84 .4	7 .9	0 .76	7.0	0 .01	0.06	0.08	1 25	21 1
125 ISL	11.23	11.21	33.361	25.461	253.8	0.406	5 .20	83.6	8.3	0.79	7.5	0.01	0.06	0.08	126	
136	10.29	10.27	33.464	25.707	230.6	0.432	4.78	75 .4	12.9	1.10	12.7	0.01	0.02	0.04	137	210
150 A	9.66	9.64	33.521	25 .857	216.4	0 .464	4 .61	71 .7	15.4	1.25	15.0	0.01	0.02	0.04	151	209
181	8.77	8.75	33.741	26.172	186.9	0.526	3 .91	59.7	24.5	1.69	22 .0	0.01	0. 00	0.02	182	208
200 ISL	8.38	8.36	33.830	26.302	174.8	0.560	3.69	55.9	28.3	1 .81	24.1	0 .00			201	
211 A	8.21	8.19	33.870	26.359	169.5	0.579	3.59	54 .2	30 .1	1 .86	24.9	0 .00			212	207
240	7.90	7.88	33.948	26.466	159.7	0.627	3.20	48.0	35 .0	2 .04	27.0	0.00			241	206
250 ISL	7.80	7.78	33.960	26.490	157.6	0.643	3.11	46.5	36.4	2.08	27.6	0.00			251	
268	7.62	7.59	33.974	26.527	154.2	0.671	2 .96	44 .1	39 .1	2 .15	28.6	0. 00			269	205
300 ISL	7.16	7.13	34.001	26.614	146.3	0.719	2.51	37.0	46 .0	2 .34	31 .3	0.00			302	
319	6.89	6 .86	34.017	26.664	141.7	0 .746	2.21	32 .4	50.3	2 .46	32.9	0.00			321	204
376	6.47	6 .44	34.062	26.756	133.6	0.825	1.51	21.9	60.2	2 .74	36. 4	0 .00			378	203
400 ISL	6.23	6.19	34.073	26.796	129.9	0.857	1 .33	19.2	64.6	2 .83	37.6	0 .00			403	
437	5 .86	5 .82	34.088	26.854	124.5	0. 904	1.11	15.9	71.4	2 .95	39.2	0 .00			440	202
500 ISL	5 .36	5 .32	34.123	26.943	116.4	0. 980	0 .78	11.0	81.9	3.11	41 .2	0.00			503	
514	5.25	5.21	34.131	26.962	114.6	0.996	0.71	10.0	84 .2	3.14	41.6	0.00			517	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV DAVID STARR JORDAN — CALCOFI CRUISE 9602 — STATION 77 100

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
33 23 1.3 N	124 19.3 W	13/02/96	1037 UTC	4533 m	060	06 kn			1017.1 mb	17.9 C	16.5 C			

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SI03 uM/l	P04 uM/l	N03 uM/L	N02 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	17.17	17.17	33.548	24.361	355.6	0.000	5.55	101.0	2.8	0.26	0.2	0.00	0.08	0.02	0	
2	17.17	17.17	33.548	24.361	355.7	0.007	5.55	101.0	2.8	0.26	0.2	0.00	0.08	0.02	2	220
10 ISL	17.17	17.17	33.549	24.362	355.9	0.036	5.55	100.9	2.8	0.26	0.1	0.00	0.08	0.02	10	
16	17.17	17.17	33.549	24.362	356.0	0.057	5.55	100.9	2.8	0.26	0.1	0.00	0.08	0.02	16	219
20 ISL	17.17	17.17	33.549	24.362	356.2	0.071	5.55	100.9	2.8	0.26	0.1	0.00	0.08	0.02	20	
30	17.17	17.17	33.548	24.362	356.5	0.107	5.54	100.8	2.8	0.26	0.1	0.00	0.08	0.03	30	218
46	17.17	17.16	33.552	24.366	356.7	0.164	5.55	100.9	2.6	0.26	0.1	0.00	0.08	0.02	46	217
50 ISL	17.14	17.13	33.558	24.378	355.7	0.178	5.55	100.9	2.6	0.26	0.1	0.00	0.10	0.03	50	
60	17.08	17.07	33.574	24.404	353.5	0.214	5.55	100.8	2.6	0.26	0.1	0.00	0.14	0.06	60	216
75	16.05	16.04	33.536	24.614	334.0	0.265	5.72	101.8	2.9	0.27	0.1	0.00	0.16	0.14	75	215
85	14.94	14.93	33.481	24.818	314.7	0.298	5.81	101.0	3.2	0.28	0.1	0.02	0.23	0.20	85	214
94	14.86	14.85	33.571	24.904	306.7	0.326	5.69	98.9	3.5	0.31	0.3	0.09	0.25	0.20	94	213
100 ISL	14.62	14.61	33.631	25.002	297.5	0.344	5.60	96.9	3.4	0.32	0.6	0.07	0.23	0.21	100	
105	14.41	14.39	33.668	25.076	290.7	0.358	5.53	95.3	3.4	0.34	0.9	0.04	0.21	0.21	105	212
115	14.25	14.23	33.659	25.103	288.4	0.387	5.41	92.9	3.9	0.41	1.8	0.02	0.15	0.16	115	211
125 ISL	13.88	13.86	33.711	25.220	277.4	0.416	5.30	90.3	4.5	0.44	2.6	0.02	0.11	0.12	126	
126	13.83	13.81	33.716	25.234	276.1	0.418	5.29	90.1	4.6	0.45	2.7	0.02	0.11	0.12	127	210
141	12.65	12.63	33.669	25.435	257.2	0.458	4.96	82.4	7.3	0.71	6.8	0.01	0.05	0.07	142	209
150 ISL	12.17	12.15	33.676	25.533	247.9	0.481	4.83	79.4	8.5	0.81	8.4	0.01	0.03	0.05	151	
164	11.50	11.48	33.702	25.678	234.3	0.515	4.66	75.5	10.5	0.95	10.7	0.01	0.02	0.04	165	208
193	9.70	9.68	33.738	26.021	201.8	0.578	4.25	66.3	18.2	1.38	17.6	0.00	0.00	0.02	194	207
200 ISL	9.42	9.40	33.760	26.084	195.9	0.592	4.15	64.3	19.9	1.46	18.8	0.00			201	
228	8.65	8.63	33.855	26.280	177.5	0.644	3.84	58.5	25.8	1.70	22.3	0.00			229	206
250 ISL	8.26	8.23	33.911	26.384	167.9	0.682	3.81	57.6	29.1	1.77	23.6	0.00			251	
270	8.00	7.97	33.946	26.450	161.8	0.715	3.79	56.9	31.7	1.81	24.4	0.00			271	205
300 ISL	7.60	7.57	33.963	26.522	155.3	0.763	3.68	54.8	35.5	1.90	25.8	0.00			302	
319	7.34	7.31	33.964	26.560	151.8	0.792	3.55	52.5	38.3	1.98	26.8	0.00			321	204
377	6.44	6.41	33.975	26.691	139.6	0.877	2.67	38.7	51.1	2.36	31.9	0.00			379	203
400 ISL	6.17	6.13	33.990	26.738	135.3	0.908	2.25	32.4	57.0	2.53	34.1	0.00			402	
436	5.84	5.80	34.019	26.802	129.4	0.956	1.65	23.6	66.0	2.77	37.2	0.00			439	202
500 ISL	5.46	5.42	34.075	26.893	121.2	1.036	1.08	15.3	76.8	3.00	39.8	0.00			503	
516	5.37	5.33	34.089	26.915	119.3	1.055	0.94	13.3	79.5	3.06	40.5	0.00			519	201

RV DAVID STARR JORDAN — CALCOFI CRUISE 9602 — STATION 30 51

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
34 26i.9 N	120 31.3 W	11/02/96	1829 UTC	71 *m*	270	04 kn	270 01 10	0	1019.9 mb	17.0 C	14.9 C	09m 05	0/8	

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SI03 uM/l	P04 uM/l	N03 uM/l	N02 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	14.48	14.48	33.425	24.870	307.1	0.000	5.99	103.2	2.9	0.44	1.2	0.06	1.05	0.28	0	
1 A	14.48	14.48	33.425	24.870	307.2	0.003	5.99	103.2	2.9	0.44	1.2	0.06	1.05	0.28	1	209
7 A	14.16	14.16	33.425	24.938	300.9	0.021	6.00	102.7	2.9	0.44	1.2	0.06	1.17	0.49	7	208
10 ISL	14.11	14.11	33.424	24.948	300.1	0.030	5.99	102.4	3.0	0.45	1.3	0.06	1.26	0.40	10	
13 A	14.07	14.07	33.424	24.956	299.3	0.039	5.99	102.3	3.2	0.46	1.4	0.07	1.32	0.31	13	207
18 A	13.94	13.94	33.428	24.986	296.6	0.054	6.02	102.6	3.3	0.49	1.5	0.09	1.27	0.40	18	206
20 ISL	13.84	13.84	33.430	25.008	294.5	0.060	6.02	102.4	3.6	0.51	1.8	0.10	1.28	0.42	20	
24 A	13.65	13.65	33.434	25.051	290.7	0.072	6.02	102.0	4.2	0.54	2.3	0.12	1.32	0.45	24	205
30 ISL	13.59	13.59	33.435	25.064	289.6	0.089	6.00	101.5	4.2	0.54	2.4	0.12	1.30	0.43	30	
34 A	13.55	13.55	33.435	25.072	288.9	0.101	5.97	100.9	4.2	0.54	2.5	0.12	1.29	0.40	34	204
43	13.49	13.48	33.445	25.092	287.2	0.127	5.88	99.3	4.7	0.59	3.0	0.13	1.43	0.41	43	203
50 ISL	12.64	12.63	33.496	25.300	267.5	0.146	5.33	88.4	8.3	0.85	6.5	0.20	0.99	0.48	50	
54	12.10	12.09	33.535	25.434	254.8	0.157	4.95	81.2	10.8	1.02	8.9	0.24	0.68	0.55	54	202
64	11.52	11.51	33.603	25.595	239.7	0.181	4.25	68.9	15.6	1.31	13.6	0.29	0.34	0.78	64	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV DAVID STARR JORDAN — CALCOFI CRUISE 9602 — STATION 80 55

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
34 11.2 N	120 48.1 W	11/02/96	2216 UTC	743 m	300	05 kn	330 02 08	1	1018.1 mb	16.3 C	14.8 C	17m 03	1/8	ST

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SI03 uM/l	P04 uM/l	N03 uM/l	N02 uH/l •	CHL-A ug/l	PHAEO ug/l	PRES db	SANP
0 ISL	15.31	15.31	33.332	24.619	331.0	0.000	5.91	103.5	3.2	0.34	0.2	0.00	0.41	0.14	0	
1	15.31	15.31	33.332	24.619	331.0	0.003	5.91	103.5	3.2	0.34	0.2	0.00	0.41	0.14	1	220
10	14.67	14.67	33.330	24.757	318.2	0.033	5.95	102.8	3.2	0.33	0.2	0.00	0.46	0.18	10	219
20	14.47	14.47	33.327	24.797	314.7	0.064	5.94	102.3	3.3	0.34	0.2	0.02	0.71	0.31	20	218
30	14.29	14.29	33.331	24.839	311.0	0.095	5.92	101.5	3.4	0.36	0.4	0.07	0.68	0.38	30	217
40	13.51	13.50	33.403	25.055	290.6	0.126	5.76	97.3	4.3	0.50	2.1	0.37	0.43	0.39	40	216
50	13.09	13.08	33.401	25.138	282.9	0.154	5.54	92.7	5.7	0.61	4.0	0.36	0.31	0.30	50	215
59	11.60	11.59	33.418	25.437	254.7	0.178	4.60	74.6	10.9	1.04	11.3	0.04	0.12	0.15	59	214
70	11.09	11.08	33.472	25.572	242.1	0.206	4.31	69.2	13.4	1.21	13.9	0.04	0.08	0.13	70	213
75 ISL	11.00	10.99	33.503	25.612	238.3	0.218	4.20	67.3	14.3	1.26	14.7	0.04	0.08	0.13	75	
85	10.82	10.81	33.576	25.701	230.1	0.241	3.95	63.1	16.4	1.38	16.4	0.05	0.09	0.12	85	212
100	10.12	10.11	33.718	25.933	208.3	0.274	3.30	51.9	22.0	1.70	20.9	0.02	0.03	0.10	101	211
119	9.45	9.44	33.748	26.068	195.7	0.312	3.34	51.8	24.3	1.79	22.7	0.02	0.01	0.05	120	210
125 ISL	9.44	9.43	33.790	26.103	192.5	0.324	3.18	49.3	25.5	1,85	23.4	0.02	0.01	0-06	126	
140	9.43	9.41	33.880	26.175	186.0	0.352	2.81	43.6	28.3	1.98	24.8	0.02	0.02	0.09	141	209
150 ISL	9.19	9.17	33.883	26.216	182.2	0.371	2.92	45.1	28.6	1.96	24.9	0.02	0.02	0.08	151	
170	8.63	8.61	33.872	26.296	174.9	0.407	3.23	49.2	29.2	1.91	25.0	0.01	0.01	0.05	171	208
199	8.23	8.21	33.974	26.437	161.9	0.455	2.78	42.0	34.9	2.11	27.6	0.01	0.01	0.06	200	207
200 ISL	8.23	8.21	33.980	26.442	161.5	0.457	2.74	41.4	35.2	2.12	27.7	0.01			201	
229	8.41	8.39	34.146	26.545	152.3	0.503	1.67	25.4	42.7	2.47	30.9	0.01			230	206
250 ISL	8.29	8.26	34.174	26.586	148.8	0.534	1.54	23.3	45.4	2.56	31.8	0.00			251	
269	8.10	8.07	34.172	26.613	146.5	0.562	1.42	21.4	47.1	2.59	32.2	0.00			271	205
300 ISL	7.78	7.75	34.190	26.675	141.0	0.607	1.24	18.6	51.2	2.69	33.4	0.00			302	
318	7.58	7.55	34.197	26.709	137.9	0.632	1.14	17.0	53.8	2.75	34.2	0.00			320	204
379	6.82	6.78	34.190	26.810	128.8	0.713	0.92	13.5	63.0	2.90	36.7	0.00			381	203
400 ISL	6.65	6.61	34.194	26.836	126.5	0.740	0.84	12.2	65.5	2.94	37.3	0.00			403	
437	6.40	6.36	34.205	26.878	122.9	0.786	0.70	10.1	69.8	3.02	38.3	0.00			440	202
500 ISL	5.93	5.89	34.235	26.963	115.3	0.861	0.48	6.9	78.3	3.15	40.2	0.00			503	
513	5.83	5.79	34.241	26.980	113.7	0.876	0.44	6.3	80.1	3.18	40.6	0.00			517	201

RV DAVID STARR JORDAN CALCOFI CRUISE 9602 STATION 80 60

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
34 8.8 N	121 8.7 W	12/02/96	0210	UTC	2143 m	270	06 kn	170 02 06i	1	1018.9 mb	15.6 C	14.5 C		4/8	SC

DEPTH m	TEMP DEG C	POT TEHP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SI03 uM/l	P04 uM/L	N03 uM/l	N02 uM/L	CHL-A ug/L	PHAEO ug/l	PRES db	SAMP
0 ISL	15.31	15.31	33.315	24.606	332 .3	0.000	5 .83	102 .1	2.9	0. 34	0.2	0.00	0.29	0.10	0	
1	15.31	15.31	33.315	24.606	332.3	0.003	5 .83	102 .1	2 .9	0.34	0.2	0.00	0.29	0.10	1	220
10 ISL	15.17	15.17	33.314	24.636	329.7	0.033	5 .87	102 .5	2 .9	0.33	0.2	0.00	0.29	0.11	10	
11	15.14	15.14	33.314	24.643	329. 1	0.036	5 .87	102 .4	2 .9	0.33	0.2	0.00	0.29	0.11	11	219
20	14.86	14.86	33.309	24.700	323.9	0.066	5 .86	101.7	2 .9	0.33	0. 1	0.00	0.38	0.16	20	218
30	14.55	14.55	33.336	24.788	315.9	0.098	5 .88	101.4	3.0	0.35	0.2	0.02	0.71	0.33	30	217
40	14.25	14.24	33.337	24.852	310.0	0.129	5 .74	98 .4	3.2	0.41	1 .0	0.10	0.88	0.35	40	216
SO	13.00	12.99	33.364	25.128	284. 0	0.159	5 .43	90.7	5 .5	0.63	4. 6	0. 09	0.28	0.20	50	215
60	12.40	12.39	33.364	25 .245	273.0	0.187	5.13	84. 6	7.3	0.79	7. 1	0.03	0.14	0.15	60	214
70	11 .89	11 .88	33.377	25 .352	263.1	0.213	4.77	77.8	9.3	0.96	9.7	0.03	0.17	0.22	70	213
75 ISL	11 .57	11.56	33.412	25 .438	254.9	0.226	4.58	74.2	10.8	1 .06	11.4	0.03	0.15	0.20	75	
85	10.91	10.90	33.502	25.627	237.1	0.251	4.20	67.2	14.2	1 .27	15.0	0.02	0.09	0.13	85	212
100	10.04	10.03	33.614	25.865	214.7	0.285	3.75	58.9	19.5	1 .56	19.2	0.01	0.03	0.06	100	211
120	9.40	9.39	33.716	26.051	197.3	0.326	3.41	52 .8	23.7	1 .76	22 .4	0.01	0.01	0.04	121	210
125 ISL	9.29	9.28	33.736	26.085	194.2	0.336	3.39	52 .4	24.4	1 .78	22 .9	0.01	0.01	0.04	126	
140	9.01	8.99	33.788	26.170	186.3	0.364	3.32	51.0	26.1	1 .83	23.8	0.01	0.01	0.03	141	209
150 ISL	8.83	8.81	33.819	26.223	181.5	0.383	3.36	51.4	27.0	1 .84	24. 1	0.01	0.01	0.03	151	
170	8.48	8.46	33.876	26.322	172.3	0.418	3.40	51.6	29.2	1 .88	24.8	0.01	0.01	0.02	171	208
199	7.99	7.97	33.961	26.463	159.4	0.466	3.05	45 .8	35 .1	2 .04	27. 1	0.01	0.01	0.02	200	207
200 ISL	7.98	7.96	33.963	26.466	159.1	0.468	3.04	45 .7	35 .2	2 .05	27.2	0.01			201	
230	7.80	7.78	34.007	26.527	153.7	0.515	2.63	39.3	39.3	2 .20	29.2	0.01			231	206
250 ISL	7.59	7.57	34.029	26.575	149.4	0.545	2 .40	35 .7	42 .8	2 .30	30.5	0.01			251	
269	7.39	7.36	34.049	26.619	145.4	0.573	2.18	32 .3	46.2	2 .39	31 .6	0.01			271	205
300 ISL	7.23	7.20	34.086	26.671	141.0	0.617	1 .80	26.6	50.5	2.54	33.3	0.00			302	
317	7.16	7.13	34.106	26.697	138.8	0.641	1.59	23.4	52.9	2 .62	34. 1	0.00			319	204
379	6.64	6.61	34.166	26.815	128.1	0.724	0.95	13.8	63.9	2 .90	36.9	0.00			381	203
400 ISL	6.48	6.44	34.190	26.856	124.5	0.751	0.79	11.5	67.6	2 .97	37.7	0.00			403	
437	6.22	6.18	34.228	26.920	118.8	0.796	0.58	8.4	73.5	3,07	39.0	0.00			440	202
500 ISL	5.90	5.86	34.256	26.983	113.3	0.869	0.43	6.2	79.6	3.17	40.2	0.00			503	
513	5.83	5.79	34.262	26.996	112.2	0.883	0. 40	5 .7	80 .8	3.19	40.5	0.00			517	201

RV DAVID STARR JORDAN CALCOFI CRUISE 9602 STATION 80 70

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
33 48.6 N	121 50.2 W	12/02/96	0810	UTC	3622 m	340	04 kn			1018.8 mb	14„9 C	13„8 C			

DEPTH ɒ	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SI03 uM/l	P04 uM/L	N03 uM/l	N02 uM/L	CHL-A ug/L	PHAEO ug/L	PRES db	SAMP
0 ISL	15.09	15 .09	33. 101	24.490	343.4	0.000	5 .83	101.5	2 .7	0.37	0.0	0.01	0.17	0 .06	0	
2	15.09	15.09	33. 101	24.490	343.4	0.007	5 .83	101.5	2 .7	0.37	0.0	0.01	0.17	0.06	2	220
10 ISL	14.93	14.93	33. 119	24.538	339.0	0.034	5 .84	101.3	2.7	0.37	0.0	0.00	0.18	0.07	10	
16	14.76	14.76	33.142	24.593	334.0	0.054	5 .86	101.4	2 .7	0.37	0. 0	0.00	0.19	0.08	16	219
20 ISL	14.72	14.72	33. 160	24.615	332 .0	0.068	5 .88	101.6	2 .7	0.37	0.0	0.00	0.23	0.10	20	
30 ISL	14.57	14.57	33.205	24.682	325 .9	0.101	5 .91	101.9	2 .7	0.37	0.0	0 .01	0.38	0.17	30	
31	14.55	14.55	33.210	24. 690	325 .2	0. 104	5.91	101.8	2 .7	0.37	0.0	0.01	0.40	0.18	31	218
46	13.77	13.76	33.257	24.890	306.6	0.151	5 .78	98.0	3.5	0.45	1 .0	0.12	0.65	0.36	46	217
50 ISL	13.38	13.37	33.247	24.961	299.8	0.163	5 .68	95 .6	4 .1	0.53	2.2	0.09	0.57	0.34	50	
56	12.70	12 .69	33.238	25 .089	287.8	0.181	5 .53	91 .7	5 .0	0.65	4. 1	0.03	0 .40	0.30	56	216
65	11.64	11 .63	33.279	25 .322	265.7	0.206	5 .42	87.9	5 .9	0 .69	5 .1	0.02	0.11	0.12	65	215
75	11.25	11.24	33.396	25.484	250.5	0.232	5.11	82.2	8.0	0.84	8.0	0.01	0.06	0.07	75	214
86	10.94	10.93	33.475	25.601	239.6	0.259	4.90	78. 4	9.9	0.94	9.9	0.01	0.05	0.05	86	213
95	10.39	10.38	33.555	25.760	224.7	0.280	4.27	67.5	15.1	1 .28	15.2	0.01	0.03	0.05	95	212
100 ISL	10.20	10.19	33.579	25.811	219.8	0.291	4. 00	63.0	17.2	1 .42	17.3	0.01	0.02	0.05	100	
111	9.81	9. 80	33.618	25.907	210.9	0.314	3.60	56.2	20.8	1 .65	20.4	0.01	0.01	0 .04	112	211
125 ISL	9.07	9 .06	33.703	26.094	193.3	0.343	3.53	54.3	24.4	1 .77	22 .8	0.01	0.00	0.03	126	
126	9.02	9.01	33.710	26.107	192 .0	0.345	3.53	54.2	24.6	1 .78	22 .9	0.01	0 .00	0 .03	127	210
146	8.70	8 .68	33.845	26.263	177.5	0.382	2 .95	45 .0	29.7	2 .01	26.1	0.01	0 .00	0 .03	147	209
150 ISL	8 .63	8.61	33.857	26.284	175.6	0.389	2 .97	45 .2	30.2	2 .01	26.2	0.01	0 .00	0.03	151	
170	8.26	8.24	33.890	26.366	168.1	0.423	3.10	46. 8	32 .3	2 .02	26.6	0.01	0.00	0.03	171	208
200 ISL	7.81	7.79	33 .952	26 . 482	157.5	0.472	2 .92	43. 7	37 .1	2.13	28.2	0.01	0.00	0.02	201	
201	7.80	7.78	33.954	26.485	157.2	0.473	2 .91	43. 5	37 .3	2.13	28.3	0.01	0.00	0 .02	202	207
229	7.53	7.51	34.002	26.562	150.3	0.516	2.51	37.3	42 .4	2 .28	30.3	0 .01			230	206
250 ISL	7.28	7.26	34.021	26.612	145.7	0.547	2 .30	34 .0	46 .1	2 .37	31 .5	0.01			251	
270	7.01	6.98	34.031	26.658	141.6	0.576	2.13	31 .3	49. 8	2 .46	32 .6	0.00			272	205
300 ISL	6.56	6.53	34.040	26.726	135.3	0.618	1 .81	26.3	56.6	2 .61	34.8	0.00			302	
319	6.30	6.27	34.045	26.764	131.8	0.643	1 .61	23.3	61.0	2.71	36 . 1	0. 00			321	204
382	5 .79	5.76	34.088	26 . 862	123.0	0.723	1 .07	15.3	72 .4	2.95	39.2	0.00			384	203
400 ISL	5 .71	5 .68	34.100	26.882	121.3	0.745	0.97	13.8	74.6	2 .99	39 .7	0.00			403	
437	5 .56	5 .52	34.125	26.920	118.0	0. 790	0.80	11.4	78.6	3 .07	40. 4	0 .00			440	202
500 ISL	5 .23	5.19	34.183	27.006	110.4	0.862	0.52	7.3	87.0	3.20	41.8	0 .00			503	
507	5.19	5.15	34.189	27.015	109.5	0.869	0. 49	6.9	87. 9	3.21	42 .0	0.00			511	201

RV DAVICI STARR JORDAN CALCOFI CRUISE 9602 STATION 80 80

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
33 28.7 N	122 35.5 W	12/02/96	1813 UTC	4000 m	320 11 kn	320 01 04	1	1017.1 mb	16.8 C	15.6 C	32m 02	2/8	SC

DEPTH in		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SI03 uM/l	P04 uM/l	N03 uM/l	N02 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0	ISL	16.75	16.75	33.368	24.321	359.4	0.000	5.60	100.9	2.8	0.27	0.0	0.00	0.10	0.04	0	
3	A	16.75	16.75	33.368	24.322	359.5	0.011	5.60	100.9	2.8	0.27	0.0	0.00	0.10	0.04	3	223
10	ISL	16.74	16.74	33.367	24.323	359.6	0.036	5.60	100.9	2.8	0.27	0.0	0.00	0.11	0.03	10	
11		16.74	16.74	33.366	24.323	359.7	0.040	5.60	100.9	2.8	0.27	0.0	0.00	0.11	0.03	11	22!
20	ISL	16.70	16.70	33.362	24.329	359.3	0.072	5.62	101.2	2.8	0.26	0.0	0.00	0.11	0.03	20	
21	A	16.69	16.69	33.361	24.331	359.2	0.075	5.62	101.2	2.8	0.26	0.0	0.00	0.11	0.03	21	221
30	ISL	16.60	16.60	33.348	24.342	358.4	0.108	5.63	101.1	2.8	0.27	0.0	0.00	0.13	0.04	30	
32		16.55	16.54	33.339	24.347	358.1	0.115	5.63	101.0	2.8	0.27	0.0	0.00	0.13	0.04	32	220
43	A	15.97	15.96	33.195	24.369	356.3	0.154	5.70	101.0	2.7	0.30	0.0	0.00	0.15	0.07	43	219
50	ISL	15.71	15.70	33.132	24.379	355.5	0.179	5.74	101.2	2.7	0.31	0.0	0.00	0.19	0.08	50	
54		15.57	15.56	33.110	24.393	354.3	0.193	5.76	101.2	2.7	0.31	0.0	0.00	0.21	0.08	54	21!
65	A	15.15	15.14	33.123	24.496	344.8	0.232	5.82	101.4	2.7	0.33	0.0	0.00	0.27	0.18	65	217
75		14.02	14.01	33.287	24.862	310.0	0.265	5.99	102.1	3.1	0.33	0.0	0.01	0.29	0.26	75	21<
86	A	13.38	13.37	33.323	25.021	295.1	0.298	5.88	99.0	3.2	0.35	0.1	0.20	0.33	0.27	86	215
96		12.73	12.72	33.268	25.107	287.1	0.327	5.82	96.6	3.6	0.40	0.7	0.06	0.22	0.29	96	214
100	ISL	12.57	12.56	33.270	25.140	284.1	0.338	5.73	94.8	4.1	0.44	1.4	0.04	0.19	0.23	100	
106		12.42	12.41	33.301	25.193	279.1	0.355	5.57	91.9	4.8	0.51	2.7	0.02	0.14	0.14	106	213
114		12.37	12.36	33.403	25.282	270.9	0.377	5.42	89.3	5.5	0.58	4.2	0.02	0.09	0.11	114	21!
119	A	12.73	12.71	33.574	25.345	265.1	0.391	5.29	88.0	5.8	0.57	4.5	0.02	0.07	0.08	120	211
125	ISL	12.10	12.08	33.504	25.412	258.8	0.406	5.28	86.6	6.4	0.64	5.4	0.01	0.05	0.05	126	
130		11.29	11.27	33.404	25.484	251.8	0.419	5.28	85.1	7.6	0.75	6.9	0.01	0.03	0.03	131	210
139		10.51	10.49	33.509	25.704	230.9	0.441	4.75	75.3	12.3	1.08	12.3	0.01	0.02	0.04	140	209
150	ISL	9.77	9.75	33.575	25.881	214.2	0.465	4.56	71.1	15.9	1.27	15.6	0.01	0.01	0.03	151	
164		9.12	9.10	33.634	26.033	199.9	0.494	4.46	68.6	19.5	1.41	17.9	0.00	0.01	0.02	165	201
195		8.65	8.63	33.889	26.307	174.4	0.552	3.04	46.3	30.8	1.99	25.8	0.00	0.00	0.02	196	20?
200	ISL	8.56	8.54	33.902	26.331	172.1	0.561	3.11	47.3	30.9	1.98	25.6	0.00			201	
230		8.02	8.00	33.924	26.430	163.1	0.611	3.77	56.7	31.2	1.82	24.4	0.00			231	20«
250	ISL	7.70	7.68	33.949	26.496	156.9	0.643	3.56	53.1	34.9	1.92	25.8	0.00			251	
267		7.47	7.44	33.969	26.545	152.5	0.670	3.23	47.9	38.8	2.05	27.6	0.00			268	20!
300	ISL	7.14	7.11	33.997	26.614	146.3	0.719	2.69	39.6	44.9	2.26	30.4	0.00			302	
318		6.99	6.96	34.009	26.644	143.6	0.745	2.41	35.4	48.1	2.37	31.9	0.00			320	204
378		6.41	6.38	34.045	26.750	134.1	0.828	1.66	24.0	59.6	2.69	35.7	0.00			380	20!
400	ISL	6.19	6.15	34.062	26.792	130.2	0.857	1.40	20.2	64.3	2.82	37.1	0.00			402	
436		5.85	5.81	34.091	26.858	124.2	0.903	1.05	15.0	71.7	3.00	39.1	0.00			439	20!
500	ISL	5.41	5.37	34.129	26.942	116.6	0.980	0.74	10.5	81.1	3.12	41.0	0.00			503	
507		5.36	5.32	34.133	26.951	115.8	0.988	0.71	10.0	82.1	3.13	41.2	0.00			510	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV DAVID STARR JORDAN CALCOFI CRUISE 9602 STATION 80 90

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
33 9.1 N	123 13.2 W	12/02/96	2313 UTC	4229 m	280 08 kn	330 03 06	2	1016.1 mb	17.8 C	16.4 C	32m 01	8/8	SC

DEPTH in		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SI03 uM/l	P04 uM/l	N03 uM/l	N02 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0	ISL	16.54	16.54	33.303	24.320	359.5	0.000	5.65	101.4	2.9	0.30	0.1	0.00	0.09	0.02	0	
2		16.54	16.54	33.303	24.320	359.6	0.007	5.65	101.4	2.9	0.30	0.1	0.00	0.09	0.02	2	220
10	ISL	16.32	16.32	33.295	24.365	355.6	0.036	5.67	101.3	2.8	0.30	0.1	0.00	0.09	0.03	10	
15		16.14	16.14	33.289	24.401	352.2	0.053	5.68	101.1	2.8	0.30	0.1	0.00	0.09	0.03	15	219
20	ISL	16.12	16.12	33.288	24.405	352.0	0.071	5.69	101.2	2.8	0.30	0.1	0.00	0.09	0.03	20	
30		16.08	16.08	33.287	24.414	351.5	0.106	5.70	101.3	2.8	0.30	0.2	0.00	0.10	0.03	30	211
46		16.07	16.06	33.290	24.419	351.5	0.163	5.69	101.1	2.7	0.30	0.2	0.00	0.12	0.03	46	217
50	ISL	16.00	15.99	33.295	24.439	349.8	0.177	5.70	101.2	2.7	0.31	0.2	0.00	0.13	0.04	50	
60		15.77	15.76	33.303	24.497	344.5	0.211	5.72	101.0	2.6	0.32	0.2	0.00	0.17	0.06	60	21(
75		15.47	15.46	33.277	24.544	340.5	0.263	5.75	101.0	2.6	0.32	0.1	0.00	0.23	0.10	75	21!
86		15.42	15.41	33.271	24.551	340.2	0.300	5.76	101.0	2.7	0.32	0.1	0.00	0.30	0.17	86	214
95		15.10	15.09	33.271	24.621	333.7	0.330	5.74	100.0	2.8	0.34	0.2	0.02	0.40	0.30	95	21]
100	ISL	14.40	14.39	33.257	24.760	320.5	0.347	5.79	99.5	2.9	0.36	0.3	0.08	0.38	0.31	100	
105		13.68	13.67	33.246	24.901	307.1	0.362	5.83	98.7	3.1	0.38	0.4	0.13	0.35	0.31	105	212
115		13.27	13.25	33.238	24.978	300.0	0.393	5.74	96.3	4.0	0.46	1.4	0.10	0.24	0.26	115	211
125		12.27	12.25	33.306	25.226	276.4	0.422	5.37	88.3	5.6	0.62	4.3	0.02	0.15	0.17	126	210
139		11.94	11.92	33.524	25.458	254.7	0.459	4.88	79.8	9.2	0.87	9.2	0.02	0.05	0.06	140	209
150	ISL	11.28	11.26	33.580	25.623	239.1	0.486	4.65	75.0	11.5	1.03	11.9	0.02	0.04	0.05	151	
165		10.27	10.25	33.606	25.821	220.3	0.520	4.43	69.9	14.6	1.22	14.9	0.01	0.02	0.04	166	201
194		9.19	9.17	33.719	26.089	195.2	0.581	3.95	60.9	21.9	1.61	20.7	0.01	0.00	0.02	195	207
200	ISL	9.00	8.98	33.749	26.142	190.1	0.592	3.88	59.6	23.4	1.66	21.6	0.01			201	
229		8.24	8.22	33.886	26.367	169.1	0.644	3.57	53.9	30.4	1.87	24.9	0.01			230	20:
250	ISL	7.94	7.91	33.948	26.460	160.4	0.679	3.22	48.3	34.3	2.01	26.8	0.00			251	
268		7.79	7.76	33.988	26.514	155.6	0.707	2.89	43.2	37.3	2.13	28.1	0.00			269	20!
300	ISL	7.67	7.64	34.058	26.587	149.2	0.756	2.35	35.1	42.4	2.33	30.2	0.00			302	
319		7.57	7.54	34.081	26.620	146.4	0.784	2.10	31.3	45.5	2.43	31.3	0.00			321	204
377		6.36	6.33	34.020	26.737	135.3	0.866	1.96	28.4	57.8	2.61	34.9	0.00			379	20!
400	ISL	6.14	6.10	34.026	26.770	132.3	0.897	1.77	25.5	61.6	2.70	36.1	0.00			402	
438		5.93	5.89	34.056	26.820	127.8	0.946	1.39	19.9	67.3	2.85	37.8	0.00			441	20!
500	ISL	5.68	5.64	34.142	26.920	119.0	1.023	0.82	11.7	76.4	3.07	40.0	0.00			503	
516		5.62	5.58	34.164	26.945	116.8	1.041	0.67	9.5	78.7	3.13	40.6	0.00			519	201

RV DAVID STARR JORDAN | CALCOFI CRUISE 9602 | STATION 80 100

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
32 48.9 1H	123 54.2 W	13/02/96	0451 UTC	4358 m	360	05 kn			1018.2 mb	17..0 C	15..9 C			

DEPTH m	TEMP DEG C	POT TEHP DEG C	SALINITY	SIGHA THETA	SVA	DYN HT	OXYGEN ml/ I	OXY PCT	SI03 uM/l	P04 uM/ I	N03 uM/l	N02 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	16.22	16.22	33.287	24.381	353.7	0.000	5 .68	101.3	2.6	0.31	0.0	0.00	0.09	0.03	0	
1	16.22	16.22	33.287	24.381	353.7	0.004	5 .68	101.3	2.6	0.31	0.0	0.00	0.09	0.03	1	220
10 ISL	16.21	16.21	33.287	24.384	353.8	0.035	5 .67	101.0	2.6	0.30	0.0	0.00	0.09	0.03	10	
16	16.20	16.20	33.287	24.386	353.7	0.057	5 .67	101.0	2.6	0.30	0.0	0.00	0.09	0.03	16	219
20 ISL	16.13	16.13	33.296	24.409	351.7	0.071	5 . 68	101.1	2.6	0.30	0.0	0.00	0.10	0.04	20	
30 ISL	15.95	15.95	33.318	24.467	346.5	0.106	5 .70	101.1	2.6	0.30	0.0	0.00	0.14	0.06	30	
31	15.93	15.93	33.320	24.473	345.9	0.109	5.70	101.0	2.6	0.30	0.0	0.00	0.14	0.06	31	218
46	15.77	15.76	33.312	24.504	343.5	0.161	5.71	100.9	2.6	0.31	0.0	0.00	0.19	0.08	46	217
50 ISL	15.75	15.74	33.317	24.512	342.8	0.175	5.72	101.0	2.6	0.31	0.0	0.00	0.20	0.09	50	
55	15.70	15.69	33.323	24.528	341 .4	0. 192	5.73	101.1	2.6	0.31	0.0	0.00	0.21	0.10	55	216
65	15.38	15.37	33.312	24.591	335.7	0.225	5 .76	101.0	2.7	0.32	0.0	0.00	0.28	0.18	65	215
75	14.16	14.15	33.280	24.828	313.3	0.258	5.79	99.0	3.8	0.37	0.3	0.08	0.41	0.41	75	214
85	13.82	13.81	33.408	24.997	297.4	0.288	5.67	96.3	4.0	0.38	0.9	0.08	0.25	0.24	85	213
95	13.18	13.17	33.377	25.103	287.6	0.318	5 .57	93.4	4.8	0.47	2.0	0.03	0.20	0.21	95	212
100 ISL	12.74	12.73	33.339	25.161	282.1	0.332	5.47	90.8	5.6	0.56	3.3	0.03	0.19	0.21	100	
110	11.90	11 .89	33.302	25 .292	269.7	0.360	5.19	84.7	7.9	0.76	6.5	0.02	0.17	0.22	110	211
125	11 .24	11.22	33.471	25.545	245.9	0.398	4.68	75.3	12.8	1 .01	11.1	0.01	0.08	0.11	126	210
U S	10.21	10.19	33.605	25.830	219.0	0.445	4.09	64.4	17.3	1 .38	16.9	0.01	0.03	0.05	146	209
150 ISL	10.00	9.98	33.636	25.890	213.4	0.456	3.95	62 .0	18.8	1 .46	18.2	0.01	0.02	0.04	151	
169	9.37	9.35	33.753	26.086	195.0	0.494	3.39	52.5	24.6	1 .76	22.6	0.00	0.01	0.03	170	208
200	9.01	8.99	33.968	26.312	174.1	0.552	2.40	36.9	32.6	2.16	27.3	0.00	0.00	0.03	201	207
229	8.64	8.62	34.062	26.444	162.0	0.600	2.14	32 .6	37.1	2 .29	28.9	0.00			230	206
250 ISL	8.44	8.41	34.102	26.507	156.4	0.634	1 .95	29.6	40.0	2.38	29.9	0.00			251	
269	8.28	8.25	34.126	26.550	152.6	0.663	1 .79	27. 1	42.6	2.45	30.7	0.00			270	205
300 ISL	7.99	7.96	34.157	26.618	146.5	0.709	1 .54	23.2	46.9	2.57	32. 1	0.00			302	
318	7.82	7.79	34.169	26.653	143.5	0.735	1 .41	21 . 1	49.3	2.64	32.9	0.00			320	204
379	7.28	7.24	34.181	26.740	135.8	0.821	1.13	16.7	56.0	2.30	35 .0	0.00			381	203
400 ISL	7.11	7.07	34. 189	26.770	133.2	0.849	1 .02	15.0	58.8	2.86	35 .7	0.00			402	
437	6.82	6.78	34.205	26.823	128.5	0.897	0.83	12.1	63.7	2.95	36.9	0.00			440	202
500 ISL	6.43	6.38	34.237	26.901	121.7	0.976	0.59	8.6	71 .1	3.08	38.5	0.00			503	
512	6.35	6.30	34.243	26.916	120.4	0.991	0.55	8.0	72.5	3.10	38.8	0.00			515	201

RV DAVID STARR JORDAN | CALCOFI CRUISE 9602 | STATION 82 47

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TINE	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
34 16.3 N	120 1 .5 U	11/02/96	1456 UTC	577 m	020	03 kn	270 01 08	1	1019.1 mb	15 ..3 C	14..0 C		7/8	ST

DEPTH m	TEHP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SI03 uM/ I	P04 uM/ I	N03 uM/ I	N02 uM/ I	CHL-A ug/ I	PHAEO ug/l	PRES db	SAMP
0 ISL	14.92	14.92	33.414	24.767	316.9	0.000	6.10	106.0	1 .0	0.27	0.0	0.00	0.52	0.12	0	
3 A	14.92	14.92	33.414	24.768	317.0	0.010	6.10	106.0	1 .0	0.27	0.0	0.00	0.52	0.12	3	224
10	14.84	14.84	33.409	24.781	315.9	0.032	6.10	105 .9	1 .1	0.27	0.0	0.00	0. 47	0.22	10	223
20 ISL	14.47	14.47	33.422	24.871	307.7	0.063	6.16	106. 1	1 .1	0.28	0.0	0.01	0.86	0.42	20	
21	14.43	14.43	33.424	24.881	306.8	0.066	6.17	106.2	1 .1	0.28	0.0	0.01	0.89	0.44	21	222
30 ISL	12.97	12.97	33.502	25.240	272.8	0.092	5 .25	87.7	6.5	0.75	4.7	0.16	0.41	0.61	30	
31	12.80	12.80	33.513	25.282	268.8	0.095	5.13	85 .4	7.2	0.81	5.3	0.18	0.35	0.62	31	221
40	12.28	12.27	33.549	25.411	256.7	0.118	4.64	76.4	10.2	0.99	8.7	0.24	0.29	0.37	40	220
50	11 .68	11 .67	33.604 D	25.566	242.1	0.143	4.15	67.5	14.1	1 .26	13.0	0.36	0.22	0.30	50	219
61	11.16	11.15	33.648	25.696	230.1	0.169	3.74	60.2	16.9	1 .42	16.1	0.32	0.15	0.35	61	218
70	10.61	10.60	33.724	25.853	215.3	0.189	3.28	52 .2	21.0	1 .64	19.3	0.10	0.12	0.32	70	217
75 ISL	10.46	10.45	33.751	25 .900	210.9	0.200	3.10	49.2	22.5	1 .72	20.4	0.10	0.11	0.34	75	
86	10.27	10.26	33.791	25.964	205 .0	0.223	2.84	44.9	24.6	1 .84	21.9	0.11	0.10	0.37	86	216
100 ISL	10.04	10.03	33.830	26.034	198.7	0.251	2 .77	43.5	25.6	1 .91	22.9	0.04	0.06	0.20	101	
101	10.03	10.02	33.833	26.038	198.3	0.253	2.77	43.5	25.7	1 .91	23.0	0.04	0.06	0.19	102	215
120	9.72	9.71	33.905	26.146	188.4	0.290	2 .54	39.7	28.4	2.02	24.6	0.04	0.06	0.20	121	214
125 ISL	9.67	9.66	33.921	26.167	186.5	0.299	2.49	38.8	28.9	2 .04	24.9	0.04	0.05	0.20	126	
141	9.53	9.51	33.967	26.227	181.2	0.329	2 .36	36.7	30.4	2.11	25.9	0.02	0.03	0.20	142	213
150 ISL	9.43	9.41	33.998	26.267	177.5	0.345	2.27	35 .2	31 .6	2.15	26.5	0.02	0.03	0.19	151	
171	9.21	9.19	34.060	26.352	169.8	0.381	2.07	32.0	34.3	2.25	27.8	0.02	0.04	0.17	172	212
200	9.05	9.03	34.098	26.408	165 . 1	0.430	1 .92	29.6	36.5	2 .34	28.5	0.01	0.02	0.15	201	211
230	8.76	8.74	34.145	26.491	157.7	0.478	1 .60	24.5	41 .2	2.47	30.2	0.01			231	210
250 ISL	8.65	8.62	34.156	26.517	155.6	0.509	1 .47	22.4	43.0	2.52	30.8	0.01			252	
266	8.55	8.52	34. 160	26.536	154.0	0.534	1 .37	20.9	44 .6	2.56	31 .3	0.01			268	209
300 ISL	8.09	8.06	34.171	26.614	146.9	0.585	1 .05	15.8	51.7	2.73	33.1	0.00			302	
318	7.82	7.79	34.177	26.659	142 .8	0.612	0.89	13.3	55.9	2.83	34.0	0.00			320	208
378	7.14	7.10	34.190	26.767	133.2	0.694	0.70	10.3	66.3	3.00	35 .3	0.00			380	207
400 ISL	6.90	6.86	34.195	26.804	129.8	0.723	0.58	8.5	71 .6	3.08	35 .2	0.00			403	
437	6.56	6.52	34.203	26.856	125.1	0.770	0.37	5.4	80.7	3.22	34.9	0.01			440	206
500 ISL	6.31	6.26	34.216	26.899	121.7	0.848	0.15	2 .2	92 .4	3.36	32 . 1	0.00			503	
517	6.29	6.24	34.219	26.905	121.4	0. 869	0.10	1 .4	96 . 8	3.43	31 .4	0 .00			521	205
542	6.27	6.22	34.224	26.911	121.1	0.899	0.01	0. 1	107.4	3.62	26.5	0.01			546	204
561	6.27	6.22	34.224	26.912	121.4	0.922	0.01	0. 1	107.7	3.62	26.4	0 .01			565	203
566	6.27	6.22	34.230	26.916	121.0	0.928	0.01	0. 1	107.6	3.62	26.3	0.01			570	202
571	6.27	6.22	34.224	26.912	121.5	0.934	0.01	0. 1	107.7	3.62	26.3	0.01			575	201

A) SANTA BARBARA BASIN STATIONI.

RV DAVID STARR JORDAN | CALCOFI CRUISE 9602 | STATION 83 4CI.6

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
34 13.5 N	119 24 .8 W	11/02/96	0905 UTC	37 ra	110	05 kn			1019.2 mb	15 .9 C	14 .2 C			

DEPTH m	TEHP DEG C	POT TEHP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SI03 uM/ I	P04 uM/ I	N03 uM/ I	N02 uM/ I	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	14.23	14.23	33.439	24.934	301 . 1	0.000	6.01	103 .0	2 .8	0.39	0.9	0.04	1.15	0 .42	0	
2	14.23	14.23	33.439	24.934	301 .1	0.006	6.01	103.0	2 .8	0.39	0 . 9	0. 04	1.15	0.42	2	205
7	14.14	14.14	33.440	24.953	299.4	0.021	6.03	103.2	2 .8	0 .39	0. 9	0.04	1 .38	0 . 46	7	204
10 ISL	14.11	14.11	33.442	24.961	298 . 7	0.030	6.01	102.8	2 . 9	0.40	1 .0	0.05	1 .24	0.50	10	
11	14.10	14.10	33.442	24.964	298.6	0.033	6. 00	102.6	2 .9	0. 41	1 . 1	0.05	1.18	0.51	1 1	203
20 ISL	13.96	13.96	33.449	24.998	295 .5	0. 060	5 .80	98 . 9	3.6	0.47	1 .9	0.07	1 .26	0. 66	20	
21	13.93	13.93	33.451	25.006	294.8	0.063	5.76	98. 1	3.8	0. 48	2 . 1	0.07	1 .27	0.67	21	202
30 ISL	13.46	13.46	33.481	25.126	283.7	0.089	5.22	88. 1	6.3	0.71	4.8	0.14	1 .09	0.66	30	
31	13.41	13.41	33.484	25.138	282.5	0.092	5.16	87.0	6.6	0.73	5 . 1	0.15	1 .07	0.66	31	201

RV DAVID STARR JORDAN CALCOFI CRUISE 9602 STATION 83 42

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
34 10I.7 N	119 30.5 W	11/02/96	1054	UTC	128 m	110	04 kn			1018.9 mb	16..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	SI03 uH/l	P04 uM/l	N03 uM/l	N02 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0	ISL	14.51	14.51	33.435	24.871	307.0	0.000	5.89	101.5	2.6	0.37	0.6	0.03	1.38	0.58	0	
2		14.51	14.51	33.435	24.872	307.1	0.006	5.89	101.5	2.6	0.37	0.6	0.03	1.38	0.58	2	211
10	ISL	14.36	14.36	33.438	24.906	304.0	0.031	5.97	102.6	2.5	0.38	0.8	0.04	1.29	0.54	10	
11		14.33	14.33	33.439	24.913	303.4	0.034	5.98	102.7	2.5	0.38	0.8	0.04	1.27	0.54	11	210
20	ISL	14.02	14.02	33.446	24.983	296.9	0.061	6.13	104.6	2.1	0.40	0.9	0.05	1.03	0.38	20	
21		13.98	13.98	33.447	24.993	296.1	0.064	6.14	104.7	2.1	0.40	0.9	0.05	1.02	0.37	21	209
30	ISL	13.77	13.77	33.451	25.039	291.9	0.090	6.14	104.3	2.1	0.42	1.0	0.06	1.41	0.67	30	
31		13.75	13.75	33.451	25.043	291.5	0.093	6.14	104.2	2.1	0.42	1.0	0.06	1.44	0.71	31	20!
40		13.41	13.40	33.450	25.112	285.2	0.119	5.89	99.3	3.4	0.52	2.1	0.10	0.93	0.64	40	207
50		12.63	12.62	33.523	25.323	265.3	0.146	4.87	80.8	8.5	0.87	7.5	0.19	0.61	0.83	50	206
60		11.88	11.87	33.581	25.512	247.6	0.172	4.18	68.3	13.2	1.18	12.4	0.25	0.37	0.41	60	205
70		11.36	11.35	33.626	25.643	235.3	0.196	3.80	61.4	15.9	1.38	15.2	0.24	0.25	0.38	70	204
75	ISL	11.07	11.06	33.660	25.722	227.9	0.208	3.57	57.3	17.9	1.51	16.8	0.21	0.24	0.43	75	
85		10.56	10.55	33.725	25.863	214.7	0.230	3.19	50.7	21.4	1.72	19.5	0.14	0.21	0.50	85	203
100	ISL	10.29	10.28	33.762	25.938	207.8	0.262	3.04	48.0	22.6	1.77	21.0	0.05	0.16	0.27	101	
101		10.28	10.27	33.764	25.942	207.5	0.264	3.04	48.0	22.6	1.77	21.1	0.05	0.16	0.25	102	202
120		9.91	9.90	33.870	26.087	194.0	0.302	2.62	41.1	26.8	1.98	23.9	0.02	0.14	0.23	121	201

RV DAVID STARR JORDAN CALCOFI CRUISE 9602 ** STATION 83 51

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
33 53i.O N	120 9.0 W	10/02/96	2205	UTC	103 m	060	05 kn	170 03 04	1	1017.2 mb	17,.0 C	16,.0 C	17m 03	6/8	CU

DEPTH m		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SI03 uM/l	P04 uM/l	N03 uM/l	N02 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAFlP
0	ISL	14.76	14.76	33.434	24.817	312.2	0.000	5.85	101.4	3.2	0.41	1.0	0.03	0.85	0.31	0	
2		14.79	14.79	33.433	24.810	312.9	0.006									2	209
2		14.76	14.76	33.434	24.817	312.2	0.006	5.85	101.4	3.2	0.41	1.0	0.03	0.85	0.31	2	20!
10	ISL	14.15	14.15	33.432	24.945	300.3	0.031	5.89	100.8	4.1	0.47	2.0	0.06	1.15	0.42	10	
15		13.66	13.66	33.435	25.049	290.5	0.046	5.90	100.0	4.8	0.53	2.8	0.09	1.37	0.51	15	207
20	ISL	13.50	13.50	33.439	25.085	287.3	0.060	5.85	98.8	5.1	0.56	3.2	0.10	1.32	0.53	20	
30		13.35	13.35	33.453	25.126	283.6	0.089	5.67	95.5	5.6	0.63	4.1	0.12	1.21	0.56	30	206
45		13.03	13.02	33.502	25.228	274.3	0.130	5.20	87.0	7.4	0.77	6.2	0.14	0.74	0.44	45	20!
50	ISL	12.58	12.57	33.540	25.346	263.1	0.144	4.88	80.9	9.4	0.92	8.2	0.15	0.56	0.39	50	
55		12.06	12.05	33.580	25.477	250.8	0.157	4.53	74.3	11.7	1.08	10.5	0.16	0.40	0.35	55	204
65		11.20	11.19	33.634	25.678	231.9	0.181	3.91	63.0	15.8	1.36	15.1	0.17	0.25	0.35	65	20!
75		10.74	10.73	33.707	25.817	218.8	0.203	3.51	56.0	19.7	1.56	18.1	0.14	0.18	0.38	75	20!
86		10.41	10.40	33.751	25.909	210.3	0.227	3.27	51.8	22.1	1.68	19.9	0.10	0.14	0.30	86	201

RV DAVID STARR JORDAN « CALCOFI CRUISE 9602 STATION 83 55

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
33 45i.O N	120 25.8 W	10/02/96	1914	UTC	834 m	110	13 kn	270 03 04	1	1017.9 mb	15.,6 C	14..7 C	14m 03	6/8	CI

DEPTH m		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SI03 uN/I	P04 uM/I	N03 uM/I	N02 uN/L	CHL-A ug/l	PHAEO ug/I	PRES db	SAHP
0	ISL	13.72	13.72	33.452	25.049	290.1	0.000	6.12	103.8	1.8	0.44	1.4	0.07	1.49	0.51	0	
2	A	13.72	13.72	33.452	25.049	290.1	0.006	6.12	103.8	1.8	0.44	1.4	0.07	1.49	0.51	2	221
2		13.74	13.74	33.452	25.045	290.5	0.006									2	222
9	A	13.52	13.52	33.453	25.091	286.3	0.026	6.13	103.6	1.8	0.44	1.4	0.08	1.63	0.77	9	220
10	ISL	13.48	13.48	33.453	25.099	285.6	0.029	6.11	103.1	2.0	0.45	1.6	0.09	1.63	0.78	10	
19	A	13.13	13.13	33.459	25.175	278.7	0.054	5.80	97.2	4.5	0.61	3.7	0.16	1.59	0.84	19	21)
20	ISL	13.11	13.11	33.460	25.179	278.3	0.057	5.78	96.8	4.7	0.62	3.8	0.17	1.54	0.84	20	
29	A	12.80	12.80	33.476	25.253	271.5	0.082	5.49	91.4	6.7	0.76	5.8	0.21	0.96	0.80	29	21!
30	ISL	12.70	12.70	33.481	25.277	269.3	0.084	5.41	89.9	7.2	0.79	6.4	0.22	0.89	0.76	30	
38	A	11.90	11.90	33.529	25.467	251.3	0.105	4.71	76.9	11.1	1.08	10.9	0.28	0.41	0.47	38	21?
45		11.49	11.48	33.552	25.561	242.5	0.123	4.38	70.9	13.1	1.23	13.2	0.27	0.33	0.37	45	216
50	ISL	11.19	11.18	33.570	25.630	236.1	0.135	4.17	67.1	14.5	1.30	14.6	0.22	0.24	0.34	50	
53	A	11.03	11.02	33.580	25.666	232.7	0.142	4.07	65.3	15.2	1.34	15.3	0.18	0.20	0.33	53	21!
62		10.81	10.80	33.599	25.720	227.7	0.162	3.88	61.9	16.9	1.43	16.8	0.11	0.19	0.31	62	2H
70		10.49	10.48	33.675	25.835	216.9	0.180	3.48	55.2	19.7	1.59	19.2	0.04	0.10	0.23	70	21!
75	ISL	10.31	10.30	33.723	25.904	210.5	0.191	3.26	51.5	21.5	1.69	20.5	0.04	0.09	0.24	75	
85		10.00	9.99	33.808	26.023	199.4	0.211	2.92	45.9	24.6	1.85	22.5	0.04	0.07	0.27	85	21!
99		9.75	9.74	33.876	26.118	190.6	0.239	2.73	42.7	27.0	1.95	24.0	0.03	0.07	0.18	100	211
100	ISL	9.73	9.72	33.880	26.125	190.0	0.240	2.72	42.5	27.2	1.96	24.1	0.03	0.07	0.18	101	
120		9.29	9.28	33.940	26.244	179.0	0.277	2.56	39.6	29.9	2.07	25.7	0.03	0.08	0.19	121	210
125	ISL	9.21	9.20	33.950	26.265	177.1	0.286	2.55	39.4	30.5	2.09	26.0	0.03	0.07	0.19	126	
139		9.02	9.01	33.981	26.320	172.1	0.311	2.51	38.6	32.2	2.13	26.7	0.02	0.05	0.17	140	20!
150	ISL	8.94	8.92	34.022	26.365	168.1	0.329	2.35	36.1	33.8	2.20	27.5	0.01	0.05	0.17	151	
169		8.84	8.82	34.092	26.436	161.7	0.361	2.01	30.8	36.8	2.32	28.8	0.01	0.04	0.17	170	20)
200		8.59	8.57	34.148	26.519	154.3	0.410	1.70	25.9	41.2	2.45	30.3	0.02	0.03	0.12	201	207
229		8.26	8.24	34.177	26.592	147.8	0.454	1.49	22.6	44.9	2.56	31.7	0.01			230	20«
250	ISL	8.14	8.11	34.185	26.617	145.8	0.484	1.41	21.3	46.5	2.60	32.1	0.01			252	
269		8.07	3.04	34.188	26.630	144.9	0.512	1.37	20.6	47.5	2.62	32.3	0.01			271	20!
300	ISL	7.92	7.89	34.195	26.658	142.7	0.557	1.30	19.5	49.2	2.66	32.7	0.01			302	
318		7.82	7.79	34.201	26.678	141.1	0.582	1.24	18.6	50.5	2.69	33.1	0.01			320	201
378		7.37	7.33	34.238	26.772	132.8	0.664	0.85	12.6	58.7	2.89	35.4	0.00			380	20!
400	ISL	7.24	7.20	34.246	26.797	130.8	0.693	0.78	11.5	60.9	2.93	35.9	0.00			403	
437		7.00	6.96	34.255	26.838	127.3	0.741	0.69	10.1	64.6	2.99	36.7	0.00			440	20!
500	ISL	6.43	6.38	34.266	26.923	119.6	0.819	0.52	7.5	73.0	3.11	38.7	0.00			504	
517		6.27	6.22	34.270	26.948	117.4	0.839	0.48	6.9	75.3	3.14	39.2	0.00			521	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV DAVID STARR JORDAN CALCOFI CRUISE 9602 STATION 83 60

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD	AMT	TYPE
53 34.7 1Y	120 45 .6 U	10/02/96	1205	UTC	1378 m	150	10 kn			1015.9 mb	14_4 C	14_3 C				

DEPTH m		TEMP DEG C	POT TEHP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/ l	OXY PCT	SI03 uM/ l	P04 uM/ l	N03 uM/ l	N02 uM/ l	CHL-A ug/ l	PHAEO ug/l	PRES db	SAMP
0	ISL	13.28	13.28	33.437	25.127	282.7	0.000	5.94	99.9	4.4	0.60	3.3	0.15	0.81	0.60	0	
2		13.28	13.28	33.437	25.127	282.7	0.006	5.94	99.9	4.4	0.60	3.3	0.15	0.81	0.60	2	220
10	ISL	13.24	13.24	33.436	25.135	282.2	0.028	5.92	99.4	4.5	0.61	3.4	0.15	0.83	0.52	10	
11		13.24	13.24	33.436	25.135	282.3	0.031	5.92	99. 4	4.5	0.61	3.4	0.15	0.83	0.50	11	219
20	ISL	13.04	13.04	33.422	25.164	279.7	0.056	5 .83	97.5	5.8	0.66	4. 1	0.20	0.62	0.35	20	
21		13.02	13.02	33.422	25.168	279.4	0.059	5 .81	97.1	5 .9	0.67	4.2	0.20	0.60	0.34	21	218
30		12.95	12.95	33.470	25.219	274.7	0.084	5 .58	93.2	5 .5	0.72	4.8	0.15	0.55	0.63	30	217
40		12.26	12.25	33.545	25.411	256.7	0.111	4.83	79.5	8.8	1 .00	8.9	0.20	0.38	0.60	40	216
SO		12.08	12.07	33.566	25.462	252. 1	0.136	4.57	75.0	9.7	1 .08	10.2	0.18	0.24	0.41	50	215
60		11.10	11.09	33.647	25 .706	229.1	0.160	3.77	60.6	15.9	1 .43	16.1	0.20	0.26	0.34	60	214
71		10.61	10.60	33.693	25 .829	217.6	0.185	3.44	54.7	19.2	1 .58	18.8	0.14	0.15	0.34	71	213
75	ISL	10.42	10.41	33.722	25 .884	212.4	0.193	3.30	52.3	20.7	1 .66	19.9	0.11	0.15	0.33	75	
84		10.04	10.03	33.790	26.002	201 .3	0.212	3.00	47.1	23.9	1 .82	22.1	0.04	0.14	0.31	84	212
100		9.77	9.76	33.878	26.117	190.8	0.243	2.65	41 .4	27.4	1 .98	24.2	0.02	0.08	0.28	101	211
120		9.28	9.27	33.895	26.211	182.2	0.281	2.74	42.4	28.9	2.01	25.2	0.02	0.07	0.24	121	210
125	ISL	9.23	9.22	33.920	26.238	179.6	0.290	2.65	40.9	29.8	2.05	25.7	0.02	0.06	0.23	126	
140		9.10	9.08	34.002	26.323	171.8	0.316	2.31	35.6	32.7	2.18	27.2	0.02	0.04	0.19	141	209
150	ISL	8.95	8.93	34.032	26.371	167.5	0.333	2.22	34.1	34.2	2.23	27.9	0.02	0.04	0.19	151	
169		8.64	8.62	34.065	26.446	160.7	0.364	2.13	32.5	36.8	2.29	28.9	0.01	0.04	0.20	170	208
198		8.23	8.21	34.094	26.531	153.0	0.410	1 .99	30.1	40.9	2.39	30.3	0.01	0.07	0.23	199	207
200	ISL	8.23	8.21	34.098	26.534	152.7	0.413	1 .96	29.6	41 .1	2.40	30.4	0.01			201	
229		8.15	8.13	34.148	26.586	148.3	0.456	1 .63	24.6	44.4	2.52	31 .5	0.00			230	206
250	ISL	7.81	7.79	34.135	26.626	144.7	0.487	1 .65	24.7	47.3	2.56	32 .3	0.00			252	
269		7.46	7.43	34.115	26.661	141.5	0.514	1 .67	24.8	49.9	2.58	33.1	0.00			271	205
300	ISL	7.19	7.16	34.114	26.699	138.3	0.558	1 .56	23.0	53.2	2.64	34.2	0.00			302	
316		7.09	7.06	34.119	26.717	136.8	0.580	1 .46	21 .5	55 .0	2.68	34.8	0.00			318	204
380		6.47	6.44	34.165	26.837	126.0	0.664	0.92	13.4	66.5	2.95	37.8	0.00			383	203
400	ISL	6.31	6.27	34.178	26.868	123.2	0.689	0.80	11.6	69.5	3.01	38.5	0.00			403	
437		6.08	6.04	34.204	26.919	118.7	0.733	0.62	8.9	74.5	3.09	39.6	0.00			440	202
500	ISL	5.87	5.83	34.275	27.002	111.6	0.806	0.42	6.0	81 .5	3.20	40.6	0.00			504	
514		5.82	5.78	34.291	27.021	109.9	0.821	0.37	5 .3	83.1	3.22	40.8	0.00			518	201

RV DAVID STARR ,JORDAN CALCOFI CRUISE 9602 STATION 83 70

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD	AMT	TYPE
33 14.6 N	121 26 .5 W	10/02/96	0559	UTC	3801 m	180	03 kn			1014.1 mb	16_0 C	14_7 C				

DEPTH in		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SI03 uM/ l	P04 uM/ l	N03 uM/ l	N02 uM/l	CHL-A ug/l	PHAEO ug/ l	PRES db	SAMP
0	ISL	15.17	15.17	33.338	24.655	327.7	0.000	5.81	101.5	2.8	0.34	0.0	0.00	0.26	0.10	0	
2		15.17	15.17	33.338	24.655	327.7	0.007	5 .81	101.5	2 .8	0.34	0.0	0.00	0.26	0.10	2	220
10	ISL	15.17	15.17	33.338	24.655	327.9	0.033	5 .82	101.6	2.6	0.33	0.0	0.00	0.25	0.10	10	
11		15.17	15.17	33.338	24.655	327.9	0.036	5 .82	101.6	2.6	0.33	0.0	0.00	0.25	0.10	11	219
20		15.14	15.14	33.335	24.660	327.8	0.066	5 .82	101.6	2 .6	0.32	0.0	0.00	0.29	0.12	20	213
30		15.09	15.09	33.333	24.669	327.2	0.098	5.82	101.5	2 .4	0.34	0.0	0.00	0.34	0.14	30	217
40		14.74	14.73	33.318	24.734	321 .3	0.131	5 .86	101.4	2 .7	0.34	0.0	0.02	0.53	0.28	40	216
50	ISL	14.50	14.49	33.332	24.796	315.7	0. 163	5 .86	100.9	3.0	0.36	0.1	0.07	0.51	0.31	50	
51		14.46	14.45	33.335	24.807	314.7	0. 166	5.86	100.8	3.0	0.36	0. 1	0.07	0.51	0.31	51	215
60		13.59	13.58	33.366	25.011	295 .4	0. 193	5.70	96.4	3.7	0.48	1 .6	0.28	0.30	0.24	60	214
70		12.78	12.77	33.360	25.168	280.6	0.222	5.21	86.6	6.2	0.72	5 .8	0.09	0.17	0.20	70	213
75	ISL	12.47	12 .46	33.379	25.243	273.6	0.236	5 .04	83.3	7.4	0.82	7.5	0.07	0.13	0.18	75	
85		11 .89	11 .88	33.435	25.397	259. 1	0.262	4.71	76.9	10.1	1 .01	10.6	0.03	0.09	0.13	85	212
99		10.92	10.91	33.521	25.641	236.1	0.297	4.12	65.9	15.1	1 .30	15.4	0.01	0.05	0.09	99	211
100	ISL	10.86	10.85	33.526	25.655	234.8	0.300	4.10	65.5	15.4	1 .32	15.6	0.01	0.05	0.09	100	
120		9.85	9.84	33.614	25.898	212.0	0.344	3.79	59.2	19.7	1 .56	19.3	0.01	0.01	0.05	121	210
125	ISL	9.69	9.68	33.638	25 .943	207.8	0.355	3.71	57.8	20.9	1.61	20. 1	0.01	0.01	0.05	126	
140		9.30	9.28	33.714	26.066	196.3	0.385	3.46	53.5	24.3	1 .75	22.4	0.01	0.01	0.04	141	209
150	ISL	9.05	9.03	33.779	26.157	187.8	0.404	3.31	50.9	26.6	1 .83	23.7	0.01	0.01	0.04	151	
170		8.59	8.57	33.897	26.322	172 .4	0.440	3.09	47.0	30.7	1 .96	25 .6	0 .01	0.00	0.03	171	208
199		7.98	7.96	33.961	26.464	159.2	0.488	3.05	45 .8	35 .3	2 .04	27.2	0.01	0.00	0.02	200	207
200	ISL	7.96	7.94	33.962	26.468	158.9	0.490	3.04	45.6	35 .5	2 .04	27.3	0.01			201	
229		7.48	7.46	33.996	26.564	150.0	0.535	2 .69	39.9	41 .5	2.21	29.5	0.01			230	206
250	ISL	7.16	7.14	34.014	26.623	144.6	0.566	2.38	35. 1	46.6	2 .35	31 .4	0.01			251	
268		6.94	6.92	34.028	26.665	140.8	0.591	2.12	31 .1	50.8	2 .47	32 .9	0.01			270	205
300	ISL	6.74	6.71	34.057	26.715	136.5	0.636	1 .78	26.0	55 .7	2 .61	34.6	0.00			302	
318		6.67	6.64	34.076	26.740	134.4	0.660	1 .60	23.3	58. 1	2 .68	35 .3	0.00			320	204
378		6.32	6.29	34.165	26.856	124.0	0.738	0.86	12.4	69.2	2.98	38.2	0.00			380	203
400	ISL	6.20	6.16	34.185	26.888	121.2	0.765	0.74	10.7	71 .9	3.04	38.8	0.00			403	
438		6.01	5 .97	34.213	26.934	117.2	0.810	0.61	8.8	75 .7	3.11	39.5	0.00			441	202
500	ISL	5.80	5 .76	34.254	26.994	112.2	0.881	0.42	6.0	81 .0	3.21	40.6	0.00			503	
516		5.75	5.71	34.265	27.009	110.9	0.899	0.37	5.3	82 .4	3.23	40.9	0.00			520	201

RV DAVID STARR JORDAN CALCOFI CRUISE 960; STATION 83 8Cl

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
32 5«» . 5 N	122 7.2 V	10/02/96	0003	UTC	4176 m	180	05 kn	290 06 1"l	2	1012.3 mb	17.2 C	15.0 C	40m 01	8/8	SC

DEPTH m		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/ l	OXY PCT	SI03 uM/ l	P04 uM/ l	N03 uM/ l	N02 uM/ l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
a	ISL	16.34	16.34	33.244	24.321	359.5	0.000	5 .65	100.9	2 .7	0,28	0.0	0. 00	0.09	0.03	0	
1		16.34	16.34	33.244	24.321	359.5	0. 004	5 .65	100.9	2 .7	0.28	0.0	0 . 00	0.09	0 . 03	1	220
1		16.34	16.34	33.244	24.321	359.5	0. 004									1	221
10	ISL	16.33	16.33	33.251	24.329	359.0	0 .036	5.65	100.9	2 .6	0.28	0.0	0. 00	0. 09	0.03	10	
15		16.33	16.33	33.257	24.334	358.7	0.054	5 .65	100.9	2 .6	0.28	0. 0	0 .00	0 . 09	0.03	15	219
20	ISL	16.34	16.34	33.259	24.333	358.9	0.072	5 .65	100.9	2 .6	0.28	0.0	0.00	0.09	0.03	20	
30		16.36	16.36	33.265	24.333	359.2	0. 108	5 . 64	100.8	2.7	0.28	0.0	0.00	0.10	0.04	30	21!
45		16.41	16.40	33.285	24.338	359.3	0.162	5 .64	100.9	2 .7	0.28	0.0	0 .00	0.12	0.03	45	21?
50	ISL	16.49	16.48	33.318	24.345	358.8	0.180	5 .63	100.9	2 .7	0.28	0.0	0.00	0.13	0.04	50	
55		16.56	16.55	33.355	24.357	357.8	0. 197	5 .61	100.7	2.7	0.28	0.0	0. 00	0.15	0.05	55	214
65		16.57	16.56	33.406	24.395	354.5	0.233	5 .60	100.6	2.6	0.26	0.0	0.00	0.19	0.08	65	21!
75		15.26	15.25	33.358	24.653	330.1	0.267	5 .79	101.3	2 .7	0.29	0.0	0.01	0.28	0.22	75	216
85		14.13	14.12	33.284	24.837	312.7	0.299	5 .95	101.7	3 . 1	0.31	0.0	0 .03	0.30	0.30	85	213
95		13.41	13.40	33.294	24.993	298.1	0.330	5 .92	99. 7	3.0	0.33	0. 1	0.14	0.33	0.28	95	212
100	ISL	13.18	13.17	33.291	25.037	294.0	0.345	5 .91	99. 0	3.0	0 .34	0.2	0.14	0.31	0.27	100	
110		12.80	12.79	33.280	25 .103	287.8	0.374	5 .86	97.4	3 . 1	0.38	0.5	0.15	0.23	0.22	1 10	211
124		12.10	12 .08	33.271	25 .231	275.9	0.413	5 .65	92 .5	4 . 4	0.52	2 .7	0.02	0.12	0.11	125	210
125	ISL	12.03	12.01	33.276	25 .248	274.3	0.416	5 .63	92 . 1	4 . 6	0.54	3.0	0.02	0.11	0.11	126	
144		10.61	10.59	33.423	25 .620	239.1	0.465	5.11	81.1	9.5	0.88	9. 4	0.01	0. 04	0 . 05	145	209
150	ISL	10.29	10.27	33.469	25.711	230.5	0.479	4.92	77.6	11.5	1 .00	11.4	0.01	0.03	0. 04	151	
170		9.44	9.42	33.610	25.963	206.7	0.523	4.32	66.9	18.3	1 .39	17.5	0 .00	0.01	0.03	171	20!
199		8.51	8.49	33.762	26.228	181.7	0.579	3.72	56.5	26.0	1 .76	23.2	0 . 00	0.00	0.02	200	20?
200	ISL	8.49	8.47	33.768	26.236	181.0	0.581	3.71	56.3	26.2	1 .76	23.3	0. 00			201	
229		8.02	8.00	33.915	26.422	163.7	0.631	3.63	54.5	31 .2	1 .84	24.8	0 .00			230	206
250	ISL	7.76	7.74	33.952	26.490	157.6	0.665	3.42	51.1	34. 4	1 . 94	26.2	0.00			251	
268		7.58	7.55	33.969	26.529	154.0	0.693	3.13	46.6	37.5	2 .06	27.6	0.00			269	20!
300	ISL	7.35	7.32	34 .048	26.625	145.4	0.741	2.24	33.2	46 . 1	2 .37	31.2	0. 00			302	
318		7.25	7.22	34.093	26.674	141.0	0 . 766	1 .73	25.6	51.0	2.55	33.2	0.00			320	20(
378		6.85	6.81	34. 163	26.785	131.2	0 . 848	1 .06	15.5	60.6	2 ,83	36.0	0.00			380	20!
400	ISL	6.67	6.63	34. 175	26.819	128.2	0.876	0.92	13.4	64.0	2 .90	36.9	0,0 0			402	
439		6.33	6.29	34.190	26.876	123.1	0.925	0.74	10.7	69.7	3 .01	38.2	0.00			442	20!
500	ISL	5 .88	5 .84	34.225	2 6.961	115.4	0. 998	0.50	7.2	78 .2	3.14	40 . 0	0.00			503	
516		5.76	5 .72	34.235	26.984	113.3	1.016	0 .44	6.3	80.4	3.17	40.5	0,00			519	201

RV DAVID STARR JORDAN CALCOFI CRUISE 9602 STATION 83 90

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPi
32 3<-.9 N	122 49.1 W	09/02/96	1841	UTC	4288 in	030	05 kn	320 04 11	1	1014.1 mb	16„8 C	15„ 3 C	41m 01	6/8	SC

DEPTH m		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/ l	OXY PCT	SI05 uM/ l	P04 uM/ l	N03 uM/ l	N02 uM/ l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0	ISL	16.09	16.09	33.262	24.391	352.7	0. 000	5 .70	101.3	2.5	0.29	0.0	0 .00	0.10	0 . 03	0	
2	A	16.09	16.09	33.262	24.392	352 .8	0.007	5 .70	101.3	2 .5	0.29	0.0	0 .00	0.10	0. 03	2	220
2		16.06	16.06	33.261	24.398	352 .2	0 .007									2	221
10	ISL	16.07	16.07	33.266	24.400	352 .3	0.035	5 .69	101.1	2.5	0.28	0.0	0.00	0.11	0.03	10	
15		16.06	16.06	33.273	24.407	351.7	0.053	5 .69	101.1	2 .5	0.28	0.0	0.00	0.11	0.03	15	219
20	ISL	16.05	16.05	33.289	24.422	350.4	0.070	5 .69	101.1	2 .5	0.28	0.0	0.00	0.11	0.03	20	
27	A	16.04	16.04	33.310	24.441	348. 9	0.095	5 . 69	101.1	2 .5	0.28	0.0	0. 00	0.12	0 . 03	27	21!
30	ISL	16.03	16.03	33.312	24.445	348.6	0.105	5.69	101.1	2 .5	0.28	0.0	0. 00	0.12	0.04	30	
40		16.00	15 .99	33.311	24.451	348.3	0.140	5 .69	101.0	2 .5	0.28	0.0	0 .00	0.12	0.06	40	21?
50	ISL	15 .97	15 .96	33.313	24.460	347.8	0. 175	5 .70	101.1	2 .5	0.28	0.0	0 .00	0.15	0.05	50	
54	A	15.96	15 .95	33.317	24.465	347.4	0.189	5 .70	101.1	2 .5	0.28	0.0	0. 00	0.17	0.05	54	216
68		15.74	15.73	33.318	24.516	343.0	0.237	5 .71	100.8	2 .5	0.28	0.0	0.00	0.22	0.07	68	215
75	ISL	15.60	15.59	33.311	24.542	340.8	0.261	5 .72	100.7	2 .5	0.29	0.0	0.00	0.31	0.12	75	
83	A	15 .43	15.42	33.304	24. 574	337.9	0.288	5 .73	100.5	2 .5	0 .30	0.0	0.00	0.41	0.21	83	211
93		13.60	13.59	33.250	24 . 920	304.9	0.320	5 .66	95 .6	3.7	0.44	1 .3	0.08	0. 43	0 . 36	93	21!
100	ISL	12.90	12.89	33.244	25 .056	292.1	0.341	5.61	93.4	4.3	0. 49	2 .3	0 .04	0.33	0.29	100	
102		12.74	12 .73	33.246	25.089	289.0	0.347	5 .59	92 .8	4.5	0.51	2 .6	0. 03	0.29	0.26	102	21!
1 10	A	12.02	12.01	33.271	25.246	274.1	0.370	5 .36	87.6	5 . 9	0. 65	4 .8	0. 02	0.18	0.19	110	211
125		11.71	11.69	33.430	25 .427	257.2	0.410	4 . 96	80.6	8.3	0 . 84	8.2	0.01	0 . 09	0.10	126	210
144		10.77	10.75	33.551	25.692	232 .3	0.456	4 .60	73 .3	12.2	1 .09	12.6	0.01	0.04	0 .06	145	20!
1 50	ISL	10.30	10.28	33.583	25.798	222 .2	0. 470	4.41	69. 6	14.3	1.21	14.5	0.01	0 . 03	0.05	151	
155	A	9.91	9.89	33.610	25.885	214.0	0.481	4.24	66 . 4	16.1	1 .32	16.2	0.01	0. 02	0.04	156	20!
191		9.17	9.15	33.830	26.179	186.6	0.553	2 .92	45 .0	27.3	1 .96	24.8	0.00	0.00	0. Q3	192	20?
200	ISL	9. 04	9.02	33.880	26.239	181.0	0.569	2 .74	42. 1	29.3	2 .04	25.9	0.00			201	
230		8. 70	8.68	34.016	26.399	166.3	0.621	2 .35	35 .9	34.5	2.21	28.1	0. 00			231	206
250	ISL	8 . 48	8.45	34.065	26.471	159.7	0.654	2.16	32 .8	37.5	2 .30	29.2	0 .00			251	
269		8.27	8.24	34.094	26.526	154.8	0 . 684	2 .02	30. 6	40. 3	2.38	30.0	0 .00			270	20!
300	ISL	7 . 90	7.87	34.123	26.605	147.7	0.731	1 . 78	26.7	45 .2	2 .50	31 .5	0.00			302	
318		7.70	7.67	34.132	26.641	144.5	0.757	1 .65	24.6	48 .0	2.57	32 .4	0,00			320	201
377		7.24	7.20	34.155	26.725	137.2	0.840	1 .26	18.6	55,9	2 ,76	34 . 8	0 .00			379	20!
400	ISL	7.05	7.01	34.171	26.764	133.7	0.871	1 .09	16.0	59.1	2 . 84	35.6	0.0 0			402	
437		6.74	6.70	34.200	26.830	127.8	0. 920	0. 83	12.1	64. 3	2 .96	36.9	0 .00			440	20!
500	ISL	6.30	6.25	34.239	26.919	119.8	0. 998	0.57	8 .2	73 .2	3.11	38 . 7	0 .00			503	
516		6.19	6.14	34.249	26.941	117.9	1.017	0. 50	7.2	75 .4	3.15	39.2	0. 00			519	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV DAVID STARR JORDAN CALCOFI CRUISE 9602 STATION 83 100

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TINE	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
32 14.7 N	123 29.6 W	09/02/96	0659 UTC	4145 m	310	08 kn			1015.2 mb	15„0 C	14..8 C			

DEPTH m	TEMP DES C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/L	OXY PCT	SI03 uM/ I	P04 uM/l	N03 UN/ I	N02 uM/ I	CHL-A ug/l	PHAEO ug/l	IPRES db	SAMP
0 ISL	15.78	15.78	33. 153	24.378	354.1	0.000	5.74	101.3	2.3	0.32	0. 1	0.00	0.11	0.04	0	
1	15.78	15.78	33.153	24.378	354.1	0.004	5 .74	101.3	2 .3	0.32	0.1	0.00	0.11	0.04	1	220
10 ISL	15.78	15.78	33. 152	24.377	354.4	0.035	5 .75	101.5	2.2	0.31	0.0	0.00	0.11	0.03	10	
16	15.79	15.79	33.153	24.376	354.7	0.057	5 .75	101.5	2.2	0.31	0.0	0.00	0.11	0.03	16	219
20 ISL	15.79	15.79	33.157	24.379	354.5	0.071	5 .75	101.5	2.2	0.31	0.0	0.00	0.11	0.03	20	
30 ISL	15.80	15.80	33.165	24.383	354.4	0.106	5 .75	101.6	2.2	0.31	0.0	0.00	0.12	0.04	30	
31	15.80	15.80	33.166	24.384	354.4	0.110	5 .75	101.6	2 .2	0.31	0.0	0.00	0.12	0.04	31	218
46	15.40	15.39	33.228	24.521	341 .8	0.162	5.78	101.3	2.4	0.31	0.1	0.00	0.22	0.11	46	217
50 ISL	15.22	15.21	33.212	24.548	339.3	0.176	5.81	101.5	2.4	0.31	0.1	0.00	0.24	0.13	50	
56	14.91	14.90	33.196	24.603	334.2	0.196	5.86	101.7	2.4	0.32	0.0	0.00	0.31	0.18	56	216
65	14.45	14.44	33.259	24.750	320.4	0.225	5.91	101.6	2.8	0.35	0.0	0.02	0.63	0.39	65	215
75	13.99	13.98	33.304	24.882	308.2	0.257	5 .81	99.0	3.3	0.41	0.6	0.22	0.59	0.35	75	214
85	13.52	13.51	33.380	25 .037	293.6	0.287	5 .74	96.9	3.6	0.46	1 .5	0.36	0.26	0.25	85	213
95	13.41	13.40	33.511	25.161	282.1	0.316	5 .36	90.4	4.7	0.51	3.3	0.04	0.19	0.21	95	212
100 ISL	12.84	12.83	33.471	25.243	274.3	0.330	5.16	85.9	6.0	0.65	5 .4	0.03	0.15	0.18	100	
110	11 .54	11 .53	33.381	25.420	257.5	0.356	4.77	77.2	9.3	0.97	10.0	0.02	0.09	0.12	110	211
125	10.70	10.69	33.507	25.669	234.0	0.393	4.23	67.3	14.2	1 .27	15.1	0.01	0.05	0.07	126	210
145	9.71	9.69	33.600	25.910	211.3	0.438	3.84	59.8	19.9	1 .56	19.6	0.01	0.01	0.05	146	209
150 ISL	9.57	9.55	33.651	25.973	205.4	0.448	3.64	56.6	21 .7	1 .65	20.8	0.01	0.01	0.05	151	
170	9.17	9.15	33.850	26.194	184.7	0.487	2.90	44.7	28.1	1 .95	24.9	0.01	0.00	0.05	171	208
199	8.57	8.55	33.923	26.345	170.7	0.539	2.87	43.7	32.0	2.04	26.7	0.00	0.00	0.03	200	207
200 ISL	8.55	8.53	33.925	26.350	170.3	0.540	2.87	43.7	32.1	2 .04	26.7	0.00			201	
229	8.05	8.03	33.960	26.453	160.8	0.588	2 .91	43.8	35.3	2 .08	27.6	0.00			230	206
250 ISL	7.70	7.68	33.968	26.511	155.5	0.621	2 .91	43.4	37.7	2.10	28.2	0.00			251	
269	7.42	7.39	33.975	26.557	151.4	0.651	2 .91	43. 1	40.3	2.15	29.0	0.00			270	205
300 ISL	7.14	7.11	34.016	26.629	144.9	0.697	2 .44	35 .9	46.4	2 .34	31 .4	0.00			302	
319	6.99	6.96	34.042	26.670	141.2	0.724	2.08	30.5	50.6	2.48	33.0	0.00			321	204
379	6.32	6.29	34.070	26.781	131.0	0.805	1 .40	20.2	62.4	2.77	36.8	0.00			381	203
400 ISL	6.15	6.11	34.081	26.812	128.3	0.833	1 .25	18.0	65.9	2.85	37.8	0.00			402	
438	5.88	5.84	34.102	26.863	123.8	0.881	1 .04	14.9	71 .7	2.96	39.2	0.00			441	202
500 ISL	5.51	5.47	34.142	26.940	116.9	0.955	0.79	11.2	80.1	3.09	40.7	0.00			503	
515	5.42	5.38	34.152	26.959	115.2	0.973	0.73	10.3	82.1	3.12	41 .1	0.00			518	201

RV DAVID STARR JORDAN CALCOFI CRUISE 9602 STATION 83 110

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
31 54.6 N	124 9.5 U	09/02/96	0037 UTC	4226 in	010	10 kn	340 06 07	1	1015.3 mb	17„3 C	16.„4 C	23m 01	7/8	ST

DEPTH in	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SI03 uM/l	P04 uN/l	N03 uM/ I	N02 uM/l	CHL-A ug/ I	PHAEO ug/l	PRES db	SAMP
0 ISL	15.94	15.94	33.302	24.456	346.6	0.000	5.76	102.1	2.8	0.30	0. 1	0.00	0.16	0.04	0	
1	15.94	15.94	33.302	24.456	346.6	0.003	5 .76	102. 1	2.8	0.30	0.1	0.00	0.16	0.04	1	220
2	15.92	15.92	33.303	24.462	346.1	0.007									2	221
10 ISL	15.90	15.90	33.298	24.463	346.3	0.035	5 .78	102.4	2 .4	0.30	0.1	0.00	0.15	0.04	10	
15	15.86	15.86	33.294	24.469	345.9	0.052	5 .79	102 .5	2 .1	0.30	0.1	0.00	0.15	0.04	15	219
20 ISL	15.83	15.83	33.288	24.471	345 .8	0.069	5 .78	102 .2	2 .2	0.30	0.1	0.00	0.15	0.04	20	
30	15.76	15.76	33.277	24.478	345.4	0.104	5 .77	101.9	2.5	0.30	0. 1	0.00	0.15	0.05	30	218
45	14.70	14.69	33.283	24.715	323.2	0.154	5 .95	102.9	2.9	0.32	0.0	0.00	0.36	0.20	45	217
50 ISL	14.17	14.16	33.298	24.839	311.6	0.170	5.94	101.6	3.2	0.36	0.3	0.04	0.66	0. 48	50	
55	13.68	13.67	33.314	24.953	300.8	0.185	5.94	100.6	3.5	0.40	0.7	0.07	0.93	0.73	55	216
65	13.16	13.15	33.320	25.062	290.6	0.215	5 .75	96.3	4.0	0.48	2 .1	0.04	0.15 U	0.14 U	65	215
75	12.63	12.62	33.308	25.157	281 .8	0.243	5 .55	91 .9	5.1	0.60	4.0	0.02	0.25	0.27	75	214
86	11 .91	11 .90	33.279	25.272	271 .0	0.274	5.48	89.4	5.6	0.64	4.7	0.02	0.18	0.19	86	213
96	11 .63	11 .62	33.352	25.381	260.9	0.300	4.84	78.5	9.0	0.93	9.5	0.02	0.17	0.19	96	212
100 ISL	11 .48	11 .47	33.385	25.434	255 .9	0.311	4.67	75 .5	10.1	1 .01	10.9	0.02	0.15	0.17	100	
111	11 .08	11 .07	33.469	25.572	243.0	0.338	4.33	69.5	12.8	1.19	13.9	0.01	0.09	0.12	112	211
125	10.68	10.67	33.536	25.695	231 .5	0.371	4.05	64. 4	15.4	1 .36	16.3	0.01	0.05	0.09	126	210
145	9.54	9.52	33.706	26.021	200.7	0.415	3.43	53.3	22.6	1 .73	22.0	0.00	0.01	0.03	146	209
150 ISL	9.33	9.31	33.742	26.083	194.9	0.424	3.36	52.0	24.1	1 .78	22.9	0.00	0.01	0.03	151	
169	8.73	8.71	33.848	26.261	178.1	0.460	3.24	49.5	28.3	1 .90	24.9	0.00	0.00	0.03	170	208
200	8.43	8.41	33.895	26.345	170.7	0.514	3.14	47. 6	30.7	1 .97	26.0	0.00	0.00	0.03	201	207
229	7.87	7.85	33.968	26.486	157.6	0.562	2 .77	41 .5	37.2	2.17	28.7	0.00			230	206
250 ISL	7.48	7.46	33.982	26.553	151.4	0.594	2 .83	42 .0	40.2	2.19	29.3	0.00			251	
268	7.18	7.15	33.986	26.599	147.2	0.621	2 .88	42.5	42 .7	2.21	29.7	0.00			270	205
300 ISL	6.83	6.80	34.019	26.673	140.5	0.667	2 .28	33.4	50.2	2 .44	32 .7	0.00			302	
319	6.67	6.64	34.039	26.710	137. 1	0.693	1 .84	26.8	55.0	2 .60	34.7	0.00			321	204
378	6.10	6.07	34.080	26.817	127.4	0.771	1 .26	18.1	66. 1	2 .84	37.9	0.00			380	203
400 ISL	5.95	5.92	34.095	26.848	124.7	0.799	1.10	15.8	69 .5	2 .90	38 .8	0.00			403	
437	5.78	5 .74	34.128	26.896	120.5	0.844	0.87	12.4	74. 1	3.00	39. 8	0.00			440	202
500 ISL	5.83	5.79	34.229	26.970	114.5	0.918	0. 50	7.2	78.6	3.16	40.4	0.00			503	
512	5.84	5.80	34.248	26.984	113.3	0.932	0.43	6.2	79.5	3.19	40.5	0.00			515	201

RV DAVIDi STARR JORDAN CALCOFI CRUISE 9602 STATION 87 3!

