UNIVERSITY OF CALIFORNIA, SAN DIEGO SCRIPPS INSTITUTION OF OCEANOGRAPHY

data report

PHYSICAL, CHEMICAL AND BIOLOGICAL DATA

CalCOFI Cruise 9108
24 July – 9 August 1991

CalCOFI Cruise 9110
28 September – 14 October 1991

SIO Reference 92-16
15 June 1992

UNIVERSITY OF CALIFORNIA, SAN DIEGO

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LA JOLLA, CALIFORNIA 92093-0227

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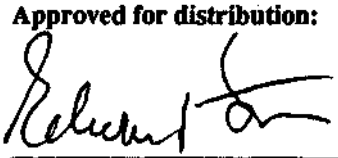
Approved for distribution:



Edward A. Frieman, Director

CONTENTS

INTRODUCTION

The data in this report were collected during Cruises 9108* and 9110 of the California Cooperative Oceanic Fisheries Investigations (CalCOFI) program aboard the RV *New Horizon* of the Scripps Institution of Oceanography, University of California, San Diego and the NOAA-ship RV *David Starr Jordan.* The CalCOFI program was organized in the late 1940s 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 9108 and 9110 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.

In addition to the usual horizontal maps of characteristics at the surface and at 200 m, vertical sections of various properties measured on CalCOFI line 90 appear in this report.

STANDARD PROCEDURES

Hydrographic and Rosette Cast Data

The hydrographic casts usually consisted of 20 three-liter plastic (PVC) botdes lowered to a maximum sampling depth of 500 meters, bottom depth permitting. A Sea-Bird Electronics, Inc. CID and General Oceanics rosette was used successfully on 17 stations on cruise 9108 to a maximum sampling depdi of 500 m, bottom depth permitting. Water samples were collected from 10 five-liter Niskin rosette botdes tripped at various depdis from the maximum CTD depdi to the surface on the up cast. Temperature, salinity, oxygen and nutrients were determined at sea for all depdis sampled and chlorophyll-a and phaeopigments were usually determined at sea from the top 14 depdis sampled on the hydrographic casts and on all 10 rosette cast botdes. Special near-bottom casts were done in the Santa Barbara and Santa Monica Basins.

Paired protected reversing thermometers read by two observers were used on the hydrographic casts to determine temperatures which were then recorded to hundredths of a degree Celsius. The temperatures are reported relative to the International Practical Temperature Scale of 1968 (IPTS-68). The new International Temperature Scale of 1990 (ITS-90) differs from the IPTS-68 by less man 0.01° C over oceanic temperature ranges, so the distinction between the two scales is of marginal significance for temperatures listed to the nearest hundredth of a degree. Most hydrographic sampling bottles used below a depth of about 75 meters were equipped with unprotected thermometers for determination of the depth of sampling, using the Saunders (1981) pressure-to-depth conversion technique. For rosette casts, pressures and temperatures were derived from the CTD at the time of the rosette bottle trip.

Salinity samples were analyzed at sea using inductive-type salinometers standardized width substandard seawater. Periodic checks on the concentration of the substandard were made by comparison with IAPSO Standard Seawater batch P-78. 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 oudined by Anderson (1971). Percent oxygen saturation was calculated from the equations of Weiss (1970).

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

Samples for chlorophyll-a and phaeopigments were filtered onto 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).

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

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

Primary Productivity Casts

Primary productivity casts 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 with five-liter Niskin bottles attached to the hydrowire on cruise 9108. The Niskin bottles were equipped with epoxy-coated springs and silicone-rubber O-rings. Where the productivity casts occurred at non-standard CalCOFI sampling locations on 9108, additional hydrographic bottles were added to extend the observations to 200 m. On cruise 9110 the Niskin bottles were tripped on the rosette cast. Pressures and temperatures reported in the 9110 productivity data were derived from the CTD at the time of the Niskin bottle trip. Triplicate samples (two light and one dark control) were drawn from each productivity sample depth into 250 ml polycarbonate incubation bottles. Samples were innoculated with 10 nCi of Cas $NaHCO_3$, (200 µl of 50 nCi/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 Bumison, 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. Temperature, salinity, oxygen, nutrients, chlorophyll-a, and phaeopigments were determined for all depths.

Macrozooplankton Net Tows

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

TABULATED DATA

Hydrographic and Rosette Cast Data

On cruise 9108, CTD/Rosette cast data are included with the hydrographic cast data. The time reported is Coordinated Universal Time (UTQ. For CTD/Rosette casts the time reported is the time of the first bottle trip on the up cast, for wire casts it is the time of the messenger release. Bottom depths, determined acoustically, have been corrected using British Admiralty Tables (Carter, 1980) and are reported in meters. Weather conditions have been coded using WMO code 4501. Secchi depths, taken on most daylight stations, are also reported.

Observed and interpolated standard depth data from hydrographic casts have been interspersed and are presented together sequentially by depth. Interpolated or extrapolated standard level data are noted by the footnote "ISL" printed after the depth. No interpretations were done on the rosette casts taken on cruise 9108. Density-related parameters have been calculated from the International Equation of State of Seawater 1980 (UNESCO, 1981, b). Computed values of potential temperature, sigma-theta, specific volume anomaly (SVA), dynamic height or geopotential anomaly, and pressure are included with both observed and interpolated standard depth levels.

Primary Productivity Casts

In addition to the normal hydrographic data, 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, the dark uptake, chlorophyll-a and phaeopigments. 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 that the shallowest v;alue 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). 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 ($cm^3/1000\ m^3$ 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.

ISL: After a depth value indicates that this is an interpolated or extrapolated standard level.

P: After a depth value indicates that the bottle pretripped.

U: Uncertain value. Values which are not used in interpolation because they seem to be in error without apparent reason.

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PERSONNEL

CalCOFI Cruise 9108

SHIP'S CAPTAIN

Gary Michael Albertson, RV *David Starr Jordan*

PERSONNEL PARTICIPATING IN THE COLLECTION OF DATA

		Participation (Leg)
Hayward, Thomas L. (Chief Scientist)	Associate Research Oceanographer, SIO	I,II
Abramenkoff, Dimitry N.	Fishery Biologist, NMFS	I,II
Charter, Sharon R.	Fishery Biologist, NMFS	I,II
Gripp, Sherry L.	Staff Research Associate, SIO	I,II
Gruber, Dennis W.	Marine Technician, SIO	I,II
Hester, Arthur W.	Staff Research Associate, SIO	I,II
Manion, Susan M.	Fishery Biologist, NMFS	I,II
Parker, Mark A.	Student, San Diego State University	I
Pyle, Peter	Biologist, Pt Reyes Bird Observatory	I,II
Radlick, Peter	Student, Humboldt State University	I,II
Renger, Edward H.	Staff Research Associate, SIO	I,II
Smith, Jennifer A.	Student, U.C. Santa Barbara	I,II
Wilkinson, James R.	Staff Research Associate,SIO	I,II

Leg I: San Diego to Ventura, CA 24 July - 4 Aug., 1991

Leg II: Ventura to San Diego, CA 4 - 9 Aug., 1991

FIGURES

Cruise 9108

1. CalCOFI Cruise 9108, track and station positions.

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

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

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

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

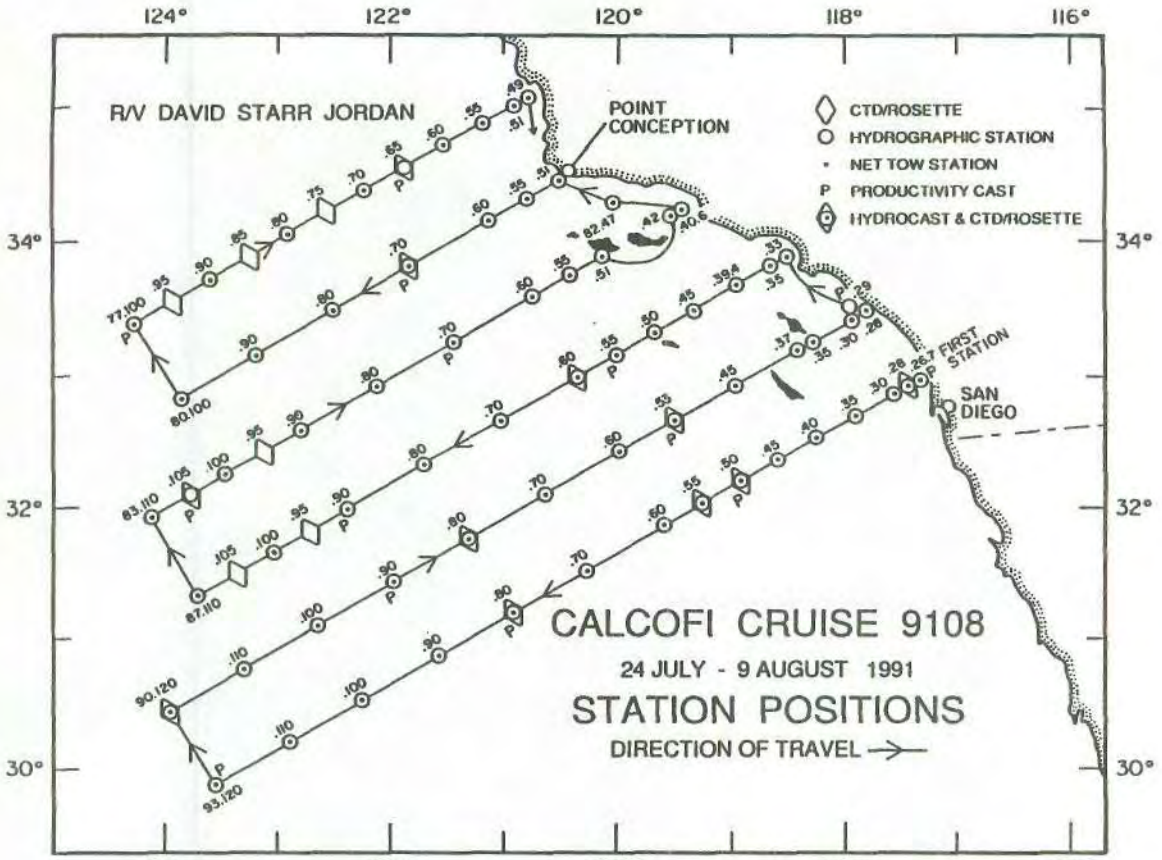

FIGURE 1

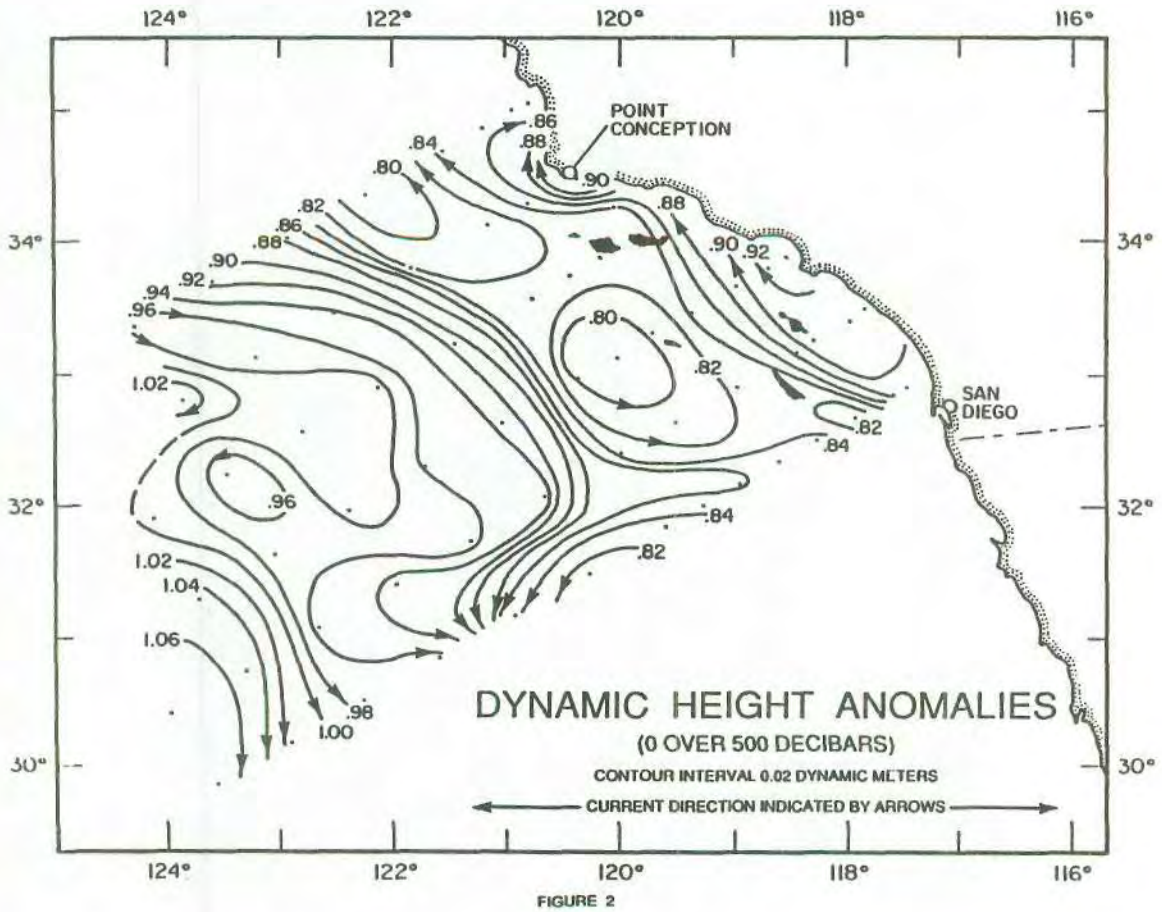

FIGURE 2

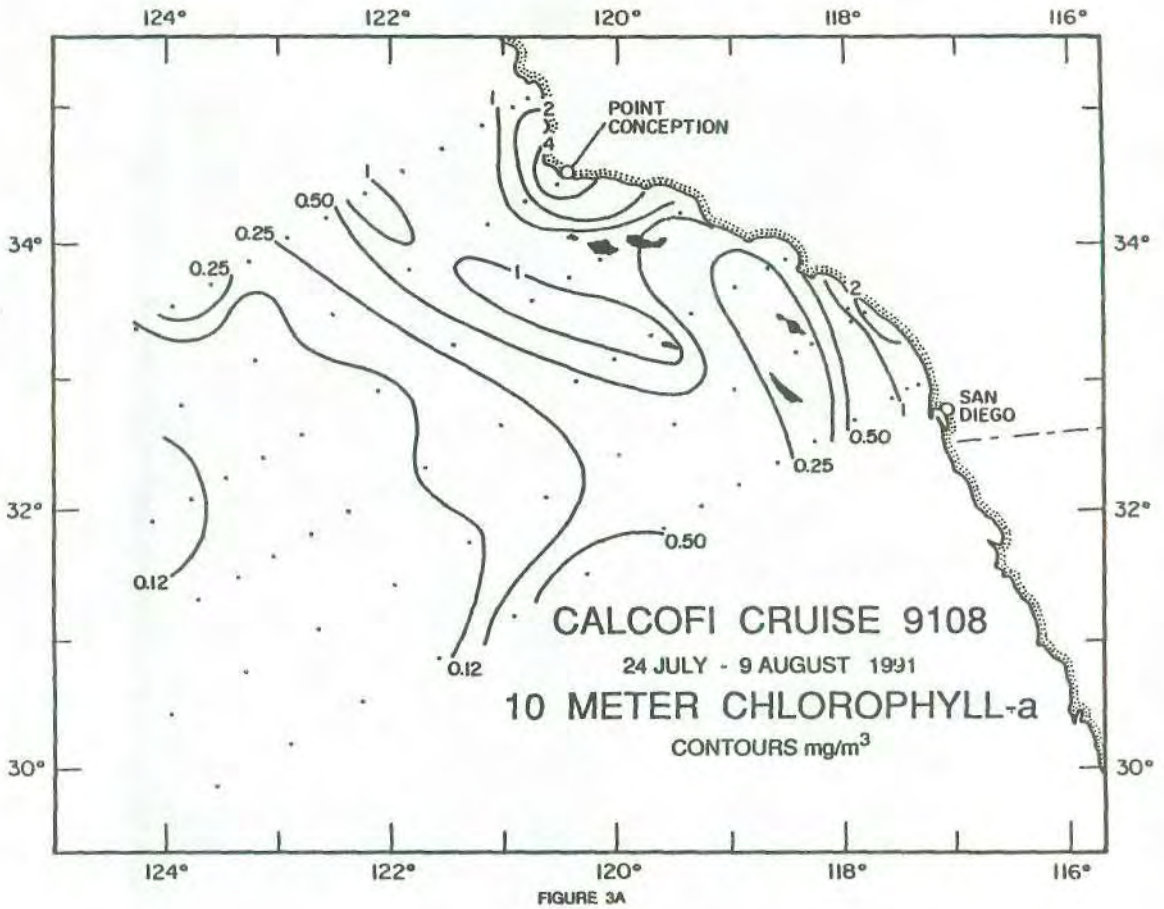

FIGURE 3A

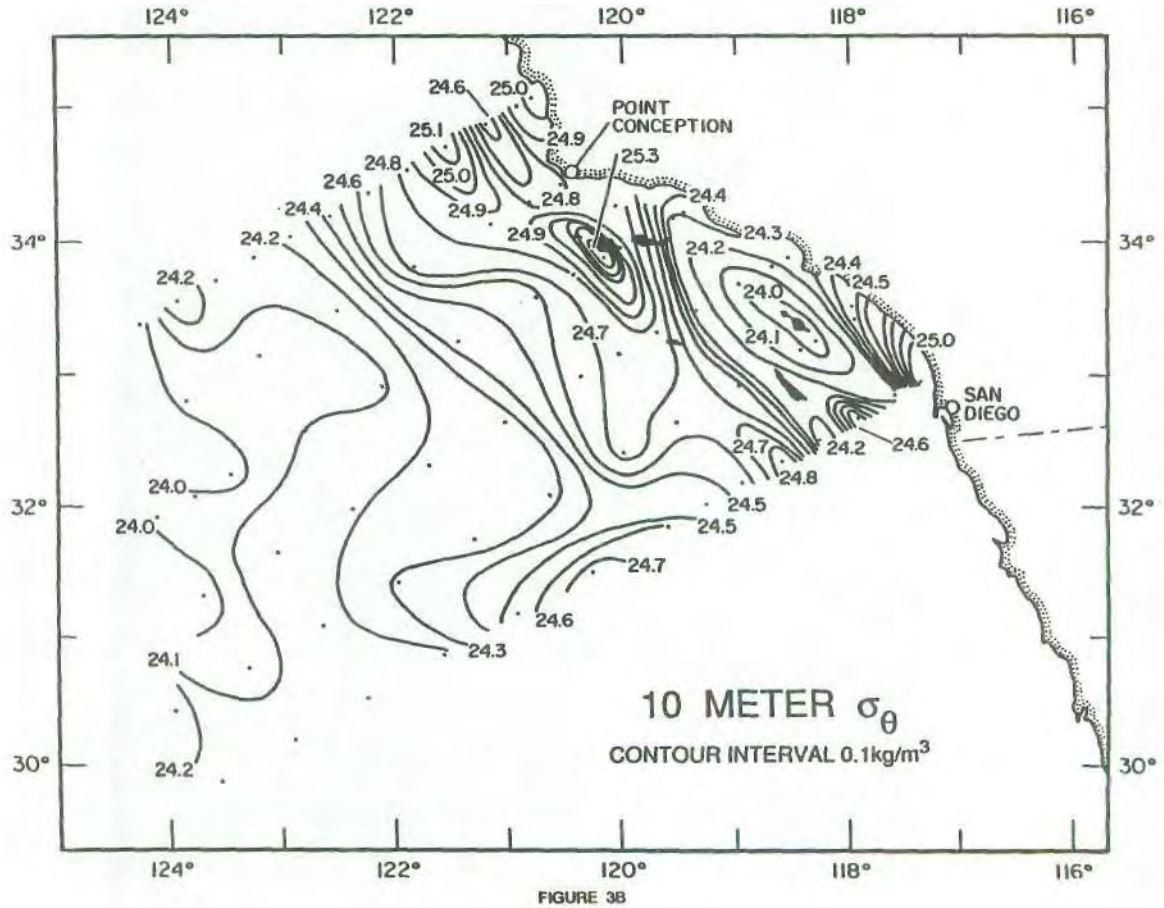

FIGURE 3B

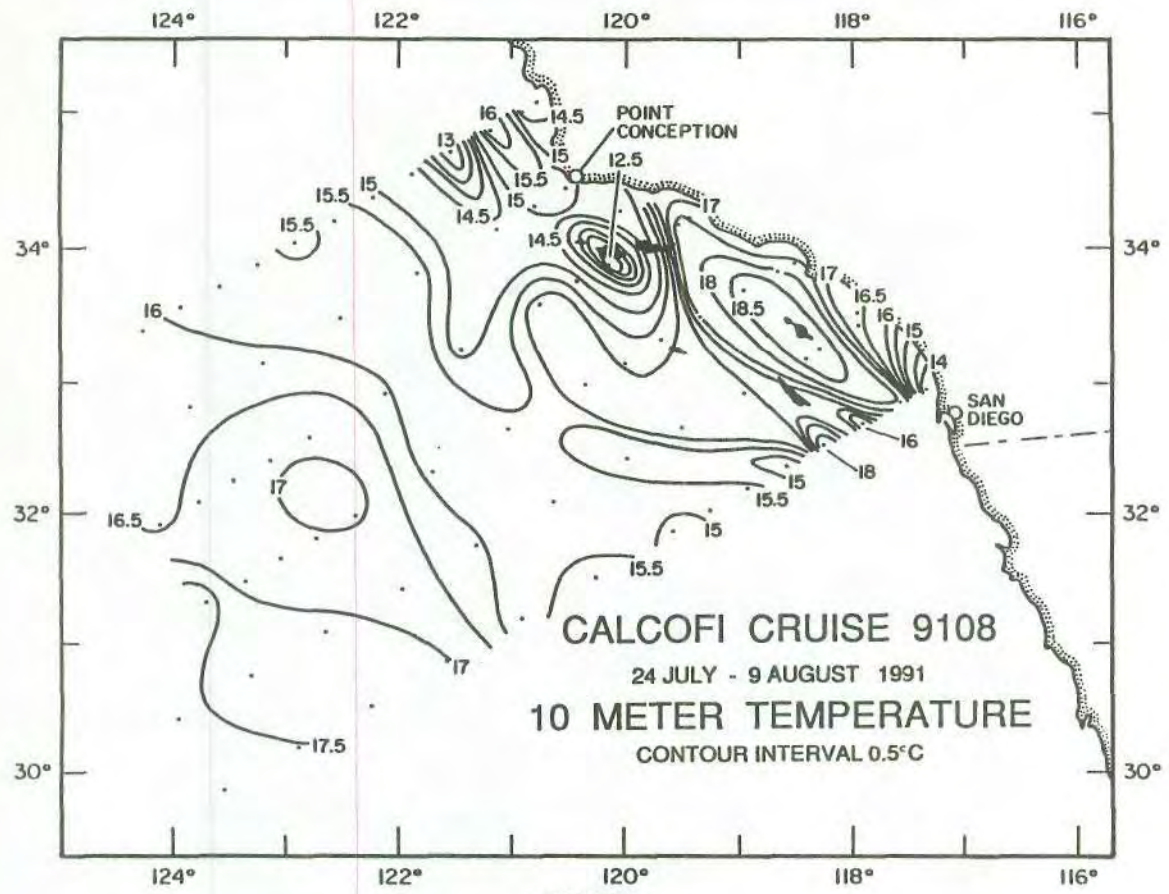

FIGURE 3C

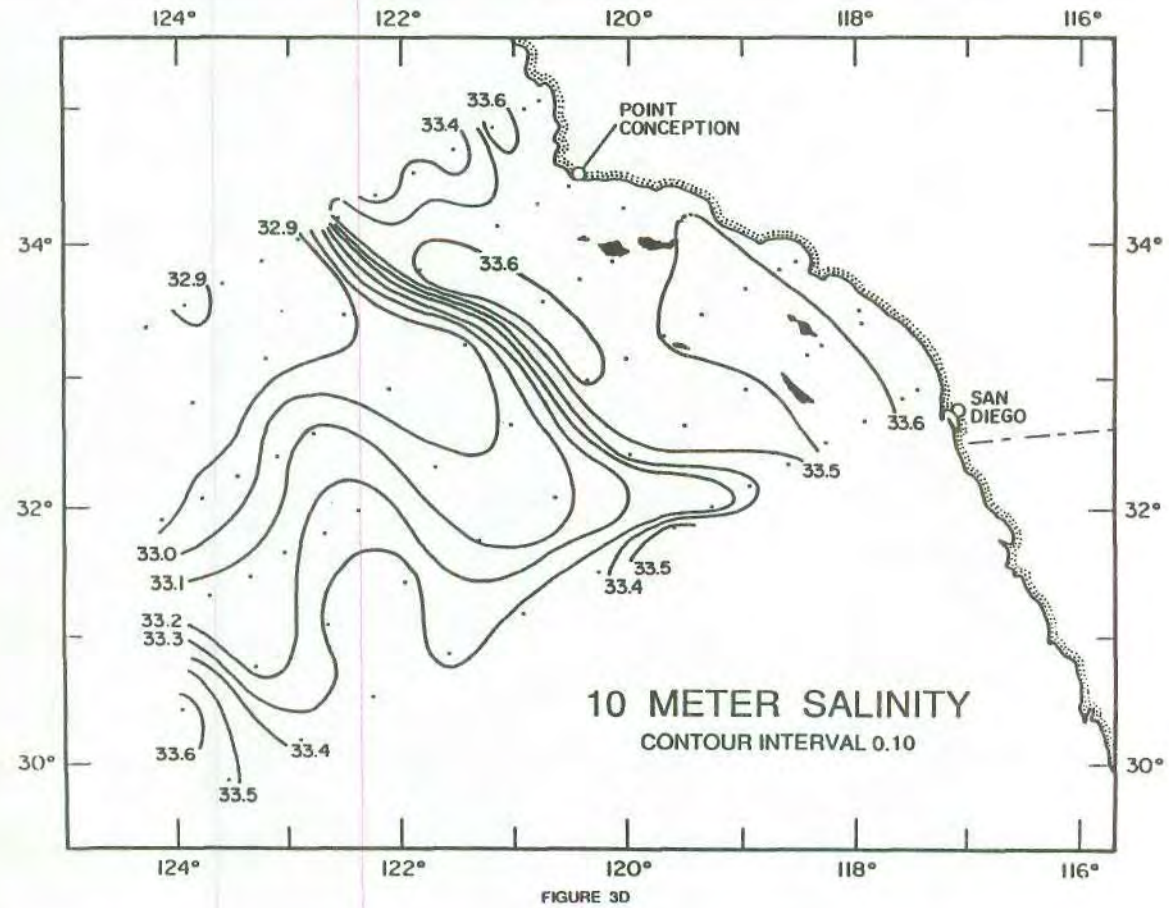

FIGURE 3D

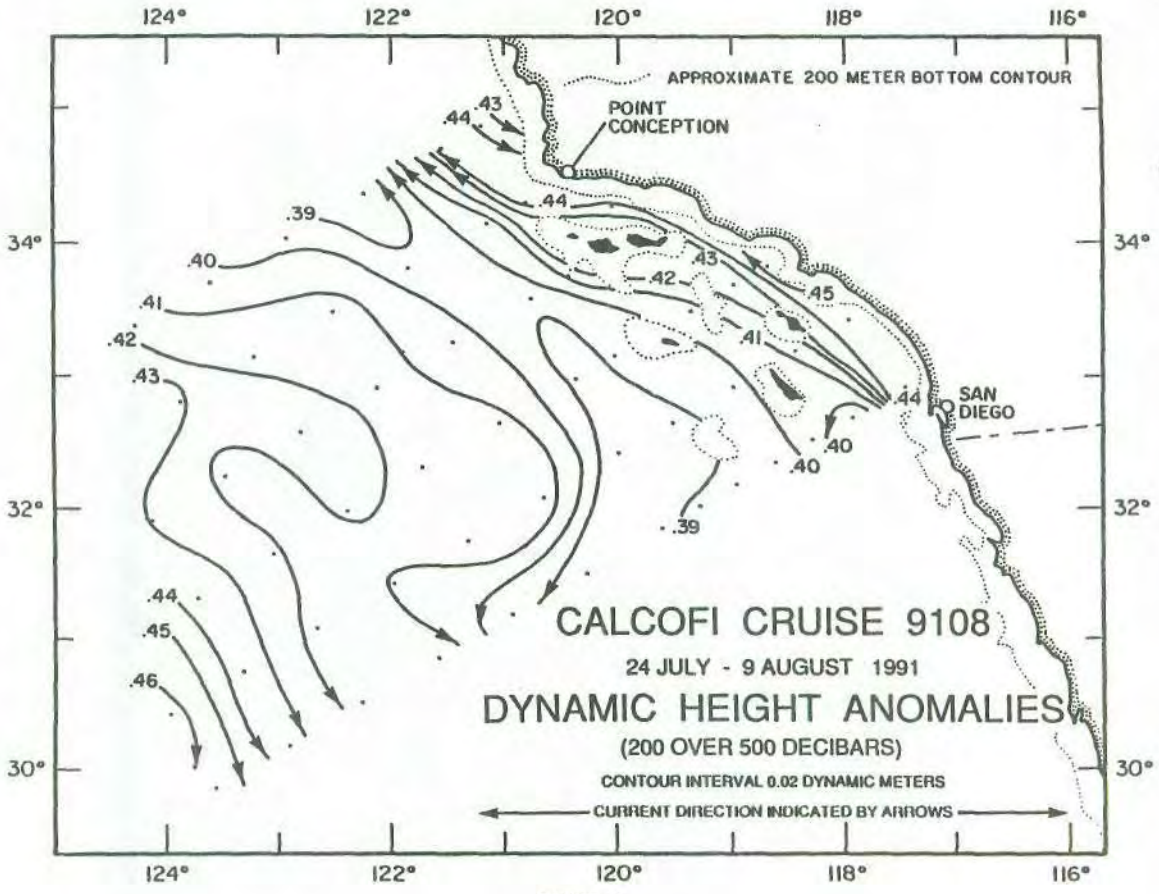

FIGURE 4A

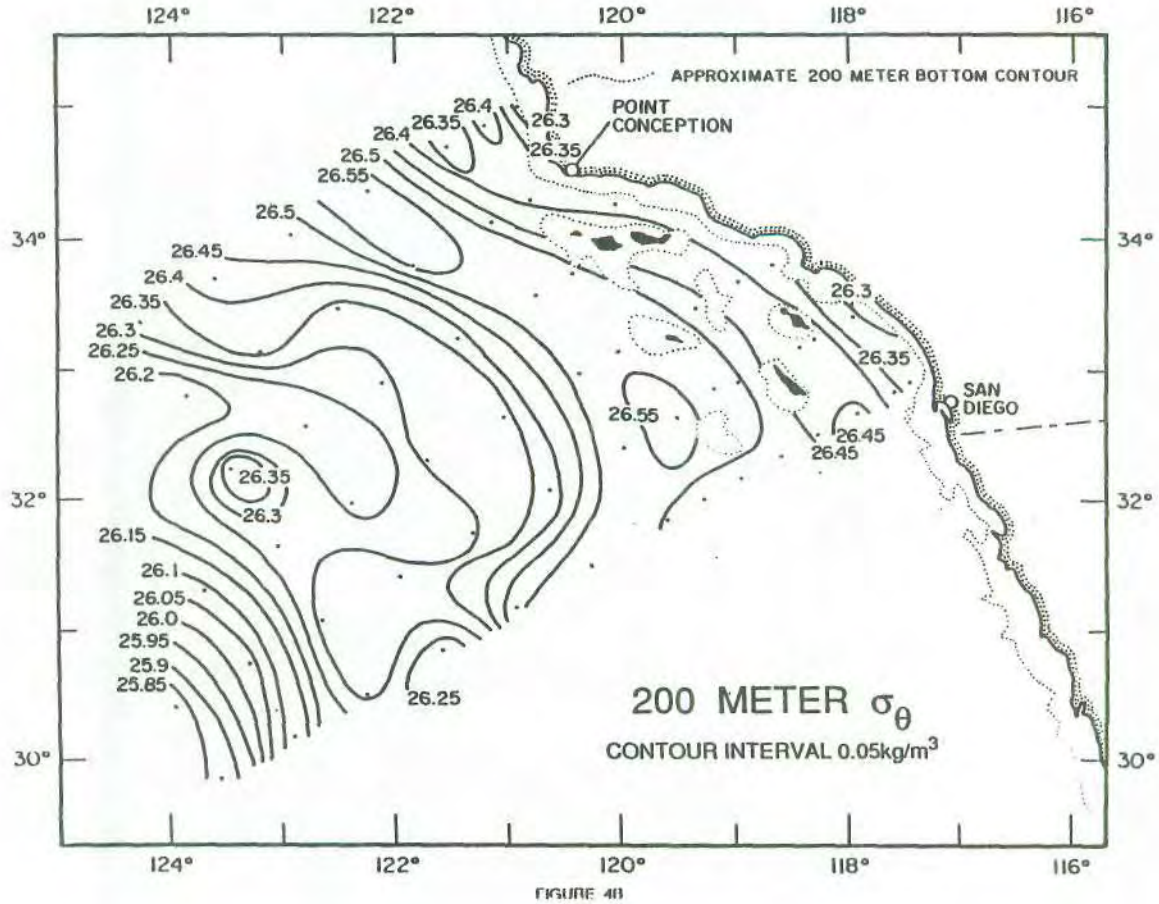

FIGURE 4B

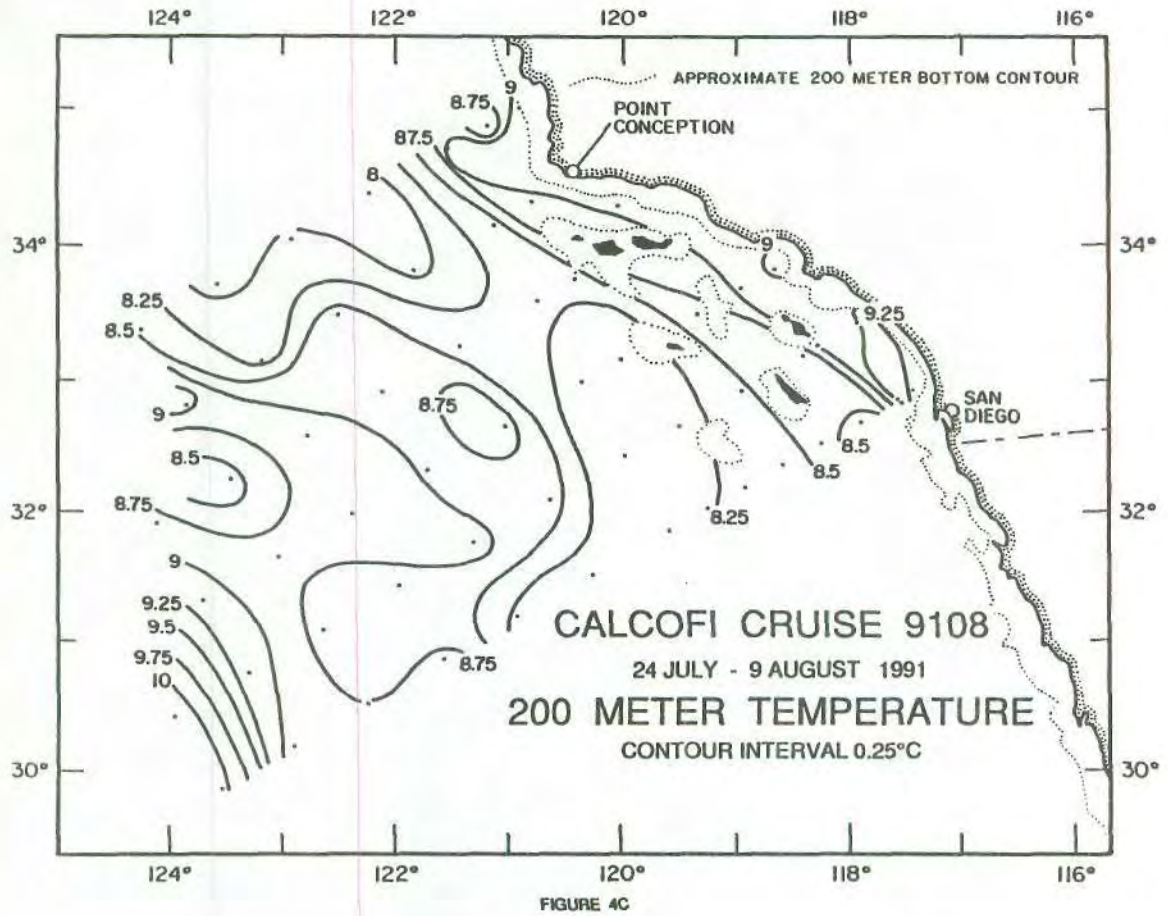

FIGURE 4C

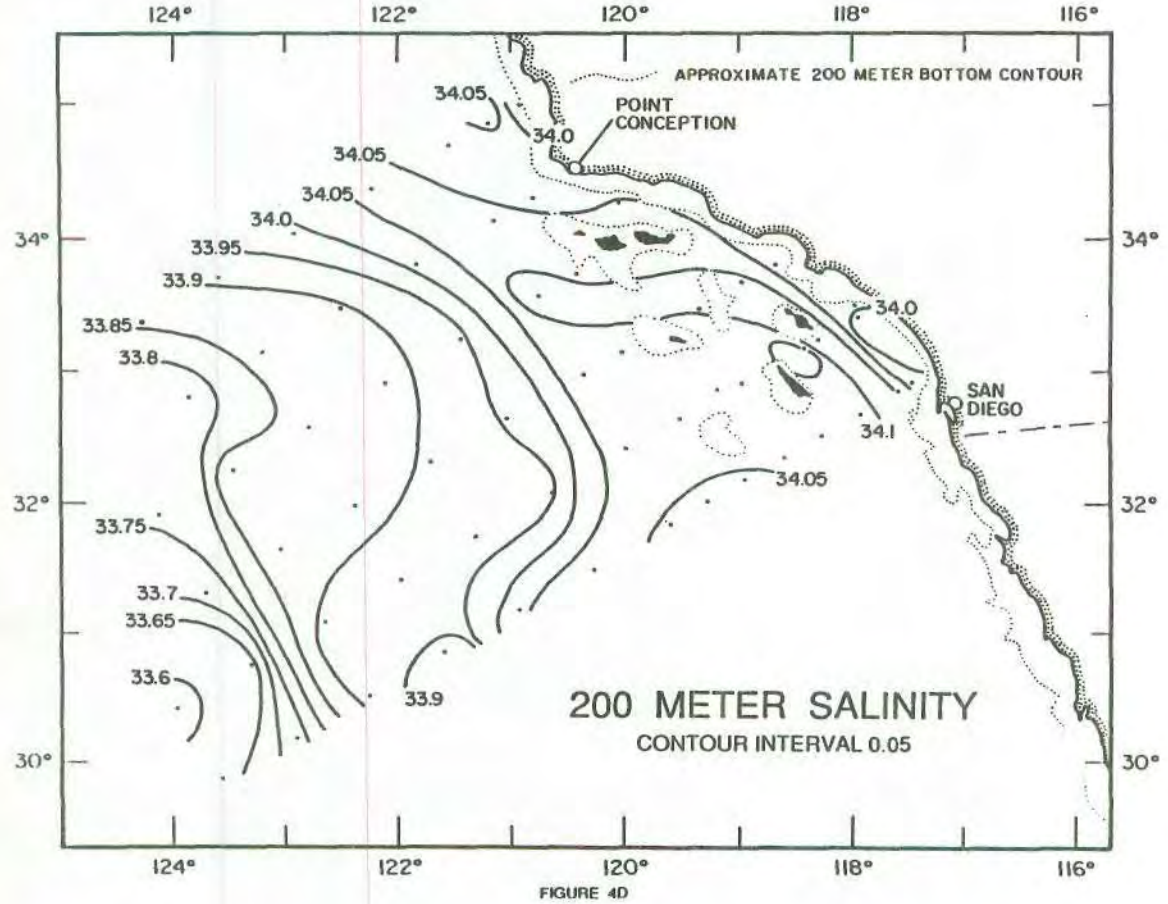

FIGURE 4D

CALCOFI CRUISE 9108

27 - 30 JULY 1991

POTENTIAL DENSITY (σ_θ) ALONG CALCOFI LINE 90

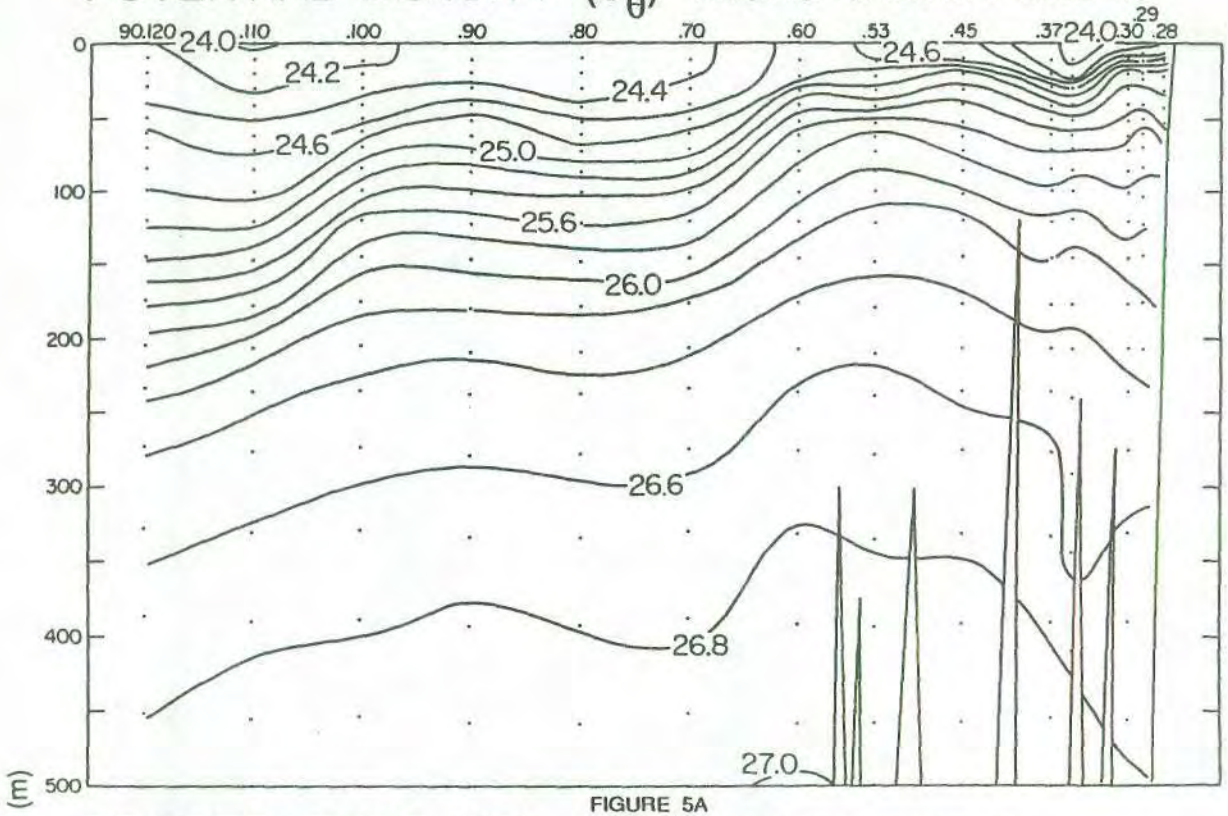

FIGURE 5A

TEMPERATURE (°C) ALONG CALCOFI LINE 90

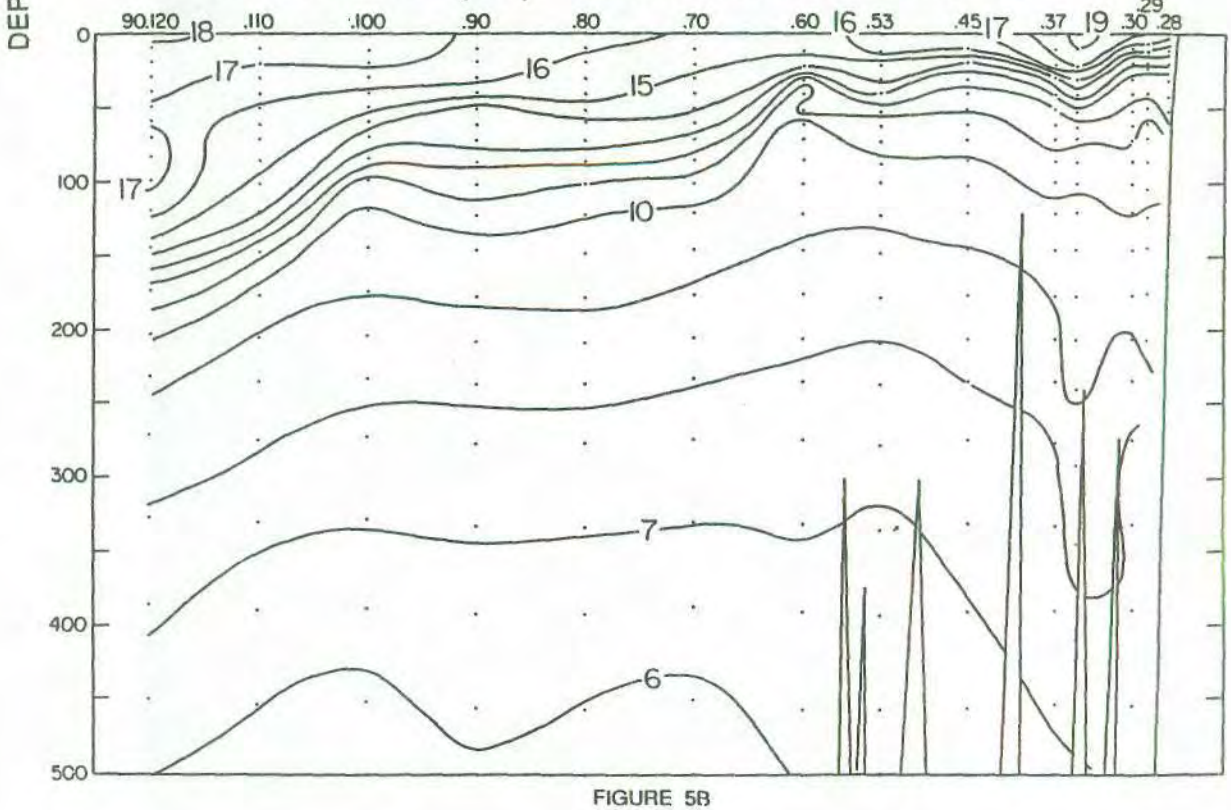

FIGURE 5B

CALCOFI CRUISE 9108

24 JULY - 9 JULY 1991

SALINITY ALONG CALCOFI LINE 90

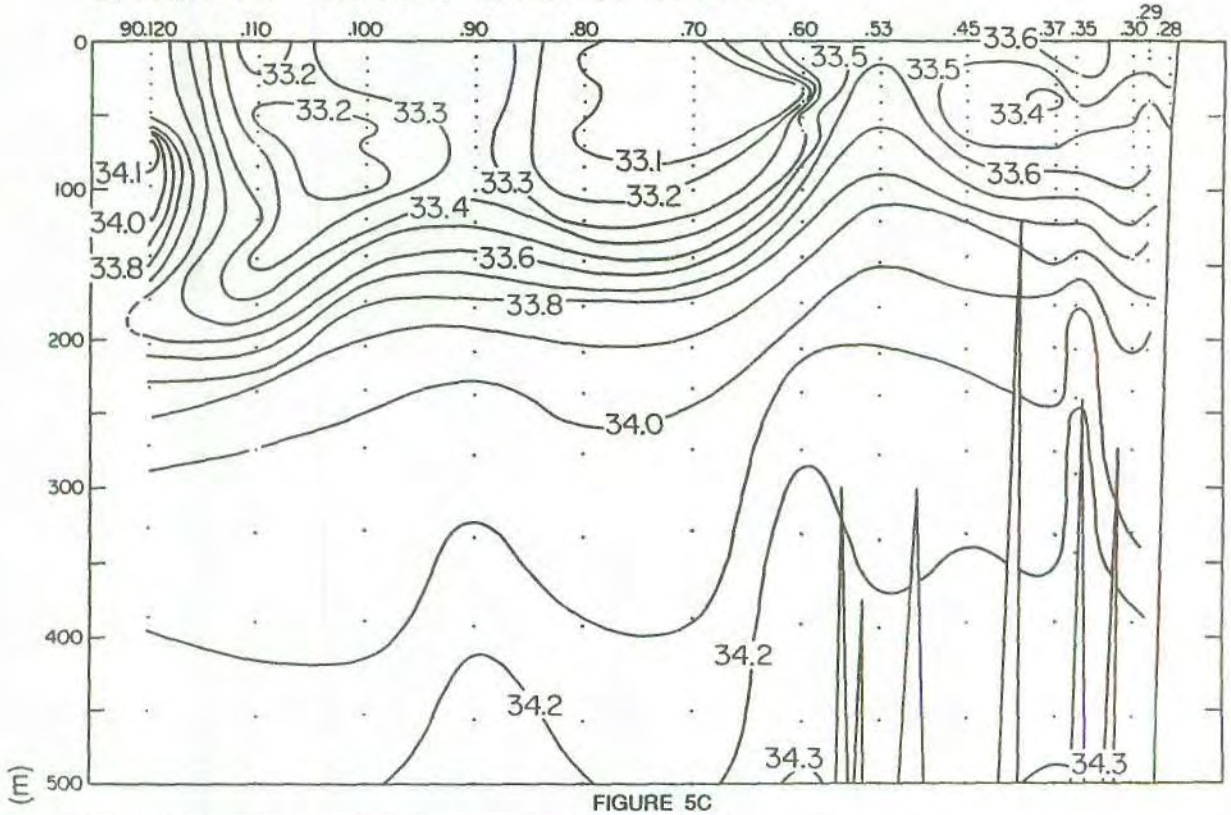

FIGURE 5C

SILICATE (µM/l) ALONG CALCOFI LINE 90

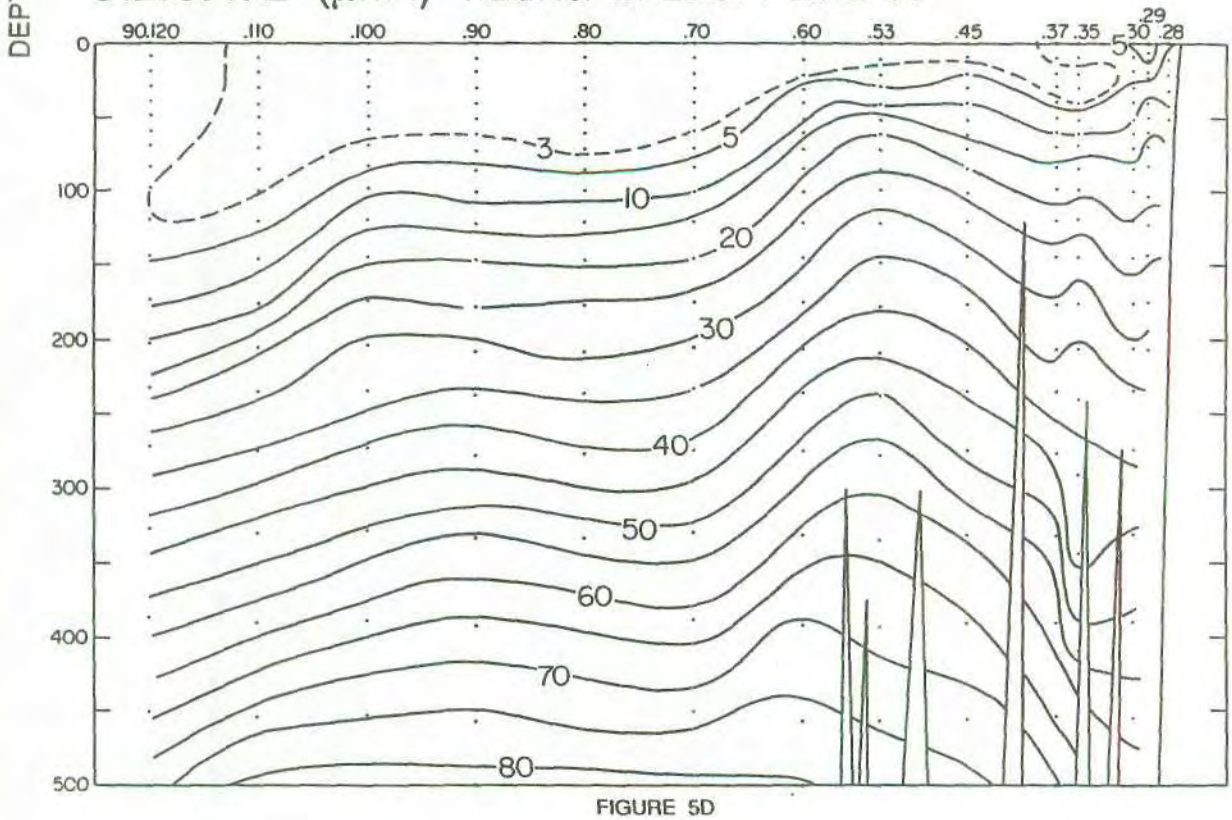

FIGURE 5D

CALCOFI CRUISE 9108

27 - 30 JULY 1991

NITRATE (µM/l) ALONG CALCOFI LINE 90

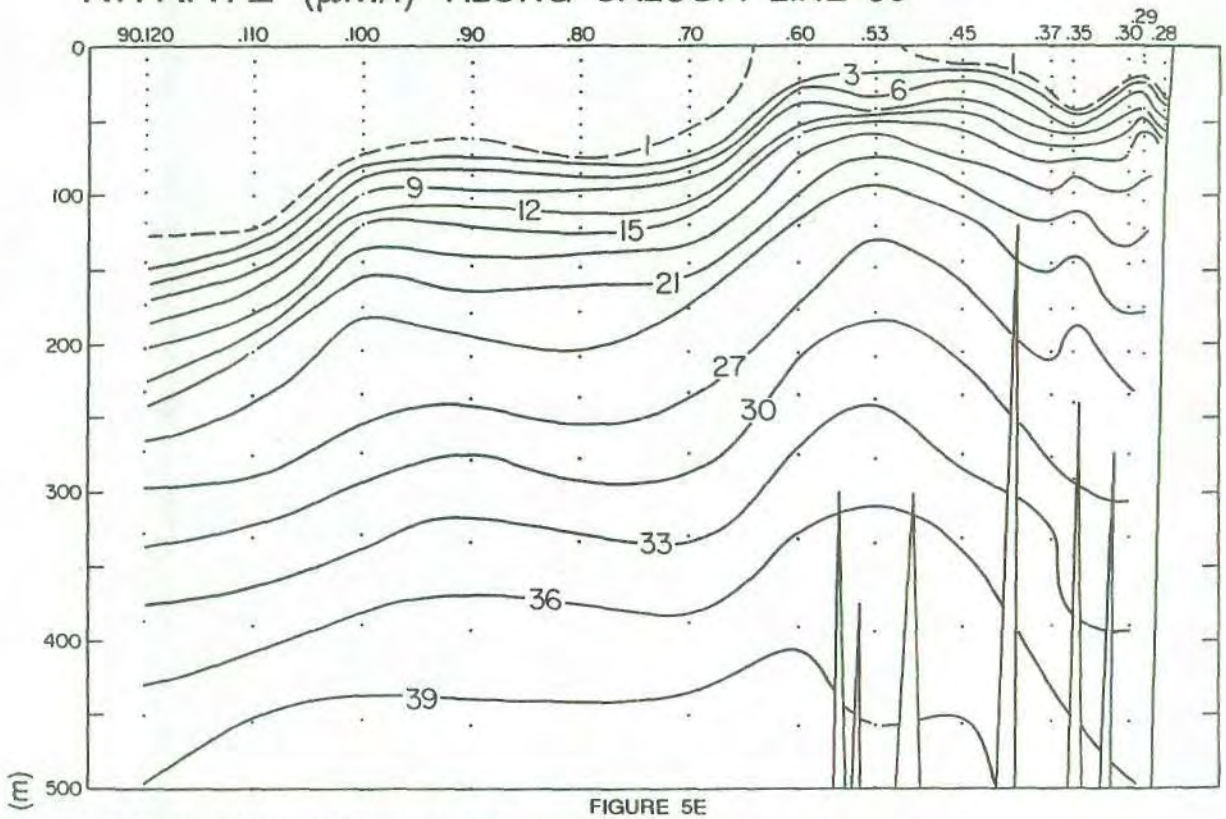

FIGURE 5E

PHOSPHATE (µM/l) ALONG CALCOFI LINE 90

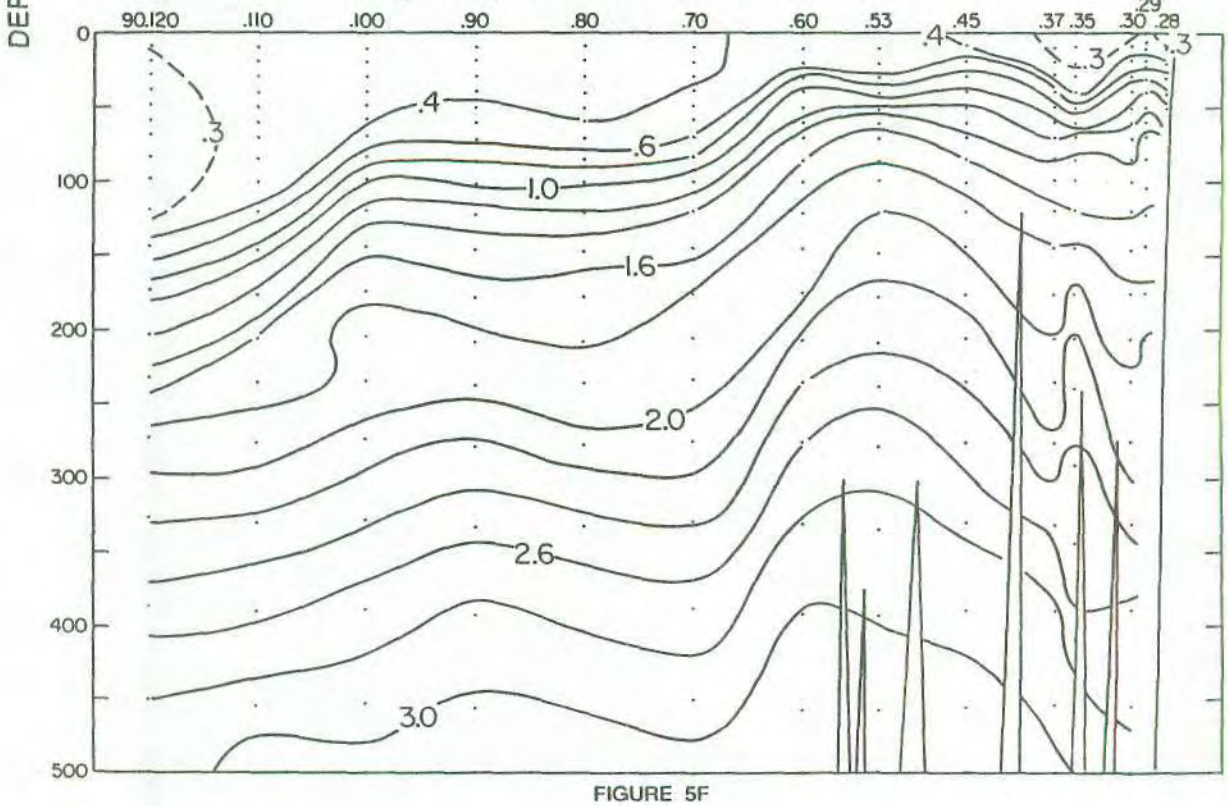

FIGURE 5F

CALCOFI CRUISE 9108

27 - 30 JULY 1991