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
33 53.4 N	118 29.3 W	06/02/96	0415 UTC	56 m	290	15 kn			1024.7 mb	15 „.2 C	15.. 1 C			

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/ I	OXY PCT	SI03 uM/ I	P04 uM/ I	N03 uM/ I	N02 uM/ I	CHL-A ug/ I	PHAEO ug/ I	PRES db	SAMP
0 ISL	14.79	14.79	33.380	24.769	316.7	0.000	6.10	105.7	2 .4	0.30	0.0	0.01	1.11	0.32	0	
2	14.79	14.79	33.380	24.769	316.8	0. 006	6.10	105.7	2.4	0.30	0 .0	0.01	1.11	0.32	2	207
5	14.79	14.79	33.378	24.768	317.0	0.016	6.10	105.7	2 .4	0 .30	0.0	0.01	1.15	0.35	5	206
10	14.77	14.77	33.379	24 .773	316.7	0.032	6.11	105 .9	2 .4	0 .30	0.0	0. 01	1.19	0.27	10	205
15	14.73	14.73	33.381	24. 783	315.8	0. 047	6.11	105.8	2 .4	0 .30	0.0	0.01	1 .20	0.27	15	204
20	14.63	14.63	33.387	24.810	313.5	0.063	6.07	104.9	2 .4	0.31	0.0	0.01	1.61	0.37	20	203
30 ISL	13.74	13.74	33.419	25.021	293.7	0.094	5 .80	98.4	3.0	0.44	1 .2	0.05	1.51	0.93	30	
31	13.63	13.63	33.424	25.047	291 .2	0.097	5.76	97.5	3. 1	0.46	1 .4	0.06	1 .50	0. 98	31	202
40	12.85	12.84	33.458	25.230	274.0	0.122	5.19	86.5	6.2	0.78	4. 6	0.16	0.92	0.84	40	201
50	11.68	11 .67	33.571	25.541	244.6	0.148	3.84	62 .5	15.4	1 .48	13.1	0 .38	1 .03	1 .03	50	224

RV DAVID STARR JORDAN — CALCOFI CRUISE 9602 — STATION 87 35

LATITUDE	LONGITUDE	OAY/MO/YR	CAST TINE	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
33 49'.5 N	118 37.6 W	06/02/96	0621 UTC	634 m	280 15 kn			1025.0 mb	15.2 C	15.1 C			

	DEPTH m		TEMP DEG C	POT TENP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SI03 uM/l	P04 uM/l	N03 uM/l	N02 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
	0	ISL	14.63	14.63	33.327	24.763	317.4	0.000	6.54	113.0	1.2	0.25	0.0	0.01	5.22	0.68	0	
	2		14.63	14.63	33.327	24.763	317.4	0.006	6.54	113.0	1.2	0.25	0.0	0.01	5.22	0.68	2	220
	10	ISL	14.49	14.49	33.307	24.777	316.3	0.032	6.59	113.5	1.2	0.26	0.0	0.01	4.31	0.65	10	
	11		14.47	14.47	33.305	24.780	316.0	0.035	6.60	113.6	1.2	0.26	0.0	0.01	4.12	0.65	11	219
	20	ISL	13.73	13.73	33.419	25.022	293.2	0.062	5.88	99.8	2.3	0.42	0.9	0.05	2.10	0.79	20	
*	21		13.64	13.64	33.433	25.052	290.4	0.065	5.79	98.1	2.5	0.44	1.0	0.06	1.89	0.81	21	218
	30	ISL	13.17	13.17	33.429	25.144	281.9	0.091	5.36	89.9	3.6	0.60	2.8	0.11	1.48	0.89	30	
	31		13.12	13.12	33.428	25.153	281.1	0.094	5.31	89.0	3.9	0.63	3.1	0.12	1.47	0.90	31	217
	41		12.24	12.23	33.522	25.397	258.0	0.121	4.37	71.9	10.6	1.10	10.2	0.24	0.62	0.67	41	216
	50	ISL	11.63	11.62	33.524	25.514	247.2	0.143	3.76	61.1	14.7	1.46	14.0	0.25	0.79	0.77	50	
	51		11.57	11.56	33.525	25.525	246.0	0.146	3.71	60.2	15.0	1.49	14.3	0.25	0.81	0.78	51	215
	60		11.12	11.11	33.622	25.683	231.3	0.167	3.54	56.9	16.5	1.50	16.9	0.20	0.05 U	0.04 U	60	2H
	71		10.86	10.85	33.661	25.760	224.2	0.192	3.40	54.4	18.3	1.58	18.2	0.13	0.41	0.42	71	213
	75	ISL	10.71	10.70	33.681	25.802	220.2	0.201	3.33	53.1	19.1	1.62	18.9	0.10	0.39	0.43	75	
	84		10.36	10.35	33.728	25.900	211.1	0.221	3.18	50.3	21.1	1.72	20.5	0.03	0.37	0.46	84	212
	99		10.03	10.02	33.791	26.005	201.4	0.252	2.96	46.5	23.8	1.86	22.2	0.02	0.25	0.35	100	211
	100	ISL	10.01	10.00	33.794	26.011	200.8	0.254	2.95	46.3	23.9	1.87	22.3	0.02	0.25	0.35	101	
	120		9.77	9.76	33.858	26.101	192.6	0.293	2.76	43.1	26.0	1.95	23.8	0.02	0.21	0.32	121	210
	125	ISL	9.72	9.71	33.881	26.128	190.2	0.303	2.68	41.8	26.7	1.98	24.2	0.02	0.21	0.32	126	
	139		9.58	9.56	33.950	26.205	183.2	0.329	2.47	38.5	28.8	2.08	25.3	0.01	0.22	0.33	140	209
	150	ISL	9.48	9.46	33.998	26.259	178.3	0.349	2.36	36.7	30.4	2.14	26.1	0.01	0.19	0.30	151	
	170		9.33	9.31	34.075	26.344	170.6	0.384	2.18	33.8	33.0	2.23	27.3	0.01	0.12	0.23	171	208
	199		9.20	9.18	34.165	26.436	162.4	0.432	1.78	27.5	36.2	2.37	Z8.7	0.00	0.06	0.16	200	207
	200	ISL	9.20	9.18	34.166	26.437	162.4	0.433	1.77	27.4	36.3	2.37	28.7	0.00			201	
	229		9.04	9.02	34.183	26.476	159.2	0.480	1.70	26.2	37.6	2.40	29.2	0.00			230	206
	250	ISL	8.89	8.86	34.193	26.508	156.5	0.513	1.63	25.0	39.1	2.44	29.7	0.00			252	
	269		8.73	8.70	34.202	26.541	153.7	0.543	1.56	23.9	40.8	2.49	30.2	0.00			271	205
	300	ISL	8.48	8.45	34.224	26.597	148.8	0.590	1.37	20.8	44.2	2.59	31.2	0.00			302	
	320		8.30	8.27	34.235	26.633	145.7	0.619	1.24	18.8	46.5	2.65	31.9	0.00			322	204
	379		7.67	7.63	34.224	26.719	138.2	0.703	1.06	15.8	53.1	2.77	33.9	0.00			381	203
	400	ISL	7.46	7.42	34.224	26.749	135.5	0.731	0.98	14.6	55.7	2.82	34.6	0.00			403	
	438		7.11	7.07	34.231	26.804	130.6	0.782	0.81	11.9	60.7	2.93	35.9	0.00			441	202
	500	ISL	6.61	6.56	34.271	26.904	121.7	0.860	0.51	7.4	70.2	3.12	37.9	0.00			503	
	515		6.49	6.44	34.281	26.927	119.5	0.878	0.44	6.4	72.5	3.16	38.4	0.00			519	201

RV DAVID STARR JORDAN — CALCOFI CRUISE 9602 — STATION 87 40

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TINE	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
33 39.2 N	118 58.3 W	06/02/96	1026 UTC	730 m	280 06 kn			1024.9 mb	14.5 C	14.2 C			

	DEPTH m		TEMP DEG C	POT TENP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SI03 uM/l	P04 uN/l	N03 uH/l	N02 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
	0	ISL	14.85	14.85	33.378	24.755	318.1	0.000	6.02	104.5	1.7	0.30	0.1	0.00	0.42	0.14	0	
	2		14.85	14.85	33.378	24.755	318.2	0.006	6.02	104.5	1.7	0.30	0.1	0.00	0.42	0.14	2	220
	10	ISL	14.84	14.84	33.379	24.758	318.1	0.032	6.02	104.4	1.7	0.30	0.1	0.00	0.46	0.13	10	
	16		14.84	14.84	33.380	24.759	318.2	0.051	6.02	104.4	1.6	0.30	0.1	0.00	0.50	0.13	16	219
	20	ISL	14.78	14.78	33.389	24.779	316.4	0.064	6.03	104.5	1.6	0.30	0.1	0.00	0.51	0.14	20	
	30		14.51	14.51	33.418	24.859	309.1	0.095	6.05	104.3	1.5	0.30	0.1	0.00	0.52	0.17	30	218
	46		13.72	13.71	33.467	25.062	290.1	0.143	5.64	95.7	3.4	0.51	1.9	0.08	0.81	0.58	46	217
	50	ISL	13.56	13.55	33.471	25.098	286.8	0.154	5.48	92.7	4.2	0.57	2.9	0.14	0.98	0.75	50	
	56		13.29	13.28	33.479	25.159	281.2	0.171	5.19	87.3	5.8	0.68	4.7	0.22	1.10	0.92	56	216
	66		12.54	12.53	33.527	25.344	263.8	0.199	4.61	76.3	9.3	0.95	9.0	0.26	0.48	0.56	66	215
	75	ISL	12.44	12.43	33.533	25.368	261.7	0.222	4.56	75.3	9.7	0.99	9.5	0.25	0.47	0.51	75	
	76		12.43	12.42	33.533	25.370	261.5	0.225	4.56	75.3	9.7	0.99	9.5	0.25	0.47	0.51	76	214
	85		11.85	11.84	33.572	25.511	248.3	0.248	4.18	68.2	12.3	1.16	12.5	0.14	0.31	0.52	85	213
	95		11.54	11.53	33.601	25.591	240.9	0.272	3.99	64.7	14.3	1.28	14.2	0.09	0.29	0.41	95	212
	100	ISL	11.27	11.26	33.622	25.657	234.7	0.284	3.81	61.4	15.7	1.37	15.6	0.06	0.24	0.37	100	
	108		10.81	10.80	33.664	25.772	223.9	0.303	3.51	56.1	18.0	1.52	17.9	0.03	0.14	0.30	109	211
	123		10.27	10.26	33.758	25.939	208.2	0.335	3.10	49.0	22.0	1.77	21.1	0.01	0.04	0.13	124	210
	125	ISL	10.21	10.20	33.770	25.959	206.4	0.339	3.06	48.3	22.4	1.79	21.4	0.01	0.04	0.13	126	
	146		9.72	9.70	33.871	26.120	191.4	0.381	2.74	42.8	26.3	1.96	23.9	0.01	0.03	0.14	147	209
	150	ISL	9.64	9.62	33.883	26.143	189.3	0.388	2.71	42.2	26.9	1.98	24.2	0.01	0.03	0.13	151	
	169		9.34	9.32	33.933	26.231	181.2	0.424	2.61	40.4	29.4	2.04	25.3	0.02	0.03	0.10	170	208
	198		8.99	8.97	34.015	26.352	170.3	0.475	2.35	36.1	33.5	2.18	27.1	0.01	0.02	0.07	199	207
	200	ISL	8.98	8.96	34.021	26.359	169.7	0.478	2.33	35.8	33.6	2.19	27.2	0.01			201	
	229		8.87	8.85	34.109	26.445	162.0	0.526	2.04	31.3	36.0	2.31	28.5	0.01			230	206
	250	ISL	8.60	8.57	34.148	26.518	155.4	0.559	1.76	26.8	40.0	2.44	30.0	0.01			251	
	268		8.33	8.30	34.173	26.579	149.8	0.587	1.51	22.9	43.8	2.55	31.3	0.01			270	205
	300	ISL	8.02	7.99	34.211	26.656	142.9	0.634	1.17	17.6	49.0	2.71	33.0	0.01			302	
	319		7.86	7.83	34.228	26.693	139.7	0.661	1.01	15.1	51.7	2.78	33.8	0.01			321	204
	381		7.36	7.32	34.252	26.785	131.7	0.745	0.75	11.1	59.0	2.94	35.5	0.01			383	203
	400	ISL	7.20	7.16	34.259	26.813	129.2	0.770	0.69	10.2	61.3	2.97	36.0	0.01			403	
	438		6.87	6.83	34.272	26.869	124.3	0.818	0.59	8.7	66.2	3.04	37.1	0.00			441	202
	500	ISL	6.36	6.31	34.297	26.957	116.3	0.892	0.41	5.9	75.5	3.18	38.6	0.00			503	
	515		6.24	6.19	34.304	26.978	114.4	0.910	0.37	5.3	77.7	3.21	39.0	0.00			519	201

RV DAVID STARR JORDAN CALCOFI CRUISE 9602 STATION 87 45

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
J3 29.5 *H*	119 19.1 W	06/02/96	1424	UTC	1645 m	330	06 kn			1023.6 mb	15 .7 C	14.8 C			

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/ l	OXY PCT	SI03 uM/ l	P04 uM/ l	N03 uM/L	N02 uM/ l	CHL-A ug/ l	PHAEO ug/l	PRES db	SAMP
0 ISL	15.09	15.09	33.417	24.733	320.2	0.000	5.83	101.7	2.7	0.31	0.1	0.00	0.22	0.09	0	
2	15.09	15.09	33.417	24.733	320.3	0.006	5.83	101.7	2.7	0.31	0.1	0.00	0.22	0.09	2	220
10	15.09	15.09	33.421	24.736	320.2	0.032	5.83	101.7	2.7	0.31	0.1	0.00	0.22	0.08	10	219
20 ISL	14.86	14.86	33.437	24.799	314.5	0.064	5.87	101.9	2.6	0.32	0.1	0.00	0.32	0.17	20	
21	14.84	14.84	33.439	24.805	314.0	0.067	5.87	101.9	2.6	0.32	0.1	0.00	0.33	0.18	21	218
30	13.64	13.64	33.452	25.067	289.3	0.094	5.99	101.4	2.1	0.43	1 .0	0.04	1 .64	1 .23	30	217
40	12.60	12.59	33.516	25.323	265.0	0.122	5.11	84.7	7.1	0.82	6.6	0.19	1 .47	1 .34	40	216
50	12.15	12.14	33.553	25.439	254.3	0.148	4.45	73.1	11.6	1 .09	10.9	0.26	0.97	0.86	50	215
60	11.13	11.12	33.587	25.654	234.0	0.172	3.95	63.5	14.5	1 .32	15.0	0.07	0.25	0.33	60	214
70	10.88	10.87	33.659	25.755	224.6	0.195	3.62	57.9	18.0	1 .49	17.4	0.05	0.22	0.28	70	213
75 ISL	10.74	10.73	33.680	25.796	220.8	0.206	3.51	56.0	18.9	1 .55	18.3	0.04	0.18	0.25	75	
83	10.53	10.52	33.703	25 .851	215.8	0.224	3.39	53.8	19.9	1 .62	19.4	0.02	0.13	0.21	83	212
99	10.32	10.31	33.743	25.918	209.7	0.258	3.22	50.9	21.8	1 .71	20.5	0.02	0.11	0.20	100	211
100 ISL	10.31	10.30	33.747	25.923	209.2	0.260	3.20	50.6	21.9	1 .72	20.6	0.02	0.11	0.20	101	
119	9.96	9.95	33.846	26.060	196.6	0.298	2.77	43.5	25.4	1 .93	23.4	0.01	0.06	0.13	120	210
125 ISL	9.72	9.71	33.885	26.131	189.9	0.310	2.68	41 .8	27.0	1 .99	24.3	0.01	0.06	0.13	126	
140	9.12	9.10	33.975	26.299	174.1	0.337	2.51	38.7	31 .0	2.11	26.4	0.01	0.05	0.13	141	209
150 ISL	8.93	8.91	34.007	26.354	169.0	0.354	2 .44	37.5	32 .5	2.16	27.1	0.01	0.04	0.10	151	
170	8.67	8.65	34.039	26.421	163.1	0.388	2.35	35.9	35 .0	2.22	28.0	0.01	0.01	0.04	171	208
196	8.17	8.15	34.065	26.517	154.2	0.429	2.25	34.0	39.2	2.30	29.4	0.01	0.01	0.05	197	207
200 ISL	8.17	8.15	34.081	26.530	153.1	0.435	2.16	32.6	40.0	2.33	29.7	0.01			201	
230	8.18	8.16	34.176	26.604	146.7	0.480	1 .45	21.9	45.7	2.58	31 .8	0.01			231	206
250 ISL	8.08	8.05	34.202	26.639	143.6	0.509	1 .24	18.7	48.1	2.66	32.7	0.01			252	
269	7.95	7.92	34.214	26.668	141.2	0.536	1.13	17.0	50.0	2.71	33.3	0.01			271	205
300 ISL	7.73	7.70	34.241	26.722	136.5	0.579	0.90	13.5	54.0	2 .82	34.4	0.01			302	
317	7.61	7.58	34.252	26.748	134.2	0.602	0.80	11.9	56.1	2.88	34.9	0.01			319	204
378	7.18	7.14	34.260	26.816	128.5	0.682	0.66	9.7	61 .9	2 .97	36.2	0.01			380	203
400 ISL	7.01	6.97	34.265	26.844	126.1	0.710	0.60	8.8	64.6	3.01	36.8	0.01			403	
438	6.70	6.66	34.277	26.896	121.5	0.757	0.50	7.3	69.6	3.09	37.8	0.01			441	202
500 ISL	6.23	6.19	34.305	26.980	114.0	0.830	0.36	5 .2	78.4	3.20	38.9	0.00			503	
513	6.13	6.08	34.311	26.998	112.4	0.845	0.33	4.8	80.3	3.22	39.1	0.00			517	201

RV DAVID STARR JORDAN CALCOFI CRUISE 9602 STATION 87 50

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
33 19.1 N	119 39.9 W	06/02/96	1847	UTC	73 m	300	08 kn	310 05 07	1	1025.1 mb	15.0 C	14,2 C	16m 04	2/8	ST

DEPTH Hi	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SI03 uM/ l	P04 uM/l	N03 uM/ l	N02 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	5.86	100.6	3.6	0.43	1 .1	0.05	0.68	0.28	0	
2 A	14.32	14.32	33.369	24.861	308. 1	0.006	5.86	100.6	3.6	0.43	1 .1	0.05	0.68	0.28	2	207
2	14.33	14.33	33.369	24.859	308.3	0.006									2	208
10 A	14.29	14.29	33.369	24.867	307.7	0.031	5.87	100.7	3.5	0.43	1.1	0.05	0. 68	0.29	10	206
20 ISL	13.61	13.61	33.416	25 .045	291 .1	0.061	5.78	97.8	4.4	0.55	2.7	0.11	0.72	0.43	20	
21 A	13.52	13.52	33.423	25 .068	288.9	0.064	5.77	97.5	4.6	0.57	3.0	0.12	0.72	0.45	21	205
30 ISL	12.74	12.74	33.504	25.287	268.3	0.089	5.15	85 .6	7.8	0.82	6.8	0.16	0.62	0.62	30	
33 A	12.48	12.48	33.532	25.359	261 .5	0.097	4.91	81 .2	9. 1	0.92	8.2	0.17	0.57	0. 68	33	204
43 A	11 .84	11 .83	33.587	25.523	246. 1	0.122	4.32	70.5	13.2	1.18	12.2	0.19	0.43	0.79	43	203
50 ISL	11 .72	11.71	33.589	25.547	244.0	0. 139	4.23	68.9	14.0	1 .22	13.0	0.19	0.43	0.76	50	
52	11 .71	11 .70	33.596	25.555	243.3	0.144	4.21	68.5	14.1	1 .23	13.0	0.19	0.43	0.75	52	202
63 A	11 .65	11 .64	33.601	25.570	242.1	0.171	4.15	67.5	14.2	1 .25	13.3	0.19	0.39	0.81	63	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV DAVID STARR JORDAN CALCOFI CRUISE 9602 STATION 87 55

LATITUDE	LONGITUDE	OAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
33 9.5 N	120 0.3 W	06/02/96	2353	UTC	1186 m	320	08 kn	240 06 05	0	1021.9 mb	16,5 C	15 .7 C		0/8	

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SI03 ufl/ l	P04 uM/ l	N03 uM/ l	N02 uM/ l	CHL-A ug/l	PHAEO ug/ l	PRES db	SAMP
0 ISL	14.57	14.57	33.340	24.785	315.2	0.000	5 .97	103.0	2.9	0.37	0.3	0.02	0.82	0.28	0	
2	14.57	14.57	33.340	24.786	315.3	0.006	5.97	103.0	2 .9	0.37	0.3	0.02	0.82	0.28	2	220
10	14.39	14.39	33.344	24.827	311.5	0.031	5.99	103.0	2.9	0.38	0.5	0.03	0.85	0.33	10	219
20	13.20	13.20	33.431	25 . 139	282.1	0.061	5.95	99.8	3.0	0.52	2 .3	0.09	0.95	0.66	20	218
30 ISL	12.56	12.56	33.436	25 .269	270.0	0.089	5 .52	91 .4	5 .7	0.72	5 .2	0.15	0.80	0 .67	30	
31	12.52	12.52	33.437	25 .277	269.2	0.091	5 .47	90.5	6.1	0.74	5 .5	0.16	0.93 U	1 .36 U	31	217
40	12.10	12.09	33.543	25.440	253.9	0.115	5 .25	86 .1	8.9	0.93	8.0	0.25	0. 57	0.68	40	216
50 ISL	11 .75	11 .74	33.582	25 .536	245 .0	0.140	4.81	78.4	12.1	1.12	11.2	0.30	0.46	0. 58	50	
51	11 .70	11 .69	33.584	25.547	244.0	0.142	4.74	77.1	12.5	1.14	11.6	0.30	0.45	0.57	51	215
60	10.94	10.93	33.641	25 .730	226.8	0.163	3.82	61 .2	17.0	1 .45	16.4	0.33	0.25	0.48	60	214
70	10.53	10.52	33.684	25.835	216.9	0.186	3.53	56.0	19.5	1 .58	18.8	0.08	0.16	0 .34	70	213
75 ISL	10.42	10.41	33.697	25.865	214.2	0.196	3.45	54.6	20.0	1 .62	19.3	0.07	0.15	0.35	75	
86	10.18	10.17	33.715	25 .920	209.2	0.220	3.35	52.8	20.7	1 .66	20. 1	0.05	0.13	0.36	86	212
100	9.61	9.60	33.732	26.029	199.0	0.248	3.33	51.8	23.0	1 .67	22.2	0.02	0.04	0.15	101	211
120	9.22	9.21	33.815	26.158	187.2	0.287	3.15	48.6	26.3	1 .87	23.8	0.02	0.03	0.17	121	210
125 ISL	9.20	9.19	33.855	26.192	184.0	0.296	3.03	46.8	27.5	1 .93	24.5	0.02	0.03	0.17	126	
140	9.15	9.13	33.969	26.290	175.1	0.323	2.66	41 .0	31 .0	2.10	26.4	0.01	0 .02	0.16	141	209
150 ISL	8.95	8.93	34.002	26.347	169.7	0.340	2 .60	39.9	32 .8	2.13	27.2	0.01	0.02	0.14	151	
170	8.43	8.41	34.020	26.443	160.9	0.373	2.49	37.8	35 .8	2.19	28.2	0.01	0 .01	0.10	171	208
200	7.64	7.62	34.002	26.546	151.4	0.420	2 .66	39. 7	40.4	2.21	29.5	0.02	0.01	0.09	201	207
230	7.22	7.20	34.044	26.639	142.9	0. 464	2.15	31 .7	47 .6	2 .43	32.0	0.02			231	206
250 ISL	7.02	7.00	34.056	26.676	139.6	0.493	1 .95	28.7	51.2	2 .52	33.2	0.02			252	
268	6.89	6. 87	34.062	26.698	137.6	0.518	1 .83	26.8	53.7	2 .58	34 .1	0.02			270	205
300 ISL	6.76	6.73	34.078	26.729	135.2	0.561	1 .64	24.0	56.4	2 .66	35 .0	0 .01			302	
318	6.71	6.68	34.090	26.745	133.9	0.585	1 .53	22 .3	57.8	2 .70	35 .4	0 .01			320	204
377	6.39	6.36	34.157	26.841	125.5	0.662	0.92	13.3	67. 1	2 .94	38.0	0.00			379	203
400 ISL	6.28	6.24	34.179	26.873	122.7	0.690	0.77	11.1	69.9	3.01	38.7	0.00			403	
437	6.11	6.07	34.214	26.923	118.4	0. 735	0.60	8 .6	74 .0	3.10	39.5	0 .00			440	202
500 ISL	5 .87	5 .83	34.280	27.006	111.2	0.807	0.39	5 .6	80 .8	3.21	40 .6	0.00			503	
506	5 .85	5 .81	34.286	27.013	110.5	0.814	0.37	5 .3	81 .4	3.22	40 .7	0.00			510	201

RV DAVID STARR JORDAN CALCOFI CRUISE 9602 STATION 87 6Gl

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD	AMT	TYPi
32 59'.1 N	120 20.6 W	07/02/96	0411	UTC	728 m	340	18 kn			1021.8 mb	16..3 C	15.0 C				

DEPTH in		TEMP DES C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SI03 uM/l	P04 uM/l	N03 uM/l	N02 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAHF
0	ISL	15.18	15.18	33.349	24.661	327.1	0.000	5.81	101.5	2.6	0.33	0.0	0.01	0.35	0.14	0	
2		15.18	15.18	33.349	24.661	327.1	0.007	5.81	101.5	2.6	0.33	0.0	0.01	0.35	0.14	2	22!
10		15.19	15.19	33.349	24.659	327.5	0.033	5.80	101.3	2.5	0.32	0.0	0.01	0.35	0.14	10	211
20		15.09	15.09	33.352	24.684	325.5	0.065	5.81	101.3	2.3	0.33	0.0	0.01	0.40	0.17	20	211
30		14.31	14.31	33.351	24.850	309.9	0.097	5.94	101.9	3.1	0.36	0.2	0.04	0.85	0.40	30	211
40		14.16	14.15	33.358	24.887	306.7	0.128	5.89	100.8	3.1	0.39	0.6	0.08	0.73	0.37	40	211
50		13.77	13.76	33.411	25.009	295.3	0.158	5.87	99.7	3.5	0.46	1.4	0.16	0.52	0.33	50	21!
60		13.52	13.51	33.425	25.071	289.7	0.187	5.82	98.3	3.6	0.51	2.0	0.23	0.33	0.26	60	211
69		13.20	13.19	33.404	25.119	285.3	0.213	5.62	94.3	4.5	0.60	3.4	0.21	0.20	0.20	69	21!
75	ISL	12.82	12.81	33.435	25.219	276.0	0.230	5.40	89.9	6.2	0.74	5.4	0.26	0.15	0.18	75	
85		12.13	12.12	33.506	25.407	258.2	0.257	4.95	81.2	9.6	1.00	9.2	0.31	0.10	0.16	85	211
100		11.38	11.37	33.544	25.576	242.4	0.294	4.19	67.7	13.8	1.25	14.1	0.07	0.07	0.14	100	211
119		10.54	10.53	33.644	25.804	221.1	0.338	3.68	58.4	18.7	1.52	18.2	0.05	0.08	0.15	120	211
125	ISL	10.34	10.33	33.713	25.892	212.8	0.351	3.36	53.1	21.2	1.65	19.9	0.04	0.07	0.14	126	
141		9.81	9.79	33.885	26.116	191.7	0.384	2.62	41.0	27.6	1.97	24.1	0.02	0.05	0.12	142	201
150	ISL	9.41	9.39	33.903	26.196	184.2	0.401	2.74	42.5	29.5	1.98	25.3	0.02	0.04	0.11	151	
169		8.60	8.58	33.897	26.320	172.6	0.435	3.00	45.7	31.9	1.99	26.5	0.02	0.02	0.09	170	20!
199		7.85	7.83	33.956	26.479	157.7	0.484	3.17	47.5	35.5	2.01	27.2	0.02	0.01	0.05	200	201
200	ISL	7.84	7.82	33.958	26.482	157.4	0.486	3.16	47.3	35.6	2.01	27.3	0.02			201	
228		7.57	7.55	33.998	26.553	151.1	0.529	2.76	41.1	40.3	2.17	29.3	0.01			229	201
250	ISL	7.29	7.27	34.012	26.604	146.5	0.562	2.51	37.1	44.5	2.29	30.8	0.01			251	
268		7.07	7.04	34.021	26.642	143.1	0.588	2.31	34.0	47.9	2.38	32.0	0.01			270	205
300	ISL	6.77	6.74	34.043	26.700	137.9	0.633	1.87	27.3	52.9	2.55	33.8	0.01			302	
318		6.66	6.63	34.061 D	26.729	135.3	0.657									320	201
378		6.64	6.61	34.171	26.819	127.7	0.736	0.93	13.6	64.3	2.90	37.3	0.01			380	20!
400	ISL	6.46	6.42	34.190	26.858	124.3	0.764	0.79	11.5	67.9	2.98	38.2	0.01			403	
437		6.11	6.07	34.212	26.921	118.5	0.809	0.61	8.8	73.7	3.08	39.5	0.01			440	20!
500	ISL	5.79	5.75	34.245	26.988	112.7	0.882	0.43	6.1	80.3	3.17	40.7	0.01			503	
511		5.74	5.70	34.251	26.999	111.8	0.894	0.40	5.7	81.5	3.18	40.9	0.01			515	201

*1
& 1

RV DAVID STARR JORDAN CALCOFI CRUISE 9602 STATION 87 70

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD	AMT	TYPi
32 39'.4 N	121 2.0 W	07/02/96	1111	UTC	3789 m	340	17 kn			1020.9 mb	16..0 C	15.0 C				

DEPTH in		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SI03 uM/l	P04 uM/l	N03 uM/l	N02 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAKf
0	ISL	15.98	15.98	33.331	24.469	345.3	0.000	5.70	101.2	2.5	0.29	0.1	0.00	0.13	0.05	0	
3		15.98	15.98	33.331	24.470	345.4	0.010	5.70	101.2	2.5	0.29	0.1	0.00	0.13	0.05	3	221
10	ISL	15.98	15.98	33.331	24.470	345.6	0.035	5.71	101.3	2.5	0.29	0.1	0.00	0.13	0.04	10	
16		15.99	15.99	33.330	24.467	346.0	0.055	5.71	101.3	2.4	0.29	0.1	0.00	0.13	0.04	16	21)
20	ISL	15.99	15.99	33.330	24.467	346.1	0.069	5.71	101.3	2.4	0.29	0.1	0.00	0.13	0.04	20	
30		15.99	15.99	33.331	24.468	346.4	0.104	5.70	101.2	2.4	0.29	0.1	0.00	0.13	0.05	30	211
46		15.37	15.36	33.368	24.635	330.9	0.158	5.76	101.0	2.5	0.31	0.1	0.00	0.29	0.19	46	21?
50	ISL	15.27	15.26	33.387	24.672	327.5	0.171	5.77	101.0	2.5	0.31	0.1	0.00	0.32	0.21	50	
56		15.05	15.04	33.406	24.735	321.7	0.191	5.79	100.9	2.7	0.31	0.1	0.01	0.37	0.25	56	211
66		14.20	14.19	33.368	24.887	307.4	0.222	5.80	99.3	3.3	0.35	0.4	0.07	0.54	0.38	66	215
75		13.63	13.62	33.445	25.065	290.7	0.249	5.48	92.8	4.2	0.48	2.6	0.04	0.32	0.27	75	214
84		12.21	12.20	33.314	25.243	273.8	0.274	5.16	84.7	6.7	0.73	6.3	0.02	0.18	0.17	84	213
93		11.63	11.62	33.361	25.388	260.1	0.298	4.91	79.7	8.8	0.91	9.2	0.02	0.09	0.11	93	212
100	ISL	11.08	11.07	33.411	25.527	247.0	0.316	4.65	74.6	11.4	1.08	12.0	0.02	0.06	0.08	100	
112		10.19	10.18	33.522	25.768	224.1	0.344	4.15	65.3	16.5	1.38	16.8	0.01	0.03	0.05	113	211
125	ISL	9.57	9.56	33.673	25.990	203.3	0.372	3.62	56.3	21.6	1.65	21.0	0.01	0.01	0.03	126	
130		9.41	9.40	33.726	26.057	196.9	0.382	3.44	53.3	23.3	1.73	22.2	0.01	0.01	0.03	131	210
146		9.19	9.17	33.815	26.163	187.2	0.413	3.16	48.7	26.6	1.87	24.2	0.01	0.00	0.03	147	20!
150	ISL	9.14	9.12	33.833	26.185	185.2	0.420	3.10	47.8	27.2	1.90	24.5	0.01	0.00	0.03	151	
171		8.88	8.86	33.906	26.284	176.1	0.458	2.89	44.3	29.8	2.00	25.8	0.01	0.00	0.03	172	20!
200		8.44	8.42	33.963	26.397	165.8	0.508	2.86	43.4	33.4	2.08	27.0	0.01	0.00	0.02	201	20?
227		7.98	7.96	33.996	26.492	157.1	0.551	2.82	42.4	37.2	2.13	28.1	0.01			228	206
250	ISL	7.56	7.54	33.993	26.551	151.7	0.587	2.83	42.1	40.3	2.16	29.0	0.01			251	
268		7.26	7.23	33.989	26.590	148.1	0.614	2.83	41.8	42.9	2.20	29.8	0.01			270	20S
300	ISL	6.98	6.95	34.017	26.651	142.7	0.661	2.39	35.1	48.6	2.37	32.1	0.01			302	
322		6.84	6.81	34.042	26.690	139.2	0.692	2.00	29.3	52.9	2.51	33.8	0.01			324	204
376		6.32	6.29	34.092	26.799	129.4	0.764	1.31	18.9	64.3	2.81	37.2	0.01			378	20!
400	ISL	6.10	6.06	34.117	26.847	125.0	0.795	1.08	15.5	69.4	2.92	38.4	0.01			403	
427		5.89	5.85	34.147	26.897	120.4	0.828	0.86	12.3	74.5	3.03	39.6	0.01			430	20!
500	ISL	5.69	5.65	34.236	26.993	112.2	0.913	0.47	6.7	82.4	3.18	41.0	0.01			503	
514		5.65	5.61	34.253	27.011	110.5	0.928	0.40	5.7	83.9	3.21	41.3	0.01			517	201

RV DAVID STARR JORDAN CALCOFI CRUISE 9603 STATION 87 80

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLCI AMT	TYPE
32 19.0 N	121 42.9 W	07/02/96	1841	UTC	4066 m	350	15 kn	350 11 04	0	1020.9 mb	17.5 C	16.0 C	23m 02	0/8	

DEPTH ID	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SI03 uM/l	P04 uM/l	N03 uM/l	N02 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	15.51	15.51	33.162	24.444	347.7	0.000	5.78	101.5	2.6	0.32	0.1	0.00	0.14	0.06	0	
2 A	15.51	15.51	33.162	24.444	347.7	0.007	5.78	101.5	2.6	0.32	0.1	0.00	0.14	0.06	2	220
3	15.53	15.53	33.163	24.441	348.1	0.010									3	221
10 ISL	15.50	15.50	33.161	24.446	347.8	0.035	5.79	101.7	2.6	0.32	0.1	0.00	0.14	0.05	10	
15 A	15.49	15.49	33.160	24.448	347.8	0.052	5.79	101.6	2.6	0.32	0.1	0.00	0.15	0.05	15	219
20 ISL	15.47	15.47	33.159	24.452	347.6	0.070	5.79	101.6	2.6	0.32	0.1	0.00	0.16	0.05	20	
30 ISL	15.43	15.43	33.158	24.460	347.1	0.104	5.80	101.7	2.6	0.32	0.1	0.00	0.17	0.06	30	
32 A	15.42	15.42	33.158	24.462	347.0	0.111	5.80	101.7	2.6	0.32	0.1	0.00	0.17	0.06	32	218
46 A	14.33	14.32	33.256	24.773	317.7	0.158	5.92	101.6	3.1	0.37	0.2	0.05	0.61	0.32	46	217
50 ISL	14.24	14.23	33.264	24.798	315.4	0.170	5.89	100.9	3.1	0.38	0.4	0.07	0.58	0.32	50	
53	14.20	14.19	33.268	24.810	314.4	0.180	5.87	100.4	3.1	0.39	0.5	0.09	0.55	0.32	53	216
63 A	14.10	14.09	33.290	24.848	311.1	0.211	5.86	100.1	3.0	0.39	0.5	0.10	0.54	0.30	63	215
74	13.62	13.61	33.318	24.968	299.8	0.245	5.72	96.7	3.7	0.46	1.5	0.15	0.28	0.22	74	214
75 ISL	13.53	13.52	33.315	24.984	298.4	0.248	5.71	96.4	3.7	0.46	1.6	0.14	0.27	0.21	75	
87 A	12.53	12.52	33.304	25.174	280.5	0.282	5.65	93.4	4.1	0.48	2.3	0.03	0.16	0.16	87	213
97	12.13	12.12	33.389	25.316	267.1	0.310	5.22	85.6	6.4	0.69	5.8	0.03	0.11	0.11	97	212
100 ISL	11.84	11.83	33.392	25.373	261.7	0.318	5.14	83.8	7.2	0.75	6.8	0.03	0.10	0.10	100	
111	10.73	10.72	33.397	25.578	242.3	0.346	4.95	78.8	9.9	0.94	10.0	0.02	0.06	0.07	111	211
125	10.09	10.08	33.477	25.750	226.1	0.378	4.83	75.8	12.7	1.12	12.8	0.02	0.03	0.05	126	210
144	9.39	9.37	33.753	26.082	194.9	0.418	3.26	50.5	24.6	1.81	23.1	0.01	0.01	0.05	145	209
150 ISL	9.26	9.24	33.806	26.145	189.0	0.430	3.14	48.5	26.5	1.87	23.8	0.01	0.01	0.05	151	
169	8.97	8.95	33.908	26.271	177.3	0.465	2.74	42.1	30.0	2.04	26.1	0.01	0.00	0.05	170	208
197	8.59	8.57	33.967	26.377	167.7	0.513	2.66	40.5	33.0	2.11	27.3	0.01	0.00	0.03	198	207
200 ISL	8.55	8.53	33.973	26.388	166.7	0.518	2.65	40.3	33.4	2.12	27.4	0.01			201	
229	8.11	8.09	34.021	26.492	157.2	0.565	2.61	39.3	37.3	2.18	28.5	0.01			230	206
250 ISL	7.77	7.75	34.023	26.544	152.4	0.597	2.56	38.3	40.0	2.23	29.3	0.01			251	
268	7.50	7.47	34.022	26.582	149.0	0.625	2.52	37.4	42.6	2.28	30.2	0.01			270	205
300 ISL	7.24	7.21	34.064	26.652	142.7	0.671	2.03	30.0	48.5	2.47	32.4	0.01			302	
318	7.12	7.09	34.090	26.690	139.4	0.697	1.71	25.2	52.1	2.59	33.8	0.01			320	204
378	6.45	6.42	34.125	26.808	128.6	0.777	1.13	16.4	63.8	2.87	37.3	0.01			380	203
400 ISL	6.34	6.30	34.154	26.845	125.3	0.805	0.94	13.6	67.2	2.96	38.1	0.01			403	
439	6.20	6.16	34.207	26.906	120.1	0.853	0.65	9.4	72.4	3.08	39.1	0.01			442	202
500 ISL	5.90	5.86	34.247	26.976	114.0	0.924	0.45	6.4	78.9	3.18	40.4	0.01			503	
517	5.82	5.78	34.259	26.995	112.3	0.943	0.39	5.6	80.7	3.21	40.7	0.01			520	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV DAVID STARR JOROAN CALCOFI CRUISE 9602 STATION 87 90l

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TINE	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
32 0.0 N	122 24.0 W	08/02/96	0216	UTC	4024 m	340	17 kn	340 10 04.	1	1018.0 mb	17.3 C	16.2 C		1/8	ST

DEPTH ID	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SI03 uM/l	P04 uM/l	N03 uM/l	N02 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	15.94	15.94	33.272	24.433	348.8	0.000	5.76	102.1	2.6	0.31	0.0	0.00	0.12	0.04	0	
2	15.95	15.95	33.272	24.431	349.0	0.007									2	221
2	15.94	15.94	33.272	24.433	348.8	0.007	5.76	102.1	2.6	0.31	0.0	0.00	0.12	0.04	2	220
10 ISL	15.94	15.94	33.271	24.433	349.1	0.035	5.76	102.1	2.6	0.30	0.0	0.00	0.12	0.04	10	
16	15.94	15.94	33.271	24.433	349.3	0.056	5.76	102.1	2.6	0.30	0.0	0.00	0.12	0.04	16	219
20 ISL	15.82	15.82	33.270	24.459	346.9	0.070	5.78	102.2	2.6	0.31	0.0	0.00	0.13	0.04	20	
30	15.45	15.45	33.273	24.544	339.1	0.104	5.82	102.2	2.6	0.34	0.0	0.00	0.19	0.08	30	218
45	14.94	14.93	33.313	24.687	325.9	0.154	5.86	101.8	2.6	0.34	0.0	0.00	0.42	0.23	45	217
50 ISL	14.52	14.51	33.289	24.758	319.3	0.170	5.87	101.1	2.8	0.35	0.1	0.06	0.53	0.31	50	
55	14.12	14.11	33.273	24.830	312.5	0.186	5.88	100.5	3.1	0.36	0.2	0.11	0.60	0.38	55	216
65	13.92	13.91	33.340	24.924	303.9	0.217	5.67	96.5	3.7	0.49	2.1	0.10	0.48	0.34	65	215
75	13.12	13.11	33.292	25.049	292.2	0.246	5.77	96.6	3.7	0.43	1.3	0.08	0.34	0.35	75	214
85	12.33	12.32	33.270	25.186	279.3	0.275	5.73	94.3	4.1	0.48	2.1	0.02	0.19	0.23	85	213
95	12.03	12.02	33.345	25.301	268.5	0.302	5.12	83.8	7.5	0.81	7.3	0.01	0.09	0.13	95	212
100 ISL	12.02	12.01	33.454	25.388	260.4	0.316	5.01	82.0	7.8	0.81	7.8	0.01	0.07	0.10	100	
110	11.99	11.98	33.686	25.574	243.0	0.341	4.84	79.3	8.6	0.81	8.5	0.01	0.04	0.06	110	211
125	10.31	10.30	33.577	25.791	222.3	0.376	4.15	65.5	15.8	1.34	16.1	0.01	0.02	0.05	126	210
146	9.44	9.42	33.706	26.037	199.2	0.420	3.54	54.9	22.6	1.71	21.8	0.01	0.01	0.04	147	209
150 ISL	9.23	9.26	33.724	26.077	195.4	0.428	3.54	54.7	23.5	1.74	22.4	0.01	0.01	0.04	151	
170	8.59	8.57	33.798	26.244	179.8	0.465	3.56	54.2	27.1	1.83	24.0	0.01	0.00	0.02	171	208
199	8.06	3.04	33.887	26.394	165.9	0.516	3.47	52.2	31.6	1.92	25.6	0.01	0.00	0.02	200	207
200 ISL	8.05	8.03	33.890	26.398	165.5	0.517	3.46	52.0	31.8	1.93	25.7	0.01			201	
230	7.73	7.71	33.957	26.498	156.5	0.565	3.09	46.1	36.8	2.08	27.8	0.00			231	206
250 ISL	7.41	7.39	33.972	26.556	151.2	0.596	3.01	44.6	40.2	2.14	28.8	0.00			251	
268	7.12	7.09	33.979	26.602	146.9	0.623	2.94	43.3	43.4	2.19	29.7	0.00			270	205
300 ISL	6.83	6.80	34.004	26.661	141.6	0.669	2.45	35.8	49.6	2.38	32.1	0.00			302	
318	6.70	6.67	34.018	26.690	139.1	0.695	2.13	31.1	53.2	2.50	33.6	0.00		A	320	204
379	6.16	6.13	34.064	26.797	129.4	0.776	1.34	19.3	65.1	2.84	37.6	0.00			381	203
400 ISL	6.12	6.08	34.102	26.833	126.3	0.803	1.10	15.8	68.2	2.92	38.3	0.00			402	
437	6.05	6.01	34.164	26.891	121.3	0.849	0.77	11.1	73.2	3.04	39.3	0.00			440	202
500 ISL	5.53	5.49	34.180	26.968	114.3	0.923	0.57	8.1	82.5	3.16	41.2	0.00			503	
513	5.42	5.38	34.184	26.984	112.8	0.938	0.53	7.5	84.4	3.19	41.6	0.00			516	201

RV DAVID STARR JORDAN CALCOFI CRUISE 9602 STATION 87 100l

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
31 35l.5 N	123 3.7 U	08/02/96	0832 UTC	3811 m	340 15 kn			1018.5 mb	15 „5 C	14 „7 C			

DEPTH m		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SI03 uM/l	P04 uM/l	N03 uM/l	N02 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0	ISL	15 .76	15.76	33.290	24.487	343.6	0.000	5 .77	101.9	2 .4	0.31	0.0	0.00	0.15	0.05	0	
2		15.76	15 .76	33.290	24.487	343.7	0.007	5.77	101.9	2.4	0.31	0.0	0.00	0.15	0.05	2	220
10	ISL	15.76	15 .76	33.289	24.487	343.9	0.034	5.77	101.9	2 .3	0.31	0.0	0.00	0.14	0.05	10	
17		15.76	15 .76	33.289	24.487	344.1	0.058	5.77	101.9	2 .2	0.31	0.0	0.00	0.14	0.05	17	219
20	ISL	15.74	15 .74	33.288	24.491	343.9	0.069	5.77	101.9	2.2	0.31	0.0	0.00	0.14	0.05	20	
30	ISL	15.56	15.56	33.285	24.529	340.5	0.103	5.80	102.0	2.2	0.31	0.0	0.00	0.16	0.07	30	
31		15.53	15.53	33.284	24.535	340.0	0. 106	5.80	102.0	2.2	0.31	0.0	0.00	0.16	0.07	31	218
46		14.85	14.84	33.274	24.676	327.0	0.156	5 .84	101.3	2.3	0.33	0.0	0.00	0.28	0.21	46	217
50	ISL	14.79	14.78	33.298	24.708	324.1	0.169	5 .84	101.2	2.3	0.34	0.0	0.02	0.44	0.26	50	
56		14.66	14.65	33.326	24.757	319.5	0.189	5.84	100.9	2.4	0.36	0.1	0.05	0.65	0.35	56	216
64		14.14	14.13	33.294	24.842	311.6	0.214	5.86	100.2	2.9	0.38	0.3	0.08	0.65	0.45	64	215
75	ISL	13.58	13.57	33.315	24.974	299.3	0.248	5.65	95.5	3.6	0.50	2.2	0.06	0.44	0.36	75	
77		13.46	13.45	33.322	25.004	296.5	0.254	5.59	94.2	3.7	0.53	2.8	0.05	0.39	0.32	77	214
86		12.56	12.55	33.331	25.189	279.0	0.279	5.22	86.4	6.2	0.73	6.0	0.02	0.17	0.17	86	213
94		11 .68	11 .67	33.337	25.360	262.8	0.301	5 .00	81 .2	8.5	0.89	8.6	0.01	0.09	0.11	94	212
100	ISL	11 .33	11 .32	33.377	25.455	253.9	0.317	4.82	77.7	9.8	0.99	10.2	0.01	0.08	0.10	100	
111		10.91	10.90	33.465	25.599	240.3	0.344	4.50	71 .9	12.2	1.15	13.0	0.01	0.06	0.08	111	211
125	ISL	10.20	10.19	33.540	25.781	223.2	0.376	4.15	65.3	16.4	1 .39	16.8	0.01	0.03	0.05	126	
126		10.15	10.14	33.546	25.794	222.0	0.378	4.12	64.8	16.7	1 .41	17.1	0.01	0.03	0.05	127	210
148		9.17	9.15	33.746	26.112	192.0	0.424	3.47	53.5	24.3	1 .78	22.7	0.01	0.00	0.03	149	209
150	ISL	9.11	9.09	33.758	26.131	190.3	0.428	3.43	52 .8	24.8	1 .80	23.1	0.01	0.00	0.03	151	
172		8.58	8.56	33.851	26.287	175.7	0.468	3.07	46.7	29.9	1 .98	26.0	0.00	0.00	0.02	173	20!
199		8.04	8.02	33.924	26.426	162.8	0.514	2.93	44.1	34.9	2.09	27.7	0.00	0.00	0.02	200	207
200	ISL	8.03	8.01	33.927	26.430	162.5	0.515	2 .93	44.0	35.0	2.09	27.7	0.00			201	
229		7.66	7.64	33.988	26.532	153.1	0.561	3.00	44.7	38.2	2.10	27.9	0.00			230	206
2 50	ISL	7.35	7.33	33.992	26.580	148.8	0.593	2.88	42.6	41 .3	2.15	28.8	0.00			251	
273		7.06	7.03	33.998	26.625	144.8	0.627	2.74	40.3	45.4	2.25	30.3	0.00			275	20S
300	ISL	7.01	6.98	34.072	26.690	139.0	0.665	2.01	29.5	51 .5	2.50	32.8	0.00			302	
320		6.96	6.93	34.121	26.736	135.0	0.692	1 .47	21.6	56.2	2.68	34.7	0.00			322	204
377		5.91	5.88	34.061	26.826	126.4	0.767	1 .37	19.6	67.9	2 .82	37.7	0.00			379	203
400	ISL	5.76	5.73	34.082	26.861	123.3	0.796	1.14	16.3	72.0	2 .92	38.8	0.00			402	
438		5.63	5 .59	34. 134	26.919	118.2	0.841	0.74	10.5	78.3	3.07	40.3	0.00			441	202
500	ISL	5 .22	5.18	34.177	27.002	110.7	0.912	0.52	7.3	87.3	3.19	41 .8	0.00			503	
516		5.11	5 .07	34.188	27.024	108.7	0.930	0.46	6.5	89.6	3.22	42.2	0.00			519	201

RV DAVID STARR JORDAN CALCOFI CRUISE 9602 STATION 87 1 10

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
31 19.5 N	123 45.0 W	08/02/96	1836 UTC	3999 m	340 1 1 kn	320 04 07	1	1017.2 mb	15 „9 C	15„0 C	28m 02	7/8	ST

DEPTH m		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SI03 uM/l	P04 uM/l	N03 uM/l	N02 uN/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0	ISL	15.54	15.54	33.300	24.544	338.2	0.000	5.83	102.5	2.8	0.32	0.0	0.00	0.19	0.06	0	
2	A	15.54	15.54	33.300	24.544	338.3	0.007	5 .83	102.5	2.8	0.32	0.0	0.00	0.19	0.06	2	222
3		15.55	15.55	33.300	24.542	338.5	0.010									3	223
10		15.47	15.47	33.300	24.560	337.0	0.034	5 .82	102.2	2.8	0.32	0.0	0.00	0.20	0.06	10	221
18	A	15.46	15.46	33.300	24.562	337.0	0.061	5 .83	102.4	2.7	0.32	0.0	0.00	0.20	0.06	18	220
20	ISL	15.46	15.46	33.300	24.562	337. 1	0.067	5 .84	102.5	2.7	0.32	0.0	0.00	0.20	0.06	20	
28		15.44	15 .44	33.300	24.567	336.9	0.094	5 .85	102.7	2.7	0.32	0.0	0.00	0.20	0.08	28	219
30	ISL	15.42	15 .42	33.301	24.572	336.4	0.101	5.85	102.6	2.7	0.32	0.0	0.00	0.20	0.08	30	
37	A	15.34	15.33	33.302	24.591	334.9	0.125	5.83	102. 1	2 .6	0.32	0.0	0.00	0.22	0.09	37	218
47		14.20	14.19	33.306	24.839	311.5	0.157	5.73	98. 1	2.9	0.41	0.8	0.10	0.71	0.46	47	217
50	ISL	13.92	13.91	33.312	24.902	305.6	0.166	5.65	96.2	3.4	0.47	1 .8	0.09	0.62	0.42	50	
57	A	13.27	13.26	33.324	25.043	292.2	0.187	5 .45	91 .5	4.7	0.61	4.2	0.03	0.31	0.25	57	216
66		12.24	12.23	33.324	25.244	273.2	0.213	5 .31	87.3	6.0	0.71	5 .7	0.01	0.17	0.16	66	215
75	A	11.78	11 .77	33.337	25.341	264.2	0.237	4.96	80.7	8.4	0.88	8.6	0.01	0.14	0.14	75	214
84		10.98	10.97	33.457	25.580	241 .6	0.260	4. 43	70.9	12.6	1.17	13.3	0.01	0.07	0.08	84	213
95		10.78	10.77	33.489	25.640	236.0	0.286	4. 34	69.2	13.6	1 .23	14.3	0.01	0.06	0.07	95	212
100	ISL	10.47	10.46	33.517	25.716	228.9	0.297	4.21	66 .7	15.0	1 .31	15.6	0.01	0.05	0.06	100	
105	A	10.12	10.11	33.549	25.801	220.9	0.309	4.06	63.8	16.6	1 .40	17.0	0.01	0.03	0.05	105	211
124		9.41	9.40	33.662	26.007	201 .5	0.349	3.58	55 .4	22 .3	1 .72	21 .8	0.00	0.00	0.03	125	210
125	ISL	9.38	9.37	33.666	26.015	200.8	0.351	3.57	55.2	22.5	1 .73	21 .9	0.00	0.00	0.03	126	
144		9.01	8.99	33.753	26.143	189.0	0.388	3.42	52.5	25.3	1 .81	23.2	0.00	0.00	0.03	145	209
150	ISL	8.92	8.90	33.796	26.191	184.5	0.399	3.28	50.3	26.7	1 .86	24.0	0.00	0.00	0.03	151	
170		8.59	8.57	33.926	26.344	170.3	0.435	2.88	43.9	31 .5	2.02	26.4	0.00	0.00	0.02	171	208
199		7.90	7.88	33.964	26.478	157.8	0.482	3.09	46.3	35.3	2.05	27.2	0.00	0.00	0.02	200	207
200	ISL	7.89	7.87	33.965	26.480	157.6	0. 484	3.09	46.3	35.4	2.05	27.2	0.00			201	
228		7.55	7.53	33.987	26.547	151.7	0.527	2.95	43.9	39.5	2.13	28.5	0.00			229	206
250	ISL	7.29	7.27	34.000	26.594	147.4	0. 560	2.64	39.0	43.7	2.25	30.4	0.00			251	
269		7.06	7.03	34.008	26.633	144.0	0.588	2.35	34.6	47. 6	2.37	32.0	0.00			271	205
300	ISL	6.70	6.67	34.017	26.689	138.9	0.631	2.14	31 .2	53.1	2.49	33.5	0.00			302	
318		6.50	6.47	34.023	26.720	136.1	0.656	2.04	29.6	56.2	2.55	34.2	0.00			320	204
378		5.93	5.90	34.056	26.820	127.0	0.735	1 .38	19.8	67.8	2 .82	37.8	0.00			380	203
400	ISL	5 .83	5 .80	34.085	26.855	123.9	0.763	1.12	16.0	71 .6	2.92	38.8	0.00			403	
437		5 .70	5 .66	34.137	26.913	118.9	0.808	0.75	10.7	77.5	3 .06	40.2	0. 00			440	202
500	ISL	5 .33	5 .29	34.181	26.992	111.7	0.880	0.52	7.3	86. 1	3.17	41.7	0.00			503	
516		5 .23	5.19"	34.192	27.013	109.9	0.898	0.46	6.5	88.3	3.20	42 .1	0.00			519	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV DAVID STARR JORDAN CALCOFI CRUISE 9602 STATION 90 28

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
33 28.9 N	117 46.2 U	05/02/96	1822	UTC	75 m	230	04 kn	230 02 03j	1	1027.9 mb	16.1 C	15.2 C	09m 05	7/8	CI

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SI03 uM/l	P04 uM/l	N03 uM/l	N02 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	14.52	14.52	33.321	24.781	315.6	0.000	6.51	112.2	1.8	0.26	0.1	0.01	2.33	0.39	0	
2	14.53	14.53	33.325	24.782	315.5	0.006									2	210
2 A	14.52	14.52	33.321	24.781	315.6	0.006	6.51	112.2	1.8	0.26	0.1	0.01	2.33	0.39	2	209
6 A	14.45	14.45	33.332	24.805	313.5	0.019	6.47	111.3	1.6	0.27	0.1	0.01	3.28	0.49	6	208
10 ISL	14.47	14.47	33.360	24.822	312.0	0.031	6.30	108.5	1.3	0.27	0.1	0.01	2.10	0.41	10	
13 A	14.48	14.48	33.403	24.854	309.1	0.041	6.09	104.9	1.1	0.27	0.1	0.01	1.03	0.37	13	207
19 A	13.85	13.85	33.443	25.016	293.8	0.059	5.49	93.4	3.4	0.52	2.4	0.12	1.63	0.73	19	206
20 ISL	13.69	13.69	33.449	25.054	290.2	0.062	5.38	91.2	3.9	0.57	3.0	0.14	1.62	0.74	20	
24 A	13.08	13.08	33.470	25.193	277.0	0.073	5.01	83.9	6.0	0.75	5.4	0.20	1.47	0.79	24	205
30 ISL	12.75	12.75	33.482	25.268	270.1	0.089	4.86	80.8	6.8	0.84	6.4	0.22	1.37	0.78	30	
34 A	12.65	12.65	33.487	25.291	268.0	0.100	4.81	79.8	7.1	0.87	6.9	0.24	1.26	0.77	34	204
44	11.97	11.96	33.549	25.469	251.2	0.126	4.11	67.3	12.0	1.18	12.2	0.18	0.54	0.62	44	203
50 ISL	11.56	11.55	33.590	25.578	241.1	0.141	3.84	62.3	14.2	1.32	14.5	0.14	0.35	0.60	50	
54	11.34	11.33	33.612	25.635	235.7	0.151	3.73	60.2	15.2	1.39	15.5	0.12	0.30	0.59	54	202
64	11.27	11.26	33.621	25.655	234.0	0.174	3.66	59.0	15.8	1.42	15.8	0.14	0.34	0.55	64	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV DAVID STARR JORDAN CALCOFI CRUISE 9602 STATION 90 30

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
33 25.2 N	117 54.3 W	05/02/96	1350	UTC	614 m	270	10 kn			1025.9 mb	15.8 C	14.9 C			

DEPTH D	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SI03 uM/l	P04 uM/l	N03 uM/l	N02 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	14.46	14.46	33.361	24.825	311.4	0.000	6.36	109.5	1.1	0.24	0.1	0.00	0.85	0.26	0	
2	14.46	14.46	33.361	24.825	311.5	0.006	6.36	109.5	1.1	0.24	0.1	0.00	0.85	0.26	2	220
10	14.28	14.28	33.364	24.866	307.9	0.031	6.40	109.8	1.1	0.23	0.1	0.00	0.93	0.25	10	219
20	13.39	13.39	33.428	25.099	286.0	0.061	6.41	108.0	1.1	0.25	0.1	0.01	1.55	0.83	20	218
30	12.73	12.73	33.476	25.267	270.2	0.089	5.03	83.6	6.4	0.73	6.3	0.24	1.98	1.12	30	217
41	11.86	11.85	33.553	25.493	248.9	0.117	4.13	67.4	12.1	1.16	12.5	0.14	0.69	0.72	41	216
50	11.25	11.24	33.604	25.645	234.6	0.139	3.76	60.6	15.2	1.36	15.5	0.05	0.51	0.63	50	215
60	10.94	10.93	33.644	25.732	226.6	0.162	3.65	58.5	16.7	1.46	16.7	0.02	0.22	0.41	60	214
70	10.69	10.68	33.677	25.802	220.1	0.184	3.42	54.5	19.0	1.58	18.6	0.02	0.20	0.33	70	213
75 ISL	10.55	10.54	33.702	25.846	216.0	0.195	3.31	52.6	20.1	1.64	19.5	0.02	0.20	0.34	75	
85	10.29	10.28	33.753	25.931	208.2	0.216	3.11	49.1	22.2	1.77	21.2	0.02	0.21	0.37	85	212
100	9.98	9.97	33.810	26.028	199.2	0.247	2.90	45.5	24.4	1.92	22.8	0.01	0.13	0.28	101	211
120	9.66	9.65	33.901	26.153	187.7	0.286	2.70	42.1	27.4	2.01	24.6	0.01	0.11	0.18	121	210
125 ISL	9.65	9.64	33.928	26.176	185.6	0.295	2.61	40.7	28.0	2.04	25.0	0.01	0.10	0.16	126	
139	9.62	9.60	33.997	26.235	180.3	0.320	2.37	36.9	29.7	2.13	25.8	0.01	0.06	0.13	140	209
150 ISL	9.44	9.42	34.031	26.292	175.2	0.340	2.36	36.7	31.0	2.16	26.3	0.01	0.05	0.13	151	
169	9.09	9.07	34.070	26.379	167.2	0.373	2.35	36.2	33.1	2.20	27.1	0.01	0.04	0.14	170	208
199	8.91	8.89	34.113	26.442	161.8	0.422	2.17	33.3	35.8	2.28	28.1	0.01	0.03	0.10	200	207
200 ISL	8.90	8.88	34.113	26.443	161.6	0.424	2.17	33.3	35.9	2.28	28.1	0.01			201	
229	8.56	8.54	34.123	26.504	156.3	0.470	2.10	32.0	38.5	2.32	29.1	0.01			230	206
250 ISL	8.58	8.55	34.194	26.557	151.7	0.502	1.66	25.3	41.7	2.47	30.3	0.00			252	
269	8.59	8.56	34.256	26.605	147.6	0.530	1.23	18.8	44.7	2.61	31.4	0.00			271	205
300 ISL	8.28	8.25	34.265	26.660	142.8	0.575	1.11	16.8	48.5	2.71	32.6	0.00			302	
318	8.05	8.02	34.254	26.686	140.5	0.601	1.04	15.7	50.4	2.74	33.1	0.00			320	204
379	7.48	7.44	34.241	26.759	134.2	0.685	0.90	13.4	56.7	2.87	34.9	0.00			381	203
400 ISL	7.28	7.24	34.237	26.784	132.0	0.713	0.85	12.6	59.2	2.91	35.5	0.00			403	
439	6.93	6.89	34.237	26.833	127.7	0.763	0.73	10.7	64.0	2.98	36.6	0.00			442	202
500 ISL	6.53	6.48	34.280	26.921	119.9	0.839	0.46	6.7	72.1	3.14	38.2	0.00			503	
513	6.45	6.40	34.289	26.939	118.3	0.854	0.40	5.8	73.8	3.17	38.6	0.00			517	201

RV DAVID STARR JORDAN CALCOFI CRUISE 9602 STATION 90 35

LATITUDE	LONGITUDE	DAY/HO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
33 15.3 N	118 15.0 W	05/02/96	0948	UTC	281 m	270	04 kn			1025.8 mb	16.8 C	15.8 C			

DEPTH ill	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SI03 uM/l	P04 uM/l	N03 uM/l	N02 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	15.02	15.02	33.397	24.733	320.2	0.000	5.90	102.8	2.8	0.30	0.1	0.00	0.28	0.11	0	
2	15.02	15.02	33.397	24.733	320.3	0.006	5.90	102.8	2.8	0.30	0.1	0.00	0.28	0.11	2	216
10	15.01	15.01	33.397	24.735	320.3	0.032	5.91	102.9	2.6	0.30	0.1	0.00	0.28	0.11	10	215
20 ISL	14.75	14.75	33.400	24.794	315.0	0.064	5.94	102.9	2.2	0.30	0.1	0.00	0.40	0.19	20	
21	14.70	14.70	33.401	24.805	313.9	0.067	5.94	102.8	2.2	0.30	0.1	0.00	0.42	0.20	21	214
30	14.09	14.09	33.423	24.951	300.3	0.095	5.87	100.3	2.9	0.35	0.2	0.03	0.69	0.35	30	213
41	13.57	13.56	33.436	25.069	289.4	0.127	5.57	94.2	4.3	0.49	2.0	0.16	0.59	0.46	41	212
50	12.71	12.70	33.494	25.285	269.0	0.152	4.70	78.1	8.5	0.87	8.1	0.15	0.39	0.34	50	211
61	11.99	11.98	33.544	25.462	252.3	0.181	4.26	69.7	11.4	1.09	11.6	0.05	0.19	0.29	61	210
70	11.49	11.48	33.590	25.591	240.3	0.203	3.96	64.1	14.0	1.26	14.4	0.02	0.11	0.19	70	209
75 ISL	11.23	11.22	33.604	25.649	234.8	0.215	3.88	62.5	14.8	1.32	15.3	0.02	0.09	0.18	75	
84	10.86	10.85	33.626	25.733	227.0	0.236	3.77	60.3	16.0	1.40	16.4	0.02	0.07	0.16	84	208
100	10.63	10.62	33.687	25.821	219.0	0.271	3.42	54.4	19.2	1.58	18.9	0.01	0.06	0.12	100	207
119	10.06	10.05	33.781	25.993	203.0	0.311	3.01	47.3	23.2	1.82	22.2	0.02	0.05	0.14	120	206
125 ISL	9.94	9.93	33.823	26.046	198.1	0.323	2.86	44.9	24.6	1.89	23.1	0.01	0.04	0.14	126	
130	9.85	9.84	33.859	26.089	194.0	0.333	2.74	42.9	25.7	1.95	23.7	0.01	0.04	0.14	131	205
150 ISL	9.54	9.52	33.975	26.231	180.9	0.371	2.39	37.2	29.2	2.11	25.8	0.01	0.03	0.12	151	
169	9.29	9.27	34.058	26.337	171.2	0.404	2.17	33.6	32.1	2.21	27.2	0.01	0.03	0.10	170	204
199	8.94	8.92	34.147	26.463	159.7	0.454	1.90	29.2	36.8	2.35	29.0	0.01	0.02	0.12	200	203
200 ISL	8.94	8.92	34.149	26.465	159.6	0.455	1.89	29.0	36.9	2.35	29.0	0.01			201	
229	8.84	8.82	34.186	26.510	155.9	0.501	1.69	25.9	39.0	2.43	29.8	0.00			230	202
250 ISL	8.51	8.48	34.189	26.564	151.0	0.533	1.55	23.6	42.3	2.51	30.9	0.01			251	
270	8.20	8.17	34.194	26.615	146.3	0.563	1.42	21.5	45.5	2.59	32.0	0.01			272	201

RV DAVID STARR JORDAN CALCOFI CRUISE 9602 STATION 90 37

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
33 11.2 N	118 23.1 W	05/02/96	0659	UTC	1176 m	310	08 ten			1025.9 mb	16.0 C	15.8 C			

DEPTH m		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SI03 uM/l	P04 uM/l	N03 uM/l	N02 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0	ISL	15.03	15.03	33.395	24.729	320.6	0.000	5.82	101.4	3.3	0.32	0.1	0.00	0.26	0.16	0	
1		15.03	15.03	33.395	24.729	320.6	0.003	5.82	101.4	3.3	0.32	0.1	0.00	0.26	0.16	1	220
10		15.02	15.02	33.394	24.731	320.7	0.032	5.82	101.4	2.7	0.32	0.1	0.00	0.28	0.16	10	219
20	ISL	14.96	14.96	33.399	24.748	319.4	0.064	5.83	101.4	3.0	0.31	0.0	0.00	0.39	0.24	20	
21		14.95	14.95	33.399	24.750	319.2	0.067	5.83	101.4	3.0	0.31	0.0	0.00	0.41	0.25	21	218
30	ISL	14.69	14.69	33.414	24.818	313.0	0.096	5.79	100.2	3.2	0.33	0.0	0.02	0.56	0.31	30	
31		14.64	14.64	33.416	24.830	311.9	0.099	5.79	100.1	3.2	0.33	0.0	0.02	0.58	0.32	31	217
40		13.89	13.88	33.435	25.002	295.7	0.126	5.31	90.4	5.1	0.54	2.7	0.24	0.62	0.37	40	21«
50		13.03	13.02	33.471	25.205	276.7	0.155	4.84	80.9	7.6	0.81	6.3	0.13	0.45	0.39	50	215
61		12.52	12.51	33.520	25.343	263.8	0.185	4.36	72.2	10.2	0.99	9.7	0.05	0.29	0.28	61	214
70		12.03	12.02	33.553	25.462	252.6	0.208	4.12	67.5	12.1	1.13	12.0	0.02	0.18	0.20	70	213
75	ISL	11.82	11.81	33.569	25.514	247.8	0.220	4.01	65.4	13.0	1.20	13.1	0.02	0.14	0.16	75	
86		11.37	11.36	33.609	25.628	237.1	0.247	3.78	61.1	15.3	1.35	15.5	0.01	0.09	0.11	86	21!
100		10.65	10.64	33.681	25.813	219.8	0.279	3.40	54.1	19.4	1.58	18.8	0.01	0.04	0.09	100	211
120		10.14	10.13	33.774	25.974	204.8	0.321	3.06	48.2	23.2	1.79	21.6	0.01	0.01	0.06	121	210
125	ISL	10.06	10.05	33.788	25.998	202.6	0.332	3.01	47.3	23.7	1.82	22.0	0.01	0.01	0.06	126	
140		9.87	9.85	33.832	26.065	196.6	0.361	2.87	44.9	25.3	1.90	23.0	0.00	0.01	0.06	141	209
150	ISL	9.79	9.77	33.895	26.128	190.8	0.381	2.64	41.3	27.2	1.99	24.1	0.00	0.01	0.06	151	
169		9.60	9.58	34.015	26.253	179.3	0.416	2.24	34.9	31.0	2.15	26.2	0.00	0.00	0.05	170	208
199		8.97	8.95	34.092	26.416	164.3	0.468	2.20	33.8	35.0	2.23	27.8	0.00	0.00	0.04	200	207
200	ISL	8.97	8.95	34.095	26.418	164.0	0.469	2.19	33.7	35.1	2.23	27.8	0.00			201	
229		8.90	8.88	34.171	26.489	157.9	0.516	1.80	27.6	38.2	2.37	29.1	0.00			230	206
250	ISL	8.65	8.62	34.195	26.547	152.7	0.548	1.55	23.7	41.8	2.48	30.5	0.00			251	
268		8.38	8.35	34.204	26.596	148.2	0.576	1.37	20.8	45.2	2.57	31.7	0.00			270	20S
300	ISL	7.94	7.91	34.216	26.672	141.4	0.622	1.17	17.6	50.3	2.69	33.2	0.00			302	
318		7.72	7.69	34.220	26.707	138.2	0.647	1.10	16.4	52.9	2.74	33.8	0.00			320	204
378		7.24	7.20	34.234	26.787	131.3	0.728	0.87	12.9	59.4	2.88	35.6	0.00			380	203
400	ISL	7.04	7.00	34.240	26.820	128.4	0.757	0.77	11.3	62.4	2.93	36.4	0.00			403	
436		6.72	6.68	34.253	26.874	123.6	0.802	0.61	8.9	67.3	3.02	37.6	0.00			439	202
500	ISL	6.33	6.28	34.283	26.950	117.0	0.879	0.43	6.2	74.1	3.13	39.1	0.00		,	503	
514		6.24	6.19	34.290	26.967	115.5	0.895	0.39	5.6	75.6	3.16	39.4	0.00			518	201

RV DAVID STARR JORDAN CALCOFI CRUISE 9602 STATION 90 45

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
32 55i.2 N	118 55.7 W	05/02/96	0141	UTC	1700 m	290	05 kn	290 04 05i	1	1024.5 mb	16.6 C	15.9 C		3/8	CI

DEPTH m		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SI03 uM/l	P04 uM/l	N03 uM/l	N02 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0	ISL	15.32	15.32	33.443	24.703	323.1	0.000	5.82	102.0	2.8	0.30	0.0	0.00	0.29	0.10	0	
1		15.36	15.36	33.443	24.694	323.9	0.003									1	221
1		15.32	15.32	33.443	24.703	323.1	0.003	5.82	102.0	2.8	0.30	0.0	0.00	0.29	0.10	1	220
10		15.01	15.01	33.441	24.769	317.1	0.032	5.83	101.5	2.8	0.30	0.0	0.00	0.29	0.15	10	219
20		14.98	14.98	33.441	24.776	316.7	0.064	5.83	101.5	2.8	0.30	0.0	0.00	0.33	0.16	20	218
30	ISL	14.97	14.97	33.445	24.781	316.5	0.095	5.83	101.5	2.7	0.30	0.0	0.00	0.38	0.19	30	
31		14.97	14.97	33.445	24.782	316.5	0.099	5.83	101.5	2.7	0.30	0.0	0.00	0.38	0.19	31	217
40		14.52	14.51	33.464	24.893	306.1	0.127	5.53	95.4	3.9	0.45	2.0	0.08	0.62	0.37	40	214
50		12.16	12.15	33.481	25.381	259.8	0.155	4.50	73.9	10.2	1.01	10.4	0.08	0.39	0.33	50	21!
60		11.81	11.80	33.515	25.473	251.2	0.180	4.30	70.1	11.6	1.13	12.2	0.05	0.24	0.27	60	214
70		11.43	11.42	33.557	25.576	241.6	0.205	4.05	65.5	13.6	1.25	14.1	0.04	0.21	0.25	70	213
75	ISL	11.24	11.23	33.575	25.625	237.1	0.217	3.95	63.6	14.5	1.31	15.0	0.03	0.18	0.23	75	
86		10.81	10.80	33.626	25.742	226.2	0.243	3.71	59.2	16.8	1.45	17.2	0.02	0.11	0.17	86	21!
100		10.27	10.26	33.732	25.918	209.7	0.273	3.25	51.3	21.3	1.68	20.4	0.01	0.03	0.07	100	211
120		9.94	9.93	33.876	26.087	194.0	0.313	2.59	40.6	26.7	1.97	23.9	0.01	0.01	0.05	121	210
125	ISL	9.90	9.89	33.903	26.115	191.5	0.323	2.48	38.9	27.5	2.02	24.5	0.01	0.01	0.05	126	
140		9.83	9.81	33.968	26.178	185.9	0.351	2.24	35.1	29.4	2.12	25.7	0.00	0.01	0.05	141	209
150	ISL	9.77	9.75	33.998	26.211	182.9	0.370	2.16	33.8	30.3	2.17	26.3	0.00	0.01	0.05	151	
170		9.65	9.63	34.055	26.276	177.1	0.406	2.01	31.4	31.9	2.22	27.1	0.00	0.00	0.04	171	208
199		8.71	8.69	34.024	26.403	165.3	0.455	2.43	37.1	34.6	2.16	27.6	0.00	0.00	0.03	200	207
200	ISL	8.69	8.67	34.025	26.407	165.0	0.457	2.43	37.1	34.7	2.16	27.6	0.00			201	
229		8.35	8.33	34.076	26.500	156.6	0.504	2.21	33.5	39.0	2.28	29.2	0.00			230	206
250	ISL	8.10	8.07	34.094	26.552	151.9	0.536	2.06	31.0	41.9	2.36	30.2	0.00			251	
268		7.90	7.87	34.109	26.593	148.2	0.563	1.90	28.5	44.5	2.43	31.1	0.00			270	20!
300	ISL	7.66	7.63	34.170	26.676	140.8	0.609	1.40	20.9	50.6	2.63	33.1	0.00			302	
319		7.53	7.50	34.206	26.724	136.6	0.636	1.11	16.5	54.3	2.75	34.2	0.00			321	204
378		7.00	6.96	34.236	26.822	127.8	0.714	0.75	11.0	63.0	2.93	36.3	0.00			380	20!
400	ISL	6.80	6.76	34.242	26.854	125.0	0.742	0.67	9.8	66.0	2.98	37.1	0.00			403	
437		6.50	6.46	34.254	26.904	120.6	0.787	0.56	8.1	70.8	3.05	38.2	0.00			440	202
500	ISL	6.14	6.10	34.297	26.985	113.4	0.861	0.37	5.3	77.7	3.16	39.5	0.00			503	
514		6.06	6.01	34.307	27.003	111.8	0.876	0.33	4.7	79.2	3.19	39.8	0.00			518	201

;w?V

RV DAVID STARR JORDAN CALCOFI CRUISE 9602 STATION 90 53

LATITUDE	LONSITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
32 39.3 1N	119 29.0 U	04/02/96	1920	UTC	1414 m	140	07 kn	250 04 12;	4	1026.5 mb	15 .1 C	15 .0 C	16m 04		

DEPTH •	TEMP DEC C	POT TEMP DES C	SALINITY	SI6MA THETA	SVA	DYN HT	OXYGEN mL/L	OXY PCT	SI03 uM/ L	P04 uM/L	N03 uM/ l	N02 uM/ l	CHL-A ug/ l	PHAEO ug/ L	PRES db	SAMP
0 ISL	14.23	14.23	33.441	24.935	300.9	0.000	5 .98	102 .5	4.0	0.39	0.9	0.05	0.91	0.34	0	
2	14.20	14.20	33.441	24.942	300.4	0.006									2	221
2 A	14.23	14.23	33.441	24.935	301 .0	0.006	5 .98	102.5	4.0	0.39	0.9	0.05	0.91	0.34	2	220
10 A	14.21	14.21	33.441	24.940	300.8	0.030	5.98	102.5	3.7	0.39	0.9	0.05	0.86	0.34	10	219
20 ISL	14.12	14.12	33.441	24.959	299.3	0.060	5 .95	101.8	3.8	0.40	0.9	0.06	0.95	0.41	20	
21 A	14.11	14.11	33.441	24.961	299.1	0.063	5 .95	101.7	3.8	0.40	0.9	0.06	0.95	0.42	21	218
30 ISL	14.04	14.04	33.446	24.980	297.6	0.090	5.88	100.4	4.0	0.42	1 .3	0.08	0.69	0.39	30	
32 A	14.01	14.01	33.447	24.987	297.0	0.096	5.86	100.0	4 .1	0.43	1 .5	0.09	0.62	0.37	32	217
44 A	13.65	13.64	33.461	25.072	289.2	0.131	5 .41	91 .6	5.6	0.59	3.9	0.23	0.34	0.27	44	216
50 ISL	12.74	12.73	33.488	25.275	270.0	0.148	5 .04	83.8	8.3	0.82	7.4	0.26	0.28	0.27	50	
52	12.44	12.43	33.499	25.342	263.6	0.153	4.92	81 .3	9.2	0.89	8.6	0.27	0.26	0.27	52	215
61 A	12.10	12.09	33.517	25.421	256.3	0.177	4.59	75.3	11.0	1 .03	10.9	0.12	0.18	0.23	61	214
71	11.16	11.15	33.557	25 .625	237.0	0.201	4.17	67. 1	13.7	1 .23	13.9	0.05	0.16	0.20	71	213
75 ISL	10.93	10.92	33.585	25.688	231 .1	0.211	3.99	63.9	15.2	1 .32	15.3	0.04	0.14	0.17	75	
84	10.57	10.56	33.646	25.799	220.7	0.231	3.64	57.8	18.3	1.51	18.2	0.03	0.08	0.12	84	212
100 ISL	10.06	10.05	33.700	25.929	208.6	0.265	3.45	54.2	21 .2	1 .65	20.5	0.02	0.04	0.10	100	
101	10.03	10.02	33.703	25.937	207.9	0.267	3.45	54.2	21.3	1 .66	20.6	0.02	0.04	0.10	102	211
120	9.36	9.35	33.779	26.107	192.0	0.305	3.28	50.8	24.9	1 .82	23.0	0.01	0.02	0.08	121	210
125 ISL	9.25	9.24	33.793	26.136	189.4	0.315	3.26	50.3	25 .5	1 .84	23.4	0.01	0.02	0.07	126	
UO	8.98	8.96	33.829	26.207	182.8	0.343	3.23	49.6	27.2	1 .87	24.2	0.01	0.01	0.04	141	209
150 ISL	8.72	8.70	33.855	26 .268	177.1	0.361	3.22	49.2	28.6	1 .89	24.7	0.01	0.01	0.04	151	
169	8.24	8.22	33.911	26.386	166.2	0.393	3.20	48.3	32.2	1 .96	26. 1	0.01	0.00	0.04	170	208
198	7.79	7.77	34.021	26.539	152.0	0.440	2.48	37.1	40.4	2.25	29.7	0.01	0.01	0 .04	199	207
200 ISL	7.78	7.76	34.024	26.543	151.7	0.443	2.46	36.8	40.7	2.26	29.8	0.01			201	
229	7.67	7.65	34.053	26.582	148.5	0.486	2.21	33.0	43.8	2.37	30.8	0.02			230	206
250 ISL	7.49	7.47	34.074	26.625	144.7	0.517	1 .99	29.6	47.2	2.47	31 .9	0.02			251	
263	7.31	7.28	34.091	26.663	141.2	0.543	1 .79	26.5	50.3	2.55	32.9	0.02			270	205
300 ISL	7.05	7.02	34.117	26.720	136.2	0.587	1 .48	21.8	55.4	2.68	34.5	0.01			302	
320	6.91	6.88	34.132	26.752	133.5	0.614	1 .30	19.1	58.4	2.76	35 .4	0.01			322	204
377	6.S7	6.54	34.178	26.834	126.3	0.688	0.89	13.0	65.6	2 .94	37.4	0.00			379	203
400 ISL	6.52	6.48	34.212	26.868	123.4	0.717	0.73	10.6	68.2	3.01	37.8	0.00			403	
441	6.43	6.39	34.268	26.924	118.6	0.766	0.51	7.4	72 .7	3.12	38.5	0.00			444	202
500 ISL	6.03	5.99	34.289	26.993	112.6	0.835	0.40	5 .8	79.2	3.20	39.9	0.00			503	
515	5.93	5.88	34.295	27.010	111.0	0.851	0.37	5 .3	80.8	3.22	40.2	0.00			519	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV DAVID STARR JORDAN CALCOFI CRUISE 9602 STATION 90 60I

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
32 25.1 N	119 57.9 W	04/02/96	1419	UTC	883 m	110	08 ten			1024.1 mb	15 .1 C	15 .0 C			

DEPTH ft	TEMP DES C	POT TEMP DES C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SI03 uM/ l	P04 uM/ l	N03 uM/l	N02 uM/l	CHL-A ug/ l	PHAEO ug/ l	PRES db	SAMP
0 ISL	14.10	14.10	33.370	24.908	303.6	0.000	5 .95	101.7	3.1	0.41	0.8	0.05	0.68	0.40	0	
1	14.10	14.10	33.370	24.908	303.6	0.003	5.95	101.7	3. 1	0.41	0.8	0.05	0.68	0.40	1	220
10	14.08	14.08	33.373	24.914	303.2	0.030	5.94	101.5	3. 1	0.41	0.9	0.05	0.68	0.38	10	219
20	13.77	13.77	33.421	25.016	293.8	0.060	5.95	101.0	3. 1	0.45	1 .2	0.07	0.71	0.41	20	218
30	13.32	13.32	33.459	25 .137	282.6	0.089	5.77	97. 1	3.9	0.56	2.8	0.15	0.54	0. 44	30	217
41	13.05	13.04	33.485	25.211	275 .8	0.120	5 .56	93 .0	5 .2	0.67	4.2	0.19	0.43	0.41	41	216
50	12.88	12 .87	33.498	25.255	271 .9	0.144	5 .41	90.2	6.2	0.73	5.2	0.20	0.32	0.37	50	215
60	12.54	12.53	33.525	25.343	263.8	0.171	5.13	84.9	7.8	0.85	7.1	0.18	0.33	0.42	60	214
70	12.01	12.00	33.525	25.444	254.3	0. 197	4.59	75 .2	9.5	1 .04	10.8	0.16	0.24	0.37	70	213
75 ISL	11 .70	11.69	33.517	25.496	249.5	0.210	4.42	71.9	10.9	1.12	12.3	0.13	0.18	0.30	75	
85	11.12	11.11	33.512	25.598	239.9	0.234	4.17	67.0	13.7	1 .27	14.6	0.07	0.08	0.19	85	212
100	10.66	10.65	33.579	25.732	227.5	0.269	3.90	62 .0	16.6	1 .43	17.1	0.05	0.07	0 .24	100	211
119	9.85	9.84	33.687	25.955	206.6	0.310	3.53	55.2	21.0	1 .67	20.8	0.03	0. 05	0.14	120	210
125 ISL	9.66	9.65	33.711	26.005	201 .9	0.323	3.55	55 .3	21.8	1 .68	21.2	0.03	0.04	0.12	126	
140	9.26	9.24	33.759	26. 108	192 .3	0.352	3.61	55 .7	23.2	1 .71	21.8	0.02	0.02	0.08	141	209
150 ISL	9.06	9.04	33.784	26.159	187.6	0.371	3.57	54.9	24.3	1 .74	22.3	0.02	0.01	0.07	151	
170	8.70	8.68	33.832	26.254	178.9	0.408	3.50	53.4	27.0	1 .82	23.6	0.02	0.01	0.06	171	208
200	8.10	8.08	33.935	26.426	162 .9	0.459	3.09	46.5	33.4	2 .01	26.7	0.01	0.00	0.05	201	207
229	7.94	7.92	33.969	26.477	158.5	0.506	2.91	43.7	36. 1	2.10	27.9	0.01			230	206
250 ISL	7.61	7.59	33.986	26.538	152.9	0.538	2 .75	41 .0	40.0	2.18	29.3	0.01			251	
271	7.27	7.24	34.012	26.607	146.6	0.570	2.50	36.9	44.7	2.30	30.9	0.01			273	205
300 ISL	7.11	7.08	34.088	26.689	139.1	0.611	1 .79	26.4	51.6	2 .56	33.5	0. 01			302	
319	7.05	7.02	34.137	26.736	135.0	0.637	1 .32	19.4	55.9	2 .73	35. 1	0.01			321	204
379	6.66	6.63	34. 182	26.825	127.2	0.716	0. 88	12.8	64.8	2.94	37.3	0.01			381	203
400 ISL	6.52	6. 48	34.199	26.858	124.4	0.742	0.76	11.0	67.7	3.00	37.9	0.01			403	
437	6.28	6.24	34.228	26.912	119.5	0.788	0.58	8 .4	72 .4	3.09	38.9	0.01			440	202
500 ISL	5.94	5 .90	34.268	26.987	113.0	0.861	0.41	5 .9	79.0	3.20	40.3	0.01			503	
513	5.87	5 .83	34.276	27.003	111.6	0.875	0.38	5 .4	80.4	3.22	40.6	0.01			517	201

RV DAVID STARR JORDAN CALCOFI CRUISE 9602 STATION 90 70

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
32 4.9 N	120 38.2 W	04/02/96	0804 UTC	3817 m	180	05 kn			1023.1 mb	17„4 C	17.3 C			

DEPTH m		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SI03 uM/l	P04 uM/ l	N03 uM/l	N02 uN/l	CHL-A ug/l	PHAEO ug/ l	PRES db	SAMP
0	ISL	16.49	16.49	33.473	24.462	346.0	0.000	5.61	100.7	2.5	0.30	0.1	0.00	0.17	0.06	0	
2		16.49	16.49	33.473	24.462	346.1	0.007	5 .61	100.7	2.5	0.30	0.1	0.00	0.17	0.06	2	220
10	ISL	16.48	16.48	33.479	24.469	345 .6	0.035	5.61	100.6	2.4	0.30	0.0	0.00	0.17	0.07	10	
15		16.47	16.47	33.483	24.475	345.3	0.052	5.61	100.6	2.4	0.30	0.0	0.00	0.17	0.08	15	219
20	ISL	16.47	16.47	33.483	24.475	345.4	0.069	5.61	100.6	2.4	0.30	0.0	0.00	0.17	0.08	20	
30		16.47	16.47	33.482	24.475	345.8	0.104	5.62	100.8	2.4	0.29	0.0	0.00	0.19	0.07	30	21«i
45		16.47	16.46	33.489	24.481	345 .7	0.156	5 .59	100.2	2.4	0.29	0.0	0.00	0.22	0.09	45	217
50	ISL	16.46	16.45	33.487	24.482	345 .8	0.173	5 .59	100.2	2.4	0.29	0.0	0.00	0.24	0.09	50	
54		16.44	16.43	33.482	24.483	345 .8	0.187	5.60	100.4	2.4	0.29	0.0	0.00	0.25	0.09	54	216
64		16.30	16.29	33.472	24.507	343.8	0.221	5.63	100.6	2.4	0.29	0.0	0.00	0.30	0.11	64	215
74		15 .64	15.63	33.458	24.646	330.8	0.255	5.64	99.5	2.5	0.32	0.0	0.03	0.33	0.25	74	214
75	ISL	15.57	15.56	33.463	24.665	329.0	0.258	5.63	99.2	2.5	0.32	0.0	0.04	0.33	0.25	75	
84		14.92	14.91	33.523	24.854	311.2	0.287	5.58	97.0	3.0	0.37	0.3	0.09	0.33	0.27	84	213
95		14.20	14.19	33.595	25.063	291 .5	0.320	5.24	89.8	4.2	0.50	2.5	0.08	0.24	0.24	95	212
100	ISL	13.84	13.83	33.590	25.134	284.9	0.335	4.98	84.7	5.3	0.63	4.4	0.07	0.22	0.23	100	
110		13.01	13.00	33.552	25.273	271.8	0.362	4.57	76.4	7.7	0.89	8.2	0.04	0.17	0.22	110	211
125		11 .43	11.41	33.514	25.544	246.0	0.401	4.74	76.6	10.0	0.95	10.3	0.02	0.06	0.08	126	210
144		9.97	9.95	33.546	25.825	219.4	0.445	4.18	65.5	16.8	1 .40	17.1	0.01	0.02	0.04	145	209
150	ISL	9.74	9.72	33.585	25.894	213.0	0.458	4.04	63.0	18.4	1 .48	18.4	0.01	0.01	0.03	151	
169		9.33	9.31	33.733	26.077	195.9	0.497	3.60	55.7	23.0	1 .68	21 .7	0.00	0.00	0.02	170	208
199		8.91	8.89	33.941	26.307	174.5	0.553	2.68	41 .1	30.9	2.06	26.8	0.00	0.00	0.02	200	207
200	ISL	8.90	8.88	33.944	26.311	174.2	0.555	2.68	41 .1	31 .0	2.06	26.8	0.00			201	
230		8.48	8.46	33.987 *Bi*	26.410	165.2	0.605	2.58	39.2	34.5	2.15	27.9	0.00			231	206
250	ISL	7.98	7.95	33.991	26.488	157.8	0.638	2.77	41.6	37.2	2.14	28.2	0.00			251	
268		7.52	7.49	33.990	26.554	151.6	0.666	2.93	43.5	40.0	2.13	28.6	0.00			269	205
300	ISL	7.05	7.02	33.991	26.621	145.5	0.713	2.69	39.5	45.6	2 .26	30.6	0.00			302	
319		6.86	6.83	33.996	26.651	142.9	0.741	2.42	35 .4	49.3	2.38	32.1	0.00			321	204
379		6.33	6.30	34.076	26.785	130.7	0.823	1 .42	20.5	62 .8	2.76	36.8	0.00			381	203
400	ISL	6.18	6.14	34.094	26.819	127.7	0.850	1 .22	17.6	66 .4	2.85	37.8	0.00			402	
438		5.95	5 .91	34.124	26.872	123.0	0.897	0.95	13.6	72.0	2.98	39.2	0.00			441	202
500	ISL	5.65	5 .61	34.199	26.969	114.4	0.971	0.59	8.4	80.3	3.13	40.7	0.00			503	
516		5.57	5 .53	34.218	26.993	112.2	0.989	0.50	7.1	82.5	3.17	41 .1	0.00			519	201

RV DAVID STARR JORDAN CALCOFI CRUISE 9602 STATION 90 80

LATITUDE	LONGITUDE	DAY/NO/YR	CAST TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
31 45i.3 N	121 18.1 W	04/02/96	0207 UTC	3614 m	150	04 kn	200 03 06	1	1019.7 mb	18..2 C	17..8 C		7/8	ST