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

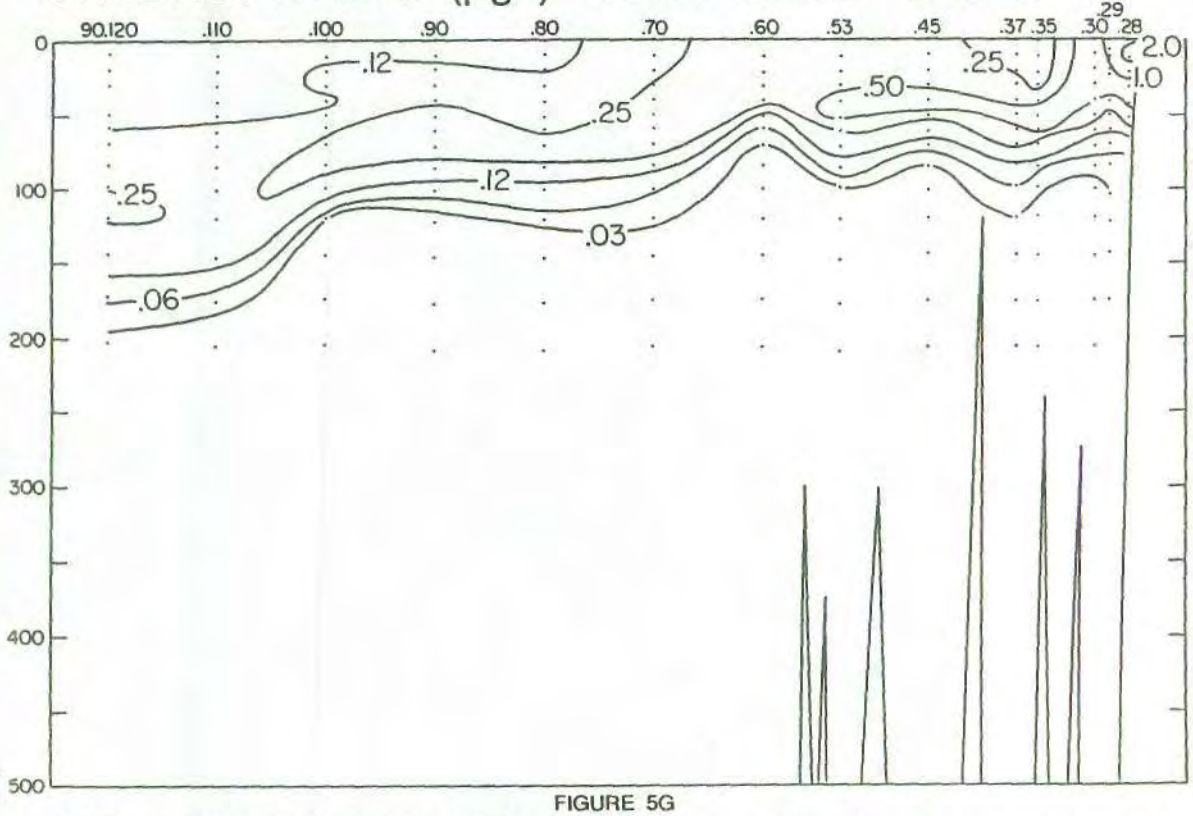

FIGURE 5G

OXYGEN SATURATION (%) ALONG CALCOFI LINE 90

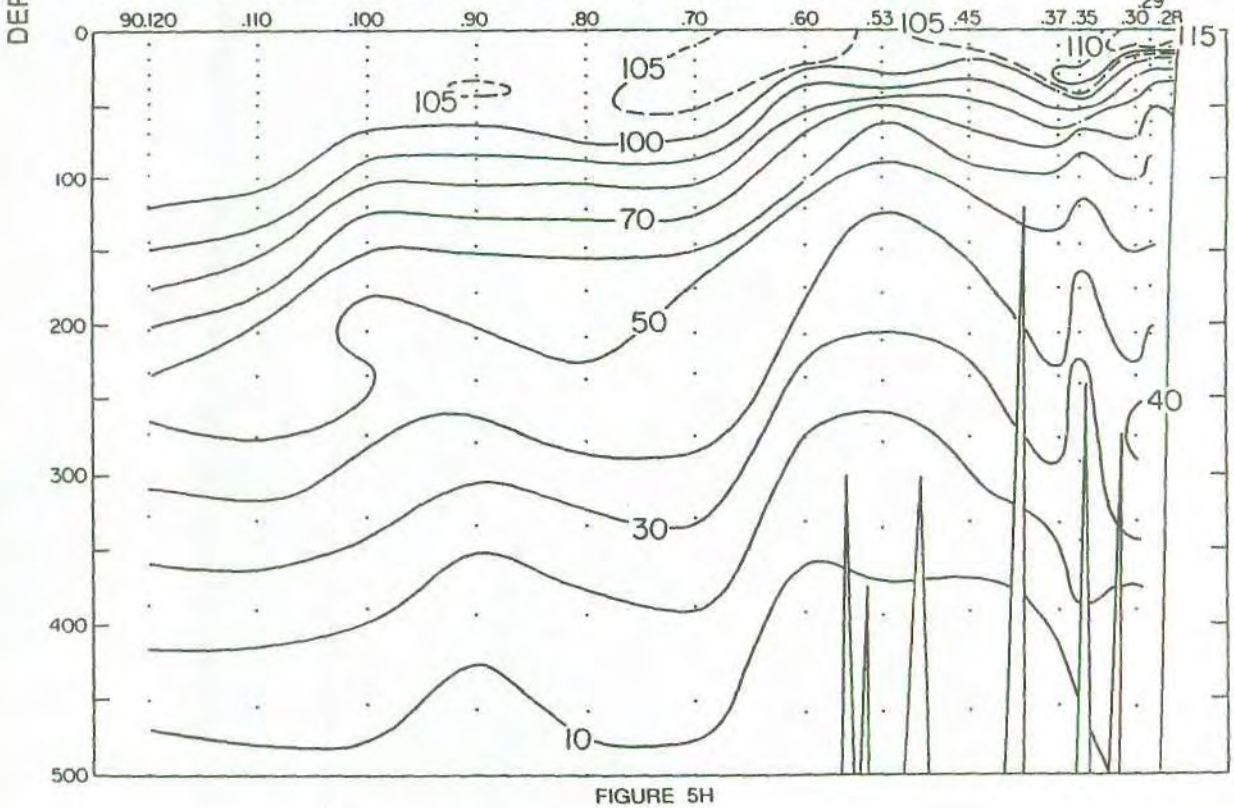

FIGURE 5H

CALCOFI CRUISE 9108

27 - 30 JULY 1991

OXYGEN (ml/l) ALONG CALCOFI LINE 90

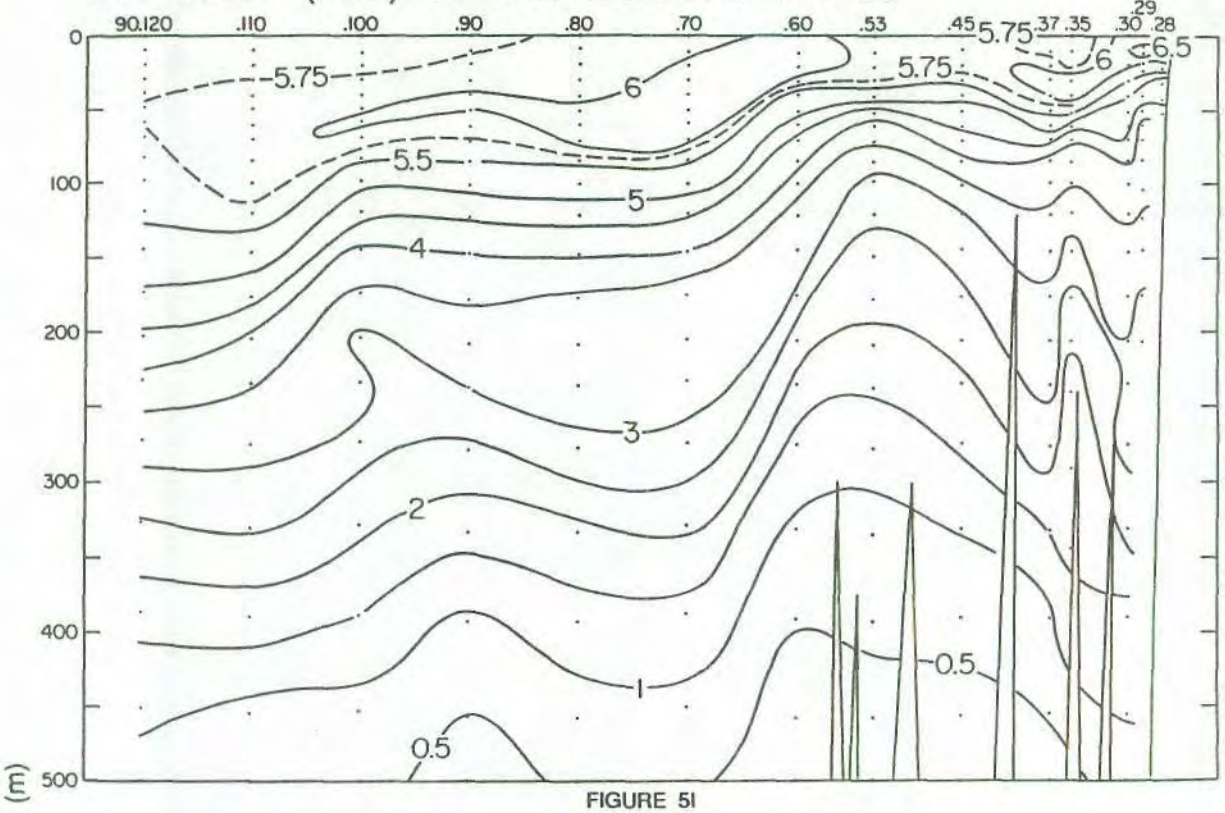

FIGURE 5I

NITRITE (µM/l) ALONG CALCOFI LINE 90

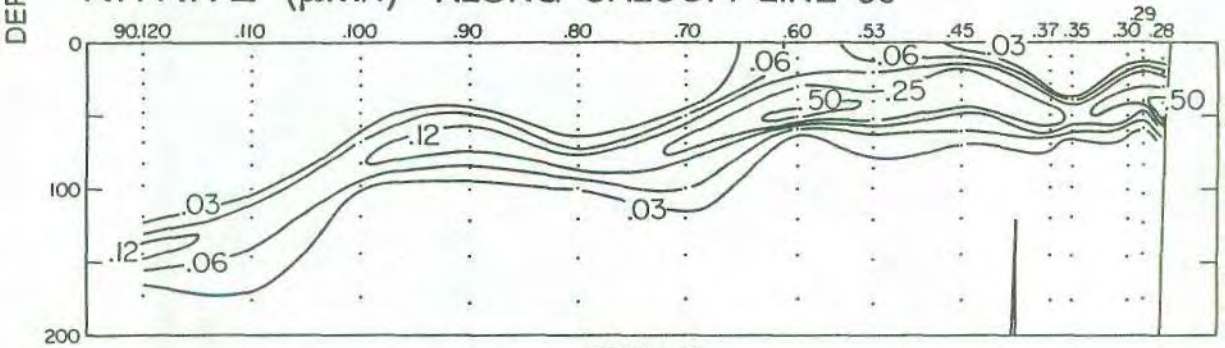

FIGURE 5J

PHAEOPIGMENTS (µg/l) ALONG CALCOFI LINE 90

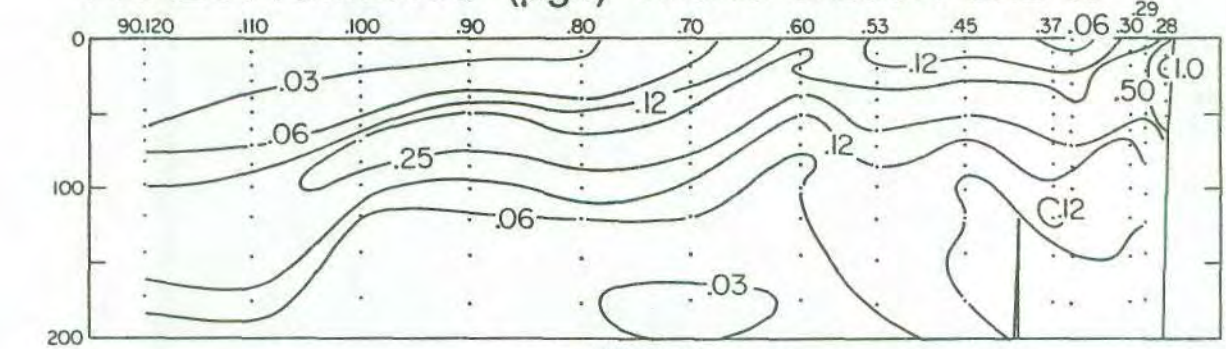

FIGURE 5K

RV DAVID STARR JORDAN CALCOFI CRUISE 9108 STATION 77 49

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	NAVES	NBA	BAROMETER	DRY	NET	SECCHI/FOREL	CID AMT TYPE
35 5.3 N	120 46.5 N	08/08/91	0813 UTC	62 m	330 15 kn			1017.5 ab	13.9 C	13.9 C		

CAST	DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA TBETA	SVA	DYN HT	OXYGEN «1/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CBL-A ug/1	PHAEO ug/1	PRESS db
1	0	14.28	14.28	33.576	25.029	292.0	0.000	5.76	98.9	8.5	0.60	3.0	0.18	1.39	0.27	0
1	10	14.21	14.21	33.576	25.044	290.9	0.029	5.75	98.6	8.5	0.62	3.1	0.19	1.50	0.27	10
1	20	13.20	13.20	33.571	25.247	271.8	0.057	5.33	89.5	9.2	0.86	6.9	0.54	0.45	0.26	20
1	30	12.14	12.14	33.567	25.451	252.6	0.083	4.80	78.8	11.9	1.12	11.0	0.58	0.26	0.25	30
1	40	11.23	11.23	33.556	25.611	237.6	0.108	4.24	68.3	14.3	1.28	13.9	0.21	0.21	0.32	40
1	50	11.14	11.13	33.616	25.674	231.8	0.131	3.80	61.1	20.6	1.48	15.6	0.34	0.24	0.56	50

RV DAVID STARR JORDAN CALCOFI CRUISE 9108 STATION 77 51

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	NAVES	NEA	BAROMETER	DRY	NET	SECCHI/FOREL	CLD AMT TYPE
35 1.4 N	120 55.1 N	08/08/91	0606 UTC	224 •	320 16 kn			1018.0 ab	15.3 C	14.9 C		