DEPTH m		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SI03 uM/ l	P04 uM/ l	N03 uM/ l	N02 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0	ISL	16.59	16.59	33.481	24.445	347.6	0.000	5.62	101.0	2 .5	0.29	0.1	0.00	0.14	0.05	0	
1		16.58	16.58	33.482	24.448	347.3	0.003									1	221
1		16.59	16.59	33.481	24.445	347.6	0.003	5 .62	101.0	2.5	0.29	0.1	0.00	0.14	0.05	1	220
10	ISL	16.57	16.57	33.481	24.450	347.5	0.035	5 .63	101.2	2.5	0.29	0. 1	0.00	0.14	0.06	10	
15		16.56	16.56	33.481	24.453	347.4	0.052	5.63	101.1	2.5	0.29	0. 1	0.00	0.14	0.06	15	219
20	ISL	16.55	16.55	33.481	24.455	347.3	0.069	5.63	101.1	2.4	0.29	0.1	0.00	0.14	0.06	20	
30		16.53	16.53	33.479	24.459	347.3	0. 104	5.63	101.1	2.1	0.29	0.1	0.00	0.16	0.05	30	218
45		16.51	16.50	33.478	24.463	347.4	0.156	5.61	100.7	2.3	0.29	0. 1	0.00	0.19	0.07	45	217
50	ISL	16.42	16.41	33.471	24.479	346.0	0.174	5 .62	100.7	2 .4	0.29	0.1	0.00	0.25	0.10	50	
55		16.26	16.25	33.454	24.502	343.9	0.191	5.63	100.5	2 .4	0.29	0. 1	0.00	0.31	0.13	55	216
65		15.67	15.66	33.378	24.577	337.1	0.225	5 .71	100.7	2.4	0.30	0.1	0.00	0.33	0.17	65	215
75		13.59	13.58	33.283	24.947	301 .9	0.257	5 .75	97.2	3.7	0.40	0.9	0.11	0.32	0.26	75	214
85		13.65	13.64	33.462	25.074	290.1	0.287	5.19	87.9	4.9	0.59	3.2	0.08	0.27	0.24	85	213
95		13.11	13.10	33.554	25 .254	273.2	0.315	4.77	79.9	6.7	0.78	6.8	0.04	0.18	0.19	95	212
100	ISL	12.79	12.78	33.570	25 .330	266.1	0.328	4.54	75 .6	8.0	0.90	8.7	0.03	0.15	0.20	100	
110		12.15	12.14	33.583	25.464	253.5	0.354	4.13	67.8	10.9	1.12	12.2	0.02	0.12	0.21	110	211
125		11.44	11.42	33.626	25 .629	238.0	0.391	3.79	61 .3	14.5	1 .34	15.5	0.02	0.07	0.10	126	210
145		10.71	10.69	33.672	25.796	222.4	0.437	3.61	57.5	17.6	1 .50	18.1	0.01	0.03	0.06	146	209
150	ISL	10.41	10.39	33.685	25 .859	216.5	0.448	3.60	57.0	18.7	1 .54	18.9	0.01	0.02	0.05	151	
170		9.29	9.27	33.757	26. 102	193.5	0.489	3.56	55 .0	23.1	1 .70	21.9	0.01	0.00	0.03	171	208
199		8.81	8.79	33.897	26.288	176.3	0.543	3.15	48.2	28.6	1 .90	24.8	0.01	0.00	0.02	200	207
200	ISL	8.79	8.77	33.900	26.293	175.8	0.544	3.15	48.2	28.8	1 .90	24.9	0.01			201	
229		8.25	8.23	33.979	26.438	162.3	0.593	3.01	45 .5	33.8	2 .03	26.7	0.00			230	206
250	ISL	8.05	8.02	34.035	26.513	155.6	0.627	2 .66	40.0	37.9	2.17	28.4	0.00			251	
269		7.92	7.89	34.078	26.566	150.8	0.656	2 .29	34.4	41 .7	2.30	29.9	0.00			270	205
300	ISL	7.59	7.56	34.121	26.648	143.4	0.701	1 .81	27.0	48.0	2 .50	32. 1	0.00			302	
318		7.39	7.36	34.138	26.690	139.6	0.727	1 .57	23.3	51.5	2.61	33.3	0.00			320	204
378		6.89	6.85	34.182	26.794	130.3	0.808	1 .02	15.0	61 .5	2.85	36.2	0.00			380	203
400	ISL	6.54	6.50	34.169	26.831	126.9	0.836	0.93	13.5	65.8	2.92	37.4	0.00			402	
438		5.97	5 .93	34.151	26.891	121.3	0.883	0.82	11.8	72 .8	3.02	39.3	0.00			441	202
500	ISL	5 .82	5 .78	34.224	26.968	114.7	0.957	0.51	7.3	79.5	3.15	40.5	0.00			503	
515		5.78	5.74	34.242	26.987	113.0	0.974	0.43	6. 1	81 .1	3.18	40.8	0.00			518	201

RV DAVID STARR JORDAN CALCOFI CRUISE 9602 STATION 90 90

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
31 25.1 f1	121 59.0 W	03/02/96	1911	UTC	3877 m	200	11 kn	200 3 0li	5	1020.1 mb	17.1 C	17., 1 C	26m 02	8/8	ST

DEPTH in	TEMP DES C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SI03 uM/ l	P04 uM/ l	N03 uM/l	N02 uM/l	CHL-A ug/ l	PHAEO ug/l	PRES db	SAMP
0 ISL	15.89	15.89	33.246	24.424	349.6	0.000	5.73	101.5	3.0	0.34	0.1	0.00	0.13	0.04	0	
2 A	15.89	15.89	33.246	24.424	349.6	0.007	5.73	101.5	3.0	0.34	0.1	0.00	0.13	0.04	2	220
3	15.89	15.89	33.246	24.424	349.7	0.010									3	221
10 ISL	15.36	15.86	33.244	24.430	349.4	0.035	5.72	101.2	2.9	0.32	0.1	0.00	0.13	0.04	10	
17 A	15.84	15.84	33.250	24.439	348.7	0.059	5.72	101.2	2.7	0.30	0.0	0.00	0.13	0.04	17	219
20 ISL	15.80	15.80	33.250	24.448	347.9	0.070	5.73	101.3	2.7	0.30	0.0	0.00	0.14	0.04	20	
30 ISL	15.66	15.66	33.250	24.480	345.2	0.104	5.75	101.3	2.7	0.31	0.0	0.00	0.16	0.06	30	
35 A	15.59	15.58	33.250	24.496	343.9	0.122	5.77	101 .5	2.7	0.32	0.0	0.00	0.17	0.07	35	218
50 ISL	15.52	15.51	33.254	24.515	342.5	0.173	5 .78	101.6	2.9	0.30	0.0	0.00	0.20	0.09	50	
52 A	15.51	15.50	33.255	24.518	342.3	0.180	5.78	101.6	2 .9	0.30	0.0	0.00	0.21	0.10	52	217
70 A	15.14	15.13	33.271	24.612	333.9	0.241	5.83	101.7	2.9	0.31	0.0	0.00	0.39	0.20	70	216
75 ISL	15.03	15.02	33.291	24.651	330.2	0.258	5.83	101 .5	3.0	0.33	0.1	0.05	0.48	0.34	75	
80	14.80	14.79	33.311	24.716	324.2	0.274	5 .83	101.0	3.2	0.36	0.2	0.11	0.52	0.44	80	215
88	13.85	13.84	33.331	24.932	303.8	0.299	5.78	98.2	3.6	0.45	1 .4	0.22	0.34	0.27	88	214
98 A	13.13	13.12	33.319	25.068	290.9	0.329	5 .80	97.1	3.9	0.47	1 .8	0.05	0.17	0.26	98	213
100 ISL	13.04	13.03	33.310	25.079	289.9	0.335	5.81	97.1	3.9	0.46	1 .7	0.05	0.17	0.24	100	
105	12.81	12.80	33.286	25.106	287.5	0.349	5.83	96.9	3.9	0.44	1 .5	0.05	0.18	0.20	105	212
115	11 .97	11 .96	33.258	25.245	274.3	0.377	5 .75	93.9	4.6	0.52	2.5	0.02	0.13	0.14	115	211
125 ISL	12.14	12.12	33.341	25.278	271 .5	0.404	5.50	90.2	5 .8	0.62	4.4	0.02	0.09	0.11	126	
126	12.16	12.14	33.348	25.280	271 .4	0. 407	5.46	89.6	6.0	0.63	4.7	0.02	0.09	0.11	127	210
UO	12.07	12.05	33.532	25.440	256.5	0.444	4.74	77.7	10.3	0.94	10.2	0.02	0.06	0.07	141	209
150 ISL	11 .37	11 .35	33.561	25.592	242.1	0.469	4.33	69.9	13.3	1.17	13.7	0.02	0.05	0.06	151	
165	10.09	10.07	33.580	25 .832	219.3	0.504	3.92	61 .6	17.5	1 .46	17.9	0.01	0.03	0.05	166	208
194	8.89	8.87	33.796	26.196	184.9	0.562	3.99	61 .1	23.7	1 .61	21.1	0.01	0.03 U	0.22 U	195	207
200 ISL	8.72	8.70	33.820	26.242	180.6	0.573	3.91	59.7	25.1	1 .66	21.9	0.01			201	
229	8.11	8.09	33.894	26.393	166.6	0.623	3.44	51.8	31 .7	1 .90	25 .6	0.01			230	206
250 ISL	7.77	7.75	33.940	26.479	158.6	0.658	3.22	48 .1	35.7	2.01	27.2	0.00			251	
269	7.51	7.48	33.971	26.541	152.9	0.687	3.07	45.6	39.1	2.08	28.2	0.00			270	205
300 ISL	7.10	7.07	33.987	26.611	146.5	0.734	2.86	42 .1	44 .1	2 .20	29.9	0.00			302	
318	6.87	6.84	33.990	26.645	143.4	0.760	2.70	39.5	47.2	2 .28	31 .0	0.00			320	204
378	6.09	6.06	34.038	26.785	130.4	0.842	1 .64	23.6	62 .6	2 .71	36.6	0.00			380	203
400 ISL	5.93	5.90	34.067	26.829	126.5	0.870	1 .33	19.1	67.5	2.84	38.0	0.00			402	
437	5.76	5 .72	34. 122	26.894	120.7	0.916	0.91	13.0	74.6	3.01	39.7	0.00			440	202
500 ISL	5.61	5.57	34.214	26.985	112.8	0.989	0.51	7.3	82.5	3.16	41 .1	0.00			503	
516	5.57	5.53	34.237	27.008	110.7	1 .007	0.41	5.8	84.5	3.20	41 .4	0.00			519	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV DAVID STARR JORDAN CALCOFI CRUISE 9602» STATION 90 100

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
31 5.1 N	122 39.5 W	03/02/96	1318	UTC	4118 m	180	16 kn			1016.5 mb	18..2 C	17..0 C			

DEPTH ID	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SI03 uM/ l	P04 uM/ t	N03 uM/ l	N02 uM/ l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	16.38	16.38	33.313	24.365	355.3	0.000	5 .66	101.2	2 .6	0.29	0.1	0.00	0.10	0.05	0	
2	16.38	16.38	33.313	24.365	355 .4	0.007	5.66	101.2	2.6	0.29	0.1	0.00	0.10	0.05	2	220
10 ISL	16.37	16.37	33.312	24.366	355 .4	0.036	5.67	101.4	2.6	0.29	0.1	0.00	0.11	0.04	10	
15	16.36	16.36	33.312	24.369	355.4	0.053	5 .67	101.4	2.6	0.29	0.1	0.00	0.12	0.04	15	219
20 ISL	16.33	16.33	33.310	24.375	355 .0	0.071	5.67	101.3	2.6	0.29	0.1	0.00	0.12	0.04	20	
30	16.22	16.22	33.298	24.391	353.8	0.107	5.68	101.2	2.6	0.28	0.1	0.00	0.12	0.05	30	218
45	15.89	15 .88	33.244	24.424	351 .0	0.159	5.73	101.4	2.5	0.29	0.1	0.00	0.19	0.08	45	217
50 ISL	15.88	15.87	33.244	24.427	350.9	0. 177	5.73	101.4	2 .5	0.30	0.1	0.00	0.19	0.12	50	
55	15.86	15.85	33.247	24. 434	350.4	0.194	5.72	101.2	2.5	0.30	0.1	0.00	0.20	0.16	55	216
65	15.60	15.59	33.244	24.490	345 .4	0.229	5 .73	100.8	2.6	0.30	0. 1	0.00	0.34	0.21	65	215
75	14.74	14.73	33.266	24.694	326.1	0.263	5 .80	100.3	3.2	0.35	0.2	0.11	0.47	0.36	75	214
86	13.94	13.93	33.267	24.864	310.2	0.298	5.83	99.2	3.6	0.36	0.5	0.16	0.37	0.33	86	213
94	13.22	13.21	33.279	25.019	295 .5	0.322	5 .83	97 .8	3 .8	0.38	0.9	0.14	0.25	0.28	94	212
100 ISL	12.93	12 .92	33.303	25.096	288.4	0.340	5.67	94.5	4.5	0.45	2 .0	0.09	0.19	0.23	100	
110	12.37	12.36	33.338	25.232	275 .6	0.368	5 .31	87.5	6.3	0.63	4.9	0.02	0.13	0.15	110	211
124	10.61	10.60	33.352	25 .564	243.9	0.404	5 .00	79.3	10.2	0.93	10.0	0.01	0.06	0.07	125	210
125 ISL	10.55	10.54	33.362	25 .582	242 .2	0.407	4. 94	78.3	10.6	0.96	10.5	0.01	0.06	0.07	126	
144	9.85	9.83	33.574	25.867	215.4	0.450	3. 91	61.1	18.8	1 .49	18.6	0.01	0.02	0.05	145	209
150 ISL	9.64	9.62	33.608	25 .928	209.7	0.463	3.87	60.2	20.3	1 .53	19.9	0.01	0.01	0.04	151	
170	9.05	9.03	33.693	26.090	194.5	0.503	3.72	57.1	23.3	1 .67	21 .8	0.01	0.00	0.03	171	208
199	8.62	8.60	33.874	26.299	175. 1	0.557	4 .07	62.0	25 .4	1 .61	21 .5	0.01	0.00	0.01	200	207
200 ISL	8.60	8.58	33.877	26.305	174.6	0.559	4.06	61.8	25.6	1 .61	21 .6	0.01			201	
229	7.97	7.95	33.934	26.445	161.6	0.607	3.77	56.6	31 .3	1 .79	24.3	0.01			230	206
250 ISL	7.63	7.61	33.951	26.508	155.8	0.641	3.66	54.5	34.8	1 .87	25 .6	0.01			251	
269	7.36	7.33	33.959	26.553	151.7	0.670	3.53	52.3	38.1	1 .94	26.7	0.01			270	205
300 ISL	6.92	6.89	33.975	26.626	145.0	0.716	3.00	44.0	45.3	2.17	29.7	0.00			302	
318	6.70	6.67	33.987	26.665	141.4	0.742	2.63	38.3	49.7	2 .31	31 .6	0.00			320	204
379	6.31	6.28	34.052	26.769	132.2	0.825	1 .57	22.7	62.3	2 .70	36.4	0.00			381	203
400 ISL	6.12	6.08	34.061	26.800	129.4	0.852	1 .39	20.0	65 .7	2 .78	37.4	0.00			402	
439	5 .74	5.70	34.077	26.860	123.8	0.902	1.16	16.5	71 .9	2.90	39.0	0.00			442	202
500 ISL	5 .23	5.19	34.142	26.973	113.4	0.974	0.72	10.1	84.8	3.10	41.4	0.00			503	
514	5.11	5 .07	34. 157	26.999	111.0	0.990	0.62	8.7	87.7	3.15	42 .0	0.00			517	201

RV DAVID STARR JORDAN CALCOFI CRUISE 9602 STATION 90 1101

LATITUDE	LONGITUDE	DAY/HO/YR	CAST	TIHE	80TT0H	WIND	SPEED	WAVES	WEA	BAROHETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
30 45.3 N	123 19.6 W	03/02/96	0733	UTC	4017 m	180	10 kn			1017.2 mb	18.3 C	17.5 C			

DEPTH m	TEHP DE6 C	POT TEHP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SI03 uH/l	P04 uH/l	N03 uH/l	N02 uH/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	16.61	16.61	33.	24.352	356.4	0.000	5.62	101.0	2.7	0.28	0.0	0.00	0.10	0.04	0	
2	16.61	16.61	33.366	24.352	356.5	0.007	5.62	101.0	2.7	0.28	0.0	0.00	0.10	0.04	2	220
10 ISL	16.60	16.60	33.366	24.354	356.7	0.036	5.62	101.0	2.5	0.27	0.0	0.00	0.10	0.04	10	
11	16.60	16.60	33.364	24.353	356.8	0.039	5.62	101.0	2.5	0.27	0.0	0.00	0.10	0.04	11	219
20	16.57	16.57	33.363	24.348	357.5	0.071	5.63	101 .1	2.5	0.27	0.0	0.00	0.10	0.03	20	218
30 ISL	16.52	16.52	33.347	24.360	356.7	0.107	5.63	101.0	2.5	0.27	0.0	0.00	0.12	0.04	30	
46	16.45	16.44	33.348	24.378	355.5	0.164	5.63	100.8	2.4	0.27	0.0	0.00	0.14	0.05	46	217
SO ISL	16.33	16.32	33.349	24.394	354.1	0.178	5.64	100.8	2.4	0.27	0.0	0.00	0.16	0.06	50	
56	16.13	16.12	33.334	24.419	351 .9	0.199	5.67	100.9	2.4	0.28	0.0	0.00	0.20	0.08	56	216
66	15.87	15.86	33.307	24.437	350.4	0.235	5.72	101.2	2.3	0.29	0.0	0.00	0.25	0.15	66	21S
75	15.33	15.32	33.254	24.554	339.6	0.266	5.75	100.7	2.6	0.31	0.0	0.02	0.38	0.30	75	214
85	15.10	15.09	33.249	24.771	319.2	0.299	5.77	100.7	3. 1	0.29	0.0	0.06	0.26	0.23	85	213
95	14.62	14.61	33.465	24.875	309.5	0.330	5.67	98.0	3.3	0.33	0.3	0.12	0.24	0.23	95	212
100 ISL	14.32	14.31	33.466	24.955	302.0	0.345	5.56	95 .5	3.6	0.38	0.9	0.10	0.22	0.21	100	
110	13.75	13.73	33.487	25.122	286.3	0.375	5 .32	90.3	4.5	0.48	2.6	0.03	0.17	0.16	110	211
125	13.20	13.18	33.550	25.318	268.0	0.416	5.08	85.3	5.7	0.59	5 .1	0.02	0.10	0.10	126	210
144	12.61	12.59	33.658	25.561	245.3	0.465	4.85	80.6	7.6	0.72	7.6	0.01	0.03	0.04	145	209
150 ISL	12.18	12.16	33.821	25.625	239.2	0.480	4.79	78.8	8.6	0.79	8.8	0.01	0.03	0.04	151	
169	10.68	10.66	33.797	25.818	220.8	0.523	4.59	73.1	12.8	1 .07	13.0	0.01	0.01	0.03	170	20!
199	9.21	9.19	33.693 i	26.132	191.2	0.585	4.13	63.7	21 .0	1 .49	19.6	0.00	0.00	0.01	200	207
200 ISL	9.18	9.16	33.778 D	26.140	190.5	0.587	4.14	63.8	21 .2	1 .49	19.7	0.00			201	
228	8.51	8.49	33.782	26.331	172.6	0.638	4.21	64.0	25 .4	1 .58	21 .3	0.00			229	206
250 ISL	8.13	8.10	33.892	26.437	162.8	0.675	3.58	53.9	31 .6	1 .84	24.7	0.00			251	
269	7.86	7.83	33.954	26.507	156.3	0.705	2.93	43.9	37.3	2.09	27.9	0.00			270	205
300 ISL	7.46	7.43	34.992	26.593	148.5	0.752	2.45	36.4	44.0	2.29	30.6	0.00			302	
320	7.25	7.22	34.028	26.636	144.6	0.782	2.23	32.9	47.8	2.39	31 .8	0.00		' "	322	204
378	6.88	6.84	34.045	26.756	134.0	0.862	1 .30	19.0	58.7	2.75	35.6	0.00		'	380	20J
400 ISL	6.68	6.64	34.131	26.796	130.3	0.891	1.10	16.0	62.5	2.84	36.7	0.00			402	
438	6.32	6.28	34.148	26.862	124.3	0.940	0.87	12.6	68.9	2.96	38.2	0.00			441	20!
500 ISL	5. 82	5 .78	34.171	26.964	115.0	1 .014	0.57	8.1	79.3	3.13	40.3	0.00			503	
523	5 .64	5 .60	34.220 .239	27.002	111.6	1 .040	0.46	6.5	83.2	3.19	41 .1	0.00			526	201

RV DAVID STARR JORDAN CALCOFI CRUISE 9602 STATION 90 120

LATITUDE	LONGITUDE	DAY/HO/YR	CAST	TIHE	80TT0H	WIND	SPEED	WAVES	WEA	BAROHETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYP!
30 25i.3 N	123 58.6 W	03/02/96	0138	UTC	4252 m	190	06 kn	190 02 05	1	1016.1 mb	18.6 C	17.8 C		7/8	SC

DEPTH m	TEHP DEG C	POT TEHP DEG C	SALINITY	SIGHA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SI03 uH/l	P04 uM/l	N03 uH/l	N02 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	17.30	17.30	33.	24.314	360. 1	0.000	5.56	101.4	2.6	0.27	0. 1	0.00	0.09	0.03	0	
1	17.31	17.31	33,	24.312	360.4	0.004									1	221
2	17.30	17.30	33.527	24.314	360.2	0.007	5.56	101.4	2 .6	0.27	0.1	0.00	0.09	0.03	2	220
10 ISL	17.29	17.29	33.527	24.317	360.2	0.036	5 .57	101.5	2.6	0.27	0. 1	0.00	0.09	0.03	10	
16	17.28	17.28	33.527	24.319	360.1	0.058	5 .58	101.7	2.6	0.27	0.1	0.00	0.09	0.03	16	219
20 ISL	17.26	17.26	33.527	24.325	359.7	0.072	5.57	101.5	2.6	0.27	0. 1	0.00	0.09	0.03	20	
30	17.20	17.20	33.528	24.340	358.7	0.108	5.56	101.2	2.6	0.26	0.1	0.00	0.10	0.03	30	21!
45	17.08	17.07	33.528	24.349	358.3	0.162	5 .57	101.1	2.3	0.26	0.1	0.00	0.11	0.04	45	217
50 ISL	17.07	17.06	33.503	24.360	357.4	0. 180	5 .58	101.3	2.3	0.26	0.1	0.00	0.12	0.04	50	
.* 61	17.04	17.03	33.514	24.389	355.0	0.219	5 .59	101.4	2.4	0.25	0.1	0.00	0.14	0.05	61	216
75	17.11	17.10	33.542	24.416	352.9	0.268	5.55	100.8	2.2	0.25	0.1	0.00	0.19	0.09	75	215
85	15.66	15.65	33.598	24.676	328.3	0.302	5.71	100.8	2.7	0.28	0.0	0.01	0.27	0.26	85	211
95	14.79	14.78	33.502	24.812	315.5	0.335	5.81	100.7	3.3	0.30	0. 1	0.08	0.26	0.25	95	21!
i. 100 ISL	14.44	14.43	33 ,432	24.882	308.9	0.350	5.77	99.3	3.3	0.32	0.3	0.09	0.25	0.24	100	
105	14.20	14.18	33 .426	24.950	302.6	0.365	5.69	97.5	3.4	0.34	0.6	0.10	0.25	0.22	105	212
. 1 1 5	14.17	14.15	33 .448	25.076	290.9	0.395	5.50	94.2	3.5	0.37	1 .4	0.03	0.19	0.17	115	211
125	13.96	13.94	33 .602	25.161	283.0	0.424	5 .41	92.3	3.8	0.41	2 .2	0.02	0.14	0.13	126	210
140	13.11	13.09	33.656	25.330	267.2	0.465	5.29	88.7	5 .2	0.52	4.0	0.01	0.08	0.08	141	20!
• 15 0 ISL	12.29	12.27	33 .651	25.508	250.4	0.491	5.10	84. 1	7.2	0.67	6.6	0.01	0.05	0.05	151	
164	11.11	11.09	33 .673	25.761	226.3	0.524	4.78	76.8	10.7	0.93	11.0	0.01	0.01	0.03	165	201
195	9.47	9.45	33 .717	26.056	198.4	0.590	4.04	62.7	19.8	1 .47	19.1	0.00	0.00	0.02	196	207
200 ISL	9.30	9.28	33 .735	26.100	194.3	0.600	3.91	60.4	21 .3	1 .54	20. 1	0.00			201	
230	8.59	8.57	33.756	26.319	173.9	0.655	3.29	50. 1	29.0	1 .87	24.8	0.00			231	206
250 ISL	8.23	8.20	33 .892	26.414	165 .1	0.689	3.16	47.7	32.4	1 .96	26.1	0.00			251	
' 269	7.94	7.91	33 .943	26.481	158.8	0.720	3.11	46.7	35. 1	2.01	26.9	0.00		»	270	205
300 ISL	7.52	7.49	34 .974	26.564	151.3	0.768	2 .86	42.5	40.4	2.14	28.9	0.00			302	
318	7.30	7.27	34 .002	26.603	147.7	0.795	2.67	39.5	43.8	2.23	30.1	0.00			320	201
378	6.61	6.58	34 .012	26.740	135.1	0.880	1 .68	24.5	57.5	2.62	34.8	0.00			380	20!
- 400 ISL	6.39	6.35	34 .066	26.781	131.5	0.909	1 .46	21 .1	61.6	2.73	36.1	0.00		„	402	
438	6.06	6.02	34 .080	26.842	125.9	0.958	1.17	16.8	68.0	2 .88	38.0	0.00			441	202
500 ISL	5 .60	5 .56	34 .104	26.941	116.9	1 .033	0.76	10.8	78.6	3.06	40.3	0.00			503	
512	5.51	5 .47	34 .156 .166	26.959	115.2	1 .047	0.68	9.6	80.6	3.09	40.8	0.00		—	515	201

RV DAVID STARR JORDAN CALCOFI CRUISE 9602 STATION 93 26.7

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
32 57.2 N	117 18.4 W	30/01/96	0411 UTC	67 m	320 05 kn			1017.2 mb	14.0 C	13.0 C			

DEPTH ia	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SI03 uM/l	P04 uM/l	N03 uM/l	N02 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	13.86	13.86	33.398	24.979	296.8	0.000	6.74	114.6	0.8	0.22	0.0	0.01	3.04	0.52	0	
2	13.86	13.86	33.398	24.979	296.8	0.006	6.74	114.6	0.8	0.22	0.0	0.01	3.04	0.52	2	212
5	13.85	13.85	33.398	24.981	296.7	0.015	6.74	114.6	0.6	0.22	0.0	0.01	2.87	0.90	5	211
10	13.75	13.75	33.398	25.002	294.9	0.030	6.72	114.0	0.6	0.23	0.0	0.01	3.04	0.94	10	210
15	13.33	13.33	33.409	25.096	286.1	0.044	6.13	103.1	1.9	0.36	0.8	0.08	6.84	1.77	15	209
20	12.59	12.59	33.463	25.284	268.3	0.058	4.88	80.9	6.9	0.80	7.0	0.36	2.86	1.02	20	208
30	11.81	11.81	33.554	25.503	247.7	0.084	4.09	66.7	12.1	1.18	12.7	0.05	0.28	0.28	30	207
40	11.40	11.40	33.599	25.614	237.4	0.108	3.84	62.1	14.6	1.33	14.9	0.09	0.19	0.23	40	206
50	10.91	10.90	33.676	25.762	223.5	0.131	3.41	54.6	18.1	1.55	17.7	0.15	0.12	0.18	50	205
60	10.78	10.77	33.711	25.813	218.9	0.153	3.23	51.6	19.8	1.63	18.9	0.17	0.10	0.19	60	204

RV DAVID STARR JORDAN CALCOFI CRUISE 9602 STATION 93 28

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
32 54.7 N	117 23.8 W	30/01/96	0718 UTC	562 m	270 04 kn			1017.1 mb	14.4 C	13.2 C			

DEPTH n	TEHP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SI03 uM/l	P04 uM/l	N03 uM/l	N02 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	14.51	14.51	33.417	24.858	308.3	0.000	6.19	106.7	1.2	0.29	0.0	0.01	0.74	0.24	0	
1	14.51	14.51	33.417	24.858	308.4	0.003	6.19	106.7	1.2	0.29	0.0	0.01	0.74	0.24	1	220
10	14.39	14.39	33.417	24.883	306.2	0.031	6.29	108.2	0.9	0.27	0.0	0.01	1.10	0.37	10	219
20 ISL	13.79	13.79	33.426	25.016	293.9	0.061	6.16	104.6	1.8	0.38	0.3	0.03	4.35	1.31	20	
21	13.71	13.71	33.428	25.033	292.2	0.064	6.15	104.3	1.9	0.39	0.3	0.03	4.58	1.39	21	218
30 ISL	12.85	12.85	33.471	25.240	272.8	0.089	4.96	82.6	6.8	0.79	6.7	0.20	1.62	0.85	30	
31	12.75	12.75	33.477	25.264	270.5	0.092	4.82	80.1	7.4	0.84	7.5	0.21	1.20	0.76	31	217
41	11.86	11.85	33.550	25.491	249.1	0.118	4.17	68.1	11.4	1.14	12.4	0.04	0.26	0.27	41	216
50	11.46	11.45	33.594	25.599	239.0	0.140	3.91	63.3	13.8	1.30	14.6	0.03	0.15	0.20	50	215
60	11.28	11.27	33.611	25.645	234.8	0.163	3.78	61.0	14.8	1.36	15.6	0.02	0.13	0.19	60	214
70	10.99	10.98	33.656	25.733	226.7	0.187	3.51	56.3	16.9	1.49	17.2	0.02	0.07	0.14	70	213
75 ISL	10.75	10.74	33.677	25.792	221.2	0.198	3.42	54.6	18.1	1.56	18.3	0.02	0.06	0.13	75	
85	10.27	10.26	33.726	25.913	209.8	0.219	3.26	51.5	20.5	1.69	20.4	0.01	0.05	0.12	85	212
100	9.90	9.89	33.824	26.053	196.8	0.250	2.90	45.4	24.2	1.88	22.9	0.01	0.03	0.10	101	211
120	9.74	9.73	33.926	26.160	187.1	0.288	2.58	40.3	27.0	2.01	24.6	0.01	0.01	0.09	121	210
125 ISL	9.72	9.71	33.950	26.182	185.1	0.297	2.52	39.4	27.5	2.03	24.9	0.01	0.01	0.08	126	
139	9.68	9.66	34.017	26.241	179.8	0.323	2.34	36.5	29.1	2.09	25.6	0.01	0.01	0.07	140	209
150 ISL	9.59	9.57	34.074	26.301	174.4	0.342	2.15	33.5	31.0	2.17	26.5	0.01	0.01	0.06	151	
170	9.40	9.38	34.165	26.403	165.0	0.376	1.80	28.0	34.6	2.32	28.1	0.01	0.01	0.05	171	208
199	9.21	9.19	34.227	26.483	158.0	0.423	1.49	23.0	38.1	2.46	29.5	0.01	0.00	0.05	200	207
200 ISL	9.20	9.18	34.228	26.485	157.8	0.425	1.48	22.9	38.2	2.46	29.5	0.01			201	
229	8.98	8.96	34.248	26.537	153.4	0.470	1.36	20.9	40.6	2.53	30.2	0.01			230	206
250 ISL	8.77	8.74	34.256	26.576	150.0	0.502	1.26	19.3	42.8	2.58	30.8	0.01			251	
269	8.56	8.53	34.259	26.612	146.9	0.530	1.17	17.8	45.0	2.63	31.5	0.01			271	205
300 ISL	8.17	8.14	34.256	26.669	141.8	0.575	1.07	16.2	48.9	2.70	32.6	0.00			302	
319	7.91	7.88	34.251	26.704	138.7	0.601	1.02	15.3	51.6	2.75	33.4	0.00			321	204
378	7.12	7.08	34.241	26.809	129.1	0.680	0.79	11.6	61.0	2.91	36.1	0.00			380	203
400 ISL	6.93	6.89	34.248	26.841	126.3	0.709	0.70	10.3	63.8	2.98	36.8	0.00			403	
436	6.68	6.64	34.264	26.888	122.2	0.753	0.56	8.2	67.8	3.07	37.8	0.00			439	202
500 ISL	6.31	6.26	34.282	26.952	116.8	0.830	0.43	6.2	74.0	3.14	39.2	0.00			503	
513	6.24	6.19	34.286	26.964	115.7	0.845	0.40	5.8	75.3	3.16	39.5	0.00			517	201

RV DAVID STARR JORDAN CALCOFI CRUISE 9602 STATION 93 30

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
32 50.8 N	117 32.0 W	30/01/96	1109 UTC	855 m	030 03 kn			1016.9 mb	14.0 C	13.0 C			

DEPTH m	TEHP DEG C	POT TEMP DES C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SI03 uM/l	P04 uM/l	N03 uM/l	N02 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	14.59	14.59	33.415	24.839	310.1	0.000	5.88	101.5	3.4	0.30	0.0	0.00	0.39	0.21	0	
2	14.59	14.59	33.415	24.839	310.1	0.006	5.88	101.5	3.4	0.30	0.0	0.00	0.39	0.21	2	220
10	14.59	14.59	33.418	24.842	310.1	0.031	5.90	101.9	3.3	0.29	0.0	0.00	0.41	0.23	10	219
20	14.44	14.44	33.404	24.863	308.4	0.062	6.19	106.5	0.8	0.23	0.0	0.00	1.65	0.75	20	218
30	13.74	13.74	33.449	25.044	291.4	0.092	5.00	84.9	6.6	0.67	5.0	0.13	0.87	0.54	30	217
39	12.26	12.25	33.524	25.395	258.2	0.117	4.35	71.6	10.4	1.02	10.6	0.04	0.34	0.31	39	216
50	11.68	11.67	33.578	25.546	244.1	0.144	4.17	67.8	12.2	1.15	12.7	0.03	0.23	0.24	50	215
59	11.59	11.58	33.593	25.575	241.6	0.166	4.06	65.9	13.2	1.21	13.6	0.03	0.22	0.22	59	214
69	10.92	10.91	33.630	25.725	227.4	0.190	3.71	59.4	16.1	1.40	16.4	0.02	0.13	0.18	69	213
75 ISL	10.71	10.70	33.653	25.780	222.3	0.203	3.56	56.7	17.6	1.49	17.7	0.02	0.09	0.15	75	
85	10.48	10.47	33.697	25.855	215.4	0.225	3.32	52.7	19.9	1.64	19.5	0.01	0.05	0.12	85	212
99	10.15	10.14	33.785	0 25.980	203.8	0.254	2.91	45.8	23.7	1.85	22.1	0.01	0.03	0.12	100	211
100 ISL	10.13	10.12	33.791	25.988	203.0	0.256	2.89	45.5	23.9	1.86	22.3	0.01	0.03	0.12	101	
119	9.83	9.82	33.903	26.127	190.3	0.294	2.52	39.4	27.4	2.03	24.6	0.01	0.01	0.06	120	210
125 ISL	9.79	9.78	33.945	26.166	186.6	0.305	2.41	37.7	28.4	2.08	25.1	0.01	0.01	0.06	126	
139	9.73	9.71	34.040	26.251	178.9	0.331	2.16	33.8	30.5	2.18	26.2	0.01	0.01	0.06	140	209
150 ISL	9.65	9.63	34.095	26.307	173.8	0.350	1.99	31.1	32.2	2.25	27.0	0.01	0.01	0.06	151	
171	9.48	9.46	34.171	26.395	165.9	0.386	1.72	26.8	35.0	2.36	28.2	0.01	0.00	0.06	172	208
199	9.31	9.29	34.227	26.467	159.6	0.431	1.47	22.8	37.8	2.46	29.3	0.01	0.00	0.06	200	207
200 ISL	9.30	9.28	34.228	26.469	159.3	0.433	1.46	22.6	37.9	2.46	29.3	0.01			201	
229	9.04	9.02	34.256	26.533	153.8	0.478	1.31	20.2	40.9	2.56	30.2	0.01			230	206
250 ISL	8.84	8.81	34.258	26.567	150.9	0.510	1.25	19.2	42.7	2.59	30.8	0.00			251	
267	8.67	8.64	34.257	26.593	148.7	0.536	1.21	18.5	44.2	2.62	31.3	0.00			269	205
300 ISL	8.29	8.26	34.268	26.660	142.7	0.584	1.03	15.6	48.5	2.72	32.5	0.00			302	
317	8.09	8.06	34.273	26.695	139.7	0.608	0.94	14.2	50.9	2.78	33.2	0.00			319	204
377	7.50	7.46	34.265	26.775	132.7	0.689	0.77	11.5	57.7	2.92	35.2	0.00			379	203
400 ISL	7.26	7.22	34.271	26.814	129.2	0.720	0.68	10.1	60.8	2.98	36.0	0.00			403	
437	6.88	6.84	34.283	26.876	123.5	0.766	0.54	7.9	66.0	3.06	37.4	0.00			440	202
500 ISL	6.27	6.23	34.293	26.965	115.4	0.842	0.39	5.6	75.1	3.17	39.4	0.00			503	
515	6.13	6.08	34.296	26.986	113.6	0.859	0.36	5.2	77.3	3.20	39.9	0.00			519	201

RV DAVID STARR JORDAN CALCOFI CRUISE 9602 STATION 93 35

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
32 40.6 N	117 52.0 U	30/01/96	1847 UTC	628 m	200 03 kn	250 02 08	1	1017.0 mb	14 9 C	13 1 C	22m 03	7/8	SC

DEPTH m		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SI03 uM/l	P04 uM/L	N03 uM/l	N02 uM/ l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0	ISL	14.81	14.81	33.420	24.796	314.2	0.000	5.95	103.2	1 .7	0.29	0.1	0.00	0.47	0.15	0	
2	A	14.81	14.81	33.420	24.796	314.3	0.006	5 .95	103.2	1 .7	0.29	0.1	0.00	0.47	0.15	2	221
2		14.81	14.81	33.421	24.797	314.2	0.006									2	222
10	ISL	14.77	14.77	33.419	24.804	313.7	0.031	5.94	102.9	1 .7	0.28	0.1	0.00	0.56	0.18	10	
15	A	14.72	14.72	33.417	24.813	313.0	0.047	5.93	102.7	1 .7	0.28	0.1	0.00	0.65	0.20	15	220
20	ISL	14.66	14.66	33.415	24.825	312.1	0.063	5.89	101.8	1 .8	0.29	0.1	0.00	0.73	0.27	20	
30	A	14.54	14.54	33.412	24.848	310.1	0.094	5.82	100.4	2.0	0.32	0.1	0.01	0.81	0.41	30	219
43	A	13.27	13.26	33.451	25.141	282.5	0.132	4.94	83.0	6.5	0.71	5.6	0.17	0.59	0.39	43	218
50	ISL	12.75	12.74	33.483	25.269	270.5	0.152	4.62	76.8	8.3	0.87	8.1	0.08	0.41	0.43	50	
51		12.69	12.68	33.488	25.285	269.1	0.154	4.58	76.1	8.5	0.89	8.4	0.06	0.38	0.43	51	217
59	A	12.26	12.25	33.525	25.396	258.6	0.175	4.35	71 .6	10.2	1 .02	10.6	0.03	0.24	0.29	59	216
66		11.81	11 .80	33.577	25 .522	246.8	0.193	4.21	68.7	11.7	1.13	12.4	0.03	0.16	0.21	66	215
74		11 .67	11 .66	33.588	25.556	243.7	0.213	4.05	65.9	12.6	1.19	13.3	0.02	0.13	0.19	74	214
75	ISL	11 .62	11.61	33.591	25.568	242.6	0.215	4.03	65 .5	12.8	1 .20	13.5	0.02	0.12	0.18	75	
83	A	11.16	11.15	33.627	25.680	232.1	0.234	3.86	62.1	14.7	1 .32	15.3	0.02	0.08	0.13	83	213
96		10.59	10.58	33.720	25.854	215.8	0.263	3.34	53.1	19.5	1 .60	19.2	0.01	0.04	0.08	96	212
100	ISL	10.48	10.47	33.734	25.884	213.0	0.272	3.28	52.0	20.2	1 .63	19.8	0.01	0.04	0.08	100	
109		10.27	10.26	33.755	25.937	208.2	0.291	3.21	50.7	21 .4	1 .66	20.7	0.01	0.03	0.08	110	211
125		9.91	9.90	33.803	26.035	199. 1	0.323	3.02	47.3	23.8	1 .84	22.4	0.01	0.01	0.05	126	210
144		9.37	9.35	33.905	26.204	183.3	0.360	2.77	42.9	27.8	1 .98	24.9	0.01	0.00	0.05	145	209
150	ISL	9.21	9.19	33.938	26.256	178.5	0.371	2.69	41 .5	29.3	2.02	25.6	0.01	0.00	0.05	151	
170		8.76	8.74	34.031	26.400	165.0	0.405	2.48	37.9	33.7	2.15	27.4	0.01	0.00	0.04	171	208
199		8.46	8.44	34.080	26.485	157.4	0.452	2.33	35 .4	37.1	2.23	28.4	0.01	0.00	0.03	200	207
200	ISL	8.44	8.42	34.080	26.489	157.1	0.453	2.33	35 .4	37.3	2.23	28.5	0.01			201	
229		7.85	7.83	34.074	26.572	149.5	0.498	2.21	33.1	42.2	2.32	30.3	0.00			230	206
250	ISL	7.83	7.81	34.128	26.618	145.5	0.529	1 .86	27.9	45.4	2.45	31 .5	0.00			251	
267		7.82	7.79	34.165	26.649	142.9	0.553	1 .55	23.2	47.8	2.56	32.3	0.00			269	205
300	ISL	7.56	7.53	34.188	26.705	138.0	0.600	1 .27	18.9	52.2	2.69	33.8	0.00			302	
319		7.38	7.35	34.193	26.735	135.4	0.626	1.16	17.2	54.6	2.75	34.5	0.00			321	204
378		7.09	7.05	34.250	26.821	128.0	0.703	0.74	10.9	61 .3	2.94	36.2	0.00			380	203
400	ISL	6.93	6.89	34.260	26.851	125.4	0.731	0.64	9.4	63.9	2.99	36.9	0.00			403	
437		6.63	6.59	34.272	26.901	121 .0	0.777	0.51	7.4	68.4	3.07	38.0	0.00			440	202
500	ISL	6.19	6.15	34.294	26.976	114.3	0.851	0.38	5.5	76.0	3.18	39.6	0.00			503	
512		6.11	6.06	34.299	26.991	113.0	0.864	0.36	5.2	77.5	3.20	39.9	0.00			516	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV DAVID STARR JORDAN CALCOFI CRUISE 9602 STATION 93 40

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
32 3C.7 N	118 12.7 W	30/01/96	2203 UTC	1654 m	230 04 kn	270 02 06	2	1015.9 mb	15 4 C	14 0 C	23m 02	8/8	SC

DEPTH ra		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN mt/l	OXY PCT	SI03 uM/ l	P04 uN/ l	N03 uM/l	N02 uM/ l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0	ISL	15.18	15.18	33.431	24.724	321 .0	0.000	5.81	101 .5	3.0	0.30	0.1	0.00	0.26	0.07	0	
2		15.18	15.18	33.431	24.724	321 .1	0.006	5.81	101.5	3.0	0.30	0.1	0.00	0.26	0.07	2	220
10	ISL	15.17	15.17	33.430	24.726	321 .2	0.032	5.81	101 .5	3.0	0.29	0.0	0.00	0.28	0.08	10	
15		15.16	15.16	33.430	24.728	321 .1	0.048	5.81	101.5	3.0	0.29	0.0	0.00	0.29	0.08	15	219
20	ISL	15.14	15.14	33.429	24.732	320.9	0.064	5.81	101.4	3.0	0.29	0.0	0.00	0.31	0.10	20	
30		15.07	15.07	33.427	24.746	319.9	0.096	5.82	101.5	2.9	0.30	0.0	0.00	0.41	0.17	30	218
45		14.84	14.83	33.421	24.792	316.0	0.144	5 .75	99.8	3.2	0.33	0.3	0.01	0.76	0.35	45	217
50	ISL	14.18	14.17	33.413	24.926	303.3	0.159	5 .50	94.2	4.5	0.47	2.3	0.07	0.61	0.34	50	
55		13.43	13.42	33.417	25.083	288.4	0.174	5 .20	87.7	6.2	0.64	4.7	0.12	0.43	0.31	55	216
65		12.23	12.22	33.490	25.375	260.8	0.202	4.65	76.5	9.7	0.92	9.3	0.05	0.30	0.26	65	215
75		12.07	12.06	33.509	25.420	256.7	0.228	4. 48	73.4	10.4	0.99	10.4	0.04	0.24	0.27	75	214
84		11 .67	11 .66	33.560	25.535	246.0	0.250	4.20	68.3	12.7	1.15	12.8	0.02	0.16	0.20	84	213
94		10.69	10.68	33.660	25.789	221 .9	0.274	3. 64	58.0	17.3	1 .46	17.4	0.01	0.07	0.11	94	212
100	ISL	10.59	10.58	33.726	25.858	215.4	0.287	3.41	54.2	19.2	1 .58	19.0	0.01	0.05	0.08	100	
110		10.43	10.42	33.766	25.918	210.0	0.308	3.10	49. 1	21.8	1 .73	20.8	0.01	0.03	0.06	111	211
125		10.18	10.17	33.860	26.034	199.2	0.339	2 .59	40. 8	25 .7	1 .95	23.4	0.00	0.01	0.04	126	210
144		9.87	9.85	34.015	26.208	183.1	0.375	2 .07	32 .5	30.5	2.19	26.4	0.00	0.00	0.02	145	209
150	ISL	9.76	9.74	34.042	26.247	179.4	0.386	2 .04	31 .9	31 .5	2.22	26.9	0.00	0.00	0.02	151	
170		9.41	9.39	34.094	26.346	170.4	0.421	1 .93	30.0	33.8	2.28	28.0	0.00	0.00	0.03	171	208
199		9.12	9.10	34.122	26.415	164.4	0.469	1 .87	28.8	35 .7	2 .33	28.8	0.00	0.00	0.03	200	207
200	ISL	9.11	9.09	34. 123	26.418	164.1	0.471	1 .87	28.8	35.8	2.33	28.8	0.00			201	
229		8.68	8.66	34.139	26.498	156.9	0.518	1 .85	28.3	38.8	2.37	29.7	0.00			230	206
250	ISL	8.48	8.45	34.150	26.538	153.4	0.550	1 .78	27. 1	40.7	2.41	30.3	0.00			251	
268		8.30	8.27	34.156	26.570	150.6	0.578	1 .70	25 .7	42.6	2.46	30.9	0.00			270	205
300	ISL	7.72	7.69	34.151	26.653	143.0	0.625	1 .55	23.2	48.6	2.57	32.6	0.00			302	
318		7.39	7.36	34. 150	26.699	138.7	0.650	1 .45	21.5	52.3	2.64	33.6	0 .00			320	204
378		6.85	6.81	34.185	26.802	129.5	0.730	1.01	14.8	61 .1	2 .85	36.3	0.00			380	203
400	ISL	6.66	6.62	34.199	26.839	126.3	0.758	0.86	12.5	64.7	2.94	37.3	0.00	C'		403	
438		6.35	6.31	34.224	26.900	120.8	0.805	0.64	9.3	70.7	3.07	38.7	0.00			441	202
500	ISL	6.02	5.98	34.267	26.977	114.1	0.878	0.42	6.0	77.5	3.17	40.0	0.00			503	
515		5.94	5 .89	34.278	26.995	112.4	0.895	0.37	5.3	79.1	3.19	40.3	0.00			519	201

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
32 20.9 1«	118 33.3 W	31/01/96	0329 UTC	1327 m	150 12 kn			1015.2 mb	15.1 C	14.1 C			

DEPTH in	TEMP DES C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SI03 uM/l	P04 uM/l	N03 uM/l	N02 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	U.99	14.99	33.488	24.809	312.9	0.000	5.86	102.1	3.1	0.32	0.0	0.00	0.32	0.14	0	
2	14.99	14.99	33.488	24.809	313.0	0.006	5.86	102.0	3.1	0.32	0.0	0.00	0.32	0.14	2	220
10 ISL	14.99	14.99	33.488	24.810	313.2	0.031	5.84	101.7	3.0	0.33	0.0	0.00	0.32	0.18	10	
11	14.99	14.99	33.488	24.810	313.2	0.034	5.84	101.7	3.0	0.33	0.0	0.00	0.32	0.19	11	219
20 ISL	14.99	14.99	33.489	24.811	313.4	0.063	5.84	101.7	3.0	0.33	0.0	0.00	0.31	0.13	20	
21	14.99	14.99	33.489	24.811	313.4	0.066	5.84	101.7	3.0	0.33	0.0	0.00	0.31	0.13	21	218
30 ISL	14.92	14.92	33.492	24.829	312.0	0.094	5.79	100.7	3.1	0.34	0.1	0.01	0.52	0.30	30	
31	14.91	14.91	33.492	24.831	311.8	0.097	5.78	100.5	3.1	0.34	0.1	0.01	0.55	0.32	31	217
41	14.90	14.89	33.487	24.829	312.3	0.128	5.76	100.1	3.1	0.38	0.1	0.01	0.59	0.43	41	216
SO	14.85	14.84	33.487	24.840	311.5	0.156	5.71	99.1	3.1	0.37	0.3	0.02	0.51	0.31	50	215
61	14.48	14.47	33.487	24.920	304.2	0.190	5.56	95.8	3.7	0.44	1.5	0.07	0.43	0.28	61	214
70	12.30	12.29	33.508	25.376	260.8	0.216	4.38	72.1	10.4	1.04	10.8	0.11	0.30	0.33	70	213
75 ISL	11.74	11.73	33.529	25.498	249.3	0.228	4.29	69.8	12.0	1.11	11.9	0.09	0.24	0.29	75	
85	11.27	11.26	33.563	25.610	238.8	0.253	4.11	66.2	13.5	1.24	14.2	0.03	0.16	0.19	85	212
100	10.90	10.89	33.609	25.713	229.3	0.288	3.85	61.6	15.8	1.38	16.3	0.02	0.11	0.15	100	211
119	10.00	9.99	33.710	25.947	207.3	0.329	3.47	54.5	21.0	1.64	20.3	0.01	0.02	0.07	120	210
125 ISL	9.77	9.76	33.756	26.022	200.3	0.342	3.32	51.9	22.8	1.73	21.5	0.01	0.02	0.06	126	
139	9.35	9.33	33.859	26.171	186.3	0.369	2.98	46.1	26.8	1.91	24.1	0.01	0.01	0.04	140	209
150 ISL	9.14	9.12	33.908	26.244	179.6	0.389	2.82	43.5	28.8	1.99	25.3	0.01	0.01	0.04	151	
170	8.88	8.86	33.971	26.334	171.3	0.424	2.60	39.9	31.7	2.09	26.7	0.00	0.00	0.04	171	208
199	8.58	8.56	34.069	26.458	160.0	0.472	2.24	34.1	36.6	2.24	28.6	0.00	0.00	0.03	200	207
200 ISL	8.57	8.55	34.071	26.462	159.7	0.473	2.23	34.0	36.7	2.24	28.6	0.00			201	
229	8.33	8.31	34.112	26.531	153.6	0.519	1.98	30.0	40.3	2.36	30.0	0.00			230	206
250 ISL	8.00	7.97	34.131	26.595	147.7	0.551	1.76	26.5	44.5	2.46	31.4	0.00			251	
269	7.71	7.68	34.146	26.650	142.8	0.578	1.57	23.5	48.5	2.56	32.6	0.00			271	205
300 ISL	7.49	7.46	34.172	26.702	138.2	0.622	1.31	19.5	52.5	2.68	33.9	0.00			302	
317	7.39	7.36	34.185	26.727	136.1	0.645	1.18	17.5	54.6	2.74	34.5	0.00			319	204
379	6.64	6.61	34.221	26.859	124.1	0.726	0.70	10.2	66.8	2.99	37.6	0.00			381	203
400 ISL	6.47	6.43	34.234	26.892	121.1	0.751	0.61	8.9	69.8	3.04	38.3	0.00			403	
438	6.23	6.19	34.255	26.940	116.9	0.797	0.49	7.1	74.4	3.11	39.2	0.00			441	202
500 ISL	5.86	5.82	34.283	27.009	110.8	0.867	0.36	5.2	81.1	3.21	40.5	0.00			503	
512	5.79	5.75	34.289	27.023	109.6	0.880	0.34	4.9	82.4	3.23	40.8	0.00			515	201

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TINE	BOTTOM	WIND SPEED	WAVES	WEA	BARONETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
32 11.0 N	118 53.4 W	31/01/96	0803 UTC	1475 m	170 16 kn			1013.0 mb	15.2 C	15.7 C			

DEPTH D	TEMP DEG C	POT TEHP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SI03 uM/l	P04 uM/l	N03 uM/l	N02 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	14.86	14.86	33.467	24.821	311.8	0.000	5.84	101.4	3.1	0.34	0.0	0.00	0.54	0.25	0	
1	14.86	14.86	33.467	24.821	311.8	0.003	5.84	101.4	3.1	0.34	0.0	0.00	0.54	0.25	1	220
10 ISL	14.86	14.86	33.470	24.824	311.8	0.031	5.84	101.4	3.0	0.34	0.1	0.00	0.57	0.27	10	
11	14.86	14.86	33.470	24.824	311.9	0.034	5.84	101.4	3.0	0.34	0.1	0.00	0.57	0.27	11	219
20 ISL	14.86	14.86	33.472	24.826	312.0	0.062	5.83	101.2	3.0	0.34	0.1	0.00	0.57	0.29	20	
21	14.86	14.86	33.472	24.826	312.0	0.065	5.83	101.2	3.0	0.34	0.1	0.00	0.57	0.29	21	218
30 ISL	14.84	14.84	33.475	24.833	311.6	0.094	5.82	101.0	2.9	0.33	0.1	0.00	0.65	0.32	30	
31	14.84	14.84	33.475	24.833	311.6	0.097	5.82	101.0	2.9	0.33	0.1	0.00	0.66	0.32	31	217
40	14.82	14.81	33.474	24.837	311.5	0.125	5.80	100.6	2.9	0.34	0.1	0.01	0.66	0.50	40	216
50	13.22	13.21	33.468	25.164	280.5	0.154	4.96	83.3	6.8	0.76	6.2	0.19	0.36	0.33	50	215
59	12.24	12.23	33.512	25.390	259.2	0.179	4.36	71.7	10.3	1.06	10.9	0.11	0.30	0.34	59	214
71	11.57	11.56	33.549	25.545	244.7	0.209	4.07	66.0	12.9	1.25	14.0	0.04	0.19	0.30	71	213
75 ISL	11.27	11.26	33.571	25.616	237.9	0.218	3.95	63.7	14.3	1.33	15.3	0.03	0.16	0.25	75	
85	10.61	10.60	33.627	25.777	222.8	0.242	3.67	58.3	17.5	1.50	18.1	0.02	0.09	0.14	85	212
100 ISL	10.29	10.28	33.660	25.859	215.3	0.274	3.52	55.6	19.2	1.60	19.5	0.01	0.06	0.10	100	
102	10.26	10.25	33.664	25.867	214.6	0.279	3.51	55.4	19.4	1.61	19.6	0.01	0.06	0.10	102	211
120	9.55	9.54	33.772	26.071	195.5	0.316	3.17	49.3	24.2	1.83	22.9	0.01	0.01	0.05	121	210
125 ISL	9.44	9.43	33.795	26.107	192.2	0.325	3.10	48.1	25.1	1.87	23.5	0.01	0.01	0.04	126	
139	9.22	9.20	33.856	26.190	184.5	0.352	2.94	45.4	27.3	1.95	24.7	0.01	0.01	0.03	140	209
150 ISL	9.02	9.00	33.913	26.267	177.4	0.372	2.79	42.9	29.5	2.02	25.8	0.01	0.01	0.03	151	
169	8.74	8.72	34.009	26.386	166.3	0.404	2.51	38.4	33.3	2.15	27.5	0.00	0.00	0.03	170	208
199	8.57	8.55	34.118	26.498	156.2	0.453	1.98	30.2	38.7	2.35	29.5	0.00	0.00	0.03	200	207
200 ISL	8.56	8.54	34.120	26.502	156.0	0.454	1.97	30.0	38.9	2.36	29.6	0.00			201	
231	8.20	8.18	34.158	26.587	148.3	0.501	1.70	25.7	43.7	2.49	31.1	0.00			232	206
250 ISL	8.08	8.05	34.178	26.620	145.4	0.529	1.53	23.1	46.0	2.56	31.9	0.00			251	
271	7.94	7.91	34.195	26.655	142.5	0.559	1.35	20.3	48.6	2.64	32.7	0.00			273	205
300 ISL	7.58	7.55	34.214	26.722	136.4	0.600	1.10	16.4	53.8	2.77	34.2	0.00			302	
319	7.32	7.29	34.220	26.764	132.6	0.625	0.97	14.4	57.3	2.85	35.2	0.00			321	204
379	6.63	6.60	34.195	26.840	125.9	0.703	0.85	12.4	65.2	2.97	37.5	0.00			381	203
400 ISL	6.42	6.38	34.203	26.874	122.7	0.729	0.75	10.9	68.6	3.02	38.3	0.00			403	
437	6.11	6.07	34.225	26.931	117.5	0.774	0.57	8.2	74.3	3.11	39.6	0.00			440	202
500 ISL	5.82	5.78	34.261	26.997	111.9	0.846	0.45	6.4	80.5	3.23	40.8	0.00			503	
513	5.76	5.72	34.269	27.011	110.7	0.860	0.43	6.1	81.8	3.25	41.0	0.00			517	201

RV DAVID STARR JORDAN — CALCOFI CRUISE 9602 — STATION 93 55

1

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
32 0I.8 N	119 13.8 W	31/01/96	1332	UTC	1582 m	220	11 kn			1011.9 mb	15 .1 C	15 .2 C			

DEPTH m		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SI03 uM/l	P04 uM/l	N03 uM/l	N02 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAHP
0	ISL	14.17	14.17	33.430	24.939	300.5	0.000	5.90	101.0	3.5	0.42	1 .0	0.06	0.72	0.31	0	
1		14.17	14.17	33.430	24.939	300.6	0.003	5 .90	101.0	3.5	0.42	1 .0	0.06	0.72	0.31	1	220
10		14.15	14.15	33.426	24.941	300.7	0.030	5 .90	101.0	3.5	0.42	1 .0	0.07	0.69	0.35	10	219
20		14.04	14.04	33.439	24.974	297.8	0.060	5.85	99.9	3.7	0.43	1 .3	0.09	0.63	0.36	20	218
30		14.00	14.00	33.437	24.981	297.4	0.090	5.85	99.8	3.9	0.43	1 .3	0.10	0.60	0.34	30	217
40		13.94	13.93	33.437	24.994	296.5	0.119	5 .81	99.0	4. 1	0.46	1 .6	0.12	0.42	0.30	40	216
50		13.92	13.91	33.438	24.999	296.3	0.149	5.79	98.6	4.2	0.47	1 .7	0.13	0.38	0.26	50	215
60		13.24	13.23	33.424	25.127	284.4	0.178	5.36	90.0	5.8	0.66	4.8	0.14	0.24	0.22	60	214
70		11.58	11 .57	33.465	25.477	251 .1	0.205	4.42	71 .7	11.8	1.15	12.6	0.04	0.16	0.20	70	213
75	ISL	11 .26	11.25	33.483	25.550	244.3	0.217	4.26	68.6	12.9	1 .23	14.0	0.03	0.14	0.19	75	
85		10.95	10.94	33.526	25.639	236.0	0.241	4.11	65.8	14.4	1 .31	15.4	0.02	0.10	0.15	85	212
100		10.13	10.12	33.675	25.898	211.6	0.275	3.53	55.5	19.9	1 .62	19.8	0.01	0.04	0.07	100	211
119		9.62	9.61	33.817	26.094	193.3	0.313	3.02	47.0	25.1	1 .87	23.2	0.01	0.01	0.05	120	210
125	ISL	9.58	9.57	33.847	26.124	190.5	0.325	2.90	45.1	26.1	1 .93	23.8	0.01	0.01	0.05	126	
140		9.53	9.51	33.910	26.182	185.4	0.353	2 .64	41 .1	28.1	2.04	25.1	0.01	0.01	0.05	141	209
150	ISL	9.41	9.39	33.963	26.243	179.7	0.371	2.47	38.3	29.8	2.11	26.0	0.01	0.01	0.04	151	
170		9.09	9.07	34.059	26.370	168.0	0.406	2.19	33.8	33.3	2.22	27.7	0.00	0.00	0.03	171	208
199		8.61	8.59	34.126	26.498	156.3	0.453	1 .91	29.1	38.5	2.36	29.5	0.00	0.00	0.03	200	207
200	ISL	8.59	8.57	34.127	26.502	155.9	0.455	1 .90	29.0	38.6	2.36	29.5	0.00			201	
229		8.20	8.18	34.142	26.574	149.5	0.499	1 .79	27.0	42.3	2 .44	30.8	0.00			230	206
250	ISL	7.99	7.96	34.141	26.605	146.9	0.530	1 .73	26.0	44.9	2.50	31 .6	0.00			251	
267		7.83	7.80	34.140	26.628	144.9	0.555	1 .66	24.9	47.2	2.56	32.3	0.00			269	205
300	ISL	7.40	7.37	34.156	26.702	138. 1	0.602	1 .39	20.6	53.1	2.72	34.1	0.00			302	
318		7.18	7.15	34.170	26.745	134.3	0.626	1 .22	18.0	56.4	2.80	35 .1	0.00			320	204
378		6.87	6.83	34.230	26.835	126.5	0.704	0.80	11.7	63.5	2.96	37.0	0.00		"	380	203
400	ISL	6.75	6.71	34.248	26.866	123.8	0.732	0.67	9.8	66.2	3.02	37.6	0.00			403	
438		6.53	6.49	34.273	26.915	119.5	0.778	0.50	7.3	70.9	3.10	38.5	0.00			441	202
500	ISL	6.14	6.10	34.291	26.980	113.9	0.850	0.40	5.8	77.5	3.19	39.9	0.00			503	
516		6.04	5.99	34.296	26.997	112.4	0.869	0.37	5.3	79.2	3.21	40.2	0.00			520	201

RV DAVID STARR JORDAN — CALCOFI CRUISE 9602 — STATION 93 60

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
31 5CI.6 N	119 34.0 W	31/01/96	1824	UTC	1788 m	210	13 kn	230 04 05i	1	1011.9 mb	18 .0 C	17 .0 C	28m	02 6/8	CC

DEPTH m		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SI03 uM/l	P04 uH/l	N03 uM/l	N02 UN/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAHP
0	ISL	15.54	15.54	33.407	24.626	330.4	0.000	5.73	100.8	2.3	0.32	0.1	0.00	0.20	0.08	0	
1		15.54	15.54	33.387	24.611	331 .8	0.003									1	224
2	A	15.54	15.54	33.407	24.626	330.4	0.007	5.73	100.8	2 .3	0.32	0. 1	0.00	0.20	0.08	2	223
10		15.52	15.52	33.405	24.630	330.4	0.033	5.74	101.0	2.3	0.32	0.1	0.00	0.20	0.08	10	222
18	A	15.49	15.49	33.404	24.636	330.0	0.059	5.73	100.7	2.3	0.32	0.1	0.00	0.20	0.08	18	221
20	ISL	15.48	15.48	33.403	24.637	329.9	0.066	5 .74	100.9	2.3	0.32	0.1	0.00	0.20	0.08	20	
27		15 .42	15.42	33.398	24.647	329.2	0.089	5.76	101.1	2.3	0.32	0.1	0.00	0.23	0.09	27	220
30	ISL	15 .37	15.37	33.394	24.655	328.5	0.099	5 .76	101.0	2.2	0.32	0.1	0.00	0.25	0.09	30	
37	A	15.25	15.24	33.384	24.674	327.0	0.122	5.77	100.9	2.1	0.32	0.1	0.00	0.32	0.13	37	219
47		14.14	14.13	33.355	24.889	306.7	0.154	5.73	98.0	3.2	0.40	0.7	0.11	0.50	0.29	47	21!
50	ISL	14.01	14.00	33.364	24.923	303.5	0. 163	5 .77	98.4	3.3	0.42	0.8	0.12	0.52	0.33	50	
57	A	13.85	13.84	33.389	24.976	298.7	0.184	5 .84	99.3	3.4	0.45	1 .3	0.15	0.56	0.38	57	217
64		13.66	13.65	33.398	25.022	294.5	0.205	5.73	97.0	3.8	0.50	2 .1	0.23	0.44	0.36	64	216
75	A	13.06	13.05	33.339	25.097	287.6	0.237	5.59	93.5	4.7	0.56	3.2	0.27	0.28	0.23	75	215
85		12.33	12.32	33.323	25.227	275 .3	0.265	5.29	87.1	6. 1	0.72	5.8	0.08	0.14	0.21	85	214
95		11 .69	11 .68	33.434	25.433	255.9	0.291	4.65	75.6	10.3	1 .03	10.8	0.06	0.14	0.18	95	21!
100	ISL	11.38	11 .37	33.467	25.516	248.1	0.304	4.45	71 .9	11.9	1.13	12.6	0.06	0.12	0.16	100	
106	A	11 .05	11.04	33.499	25.601	240. 1	0.319	4.27	68.5	13.5	1 .23	14.3	0.06	0.10	0.13	106	212
1 15		10.69	10.68	33.554	25.707	230. 1	0.340	4.00	63.7	15.9	1 .38	16.5	0.03	0.08	0.11	116	211
125		10.38	10.37	33.640	25 .828	218.8	0.362	3.70	58.5	18.4	1.51	18.6	0.02	0. 05	0.08	126	210
144		9.45	9.43	33.771	26.086	194. 5	0 .401	3.35	52.0	23.7	1 .77	22.3	0.01	0.01	0.04	145	209
150	ISL	9.32	9.30	33.812	26.140	189.5	0.413	3.21	49.6	25.3	1 .84	23.2	0.01	0.01	0.04	151	
169		9.05	9.03	33.916	26.265	178.0	0.448	2 .84	43.7	29.6	1 .99	25.5	0.01	0.00	0.03	170	20!
199		8.33	8.31	33.953	26.406	164.9	0.499	2 .90	43.9	33.6	2 .05	27. 1	0.01	0.00	0.03	200	207
200	ISL	8.31	8.29	33.954	26.409	164.6	0.501	2 .90	43.9	33.7	2.05	27.2	0.01			201	
229		7.87	7.85	33.993	26.506	155.8	0.547	2.73	40.9	38.2	2.15	28.8	0.01			230	206
250	ISL	7.58	7.56	34.024	26.572	149.7	0.579	2 .48	36.9	42 .6	2.27	30.3	0.01			251	
268		7.39	7.36	34.053	26.622	145 .1	0.606	2.22	32.9	46.4	2.38	31 .6	0.01		it ,	270	20!
300	ISL	7.34	7.31	34.111	26.675	140.6	0.652	1 .78	26.4	50.5	2.54	33.1	0.00			302	
318		7.31	7.28	34.136	26.700	138.6	0.677	1 .53	22.6	52 .5	2 .63	33.8	0.00			320	204
378		7.08	7.04	34.235	26.810	129.0	0.757	0.78	11.5	61 .4	2.93	36.4	0.00			380	203
400	ISL	6.90	6.86	34.243	26.841	126.3	0.785	0.68	10.0	64.2	2.98	37. 1	0.00			403	
437		6.58	6.54	34.250	26.890	121.9	0.831	0.59	8.6	68.8	3.05	38.1	0.00		t	440	202
500	ISL	6.17	6.13	34.302	26.985	113.4	0.905	0.37	5 .3	77.5	3.19	39.9	0.00		- i >	503	
516		6.07	6.02	34.316	27.009	111.3	0.923	0.31	4.5	79.7	3.22	40.3	0.00			519	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV DAVID STARR JORDAN CALCOFI CRUISE 9602 STATION 93 70

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
31 31.2 N	120 14.6 W	01/02/96	0212	UTC	3928 m	260	19 kn	260 08 05	1	1008.8 mb	17 .2 C	16.. 1 C		2/8	CC

DEPTH n	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/ l	OXY PCT	SI03 uM/L	P04 uM/ l	N03 uM/L	N02 uM/ l	CHL-A ug/L	PHAEO ug/L	PRES db	SAMP
0 ISL	16.36	16.36	33.469	24.489	343.4	0.000	5 .64	100.9	2 .5	0 .30	0. 1	0.00	0.15	0.06	0	
2	16.36	16.36	33.469	24.489	343.5	0.007	5 .64	100.9	2.5	0..30	0. 1	0.00	0.15	0.06	2	220
10 ISL	16.32	16.32	33.462	24.493	343.4	0.034	5 .65	101.0	2 .4	0..30	0. 1	0.00	0.15	0.05	10	
15	16.29	16.29	33.458	24.497	343.1	0.052	5 .66	101.1	2 .3	0..30	0. 1	0.00	0.15	0.05	15	219
20 ISL	16.07	16.07	33.442	24.535	339.7	0.069	5 .69	101.2	2 .3	0 .30	0. 1	0.00	0.16	0 .06	20	
30	15.59	15.59	33.408	24.617	332.2	0.102	5 .74	101.1	2 .3	0,.31	0. 1	0.00	0.19	0 .07	30	218
46	15.22	15.21	33.379	24.677	326.9	0.155	5.77	100.9	2 .4	0,.32	0.1	0 .00	0.39	0.17	46	217
SO ISL	15.11	15.10	33.372	24.696	325.3	0.168	5.77	100.6	2.4	0,.32	0. 1	0.01	0.39	0.19	50	
55	14.99	14.98	33.366	24.717	323.4	0.184	5.77	100.4	2 .3	0,.33	0.2	0.02	0.39	0.21	55	216
66	14.90	14.89	33.368	24.738	321.7	0.220	5.83	101.2	2 .4	0..34	0.2	0.02	0.43	0.22	66	215
75	14.57	14.56	33.394	24.829	313.2	0.248	5.72	98.7	3.0	0..38	0.7	0.11	0.29	0.19	75	214
85	14.24	14.23	33.410	24.912	305.7	0.279	5 .66	97.0	3.4	0..43	1 .1	0.16	0.19	0.17	85	213
95	13.20	13.19	33.400	25.117	286.2	0.309	5 .49	92 .1	4.6	0,.52	2.7	0.08	0.16	0.22	95	212
100 ISL	13.06	13.05	33.440	25.176	280.7	0.323	5 .35	89.5	5.2	0..58	3.8	0.06	0.15	0.22	100	
110	12.79	12 .78	33.475	25 .256	273.3	0.351	5 .02	83.5	6.5	0 .72	6.2	0.04	0.14	0.19	110	211
125	12.73	12.71	33.617	25.379	262. 1	0.391	4.56	75 .8	8.2	0 .89	8.7	0.03	0.12	0.17	126	210
H5	11.11	11.09	33.624	25 .688	232.8	0.440	4.60	73.9	11.5	1 .03	12.1	0.01	0.04	0. 05	146	209
150 ISL	10.85	10.83	33.632	25 .741	227.8	0.452	4. 47	71 .4	12.8	1 .1 1	13.4	0.01	0.04	0. 05	151	
169	10.09	10.07	33.679	25.909	212.0	0. 494	3. 89	61.1	18.2	1.45	18.2	0.00	0.02	0.04	170	208
199	9.07	9.05	33.825	26.191	185.6	0.553	3. 40	52 .3	25 .4	1.78	23.2	0.00	0.00	0.02	200	207
200 ISL	9.04	9.02	33.829	26.199	184.8	0.555	3.39	52 .1	25 .6	1.79	23.3	0.00			201	
230	8.28	8.26	33.921	26.388	167.1	0.608	3.20	48.4	31 .6	1 .94	26.0	0 .00			231	206
250 ISL	8.14	8.11	33.976	26.453	161.3	0.641	3.00	45 .2	34.5	2.04	27.2	0 .00			251	
269	8.09	8.06	34.019	26.494	157.7	0.671	2 .78	41.9	37. 1	2 . 13	28.2	0.00			270	205
300 ISL	7.71	7.68	34.058	26.581	149.8	0.719	2 .37	35 .4	42.8	2 .29	30.4	0.00			302	
318	7.45	7.42	34.072	26.630	145.4	0.745	2.13	31 .6	46.5	2 .39	31 .7	0.00			320	204
380	6.67	6.64	34. 1 12	26.769	132.6	0.831	1 .43	20.8	59.7	2 .73	35 .8	0.00			382	203
400 ISL	6.82	6.78	34.179	26.802	129.9	0.858	1 .09	16.0	61.1	2 .84	36.2	0.00			402	
437	7.15	7.11	34.306	26.857	125.6	0.905	0.51	7. 5	62 .7	3..02	36.6	0.00			440	202
500 ISL	6.70	6.65	34.334	26.941	118.2	0.982	0.32	4. 7	70.0	3..15	38.3	0.00			503	
513	6.61	6.56	34.340	26.958	116.7	0 . 997	0.28	4. 1	71 .5	3..18	38.7	0.00			516	201

RV DAVID STARR JORDAN CALCOFI CRUISE 9602 STATION 93 80

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
31 11.1 N	120 54.7 W	01/02/96	0957	UTC	3823 m	280	20 kn			1009. 9 mb	16..8 C	15..2 C			

DEPTH n	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SI03 uM/l	P04 uM/ l	N03 uM/ l	N02 uM/ l	CHL-A ug/ L	PHAEO ug/ L	PRES db	SAMP
0 ISL	16.54	16.54	33.479	24.455	346.6	0. 000	5 .61	100.8	2 .5	0..29	0.0	0.00	0.14	0.07	0	
1	16.54	16.54	33.479	24.455	346.7	0.003	5 .61	100.8	2.5	0..29	0.0	0.00	0.14	0 . 07	1	220
10 ISL	16.55	16.55	33.479	24.453	347.2	0.035	5 .60	100.6	2 .5	0..28	0.0	0.00	0.14	0.06	10	
17	16.55	16.55	33.479	24.454	347.4	0.059	5 .60	100.6	2 .5	0 .28	0.0	0.00	0.14	0 .05	17	219
20 ISL	16.55	16.55	33.479	24.454	347.5	0.069	5 .60	100.6	2 .5	0..28	0.0	0.00	0.14	0.05	20	
30 ISL	16.55	16.55	33.479	24.454	347.7	0.104	5 .61	100.8	2 .5	0..28	0.0	0.00	0.15	0.05	30	
31	16.55	16.55	33.479	24.454	347.8	0.108	5 .61	100.8	2 .5	0..28	0.0	0.00	0.15	0.05	31	218
47	16.55	16.54	33.478	24.454	348.3	0.163	5 .61	100.8	2 .3	0,.29	0.0	0. 00	0.15	0.06	47	217
50 ISL	16.54	16.53	33.479	24.457	348.1	0.174	5 .61	100.7	2 .3	0..29	0.0	0.00	0.17	0.06	50	
55	16.49	16.48	33.471	24.463	347.7	0.191	5 .62	100.8	2 .4	0 .29	0.0	0.00	0.20	0 .07	55	216
67	16.07	16.06	33.436	24.532	341 .5	0.233	5 .66	100.7	2 .4	0 .29	0.0	0.00	0.29	0.13	67	215
75 ISL	16.01	16.00	33.432	24.543	340.7	0.260	5 .66	100.5	2 .4	0..30	0.0	0.00	0.29	Q. 14	75	
78	15 .97	15.96	33.427	24.548	340.3	0.270	5 .66	100.5	2 .4	0..30	0. 0	0 .00	0.29	0.14	78	214
88	15 .48	15.47	33.442	24.670	329.0	0.303	5 .64	99. 1	2 .8	0,.33	0. 1	0 .06	0.24	0.17	88	213
96	15 .02	15.01	33.464	24.787	317.9	0.329	5 .60	97. 5	3.3	0 .36	0.4	0.09	0.25	0.20	96	212
100 ISL	14.70	14.69	33.500	24.884	308.8	0.342	5 .48	94.9	3.7	0 , 41	1 .2	0.08	0.23	0.20	100	
109	13.95	13.93	33.582	25 . 106	287.9	0.369	5.13	87. 5	4 .8	0..56	3.5	0 .05	0.16	0.19	109	21 1
124	12.99	12.97	33.593	25.309	268.8	0.411	4.71	78. 7	7 .5	0..80	7. 5	0 .02	0.11	0.14	125	210
125 ISL	12.92	12.90	33.593	25 .323	267.4	0.413	4 .67	78.0	7 .8	0.. 82	7 .8	0. 02	0.11	0.14	126	
144	11.63	11.61	33.625	25. 594	241.8	0.462	3.95	64. 2	13.4	1..24	14.1	0.01	0.05	0 . 08	145	209
150 ISL	11.34	11 .32	33.656	25 .672	234. 5	0. 476	3.69	59.6	15.5	1.37	15.8	0.01	0.04	0.07	151	
171	10.60	10.58	33.776	25.897	213.4	0.523	2 .96	47. 1	21.8	1 . 75	20.6	0.00	0.01	0 .04	172	208
200 ISL	9. 94	9. 92	33.880	26 .092	195 .4	0.582	2 .82	44 .2	25.2	1.90	23.2	0.00	0.00	0.02	201	
201	9. 92	9.90	33.883	26.097	194.8	0.584	2 .82	44 .2	25.3	1. 90	23.2	0 .00	0 . 00	0 . 02	202	207
230	9.16	9.13	34.011	26.323	173.8	0.638	2 .68	41 .3	30.8	2 .05	25 .8	0.00			231	206
250 ISL	8.65	8.62	34.047	26.431	163.6	0.671	2 .59	39.5	34.7	2 . 13	27.2	0.00			251	
267	8.27	8.24	34.062	26.501	157.1	0 .699	2 .48	37 .5	37 .9	2 .19	28.3	0.00			268	205
300 ISL	7 .86	7 .83	34.102	26.594	148.7	0 . 749	2 .09	31.3	43 .6	2 .37	30 .4	0 .00			302	
319	7.67	7. 64	34.117	26 . 634	145.2	0 . 777	1 .85	27.6	46 .9	2 .47	31.6	0 .00			321	204
377	6.79	6. 76	34.116	26.756	133.8	0.858	1.51	22 .1	58.3	2 .70	35 .0	0.00			379	203
400 ISL	6. 59	6.55	34.124	26.789	130.9	0 . 888	1 .35	19.6	61.5	2 . 78	36.0	0.00			402	
428	6 .40	6. 36	34.140	26.827	127.6	0.924	1.15	16.7	65 .1	2 .88	37. 1	0 .00			431	202
500 ISL	5 .95	5 .91	34.214	26 . 943	117.1	1.013	0.68	9.8	75 .5	3 .09	39.5	0 .00			503	
512	5 .88	5 .84	34.227	26.963	115.4	1 .026	0.60	8.6	77.2	3 . 13	39. 9	0 .00			515	201

RV DAVID STARR JORDAN CALCOFI CRUISE 9602 STATION 93 901

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYP
30 5Gl.8 N	121 35.6 W	01/02/96	1822 UTC	4118 m	300 15 kn	290 06 06	1	1013.9 mb	17..0 C	15.8 C	33m 01	3/8	SC

DEPTH m		TEMP DES C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SI03 uM/ l	P04 uM/l	N03 uM/ l	N02 uM/l	CHL-A ug/l	PHAEO ug/ l	PRES db	S AMI
0	ISL	16.66	16.66	33.484	24.431	348.9	0.000	5 .62	101.2	2.3	0.29	0.0	0.00	0.16	0.05	0	
1		16.66	16.66	33.484	24.431	348.9	0.003									1	22;
2	A	16.66	16.66	33.484	24.431	349.0	0.007	5 .62	101.2	2.3	0.29	0.0	0.00	0.16	0.05	2	22
10	ISL	16.66	16.66	33.484	24.432	349.2	0.035	5.62	101 .2	2.3	0.29	0.0	0.00	0.15	0.06	10	
11		16.66	16.66	33.484	24.432	349.2	0.038	5 .62	101.2	2.3	0.29	0.0	0.00	0.15	0.06	11	221
20	ISL	16.65	16.65	33.484	24.434	349.3	0.070	5 .62	101 .1	2.3	0.29	0.0	0.00	0.16	0.06	20	
23	A	16.65	16.65	33.484	24.435	349.4	0.080	5.62	101 .1	2.3	0.29	0.0	0.00	0.16	0.06	23	21!
30	ISL	16.64	16.64	33.484	24.437	349.4	0.105	5.61	100.9	2.2	0.28	0.0	0.00	0.17	0.05	30	
33		16.64	16.63	33.484	24.437	349.5	0.115	5.61	100.9	2.1	0.28	0.0	0.00	0.17	0.05	33	211
45	A	16.64	16.63	33.483	24.437	349.9	0.157	5.61	100.9	2.1	0.31	0.1	0.00	0.17	0.06	45	zi;
50	ISL	16.63	16.62	33.484	24.440	349.7	0.175	5.61	100.9	2.1	0.30	0.1	0.00	0.18	0.07	50	
55		16.62	16.61	33.486	24.444	349.5	0. 192	5.62	101 .1	2.1	0.29	0.0	0.00	0.20	0.08	55	21<
67	A	14.45	14.44	33.272	24.760	319.5	0.232	5.80	99.8	2.7	0.36	0.1	0.08	0.31	0.23	67	21!
75	ISL	13.30	13.29	33.251	24.981	298.6	0.257	5.79	97.2	3.3	0.40	0.6	0.09	0.29	0.25	75	
77		13.07	13.06	33.255	25.030	294.0	0.263	5.79	96.8	3.5	0.41	0.8	0.09	0.28	0.25	77	21<
90	A	12.50	12.49	33.271	25.154	282.4	0.300	5.66	93.5	4.0	0.48	2.0	0.03	0.22	0.22	90	213
100		11 .87	11 .86	33.276	25.278	270.8	0.328	5.47	89.1	5.5	0.62	4.3	0.02	0.14	0.14	100	212
110		11 .73	11 .72	33.381	25.385	260.8	0.355	5.20	84.5	7.1	0.73	6.6	0.02	0.09	0.14	110	211
124	A	11 .80	11 .78	33.625	25.562	244.4	0.390	4.39	71 .6	10.4	1 .03	11.3	0.01	0.07	0.13	125	210
125	ISL	11 .75	11 .73	33.631	25 .576	243.1	0.393	4.34	70.7	10.8	1 .06	11.7	0.01	0.07	0.13	126	
144		10.47	10.45	33.677	25.842	218.0	0.436	3.69	58.5	17.8	1.51	18.5	0.01	0.02	0.05	145	209
150	ISL	10.20	10.18	33.696	25.903	212.2	0.449	3.59	56.6	19.1	1 .58	19.6	0.01	0.01	0.05	151	
170		9.51	9.49	33.759	26.068	196.8	0.490	3.44	53.4	22.5	1 .72	21 .7	0.00	0.00	0.03	171	208
199		8.64	8.62	33.843	26.272	177.7	0.544	3.39	51.6	27.6	1 .85	24.3	0.00	0.00	0.03	200	207
200	ISL	8.61	8.59	33.846	26.279	177.0	0.546	3.39	51.6	27.8	1 .85	24.4	0.00			201	
230		7.94	7.92	33.938	26.452	160.9	0.597	3.25	48 .8	33.7	1 .96	26.4	0.00			231	206
250	ISL	7.66	7.64	33.993	26.536	153.1	0.628	2.86	42 .6	39.0	2.13	28.5	0.00			251	
268		7.50	7.47	34.039	26.596	147.7	0.655	2.42	36.0	43.8	2.30	30.4	0.00		*	269	20S
300	ISL	7.47	7.44	34.129	26.671	141.1	0.702	1 .72	25.6	49.7	2.55	32.6	0.00			302	
319		7.46	7.43	34.167	26.703	138.4	0.728	1 .38	20.5	52.5	2.67	33.6	0.00			321	204
377		7.02	6.98	34.186	26.780	131.8	0.806	1 .06	15.6	59.1	2.84	35 .6	0.00			379	203
400	ISL	6.78	6.74	34. 185	26.812	128.9	0.836	0.96	14.0	62.4	2.90	36.5	0.00			402	
437		6.40	6.36	34.189	26.866	124.0	0.883	0.80	11.6	67.9	2.98	38.0	0.00			440	202
500	ISL	6.02	5.98	34.244	26.958	115.8	0.959	0.49	7.0	76.2	3.14	39.8	0.00			503	
514		5.94	5 .90	34.256	26.978	114.0	0.975	0.42	6.0	78.1	3.18	40.2	0.00			517	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV DAVID STARR JORDAN CALCOFI CRUISE 9602 STATION 93 100

LATITUDE	LONGITUDE	DAY/NO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD ANT	TYPE
30 31. 1 N	122 15.5 W	02/02/96	0138 UTC	4175 in	310 12 kn	300 05 OSi	1	1013.9 mb	17..0 C	15..6 C		7/8	SC

DEPTH ID		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SI03 uM/ l	P04 uM/L	N03 uM/l	N02 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0	ISL	16.65	16.65	33.454	24.411	350.9	0.000	5.62	101.1	2.6	0.29	0.0	0.00	0.11	0.04	0	
1		16.65	16.65	33.455	24.411	350.9	0.004									1	221
2		16.65	16.65	33.454	24.411	351 .0	0.007	5.62	101 .1	2 .6	0.29	0.0	0.00	0.11	0.04	2	220
10	ISL	16.65	16.65	33.454	24.411	351 .2	0.035	5.62	101.1	2.7	0.29	0.0	0.00	0.11	0.04	10	
16		16.65	16.65	33.454	24.411	351.4	0.056	5.62	101.1	2.7	0.28	0.0	0.00	0.11	0.04	16	219
20	ISL	16.65	16.65	33.454	24.411	351.5	0.070	5 .62	101.1	2 .7	0.28	0.0	0.00	0.11	0.04	20	
30		16.64	16.64	33.454	24.414	351 .6	0. 105	5.62	101.1	2.7	0.27	0.0	0.00	0.10	0.04	30	218
45		16.62	16.61	33.453	24.418	351.6	0.158	5 .61	100.9	2.6	0.27	0.0	0.00	0.11	0.04	45	217
50	ISL	16.63	16.62	33.457	24.419	351 .7	0.176	5.61	100.9	2.6	0.27	0.0	0.00	0.12	0.05	50	
60		16.65	16.64	33.467	24.423	351 .7	0.211	5.62	101.1	2.6	0.27	0.0	0.00	0.13	0.06	60	216
75		16.66	16.65	33.475	24.427	351.8	0.264	5.62	101.1	2.6	0.28	0.0	0.00	0.15	0.06	75	215
85		16.03	16.02	33.390	24.507	344.5	0.298	5.68	100.9	2.6	0.29	0.0	0.00	0.26	0.18	85	214
94		15.29	15.28	33.575	24.814	315.4	0.328	5 .71	100.1	3.0	0.29	0. 1	0.09	0.27	0.25	94	213
100	ISL	14.96	14.94	33.572	24.884	308. 9	0.347	5 .68	98 .9	3.2	0.31	0.3	0.11	0.21	0.30	100	
105		14.69	14.67	33.537	24.915	306.0	0.362	5 .66	98 .0	3.4	0.34	0.4	0.12	0.16	0.32	105	212
115		13.86	13.84	33.511	25.070	291 .4	0.392	5.51	93.8	3.8	0.43	1 .8	0.04	0.20	0.18	115	211
125		13.72	13.70	33.636	25.195	279.7	0.421	5.39	91 .5	4.2	0.45	2.5	0.02	0.14	0.14	126	210
140		13.56	13.54	33.845	25 .390	261 .7	0.461	5.03	85.2	5 .4	0.55	4.9	0.02	0.06	0.07	141	209
150	ISL	12.62	12.60	33.814	25.553	246. 1	0.487	4 .84	80.4	7.8	0.73	7.8	0.02	0.04	0.06	151	
165		10.96	10.94	33.712	25.784	224. 1	0.522	4.61	73.9	12.0	1 .04	12.4	0.01	0.02	0.04	166	20S
194		9.57	9.55	33.683	25.999	203.8	0.584	4.22	65.6	17.9	1 .38	17.7	0.00	0.01	0.03	195	207
200	ISL	9.33	9.31	33.703	26.054	198.7	0.596	4.07	62.9	19.8	1 .47	19.1	0.00			201	
229		8.43	8.41	33.833	26.297	175.8	0.650	3.53	53.5	28.2	1 .82	24.4	0.00			230	206
250	ISL	8.04	8.01	33.903	26.410	165.2	0.686	3.73	56.1	30.4	1 .79	24.2	0.00			251	
268		7.80	7.77	33.947	26 .480	158.8	0.715	3.93	58. 8	31 .9	1 .77	24.1	0.00			269	205
300	ISL	7.38	7.35	33.979	26.566	151.0	0.765	3.41	50.5	38.3	2.03	27.1	0.00			302	
318		7.16	7.13	33.986	26.602	147.7	0.792	2.97	43.8	42.6	2.22	29.3	0.00			320	204
378		6.40	6.37	34.028	26.738	135.2	0.877	1 .91	27.7	57.6	2.59	34.9	0.00			380	203
400	ISL	6.31	6.27	34.068	26.781	131.3	0.906	1 .53	22 .1	61.6	2.72	36.3	0.00			402	
439		6.21	6.17	34.141	26.852	125.1	0.956	0.95	13.7	67. 8	2 .93	38.1	0.00			442	202
500	ISL	5 .81	5.77	34.192	26.943	116.9	1 .030	0.60	8.6	77. 1	3.13	40.2	0.00			503	
515		5.71	5 .67	34.205	26.966	114.9	1 .047	0.52	7 .4	79.4	3.18	40.7	0.00			518	201

RV DAVID STARR JORDAN CALCOFI CRUISE 9602 STATION 93 110

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
30 10.2 *i*	122 55.3 W	02/02/96	0749	UTC	3984 in	280	07 kn			1016.2 mb	17 3 C	16 1 C			

DEPTH •	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SI03 uM/l	P04 uM/l	N03 uM/l	N02 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	17.29	17.29	33.669	24.425	349.5	0.000	5 .53	100.9	2.6	0.26	0.1	0.00	0.10	0.03	0	
1	17.29	17.29	33.669	24.425	349.5	0.003	5 .53	100.9	2.6	0.26	0.1	0.00	0.10	0.03	1	220
10 ISL	17.29	17.29	33.671	24.427	349.7	0.035	5 .53	100.9	2.5	0.26	0.1	0.00	0.09	0.04	10	
15	17.29	17.29	33.672	24.428	349.8	0.052	5 .53	100.9	2.5	0.26	0.1	0.00	0.09	0.04	15	219
20 ISL	17.29	17.29	33.671	24.427	350.0	0.070	5 .53	100.9	2.5	0.26	0.1	0.00	0.09	0.04	20	
30 ISL	17.30	17.30	33.669	24.424	350.7	0. 105	5 .53	100.9	2.5	0.25	0.0	0.00	0.10	0.03	30	
32	17.30	17.29	33.669	24.424	350.7	0.112	5.53	100.9	2.5	0.25	0.0	0.00	0.10	0.03	32	218
(4	17.30	17.29	33.674	24.428	350.7	0. 154	5 .54	101.1	2.5	0.25	0.0	0.00	0.10	0.03	44	217
50 ISL	17.30	17.29	33.676	24.430	350.7	0.175	5 .54	101 .1	2.5	0.25	0.0	0.00	0.10	0.03	50	
61	17.31	17.30	33.679	24.431	351 .1	0.214	5 .54	101.1	2.5	0.25	0.0	0.00	0.12	0.04	61	216
74	17.48	17.47	33.749	24.444	350.3	0.259	5 .50	100.7	2.5	0.25	0.0	0.00	0.16	0.07	74	215
75 ISL	17.47	17.46	33.750	24.447	350.0	0.263	5 .50	100.7	2.5	0.25	0.0	0.00	0.16	0.07	75	
85	17.36	17.35	33.763	24.484	346.8	0.298	5.52	100.9	2.5	0.23	0.0	0.00	0.20	0.10	85	214
93	15.93	15.92	33.687	24.758	320.8	0.324	5.71	101.4	2.8	0.24	0.0	0.01	0.25	0.22	93	213
100 ISL	15.67	15.65	33.829	24.926	305.0	0.346	5.63	99.6	2 .9	0.25	0.2	0.06	0.24	0.22	100	
105	15.49	15.47	33.871	24.998	298.3	0.361	5.53	97.5	3.0	0.26	0.4	0.10	0.24	0.22	105	212
114	15.45	15.43	33.887	25.020	296.5	0.388	5.50	96.9	3. 1	0.27	0.5	0.10	0.23	0.20	114	211
125 ISL	14.97	14.95	33.907	25.141	285.2	0.420	5 .40	94.2	3.5	0.31	1 .2	0.04	0.15	0.15	126	
126	14.91	14.89	33.909	25.155	283.9	0.423	5 .39	93.9	3.5	0.32	1 .3	0.03	0.14	0.14	127	210
140	14.22	14.20	33.933	25.321	268.3	0.462	5.17	88.8	4.3	0.42	3.2	0.02	0.07	0.08	141	209
150 ISL	13.21	13.19	33.833	25.452	256.0	0.488	5 .01	84.3	6. 1	0.58	5.7	0.02	0.04	0.06	151	
166	11 .45	11 .43	33.674	25.666	235 .5	0.527	4.74	76.7	10.1	0.90	10.4	0.01	0.02	0.04	167	208
194	9.55	9.53	33.730	26.039	200.0	0.588	4.17	64.8	18.7	1 .41	18.3	0.00	0.00	0.02	195	207
200 ISL	9.33	9.31	33.754	26.094	194.9	0.600	4.15	64.2	19.8	1 .45	19.1	0.00			201	
230	8.66	8.64	33.871	26.291	176.5	0.656	4.08	62.2	24.6	1 .59	21.5	0.00			231	206
250 ISL	8.28	8.25	33.916	26.385	167.8	0.690	3.68	55.6	29.2	1 .78	24.0	0.00			251	
268	7.99	7.96	33.944	26.450	161.8	0.720	3.28	49.3	33.5	1 .96	26.2	0.00			269	205
300 ISL	7.47	7.44	33.978	26.552	152.3	0.770	2.94	43.6	39.7	2.12	28.7	0.00			302	
319	7.22	7.19	33.998	26.604	147.6	0.799	2 .75	40.6	43.3	2.20	29.9	0.00			321	204
380	6.91	6.87	34.120	26.743	135.2	0.885	1 .39	20.4	56.9	2 .68	35.2	0.00			382	203
400 ISL	6.76	6.72	34.141	26.780	131.9	0.911	1.16	17.0	60.5	2.78	36.3	0.00			402	
437	6.46	6.42	34.168	26.841	126.4	0.959	0.90	13.1	66.4	2.91	37.8	0.00			440	202
500 ISL	6.02	5.98	34.213	26.934	118.1	1 .036	0.63	9.0	75 .6	3.07	39.7	0.00			503	
515	5.91	5.87	34.224	26.957	116.0	1 .054	0.57	8.2	77.8	3.11	40.2	0.00			518	201

RV DAVID STARR JORDAN CALCOFI CRUISE 9602 STATION 93 120

LATITUDE	LONGITUDE	DAY/HO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
29 51.4 N	123 35.6 W	02/02/96	1838	UTC	4121 m	180	05 kn	270 02 06	1	1018.9 mb	18 9 C	17 0 C	41m 01	7/8	AC

DEPTH *	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SI03 uM/l	P04 uM/l	N03 uM/l	N02 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	17.41	17.41	33.579	24.328	358.8	0.000	5.54	101.3	2.8	0.26	0.1	0.00	0.08	0.02	0	
2	17.40	17.40	33.577	24.328	358.8	0.007									2	222
2 A	17.41	17.41	33.579	24.328	358.9	0.007	5.54	101.3	2.8	0.26	0.1	0.00	0.08	0.02	2	221
10 ISL	17.38	17.38	33.578	24.334	358.5	0.036	5.53	101.0	2.8	0.25	0.1	0.00	0.08	0.03	10	
15	17.36	17.36	33.578	24.339	358.2	0.054	5.53	101.0	2.8	0.25	0.1	0.00	0.08	0.03	15	220
20 ISL	17.36	17.36	33.578	24.340	358.4	0.072	5.53	101.0	2.8	0.25	0.1	0.00	0.08	0.03	20	
27 A	17.36	17.36	33.578	24.340	358.6	0.097	5.54	101.2	2.7	0.25	0.1	0.00	0.09	0.03	27	219
30 ISL	17.40	17.40	33.592	24.341	358.6	0.108	5.54	101.2	2.7	0.25	0.1	0.00	0.09	0.03	30	
40	17.63	17.62	33.691	24.362	356.9	0.143	5.52	101.4	2.7	0.24	0. 1	0.00	0.10	0.04	40	218
50 ISL	18.03	18.02	33.903	24.428	351.0	0.179	5.45	101.0	2.6	0.23	0.1	0.00	0.11	0.04	50	
54 A	18.18	18.17	33.984	24.453	348.8	0.193	5.43	101.0	2.6	0.22	0.1	0.00	0.12	0.04	54	217
68	18.27	18.26	34.036	24.471	347.6	0.241	5 .43	101.2	2.6	0.22	0.1	0.00	0.15	0.07	68	216
75 ISL	18.04	18.03	33.998	24.499	345 .1	0.266	5.48	101.6	2 .6	0.22	0. 1	0.00	0.19	0.11	75	
83 A	17.61	17.60	33.944	24.563	339.3	0.293	5 .53	101.7	2 .6	0.22	0. 1	0.00	0.23	0.16	83	215
92	16.95	16.93	33.927	24.707	325 .8	0.323	5 .55	100.7	2.7	0.22	0.0	0.00	0.25	0.22	92	214
100 ISL	16.81	16.79	34.013	24.806	316.6	0.349	5 .49	99.4	2.8	0.22	0.1	0.03	0.27	0.27	100	
101	16.80	16.78	34.025	24.818	315.5	0.352	5 .48	99.2	2.8	0.22	0.1	0.04	0.27	0.27	101	213
110 A	16.61	16.59	34.067	24.895	308.5	0.380	5 .38	97.1	2 .9	0.23	0.2	0.11	0.25	0.24	110	212
124	15 .76	15.74	34.021	25 .054	293.6	0.422	5 .35	94.9	3.4	0.27	0.8	0.08	0.18	0.19	124	211
125 ISL	15 .70	15.68	34.015	25.063	292.8	0.425	5 .35	94.8	3.4	0.27	0.8	0.08	0.18	0.19	126	
140	14.68	14.66	33.891	25.191	280.8	0.468	5 .32	92 .3	3.7	0.35	1 .9	0.03	0.10	0.11	141	210
150 ISL	13.70	13.68	33.782	25.313	269.3	0.496	5.18	88.0	5 .2	0.50	3.9	0.01	0.04	0.04	151	
154 A	13.32	13.30	33.750	25.365	264.3	0.506	5.10	85 .9	5 .9	0.57	4.9	0.01	0.02	0.02	155	209
174	12.22	12.20	33.824	25.639	238.5	0.557	4.66	76.8	9.2	0.84	9.5	0.01	0 .01	0.03	175	208
194	10.75	10.73	33.752	25 .853	218.2	0.602	4.40	70.2	13.6	1.13	14.0	0.00	0.01	0.03	195	207
200 ISL	10.42	10.40	33.749	25.908	213.0	0.615	4.33	68.6	15.0	1 .20	15.1	0.00			201	
229	9.22	9.19	33.794	26.143	190.8	0.674	4.00	61 .7	21 .9	1.51	19.9	0.00			230	206
250 ISL	8.57	8.54	33.870	26.305	175.5	0.712	3.73	56.7	27.3	1 .71	22 .9	0.00			251	
268	8.14	8.11	33.936	26.422	164.6	0.743	3.48	52 .4	31 .9	1 .86	25 .1	0.00			269	205
300 ISL	7.61	7.58	33.988	26.540	153.6	0.794	3.06	45 .6	38.8	2.07	28.1	0.00			302	
318	7.39	7.36	34.002	26.583	149.7	0.821	2 .81	41.6	42.6	2.17	29.5	0.00			320	204
378	6.62	6.59	34.051	26.727	136.4	0 .907	1 .82	26.5	57.4	2 .58	34.7	0.00			380	203
400 ISL	6.34	6.30	34.059	26.770	132 .4	0.936	1 .58	22.8	62.0	2.69	36.2	0.00			402	
437	5.93	5 .89	34.074	26.835	126.5	0.984	1 .27	18.2	69.0	2 .85	38.2	0.00			440	202
500 ISL	5 .56	5.52	34. 137	26.930	117.9	1.061	0.81	11.5	79.2	3 .07	40. 4	0.00			503	
515	5 .47	5 .43	34.153	26.954	115.7	1 .079	0.70	9. 9	81 .6	3.12	40.9	0.00			518	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

m

PRIHARY PRODUCTIVITY CASTS

RV DAVID STARR JORDAN — CALCOFI CRUISE 9602 — STATION 77 51

LATITUDE	LONGITUDE	DAY/HO/YR	CAST TIHE	SECCHI	FOREL	INCUBATION TIHE	LAN	CIVIL TWILIGHT	INTEGRATED VALUf
35 1.0 N	120 55.0 U	14/ 2/96	1818 UTC	7 m	07	1218 - 1809 PST	1218 PST	1809 PST	714.8 mg C/m2

DEPTH m	TEHP DEG C	SALINITY	SIGMA THETA	DISS 02 ml/l	OXY PCT	SI03 uH/l	P04 uM/ I	N03 uH/ I	N02 uH/ I	CHL-A ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
2	13.00	33.413	25. 164	5.88	98.3	8.9	0.80	6. 1	0.17	2.45	0.47	64. A	51.9	54.3	53.1	0.19
5	12.95	33.414	25. 175	5.86	97.8	8.8	0.80	6.1	0.17	2.45	0.65	33.	63. 1	64.7	63.9	0.22
9	12.89	33.425	25.195	5.86	97.7	8.8	0.81	6.1	0.17	2.58	0.68	14.	45.0	44.3	44.7	0.20
14	12.70	33.426	25.234	5.68	94.3	9.2	0.86	6.8	0.21	1 .95	0.66	4.6	15.4	16.0	15.7	0.09
19	12.53	33.432	25.271	5.52	91 .3	10.0	0.93	7.5	0.25	1 .53	0.66	1 .6	4.3	4.0	4.2	0.09
26	12.11	33.515	25.416	5.03	82.5	11.7	1.10	9.1	0.33	0.56	0.67	0.33	0.11	0.12	0.12	0.08

RV DAVID STARR JORDAN — CALCOFI CRUISE '9602 — STATION 77 90

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIHE	SECCHI	FOREL	INCUBATION TIHE	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
33 43.1 N	123 37.6 W	13/ 2/96	1831 UTC	56 m	01	1226 - 1817 PST	1228 PST	1817 PST	131.2 mg C/m2

DEPTH m	TEHP DEG C	SALINITY	SIGHA THETA	DISS 02 ml/l	OXY PCT	SI03 uH/l	P04 uH/l	N03 uH/ I	N02 utt/l	CHL-A ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
2	16.97	33.390	24.287	5.59	101 .2	3.2	0.27	0.1	0.00	0.07	0.02	95. A	0.73	0. 85	0.79	0.04
19	16.87	33.390	24.311	5.60	101.2	3.2	0.27	0.1	0.00	0.08	0.02					
37	16.88	33.400	24.317	5.58	100.8	3.2	0.26	0.1	0.00	0.09	0.03	36.	0.95	1 .0	0.97	0.08
SO	16.88	33.407	24.323	5.57	100.6	3.2	0.26	0.1	0.00	0.11	0.04					
61	15.99	33.418	24.536	5.68	100.9	3.3	0.28	0.1	0.00	0.17	0.10					
73	14.29	33.291	24.809	5.91	101.3	3.5	0.33	0.2	0.03	0.26	0.21	14.	1 .9	1 .9	1 .9	0.05
84	13.38	33.270	24.980	5.88	98.9	3.7	0.35	0.1	0.11	0.30	0.23					
95	12.71	33.256	25.102	5.80	96.2	4.1	0.43	1 .0	0.08	0.25	0.21					
103	12.48	33.323	25.199	5.48	90.5	5.5	0.56	3.3	0.02	0.15	0.15					
113	11 .80	33.347	25.346	5.38	87.6	6.3	0.65	5.0	0.02	0.09	0.09	4.5	0.21	0.19	0.20	0.03
124	11 .31	33.353	25.441	5.24	84.4	7.9	0.76	7.0	0.01	0.06	0.08					
136	10.29	33.464	25.707	4.78	75.4	12.9	1.10	12.7	0.01	0.02	0.04					
150	9.66	33.521	25.857	4.61	71 .7	15.4	1 .25	15.0	0.01	0.02	0.04	1 .6	0.04	0.03	0.03	0.02
181	8.77	33.741	26.172	3.91	59.7	24.5	1 .69	22.0	0.01	0.00	0.02					
211	8.21	33.870	26.359	3.59	54.2	30.1	1 .86	24.9	0.00			0.31	0.00	0.00	0.00	0.01

RV DAVID STARR JORDAN — CALCOFI CRUISE '9602 — STATION 80 51

LATITUDE	LONGITUDE	DAY/HO/YR	CAST TIHE	SECCHI	FOREL	INCUBATION TIHE	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
34 26.9 N	120 31 .3 W	11/ 2/96	1829 UTC	9 m	05	1215 - 1809 PST	1216 PST	1808 PST	391.7 mg C/m2

DEPTH m	TEHP DEG C	SALINITY	SIGHA THETA	DISS 02 ml/l	OXY PCT	SI03 uH/l	P04 uH/ I	N03 uH/ I	N02 uH/ I	CHL-A ug/l	PHAEO ug/ I	LIGHT PCT	UPTAKE iC mg C/m3) 1	2	MEAN	DARK
1	14.48	33.425	24.870	5.99	103.2	2 .9	0.44	1 .2	0.06	1 .05	0.28	84 . A	19.1	19.2	19.2	0.14
7	14.16	33.425	24.938	6.00	102.7	2.9	0.44	1 .2	0.06	1.17	0.49	30.	26.0	25 .3	25 .6	0.14
13	14.07	33.424	24.956	5.99	102.3	3.2	0.46	1 .4	0.07	1 .32	0.31	1 1 .	17.0	17.9	17.5	0.15
18	13.94	33.428	24.986	6.02	102.6	3.3	0.49	1 .5	0.09	1 .27	0.40	4.6	8.2	7.9	8.0	0.13
24	13.65	33.434	25.051	6.02	102.0	4.2	0.54	2.3	0.12	1 .32	0.45	1 .7	2.6	2.6	2.6	0.13
34	13.55	33.435	25.072	5 .97	100.9	4.2	0.54	2.5	0.12	1 .29	0.40	0.30	0.06	0.06	0.06	0.11

RV DAVID STARR JORDAN — CALCOFI CRUISE '9602 — STATION 80 80

LATITUDE	LONGITUDE	DAY/HO/YR	CAST TIHE	SECCHI	FOREL	INCUBATION TIHE	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
33 28.7 N	122 35.5V	12/ 2/96	1813 UTC	32 m	02	1224 - 1822 PST	1224 PST	1822 PST	145.2 mg C/m2

DEPTH m	TEHP DEG C	SALINITY	SIGHA THETA	DISS 02 ml/ I	OXY PCT	SI03 uH/l	P04 uH/l	N03 uH/ I	N02 uM/l	CHL-A ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE iImg C/m:3) 1	2	MEAN	DARK
3	16.75	33.368	24.322	5.60	100.9	2.8	0.27	0.0	0.00	0.10	0.04	87. A	0. 78	0.72	0.75	0.07
1 1	16.74	33.366	24.323	5.60	100.9	2 .8	0.27	0.0	0.00	0.11	0.03					
21	16.69	33.361	24.331	5 .62	101.2	2.8	0.26	0.0	0.00	0.11	0.03	37.	1 .5	1 .4	1 .5	0.08
32	16.55	33.339	24.347	5.63	101.0	2.8	0.27	0.0	0.00	0.13	0.04					
43	15.97	33.195	24.369	5 .70	101.0	2.7	0.30	0.0	0.00	0.15	0.07	13.	1 .8	1 .7	1 .8	0.06
54	15.57	33. 110	24.393	5.76	101 .2	2.7	0.31	0.0	0.00	0.21	0.08					
65	15.15	33.123	24.496	5.82	101.4	2 .7	0.33	0.0	0.00	0.27	0.18	4.4	1 .6	1 .8	1 .7	0.04
75	14.02	33.287	24.862	5 .99	102.1	3. 1	0.33	0.0	0.01	0.29	0.26					
86	13.38	33.323	25 .021	5 .88	99.0	3.2	0.35	0. 1	0.20	0.33	0.27	1 .6	1 .1	1 .1	1 . 1	0.03
96	12.73	33.268	25.107	5 .82	96.6	3.6	0.40	0.7	0.06	0.22	0.29					
106	12.42	33.301	25.193	5.57	91 .9	4 . 8	0.51	2.7	0.02	0.14	0.14					
1 14	12.37	33.403	25.282	5 .42	89.3	5 .5	0.58	4.2	0.02	0.09	0.11					
1 1 9	12.73	33.574	25.345	5 .29	88.0	5 .8	0.57	4. 5	0.02	0.07	0.08	0.33	0.03	0.02	0.02	0.02

A) INCUBATION LIGHT INTENSITIES WERE 93, 37, 13, 4.5, 1.6, I0.30 PERCENT RESPECTIVELY.

PRIMARY PRODUCTIVITY CASTS

RV DAVID STARR JORDAN — CALCOFI CRUISE 9602 — STATION 83 55

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
33 45.ON	120 25.8 W	10/ 2/96	1914 UTC	14 m	03	1214 - 1802 PST	1216 PST	1802 PST	616.2 mg C/m2

DEPTH D	TENP DEG C	SALINITY	SIGMA THETA	DISS 02 ml/l	OXY PCT	SI03 uM/l	P04 uM/ l	N03 uM/ l	N02 uM/ l	CHL-A ug/l	PHAEO ug/ l	LIGHT PCT	UPTAKE C mg C /m3) 1	2	MEAN	DARK
2	13.72	33.452	25.049	6.12	103.8	1 .8	0.44	1 .4	0.07	1 .49	0.51	80. A	19.8	19.3	19.5	0.12
9	13.52	33.453	25.091	6.13	103.6	1 .8	0.44	1 .4	0.08	1 .63	0.77	37.	32.0	30. 1	31 .0	0.17
19	13.13	33.459	25.175	5.80	97.2	4.5	0.61	3.7	0.16	1 .59	0.84	12.	17.7	18.2	18.0	0.11
29	12.80	33.476	25.253	5.49	91 .4	6.7	0.76	5.8	0.21	0.96	0.80	4.2	5.8	5 .7	5.8	0.07
38	11.90	33.529	25.467	4.71	76.9	11.1	1 .08	10.9	0.28	0.41	0.47	1 .6	0.84	0.84	0.84	0.05
45	11 .49	33.552	25.561	4.38	70.9	13.1	1 .23	13.2	0.27	0.33	0.37					
53	11.03	33.580	25.666	4.07	65.3	15.2	1 .34	15.3	0.18	0.20	0.33	0.30	0.03	0.04	0.03	0.04

RV DAVID STARR JORDAN — CALCOFI CRUISE 9602 — STATION 83 90

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
32 34.9 N	122 49.1 W	9/ 2/96	1841 UTC	41 m	01	1224 - 1813 PST	1225 PST	1813 PST	135.4 mg C/m2

DEPTH m	TENP DEG C	SALINITY	SIGMA THETA	DISS 02 ml/ L	OXY PCT	SI03 UM/l	P04 uM/ l	N03 uM/l	N02 uM/ l	CHL-A ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE t mg C / m3) 1	2	MEAN	DARK
2	16.09	33.262	24.392	5 .70	101 .3	2.5	0.29	0.0	0.00	0.10	0.03	93. A	1 .6	1 .5	1 .5	0.05
15	16.06	33.273	24.407	5 .69	101 .1	2.5	0.28	0.0	0.00	0.11	0.03					
27	16.04	33.310	24.441	5 .69	101.1	2.5	0.28	0.0	0.00	0.12	0.03	36.	1 .3	1 .3	1 .3	0.07
40	16.00	33.311	24.451	5.69	101.0	2.5	0.28	0.0	0.00	0.12	0.06					
54	15.96	33.317	24.465	5.70	101.1	2.5	0.28	0.0	0.00	0.17	0.05	13.	1 .0	0.96	0.99	0.06
68	15.74	33.318	24.516	5.71	100.8	2.5	0.28	0.0	0.00	0.22	0.07					
83	15.43	33.304	24.574	5 .73	100.5	2.5	0.30	0.0	0.00	0.41	0.21	4.5	1 .3	1 .4	1 .4	0.01
93	13.60	33.250	24.920	5 .66	95.6	3.7	0.44	1 .3	0.08	0.43	0.36					
102	12.74	33.246	25.089	5.59	92.8	4.5	0.51	2.6	0.03	0.29	0.26					
110	12.02	33.271	25.246	5 .36	87.6	5.9	0.65	4.8	0.02	0.18	0.19	1 .6	0.36	0.35	0.36	0.01
125	11 .71	33.430	25.427	4.96	80.6	8.3	0.84	8.2	0.01	0.09	0.10					
144	10.77	33.551	25.692	4.60	73.3	12.2	1 .09	12.6	0.01	0.04	0.06					
155	9.91	33.610	25.885	4.24	66.4	16.1	1 .32	16.2	0.01	0.02	0.04	0.30	0.00	0.00	0.00	0.01

RV DAVID STARR JORDAN — CALCOFI CRUISE 9602 — STATION 87 50

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
33 19.1 N	119 39.9 W	6/ 2/96	1847 UTC	16 m	04	1210 - 1801 PST	1213 PST	1802 PST	349.8 mg C/m2

DEPTH m	TEMP DEG C	SALINITY	SIGMA THETA	DISS 02 ml/l	OXY PCT	SI03 uH/l	P04 uM/l	N03 uN/l	N02 uM/l	CHL-A ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE C mg C / m3) 1	2	MEAN	DARK
2	14.32	33.369	24.861	5.86	100.6	3.6	0.43	1 .1	0.05	0.68	0.28	83. A	7.9	8. 1	8.0	0.07
10	14.29	33.369	24.867	5.87	100.7	3.5	0.43	1 .1	0.05	0.68	0.29	38.	13.5	14.6	14.1	0.07
21	13.52	33.423	25 .068	5.77	97.5	4.6	0.57	3.0	0.12	0.72	0.45	13.	9.9	10.0	10.0	0.05
33	12.48	33.532	25 .359	4.91	81 .2	9.1	0.92	8.2.	0.17	0.57	0.68	4.2	3.2	3.5	3.4	0.05
43	11 .84	33.587	25 .523	4.32	70.5	13.2	1.18	12.2	0.19	0.43	0.79	1 .6	1 .0	0.93	0.97	0.04
52	11 .71	33.596	25 .555	4.21	68.5	14.1	1 .23	13.0	0.19	0.43	0.75					
63	11 .65	33.601	25.570	4.15	67.5	14.2	1 .25	13.3	0.19	0.39	0.81	0.24	0.09	0.09	0.09	0.04

RV DAVID STARR JORDAN — CALCOFI CRUISE 9602 — STATION 87 80

LATITUDE	LONGITUDE	**DAY/MO/YR**	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
32 19.0 N	121 42.9 W	7/ 2/96	1841 UTC	23 m	02	1220 - 1812 PST	1221 PST	1814 PST	202.1 mg C/m2

DEPTH n	TEMP DEG C	SALINITY	SIGMA THETA	DISS 02 ml/l	OXY PCT	SI03 uM/l	P04 uM/ l	N03 uM/ l	N02 uM/ l	CHL-A ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE C mg C/m3) 1	2	MEAN	DARK
2	15.51	33.162	24.444	5 .78	101.5	2.6	0.32	0.1	0.00	0.14	0.06	88. A	1 .0	0.95	0.98	0.07
15	15.49	33.160	24.448	5.79	101.6	2.6	0.32	0.1	0.00	0.15	0.05	37.	2.0	2 .0	2 .0	0.08
32	15.42	33.158	24.462	5 .80	101.7	2 .6	0.32	0.1	0.00	0.17	0.06	12.	1 .9	1 .9	1 .9	0.09
46	14.33	33.256	24.773	5 .92	101.6	3. 1	0.37	0.2	0.05	0.61	0.32	4.6	4.9	5 .0	5 .0	0.07
53	14.20	33.268	24.810	5 .87	100. 4	3.1	0.39	0.5	0.09	0.55	0.32					
63	14.10	33.290	24.848	5 .86	100. 1	3.0	0.39	0.5	0.10	0.54	0.30	1 .5	2 .7	2 .6	2 .7	0.02
74	13.62	33.318	24.968	5 .72	96.7	3.7	0.46	1 .5	0.15	0.28	0.22					
87	12.53	33.304	25.174	5 .65	93.4	4. 1	0 .48	2 .3	0.03	0.16	0.16	0.30	0.13	0.12	0.12	0.01

A) INCUBATION LIGHT INTENSITIES WERE 93, 37, 1 3 , 4 5, 1.6, 3.30 PERCENT RESPECTIVELY.

PRIMARY PRODUCTIVITY CASTS

RV DAVID STARR JORDAN — CALCOFI CRUISE 9602 — STATION 87 110

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
31 19.5 N	123 45.0 W	8/ 2/96	1836 UTC	28 m	02	1229 - 1821 PST	1229 PST	1821 PST	170.8 mg C/m2

DEPTH m	TEMP DEG C	SALINITY	SIGMA THETA	DISS 02 ml/l	OXY PCT	SI03 uM/l	P04 uN/l	N03 uM/ I	N02 uM/ I	CHL-A ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (mg C /m 3) 1	2	MEAN	DARK
2	15.54	33.300	24.S44	5.83	102.5	2.8	0.32	0.0	0.00	0.19	0.06	90. A	2.9	2.7	2.8	0.06
10	15.47	33.300	24.560	5.82	102.2	2.8	0.32	0.0	0.00	0.20	0.06					
18	15.46	33.300	24.562	5.83	102.4	2.7	0.32	0.0	0.00	0.20	0.06	37.	3.4	3.3	3.4	0.07
28	15.44	33.300	24.567	5.85	102.7	2.7	0.32	0.0	0.00	0.20	0.08					
37	15.34	33.302	24.591	5.83	102.1	2.6	0.32	0.0	0.00	0.22	0.09	13.	2.2	2.2	2.2	0.07
47	14.20	33.306	24.839	5.73	98.1	2.9	0.41	0.8	0.10	0.71	0.46					
57	13.27	33.324	25.043	5.45	91 .5	4.7	0.61	4.2	0.03	0.31	0.25	4.4	1 .7	1 .8	1 .7	0.02
66	12.24	33.324	25.244	5.31	87.3	6.0	0.71	5.7	0.01	0.17	0.16					
75	11 .78	33.337	25.341	4.96	80.7	8.4	0.88	8.6	0.01	0.14	0.14	1 .6	0.33	0.34	0.33	0.01
84	10.98	33.457	25.580	4.43	70.9	12.6	1.17	13.3	0.01	0.07	0.08					
95	10.78	33.489	25.640	4.34	69.2	13.6	1 .23	14.3	0.01	0.06	0.07					
105	10.12	33.549	25.801	4.06	63.8	16.6	1 .40	17.0	0.01	0.03	0.05	0.32	0.00	0.01	0.01	0.01

RV DAVID STARR JORDAN — CALCOFI CRUISE '9602 — STATION 90 28

LATITUDE	LONGITUDE	DAY/HO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
33 28.9 N	117 46.2 U	5/ 2/96	1822 UTC	9 m	05	1204 - 1754 PST	1205 PST	1754 PST	533.6 mg C/m2

DEPTH m	TEMP DEG C	SALINITY	SIGMA THETA	DISS 02 ml/l	OXY PCT	SI03 uM/ I	P04 uM/l	N03 uM/ I	N02 uN/l	CHL-A ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (mg C /m 3) 1	2	MEAN	DARK
2	14.52	33.321	24.781	6.51	112.2	1 .8	0.26	0.1	0.01	2.33	0.39	71 . A	31 .1	32.0	31 .5	0.26
6	14.45	33.332	24.805	6.47	111.3	1 .6	0.27	0.1	0.01	3.28	0.49	36.	52.3	49.2	50.7	0.38
13	14.48	33.403	24.854	6.09	104.9	1 .1	0.27	0.1	0.01	1 .03	0.37	11 .	11.4	10.8	11.1	0.15
19	13.85	33.443	25.016	5 .49	93.4	3.4	0.52	2.4	0.12	1 .63	0.73	3.9	7.3	7.3	7.3	0.12
24	13.08	33.470	25.193	5.01	83.9	6.0	0.75	5.4	0.20	1 .47	0.79	1 .7	2.2	2.0	2.1	0.15
34	12.65	33.487	25.291	4.81	79.8	7.1	0.87	6.9	0.24	1 .26	0.77	0.30	0.14	0.14	0.14	0.09

RV DAVID STARR JORDAN — CALCOFI CRUISE '?602 — STATION 90 53

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
32 39.3 N	119 29.0 W	4/ 2/96	1920 UTC	16 m	04	1210 - 1756 PST	1212 PST	1756 PST	459.5 mg C/m2

DEPTH in	TEMP DEG C	SALINITY	SIGMA THETA	DISS 02 ml/l	OXY PCT	SI03 uM/l	P04 uM/l	N03 uM/l	N02 uM/l	CHL-A ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE iC mg C /m3) 1	2	MEAN	DARK
2	14.23	33.441	24.935	5.98	102.5	4.0	0.39	0.9	0.05	0.91	0.34	83. A	15.6	15.7	15.6	0.Q8
10	14.21	33.441	24.940	5.98	102.5	3.7	0.39	0.9	0.05	0.86	0.34	38.	17.4	16.3	16.8	0.08
21	14.11	33.441	24.961	5 .95	101.7	3.8	0.40	0.9	0.06	0.95	0.42	13.	12.3	12.7	12.5	0.07
32	14.01	33.447	24.987	5.86	100.0	4.1	0.43	1 .5	0.09	0.62	0.37	4.6	4.8	4.6	4.7	0.04
44	13.65	33.461	25.072	5 .41	91 .6	5.6	0.59	3.9	0.23	0.34	0.27	1 .5	1 .0	0.96	0.99	0.02
52	12.44	33.499	25.342	4.92	81 .3	9.2	• 0.89	8.6	0.27	0.26	0.27					
61	12.10	33.517	25.421	4.59	75.3	11.0	1 .03	10.9	0.12	0.18	0.23	0.29	0.05	0.04	0.05	0.03

RV DAVID STARR JORDAN — CALCOFI CRUISE '?602 — STATION 90 90

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
31 25.1 N	121 59.0 W	3/ 2/96	1911 UTC	26 m	02	1221 - 1807 PST	1222 PST	1807 PST	101.5 mg C/m2

DEPTH .	TEMP DEG C	SALINITY	SIGMA THETA	DISS 02 ml/l	OXY PCT	SI03 uM/l	P04 uM/l	N03 uM/ I	N02 uM/ I	CHL-A ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE it mg C/m 3) 1	2	MEAN	DARK
2	15.89	33.246	24.424	5.73	101.5	3.0	0.34	0.1	0.00	0.13	0.04	89. A	1 .8	1 .9	1 .8	0.06
17	15.84	33.250	24.439	5 .72	101.2	2.7	0.30	0.0	0.00	0.13	0.04	37.	2.0	1 .9	2.0	0.07
35	15.59	33.250	24.496	5 .77	101 .5	2.7	0.32	0.0	0.00	0.17	0.07	13.	1 .4	1 . 4	1 .4	0.07
52	15.51	33.255	24.518	5.78	101.6	2.9	0.30	0.0	0.00	0.21	0.10	4.6	0.67	0.68	0.67	0.04
70	15.14	33.271	24.612	5.83	101 .7	2.9	0.31	0.0	0.00	0.39	0.20	1 .6	0.64	0.62	0.63	0.02
80	14.80	33.311	24.716	5.83	101.0	3.2	0.36	0.2	0.11	0.52	0. 44					
88	13.85	33.331	24.932	5.78	98.2	3.6	0.45	1 .4	0.22	0.34	0.27					
98	13.13	33.319	25.068	5 .80	97. 1	3.9	0.47	1 .8	0.05	0.17	0.26	0.31	0.05	0.05	0.05	0.01

A) INCUBATION LIGHT INTENSITIES WERE 93, 37, 13, 4.5, 1.6,, 0.30 PERCENT RESPECTIVELY.

PRIMARY PRODUCTIVITY CASTS

RV DAVID STARR JORDAN — CALCOFI CRUISE 9602 — STATION 93 35

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TINE	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
32 40.6 N	117 52.0 W	30/ 1/96	1847 UTC	22 m	03	1209 - 1750 PST	1204 PST	1750 PST	411.6 tig C/m2

DEPTH in	TEMP DEG C	SALINITY	SIGMA THETA	DISS 02 ml/l	OXY PCT	SI03 uM/l	P04 uM/l	N03 uM/l	N02 uM/l	CHL-A ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
2	14.81	33.420	24.796	5.95	103.2	1 .7	0.29	0.1	0.00	0 .47	0.15	87. A	10.6	11.1	10.9	0.21
15	14.72	33.417	24.813	5 .93	102.7	1 .7	0.28	0.1	0.00	0.65	0.20	35 .	12.0	12.9	12.5	0.19
30	14.54	33.412	24.848	5.82	100.4	2.0	0.32	0.1	0.01	0.81	0.41	12.	7.5	6.9	7.2	0.10
43	13.27	33.451	25.141	4. 94	83.0	6.5	0.71	5 .6	0.17	0.59	0.39	5 .0	2.1	2.3	2.2	0.04
51	12.69	33.488	25.285	4.58	76. 1	8.5	0.89	8.4	0.06	0.38	0.43					
59	12.26	33.525	25.396	4.35	71 .6	10.2	1 .02	10.6	0.03	0.24	0.29	1 .6	0.57	0.53	0.55	0.02
66	11.81	33.577	25.522	4.21	68.7	11.7	1.13	12.4	0.03	0.16	0.21					
74	11.67	33.588	25.556	4.05	65.9	12.6	1.19	13.3	0.02	0.13	0.19					
83	11.16	33.627	25 .680	3.86	62.1	14.7	1 .32	15.3	0.02	0.08	0.13	0.31	0.02	0.02	0.02	0.02

RV DAVID STARR JORDAN — CALCOFI CRUISE 9602 — STATION 93 60

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
31 50. *i* N	119 34.0 V	31/ 1/96	1824 UTC	28 m	02	1211 - 1800 PST	1211 PST	1801 PST	227.2 mg C/m2

DEPTH •	TEMP DEG C	SALINITY	SIGMA THETA	DISS 02 ml/l	OXY PCT	SI03 uM/l	P04 uM/l	N03 uM/l	N02 uM/l	CHL-A ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE Cmg C/m3) 1	2	MEAN	DARK
2	15.54	33.407	24.626	5.73	100.8	2.3	0.32	0.1	0.00	0.20	0.08	90. A	1 .7	1 .6	1 .6	0.05
10	15.52	33.405	24.630	5.74	101 .0	2.3	0.32	0. 1	0.00	0.20	0.08					
18	15.49	33.404	24.636	5.73	100.7	2.3	0.32	0.1	0.00	0.20	0.08	37.	2.9	2.8	2 .8	0.06
27	15.42	33.398	24.647	5.76	101.1	2.3	0.32	0. 1	0.00	0.23	0.09					
37	15.25	33.384	24.674	5.77	100.9	2.1	0.32	0.1	0.00	0.32	0.13	13.	3.8	3.8	3.8	0.04
47	14.14	33.355	24.889	5 .73	98.0	3.2	0.40	0.7	0.11	0.50	0.29					
57	13.85	33.389	24.976	5.84	99.3	3.4	0.45	1 .3	0.15	0.56	0.38	4.4	3.4	3.6	3.5	0.03
64	13.66	33.398	25 .022	5.73	97.0	3.8	0.50	2. 1	0.23	0.44	0.36					
75	13.06	33.339	25.097	5 .59	93.5	4.7	0.56	3.2	0.27	0.28	0.23	1 .6	0.83	0.86	0 .85	0.03
85	12.33	33.323	25 .227	5 .29	87.1	6.1	0.72	5.8	0.08	0.14	0.21					
95	11 .69	33.434	25.433	4.65	75.6	10.3	1 .03	10.8	0.06	0.14	0.18					
106	11 .05	33.499	25.601	4.27	68.5	13.5	1 .23	14.3	0.06	0.10	0.13	0.30	0.05	0.05	0.05	0.02

RV DAVID STARR JORDAN — CALCOFI CRUISE 9602 — STATION 93 90

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
30 50.8 N	121 35.6 W	1/ 2/96	1822 UTC	33 m	01	1220 - 1810 PST	1220 PST	1810 PST	146.3 mg C/m2

DEPTH in	TEMP DEG C	SALINITY	SIGMA THETA	DISS 02 ml/l	OXY PCT	SI03 uM/l	P04 uM/l	N03 uM/l	N02 uM/l	CHL-A ug/ l	PHAEO ug/ l	LIGHT PCT	UPTAKE mg C/m3) 1	2	MEAN	DARK
2	16.66	33.484	24.431	5.62	101 .2	2 .3	0.29	0.0	0.00	0.16	0.05	91. A	1 .3	1 .1	1 .2	0.03
11	16.66	33.484	24.432	5 .62	101.2	2.3	0.29	0.0	0.00	0.15	0.06					
23	16.65	33.484	24.435	5.62	101 .1	2.3	0.29	0.0	0.00	0.16	0.06	34.	2. 1	2 .1	2 .1	0.03
33	16.64	33.484	24.437	5.61	100.9	2.1	0.28	0.0	0.00	0.17	0.05					
45	16.64	33.483	24.437	5.61	100.9	2.1	0.31	0.1	0.00	0.17	0.06	12.	1 .6	1 .7	1 .6	0.02
55	16.62	33.486	24.444	5.62	101 .1	2. 1	0.29	0.0	0.00	0.20	0.08					
67	14.45	33.272	24.760	5.80	99.8	2.7	0.36	0.1	0.08	0.31	0.23	4.4	1 .5	1 .5	1 .5	0.01
77	13.07	33.255	25.030	5 .79	96.8	3.5	0.41	0.8	0.09	0.28	0.25					
90	12.50	33.271	25.154	5 .66	93.5	4.0	0.48	2.0	0.03	0.22	0.22	1 .5	0.58	0.59	0.58	0.01
100	11 .87	33.276	25.278	5.47	89.1	5.5	0.62	4.3	0.02	0.14	0.14					
110	11 .73	33.381	25.385	5 .20	84.5	7.1	0.73	6.6	0.02	0.09	0.14					
124	11 .80	33.625	25.562	4.39	71 .6	10.4	1 .03	11.3	0.01	0.07	0.13	0.31	0.04	0.04	0.04	0.00

RV DAVID STARR JORDAN — CALCOFI CRUISE 9602 — STATION 93 120

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL	INTEGRATED VALUE
29 51.4 N	123 35.6 W	2/ 2/96	1838 UTC	41 m	01	1227 - 1817 PST	1228 PST	1817 PST	101.5 mg C/m2

DEPTH m	TEMP DEG C	SALINITY	SIGMA THETA	DISS 02 ml/l	OXY PCT	SI03 uM/l	P04 uM/l	N03 uM/l	N02 uM/l	CHL-A ug/l	PHAEO ug/ l	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
2	17.41	33.579	24.328	5.54	101.3	2.8	0.26	0.1	0.00	0.08	0.02	93. A	1 .0	1 .0	1 .0	0.05
15	17.36	33.578	24.339	5 .53	101.0	2 .8	0.25	0.1	0.00	0.08	0.03					
27	17.36	33.578	24.340	5 .54	101.2	2 .7	0.25	0. 1	0.00	0.09	0.03	36.	1 .5	1 .1	1 .3	0. 05
40	17.63	33.691	24.362	5 .52	101.4	2.7	0.24	0. 1	0.00	0.10	0 .04					
54	18.18	33.984	24.453	5 .43	101 .0	2 .6	0.22	0.1	0.00	0.12	0 .04	13.	0.58	0.59	0.59	0.06
68	18.27	34.036	24.471	5 .43	101.2	2 .6	0.22	0. 1	0.00	0.15	0.07					
83	17.61	33.944	24.563	5 .53	101.7	2 .6	0.22	0. 1	0.00	0.23	0.16	4.5	0. 74	0.67	0.70	0.02
92	16.95	33.927	24.707	5.55	100.7	2.7	0.22	0.0	0 .00	0.25	0.22					
101	16.80	34.025	24.818	5 .48	99.2	2 .8	0.22	0. 1	0.04	0.27	0.27					
110	16.61	34.067	24.895	5.38	97.1	2 .9	0.23	0.2	0.11	0.25	0.24	1 .6	0.45	0 .48	0. 47	0.01
124	15.76	34.021	25 .054	5 .35	94.9	3.4	0.27	0.8	0.08	0.18	0.19					
140	14.68	33.891	25.191	5.32	92.3	3.7	0.35	1 .9	0.03	0.10	0.11					
154	13.32	33.750	25.365	5.10	85.9	5 .9	0.57	4.9	0.01	0.02	0.02	0.31	0.02	0.02	0.02	0.00

A) INCUBATION LIGHT INTENSITIES WERE 93, 37, 13, 4 5, 1.6, 0.30 PERCENT RESPECTIVELY.

CalCOFI Cruise 9602

MACROZOOPLANKTON BIOMASS
Net Mesh Size: 0.505mm

Line	Sta.	Latitude N	Longitude W	Date Mo/Day	Time (PST) Start	End	Water Volume Strained (m^3)	Max. Tow Depth (m)	Volume per 1000 m^3 Strained Total (cm^3)	Small (cm^3)
77	49	35 05.1	120 46.2	02/14	1312	1318	119	52	712	595
77	51	35 01.1	120 54.8	02/14	1106	1128	381	214	428	331
77	55	34 54.1	121 12.8	02/14	0743	0805	403	213	127	114
77	60	34 43.9	121 32.6	02/14	0357	0419	410	211	171	171
77	70	34 23.7	122 13.8	02/13	2208	2230	422	212	1612	71
77	80	34 03.2	122 55.3	02/13	1637	1658	416	211	233	233
77	90	33 42.5	123 37.0	02/13	0920	0942	418	215	19	19
77	100	33 23.6	124 18.7	02/13	0335	0357	426	210	21	21
80	51	34 26.7	120 31.7	02/11	1213	1220	128	59	125	125
80	55	34 19.4	120 48.3	02/11	1517	1539	404	217	49	49
80	60	34 08.1	121 08.5	02/11	1915	1937	439	209	121	52
80	70	33 48.1	121 50.1	02/12	0116	0140	461	255	119	119
80	80	33 28.9	122 32.0	02/12	0915	0937	391	216	28	28
80	90	33 08.8	123 13.5	02/12	1610	1632	436	208	25	25
80	100	32 49.3	123 53.8	02/12	2147	2209	420	214	36	36
82	47	34 15.8	120 02.0	02/11	0803	0825	406	213	96	96
83	40.6	34 13.8	119 25.4	02/11	0148	0151	64	27	79	79
83	42	34 11.1	119 30.7	02/11	0340	0349	171	90	175	175
83	51	33 53.5	120 10.6	02/10	1508	1517	179	76	101	101
83	55	33 44.3	120 24.4	02/10	0840	0902	436	224	103	103
83	60	33 35.0	120 45.8	02/10	0515	0536	414	208	183	183
83	70	33 14.3	121 26.0	02/09	2306	2328	422	213	66	66
83	80	32 54.1	122 06.5	02/09	1709	1731	441	207	27	27
83	90	32 35.1	122 49.0	02/09	0823	0845	439	215	30	30
83	100	32 15.2	123 32.1	02/09	0037	0059	418	215	182	74
83	110	31 54.6	124 09.8	02/08	1744	1805	425	208	264	52
87	33	33 53.3	118 29.4	02/05	2059	2104	90	42	33	33
87	35	33 49.4	118 38.0	02/05	2329	2351	404	211	64	64
87	40	33 39.3	118 58.8	02/06	0328	0350	407	206	54	54
87	45	33 30.0	119 20.3	02/06	0746	0808	415	213	67	67
87	50	33 19.2	119 40.3	02/06	1235	1241	128	53	110	110
87	55	33 10.3	120 01.0	02/06	1704	1726	444	211	83	83
87	60	32 58.4	120 19.4	02/06	2142	2204	408	219	91	91
87	70	32 41.1	121 01.4	02/07	0442	0504	462	218	35	35
87	80	32 19.0	121 43.7	02/07	1234	1256	402	217	47	47
87	90	32 00.3	122 24.6	02/07	1920	1942	459	215	37	37
87	100	31 39.9	123 03.3	02/08	0135	0157	430	216	100	100
87	110	31 19.5	123 45.0	02/08	0820	0842	433	214	65	65
90	28	33 29.2	117 46.7	02/05	0855	0904	169	85	41	41
90	30	33 25.4	117 54.9	02/05	0655	0716	404	210	94	94
90	35	33 15.2	118 15.7	02/05	0245	0307	397	214	66	66
90	37	33 11.6	118 22.7	02/05	0008	0029	409	212	56	56
90	45	32 55.4	118 55.9	02/04	1853	1915	411	212	71	71
90	53	32 39.8	119 29.1	02/04	1301	1323	422	217	43	43
90	60	32 25.2	119 57.9	02/04	0718	0740	418	210	60	60
90	70	32 04.5	120 37.6	02/04	0115	0137	422	211	88	45
90	80	31 45.3	121 18.0	02/03	1910	1931	413	213	48	48
90	90	31 25.0	121 58.7	02/03	1240	1302	430	211	49	28
90	100	31 05.0	122 38.7	02/03	0615	0637	425	212	82	82
90	110	30 45.1	123 18.5	02/03	0043	0104	417	210	29	29
90	120	30 24.8	123 58.8	02/02	1847	1909	420	210	21	21
93	26.7	32 57.2	117 18.6	01/29	2216	2222	116	58	52	52
93	28	32 54.8	117 22.4	01/30	0110	0131	422	204	88	88
93	30	3251.1	117 31.3	01/30	0430	0451	401	212	60	60
93	35	32 40.4	117 52.4	01/30	0828	0850	406	213	44	44
93	40	32 30.1	118 12.5	01/30	1631	1652	401	213	52	52
93	45	32 21.4	118 33.2	01/30	2043	2105	391	214	61	61
93	50	32 12.2	11851.7	01/31	0135	0157	447	203	76	76
93	55	32 00.1	119 13.5	01/31	0655	0717	423	214	64	64
93	60	31 50.0	119 34.9	01/31	1215	1237	454	216	24	24
93	70	31 31.9	120 15.4	01/31	1939	2001	455	220	35	35
93	80	31 11.0	120 54.6	02/01	0315	0337	433	225	32	32
93	90	30 51.3	121 36.1	02/01	1120	1142	441	223	32	32
93	100	3031.1	122 15.9	02/01	1844	1906	418	212	33	33
93	110	30 10.6	122 55.8	02/02	0057	0119	425	204	31	31

FIGURES

Cruise9604 " }

1. CalCOFI Cruise 9604, 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 87 (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.

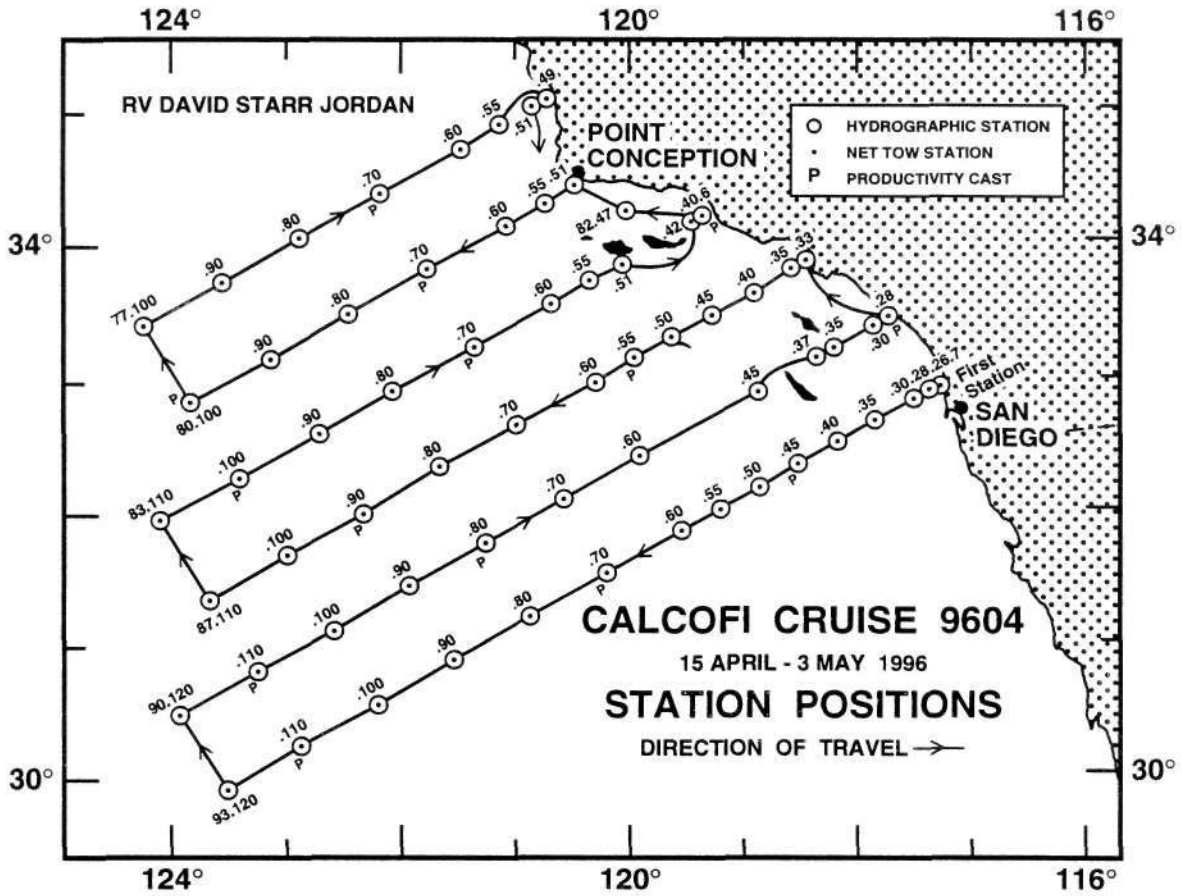


FIGURE 1

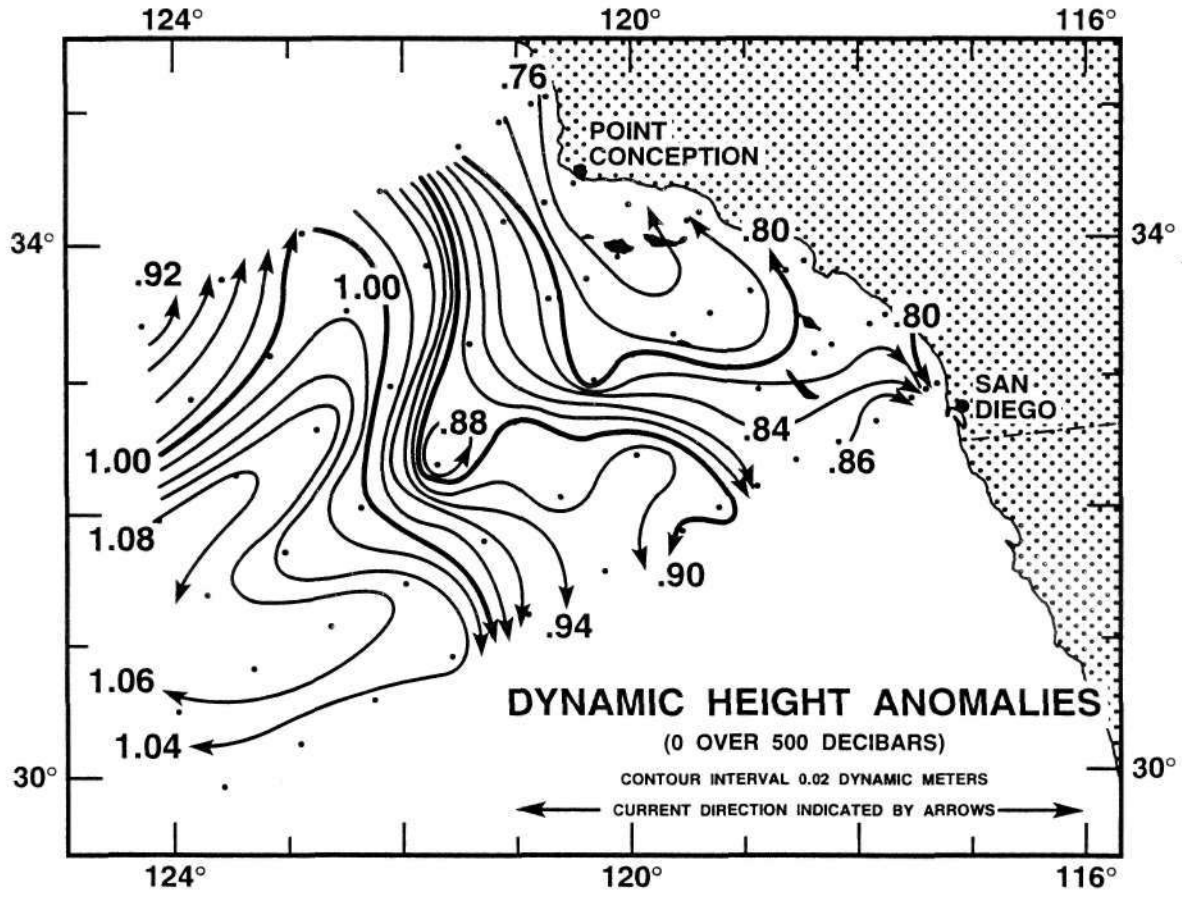


FIGURE 2

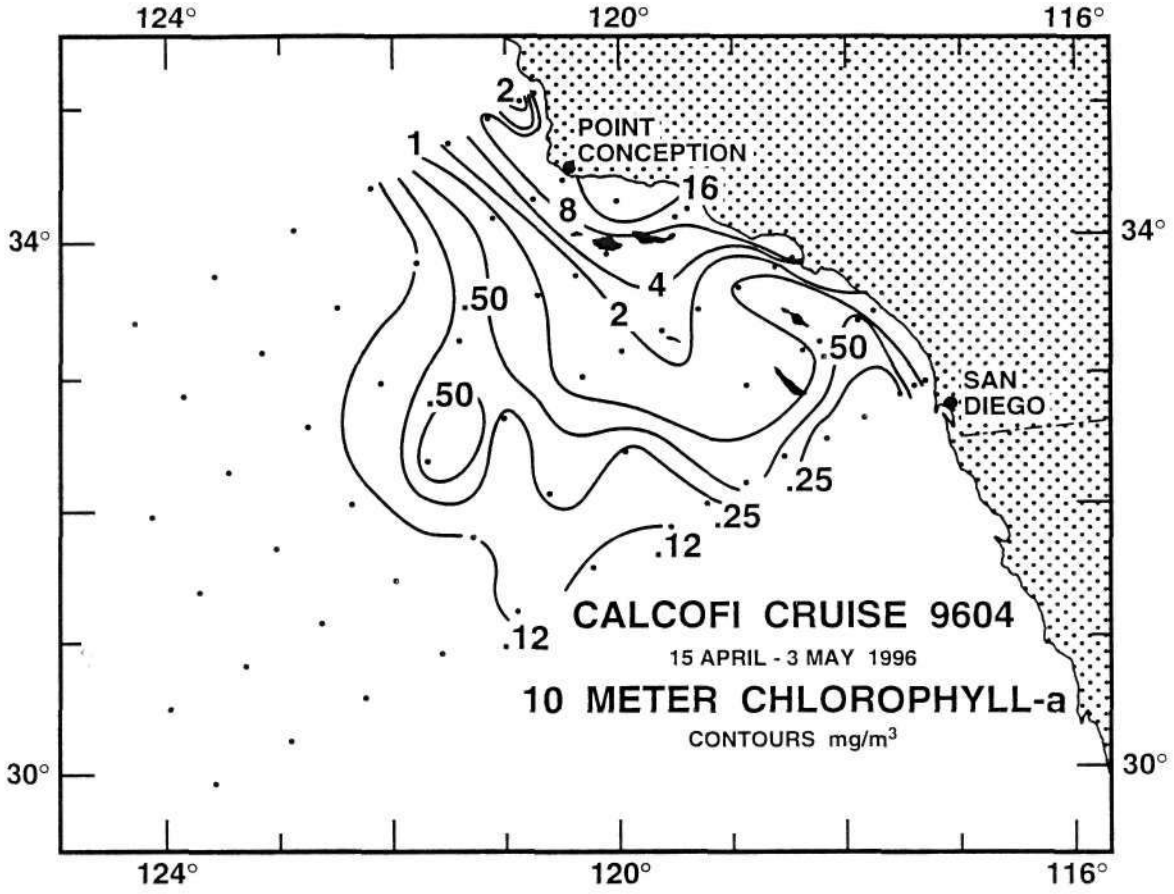


FIGURE 3A

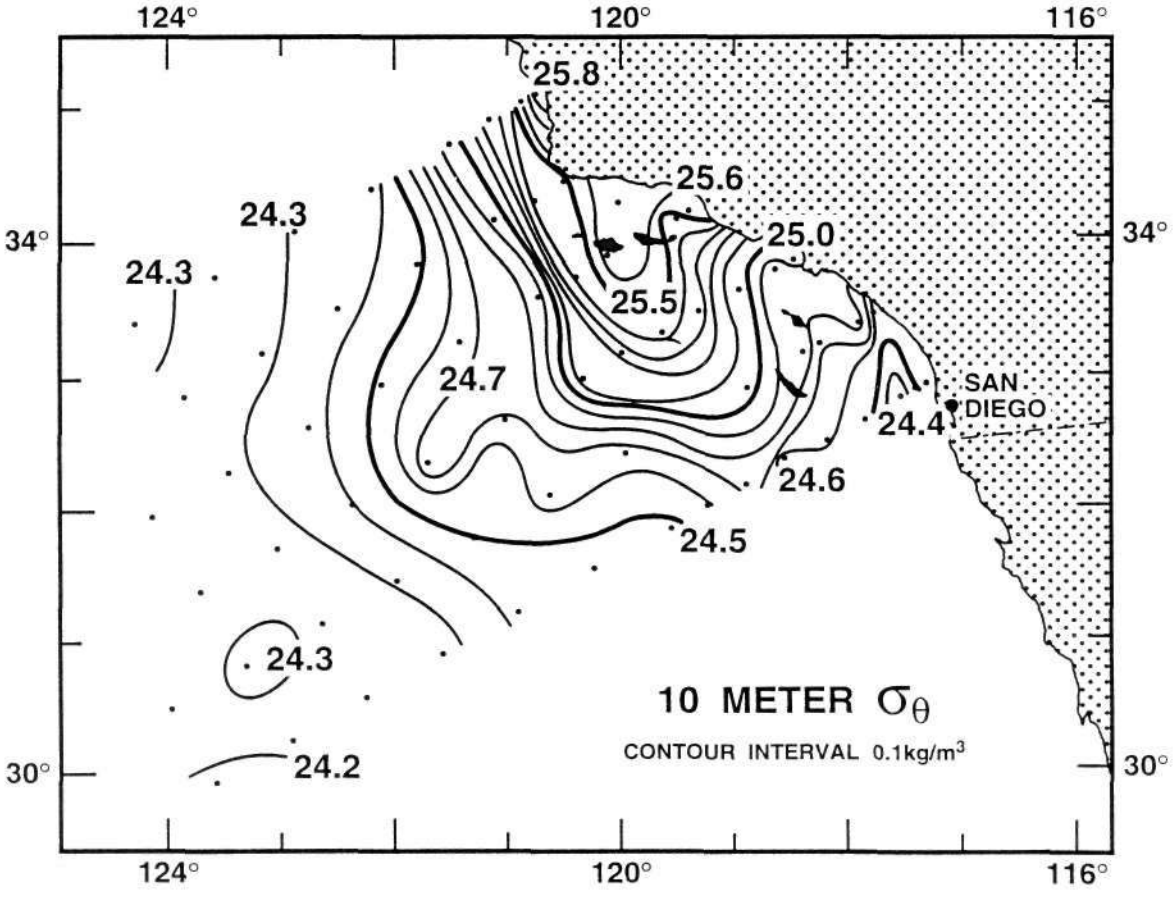


FIGURE 3B

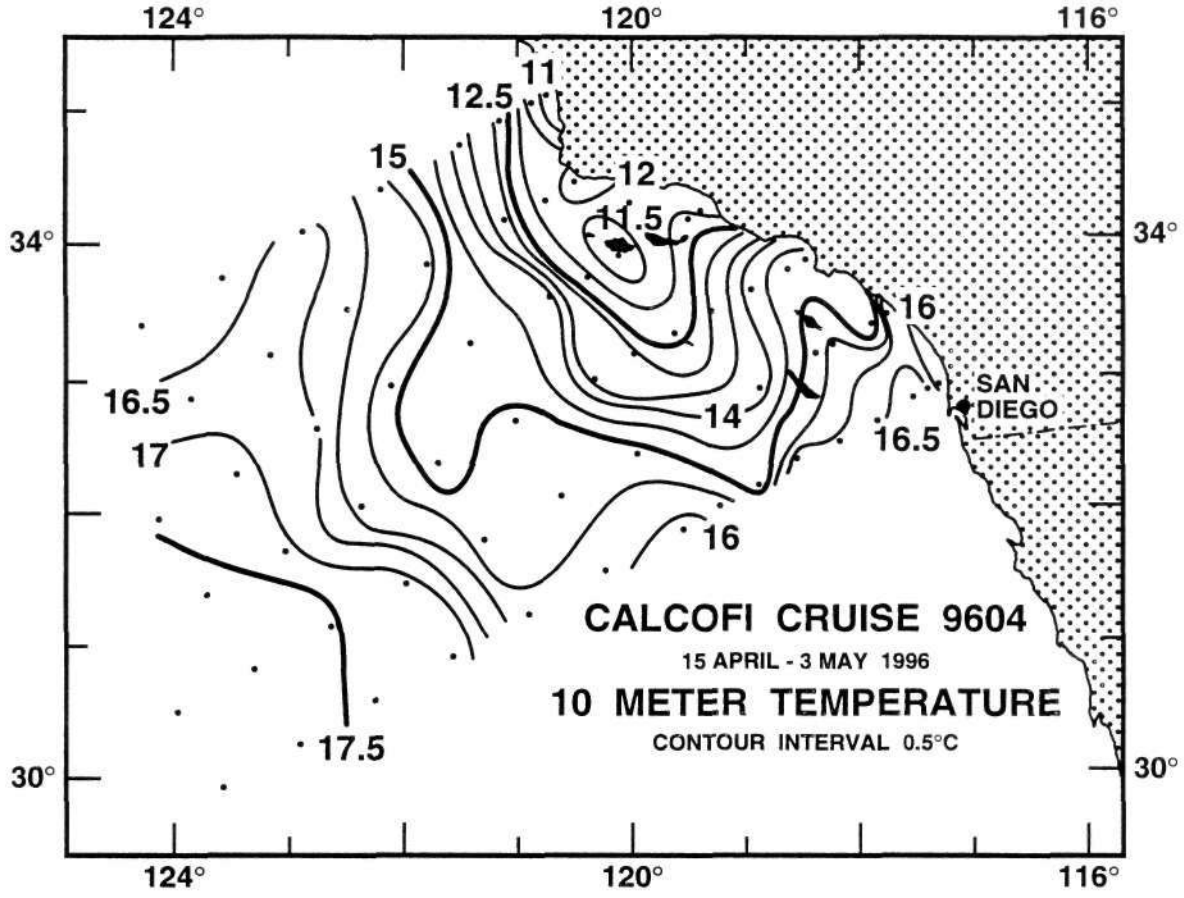


FIGURE 3C

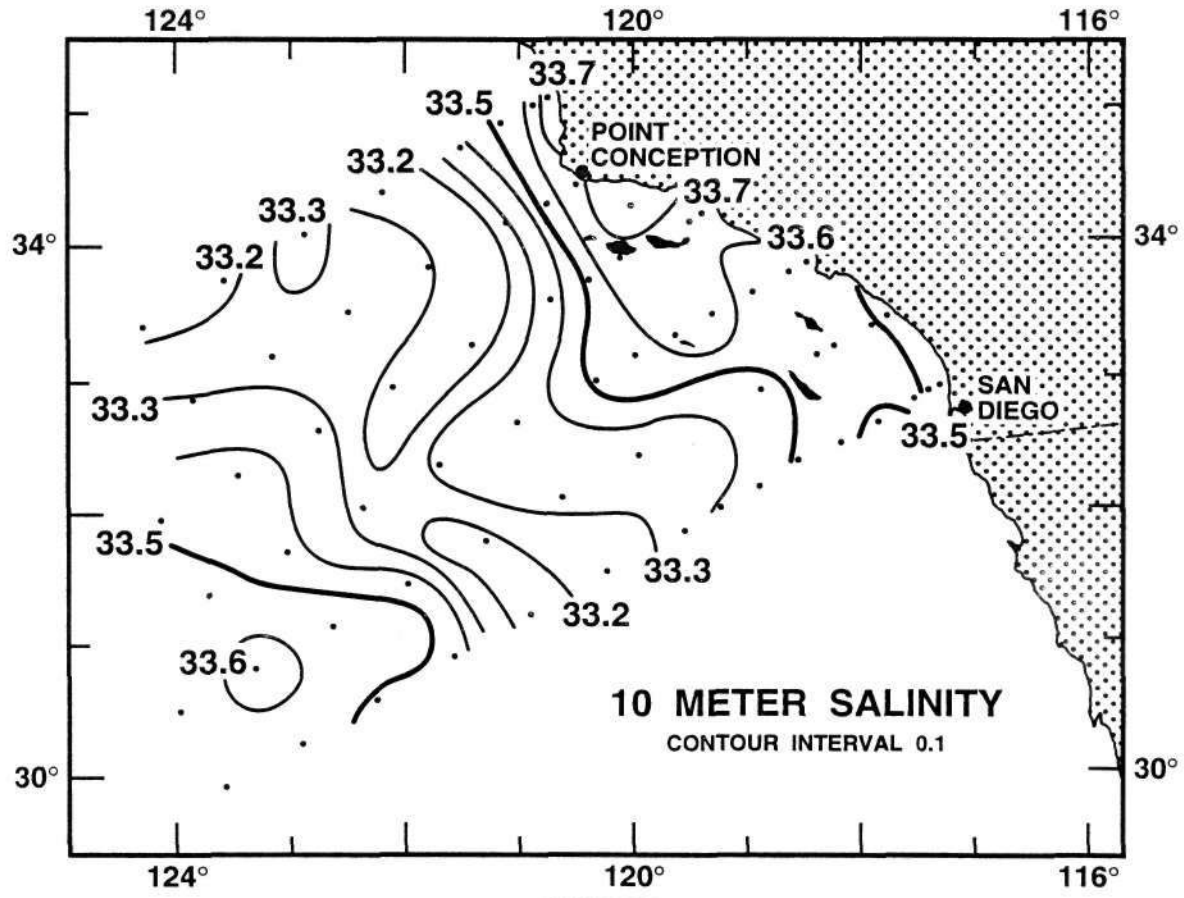


FIGURE 3D

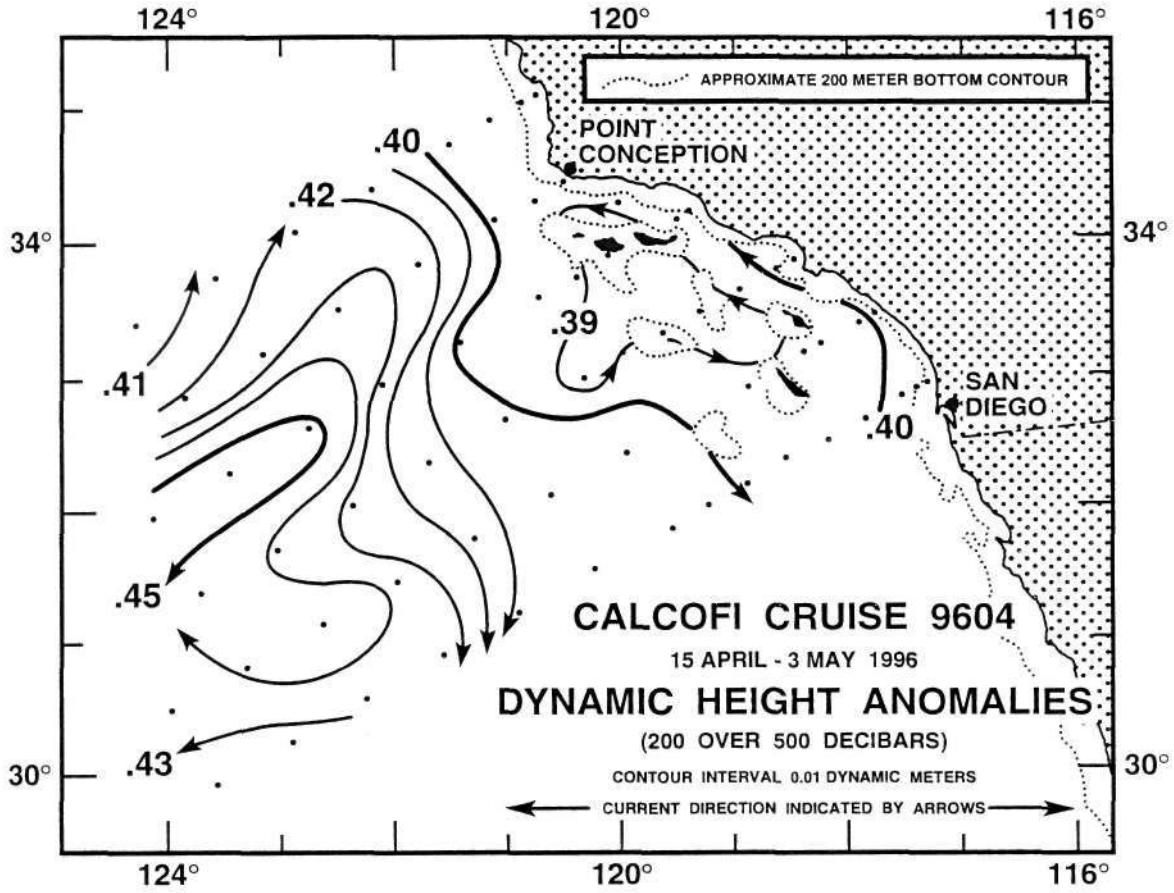


FIGURE 4A

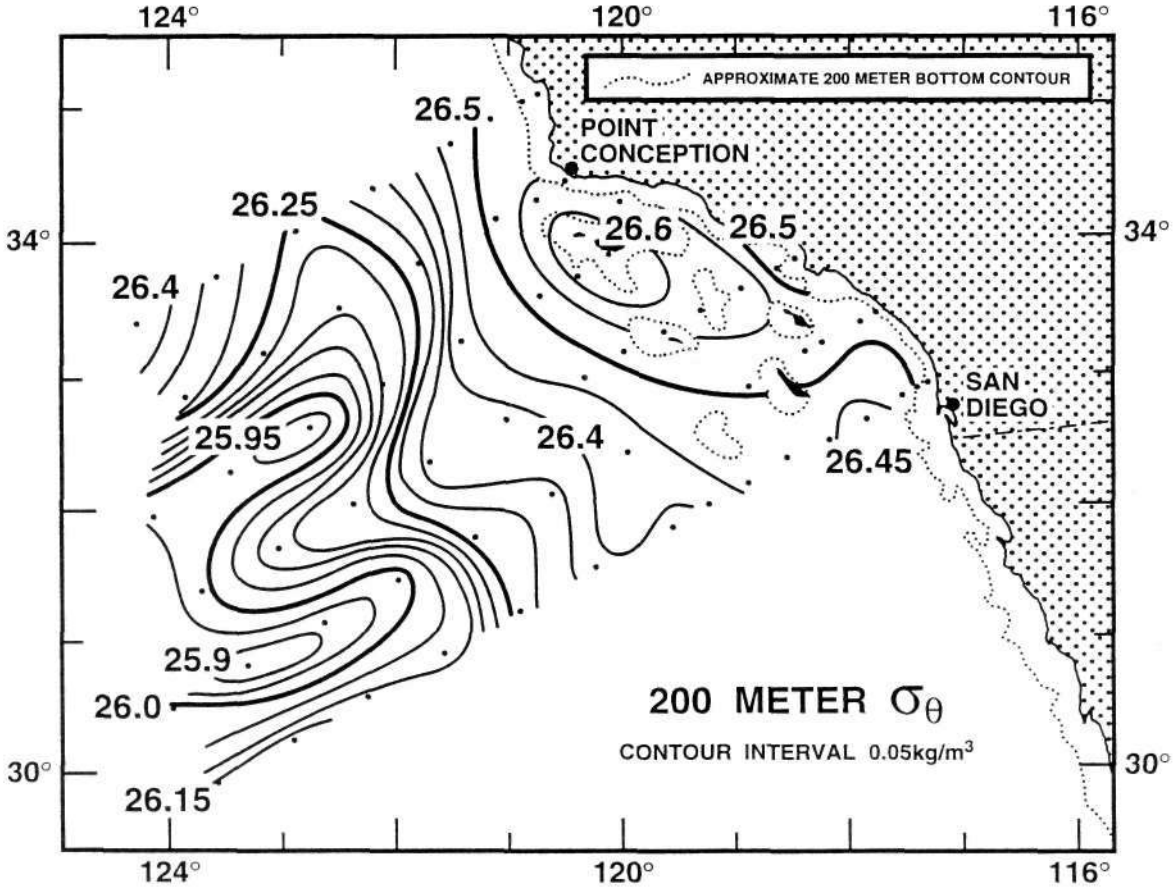


FIGURE 4B

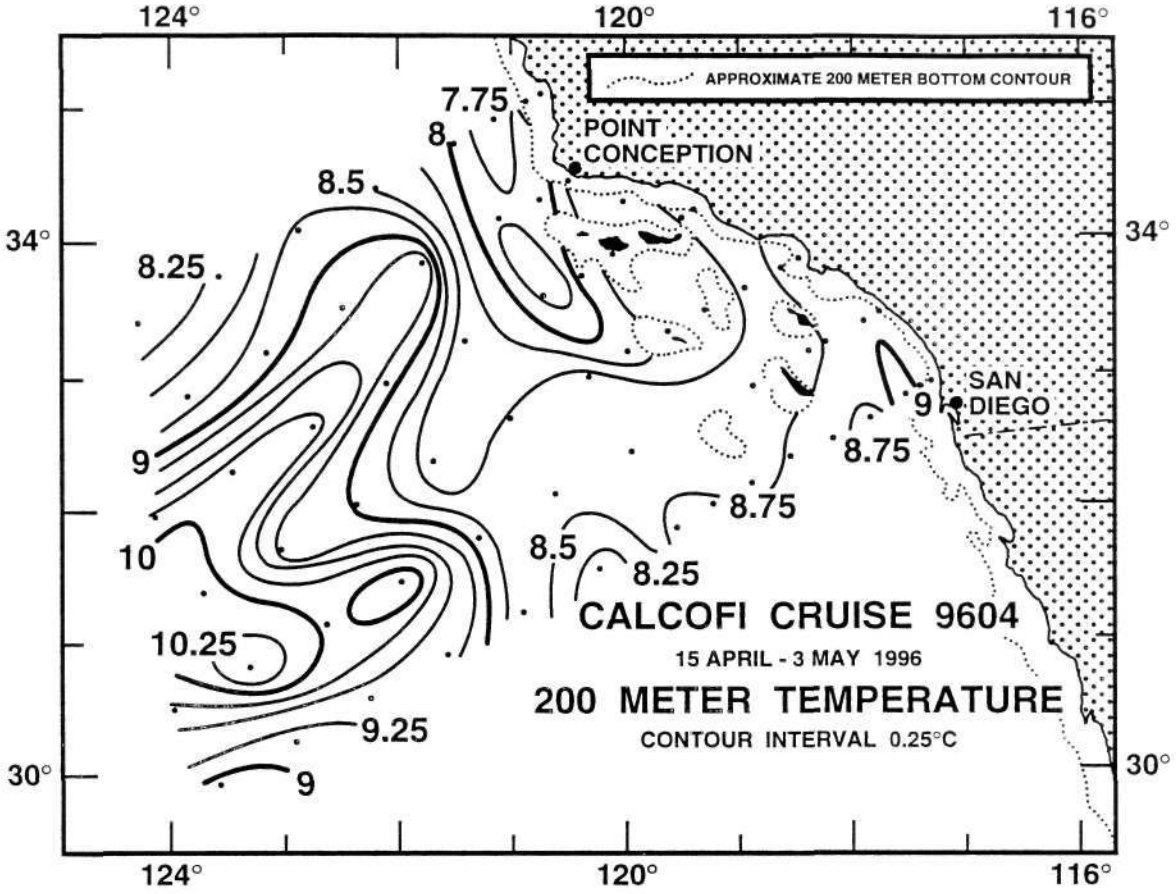


FIGURE 4C

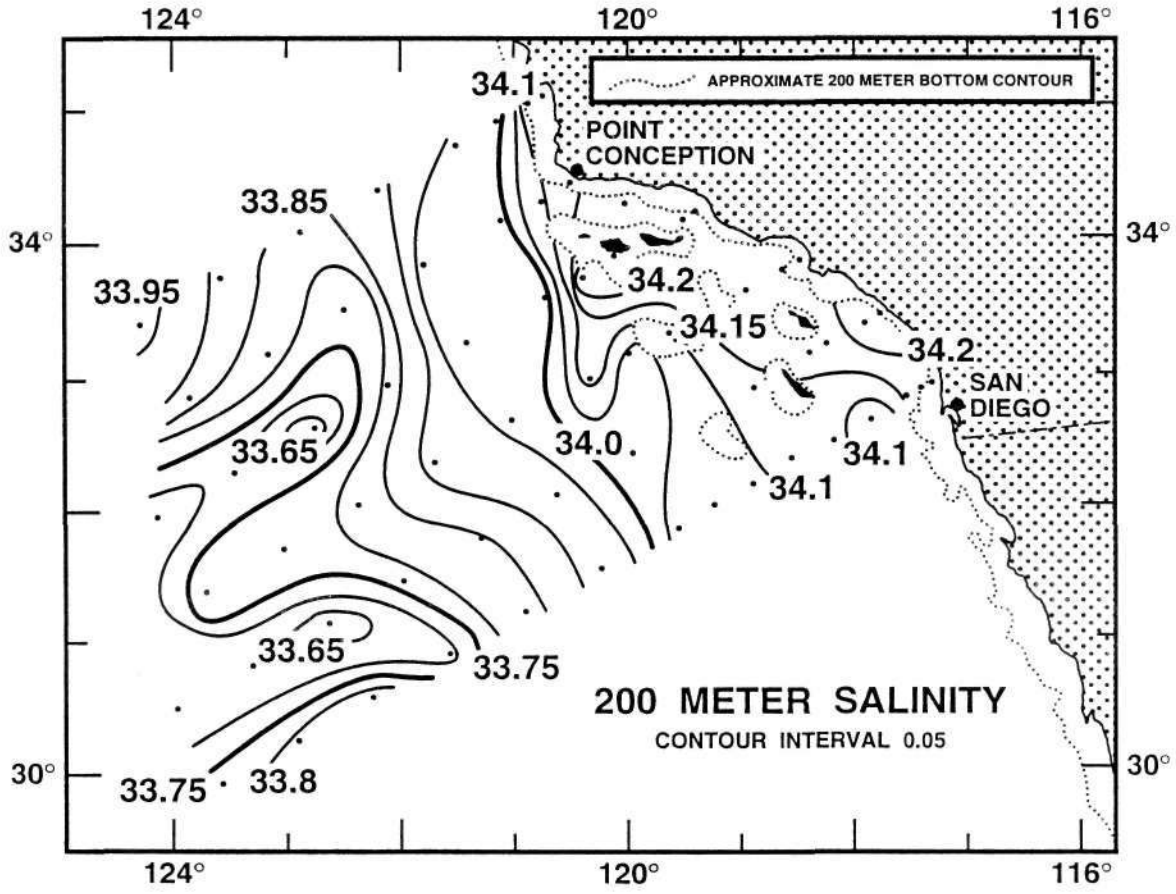


FIGURE 4D

CALCOFI CRUISE 9604

22 - 25 APRIL 1996

POTENTIAL DENSITY (σ_θ) ALONG CALCOFI LINE 87

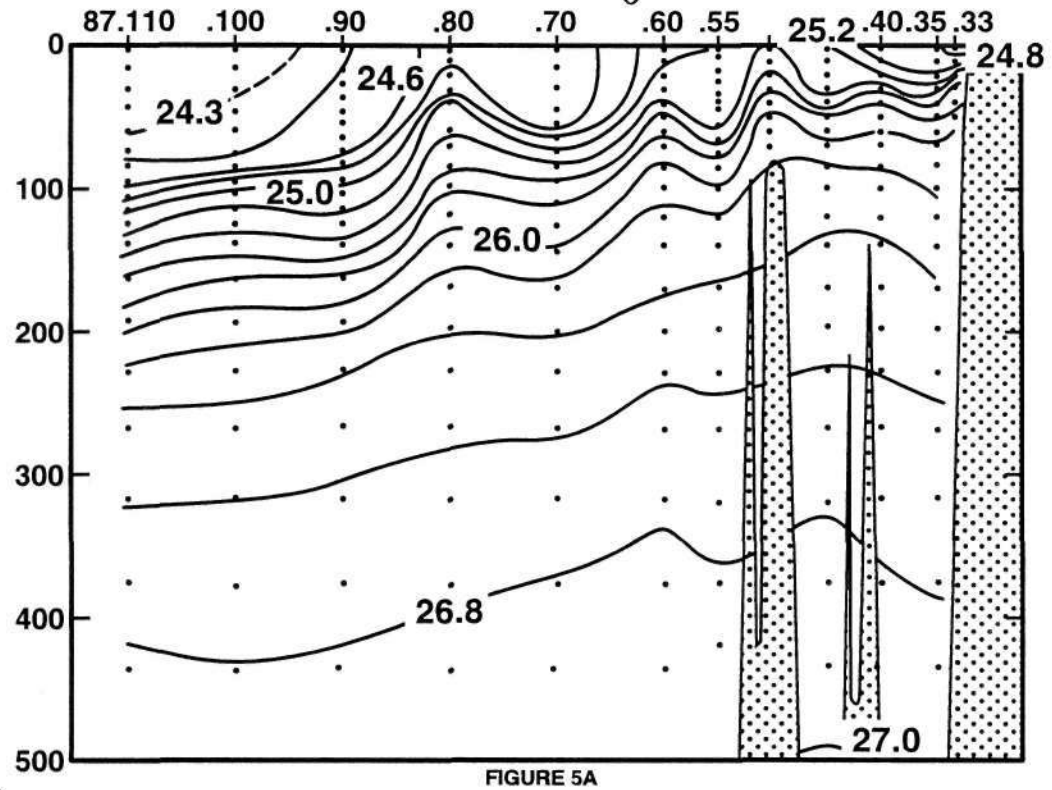


FIGURE 5A

TEMPERATURE (°C) ALONG CALCOFI LINE 87

DEPTH (m)

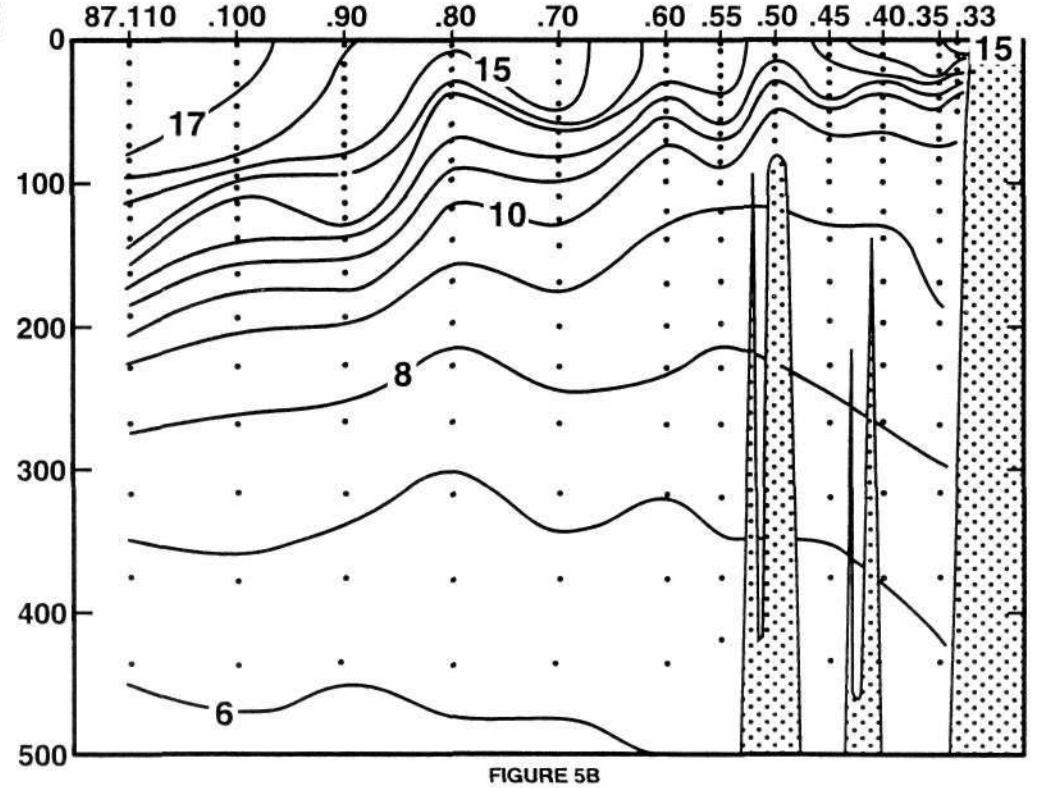


FIGURE 5B

CALCOFI CRUISE 9604

22 - 25 APRIL 1996

SALINITY ALONG CALCOFI LINE 87

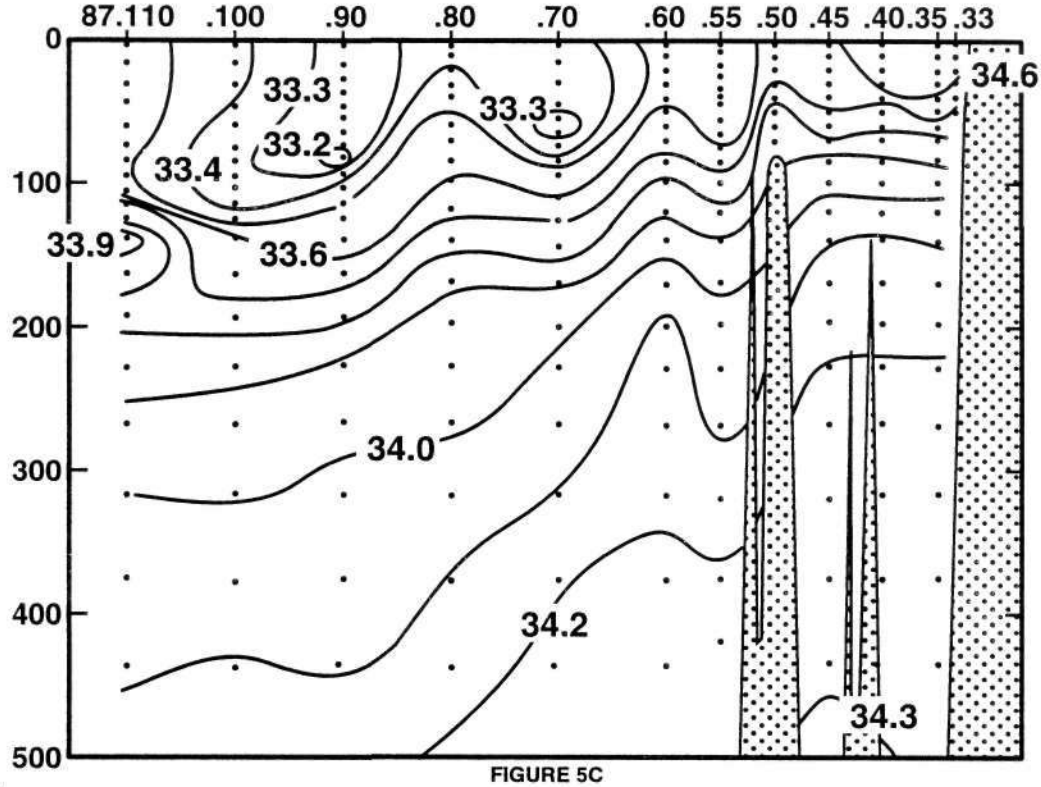


FIGURE 5C

DEPTH (m)