CAST	DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN al/1	OXY PCT	SIO3 UM/1	PO4 uM/1	NO3 UM/1	NO2 UM/1	CHL-A Ug/1	PHAEO ug/1	PRESS db
1	0	15.10	15.10	33.562	24.843	309.8	0.000	6.34	110.7	7.5	0.33	0.1	0.01	1.13	0.44	0
	10 ISL	14.49	14.49	33.565	24.976	297.3	0.030	6.08	104.9	8.1	0.46	0.6	0.05	1.98	0.60	10
1	11	14.43	14.43	33.566	24.990	296.1	0.033	6.05	104.2	8.2	0.47	0.6	0.05	2.07	0.62	11
	20 ISL	14.10	14.10	33.559	25.054	290.2	0.060	5.85	100.1	8.5	0.50	0.9	0.07	0.95	0.59	20
1	21	14.04	14.04	33.558	25.066	289.1	0.063	5.82	99.4	8.5	0.50	0.9	0.07	0.79	0.59	21
	30 ISL	12.75	12.75	33.549	25.320	265.1	0.088	5.19	86.3	10.6	0.86	6.1	0.27	0.34	0.40	30
1	31	12.59	12.59	33.549	25.351	262.2	0.090	5.11	84.7	10.9	0.91	6.8	0.29	0.32	0.38	31
1	41	11.62	11.61	33.560	25.543	244.1	0.115	4.42	71.8	13.8	1.23	12.2	0.31	0.29	0.29	41
	50 ISL	11.01	11.00	33.586	25.674	231.8	0.137	4.04	64.8	16.2	1.36	15.5	0.11	0.16	0.21	50
1	51	10.96	10.95	33.589	25.686	230.8	0.139	4.01	64.2	16.4	1.37	15.8	0.09	0.15	0.20	51
1	61	10.59	10.58	33.621	25.776	222.4	0.162	3.72	59.1	18.6	1.50	17.7	0.05	0.10	0.21	61
1	71	10.49	10.48	33.635	25.804	219.9	0.184	3.65	57.9	19.1	1.52	18.1	0.04	0.09	0.20	71
	75 ISL	10.41	10.40	33.642	25.823	218.1	0.193	3.61	57.1	19.2	1.53	18.5	0.03	0.08	0.18	75
1	85	10.18	10.17	33.666	25.882	212.8	0.214	3.51	55.3	19.8	1.58	19.5	0.01	0.05	0.14	85
1	100	9.99	9.98	33.721	25.957	205.9	0.246	3.32	52.1	21.9	1.65	21.0	0.02	0.04	0.12	101
1	120	9.88	9.87	33.763	26.009	201.4	0.286	3.17	49.6	23.8	1.65	21.8	0.03	0.03	0.14	121
	125 ISL	9.84	9.83	33.772	26.023	200.2	0.296	3.15	49.3	24.0	1.67	22.0	0.03	0.03	0.13	126
1	139	9.71	9.69	33.802	26.068	196.2	0.324	3.10	48.4	24.6	1.76	22.6	0.01	0.02	0.09	140
	150 ISL	9.58	9.56	33.848	26.125	190.9	0.346	2.98	46.4	26.2	1.83	23.5	0.01	0.01	0.09	151
1	165	9.41	9.39	33.910	26.202	183.9	0.374	2.80	43.4	28.5	1.90	24.8	0.01	0.01	0.10	166
1	191	9.27	9.25	33.953	26.259	179.1	0.421	2.63	40.7	30.3	1.93	25.7	0.02	0.01	0.11	192
	200 ISL	9.23	9.21	33.960	26.271	178.1	0.437	2.59	40.0	30.9	1.97	25.9	0.04			201
1	221	9.15	9.13	33.978	26.298	175.9	0.474	2.50	38.6	32.4	2.05	26.4	0.08			222

RV DAVID STARR JORDAN CALCOFI CRUISE 9108 STATION 77 55

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	NAVES	NEA	BAROMETER	DRY	NET	SECCHI/FOREL	CLD AMT TYPE
34 53.3 N	121 11.9 N	08/08/91	0250 UTC	560 m	330 17 kn	330 02 05	4	1017.1 ab	15.5 C	15.2 C	11a 04	8/8 ST

CAST	DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN al/1	OXY PCT	SIO3 UM/1	PO4 UM/1	NO3 uM/1	NO2 UM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
1	0	16.46	16.46	33.603	24.569	335.8	0.000	6.24	112.0	4.6	0.28	0.0	0.00	0.52	0.16	0
1	10	16.42	16.42	33.603	24.579	335.2	0.034	6.28	112.6	4.5	0.24	0.0	0.00	0.58	0.17	10
1	20	15.65	15.65	33.594	24.746	319.5	0.066	6.61	116.7	5.0	0.43	0.0	0.00	11.71	0.99	20
1	29	14.08	14.08	33.590	25.083	287.7	0.094	5.36	91.7	8.8	0.60	1.2	0.13	1.22	0.58	29
	30 ISL	13.83	13.83	33.589	25.134	282.9	0.096	5.24	89.2	9.3	0.66	2.2	0.17	1.12	0.54	30
1	39	11.88	11.88	33.600	25.526	245.7	0.120	4.39	71.7	13.6	1.18	11.5	0.46	0.24	0.29	39
1	50	11.31	11.30	33.629	25.654	233.8	0.147	4.04	65.2	15.6	1.34	14.9	0.27	0.18	0.24	50
1	59	11.03	11.02	33.643	25.715	228.1	0.167	3.90	62.6	16.9	1.42	16.3	0.11	0.12	0.21	59
1	69	10.22	10.21	33.661	25.871	213.5	0.189	3.58	56.4	19.6	1.54	19.2	0.03	0.12	0.19	69
	75 ISL	9.97	9.96	33.706	25.948	206.2	0.202	3.40	S3.3	21.2	1.62	20.4	0.03	0.09	0.16	75
1	82	9.81	9.80	33.766	26.022	199.3	0.216	3.21	50.2	22.9	1.70	21.5	0.02	0.05	0.13	82
1	97	9.66	9.65	33.847	26.111	191.2	0.246	2.90	45.2	26.3	1.83	23.4	0.02	0.03	0.15	98
	100 ISL	9.62	9.61	33.859	26.127	189.8	0.251	2.89	45.0	26.7	1.84	23.6	0.02	0.03	0.15	101
1	117	9.42	9.41	33.909	26.199	183.2	0.283	2.84	44.1	28.1	1.88	24.1	0.02	0.02	0.11	118
	125 ISL	9.38	9.37	33.923	26.216	181.7	0.298	2.81	43.6	28.4	1.90	24.3	0.02	0.02	0.11	126
1	142	9.29	9.27	33.946	26.249	178.9	0.328	2.73	42.2	29.4	1.94	25.0	0.01	0.01	0.11	143
	150 ISL	9.14	9.12	33.956	26.281	176.0	0.342	2.67	41.2	30.7	1.98	25.7	0.01	0.01	0.11	151
1	173	8.73	8.71	33.990	26.373	167.7	0.382	2.47	37.7	34.7	2.09	27.8	0.01	0.01	0.10	174
	200 ISL	8.74	8.72	34.060	26.427	163.1	0.427	2.26	34.6	36.4	2.14	28.3	0.02	0.01	0.08	201
1	205	8.74	8.72	34.070	26.435	162.5	0.435	2.22	33.9	36.6	2.15	28.3	0.02	0.01	0.08	206
1	235	8.61	8.59	34.116	26.491	157.6	0.483	1.97	30.0	39.3	2.30	29.4	0.01			236
	250 ISL	8.52	8.49	34.133	26.519	155.3	0.506	1.91	29.1	40.7	2.35	29.9	0.01			252
1	274	8.35	8.32	34.155	26.562	151.5	0.543	1.83	27.7	43.1	2.39	30.7	0.01			276
	300 ISL	8.17	8.14	34.169	26.601	148.2	0.582	1.63	24.6	46.0	2.37	31.4	0.02			302
1	331	7.97	7.94	34.184	26.643	144.7	0.627	1.37	20.6	49.3	2.36	32.1	0.02			333
1	391	7.77	7.73	34.226	26.706	139.7	0.713	1.11	16.6	53.0	2.66	33.8	0.01			394
	400 ISL	7.70	7.66	34.227	26.717	138.7	0.725	1.08	16.1	53.8	2.69	34.1	0.01			403
1	456	7.20	7.16	34.219	26.782	133.0	0.801	0.92	13.6	60.2	2.83	36.0	0.01			459
	500 ISL	6.75	6.70	34.213	26.839	127.9	0.859	0.79	11.5	66.3	2.89	37.6	0.01			504
1	523	6.52	6.47	34.211	26.868	125.2	0.888	0.72	10.5	69.5	2.92	38.5	0.01			527

RV DAVID STARR JORDAN CALCOFI CRUISE »108 STATION 77 60

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	HIND SPEED	NAVES MEA	BAROMETER	DRY	NET	SECCHI/FOREL	CLD AMT TYPE
34 43.3 N	121 32.J N	07/08/91	2300 UTC	911 a	310 17 kn	300 01 06 4	1018.9 ab	16.2 C	16.1 C	16a 03	8/8 ST

CAST	DEPTH		TEKP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SIO3	PO4	NO3	NO2	CBL-A	PHAEO	PRESS
	-		DEC C	DEG C	PSS 78	THETA			BL/1	PCT	uM/1	uM/1	uM/1	uM/1	ug/1	ug/1	db
1	0		15.01	15.01	33.303	24.662	326.9	0.000	6.23	108.4	3.5	0.54	2.5	0.11	0.46	0.10	0
1	9		13.13	13.13	33.326	25.071	288.2	0.028	5.94	99.5	6.6	0.73	5.0	0.26	0.81	0.26	9
	10	ISL	12.96	12.96	33.349	25.123	283.3	0.031	5.80	96.8	7.3	0.77	5.7	0.28	0.78	0.26	10
1	20		11.71	11.71	33.585	25.545	243.4	0.057	4.42	71.9	13.5	1.20	12.6	0.37	0.32	0.18	20
1	29		11.25	11.25	33.609	25.649	233.8	0.078	4.13	66.6	15.4	1.35	15.1	0.21	0.18	0.14	29
	30	ISL	11.23	11.23	33.612	25.654	233.2	0.081	4.11	66.2	15.5	1.36	15.3	0.19	0.17	0.14	30
1	40		10.92	10.92	33.641	25.733	226.0	0.104	3.85	61.6	17.3	1.45	17.1	0.07	0.12	0.12	40
1	49		10.27	10.26	33.688	25.883	211.9	0.123	3.52	55.6	20.2	1.60	19.7	0.03	0.09	0.13	49
	50	ISL	10.26	10.25	33.694	25.889	211.3	0.125	3.50	55.2	20.4	1.61	19.8	0.03	0.09	0.13	50
1	61		10.14	10.13	33.723	25.933	207.4	0.148	3.34	52.6	21.7	1.66	20.6	0.02	0.07	0.14	61
1	70		9.95	9.94	33.768	26.000	201.2	0.167	3.16	49.6	23.3	1.75	21.9	0.02	0.05	0.12	70
	75	ISL	9.90	9.89	33.780	26.018	199.6	0.177	3.11	48.7	23.7	1.77	22.2	0.02	0.04	0.12	75
1	84		9.83	9.82	33.795	26.042	197.5	0.195	3.05	47.7	24.3	1.78	22.5	0.02	0.04	0.13	84
1	98		9.70	9.69	33.837	26.096	192.6	0.222	2.92	45.6	26.0	1.84	23.4	0.02	0.03	0.11	99
	100	ISL	9.69	9.68	33.841	26.101	192.2	0.226	2.91	45.4	26.1	1.84	23.5	0.02	0.03	0.11	101
1	119		9.59	9.58	33.871	26.141	188.8	0.262	2.86	44.5	27.1	1.87	24.0	0.01	0.03	0.10	120
	125	ISL	9.53	9.52	33.885	26.162	186.9	0.273	2.83	44.0	27.6	1.88	24.3	0.01	0.03	0.10	126
1	145		9.33	9.31	33.934	26.234	180.5	0.310	2.71	42.0	29.3	1.93	25.3	0.02	0.02	0.11	146
	150	ISL	9.30	9.28	33.943	26.245	179.5	0.319	2.69	41.6	29.6	1.94	25.3	0.02	0.02	0.11	151
1	175		9.19	9.17	33.979	26.292	175.6	0.364	2.58	39.8	31.1	2.01	25.5	0.02	0.01	0.10	176
	200	ISL	9.06	9.04	34.016	26.342	171.3	0.407	2.43	37.4	32.9	2.06	26.7	0.02	0.01	0.10	201
1	206		9.02	9.00	34.025	26.355	170.1	0.417	2.39	36.8	33.4	2.08	27.0	0.02	0.01	0.10	207
1	235		8.82	8.79	34.087	26.436	163.0	0.465	2.13	32.6	36.6	2.20	28.4	0.02			236
	250	ISL	8.72	8.69	34.117	26.475	159.5	0.490	1.98	30.3	38.5	2.27	29.1	0.02			252
1	275		8.58	8.55	34.159	26.530	154.7	0.529	1.76	26.8	41.4	2.36	30.1	0.01			277
	300	ISL	8.51	8.48	34.177	26.556	152.8	0.567	1.67	25.4	42.7	2.40	30.5	0.01			302
1	332		8.45	8.42	34.187	26.573	151.6	0.616	1.60	24.3	43.8	2.43	30.9	0.01			334
1	390		8.23	8.19	34.215	26.629	147.3	0.703	1.34	20.3	47.6	2.55	32.1	0.01			393
	400	ISL	8.13	8.09	34.216	26.645	145.9	0.717	1.29	19.5	48.8	2.58	32.4	0.01			403
1	456		7.55	7.50	34.217	26.731	138.2	0.797	1.05	15.6	55.8	2.72	34.4	0.01			459
	500	ISL	7.28	7.23	34.227	26.778	134.2	0.857	0.91	13.5	59.9	2.80	35.5	0.01			504
1	526		7.12	7.07	34.234	26.806	131.8	0.891	0.82	12.1	62.3	2.84	36.2	0.01			530

RV DAVID STARR JORDAN CALCOFI CRUISE 9108 STATION 77 65 ROS

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	KIND SPEED	NAVES WEA	BAROMETER	DRY	NET	SECCHI/FOREL	CLD AMT TYPE
34 33.0 N	121 54.0 N	07/08/91	2005 UTC		330 13 kn	310 02 06 4	1019.5 ab	16.8 C	16.8 C	15a 04	7/8 ST

CAST	DEPTH		TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SIO3	PO4	NO3	NO2	CHL-A	PHAEO	PRESS
	a		DEG C	DEG C	PSS 78	THETA			BL/1	PCT	UM/1	UM/1	UM/1	UM/1	ug/I	ug/1	db
2	1		16.06	16.06	33.602	24.660	327.2	0.003	6.04	107.5	6.1	0.32	0.3	0.01	0.32	0.09	1
2	12		15.59	15.59	33.587	24.754	318.6	0.039	6.12	107.9	5.9	0.35	0.5	0.03	0.65	0.13	12
2	20		13.98	13.98	33.393	24.951	300.0	0.064	6.18	105.4	4.4	0.60	4.0	0.19	0.81	0.24	20
2	30		13.26	13.26	33.507	25.186	277.9	0.092	5.50	92.4	7.6	0.81	6.9	0.34	0.78	0.40	30
2	40		11.53	11.52	33.563	25.562	242.3	0.118	4.82	78.1	12.1	1.17	12.7	0.56	0.43	0.29	40
2	49		10.50	10.49	33.649	25.813	218.6	0.139	3.81	60.4	18.4	1.50	18.6	0.05	0.18	0.21	49
2	65		9.92	9.91	33.760	25.999	201.2	0.173	3.19	50.0	22.9	1.71	21.8	0.01	0.04	0.14	65
2	80		9.80	9.79	33.798	26.049	196.8	0.203	3.06	47.8	24.4	1.73	22.6	0.01	0.03	0.12	80
2	102		9.48	9.47	33.889	26.173	185.4	0.245	2.83	44.0	27.5	1.84	24.3	0.01	0.02	0.09	103
2	148		9.03	9.01	34.017	26.347	169.8	0.326	2.50	38.5	32.6	2.05	26.8	0.01	0.01	0.11	149

RV DAVID STARR JORDAN CALCOFI CRUISE 9108 STATION 77 70

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	HIND SPEED	HAVES MEA	BAROMETER	DRY	HET	SECCHI/FOREL	CLD AMT TYPE
34 23.3 N	122 14.8 H	07/08/91	1542 UTC	4018 a	320 09 kn	320 01 09 4	1019.9 ab	16.8 C	16.8 C	20a 03	5/8 ST

CAST	DEPTH		TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SIO3	PO4	NO3	NO2	CHL-A	PHAEO	PRESS
	a		DEG C	DEG C	PSS 78	THETA			al/1	PCT	uM/1	uM/1	uM/1	uM/1	ug/1	ug/1	db
1	0		15.68	15.68	33.282	24.499	342.5	0.000	6.05	106.7	2.1	0.45	0.6	0.06	0.43	0.12	0
1	10		15.30	15.30	33.373	24.653	328.1	0.034	6.21	108.7	1.9	0.40	0.2	0.04	1.08	0.23	10
1	20		15.40	15.40	33.581	24.792	315.2	0.066	6.09	107.0	2.9	0.41	0.4	0.04	1.26	0.33	20
1	30		13.38	13.38	33.589	25.225	274.2	0.095	5.59	94.2	4.3	0.91	6.4	0.84	0.80	0.31	30
1	40		12.01	12.00	33.637	25.530	245.4	0.121	5.05	82.7	9.3	1.22	12.5	1.83	0.26	0.19	40
1	50		11.27	11.26	33.644	25.673	232.0	0.145	4.63	74.7	12.9	1.41	16.5	0.24	0.15	0.14	50
1	60		10.58	10.57	33.689	25.831	217.2	0.167	4.02	63.9	18.8	1.59	19.9	0.03	0.05	0.15	60
1	69		9.77	9.76	33.704	25.980	303.0	0.186	3.48	54.3	23.3	1.76	22.7	0.02	0.02	0.12	69
	75	ISL	9.64	9.63	33.753	26.040	197.5	0.198	3.29	51.2	24.9	1.82	23.7	0.01	0.02	0.10	75
1	84		9.44	9.43	33.790	26.102	191.7	0.216	3.11	48.2	26.4	1.87	24.5	0.01	0.03	0.08	84
1	99		9.29	9.28	33.875	26.193	183.4	0.244	2.86	44.2	28.8	1.95	25.8	0.01	0.02	0.07	100
	100	ISL	9.27	9.26	33.879	26.199	182.8	0.246	2.85	44.1	28.9	1.95	25.9	0.01	0.02	0.07	101
1	118		8.96	8.95	33.932	26.291	174.5	0.278	2.68	41.2	31.4	2.02	27.0	0.01	0.01	0.07	119
	125	ISL	8.81	8.80	33.949	26.328	171.0	0.290	2.69	41.2	32.2	2.02	27.2	0.01	0.01	0.07	126
1	143		8.48	8.47	33.989	26.410	163.5	0.320	2.72	41.3	34.4	2.04	27.5	0.01	0.01	0.06	144
	150	ISL	8.43	8.41	34.009	26.434	161.4	0.332	2.63	39.9	35.5	2.08	27.9	0.01	0.01	0.06	151
1	174		8.27	8.25	34.063	26.500	155.4	0.370	2.32	35.1	39.4	2.21	29.5	0.01	0.01	0.06	175
	200	ISL	7.88	7.86	34.063	26.559	150.2	0.409	2.33	34.9	42.4	2.26	30.4	0.01	0.00	0.05	201
1	204		7.81	7.79	34.061	26.568	149.4	0.415	2.33	34.9	42.9	2.26	30.5	0.0X	0.00	0.05	205
1	232		7.36	7.34	34.057	26.629	143.8	0.456	2.25	33.3	47.9	2.34	31.9	0.01			233
	250	ISL	7.18	7.16	34.068	26.663	140.8	0.482	2.05	30.2	50.8	2.42	32.9	0.01			252
1	274		6.99	6.96	34.091	26.708	136.9	0.S15	1.73	25.4	54.6	2.55	34.3	0.01			276
	300	ISL	6.77	6.74	34.114	26.756	132.6	0.550	1.44	21.0	59.2	2.67	35.7	0.01			302
1	329		6.60	6.57	34.148	26.806	128.2	0.588	1.13	16.5	63.9	2.79	36.9	0.01			331
1	386		6.68	6.64	34.263	26.887	121.6	0.659	0.59	8.6	69.3	2.98	37.9	0.00			389
	400	ISL	6.63	6.59	34.270	26.899	120.6	0.676	0.57	8.3	70.5	2.98	38.1	0.00			403
1	450		6.29	6.25	34.266	26.941	117.0	0.736	0.49	7.1	75.2	2.97	39.1	0.00			453
	500	ISL	5.81	5.77	34.265	27.001	111.5	0.793	0.42	6.0	82.3	3.10	40.6	0.00			504
1	518		5.64	5.60	34.265	27.022	109.6	0.813	0.39	5.6	84.9	3.14	41.2	0.00			522

RV DAVID STARR JORDAN | CALCOFI CRDISE 9108 | STATION 77 75 ROS

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	HIND SPEED	NAVES	NEA	BAROMETER	DRY	NET	SECCHI/FOREL	CLD ANT TYPE
34 13.5 N	122 37.0 N	07/08/91	1224 UTC		330 11 kn			1017.0 «b	15.8 C	15.8 C		

CAST	DEPTH -	TEMP DEG C	POT TEMP DEC C	SALINITY PSS 78	SIGMA TBETA	SVA	DYN BT	OXYGEN al/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CBL-A ug/1	PHAEO ug/1	PRESS db
2	2	16.09	16.09	33.501	24.575	335.3	0.007	5.98	106.5	2.0	0.39	0.3	0.03	0.35	0.08	2
2	14	15.65	15.65	33.535	24.701	323.7	0.046	5.99	105.7	2.3	0.41	0.5	0.05	0.28	0.12	14
2	23	15.57	15.57	33.554	24.734	320.8	0.075	5.96	105.0	2.5	0.40	0.8	0.06	0.46	0.16	23
2	33	13.73	13.73	33.569	25.139	282.5	0.105	5.75	97.6	5.5	0.64	3.7	0.43	0.60	0.23	33
2	43	12.84	12.83	33.617	25.355	262.2	0.133	4.98	83.0	10.2	0.97	9.1	1.08	0.55	0.32	43
2	53	11.34	11.33	33.658	25.671	232.2	0.157	4.22	68.2	15.2	1.37	16.3	0.21	0.32	0.22	53
2	68	9.92	9.91	33.706	25.957	205.3	0.190	3.49	54.7	22.6	1.68	21.9	0.02	0.09	0.14	68
2	83	9.58	9.57	33.806	26.091	192.7	0.220	3.08	47.9	25.6	1.71	23.5	0.02	0.05	0.12	83
2	104	9.08	9.07	33.931	26.271	176.1	0.259	2.67	41.1	30.7	1.95	26.2	0.01	0.01	0.11	105
2	152	8.56	8.54	34.070	26.462	158.8	0.339	2.21	33.7	38.2	2.19	28.9	0.04	0.01	0.11	153

RV DAVID STARR JORDAN | CALCOFI CRDISE 9108 | STATION 77 IIO

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	HIND SPEED	NAVES	NEA	BAROMETER	DRY	NET	SECCHI/FOREL	CLD AMT TYPE
34 3.3 N	122 56.5 N	07/08/91	0839 OTC	4223 -	320 09 kn			1017.1 «b	16.9 C	16.2 C		