SILICATE (μM/l) ALONG CALCOFI LINE 87

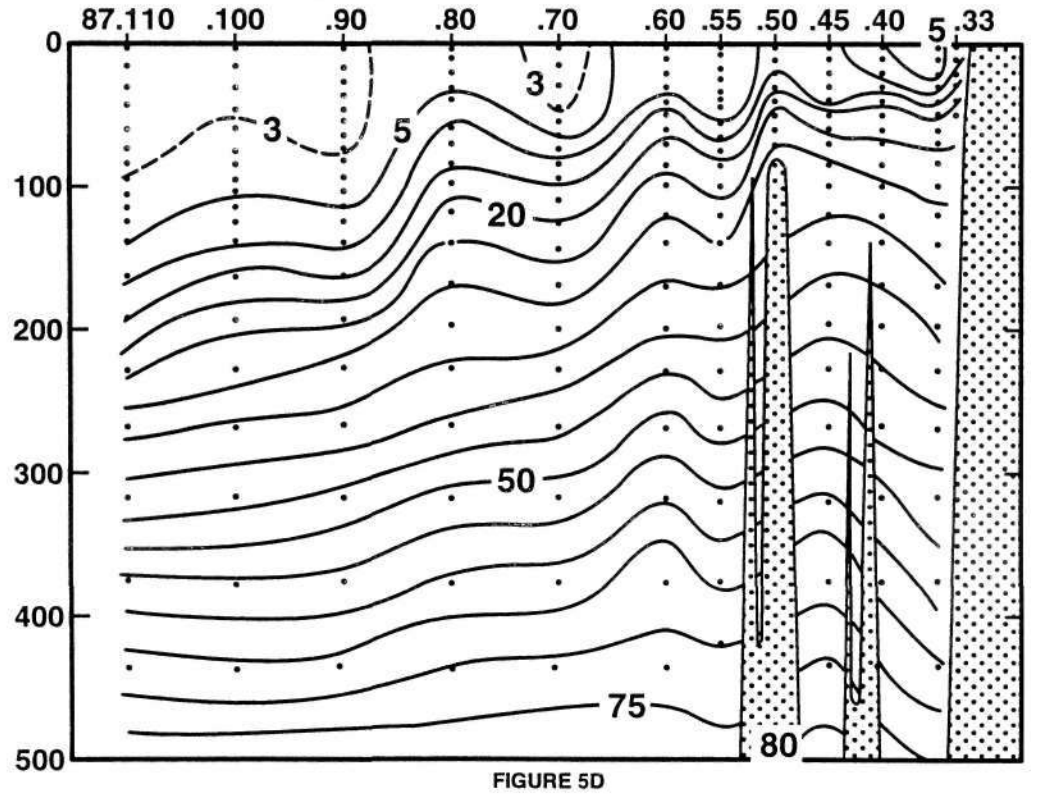


FIGURE 5D

CALCOFI CRUISE 9604

22 - 25 APRIL 1996

NITRATE (µM/l) ALONG CALCOFI LINE 87

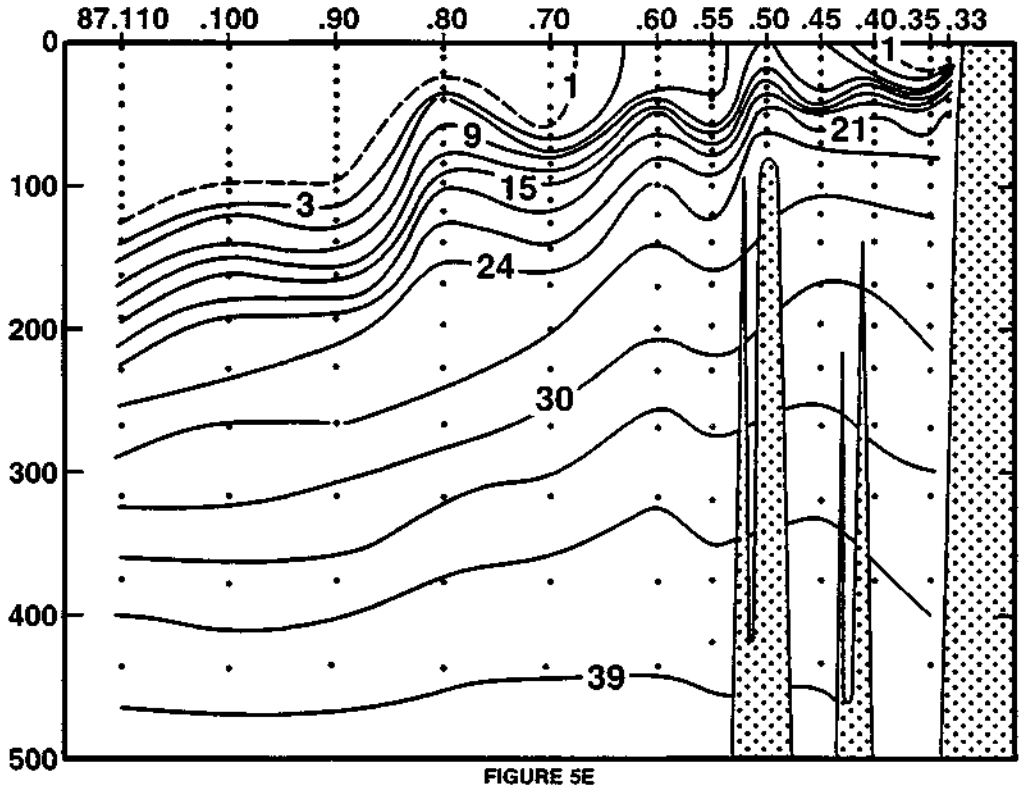


FIGURE 5E

PHOSPHATE (µM/l) ALONG CALCOFI LINE 87

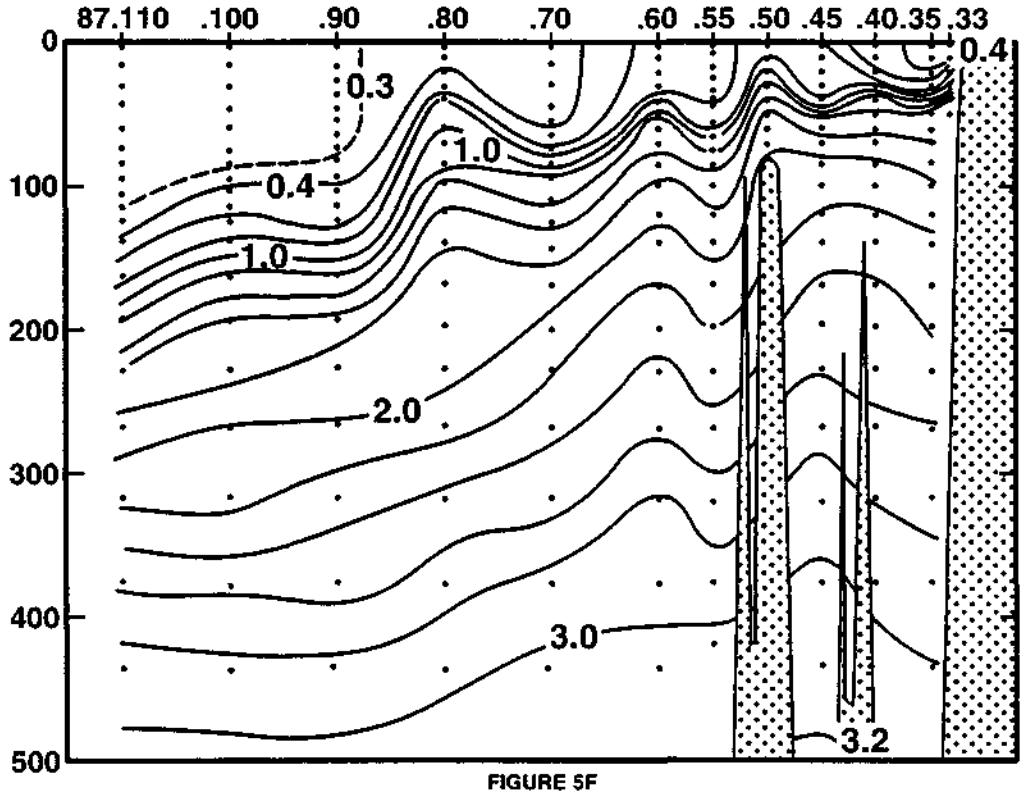


FIGURE 5F

CALCOFI CRUISE 9604

22 - 25 APRIL 1996

CHLOROPHYLL-a (µg/l)) ALONG CALCOFI LINE 87

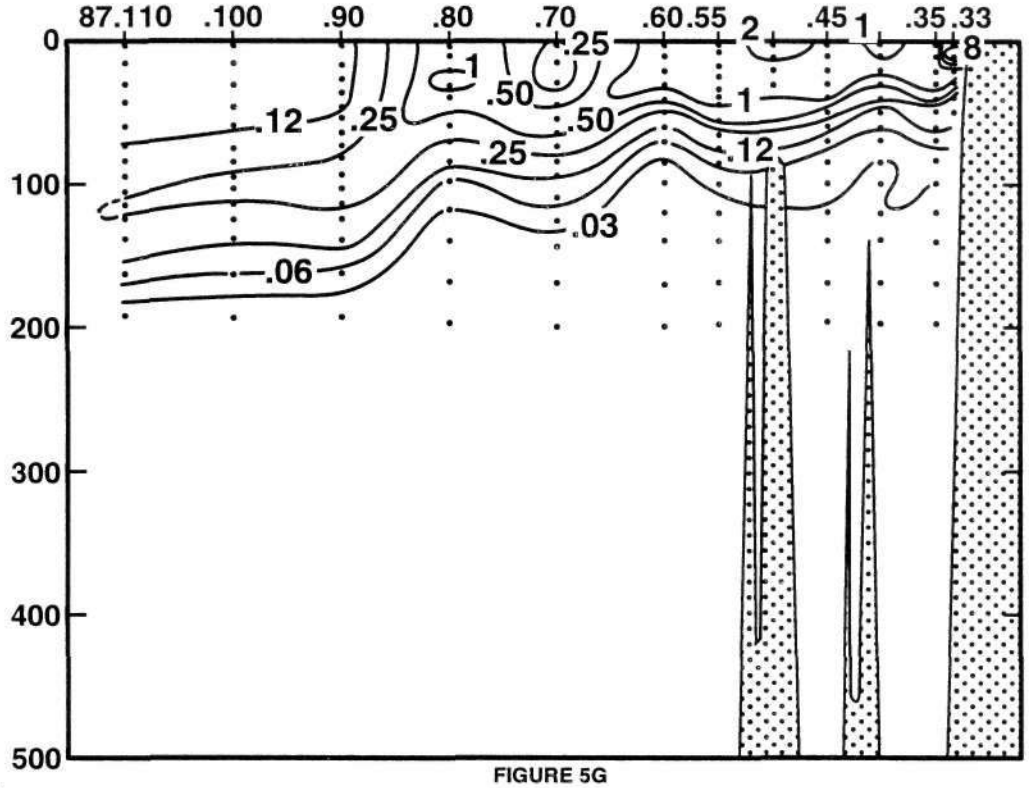


FIGURE 5G

DEPTH (m)

OXYGEN SATURATION (%) ALONG CALCOFI LINE 87

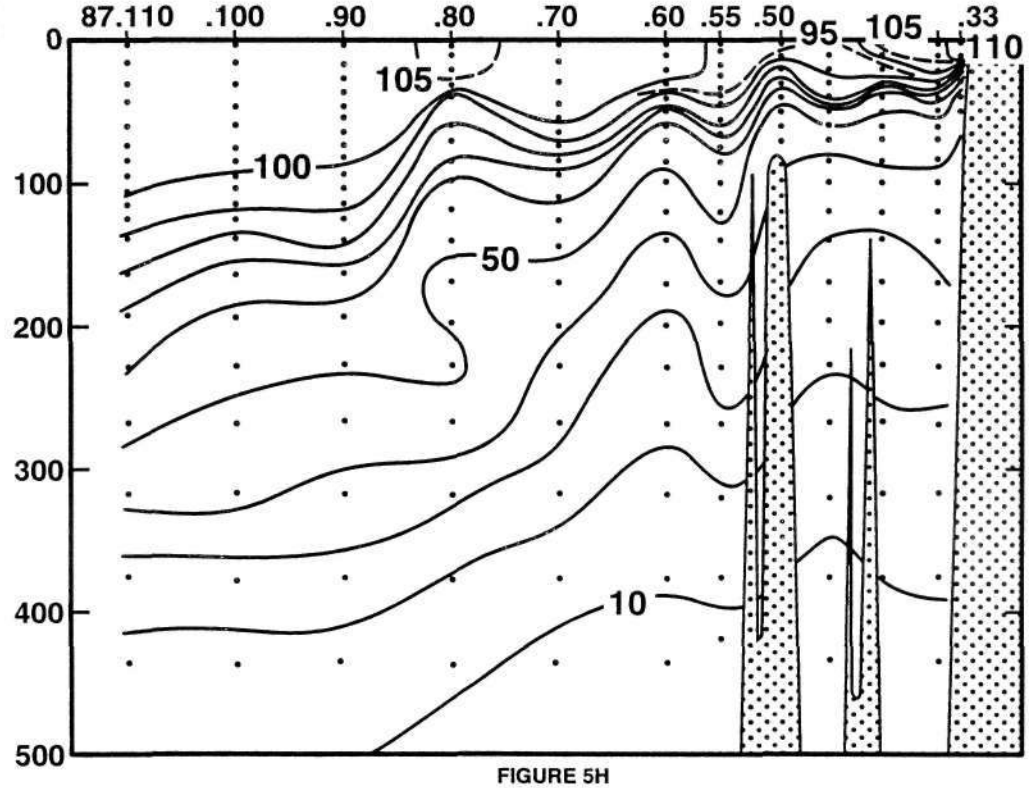


FIGURE 5H

CALCOFI CRUISE 9604

22 - 25 APRIL 1996

OXYGEN (ml/l) ALONG CALCOFI LINE 87

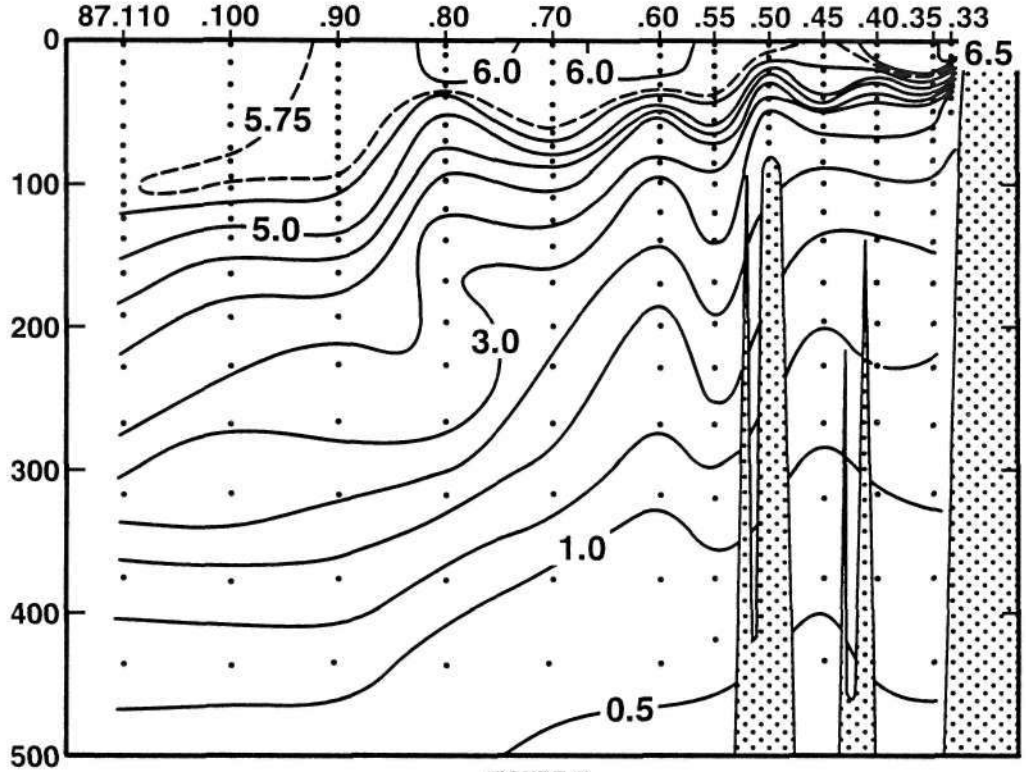


FIGURE 5I

DEPTH (m)

NITRITE (µM/l) ALONG CALCOFI LINE 87

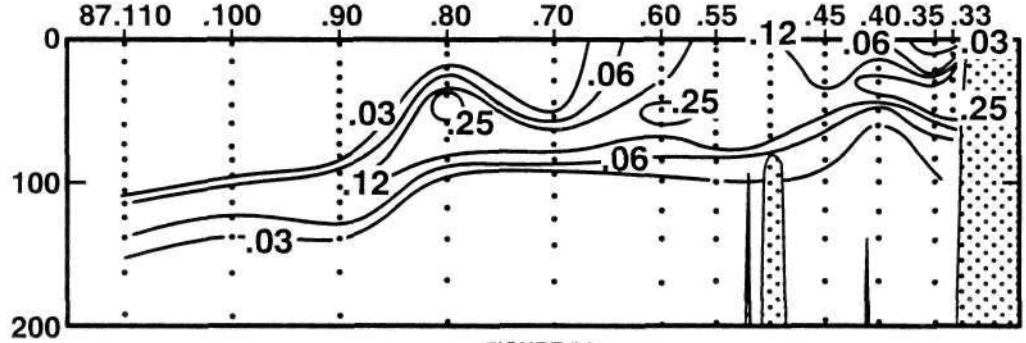


FIGURE 5J

PHAEOPIGMENTS (µg/l) ALONG CALCOFI LINE 87

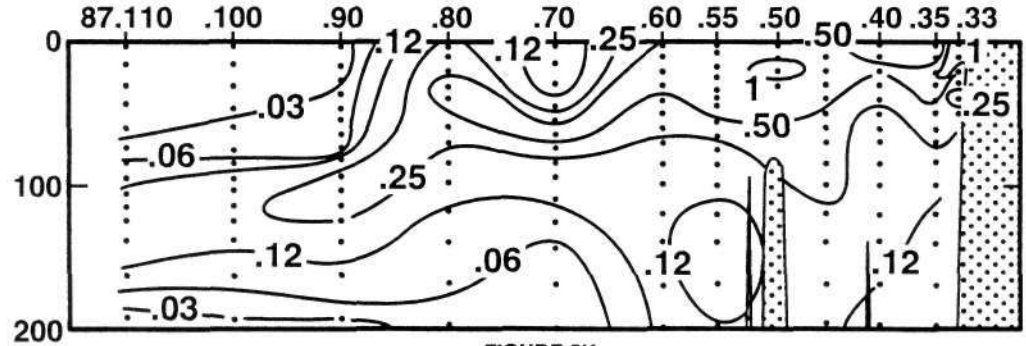


FIGURE 5K

PERSONNEL

CalCOFI Cruise 9604

SHIP'S CAPTAIN

Christopher S. Moore, *RV David Starr Jordan*

PERSONNEL PARTICIPATING IN THE COLLECTION OF DATA

		Participation (Leg)
Griffith, David A. (Chief Scientist)	Fishery Biologist, NMFS	1,2,3
Abramenkoff, Dimitry N.	Fishery Biologist, NMFS	***1, 2***
Berwald, Juli M.	Graduate Student, USC	***1, 2***
Dibacco, Claudio	Graduate Student, SIO	3
Dotson, Ronald C.	Fishery Biologist, NMFS	1,2
Gruber, Dennis W.	Marine Technician, SIO	1,2,3
Hays, Amy E.	Biological Technician, NMFS	1,2,3
Hyrenbach, David	Graduate Student, SIO	***2***
Levin, Lisa A.	Professor, SIO	3
Masten, Douglas M.	Staff Research Associate, SIO	1,2,3
McGinnis, Jean L.	Staff Research Associate, SIO	1,2,3
Olaizola, Miguel	Post Doctoral Fellow, SIO	1,2,3
Perez, Maria E.	Graduate Student, SIO	3
Ramirez, Fernando	Staff Research Associate, SIO	1,2,3
Rathburn, Anthony E.	Post Graduate Researcher, SIO	3
Renger, Edward H.	Staff Research Associate, SIO	1,2,3
Santamaria, Andres P.	Student, UCSD	3
Tashiro, Mari	Volunteer	1,2,3
Wilkinson, James R.	Programmer/Analyst, SIO	1,2,3

Leg 1: San Diego to Dana Point, Ca., 15 Apr.-22 Apr., 1996
Leg 2: Dana Point to Port San Luis, Ca., 22 Apr.-0l May, 1996
Leg 3: Port San Luis to San Diego, Ca., 01 May-03 May, 1996

RV DAVID STARR JORDAN — CALCOFI CRUISE 9604 — STATION 77 49

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
35 5.4 N	120 46.6 W	01/05/96	0943	UTC	69 m	300	14 kn			1013.1 mb	14 2 C	13 0 C			

DEPTH •	TEMP DEG C	POT TEHP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SI03 uM/l	P04 uM/l	N03 uM/l	N02 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	11.61	11.61	33.841	25.762	222.3	0.000	7.32	119.1	6.6	0.70	3.8	0.12	24.63	4.71	0	
2	11.61	11.61	33.841	25.762	222.3	0.004	7.32	119.1	6.6	0.70	3.8	0.12	24.63	4.71	2	214
4	11.41	11.41	33.816	25.780	220.7	0.009									4	213
5	11 .30	11 .30	33.796	25.784	220.3	0.011									5	208
5	11.18	11.18	33.806	25.814	217.5	0.011									5	210
5	11.16	11.16	33.798	25.811	217.7	0.011									5	209
5	11.26	11 .26	33.833	25.821	216.9	0.011									5	212
5	11.23	11.23	33.813	25.810	217.8	0.011	6.65	107.3	9. 1	0.80	6.7	0.15	22.16	3.73	5	207
6	11 .23	11.23	33.802	25.802	218.7	0.013									6	211
10	10.60	10.60	33.763	25.884	211.0	0.022	4.98	79.2	16.2	1 .32	14.7	0.20	9.77	2.20	10	206
20	10.46	10.46	33.753	25.900	209.6	0.043	4.27	67.7	19.9	1 .54	17.6	0.20	2 .86	1 .75	20	205
29	10.26	10.26	33.777	25.954	204.7	0.062	4.10	64.8	21.2	1 .63	18.8	0.20	2 .45	2.05	29	204
30 ISL	10.26	10.26	33.778	25.955	204.7	0.064	4.10	64.8	21 .2	1 .63	18.8	0.20	2 .44	2.04	30	
10	10.23	10.23	33.781	25.962	204.2	0.084	4.06	64. 1	21 .4	1 .65	18.9	0.20	2 .33	1 .89	40	203
49	9.94	9.93	33.840	26.058	195.3	0.102	3.54	55 .5	26.8	1 .85	21.2	0.23	1 .41	2 .67	49	202
50 ISL	9.92	9.91	33.841	26.062	194.9	0.104	3.50	54.9	27.0	1 .86	21.3	0.23	1 .36	2 .63	50	
59	9.73	9.72	33.853	26.103	191 .2	0.121	3.14	49.0	29.3	1 .95	22.6	0.23	0. 94	2 .25	59	201

RV DAVID STARR JORDAN — CALCOFI CRUISE 9604 — STATION 77 51

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
35 .5 N	120 55.1 W	01/05/96	1134	UTC	239 m	320	11 kn			1013.0 mb	14 3 C	13 4 C			

DEPTH in	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SI03 uM/l	P04 uM/l	N03 uM/l	N02 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	12.49	12.49	33.617	25.422	254.6	0.000	5 .92	98.0	9.9	1 .08	10.1	0.18	0. 95	0.35	0	
2	12.49	12 .49	33.617	25 .422	254.7	0.005	5 .92	98.0	9.9	1 .08	10.1	0.18	0.95	0.35	2	215
10	11 .34	11.34	33.639	25.655	232.7	0.025	5.95	96. 1	8.5	1 .05	9.9	0.18	1 .30	0.75	10	214
20	10.91	10.91	33.661	25.750	223.9	0.047	4.95	79.2	15.2	1 .35	14.3	0.20	1 .05	0.92	20	213
30	10.85	10.85	33.666	25 .765	222.7	0.070	4.99	79.8	15.3	1 .43	14.4	0.20	1.14	0.89	30	212
40	10.39	10.39	33.684	25 .859	214.0	0.092	3.93	62.2	20.3	1.61	18.0	0.32	0.26	0.76	40	211
50	10.14	10.13	33.732	25.940	206.5	0.113	3.76	59.2	22.3	1 .66	19.3	0.35	0.17	0.53	50	210
59	9.76	9.75	33.768	26.032	198.0	0.131	3.45	53.9	24.9	1 .77	21 .4	0.38	0.20	0.51	59	209
69	9.61	9.60	33.781	26.067	194.8	0.150	3.40	52.9	25 .6	1 .80	22 .0	0.36	0.18	0.49	69	208
75 ISL	9.51	9.50	33.798	26.097	192. 1	0. 162	3.24	50.3	26.6	1 .84	22.8	0.28	0.14	0.45	75	
84	9.32	9.31	33.833	26.155	186.7	0. 179	2.96	45 .8	28.6	1 .92	24.3	0.16	0.09	0.38	84	207
100	8.85	8.84	33.921	26.299	173.3	0.208	2 .61	40.0	32.6	2.09	26.5	0.11	0.08	0.34	101	206
119	8.84	8.83	33.991	26.356	168.3	0.240	2.47	37.8	34.3	2.14	27.2	0.04	0.06	0.31	120	205
125 ISL	8.79	8.78	33.997	26.368	167.2	0.250	2.46	37.6	34.7	2.15	27.3	0.03	0.06	0.31	126	
138	8.67	8.66	34.008	26.396	164.8	0.272	2.44	37.2	35.5	2.18	27.7	0.02	0.05	0.30	139	204
150 ISL	8.69	8.67	34.043	26.420	162.7	0.292	2.20	33.6	37.0	2.25	28.4	0.02	0.05	0.31	151	
168	8.74	8.72	34.098	26.456	159.7	0.321	1 .82	27.8	39.5	2 .37	29.6	0.01	0.05	0.34	169	203
199	8.48	8.46	34.123	26.516	154.5	0.369	1 .71	26.0	43.0	2 .45	30.5	0.04	0. 04	0.35	200	202
200 ISL	8.48	8.46	34.123	26.516	154.5	0.371	1 .71	26.0	43. 1	2 .45	30.5	0.04			201	
228	8.35	8.33	34.133	26.544	152.4	0.414	1 .59	24. 1	45 .0	2.51	31 .0	0.09			229	201

RV DAVID STARR JORDAN — CALCOFI CRUISE 9604 — STATION 77 55

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
34 53.6 N	121 12.0 W	01/05/96	0318	UTC	563 m	320	15 kn	320 04 04	0	1013.9 mb	15 8 C	13 7 C		0/8	

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SI03 uM/l	P04 uM/l	N03 uM/l	N02 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	13.02	13.02	33.510	25.235	272.4	0.000	7.25	121.3	0.9	0.47	2 .2	0.13	7.84	2 .38	0	
2	13.02	13.02	33.510	25.235	272.4	0.005	7.25	121.3	0.9	0.47	2 .2	0.13	7.84	2 .38	2	220
10	12.99	12 .99	33.511	25.242	272.0	0.027	7.20	120.4	0.9	0.48	2.5	0.13	8.05	2.83	10	219
20	11 .82	11 .82	33.551	25.499	247.8	0.053	6.27	102.3	2.7	0.81	7.2	0.17	10.13	3.65	20	218
29	11 .32	11 .32	33.608	25.635	235.1	0.075	5.65	91 .2	8.2	1 .09	10.9	0.19	4.50	2 .03	29	217
30 ISL	11.28	11.28	33.614	25.647	233.9	0.077	5.56	89.7	8.9	1.12	11.3	0.19	4.01	1 .91	30	
39	10.89	10.89	33.658	25.751	224.2	0.098	4.72	75.5	15.2	1 .38	14.5	0.24	0.93	1.14	39	216
49	10.20	10.19	33.696	25.901	210.2	0.120	3.81	60. 1	21 .0	1 .61	19.0	0.30	0.37	0.83	49	215
50 ISL	10.15	10.14	33.700	25.913	209.1	0.122	3.74	58.9	21 .4	1 .63	19.4	0.28	0. 34	0.81	50	
59	9.78	9.77	33.728	25.997	201 .2	0. 140	3.28	51.2	24.3	1 .75	22 .0	0.06	0.18	0. 64	59	214
69	9.66	9.65	33.745	26.030	198.3	0.160	3.21	50.0	25 .3	1 .79	22 .5	0.03	0.15	0.58	69	213
75 ISL	9.57	9.56	33.752	26.051	196.4	0.172	3.19	49.6	25 .5	1 .82	22.7	0.03	0.15	0.55	75	
84	9.39	9.38	33.765	26.090	192.8	0. 190	3.15	48.8	25 .9	1 .84	23. 1	0.03	0.14	0.51	84	212
100	8.90	8.89	33.811	26.205	182 .2	0.220	3.42	52.4	27.6	1 .80	23.8	0.04	0.09	0.5 1	101	211
119	8. 49	8.48	33.867	26.313	172.3	0.253	3.43	52. 1	29.9	1 .85	24.7	0.04	0.06	0.30	120	210
125 ISL	8.40	8.39	33.870	26.329	170.8	0.263	3.45	52.3	30.2	1 .85	24.8	0.04	0.06	0.29	126	
139	8.28	8.27	33.879	26.354	168.7	0.287	3.50	52.9	30.9	1 .86	25 .0	0.04	0.05	0.26	140	209
150 ISL	8.35	8.33	33.923	26.378	166.6	0.306	3.19	48.3	32.3	1 .96	25.9	0.03	0.05	0.25	151	
169	8.42	8.40	33.995	26.424	162.6	0.337	2 .68	40.7	34.9	2.12	27.5	0.01	0. 04	0.23	170	208
199	7.65	7.63	33.968	26.518	154.0	0.384	3.06	45.6	37.9	2 .09	28. 1	0.02	0.03	0.17	200	207
200 ISL	7.63	7.61	33.968	26.520	153.8	0.386	3.06	45 .6	38.0	2 .09	28. 1	0.02			201	
229	7.32	7.30	33.989	26.581	148.3	0.430	2.79	41 .3	42. 4	2 .20	29.7	0.01			230	206
250 ISL	7.34	7.32	34.041	26.620	145.1	0. 461	2.31	34.2	45 .9	2 .35	31 .2	0.01			252	
268	7.38	7.35	34.087	26.651	142.5	0. 486	1 .88	27.9	49. 0	2 .49	32.5	0.01			270	205
300 ISL	7.10	7.07	34. 1 11	26.709	137.3	0.531	1 .53	22.5	54.3	2 .63	34.2	0.00			302	
318	6. 89	6.86	34. 116	26.742	134.3	0.556	1 .41	20.7	57.2	2 .69	35. 1	0.00			320	204
375	6.47	6.44	34.159	26.832	126.3	0. 630	0.95	13.8	66.0	2 .91	37.6	0.00			378	203
400 ISL	6.31	6.27	34.169	26.861	123.8	0.661	0 .84	12.1	68.8	2 .96	38.3	0.00			403	
439	6.09	6.05	34. 184	26.901	120.4	0.709	0.71	10.2	72.7	3.03	39. 1	0.00			442	202
500 ISL	5.81	5 .77	34.231	26.974	114.0	0.780	0.51	7.3	79.6	3.17	40. 4	0.01			504	
511	5.76	5.72	34.240	26.988	112.9	0.793	0.47	6.7	80.8	3.19	40.6	0.01			515	201

RV DAVID STARR JORDAN CALCOFI CRUISE 9604 STATION 77 60

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
34 43>.4 N	121 33.0 W	30/04/96	2324 UTC	922 m	310 11 kn	320 02 0I>	0	1015.2 mb	18.5 C	16.8 C	07m 04	0/8	

DEPTH m		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SI03 uM/l	P04 uM/l	N03 uM/l	N02 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0	ISL	14.41	14.41	33.366	24.839	310.1	0.000	6.32	108.7	3.5	0.60	3.6	0.10	1.41	0.42	0	
3		14.41	14.41	33.366	24.839	310.1	0.009	6.32	108.7	3.5	0.60	3.6	0.10	1.41	0.42	3	220
10		13.77	13.77	33.384	24.987	296.3	0.031	6.46	109.7	3.3	0.59	3.7	0.11	2.12	0.65	10	219
20		12.61	12.61	33.441	25.263	270.3	0.059	6.27	103.9	2.9	0.73	5.9	0.14	3.38	1.36	20	218
30		12.29	12.29	33.432	25.318	265.3	0.086	5.75	94.7	5.6	0.90	8.0	0.17	3.55	1.79	30	217
40		11.51	11.51	33.443	25.472	250.8	0.111	4.83	78.2	11.2	1.13	12.0	0.17	1.37	1.18	40	216
49		10.72	10.71	33.546	25.694	229.9	0.133	3.95	62.9	17.5	1.44	17.0	0.15	0.25	0.42	49	215
50	ISL	10.66	10.65	33.558	25.714	228.0	0.135	3.88	61.7	18.0	1.47	17.4	0.14	0.24	0.41	50	
60		10.24	10.23	33.663	25.869	213.5	0.157	3.37	53.2	21.7	1.68	20.4	0.03	0.10	0.27	60	214
70		9.87	9.86	33.736	25.989	202.3	0.178	3.12	48.8	24.4	1.79	22.3	0.02	0.06	0.23	70	213
75	ISL	9.79	9.78	33.760	26.021	199.3	0.188	3.05	47.7	25.1	1.83	22.8	0.02	0.05	0.23	75	
84		9.68	9.67	33.794	26.066	195.2	0.206	2.95	46.0	26.1	1.88	23.6	0.01	0.04	0.22	84	212
99		9.37	9.36	33.853	26.163	186.3	0.235	2.76	42.8	28.9	2.00	25.1	0.01	0.04	0.21	100	211
100	ISL	9.36	9.35	33.856	26.167	185.9	0.236	2.75	42.6	29.0	2.01	25.2	0.01	0.04	0.21	101	
119		9.17	9.16	33.895	26.228	180.4	0.271	2.58	39.8	30.4	2.06	26.0	0.01	0.03	0.22	120	210
125	ISL	9.08	9.07	33.902	26.248	178.7	0.282	2.63	40.5	30.7	2.05	26.1	0.01	0.03	0.21	126	
140		8.84	8.83	33.918	26.299	174.1	0.309	2.77	42.4	31.5	2.04	26.3	0.02	0.03	0.18	141	209
150	ISL	8.77	8.75	33.943	26.329	171.4	0.326	2.70	41.3	32.4	2.07	26.7	0.02	0.02	0.16	151	
170		8.60	8.58	33.986	26.390	166.0	0.360	2.56	39.0	34.3	2.14	27.6	0.01	0.01	0.14	171	208
199		7.99	7.97	33.984	26.481	157.6	0.406	2.83	42.5	37.0	2.11	27.9	0.01	0.01	0.12	200	207
200	ISL	7.97	7.95	33.984	26.484	157.4	0.408	2.82	42.4	37.1	2.11	27.9	0.01			201	
230		7.60	7.58	34.005	26.554	151.0	0.454	2.65	39.5	41.5	2.23	29.5	0.01			231	206
250	ISL	7.49	7.47	34.045	26.602	146.8	0.484	2.28	33.9	45.3	2.36	30.9	0.00			252	
268		7.39	7.36	34.080	26.644	143.1	0.510	1.92	28.5	49.1	2.49	32.3	0.00			270	205
300	ISL	6.86	6.83	34.095	26.729	135.2	0.555	1.53	22.4	57.0	2.67	35.0	0.01			302	
317		6.57	6.54	34.098	26.770	131.4	0.577	1.38	20.1	61.0	2.76	36.2	0.01			319	204
375		6.31	6.28	34.149	26.845	125.0	0.652	1.00	14.5	68.1	2.99	38.0	0.01			378	203
400	ISL	6.21	6.17	34.173	26.877	122.2	0.683	0.85	12.3	71.0	3.04	38.6	0.01			403	
436		6.07	6.03	34.206	26.921	118.4	0.726	0.66	9.5	74.9	3.09	39.3	0.00			439	202
500	ISL	5.81	5.77	34.257	26.995	112.1	0.800	0.43	6.1	81.2	3.19	40.5	0.00			504	
516		5.74	5.70	34.270	27.014	110.5	0.818	0.37	5.3	82.8	3.21	40.8	0.00			520	201

RV DAVID STARR JORDAN CALCOFI CRUISE 9604 STATION 77 7Cl

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
34 23i.O N	122 14.5 W	30/04/96	1832 UTC	4010 m	310 11 kn	320 02 06	0	1018.1 mb	18.0 C	16.7 C	37m 01	0/8	

DEPTH m		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SI03 uM/l	P04 uM/l	N03 uM/l	N02 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0	ISL	15.92	15.92	33.157	24.349	356.8	0.000	5.79	102.5	3.0	0.31	0.0	0.00	0.08	0.02	0	
1	A	15.92	15.92	33.157	24.349	356.8	0.004	5.79	102.5	3.0	0.31	0.0	0.00	0.08	0.02	1	222
10	ISL	15.80	15.80	33.159	24.378	354.3	0.036	5.80	102.4	3.0	0.31	0.0	0.00	0.09	0.02	10	
12		15.76	15.76	33.160	24.388	353.4	0.043	5.80	102.4	3.0	0.31	0.0	0.00	0.09	0.02	12	221
20	ISL	15.68	15.68	33.172	24.415	351.1	0.071	5.81	102.4	3.0	0.30	0.0	0.00	0.09	0.03	20	
23	A	15.66	15.66	33.177	24.423	350.4	0.081	5.81	102.3	3.0	0.30	0.0	0.00	0.09	0.03	23	220
30	ISL	15.65	15.65	33.176	24.425	350.4	0.106	5.82	102.5	3.0	0.29	0.0	0.00	0.09	0.03	30	
35		15.64	15.63	33.176	24.428	350.4	0.123	5.82	102.5	3.0	0.29	0.0	0.00	0.09	0.03	35	219
48	A	15.57	15.56	33.166	24.436	350.0	0.169	5.82	102.3	2.8	0.30	0.0	0.00	0.13	0.04	48	213
50	ISL	15.49	15.48	33.154	24.444	349.2	0.176	5.83	102.3	2.8	0.30	0.0	0.00	0.14	0.04	50	
57		14.97	14.96	33.084	24.504	343.7	0.200	5.92	102.8	2.8	0.32	0.0	0.00	0.17	0.05	57	217
66		13.54	13.53	32.943	24.694	325.7	0.230	6.11	102.9	3.1	0.36	0.0	0.00	0.20	0.11	66	2U
74	A	13.63	13.62	33.027	24.741	321.4	0.256	6.06	102.3	3.4	0.36	0.0	0.01	0.23	0.12	74	215
75	ISL	13.60	13.59	33.035	24.754	320.3	0.259	6.05	102.1	3.4	0.36	0.1	0.02	0.25	0.13	75	
84		13.35	13.34	33.177	24.914	305.2	0.288	5.86	98.5	4.1	0.44	0.8	0.11	0.42	0.23	84	2H
91		12.35	12.34	33.166	25.101	287.4	0.308	5.60	92.1	5.6	0.59	3.4	0.25	0.37	0.23	91	213
100	A	11.70	11.69	33.274	25.307	268.0	0.333	5.40	87.7	6.8	0.68	5.5	0.09	0.30	0.23	100	212
109		11.10	11.09	33.361	25.484	251.3	0.357	4.95	79.4	9.7	0.90	9.4	0.05	0.21	0.17	109	211
123		10.28	10.27	33.445	25.693	231.5	0.390	4.33	68.3	15.1	1.27	15.2	0.02	0.10	0.14	124	210
125	ISL	10.24	10.23	33.456	25.709	230.1	0.395	4.30	67.7	15.4	1.29	15.5	0.02	0.09	0.13	126	
138	A	10.06	10.04	33.528	25.796	222.1	0.424	4.16	65.3	17.0	1.37	16.9	0.01	0.05	0.08	139	209
150	ISL	9.71	9.69	33.621	25.927	209.8	0.450	3.84	59.8	20.2	1.54	19.4	0.00	0.03	0.05	151	
163		9.29	9.27	33.723	26.075	195.9	0.477	3.50	54.1	23.9	1.72	22.1	0.00	0.01	0.04	164	20!
194		8.50	8.48	33.866	26.311	173.8	0.534	3.36	51.0	29.5	1.87	24.7	0.00	0.00	0.04	195	207
200	ISL	8.42	8.40	33.886	26.339	171.2	0.544	3.32	50.3	30.3	1.89	25.1	0.00			201	
229		8.11	8.09	33.951	26.437	162.3	0.593	3.20	48.2	33.7	1.96	26.4	0.00			230	206
250	ISL	7.72	7.70	33.961	26.503	156.3	0.626	3.31	49.4	36.2	1.97	26.9	0.00			251	
268		7.37	7.34	33.961	26.553	151.7	0.654	3.36	49.8	38.6	2.00	27.4	0.00			270	205
300	ISL	6.96	6.93	33.974	26.620	145.6	0.701	2.94	43.1	44.7	2.18	29.9	0.00			302	
318		6.79	6.76	33.986	26.653	142.7	0.727	2.59	37.8	48.5	2.31	31.5	0.00			320	204
378		6.45	6.42	34.061	26.757	133.4	0.810	1.52	22.0	60.0	2.70	36.0	0.00			380	203
400	ISL	6.25	6.21	34.082	26.800	129.5	0.839	1.29	18.6	64.5	2.80	37.2	0.00			403	
438		5.87	5.83	34.110	26.870	123.0	0.887	1.01	14.4	72.0	2.94	39.0	0.00			441	202
500	ISL	5.38	5.34	34.124	26.941	116.6	0.961	0.78	11.0	81.6	3.06	40.9	0.00			503	
511		5.29	5.25	34.127	26.954	115.4	0.974	0.74	10.4	83.3	3.08	41.2	0.00			514	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV DAVID STARR JORDAN CALCOFI CRUISE 9604 ; STATION 77 80

LATITUDE	LONGITUDE	DAY/NO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
34 4.4 N	122 56.2 U	30/04/96	1211 UTC	4225 in	340 12 kn			1018.1 mb	16.8 C	15,7 C			

DEPTH n	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SI03 uM/l	P04 uM/l	N03 uM/l	N02 uM/l	CHL-A ug/L	PHAEO ug/l	PRES db	SAMP
0 ISL	16.78	16.78	33.360	24.308	360.7	0.000	5.70	102 .8	2.8	0.26	0.0	0.00	0 .09	0.02	0	
1	16.78	16.78	33.360	24.308	360.7	0.004	5.70	102.8	2.8	0.26	0.0	0.00	0.09	0.02	1	220
10 ISL	16.76	16.76	33.362	24.315	360.4	0.036	5.70	102 .7	2.7	0.26	0.0	0.00	0.09	0.02	10	
15	16.75	16.75	33.363	24.318	360.2	0.054	5.70	102 .7	2.7	0.26	0.0	0.00	0.09	0.02	15	219
20 ISL	16.71	16.71	33.364	24.328	359.4	0.072	5.71	102.8	2.7	0.26	0.0	0.00	0.09	0.02	20	
30	16.64	16.64	33.366	24.347	358.0	0.108	5.73	103.0	2.7	0.25	0.0	0.00	0.09	0.03	30	218
45	16.61	16.60	33.361	24.350	358.1	0.162	5 .71	102.6	2.7	0.25	0.0	0.00	0.09	0.03	45	217
50 ISL	16.55	16.54	33.353	24.358	357.6	0.180	5 .72	102.7	2 .7	0.25	0.0	0.00	0.09	0.03	50	
60	16.42	16.41	33.337	24.376	356. 1	0.215	5 .75	102.9	2 .6	0.25	0.0	0.00	0.11	0.03	60	216
74	15.00	14.99	33.164	24.560	338.9	0.264	5.93	103. 1	2.6	0.30	0.0	0.00	0.14	0.05	74	215
75 ISL	14.93	14.92	33.147	24.562	338.7	0.267	5.94	103. 1	2.6	0.30	0.0	0.00	0.14	0.05	75	
85	14.35	14.34	33.046	24.608	334.6	0.301	6.01	103.0	2.7	0.32	0.0	0.00	0.16	0.07	85	214
95	13.90	13.89	33.202	24.822	314.4	0.333	5.96	101.3	3.5	0.33	0.0	0.00	0.27	0.14	95	213
100 ISL	13.38	13.37	33.269	24.980	299.5	0.349	5.84	98.2	4.0	0.38	0.6	0.07	0.33	0.17	100	
105	12.81	12.80	33.319	25.132	285.0	0.363	5.69	94.6	4.7	0.46	1 .8	0.13	0.36	0.19	105	212
113	12.06	12.05	33.336	25.289	270. 1	0.386	5.43	88.9	6.1	0.64	4 .9	0.12	0.32	0.17	113	211
124	11 .93	11 .91	33.350	25.324	267.0	0.415	5 .35	87.3	6.6	0.67	5.6	0.10	0.28	0.14	125	210
125 ISL	11 .87	11 .85	33.354	25.339	265.7	0.418	5 .32	86.7	6.8	0.69	5.9	0.10	0.27	0.14	126	
139	10.88	10.86	33.430	25 .578	243.0	0.453	4.79	76.5	10.9	0.99	11.2	0.03	0.12	0.11	140	209
150 ISL	10.32	10.30	33.500	25.730	228.7	0.479	4.48	70.7	14.0	1.18	14.4	0.02	0.07	0.08	151	
164	9.76	9.74	33.593	25.897	213.0	0.510	4.16	64.9	17.9	1 .39	17.6	0.01	0.04	0.05	165	208
197	8.87	8.85	33.804	26.206	184.0	0.576	3.65	55.9	25 .9	1 .73	22 .8	0.01	0.00	0.03	198	207
200 ISL	8.80	8.78	33.820	26.229	181.8	0.581	3.61	55.2	26.5	1 .75	23.2	0.01			201	
227	8.29	8.27	33.929	26.393	166.6	0.628	3.30	49.9	31 .5	1 .92	25 .7	0.01			228	206
250 ISL	7.97	7.94	33.965	26.469	159.6	0.666	3.30	49.5	34. 4	1 .97	26.6	0.01			251	
267	7.74	7.71	33.973	26.510	156.0	0.693	3.30	49.3	36.5	1 .99	27. 1	0.01			268	205
300 ISL	7.15	7.12	33.978	26.597	147.9	0.743	3.10	45.7	42 .3	2.12	28.9	0.00			302	
317	6.86	6.83	33.978	26.637	144.2	0.768	2.94	43.0	45.7	2 .20	30. 1	0.00			319	204
377	6.19	6.16	34.005	26.747	134.2	0.851	2.04	29.4	59.0	2 .55	35.0	0.00			379	203
400 ISL	5 .99	5.96	34.020	26.784	130.8	0.882	1 .75	25 . 1	63.5	2.67	36.5	0.00			402	
433	5.75	5.71	34.044	26.833	126.4	0.924	1 .40	20.0	69.5	2.81	38.4	0.00			436	202
500 ISL	5.37	5 .33	34.098	26.922	118.4	1 .006	0.93	13.1	79.5	3.02	40.6	0.00			503	
508	5.33	5 .29	34.105	26.932	117.5	1 .015	0.87	12.3	80.7	3.04	40. 9	0. 00			51 1	201

RV DAVID STARR JORDAN CALCOFI CRUISE 9604 STATION 77 90

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
33 43.4 N	123 37.7 W	30/04/96	0526 UTC		360 13 kn			1020.0 mb	17..0 C	16,0 C			

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SI03 uM/l	P04 uM/l	N03 uM/l	N02 uPl/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	16.37	16.37	33.155	24.246	366.6	0.000	5.77	103. 1	3.2	0.31	0.0	0.00	0.09	0.02	0	
2	16.37	16.37	33.155	24.246	366.7	0.007	5.77	103. 1	3.2	0.31	0.0	0.00	0.09	0.02	2	220
10 ISL	16.36	16.36	33. 154	24.247	366.8	0.037	5.77	103.1	3.2	0.31	0.0	0 .00	0.09	0. 02	10	
15	16.35	16.35	33. 154	24.250	366.7	0.055	5 .77	103.0	3.2	0.31	0.0	0.00	0.09	0.02	15	219
20 ISL	16.32	16.32	33.156	24.259	366.0	0.073	5 .77	103.0	3.2	0.31	0.0	0.00	0.09	0.02	20	
29	16.18	16.18	33.153	24.288	363.5	0. 106	5 .78	102.9	3.2	0.30	0.0	0.00	0.10	0.03	29	218
30 ISL	16.16	16.16	33.151	24.292	363.2	0.110	5 .79	103.0	3.2	0.30	0.0	0.00	0.10	0.03	30	
44	15.57	15.56	33.107	24.390	354.2	0.160	5.90	103.7	3.2	0.31	0.0	0.00	0.12	0.03	44	217
50 ISL	15 .00	14.99	33.093	24.505	343.5	0.181	5.96	103.5	3.2	0.32	0.0	0.00	0.13	0.04	50	
55	14.55	14.54	33.084	24.594	335.0	0. 198	6.01	103.5	3.2	0.33	0.0	0.00	0.13	0.05	55	216
65	14.17	14.16	33.067	24.661	328.9	0.231	6.03	103.0	3.2	0.34	0.0	0.00	0.13	0.06	65	215
75	13.84	13.83	33.106	24.760	319.8	0.264	6.00	101 .8	3.7	0.37	0.0	0.00	0.29	0.13	75	214
84	12.55	12.54	33.174	25.069	290.4	0.291	5.66	93.5	5.5	0.58	3.3	0.15	0.59	0.29	84	213
95	11 .87	11 .86	33.181	25.204	277.7	0.322	5.57	90.7	6.5	0.65	4.7	0.14	0.42	0.23	95	212
100 ISL	11 .62	11.61	33.245	25.300	268.7	0.336	5.38	87.2	7.4	0.72	6.2	0.11	0.33	0.21	100	
109	11.16	11.15	33.383	25.491	250.7	0.359	4.93	79.2	10.0	0.91	9.7	0.05	0.19	0.18	109	211
124	10.13	10.12	33.525	25.781	223.2	0.395	4.17	65.5	17.0	1 .35	16.8	0.01	0.07	0.08	125	210
125 ISL	10.08	10.07	33.532	25.795	221 .9	0.397	4.15	65.2	17.3	1 .36	17.0	0.01	0.07	0.08	126	
144	9.40	9.38	33.645	25.996	203.0	0.437	3.95	61 .1	21.3	1 .54	20.0	0.01	0.02	0.05	145	209
150 ISL	9.30	9.28	33.681	26.040	198.9	0.449	3.80	58.7	22.7	1 .61	21 .0	0.01	0.02	0.05	151	
170	9.05	9.03	33.785	26.162	187.7	0.488	3.35	51.5	26.7	1 .81	23.8	0.00	0 .01	0.04	171	208
197	8.46	8.44	33.881	26.329	172.1	0.537	3.42	51.9	30.0	1 .85	24.9	0.00	0.01	0.04	198	207
200 ISL	8.39	8.37	33.887	26.345	170.7	0.542	3.43	52.0	30.3	1 .85	25.0	0.00			201	
228	7.89	7.87	33.936	26.458	160.3	0.588	3.54	53.0	33.8	1 .88	25 .9	0.00			229	206
250 ISL	7.75	7.73	33.984	26.516	155.1	0.623	3.04	45.4	37.9	2 .06	28. 1	0.00			251	
268	7.66	7.63	34.017	26.556	151.6	0.650	2.55	38.0	41 .6	2 .22	30. 1	0.00			270	205
300 ISL	7.25	7.22	34.032	26.626	145 .3	0.698	2.25	33.2	47.2	2 .37	32 .1	0.00			302	
318	6.98	6.95	34.031	26.662	141.9	0.724	2.17	31 .9	50.4	2 .43	33.0	0.00			320	204
378	6.15	6.12	34.035	26.776	131.4	0.806	1 .66	23.9	62.5	2 .68	36.6	0.00			380	203
400 ISL	6.01	5 .98	34.065	26.817	127.7	0. 834	1 .36	19.5	66.8	2 .80	37.9	0.00			403	
438	5.86	5.82	34.125	26.884	121.8	0.882	0.86	12.3	73.7	2.98	39.8	0.00			441	202
500 ISL	5.51	5.47	34. 176	26.967	114.3	0.955	0.57	8. 1	82. 1	3.12	41 .3	0. 00			503	
508	5 .47	5.43	34.183	26.978	113.4	0. 964	0.53	7.5	83.2	3.14	41 .5	0.00			511	201

RV DAVID STARR JORDAN CALCOFI CRUISE 9604 STATION 77 100

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AHT	TYPE
33 23.4 N	124 19.6 U	29/04/96	2337	UTC	4494 m	020	13 kn	350 05 06	0	1019.8 mb	18 7 C	17 1 C	34m 02	0/8	

DEPTH .		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SI03 uM/l	P04 uM/ l	N03 uM/l	N02 uM/ l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0	ISL	16.26	16.26	33.183	24.292	362.2	0.000	5 .79	103.2	3.3	0.33	0.0	0.00	0.11	0.03	0	
2		16.26	16.26	33.183	24.292	362.2	0.007	5 .79	103.2	3.3	0.33	0.0	0.00	0.11	0.03	2	220
10	ISL	16.18	16.18	33.183	24.311	360.7	0.036	5 .79	103. 1	3.3	0.33	0.0	0.00	0.11	0.03	10	
15		16.10	16.10	33.183	24.329	359.2	0.054	5 .79	102.9	3.3	0.33	0.0	0.00	0.11	0.03	15	219
ZO	ISL	16.05	16.05	33.183	24.341	358.2	0.072	5 .80	103.0	3.3	0.33	0.0	0.00	0.11	0.03	20	
30		15.95	15.95	33.185	24.365	356.2	0.108	5.83	103.3	3.3	0.34	0.0	0.00	0.12	0.03	30	218
45		15.72	15.71	33.192	24.422	351 .2	0.161	5.84	103.0	3.2	0.34	0.0	0.00	0.16	0.04	45	217
50	ISL	15.14	15.13	33.219	24.571	337.1	0.178	5.95	103.7	3.3	0.35	0.0	0.00	0.19	0.06	50	
55		14.49	14.48	33.251	24.735	321 .6	0.195	6.04	104.0	3.5	0.36	0.0	0.00	0.25	0.09	55	216
65		13.63	13.62	33.275	24.933	303.0	0.226	5.92	100.1	4.0	0.42	0.7	0.06	0.52	0.17	65	215
75		12.14	12.13	33.324	25.264	271 .6	0.254	4.98	81 .7	8.2	0.87	8.2	0.19	0.40	0.26	75	214
84		11 .46	11.45	33.388	25.440	255.0	0.278	4.57	73.9	11.1	1 .07	11.6	0.12	0.37	0.30	84	213
95		10.88	10.87	33.455	25.596	240.3	0.305	4.24	67.7	13.8	1 .29	14.6	0.06	0.33	0.31	95	212
100	ISL	10.58	10.57	33.501	25.685	231 .9	0.317	4.05	64.3	15.6	1 .38	16.3	0.05	0.25	0.25	100	
109		10.09	10.08	33.587	25.836	217.7	0.337	3.72	58.4	19.0	1 .53	19.1	0.03	0.11	0.13	109	211
124		9.59	9.58	33.684	25.995	202.7	0.369	3.41	53.0	22.7	1 .74	21.9	0.01	0.03	0.07	125	210
125	ISL	9.56	9.55	33.690	26.005	201 .8	0.371	3.40	52.8	22.9	1 .75	22.0	0.01	0.03	0.07	126	
145		9.05	9.03	33.789	26.165	186.9	0.410	3.16	48.6	26.8	1 .85	24.1	0.01	0.01	0.05	146	209
150	ISL	8.95	8.93	33.813	26.199	183.7	0.419	3.10	47.6	27.8	1 .89	24.6	0.01	0.01	0.06	151	
169		8.62	8.60	33.890	26.311	173.4	0.453	2.92	44. 5	31 .2	2.01	26.4	0.01	0.00	0.08	170	208
199		8.15	8.13	33.949	26.429	162.6	0.503	2 .82	42 .5	35 .0	2.10	27.8	0.01	0.00	0.04	200	207
200	ISL	8.14	8.12	33.952	26.433	162.2	0.505	2.80	42.2	35.2	2.11	27.9	0.01			201	
227		7.94	7.92	34.021	26.517	154.6	0.548	2 .34	35 .1	39.9	2.28	30.0	0.00			228	206
250	ISL	7.65	7.63	34.030	26.567	150.2	0.583	2.32	34.6	42.8	2.34	30.7	0.00			251	
268		7.38	7.35	34.025	26.602	147. 1	0.610	2.31	34.2	45.2	2.37	31 .2	0.00			270	205
300	ISL	6.90	6.87	34.032	26.674	140.5	0.656	2.04	29.9	51 .5	2.50	33.3	0.00			302	
317		6.66	6.63	34.040	26.713	136.9	0.679	1 .85	27.0	55.2	2.58	34.5	0.00		"	319	204
377		6.17	6.14	34.105	26.828	126.5	0.758	1 .07	15.4	67.4	2.87	38.1	0.00			379	203
400	ISL	6.01	5 .98	34. 120	26.861	123.6	0.787	0.92	13.2	70.8	2.95	39.0	0.00			403	
436		5.78	5.74	34.137	26.903	119.9	0.831	0.76	10.9	75.5	3.04	40.0	0.00			439	202
500	ISL	5.44	5 .40	34. 160	26.963	114.7	0.906	0.54	7.6	83.3	3.15	41 .4	0.00			503	
510		5.39	5 .35	34.164	26.972	113.9	0.917	0.51	7.2	84.5	3.17	41 .6	0.00			513	201

RV DAVID STARR JORDAN CALCOFI CRUISE 9604 STATION 80 51

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
34 26.9 N	120 31.5 V	28/04/96	0306	UTC	76 *m*	310	23 kn	300 05 06	4	1011.0 mb	14 7 C	12 2 C		4/8	CC

DEPTH ID		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SI03 uM/ l	P04 uM/ l	N03 uM/l	N02 uM/ l	CHL-A ug/ l	PHAEO ug/l	PRES db	SAMP
0	ISL	12.48	12.48	33.701	25.489	248.2	0.000	6.84	113.3	4.9	0.50	3.2	0.10	16.00	3.07	0	
2		12.48	12.48	33.701	25.489	248.3	0.005	6.84	113.3	4.9	0.50	3.2	0.10	16.00	3.07	2	208
7		12.48	12.48	33.702	25.490	248.3	0.017	6.80	112.6	4.8	0.50	3.4	0.10	14.55	2.71	7	207
10	ISL	12.37	12.37	33.685	25.498	247.6	0.025	6.65	109.8	5 .0	0.53	4.2	0.11	14. 48	2.75	10	
16		12.14	12.14	33.706	25 .559	242.1	0.040	6.34	104.2	6.4	0.72	5.7	0.14	13.98	2.92	16	206
20	ISL	11.57	11.57	33.702	25.662	232.3	0.049	5.39	87.5	8.5	1 .02	10.1	0.20	11.78	2.85	20	
25		10.85	10.85	33.707	25.796	219.6	0.060	4.17	66.7	11.7	1 .42	15.7	0.29	8.62	2.62	25	205
30	ISL	10.53	10.53	33.728	25.869	212.8	0.071	3.63	57.6	15.4	1 .66	18.4	0.34	6.43	2.12	30	
34		10.40	10.40	33.746	25.906	209.4	0.080	3.43	54.3	18.0	1 .77	19.5	0.36	5.11	1 .75	34	204
44		10.31	10.30	33.764	25.935	206.8	0. 100	3.33	52 .6	20. 1	1 .79	20.2	0.35	3.51	1 .69	44	203
50	ISL	10.27	10.26	33.776	25.952	205.4	0.113	3.25	51 .3	21.7	1 .82	20.7	0.36	2 .63	1 .47	50	
55		10.23	10.22	33.786	25.966	204.1	0.123	3.18	50.2	23.0	1 .85	21.2	0.36	2.00	1 .27	55	202
65		10.15	10.14	33.802	25.993	201 .8	0. 143	3.07	48.4	24.7	1 .90	22 .0	0.34	1 .20	1 .04	65	201

RV DAVID STARR JORDAN CALCOFI CRUISE 9604 STATION 80 55

LATITUDE	LONGITUDE	DAY/HO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
34 15.3 N	120 47.8 U	28/04/96	0614	UTC	743 m	340	23 kn			1012.2 mb	13 7 C	12 0 C			

DEPTH in		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SI03 uM/l	P04 uM/l	N03 uM/l	N02 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAKP
0	ISL	11 .86	11 .86	33.558	25.496	247.6	0.000	5.87	95.8	5.7	0.89	8.5	0.17	5.20	1 .63	0	
2		11 .86	11 .86	33.558	25.496	247.6	0.005	5 .87	95.8	5.7	0.89	8.5	0.17	5 .20	1 .63	2	224
10	ISL	11 .87	11 .87	33.558	25.494	248.0	0.025	5 .88	96.0	5.5	0.88	8.4	0.17	5.24	1 .52	10	
11		11 .87	11 .87	33.558	25.494	248.0	0.027	5 .88	96.0	5.5	0.88	8.4	0.17	5.25	1.51	11	223
20		11 .86	11 .86	33.550	25.490	248.6	0.050									20	219
20		11 .87	11 .87	33.552	25.490	248.7	0.050									20	220
20		11 .82	11 .82	33.554	25.501	247.6	0.050									20	221
20	ISL	11 .85	11.85	33.552	25.494	248.3	0.050	5.83	95.2	5.7	0.90	8.6	0.17	4.95	1 .71	20	
21		11 .85	11 .85	33.552	25.494	248.3	0.052									21	222
22		11 .84	11 .84	33.550	25.494	248.3	0.055	5 .82	95.0	5.8	0.91	8.6	0.17	4.88	1 .75	22	218
29		11 .08	11 .08	33.547	25.631	235 .5	0.072	4.49	72.1	14.2	1 .30	13.9	0.18	0.62	0.80	29	217
30	ISL	11.03	11 .03	33.552	25.644	234.2	0.074	4.48	71 .8	14.4	1 .31	14.0	0.19	0.62	0.81	30	
39		10.76	10.76	33.609	25.736	225.7	0.095	4.38	69.9	15.8	1 .39	14.9	0.22	0.64	0.92	39	216
50		10.22	10.21	33.648	25.860	214.1	0.119	3.77	59.4	20.1	1 .58	18.7	0.17	0.40	0.90	50	215
60		9.77	9.76	33.672	25 .955	205.2	0.140	3.56	55.6	22 .0	1 .64	20. 6	0.08	0.25	0. 59	60	214
69		9.58	9.57	33.717	26.022	199.1	0.158	3.34	51 .9	24. 1	1 .73	21.9	0.03	0.11	0.48	69	213
75	ISL	9.47	9.46	33.756	26.070	194. 6	0.170	3.25	50.4	25 .6	1 .80	22.9	0.03	0.10	0.39	75	
85		9.23	9.22	33.810	26.151	187.1	0.189	3.11	48.0	27.3	1 .86	23.9	0.02	0.09	0.28	85	212
99		8.70	8.69	33.822	26.245	178.4	0.214	3.66	55 .8	27.0	1 .76	23.1	0.03	0.07	0.30	100	211
100	ISL	8.70	8.69	33.828	26.249	177.9	0.216	3.65	55 .7	27.2	1 .77	23.2	0.03	0.07	0.30	101	
117		8.64	8.63	33.911	26.324	171.2	0.246	3.13	47.7	31 .0	1 .93	25 .4	0.02	0.05	0.23	118	210
125	ISL	8.60	8.59	33.934	26.348	169.0	0.259	3.00	45 .7	31 .9	1 .97	25.9	0.02	0.05	0.23	126	
140		8.51	8.50	33.967	26.388	165.5	0.285	2 .83	43 .0	33.4	2 .04	26.6	0.01	0. 05	0.24	141	209
150	ISL	8.41	8.39	33.992	26.423	162.3	0.301	2.70	41 .0	35 .0	2.10	27.4	0.01	0.08	0.22	151	
168		8.22	8.20	34.031	26.483	157.0	0.330	2.47	37.3	38.1	2.21	28.8	0.01	0.14	0.19	169	208
196		7.96	7.94	34.064	26.548	151.2	0.373	2.21	33.2	41 .9	2 .31	30.1	0.01	0.11	0.17	197	207
200	ISL	7.90	7.88	34.065	26.557	150.4	0.379	2.19	32 .9	42.5	2.32	30.3	0.01			201	
226		7.54	7.52	34.071	26.615	145.2	0.417	2.07	30.8	46. 4	2.39	31 .5	0.01			227	206
250	ISL	7.36	7.34	34.093	26.658	141.5	0.452	1 .83	27. 1	50.1	2.50	32.7	0.01			252	
269		7.26	7.23	34.113	26.688	138.9	0.478	1 .62	24.0	53.0	2.59	33.7	0 .01			271	205
300	ISL	7.05	7.02	34.135	26.735	134.8	0.521	1 .35	19.9	57.2	2.69	34.9	0.00			302	
317		6.94	6.91	34.146	26.759	132.8	0.543	1 .22	17.9	59.3	2.74	35 .5	0.00			319	204
378		6.69	6.66	34.188	26.826	127.2	0.623	0.88	12.8	65.2	2.89	37.2	0.00			381	203
400	ISL	6.54	6.50	34.201	26.856	124.5	0.650	0.77	11.2	68.0	2.95	37.8	0.00			403	
436		6.27	6.23	34.222	26.909	119.8	0.694	0.62	9.0	72.9	3.03	38.8	0.00			439	202
500	ISL	5 .89	5.85	34.258	26.986	113.1	0.769	0.44	6.3	80.6	3.14	40.2	0.00			504	
509		5.84	5.80	34.263	26.996	112.2	0.779	0. 42	6.0	81 .7	3.15	40.4	0.00			513	201

RV DAVID STARR JORDAN CALCOFI CRUISE 9604 STATION 80 60

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
34 9.1 N	121 8.9 W	28/04/96	1040 UTC	4181 HI	340 25 kn			1012.2 mb	13 9 C	12 8 C			

DEPTH		TEMP DES C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/t	OXY PCT	SI03 uM/ I	P04 uM/L	N03 uM/ I	N02 uM/ I	CHL-A ug/ I	PHAEO ug/l	PRES db	SAMP
0	ISL	13.06	13.06	33.204	24.990	295.7	0.000	5 .98	99.9	4. 4	0.61	3.7	0.15	0. 76	0.31	0	
2		13.06	13.06	33.204	24.991	295.7	0.006	5.98	99.9	4. 4	0.61	3.7	0.15	0.76	0.31	2	220
10		13.07	13.07	33.203	24.988	296.2	0.030	5.96	99.6	4.4	0.61	3.7	0.15	0.74	0.27	10	219
20	ISL	13.04	13.04	33.204	24.995	295.8	0.059	5 .99	100.0	4.5	0.62	3.7	0.15	0.76	0.27	20	
21		13.04	13.04	33.204	24.995	295 .8	0.062	5 .99	100.0	4.5	0.62	3.7	0.15	0.76	0.27	21	218
30	ISL	12.65	12.65	33.203	25.071	288.8	0.088	5 .92	98.1	4.9	0.63	4.0	0.18	0.67	0.24	30	
31		12.59	12.59	33.204	25 .083	287.7	0.091	5 .91	97.8	4.9	0.63	4.0	0.18	0.65	0.24	31	217
42		11 .90	11 .89	33.243	25 .245	272.5	0.122	5.17	84.3	8.3	0.90	7.6	0.36	0.45	0.38	42	216
50	ISL	11.70	11 .69	33.353	25.368	261 .0	0. 143	4.98	80.9	10.6	1 .03	10.2	0.25	0.48	0.36	50	
51		11 .66	11 .65	33.368	25.387	259.2	0. 146	4.96	80.5	10.9	1 .05	10.5	0.23	0.48	0.36	51	215
60		10.69	10.68	33.474 C	25.644	234.9	0. 168									60	214
69		10.34	10.33	33.521	25.741	225.8	0.189	4.06	64.1	16.6	1 .38	16.8	0.07	0.13	0.27	69	213
75	ISL	10.21	10.20	33.565	25.798	220.5	0.202	3.84	60.5	18.2	1 .47	18.2	0.04	0.09	0.24	75	
84		10.08	10.07	33.632	25.872	213.6	0.222	3.58	56.3	20.4	1 .59	19.9	0.02	0.06	0.22	84	212
100		9.85	9.84	33.707	25.970	204.7	0.255	3.24	50.7	23.3	1 .74	22.0	0.03	0.07	0.29	101	211
118		9.14	9.13	33.818	26.173	185.7	0.291	3.07	47.3	27.7	1 .89	24.5	0.02	0.02	0.17	119	210
125	ISL	8.95	8.94	33.821	26.205	182.7	0.303	3.23	49.6	27.5	1 .86	24.3	0.02	0.02	0.13	126	
139		8.65	8.64	33.812	26.245	179.1	0.329	3.62	55 .2	27.0	1 .76	23.5	0.01	0.01	0.07	140	209
150	ISL	8.40	8.38	33.840	26.306	173.5	0.348	3.65	55 .3	27.9	1 .78	23.9	0.01	0.01	0.07	151	
168		8.07	8.05	33.901	26.403	164.5	0.379	3.70	55 .7	30.8	1.81	24.6	0.01	0.01	0.08	169	208
199		7.82	7.80	33.988	26.509	154.9	0.428	2 .92	43.7	38.4	2.11	28.4	0.01	0.10	0.13	200	207
200	ISL	7.83	7.81	33.994	26.512	154.6	0.430	2 .86	42 .8	38.7	2.13	28.6	0.01			201	
218		7.94	7.92	34.105	26.583	148.3	0.457	1 .86	27.9	44.7	2.43	31 .3	0.01			219	206
250	ISL	7.77	7.75	34.159	26.651	142.4	0.503	1.58	23.6	50. 1	2 .57	33.2	0. 00			252	
269		7.57	7.54	34.153	26.675	140.3	0.530	1 .41	21 .0	52.0	2.65	33.6	0.00			271	205
300	ISL	7.33	7.30	34.171	26.724	136.0	0.573	1.18	17.5	56.5	2.75	34.7	0.00			302	
317		7.20	7.17	34.179	26.749	133.9	0.596	1 .08	16.0	58.8	2.79	35 .2	0.00			319	204
375		6.75	6.72	34.199	26.827	127.1	0.672	0.87	12.7	65 .4	2.90	37.0	0.00			377	203
400	ISL	6.59	6.55	34.205	26.853	124.9	0.703	0.79	11.5	67.8	2.94	37.6	0.00			403	
436		6.38	6.34	34.214	26.888	121.9	0.748	0.69	10.0	71 .1	3.00	38.4	0.00			439	202
500	ISL	6.00	5.96	34.248	26.964	115.2	0.824	0.50	7.2	78.2	3.11	39.9	0.00			504	
521		5.88	5.83	34.259	26.988	113.1	0.848	0.44	6.3	80.5	3.14	40. 4	0.00			525	201

RV DAVID STARR JORDAN CALCOFI CRUISE 960< STATION 80 70

LATITUDE	LONGITUDE	DAY/NO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
33 48.9 N	121 50.2 W	28/04/96	1847 UTC	3617 m	330 18 kn	330 15 05	0	1015.0 mb	16 5 C	14 9 C	30m 01	0/8	

DEPTH		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SI03 uM/l	P04 uM/ I	N03 uM/ I	N02 uM/ I	CHL-A ug/L	PHAEO ug/l	PRES db	SAMP
0	ISL	15.75	15.75	33.221	24.437	348.4	0.000	5.81	102.6	3.2	0.28	0. 0	0.00	0.13	0.05	0	
2	A	15.75	15.75	33.221	24.437	348.5	0.007	5.81	102.6	3.2	0.28	0.0	0.00	0.13	0.05	2	222
9		15.71	15.71	33.222	24.447	347.8	0.031	5.80	102.3	3.2	0.28	0.0	0.00	0.12	0.04	9	221
10	ISL	15.71	15.71	33.222	24.447	347.8	0.035	5 .80	102.3	3.2	0.28	0.0	0.00	0.12	0.04	10	
18	A	15.70	15.70	33.224	24.451	347.7	0.063	5 .81	102.5	3.0	0.28	0.0	0.00	0.12	0.04	18	220
20	ISL	15.70	15.70	33.224	24.451	347.7	0.070	5 .81	102.5	3.0	0.28	0.0	0.00	0.12	0.04	20	
30		15.68	15.68	33.222	24.454	347.7	0.104	5.80	102.2	3.0	0.28	0.0	0.00	0.11	0.04	30	219
39	A	15.66	15.65	33.219	24.456	347.8	0.136	5 .79	102.0	3.0	0.28	0.0	0.00	0.11	0.04	39	218
50		15.63	15 .62	33.215	24.460	347.7	0.174	5 .80	102.1	3.0	0.28	0.0	0.00	0.13	0.04	50	217
61	A	14.86	14.85	33.186	24.607	334.0	0.211	5 .94	103.0	3.1	0.33	0.0	0.00	0.26	0.12	61	216
72		14.31	14.30	33.248	24.772	318.6	0.247	5.97	102.4	2.9	0.33	0.0	0.00	0.43	0.26	72	215
75	ISL	13.92	13.91	33.276	24.875	308.8	0.257	5 .84	99.4	3.7	0.42	1 .1	0.10	0.51	0.35	75	
79	A	13.39	13.38	33.314	25.012	295 .8	0.269	5 .65	95 .1	5.0	0.55	2.8	0.24	0.59	0.46	79	214
91		12.73	12.72	33.354	25 .174	280.6	0.303	5 .33	88.5	7.4	0.70	5.7	0.23	0.40	0.33	91	213
100	ISL	12.28	12.27	33.418	25.310	267.8	0.328	4.96	81 .6	9.9	0.89	8.7	0.12	0.28	0.28	100	
101		12.22	12.21	33.427	25.329	266. 1	0.331	4.91	80.7	10.3	0.92	9. 1	0.11	0.27	0.27	101	212
111	A	11 .36	11 .35	33.553	25.587	241 .6	0.356	4.16	67.2	15.5	1 .28	14.8	0.02	0.10	0.16	112	211
125	ISL	10.71	10.70	33.676	25.799	221 .7	0.389	3.46	55. 1	20.5	1 .58	19.0	0.01	0.07	0.14	126	
128		10.62	10.60	33.697	25 .831	218.7	0.395	3.35	53.3	21.4	1 .63	19.6	0.01	0 .06	0.13	129	210
1(4		10.08	10.06	33.815	26.016	201 .3	0.429	2.79	43.9	26.3	1 .88	23.1	0.00	0.02	0.11	145	209
150	ISL	9.91	9.89	33.850	26.072	196. 1	0.441	2.66	41 .7	27.6	1 .94	24.0	0.00	0.02	0.11	151	
169		9.50	9.48	33.934	26.206	183.7	0.477	2 .38	37.0	30.7	2.07	25.9	0.00	0.01	0.10	170	208
200		9.27	9.25	33.996	26.293	176.0	0.533	2.16	33.4	33.4	2.18	27.4	0.00	0.02	0.15	201	207
228		9.00	8.98	34.053	26.381	168.1	0.581	1 .96	30. 1	36.2	2 .28	28.8	0.00			229	206
250	ISL	8.77	8.74	34.085	26.442	162.6	0.617	1 .86	28.5	38.5	2.34	29.6	0.00			251	
268		8.58	8.55	34.106	26.489	158.5	0.646	1 .78	27. 1	40.6	2.39	30.2	0. 00			270	205
300	ISL	8.23	8.20	34.139	26.568	151.4	0.696	1 .58	23.9	45 .1	2.50	31 .5	0.00			302	
317		8.03	8.00	34.153	26.609	147.7	0.721	1 .47	22 .1	47.8	2 .56	32.3	0.00			319	204
375		7.29	7.25	34.181	26.739	135.9	0.803	1.13	16.7	57.5	2.78	34.9	0.00			377	203
400	ISL	7.03	6.99	34.186	26.779	132.3	0.837	1 .02	15.0	60.9	2.85	35 .8	0.00			403	
436		6.69	6.65	34.194	26.832	127.5	0.884	0.86	12.5	65 .7	2.93	37. 1	0.00			439	202
500	ISL	6.09	6.05	34.241	26.947	116.9	0.962	0.54	7.8	76.5	3.10	39.5	0.00			503	
513		5.97	5.93	34.251	26.970	114.8	0.977	0. 47	6.7	78.7	3.14	40.0	0.00			516	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

m

RV DAVID STARR JORDAN CALCOFI CRUISE 9604 STATION 80 80

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TINE	BOTTON	WINO	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYP
33 29>.0 N	122 31.8 W	29/04/96	0006 UTC	3974 m	350	18 kn	350 06 06	1	1016.2 mb	18..7 C	16..0 C	27m	01 1/8	CI

DEPTH ID	TEMP DEG C	POT TENP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN mL/L	OXY PCT	SI03 uM/l	P04 uN/ l	N03 uH/l	N02 uM/ l	CHL-A ug/ l	PHAEO ug/t	PRES db	SAM
0 ISL	16.13	16.13	33.233	24.360	355.7	0.000	5.76	102.5	3.1	0.29	0.0	0.00	0.08	0.03	0	
1	16.13	16.13	33.233	24.360	355 .7	0.004	5.76	102.5	3.1	0.29	0.0	0.00	0.08	0.03	1	22
10 ISL	16.12	16.12	33.234	24.364	355.7	0.036	5 .75	102.3	3.1	0.29	0.0	0.00	0.09	0.02	10	
14	16.11	16.11	33.235	24.367	355.5	0.050	5 .75	102.2	3.1	0.29	0.0	0.00	0.09	0.02	14	21'
20 ISL	16.10	16.10	33.240	24.373	355. 1	0.071	5 .75	102.2	3.1	0.29	0.0	0.00	0.09	0.02	20	
30	16.09	16.09	33.247	24.381	354.7	0.107	5 .75	102.2	3.1	0.29	0.0	0.00	0.10	0.02	30	211
45	16.04	16.03	33.234	24.383	355.0	0.160	5 .75	102.1	3.0	0.28	0.0	0.00	0.10	0.03	45	21:
50 ISL	16.05	16.04	33.238	24.384	355.0	0.178	5 .75	102.1	3.0	0.28	0.0	0.00	0.10	0.03	50	
61	16.06	16.05	33.247	24.389	354.9	0.217	5.76	102.3	3.0	0.29	0.0	0.00	0.11	0.04	61	211
75	14.97	14.96	33.157	24.561	338.8	0.265	5.89	102.3	3.0	0.29	0.0	0.00	0.13	0.05	75	21!
83	15.07	15 .06	33.292	24.644	331 .2	0.292	5.83	101 .5	3.1	0.28	0.0	0.00	0.15	0.08	83	21'
94	14.39	14.38	33.392	24.867	310.2	0.327	5.81	99.9	3.5	0.29	0.0	0.00	0.16	0.14	94	21:
100 ISL	13.73	13.72	33.368	24.985	299.0	0.346	5.81	98.5	3.8	0.32	0.1	0.01	0.23	0.18	100	
103	13.42	13.41	33.352	25.036	294.2	0.354	5 .81	97.9	3.9	0.34	0.1	0.02	0.26	0.20	103	2i;
114	13.17	13.15	33.370	25.100	288.3	0.386	5.70	95 .5	4.2	0.42	1 .0	0.07	0.26	0.26	1 14	211
124	12.37	12.35	33.408	25.286	270.7	0.414	5.49	90.5	5 .4	0.53	3.4	0.05	0.20	0.22	125	21C
125 ISL	12.33	12.31	33.421	25.304	269. 1	0.417	5.46	89.9	5.6	0.54	3.7	0.05	0.19	0.21	126	
138	11 .90	11 .88	33.591	25.517	249.0	0.451	5.06	82.7	7.9	0.72	7.1	0.02	0.12	0.14	139	209
150 ISL	11.25	11.23	33.627	25.665	235. 1	0.480	4.80	77.4	10.6	0.91	10.3	0.02	0.07	0.09	151	
164	10.44	10.42	33.630	25.811	221 .3	0.512	4.57	72.4	14.1	1.13	13.7	0.01	0.04	0.05	165	208
194	9.29	9.27	33.769	26.112	193.0	0.574	4.20	64.9	21 .0	1 .45	19.1	0.00	0.01	0.04	195	207
ZOO ISL	9.13	9.11	33.788	26.152	189.3	0.585	4.11	63.3	22 .3	1.51	20.0	0.00			201	
229	8.51	8.49	33.863	26.303	174.8	0.638	3.75	57.0	27.8	1 .75	23.2	0.00			230	206
250 ISL	8.06	8.03	33.919	26.420	164.3	0.674	3.77	56.7	31 .2	1 .80	24.2	0.00			251	
267	7.72	7.69	33.955	26.498	157.1	0.701	3.79	56.6	33.9	1 .82	24.9	0.00			268	205
300 ISL	7.23	7.20	33.969	26.579	149.6	0.752	3.42	50.5	39.7	2.00	27.5	0.00			302	
318	7.01	6.98	33.966	26.607	147. 1	0.778	3.13	46.0	43.1	2.12	29. 1	0.00			320	204
378	6.33	6.30	33.994	26.720	136.8	0.864	2 .22	32.1	56.1	2.45	34.0				380	203
400 ISL	6.15	6.11	34.010	26.756	133.6	0.893	1 .92	27.6	60.4	2.57	35 .6	0.00			402	
436	5 .88	5.84	34.040	26.314	128.3	0.941	1 .47	21.0	67.4		37.9	0.00			439	202
500 ISL	5.38	5.34	34.105	26.926	118.0	1.019	0.89	12.6	80.3	3.11	40.8	0.00			503	
512	5 .29	5.25	34.118	26.947	116.1	1 .033	0.78	11.0	82.7	3.18	41 .3	0.00			515	201

RV DAVID STARR JORDAN CALCOFI CRUISE 9604 STATION 80 90

LATITUDE	LONGITUDE	DAY/HO/YR	CAST TIME	BOTTOM	KIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
33 5>.0 N	123 12.9 U	29/04/96	0607 UTC	4224 m	350	20 kn			1017.8 mb	17..2 C	15..3 C			

DEPTH m	TEMP DEG C	POT TENP DEG C	SALINITY	SIGNA THETA	SVA	DYN HT	OXYGEN ral/l	OXY PCT	SI03 uM/l	P04 uM/l	N03 uM/ l	N02 ufl/ l	CHL-A ug/l	PHAEO ug/ l	PRES db	SAfIP
0 ISL	16.56	16.56	33.278	24.296	361 .8	0.000	5.72	102 .6	2.9	0.26	0.0	0.00	0.09	0.03	0	
1	16.56	16.56	33.278	24.296	361 .8	0.004	5.72	102.6	2.9	0.26	0.0	0.00	0.09	0.03	1	220
10 ISL	16.56	16.56	33.277	24.296	362.2	0.036	5.73	102.8	2.8	0.26	0.0	0.00	0.09	0.02	10	
14	16.56	16.56	33.277	24.296	362.3	0.051	5 .73	102 .8	2.8	0.26	0.0	0.00	0.09	0.02	14	219
20 ISL	16.57	16.57	33.278	24.295	362.6	0.072	5.73	102.8	2 .8	0.26	0.0	0.00	0. 09	0.02	20	
30	16.57	16.57	33.279	24.296	362.8	0. 109	5 .73	102.8	2 .8	0.26	0.0	0.00	0 .09	0.02	30	218
46	16.54	16.53	33.272	24.298	363.1	0.167	5.73	102.8	2.8	0.27	0.0	0.00	0.09	0.03	46	217
50 ISL	16.19	16.18	33.253	24.364	357.0	0.181	5 .78	102.9	2.8	0.27	0.0	0.00	0.09	0.03	50	
60	15.26	15.25	33.209	24.538	340.6	0.216	5 .91	103.3	2.9	0.28	0.0	0.00	0.11	0.04	60	216
73	14.93	14.92	33.186	24.592	335.8	0.260	5.93	102.9	2 .8	0.28	0.0	0.00	0.14	0.05	73	215
75 ISL	14.86	14.85	33.189	24.609	334.2	0.267	5.93	102.8	2.8	0.28	0.0	0.00	0.15	0 .06	75	
82	14.57	14.56	33.218	24.694	326.3	0.290	5.94	102.4	2.9	0.29	0.0	0.00	0.18	0.08	82	214
94	14.03	14.02	33.337	24.899	307.0	0.328	5.87	100.1	3.6	0.31	0.0	0.01	0.29	0.15	94	213
100 ISL	13.57	13.56	33.345	25.000	297.5	0.346	5.83	98.5	3.9	0.34	0.4	0.04	0.32	0.19	100	
105	13.14	13.13	33.34	25.083	289.7	0.361	5.78	96.8	4.2	0.39	1 .0	0.07	0.34	0.21	105	212
115	12.32	12.30	33.342	25.244	274.5	0.389	5.55	91 .4	5.3	0.54	3.5	0.10	0.32	0.19	115	211
124	11.81	11 .79	33.387	25.375	262. 1	0.413	5.34	87.0	6.7	0.65	5 .6	0.06	0.22	0.14	125	210
125 ISL	11 .75	11 .73	33.390	25.389	260.9	0.416	5.31	86.4	6.9	0.67	5.9	0.06	0.21	0.14	126	
140	10.88	10.86	33.444	25.589	242.0	0.453	4.78	76.3	11.1	0.99	11.3	0.02	0.10	0.11	141	209
150 ISL	10.39	10.37	33.500	25.718	229.8	0.477	4.48	70.8	14.1	1.19	14.4	0.02	0.06	0.09	151	
164	9.82	9.80	33.592	25.886	214.0	0.508	4.10	64.0	18.3	1 .43	18.0	0.01	0.03	0.06	165	208
194	9.00	8.98	33.80	26.182	186.3	0.568	3.39	52.0	26.1	1 .79	23.5	0.00	0.00	0.05	195	207
200 ISL	8.89	8.87	33.831	26.224	182.4	0.579	3.28	50.2	27.3	1 .84	24.3	0.00			201	
230	8.42	8.40	33.939	26.381	167.8	0.632	2.98	45 .2	32.3	2.00	26.7	0.00			231	206
250 ISL	8.03	8.00	33.965	26.461	160.5	0.664	3.09	46.5	34.5	2 .00	27.1	0.00			251	
268	7.69	7.66	33.973	26.517	155.3	0.693	3.22	48.0	36.4	2 .00	27.3	0.00			269	205
300 ISL	7.17	7.14	33.981	26.597	147.9	0.741	3.01	44.4	42 .0	2.13	29.2	0.00			302	
321	6.90	6.87	33.986	26.638	144.2	0.772	2.73	40.0	46.2	2.26	30.9	0.00			323	204
377	6.52	6.49	34.048	26.738	135.3	0.850	1 .72	25 .0	57.2	2.61	35 .3	0.00			379	203
400 ISL	6. 34	6.30	34.068	26.777	131.7	0.881	1 .44	20.8	61 .3	2.73	36.7	0.00			402	
435	6 .04	6.00	34.091	26.834	126.6	0.926	1.13	16.2	67.5	2 .87	38.4	0.00			438	202
500 ISL	5 .33	5 .29	34. 109	26.935	117.1	1 .005	0.83	11.7	79.9	3.03	41.0	0.00			503	
510	5 .22	5.18	34. 112	26.951	115.6	1.017	0.78	11.0	81.8	3.06	41.4	0.00			513	201

RV DAVID STARR JORDAN — CALCOFI CRUISE 9604 — STATION 80 100

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIRE	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
32 49.0 N	123 54.1 W	29/04/96	1813 UTC	4397 m	360	16 kn	360 06 04	0	1019.1 mb	18 7 C	17 6 C	24m 01	0/8	

DEPTH		TEMP DEQ C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SI03 uM/l	P04 uM/l	N03 uM/l	N02 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0	ISL	16.73	16.73	33.300	24.274	363.9	0.000	5 .71	102.8	2 .8	0.27	0.0	0.00	0.08	0.02	0	
1	A	16.73	16.73	33.300	24.274	364.0	0.004	5 .71	102.8	2 .8	0.27	0.0	0.00	0.08	0.02	1	222
10	ISL	16.69	16.69	33.301	24.284	363.3	0.036	5 .70	102.6	2 .8	0.27	0.0	0.00	0.08	0.03	10	
15	A	16.65	16.65	33.299	24.292	362.7	0.055	5 .70	102 .5	2 .8	0.27	0.0	0.00	0.08	0.03	15	221
20	ISL	16.62	16.62	33.292	24.294	362.7	0.073	5.70	102.4	2.8	0.27	0.0	0.00	0.08	0.03	20	
30	ISL	16.56	16.56	33.278	24.297	362.7	0. 109	5.71	102.5	2.8	0.27	0.0	0.00	0.09	0.03	30	
32	A	16.55	16.54	33.275	24.297	362.7	0.116	5.71	102.4	2.8	0.27	0.0	0.00	0.09	0.03	32	220
40		16.49	16.48	33.270	24.308	362.0	0.145	5.72	102.5	2.8	0.27	0.0	0.00	0.09	0.03	40	219
(8	A	16.38	16.37	33.232	24.304	362.6	0.174	5 .74	102.6	2.8	0.27	0.0	0.00	0.10	0.03	48	218
50	ISL	16.02	16.01	33.192	24.355	357.8	0.181	5 .79	102.7	2.8	0.28	0.0	0.00	0.10	0.03	50	
57		14.80	.14.79	33.083	24.540	340.3	0.206	5.97	103.3	2.8	0.31	0.0	0.00	0.12	0.04	57	217
64	A	14.73	14.72	33.120	24.584	336.3	0.229	5.95	102.8	2.8	0.31	0.0	0.00	0.14	0.06	64	216
74		14.71	14.70	33.210	24.658	329.5	0.263	5.90	102.0	2.9	0.28	0.0	0.00	0.17	0.09	74	215
75	ISL	14.54	14.53	33.189	24.678	327.7	0.266	5.91	101.8	3.0	0.29	0.0	0.00	0.19	0.10	75	
82		13.28	13.27	33.083	24.855	310.8	0.288	5.95	99.8	3.5	0.37	0.2	0.04	0.29	0.16	82	214
91	A	12.94	12.93	33.325	25.110	286.7	0.315	5.65	94.2	4.6	0.46	2.0	0.11	0.29	0.20	91	213
100	ISL	12.17	12.16	33.333	25.266	272.1	0.340	5 .40	88.6	6.4	0.62	4.9	0.09	0.23	0.17	100	
101		12.08	12.07	33.328	25.279	270.8	0.343	5 .37	87.9	6.6	0.64	5 .2	0.09	0.22	0.17	101	212
112		11 .39	11 .38	33.391	25.455	254.1	0.372	5.10	82.3	8.4	0.81	8.0	0.05	0.16	0.13	1 12	211
122		10.79	10.78	33.471	25.625	238. 1	0.397	4.56	72.7	12.5	1.10	12.8	0.02	0.09	0.13	123	210
125	ISL	10.70	10.69	33.484	25 .651	235.7	0.404	4.51	71 .8	13.0	1.13	13.3	0.02	0.08	0.12	126	
139		10.41	10.39	33.530	25.738	227.7	0.436	4.39	69.4	14.6	1 .23	14.8	0.01	0.06	0.08	140	209
150	ISL	9.93	9.91	33.601	25.875	214.8	0.460	4.02	62.9	18.4	1 .43	18.0	0.01	0.04	0 .06	151	
164		9.31	9.29	33.703	26.056	197.7	0.489	3.50	54.1	23.7	1 .70	22.2	0.01	0.01	0.05	165	208
193		8.78	8.76	33.866	26.268	178.0	0.544	2.99	45.7	29.8	1 .95	25 .7	0.00	0.00	0.05	194	207
200	ISL	8.64	8.62	33.892	26.310	174.1	0.556	3.00	45.7	30.9	1 .96	26.0	0.00			201	
227		8.11	8.09	33.958	26.443	161.8	0.602	3.18	47.9	34.5	1 .98	26.7	0.00			228	206
250	ISL	7.75	7.73	33.970	26.505	156.1	0.638	3.23	48.3	36.6	2.00	27.2	0.00			251	
266		7.52	7.49	33.967	26.536	153.3	0.663	3.26	48.4	38.3	2.03	27.7	0.00			267	205
300	ISL	6.97	6.94	33.967	26.613	146.2	0.714	2 .99	43.9	44. 6	2.18	29.9	0.00			302	
317		6.74	6.71	33.974	26.650	142.9	0.738	2.75	40. 1	48.2	2.28	31 .3	0.00		*	319	204
376		6.57	6.54	34.077	26.754	133.8	0.820	1 .52	22 .1	59.6	2.69	35.9	0.00			378	203
400	ISL	6.44	6.40	34.096	26.787	131.0	0.852	1 .29	18.7	63.0	2.79	37.0	0.00			402	
437		6.17	6.13	34. 110	26.833	126.9	0.899	1.10	15.8	67.8	2.89	38.2	0.00			440	202
500	ISL	5 .58	5.54	34.121	26.915	119.3	0.977	0.86	12.2	77.6	3.02	40.3	0.00			503	
516		5 .43	5.39	34.125	26.937	117.3	0.996	0.80	11.3	80.1	3.05	40.8	0.00			519	201

1 A) PRIMARY PRODUCTIVITY SAMPLES HERE TAKEN FROM THESE LEVELS.

RV DAVID STARR JORDAN — CALCOFI CRUISE 9604 — STATION 82 47

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
34 16.6 N	120 1.7 V	27/04/96	2235 UTC	575 m	140	05 kn	250 02 02	4	1012.1 mb	14 0 C	13 2 C	05ra 07	8/8	

DEPTH		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SI03 uM/l	P04 uM/l	N03 uM/l	N02 uM/L	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0	ISL	12.99	12 .99	33.716	25.401	256.6	0.000	8.75	146.5	1 .2	0.19	0.0	0.01	7.69	1.16	0	
2	A	12.99	12.99	33.716	25.401	256.7	0.005	8.75	146.5	1 .2	0.19	0.0	0.01	7.69	1.16	2	224
10		11 .70	11 .70	33.716	25.649	233.3	0.025	6.51	106.0	2 .4	0.63	4.6	0.11	31 .28	6.29	10	223
20		11.53	11 .53	33.725	25.688	229.9	0.048	6.08	98.7	5 .7	0.74	6.5	0.15	21 .41	4.56	20	222
30		9.71	9.71	33.852	26.105	190.3	0.069	2.59	40.4	27.9	1 .99	24.4	0.18	0.88	1 .60	30	221
40		9.59	9.59	33.914	26.173	184.1	0.088	2.35	36.6	30.0	2.08	25 .7	0.09	0.31	1 .03	40	220
50		9.51	9.50	33.927	26.197	182.0	0.106	2.28	35 .4	30.8	2.12	26.2	0.08	0.16	1 .09	50	219
60		9.48	9.47	33.967	26.233	178.8	0.124	2.13	33. 1	31 .9	2.17	26.8	0.06	0.15	1.11	60	218
69		9.42	9.41	33.977	26.251	177.3	0. 140	2.08	32.3	32.6	2.21	27.3	0.06	0.10	0.68	69	217
75	ISL	9.37	9.36	33.994	26.273	175.4	0.151	2.03	31 .5	33.4	2 .24	27.6	0.05	0.10	0.65	75	
84		9.29	9.28	34.026	26.311	171.9	0. 166	1 .94	30.0	34.6	2.28	28.0	0.03	0.10	0.61	84	216
99		9.18	9.17	34.074	26.366	166.9	0.192	1 .83	28.3	36. 1	2.36	28.6	0.03	0.09	0.55	100	215
100	ISL	9.17	9.16	34.076	26.370	166.7	0. 193	1 .83	28.3	36.2	2.37	28.6	0.03	0.09	0.55	101	
119		9.06	9.05	34.101	26.407	163.5	0.225	1 .74	26.8	37.8	2.53	29. 1	0.02	0.08	0.58	120	214
125	ISL	9.02	9.01	34.108	26.419	162.5	0.234	1 .70	26.2	38.4	2.54	29.3	0.02	0.08	0.55	126	
140		8.93	8.91	34.124	26.446	160.2	0.259	1 .58	24.3	39.9	2.56	29.8	0.01	0.08	0.47	141	213
150	ISL	8.87	8.85	34.133	26.463	158.8	0.275	1 .53	23.5	40.7	2.55	30. 1	0.01	0.07	0. 43	151	
170		8.75	8.73	34.150	26.495	156.1	0.306	1 .43	21.9	42.6	2.53	30.7	0.01	0.06	0.39	171	212
198		8.50	8.48	34.169	26.549	151.4	0.349	1.17	17.8	46 .8	2.65	32.0	0.01	0.05	0.43	199	211
200	ISL	8.48	8. 46	34.169	26.552	151.1	0.352	1.16	17.6	47. 1	2.66	32. 1	0.01	0.05	0.43	201	
228		8.23	8.21	34.170	26.591	147.8	0.394	1 .00	15.1	50.9	2 .79	33.0	0.01	0.10	0 .40	229	210
250	ISL	7.98	7.95	34.175	26.633	144.2	0. 426	0.93	14.0	53.5	2.81	33.6	0.01	0.07	0.35	252	
269		7.76	7.73	34.180	26.669	141.0	0.453	0.89	13.3	55 .7	2.83	34. 1	0.01	0.04	0.30	271	209
300	ISL	7.46	7.43	34.187	26.718	136.7	0.496	0.84	12.5	59. 1	3.00	34.7	0.03	0.08	0.29	302	
318		7.31	7.28	34.191	26.743	134.5	0.521	0.81	12.0	61 .3	3.11	35 .0	0.04	0.11	0.29	320	208
377		6. 85	6.81	34.211	26.823	127.6	0.598	0.56	8.2	70.9	3.35	36.0	0.06	0.16	0.21	380	207
400	ISL	6.68	6.64	34.214	26.848	125.4	0.627	0. 44	6.4	76.4	3.37	35.5	0.04			403	
437		6.46	6.42	34.217	26.880	122.7	0.673	0.26	3.8	85. 1	3.39	34.3	0. 01			440	206
500	ISL	6.32	6.27	34.222	26.903	121.4	0.750	0.15	2 .2	93.5	3.47	32.3	0.00			504	
511		6.31	6.26	34.222	26.904	121.4	0.763	0.14	2 .0	94. 7	3.49	31 .8	0.00			515	205
536		6.29	6.24	34.221	26.906	121.5	0.794	0.07	1 .0	98.6	3.54	30. 1	O.OO			540	204
556		6.29	6.24	34.228	26.912	121.3	0.818	0.14	2.0	97 .0	3.67	30.7	0.00			560	203
561		6.29	6.24	34.228	26.912	121.3	0.824	0.12	1.7	97.3	3.67	30.5	0.00			565	202
567		6.29	6.24	34.226	26.911	121.6	0.831	0.11	1.6	97.5	3.95	30.4	0.00			571	201

A) SANTA BARBARA BASIN STATION.