CAST	DEPTH -	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN *ul/1*	OXY PCT	SIO3 UM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
1	0	16.28	16.28	32.829	24.016	388.5	0.000	5.95	105.9	2.4	0.43	0.2	0.01	0.28	0.09	0
1	9	15.61	15.61	32.833	24.170	374.1	0.034	6.05	106.3	2.4	0.43	0.1	0.01	0.27	0.07	9
	10 ISL	15.44	15.44	32.835	24.209	370.4	0.038	6.08	106.4	2.4	0.43	0.1	0.01	0.29	0.08	10
1	20	13.77	13.77	32.872	24.592	334.2	0.073	6.36	107.6	2.5	0.45	0.5	0.03	0.48	0.18	20
1	30	13.11	13.11	32.874	24.726	321.6	0.106	6.31	105.3	2.6	0.46	0.3	0.05	0.62	0.31	30
1	40	12.25	12.24	32.863	24.884	306.8	0.137	6.15	100.8	3.3	0.60	2.2	0.38	0.65	0.39	40
1	49	10.74	10.73	32.776	25.091	287.2	0.164	5.91	93.7	6.1	0.74	5.9	0.11	0.50	0.28	49
	50 ISL	10.71	10.70	32.781	25.100	286.3	0.167	5.91	93.7	6.2	0.75	6.1	0.13	0.49	0.28	50
1	60	10.53	10.52	32.863	25.195	277.5	0.195	5.89	93.0	7.8	0.88	8.3	0.36	0.36	0.23	60
1	69	9.53	9.52	32.912	25.401	258.0	0.219	5.57	86.1	11.3	1.15	12.3	0.06	0.17	0.13	69
	75 ISL	9.39	9.38	33.001	25.493	249.4	0.235	5.37	82.8	12.9	1.25	13.9	0.04	0.11	0.09	75
1	84	9.19	9.18	33.101	25.603	239.0	0.257	5.13	78.8	14.8	1.35	15.6	0.02	0.06	0.07	84
1	99	8.90	8.89	33.305	25.809	219.7	0.291	4.93	75.3	18.6	1.51	18.8	0.01	0.03	0.08	99
	100 ISL	8.89	8.88	33.317	25.820	218.7	0.293	4.89	74.7	18.9	1.51	19.0	0.01	0.03	0.08	100
1	119	8.79	8.78	33.521	25.995	202.4	0.333	4.09	62.4	23.2	1.57	21.3	0.01	0.02	0.06	120
	125 ISL	8.75	8.74	33.583	26.050	197.3	0.345	3.95	60.2	23.9	1.60	21.8	0.01	0.02	0.06	126
1	144	8.61	8.59	33.754	26.206	182.9	0.381	3.67	55.8	25.9	1.70	23.0	0.01	0.01	0.05	145
	150 ISL	8.54	8.52	33.793	26.247	179.0	0.392	3.60	54.7	26.9	1.73	23.5	0.01	0.01	0.05	151
1	175	8.26	8.24	33.915	26.386	166.3	0.435	3.31	50.0	31.6	1.86	25.6	0.01	0.00	0.03	176
	200 ISL	8.07	8.05	33.995	26.477	158.0	0.476	2.81	42.3	36.7	2.04	28.1	0.01	0.01	0.03	201
1	205	8.03	8.01	34.005	26.491	156.8	0.484	2.72	40.9	37.7	2.08	28.6	0.01	0.01	0.03	206
1	234	7.62	7.60	34.027	26.569	149.7	0.528	2.52	37.6	42.6	2.20	30.2	0.01			235
	250 ISL	7.37	7.35	34.030	26.607	146.3	0.552	2.42	35.9	45.6	2.27	31.2	0.01			251
1	274	7.02	6.99	34.031	26.656	141.8	0.586	2.26	33.2	50.0	2.37	32.6	0.01			276
	300 ISL	6.79	6.76	34.041	26.696	138.3	0.623	2.00	29.2	54.0	2.46	34.1	0.01			302
1	330	6.57	6.54	34.056	26.737	134.7	0.664	1.67	24.3	58.5	2.57	35.6	0.00			332
1	389	6.05	6.02	34.088	26.830	126.3	0.741	1.17	16.8	68.8	2.81	38.1	0.00			392
	400 ISL	5.97	5.94	34.096	26.847	124.8	0.755	1.09	15.6	70.6	2.85	38.5	0.00			403
1	453	5.63	5.59	34.134	26.919	118.4	0.819	0.79	11.2	78.7	2.99	40.4	0.00			456
	500 ISL	5.29	5.25	34.160	26.980	112.8	0.873	0.61	8.6	85.9	3.08	41.7	0.00			503
1	521	5.14	5.10	34.172	27.008	110.3	0.897	0.53	7.5	89.1	3.12	42.3	0.00			525

RV DAVID STARR JORDAN | CALCOFI CRUISE 9108 | STATION 77 III 5 ROS

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	HIND SPEED	NAVES	NEA	BAROMETER	DRY	NET	SECCHI/FOREL	CLD AMT TYPE
33 54.2 N	123 16.0 N	07/08/91	0559 UTC		320 09 kn			1017.9 *mb*	17.1 C	16.3 C		

CAST	DEPTH -	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN Ml/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
2	2	16.09	16.09	32.822	24.053	385.0	0.008	5.86	103.9	2.1	0.40	0.0	0.00	0.11	0.03	2
2	14	15.65	15.65	32.823	24.153	375.8	0.053	5.89	103.5	2.1	0.40	0.0	0.00	0.13	0.03	14
2	23	15.49	15.49	32.794	24.166	374.9	0.087	6.08	106.5	2.2	0.41	0.0	0.00	0.25	0.06	23
2	31	14.97	14.97	32.813	24.295	362.9	0.117	6.20	107.5	2.2	0.42	0.0	0.01	0.40	0.13	31
2	40	14.32	14.31	32.834	24.449	348.4	0.149	6.25	106.9	2.2	0.40	0.0	0.00	0.29	0.12	40
2	53	12.83	12.82	32.821	24.741	320.8	0.192	6.25	103.7	2.2	0.48	0.4	0.10	0.71	0.41	53
2	65	11.76	11.75	32.854	24.969	299.2	0.229	5.93	96.2	3.8	0.66	3.5	0.09	0.45	0.29	65
2	83	10.47	10.46	32.895	25.231	274.5	0.281	5.79	91.3	6.9	0.97	9.0	0.01	0.10	0.09	83
2	101	9.85	9.84	32.895	25.336	264.9	0.330	5.12	79.7	12.3	1.24	13.7	0.01	0.03	0.06	101
2	151	9.46	9.44	33.743	26.063	196.8	0.445	3.63	56.3	26.6	1.89	24.7	0.01	0.02	0.09	152

RV DAVID STARR JORDAN CALCOFI CRUISE 9108 STATION 77 90

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	MIND SPEED	NAVES	WEA	BAROMETER	DRY	NET	SECCHI/FOREL	CLD AMT	TYPE
33 43.3 N	123 38.0 N	07/08/91	0215 UTC	42S1 •	300 10 fcn	310 01 06	1	1016.8 ab	17.8 C	17.2 C	19B 02	6/8	SC

CAST	DEPTH •	TEMP DEC C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN al/1	OXY PCT	SIO3 uM/1	PO4 uM/l	NO3 uM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
1	0	16.94	16.94	32.889	23.910	398.6	0.000	5.96	107.5	2.6	0.47	0.9	0.03	0.30	0.05	0
1	9	15.91	15.91	32.823	24.095	381.2	0.035	6.08	107.4	2.9	0.46	0.9	0.04	0.34	0.07	9
	10 ISL	15.82	15.82	32.816	24.110	379.9	0.039	6.09	107.4	2.9	0.46	0.8	0.04	0.34	0.07	10
1	19	15.11	15.11	32.784	24.242	367.6	0.073	6.19	107.6	2.5	0.41	0.1	0.01	0.31	0.08	19
	20 ISL	15.04	15.04	32.791	24.262	365.6	0.076	6.19	107.4	2.5	0.41	0.1	0.01	0.30	0.08	20
1	30	14.23	14.23	32.845	24.476	345.5	0.112	6.24	106.6	2.2	0.40	0.1	0.00	0.24	0.08	30
1	40	13.20	13.19	32.758	24.619	332.1	0.146	6.39	106.8	2.6	0.44	0.1	0.02	0.52	0.20	40
1	49	12.09	12.08	32.722	24.805	314.5	0.175	6.29	102.7	3.4	0.56	1.5	0.29	0.76	0.39	49
	50 ISL	12.03	12.02	32.722	24.817	313.5	0.178	6.27	102.2	3.4	0.57	1.6	0.35	0.76	0.39	50
1	60	11.43	11.42	32.738	24.939	301.9	0.209	6.11	98.3	4.4	0.72	3.7	0.76	0.74	0.43	60
1	70	10..31	10.30	32.774	25.164	280.7	0.238	5.95	93.5	7.6	0.90	7.6	0.34	0.48	0.29	70
	75 ISL	9.99	9.98	32.848	25.275	270.1	0.252	5.79	90.4	9.3	1.02	9.7	0.30	0.38	0.24	75
1	84	9.73	9.72	33.025	25.457	253.0	0.275	5.48	85.1	12.0	1.22	13.2	0.22	0.24	0.17	84
1	99	9.92	9.91	33.347	25.677	232.5	0.311	5.15	80.5	14.3	1.38	16.3	0.18	0.13	0.15	99
	100 ISL	9.87	9.86	33.349	25.687	231.5	0.314	5.13	80.1	14.5	1.39	16.5	0.17	0.12	0.15	100
1	120	8.79	8.78	33.347	25.859	215.3	0.359	4.63	70.6	20.1	1.55	19.6	0.02	0.03	0.07	121
	125 ISL	8.87	8.86	33.426	25.908	210.8	0.369	4.36	66.6	21.5	1.61	20.6	0.02	0.03	0.07	126
1	144	9.34	9.32	33.753	26.090	194.1	0.408	3.38	52.3	26.2	1.84	24.2	0.01	0.02	0.07	145
	150 ISL	9.20	9.18	33.787	26.139	189.5	0.419	3.33	51.4	27.3	1.86	24.8	0.01	0.02	0.06	151
1	175	8.33	8.31	33.837	26.314	173.1	0.464	3.13	47.4	31.0	1.92	26.5	0.00	0.01	0.03	176
	200 ISL	7.95	7.93	33.924	26.439	161.5	0.506	3.08	46.2	34.9	1.94	27.5	0.00	0.01	0.04	201
1	206	7.89	7.87	33.944	26.464	159.3	0.516	3.05	45.7	35.9	1.94	27.7	0.00	0.01	0.04	207
1	234	7.66	7.64	34.005	26.546	152.0	0.559	2.58	38.5	41.5	2.14	30.1	0.01			235
	250 ISL	7.51	7.49	34.019	26.578	149.1	0.584	2.44	36.3	43.9	2.22	30.9	0.01			251
1	275	7.23	7.20	34.025	26.623	145.1	0.620	2.29	33.8	47.4	2.31	32.0	0.00			277
	300 ISL	6.84	6.81	34.020	26.672	140.5	0.656	2.11	30.9	52.1	2.39	33.4	0.00			302
1	331	6.39	6.36	34.019	26.731	135.1	0.699	1.87	27.1	58.3	2.49	35.3	0.01			333
1	389	6.02	5.99	34.079	26.827	126.6	0.775	1.87 V	26.SU	68.7	2.74	38.6	0.00			391
	400 ISL	5.97	5.94	34.093	26.844	125.1	0.788	1.17	16.8	70.4	2.79	39.0	0.00			403
1	453	5.75	5.71	34.156	26.922	118.3	0.853	0.70	10.0	78.3	2.97	40.3	0.00			456
	500 ISL	5.44	5.40	34.183	26.981	112.9	0.907	0.54	7.6	84.8	3.04	41.5	0.00			503
1	520	5.31	5.27	34.195	27.006	110.7	0.930	0.47	6.6	87.6	3.07	42.0	0.00			524

RV DAVID STARR JORDAN CALCOFI CRUISE 9108 STATION 77 95 ROS

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	HIND SPEED	NAVES	MBA	BAROMETER	DRY	NET	SECCHI/FOREL	CLD AMT	TYPE
33 34.0 N	123 58.0 N	06/08/91	2329 UTC		290 08 kn	290 01 07	1	1017.1 ab	20.1 C	18.8 C		7/8	ST

CAST	DEPTH •	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN al/1	OXY PCT	SIO3 UM/1	PO4 UM/1	NO3 UM/1	NO2 UM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
2	1	16.62	16.62	32.941	24.024	387.8	0.004	6.02	107.9	3.0	0.52	1.9	0.05	0.33	0.07	1
2	10	15.55	15.55	32.961	24.281	363.5	0.038	6.12	107.4	3.1	0.53	2.1	0.06	0.41	0.08	10
2	20	14.92	14.92	32.966	24.423	350.3	0.073	6.20	107.5	2.8	0.51	1.7	0.06	0.43	0.13	20
2	31	13.68	13.68	32.822	24.572	336.4	0.111	6.36	107.4	2.0	0.41	0.0	0.00	0.43	0.13	31
2	39	13.34	13.33	32.855	24.666	327.6	0.138	6.33	106.1	2.3	0.44	0.1	0.01	0.45	0.20	39
2	50	12.23	12.22	32.818	24.853	310.0	0.173	6.17	101.1	3.1	0.51	0.9	0.18	0.75	0.43	50
2	64	10.57	10.56	32.816	25.152	281.7	0.214	5.91	93.4	6.8	0.88	7.4	0.19	0.36	0.23	64
2	81	10.06	10.05	32.945	25.339	264.1	0.261	5.52	86.3	9.6	1.04	10.6	0.03	0.15	0.14	81
2	100	9.61	9.60	33.147	25.572	242.4	0.309	5.19	80.5	13.4	1.27	14.6	0.01	0.04	0.07	100
2	150	8.67	8.65	33.549	26.036	199.1	0.419	4.08	62.1	24.4	1.73	23.0	0.01	0.01	0.05	151

RV DAVID STARR JORDAN CALCOFI CRUISE 9108 STATION 77 100

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	HIND SPEED	NAVES	HEA	BAROMETER	DRY	NET	SECCHI/FOREL	CLD AMT	TYPE
33 23.3 N	124 19.4 N	06/08/91	1947 UTC	4562 •	270 10 kn	270 01 08	1	1017.4 ab	19.1 C	18.1 C	24a 02	1/8	SC

CAST	DEPTH B	TEMP DEC. C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN al/1	OXY PCT	SIO3 UM/1	PO4 UM/1	NO3 UM/1	NO2 UM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
1	0	17.02	17.02	32.781	23.808	408.4	0.000	5.87	106.0	2.3	0.42	0.0	0.00	0.15	0.03	0
1	9	16.41	16.41	32.828	23.986	391.7	0.036	5.82	103.8	2.2	0.41	0.0	0.00	0.11	0.02	9
	10 ISL	16.37	16.37	32.829	23.996	390.8	0.040	5.82	103.8	2.2	0.41	0.0	0.00	0.11	0.02	10
1	20	16.12	16.12	32.832	24.055	385.4	0.079	5.87	104.1	2.2	0.40	0.0	0.00	0.10	0.02	20
1	29	15.87	15.87	32.858	24.131	378.4	0.113	5.90	104.2	2.2	0.41	0.0	0.00	0.11	0.03	29
	30 ISL	15.79	15.79	32.860	24.151	376.6	0.117	5.92	104.4	2.2	0.41	0.0	0.00	0.11	0.03	30
1	39	14.95	14.94	32.866	24.340	358.8	0.150	6.14	106.4	2.3	0.40	0.0	0.00	0.16	0.06	39
1	49	14.06	14.05	32.813	24.487	345.0	0.185	6.24	106.2	2.3	0.41	0.0	0.00	0.26	0.13	49
	50 ISL	13.96	13.95	32.806	24.503	343.5	0.189	6.24	106.0	2.3	0.41	0.0	0.00	0.32	0.16	50
1	59	13.12	13.11	32.762	24.638	330.8	0.219	6.22	103.8	2.3	0.46	0.1	0.03	0.78	0.43	59
1	70	12.20	12.19	32.774	24.825	313.1	0.254	6.08	99.5	2.7	0.59	1.5	0.51	0.71	0.44	70
	75 ISL	11.77	11.76	32.785	24.914	304.7	0.270	6.05	98.1	3.0	0.67	3.1	0.41	0.51	0.33	75
1	85	11.06	11.05	32.813	25.064	290.6	0.300	5.99	95.7	3.9	0.83	6.4	0.06	0.12	0.11	85
1	99	10.66	10.65	32.844	25.159	281.8	0.340	5.88	93.1	5.9	0.91	7.9	0.01	0.08	0.08	99
	100 ISL	10.62	10.61	32.853	25.173	280.5	0.342	5.86	92.7	6.2	0.92	8.1	0.01	0.08	0.08	100
1	119	9.85	9.84	33.083	25.483	251.3	0.393	5.22	81.3	12.3	1.20	13.3	0.01	0.03	0.05	120
	125 ISL	9.65	9.64	33.162	25.578	242.4	0.408	4.98	77.3	14.2	1.30	15.0	0.01	0.02	0.05	126
1	145	9.13	9.11	33.414	25.859	216.0	0.454	4.23	65.0	20.1	1.60	19.9	0.01	0.01	0.04	146
	150 ISL	9.05	9.03	33.468	25.914	210.8	0.464	4.07	62.4	21.3	1.65	20.8	0.01	0.01	0.04	151
1	174	8.77	8.75	33.687	26.129	190.8	0.512	3.51	53.6	25.7	1.81	23.7	0.01	0.00	0.03	175
	200 ISL	8.47	8.45	33.862	26.313	173.7	0.560	3.50	53.1	28.9	1.82	24.6	0.00	0.00	0.02	201
1	205	8.41	8.39	33.887	26.342	171.1	0.568	3.50	53.1	29.4	1.82	24.6	0.00	0.00	0.02	206
1	234	8.09	8.07	33.973	26.458	160.5	0.617	3.54	53.3	32.7	1.85	25.2	0.00			235
	250 ISL	7.82	7.80	33.985	26.507	156.0	0.642	3.48	52.1	35.3	1.90	26.0	0.00			251
1	273	7.42	7.39	33.985	26.565	150.7	0.677	3.32	49.2	39.6	2.00	27.6	0.00			275
	300 ISL	7.04	7.01	33.988	26.620	145.6	0.717	2.99	43.9	44.9	2.15	29.8	0.00			302
1	329	6.69	6.66	33.994	26.672	140.9	0.759	2.56	37.3	51.0	2.33	32.3	0.00			331
1	388	6.05	6.02	34.037	26.790	130.1	0.839	1.62	23.3	64.9	2.70	37.2	0.00			390
	400 ISL	5.93	5.90	34.042	26.809	128.4	0.854	1.52	21.8	67.3	2.75	37.9	0.00			402
1	453	5.47	5.43	34.063	26.882	121.7	0.920	1.20	17.0	76.5	2.92	40.0	0.00			456
	500 ISL	5.19	5.15	34.097	26.942	116.3	0.976	0.93	13.1	83.5	3.02	41.3	0.00			503
1	522	5.06	5.02	34.113	26.970	113.7	1.002	0.81	11.4	86.8	3.07	41.9	0.00			526

RV DAVID STARR JORDAN CALCOFI CRUISE 9108 STATION 80 51

LATITUDE	LONGITUDE	DAY/MO/YK	MESSENGER	BOTTOM	WIND SPEED	NAVES	HEA	BAROMETER	DRY	NET	SECCHI/FOREL	CLD AMI?	TYPE
34 37.0 N	130 31.4 H	05/08/91	0528 UTC	70 -	320 18 kn			1015.4 Mb	16.0 C	14.1 C			

CAST	DEPTH -	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN RT	OXYGEN Bl/1	OXY PCT	SIO3 uM/1	PO4 UM/1	NO3 uM/1	NO2 UM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
1	0	15.60	15.60	33.582	24.748	318.8	0.000	6.19	109.2	6.2	0.41	0.1	0.01	3.70	0.65	0
1	10	15.38	15.38	33.573	24.790	315.1	0.032	6.17	108.3	6.6	0.43	0.1	0.01	4.84	0.56	10
1	20	14.46	14.46	33.548	24.970	298.2	0.062	6.02	103.7	8.0	0.51	0.1	0.01	7.07	0.91	20
1	29	13.62	13.62	33.532	25.132	283.0	0.089	5.70	96.5	9.2	0.63	1.2	0.07	2.56	0.74	29
	30 ISL	13.47	13.47	33.528	25.160	280.4	0.091	5.62	94.9	9.4	0.66	1.8	0.09	2.23	0.69	30
1	39	12.10	12.09	33.512	25.416	256.2	0.115	4.79	78.6	11.8	1.01	8.3	0.29	0.34	0.28	39
1	50	11.11	11.10	33.575	25.648	234.3	0.142	4.09	65.7	16.1	1.34	14.6	0.22	0.18	0.29	50
1	60	10.52	10.51	33.625	25.791	220.9	0.165	3.80	60.3	18.0	1.47	17.6	0.09	0.09	0.20	60
1	70	10.23	10.22	33.688	25.890	211.7	0.187	3.50	55.2	21.0	1.59	19.3	0.09	0.09	0.26	70

RV DAVID STARR JORDAN CALCOFI CRUISE 9108 STATION 80 55

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	HIND SPEED	NAVES	NEA	BAROMETER	DRY	NET	SECCHI/FOREL	CLD AMI	TYPE
34 19.1 N	120 48.2 N	05/08/91	0825 UTC	801 -	320 19 kn			1015.4 Mb	15.6 C	14.6 C			

CAST	DEPTH -	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN Bl/1	OXY PCT	SIO3 uM/1	PO4 UM/1	NO3 uM/1	NO2 UM/1	CHL-A WJ/1	PHAEO ug/1	PRESS db
1	0	15.76	15.76	33.599	24.725	320.9	0.000	6.28	111.1	5.5	0.34	0.0	0.00	1.66	0.64	0
1	9	15.58	15.58	33.597	24.764	317.5	0.029	6.19	109.1	5.7	0.35	0.0	0.01	2.03	0.48	9
	10 ISL	15.41	15.41	33.591	24.797	314.4	0.032	6.13	107.7	5.9	0.38	0.5	0.02	1.95	0.48	10
1	20	13.20	13.20	33.541	25.224	274.0	0.061	5.41	90.8	8.7	0.80	6.6	0.16	0.90	0.47	20
1	29	11.50	11.50	33.541	25.550	243.1	0.085	4.82	78.1	11.9	1.11	11.5	0.18	0.55	0.42	29
	30 ISL	11.41	11.41	33.542	25.567	241.5	0.087	4.77	77.1	12.2	1.14	11.9	0.18	0.53	0.42	30
1	40	10.95	10.95	33.557	25.662	232.7	0.111	4.41	70.6	14.1	1.29	14.6	0.13	0.40	0.40	40
1	50	10.77	10.76	33.579	25.711	228.2	0.134	4.17	66.5	15.6	1.23	15.8	0.09	0.29	0.26	50
1	59	10.43	10.42	33.625	25.807	219.4	0.154	3.88	61.4	17.9	1.34	17.8	0.05	0.16	0.18	59
1	74	9.87	9.86	33.744	25.995	201.8	0.18S	3.36	52.6	22.3	1.68	21.4	0.02	0.05	0.15	74
	75 ISL	9.84	9.83	33.751	26.005	200.8	0.188	3.34	52.2	22.5	1.69	21.6	0.02	0.05	0.15	75
1	90	9.52	9.51	33.842	26.130	189.3	0.217	3.10	48.2	25.4	1.80	23.1	0.03	0.01	0.09	90
	100 ISL	9.51	9.50	33.871	26.154	187.2	0.236	3.02	46.9	26.2	1.83	23.6	0.02	0.01	0.09	101
1	110	9.49	9.48	33.881	26.165	186.3	0.254	2.96	46.0	26.8	1.85	23.8	0.01	0.01	0.09	111
	125 ISL	9.40	9.39	33.924	26.214	182.0	0.282	2.81	43.6	28.5	1.79	24.1	0.01	0.01	0.11	126
1	130	9.36	9.35	33.939	26.232	180.3	0.291	2.76	42.8	29.1	1.77	24.2	0.01	0.01	0.11	131
	150 ISL	9.19	9.17	33.979	26.291	175.1	0.326	2.68	41.4	30.9	1.91	25.3	0.01	0.01	0.10	151
1	156	9.14	9.12	33.989	26.307	173.7	0.337	2.67	41.2	31.3	1.97	25.7	0.01	0.01	0.09	157
1	186	9.03	9.01	34.026	26.354	169.8	0.388	2.55	39.2	32.8	2.05	26.5	0.01	0.01	0.09	187
	200 ISL	8.96	8.94	34.042	26.378	167.8	0.412	2.49	38.3	33.6	2.08	26.8	0.01	0.01	0.09	201
1	220	8.86	8.84	34.064	26.411	165.0	0.445	2.39	36.6	34.9	2.12	27.3	0.01	0.00	0.08	221
	250 ISL	8.70	8.67	34.100	26.465	160.4	0.494	2.21	33.8	37.6	2.22	28.3	0.01			252
1	257	8.66	8.63	34.108	26.478	159.4	0.505	2.16	33.0	38.2	2.24	28.5	0.01			259
1	298	8.52	8.49	34.154	26.536	154.6	0.570	1.86	28.3	41.4	2.36	29.7	0.01			300
	300 ISL	8.50	8.47	34.154	26.539	154.3	0.573	1.85	28.1	41.6	2.36	29.8	0.01			302
1	352	7.99	7.95	34.151	26.614	147.8	0.651	1.70	25.6	46.6	2.45	31.4	0.01			354
	400 ISL	7.83	7.79	34.209	26.684	142.0	0.721	1.24	18.6	51.5	2.62	33.1	0.01			403
1	418	7.76	7.72	34.226	26.708	140.0	0.746	1.09	16.3	53.3	2.68	33.7	0.01			421
1	487	6.90	6.85	34.149	26.769	134.5	0.841	1.24	18.2	60.3	2.74	35.7	0.01			490
	500 ISL	6.81	6.76	34.167	26.795	132.1	0.858	1.12	16.4	62.5	2.79	36.2	0.01			503
1	566	6.36	6.31	34.257	26.926	120.2	0.942	0.53	7.7	73.9	3.03	38.8	0.01			570

RV DAVID STARR JORDAN CALCOFI CRUISE 9108 STATION 80 60)

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	HIND SPEED	NAVES	NEA	BAROMETER	DRY	NET	SECCHI/FOREL	CLD AMT	TYPE
34 9.0 N	121 9.0 N	05/08/91	1220 UTC	1841 -	340 15 kn	320 04 05	2	1014.7 «b	15.1 C	14.1 C	17a	8/8	ST

CAST	DEPTH -	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN Bl/1	OXY PCT	SIO3 uM/1	PO4 UM/1	NO3 uM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
1	0	14.88	14.88	33.544	24.876	306.5	0.000	5.88	102.2	5.1	0.54	2.2	0.07	0.64	0.23	0
1	10	14.89	14.89	33.544	24.875	307.0	0.031	5.91	102.7	5.1	0.55	2.2	0.06	0.62	0.31	10
1	20	14.71	14.71	33.544	24.913	303.6	0.061	5.85	101.3	5.4	0.56	2.7	0.07	0.68	0.25	20
1	30	14.10	14.10	33.540	25.040	291.8	0.091	5.85	100.1	6.2	0.59	3.4	0.10	1.33	0.53	30
1	40	12.05	12.04	33.615	25.506	247.7	0.118	4.64	76.1	13.4	1.14	12.0	0.34	0.37	0.37	40
1	50	10.70	10.69	33.679	25.802	219.7	0.141	3.86	61.5	19.0	1.49	18.1	0.13	0.19	0.24	50
1	61	10.19	10.18	33.711	25.915	209.1	0.165	3.61	56.9	21.4	1.61	20.4	0.05	0.10	0.17	61
1	74	9.86	9.85	33.757	26.007	200.7	0.192	3.29	51.5	22.7	1.68	21.7	0.02	0.04	0.11	74
	75 ISL	9.83	9.82	33.763	26.016	199.7	0.194	3.27	51.1	23.0	1.69	21.9	0.02	0.04	0.11	75
1	88	9.52	9.51	33.845	26.132	189.0	0.219	3.04	47.2	26.3	1.81	23.7	0.02	0.03	0.11	88
	100 ISL	9.36	9.35	33.894	26.197	183.1	0.241	2.99	46.3	27.5	1.84	24.2	0.02	0.02	0.09	101
1	108	9.30	9.29	33.915	26.223	180.8	0.256	2.97	46.0	27.9	1.85	24.4	0.02	0.01	0.08	109
	125 ISL	9.18	9.17	33.938	26.260	177.5	0.286	2.80	43.2	29.9	1.93	25.4	0.02	0.01	0.08	126
1	129	9.16	9.15	33.942	26.267	177.0	0.293	2.76	42.6	30.4	1.95	25.7	0.02	0.01	0.08	130
	150 ISL	8.99	8.97	33.987	26.329	171.4	0.330	2.61	40.1	32.4	2.03	26.5	0.01	0.01	0.11	151
1	154	8.95	8.93	33.996	26.343	170.2	0.337	2.59	39.8	32.8	2.04	26.7	0.01	0.01	0.11	155
1	185	8.57	8.55	34.045	26.441	161.4	0.388	2.38	36.2	36.8	2.13	28.4	0.01	0.00	0.08	186
	200 ISL	8.38	8.36	34.074	26.493	156.7	0.412	2.24	34.0	39.2	2.20	29.2	0.01	0.00	0.07	201
1	220	8.16	8.14	34.107	26.552	151.3	0.443	2.06	31.1	42.2	2.29	30.2	0.02	0.00	0.05	221
	250 ISL	7.97	7.94	34.123	26.593	147.9	0.488	1.92	28.9	44.9	2.37	31.1	0.01			252
1	255	7.94	7.91	34.124	26.599	147.5	0.495	1.90	28.5	45.3	2.38	31.2	0.01			257
1	296	7.67	7.64	34.159	26.666	141.7	0.554	1.52	22.7	50.6	2.55	33.0	0.01			298
	300 ISL	7.65	7.62	34.165	26.674	141.0	0.560	1.48	22.1	51.1	2.57	33.1	0.01			302
1	351	7.45	7.42	34.230	26.7S4	134.1	0.630	0.99	14.7	57.6	2.75	34.8	0.01			353
	400 ISL	7.08	7.04	34.246	26.819	128.5	0.694	0.77	11.3	63.2	2.86	36.3	0.00			403
1	417	6.94	6.90	34.248	26.840	126.7	0.716	0.73	10.7	65.0	2.89	36.8	0.00			420
1	486	6.56	6.52	34.275	26.913	120.5	0.801	0.53	7.7	71.9	3.01	38.1	0.00			489
	500 ISL	6.47	6.42	34.280	26.929	119.1	0.818	0.50	7.3	73.4	3.02	38.4	0.00			504
1	565	6.07	6.02	34.303	27.000	112.9	0.894	0.38	5.5	80.5	3.09	39.7	0.00			569

RV DAVID STAKJt JORDAN CALCOFI CRUISE 9108 STATION 80 70 ROS

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	NAVES	WEA	BAROMETER	DRY	NET	SECCBI/FOREL	CID AMT	TYPE
33 49.0 N	121 50.5 N	05/08/91	1814 UTC		320 15 kn	320 03 05	2	1016.9 mb	17.3 C	15.C C		8/8	SC

CAST	DEPTH -	TEMP DEC C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/1	OXY PCT	SIO3 UM/1	PO4 UM/1	NO3 UM/1	NO2 UM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
2	2	15.C4	15.64	33.607	24.758	317.9	0.006	6.02	106.3					0.72	0.19	2
2	13	15.60	15.60	33.607	24.767	317.3	0.041	6.01	106.0					0.58	0.22	13
2	17	15.57	15.57	33.607	24.774	316.8	0.054	5.99	105.6					0.58	0.18	17
2	27	15.25	15.25	33.614	24.851	309.8	0.085	5.94	104.1					0.94	0.25	27
2	47	11.68	11.67	33.590	25.556	243.1	0.141	4.44	72.2					0.24	0.28	47
2	56	10.66	10.65	33.560	25.716	228.0	0.162	4.37	69.5					0.13	0.21	56
2	103	9.42	9.41	33.785	26.102	192.2	0.261	3.14	48.7					0.02	0.11	104

RV DAVID STARR JORDAN CALCOFI CRUISE 9108 STATION 80 70

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	NAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
33 49.0 N	121 50.5 N	05/08/91	1941 UTC	3617 -	320 15 kn	320 03 05	2	1016.9 mb	17.3 C	15.6 C	15a 04	8/8	SC

CAST	DEPTH -	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN IT	OXYGEN ml/1	OXY PCT	SIOS uM/1	PO4 uM/1	MO3 UM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
1	0	15.68	15.68	33.609	24.751	318.5	0.000	6.01	106.2	3.8	0.37	0.3	0.02	0.69	0.16	0
1	10	15.65	15.65	33.610	24.758	318.1	0.032	6.04	106.7	3.8	0.38	0.2	0.02	0.69	0.27	10
1	20	15.58	15.58	33.609	24.774	316.9	0.064	6.02	106.2	3.8	0.38	0.3	0.03	0.92	0.27	20
1	30	13.65	13.65	33.619	25.194	277.2	0.093	5.41	91.7	7.9	0.78	5.6	0.67	0.43	0.28	30
1	40	12.46	12.45	33.620	25.431	254.8	0.120	4.70	77.7	11.7	1.10	10.9	1.00	0.25	0.21	40
	50 ISL	10.99	10.98	33.523	25.629	236.1	0.144	4.53	72.6	14.9	1.34	15.5	0.24	0.20	0.33	50
1	51	10.86	10.85	33.516	25.646	234.4	0.147	4.52	72.2	15.2	1.36	15.9	0.15	0.20	0.34	51
1	61	10.34	10.33	33.580	25.787	221.3	0.170	4.21	66.5	18.3	1.53	18.9	0.04	0.08	0.12	61
1	71	10.15	10.14	33.694	25.909	209.9	0.191	3.62	57.0	21.6	1.66	20.7	0.04	0.07	0.14	71
	75 ISL	10.04	10.03	33.722	25.949	206.1	0.199	3.47	54.5	22.5	1.69	21.3	0.04	0.06	0.13	75
1	85	9.73	9.72	33.769	26.038	197.9	0.220	3.21	50.1	24.4	1.75	22.6	0.03	0.03	0.11	85
1	99	9.36	9.35	33.817	26.136	188.8	0.247	3.04	47.1	26.9	1.85	24.3	0.03	0.02	0.10	100
	100 ISL	9.35	9.34	33.823	26.143	188.2	0.249	3.01	46.6	27.1	1.86	24.4	0.03	0.02	0.10	101
1	120	9.18	9.17	33.935	26.258	177.6	0.285	2.58	39.8	31.1	2.04	26.8	0.02	0.01	0.12	121
	125 ISL	9.00	8.99	33.937	26.288	174.8	0.294	2.63	40.4	31.8	2.04	27.0	0.02	0.01	0.11	126
1	146	8.21	8.20	33.929	26.404	164.0	0.330	2.93	44.2	34.3	2.03	27.6	0.03	0.01	0.08	147
	150 ISL	8.15	8.13	33.939	26.421	162.5	0.336	2.89	43.6	35.0	2.05	27.9	0.03	0.01	0.07	151
1	176	7.96	7.94	34.007	26.503	155.1	0.377	2.56	38.4	39.2	2.15	29.4	0.02	0.00	0.04	177
	200 ISL	7.60	7.58	34.003	26.552	150.7	0.414	2.72	40.5	41.2	2.15	29.5	0.03	0.00	0.04	201
1	206	7.54	7.52	34.004	26.562	149.9	0.423	2.73	40.6	41.7	2.15	29.6	0.03	0.00	0.04	207
1	235	7.81	7.79	34.109	26.606	146.4	0.466	1.83	27.4	46.6	2.41	31.8	0.02			236
	250 ISL	7.67	7.65	34.124	26.638	143.5	0.488	1.67	24.9	49.2	2.48	32.7	0.02			252
1	274	7.33	7.30	34.124	26.687	139.1	0.522	1.56	23.1	53.3	2.56	33.8	0.01			276
	300 ISL	7.19	7.16	34.121	26.704	137.8	0.558	1.31	19.3	56.8	2.66	34.8	0.01			302
1	331	7.07	7.04	34.124	26.724	136.4	0.600	1.01	14.9	60.7	2.78	35.8	0.01			333
1	389	6.70	6.66	34.197	26.832	126.8	0.677	0.68	9.9	68.7	2.93	37.7	0.01			392
	400 ISL	6.63	6.59	34.212	26.853	124.9	0.690	0.63	9.2	70.1	2.96	38.0	0.01			403
1	454	6.28	6.24	34.274	26.948	116.4	0.756	0.46	6.7	76.7	3.07	39.2	0.01			457
	500 ISL	5.98	5.94	34.287	26.997	112.1	0.808	0.38	5.5	81.8	3.12	40.2	0.01			504
1	522	5.83	5.78	34.294	27.022	109.9	0.832	0.34	4.9	84.3	3.15	40.7	0.01			526

RV DAVID STARR JORDAN CALCOFI CRUISE 9108 STATION 80 80

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	NAVES .	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
33 29.0 N	122 32.0 W	06/08/91	0335 UTC	3968 -	300 12 kn	320 03 04	1	1016.3 mb	17.9 C	15.8 C	20a 02	1/8	SC

CAST	DEPTH -	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/1	OXY PCT	SIOS UM/1	PO4 uM/1	NO3 UM/1 .	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
1	0	15.97	15.97	32.881	24.126	378.0	0.000	6.01	106.3	2.6	0.41	0.0	0.00	0.19	0.05	0
	10 ISL	15.89	15.89	32.891	24.152	375.9	0.038	6.01	106.2	2.4	0.41	0.0	0.00	0.18	0.05	10
1	11	15.88	15.88	32.892	24.155	375.6	0.041	6.01	106.2	2.4	0.41	0.0	0.00	0.18	0.05	11
1	19	15.76	15.76	32.920	24.203	371.2	0.071	6.03	106.3	2.2	0.41	0.0	0.00	0.17	0.05	19
	20 ISL	15.76	15.76	32.920	24.203	371.3	0.075	6.03	106.3	2.2	0.41	0.0	0.00	0.17	0.05	20
	30 ISL	15.75	15.75	32.925	24.210	370.9	0.112	6.00	105.7	2.2	0.41	0.1	0.01	0.17	0.05	30
1	31	15.75	15.75	32.926	24.211	370.9	0.116	6.00	105.7	2.2	0.41	0.1	0.01	0.17	0.05	31
1	39	14.20	14.19	32.934	24.551	338.6	0.144	6.35	108.4	2.6	0.48	1.0	0.04	0.25	0.11	39
1	49	13.02	13.01	32.876	24.746	320.2	0.177	6.31	105.1	2.7	0.53	1.5	0.17	0.33	0.17	49
	50 ISL	12.96	12.95	32.877	24.758	319.1	0.180	6.30	104.8	2.7	0.53	1.5	0.18	0.33	0.18	50
1	61	12.43	12.42	32.915	24.891	306.7	0.215	6.17	101.5	3.0	0.57	2.0	0.33	0.34	0.24	61
1	70	11.86	11.85	32.956	25.030	293.6	0.242	5.99	97.4	4.5	0.73	4.5	0.50	0.37	0.27	70
	75 ISL	11.53	11.52	32.979	25.109	286.2	0.256	S.86	94.6	5.6	0.82	6.1	0.37	0.33	0.26	75
1	84	10.99	10.98	33.018	25.236	274.2	0.282	5.64	90.1	7.7	0.95	8.6	0.06	0.22	0.22	84
	100 ISL	10.48	10.47	33.068	25.365	262.3	0.324	5.43	85.8	10.2	1.08	11.1	0.02	0.12	0.15	100
1	101	10.46	10.45	33.074	25.373	261.5	0.327	5.42	85.6	10.3	1.09	11.2	0.02	0.12	0.15	101
1	120	9.92	9.91	33.344	25.675	233.1	0.374	4.92	76.9	12.3	1.19	13.7	0.02	0.06	0.10	121
	125 ISL	9.78	9.77	33.391	25.735	227.5	0.386	4.79	74.7	13.4	1.24	14.6	0.02	0.05	0.09	126
1	144	9.32	9.30	33.534	25.922	210.0	0.427	4.32	66.7	18.2	1.46	18.3	0.01	0.02	0.04	145
	150 ISL	9.22	9.20	33.578	25.973	205.3	0.440	4.18	64.4	19.6	1.52	19.3	0.01	0.01	0.04	151
1	175	8.90	8.88	33.745	26.154	188.5	0.489	3.64	55.7	25.1	1.72	22.8	0.00	0.00	0.03	176
	200 ISL	8.57	8.55	33.897	26.325	172.6	0.534	3.21	48.8	30.5	1.91	25.6	0.00	0.00	0.03	201
1	205	8.50	8.48	33.921	26.355	169.9	0.542	3.14	47.7	31.5	1.94	26.0	0.00	0.00	0.03	206
1	234	8.11	8.09	33.979	26.460	160.3	0.590	3.00	45.2	35.4	2.00	27.2	0.00			235
	250 ISL	7.89	7.86	33.997	26.506	156.1	0.616	2.91	43.6	38.0	2.06	28.2	0.00			251
1	273	7.57	7.54	34.014	26.566	150.6	0.651	2.75	40.9	42.0	2.17	29.7	0.00			275
	300 ISL	7.22	7.19	34.024	26.624	145.4	0.691	2.48	36.6	46.7	2.29	31.4	0.00			302
1	328	6.89	6.86	34.034	26.677	140.6	0.731	2.15	31.5	52.0	2.43	33.2	0.00			330
1	389	6.28	6.25	34.086	26.799	129.5	0.813	1.36	19.6	65.3	2.75	37.2	0.00			391
	400 ISL	6.18	6.14	34.090	26.816	128.0	0.827	1.27	18.3	67.2	2.79	37.7	0.00			403
1	454	5.77	5.73	34.117	26.889	121.4	0.895	0.94	13.4	75.4	2.93	39.6	0.00			457
	500 ISL	5.52	5.48	34.169	26.960	115.0	0.949	0.68	9.7	82.2	3.05	40.9	0.00			503
1	523	5.40	5.36	34.195	26.995	111.8	0.975	0.55	7.8	85.6	3.11	41.5	0.00			527

RV DAVID STARR JORDAN | CALCOFI CRUISE 9108 | STATION 80 90

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	NAVES	NEA	BAROMETER	DRY	NET	SECCHI/FOREL	CID AM?'	TYPE
33 9.0 N	123 13.5 W	05/08/91	0809 UTC	4223 -	310 14 kn			1016.8 ab	17.2 C	16.3 C			

CAST	DEPTH -	TEMP DEC C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN BT	OXYGEN al/1	OXY PCT	SIO3 uM/1	PO4 UM/1	NO3 uM/1	NO2 uM/1	CBL-A ug/1	PHAEO ug/1	PRESS db
1	0	16.34	16.34	32.836	24.007	389.3	0.000	5.86	104.4	2.5	0.41	0.0	0.00	0.11	0.02	0
1	9	16.06	16.06	32.844	24.077	382.9	0.035	5.88	104.2	2.4	0.41	0.0	0.00	0.11	0.02	9
	10 ISL	16.05	16.05	32.844	24.080	382.7	0.039	5.88	104.2	2.4	0.41	0.0	0.00	0.11	0.02	10
1	19	15.98	15.98	32.838	24.091	381.9	0.073	5.89	104.2	2.4	0.40	0.0	0.00	0.13	0.03	19
	20 ISL	15.93	15.93	32.836	24.101	381.0	0.077	5.92	104.6	2.4	0.40	0.0	0.00	0.14	0.03	20
1	30	15.24	15.24	32.814	24.237	368.3	0.114	6.23	108.6	2.4	0.40	0.0	0.00	0.26	0.09	30
1	41	14.12	14.11	32.791	24.458	347.6	0.154	6.38	108.7	2.7	0.42	0.1	0.02	0.54	0.24	41
	50 ISL	13.43	13.42	32.789	24.597	334.5	0.184	6.23	104.6	2.4	0.46	0.3	0.03	0.50	0.29	50
1	51	13.39	13.38	32.794	24.609	333.4	0.188	6.21	104.2	2.4	0.46	0.3	0.03	0.50	0.29	51
1	61	13.75	13.74	33.007	24.701	324.9	0.221	6.13	103.8	2.4	0.42	0.1	0.02	0.33	0.19	61
1	70	12.99	12.98	32.918	24.785	317.1	0.249	6.07	101.1	2.8	0.53	1.2	0.22	0.26	0.19	70
	75 ISL	12.63	12.62	32.928	24.863	309.7	0.265	5.99	99.0	3.4	0.58	2.0	0.22	0.22	0.18	75
1	85	11.97	11.96	33.004	25.047	292.4	0.295	5.79	94.4	4.9	0.69	4.1	0.23	0.16	0.16	85
1	100	11.08	11.07	33.139	25.315	267.1	0.337	5.46	87.4	7.6	0.88	8.0	0.05	0.11	0.13	100
1	121	10.33	10.32	33.233	25.519	248.0	0.391	5.28	83.2	9.5	1.00	10.5	0.03	0.08	0.10	122
	125 ISL	10.10	10.09	33.259	25.579	242.4	0.401	5.19	81.4	10.6	1.06	11.6	0.03	0.07	0.09	126
1	146	6.97	8.95	33.425	25.892	212.7	0.449	4.54	69.5	17.8	1.44	18.0	0.01	0.01	0.03	147
	150 ISL	8.87	8.85	33.461	25.936	208.6	0.457	4.38	66.9	19.3	1.51	19.1	0.01	0.01	0.03	151
1	176	8.50	8.48	33.687	26.171	186.8	0.509	3.47	52.6	28.0	1.86	24.8	0.01	0.00	0.05	177
	200 ISL	8.21	8.19	33.861	26.351	170.0	0.552	3.20	48.3	32.1	1.92	26.5	0.01	0.00	0.03	201
1	206	8.14	8.12	33.896	26.389	166.5	0.562	3.17	47.8	32.9	1.93	26.6	0.01	0.00	0.03	207
1	236	7.82	7.80	33.976	26.500	156.4	0.610	2.97	44.4	37.4	2.03	27.8	0.01			237
	250 ISL	7.67	7.65	33.988	26.531	153.6	0.632	3.00	44.7	38.8	2.03	28.0	0.01			251
1	275	7.39	7.36	33.990	26.573	149.9	0.670	3.05	45.2	41.5	2.05	28.4	0.01			277
	300 ISL	7.06	7.03	33.990	26.619	145.7	0.707	2.81	41.3	46.1	2.17	30.1	0.01			302
1	331	6.65	6.62	33.989	26.674	140.8	0.751	2.38	34.7	52.7	2.37	32.7	0.00			333
1	389	6.05	6.02	34.004	26.764	132.6	0.830	1.66	23.8	64.6	2.65	36.6	0.01			391
	400 ISL	5.95	5.92	34.014	26.784	130.7	0.845	1.56	22.3	66.6	2.66	37.2	0.01			402
1	454	5.53	5.49	34.070	26.880	121.9	0.913	1.19	16.9	76.0	2.72	39.4	0.00			457
	500 ISL	5.25	5.21	34.102	26.939	116.6	0.968	0.94	13.2	83.1	2.92	40.8	0.00			503
1	522	5.12	5.08	34.117	26.966	114.2	0.993	0.82	11.5	86.5	3.01	41.4	0.00			526

RV DAVID STARR JORDAN | CALCOFI CRUISE 9108 | STATION 80 10C

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	NAVES	NEA	BAROMETER	DRY	NET	SECCHI/FOREL	CLD AMT	TYPE
32 49.0 N	123 54.4 W	06/08/91	1338 UTC		260 08 kn	320 03 05	4	1015.8 ab	18.2 C	18.2 C	27a 02	8/8	ST

CAST	DEPTH a	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN al/1	OXY PCT	SIO3 UM/1	PO4 UM/1	NO3 UM/1	NO2 UM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
1	0	16.53	16.53	32.794	23.932	396.5	0.000	5.79	103.5	2.3	0.42	0.1	0.00	0.11	0.03	0
1	10	16.16	16.16	32.802	24.023	388.2	0.039	5.86	104.0	2.3	0.41	0.0	0.00	0.11	0.03	10
1	20	16.08	16.08	32.800	24.040	386.9	0.078	5.86	103.9	2.3	0.41	0.0	0.00	0.12	0.04	20
1	30	15.91	15.91	32.785	24.067	384.6	0.117	5.90	104.2	2.3	0.40	0.0	0.00	0.14	0.04	30
1	41	15.60	15.59	32.778	24.130	378.8	0.159	5.95	104.4	2.3	0.41	0.0	0.00	0.17	0.06	41
1	50	14.96	14.95	32.754	24.252	367.5	0.192	6.10	105.7	2.4	0.41	0.0	0.00	0.29	0.13	50
1	61	14.23	14.22	32.787	24.432	350.5	0.232	6.20	105.8	2.4	0.43	0.0	0.00	0.58	0.32	61
1	71	13.73	13.72	32.775	24.526	341.8	0.266	6.19	104.6	2.5	0.45	0.1	0.01	0.67	0.37	71
	75 ISL	13.58	13.57	32.807	24.581	336.7	0.280	6.17	103.9	2.5	0.47	0.2	0.06	0.56	0.33	75
1	85	13.12	13.11	32.896	24.742	321.5	0.313			2.6	0.53	1.0	0.17	0.22	0.20	85
	100 ISL	11.86	11.85	32.905	24.991	298.0	0.359	5.89	95.8	4.2	0.72	4.4	0.15	0.13	0.14	100
1	101	11.77	11.76	32.906	25.009	296.3	0.362	5.87	95.2	4.4	0.73	4.7	0.15	0.12	0.14	101
1	121	10.84	10.83	33.104	25.331	266.0	0.418	5.46	86.9	7.9	0.94	8.9	0.02	0.09	0.13	122
	125 ISL	10.70	10.69	33.128	25.374	262.0	0.429	5.43	86.2	8.1	0.95	9.2	0.02	0.09	0.13	126
1	145	10.14	10.12	33.242	25.559	244.7	0.480	5.25	82.4	9.6	1.04	11.0	0.02	0.07	0.10	146
	150 ISL	10.01	9.99	33.286	25.615	239.4	0.492	5.09	79.7	10.8	1.11	12.2	0.02	0.06	0.09	151
1	176	9.43	9.41	33.541	25.911	211.8	0.550	4.15	64.2	18.5	1.50	18.9	0.01	0.03	0.06	177
	200 ISL	9.01	8.99	33.764	26.152	189.2	0.599	3.69	56.7	24.2	1.67	22.3	0.00	0.01	0.04	201
1	207	8.90	8.88	33.820	26.214	183.5	0.612	3.59	55.0	25.7	1.71	23.0	0.00	0.00	0.03	208
1	236	8.51	8.49	33.962	26.386	167.5	0.662	3.14	47.7	31.5	1.88	25.9	0.00			237
	250 ISL	8.28	8.25	33.990	26.443	162.3	0.686	3.06	46.3	33.9	1.94	26.8	0.00			251
1	276	7.85	7.82	34.008	26.521	155.1	0.727	2.96	44.3	38.3	2.03	28.1	0.00			277
	300 ISL	7.46	7.43	34.016	26.584	149.3	0.763	2.75	40.8	43.0	2.15	29.7	0.00			302
1	331	7.02	6.99	34.023	26.651	143.2	0.809	2.40	35.3	49.4	2.32	32.0	0.00			333
1	390	6.52	6.48	34.075	26.760	133.4	0.890	1.52	22.1	61.0	2.65	36.2	0.00			392
	400 ISL	6.44	6.40	34.081	26.775	132.1	0.904	1.42	20.6	62.7	2.69	36.7	0.00			402
1	455	6.04	6.00	34.117	26.855	124.9	0.974	0.99	14.2	71.4	2.89	39.1	0.00			458
	500 ISL	5.77	5.73	34.170	26.931	118.1	1.029	0.68	9.7	78.6	3.02	40.5	0.00			503
1	524	5.63	5.59	34.198	26.970	114.5	1.057	0.52	7.4	82.5	3.09	41.2	0.00			527