RV DAVID STARR JORDAN CALCOFI CRUISE 9604 STATION 83 40.6

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
34 13.8 N	119 25.0 W	27/04/96	1856	UTC	37 m	250	08 kn	240 01 05	4	1013.9 mb	15 2 C	14 6 C	05m 06	8/8	

DEPTH m		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SI03 uM/l	P04 uM/l	N03 uM/l	N02 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
Q	ISL	13.05	13.05	33.626	25.319	264.4	0.000	7.00	117.2	4.2	0.48	2.3	0.12	11.95	2.99	0	
1	A	13.05	13.05	33.626	25.319	264.4	0.003	7.00	117.2	4.2	0.48	2.3	0.12	11.95	2.99	1	207
3	A	12.68	12.68	33.631	25.396	257.2	0.008	6.98	116.0	3.8	0.46	2.6	0.12	12.78	3.03	3	206
6	A	12.15	12.15	33.659	25.520	245.5	0.015	6.61	108.7	3.6	0.55	4.6	0.13	17.35	3.39	6	205
10	A	11.88	11.88	33.670	25.579	239.9	0.025	6.33	103.5	4.9	0.64	6.1	0.14	14.55	4.74	10	204
14	A	11.73	11.73	33.676	25.612	236.9	0.035	5.72	93.2	8.2	0.92	8.6	0.18	6.08	3.06	14	203
19	A	11.47	11.47	33.676	25.660	232.4	0.046	5.31	86.0	10.7	1.11	10.5	0.20	2.92	2.83	19	202
20	ISL	11.42	11.42	33.679	25.672	231.4	0.049	5.17	83.7	11.4	1.15	11.1	0.20	2.69	2.71	20	
28		11.06	11.06	33.704	25.757	223.5	0.067	4.04	64.9	17.2	1.48	15.8	0.24	0.87	1.79	28	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV DAVID STARR JORDAN CALCOFI CRUISE 9604 STATION 83 42

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
34 1C.9 N	119 30.5 W	27/04/96	1524	UTC	108 m	180	05 kn	170 01 05	4	1013.4 mb	14 2 C	13 5 C	08m 05	8/8	

DEPTH m		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SI03 uM/l	P04 ufl/l	N03 uM/l	N02 ufl/l	CHL-A ug/l	PHAEO ug/l	PRES db	SABP
0	ISL	12.62	12.62	33.585	25.372	259.4	0.000	5.87	97.4	8.8	0.78	6.6	0.14	3.00	1.19	0	
1		12.62	12.62	33.585	25.372	259.4	0.003	5.87	97.4	8.8	0.78	6.6	0.14	3.00	1.19	1	210
10		12.36	12.36	33.638	25.464	250.9	0.026	5.91	97.6	8.1	0.78	7.4	0.15	8.26	1.97	10	209
20		11.69	11.69	33.660	25.607	237.5	0.050	5.32	86.6	10.5	1.05	10.3	0.20	3.83	2.27	20	208
30		11.62	11.62	33.667	25.626	236.0	0.074	5.44	88.4	10.1	1.05	10.2	0.20	4.38	2.77	30	207
40		11.52	11.51	33.680	25.655	233.5	0.097	5.39	87.4	10.6	1.07	10.7	0.20	4.25	2.19	40	206
49		11.28	11.27	33.690	25.707	228.8	0.118	5.01	80.8	12.5	1.19	12.2	0.21	2.89	1.86	49	205
50	ISL	11.26	11.25	33.693	25.713	228.2	0.120	4.95	79.8	12.9	1.21	12.5	0.22	2.76	1.85	50	
59		10.98	10.97	33.734	25.795	220.6	0.140	4.27	68.5	17.4	1.46	15.9	0.24	1.63	1.77	59	204
69		10.20	10.19	33.814	25.994	201.8	0.162	3.03	47.8	23.6	1.79	21.6	0.15	0.23	0.96	69	203
75	ISL	9.90	9.89	33.871	26.089	192.9	0.173	2.69	42.2	26.2	1.98	23.6	0.10	0.17	0.70	75	
84		9.61	9.60	33.945	26.195	182.9	0.190	2.47	38.5	28.9	2.18	25.4	0.05	0.07	0.51	84	202
100	ISL	9.49	9.48	33.982	26.244	178.6	0.219	2.37	36.8	30.2	2.10	26.1	0.03	0.06	0.43	101	
103		9.47	9.46	33.989	26.253	177.8	0.225	2.35	36.5	30.4	2.09	26.2	0.03	0.06	0.42	104	201

RV DAVID STARR JORDAN CALCOFI CRUISE 9604 STATION 83 51

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
33 52.8 N	120 8.1 W	27/04/96	0913	UTC	95 m	070	08 kn			1013.5 mb	13 6 C	13 2 C			

DEPTH m		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SI03 uM/l	P04 uM/l	N03 uM/l	N02 ufl/l	CHL-A ug/l	PHAEO ug/t	PRES db	SAMP
0	ISL	11.86	11.86	33.675	25.587	238.9	0.000	5.80	94.8	11.7	0.98	10.1	0.19	6.65	1.54	0	
2		11.86	11.86	33.675	25.587	239.0	0.005	5.80	94.8	11.7	0.98	10.1	0.19	6.65	1.54	2	213
5		11.57	11.57	33.681	25.646	233.5	0.012									5	211
5		11.58	11.58	33.686	25.648	233.3	0.012	5.46	88.7	13.5	1.08	12.0	0.19	6.13	1.85	5	209
6		11.59	11.59	33.681	25.642	233.9	0.014									6	210
6		11.53	11.53	33.683	25.655	232.7	0.014									*i*	212
10	ISL	11.35	11.35	33.691	25.694	229.0	0.023	5.15	83.2	15.2	1.25	13.7	0.20	4.44	1.66	10	
11		11.33	11.33	33.691	25.697	228.7	0.026	5.11	82.6	15.4	1.28	13.9	0.20	4.09	1.62	11	208
20	ISL	11.19	11.19	33.702	25.732	225.7	0.046	4.87	78.4	16.6	1.37	15.1	0.20	3.38	1.50	20	
21		11.18	11.18	33.703	25.734	225.5	0.048	4.86	78.3	16.7	1.37	15.1	0.20	3.30	1.49	21	207
30	ISL	11.09	11.09	33.706	25.753	223.9	0.069	4.77	76.7	17.3	1.41	15.6	0.20	2.72	1.26	30	
31		11.08	11.08	33.706	25.755	223.7	0.071	4.77	76.7	17.3	1.41	15.6	0.20	2.68	1.24	31	206
41		11.07	11.06	33.712	25.761	223.3	0.093	4.76	76.5	17.6	1.42	15.9	0.20	2.69	1.18	41	205
50		10.87	10.86	33.725	25.807	219.2	0.113	4.54	72.6	18.9	1.49	16.9	0.20	1.90	1.12	50	204
61		10.84	10.83	33.739	25.824	217.9	0.137	4.47	71.5	19.6	1.53	17.3	0.19	1.86	1.08	61	203
70		10.70	10.69	33.760	25.865	214.1	0.157	4.19	66.8	20.9	1.58	18.1	0.19	1.84	1.07	70	202
75	ISL	10.54	10.53	33.785	25.913	209.7	0.167	3.90	62.0	22.5	1.66	19.2	0.18	1.52	0.99	75	
84		10.24	10.23	33.832	26.001	201.5	0.186	3.38	53.4	25.4	1.80	21.3	0.17	0.95	0.85	84	201

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
33 44.3 N	120 24.6 U	27/04/96	0535	UTC	958 m	330	25 kn			1014.0 nb	15 0 C	13 0 C			

DEPTH in	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SI03 uM/l	P04 uM/l	N03 uM/l	N02 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	12.15	12.15	33 502	25.398	256.9	0.000	5.44	89.3	9.9	0.98	9.4	0.20	1.14	0.47	0	
3	12.15	12.15	33 502	25.398	257.0	0.008	5.44	89.3	9.9	0.98	9.4	0.20	1.14	0.47	3	220
9	12.13	12.13	33 509	25.407	256.3	0.023	5.45	89.5	10.1	0.99	9.6	0.20	1.20	0.44	9	219
10 ISL	12.11	12.11	33 512	25.413	255.7	0.026	5.44	89.3	10.2	0.99	9.7	0.20	1.21	0.45	10	
20 ISL	11.91	11.91	33 556	25.486	249.1	0.051	5.34	87.3	11.7	1.08	11.0	0.22	1.45	0.60	20	
21	11.88	11.88	33 562	25.496	248.1	0.053	5.33	87.1	11.9	1.09	11.2	0.22	1.48	0.63	21	218
29	11.70	11.70	33 612	25.568	241.4	0.073	5.25	85.4	13.8	1.20	12.7	0.23	1.86	0.85	29	217
30 ISL	11.68	11.68	33 617	25.576	240.7	0.075	5.24	85.3	14.0	1.21	12.9	0.23	1.87	0.86	30	
42	11.44	11.43	33 651	25.647	234.3	0.104	5.08	82.2	15.3	1.29	14.2	0.23	2.00	1.02	42	216
50	11.40	11.39	33 658	25.660	233.2	0.123	5.02	81.2	16.0	1.31	14.6	0.23	1.74	0.85	50	215
60	10.79	10.78	33 670	25.779	222.1	0.145	4.39	70.1	18.3	1.45	17.0	0.16	0.93	0.53	60	214
69	9.65	9.64	33 808	26.081	193.4	0.164	2.99	46.6	25.6	1.83	23.0	0.03	0.04	0.25	69	213
75 ISL	9.62	9.61	33 850	26.119	190.0	0.176	2.79	43.5	27.6	1.94	23.8	0.03	0.04	0.26	75	
84	9.57	9.56	33 914	26.178	184.6	0.192	2.49	38.8	28.9	2.02	25.1	0.03	0.04	0.27	84	212
100 ISL	9.34	9.33	33 995	26.279	175.3	0.221	2.19	33.9	32.3	2.14	26.7	0.06	0.03	0.29	101	
101	9.32	9.31	33 999	26.285	174.7	0.223	2.18	33.8	32.5	2.15	26.8	0.06	0.03	0.29	102	211
119	9.16	9.15	34 027	26.333	170.5	0.254	2.02	31.2	35.3	2.23	27.6	0.11	0.04	0.33	120	210
125 ISL	9.12	9.11	34 035	26.346	169.4	0.264	2.01	31.0	35.5	2.24	27.8	0.11	0.04	0.31	126	
140	9.01	8.99	34 058	26.382	166.3	0.289	1.98	30.5	35.8	2.27	28.2	0.08	0.03	0.26	141	209
150 ISL	8.92	8.90	34 084	26.416	163.2	0.306	1.92	29.5	36.6	2.31	28.7	0.06	0.03	0.24	151	
168	8.72	8.70	34 134	26.487	156.8	0.335	1.75	26.8	38.9	2.39	29.7	0.03	0.02	0.22	169	208
196	8.28	8.26	34 196	26.604	146.1	0.377	1.39	21.1	45.4	2.56	31.6	0.01	0.02	0.15	197	207
200 ISL	8.23	8.21	34 201	26.615	145.1	0.383	1.35	20.4	46.1	2.58	31.8	0.01			201	
229	7.98	7.96	34 225	26.672	140.1	0.424	1.17	17.6	50.0	2.68	32.8	0.02			230	206
250 ISL	7.84	7.81	34 231	26.697	138.0	0.453	1.09	16.3	51.8	2.72	33.3	0.02			252	
269	7.74	7.71	34 232	26.713	136.8	0.480	1.04	15.6	53.0	2.74	33.7	0.02			271	205
300 ISL	7.62	7.59	34 234	26.732	135.5	0.522	0.99	14.8	54.7	2.77	34.2	0.01			302	
319	7.54	7.51	34 235	26.745	134.6	0.547	0.96	14.3	55.8	2.79	34.5	0.01			321	204
378	7.14	7.10	34 246	26.811	129.0	0.625	0.77	11.4	61.8	2.90	36.0	0.01			381	203
400 ISL	6.99	6.95	34 250	26.835	127.0	0.653	0.71	10.4	64.0	2.93	36.5	0.01			403	
436	6.72	6.68	34 257	26.877	123.3	0.698	0.61	8.9	67.8	2.99	37.5	0.00		... A	439	202
500 ISL	6.09	6.05	34 269	26.969	114.9	0.775	0.44	6.3	76.7	3.12	39.7	0.00	«	'*.f ' *	504	
510	5.99	5.95	34 271	26.984	113.5	0.786	0.41	5.9	78.1	3.14	40.0	0.00			514	201

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
33 34.6 N	120 44.9 W	27/04/96	0042	UTC	1234 m	340	20 kn	340 06 06	1	1013.5 mb	16 7 C	15 0 C		1/8	SC

DEPTH in	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SI03 uM/l	P04 uM/l	N03 uM/l	N02 uM/L	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	14.42	14.42	33 367	24.838	310.2	0.000	6.13	105.4	2.5	0.41	1.5	0.07	0.98	0.31	0	
3	14.42	14.42	33 367	24.838	310.3	0.009	6.13	105.4	2.5	0.41	1.5	0.07	0.98	0.31	3	220
10 ISL	14.39	14.39	33 367	24.845	309.8	0.031	6.11	105.0	2.5	0.41	1.5	0.07	0.96	0.29	10	
11	14.39	14.39	33 368	24.846	309.8	0.034	6.11	105.0	2.5	0.41	1.5	0.07	0.96	0.29	11	219
20 ISL	14.25	14.25	33 365	24.873	307.5	0.062	6.09	104.4	2.6	0.41	1.6	0.07	1.12	0.42	20	
22	14.19	14.19	33 365	24.886	306.3	0.068	6.08	104.1	2.6	0.41	1.6	0.07	1.15	0.46	22	218
30 ISL	13.83	13.83	33 385	24.976	297.9	0.092	5.74	97.6	5.4	0.61	4.4	0.14	0.97	0.46	30	
31	13.75	13.75	33 388 C	24.995	296.2	0.095									31	217
42	11.64	11.63	33 449	25.453	252.7	0.125	5.09	82.7	10.6	0.96	9.7	0.26	0.54	0.47	42	216
50 ISL	11.26	11.25	33 475	25.543	244.3	0.145	4.78	77.0	12.8	1.07	11.9	0.28	0.33	0.37	50	
52	11.22	11.21	33 485	25.558	242.9	0.150	4.68	75.3	13.4	1.10	12.5	0.28	0.29	0.34	52	215
58	10.83	10.82	33 560	25.686	230.9	0.164	4.20	67.1	16.4	1.26	15.4	0.19	0.19	0.31	58	214
71	10.31	10.30	33 619	25.823	218.1	0.193	3.90	61.6	18.7	1.39	17.6	0.06	0.11	0.28	71	213
75 ISL	10.24	10.23	33 647	25.857	215.0	0.202	3.69	58.2	20.2	1.47	18.7	0.04	0.09	0.28	75	
83	10.11	10.10	33 703	25.923	208.9	0.219	3.28	51.6	23.1	1.64	21.0	0.02	0.06	0.27	83	212
100 ISL	9.48	9.47	33 771	26.081	194.1	0.253	3.18	49.4	25.7	1.76	23.1	0.02	0.04	0.26	101	
101	9.44	9.43	33 774	26.090	193.3	0.255	3.17	49.2	25.8	1.76	23.2	0.02	0.04	0.26	102	211
120	8.93	8.92	33 837	26.221	181.1	0.291	3.21	49.2	28.0	1.83	24.3	0.02	0.02	0.18	121	210
125 ISL	8.88	8.87	33 863	26.249	178.5	0.300	3.10	47.5	29.1	1.88	24.9	0.02	0.02	0.17	126	
134	8.80	8.79	33 906	26.296	174.2	0.316	2.91	44.5	31.1	1.95	25.8	0.01	0.02	0.17	135	209
150 ISL	8.41	8.39	33 918	26.365	167.8	0.343	3.20	48.5	31.7	1.91	25.5	0.01	0.02	0.13	151	
165	8.01	7.99	33 910	26.419	162.9	0.368	3.58	53.8	32.2	1.83	25.3	0.01	0.01	0.10	166	208
198	7.69	7.67	33 96	26.505	155.1	0.420	3.33	49.7	36.1	1.94	26.9	0.01	0.01	0.08	199	207
200 ISL	7.67	7.65	33 961	26.509	154.8	0.423	3.30	49.2	36.4	1.95	27.0	0.01			201	
228	7.47	7.45	33 985	26.557	150.7	0.466	2.85	42.3	40.8	2.13	29.2	0.01			229	206
250 ISL	7.35	7.33	34 023	26.604	146.5	0.499	2.42	35.8	44.9	2.30	30.9	0.00			252	
263	7.28	7.25	34 047	26.633	144.0	0.518	2.17	32.1	47.4	2.40	31.8	0.00			265	205
300 ISL	7.01	6.98	34 079	26.696	138.5	0.570	1.77	26.0	53.1	2.56	33.8	0.00			302	
320	6.84	6.81	34 09	26.728	135.6	0.597	1.61	23.6	56.0	2.63	34.7	0.00			322	204
376	6.36	6.33	34 127	26.821	127.3	0.671	1.08	15.6	65.7	2.90	37.6	0.00			378	203
400 ISL	6.17	6.13	34 140	26.856	124.2	0.701	0.93	13.4	69.5	2.97	38.5	0.00			403	
432	5.95	5.91	34 162	26.902	120.1	0.740	0.77	11.0	74.0	3.05	39.5	0.00			435	202
500 ISL	5.77	5.73	34.247	26.992	112.3	0.819	0.43	6.1	80.7	3.21	40.6	0.00			503	
510	5.74	5.70	34.260	27.006	111.1	0.831	0.38	5.4	81.7	3.23	40.8	0.00			514	201

RV DAVID STARR JORDAN CALCOFI CRUISE 9604 STATION 83 70

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPI
33 14.8 N	121 26.7 W	26/04/96	1822	UTC	3797 m	330	20 kn	340 10 l06	0	1016.9 mb	16.9 C	16.0 C	18m	02	0/8

DEPTH m		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SI03 uM/l	P04 uM/l	N03 uM/l	N02 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMF
0	ISL	14.69	14.69	33.166	24.626	330.4	0.000	5.97	103.1	3.1	0.31	0.1	0.00	0.36	0.16	0	
2	A	14.69	14.69	33.166	24.626	330.5	0.007	5.97	103.1	3.1	0.31	0.1	0.00	0.36	0.16	2	222
10	ISL	14.66	14.66	33.168	24.634	329.9	0.033	5.99	103.4	3.1	0.31	0.1	0.00	0.26	0.11	10	
12	A	14.65	14.65	33.169	24.637	329.7	0.040	5.99	103.4	3.1	0.31	0.1	0.00	0.25	0.10	12	221
18		14.63	14.63	33.174	24.645	329.1	0.059	5.99	103.4	3.1	0.31	0.1	0.00	0.39	0.18	18	22G
20	ISL	14.62	14.62	33.174	24.647	328.9	0.066	5.99	103.3	3.1	0.31	0.1	0.00	0.40	0.19	20	
24	A	14.60	14.60	33.173	24.651	328.7	0.079	5.99	103.3	3.1	0.31	0.2	0.01	0.43	0.21	24	219
29		13.84	13.84	33.163	24.802	314.4	0.095	6.03	102.4	3.1	0.38	1.0	0.05	0.64	0.33	29	218
30	ISL	13.83	13.83	33.160	24.802	314.5	0.098	6.03	102.3	3.1	0.39	1.1	0.05	0.64	0.35	30	
36	A	13.74	13.73	33.145	24.809	314.0	0.117	6.01	101.8	3.2	0.43	1.5	0.07	0.67	0.43	36	217
40		13.63	13.62	33.147	24.833	311.8	0.130	5.99	101.2	3.4	0.44	1.7	0.08	0.61	0.46	40	216
49	A	13.56	13.55	33.156	24.854	310.0	0.158	5.98	100.9	3.5	0.45	1.9	0.09	0.59	0.56	49	215
50	ISL	13.56	13.55	33.161	24.858	309.6	0.161	5.97	100.8	3.5	0.45	1.9	0.09	0.59	0.56	50	
57		13.38	13.37	33.206	24.930	303.0	0.182	5.92	99.6	3.6	0.50	2.4	0.10	0.54	0.58	57	214
68	A	12.19	12.18	33.304	25.238	273.8	0.214	5.52	90.6	6.7	0.69	5.8	0.16	0.31	0.51	68	213
75	ISL	11.61	11.60	33.306	25.348	263.5	0.233	5.27	85.4	8.3	0.78	7.7	0.11	0.23	0.43	75	
83		11.13	11.12	33.307	25.436	255.2	0.254	5.02	80.5	9.9	0.86	9.5	0.04	0.17	0.34	83	212
97		10.76	10.75	33.442	25.607	239.2	0.288	4.73	75.3	12.0	0.98	11.8	0.02	0.11	0.22	97	211
100	ISL	10.68	10.67	33.475	25.647	235.5	0.295	4.57	72.7	13.1	1.05	12.8	0.02	0.10	0.21	100	
119		10.18	10.17	33.671	25.886	213.1	0.338	3.53	55.6	20.5	1.52	19.5	0.01	0.04	0.16	120	210
125	ISL	9.99	9.98	33.714	25.952	206.9	0.350	3.35	52.6	22.3	1.62	20.8	0.01	0.04	0.17	126	
139		9.54	9.52	33.799	26.094	193.7	0.378	3.06	47.6	25.9	1.79	23.2	0.01	0.03	0.18	140	209
150	ISL	9.22	9.20	33.871	26.202	183.6	0.399	2.83	43.7	28.6	1.91	24.9	0.01	0.02	0.15	151	
169		8.77	8.75	33.968	26.349	169.8	0.433	2.56	39.1	32.3	2.05	27.0	0.01	0.01	0.09	170	208
199		8.35	8.33	33.985	26.428	162.8	0.483	2.60	39.4	35.3	2.09	28.1	0.01	0.01	0.07	200	207
200	ISL	8.33	8.31	33.986	26.432	162.5	0.484	2.60	39.4	35.4	2.09	28.1	0.01			201	
227		7.86	7.84	34.019	26.528	153.7	0.527	2.51	37.6	39.7	2.19	29.6	0.01			228	206
250	ISL	7.52	7.50	34.037	26.591	147.9	0.562	2.35	34.9	43.4	2.28	30.8	0.00			251	
267		7.30	7.27	34.048	26.631	144.2	0.587	2.19	32.4	46.3	2.35	31.7	0.00			269	205
300	ISL	6.99	6.96	34.074	26.695	138.6	0.633	1.81	26.6	52.6	2.54	33.9	0.00			302	
317		6.84	6.81	34.084	26.723	136.0	0.657	1.61	23.6	56.0	2.64	35.0	0.00			319	204
377		6.03	6.00	34.085	26.830	126.2	0.735	1.20	17.2	67.5	2.85	38.2	0.00			379	203
400	ISL	5.90	5.87	34.119	26.873	122.3	0.764	0.98	14.0	71.5	2.95	39.1	0.00			403	
437		5.80	5.76	34.185	26.938	116.6	0.808	0.64	9.1	77.0	3.09	40.2	0.00			440	202
500	ISL	5.72	5.68	34.268	27.015	110.1	0.879	0.40	5.7	82.4	3.22	41.0	0.00			503	
517		5.70	5.66	34.291	27.035	108.4	0.898	0.33	4.7	83.8	3.25	41.2	0.00			521	201

A) PRIMARY PRODUCTIVITY SAMPLES **WERE TAKEN FROM** THESE LEVELS.

RV DAVID STARR **JORDAN** CALCOFI CRUISE 9604 STATION 83 80

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
32 54.7 N	122 7.6 W	26/04/96	1022	UTC	4183 m	350	25 kn			1016.0 mb	16.5 C	14.8 C			

DEPTH in		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SI03 uM/l	P04 uM/l	N03 uM/l	N02 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0	ISL	15.03	15.03	33.140	24.533	339.3	0.000	5.91	102.8	3.3	0.33	0.0	0.00	0.21	0.08	0	
4		15.03	15.03	33.140	24.533	339.4	0.014	5.91	102.8	3.3	0.33	0.0	0.00	0.21	0.08	4	224
10	ISL	15.03	15.03	33.140	24.533	339.5	0.034	5.91	102.8	3.3	0.33	0.0	0.00	0.21	0.08	10	
17		15.03	15.03	33.140	24.533	339.7	0.058	5.91	102.8	3.3	0.33	0.0	0.00	0.21	0.07	17	222
18		15.04	15.04	33.141	24.532	339.9	0.061									18	223
20	ISL	15.03	15.03	33.140	24.533	339.8	0.068	5.92	103.0	3.3	0.33	0.0	0.00	0.21	0.07	20	
28		15.04	15.04	33.140	24.531	340.3	0.095	5.93	103.1	3.3	0.33	0.0	0.00	0.21	0.06	28	220
30		15.04	15.04	33.141	24.532	340.2	0.102									30	221
42		15.05	15.04	33.141	24.530	340.8	0.143	5.92	103.0	3.3	0.33	0.0	0.00	0.22	0.07	42	218
43		15.04	15.03	33.142	24.533	340.5	0.146									43	219
30	ISL	15.04	15.04	33.140	24.531	340.3	0.102	5.93	103.1	3.3	0.33	0.0	0.00	0.21	0.06	30	
50	ISL	15.06	15.05	33.141	24.528	341.2	0.170	5.92	103.0	3.3	0.33	0.0	0.00	0.21	0.07	50	
58		15.06	15.05	33.141	24.529	341.4	0.197	5.92	103.0	3.2	0.33	0.0	0.00	0.20	0.07	58	217
75		15.14	15.13	33.274	24.614	333.8	0.255	5.86	102.2	3.2	0.29	0.0	0.00	0.21	0.09	75	215
75		15.14	15.13	33.242	24.590	336.1	0.255									75	216
82		14.70	14.69	33.394	24.802	316.1	0.278	5.82	100.7	3.5	0.29	0.0	0.00	0.22	0.15	82	214
97		14.07	14.06	33.454	24.982	299.3	0.324	5.77	98.6	3.8	0.32	0.1	0.02	0.35	0.32	97	213
100	ISL	13.90	13.89	33.471	25.030	294.8	0.333	5.72	97.4	4.0	0.33	0.4	0.04	0.35	0.34	100	
102		13.79	13.78	33.484	25.063	291.7	0.339	5.68	96.5	4.1	0.34	0.6	0.05	0.34	0.35	102	212
113		13.68	13.66	33.584	25.163	282.5	0.370	5.53	93.8	4.6	0.40	1.8	0.07	0.30	0.30	113	211
125	ISL	12.69	12.67	33.566	25.347	265.1	0.403	5.30	88.0	6.4	0.57	4.8	0.04	0.18	0.19	126	
127		12.50	12.48	33.561	25.380	262.0	0.408	5.26	87.0	6.7	0.60	5.3	0.03	0.16	0.17	128	210
139		11.94	11.92	33.611	25.526	248.3	0.439	5.04	82.4	8.2	0.74	7.7	0.02	0.11	0.13	140	209
150	ISL	10.97	10.95	33.603	25.697	232.0	0.465	4.73	75.8	12.0	1.00	11.8	0.01	0.07	0.09	151	
162		9.92	9.90	33.602	25.877	214.8	0.492	4.41	69.0	16.5	1.29	16.2	0.00	0.03	0.05	163	208
193		9.17	9.15	33.772	26.133	190.9	0.555	4.21	64.9	21.3	1.48	19.6	0.00	0.00	0.02	194	207
200	ISL	9.08	9.06	33.818	26.184	186.3	0.568	3.90	60.0	23.5	1.60	21.0	0.00			201	
233		8.65	8.63	33.986	26.383	167.8	0.627	2.56	39.0	33.7	2.10	27.2	0.00			234	206
250	ISL	8.17	8.14	33.991	26.460	160.6	0.655	2.70	40.7	36.3	2.10	28.0	0.00			251	
269		7.64	7.61	33.980	26.529	154.1	0.684	2.98	44.4	38.9	2.10	28.5	0.00			270	205
300	ISL	7.22	7.19	34.021	26.621	145.6	0.731	2.47	36.5	45.9	2.30	31.1	0.00			302	
318		7.08	7.05	34.048	26.662	142.0	0.757	2.05	30.2	50.1	2.44	32.8	0.00			320	204
379		6.58	6.55	34.090	26.763	133.0	0.841	1.42	20.7	60.4	2.70	36.1	0.00			381	203
400	ISL	6.37	6.33	34.102	26.801	129.6	0.868	1.24	18.0	64.4	2.79	37.2	0.00			402	
433		6.06	6.02	34.124	26.858	124.4	0.910	0.98	14.1	70.3	2.91	38.7	0.00			436	202
500	ISL	5.72	5.68	34.190	26.953	115.9	0.991	0.61	8.7	79.0	3.08	40.3	0.00			503	
507		5.69	5.65	34.197	26.962	115.1	0.999	0.57	8.1	79.9	3.10	40.5	0.00			510	201

RV DAVID STARR | CALCOFI CRUISE 9604 | STATION 83 90

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
32 34.6 N	122 46.9 W	26/04/96	0306 UTC	4278 m	340 25 kn	340 10 07	1	1019.0 mb	17.1 C	15.0 C		3/8	CI

DEPTH m		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SI03 uM/l	P04 uN/l	N03 uN/l	N02 uN/l	CHL-A ug/l	PHAEO ug/L	PRES db	SAMP
0	ISL	16.50	16.50	33.377	24.386	353.2	0.000	5.71	102.4	2.9	0.25	0.0	0.00	0.12	0.03	0	
2		16.50	16.50	33.377	24.386	353.3	0.007	5.71	102.4	2.9	0.25	0.0	0.00	0.12	0.03	2	220
10	ISL	16.50	16.50	33.378	24.387	353.4	0.035	5.72	102.6	2.9	0.27	0.0	0.00	0.10	0.02	10	
16		16.50	16.50	33.378	24.388	353.6	0.057	5.72	102.6	2.9	0.28	0.0	0.00	0.09	0.02	16	219
20	ISL	16.50	16.50	33.378	24.388	353.7	0.071	5.72	102.6	2.9	0.27	0.0	0.00	0.09	0.02	20	
30	ISL	16.51	16.51	33.378	24.386	354.3	0.106	5.72	102.6	2.9	0.25	0.0	0.00	0.09	0.02	30	
32		16.51	16.50	33.378	24.386	354.3	0.113	5.72	102.6	2.9	0.25	0.0	0.00	0.09	0.02	32	218
44		16.52	16.51	33.379	24.385	354.8	0.156	5.70	102.3	2.9	0.25	0.0	0.00	0.09	0.03	44	217
50	ISL	16.51	16.50	33.385	24.392	354.3	0.177	5.71	102.4	2.9	0.25	0.0	0.00	0.10	0.03	50	
60		16.44	16.43	33.392	24.414	352.6	0.212	5.73	102.6	2.9	0.24	0.0	0.00	0.11	0.04	60	216
74		16.24	16.23	33.374	24.446	349.9	0.262	5.74	102.4	2.8	0.25	0.0	0.00	0.14	0.05	74	215
75	ISL	16.23	16.22	33.373	24.448	349.8	0.265	5.74	102.4	2.8	0.25	0.0	0.00	0.14	0.05	75	
85		16.09	16.08	33.363	24.472	347.8	0.300	5.74	102.1	2.8	0.25	0.0	0.00	0.17	0.06	85	214
94		15.70	15.69	33.337	24.540	341.5	0.331	5.76	101.6	2.9	0.26	0.0	0.00	0.20	0.09	94	213
100	ISL	15.54	15.52	33.330	24.571	338.8	0.351	5.79	101.8	2.9	0.27	0.0	0.00	0.21	0.10	100	
104		15.37	15.35	33.338	24.614	334.7	0.365	5.80	101.7	3.0	0.28	0.0	0.00	0.21	0.11	104	212
I 114		14.22	14.20	33.441	24.941	303.7	0.397	5.76	98.7	3.5	0.31	0.1	0.01	0.31	0.25	114	211
123		13.94	13.92	33.547	25.081	290.6	0.423	5.62	95.8	3.8	0.35	0.7	0.08	0.28	0.28	124	210
125	ISL	13.90	13.88	33.565	25.103	288.5	0.429	5.59	95.2	3.9	0.36	0.9	0.08	0.27	0.27	126	
141		13.34	13.32	33.637	25.274	272.7	0.474	5.33	89.8	5.4	0.50	3.5	0.06	0.18	0.19	142	209
150	ISL	12.61	12.59	33.604	25.393	261.4	0.498	5.15	85.4	6.9	0.64	5.9	0.04	0.14	0.15	151	
163		11.48	11.46	33.548	25.562	245.3	0.531	4.87	78.8	9.6	0.87	9.6	0.02	0.10	0.11	164	208
197		9.97	9.95	33.611	25.877	215.7	0.609	4.24	66.4	17.0	1.33	16.7	0.01	0.03	0.05	198	207
200	ISL	9.87	9.85	33.626	25.905	213.0	0.616	4.19	65.5	17.7	1.36	17.2	0.01			201	
233		9.01	8.98	33.793	26.176	187.6	0.682	3.74	57.4	24.2	1.66	21.9	0.00			234	206
250	ISL	8.69	8.66	33.835	26.259	179.9	0.713	3.65	55.7	26.5	1.75	23.3	0.00			251	
268		8.39	8.36	33.867	26.330	173.4	0.745	3.56	53.9	28.9	1.83	24.4	0.00			269	205
300	ISL	7.85	7.82	33.951	26.477	159.8	0.798	3.22	48.2	35.3	1.99	26.9	0.00			302	
313		7.65	7.62	33.982	26.530	154.8	0.819	3.06	45.6	38.1	2.06	28.0	0.00			315	204
378		6.81	6.77	34.022	26.679	141.1	0.915	2.20	32.2	51.2	2.43	33.1	0.00			380	203
400	ISL	6.58	6.54	34.038	26.723	137.1	0.946	1.90	27.6	55.6	2.55	34.7	0.00			402	
437		6.23	6.19	34.065	26.790	131.0	0.995	1.44	20.8	62.8	2.74	37.0	0.00			440	202
500	ISL	5.68	5.64	34.112	26.896	121.2	1.075	0.95	13.5	74.8	2.95	39.8	0.00			503	
509		5.60	5.56	34.119	26.911	119.8	1.085	0.88	12.5	76.5	2.98	40.2	0.00			512	201

RV DAVID STARR JORDAN | CALCOFI CRUISE 9604 | STATION 83 100

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
32 14.9 N	123 29.7 W	25/04/96	1902 UTC	4142 m	340 20 kn	340 08 05	0	1023.1 mb	18.8 C	16.1 C	35m 01	0/8	

DEPTH m		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SI03 uM/l	P04 uM/l	N03 uN/l	N02 uM/L	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0	ISL	17.22	17.22	33.461	24.282	363.1	0.000	5.65	102.8	2.9	0.23	0.1	0.00	0.08	0.02	0	
1		17.21	17.21	33.461	24.285	362.9	0.004									1	224
2	A	17.22	17.22	33.461	24.282	363.2	0.007	5.65	102.8	2.9	0.23	0.1	0.00	0.08	0.02	2	223
10	ISL	17.20	17.20	33.461	24.287	363.0	0.036	5.65	102.8	2.9	0.23	0.1	0.00	0.08	0.02	10	
20	ISL	17.17	17.17	33.460	24.294	362.7	0.073	5.64	102.5	2.9	0.24	0.1	0.00	0.07	0.02	20	
21	A	17.17	17.17	33.460	24.294	362.7	0.076	5.64	102.5	2.9	0.24	0.1	0.00	0.07	0.02	21	222
30	ISL	17.02	17.02	33.458	24.328	359.7	0.109	5.65	102.4	2.8	0.23	0.1	0.00	0.08	0.02	30	
34		16.95	16.94	33.455	24.343	358.5	0.123	5.66	102.4	2.8	0.23	0.1	0.00	0.08	0.02	34	221
47	A	16.78	16.77	33.430	24.364	356.9	0.170	5.70	102.8	2.8	0.23	0.1	0.00	0.09	0.03	47	220
50	ISL	16.74	16.73	33.428	24.372	356.3	0.180	5.70	102.7	2.8	0.23	0.1	0.00	0.10	0.03	50	
57		16.63	16.62	33.420	24.391	354.6	0.205	5.71	102.7	2.8	0.23	0.1	0.00	0.11	0.03	57	219
70	A	16.21	16.20	33.383	24.460	348.5	0.251	5.74	102.3	2.8	0.24	0.1	0.00	0.13	0.04	70	218
75	ISL	16.12	16.11	33.373	24.473	347.4	0.268	5.74	102.1	2.8	0.24	0.1	0.00	0.13	0.04	75	
83		16.02	16.01	33.362	24.487	346.3	0.296	5.75	102.1	2.8	0.24	0.1	0.00	0.13	0.05	83	217
94	A	15.87	15.86	33.358	24.518	343.6	0.334	5.74	101.6	2.7	0.25	0.1	0.00	0.18	0.08	94	216
100	ISL	15.72	15.70	33.337	24.536	342.1	0.355	5.75	101.5	2.7	0.25	0.1	0.00	0.20	0.09	100	
105		15.57	15.55	33.329	24.563	339.6	0.372	5.76	101.4	2.7	0.25	0.1	0.00	0.21	0.10	105	215
115		15.22	15.20	33.403	24.698	327.1	0.405	5.76	100.7	3.2	0.27	0.1	0.00	0.24	0.16	115	214
121		14.58	14.56	33.504	24.914	306.6	0.424	5.72	98.8	3.5	0.28	0.1	0.02	0.26	0.23	121	213
125	ISL	14.38	14.36	33.545	24.988	299.6	0.436	5.68	97.7	3.6	0.29	0.2	0.04	0.25	0.24	126	
132	A	14.12	14.10	33.579	25.069	292.1	0.457	5.59	95.7	3.8	0.33	0.7	0.07	0.23	0.26	133	212
142		13.38	13.36	33.57	25.214	278.4	0.485	5.45	91.8	4.8	0.43	2.5	0.06	0.19	0.23	143	211
149		13.35	13.33	33.658	25.288	271.5	0.505	5.34	90.0	5.1	0.47	3.2	0.05	0.16	0.18	150	210
150	ISL	13.28	13.26	33.660	25.304	270.0	0.507	5.32	89.5	5.2	0.48	3.4	0.05	0.15	0.17	151	
162		12.15	12.13	33.638	25.507	250.7	0.538	5.03	82.6	7.9	0.70	7.2	0.01	0.09	0.11	163	209
176		10.91	10.89	33.655	25.749	227.7	0.572	4.68	74.9	11.8	1.00	11.9	0.01	0.04	0.06	177	208
192		10.18	10.16	33.713	25.921	211.5	0.607	4.50	70.9	15.3	1.19	15.1	0.00	0.01	0.03	193	207
200	ISL	9.91	9.89	33.739	25.987	205.3	0.624	4.44	69.5	16.7	1.26	16.2	0.00			201	
226		9.22	9.20	33.816	26.160	189.1	0.675	4.29	66.2	20.8	1.43	19.0	0.00			227	206
250	ISL	8.68	8.65	33.886	26.300	176.0	0.719	4.12	62.8	25.1	1.58	21.3	0.00			251	
272		8.26	8.23	33.936	26.404	166.4	0.757	3.98	60.1	28.8	1.70	23.1	0.00			273	205
300	ISL	7.79	7.76	33.956	26.489	158.5	0.802	3.91	58.5	32.4	1.77	24.4	0.00			302	
314		7.58	7.55	33.960	26.523	155.4	0.824	3.87	57.6	34.3	1.81	25.1	0.00			316	204
378		6.87	6.83	34.017	26.667	142.3	0.919	2.39	35.0	49.5	2.36	32.3	0.00			380	203
400	ISL	6.57	6.53	34.022	26.711	138.2	0.950	2.10	30.5	54.5	2.49	34.0	0.00			402	
438		6.09	6.05	34.032	26.781	131.7	1.001	1.72	24.7	62.5	2.67	36.4	0.00			441	202
500	ISL	5.69	5.65	34.087	26.875	123.2	1.080	1.13	16.1	73.2	2.91	39.2	0.00			503	
509		5.63	5.59	34.095	26.889	122.0	1.091	1.04	14.8	74.7	2.95	39.6	0.00			512	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV DAVID STARR JORDAN CALCOFI CRUISE 960< STATION 83 110

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	80TT0M	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLCi	AMT	TYPI
31 54.7 N	124 10.1 W	25/04/96	1308	UTC	4208 in	340	22 kn			1022.9 mb	17.0 C	15.0 C				

DEPTH a	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SI03 uH/l	P04 uM/l	N03 uM/l	N02 uM/ l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMF
0 ISL	17.49	17.49	33.488	24.239	367.3	0.000	5 .61	102.6	3.0	0.25	0.0	0.00	0.07	0.02	0	
1	17.49	17.49	33.488	24.239	367.3	0.004	5 .61	102.6	3.0	0.25	0.0	0.00	0.07	0.02	1	22C
10 ISL	17.49	17.49	33.487	24.238	367.7	0.037	5 .60	102.5	3.0	0.25	0.0	0.00	0.07	0.02	10	
20	17.48	17.48	33.485 t)	24.240	367.9	0.074	5 .59	102.2	3.0	0.25	0.0	0.00	0.08	0.02	20	219
30 ISL	17.29	17.29	33.480	24.281	364.2	0.110	5 .63	102.6	3.0	0.24	0.0	0.00	0.09	0.02	30	
40	17.09	17.08	33.476	24.326	360.3	0. 146	5.67	102.9	3.0	0.23	0.0	0.00	0.09	0.03	40	218
SO ISL	17.07	17.06	33.477	24.332	360.1	0. 182	5.68	103.1	3.0	0.23	0.0	0.00	0.09	0.03	50	
60	17.04	17.03	33.476	24.339	359.8	0.218	5.69	103.2	2 .9	0.23	0.0	0.00	0.10	0.03	60	217
75 ISL	16.71	16.70	33.461	24.405	353.9	0.272	5.70	102.7	2.9	0.24	0.0	0.00	0.11	0.04	75	
80	16.56	16.55	33.453	24.434	351 .3	0.290	5.71	102.5	2.9	0.24	0.0	0.00	0.12	0.04	80	216
100	15.77	15 .75	33.411	24.582	337.8	0.358	5.78	102.2	3.0	0.27	0.0	0.00	0.18	0.09	100	215
109	15.28	15.26	33.460	24.728	324.0	0.388	5 .80	101 .5	3.1	0.29	0.0	0.00	0.17	0.14	109	214
117	13.94	13.92	33.366	24.941	303.7	0.413	5 .77	98.2	3.7	0.34	0.2	0.03	0.24	0.20	117	213
125 ISL	13.68	13.66	33.420	25.036	294.8	0.437	5 .70	96.6	4.0	0.40	0.9	0.09	0.25	0.23	126	
129	13.55	13.53	33.425	25.067	292.0	0.449	5 .65	95.5	4.2	0.43	1 .5	0.11	0.26	0.23	130	212
139	13.02	13.00	33.443	25.187	280.7	0.478	5.47	91 .4	5.2	0.53	3.3	0.08	0.21	0.22	140	211
150	12.21	12.19	33.397	25.309	269.2	0.508	5.21	85.6	6.6	0.67	5 .8	0.04	0.17	0.21	151	210
160	11 .92	11 .90	33.567	25.496	251 .6	0.534	4.96	81 .1	8.3	0.77	7.9	0.03	0.12	0.16	161	209
173	11 .20	11.18	33.644	25.688	233.5	0.565	4.59	73.9	11.9	1 .03	12.1	0.01	0.06	0.09	174	208
194	10.00	9.98	33.656	25.907	212.8	0.612	4.17	65.4	17.1	1 .36	17.0	0.01	0.02	0.04	195	207
200 ISL	9.77	9.75	33.672	25.958	208.0	0.625	4.05	63.2	18.5	1 .44	18.2	0.01			201	
228	9.05	9.03	33.768	26.150	190.0	0.681	3.58	55.0	24.4	1 .72	22.5	0.00			229	206
250 ISL	8.71	8.68	33.840	26.260	179.9	0.721	3.31	50.5	28. 1	1 .87	24.7	0.00			251	
267	8.49	8.46	33.890	26.333	173.1	0.751	3.16	48.0	30.7	1 .95	25.9	0.00			268	205
300 ISL	7.92	7.89	33.971	26.482	159.3	0.806	3.03	45 .4	36.4	2.08	27.8	0.00			302	
317	7.63	7.60	34.002	26.549	153.1	0.833	2.95	44.0	39.5	2.15	28.7	0.00			319	204
377	6.80	6.77 .	34.037	26.692	139.8	0.921	2.09	30.5	52.7	2.47	33.3	0.00			379	203
400 ISL	6.56	6.52	34.056	26.739	135 .5	0.952	1 .79	26.0	57.4	2.60	34.9	0.00			402	
438	6.23	6.19	34.088	26.808	129.3	1 .003	1 .35	19.5	64.6	2.80	37.3	0.00			441	202
500 ISL	5.79	5.75	34.131	26.898	121.2	1 .080	0.90	12.9	74.3	2.98	39.5	0.00			503	
513	5.70	5 .66	34.140	26.916	119.6	1 .096	0.81	11.5	76.3	3.02	40.0	0.00			516	201

RV DAVID STARR JORDAN CALCOFI CRUISE 9604 STATION 87 32i

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TINE	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD	AMT	TYPE
33 53.3 N	118 29.3 U	22/04/96	2359	UTC	57 m	240	06 kn	240 02 02.	0	1018.8 mb	17_4 C	15_2 C	04m	0(i	0/8	

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/ l	OXY PCT	SI03 uM/l	P04 uM/ l	N03 uM/l	N02 uM/ l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	15.42	15 .42	33.545	24.759	317.7	0.000			7.8	0.38	0.0	0.03	7.90	1 .39	0	
1	15 .42	15 .42	33.545	24.759	317.7	0.003			7.8	0.38	0.0	0.03	7 .90	1 .39	1	206
10	14.69	14.69	33.542	24.916	303.1	0.031	6.78	117.4	8 .0	0.40	0.0	0.03	10.18	1 .64	10	205
20 ISL	12.77	12.77	33.576	25.336	263.3	0.059	4. 44	73.9	12.2	1 .03	9. 1	0.25	2.77	0.69	20	
21	12.56	12.56	33.582	25.382	259.0	0.062	4.21	69.8	12.7	1.11	10.2	0.27	1 .92	0.58	21	204
30	11 .38	11 .38	33.619	25.633	235.3	0.084	3.31	53.5	16.9	1 .54	16.3	0.34	0.72	0.36	30	203
40	10.70	10.70	33.671	25.795	220.1	0.107	2.88	45 .9	20.8	1 .80	20.2	0.37	0.15	0.20	40	202
50 ISL	10.49	10.48	33.726	25.875	212.7	0.129	2 .66	42.2	23. 1	1 .90	21 .0	0.33	0.18	0. 40	50	
52	10.45	10.44	33.737	25.890	211.3	0.133	2.62	41 .5	23.6	1 .92	21 .2	0.32	0.18	0. 44	52	201

RV DAVID STARR JORDAN CALCOFI CRUISE 9604 STATION 87 35

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD	AMT	TYPE
33 49'.5 N	118 37.6 W	23/04/96	0200	UTC	631 m	270	15 kn	270 03 03i	0	1017.9 mb	16_8 C	14_6 C			0/8	

DEPTH in	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SI03 uM/l	P04 uM/ l	N03 uM/ l	N02 uM/L	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	14.80	14.80	33.515	24.871	307.0	0.000	6.13	106.4	4.0	0.36	0.4	0.02	1.17	0.45	0	
1	14.80	14.80	33.515	24.871	307.0	0.003	6.13	106.4	4.0	0.36	0.4	0.02	1.17	0.45	1	220
10	14.75	14.75	33.515	24.882	306.3	0.031	6.13	106.3	4. 1	0.37	0.5	0.03	1.18	0.46	10	219
20	14.03	14.03	33.516	25.035	292.0	0.061	6.04	103.2	4.5	0.41	1 .0	0.04	1 .40	0.57	20	218
29	12.87	12.87	33.537	25.287	268.3	0.086	5.31	88.5	7.7	0.71	5 .5	0.18	1 .65	0.76	29	217
30 ISL	12.75	12.75	33.543	25.315	265 .6	0.088	5.16	85.8	8.3	0.77	6.4	0.21	1 .59	0.75	30	
39	11 .76	11 .76	33.605	25.552	243.2	0.111	3.84	62.6	14.4	1 .31	14.3	0.42	0.83	0.60	39	216
49	10.91	10.90	33.670	25.757	223.9	0.135	3.19	51 .1	19.0	1 .61	18.9	0.25	0.23	0.39	49	215
50 ISL	10.86	10.85	33.674	25.769	222.8	0. 137	3.17	50.7	19.2	1 .62	19.1	0.23	0.22	0.38	50	
59	10.54	10.53	33.719	25.861	214.3	0.157	3.08	48.9	20.5	1 .68	20.3	0.11	0.16	0.33	59	214
69	10.06	10.05	33.816	26.019	199.4	0.177	2 .78	43.7	24.2	1 .86	22.9	0.05	0.08	0.28	69	213
75 ISL	9.93	9.92	33.854	26.071	194.6	0. 189	2.69	42.2	25.6	1 .91	23.7	0.04	0.06	0.24	75	
84	9.83	9.82	33.895	26.120	190.1	0.206	2 .61	40.9	26.9	1 .96	24.3	0.03	0.04	0.20	84	212
99	9.63	9.62	33.948	26.195	183.3	0.234	2.49	38.8	28.3	2.03	25 .2	0.03	0.03	0.20	100	211
100 ISL	9.61	9.60	33.953	26.202	182.7	0.236	2.48	38.6	28.5	2.04	25 .3	0.03	0.03	0.20	101	
119	9.36	9.35	34.051	26.320	171.8	0.270	2.19	34.0	31 .8	2.16	26.9	0. 01	0.02	0.11	120	210
125 ISL	9.32	9.31	34.069	26.340	170.0	0.280	2.13	33.0	32 .5	2.19	27.2	0.01	0.02	0.10	126	
139	9.26	9.24	34.097	26.372	167.3	0.304	2.03	31 .4	33.7	2 .23	27.6	0.01	0.02	0.09	140	209
150 ISL	9.22	9.20	34. 107	26.387	166.1	0.322	1 .99	30.8	34.2	2.25	27.9	0.01	0.02	0.09	151	
169	9.13	9.11	34. 120	26.411	164. 1	0.354	1 .94	29. 9	35 .2	2.29	28.3	0.01	0.02	0.10	170	208
199	8.87	8.85	34.164	26.488	157.4	0.402	1 .73	26.5	38.6	2 .38	29.5	0.01	0.01	0.09	200	207
200 ISL	8.86	8.84	34.166	26.491	157.1	0.403	1 .72	26.4	38.7	2 .38	29.5	0.01			201	
228	8.63	8.61	34.211	26.563	150.8	0. 446	1 .48	22.6	42 .0	2 .49	30.6	0.00			229	206
250 ISL	8.42	8.39	34.225	26.606	147.0	0.479	1 .34	20.4	44.6	2 .56	31 .4	0.00			252	
269	8.23	8.20	34.230	26.639	144.1	0.507	1 .24	18.8	46.7	2.62	32.1	0.00			271	205
300 ISL	7.96	7.93	34.232	26.681	140.5	0.551	1.12	16.8	50.0	2 .69	33.0	0.00			302	
317	7.83	7.80	34.233	26.702	138.8	0.575	1 .06	15.9	51.7	2.72	33.5	0.00			319	204
376	7.46	7.42	34.271	26.786	131.6	0.654	0.73	10.9	57.9	2 .89	35 .2	0.00			378	203
400 ISL	7.22	7.18	34.268	26.817	128.8	0.686	0.66	9.8	61 .0	2.94	36.0	0.00			403	
436	6.83	6.79	34.262	26.866	124.4	0.731	0.59	8.6	66.0	3.01	37.2	0.00			439	202
500 ISL	6.32	6.27	34.291	26.957	116.3	0.808	0.40	5.8	74.8	3.14	38.9	0.01			504	
515	6.20	6.15	34.299	26.979	114.3	0.826	0.36	5 .2	76.9	3.17	39.3	0.01			519	201

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD	AHT	TYPE
33 39.3 N	118 58.5 W	23/04/96	0548	UTC	730 m	300	10 kn			1018.8 mb	16.0 C	14.4 C				

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SI03 uM/l	P04 uM/l	N03 uM/l	N02 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	14.94	14.94	33.546	24.865	307.6	0.000	6.06	105.5	5.0	0.44	1.3	0.06	0.77	0.27	0	
2	14.94	14.94	33.546	24.865	307.7	0.006	6.06	105.5	5.0	0.44	1.3	0.06	0.77	0.27	2	220
9	14.15	14.15	33.545	25.032	291.9	0.027	6.07	104.0	5.2	0.46	1.7	0.07	0.91	0.35	9	219
10 ISL	14.07	14.07	33.545	25.049	290.4	0.030	6.04	103.3	5.3	0.47	1.8	0.08	0.96	0.38	10	
19	13.23	13.23	33.549	25.224	274.0	0.055	5.49	92.3	6.6	0.68	4.8	0.17	1.20	0.58	19	218
20 ISL	13.05	13.05	33.549	25.260	270.6	0.058	5.38	90.1	7.2	0.73	5.5	0.19	1.16	0.56	20	
29	11.47	11.47	33.576	25.583	240.0	0.081	4.33	70.1	13.2	1.18	12.4	0.36	0.62	0.35	29	217
30 ISL	11.38	11.38	33.583	25.605	238.0	0.084	4.24	68.5	13.8	1.22	13.0	0.35	0.57	0.34	30	
39	10.81	10.81	33.656	25.764	223.0	0.104	3.62	57.8	18.6	1.49	17.5	0.22	0.26	0.29	39	216
49	10.25	10.24	33.759	25.942	206.3	0.126	3.18	50.2	22.2	1.71	20.8	0.05	0.10	0.22	49	215
50 ISL	10.22	10.21	33.763	25.950	205.5	0.128	3.16	49.9	22.4	1.72	20.9	0.05	0.10	0.22	50	
60	10.03	10.02	33.786	26.000	201.0	0.148	3.06	48.1	23.7	1.79	21.8	0.03	0.06	0.19	60	214
69	9.89	9.88	33.828	26.057	195.8	0.166	2.89	45.3	25.2	1.86	22.8	0.02	0.05	0.16	69	213
75 ISL	9.75	9.74	33.869	26.112	190.6	0.178	2.77	43.3	26.6	1.93	23.8	0.01	0.04	0.14	75	
85	9.52	9.51	33.931	26.199	182.6	0.196	2.59	40.3	28.9	2.03	25.2	0.01	0.03	0.13	85	212
99	9.37	9.36	33.964	26.250	178.1	0.221	2.47	38.3	30.3	2.08	25.9	0.02	0.02	0.14	100	211
100 ISL	9.36	9.35	33.967	26.254	177.7	0.223	2.46	38.1	30.5	2.09	26.0	0.02	0.02	0.14	101	
119	9.11	9.10	34.040	26.351	168.8	0.256	2.18	33.6	33.9	2.21	27.5	0.02	0.03	0.16	120	210
125 ISL	9.05	9.04	34.062	26.378	166.3	0.266	2.10	32.3	35.0	2.24	27.9	0.02	0.02	0.15	126	
UO	8.92	8.90	34.113	26.439	160.8	0.291	1.91	29.3	37.4	2.32	28.9	0.01	0.01	0.13	141	209
150 ISL	8.87	8.85	34.139	26.467	158.3	0.307	1.83	28.1	38.3	2.36	29.2	0.01	0.02	0.13	151	
168	8.79	8.77	34.171	26.505	155.1	0.335	1.71	26.2	39.7	2.41	29.7	0.01	0.03	0.12	169	208
198	8.51	8.49	34.190	26.564	150.0	0.381	1.55	23.6	42.9	2.49	30.8	0.01	0.02	0.09	199	207
200 ISL	8.50	8.48	34.191	26.566	149.8	0.384	1.55	23.6	43.0	2.49	30.8	0.01			201	
228	8.40	8.38	34.205	26.593	147.8	0.425	1.50	22.8	45.0	2.54	31.4	0.00			229	206
250 ISL	3.20	8.17	34.215	26.632	144.4	0.457	1.37	20.7	46.9	2.59	31.9	0.00			252	
268	8.01	7.98	34.222	26.666	141.5	0.483	1.24	18.7	48.8	2.64	32.4	0.00			270	205
300 ISL	7.71	7.68	34.227	26.714	137.3	0.528	1.07	16.0	53.2	2.74	33.7	0.00			302	
317	7.56	7.53	34.229	26.737	135.2	0.551	0.99	14.7	55.7	2.79	34.4	0.00			319	204
377	7.04	7.00	34.261	26.836	126.5	0.630	0.71	10.5	63.2	2.95	36.3	0.01			380	203
400 ISL	6.87	6.83	34.266	26.864	124.1	0.658	0.63	9.2	65.9	2.99	36.9	0.01			403	
436	6.63	6.59	34.274	26.903	120.8	0.702	0.53	7.7	70.0	3.04	37.8	0.00			439	202
500 ISL	6.22	6.18	34.301	26.978	114.2	0.778	0.40	5.8	78.1	3.16	39.0	0.00			504	
517	6.11	6.06	34.309	26.999	112.4	0.797	0.36	5.2	80.2	3.19	39.3	0.00			521	201

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD	AMT	TYPE
33 29.4 N	119 19.2 W	23/04/96	0928	UTC	1635 m	260	07 kn			1018.6 mb	14.2 C	13.1 C				

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SI03 uM/l	P04 uM/l	N03 uM/l	N02 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	13.28	13.28	33.612	25.262	269.8	0.000	5.60	94.2	11.4	0.82	6.8	0.09	1.99	0.65	0	
2	13.28	13.28	33.612	25.262	269.8	0.005	5.60	94.2	11.4	0.82	6.8	0.09	1.99	0.65	2	224
10	13.04	13.04	33.614	25.312	265.3	0.027	5.56	93.1	11.4	0.82	7.1	0.09	1.87	0.60	10	223
19	13.11	13.11	33.615	25.299	266.8	0.051									19	220
20	12.91	12.91	33.615	25.339	263.1	0.053	5.47	91.3	11.4	0.83	7.3	0.09	1.82	0.79	20	218
20	13.06	13.06	33.616	25.310	265.8	0.053			11.4	0.84	7.2	0.09			20	222
21	12.98	12.98	33.614	25.324	264.5	0.056									21	219
21	13.08	13.08	33.613	25.304	266.4	0.056									21	221
30	12.81	12.81	33.616	25.360	261.4	0.080	5.30	88.3	11.6	0.87	8.0	0.10	1.73	0.74	30	217
39	12.26	12.25	33.629	25.477	250.4	0.103	4.86	80.1	13.4	1.05	10.5	0.14	1.26	0.79	39	216
49	10.55	10.54	33.712	25.853	214.7	0.126	3.46	55.0	20.6	1.59	18.6	0.13	0.42	0.42	49	215
50 ISL	10.52	10.51	33.723	25.867	213.4	0.128	3.41	54.1	20.9	1.61	19.0	0.13	0.39	0.42	50	
59	10.25	10.24	33.751	25.936	207.1	0.147	3.17	50.0	23.2	1.73	21.0	0.09	0.24	0.38	59	214
69	9.75	9.74	33.825	26.078	193.8	0.167	2.86	44.7	26.7	1.89	23.5	0.05	0.10	0.32	69	213
75 ISL	9.59	9.58	33.868	26.138	188.2	0.179	2.70	42.0	28.3	1.96	24.5	0.04	0.06	0.29	75	
84	9.45	9.44	33.923	26.204	182.0	0.195	2.52	39.1	30.1	2.05	25.5	0.03	0.04	0.27	84	212
99	9.36	9.35	33.966	26.253	177.8	0.222	2.36	36.6	32.0	2.13	26.4	0.03	0.04	0.30	100	211
100 ISL	9.35	9.34	33.970	26.258	177.3	0.224	2.35	36.4	32.1	2.13	26.5	0.03	0.04	0.30	101	
119	9.14	9.13	34.042	26.348	169.1	0.257	2.15	33.2	34.6	2.22	27.7	0.02	0.03	0.22	120	210
125 ISL	9.06	9.05	34.060	26.375	166.6	0.267	2.09	32.2	35.4	2.25	28.1	0.02	0.03	0.21	126	
139	8.87	8.86	34.096	26.433	161.3	0.290	1.95	29.9	37.4	2.32	28.9	0.03	0.02	0.19	140	209
150 ISL	8.76	8.74	34.115	26.466	158.5	0.308	1.87	28.6	38.7	2.36	29.4	0.03	0.02	0.17	151	
168	8.63	8.61	34.139	26.505	155.0	0.336	1.75	26.7	40.8	2.41	30.0	0.02	0.02	0.14	169	208
197	8.45	8.43	34.175	26.561	150.2	0.380	1.54	23.4	44.0	2.51	31.1	0.01	0.02	0.15	198	207
200 ISL	8.43	8.41	34.178	26.567	149.7	0.385	1.52	23.1	44.2	2.52	31.2	0.01			201	
228	8.25	8.23	34.201	26.613	145.9	0.426	1.38	20.9	46.7	2.59	31.9	0.01			229	206
250 ISL	8.01	7.98	34.213	26.658	141.8	0.458	1.23	18.5	49.9	2.66	32.9	0.01			252	
268	7.79	7.76	34.222	26.698	138.2	0.483	1.11	16.6	52.8	2.73	33.7	0.01			270	205
300 ISL	7.47	7.44	34.238	26.757	133.0	0.526	0.91	13.5	57.7	2.84	35.0	0.01			302	
320	7.29	7.26	34.247	26.790	130.2	0.553	0.80	11.8	60.7	2.90	35.7	0.01			322	204
376	6.84	6.80	34.268	26.869	123.2	0.623	0.57	8.4	67.9	3.04	37.3	0.00			379	203
400 ISL	6.66	6.62	34.277	26.901	120.5	0.653	0.50	7.3	70.9	3.09	38.0	0.00			403	
435	6.42	6.38	34.290	26.943	116.8	0.694	0.41	5.9	75.1	3.14	38.8	0.00			438	202
500 ISL	6.06	6.02	34.315	27.010	111.0	0.768	0.32	4.6	82.5	3.22	39.4	0.00			504	
512	5.99	5.95	34.320	27.022	109.9	0.782	0.30	4.3	83.9	3.23	39.5	0.00			516	201

RV DAVID STARR JORDAN CALCOFI CRUISE 9604 STATION 87 50

LATITUDE	LONGITUDE	DAY/HO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
33 19'.5 N	119 39.7 V	23/04/96	1309	UTC	78 m	300	12 kn	260 04 06	0	1018.3 mb	13..5 C	12,,8 C		8/8	

DEPTH m		TEMP DEQ C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SI03 uM/l	P04 uM/l	N03 uM/l	N02 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0	ISL	12 .46	12.46	33.620	25.430	253.8	0.000	5 .87	97.1	11.2	0.93	9.1	0.14	3.18	0.80	0	
2		12.46	12 .46	33.620	25.430	253.9	0.005	5 .87	97. 1	11.2	0.93	9. 1	0.14	3.18	0.80	2	208
10		12.18	12.18	33.630	25.492	248.2	0.025	5 .53	90.9	11.8	1 .01	10.1	0.15	2 .68	0.97	10	207
20		11 .49	11.49	33.663	25.647	233.7	0.049	4.66	75 .5	15.1	1 .26	13.7	0.18	1 .42	1.15	20	206
29		10.93	10.93	33.714	25.788	220.5	0.070	3.97	63.6	18.8	1 .47	16.9	0.19	1.12	0.85	29	205
30	ISL	10.87	10.87	33.720	25.803	219.1	0.072	3.91	62.6	19.3	1 .49	17.2	0.19			30	
40		10.29	10.29	33.782	25.953	205.1	0.093	3.36	53.1	23.7	1 .71	20.4	0.17			40	204
49		9.86	9.85	33.833	26.066	194.5	0.111	2.98	46.7	27.0	1 .85	22.8	0.16			49	203
50	ISL	9.83	9.82	33.836	26.073	193.8	0.113	2.96	46.3	27.2	1 .86	23.0	0.16			50	
59		9.63	9.62	33.854	26.120	189.5	0.130	2.84	44.3	28.7	1 .93	23.9	0.16			59	202
67		9.54	9.53	33.866	26.145	187.4	0.145	2.76	42.9	29.3	1 .96	24.2	0.16			67	201

RV DAVID STARR JORDAN CALCOFI CRUISE 9604 STATION 87 55

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
33 51.7 N	120 0.2 W	23/04/96	1841	UTC	1193 m	310	15 kn	320 04 05	0	1020.7 mb	16..1 C	14..9 C	12m	03	

DEPTH m		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SI03 uM/l	P04 uM/l	N03 uM/l	N02 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0	ISL	13.30	13.30	33.536	25.200	275.8	0.000	5 .90	99.3	7.8	0.71	5.6	0.13	1.18	0.55	0	
1	A	13.30	13.30	33.536	25 .200	275.8	0.003	5.90	99.3	7.8	0.71	5 .6	0.13	1.18	0.55	1	222
7	A	13.29	13.29	33.535	25.201	275 .8	0.019	5.91	99.4	7.7	0.71	5.6	0.13	1 .24	0.57	7	221
10	ISL	13.27	13.27	33.535	25.205	275 .5	0.028	5 .91	99.4	7.7	0.71	5.6	0.13	1 .31	0.60	10	
16	A	13.24	13.24	33.534	25.211	275.2	0.044	5.90	99.2	7.7	0.71	5 .5	0.13	1 .40	0.67	16	220
20	ISL	13.22	13.22	33.533	25.214	275 .0	0.055	5 .90	99.1	7.6	0.70	5.4	0.12	1 .34	0.70	20	
24	A	13.21	13.21	33.532	25.215	274.9	0.066	5 .89	98 .9	7.6	0.70	5 .4	0.12	1 .26	0.71	24	219
30	ISL	13.19	13.19	33.534	25.221	274.6	0.083	5 .87	98.5	7.6	0.71	5 .5	0.12	1 .27	0.69	30	
32	A	13.18	13.18	33.535	25.224	274.4	0.088	5 .86	98.4	7.6	0.71	5 .5	0.12	1 .27	0.68	32	218
39		12.87	12 .86	33.544	25.292	268.0	0.107	5 .68	94.7	8.2	0.78	6.4	0.14	1.29	0. 71	39	217
44	A	12.62	12.61	33.543	25.341	263.5	0.120	5 .45	90.4	8.9	0.85	7.5	0.17	1 .03	0. 64	44	216
50	ISL	12.50	12.49	33.541	25.362	261 .6	0.136	5 .34	88.4	9.3	0.89	8. 1	0.18	0.87	0.55	50	
55		12.33	12.32	33.540	25.395	258.7	0.149	5 .20	85.7	10.0	0.93	8.9	0.19	0.74	0.47	55	215
65		11.29	11.28	33.549	25.595	239.7	0. 174	4.35	70. 1	13.9	1 .20	13.5	0.24	0.21	0.28	65	214
75		10.59	10.58	33.604	25.763	223.9	0.197	3.94	62.6	17.2	1 .40	16.8	0.14	0.14	0.21	75	213
85		10.07	10.06	33.660	25.896	211.4	0.219	3.69	58.0	20.2	1 .54	19.2	0.05	0.07	0.16	85	212
99		9.72	9.71	33.762	26.034	198.5	0.248	3.26	50.9	24.0	1 .74	22.0	0.03	0.04	0.16	100	211
100	ISL	9.68	9.67	33.766	26.044	197.6	0.250	3.26	50.8	24.1	1 .75	22 .1	0.03	0.04	0.16	101	
120		8.98	8.97	33.828	26.206	182.5	0.288	3.34	51.3	26.4	1 .81	23.6	0.03	0.02	0.09	121	210
125	ISL	8.90	8.89	33.849	26.235	179.8	0.297	3.28	50.3	27.3	1 .84	24.1	0.02	0.02	0.08	126	
139		8.74	8.73	33.908	26.307	173.3	0.321	3.04	46.4	30.0	1 .93	25.6	0.01	0.01	0.06	140	209
150	ISL	8.63	8.61	33.942	26.350	169.3	0.340	2.90	44.2	31 .8	1 .99	26.4	0.01	0.01	0.06	151	
169		8.44	8.42	33.985	26.413	163.6	0.372	2.70	41 .0	34.6	2.08	27.6	0.01	0.01	0.06	170	208
198		8.12	8.10	34.030	26.497	156.1	0.418	2.45	36.9	38.3	2.20	29.1	0.01	0.01	0.12	199	207
200	ISL	8.10	8.08	34.032	26.502	155.7	0.421	2.44	36.8	38.5	2 .21	29.2	0.01			201	
229		7.82	7.80	34.058	26.564	150.2	0.466	2.27	34.0	42.1	2 .30	30.3	0.01			230	206
250	ISL	7.58	7.56	34.073	26.611	146.0	0.497	2.09	31 .1	45 .6	2.39	31 .5	0.01			252	
269		7.38	7.35	34.089	26.652	142.3	0.524	1 .90	28.2	48.8	2.48	32 .7	0.01			271	205
300	ISL	7.25	7.22	34.129	26.702	138.0	0.568	1 .55	22.9	53.0	2.60	34.0	0.00			302	
320		7.19	7.16	34.156	26.732	135.5	0.595	1 .32	19.5	55.6	2 .68	34.8	0.00			322	204
376		6.80	6.77	34.210	26.829	127.0	0.669	0.84	12.3	64.0	2.90	37.0	0.00			378	203
400	ISL	6.66	6.62	34.234	26.867	123.7	0.699	0. 68	9.9	67.3	2.98	37.8	0.00			403	
420		6.55	6.51	34.253	26.896	121.0	0.723	0.57	8.3	69.8	3.03	38.4	0.00			423	202
500	ISL	6.17	6.13	34.281	26.969	115.0	0.818	0.43	6.2	76.6	3.13	39.6	0.00			503	
518		6.08	6.03	34.288	26.986	113.5	0.838	0.40	5.8	78. 1	3.15	39.9	0.00			522	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV DAVID STARR JORDAN CALCOFI CRUISE 9604 STATION 87 60

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	ORY	WET	SECCHI/FOREL	CLC1 AMT	TYPE
32 59.2 N	120 20.9 W	23/04/96	2159	UTC	719 m	320	17 kn	320 05 05	0	1021 .1 mb	16,,9 C	15..6 C	10m	03	

DEPTH m		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SI03 uM/l	P04 uN/l	N03 uM/l	N02 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0	ISL	13.55	13.55	33.515	25 .133	282.1	0.000	6.15	104.0	8.6	0.67	5.1	0.10	1 .39	0. 50	0	
1		13.55	13.55	33.515	25. 133	282.2	0.003	6.15	104.0	8.6	0.67	5.1	0.10	1 .39	0.50	1	220
10		13.44	13.44	33.509	25.151	280.7	0.028	6.14	103.6	8.6	0.67	5.1	0.11	1 .53	0.62	10	219
20		13.11	13.11	33.507	25.216	274.8	0.056	6.07	101.7	8.6	0.69	5.2	0.11	1 .56	0.83	20	218
30		12 .97	12.97	33.504	25.241	272.6	0.083	5 .90	98.6	8.6	0.72	5.6	0.12	1 .38	0.74	30	217
40		11 .90	11.89	33.566	25.496	248.6	0. 109	5 .05	82.5	12.2	1 .04	10.3	0.23	0.66	0.48	40	216
50		11.10	11 .09	33.651	25.709	228.5	0.133	4.03	64.8	16.9	1 .40	15.7	0.30	0.24	0.36	50	215
60		10.65	10.64	33.664	25.799	220.2	0.156	3.74	59.5	19.4	1 .52	17.9	0.24	0.12	0.32	60	214
70		10.07	10.06	33.655	25.892	211.5	0.177	3.68	57.8	20.5	1 .56	19.4	0.09	0.06	0.23	70	213
75	ISL	9.90	9.89	33.675	25.936	207.4	0.188	3.59	56.2	21 .4	1 .60	20.1	0.08	0.04	0.20	75	
84		9. 68	9.67	33.731	26.016	199.9	0.206	3.39	52.8	23.5	1 .70	21 .5	0.05	0.03	0.18	84	212
100		9.34	9.33	33.845	26.161	186.4	0.237	2.96	45 .8	27.5	1 .89	24.1	0.02	0.02	0.18	101	211
119		9.11	9.10	33.894	26.237	179.6	0.272	2.81	43.3	29.6	1 .96	25 .2	0.01	0.01	0.14	120	210
125	ISL	9.02	9.01	33.917	26.269	176.6	0.282	2 .74	42 .1	30.6	1 .99	25 .8	0.01	0.01	0.13	126	
139		8.84	8.83	33.973	26.342	170.0	0.307	2.55	39. 1	33.0	2.08	27.0	0.01	0.01	0.12	140	209
150	ISL	8.86	8.84	34.002	26.362	168.3	0.325	2 .41	36.9	33.9	2.13	27.5	0.01	0.01	0.13	151	
170		8.95	8.93	34.044	26.381	167.0	0.359	2.17	33.3	35 .3	2.21	28. 1	0.01	0.01	0.16	171	208
199		8.73	8.71	34.113	26.470	159.0	0.406	1 .84	28. 1	39. 1	2.34	29.6	0.01	0.01	0.14	200	207
200	ISL	8.71	8.69	34.114	26.474	158.7	0.408	1 .84	28. 1	39.3	2.34	29.7	0.01			201	
228		8.05	8.03	34.124	26.582	148.6	0.451	1 .78	26.8	44.7	2 .44	31 .3	0.01			229	206
250	ISL	7.63	7.61	34.126	26.645	142 .8	0.483	1 .67	24.9	48.8	2.51	32.6	0.00			252	
269		7.35	7.32	34. 131	26.689	138.8	0.509	1 .54	22 .8	52.2	2.58	33.7	0.00			271	205
300	ISL	7.11	7.08	34. 161	26.747	133.7	0.552	1 .24	18.3	57. 1	2.73	35 . 1	0.00			302	
318		7.02	6.99	34.180	26.774	131.4	0.576	1 .06	15.6	59.7	2.81	35.8	0.00			320	204
377		6.61	6.58	34.221	26.863	123.6	0.651	0.74	10.8	67. 4	2.96	37.7	0.00			379	203
400	ISL	6.51	6.47	34.231	26.884	121.9	0.679	0.66	9.6	69.4	3.00	38.2	0.00			403	
437		6.36	6.32	34.246	26.916	119.3	0.724	0.57	8.3	72.2	3.04	38.8	0.00			440	202
500	ISL	6.04	6.00	34.280	26.984	113.4	0.797	0.42	6.0	78.4	3.12	40.0	0.00			503	
518		5.95	5.90	34.290	27.004	111.7	0.817	0.38	5.5	80.2	3.14	40.4	0.00			522	201

RV DAVID STARR JORDAN CALCOFI CRUISE 9604 STATION 87 70

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
32 39.3 N	121 1 .9 W	24/04/96	0404 UTC	3792 m	310 16 kn			1022 .2 mb	16 2 C	15 0 C		

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SI03 uM/ I	P04 uM/ I	N03 uM/l	N02 uM/ I	CHL-A ug/ I	PHAEO ug/ I	PRES db	SAMP
0 ISL	15 .40	15.40	33 338	24.604	332.5	0.000	5.89	103.3	2.7	0.33	0. 1	0.00	0.25	0.08	0	
1	15.40	15.40	33 338	24.604	332.5	0.003	5.89	103.3	2.7	0.33	0. 1	0.00	0.25	0.08	1	220
10 ISL	15.39	15.39	33 338	24.607	332.5	0.033	5 .89	103.3	2.7	0.32	0.0	0.00	0.24	0.08	10	
15	15.38	15.38	33 338	24.609	332.5	0.050	5.89	103.3	2.7	0.32	0.0	0.00	0.23	0.08	15	219
20 ISL	15 .38	15.38	33 339	24.610	332 .5	0.066	5.90	103.5	2.7	0.32	0.0	0.00	0.23	0.08	20	
29	15.38	15.38	33 341	24.612	332 .6	0.096	5.90	103.5	2 .7	0.32	0.0	0.00	0.23	0.08	29	218
30 ISL	15.37	15 .37	33 341	24.614	332.4	0.100	5.90	103.4	2 .7	0.32	0.0	0.00	0.23	0.09	30	
44	15.19	15.18	33 337	24.651	329.3	0.146	5 .87	102.5	2.9	0.33	0.0	0.00	0.38	0.16	44	217
50 ISL	14.84	14.83	33 311	24.707	324.2	0.166	5 .86	101.6	3.2	0.34	0.3	0.02	0.60	0.29	50	
55	14.35	14.34	33 291	24.796	315.8	0.182	5.86	100.6	3.5	0.37	0.5	0.05	0.74	0.40	55	216
64	12.85	12.84	33 298	25.106	286.3	0.209	5 .67	94. 4	4.6	0.48	2 .1	0.13	0.58	0.53	64	215
73	12.23	12.22	33 311	25.236	274.1	0.234	5.43	89.2	6.0	0.61	4.4	0.13	0.37	0.37	73	214
75 ISL	12.15	12.14	33 334	25.269	271 .0	0.239	5.29	86.8	6.8	0.68	5 .5	0.12	0.33	0.34	75	
83	11 .87	11 .86	33 440	25.405	258.4	0.261	4.69	76.5	10.3	0.98	10.0	0.09	0.22	0.23	83	213
95	11.11	11.10	33 532	25.615	238.5	0.290	4.20	67.5	14.2	1 .22	14.4	0.02	0.13	0.18	95	212
100 ISL	10.87	10.86	33 563	25.682	232.2	0.302	4.08	65.2	15.2	1 .29	15.5	0.02	0.11	0.17	100	
109	10.52	10.51	33 613	25.783	222.8	0.323	3.90	61.9	16.8	1 .39	16.9	0.01	0.08	0.14	1 10	211
125	10.07	10.06	33 700	25.928	209.3	0.357	3.55	55.8	20.0	1 .58	19.6	0.01	0.04	0.08	126	210
143	9.68	9.66	33 742	26.026	200.2	0.394	3.42	53.3	22.4	1 .67	21 .3	0.01	0.02	0.05	144	209
150 ISL	9.53	9.51	33 782	26.082	195 .0	0.408	3.29	51.1	23.9	1 .74	22 .3	0.01	0.02	0.05	151	
169	9.12	9.10	33 895	26.237	180.6	0.444	2 .92	45 .0	28. 1	1 .93	24.8	0.00	0.01	0.04	170	208
199	8.57	8.55	33 955	26.371	168.3	0.496	2 .81	42.8	31 .8	2 .03	26.5	0.00	0.00	0.03	200	207
200 ISL	8.56	8.54	33 958	26.375	168.0	0.498	2.80	42.6	32 .0	2.04	26.6	0.00			201	
228	8.19	8.17	34 045	26.499	156.5	0.543	2.45	37.0	37.6	2.18	28.6	0.00			229	206
250 ISL	7.94	7.91	34 068	26.555	151.5	0.577	2 .30	34.5	40.7	2 .26	29.7	0.00			251	
268	7.74	7.71	34 073	26.588	148.6	0.604	2.19	32.7	43.0	2.32	30.5	0.00			270	205
300 ISL	7.35	7.32	34 089	26.657	142.4	0.651	1 .90	28.1	48.5	2 .46	32.4	0.00			302	
317	7.17	7.14	34 101	26.692	139.3	0.674	1 .72	25 .4	51.6	2 .54	33.5	0.00			319	204
377	6.81	6.77	34 189	26.811	128.7	0.755	0.93	13.6	62.2	2 .86	36.6	0.00			379	203
400 ISL	6.66	6.62	34 215	26.852	125.1	0.784	0.75	10.9	65.6	2.95	37.4	0.00			403	
437	6.40	6.36	34 244	26.909	119.9	0.829	0.57	8.3	70.9	3.05	38.6	0.00			440	202
500 ISL	5.84	5.80	34 240	26.978	113.8	0.903	0.46	6. 6	80.0	3.15	40.6	0.00			503	
517	5 .69	5.65	34 239	26.995	112.1	0.922	0.43	6.1	82.5	3.18	41.1	0.00			521	201

RV DAVID STARR JORDAN CALCOFI CRUISE 9604 STATION 87 80

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
32 19 .5 N	121 42 .6 V	24/04/96	1004 UTC	4020 m	320 16 kn			1021.8 mb	16 2 C	15 7 C		

DEPTH ID	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SI03 uM/ I	P04 uM/ I	N03 uM/ I	N02 uM/ L	CHL-A ug/ I	PHAEO ug/ I	PRES db	SAMP
0 ISL	15 .03	15 .03	33 374	24.713	322.1	0.000	6.10	106.2	3.9	0.36	0.0	0.01	0.76	0.29	0	
3	15 .03	15 .03	33 374	24.713	322.2	0.010	6.10	106.2	3.9	0.36	0.0	0.01	0. 76	0.29	3	220
10	14.85	14.85	33 379	24.756	318.3	0.032	6.12	106.2	3.9	0. 36	0.0	0.01	0.80	0.32	10	219
20	14.28	14.28	33 417	24.907	304.2	0.063	6.19	106.2	4.5	0. 43	0.9	0.04	0. 99	0.49	20	218
30 ISL	13.99	13.99	33 426	24.975	298.1	0.093	5.98	102 .0	4.8	0.50	2.0	0.09	1 .26	0.62	30	
31	13.93	13.93	33 427	24.988	296.8	0.096	5 .94	101.2	4.8	0.52	2.2	0.09	1 .27	0.63	31	217
39	12.72	12.71	33 470	25.264	270.7	0.119	5.35	88.9	7.3	0.80	6. 1	0.30	0.95	0.54	39	216
50 ISL	12.38	12.37	33 498	25.352	262.6	0. 148	5.02	82 .8	9.2	0.93	8. 1	0.34	0.53	0.35	50	
51	12.35	12.34	33 501	25.360	261 .8	0.151	5.00	82.4	9.3	0.93	8.2	0.34	0.50	0.33	51	215
59	12.25	12.24	33 500	25.379	260.3	0. 172	4.79	78.8	10.4	1 .00	9.6	0.24	0.37	0.27	59	214
70	11.91	11 .90	33 512	25.453	253.5	0.200	4.62	75 .5	11.4	1 .06	10.8	0.25	0.25	0.29	70	213
75 ISL	11 .69	11 .68	33 512	25.494	249.7	0.213	4.52	73.5	12.0	1 .09	11.5	0.19	0.21	0.27	75	
84	11.27	11.26	33 525	25.581	241 .5	0.235	4.30	69.3	13.7	1.18	13.3	0.08	0.14	0.21	84	212
99	10.69	10.68	33 632	25.768	224.0	0.270	3.74	59.6	18.5	1 .46	17.6	0.02	0.06	0.18	99	211
100 ISL	10.65	10.64	33 636	25.778	223.1	0.272	3.72	59.2	18.7	1 .47	17.8	0.02	0.06	0.18	100	
119	9.88	9.87	33 691	25.953	206.7	0.313	3.54	55 .4	21.8	1 .64	20.4	0.01	0.03	0.11	120	210
125 ISL	9.68	9.67	33 712	26.002	202. 1	0.325	3.49	54.4	22.8	1 .68	21 .1	0.01	0.03	0.11	126	
140	9.26	9.24	33 768	26.115	191 .6	0.355	3.36	51.9	25.3	1 .77	22.7	0.01	0.02	0.10	141	209
150 ISL	9.07	9.05	33 814	26.181	185 .5	0.373	3.23	49.7	27.0	1 .84	23.7	0.01	0.02	0.09	151	
169	8.80	8.78	33 889	26.283	176. 1	0.408	3.05	46.6	29.9	1 .94	25 .3	0.00	0.01	0.07	170	208
199	8.36	8.34	33 926	26.380	167.4	0.459	3.17	48.0	32. 1	1 .96	26. 1	0.00	0.00	0.05	200	207
200 ISL	8.34	8.32	33 927	26.384	167.0	0.461	3.18	48. 1	32.2	1 .96	26.1	0.00			201	
223	7.71	7.69	33 950	26.495	156.7	0.506	3.47	51.8	35 .2	1 .92	26.2	0.00			229	206
250 ISL	7.50	7.48	33 970	26.541	152.6	0.540	3.35	49.8	38.0	2.00	27.3	0.00			251	
268	7.39	7.36	33 987	26.570	150.0	0.568	3.10	45.9	40.7	2.10	28.6	0.00			270	205
300 ISL	7.08	7.05	34 024	26.643	143.5	0.614	2.49	36.6	47.6	2.32	31 .4	0.00			302	
318	6.91	6.88	34 046	26.684	139.8	0.640	2.12	31 . 1	51.6	2.45	32.9	0.00			320	204
378	6.58	6.55	34 104	26.774	131.9	0.722	1 .37	19.9	60.8	2.72	36. 1	0.00			380	203
400 ISL	6.46	6.42	34 131	26.812	128.6	0.750	1.13	16.4	64.3	2.82	37. 1	0.00			403	
438	6.25	6.21	34 174	26.873	123.2	0.798	0.80	11.6	70.0	2 .96	38.5	0.00			441	202
500 ISL	5.87	5 .83	34 210	26.950	116.4	0.872	0.55	7.9	77.7	3.09	40.2	0.00			503	
505	5.84	5 .80	34 213	26.956	115.8	0.878	0.53	7.6	78.3	3.10	40.3	0.00			508	201

RV DAVID STARR JORDAN CALCOFI CRUISE 9604 STATION 87 90

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
31 59'.7 N	122 23.5 V	24/04/96	1825 UTC	4070 m	320 25 kn	330 06 06	2	1024.9 mb	17,.5 C	16.3 C	27m 01	8/8	ST

DEPTH ID	TEMP DES C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SI03 uM/l	P04 uM/ l	N03 uM/ l	N02 uM/ l	CHL-A ug/ l	PHAEO ug/l	PRES db	SANP
0 ISL	16.03	16.03	33.244	24.391	352.8	0.000	5.78	102 .6	2.9	0.29	0.0	0.00	0.09	0.02	0	
2 A	16.03	16.03	33.244	24.391	352.8	0.007	5 .78	102.6	2.9	0.29	0.0	0.00	0.09	0.02	2	222
10 ISL	16.00	16.00	33.241	24.396	352.6	0.035	5.79	102.7	2.9	0.29	0.0	0.00	0.09	0.02	10	
17 A	15.96	15 .96	33.237	24.402	352.2	0.060	5.79	102.6	2 .9	0.29	0.0	0.00	0.09	0.02	17	221
20 ISL	15.95	15.95	33.237	24.405	352.1	0.071	5.79	102.6	2.9	0.29	0.0	0.00	0.09	0.02	20	
26	15.94	15.94	33.236	24.406	352.1	0.092	5.79	102.6	2.9	0.29	0.0	0.00	0.09	0.03	26	220
30 ISL	15.93	15.93	33.235	24.408	352.1	0.106	5 .78	102.4	2.9	0.29	0.0	0.00	0.09	0.03	30	
35 A	15.92	15.91	33.234	24.410	352.1	0.123	5 .78	102.4	2.9	0.29	0.0	0.00	0.09	0.03	35	219
45	15.76	15.75	33.234	24.446	349.0	0.158	5 .80	102.4	2 .9	0.29	0.0	0.00	0.11	0.04	45	218
50 ISL	15.75	15.74	33.235	24.449	348.8	0.176	5 .81	102.6	2.8	0.29	0.0	0.00	0.12	0.04	50	
54 A	15.75	15.74	33.236	24.450	348.8	0.190	5 .81	102.6	2.8	0.29	0.0	0.00	0.13	0.04	54	217
64	15.78	15.77	33.243	24.449	349.3	0.225	5 .80	102.4	2.8	0.29	0.0	0.00	0.14	0.04	64	216
73 A	15.84	15 .83	33.274	24.460	348.5	0.256	5.78	102.2	2.8	0.27	0.0	0.00	0.16	0.05	73	215
75 ISL	15.53	15.52	33.250	24.510	343.7	0.263	5.81	102.1	2.8	0.28	0.0	0.00	0.18	0.07	75	
82	14.36	14.35	33.195	24.720	323.7	0.286	5.91	101 .4	3 .1	0.33	0.0	0.00	0.26	0.17	82	214
93	13.99	13.98	33.378	24.939	303.2	0.321	5.77	98.4	3.6	0.35	0.4	0.08	0.34	0.28	93	213
100 ISL	13.59	13.58	33.423	25.056	292.2	0.342	5 .63	95 .2	4.2	0.41	1 .3	0.08	0.31	0.28	100	
102 A	13.48	13.47	33.431	25.085	289.5	0.348	5.59	94.3	4.4	0.43	1 .6	0.08	0.30	0.28	102	212
113	13.32	13.30	33.498	25.169	281 .8	0.379	5 .43	91 .4	4.9	0.48	2.7	0.08	0.27	0.28	113	211
124	13.16	13.14	33.553	25 .244	274.9	0.410	5.30	88.9	5 .6	0.53	3.8	0.07	0.23	0.25	125	210
125 ISL	13.09	13.07	33.552	25.257	273.7	0.412	5 .28	88.4	5 .7	0.54	4.0	0.07	0.22	0.24	126	
139	11 .88	11 .86	33.537	25.479	252.7	0.449	4.92	80.3	8.5	0.80	8. 1	0.03	0.15	0.14	140	209
150 ISL	11.20	11.18	33.585	25.642	237.3	0.476	4.65	74.8	11.2	0.99	11.2	0.02	0.10	0.13	151	
163	10.53	10.51	33.661	25.820	220.5	0.506	4.33	68.7	14.8	1 .20	14.8	0.01	0.05	0.11	164	208
194	9.08	9.06	33.782	26.155	188.8	0.569	3.63	55.8	24.3	1 .70	22 .2	0.00	0.00	0.03	195	207
200 ISL	8.90	8.88	33.812	26.207	183.9	0.580	3.55	54.4	25.8	1 .75	23.0	0.00			201	
228	8.29	8.27	33.933	26.396	166.3	0.630	3.32	50.2	31 .5	1 .90	25 .5	0.00			229	206
250 ISL	8.00	7.97	33.969	26.468	159.8	0.665	3.24	48.7	34.2	1 .97	26 .4	0.00			251	
268	7.82	7.79	33.981	26.504	156.6	0.694	3.16	47.3	36.2	2.02	27.0	0.00			269	205
300 ISL	7.43	7.40	34.009	26.583	149.5	0.743	2 .79	41 .4	42 .3	2.18	29.3	0.00			302	
318	7.22	7.19	34.022	26.622	145.8	0.769	2.54	37.5	46.0	2.28	30.7	0.00			320	204
377	6.70	6.67	34.047	2 6.714	137.8	0.853	1 .92	28.0	55 .5	2.55	34.2	0.00			379	20J
400 ISL	6.46	6.42	34.063	26.758	133.7	0.884	1 .65	23.9	60. 1	2.66	35 .6	0.00			402	
436	6.10	6.06	34.094	26.829	127.1	0.931	1 .24	17.8	67.4	2.83	37.7	0.00			439	202
500 ISL	5 .68	5 .64	34. 155	26.930	118.0	1.010	0.77	11.0	78.0	3.04	40. 1	0.00			503	
516	5.57	5.53	34.171	26.956	115.6	1 .028	0.65	9.2	80.7	3.09	40.7	0.00			519	201

A) PRIMARY PRODUCTIVITY **SAMPLES WERE TAKEN FROM** THESE LEVELS.