RV DAVID STARR JORDAN CALCOFI CRUISE 9108 STATION 82 47

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	NINO SPEED	WAVES	WIEA	BAROMETER	DRY	MET	SECCHI/rOREL	CLD AMT	TYPE
34 16.5 N	120 1.5 W	05/08/91	0046 UTC	574 -	280 21 kn	280 02 03	1	1015.4 ab	17.4 C	15.6 C	14a 04	2/8	AS

CAST	DEPTH -	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN al/1	OXY PCT	SIOS uM/1	PO4 uM/1	NO3 UK/1	NO2 uM/1	CHL-A ug/1	PBAEO ug/1	PRESS db
1	0 A	16.49	16.49	33.602	24.561	336.5	0.000	6.05	108.6	5.9	0.33	0.3	0.02	0.56	0.17	0
1	10	14.98	14.98	33.585	24.887	305.9	0.032	5.89	102.6	8.2	0.56	2.4	0.05	2.17	0.41	10
1	20	11.16	11.16	33.565	25.630	235.3	0.059	4.42	71.1	15.0	1.29	14.4	0.19	0.49	0.31	20
1	30	10.81	10.81	33.581	25.705	228.4	0.082	4.17	66.6	16.3	1.39	16.2	0.14	0.35	0.25	30
1	40	10.42	10.42	33.624	25.807	218.9	0.105	3.84	60.8	18.5	1.50	18.3	0.07	0.21	0.19	40
	50 ISL	10.43	10.42	33.653	25.828	217.1	0.127	3.70	58.6	19.6	1.55	19.2	0.06	0.14	0.18	50
1	51	10.43	10.42	33.656	25.831	216.9	0.129	3.69	58.4	19.7	1.55	19.3	0.06	0.14	0.18	51
1	61	10.04	10.03	33.699	25.931	207.6	0.150	3.48	54.7	21.5	1.64	20.6	0.04	0.08	0.13	61
1	71	9.90	9.89	33.745	25.991	202.1	0.170	3.32	52.0	25.6	1.80	23.1	0.03	0.06	0.11	71
	75 ISL	9.83	9.82	33.768	26.020	199.4	0.178	3.24	50.7	25.6	1.80	23.1	0.03	0.05	0.11	75
1	85	9.66	9.65	33.825	26.093	192.6	0.198	3.06	47.7	25.5	1.79	23.2	0.03	0.03	0.11	85
1	100	9.49	9.48	33.883	26.167	185.9	0.226	2.91	45.2	27.4	1.86	24.2	0.03	0.02	0.10	101
1	118	9.43	9.42	33.911	26.199	183.3	0.260	2.85	44.2	28.4	1.90	24.6	0.03	0.01	0.11	119
	125 ISL	9.40	9.39	33.927	26.216	181.7	0.272	2.76	42.8	29.2	1.93	25.0	0.03	0.01	0.12	126
1	138	9.33	9.31	33.957	26.251	178.7	0.296	2.59	40.1	30.7	1.98	25.9	0.02	0.02	0.14	139
	150 ISL	9.25	9.23	33.980	26.282	176.0	0.317	2.50	38.6	31.7	2.02	26.5	0.02	0.02	0.14	151
1	169	9.13	9.11	34.011	26.326	172.2	0.350	2.39	36.9	33.1	2.08	27.2	0.02	0.01	0.12	170
1	198	9.03	9.01	34.050	26.373	168.3	0.400	2.23	34.3	35.0	2.14	27.9	0.02	0.01	0.12	199
	200 ISL	9.02	9.00	34.056	26.380	167.7	0.403	2.20	33.8	35.3	2.15	28.0	0.02			201
1	227	8.81	8.79	34.133	26.473	159.3	0.447	1.76	27.0	39.4	2.33	30.0	0.02			228
	250 ISL	8.71	8.68	34.157	26.508	156.4	0.483	1.55	23.7	41.6	2.41	31.0	0.03			252
1	268	8.63	8.60	34.163	26.525	155.0	0.511	1.45	22.1	43.1	2.45	31.5	0.03			270
	300 ISL	8.41	8.38	34.175	26.569	151.4	0.560	1.28	19.4	46.1	2.53	32.3	0.03			302
1	319	8.25	8.22	34.178	26.596	149.1	0.589	1.19	18.0	48.3	2.58	32.8	0.02			321
1	378	7.62	7.58	34.182	26.693	140.6	0.674	0.92	13.7	58.6	2.77	34.5	0.01			381
	400 ISL	7.44	7.40	34.186	26.722	138.0	0.705	0.84	12.5	61.2	2.82	34.8	0.01			403
1	439	7.13	7.09	34.199	26.776	133.3	0.758	0.66	9.7	67.8	2.94	35.3	0.02			442
	500 ISL	6.55	6.50	34.237	26.885	123.3	0.836	0.15	2.2	92.7	3.36	31.5	0.01			504
1	509	6.49	6.44	34.242	26.897	122.3	0.847	0.09	1.3	96.3	3.42	30.8	0.01			513
1	530	6.44	6.39	34.245	26.906	121.7	0.873	0.06	0.9	100.5	3.52	30.0	0.01			534
1	550	6.41	6.36	34.246	26.911	121.5	0.897	0.03	0.4	105.5	3.71	28.7	0.10			554
1	560	6.41	6.36	34.246	26.911	121.6	0.909	0.02	0.3	105.4	3.71	28.4	0.13			564
1	570	6.42	6.37	34.246	26.910	121.9	0.922	0.03	0.4	105.6	3.72	28.3	0.14			574
1	574	6.43	6.38	34.246	26.909	122.1	0.926	0.03	0.4	106.0	3.72	28.3	0.15			578
1	580	6.43	6.38	34.249	26.911	121.9	0.934	0.03	0.4	106.0	3.76	28.1	0.18			584

A) SANTA BARBARA BASIN STATION.

RV DAVID STARR JORDAN CALCOFI CRUISE 9108 STATION 83 40.6

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	NAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
34 13.6 N	119 24.8 W	04/08/91	2014 UTC	31 -	270 09 kn	270 02 04	2	1016.5 Mb	19.6 C	16.9 C	16B 03	8/8	ST

CAST	DEPTH -	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN »1/1	OXY PCT	SIO3 UM/1	PO4 UM/1	NO3 UM/1	NO2 UM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
1	0	17.56	17.56	33.588	24.299	361.6	0.000	5.92	108.5	3.8	0.29	0.0	0.00	0.52	0.16	0
1	10	17.19	17.19	33.583	24.383	353.8	0.036	5.97	108.7	3.8	0.31	0.0	0.00	0.76	0.28	10
1	19	15.67	15.67	33.543	24.703	323.7	0.066	6.25	110.4	4.7	0.34	0.0	0.01	2.63	0.65	19
	20 ISL	15.50	15.50	33.537	24.736	320.5	0.069	6.18	108.8	5.1	0.36	0.0	0.01	2.45	0.62	20
1	30	13.84	13.84	33.492	25.057	290.2	0.100	5.45	92.7	8.9	0.58	0.1	0.05	0.69	0.35	30

RV DAVID STARR JORDAN CALCOFI CRUISE 9108 STATION 83 42

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	NAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
34 10.7 N	119 30.5 N	04/08/91	1505 UTC	165 -	290 10 kn	290 01 03	2	1016.3 Hb	17.1 C	15.3 C	20B 02	8/8	ST

CAST	DEPTH a	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN mX/X	OXY PCT	SIO3 UM/1	PO4 UM/1	NO3 uM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
1	0	17.64	17.64	13.605	24.292	362.2	0.000	5.92	108.7	3.3	0.29	0.1	0.00	0.45	0.17	0
1	10	17.62	17.62	33.605	24.297	362.0	0.036	5.95	109.2	3.2	0.29	0.1	0.00	0.47	0.18	10
1	20	17.52	17.52	33.600	24.318	360.4	0.072	5.94	108.8	3.2	0.30	0.1	0.01	0.46	0.19	20
1	30	14.91	14.91	33.525	24.856	309.3	0.106	5.74	99.8	5.5	0.55	2.7	0.12	0.57	0.30	30
1	40	14.20	14.19	33.514	24.999	296.0	0.136	5.58	95.6	6.3	0.65	4.0	0.16	0.47	0.27	40
1	50	12.02	12.01	33.495	25.418	256.2	0.164	4.78	78.3	9.8	1.02	10.2	0.17	0.30	0.27	50
1	60	10.91	10.90	33.547	25.662	233.2	0.188	4.20	67.2	14.4	1.31	15.3	0.03	0.09	0.16	60
1	70	10.51	10.50	33.601	25.774	222.7	0.211	3.82	60.6	17.0	1.44	17.5	0.02	0.05	0.12	70
	75 ISL	10.40	10.39	33.620	25.808	219.6	0.222	3.73	59.0	17.8	1.48	18.1	0.02	0.05	0.13	75
1	83	10.27	10.26	33.648	25.853	215.5	0.239	3.64	57.4	18.8	1.53	18.7	0.02	0.04	0.14	83
	100 ISL	9.97	9.96	33.721	25.961	205.6	0.275	3.41	53.5	21.0	1.63	20.5	0.02	0.02	0.11	100
1	102	9.94	9.93	33.729	25.972	204.5	0.279	3.39	53.1	21.3	1.64	20.7	0.02	0.02	0.10	103
	125 ISL	9.71	9.70	33.802	26.068	195.9	0.325	3.23	50.4	23.8	1.73	22.1	0.03	0.01	0.09	126
1	126	9.70	9.69	33.805	26.072	195.6	0.327	3.22	50.2	23.9	1.73	22.1	0.03	0.01	0.09	127
1	150	9.49	9.47	33.876	26.162	187.4	0.373	3.05	47.4	26.5	1.83	23.4	0.04	0.01	0.10	151

RV DAVID STARR JORDAN CALCOFI CRUISE 9108 STATION 83 51

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
33 52.7 N	120 8.1 N	04/08/91	0847 UTC	97 B	320 26 kn			1015.2 Bb	15.0 C	13.4 C			

CAST	DEPTH B	TEMP DEG C	POT TEMP DEG C	SAXINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN Bl/1	OXY PCT	SIOS UM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
1	0	12.77	12.77	33.513	25.287	267.4	0.000	4.95	82.4	10.3	1.01	9.3	0.37	0.59	0.36	0
	10 ISL	12.42	12.42	33.513	25.355	261.2	0.026	4.84	79.9	10.8	1.05	10.0	0.37	0.58	0.34	10
1	11	12.38	12.38	33.513	25.363	260.5	0.029	4.83	79.7	10.8	1.05	10.1	0.37	0.58	0.34	11
1	20	11.01	11.01	33.555	25.649	233.5	0.051	3.96	63.5	15.2	1.38	16.0	0.10	0.21	0.21	20
1	30	10.89	10.89	33.567	25.680	230.7	0.074	3.94	63.0	15.6	1.40	16.4	0.09	0.21	0.21	30
1	40	10.63	10.63	33.597	25.750	224.4	0.097	3.78	60.1	17.1	1.46	17.5	0.06	0.14	0.19	40
1	50	10.39	10.38	33.630	25.817	218.2	0.119	3.61	57.1	18.4	1.53	18.6	0.04	0.09	0.18	50
1	59	10.09	10.08	33.697	25.921	208.5	0.139	3.44	54.1	20.7	1.61	20.2	0.05	0.03	0.13	59
1	75	9.86	9.85	33.747	25.999	201.4	0.171	3.30	51.6	22.4	1.68	21.4	0.04	0.02	0.10	75

RV DAVID STARR JORDAN CALCOFI CRUISE 9108 STATION S3 55

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	NAVES	NEA	BAROMETER	DRY	NET	SECCHI/FOREL	CLD AMT	TYPE
33 44.7 N	120 24.6 N	04/08/91	0500 UTC	1018 •	330 25 kli			1015.4 Mb	15.0 C	13.8 C			

CAST	DEPTH •	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN BT	OXYGEN Ml/1	OXY PCT	SIO3 uM/1	PO4 DM/1	NO3 uM/1	NO2 UM/1	CHL-A U9/I	PHAEO ug/1	PRESS db
1	0	15.39	15.39	33.542	24.763	317.3	0.000	5.83	102.4	4.8	0.49	1.9	0.06	0.81	0.30	0
1	9	15.37	15.37	33.543	24.769	317.0	0.029	5.83	102.3	4.8	0.49	2.0	0.07	0.81	0.28	9
	10 ISL	15.36	15.36	33.543	24.771	316.9	0.032	5.83	102.3	4.8	0.49	2.0	0.07	0.81	0.28	10
1	19	15.21	15.21	33.541	24.803	314.1	0.060	5.82	101.8	4.8	0.49	2.1	0.07	0.80	0.31	19
	20 ISL	15.16	15.16	33.542	24.815	313.0	0.063	5.80	101.4	4.9	0.50	2.3	0.07	0.80	0.31	20
1	30	14.65	14.65	33.551	24.932	302.1	0.094	5.63	97.4	6.2	0.58	4.0	0.13	0.77	0.32	30
1	39	11.46	11.46	33.546	25.562	242.3	0.118	4.70	76.1	13.5	1.22	13.3	0.21	0.43	0.27	39
1	49	10.79	10.78	33.550	25.685	230.7	0.142	4.43	70.7	15.8	1.16	15.7	0.06	0.25	0.21	49
	50 ISL	10.74	10.73	33.557	25.699	229.4	0.144	4.39	70.0	16.2	1.18	16.0	0.06	0.23	0.21	50
1	58	10.36	10.35	33.638	25.829	217.3	0.162	3.98	62.9	19.7	1.38	18.6	0.07	0.10	0.18	58
1	68	9.94	9.93	33.758	25.994	201.7	0.183	3.34	52.4	24.4	1.72	22.1	0.03	0.06	0.17	68
	75 ISL	9.76	9.75	33.792	26.051	196.5	0.197	3.17	49.5	25.5	1.75	22.6	0.03	0.05	0.15	75
1	83	9.61	9.60	33.821	26.098	192.1	0.213	3.10	48.3	26.1	1.79	23.2	0.02	0.04	0.12	83
1	98	9.26	9.25	33.944	26.252	177.8	0.240	2.86	44.2	29.1	1.90	24.8	0.01	0.01	0.08	99
	100 ISL	9.22	9.21	33.952	26.264	176.6	0.244	2.86	44.2	29.3	1.90	24.8	0.01	0.01	0.08	101
1	117	8.97	8.96	33.989	26.333	170.4	0.274	2.88	44.3	30.8	1.83	24.8	0.02	0.01	0.07	118
	125 ISL	8.90	8.89	34.001	26.354	168.5	0.287	2.90	44.5	31.3	1.84	25.0	0.02	0.01	0.06	126
1	143	8.77	8.75	34.021	26.390	165.4	0.317	2.93	44.8	32.3	1.91	25.6	0.03	0.00	0.05	144
	150 ISL	8.(8	8.C6	34.026	26.408	163.8	0.329	2.91	44.4	32.9	1.92	25.8	0.03	0.00	0.05	151
1	174	8.41	8.39	34.047	26.467	158.7	0.367	2.83	42.9	35.6	1.99	26.8	0.02	0.00	0.04	175
	200 ISL	8.29	8.27	34.095	26.523	153.8	0.408	2.40	36.3	39.6	2.15	28.4	0.02	0.00	0.05	201
1	204	8.28	8.26	34.104	26.532	153.1	0.414	2.32	35.1	40.2	2.18	28.7	0.02	0.00	0.05	205
1	234	8.31	8.29	34.173	26.582	148.9	0.459	1.74	26.4	44.1	2.40	30.3	0.02			235
	250 ISL	8.22	8.19	34.186	26.606	146.9	0.483	1.58	23.9	45.9	2.47	31.1	0.02			252
1	273	8.06	8.03	34.192	26.635	144.5	0.517	1.44	21.7	48.2	2.53	32.0	0.01			275
	300 ISL	7.94	7.91	34.204	26.662	142.3	0.555	1.29	19.4	50.2	2.58	32.8	0.01			302
1	331	7.83	7.80	34.217	26.689	140.2	0.599	1.15	17.2	52.2	2.63	33.5	0.01			333
1	390	7.60	7.56	34.236	26.738	136.5	0.681	0.94	14.0	56.0	2.73	34.5	0.01			393
	400 ISL	7.58	7.54	34.238	26.743	136.2	0.694	0.92	13.7	56.4	2.74	34.6	0.01			403
1	456	7.40	7.36	34.248	26.777	133.7	0.770	0.80	11.9	59.3	2.82	35.4	0.01			459
	500 ISL	7.01	6.96	34.256	26.838	128.3	0.828	0.65	9.6	65.1	2.90	36.8	0.01			503
1	524	6.79	6.74	34.262	26.873	125.1	0.858	0.57	8.3	68.2	2.95	37.5	0.01			528

RV DAVID STARR JORDAN CALCOFI CRUISE 9108 STATION 83 60

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	NAVES	NEA	BAROMETER	DRY	NET	SECCHI/FOREL	CLD AMT	TYPE
33 34.7 N	120 45.3 N	04/08/91	0050 UTC	1433 •	300 24 kn	330 06 04	2	1015.9 «b	16.2 C	14.2 C	08a 06	8/8	SC

CAST	DEPTH •	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN »1/1	OXY PCT	SIO3 UM/1	PO4 UM/1	NO3 UM/1	NO2 UM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
1	0	16.45	16.45	33.619	24.583	334.4	0.000	5.93	106.4	4.4	0.33	0.1	0.02	1.63	0.58	0
1	10	16.46	16.46	33.618	24.581	335.0	0.033	5.94	106.6	4.4	0.32	0.1	0.02	1.68	0.54	10
1	20	16.43	16.43	33.619	24.589	334.6	0.067	5.93	106.4	4.4	0.32	0.1	0.02	1.82	0.57	20
1	30	16.44	16.44	33.615	24.584	335.4	0.100	5.92	106.2	4.3	0.33	0.1	0.02	2.23	0.66	30
1	40	15.15	15.14	33.591	24.855	309.8	0.133	5.76	100.7	5.8	0.45	0.8	0.06	1.00	0.57	40
1	50	12.83	12.82	33.607	25.349	262.9	0.161	5.03	83.8	11.0	0.96	8.8	0.36	0.48	0.55	50
1	60	11.22	11.21	33.666	25.699	229.7	0.186	4.08	65.7	17.7	1.39	16.6	0.20	0.18	0.27	60
1	75	10.03	10.02	33.699	25.933	207.7	0.219	3.67	57.6	22.3	1.66	20.8	0.04	0.09	0.12	75
1	89	9.74	9.73	33.773	26.039	197.8	0.247	3.33	52.0	25.2	1.77	22.7	0.03	0.06	0.13	89
	100 ISL	9.35	9.34	33.854	26.167	185.9	0.268	3.01	46.6	28.6	1.89	24.7	0.02	0.03	0.12	101
1	109	9.06	9.05	33.910	26.257	177.5	0.285	2.78	42.8	31.2	1.98	26.1	0.02	0.01	0.10	110
	125 ISL	8.89	8.88	33.904	26.280	175.6	0.313	2.59	39.7	33.5	2.06	27.0	0.01	0.01	0.09	126
1	129	8.88	8.87	33.909	26.285	175.1	0.320	2.56	39.2	33.9	2.07	27.1	0.01	0.01	0.09	130
	150 ISL	8.80	8.78	33.999	26.369	167.6	0.356	2.42	37.0	35.5	2.12	27.8	0.02	0.01	0.10	151
1	155	8.79	8.77	34.023	26.389	165.8	0.364	2.40	36.7	35.8	2.13	27.9	0.02	0.01	0.10	156
1	185	8.59	8.57	34.063	26.452	160.4	0.413	2.27	34.6	38.0	2.20	28.6	0.01	0.01	0.08	186
	200 ISL	8.42	8.40	34.104	26.510	155.0	0.437	2.01	30.5	41.1	2.31	29.8	0.01	0.01	0.08	201
1	218	8.18	8.16	34.151	26.584	148.3	0.464	1.68	25.4	45.5	2.45	31.4	0.01	0.00	0.07	219
	250 ISL	7.72	7.70	34.177	26.672	140.3	0.510	1.39	20.8	51.8	2.58	33.3	0.01			252
1	255	7.66	7.63	34.178	26.682	139.4	0.517	1.36	20.3	52.6	2.60	33.5	0.01			257
1	296	7.38	7.35	34.208	26.746	133.9	0.573	1.05	15.6	57.7	2.74	34.9	0.01			298
	300 ISL	7.34	7.31	34.208	26.752	133.4	0.579	1.03	15.3	58.2	2.75	35.0	0.01			302
1	351	6.89	6.86	34.202	26.810	128.4	0.645	0.88	12.9	64.2	2.85	36.7	0.01			353
	400 ISL	6.63	6.59	34.219	26.859	124.4	0.707	0.69	10.1	68.7	2.94	37.8	0.01			403
1	417	6.57	6.53	34.229	26.875	123.0	0.728	0.63	9.2	70.1	2.97	38.1	0.01			420
1	486	6.34	6.30	34.283	26.948	116.9	0.811	0.43	6.2	76.2	3.08	39.1	0.01			489
	500 ISL	6.27	6.23	34.287	26.961	115.9	0.827	0.41	5.9	77.5	3.09	39.3	0.01			503
1	565	5.95	5.90	34.308	27.019	110.9	0.901	0.31	4.4	83.4	3.16	40.3	0.00			569

RV DAVID STARK JORDAN CALCOIT CRUISE 9108 STATION 83 70

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	HIND SPEED	NAVES	MEA	BAROMETER	DRY	NET	SECCHI/FOREL	CID AMT TYPE
33 14.C N	121 26.6 N	03/01/91	1819 UTC	3799 ▪	340 19 kn	340 05 07	2	1018.4 *mto*	15.2 C	14.5 C	17a 02	8/8 SC