RV DAVID STARR JORDAN CALCOFI CRUISE 9604 STATION 87 100

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
31 35I.3 N	123 4.2 W	24/04/96	2323 UTC	4124 m	330 15 kn	330 06 07	1	1023.8 mb	18..8 C	18..0 C	28m 01	4/8	SC

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SI03 uM/l	P04 uM/ l	N03 uM/ l	N02 uM/ l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	17.29	17.29	33.408	24.225	368.6	0.000	5.65	102.9	3.0	0.27	0.0	0.00	0.07	0.02	0	
2	17.29	17.29	33.408	24.225	368.6	0.007	5.65	102.9	3.0	0.27	0.0	0.00	0.07	0.02	2	220
10 ISL	17.18	17.18	33.409	24.252	366.3	0.037	5.65	102.7	3.0	0.27	0.0	0.00	0.08	0.02	10	
15	17.09	17.09	33.410	24.275	364.4	0.055	5 .65	102.5	3.0	0.27	0.0	0.00	0.08	0.02	15	219
20 ISL	17.07	17.07	33.410	24.279	364.1	0.073	5.65	102.5	3.0	0.27	0.0	0.00	0.08	0.02	20	
30	17.02	17.02	33.407	24.289	363.5	0.110	5.66	102.6	3.0	0.26	0.0	0.00	0.08	0.02	30	218
45	16.80	16.79	33.398	24.334	359.6	0.164	5.69	102.6	3.0	0.26	0.0	0.00	0.09	0.03	45	217
50 ISL	16.72	16.71	33.387	24.345	358.8	0.182	5.70	102.7	3.0	0.26	0.0	0.00	0.10	0.03	50	
59	16.57	16.56	33.365	24.363	357.4	0.214	5.72	102.7	3.0	0.26	0.0	0.00	0.11	0.03	59	216
75	16.37	16.36	33.345	24.394	354.9	0.271	5 .74	102.6	3.0	0.27	0.0	0.00	0.14	0.05	75	215
85	15.66	15 .65	33.311	24.529	342.3	0.306	5 .84	102.9	3.0	0.28	0.0	0.00	0.18	0.06	85	214
95	14.21	14.20	33.350	24.872	309.7	0.338	5 .82	99.6	3.8	0.33	0.0	0.01	0.26	0.20	95	213
100 ISL	13.66	13.65	33.367	24.999	297.7	0.354	5.68	96.2	4.3	0.41	1 .0	0.05	0.29	0.21	100	
104	13.30	13.29	33.378	25.080	290.0	0.365	5.56	93.4	4.7	0.47	1 .9	0.08	0.30	0.22	104	212
115	12.71	12.69	33.386	25.203	278.5	0.397	5.46	90.6	5 .5	0.54	3.3	0.08	0.22	0.24	115	211
124	12.29	12.27	33.447	25.332	266.4	0.421	5.11	84.1	7.6	0.71	6.4	0.06	0.18	0.17	125	210
125 ISL	12.27	12.25	33.458	25.344	265.3	0.424	5 .08	83.6	7.7	0.72	6.6	0.06	0.18	0.17	126	
138	12.04	12.02	33.601	25.499	250.8	0.457	4.81	78.8	9.3	0.83	8.9	0.03	0.13	0.14	139	209
150 ISL	11 .40	11 .38	33.637	25 .646	237.0	0.487	4.55	73.6	12.0	1 .01	11.8	0.02	0.09	0.11	151	
164	10.52	10.50	33.646	25.810	221 .5	0.519	4.26	67.6	15.6	1 .25	15.3	0.01	0.06	0.08	165	208
194	9.25	9.23	33.753	26.106	193.6	0.581	3.78	58.3	22.8	1 .61	21.0	0.00	0.00	0.03	195	207
200 ISL	9.10	9.08	33.777	26. 148	189.6	0.593	3.75	57.7	23.8	1 .64	21 .6	0.00			201	
229	8.58	8.56	33.882	26.312	174.4	0.645	3.61	54.9	28.2	1 .75	23.5	0.00			230	206
250 ISL	8.24	8.21	33.935	26.406	165 .8	0.681	3.31	50.0	32.4	1 .89	25 .5	0.00			251	
269	7.95	7.92	33.969	26.476	159.3	0.712	3.04	45 .6	36. 1	2.02	27.3	0.00			270	205
300 ISL	7.51	7 .48	33.989	26.555	152.1	0.760	2.93	43.5	40.6	2.11	28.7	0.00			302	
317	7.30	7.27	33.995	26.590	148.9	0.786	2 .86	42.3	43.0	2.16	29.4	0.00			319	204
379	6.86	6.82	34.074	26.713	137.9	0.875	1 .77	25 .9	55 . 1	2 .57	34.2	0.00			381	203
400 ISL	6.67	6.63	34.087	26.749	134.7	0.903	1 .53	22.3	58.8	2.67	35 .4	0.00			402	
438	6.31	6.27	34.106	26.812	129.0	0.953	1 .20	17.3	65 .4	2 .83	37.3	0.00			441	202
500 ISL	5.77	5 .73	34. 144	26.910	120.0	1 .031	0.76	10.8	77.4	3.03	40.0	0.00			503	
505	5.73	5.69	34.147	26.918	119.3	1 .037	0.72	10.3	78.4	3.05	40.2	0.00			508	201

RV DAVID STARR JORDAN — CALCOFI CRUISE 9604 — STATION 87 110

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
31 19.3 N	123 44.4 V	25/04/96	0513	UTC	3875 m	350	16 kn			1024.0 mb	18..3 C	17..2 C			

DEPTH in		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/I	OXY PCT	SI03 uM/I	P04 uM/I	N03 uM/I	N02 uM/I	CHL-A ug/I	PHAEO ug/l	PRES db	SAMP
0	ISL	17.80	17.80	33.588	24.241	367.1	0.000	5.57	102.6	2.9	0.24	0.1	0.00	0.06	0.02	0	
2		17.80	17.80	33.588	24.241	367.2	0.007	5.57	102.6	2.9	0.24	0.1	0.00	0.06	0.02	2	220
10	ISL	17.80	17.80	33.589	24.242	367.3	0.037	5.59	102.9	2.9	0.24	0.1	0.00	0.06	0.02	10	
U		17.80	17.80	33.590	24.243	367.4	0.051	5.60	103.1	2.9	0.24	0.1	0.00	0.06	0.02	14	219
20	ISL	17.77	17.77	33.590	24.250	366.9	0.073	5.59	102.9	2.9	0.24	0.1	0.00	0.06	0.02	20	
29		17.70	17.70	33.587	24.265	365.8	0.106	5.58	102.6	2.8	0.24	0.1	0.00	0.07	0.02	29	218
30	ISL	17.69	17.68	33.586	24.267	365.6	0.110	5.58	102.5	2.8	0.24	0.1	0.00	0.07	0.02	30	
43		17.62	17.61	33.577	24.277	365.1	0.158	5.59	102.6	2.8	0.24	0.0	0.00	0.08	0.02	43	217
50	ISL	17.59	17.58	33.574	24.283	364.8	0.183	5.59	102.5	2.8	0.24	0.0	0.00	0.08	0.02	50	
59		17.53	17.52	33.563	24.289	364.5	0.216	5.60	102.6	2.8	0.24	0.0	0.00	0.09	0.03	59	216
73		17.31	17.30	33.560	24.340	360.1	0.267	5.62	102.5	2.8	0.24	0.0	0.00	0.12	0.03	73	215
75	ISL	17.22	17.21	33.554	24.357	358.6	0.274	5.63	102.5	2.8	0.24	0.0	0.00	0.12	0.04	75	
84		16.74	16.73	33.522	24.445	350.4	0.306	5.67	102.2	2.8	0.25	0.0	0.00	0.13	0.06	84	214
95		16.14	16.12	33.504	24.570	338.8	0.344	5.72	101.9	3.0	0.27	0.1	0.00	0.16	0.07	95	213
100	ISL	15.77	15.75	33.500	24.650	331.3	0.360	5.72	101.2	3.1	0.28	0.1	0.00	0.17	0.10	100	
105		15.41	15.39	33.525	24.750	321.9	0.377	5.73	100.6	3.3	0.29	0.1	0.00	0.19	0.15	105	212
114		14.96	14.94	33.706	24.988	299.5	0.405	5.59	97.4	3.6	0.30	0.5	0.06	0.27	0.24	114	211
124		14.81	14.79	33.782	25.079	291.0	0.434	5.47	95.0	3.8	0.31	0.9	0.07	0.25	0.24	124	210
125	ISL	14.79	14.77	33.793	25.092	289.8	0.437	5.45	94.7	3.8	0.31	1.0	0.07	0.25	0.24	126	
138		14.32	14.30	33.915	25.286	271.6	0.474	5.20	89.5	4.7	0.41	2.8	0.06	0.18	0.20	139	209
150	ISL	13.49	13.47	33.889	25.439	257.3	0.505	5.01	84.8	6.4	0.56	5.2	0.04	0.12	0.14	151	
164		12.37	12.35	33.813	25.601	241.9	0.540	4.81	79.5	8.9	0.77	8.5	0.01	0.07	0.08	165	208
192		10.50	10.48	33.785	25.922	211.5	0.604	4.40	69.8	14.9	1.18	14.8	0.00	0.01	0.02	193	207
200	ISL	10.09	10.07	33.790	25.996	204.4	0.620	4.29	67.5	16.7	1.28	16.4	0.00			201	
229		8.94	8.92	33.839	26.223	183.1	0.677	3.95	60.6	23.5	1.60	21.1	0.00			230	206
250	ISL	8.40	8.37	33.902	26.356	170.6	0.714	3.76	57.0	28.2	1.75	23.4	0.00			251	
268		8.07	8.04	33.954	26.446	162.2	0.744	3.58	53.9	32.1	1.86	25.0	0.00			269	205
300	ISL	7.58	7.55	33.990	26.546	153.0	0.794	3.11	46.3	38.5	2.07	28.0	0.00			302	
318		7.36	7.33	34.000	26.586	149.4	0.821	2.81	41.6	42.1	2.19	29.6	0.00			320	204
377		6.70	6.67	34.061	26.725	136.7	0.906	1.82	26.5	55.7	2.59	34.6	0.00	""		379	203
400	ISL	6.45	6.41	34.073	26.767	132.8	0.937	1.56	22.6	60.6	2.70	36.1	0.00			402	
438		6.08	6.04	34.092	26.830	127.1	0.986	1.22	17.5	67.9	2.85	38.1	0.00			441	202
500	ISL	5.72	5.68	34.145	26.917	119.3	1.063	0.81	11.5	76.7	3.04	40.2	0.00			503	
513		5.64	5.60	34.156	26.936	117.6	1.078	0.72	10.2	78.6	3.08	40.6	0.00			516	201

RV DAVID STARR JORDAN — CALCOFI CRUISE 960* — STATION 90 28

LATITUDE	LONGITUDE	DAY/HO/YR	CAST	TIME	80TT0M	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
33 29.1 N	117 46.0 W	22/04/96	1820	UTC	66 m	320	3 kn	340 02 05I	0	1020.0 mb	17..9 C	15,.0 C	13m 05	0/8	

DEPTH ffl		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SI03 uM/I	P04 uM/l	N03 uM/I	N02 uM/I	CHL-A ug/I	PHAEO ug/I	PRES db	SAMP
0	ISL	16.55	16.55	33.483	24.456	346.6	0.000	6.36	114.2	5.8	0.18	0.0	0.00	0.67	0.20	0	
1	A	16.55	16.55	33.483	24.456	346.6	0.003	6.36	114.2	5.8	0.18	0.0	0.00	0.67	0.20	1	208
9	A	16.23	16.23	33.487	24.533	339.5	0.031	6.38	113.9	5.5	0.18	0.0	0.00	1.10	0.27	9	207
10	ISL	16.19	16.19	33.486	24.541	338.8	0.034	6.34	113.1	5.6	0.19	0.0	0.00	1.27	0.34	10	
17	A	15.38	15.38	33.481	24.719	322.0	0.057	6.05	106.2	6.6	0.24	0.0	0.03	2.25	0.82	17	206
20	ISL	14.39	14.39	33.493	24.942	300.9	0.067	5.37	92.4	8.1	0.44	2.3	0.14	2.10	0.86	20	
26	A	12.34	12.34	33.554	25.403	257.1	0.084	3.92	64.7	12.1	0.96	8.7	0.34	1.43	0.94	26	205
30	ISL	11.60	11.60	33.582	25.564	241.9	0.093	3.48	56.5	15.0	1.29	13.6	0.31	1.05	0.69	30	
35	A	11.06	11.06	33.602	25.677	231.2	0.105	3.17	50.9	18.5	1.65	19.0	0.26	0.61	0.36	35	204
42		10.79	10.78	33.612	25.733	226.0	0.121	2.88	46.0	21.9	1.93	21.8	0.46	0.14	0.27	42	203
49	A	10.74	10.73	33.641	25.765	223.2	0.137	2.85	45.4	22.0	1.92	21.6	0.41	0.12	0.30	49	202
50	ISL	10.74	10.73	33.644	25.767	223.0	0.139	2.84	45.3	22.0	1.91	21.5	0.40	0.12	0.30	50	
56		10.75	10.74	33.661	25.779	222.0	0.153	2.80	44.7	21.9	1.88	20.8	0.33	0.14	0.31	56	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV DAVID STARR JORDAN — CALCOFI CRUISE 9604 — STATION 90 30I

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
33 25.2 N	117 54.2 W	22/04/96	1310	UTC	614 m	060	06 kn	090 03 0!>	0	1018.2 mb	15..7 C	13..9 C	14m 03	0/8	

DEPTH in		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SI03 uM/I	P04 uM/l	N03 uM/l	N02 uM/l	CHL-A ug/I	PHAEO ug/l	PRES db	SAMP
0	ISL	16.22	16.22	33.524	24.563	336.3	0.000	6.10	108.9	2.6	0.26	0.0	0.00	0.27	0.07	0	
1		16.22	16.22	33.524	24.563	336.4	0.003	6.10	108.9	2.6	0.26	0.0	0.00	0.27	0.07	1	220
10		14.75	14.75	33.514	24.881	306.4	0.032	6.16	106.8	2.9	0.29	0.0	0.00	0.49	0.18	10	219
20	ISL	13.46	13.46	33.518	25.154	280.7	0.062	5.74	96.9	5.4	0.51	2.1	0.11	1.99	0.85	20	
21		13.34	13.34	33.519	25.179	278.3	0.064	5.66	95.3	5.8	0.55	2.3	0.13	2.10	0.90	21	218
30		12.20	12.20	33.555	25.430	254.6	0.088	4.40	72.4	11.1	1.03	10.7	0.25	0.90	0.60	30	217
40		11.77	11.76	33.585	25.535	244.9	0.113	3.96	64.5	13.8	1.25	14.1	0.06	0.42	0.42	40	216
50		10.97	10.96	33.649	25.730	226.5	0.137	3.59	57.5	17.2	1.44	17.1	0.03	0.29	0.34	50	215
60		10.61	10.60	33.700	25.834	216.9	0.159	3.27	52.0	19.6	1.61	19.4	0.02	0.11	0.19	60	214
70		10.18	10.17	33.743	25.942	206.8	0.180	3.32	52.3	21.2	1.66	20.5	0.01	0.07	0.19	70	213
75	ISL	10.06	10.05	33.778	25.990	202.3	0.191	3.22	50.6	22.3	1.72	21.3	0.01	0-.06	0.17	75	
85		9.91	9.90	33.847	26.069	195.0	0.210	2.94	46.1	24.5	1.84	22.9	0.01	0.04	0.11	85	212
100		9.81	9.80	33.904	26.130	189.5	0.239	2.60	40.7	26.5	1.92	24.0	0.01	0.02	0.07	101	211
119		9.53	9.52	33.966	26.225	180.8	0.274	2.60	40.4	28.8	2.01	25.3	0.01	0.01	0.07	120	210
125	ISL	9.50	9.49	33.996	26.254	178.2	0.285	2.50	38.9	29.7	2.05	25.8	0.01	0.01	0.07	126	
140		9.45	9.43	34.069	26.319	172.3	0.311	2.21	34.3	31.8	2.15	26.9	0.00	0.01	0.06	141	209
150	ISL	9.38	9.36	34.101	26.356	169.0	0.329	2.09	32.4	33.0	2.20	27.4	0.00	0.01	0.06	151	
169		9.23	9.21	34.146	26.416	163.7	0.360	1.93	29.9	35.2	2.28	28.3	0.00	0.01	0.06	170	208
199		8.98	8.96	34.204	26.502	156.1	0.408	1.67	25.7	39.0	2.40	29.5	0.00	0.00	0.05	200	207
200	ISL	8.97	8.95	34.205	26.504	155.9	0.410	1.66	25.5	39.1	2.40	29.5	0.00			201	
228		8.73	8.71	34.236	26.567	150.5	0.453	1.41	21.6	42.4	2.50	30.6	0.00			229	206
250	ISL	8.47	8.44	34.244	26.613	146.3	0.485	1.30	19.8	45.1	2.57	31.4	0.00			252	
267		8.26	8.23	34.245	26.646	143.4	0.510	1.23	18.6	47.3	2.62	32.1	0.00			269	205
300	ISL	7.92	7.89	34.248	26.700	138.7	0.556	1.07	16.1	51.3	2.71	33.3	0.00			302	
318		7.74	7.71	34.249	26.727	136.3	0.581	0.98	14.7	53.5	2.76	34.0	0.00			320	204
376		7.12	7.08	34.248	26.815	128.6	0.658	0.76	11.2	61.1	2.89	36.1	0.00			378	203
400	ISL	6.92	6.88	34.257	26.850	125.5	0.688	0.66	9.7	64.2	2.95	36.9	0.00			403	
436		6.66	6.62	34.272	26.897	121.3	0.733	0.54	7.9	68.6	3.03	38.1	0.00			439	202
500	ISL	6.27	6.23	34.283	26.958	116.2	0.809	0.44	6.4	74.6	3.10	39.7	0.00			503	
514		6.19	6.14	34.285	26.969	115.2	0.825	0.42	6.1	75.9	3.12	40.0	0.00			518	201

RV DAVID STARR JORDAN — CALCOFI CRUISE 9604 — STATION 90 35

LATITUDE	LONGITUDE	DAY/HO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
33 15 .1 N	118 15 .0 W	22/04/96	0926	UTC	299 m	170	04 kn			1017.4 mb	15..8 C	14..6 C			

DEPTH		TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SI03	P04	N03	N02	CHL-A	PHAEO	PRES	SAMP
ID		DES C	DES C		THETA			ml/l	PCT	uM/l	uM/ I	uM/ I	uM/ I	ug/ I	ug/l	db	
0	ISL	16.35	16.35	33.522	24.532	339.3	0.000	6.14	109.9	3.0	0.23	0.0	0.00	0. 46	0.12	0	
1		16.35	16.35	33.522	24.532	339.3	0.003	6.14	109.9	3.0	0.23	0.0	0.00	0.46	0.12	1	220
10	ISL	15.57	15.57	33.517	24.705	323.2	0.033	6.25	110.1	3.3	0.26	0.0	0.00	0.67	0.31	10	
19		14.23	14.23	33.516	24.994	295.9	0.061	6.36	109.1	3.6	0.29	0.0	0.01	1 .04	0.57	19	215
20		14.60	14.60	33.514	24.914	303.6	0.064			3.7	0.28	0.0	0.00			20	219
20		14.47	14.47	33.514	24.942	300.9	0.064	6.36	109.6	3.5	0.28	0.0	0.01			20	216
20		14.45	14.45	33.515	24.947	300.5	0.064			3.4	0.28	0.0	0.00			20	217
20		14.48	14.48	33.515	24.940	301 . 1	0.064			3.7	0.28	0.0	0.01			20	218
20	ISL	14.09	14.09	33.514	25.021	293.3	0.064	6.28	107.4	3.9	0.32	0.2	0.03	1.12	0.60	20	
30	ISL	12.70	12.70	33.517	25.304	266.6	0.092	5.13	85.2	7.9	0.73	5 .1	0.26	1 .55	0.75	30	
31		12.56	12.56	33.520	25.334	263.8	0.095	4.98	82.5	8.4	0.78	5 .8	0.28	1 .56	0.75	31	214
40		11.54	11 .53	33.593	25.583	240.3	0.117	3.68	59.7	14.6	1 .32	15.2	0.27	0.74	0.50	40	213
50		10.87	10.86	33.680	25.772	222.5	0.141	3.32	53.1	18.8	1 .56	18.8	0.04	0.20	0.27	50	212
60		10.70	10.69	33.701	25.819	218.3	0. 163	3.20	51 .0	20.0	1 .62	19.6	0.03	0.14	0.22	60	211
70		10.40	10.39	33.755	25.913	209.5	0. 184	3.04	48.1	22.0	1 .73	21.1	0.01	0.05	0.14	70	210
75	ISL	10.29	10.28	33.773	25.946	206.5	0.194	2.98	47.1	22 .6	1 .77	21 .6	0.01	0.04	0.12	75	
85		10.10	10.09	33.808	26.006	201 .0	0.215	2.90	45 .6	23.8	1 .83	22.5	0.01	0.03	0.10	85	209
100		9.81	9.80	33.886	26. 116	190.8	0.244	2.82	44. 1	26.4	1 .93	24. 1	0.00	0.01	0.07	101	208
120		9.47	9.46	33.962	26.232	180.2	0.281	2.52	39. 1	29.3	2.06	25.8	0.00	0.01	0.09	121	207
125	ISL	9.40	9.39	33.977	26.255	178.1	0.290	2.48	38.5	29.9	2.08	26. 1	0.00	0.01	0.09	126	
140		9.21	9.19	34.021	26.321	172.1	0.316	2.37	36.6	31 .6	2.13	26.9	0.00	0.01	0.10	141	206
150	ISL	9.09	9.07	34.054	26.366	168.0	0.333	2.26	34.8	33.2	2.18	27.6	0.00	0.01	0.09	151	
169		8.91	8.89	34. 116	26.443	161.0	0.365	2.04	31 .3	36. 1	2.28	28.7	0.00	0.00	0.06	170	205
198		8.90	8.88	34.189	26.503	156.0	0.411	1 .71	26.3	39. 1	2.39	29.6	0.00	0.01	0.06	199	204
200	ISL	8.88	8.86	34.191	26.507	155.6	0.414	1 .69	25.9	39.3	2.40	29.7	0.00			201	
228		8.57	8.55	34.212	26.573	149.8	0.457	1 .49	22.7	42.9	2.50	31 .0	0.00			229	203
250	ISL	8.26	8.23	34.232	26.636	144.1	0.489	1 .29	19.5	47. 1	2 .61	32.2	0.00			252	
268		8.07	8.04	34.245	26.675	140.6	0.514	1.15	17.3	49.7	2 .68	33.0	0.00			270	202
282		8.03	8.00	34.247	26.682	140.1	0.534	1 .08	16.3	50.0	2.69	33. 1	0.00			284	201

RV DAVID STARR JORDAN — CALCOFI CRUISE 9604 — STATION 90 37

LATITUOE	LONGITUDE	DAY/NO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
33 11 .1 N	118 23 .1 V	22/04/96	0645	UTC	1177 m	320	05 kn			1017.3 mb	15,.9 C	14..0 C			

DEPTH		TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SI03	P04	N03	N02	CHL-A	PHAEO	PRES	SAMP
in		DEG C	DEG C		THETA			ml/l	PCT	uM/ I	uM/ I	uM/ I	uM/l	ug/l	ug/l	db	
0	ISL	15.52	15.52	33.527	24.723	321 .1	0.000	6.03	106.2	3.8	0.30	0.0	0.01	0.75	0.34	0	
2		15.52	15.52	33.527	24.723	321 .2	0.006	6.03	106.2	3.8	0.30	0.0	0.01	0.75	0.34	2	220
10	ISL	15.16	15.16	33.526	24.802	313.9	0.032	6.05	105.7	4. 1	0.34	0.3	0.02	1 .26	0.47	10	
11		15.07	15 .07	33.525	24.821	312.1	0.035	6.05	105.5	4.2	0.34	0.3	0.02	1 .34	0.50	1 1	219
20	ISL	13.85	13.85	33.508	25 .067	289.0	0.062	5.72	97.3	5 .3	0.47	2.0	0.10	1 .66	0.88	20	
21		13.69	13.69	33.507	25.099	286.0	0.065	5 .65	95.8	5 .5	0.50	2.4	0.11	1 .67	0.92	21	218
30	ISL	12.54	12.54	33.533	25.348	262 .5	0.090	4.66	77.2	10.0	0.90	8.5	0.28	1 .31	0.89	30	
31		12 .43	12.43	33.538	25.373	260. 1	0.092	4.54	75.0	10.5	0.95	9.3	0.29	1 .25	0.89	31	217
40		11 .87	11 .86	33.579	25.511	247. 1	0.115	3.91	63.9	13.6	1 .21	13.7	0.11	0.64	0.58	40	216
50		11.00	10. 99	33.644	25.721	227.4	0. 139	3.48	55.8	17.3	1 .47	17.3	0.07	0.26	0.34	50	215
60		10.68	10.67	33.709	25.829	217.3	0.161	3.16	50.3	20.5	1 .64	19.8	0.03	0.12	0.25	60	214
70		10.48	10.47	33.744	25.891	211.6	0.182	3.03	48.1	21 .8	1 .72	20.8	0.03	0.08	0.19	70	213
75	ISL	10.37	10.36	33.756	25.919	209.0	0.193	3.00	47.5	22 .2	1 .74	21 .1	0.03	0.07	0.17	75	
84		10.17	10.16	33.779	25.972	204.2	0.212	2.97	46.8	23.1	1 .77	21 .7	0.02	0.05	0.15	84	212
99		9.81	9.80	33.846	26.085	193.8	0.241	2 .92	45.7	25.5	1 .89	23.3	0.02	0.02	0.11	100	211
100	ISL	9.79	9.78	33.853	26.094	192.9	0.243	2.90	45.3	25.7	1 .90	23.4	0.02	0.02	0.11	101	
119		9.47	9.46	33.962	26.232	180.2	0.279	2.51	39.0	29.8	2.00	25.6	0.01	0.01	0.09	120	210
125	ISL	9.44	9.43	33.969	26.243	179.3	0.290	2.50	38.8	29.9	2.02	25 .8	0.01	0.01	0.09	126	
139		9.40	9.38	33.976	26.255	178.4	0.315	2.49	38.6	30. 1	2.06	25 .9	0.01	0.01	0.08	140	209
150	ISL	9.26	9.24	34.014	26.307	173.6	0.334	2.39	37.0	31 .7	2.12	26.6	0.01	0.01	0.07	151	
170		8.98	8.96	34.095	26.416	163.7	0.368	2.14	32.9	35 .4	2.23	28.0	0.01	0.01	0.06	171	208
199		8.73	8.71	34.165	26.510	155.2	0.414	1 .78	27.2	39.6	2.38	29.6	0.01	0.00	0.06	200	207
200	ISL	8.72	8.70	34. 168	26.514	154.8	0.415	1 .76	26.9	39.8	2.39	29.7	0.01			201	
229		8.46	8.44	34.233	26.606	146.6	0.459	1 .33	20.2	45.4	2.58	31 .5	0.01			230	206
250	ISL	8.28	8.25	34.248	26.645	143.2	0.490	1.18	17.9	48.0	2.65	32.3	0.01			252	
270		8.10	8.07	34.250	26.674	140.7	0.518	1 .09	16.4	50.1	2.70	32.9	0.01			272	205
300	ISL	7.82	7.79	34.258	26.722	136.5	0.560	0.94	14.1	53.7	2 .78	33.9	0.00			302	
318		7.65	7.62	34.261	26.750	134.2	0.584	0.86	12.8	55 .9	2 .83	34.5	0.00			320	204
378		7.17	7.13	34.270	26.825	127.7	0.662	0.65	9.6	62.6	2 .95	36.3	0.00			380	203
400	ISL	6. 99	6.95	34.270	26.851	125.5	0.690	0.60	8.8	65 .0	2.99	37.0	0.00			403	
438		6.68	6.64	34.273	26.895	121.6	0.737	0.52	7.6	69.4	3.07	38. 1	0.00			441	202
500	ISL	6.16	6.12	34.297	26.983	113.7	0.810	0.36	5.2	77.9	3.19	39.8	0.00			503	
513		6.05	6.00	34.303	27.001	112.0	0.825	0.33	4.7	79.7	3.21	40.2	0.00			517	201

RV DAVID STARR JORDAN CALCOFI CRUISE 9604 STATION 90 45

LATITUDE	LONGITUDE	DAY/NO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
32 55.0 N	118 53.4 W	22/04/96	0145	UTC	1622 *m*	320	22 kn	320 07 06	1	1016.1 mb	15 0 C	12 8 C		3/8	CI

DEPTH ·		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/L	OXY PCT	SI03 uM/l	P04 uM/I	N03 uM/L	N02 uM/I	CHL-A ug/L	PHAEO ug/L	PRES db	SAMP
0	ISL	13.70	13.70	33.469	25.067	288.4	0.000	6.04	102.4	4.4	0.53	2.2	0.09	1.38	0.49	0	
1		13.70	13.70	33.469	25.067	288.4	0.003	6.04	102.4	4.4	0.53	2.2	0.09	1.38	0.49	1	220
10	ISL	13.70	13.70	33.468	25.066	288.7	0.029	6.04	102.4	4.4	0.53	2.2	0.09	1.38	0.51	10	
11		13.70	13.70	33.468	25.066	288.8	0.032	6.04	102.4	4.4	0.53	2.2	0.09	1.38	0.51	11	219
19		13.70	13.70	33.470	25.068	288.8	0.055	6.03	102.3	4.3	0.53	2.2	0.09	1.46	0.54	19	218
20	ISL	13.70	13.70	33.470	25.068	288.9	0.058	6.03	102.3	4.3	0.53	2.2	0.09	1.46	0.54	20	
30		13.70	13.70	33.471	25.069	289.0	0.087	6.01	101.9	4.3	0.53	2.3	0.09	1.39	0.53	30	217
40		13.35	13.34	33.484	25.150	281.6	0.115	5.70	96.0	5.4	0.63	3.7	0.14	1.31	0.61	40	216
47		12.68	12.67	33.488	25.286	268.8	0.134	5.37	89.2	7.1	0.78	5.8	0.20	0.76	0.41	47	215
50	ISL	12.20	12.19	33.499	25.387	259.2	0.142	5.06	83.2	9.3	0.91	8.1	0.21	0.55	0.36	50	
57		11.15	11.14	33.542	25.615	237.6	0.160	4.32	69.5	14.5	1.22	13.6	0.23	0.19	0.30	57	214
71		10.78	10.77	33.604	25.729	227.0	0.192	3.90	62.2	17.1	1.38	16.2	0.18	0.15	0.29	71	213
75	ISL	10.61	10.60	33.631	25.780	222.3	0.201	3.76	59.8	18.3	1.45	17.3	0.14	0.13	0.27	75	
83		10.25	10.24	33.692	25.890	212.0	0.219	3.48	54.9	21.0	1.60	19.5	0.06	0.08	0.22	83	212
99		9.71	9.70	33.824	26.084	193.8	0.251	2.95	46.0	26.3	1.86	23.3	0.02	0.02	0.17	100	211
100	ISL	9.69	9.68	33.829	26.092	193.1	0.253	2.93	45.7	26.5	1.87	23.4	0.02	0.02	0.17	101	
120		9.40	9.39	33.915	26.207	182.6	0.291	2.65	41.1	29.6	2.01	25.2	0.01	0.01	0.13	121	210
125	ISL	9.34	9.33	33.936	26.233	180.2	0.300	2.58	40.0	30.3	2.04	25.6	0.01	0.01	0.12	126	
139		9.18	9.16	33.989	26.301	174.0	0.324	2.40	37.0	32.1	2.12	26.7	0.00	0.01	0.10	140	209
150	ISL	9.08	9.06	34.019	26.340	170.5	0.343	2.31	35.6	33.2	2.16	27.3	0.00	0.01	0.10	151	
170		8.93	8.91	34.068	26.403	164.9	0.377	2.15	33.0	35.4	2.23	28.2	0.00	0.01	0.10	171	208
195		8.75	8.73	34.142	26.489	157.1	0.417	1.85	28.3	39.2	2.37	29.6	0.00	0.01	0.09	196	207
200	ISL	8.71	8.69	34.149	26.501	156.1	0.425	1.81	27.7	39.7	2.39	29.8	0.00			201	
227		8.49	8.47	34.170	26.552	151.7	0.467	1.62	24.6	42.6	2.46	30.7	0.00			228	206
250	ISL	8.28	8.25	34.195	26.604	147.1	0.501	1.40	21.2	45.9	2.56	31.8	0.00			251	
268		8.11	8.08	34.213	26.644	143.6	0.527	1.24	18.7	48.6	2.64	32.7	0.00			270	205
300	ISL	7.80	7.77	34.222	26.697	138.9	0.572	1.10	16.5	52.4	2.72	33.7	0.00			302	
319		7.62	7.59	34.225	26.726	136.4	0.598	1.04	15.5	54.5	2.76	34.2	0.00			321	204
374		7.21	7.17	34.252	26.806	129.5	0.672	0.75	11.1	60.9	2.90	36.0	0.00			376	203
400	ISL	6.95	6.91	34.262	26.850	125.5	0.705	0.63	9.3	65.2	2.98	37.0	0.00			403	
435		6.60	6.56	34.274	26.907	120.4	0.748	0.50	7.3	71.1	3.07	38.2	0.00			438	202
500	ISL	6.11	6.07	34.298	26.990	113.0	0.824	0.35	5.0	78.9	3.17	39.8	0.00			503	
514		6.00	5.95	34.304	27.009	111.3	0.839	0.32	4.6	80.6	3.19	40.2	0.00			518	201

RV DAVID STARR JORDAN CALCOFI CRUISE 9604 STATION 90 60

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
32 25.3 N	119 57.2 W	21/04/96	0702	UTC	922 m	310	33 kn			1017.8 mb	15 0 C	12 2 C			

DEPTH m		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SI03 uM/L	P04 uM/I	N03 uM/I	N02 uM/L	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0	ISL	15.30	15.30	33.333	24.622	330.7	0.000	5.86	102.6	3.7	0.31	0.1	0.00	0.22	0.08	0	
2		15.30	15.30	33.333	24.622	330.8	0.007	5.86	102.6	3.7	0.31	0.1	0.00	0.22	0.08	2	224
10	ISL	15.31	15.31	33.333	24.620	331.2	0.033	5.85	102.4	3.4	0.31	0.0	0.00	0.22	0.08	10	
15		15.30	15.30	33.332	24.622	331.2	0.050			3.6	0.31	0.1	0.00			15	223
15		15.30	15.30	33.332	24.622	331.2	0.050			3.4	0.31	0.0	0.00			15	221
15		15.30	15.30	33.332	24.622	331.2	0.050			3.4	0.31	0.0	0.00			15	220
15		15.31	15.31	33.333	24.621	331.4	0.050	5.84	102.3	3.2	0.31	0.0	0.00	0.22	0.08	15	219
16		15.30	15.30	33.334	24.624	331.1	0.053			3.5	0.31	0.1	0.00			16	222
20	ISL	15.31	15.31	33.333	24.621	331.5	0.066	5.84	102.3	3.2	0.31	0.0	0.00	0.21	0.09	20	
30	ISL	15.30	15.30	33.332	24.623	331.6	0.099	5.84	102.2	3.1	0.31	0.0	0.00	0.20	0.10	30	
32		15.30	15.30	33.332	24.623	331.7	0.106	5.84	102.2	3.1	0.31	0.0	0.00	0.20	0.10	32	218
44		15.30	15.29	33.330	24.621	332.2	0.146	5.84	102.2	3.1	0.31	0.0	0.00	0.22	0.07	44	217
50	ISL	15.28	15.27	33.327	24.624	332.1	0.166	5.86	102.5	3.1	0.31	0.0	0.00	0.23	0.08	50	
52		15.28	15.27	33.326	24.623	332.3	0.172	5.87	102.7	3.1	0.31	0.0	0.00	0.24	0.09	52	216
63		14.95	14.94	33.309	24.682	326.9	0.209	5.89	102.4	3.3	0.32	0.1	0.00	0.36	0.17	63	215
74		14.31	14.30	33.295	24.808	315.2	0.244	5.86	100.5	3.6	0.35	0.3	0.03	0.50	0.29	74	214
75	ISL	14.14	14.13	33.292	24.841	312.0	0.247	5.85	100.0	3.7	0.36	0.5	0.04	0.50	0.31	75	
84		12.74	12.73	33.283	25.117	285.9	0.274	5.70	94.6	4.9	0.48	2.2	0.14	0.45	0.46	84	213
94		12.47	12.46	33.304	25.186	279.5	0.302	5.55	91.6	5.6	0.54	3.3	0.16	0.39	0.41	94	212
100	ISL	12.11	12.10	33.331	25.275	271.1	0.319	5.35	87.7	6.8	0.65	5.1	0.14	0.34	0.36	100	
111		11.41	11.40	33.403	25.461	253.6	0.348	4.90	79.1	9.6	0.89	9.2	0.08	0.24	0.26	111	211
125		10.92	10.90	33.520	25.641	236.8	0.382	4.32	69.1	13.6	1.17	13.7	0.03	0.14	0.16	126	210
144		9.89	9.87	33.747	25.995	203.3	0.424	3.41	53.4	22.6	1.68	21.3	0.00	0.02	0.07	145	209
150	ISL	9.67	9.65	33.786	26.062	197.0	0.436	3.27	51.0	24.2	1.76	22.5	0.00	0.02	0.07	151	
169		9.17	9.15	33.874	26.213	182.9	0.472	3.00	46.3	27.9	1.90	24.6	0.00	0.01	0.08	170	208
199		8.68	8.66	34.037	26.418	163.9	0.524	2.43	37.1	35.2	2.17	27.9	0.00	0.01	0.06	200	207
200	ISL	8.66	8.64	34.040	26.423	163.4	0.526	2.41	36.8	35.4	2.18	28.0	0.00			201	
229		8.25	8.23	34.108	26.540	152.8	0.571	2.00	30.2	41.0	2.35	30.1	0.00			230	206
250	ISL	8.08	8.05	34.135	26.587	148.6	0.603	1.82	27.4	43.7	2.44	31.1	0.00			251	
269		7.96	7.93	34.150	26.616	146.1	0.631	1.70	25.5	45.6	2.50	31.7	0.00			271	205
300	ISL	7.75	7.72	34.166	26.660	142.4	0.676	1.52	22.7	48.4	2.58	32.6	0.00			302	
320		7.60	7.57	34.177	26.691	139.7	0.704	1.39	20.7	50.7	2.64	33.2	0.00			322	204
379		6.95	6.91	34.250	26.840	126.1	0.782	0.70	10.3	63.1	2.95	36.7	0.00			381	203
400	ISL	6.78	6.74	34.261	26.872	123.3	0.809	0.60	8.8	66.2	3.01	37.4	0.00			403	
439		6.51	6.47	34.271	26.916	119.5	0.856	0.52	7.6	70.6	3.09	38.3	0.00			442	202
500	ISL	6.23	6.19	34.289	26.967	115.2	0.927	0.47	6.8	75.2	3.15	39.3	0.00			503	
518		6.15	6.10	34.294	26.982	114.0	0.948	0.45	6.5	76.6	3.17	39.6	0.00			521	201

RV DAVID STARR JORDAN — CALCOFI CRUISE 9604 — STATION 90 7CI

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
32 5.3 N	120 38 .3 W	20/04/96	2350 UTC	3817 m	330	23 kn	330 08 04	1	1021 .0 mb	16 .8 C	14..2 C	13m 03	3/8	CI

DEPTH m		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SI03 uN/ I	P04 uM/t	N03 uM/l	N02 uM/ I	CHL-A ug/ I	PHAEO ug/l	PRES db	SAMP
0	ISL	15.29	15.29	33.326	24.619	331 .0	0.000	5.94	104.0	3.2	0.32	0.0	0.00	0.38	0.11	0	
2		15.29	15.29	33.326	24.619	331 . 1	0.007	5.94	104.0	3.2	0.32	0.0	0.00	0.38	0.11	2	220
10	ISL	15.27	15.27	33.325	24.623	331 .0	0.033	5.93	103.7	3.1	0.31	0.0	0.00	0.40	0.12	10	
14		15.26	15.26	33.325	24.625	330.9	0.046	5 .93	103.7	3. 1	0.31	0.0	0.00	0.41	0.12	14	219
20	ISL	15.21	15.21	33.324	24.636	330.1	0.066	5.94	103.8	3.1	0.31	0.0	0.00	0.42	0.13	20	
29		15.06	15.06	33.327	24.671	327.0	0.096	5.96	103.8	3. 1	0.31	0.0	0.00	0.44	0.15	29	218
30	ISL	15.03	15.03	33.327	24.678	326.4	0.099	5.96	103.8	3. 1	0.31	0.0	0.00	0.46	0.16	30	
46		14.47	14.46	33.363	24.826	312.7	0.150	5 .98	103.0	3.0	0.34	0.0	0.02	0.81	0.35	46	217
SO	ISL	14.31	14.30	33.391	24.881	307.5	0.163	5 .98	102.6	3.0	0.36	0.2	0.03	0.81	0.40	50	
54		14.14	14.13	33.415	24.936	302.5	0.175	5 .99	102.5	2.9	0.38	0.5	0.04	0.81	0.44	54	216
67		13.62	13.61	33.395	25.028	294.0	0.214	5 .77	97.6	3.8	0.48	1 .4	0.11	0.43	0.31	67	215
74		12.97	12.96	33.354	25.126	284.7	0.234	5.58	93.1	5.4	0.59	3.3	0.20	0.35	0.31	74	214
75	ISL	12.91	12.90	33.353	25.137	283.7	0.237	5.54	92.3	5.6	0.60	3.6	0.21	0.34	0.30	75	
83		12.51	12.50	33.359	25.220	276.0	0.259	5 .25	86.8	7.4	0.72	5.6	0.28	0.26	0.25	83	213
93		11 .74	11 .73	33.390	25.390	260.0	0.286	4.97	80.8	9.3	0.87	8.3	0.16	0.26	0.28	93	212
100	ISL	11 .43	11 .42	33.465	25.505	249.1	0.304	4.58	74.0	11.7	1 .05	11.2	0.09	0.21	0.25	100	
111		11 .07	11 .06	33.588	25.666	234.0	0.330	3.99	64.0	15.6	1 .32	15.5	0.02	0.12	0.18	112	211
125		10.44	10.43	33.651	25.826	219.0	0.362	3.70	58.6	19.0	1 .50	18.4	0.01	0.05	0.09	126	210
146		9.70	9.68	33.750	26.029	200.0	0.406	3.53	55 .0	23.3	1 .70	21 .6	0.00	0.01	0.05	147	209
150	ISL	9.60	9.58	33.763	26.056	197.5	0.414	3.47	54.0	23.8	1 .72	22.0	0.00	0.01	0.05	151	
166		9.26	9.24	33.809	26. 147	189.1	0.445	3.24	50.0	25.8	1 .80	23.3	0.00	0.01	0.05	167	208
200	ISL	8.67	8.65	33.924	26.331	172.2	0.506	2.98	45 .5	30.9	1 .96	25.7	0.00	0.00	0.03	201	
204		8.60	8.58	33.936	26.351	170.3	0.513	2.97	45 .2	31 .6	1 .98	26.0	0.00	0.00	0.03	205	207
229		7.97	7.95	33.989	26.488	157.5	0.554	2.97	44.6	36.3	2.06	27.5	0.00			230	206
250	ISL	7.65	7.63	34.014	26.554	151.4	0.586	2.78	41.4	40. 1	2.16	28.9	0.00			251	
269		7.43	7.40	34.027	26.596	147.6	0.615	2.53	37.5	43.7	2.27	30.3	0.00			271	205
300	ISL	6.99	6.96	34.039	26.667	141.2	0.660	2.15	31 .6	50.5	2.45	32.7	0.00			302	
326		6.68	6.65	34.053	26.720	136.3	0.696	1 .81	26.4	56.0	2.59	34.6	0.00			328	204
374		6.47	6.44	34.120	26.801	129.2	0.759	1 .20	17.4	63.8	2.82	36.8	0.00			376	203
400	ISL	6.26	6.22	34.140	26.845	125.3	0.792	0.98	14.2	68. 1	2.92	38.0	0.00			403	
431		6.00	5 .96	34.160	26.894	120.9	0.831	0.79	11.3	73. 1	3.02	39.3	0.00			434	202
500	ISL	5 .61	5 .57	34.217	26.988	112.6	0.911	0.49	7.0	82.0	3.17	41 .0	0.00			503	
510		5.55	5.51	34.225	27.001	111.3	0.922	0.45	6.4	83.3	3.19	41 .2	0.00			513	201

RV DAVID STARR JORDAN — CALCOFI CRUISE 9604 — STATION 90 80

LATITUDE	LONGITUDE	DAY/HO/YR	CAST TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
31 44.7 N	121 18 .8 U	20/04/96	1825 UTC	3645 m	330	22 kn	330 07 Ofi	1	1022.9 mb	17..2 C	15..8 C	25m 01	3/8	CU

DEPTH m		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/ I	OXY PCT	SI03 uM/l	P04 uM/ I	N03 uM/l	N02 uM/l	CHL-A ug/l	PHAEO ug/ I	PRES db	SAMP
0	ISL	15.27	15.27	33.122	24.466	345 .6	0.000	5 .86	102.4	3.2	0.31	0.0	0.00	0.11	0.03	0	
1	A	15.27	15.27	33.122	24.467	345 .6	0.003	5 .86	102.4	3.2	0.31	0.0	0.00	0.11	0.03	1	220
10	ISL	15.25	15.25	33.123	24.472	345 .3	0.035	5 .86	102 .4	3.2	0.31	0.0	0.00	0.12	0.04	10	
15	A	15.24	15.24	33.123	24.474	345.3	0.052	5.86	102 .3	3.2	0.31	0.0	0.00	0.12	0.04	15	219
20	ISL	15.23	15.23	33.123	24.477	345 .2	0.069	5.86	102.3	3.2	0.31	0.0	0.00	0.12	0.04	20	
30	ISL	15.19	15.19	33.122	24.485	344.7	0.104	5.87	102.4	3.2	0.31	0.0	0.00	0.12	0 .04	30	
33	A	15.18	15.18	33.121	24.486	344.7	0.114	5.87	102.4	3.2	0.31	0.0	0.00	0.12	0.04	33	218
50	ISL	15.10	15.09	33.115	24.500	343.9	0.172	5.88	102.4	3.1	0.31	0.0	0.00	0.14	0.04	50	
51	A	15.09	15.08	33.114	24.501	343.8	0.176	5.88	102.4	3. 1	0.31	0.0	0.00	0.14	0.04	51	217
67	A	14.86	14.85	33.097	24.538	340.7	0.231	5 .90	102.2	3.1	0.31	0.0	0.00	0.19	0 .06	67	216
75	ISL	14.42	14.41	33.133	24.660	329.3	0.257	5.93	101 .8	3.3	0.32	0.0	0.00	0.33	0.18	75	
76		14.37	14.36	33.143	24.678	327.6	0.261	5 .93	101 .7	3.3	0.32	0.0	0.00	0.35	0.20	76	215
85		14.16	14.15	33.322	24.860	310.5	0.289	5.84	99.9	3.5	0.31	0.0	0.01	0.40	0.35	85	214
94	A	13.36	13.35	33.392	25.079	289.9	0.316	5 .71	96.1	4.1	0.36	0.8	0.05	0.38	0 . 40	94	213
100	ISL	12.70	12.69	33.316	25.151	283.1	0.334	5.61	93.1	5 .0	0.49	2.6	0.04	0.32	0.34	100	
104		12.27	12.26	33.263	25.192	279. 1	0.345	5.53	90.9	5.7	0.58	3.9	0.04	0.28	0.30	104	212
113		11 .60	11.59	33.304	25.349	264.3	0.369	5.33	86.4	6.9	0.69	5.8	0.03	0.22	0.29	1 13	211
125		11.11	11 .09	33.344	25.470	253.0	0.400	4.95	79.4	10.0	0.93	9.8	0.01	0.14	0.16	126	210
140		10.84	10.82	33.431	25.586	242.3	0.438	4.69	74.8	12.0	1 .06	11.9	0.01	0.08	0.12	141	209
150	ISL	10.38	10.36	33.522	25.737	228.0	0.461	4.57	72.2	13.8	1.15	13.7	0.01	0.05	0.08	151	
164		9.65	9.63	33.655	25.963	206.6	0.491	4.39	68.3	16.8	1 .30	16.6	0.00	0.02	0.04	165	208
194		8.73	8.71	33.807	26.230	181.6	0.550	3.77	57.5	25.6	1 .70	22.7	0.00	0.00	0.03	195	207
200	ISL	8.62	8.60	33.829	26.264	178.4	0.561	3.69	56.2	26.6	1 .74	23.3	0.00			201	
229		8.19	8.17	33.906	26.390	166.8	0.611	3.47	52 .3	30.7	1 .85	25.1	0.00			230	206
250	ISL	7.74	7.72	33.944	26.486	157.9	0.645	3.46	51.7	34.2	1 .90	26.1	0.00			251	
268		7.35	7.32	33.967	26.560	151.0	0.672	3.46	51.2	37.5	1 .95	27.1	0.00			269	205
300	ISL	6.83	6.80	33.976	26.639	143.7	0.720	3.04	44.5	44.5	2.15	29.8	0.00			302	
318		6.60	6.57	33.979	26.672	140.7	0.745	2 .71	39.4	48.8	2.28	31 .6	0.00			320	204
377		6 .06	6.03	34.055	26.803	128.8	0.825	1 . 48	21.3	63.3	2.73	37.4	0.00			379	203
400	ISL	5 .85	5.82	34.073	26.843	125.1	0.854	1 .24	17.7	67.6	2 .83	38.6	0.00			402	
435		5.60	5.56	34.102	26.897	120.2	0 . 897	0.99	14.1	73. 1	2.93	39.8	0.00			438	202
500	ISL	5 .50	5 .46	34.210	26.995	111.7	0.972	0.54	7 . 7	80.9	3.12	41 . 1	0.00			503	
515		5.48	5 .44	34.235	27.018	109.8	0.989	0.43	6. 1	82.7	3.16	41.4	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/FOREL	CLD AMT	TYPE
31 24.8 N	121 59.1 W	20/04/96	0643 UTC	3926 in	350 22 kn			1025.0 mb	16.0 C	13.5 C			

DEPTH in		TEMP DEG C	POT TEMP DES C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SI03 uM/I	P04 uM/I	N03 uM/L	N02 uM/I	CHL-A ug/L	PHAEO ug/L	PRES db	SAMP
0	ISL	17.18	17.18	33.485	24.310	360.5	0.000	5.62	102.2	3.3	0.26	0.0	0.00	0.07	0.02	0	
2		17.18	17.18	33.485	24.310	360.5	0.007	5.62	102.2	3.3	0.26	0.0	0.00	0.07	0.02	2	220
10	ISL	17.18	17.18	33.487	24.312	360.6	0.036	5.62	102.2	3.3	0.26	0.0	0.00	0.07	0.02	10	
15		17.19	17.19	33.488	24.311	360.9	0.054	5.62	102.2	3.2	0.26	0.0	0.00	0.07	0.02	15	219
20	ISL	17.20	17.20	33.488	24.309	361.3	0.072	5.62	102.2	3.1	0.26	0.0	0.00	0.07	0.02	20	
30		17.22	17.22	33.488	24.304	362.1	0.108	5.62	102.3	3.0	0.25	0.0	0.00	0.07	0.02	30	218
44		17.20	17.19	33.490	24.311	361.9	0.159	5.63	102.4	3.0	0.25	0.0	0.00	0.07	0.02	44	217
50	ISL	17.21	17.20	33.492	24.310	362.1	0.181	5.64	102.6	3.0	0.25	0.0	0.00	0.07	0.02	50	
58		17.22	17.21	33.494	24.310	362.5	0.210	5.64	102.6	3.0	0.25	0.0	0.00	0.08	0.02	58	216
75		17.40	17.39	33.685	24.414	353.1	0.271	5.60	102.4	2.9	0.22	0.0	0.00	0.12	0.05	75	215
83		17.61	17.60	33.819	24.467	348.4	0.299	5.60	102.9	2.8	0.21	0.0	0.00	0.12	0.04	83	214
95		17.51	17.49	33.903	24.556	340.4	0.340	5.58	102.4	2.9	0.20	0.0	0.00	0.14	0.06	95	213
100	ISL	17.22	17.20	33.936	24.651	331.5	0.357	5.59	102.0	2.9	0.20	0.0	0.00	0.15	0.07	100	
105		16.81	16.79	33.946	24.755	321.7	0.373	5.59	101.2	3.0	0.20	0.0	0.00	0.18	0.10	105	212
113		15.91	15.89	33.869	24.903	307.7	0.398	5.57	99.0	3.3	0.24	0.0	0.01	0.26	0.22	113	21 1
125		14.81	14.79	33.791	25.086	290.4	0.434	5.43	94.4	4.1	0.32	1.0	0.08	0.26	0.22	126	210
141		14.81	14.79	34.047	25.284	272.1	0.479	5.15	89.6	4.4	0.37	2.5	0.04	0.19	0.18	142	209
150	ISL	13.79	13.77	33.916	25.398	261.2	0.503	5.01	85.3	6.1	0.53	4.9	0.02	0.15	0.15	151	
165		11.82	11.80	33.655	25.583	243.5	0.541	4.79	78.2	9.8	0.85	9.4	0.01	0.08	0.09	166	208
192		10.58	10.56	33.766	25.893	214.2	0.603	4.45	70.7	14.9	1.16	14.2	0.01	0.02	0.04	193	207
200	ISL	10.19	10.17	33.780	25.971	206.8	0.620	4.35	68.6	16.8	1.26	15.8	0.01			201	
229		8.98	8.96	33.823	26.204	184.9	0.676	3.98	61.1	24.0	1.58	20.8	0.00			230	206
250	ISL	8.52	8.49	33.887	26.326	173.5	0.714	3.76	57.1	28.1	1.73	23.0	0.00			251	
267		8.25	8.22	33.937	26.406	166.1	0.743	3.57	53.9	31.4	1.83	24.5	0.00			268	205
300	ISL	7.60	7.57	33.990	26.543	153.3	0.796	3.02	45.0	39.8	2.08	28.1	0.00			302	
323		7.18	7.15	34.014	26.622	146.0	0.830	2.59	38.2	46.1	2.26	30.6	0.00			325	204
377		6.48	6.45	34.063	26.755	133.6	0.905	1.65	23.9	59.9	2.64	35.5	0.00			379	203
400	ISL	6.28	6.24	34.079	26.794	130.1	0.936	1.42	20.5	64.1	2.74	36.8	0.00			402	
442		5.97	5.93	34.106	26.855	124.7	0.989	1.11	15.9	70.7	2.88	38.5	0.00			445	202
500	ISL	5.57	5.53	34.154	26.943	116.7	1.059	0.72	10.2	80.0	3.07	40.6	0.00			503	
509		5.51	5.47	34.162	26.956	115.5	1.070	0.66	9.4	81.5	3.10	40.9	0.00			512	201

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
31 4.8 N	122 39.4 W	20/04/96	0019 UTC	4038 m	360 17 kn	330 06 06	1	1026.1 mb	17..2 C	14.,0 C	27m 01	4/8	AC

DEPTH m		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/t	OXY PCT	SI03 uM/l	P04 uM/l	N03 uM/I	N02 uM/I	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0	ISL	17.58	17.58	33.573	24.282	363.1	0.000	5.58	102.3	3.1	0.22	0.1	0.00	0.07	0.02	0	
2		17.58	17.58	33.573	24.282	363.2	0.007	5.58	102.3	3.1	0.22	0.1	0.00	0.07	0.02	2	220
10	ISL	17.58	17.58	33.574	24.283	363.4	0.036	5.59	102.5	3.1	0.21	0.1	0.00	0.06	0.03	10	
16		17.58	17.58	33.574	24.284	363.6	0.058	5.59	102.5	3.1	0.21	0.1	0.00	0.06	0.04	16	219
20	ISL	17.57	17.57	33.573	24.285	363.5	0.073	5.59	102.5	3.1	0.21	0.1	0.00	0.06	0.03	20	
29		17.55	17.55	33.571	24.289	363.5	0.105	5.58	102.3	3.0	0.21	0.1	0.00	0.07	0.02	29	218
30	ISL	17.55	17.54	33.571	24.289	363.5	0.109	5.58	102.3	3.0	0.21	0.1	0.00	0.07	0.02	30	
45		17.50	17.49	33.567	24.299	363.1	0.164	5.59	102.3	3.0	0.21	0.1	0.00	0.08	0.03	45	217
50	ISL	17.48	17.47	33.564	24.301	363.0	0.182	5.59	102.3	3.0	0.21	0.1	0.00	0.08	0.03	50	
59		17.43	17.42	33.557	24.308	362.7	0.214	5.60	102.4	2.9	0.21	0.1	0.00	0.08	0.03	59	216
75		17.32	17.31	33.641	24.400	354.5	0.272	5.61	102.4	2.9	0.21	0.1	0.00	0.13	0.07	75	215
83		17.08	17.07	33.841	24.610	334.7	0.299	5.61	102.0	2.8	0.20	0.0	0.00	0.16	0.08	83	214
97		16.40	16.38	33.863	24.786	318.4	0.345	5.62	100.9	2.9	0.20	0.0	0.00	0.17	0.11	97	213
100	ISL	16.23	16.21	33.875	24.834	313.8	0.354	5.61	100.3	2.9	0.20	0.0	0.00	0.18	0.13	100	
105		15.97	15.95	33.892	24.907	307.1	0.370	5.60	99.7	2.9	0.20	0.0	0.00	0.19	0.16	105	212
114		15.66	15.64	33.893	24.978	300.6	0.397	5.56	98.3	2.9	0.21	0.0	0.01	0.24	0.18	114	211
125	ISL	15.47	15.45	34.004	25.106	288.7	0.430	5.40	95.2	3.2	0.25	0.4	0.08	0.23	0.21	126	
126		15.46	15.44	34.016	25.117	287.6	0.433	5.38	94.8	3.2	0.25	0.5	0.09	0.23	0.21	127	210
139		15.30	15.28	34.096	25.215	278.7	0.469	5.21	91.6	3.8	0.30	1.7	0.07	0.20	0.19	140	209
150	ISL	14.54	14.52	34.041	25.337	267.2	0.499	5.10	88.3	4.7	0.39	3.3	0.05	0.16	0.15	151	
164		13.20	13.18	33.905	25.510	250.9	0.536	4.93	82.9	6.8	0.58	6.3	0.02	0.10	0.10	165	208
194		10.23	10.21	33.623	25.842	219.0	0.606	4.26	67.1	16.2	1.25	16.0	0.01	0.02	0.04	195	207
200	ISL	9.96	9.94	33.644	25.904	213.1	0.619	4.23	66.3	17.2	1.30	16.9	0.01			201	
230		9.19	9.16	33.833	26.178	187.4	0.679	4.12	63.5	21.9	1.45	19.8	0.00			231	206
250	ISL	8.65	8.62	33.894	26.311	175.0	0.716	3.77	57.5	26.9	1.66	22.7	0.00			251	
268		8.23	8.20	33.931	26.404	166.2	0.746	3.40	51.3	31.7	1.85	25.2	0.00			269	205
300	ISL	7.73	7.70	33.987	26.522	155.4	0.798	2.94	43.9	38.4	2.06	28.2	0.00			302	
315		7.56	7.53	34.010	26.565	151.5	0.821	2.73	40.6	41.3	2.15	29.3	0.00			317	204
377		7.10	7.06	34.119	26.716	137.9	0.910	1.56	23.0	54.6	2.61	34.2	0.00			379	203
400	ISL	6.89	6.85	34.141	26.762	133.7	0.942	1.29	18.9	58.8	2.72	35.5	0.00			402	
437		6.55	6.51	34.165	26.827	127.8	0.990	0.99	14.4	65.0	2.87	37.3	0.00			440	202
500	ISL	6.04	6.00	34.192	26.915	119.9	1.068	0.69	9.9	74.0	3.05	39.4	0.00			503	
513		5.93	5.89	34.198	26.933	118.2	1.083	0.63	9.0	75.8	3.09	39.8	0.00			516	201

RV DAVID STARR JORDAN — CALCOFI CRUISE 9604 — STATION 90 11CI

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
30 45.1 N	123 20.2 W	19/04/96	1832	UTC	4020 m	330	20 kn	330 04 04	1	1027.6 mb	16,.2 C	13..1 C	33m 01	4/8	SC

DEPTH m		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SI03 uM/I	P04 uM/I	N03 uM/I	N02 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0	ISL	17.63	17.63	33.623	24.308	360.6	0.000	5.59	102.6	2.7	0.21	0.1	0.00	0.07	0.02	0	
2	A	17.63	17.63	33.623	24.309	360.7	0.007	5.59	102.6	2.7	0.21	0.1	0.00	0.07	0.02	2	222
10		17.62	17.62	33.623	24.311	360.7	0.036	5.58	102.4	2.5	0.21	0.1	0.00	0.08	0.02	10	221
19	A	17.62	17.62	33.622	24.311	361.1	0.069	5.58	102.4	2.5	0.20	0.1	0.00	0.08	0.02	19	220
20	ISL	17.62	17.62	33.622	24.311	361.1	0.072	5.58	102.4	2.5	0.20	0.1	0.00	0.08	0.02	20	
30	ISL	17.60	17.59	33.625	24.318	360.7	0.108	5.59	102.6	2.3	0.20	0.0	0.00	0.09	0.01	30	
31		17.60	17.59	33.625	24.318	360.8	0.112	5.59	102.6	2.3	0.20	0.0	0.00	0.09	0.01	31	219
43	A	17.60	17.59	33.624	24.318	361.2	0.155	5.58	102.4	2.3	0.20	0.0	0.00	0.09	0.02	43	218
50	ISL	17.60	17.59	33.625	24.319	361.3	0.180	5.57	102.2	2.3	0.20	0.0	0.00	0.08	0.02	50	
54		17.60	17.59	33.627	24.321	361.3	0.195	5.57	102.2	2.3	0.20	0.0	0.00	0.08	0.02	54	217
67	A	17.58	17.57	33.635	24.332	360.7	0.242	5.58	102.3	2.2	0.20	0.0	0.00	0.09	0.03	67	216
75	ISL	17.51	17.50	33.634	24.349	359.4	0.271	5.60	102.6	2.2	0.20	0.0	0.00	0.10	0.03	75	
77		17.49	17.48	33.634	24.354	359.0	0.278	5.60	102.5	2.2	0.20	0.0	0.00	0.10	0.03	77	215
88	A	17.28	17.27	33.639	24.408	354.2	0.317	5.60	102.1	2.2	0.20	0.0	0.00	0.13	0.02	88	2U
97		16.55	16.53	33.622	24.566	339.3	0.348	5.63	101.2	2.3	0.21	0.0	0.00	0.17	0.06	97	213
100	ISL	16.18	16.16	33.562	24.605	335.6	0.358	5.68	101.3	2.4	0.22	0.0	0.00	0.17	0.07	100	
107		15.34	15.32	33.425	24.688	327.8	0.382	5.80	101.6	2.8	0.25	0.0	0.00	0.18	0.10	107	212
116		14.66	14.64	33.407	24.822	315.2	0.411	5.80	100.2	3.0	0.28	0.0	0.00	0.19	0.18	116	211
124	A	13.72	13.70	33.376	24.994	298.8	0.435	5.66	95.9	3.6	0.36	1.0	0.07	0.27	0.24	124	210
125	ISL	13.64	13.62	33.382	25.015	296.8	0.438	5.63	95.3	3.8	0.37	1.2	0.07	0.27	0.24	125	
136		13.05	13.03	33.488	25.216	277.9	0.470	5.31	88.8	5.6	0.51	4.2	0.05	0.21	0.17	137	209
150	ISL	12.66	12.64	33.632	25.405	260.3	0.507	5.04	83.7	7.1	0.62	6.4	0.03	0.15	0.14	151	
161		12.39	12.37	33.714	25.521	249.5	0.535	4.87	80.5	8.3	0.71	7.9	0.02	0.11	0.13	162	208
192		10.70	10.68	33.651	25.783	224.8	0.609	4.27	68.0	14.6	1.16	14.9	0.01	0.04	0.06	193	207
200	ISL	10.29	10.27	33.669	25.868	216.7	0.627	4.19	66.1	16.1	1.24	16.2	0.01			201	
227		9.10	9.08	33.773	26.146	190.4	0.682	3.99	61.4	21.2	1.47	19.9	0.00			228	206
250	ISL	8.44	8.41	33.863	26.319	174.1	0.723	3.75	56.9	26.3	1.66	22.8	0.00			251	
268		8.07	8.04	33.923	26.422	164.5	0.754	3.55	53.4	30.5	1.79	24.8	0.00			269	205
300	ISL	7.54	7.51	33.974	26.539	153.6	0.805	3.18	47.3	37.5	1.98	27.7	0.00			302	
317		7.33	7.30	33.992	26.583	149.6	0.831	2.94	43.5	41.3	2.09	29.2	0.00			319	204
379		6.85	6.81	34.114	26.746	134.8	0.919	1.48	21.7	57.2	2.64	35.2	0.00			381	203
400	ISL	6.63	6.59	34.138	26.795	130.4	0.947	1.20	17.5	61.9	2.76	36.6	0.00			402	
438		6.26	6.22	34.173	26.871	123.4	0.995	0.87	12.6	69.4	2.93	38.4	0.00			441	202
500	ISL	5.98	5.94	34.233	26.955	116.1	1.069	0.54	7.8	77.0	3.09	40.0	0.00			503	
516		5.91	5.87	34.249	26.976	114.2	1.087	0.45	6.4	79.0	3.13	40.4	0.00			519	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV DAVID STARR JORDAN — CALCOFI CRUISE 9604 — STATION 90 120

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
30 24.9 N	123 59.6 W	19/04/96	0727	UTC	4220 m	020	12 kn			1027.8 mb	16..2 C	12..2 C			

DEPTH m		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SI03 uM/I	P04 uM/I	N03 uM/l	N02 uM/I	CHL-A ug/l	PHAEO ug/I	PRES db	SAMP
0	ISL	17.58	17.58	33.527	24.247	366.5	0.000	5.59	102.5	3.0	0.21	0.0	0.00	0.08	0.02	0	
1		17.58	17.58	33.527	24.247	366.5	0.004	5.59	102.5	3.0	0.21	0.0	0.00	0.08	0.02	1	220
10	ISL	17.60	17.60	33.527	24.243	367.3	0.037	5.59	102.5	2.9	0.21	0.0	0.00	0.07	0.02	10	
15		17.60	17.60	33.526	24.242	367.5	0.055	5.59	102.5	2.9	0.21	0.0	0.00	0.07	0.02	15	219
20	ISL	17.58	17.58	33.523	24.245	367.4	0.073	5.59	102.5	2.9	0.21	0.0	0.00	0.07	0.02	20	
30	ISL	17.50	17.49	33.517	24.260	366.3	0.110	5.60	102.5	2.9	0.21	0.0	0.00	0.08	0.02	30	
32		17.48	17.47	33.515	24.263	366.1	0.117	5.60	102.4	2.9	0.21	0.0	0.00	0.08	0.02	32	218
45		17.31	17.30	33.505	24.297	363.3	0.165	5.62	102.5	2.8	0.21	0.0	0.00	0.08	0.03	45	217
50	ISL	17.25	17.24	33.507	24.313	362.0	0.183	5.62	102.3	2.8	0.21	0.0	0.00	0.08	0.03	50	
61		17.09	17.08	33.506	24.350	358.7	0.223	5.64	102.4	2.7	0.21	0.0	0.00	0.09	0.03	61	216
75		16.73	16.72	33.477	24.412	353.2	0.272	5.69	102.5	2.7	0.21	0.0	0.00	0.11	0.04	75	215
85		16.35	16.34	33.440	24.472	347.8	0.308	5.73	102.5	2.6	0.22	0.0	0.00	0.13	0.05	85	214
93		15.94	15.93	33.514	24.622	333.7	0.335	5.74	101.9	2.7	0.23	0.0	0.00	0.16	0.08	93	213
100	ISL	15.90	15.88	33.606	24.703	326.3	0.358	5.71	101.3	2.8	0.22	0.0	0.00	0.17	0.09	100	
105		15.82	15.80	33.665	24.766	320.4	0.374	5.68	100.6	2.8	0.22	0.0	0.00	0.17	0.10	105	212
115		14.95	14.93	33.708	24.991	299.1	0.405	5.59	97.4	3.3	0.25	0.1	0.01	0.22	0.17	115	211
125	ISL	13.88	13.86	33.482	25.043	294.2	0.435	5.57	94.8	4.0	0.35	1.2	0.09	0.25	0.24	125	
126		13.78	13.76	33.460	25.047	293.9	0.438	5.57	94.6	4.1	0.36	1.4	0.10	0.25	0.24	127	210
141		13.27	13.25	33.635	25.286	271.5	0.480	5.17	87.0	5.8	0.51	4.5	0.06	0.21	0.21	142	209
150	ISL	12.82	12.80	33.665	25.399	260.9	0.504	4.98	83.0	7.1	0.62	6.4	0.04	0.18	0.18	151	
159		12.30	12.28	33.669	25.503	251.1	0.527	4.82	79.5	8.6	0.75	8.4	0.03	0.14	0.15	160	208
196		9.78	9.76	33.667	25.952	208.4	0.612	4.17	65.1	18.2	1.32	17.7	0.01	0.02	0.04	197	207
200	ISL	9.60	9.58	33.691	26.000	203.8	0.620	4.12	64.1	19.3	1.37	18.4	0.01			201	
229		8.61	8.59	33.874	26.301	175.5	0.675	3.83	58.3	26.4	1.62	22.5	0.00			230	206
250	ISL	8.16	8.13	33.927	26.411	165.2	0.711	3.75	56.5	29.8	1.72	24.0	0.00			251	
270		7.85	7.82	33.950	26.475	159.3	0.743	3.62	54.2	33.1	1.81	25.2	0.00			271	205
300	ISL	7.38	7.35	33.995	26.579	149.8	0.790	2.96	43.8	41.2	2.09	28.8	0.00			302	
319		7.13	7.10	34.018	26.632	144.9	0.818	2.50	36.8	46.6	2.27	31.2	0.00			321	204
379		6.54	6.51	34.056	26.742	135.0	0.902	1.72	25.0	58.1	2.58	35.1	0.00			381	203
400	ISL	6.48	6.44	34.091	26.777	131.9	0.930	1.43	20.8	61.3	2.69	36.1	0.00			402	
438		6.42	6.38	34.160	26.840	126.5	0.979	0.96	13.9	66.5	2.88	37.6	0.00			441	202
500	ISL	6.14	6.10	34.236	26.937	118.0	1.055	0.55	7.9	74.6	3.09	39.4	0.00			503	
508		6.10	6.06	34.246	26.950	116.8	1.064	0.50	7.2	75.7	3.12	39.6	0.00			511	201

RV DAVID STARR JORDAN CALCOFI CRUISE 9604 STATION 93 26.7

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
32 57.1 N	117 18.2 W	15/04/96	1907	UTC	68 in	290	06 kn	260 01 06i	1	1018.0 mb	21.7 C	17..9 C	13m 05	4/8	CS

DEPTH ID	TEMP DEG C	POT TENP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SI03 uM/l	P04 uM/ I	N03 uM/ I	N02 uM/ I	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	17.32	17.32	33.517	24.302	361.3	0.000	6.49	118.4	6.2	0.14	0.0	0.01	0.83	0.15	0	
1	17.32	17.32	33.517	24.302	361.3	0.004	6. 49	118.4	6.2	0.14	0.0	0.01	0.83	0.15	1	209
1	17.43	17.43	33.518	24.276	363.8	0.004									1	210
8	16.58	16.58	33.505	24.466	345.9	0.028	6.39	114.9	3.5	0.33	0.7	0.00	0.84	0.18	8	208
10 ISL	15.85	15.85	33.493	24.624	330.9	0.035	6.25	110.7	4.2	0.36	1.1	0.01	1.66	0.42	10	
17	13.16	13.16	33.508	25.206	275.6	0.056	5.40	90.6	9.0	0.55	2.3	0.04	4.14	1.16	17	207
20 ISL	12.51	12.51	33.532	25.353	261.7	0.065	4.71	78.0	11.9	0.81	6.5	0.14	3.63	1.05	20	
26	11.64	11.64	33.588	25.561	242.1	0.080	3.43	55.7	17.6	1.33	15.4	0.29	1.81	0.60	26	206
30 ISL	11.22	11.22	33.640	25.678	231.0	0.089	3.29	53.0	20.0	1.49	17.8	0.21	1.01	0.42	30	
35	10.86	10.86	33.700	25.789	220.5	0.100	3.11	49.7	22.1	1.60	19.3	0.07	0.33	0.27	35	205
41	10.60	10.60	33.747	25.872	212.8	0.113	3.02	48.0	23.8	1.70	20.6	0.04	0.14	0.20	41	204
49	10.36	10.35	33.782	25.941	206.4	0.130	2.91	46.1	25.0	1.76	21.6	0.05	0.09	0.17	49	203
50 ISL	10.33	10.32	33.789	25.952	205.4	0.132	2.89	45.7	25.2	1.77	21.8	0.05	0.08	0.17	50	
58	10.07	10.06	33.842	26.037	197.4	0.148	2.75	43.3	26.8	1.86	23.0	0.07	0.04	0.13	58	202

RV DAVID STARR JORDAN CALCOFI CRUISE 9604 STATION 93 28

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
32 54.7 N	117 23.6 W	15/04/96	2157	UTC	615 m	270	15 kn	270 02 04	1	1016.4 mb	19.,5 C	17..6 C	12m 03	3/8	CI

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SI03 uM/l	P04 uM/ I	N03 uM/ I	N02 uM/ I	CHL-A ug/ I	PHAEO ug/l	PRES db	SAMP
0 ISL	17.27	17.27	33.504	24.303	361.1	0.000	6.16	112.2	3.9	0.20	0. 1	0.00	0.40	0.08	0	
1	17.27	17.27	33.504	24.303	361.1	0.004	6.16	112.2	3.9	0.20	0. 1	0.00	0.40	0.08	1	220
10	16.50	16.50	33.495	24.477	344.9	0.035	6.37	114.3	4.0	0.20	0. 1	0.00	0.71	0.16	10	219
20	14.44	14.44	33.492	24.931	301.9	0.068	5.97	102.8	5.6	0.32	0. 1	0.01	1.45	0.65	20	218
30	12.83	12.83	33.528	25.288	268.2	0.096	4.68	78.0	10.0	0.88	8.6	0.25	1.53	0.66	30	217
40	11.76	11.75	33.572	25.526	245.7	0. 122	4.19	68.3	13.4	1.16	13.2	0.11	0.37	0. 40	40	216
50	11.08	11.07	33.619 Di	25.687	230.6	0.146									50	215
60	10.58	10.57	33.716	25.852	215.2	0. 168	3.35	53.3	20.4	1.59	19.5	0.01	0.06	0.16	60	214
70	10.17	10.16	33.740	25.941	206.8	0.189	3.34	52.6	21.3	1.64	20.4	0.01	0.05	0.10	70	. 213
75 ISL	10.08	10.07	33.769	25.979	203.3	0. 199	3.23	50.8	22.3	1.70	21.1	0.01	0.04	0.08	75	
85	9.98	9.97	33.834	26.047	197. 1	0.219	2.98	46.8	24.6	1.83	22.6	0.01	0.02	0.07	85	212
100 ISL	9.80	9.79	33.898	26.127	189.8	0.248	2.78	43.5	26.6	1.95	24.0	0.01	0.01	0.06	101	
101	9.79	9.78	33.902	26.132	189.3	0.250	2.77	43.3	26.7	1.96	24. 1	0.01	0.01	0.06	102	211
119	9.31	9.30	33.974	26.267	176.8	0.283	2.59	40. 1	30.1	2.07	25.9	0.00	0.01	0.05	120	210
125 ISL	9.26	9.25	33.998	26.294	174.3	0.294	2.50	38.7	31.0	2.10	26.3	0.00	0.01	0.05	126	
136	9.21	9.20	34.040	26.336	170.6	0.313	2.34	36.2	32.4	2.14	27.0	0.00	0.01	0.05	137	209
150 ISL	9.12	9.10	34.089	26.389	165.9	0.336	2.16	33.3	34.3	2.22	27.8	0.00	0.01	0.05	151	
168	9.01	8.99	34.140	26.446	160.7	0.366	1.96	30.2	36.5	2.32	28.6	0.00	0.00	0.05	169	208
199	8.84	8.82	34.183	26.507	155.5	0.415	1.72	26.4	39.2	2.40	29.7	0.00	0.01	0.04	200	207
200 ISL	8.83	8.81	34.184	26.510	155.3	0.416	1.71	26.2	39.3	2.40	29.7	0.00			201	
229	8.66	8.64	34.202	26.551	151.9	0.461	1.58	24.1	41.5	2.49	30.5	0.00			230	206
250 ISL	8.50	8.47	34.215	26.586	148.9	0.492	1.46	22.2	43.7	2.55	31.1	0.00			252	
267	8.35	8.32	34.224	26.616	146.3	0.518	1.36	20.6	45.7	2.59	31.7	0.00			269	205
300 ISL	8.04	8.01	34.238	26.674	141.2	0.565	1.17	17.6	49.7	2.69	32.9	0.00			302	
318	7.86	7.83	34.245	26.707	138.4	0.590	1.06	15.9	52.0	2.74	33.6	0.00			320	204
379	7.28	7.24	34.262	26.804	129.8	0.672	0.72	10.7	60.1	2.89	35.8	0.00			381	203
400 ISL	7.06	7.02	34.259	26.832	127.3	0.699	0.67	9.9	62.9	2.96	36.6	0.00			403	
437	6.69	6.65	34.255	26.880	123.0	0.745	0.60	8.8	67.6	3.06	37.8	0.00			440	202
500 ISL	6.31	6.26	34.287	26.956	116.4	0.821	0.40	5.8	75.0	3.13	39.2	0.02			503	
514	6.22	6.17	34.294	26.973	114.9	0.837	0.35	5. 1	76.7	3.14	39.5	0.02			518	201

RV DAVID STARR JORDAN CALCOFI CRUISE 9604 STATION 93 30

LATITUDE	LONGITUDE	**DAY/MO/YR**	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	**WEA**	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
32 50.9 N	117 31.6 **W**	16/04/96	0152	UTC	827 m	310	10 kn	290 02 03	1	1015.9 mb	18 ..5 C	15 ,.2 C		5/8	CI

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN **ml/l**	OXY PCT	SI03 uM/l	P04 uM/l	N03 uM/ I	N02 uM/ I	CHL-A ug/ I	PHAEO ug/ I	PRES db	SAMP
0 ISL	17.07	17.07	33.511	24.356	356.1	0.000	5.76	104.5	2.9	0.21	0. 1	0.00	0.15	0.03	0	
1	17.07	17.07	33.511	24.356	356.1	0.004	5.76	104.5	2.9	0.21	0.1	0.00	0.15	0.03	1	220
10	16.96	16.96	33.511	24.382	353.9	0.036	5.77	104.5	2.9	0.21	0.1	0.00	0.15	0.03	10	219
20	16.23	16.23	33.499	24.543	339.0	0.070	5.85	104.4	2.9	0.21	0. 1	0.00	0.16	0.05	20	218
30	15.19	15.19	33.485	24.765	318.1	0. 103	5.94	103.8	3.2	0.26	0.1	0.01	0.64	0.28	30	217
40	13.81	13.80	33.492	25.063	289.9	0. 133	5.56	94.5	5.2	0.45	2.6	0.11	1.08	0.55	40	216
50	12.28	12.27	33.559	25.419	256.2	0.161	4.39	72.3	10.8	0.97	10.7	0.21	1.06	0.62	50	215
59	11.58	11.57	33.617	25.595	239.6	0.183	3.87	62.8	14.7	1.24	14.8	0.07	0.44	0. 40	59	214
70	11.04	11.03	33.677	25.740	226.0	0.209	3.46	55.5	17.5	1.45	17.7	0.03	0.22	0.22	70	213
75 ISL	10.87	10.86	33.703	25.791	221.3	0.220	3.33	53.3	18.7	1.52	18.7	0.03	0.16	0.18	75	
85	10.60	10.59	33.753	25.877	213.3	0.242	3.15	50.1	20.8	1.63	20.3	0.02	0.09	0.13	85	212
100	10.30	10.29	33.823	25.984	203.4	0.273	2.95	46.6	23.1	1.76	21.9	0.01	0.04	0.09	100	211
119	9.76	9.75	33.953	26. 177	185.4	0.310	2.56	40.0	27.8	1.98	24.9	0.01	0.01	0.06	120	210
125 ISL	9.73	9.72	33.986	26.208	182.6	0.321	2.48	38.8	28.6	2.01	25.3	0.01	0.01	0.06	126	
138	9.66	9.64	34.033	26.257	178.3	0.344	2.34	36.5	29.9	2.07	25.9	0.01	0.01	0.06	139	209
150 ISL	9.60	9.58	34.083	26.306	173.9	0.365	2.16	33.7	31.5	2.15	26.7	0.01	0.01	0.06	151	
168	9.47	9.45	34.142	26.374	167.8	0. 396	1.93	30.0	33.9	2.26	27.8	0.01	0.01	0.05	169	208
199	9.08	9.06	34.173	26.462	159.9	0.447	1.83	28.2	36.9	2.32	28.9	0.01	0.01	0.05	200	207
200 ISL	9.07	9.05	34.174	26.464	159.8	0.449	1.82	28.1	37.0	2.32	28.9	0.01			201	
229	8.82	8.80	34.201	26.525	154.4	0.494	1.62	24.8	40.3	2.43	30.0	0.00			230	206
250 ISL	8.67	8.64	34.221	26.565	151.0	0. 526	1.49	22.8	42.2	2.49	30.7	0.00			251	
271	8.51	8.48	34.237	26.602	147.8	0.558	1.37	20.9	44.1	2.55	31.3	0.00			273	205
300 ISL	8.20	8.17	34.244	26.655	143.2	0.600	1.19	18.0	48.0	2.64	32.3	0.00			302	
320	7.97	7.94	34.246	26.691	140.0	0.628	1.08	16.2	50.8	2.71	33.1	0.00			322	204
375	7.49	7.45	34.262	26.774	132.7	0.703	0.82	12.2	57.6	2.87	35.1	0.00			377	203
400 ISL	7.19	7.15	34.264	26.818	128.7	0.736	0. 71	10.5	61.6	2.94	36.1	0.00			403	
434	6.78	6.74	34.267	26.877	123.3	0.779	0.58	8.5	67.2	3.03	37.5	0.00			437	202
500 ISL	6.22	6.18	34.297	26.975	114.5	0.857	0.39	5.6	76.9	3.17	39.4	0.00			503	
512	6.12	6.07	34.303	26.993	112.9	0.871	0.35	5.0	78.7	3.20	39.8	0.00			516	201

*%>

RV DAVID STARR JORDAN — CALCOFI CRUISE 9604 — STATION 93 35

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
32 40.9 N	117 52.4 W	16/04/96	0557	UTC	622 m	310	07 kn			1016.9 mb	16.7 C	15.0 C			

DEPTH m		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SI03 uM/l	P04 uM/I	N03 uM/I	N02 uM/I	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0	ISL	16.57	16.57	33.498	24.463	345.9	0.000	5.76	103.5	3.0	0.30	0.1	0.00	0.16	0.04	0	
1		16.57	16.57	33.498	24.463	345.9	0.003	5.76	103.5	3.0	0.30	0.1	0.00	0.16	0.04	1	220
10	ISL	16.10	16.10	33.476	24.554	337.5	0.034	5.84	104.0	2.9	0.31	0.1	0.00	0.15	0.04	10	
15		15.75	15.75	33.464	24.624	331.1	0.051	5.89	104.1	2.8	0.31	0.1	0.00	0.15	0.05	15	219
20	ISL	15.68	15.68	33.470	24.644	329.3	0.067	5.89	104.0	2.8	0.31	0.1	0.00	0.17	0.06	20	
30		15.55	15.55	33.483	24.684	325.8	0.100	5.90	103.9	2.8	0.30	0.1	0.00	0.20	0.07	30	218
45		14.77	14.76	33.464	24.840	311.4	0.148	5.71	99.0	4.8	0.42	1.6	0.06	0.46	0.24	45	217
50	ISL	13.78	13.77	33.465	25.049	291.6	0.163	5.40	91.7	6.4	0.57	4.0	0.13	0.50	0.35	50	
54		13.02	13.01	33.478	25.212	276.1	0.174	5.13	85.8	7.7	0.70	6.0	0.18	0.52	0.43	54	216
64		12.48	12.47	33.525	25.354	262.7	0.201	4.67	77.2	9.7	0.90	9.0	0.10	0.55	0.44	64	215
75		12.11	12.10	33.575	25.464	252.6	0.230	4.44	72.9	11.0	0.99	10.7	0.06	0.40	0.36	75	214
86		11.17	11.16	33.654	25.699	230.3	0.256	4.11	66.1	14.6	1.20	14.5	0.02	0.15	0.17	86	213
95		10.71	10.70	33.682	25.803	220.6	0.277	3.85	61.4	17.1	1.37	16.8	0.02	0.09	0.12	95	212
100	ISL	10.48	10.47	33.702	25.859	215.4	0.287	3.68	58.4	18.8	1.47	18.2	0.01	0.06	0.10	100	
109		10.13	10.12	33.740	25.949	207.0	0.306	3.41	53.7	21.5	1.62	20.3	0.00	0.03	0.06	110	211
124		9.75	9.74	33.798	26.058	196.8	0.337	3.19	49.8	23.8	1.75	22.1	0.00	0.02	0.04	125	210
125	ISL	9.73	9.72	33.803	26.065	196.2	0.339	3.17	49.5	24.0	1.76	22.2	0.00	0.02	0.04	126	
144		9.34	9.32	33.888	26.196	184.1	0.375	2.90	44.9	27.6	1.92	24.6	0.00	0.00	0.03	145	209
150	ISL	9.22	9.20	33.910	26.232	180.7	0.386	2.85	44.0	28.6	1.96	25.1	0.00	0.00	0.03	151	
168		8.91	8.89	33.969	26.328	171.9	0.417	2.71	41.6	31.4	2.04	26.3	0.00	0.01	0.03	169	208
198		8.66	8.64	34.047	26.429	162.9	0.468	2.43	37.1	35.0	2.16	27.8	0.00	0.00	0.03	199	207
200	ISL	8.64	8.62	34.051	26.435	162.3	0.471	2.41	36.8	35.2	2.17	27.9	0.00			201	
228		8.42	8.40	34.099	26.507	155.9	0.516	2.17	32.9	38.5	2.27	29.2	0.00			229	206
250	ISL	8.29	8.26	34.142	26.561	151.2	0.549	1.88	28.5	41.9	2.39	30.3	0.00			251	
269		8.16	8.13	34.176	26.607	147.1	0.578	1.61	24.3	45.2	2.50	31.3	0.00			271	205
300	ISL	7.82	7.79	34.209	26.684	140.2	0.622	1.27	19.0	50.6	2.66	33.0	0.00			302	
317		7.63	7.60	34.224	26.723	136.6	0.646	1.10	16.4	53.5	2.74	33.9	0.00			319	204
377		7.14	7.10	34.292	26.847	125.6	0.724	0.55	8.1	63.2	3.00	36.5	0.00			379	203
400	ISL	6.93	6.89	34.301	26.883	122.4	0.753	0.47	6.9	66.0	3.05	37.3	0.00			403	
436		6.61	6.57	34.306	26.931	118.1	0.796	0.42	6.1	69.9	3.10	38.3	0.00			439	202
500	ISL	6.19	6.15	34.305	26.985	113.5	0.870	0.36	5.2	76.5	3.16	39.7	0.00			503	
516		6.08	6.03	34.305	26.999	112.2	0.888	0.35	5.0	78.2	3.18	40.0	0.00			520	201

RV DAVID STARR JORDAN — CALCOFI CRUISE 9604 — STATION 93 40

LATITUDE	LONGITUDE	DAY/NO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
32 30.8 N	118 12.8 U	16/04/96	1011	UTC	1663 m	280	13 kn			1016.3 mb	15,.7 C	14.8 C			

DEPTH m		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/I	OXY PCT	SI03 uM/I	P04 uM/I	N03 uM/I	N02 uM/I	CHL-A ug/l	PHAEO ug/l	PRES db	SA«P
0	ISL	16.10	16.10	33.526	24.592	333.6	0.000	5.81	103.5	2.8	0.27	0.0	0.00	0.23	0.05	0	
1		16.10	16.10	33.526	24.592	333.6	0.003	5.81	103.5	2.8	0.27	0.0	0.00	0.23	0.05	1	220
10	ISL	16.00	16.00	33.526	24.615	331.7	0.033	5.82	103.4	2.8	0.26	0.0	0.00	0.23	0.05	10	
15		15.95	15.95	33.526	24.627	330.8	0.050	5.82	103.3	2.8	0.26	0.0	0.00	0.23	0.05	15	219
20	ISL	15.82	15.82	33.523	24.654	328.4	0.066	5.84	103.4	2.8	0.27	0.0	0.00	0.25	0.07	20	
30	ISL	15.27	15.27	33.498	24.757	318.8	0.099	5.89	103.1	2.9	0.28	0.0	0.00	0.30	0.12	30	
31		15.19	15.19	33.495	24.772	317.4	0.102	5.89	103.0	2.9	0.28	0.0	0.00	0.30	0.12	31	218
45		13.44	13.43	33.416	25.080	288.4	0.144	5.64	95.1	5.6	0.55	3.2	0.15	0.75	0.36	45	217
50	ISL	13.01	13.00	33.416	25.166	280.3	0.158	5.42	90.6	6.7	0.65	4.6	0.22	0.72	0.38	50	
55		12.61	12.60	33.433	25.258	271.7	0.172	5.13	85.0	8.1	0.76	6.5	0.26	0.69	0.40	55	216
63		11.87	11.86	33.514	25.461	252.4	0.193	4.47	73.0	11.9	1.03	11.3	0.14	0.10	0.09	63	215
73		11.20	11.19	33.609	25.659	233.9	0.218	4.03	64.9	15.8	1.27	15.1	0.03	0.06	0.06	73	214
75	ISL	11.11	11.10	33.618	25.682	231.7	0.222	3.97	63.8	16.2	1.30	15.5	0.03	0.08	0.09	75	
84		10.77	10.76	33.651	25.768	223.7	0.243	3.73	59.5	17.7	1.41	17.1	0.02	0.14	0.20	84	213
95		10.31	10.30	33.735	25.914	210.0	0.267	3.31	52.3	21.5	1.62	20.3	0.01	0.06	0.15	95	212
100	ISL	10.13	10.12	33.769	25.971	204.7	0.277	3.17	49.9	23.1	1.70	21.4	0.01	0.04	0.13	100	
110		9.83	9.82	33.829	26.069	195.6	0.297	2.95	46.2	25.9	1.83	23.0	0.01	0.02	0.09	111	211
125		9.60	9.59	33.906	26.167	186.5	0.326	2.71	42.2	28.4	1.94	24.6	0.01	0.01	0.07	126	210
145		9.31	9.29	34.011	26.297	174.5	0.362	2.43	37.6	31.4	2.08	26.4	0.01	0.01	0.07	146	209
150	ISL	9.28	9.26	34.026	26.314	173.0	0.370	2.40	37.1	31.7	2.09	26.6	0.01	0.01	0.07	151	
167		9.21	9.19	34.06	26.352	169.8	0.40F	2.32	35.9	32.8	2.12	27.0	0.00	0.01	0.07	168	208
200	ISL	8.77	8.75	34.112	26.463	159.7	0.454	2.04	31.2	37.7	2.27	28.8	0.00	0.01	0.06	201	
201		8.76	8.74	34.114	26.466	159.4	0.455	2.03	31.1	37.9	2.27	28.9	0.00	0.01	0.06	202	207
225		8.60	8.58	34.158	26.526	154.2	0.493	1.80	27.5	40.6	2.36	30.0	0.00			226	206
250	ISL	8.22	8.19	34.181	26.602	147.3	0.531	1.55	23.4	45.3	2.49	31.6	0.00			251	
267		7.95	7.92	34.190	26.649	142.9	0.555	1.40	21.0	48.6	2.57	32.6	0.00			269	205
300	ISL	7.66	7.63	34.202	26.702	138.4	0.602	1.23	18.4	52.5	2.66	33.7	0.00			302	
314		7.57	7.54	34.208	26.719	136.9	0.621	1.16	17.3	53.9	2.70	34.1	0.00			316	204
381		7.10	7.06	34.285	26.847	125.6	0.709	0.59	8.7	63.5	2.96	36.6	0.00			383	203
400	ISL	6.94	6.90	34.293	26.875	123.1	0.733	0.53	7.8	65.9	3.00	37.2	0.00			403	
437		6.62	6.58	34.301	26.925	118.7	0.777	0.47	6.9	70.4	3.07	38.3	0.00			440	202
500	ISL	6.21	6.17	34.316	26.991	112.9	0.850	0.34	4.9	76.9	3.15	39.7	0.00			503	
514		6.12	6.07	34.320	27.006	111.6	0.866	0.31	4.5	78.4	3.17	40.0	0.00			518	201

WS

RV DAVID STARR JORDAN CALCOFI CRUISE 9604 STATION 93 45

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
32 21.5 N	118 32 .8 W	16/04/96	1827	UTC	1263 m	320	07 kn	300 05 051	1	1016.2 mb	18.. 1 C	16.9 C	18m 03	7/8	CC

DEPTH m		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SI03 uM/l	P04 uM/ I	N03 uM/ I	N02 uM/ I	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0	ISU	16.47	16.47	33.529	24.510	341 .4	0.000	5.81	104.2	2 .8	0.29	0.0	0.00	0.26	0.06	0	
1	A	16.47	16.47	33.529	24.510	341 .5	0.003	5 .81	104.2	2.8	0.29	0.0	0.00	0.26	0.06	1	222
10	ISL	16.25	16.25	33.533	24.564	336.6	0.034	5 .84	104.3	2.9	0.29	0.0	0.00	0.26	0.08	10	
11	A	16.20	16.20	33.533	24.575	335 .6	0.037	5.84	104.2	2.9	0.29	0.0	0.00	0.26	0.08	1 1	221
17		15 .83	15.83	33.518	24.648	328.9	0.057	5 .91	104.7	3.2	0.27	0.0	0.00	0.28	0.11	17	220
20	ISL	15.77	15.77	33.516	24.660	327.8	0.067	5.91	104.6	3.2	0.27	0.0	0.00	0.28	0.12	20	
24	A	15.73	15.73	33.517	24.670	327.0	0.080	5.90	104.3	3.2	0.27	0.0	0 .00	0.29	0.13	24	219
30		15.63	15.63	33.517	24.692	325.0	0.100	5 .92	104.4	2 .9	0.27	0.0	0.00	0.38	0.19	30	218
36	A	15.48	15.47	33.516	24.725	322.1	0.119	5 .92	104.1	2.9	0.27	0.0	0.00	0.56	0.32	36	217
41		15.15	15.14	33.518	24.799	315.2	0.135	5 .85	102.2	3.1	0.31	0.3	0.01	1 .54	0.81	41	216
49	A	14.06	14.05	33.525	25.037	292.7	0.159	5.51	94.2	4.8	0.50	2 .8	0.08	2.56	1 .34	49	215
50	ISL	13.98	13.97	33.526	25.054	291 .0	0. 162	5.49	93.7	4.9	0.50	2.8	0.08	2.52	1 .34	50	
58		13.24	13.23	33.541	25.217	275 .7	0. 185	5.31	89.2	5.8	0.60	4.5	0.11	2.17	1 .36	58	214
67	A	11.61	11 .60	33.607	25.582	241 .1	0.208	4.05	65.8	14.0	1.19	13.6	0.21	1 .05	0.87	67	213
75	ISL	11 .06	11 .05	33.658	25.722	227.9	0.227	3.76	60.4	17.1	1 .40	16.9	0.14	0.50	0.56	75	
82		10.88	10.87	33.688	25.777	222.7	0.243	3.51	56.1	18.3	1 .47	17.9	0.05	0.25	0.36	82	212
98		10.23	10.22	33.728	25.922	209.3	0.277	3.37	53.2	21 .3	1 .63	20.3	0.01	0.06	0.14	98	21 1
100	ISL	10.17	10.16	33.739	25 .941	207.5	0.281	3.33	52 .5	21 .7	1 .65	20.6	0.01	0.05	0.13	100	
118		9.81	9.80	33.845	26.085	194.2	0.318	2.93	45.8	25.3	1 .84	23.1	0.00	0.01	0.06	1 1 9	210
125	ISL	9.71	9.70	33.874	26.124	190.6	0.331	2.84	44.3	26.4	1 .89	23.8	0.00	0.01	0. 06	126	
139		9.53	9.51	33.926	26.194	184. 1	0.357	2.68	41 .7	28.4	1 .98	24.9	0.00	0.00	0.05	140	209
150	ISL	9.35	9.33	33.977	26.264	177.8	0.377	2.52	39.0	30.3	2 .05	25 .9	0.00	0.00	0.05	151	
170		9.05	9.03	34.064 .	26.380	167.0	0.412	2 .24	34.5	33.9	2.18	27.6	0.00	0.01	0.05	171	208
199		8.81	8.79	34. 138	26.477	158.4	0.459	1 .92	29.4	38.1	2.32	29. 1	0.00	0.00	0.05	200	207
200	ISL	8.79	8.77	34.139	26.481	158.0	0.460	1 .91	29.3	38.3	2 .32	29.2	0.00			201	
228		8.37	8.35	34.161	26.563	150.6	0.504	1 .74	26.4	42 . 4	2 .42	30.6	0.00			229	206
250	ISL	8.27	8.24	34.192	26.603	147.2	0.536	1 .53	23.2	44.8	2.51	31 .4	0.00			251	
269		8.20	8.17	34.217	26.633	144.6	0.564	1 .33	20.1	46.9	2.59	32. 1	0.00			271	205
300	ISL	7.79	7.76	34.232	26.706	138.0	0.608	1 .08	16.2	52.3	2.72	33.6	0 .00			302	
319		7.51	7.48	34.236	26.750	134.1	0.634	0.96	14.3	55 .9	2.79	34.6	0.00			321	204
378		6.91	6.87	34.245	26.841	125.9	0.711	0.71	10.4	64.4	2 .94	36.9	0.00			380	203
400	ISL	6.67	6.63	34.257	26.883	122.1	0.738	0.60	8.8	68.2	3.01	37.9	0.00			403	
437		6.30	6.26	34.281	26.951	115.9	0.782	0.43	6.2	74.3	3.12	39.3	0.00			440	202
500	ISL	5.97	5.93	34.308	27.015	110.4	0.853	0.33	4.7	80.3	3.18	40.2	0.00			503	
510		5.92	5.88	34.312	27.025	109.6	0.864	0.31	4.4	81 .3	3.19	40.4	0.00			513	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV DAVID STARR JORDAN CALCOFI CRUISE 960< STATION 93 50

LATITUDE	LONGITUDE	DAY/NO/YR	CAST	TINE	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
32 10.8 N	118 53 .3 W	16/04/96	2153	UTC	1460 *m*	190	07 kn	270 06 *06*>	6	1016.8 mb	17 ..2 C	17..0 C	16m 02	6/8	SC

DEPTH m		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SI03 uM/l	P04 uM/ I	N03 uM/ I	N02 uM/l	CHL-A ug/ I	PHAEO ug/l	PRES db	SAMP
0	ISL	15.59	15.59	33.422	24.627	330.3	0.000	5.97	105.2	2 .6	0.33	0.2	0.01	0. 49	0.13	0	
1		15.59	15.59	33.422	24.627	330.3	0.003	5.97	105.2	2.6	0.33	0.2	0 .01	0.49	0.13	1	220
10		14.88	14.88	33.419	24.780	316.0	0.032	6.04	104.9	2.5	0.32	0.2	0.01	0.64	0.20	10	219
20		14.25	14.25	33.359	24.868	307.9	0.064	6.08	104.2	2.3	0.33	0. 1	0.01	0.74	0.31	20	218
30		14.14	14.14	33.350	24.885	306.6	0.094	6.01	102.8	2.3	0.34	0.3	0.02	0.76	0.37	30	217
41		13.64	13.63	33.361	24.997	296.2	0.127	5 .72	96.8	3.7	0.46	1 .8	0. 09	0.67	0.43	41	216
50	ISL	12 .70	12.69	33.417	25.228	274.4	0.153	5.11	84.8	7.8	0.76	6.2	0.26	0.36	0.31	50	
51		12.59	12.58	33.424	25.254	271 .9	0.156	5 .04	83.5	8.3	0.79	6.7	0.28	0.32	0.29	51	215
60		12.03	12 .02	33.459	25.389	259.3	0. 180	4.71	77.1	10.5	0.94	9.6	0.32	0.20	0.25	60	214
70		11.55	11.54	33.488	25.501	248.8	0.205	4.45	72 .1	12.6	1 .08	11.9	0.17	0.14	0.22	70	213
75	ISL	11.24	11.23	33.512	25.576	241 .8	0.217	4.33	69.7	13.9	1.15	13.2	0.12	0.12	0.21	75	
85		10.68	10.67	33.573	25 .723	227.9	0.241	4.07	64.8	16.5	1 .29	15.9	0.05	0.10	0.18	85	212
99		10.28	10.27	33.677	25.874	213.9	0.272	3.63	57.3	19.9	1.51	19.1	0.03	0.05	0.14	99	211
100	ISL	10.25	10.24	33.684	25 .884	212.9	0.274	3.61	57.0	20.2	1 .52	19.3	0.03	0.05	0.14	100	
121		9.60	9.59	33.798	26.083	194.4	0.317	3.21	50.0	24.7	1 .75	22.5	0.02	0.02	0.09	122	210
125	ISL	9.53	9.52	33.812	26.105	192.3	0.325	3.16	49. 1	25.2	1 .78	22.9	0.02	0.02	0.09	126	
140		9.33	9.31	33.857	26.173	186.1	0.353	2.98	46.1	27.0	1 .87	24.0	0.01	0.02	0.09	141	209
150	ISL	9.21	9.19	33.896	26.223	181.6	0.371	2.85	44.0	28.5	1 .93	24.9	0.01	0.02	0.10	151	
169		9.00	8.98	33.972	26.316	173.0	0.405	2.59	39.8	31 .7	2.04	26.5	0.01	0.02	0.10	170	208
198		8.64	8.62	34.077	26.455	160.3	0.453	2.13	32.5	37.0	2.23	28.8	0.01	0.01	0.06	199	207
200	ISL	8.61	8.59	34.080	26.463	159.7	0.457	2.12	32.3	37.3	2.24	28.9	0.01			201	
228		8.22	8.20	34.100	26.538	152.9	0.500	2.01	30.4	41 .3	2.33	30.2	0.01			229	206
250	ISL	8.03	8.00	34. 130	26.590	148.2	0.533	1 .80	27. 1	44.3	2 .43	31 .2	0.00			251	
267		7.91	7.88	34. 155	26.628	144.9	0.558	1 .60	24.0	46.8	2.52	32 .1	0.00			269	205
300	ISL	7.56	7.53	34.200	26.714	137. 1	0.605	1.17	17.4	53.4	2.72	34.0	0.00			302	
318		7.37	7.34	34.219	26.756	133.3	0.629	0.96	14.2	56.9	2.81	35 .0	0.00			320	204
378		6.94	6.90	34.227	26.823	127.7	0.707	0.76	11.2	63.1	2 .92	36.7	0.00			380	203
400	ISL	6.77	6.73	34.237	26 . 854	124.9	0.735	0.68	9.9	65 .9	2 .97	37.3	0.00			403	
438		6.51	6 . 47	34.256	26.904	120.5	0.782	0.54	7.9	70.6	3.06	38.3	0.00			441	202
500	ISL	6.22	6.18	34.277	26.959	116.0	0.855	0.41	5.9	75 .7	3.14	39.3	0.00			503	
503		6.21	6.17	34.278	26.961	115.8	0.859	0. 40	5 .8	75.9	3.14	39.4	0.00			506	201

W

RV DAVID STARR JORDAN | CALCOFI CRUISE 9604 | STATION 93 55

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
32 Q .8 N	119 13 .6 W	17/04/96	0233	UTC	1577 m	270	10 kn	270 05 07	1	1016.2 mb	16..9 C	16..0 C		1/8	CS

DEPTH m		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SI03 uM/l	P04 uM/ I	N03 uM/ I	N02 uM/ I	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0	ISL	16.10	16.10	33.438	24.525	340. 1	0.000	5 .81	103.4	3. 1	0.30	0.0	0.00	0.16	0.05	0	
1		16.10	16.10	33.438	24.525	340. 1	0.003	5 .81	103.4	3. 1	0.30	0.0	0.00	0.16	0.05	1	220
10	ISL	15.76	15.76	33.430	2 4.5 95	333.6	0.034	5 .84	103.2	3.0	0.30	0.0	0.00	0.17	0.05	10	
15		15.51	15.51	33.425	24.647	328.8	0.050	5 .87	103.3	3.0	0.30	0.0	0.00	0.19	0.06	15	219
20	ISL	15 .47	15.47	33.424	24.656	328.2	0.067	5 .88	103.3	3.0	0.30	0.0	0.00	0.21	0.07	20	
29		15.40	15.40	33.422	24.670	327.1	0.096	5 .89	103.4	3.0	0.30	0.0	0.00	0.24	0.09	29	218
30	ISL	15.40	15.40	33.422	24.670	327.1	0.099	5 .89	103.4	3.0	0.30	0.0	0.00	0.24	0.09	30	
45		15 .36	15.35	33.421	24.678	326.8	0.149	5.86	102.8	2.9	0.30	0.0	0.00	0.31	0.14	45	217
50	ISL	15.24	15.23	33.419	24.703	324.5	0.165	5.84	102.2	3.0	0.31	0. 1	0.00	0.46	0.21	50	
55		15.09	15.08	33.418	24.735	321 .6	0.181	5.82	101.5	3.0	0.32	0.2	0.01	0.59	0.28	55	216
64		14.76	14.75	33.421	24.809	314.8	0.210	5 .75	99.6	3.9	0.35	0.7	0.04	0.52	0.36	64	215
75		13.05	13.04	33.489	25.215	276.3	0.242	5.08	85 .0	7.6	0.69	6.1	0.24	0.39	0.32	75	214
85		12.29	12.28	33.527	25.393	259.6	0.269	4.54	74.8	10.7	0.96	10.3	0.10	0.26	0.24	85	213
97		11.71	11 .70	33.580	25.543	245.5	0.299	4.18	68.0	13.5	1.13	13.0	0.05	0.19	0.20	97	212
100	ISL	11 .54	11 .53	33.601	25.591	241 .0	0.307	4.05	65.7	14.5	1 .20	14.0	0.04	0.16	0.18	100	
109		11 .03	11 .02	33.664	25.733	227.7	0.328	3.67	58.9	17.4	1 .40	16.9	0.02	0.09	0.14	109	211
124		10.35	10.34	33.721	25.896	212.3	0.361	3.41	53.9	20.7	1 .56	19.5	0.01	0.04	0.10	125	210
125	ISL	10.32	10.31	33.725	25.905	211.5	0.363	3.39	53.6	20.9	1 .57	19.6	0.01	0.04	0.10	126	
144		9.95	9.93	33.815	26.038	199.2	0.402	3.03	47.5	24.5	1 .75	22.3	0.01	0.02	0.06	145	209
150	ISL	9.82	9.80	33.852	26.089	194.5	0.414	2.90	45 .4	25.9	1 .82	23.2	0.01	0.02	0.06	151	
168		9.44	9.42	33.959	26.236	180.8	0.447	2.53	39.3	30.0	2.02	25.7	0.00	0.01	0.05	169	208
198		8.82	8.80	34.057	26.412	164.5	0.499	2.25	34.5	35 .4	2.17	28.0	0.00	0.01	0.04	199	207
200	ISL	8.79	8.77	34.061	26.420	163.8	0.502	2.23	34. 1	35 .7	2.18	28.1	0.00			201	
228		8.41	8.39	34.111	26.518	154.9	0.547	2 .00	30.4	40.2	2 .30	29.9	0.00			229	206
250	ISL	8.28	8.25	34.138	26.559	151.3	0.581	1 .83	27.7	42.7	2 .37	30.6	0.00			251	
268		8.19	8.16	34.155	26.586	149. 1	0.608	1 .70	25.7	44.6	2 .42	31 . 1	0.00			270	205
300	ISL	7.82	7.79	34.178	26.659	142.5	0.654	1 .43	21 .4	49.5	2.56	32 .6	0.00			302	
317		7.61	7.58	34.189	26.699	138.9	0.678	1 .29	19.2	52.2	2 .63	33.5	0.00			319	204
378		7.18	7.14	34.238	26.799	130.2	0.760	0.82	12.1	60.8	2. 84	35.9	0.00			380	203
400	ISL	7.00	6.96	34.257	26.839	126.6	0.789	0.68	10.0	64.0	2 . 91	36.6	0.00			403	
434		6.71	6.67	34.282	26.898	121.3	0.831	0.51	7.4	68.8	3.01	37.6	0.00			437	202
500	ISL	6.15	6.11	34.285	26.974	114.4	0.909	0.39	5.6	76.9	3.13	39.7	0.00			503	
517		6.01	5.96	34.287	26.994	112.7	0.928	0.36	5.2	79.0	3.16	40.2	0.00			520	201

I !

RV DAVID STARR JORDAN | CALCOFI CRUISE 9604 | STATION 93 60

LATITUDE	LONGITUDE	DAY/NO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
31 5CI.9 N	119 34 .3 W	17/04/96	0632	UTC	1857 *m*	210	09 kn			1017.8 mb	17..0 C	16..2 C			

DEPTH m		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SI03 uM/ I	P04 uM/ I	N03 uM/l	N02 uM/l	CHL-A ug/l	PHAEO ug/ I	PRES db	SAHP
0	ISL	16.34	16.34	33.363	24.412	350.7	0.000	5 .76	103.0	3.5	0.32	0.1	0.00	0.13	0.03	0	
1		16.34	16.34	33.363	24.412	350.8	0.004	5 .76	103.0	3.5	0.32	0. 1	0.00	0.13	0.03	1	220
10		16.17	16.17	33.355	24.445	347.9	0.035	5 .78	103.0	3.4	0.30	0.0	0.00	0.12	0.03	10	219
20		15.64	15.64	33.361	24.569	336.4	0.069	5.85	103.1	3.4	0.30	0.0	0.00	0.13	0.03	20	218
30	ISL	14.90	14.90	33.308	24.691	325.1	0.102	5 .99	104.0	3.6	0.32	0.0	0.00	0.17	0.07	30	
31		14.83	14.83	33.302	24.702	324.1	0.105	6.00	104.0	3.6	0.32	0.0	0.00	0.18	0.07	31	217
40		14.46	14.45	33.277	24.761	318.7	0.134	6.03	103.7	3.7	0.33	0.0	0.00	0.26	0.12	40	216
50		13.59	13.58	33.237	24.911	304.6	0.166	6.06	102.4	4.2	0.34	0.0	0.00	0.51	0.33	50	215
59		12.85	12.84	33.244	25.064	290.2	0. 192	5.79	96.3	4.9	0.45	1 .5	0.14	0.69	0.59	59	214
69		12.48	12.47	33.288	25.171	280.3	0.221	5 .53	91 .3	6.0	0.57	3.6	0.14	0.53	0.54	69	213
75	ISL	12.19	12.18	33.363	25.284	269.6	0.237	5.33	87.5	7.1	0.65	5.3	0.10	0.43	0.44	75	
84		11 .72	11 .71	33.474	25.459	253.2	0.261	5 .05	82.1	9.0	0.78	7.9	0.04	0.30	0.28	84	212
99		11 .03	11 .02	33.506	25.609	239. 1	0.298	4.73	75.8	11.9	1 .00	11.4	0.02	0.17	0.16	99	211
100	ISL	10.98	10.97	33.511	25.622	237.9	0.300	4.71	75.4	12.1	1 .02	11.6	0.02	0.16	0.15	100	
118		10.22	10.21	33.608	25.831	218.4	0.341	4.24	66.8	16.7	1 .29	16.0	0.01	0.07	0.07	1 19	210
125	ISL	9.96	9.95	33.640	25.900	211.9	0.356	4.08	63.9	18.4	1 .39	17.6	0.01	0.05	0.05	126	
139		9.51	9.49	33.711	26.030	199.8	0.385	3.73	57.9	22.0	1 .59	20.5	0.01	0.02	0.04	140	209
150	ISL	9.25	9.23	33.801	26.142	189.2	0.407	3.37	52.0	25.5	1 .75	22.8	0.01	0.01	0.04	151	
169		8.98	8.96	33.953	26.305	174.2	0.441	2.78	42 .7	30.9	1 .99	25 .9	0.00	0.00	0.03	170	208
199		8.99	8.97	34.057	26.385	167.2	0.492	2.34	36.0	34.2	2.16	27.5	0.00	0.00	0.03	200	207
200	ISL	8.97	8.95	34.057	26.388	166.9	0.494	2.34	36.0	34.3	2.16	27.5	0.00			201	
229		8.35	8.33	34.062	26.489	157.6	0.541	2.42	36.7	38.1	2.21	28.7	0.00			230	206
250	ISL	8.17	8.14	34.110	26.554	151.8	0.573	2.10	31 .7	41 .5	2.34	30.0	0.00			251	
268		8.08	8.05	34.154	26.602	147.5	0.600	1 .75	26.4	44.7	2.46	31 .2	0.00			270	205
300	ISL	7.72	7.69	34.175	26.672	141.3	0.647	1 .44	21.5	50.2	2 .61	32 .9	0.00			302	
319		7.49	7.46	34.180	26.709	137.9	0.673	1 .30	19.3	53.5	2 .69	33.9	0.00			321	204
379		6 .91	6.87	34.239	26.837	126.4	0.752	0.74	10.9	64.0	2 .94	36.8	0.00			381	203
400	ISL	6.77	6.73	34.255	26.869	123.6	0.779	0.62	9. 1	66.6	3.00	37.5	0.00			403	
437		6.57	6.53	34.280	26.915	119.6	0.824	0.48	7.0	70.4	3.08	38.4	0.00			440	202
500	ISL	6.23	6.19	34.315	26.988	113.3	0.897	0.33	4.8	76.8	3.17	39.7	0.00			503	
515		6.15	6.10	34.323	27.005	111.8	0.914	0.30	4.3	78.3	3.19	40.0	0.00			518	201

RV DAVID STARR JORDAN CALCOFI CRUISE 9604 STATION 93 70

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
31 31 .4 N	120 14 .3 W	17/04/96	1835	UTC	3941 m	230	08 kn	280 04 07	1	1017.4 mb	17 ..8 C	16..2 C	32m 01	7/8	CS

DEPTH m		TEMP DE6 C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SI03 uM/l	P04 uM/ I	N03 uM/ I	N02 uM/ I	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0	ISL	16.05	16.05	33.255	24.395	352 .4	0.000	5 .80	103.0	3. 1	0.31	0.0	0.00	0.08	0..02	0	
1	A	16.05	16.05	33.255	24.395	352 .4	0.004	5 .80	103.0	3. 1	0.31	0.0	0.00	0.08	0..02	1	222
10		15 .76	15.76	33.251	24.458	346.7	0.035	5 .84	103. 1	3.0	0.31	0.0	0.00	0.09	0..02	10	221
20	A	15.56	15.56	33.240	24.494	343.6	0.069	5 .85	102.9	3.0	0.30	0.0	0.00	0.09	0..03	20	220
30	ISL	15.52	15.52	33.260	24.519	341 .5	0.104	5 .86	103.0	3.0	0.29	0.0	0.00	0.11	0..04	30	
31		15.52	15.52	33.262	24.520	341 .4	0.107	5 .86	103.0	3.0	0.29	0.0	0.00	0.11	0..04	31	219
43	A	15.49	15.48	33.289	24.548	339.1	0.148	5.87	103. 1	2.9	0.30	0.0	0.00	0.14	0..05	43	218
50	ISL	15.48	15.47	33.318	24.573	337.0	0.172	5.85	102.8	2.9	0.31	0.0	0.00	0.18	0..06	50	
54		15.47	15.46	33.334	24.588	335.7	0. 185	5.84	102.6	2 .9	0.31	0.0	0.00	0.20	0..07	54	217
64	A	14.24	14.23	33.296	24.823	313.5	0.218	5.95	101.9	3.3	0.33	0.0	0.01	0.45	0..28	64	216
75	ISL	13.89	13.88	33.288	24.890	307.4	0.252	5.91	100.5	3.7	0.37	0.4	0.05	0.63	0 .49	75	
76		13.85	13.84	33.288	24.898	306.6	0.255	5.91	100.4	3.8	0.37	0.4	0.05	0.63	0..50	76	215
86	A	12.31	12.30	33.293	25.208	277.2	0.284	5.57	91 .6	5.6	0.53	3.3	0.08	0. 41	0..51	86	214
95		11 .82	11.81	33.375	25.364	262.5	0.308	5.18	84.4	7.6	0.71	6.5	0.06	0.28	0..33	95	213
100	ISL	11 .47	11 .46	33.432	25.473	252.3	0.321	4.87	78.8	9.7	0.88	9.3	0.04	0.22	0..26	100	
103		11.28	11 .27	33.465	25.533	246.6	0.329	4.70	75.7	10.9	0.98	10.9	0.03	0.19	0.,23	103	212
109		11 .09	11 .08	33.507	25.600	240.3	0.343	4.52	72.5	12.2	1 .08	12.4	0.03	0.16	0..21	109	211
119	A	10.75	10.74	33.530	25.678	233.0	0.367	4.35	69.3	14.0	1.18	14.0	0.02	0.11	0.. 16	120	210
125	ISL	10.37	10.36	33.603	25.801	221 .4	0.381	3.99	63. 1	17.1	1 .36	16.8	0.01	0.07	0..12	126	
135		9.73	9.71	33.743	26.018	200.8	0.402	3.37	52 .6	22.7	1 .67	21.6	0.00	0.01	0..05	136	209
150	ISL	9.32	9.30	33.818	26.144	189.1	0.431	3.24	50.1	25 .7	1 .76	23.0	0.00	0.00	0..05	151	
160		9.16	9.14	33.832	26.181	185.7	0.450	3.16	48.7	26.5	1 .82	24.0	0.00	0.00	0..05	161	208
190		8.35	8.33	33.888	26.351	169.9	0.503	3.40	51.5	30.3	1 .86	25. 1	0.00	0.00	0..03	191	207
200	ISL	8.17	8.15	33.912	26.397	165.6	0.520	3.34	50.4	32 .0	1 .90	25 .8	0.00			201	
229		7.76	7.74	33.970	26.504	155.9	0.566	3.03	45 .3	37.0	2 .05	28.0	0.00			230	206
250	ISL	7.48	7.46	33.985	26.556	151.2	0.599	2.92	43.4	40. 1	2.12	29.0	0.00			251	
269		7.25	7.22	33.992	26.594	147.7	0.627	2.80	41.4	43.0	2.19	29.9	0.00			271	205
300	ISL	6.88	6.85	34.011	26.660	141.7	0.672	2 .41	35.3	49.4	2.35	32 .2	0.00			302	
317		6.69	6.66	34.023	26.695	138.6	0.696	2.16	31 .5	53.1	2.45	33.5	0.00			319	204
378		6.17	6.14	34.074	26.804	128.8	0.777	1 .41	20.3	64.2	2.76	37.2	0.00			380	203
400	ISL	5.98	5.95	34.098	26.847	124.8	0.805	1.16	16.6	69.0	2.86	38.4	0.00			402	
437		5.70	5 .66	34.141	26.916	118.6	0.850	0.81	11,. 5	76.5	3.01	40.2	0.00			440	202
500	ISL	5.50	5.46	34.207	26.993	111.9	0.923	0.51	7.2	83.2	3.14	41 . 4	0.00			503	
510		5.47	5.43	34.217	27.005	110.9	0.934	0.46	6.5	84.3	3.16	41 .6	0.00			513	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV DAVID STARR JORDAN CALCOFI CRUISE 9604 STATION 93 80

LATITUDE	LONSITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
31 10I.7 N	120 55 .1 W	18/04/96	0011	UTC	3825 m	210	09 kn	260 05 07	1	1018.5 mb	18..4 C	17..5 C	26m 01	1/&	AC

DEPTH m		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SI03 uM/ I	P04 uM/ I	N03 uM/ I	N02 uM/ I	CHL-A ug/ I	PHAEO ug/l	PRES db	SAMP
0	ISL	16.37	16.37	33.202	24.282	363.2	0.000	5 .82	104.0	3. 1	0.32	0.0	0.00	0.15	0..03	0	
1		16.37	16.37	33.202	24.282	363.2	0.004	5.82	104.0	3.1	0.32	0.0	0.00	0.15	0..03	1	220
10	ISL	15.61	15.61	33.188	24.443	348.2	0.036	5.89	103.7	3.2	0.32	0.0	0.00	0.14	0..03	10	
15		15 .06	15.06	33.185	24.561	337.0	0.053	5.93	103.2	3.2	0.32	0.0	0.00	0.13	0..04	15	219
20	ISL	14.98	14.98	33.216	24.603	333.2	0.070	5 .93	103. 1	3.2	0.32	0.0	0.00	0.14	0..05	20	
29		14.84	14.84	33.220	24.636	330.3	0.099	5 .93	102 .8	3.1	0.32	0.0	0.00	0.16	0..06	29	218
30	ISL	14.84	14.84	33.225	24.640	329.9	0.103	5.93	102.8	3.1	0.32	0.0	0.00	0.16	0..06	30	
45		14.88	14.87	33.276	24.671	327.4	0.152	5.92	102.7	3.0	0.33	0.0	0.00	0.23	0..09	45	217
50	ISL	14.85	14.84	33.273	24.676	327.2	0.168	5 .92	102.7	3.0	0.33	0.0	0.00	0.27	0.. 12	50	
55		14.78	14.77	33.261	24.682	326.7	0.185	5 .93	102 .7	3.1	0.33	0.0	0.00	0.31	0.. 16	55	216
66		14.49	14.48	33.216	24.709	324.4	0.221	5.94	102.2	3.2	0.33	0.0	0.00	0.40	0..23	66	215
75		14.01	14.00	33.232	24.822	313.9	0.249	5.90	100.5	3.6	0.34	0.0	0.04	0. 59	0..43	75	214
84		13.40	13.39	33.332	25.024	294.8	0.277	5 .74	96.6	4.2	0.39	0.9	0.14	0.39	0..31	84	213
94		12.68	12.67	33.391	25.212	277.0	0.305	5.52	91 .6	5.2	0.50	3.0	0.10	0.25	0..24	94	212
100	ISL	12.59	12.58	33.472	25.293	269.5	0.322	5 .40	89.5	5.6	0.53	3.8	0.08	0.21	0.,22	100	
110		12.48	12.47	33.587	25.403	259.3	0.348	5 .20	86.0	6.6	0.60	5 .4	0.06	0.18	0.. 18	110	211
125		11 .40	11 .38	33.556	25.582	242.4	0.386	4.85	78.4	10.2	0.88	9.9	0.03	0.10	0., 10	126	210
143		10.09	10.07	33.596	25.844	217.6	0.427	4.49	70.5	15.1	1.19	14.9	0.01	0.05	0..06	144	209
150	ISL	9.80	9.78	33.630	25.919	210.6	0.442	4.22	65 .9	17.7	1 .34	17.0	0.01	0.04	0.,06	151	
169		9.29	9.27	33.727	26.078	195.7	0.481	3.55	54.8	24.1	1 .68	22.0	0.01	0.01	0..07	170	208
199		8.53	8.51	33.833	26.281	176.8	0.537	3.39	51.5	28.1	1 .83	24. 4	0.00	0.01	0..05	200	207
200	ISL	8.51	8.49	33.838	26.288	176.1	0.538	3.37	51.2	28.3	1 .84	24.5	0.00			201	
227		8.20	8.18	33.968	26.437	162.4	0.584	2.83	42.7	35.1	2 .06	27.5	0.00			228	206
250	ISL	7.97	7.94	34.027	26.518	155.0	0.621	2 .55	38.3	39.3	2.19	29. 1	0.00			251	
267		7,82	7.79	34.057	26.564	150.9	0.647	2.36	35 .3	42 . 1	2 .27	30.0	0.00			268	205
300	ISL	7.60	7.57	34.127	26.651	143. 1	0.695	1 .74	25.9	48.6	2 .50	32 .4	0.00			302	
317		7.47	7.44	34.156	26.693	139.4	0.719	1 .43	21.2	52 .0	2 .61	33.6	0.00			319	204
377		6.71	6.68	34.187	26.823	127.5	0.799	0.91	13.3	63.8	2 .88	37.0	0.00			379	203
400	ISL	6.56	6.52	34.203	26.855	124.6	0.828	0.78	11.3	67.0	2 .95	37.8	0.00			402	
437		6.36	6.32	34.229	26.902	120.5	0.873	0.61	8.8	71.5	3.04	38.8	0.00			440	202
500	ISL	5 .91	5.87	34.269	26.992	112.5	0.947	0.42	6.0	80.0	3.17	40. 4	0.00			503	
512		5 .82	5 .78	34.277	27.010	110.9	0.960	0.38	5 .4	81.6	3.19	40.7	0.00			515	201

RV DAVID STARR JORDAN — CALCOFI CRUISE 9604 — STATION 93 9CI

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD	AHT	TYPE
30 50.9 N	121 35.1 W	18/04/96	0618	UTC	4084 m	310	18 kn			1021.0 mb	18..0 C	16..0 C				

DEPTH m		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SI03 uM/l	P04 uM/l	N03 uM/l	N02 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0	ISL	17.38	17.38	33.483	24.261	365.1	0.000	5.62	102.6	3.3	0.25	0.0	0.00	0.06	0.02	0	
1		17.38	17.38	33.483	24.261	365.2	0.004	5.62	102.6	3.3	0.25	0.0	0.00	0.06	0.02	1	224
10	ISL	17.29	17.29	33.493	24.291	362.7	0.036	5.62	102.4	3.3	0.24	0.0	0.00	0.06	0.02	10	
15		17.20	17.20	33.489	24.309	361.1	0.054									15	220
16		17.28	17.28	33.485	24.287	363.2	0.058									16	222
16		17.28	17.28	33.490	24.291	362.8	0.058									16	223
16		17.24	17.24	33.487	24.298	362.2	0.058									16	221
16		17.19	17.19	33.499	24.319	360.1	0.058	5.63	102.4	3.2	0.24	0.0	0.00	0.06	0.02	16	219
20	ISL	17.12	17.12	33.497	24.334	358.8	0.072	5.63	102.3	3.1	0.24	0.0	0.00	0.06	0.02	20	
30		16.94	16.94	33.480	24.364	356.3	0.108	5.65	102.3	3.0	0.24	0.0	0.00	0.07	0.02	30	218
46		16.59	16.58	33.416	24.397	353.7	0.165	5.69	102.2	3.0	0.25	0.0	0.00	0.08	0.02	46	217
50	ISL	16.42	16.41	33.386	24.413	352.3	0.179	5.71	102.2	3.0	0.25	0.0	0.00	0.08	0.02	50	
57		16.14	16.13	33.339	24.441	349.8	0.204	5.74	102.2	3.0	0.25	0.0	0.00	0.08	0.03	57	216
75		16.05	16.04	33.323	24.450	349.5	0.267	5.75	102.2	3.0	0.25	0.0	0.00	0.10	0.03	75	215
85		16.05	16.04	33.335	24.460	348.9	0.302	5.74	102.0	3.0	0.25	0.1	0.00	0.12	0.04	85	214
94		15.77	15.76	33.407	24.578	337.9	0.333	5.75	101.6	3.0	0.25	0.1	0.00	0.18	0.08	94	213
100	ISL	15.35	15.33	33.370	24.643	331.8	0.353	5.79	101.5	3.2	0.27	0.1	0.00	0.19	0.09	100	
104		15.02	15.00	33.337	24.690	327.4	0.366	5.82	101.3	3.3	0.28	0.1	0.00	0.20	0.11	104	212
115		14.24	14.22	33.336	24.855	311.9	0.401	5.84	100.0	3.7	0.30	0.1	0.00	0.28	0.22	115	211
125	ISL	13.55	13.53	33.360	25.016	296.7	0.431	5.70	96.3	4.2	0.36	0.8	0.04	0.35	0.33	126	
126		13.48	13.46	33.363	25.033	295.1	0.434	5.68	95.8	4.3	0.37	0.9	0.04	0.35	0.34	127	210
141		12.70	12.68	33.406	25.221	277.4	0.477	5.41	89.8	5.9	0.52	3.7	0.05	0.26	0.28	142	209
150	ISL	12.16	12.14	33.451	25.360	264.3	0.502	5.19	85.2	7.5	0.65	6.1	0.04	0.20	0.22	151	
167		11.08	11.06	33.545	25.632	238.6	0.544	4.75	76.2	11.4	0.94	11.1	0.01	0.09	0.11	168	208
192		9.57	9.55	33.642	25.967	206.8	0.600	4.23	65.7	19.1	1.38	18.1	0.01	0.02	0.04	193	207
200	ISL	9.28	9.26	33.699	26.059	198.2	0.616	3.97	61.3	21.9	1.52	20.1	0.01			201	
227		8.59	8.57	33.882	26.311	174.5	0.667	3.19	48.6	30.3	1.88	25.4	0.00			228	206
250	ISL	8.10	8.07	33.940	26.431	163.4	0.705	3.18	47.9	34.0	1.93	26.8	0.00			251	
268		7.80	7.77	33.957	26.488	158.1	0.734	3.17	47.4	36.2	1.97	27.3	0.00			269	205
300	ISL	7.41	7.38	33.990	26.570	150.6	0.784	2.82	41.8	41.7	2.13	29.5	0.00			302	
320		7.22	7.19	34.008	26.611	146.9	0.814	2.51	37.0	45.6	2.26	31.1	0.00			322	204
378		6.74	6.71	34.098	26.748	134.5	0.895	1.45	21.2	59.2	2.67	35.8	0.00			380	203
400	ISL	6.48	6.44	34.107	26.790	130.7	0.924	1.26	18.3	63.4	2.76	37.0	0.00			402	
437		6.03	5.99	34.113	26.853	124.8	0.972	1.06	15.2	69.8	2.87	38.6	0.00			440	202
500	ISL	5.53	5.49	34.149	26.943	116.6	1.048	0.72	10.2	80.4	3.05	40.9	0.00			503	
513		5.43	5.39	34.157	26.962	114.9	1.063	0.65	9.2	82.6	3.09	41.4	0.00			516	201

RV DAVID STARR JORDAN — CALCOFI CRUISE 9604 — STATION 93 100

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIHE	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD	AMT	TYPE
30 30.8 N	122 15.5 W	18/04,,'96	122 7	UTC	4155 in	340	18 kn			1022.9 mb	16,.3 C	13.. 1 C				

DEPTH m		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SI03 uM/I	P04 uM/l	N03 uM/l	N02 uM/I	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0	ISL	17.23	17.23	33.427	24.254	365.8	0.000	5.64	102.6	2.9	0.24	0.1	0.00	0.07	0.02	0	
2		17.23	17.23	33.427	24.254	365.9	0.007	5.64	102.6	2.9	0.24	0.1	0.00	0.07	0.02	2	222
10	ISL	17.24	17.24	33.427	24.252	366.4	0.037	5.63	102.5	2.9	0.24	0.1	0.00	0.07	0.02	10	
16		17.23	17.23	33.424	24.252	366.5	0.059	5.64	102.6	2.9	0.24	0.1	0.00			16	221
17		17.25	17.25	33.430	24.252	366.6	0.062	5.63	102.5	2.9	0.24	0.1	0.00			17	220
17		17.24	17.24	33.427	24.252	366.6	0.062	5.63	102.5	2.9	0.24	0.1	0.00	0.07	0.02	17	219
20	ISL	17.16	17.16	33.414	24.261	365.8	0.073	5.64	102.5	2.9	0.24	0.1	0.00	0.07	0.02	20	
30	ISL	16.86	16.86	33.366	24.295	362.9	0.110	5.69	102.8	2.9	0.25	0.1	0.00	0.07	0.02	30	
31		16.82	16.81	33.361	24.301	362.4	0.113	5.69	102.7	2.9	0.25	0.1	0.00	0.07	0.02	31	21S
44		16.52	16.51	33.342	24.356	357.5	0.160	5.70	102.2	2.9	0.25	0.1	0.00	0.06	0.02	44	217
50	ISL	16.33	16.32	33.341	24.399	353.6	0.181	5.71	102.0	2.9	0.25	0.1	0.00	0.07	0.03	50	
59		16.07	16.06	33.334	24.453	348.7	0.213	5.73	101.9	2.9	0.26	0.1	0.00	0.10	0.04	59	216
73		15.89	15.88	33.276	24.450	349.5	0.262	5.80	102.7	2.9	0.26	0.0	0.00	0.13	0.05	73	215
75	ISL	16.09	16.08	33.359	24.469	347.8	0.269	5.77	102.6	2.9	0.25	0.0	0.00	0.13	0.05	75	
84		16.59	16.58	33.670	24.594	336.3	0.300	5.67	102.0	2.9	0.23	0.0	0.00	0.14	0.06	84	214
94		14.85	14.84	33.426	24.795	317.1	0.332	5.79	100.5	3.4	0.30	0.1	0.00	0.17	0.12	94	213
100	ISL	14.50	14.49	33.443	24.883	308.9	0.351	5.76	99.3	3.6	0.30	0.1	0.01	0.25	0.19	100	
104		14.38	14.36	33.483	24.939	303.6	0.363	5.74	98.7	3.8	0.30	0.1	0.01	0.30	0.23	104	212
116		13.73	13.71	33.556	25.131	285.6	0.399	5.44	92.3	4.8	0.41	2.2	0.08	0.29	0.27	116	211
125		13.39	13.37	33.551	25.197	279.6	0.424	5.36	90.3	5.4	0.48	3.3	0.09	0.25	0.25	126	210
137		12.53	12.51	33.587	25.395	260.8	0.457	4.95	82.0	7.8	0.69	6.9	0.04	0.18	0.19	138	209
150	ISL	11.39	11.37	33.611	25.627	238.7	0.489	4.58	74.0	10.8	0.92	10.7	0.03	0.12	0.14	151	
166		10.17	10.15	33.654	25.876	215.1	0.525	4.18	65.8	14.9	1.20	15.0	0.01	0.06	0.09	167	208
193		9.49	9.47	33.773	26.082	195.9	0.581	3.60	55.9	22.7	1.61	21.2	0.00	0.01	0.04	194	207
200	ISL	9.36	9.34	33.813	26.135	191.0	0.594	3.46	53.6	24.4	1.69	22.3	0.00			201	
226		8.99	8.97	33.959	26.309	174.9	0.642	2.94	45.2	29.9	1.92	25.2	0.00			227	206
250	ISL	8.84	8.81	34.064	26.415	165.3	0.683	2.47	37.8	34.0	2.09	27.1	0.00			251	
270		8.72	8.69	34.129	26.485	159.0	0.715	2.12	32.4	37.3	2.21	28.4	0.00			271	205
300	ISL	8.24	8.21	34.183	26.601	148.3	0.761	1.70	25.7	43.3	2.40	30.5	0.00			302	
318		7.94	7.91	34.200	26.659	142.9	0.787	1.50	22.5	46.8	2.50	31.7	0.00			320	204
378		7.45	7.41	34.219	26.746	135.4	0.871	1.09	16.2	55.8	2.73	34.5	0.00			380	203
400	ISL	7.14	7.10	34.207	26.780	132.2	0.900	1.01	14.9	59.3	2.79	35.5	0.00			402	
435		6.64	6.60	34.190	26.835	127.1	0.946	0.91	13.3	64.9	2.88	37.0	0.00			438	202
500	ISL	6.13	6.09	34.227	26.931	118.5	1.026	0.60	8.6	74.4	3.06	39.2	0.00			503	
516		6.00	5.95	34.237	26.956	116.2	1.044	0.52	7.5	76.8	3.10	39.8	0.00			519	201

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
30 10.7 N	122 56.0 W	18/04/96	1828	UTC	3857 m	010	15 kn	190 06 06	1	1027.0 mb	18,.3 C	15.. 1 C	38m 01	4/8	CU

DEPTH m		TEMP DES C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SI03 uM/I	P04 uM/I	N03 uM/l	N02 uM/I	CHL-A ug/I	PHAEO ug/l	PRES db	SAMP
0	ISL	17.92	17.92	33.579	24.204	370.6	0.000	5.56	102.6	2.8	0.25	0.1	0.00	0.07	0.01	0	
2	A	17.92	17.92	33.579	24.205	370.6	0.007	5.56	102.6	2.8	0.25	0.1	0.00	0.07	0.01	2	222
10	ISL	17.91	17.91	33.578	24.207	370.7	0.037	5.57	102.8	2.8	0.24	0.1	0.00	0.07	0.02	10	
12		17.90	17.90	33.578	24.209	370.5	0.044	5.57	102.8	2.8	0.24	0.1	0.00	0.07	0.02	12	221
20	ISL	17.88	17.88	33.576	24.213	370.4	0.074	5.56	102.5	2.7	0.23	0.1	0.00	0.08	0.02	20	
23	A	17.86	17.86	33.575	24.217	370.2	0.085	5.56	102.5	2.7	0.23	0.1	0.00	0.08	0.02	23	220
30	ISL	17.78	17.77	33.569	24.232	369.0	0.111	5.57	102.5	2.7	0.23	0.1	0.00	0.08	0.02	30	
37		17.69	17.68	33.563	24.250	367.5	0.137	5.58	102.5	2.7	0.24	0.0	0.00	0.07	0.02	37	219
50	A	17.51	17.50	33.560	24.291	364.0	0.184	5.60	102.5	2.5	0.23	0.0	0.00	0.07	0.03	50	218
64		17.45	17.44	33.560	24.306	363.1	0.235	5.60	102.4	2.5	0.23	0.0	0.00	0.09	0.03	64	217
75	ISL	16.85	16.84	33.493	24.397	354.7	0.275	5.69	102.8	2.6	0.25	0.0	0.00	0.13	0.04	75	
76	A	16.77	16.76	33.485	24.409	353.5	0.278	5.70	102.8	2.6	0.25	0.0	0.00	0.13	0.04	76	216
85		15.80	15.79	33.429	24.588	336.7	0.309	5.79	102.4	2.7	0.27	0.0	0.00	0.13	0.05	85	215
95		14.60	14.59	33.400	24.828	313.9	0.342	5.80	100.1	3.2	0.30	0.0	0.00	0.16	0.10	95	214
100	ISL	14.14	14.13	33.435	24.952	302.2	0.357	5.71	97.7	3.7	0.35	0.4	0.03	0.30	0.22	100	
102		13.98	13.97	33.452	24.999	297.8	0.363	5.67	96.7	3.9	0.37	0.6	0.04	0.36	0.27	102	213
112	A	13.51	13.49	33.486	25.122	286.3	0.393	5.42	91.5	4.9	0.46	2.6	0.09	0.33	0.32	112	212
122		12.85	12.83	33.568	25.317	267.9	0.420	5.12	85.3	6.5	0.61	5.4	0.07	0.24	0.23	122	21 1
125	ISL	12.64	12.62	33.579	25.367	263.2	0.428	5.05	83.8	7.1	0.65	6.3	0.06	0.21	0.21	126	
131		12.24	12.22	33.589	25.452	255.2	0.444	4.92	81.0	8.4	0.74	7.9	0.03	0.17	0.17	132	210
144	A	11.60	11.58	33.581	25.566	244.5	0.476	4.74	76.9	10.1	0.89	10.1	0.02	0.14	0.16	145	209
150	ISL	11.28	11.26	33.605	25.643	237.3	0.491	4.60	74.2	11.4	0.98	11.6	0.02	0.11	0.13	151	
165		10.52	10.50	33.683	25.838	218.8	0.525	4.30	68.2	15.0	1.19	15.1	0.01	0.05	0.06	166	208
184		9.72	9.70	33.741	26.020	201.7	0.565	4.23	66.0	18.5	1.33	17.6	0.00	0.01	0.03	185	207
200	ISL	9.18	9.16	33.810	26.161	188.4	0.596	3.87	59.7	23.0	1.55	20.7	0.00			201	
219		8.67	8.65	33.887	26.302	175.2	0.631	3.41	52.0	28.3	1.81	24.2	0.00			220	206
250	ISL	8.05	8.02	33.944	26.441	162.3	0.683	3.37	50.7	33.2	1.91	26.0	0.00			251	
264		7.83	7.80	33.957	26.484	158.4	0.705	3.35	50.1	35.1	1.93	26.4	0.00			265	205
300	ISL	7.33	7.30	33.995	26.586	149.1	0.761	2.84	42.0	42.5	2.15	29.5	0.00			302	
317		7.13	7.10	34.010	26.625	145.5	0.786	2.54	37.4	46.2	2.27	31.1	0.00			319	204
383		6.45	6.42	34.065	26.761	133.2	0.878	1.62	23.5	59.9	2.67	35.9	0.00			385	203
400	ISL	6.29	6.25	34.081	26.794	130.1	0.900	1.41	20.4	63.5	2.76	36.9	0.00			402	
437		5.98	5.94	34.120	26.865	123.7	0.947	1.01	14.5	70.8	2.92	38.7	0.00			440	202
500	ISL	5.65	5.61	34.191	26.962	115.0	1.022	0.58	8.3	80.0	3.11	40.8	0.00			503	
501		5.64	5.60	34.192	26.964	114.8	1.023	0.57	8.1	80.1	3.11	40.8	0.00			504	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
29 5CI.7 N	123 35.2 W	19/04/96	0055	UTC	4041 m	000	09 kn	330 15 06	1	1026.5 mb	17..5 C	14..0 C		5/8	CU

DEPTH D		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SI03 uM/l	P04 uM/I	N03 uM/I	N02 uM/l	CHL-A ug/I	PHAEO ug/l	PRES db	SAMP
0	ISL	17.92	17.92	33.558	24.188	372.1	0.000	5.57	102.8	2.8	0.24	0.0	0.00	0.07	0.01	0	
1		17.92	17.92	33.558	24.188	372.1	0.004	5.57	102.8	2.8	0.24	0.0	0.00	0.07	0.01	1	220
10	ISL	17.91	17.91	33.558	24.191	372.2	0.037	5.57	102.8	2.7	0.24	0.0	0.00	0.07	0.02	10	
15		17.91	17.91	33.558	24.192	372.3	0.056	5.57	102.8	2.7	0.24	0.0	0.00	0.07	0.02	15	219
20	ISL	17.87	17.87	33.554	24.198	371.8	0.074	5.57	102.7	2.7	0.24	0.0	0.00	0.07	0.02	20	
30		17.74	17.73	33.548	24.226	369.6	0.111	5.58	102.6	2.6	0.24	0.0	0.00	0.07	0.02	30	218
45		17.51	17.50	33.552	24.285	364.4	0.167	5.61	102.7	2.6	0.24	0.0	0.00	0.08	0.02	45	217
50	ISL	17.50	17.49	33.553	24.288	364.3	0.185	5.60	102.5	2.6	0.24	0.0	0.00	0.08	0.02	50	
60		17.46	17.45	33.551	24.297	363.8	0.221	5.60	102.4	2.6	0.24	0.0	0.00	0.08	0.02	60	216
75		17.03	17.02	33.527	24.381	356.3	0.275	5.67	102.8	2.5	0.24	0.0	0.00	0.12	0.04	75	215
86		15.28	15.27	33.387	24.671	328.7	0.313	5.80	101.5	2.9	0.30	0.0	0.00	0.13	0.06	86	214
93		14.80	14.79	33.428	24.807	315.9	0.335	5.79	100.4	3.4	0.30	0.0	0.00	0.15	0.11	93	213
100	ISL	14.40	14.39	33.469	24.924	304.9	0.357	5.74	98.7	3.6	0.31	0.2	0.01	0.24	0.18	100	
104		14.17	14.15	33.482	24.983	299.4	0.369	5.69	97.4	3.7	0.32	0.3	0.02	0.29	0.22	104	212
112		13.65	13.63	33.459	25.072	291.0	0.393	5.57	94.3	4.2	0.39	1.4	0.06	0.28	0.25	112	211
122		12.84	12.82	33.505	25.270	272.3	0.421	5.19	86.5	6.1	0.59	4.9	0.09	0.24	0.19	122	210
125	ISL	12.71	12.69	33.541	25.324	267.3	0.429	5.11	84.9	6.5	0.62	5.6	0.08	0.22	0.18	125	
140		12.15	12.13	33.708	25.561	245.0	0.468	4.82	79.2	8.9	0.77	8.6	0.02	0.14	0.14	141	209
150	ISL	11.45	11.43	33.703	25.688	233.0	0.491	4.60	74.5	11.3	0.94	11.4	0.02	0.10	0.11	151	
163		10.50	10.48	33.666	25.829	219.7	0.521	4.33	68.7	14.9	1.18	15.0	0.01	0.05	0.07	164	208
194		9.11	9.09	33.735	26.114	192.8	0.585	3.89	59.8	22.9	1.57	21.0	0.00	0.01	0.03	195	207
200	ISL	8.98	8.96	33.764	26.157	188.7	0.596	3.79	58.2	24.1	1.63	21.8	0.00			201	
228		8.55	8.53	33.894	26.326	173.1	0.647	3.38	51.4	29.3	1.83	24.6	0.00			229	206
250	ISL	8.08	8.05	33.943	26.436	162.9	0.684	3.37	50.7	32.9	1.88	25.7	0.00			251	
272		7.63	7.60	33.969	26.522	154.8	0.719	3.36	50.1	36.6	1.93	26.7	0.00			273	205
300	ISL	7.23	7.20	33.991	26.596	148.0	0.761	2.94	43.4	42.7	2.11	29.3	0.00			302	
315		7.07	7.04	34.003	26.628	145.1	0.783	2.64	38.8	46.1	2.23	30.8	0.00			317	204
377		6.84	6.80	34.143	26.771	132.5	0.869	1.24	18.2	59.6	2.73	35.8	0.00			379	203
400	ISL	6.67	6.63	34.176	26.820	128.1	0.899	0.96	14.0	63.9	2.85	37.0	0.00			402	
439		6.37	6.33	34.217	26.892	121.6	0.948	0.67	9.7	70.2	3.00	38.5	0.00			442	202
500	ISL	6.03	5.99	34.254	26.965	115.2	1.020	0.45	6.5	77.1	3.12	39.9	0.00			503	
514		5.95	5.91	34.263	26.982	113.6	1.036	0.40	5.7	78.7	3.15	40.2	0.00			517	201

PRIMARY PRODUCTIVITY CASTS

RV DAVID STARR JORDAN — CALCOFI CRUISE '9604 — STATION 77 70

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL	
34 23.0 N	122 14.5 W	30/ 4/96	1832 UTC	37 m	01	1206 - 1918 PST	1206 PST	1918 PST	209.2 mg C/m2

DEPTH m	TEMP DEG C	SALINITY	SIGMA THETA	DISS 02 ml/l	OXY PCT	SI03 uM/l	P04 uM/ I	N03 uM/l	N02 uM/l	CHL-A ug/l	PHAEO ug/ I	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
1	15.92	33.157	24.349	5.79	102.5	3.0	0.31	0.0	0.00	0.08	0.02	96. A	1.6	1.6	1.6	0.03
12	15.76	33.160	24.388	5.80	102.4	3.0	0.31	0.0	0.00	0.09	0.02					
23	15.66	33.177	24.423	5.81	102.3	3.0	0.30	0.0	0.00	0.09	0.03	39.	2.3	2.2	2.3	0.06
35	15.64	33.176	24.428	5 .82	102.5	3.0	0.29	0.0	0.00	0.09	0.03					
48	15.57	33.166	24.436	5.82	102.3	2.8	0.30	0.0	0.00	0.13	0.04	14.	2.2	2.1	2.1	0.06
57	14.97	33.084	24.504	5.92	102.8	2.8	0.32	0.0	0.00	0.17	0.05					
66	13.54	32.943	24.694	6.11	102.9	3.1	0.36	0.0	0.00	0.20	0.11					
74	13.63	33.027	24.741	6.06	102.3	3.4	0.36	0.0	0.01	0.23	0.12	4.6	1.8	1.9	1.8	0.06
84	13.35	33.177	24.914	5.86	98.5	4.1	0.44	0.8	0.11	0.42	0.23					
91	12.35	33.166	25.101	5 .60	92.1	5.6	0.59	3.4	0.25	0.37	0.23					
100	11 .70	33.274	25.307	5 .40	87.7	6.8	0.68	5.5	0.09	0.30	0.23	1.6	1.1	1.1	1.1	0.03
109	11.10	33.361	25.484	4.95	79.4	9.7	0.90	9.4	0.05	0.21	0.17					
123	10.28	33.445	25.693	4.33	68.3	15.1	1 .27	15.2	0.02	0.10	0.14					
138	10.06	33.528	25.796	4.16	65.3	17.0	1 .37	16.9	0.01	0.05	0.08	0.33	0.02	0.03	0.02	0.02

RV DAVID STARR JORDAN — CALCOFI CRUISE <7604 — STATION 80 70

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL	
33 48.9 N	121 50.2 W	28/ 4/96	1847 UTC	30 m	01	I203 - 1911 PST	1204 PST	1911 PST	203.6 mg C/m2

DEPTH m	TEHP DEG C	SALINITY	SIGMA THETA	DISS 02 ml/l	OXY PCT	SI03 uM/ I	P04 uM/ I	N03 uM/l	N02 uM/ I	CHL-A ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
2	15.75	33.221	24.437	5.81	102 .6	3.2	0.28	0.0	0.00	0.13	0.05	90. A	1.6	1.6	1.6	0.0 8
9	15.71	33.222	24.447	5.80	102.3	3.2	0.28	0.0	0.00	0.12	0.04					
18	15.70	33.224	24.451	5.81	102.5	3.0	0.28	0.0	0.00	0.12	0.04	40.	2.3	2.4	2.4	0.10
30	15.68	33.222	24.454	5.80	102.2	3.0	0.28	0.0	0.00	0.11	0.04					
39	15.66	33.219	24.456	5.79	102.0	3.0	0.28	0.0	0.00	0.11	0.04	14.	1.8	1.7	1.8	0.09
50	15.63	33.215	24.460	5 .80	102. 1	3.0	0.28	0.0	0.00	0.13	0.04					
61	14.86	33.186	24.607	5 .94	103.0	3.1	0.33	0.0	0.00	0.26	0.12	4.4	2.1	2.4	2 .3	0.08
72	14.31	33.248	24.772	5.97	102.4	2.9	0.33	0.0	0.00	0.43	0.26					
79	13.39	33.314	25.012	5.65	95.1	5.0	0.55	2.8	0.24	0.59	0.46	1.8	2.4	2 .3	2.3	0.08
91	12.73	33.354	25.174	5.33	88.5	7.4	0.70	5.7	0.23	0.40	0.33					
101	12.22	33.427	25.329	4.91	80.7	10.3	0.92	9.1	0.11	0.27	0.27					
111	11 .36	33.553	25.587	4.16	67.2	15.5	1 .28	14.8	0.02	0.10	0.16	0.34	0.05	0.06	0.06	0.03

RV DAVID STARR JORDAN — CALCOFI CRUISE <7604 — STATION 80 100

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
32 49..0 N	123 54.1 U	29/ 4/96	1813 UTC	24 m	01	1213 - 1923 PST	1213 PST	1923 PST	34.2 mg C/m2

DEPTH ffl	TEMP DEG C	SALINITY	SIGMA THETA	DISS 02 ml/l	OXY PCT	SI03 uN/l	P04 uM/l	N03 uM/ I	N02 uM/l	CHL-A ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
1	16.73	33.300	24.274	5 .71	102.8	2.8	0.27	0.0	0.00	0.08	0.02	94. A	1.8	1.8	1.8	0.04
15	16.65	33.299	24.292	5.70	102.5	2.8	0.27	0.0	0.00	0.08	0.03	38.	2.2	2 .1	2.1	0.05
32	16.55	33.275	24.297	5.71	102.4	2.8	0.27	0.0	0.00	0.09	0.03	13.	1.3	1.5	1.4	0.06
40	16.49	33.270	24.308	5.72	102.5	2.8	0.27	0.0	0.00	0.09	0.03					
48	16.38	33.232	24.304	5.74	102.6	2 .8	0.27	0.0	0.00	0.10	0.03	4.6	0.58	0.64	0.61	0.05
57	14.80	33.083	24.540	5.97	103.3	2.8	0.31	0.0	0.00	0.12	0.04					
64	14.73	33. 120	24.584	5.95	102.8	2.8	0.31	0.0	0.00	0.14	0.06	1.7	0.16	0.15	0.16	0.06
74	14.71	33.210	24.658	5 .90	102.0	2.9	0.28	0.0	0.00	0.17	0.09					
82	13.28	33.083	24.855	5.95	99.8	3.5	0.37	0.2	0.04	0.29	0.16					
91	12.94	33.325	25.110	5 .65	94.2	4.6	0.46	2.0	0.11	0.29	0.20	0.30	0.07	0.07	0.07	0.03

RV DAVID STARR JORDAN — CALCOFI CRUISE '?604 — STATION 83 40.6

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
34 13 .8 N	1 19 25.0 W	27/ 4/96	1856 UTC	5 m	06	1156 - 1911 PST	1156 PST	1911 PST	1658.9 mg C/m2

DEPTH m	TEMP DEG C	SALINITY	SIGMA THETA	DISS 02 ml/l	OXY PCT	SI03 uM/ I	P04 uM/l	N03 uM/ I	N02 uM/ I	CHL-A ug/ I	PHAEO ug/l	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
1	13.05	33.626	25.319	7.00	117.2	4.2	0. 48	2.3	0.12	11 .95	2 .99	74. A	186.8	196.2	191.5	0.74
3	12 .68	33.631	25.396	6.98	116.0	3.8	0.46	2 .6	0.12	12.78	3.03	40.	222.2	212.8	217.5	0.72
6	12.15	33.659	25 .520	6.61	108.7	3.6	0.55	4.6	0.13	17.35	3.39	16.	160.9	156.5	158.7	0.46
10	11.88	33.670	25.579	6.33	103.5	4.9	0.64	6.1	0.14	14.55	4.74	4.6	37.4	40.2	38.8	0.23
14	11.73	33.676	25.612	5.72	93.2	8.2	0. 92	8.6	0.18	6.08	3.06	1 .4	4.5	4 .9	4.7	0.14
19	11.47	33.676	25.660	5.31	86.0	10.7	1.11	10.5	0.20	2.92	2.83	0.29	0.11	0.13	0.12	0.10

A) INCUBATION LIGHT INTENSITIES WERE 94, 39, 13, 4,5, 1.6, I3.31 PERCENT RESPECTIVELY.

PRIMARY PRODUCTIVITY CASTS

RV DAVID STARR JORDAN — CALCOFI CRUISE 9604 — STATION 83 70

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
33 14,.8 N	121 26.7 W	26/ 4/96	1822 UTC	18 m	02	1203 - 1908 PST	1204 PST	1908 PST	359.4 mg C/m2

DEPTH m	TEMP DEG C	SALINITY	SIGMA THETA	DISS 02 ml/l	OXY PCT	SI03 uM/I	P04 uM/I	N03 uM/I	N02 uM/I	CHL-A ug/l	PHAEO ug/I	LIGHT PCT	UPTAKE C mg C/m3) 1	2	MEAN	DARK
2	14.69	33.166	24.626	5 .97	103. 1	3. 1	0.31	0. 1	0.00	0.36	0.16	85 . A	5.9	5 .7	5 .8	0.07
12	14.65	33.169	24.637	5 . 99	103.4	3. 1	0.31	0. 1	0.00	0.25	0.10	38.	9.7	9.3	9.5	0.09
18	14.63	33.174	24.645	5.99	103.4	3. 1	0.31	0.1	0.00	0.39	0.18					
24	14.60	33.173	24.651	5.99	103.3	3.1	0.31	0.2	0.01	0.43	0.21	14.	8.7	8.4	8.5	0.11
29	13.84	33.163	24.802	6.03	102.4	3.1	0.38	1 .0	0.05	0.64	0.33					
36	13.74	33.145	24.809	6.01	101.8	3.2	0.43	1 .5	0.07	0.67	0.43	5 .5	5.2	6.3	5 .8	0.10
40	13.63	33.147	24.833	5.99	101 .2	3.4	0.44	1 .7	0.08	0.61	0.46					
49	13.56	33. 156	24.854	5.98	100.9	3.5	0.45	1 .9	0.09	0.59	0.56	1 .9	2 .4	2 .4	2 .4	0.06
57	13.38	33.206	24.930	5.92	99.6	3.6	0.50	2.4	0.10	0.54	0.58					
68	12.19	33.304	25.238	5.52	90.6	6.7	0.69	5.8	0.16	0.31	0.51	0.41	0.13	0.17	0.15	0.04

RV DAVID STARR JORDAN — CALCOFI CRUISE '9604 — STATION 83 100

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
32 14,,9 N	123 29.7 W	25/ 4/96	1902 UTC	35 m	01	1212 - 1914 PST	1212 PST	1914 PST	140.2 mg C/m2

DEPTH ID	TEMP DEG C	SALINITY	SIGMA THETA	DISS 02 ml/l	OXY PCT	SI03 uM/I	P04 uM/l	N03 uM/l	N02 uM/I	CHL-A ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE Cmg C/m3) 1	2	MEAN	DARK
2	17.22	33.461	24.282	5.65	102.8	2.9	0.23	0. 1	0.00	0.08	0.02	92.	1 .4	1 .4	1 .4	0.04
21	17.17	33.460	24.294	5.64	102.5	2.9	0.24	0.1	0.00	0.07	0.02	40.	2 .2	2 .1	2.2	0.04
34	16.95	33.455	24.343	5 .66	102.4	2.8	0.23	0. 1	0.00	0.08	0.02					
47	16.78	33.430	24.364	5 .70	102.8	2.8	0.23	0.1	0.00	0.09	0.03	13.	1 .4	1 .6	1 .5	0.08
57	16.63	33.420	24.391	5.71	102.7	2.8	0.23	0.1	0.00	0.11	0.03					
70	16.21	33.383	24.460	5 .74	102.3	2.8	0.24	0.1	0.00	0.13	0.04	4.6	0.82	0.87	0.84	0.08
83	16.02	33.362	24.487	5.75	102.1	2.8	0.24	0.1	0.00	0.13	0.05					
94	15 .87	33.358	24.518	5 .74	101.6	2.7	0.25	0. 1	0.00	0.18	0.08	1 .6	0.50	0.51	0.51	0.06
105	15.57	33.329	24.563	5.76	101 .4	2.7	0.25	0. 1	0.00	0.21	0.10					
115	15.22	33.403	24.698	5.76	100.7	3.2	0.27	0. 1	0.00	0.24	0.16					
121	14.58	33.504	24.914	5.72	98.8	3.5	0.28	0. 1	0.02	0.26	0.23					
132	14.12	33.579	25.069	5.59	95.7	3.8	0.33	0.7	0.07	0.23	0.26	0.31	0.12	0.12	0.12	0.02

RV DAVID STARR JORDAN — CALCOFI CRUISE '9604 — STATION 87 55

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
33 9.7 N	120 0.2 W	23/ 4/96	1841 UTC	12 m	03	1159 - 1905 PST	1158 PST	1904 PST	6 5 7.4 mg C/m2

DEPTH m	TEMP DEG C	SALINITY	SIGMA THETA	DISS 02 ml/l	OXY PCT	SI03 uM/I	P04 uM/l	N03 uM/l	N02 uM/I	CHL-A ug/I	PHAEO ug/I	LIGHT PCT	UPTAKE 'Cmg C/m3) 1	2	MEAN	DARK
1	13.30	33.536	25.200	5 .90	99.3	7.8	0.71	5 .6	0.13	1.18	0.55	88. A	18.4	18.4	18.4	0.15
7	13.29	33.535	25.201	5.91	99.4	7.7	0.71	5.6	0.13	1 .24	0.57	41.	31 .5	33.4	32 .5	0.25
16	13.24	33.534	25.211	5 .90	99.2	7.7	0.71	5 .5	0.13	1 .40	0.67	13.	24.1	23.6	23.8	0.19
24	13.21	33.532	25.215	5.89	98.9	7.6	0.70	5 .4	0.12	1 .26	0.71	4.6	10.1	12.3	11.2	0.20
32	13.18	33.535	25 .224	5.86	98.4	7.6	0.71	5.5	0.12	1 .27	0.68	1 .7	4.5	4.7	4.6	0.15
39	12.87	33.544	25.292	5.68	94.7	8.2	0.78	6.4	0.14	1 .29	0.71					
44	12.62	33.543	25.341	5.45	90.4	8.9	0.85	7.5	0.17	1 .03	0.64	0.36	0.31	0.40	0.35	0.08

RV DAVID STARR JORDAN — CALCOFI CRUISE 9604 — STATION 87 90

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
31 59.,7 N	122 23.5 W	24/ 4/96	1825 UTC	27 m	01	1204 - 1915 PST	1208 PST	1914 PST	108.3 mg C/m2

DEPTH m	TEMP DEG C	SALINITY	SIGMA THETA	DISS 02 ml/l	OXY PCT	SI03 uM/I	P04 uM/I	N03 uM/I	N02 uM/I	CHL-A ug/I	PHAEO ug/l	LIGHT PCT	UPTAKE it mg C/m3) 1	2	MEAN	DARK
2	16.03	33.244	24.391	5 .78	102.6	2 .9	0.29	0.0	0.00	0.09	0.02	89. A	2.0	1 .9	1 .9	0.05
17	15 .96	33.237	24.402	5 .79	102 .6	2.9	0.29	0.0	0.00	0.09	0.02	38.	2.3	2 .4	2 .3	0.06
26	15 .94	33.236	24. 406	5.79	102.6	2.9	0.29	0.0	0.00	0.09	0.03					
35	1 5 .92	33.234	24.410	5 .78	102.4	2.9	0.29	0.0	0.00	0.09	0.03	14 .	1 .5	1 . 4	1 . 5	0 .06
45	15 .76	33.234	24.446	5 .80	102 .4	2 .9	0.29	0.0	0.00	0.11	0.04					
54	15 .75	33.236	24.450	5.81	102.6	2.8	0.29	0.0	0.00	0.13	0.04	4.6	0.76	0.93	0.85	0.08
64	15.78	33.243	24.449	5 .80	102.4	2.8	0.29	0.0	0.00	0.14	0.04					
73	15.84	33.274	24.460	5 .78	102.2	2.8	0.27	0.0	0.00	0.16	0.05	1 . 6	0.21	0.27	0.24	0 .07
82	14.36	33.195	24.720	5 .91	101.4	3. 1	0.33	0.0	0.00	0.26	0.17					
93	13.99	33.378	24.939	5.77	98.4	3.6	0.35	0.4	0.08	0.34	0.28					
102	13 . 48	33.431	25.085	5.59	94.3	4. 4	0 .43	1 .6	0.08	0.30	0.28	0.30	0.18	0.17	0.18	0.02

A) INCUBATION LIGHT INTENSITIES WERE 94, 39, 13, 4.5, 1.6, 0.31 PERCENT RESPECTIVELY.

PRIMARY PRODUCTIVITY CASTS

RV DAVID STARR JORDAN — CALCOFI CRUISE '9604 — STATION 90 28

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TINE	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL	
33 29.1 N	117 46.0 W	22/ 4/96	1820 UTC	13 m	05	1149 - 1859 PST	1149 PST	1858 PST	785.1 mg C/m2

DEPTH m	TEMP DEG C	SALINITY	SIGMA THETA	DISS 02 ml/ I	OXY PCT	SI03 uM/l	P04 uM/ I	N03 uM/l	N02 uM/ l	CHL-A ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
1	16.55	33.483	24.456	6.36	114.2	5 .8	0.18	0.0	0.00	0.67	0.20	89. A	19.8	21.5	20.7	0.24
9	16.23	33.487	24.533	6.38	113.9	5.5	0.18	0.0	0.00	1.10	0.27	35.	30.6	28.6	29.6	0 .44
17	15.38	33.481	24.719	6.05	106.2	6.6	0.24	0.0	0.03	2.25	0.82	13.	40.5	40.7	40.6	0.53
26	12.34	33.554	25.403	3.92	64.7	12.1	0.96	8.7	0.34	1 .43	0.94	4.6	8.8	10.0	9.4	0.21
35	11 .06	33.602	25.677	3.17	50.9	18.5	1 .65	19.0	0.26	0.61	0.36	1 .6	1 .3	1 .2	1 .3	0.14
42	10.79	33.612	25.733	2.88	46.0	21.9	1 .93	21 .8	0.46	0.14	0.27					
49	10.74	33.641	25.765	2.85	45.4	22.0	1 .92	21 .6	0.41	0.12	0.30	0.31	0.03	0.02	0.02	0.14

RV **DAVID STARR** JORDAN — CALCOFI CRUISE '?604 — STATION 90 80

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
31 44.7 N	121 18.8 W	20/ 4/96	1825 UTC	25 m	01	1204 - 1902 PST	1204 PST	1901 PST	87.5 mg C/m2

DEPTH m	TEMP DEG C	SALINITY	SIGMA THETA	DISS 02 ml/l	OXY PCT	SI03 uM/l	P04 uM/l	N03 uH/l	N02 uM/ I	CHL-A ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
1	15.27	33.122	24.467	5 .86	102.4	3.2	0.31	0.0	0.00	0.11	0.03	94. A	1 .0	1 .1	1 .0	0.08
15	15.24	33.123	24.474	5 .86	102.3	3.2	0.31	0.0	0.00	0.12	0.04	40.	1 .7	1 .8	1 .8	0.07
33	15.18	33.121	24.486	5.87	102.4	3.2	0.31	0.0	0.00	0.12	0.04	13.	1 .5	1 .5	1 .5	0.09
51	15.09	33.114	24.501	5.88	102.4	3.1	0.31	0.0	0.00	0.14	0.04	4.4	0.74	0.73	0.74	0.08
67	14.86	33.097	24.538	5.90	102.2	3.1	0.31	0.0	0.00	0.19	0.06	1 .6	0.43	0.47	0.45	0.07
76	14.37	33.143	24.678	5.93	101.7	3.3	0.32	0.0	0.00	0.35	0.20					
85	14.16	.33.322	24.860	5 .84	99.9	3.5	0.31	0.0	0.01	0.40	0.35					
94	13.36	33.392	25.079	5 .71	96.1	4.1	0.36	0.8	0.05	0.38	0.40	0.31	0.11	0.11	0.11	0.03

RV DAVID STARR **JORDAN** — CALCOFI CRUISE '?604 — STATION 90 1 10

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL	
30 45.1 N	123 20.2 W	19/ 4/96	1832 UTC	33 m	01	1209 - 1906 PST	1212 PST	1906 PST	90.1 mg C/m2

DEPTH m	TENP DEG C	SALINITY	SIGMA THETA	DISS 02 ml/l	OXY PCT	SI03 uM/l	P04 uM/l	N03 uM/l	N02 UN/ I	CHL-A ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE Cmg C / m3) 1	2	MEAN	DARK
2	17.63	33.623	24.309	5 .59	102.6	2.7	0.21	0. 1	0.00	0.07	0.02	91 . A	1 .2	1 .2	1 .2	0.06
10	17.62	33.623	24.311	5 .58	102.4	2.5	0.21	0. 1	0.00	0.08	0.02					
19	17.62	33.622	24.311	5.58	102.4	2.5	0.20	0. 1	0.00	0.08	0.02	41 .	1 .6	1 .5	1 .6	0.05
31	17.60	33.625	24.318	5.59	102 .6	2.3	0.20	0.0	0.00	0.09	0.01					
43	17.60	33.624	24.318	5.58	102 .4	2.3	0.20	0.0	0.00	0.09	0.02	14.	1 . 1	0.98	1 .0	0.07
54	17.60	33.627	24.321	5 .57	102.2	2.3	0.20	0.0	0.00	0.08	0.02					
67	17.58	33.635	24.332	5 .58	102 .3	2.2	0.20	0.0	0.00	0.09	0.03	4.4	0.47	0.56	0.52	0.06
77	17.49	33.634	24.354	5 .60	102.5	2.2	0.20	0.0	0.00	0.10	0.03					
88	17.28	33.639	24.408	5.60	102. 1	2.2	0.20	0.0	0.00	0.13	0.02	1 .7	0.27	0.28	0.27	0.04
97	16.55	33.622	24.566	5.63	101.2	2.3	0.21	0.0	0.00	0.17	0.06					
107	15.34	33.425	24.688	5.80	101 .6	2.8	0.25	0.0	0.00	0.18	0.10					
116	14.66	33.407	24.822	5 .80	100.2	3.0	0.28	0.0	0.00	0.19	0.18					
124	13.72	33.376	24.994	5.66	95.9	3.6	0.36	1 .0	0.07	0.27	0.24	0.31	0.08	0.07	0.07	0.02

RV DAVID STARR JORDAN — CALCOFI CRUISE '9604 — STATION 93 45

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
32 21 .5 N	118 32.8 W	16/ 4/96	1827 UTC	18 m	03	1152 - 1854 PST	1154 PST	1853 PST	409.2 mg C/m2

DEPTH ID	TEMP DEG C	SALINITY	SIGMA THETA	DISS 02 ml/l	OXY PCT	SI03 uM/l	P04 uM/l	N03 uM/ I	N02 uM/l	CHL-A ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
1	16.47	33.529	24.510	5 .81	104.2	2.8	0.29	0.0	0.00	0.26	0.06	92. A	6. 6	6.6	6.6	0.16
1 1	16.20	33.533	24.575	5.84	104.2	2.9	0.29	0.0	0.00	0.26	0.08	39.	7.5	7.4	7.4	0.22
17	15.83	33.518	24.648	5.91	104.7	3.2	0.27	0.0	0.00	0.28	0.11					
24	15 .73	33.517	24.670	5 .90	104.3	3.2	0.27	0.0	0.00	0.29	0.13	13.	5.3	4.4	4.3	0.23
30	15.63	33.517	24.692	5 .92	104.4	2.9	0.27	0.0	0.00	0.38	0.19					
36	15 .48	33.516	24.725	5 .92	104. 1	2 .9	0.27	0.0	0.00	0.56	0.32	4.6	4.9	5 .2	5.0	0.23
41	15.15	33.518	24.799	5 .85	102.2	3. 1	0.31	0.3	0.01	1 .54	0.81					
49	14.06	33.525	25.037	5.51	94.2	4.8	0.50	2 .8	0.08	2.56	1 .34	1 .5	10.3	10.0	10.2	0.17
58	13.24	33.541	25.217	5 .31	89.2	5 .8	0.60	4.5	0.11	2.17	1 .36					
67	11.61	33.607	25 .582	4.05	65.8	14.0	1.19	13.6	0.21	1 .05	0.87	0.33	0.41	0.45	0.43	0.04

A) INCUBATION LIGHT INTENSITIES WERE 94, 39, 13, 4.5, 1.6, I3.31 PERCENT RESPECTIVELY.

PRIMARY PRODUCTIVITY CASTS

RV DAVID STARR JORDAN — CALCOFI CRUISE 9604 — STATION 93 70

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
31 31 ..4 N	120 14.3 W	17/ 4/96	1835 UTC	32 m	01	1200 - 1858 PST	1201 PST	1858 PST	245.0 mg C/m2

DEPTH m	TEMP DEG C	SALINITY	SIGMA THETA	DISS 02 ml/l	OXY PCT	SI03 uM/l	P04 uM/ I	N03 uH/ I	N02 uM/l	CHL-A ug/ I	PHAEO ug/l	LIGHT PCT	UPTAKE (mg C / m3) 1	2	MEAN	DARK
1	16.05	33.255	24.395	5.80	103.0	3.1	0.31	0.0	0.00	0.08	0.02	95. A	1 .7	1 .8	1 .7	0.06
10	15 .76	33.251	24.458	5.84	103.1	3.0	0.31	0.0	0.00	0.09	0.02					
20	15.56	33.240	24.494	5.85	102.9	3.0	0.30	0.0	0.00	0.09	0.03	38.	1 .9	1 .9	1 .9	0.10
31	15.52	33.262	24.520	5.86	103.0	3.0	0.29	0.0	0.00	0.11	0.04					
43	15.49	33.289	24.548	5.87	103.1	2.9	0.30	0.0	0.00	0.14	0.05	13.	1 .8	1 .9	1 .8	0.11
54	15.47	33.334	24.588	5.84	102.6	2.9	0.31	0.0	0.00	0.20	0.07					
64	14.24	33.296	24.823	5.95	101.9	3.3	0.33	0.0	0.01	0.45	0.28	4.6	3.8	4.1	4.0	0.07
76	13.85	33.288	24.898	5.91	100.4	3.8	0.37	0.4	0.05	0.63	0.50					
86	12.31	33.293	25.208	5.57	91 .6	5.6	0.53	3.3	0.08	0.41	0.51	1 .6	2.2	2.2	2.2	0.03
95	11 .82	33.375	25.364	5.18	84.4	7.6	0.71	6.5	0.06	0.28	0.33					
103	11.28	33.465	25.533	4.70	75.7	10.9	0.98	10.9	0.03	0.19	0.23					
109	11 .09	33.507	25.600	4.52	72.5	12.2	1 .08	12.4	0.03	0.16	0.21					
119	10.75	33.530	25.678	4.35	69.3	14.0	1.18	14.0	0.02	0.11	0.16	0.33	0.07	0.07	0.07	0.01

RV DAVID STARR JORDAN — CALCOFI CRUISE 9604 — STATION 93 110

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL	
30 10..7 N	122 56.0 W	18/ 4/96	1828 UTC	38 m	01	1211 - 1909 PST	1211 PST	1909 PST	140.6 mgI C/m2

DEPTH m	TEMP DEG C	SALINITY	SIGMA THETA	DISS 02 ml/l	OXY PCT	SI03 UM/l	P04 uM/l	N03 uM/l	N02 uM/ I	CHL-A ug/l	PHAEO ug/ I	LIGHT PCT	UPTAKE (mg C/*ni*3) 1	2	MEAN	DARK
2	17.92	33.579	24.205	5.56	102.6	2.8	0.25	0.1	0.00	0.07	, 0.01	92 . A	1 .4	1 .3	1 .4	0.04
12	17.90	33.578	24.209	5.57	102.8	2.8	0.24	0.1	0.00	0.07	0.02					
23	17.86	33.575	24.217	5 .56	102.5	2.7	0.23	0.1	0.00	0.08	0.02	39.	1 .6	1 . 6	1 .6	0.05
37	17.69	33.563	24.250	5 .58	102.5	2.7	0.24	0.0	0.00	0.07	0.02					
50	17.51	33.560	24.291	5.60	102.5	2.5	0.23	0.0	0.00	0.07	0.03	13.	0.93	0.88	0.90	0.08
64	17.45	33.560	24.306	5 .60	102.4	2.5	0.23	0.0	0.00	0.09	0.03					
76	16.77	33.485	24.409	5.70	102.8	2 .6	0.25	0.0	0.00	0.13	0.04	4.6	0.64	0.81	0.73	0.07
85	15.80	33.429	24.588	5.79	102.4	2.7	0.27	0.0	0.00	0.13	0.05					
95	14.60	33.400	24.828	5.80	100.1	3.2	0.30	0.0	0.00	0.16	0.10					
102	13.98	33.452	24.999	5.67	96.7	3.9	0.37	0.6	0.04	0.36	0.27	1 .6	1 .2	1 .2	1 .2	0.04
112	13.51	33.486	25.122	5.42	91 .5	4.9	0.46	2.6	0.09	0.33	0.32					
122	12.85	33.568	25.317	5.12	85.3	6.5	0.61	5.4	0.07	0.24	0.23					
131	12.24	33.589	25.452	4.92	81 .0	8.4	0.74	7.9	0.03	0.17	0.17					
144	11 .60	33.581	25.566	4.74	76.9	10.1	0.89	10.1	0.02	0.14	0.16	0.30	0.05	0.05	0.05	0.00

A) INCUBATION LIGHT INTENSITIES WERE 94, 39, 13, 4.5, 1.6, 0.31 PERCENT RESPECTIVELY.

CalCOFI Cruise 9604

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 Strained Total (cm^3)	Volume per 1000 m Strained Small (cm^3)
77	49	35 05.9	120 47.0	05/01	0225	0231	119	55	1602	**1602**
77	51	35 01.8	120 55.8	05/01	0429	0452	426	226	409	**392**
77	55	34 53.7	121 12.6	04/30	2010	2031	281	208	360	**360**
77	60	34 43.5	121 33.4	04/30	1626	1647	400	**213**	115	**115**
77	70	34 23.2	122 15.0	04/30	0902	0923	387	**214**	**23**	**23**
77	80	34 03.8	122 56.6	04/30	0328	0350	421	**209**	**36**	**36**
77	90	33 43.9	123 37.7	04/29	2218	2239	397	**209**	**66**	**53**
77	100	33 23.6	124 20.0	04/29	1635	1656	412	**211**	**34**	34
80	51	34 26.8	120 31.8	04/27	1947	1954	130	64	**192**	192
80	55	34 19.9	120 48.3	04/27	2328	2350	423	213	**156**	156
80	60	34 09.6	121 09.3	04/28	0345	0407	434	211	**106**	106
80	70	33 49.1	12151.2	04/28	0857	0919	435	221	**23**	23
80	80	33 28.9	122 31.9	04/28	1705	1727	439	215	**14**	14
80	90	33 09.5	123 12.7	04/28	2303	2324	407	211	**22**	22
80	100	32 49.4	123 54.6	04/29	0823	0844	408	215	17	17
82	47	34 16.5	120 02.3	04/27	1543	1605	416	211	**259**	209
83	40.6	34 13.4	119 24.9	04/27	0927	0930	60	27	**670**	670
83	42	34 11.1	119 30.1	04/27	0810	0819	170	93	599	599
83	51	33 53.0	120 08.7	04/27	0157	0206	187	91	**567**	567
83	55	33 43.9	120 25.1	04/26	2237	2258	394	212	132	132
83	70	33 14.9	121 27.1	04/26	1130	1152	403	217	84	84
83	110	31 54.7	124 10.4	04/25	0419	0441	426	214	33	33
87	33	33 53.0	118 29.2	04/22	1641	1646	98	49	143	143
87	35	33 49.2	118 37.6	04/22	1903	1925	432	209	239	239
87	40	33 39.2	118 59.3	04/22	2249	2310	405	212	173	173
87	45	33 29.1	119 20.0	04/23	0227	0249	390	213	262	262
87	50	33 19.7	119 40.0	04/23	0548	0555	138	69	441	441
87	55	33 09.6	120 00.5	04/23	0850	0911	402	216	82	82
87	60	32 58.9	120 21.2	04/23	1503	1524	399	212	133	133
87	70	32 39.2	121 02.5	04/23	2108	2129	393	220	43	43
87	80	32 19.6	121 43.0	04/24	0257	0319	451	195	248	248
87	90	31 59.2	122 24.3	04/24	0849	0910	410	220	10	10
87	100	31 38.8	123 05.0	04/24	1628	1649	429	206	**12**	12
87	110	31 19.8	123 44.6	04/24	2211	2232	413	208	**17**	17
90	28	33 29.0	117 46.4	04/22	0750	0757	134	70	**157**	157
90	30	33 25.6	117 53.4	04/22	0610	0631	407	212	**54**	54
90	35	33 15.2	118 14.5	04/22	0220	0242	411	215	**100**	100
90	37	33 11.6	118 23.5	04/21	2345	2406	398	211	**121**	121
90	45	32 54.8	118 52.9	04/21	1848	1910	457	211	**116**	116
90	70	32 05.7	120 38.5	04/20	1702	1724	425	**220**	**66**	66
90	80	31 45.0	121 19.4	04/20	0823	0845	430	**22S**	**12**	12
90	90	31 24.7	121 59.0	04/19	2344	2406	428	**213**	**14**	14
90	100	3104.8	122 39.5	04/19	1727	1748	413	**214**	**10**	10
90	110	30 45.3	123 20.7	04/19	0811	0833	446	**209**	9	9
90	120	30 25.1	124 00.0	04/19	0031	0053	428	219	9	9
93	26.7	32 56.7	117 17.9	04/15	1230	1234	75	34	**93**	93
93	28	32 54.6	117 23.6	04/15	1613	1634	419	212	**29**	29
93	30	32 50.6	117 31.4	04/15	1859	1921	387	224	**49**	49
93	35	3241.1	117 52.9	04/15	2301	2322	410	207	**49**	49
93	40	32 31.4	118 12.6	04/16	0321	0343	398	214	**75**	75
93	45	32 21.0	118 33.5	04/16	0733	0755	418	213	**31**	31
93	50	32 10.5	118 52.6	04/16	1501	1523	421	218	**69**	69
93	55	32 00.4	119 13.4	04/16	1933	1955	433	210	58	58
93	60	31 51.3	119 34.7	04/16	2333	2354	419	209	210	43
93	70	31 31.0	120 14.8	04/17	0543	0604	408	213	34	34
93	80	31 11.0	120 54.9	04/17	1715	1737	429	212	**49**	49
93	90	30 50.7	121 35.0	04/17	2315	2337	406	**221**	**17**	17
93	100	30 30.5	122 16.3	04/18	0525	0546	503	**190**	8	8
93	IIO	30 10.9	122 58.3	04/18	1208	1229	432	**212**	**16**	16
93	120	29 50.5	123 35.4	04/18	1755	1817	429 .	**210**	5	5