CAST	DEPTH M	TEMP DEC C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN RT	OXYGEN Ml/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 UM/1	CHL-A uq/1	PHAEO ug/1	PRESS db
1	0	15.02	15.02	32.978	24.410	351.0	0.000	6.03	104.7	2.3	0.45	0.6	0.04	0.29	0.07	0
1	I	14.99	14.99	32.978	24.417	350.6	0.032	6.04	104.9	2.1	0.45	0.7	0.03	0.30	0.07	9
	10 ISL	14.99	14.99	32.978	24.417	350.6	0.03S	6.04	104.9	2.1	0.45	0.7	0.03	0.30	0.07	10
1	20	14.93	14.93	32.987	24.437	349.0	0.070	6.06	105.1	2.1	0.46	0.7	0.04	0.30	0.07	20
1	30	14.79	14.79	33.007	24.483	344.9	0.105	6.09	105.3	2.1	0.47	0.9	0.05	0.31	0.09	30
1	40	13.79	13.78	32.9C0	24.656	328.6	0.138	6.25	105.9	2.4	0.49	1.2	0.08	0.37	0.16	40
1	49	12.63	12.62	32.928	24.862	309.2	0.167	6.20	102.5	3.1	0.55	1.7	0.23	0.38	0.19	49
	50 ISL	12.50	12.49	32.929	24.888	306.7	0.170	6.17	101.7	3.3	0.57	2.1	0.25	0.38	0.19	50
1	59	11.53	11.52	32.956	25.091	287.5	0.197	5.87	94.8	5.2	0.78	5.7	0.36	0.41	0.22	59
1	75	10.92	10.91	33.008	25.241	273.6	0.242	5.77	92.0	7.8	0.94	9.0	0.06	0.27	0.17	75
1	89	10.58	10.57	33.077	25.354	263.0	0.279	5.61	88.8	10.0	1.08	11.3	0.02	0.11	0.11	89
	100 ISL	10.16	10.15	33.154	25.486	250.6	0.308	5.37	84.3	12.4	1.22	13.6	0.02	0.06	0.10	100
1	109	9.82	9.81	33.225	25.599	240.1	0.330	5.12	79.8	14.6	1.33	15.5	0.02	0.05	0.09	110
	125 ISL	9.53	9.52	33.352	25.746	226.4	0.367	4.55	70.5	17.9	1.49	18.4	0.01	0.02	0.08	126
1	130	9.46	9.45	33.395	25.791	222.2	0.378	4.35	67.3	19.0	1.54	19.2	0.01	0.02	0.08	131
	150 ISL	9.06	9.04	33.597	26.013	201.4	0.421	3.60	55.3	24 0	1.74	22.7	0.02	0.01	0.06	151
1	154	8.98	8.96	33.638	26.058	197.2	0.429	3.47	53.2	25.0	1.78	23.3	0.02	0.01	0.05	155
1	185	8.68	8.66	33.873	26.289	175.8	0.486	2.95	45.0	30.5	1.94	26.1	0.01	0.01	0.03	186
	200 ISL	8.45	8.43	33.940	26.377	167.7	0.512	2.84	43.1	33.2	2.00	27.1	0.01	0.01	0.03	201
1	219	8.15	8.13	33.992	26.464	159.7	0.543	2.75	41.5	36.5	2.06	28.2	0.01	0.00	0.02	220
	250 ISL	7.73	7.71	34.021	26.548	152.0	0.592	2.60	38.8	41.3	2.16	29.5	0.01			251
1	254	7.68	7.65	34.022	26.557	151.3	0.598	3.511	38.5	41.9	2.18	29.7	0.01			255
1	294	7.09	7.06	34.047	26.660	141.8	0.656	2.14	31.5	50.6	2.39	32.5	0.01			296
	300 ISL	7.01	6.98	34.048	26.672	140.8	0.665	2.01)	30.6	51.8	2.42	32.9	0.01			302
1	349	6.43	(.40	34.062	26.761	132.7	0.732	1.62	23.5	61.2	2.61	36.0	0.00			351
	400 ISL	6.09	6.06	34.107	26.840	125.6	0.798	1.10	15.8	69.8	2.83	38.4	0.00			403
1	414	6.03	5.99	34.122	26.860	123.9	0.815	0.97	13.9	71.8	2.88	38.9	0.00			417
1	484	5.82	5.78	34.200	26.948	116.3	0.899	0.5IS	8.0	79.2	3.04	40.3	0.00			487
	500 ISL	5.72	5.68	34.209	26.968	114.5	0.918	0.52	7.4	81.4	3.06	40.7	0.00			503
1	565	5.32	5.27	34.248	27.047	107.4	0.990	0.35	4.9	90.1	3.13	42.1	0.00			569

RV DAVID STARR JORDAN CALCOFI CRUISE 9108 STATION 83 80

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	HIND SPEED	NAVES	NBA	BAROMETER	DRY	NET	SECCHI/FOREL	CLD AMT TYPE
32 54.9 N	122 7.9 N	03/08/91	1159 UTC	4151 ▪	330 20 kn	310 04 07	2	1017.0 Mb	16.1 C	14.5 C		8/8 SC

CAST	DEPTH ▪	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN Ml/1	OXY PCT	SIO3 UM/1	PO4 UM/1	NO3 UM/1	NO2 uM/1	CHL-A Ug/1	PHAEO Ug/1	PRESS db
1	0	16.44	16.44	32.974	24.091	381.4	0.000	5.78	103.3	3.1	0.39	0.0	0.00	0.09	0.03	0
1	10	16.44	16.44	32.976	24.093	381.5	0.038	5.81	103.8	3.0	0.39	0.0	0.00	0.09	0.03	10
1	19	16.42	16.42	32.974	24.096	381.5	0.072	5.78	103.2	2.8	0.39	0.0	0.00	0.09	0.03	19
	20 ISL	16.42	16.42	32.974	24.096	381.5	0.076	5.78	103.2	2.8	0.39	0.0	0.00	0.09	0.03	20
1	30	16.43	16.43	32.976	24.095	381.9	0.114	5.76	102.9	2.8	0.39	0.0	0.00	0.09	0.03	30
1	41	15.71	15.70	32.940	24.231	369.3	0.156	6.04	106.3	3.8	0.39	0.0	0.00	0.13	0.04	41
	50 ISL	14.76	14.75	32.923	24.425	351.0	0.188	6.1.4	106.0	3.8	0.40	0.0	0.00	0.12	0.04	50
1	51	14.67	14.66	32.925	24.446	349.0	0.192	6.14	105.9	3.8	0.40	0.0	0.00	0.12	0.04	51
1	60	14.50	14.49	33.027	24.561	338.3	0.223	6.08	104.5	2.8	0.39	0.0	0.00	0.18	0.07	60
	75 ISL	13.99	13.98	33.198	24.800	316.0	0.272	6.00	102.2	3.2	0.41	0.2	0.05	0.38	0.31	75
1	76	13.94	13.93	33.206	24.816	314.4	0.275	5.99	101.9	3.3	0.41	0.2	0.05	0.39	0.32	76
1	90	12.95	12.94	33.199	25.011	296.1	0.318	5.77	96.2	4.6	0.57	2.7	0.21	0.31	0.29	90
	100 ISL	12.31	12.30	33.244	25.170	281.2	0.346	5.60	92.1	5.8	0.69	4.9	0.15	0.24	0.24	100
1	110	11.70	11.69	33.293	25.323	266.8	0.374	5.43	88.2	7.1	0.80	7.2	0.05	0.17	0.19	110
	125 ISL	10.83	10.81	33.297	25.483	251.7	0.413	5.28	84.2	8.8	0.94	9.7	0.03	0.11	0.15	126
1	131	10.48	10.46	33.302	25.548	245.6	0.428	5.18	81.9	9.9	1.01	10.9	0.02	0.09	0.13	132
	150 ISL	9.28	9.26	33.443	25.857	216.2	0.472	4.42	68.1	18.0	1.44	18.0	0.01	0.02	0.05	151
1	155	9.02	9.00	33.494	25.939	208.5	0.482	4.19	64.2	20.4	1.56	19.9	0.01	0.01	0.03	156
1	186	8.83	8.81	33.809	26.216	182.8	0.543	3.22	49.3	28.3	1.87	25.1	0.01	0.00	0.02	187
	200 ISL	8.71	8.69	33.881	26.291	175.9	0.568	3.06	46.7	30.4	1.93	26.1	0.01	0.00	0.02	201
1	219	8.50	8.48	33.939	26.369	168.8	0.601	2.98	45.3	32.8	1.97	26.8	0.01	0.00	0.02	220
	250 ISL	8.06	8.03	34.002	26.485	158.2	0.651	2.88	43.3	37.1	2.04	28.0	0.01			251
1	255	7.98	7.95	34.008	26.502	156.7	0.659	2.86	43.0	37.9	2.05	28.2	0.01			256
1	295	7.39	7.36	34.031	26.605	147.2	0.720	2.52	37.3	45.7	2.24	30.8	0.00			297
	300 ISL	7.32	7.29	34.034	26.618	146.1	0.727	2.45	36.3	46.8	2.27	31.2	0.00			302
1	349	6.73	6.70	34.066	26.724	136.3	0.797	1.77	25.8	57.2	2.57	34.9	0.00			351
	400 ISL	6.22	6.18	34.094	26.813	128.2	0.864	1.25	18.0	66.9	2.78	37.7	0.00			402
1	414	6.11	6.07	34.103	26.835	126.3	0.882	1.14	16.4	69.3	2.83	38.3	0.00			417
1	483	5.84	5.80	34.178	26.928	118.2	0.966	0.72	10.3	78.2	3.02	40.3	0.00			486
	500 ISL	5.76	5.72	34.193	26.950	116.2	0.986	0.65	9.3	80.1	3.05	40.6	0.00			503
1	565	5.46	5.41	34.249	27.032	109.0	1.059	0.38	5.4	87.4	3.15	41.8	0.00			569

RV DAVID STARR JORDAN CALCOFI CRUISE 9108 STATION 83 90

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	NAVES	NEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
32 34.7 N	122 48.5 W	03/08/91	0536 UTC	4261 -	330 20 kn			1019.4 Mb	16.0 C	14.4 C			

CAST	DEPTH -	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ML/1	OXY PCT	SIO3 UM/1	PO4 UM/1	NO3 UM/1	NO2 UM/1	CHL-A UG/1	PHAEO UG/1	PRESS DB
1	0	16.89	16.89	33.123	24.101	380.4	0.000	5.69	102.7	4.4	0.39	0.0	0.00	0.08	0.02	0
1	9	16.89	16.89	33.124	24.102	380.6	0.034	5.68	102.5	3.9	0.30	0.0	0.00	0.08	0.02	9
	10 ISL	16.89	16.89	33.124	24.102	380.6	0.038	5.68	102.5	3.9	0.31	0.0	0.00	0.08	0.02	10
1	20	16.87	16.87	33.124	24.107	380.5	0.076	5.69	102.6	3.8	0.38	0.0	0.00	0.08	0.02	20
1	29	16.97	16.97	33.349	24.256	366.6	0.110	5.70	103.1	3.9	0.34	0.0	0.00	0.10	0.02	29
	30 ISL	16.90	16.90	33.348	24.272	365.1	0.113	5.71	103.2	3.9	0.34	0.0	0.00	0.10	0.02	30
1	39	16.00	15.99	33.267	24.417	351.5	0.146	5.86	104.0	3.8	0.35	0.0	0.00	0.13	0.04	39
1	48	15.18	15.17	33.217	24.561	338.0	0.177	5.97	104.2	3.6	0.36	0.0	0.00	0.15	0.05	48
	50 ISL	15.07	15.06	33.217	24.585	335.8	0.183	5.97	103.9	3.6	0.36	0.0	0.00	0.16	0.05	50
1	58	14.71	14.70	33.230	24.673	327.6	0.210	5.99	103.5	3.6	0.36	0.0	0.00	0.20	0.09	58
1	68	14.25	14.24	33.236	24.775	318.2	0.242	6.03	103.3	3.6	0.37	0.0	0.00	0.31	0.22	68
	75 ISL	13.79	13.78	33.236	24.870	309.2	0.264	5.96	101.1	3.9	0.43	0.3	0.08	0.37	0.32	75
1	82	13.31	13.30	33.233	24.965	300.3	0.286	5.84	98.1	4.3	0.50	1.0	0.15	0.39	0.39	82
1	95	12.57	12.56	33.219	25.100	287.7	0.324	5.63	93.1	5.4	0.63	3.7	0.09	0.26	0.30	95
	100 ISL	12.14	12.13	33.219	25.183	279.9	0.338	5.50	90.1	6.5	0.72	5.4	0.07	0.21	0.24	100
1	116	10.76	10.75	33.256	25.463	253.4	0.381	5.02	79.9	10.7	1.05	11.2	0.01	0.07	0.08	117
	125 ISL	10.27	10.26	33.297	25.579	242.4	0.403	4.80	75.6	12.8	1.18	13.4	0.01	0.06	0.07	126
1	141	9.69	9.67	33.395	25.753	226.0	0.440	4.41	68.6	16.3	1.37	16.5	0.01	0.03	0.04	142
	150 ISL	9.54	9.52	33.470	25.837	218.3	0.460	4.15	64.4	18.4	1.47	18.2	0.01	0.02	0.04	151
1	171	9.35	9.33	33.651	26.009	202.3	0.505	3.57	55.2	23.2	1.67	21.7	0.00	0.00	0.03	172
	200 ISL	8.90	8.88	33.852	26.239	181.0	0.560	3.03	46.4	29.4	1.86	25.2	0.00	0.00	0.02	201
1	201	8.88	8.86	33.858	26.246	180.2	0.562	3.02	46.3	29.6	1.86	25.3	0.00	0.00	0.02	202
1	231	8.45	8.43	33.967	26.399	166.2	0.614	2.98	45.2	33.4	1.92	26.4	0.01			232
	250 ISL	8.14	8.11	34.001	26.473	159.4	0.645	2.95	44.5	36.5	1.97	27.2	0.01			251
1	271	7.81	7.78	34.020	26.536	153.6	0.678	2.87	42.9	40.3	2.04	28.2	0.00			272
	300 ISL	7.42	7.39	34.034	26.604	147.4	0.721	2.57	38.1	45.4	2.13	30.0	0.00			302
1	326	7.11	7.08	34.042	26.654	142.9	0.759	2.24	33.0	50.0	2.24	31.7	0.01			328
1	385	6.54	6.51	34.080	26.761	133.3	0.841	1.52	22.1	61.2	2.62	35.7	0.00			387
	400 ISL	6.39	6.35	34.084	26.784	131.2	0.860	1.43	20.7	63.8	2.68	36.4	0.00			402
1	449	5.91	5.87	34.097	26.855	124.6	0.923	1.15	16.5	71.9	2.83	38.5	0.00			452
	500 ISL	5.53	5.49	34.137	26.934	117.5	0.985			80.8	2.96	40.5	0.00			503
1	514	5.43	5.39	34.148	26.955	115.6	1.001	0.05 U	0.7U	83.2	2.99	41.1	0.00			517

RV DAVID STARR JORDAN CALCOFI CRUISE 9108 STATION 83 9!i ROS

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	NAVES	NEA	BAROMETER	DRY	NET	SECCHI/FOREL	CLD AMT	TYPE
32 24.6 N	123 8.5 W	02/08/91	0209 UTC		350 22 kn	280 05 05	2	1018.8 Bb	16.4 C	15.0 C		8/8	SC

CAST	DEPTH -	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN BL/1	OXY PCT	SIO3 UM/1	PO4 UM/1	NO3 UM/1	NO2 UM/1	CHL-A UG/1	PHAEO UG/1	PRESS DB
2	13	16.99	16.99	33.281	24.199	371.5	0.048	5.70	103.1	2.3	0.43	0.0	0.00	0.09	0.03	13
2	25	16.89	16.89	33.270	24.214	370.4	0.093	5.72	103.3	2.3	0.41	0.0	0.00	0.09	0.02	25
2	39	14.25	14.24	32.850	24.476	345.8	0.143	6.19	IOS.8	2.1	0.46	0.2	0.01	0.23	0.10	39
2	55	13.56	13.55	32.843	24.613	333.1	0.197	6.20	104.4	2.1	0.50	0.4	0.02	0.32	0.17	55
2	67	12.86	12.85	32.809	24.726	322.6	0.237	6.15	102.1	2.1	0.56	0.8	0.10	0.32	0.19	67
2	68	12.83	12.82	32.809	24.732	322.1	0.240	6.15	102.0	2.1	0.53	0.8	0.09	0.31	0.18	68
2	72	13.60	13.59	33.123	24.822	313.8	0.253	5.93	100.1	2.5	0.47	0.6	0.11	0.31	0.19	72
2	91	13.70	13.69	33.324	24.957	301.4	0.311	5.74	97.2	3.1	0.47	0.9	0.12	0.31	0.24	91
2	106	11.61	11.60	33.068	25.164	281.7	0.355	5.61	90.8	6.5	0.85	7.1	0.08	0.17	0.14	106

RV DAVID STARR JORDAN CALCOFI CRUISE 9108 STATION 83 100

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	NIND SPEED	NAVES	NEA	BAROMETER	DRY	NET	SECCHI/FOREL	CLD AMT	TYPE
32 14.7 N	123 29.6 W	02/08/91	2200 UTC	4088 -	340 20 kn	340 04 05	2	1020.0 mb	17.7 C	15.9 C	25B 01	8/8	SC

CAST	DEPTH -	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN *mX/1*	OXY PCT	SIO3 UM/1	PO4 UM/1	NO3 UM/1	NO2 UM/1	CHL-A UG/1	PHAEO UG/1	PRESS DB
1	0	16.94	16.94	32.959	23.963	393.5	0.000	5.70	102.9	2.0	0.40	0.1	0.00	0.09	0.02	0
1	10	16.94	16.94	32.959	23.964	393.8	0.039	5.71	103.0	1.9	0.39	0.1	0.00	0.09	0.02	10
1	20	16.89	16.89	32.962	23.978	392.8	0.079	5.71	102.9	1.9	0.39	0.0	0.00	0.08	0.03	20
1	30	16.91	16.91	33.047	24.039	387.3	0.118	5.72	103.2	2.0	0.37	0.0	0.00	0.11	0.04	30
1	42	14.46	14.45	32.939	24.501	343.5	0.162	6.23	107.0	1.7	0.38	0.0	0.00	0.17	0.08	42
	S0 ISL	13.50	13.49	32.965	24.719	322.9	0.188	6.33	106.6	2.0	0.41	0.0	0.00	0.35	0.20	50
1	51	13.42	13.41	32.970	24.739	321.0	0.191	6.34	106.6	2.0	0.42	0.0	0.00	0.37	0.22	51
1	61	12.93	12.92	32.965	24.833	312.3	0.223	6.16	102.5	2.4	0.51	1.0	0.16	0.42	0.28	61
1	71	11.84	11.83	32.974	25.048	291.9	0.253	5.88	95.6	4.4	0.71	4.2	0.49	0.37	0.28	71
	75 ISL	11.54	11.53	32.994	25.119	285.3	0.265	5.77	93.2	5.3	0.79	5.6	0.40	0.32	0.26	75
1	86	10.91	10.90	33.060	25.283	269.7	0.295	5.48	87.4	8.0	0.97	9.2	0.04	0.17	0.19	86
1	100	10.18	10.17	33.135	25.468	252.4	0.332	5.19	81.5	10.9	1.13	12.1	0.02	0.07	0.11	100
1	121	9.59	9.58	33.292	25.689	231.7	0.383	4.67	72.4	14.9	1.35	16.2	0.01	0.03	0.06	122
	125 ISL	9.48	9.47	33.329	25.736	227.3	0.392	4.55	70.4	15.9	1.40	17.0	0.01	0.02	0.05	126
1	146	8.98	8.96	33.526	25.970	205.4	0.437	3.99	61.1	21.3	1.62	20.9	0.01	0.00	0.04	147
	150 ISL	8.91	8.89	33.560	26.008	201.9	0.446	3.93	60.1	22.0	1.64	21.3	0.01	0.00	0.04	151
1	176	8.55	8.53	33.754	26.216	182.5	0.495	3.60	54.7	26.3	1.74	23.5	0.01	0.00	0.04	177
	200 ISL	8.39	8.37	33.898	26.353	169.9	0.538	3.24	49.1	30.7	1.87	25.7	0.01	0.00	0.03	201
1	205	8.36	8.34	33.922	26.377	167.8	0.546	3.17	48.0	31.6	1.90	26.1	0.01	0.00	0.03	206
1	236	8.09	8.07	34.001	26.480	158.4	0.597	2.90	43.7	36.3	2.01	27.8	0.01			237
	250 ISL	7.90	7.87	34.015	26.519	154.9	0.619	2.81	42.1	38.5	2.06	28.5	0.01			251
1	276	7.51	7.48	34.026	26.584	149.0	0.658	2.63	39.1	43.0	2.16	30.0	0.00			278
	300 ISL	7.17	7.14	34.034	26.638	144.0	0.693	2.36	34.8	48.0	2.29	31.7	0.00			302
1	330	6.80	6.77	34.044	26.697	138.6	0.736	1.98	28.9	54.3	2.46	33.9	0.00			332
1	390	6.36	6.33	34.087	26.790	130.4	0.816	1.31	19.0	64.6	2.72	37.2	0.00			392
	400 ISL	6.27	6.23	34.094	26.807	128.9	0.829	1.21	17.5	66.5	2.76	37.7	0.00			402
1	456	5.84	5.80	34.137	26.896	120.8	0.899	0.74	10.6	76.0	2.95	40.1	0.00			459
	500 ISL	5.73	5.69	34.188	26.950	116.2	0.952	0.54	7.7	80.8	3.04	40.8	0.00			503
1	526	5.66	5.62	34.218	26.983	113.4	0.981	0.42	6.0	83.6	3.09	41.2	0.00			530

RV DAVID STARR JORDAN CALCOFI CRUISE 9108 STATION 83 IOS ROS

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	HIND SPEED	NAVES	WEA	BAROMETER	DRY	NET	SECCBI/FOREL	CLD AMT TYPE
32 5.0 N	123 4».0 N	02/08/91	1814 UTC		350 20 kn	350 04 09	2	1020.8 ab	17.0 C	15.8 C	26B 02	8/8 SC

CAST	DEPTH M	TEMP DEG C	POT TEMP DEC C	SALINITY PSS 78	SIGMA TBETA	SVA	DYN BT	OXYGEN »1/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CBL-A ug/1	PBAEO ug/1	PRESS db
2	1	16.74	16.74	32.937	23.993	390.7	0.004	5.72	102.8	1.7	0.42	0.0	0.00	0.13	0.02	1
2	11	16.72	16.72	32.936	23.997	390.6	0.043	5.72	102.8	1.6	0.41	0.0	0.00	0.13	0.03	11
2	26	15.61	15.61	32.886	24.211	370.7	0.100	5.91	103.8	1.8	0.43	0.1	0.01	0.23	0.06	26
2	36	13.81	13.80	32.817	24.541	339.4	0.136	6.23	105.5	2.4	0.46	0.1	0.01	0.34	0.08	36
2	49	12.92	12.91	32.794	24.702	324.4	0.179	6.17	102.5	2.3	0.53	0.7	0.11	0.46	0.17	49
2	70	11.39	11.38	32.756	24.961	300.1	0.244	5.95	95.7	4.0	0.72	3.7	0.30	0.38	0.17	70
2	80	11.09	11.08	32.757 U			0.274	5.85	93.5	4.9	0.78	5.1	0.14	0.29	0.14	80
2	99	10.38	10.37	32.917	25.264	271.8	0.327	5.61	88.3	8.5	1.01	9.5	0.02	0.12	0.11	99

RV DAVID STARR JORDAN CALCOFI CRUISE 9108 STATION 83 110

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	NINO SPEED	NAVES	NBA	BAROMETER	DRY	NET	SECCBI/FOREL	CLD ANT TYPE
31 54.7 N	124 10.2 N	02/08/91	1403 UTC		350 19 kn	360 03 10	2	1020.0 lib	16.1 C	15.0 C	23a 02	8/8 SC

CAST	DEPTH ·	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA TBETA	SVA	DYN BT	OXYGEN *ml/1*	OXY PCT	SIO3 UM/1	PO4 UM/1	NO3 UM/1	NO2 UM/1	CBL-A ug/1	PBAEO ug/1	PRESS db
1	0	16.52	16.52	32.893	24.010	389.1	0.000	5.80	103.8	1.9	0.42	0.1	0.01	0.16	0.05	0
	10 ISL	16.49	16.49	32.892	24.016	388.8	0.039	5.7»	103.5	1.8	0.42	0.1	0.01	0.17	0.06	10
1	15	16.47	16.47	32.892	24.021	388.5	0.058	5.78	103.3	1.7	0.42	0.1	0.01	0.18	0.06	15
	20 ISL	15.94	15.94	32.933	24.173	374.1	0.077	5.84	103.3	1.8	0.41	0.1	0.01	0.21	0.08	20
1	30	14.74	14.74	32.997	24.486	344.6	0.113	6.00	103.6	2.1	0.40	0.0	0.00	0.29	0.12	30
1	40	14.03	14.02	32.925	24.580	335.9	0.147	6.18	105.2	2.3	0.43	0.3	0.01	0.40	0.15	40
1	50	13.37	13.36	32.861	24.665	328.0	0.181	6.21	104.2	2.1	0.45	0.1	0.02	0.49	0.20	50
1	«1	12.73	12.72	32.811	24.752	319.9	0.216	6.12	101.3	2.2	0.55	1.0	0.16	0.44	0.20	61
1	71	11.99	11.98	32.834	24.911	304.9	0.247	6.00	97.8	3.7	0.68	3.5	0.34	0.31	0.17	71
	75 ISL	11.58	11.57	32.814	24.972	299.2	0.260	5.95	96.1	4.3	0.72	4.3	0.30	0.27	0.16	75
1	10	11.09	11.08	32.794	25.044	292.4	0.274	5.89	94.1	5.1	0.77	5.4	0.21	0.23	0.14	80
1	95	10.50	10.49	32.917	25.243	273.7	0.317	5.73	90.5	8.0	0.98	9.2	0.02	0.06	0.09	95
	100 ISL	10.35	10.34	32.952	25.297	268.7	0.330	5.68	89.4	8.9	1.04	10.2	0.02	0.05	0.09	100
1	110	10.12	10.11	33.035	25.400	259.0	0.357	5.51	86.3	10.5	1.12	11.7	0.01	0.03	0.09	110
1	125	9.98	9.97	33.231	25.577	242.5	0.394	4.94	77.3	11.7	1.18	13.1	0.02	0.06	0.09	126
1	150	9.54	9.52	33.404	25.785	223.2	0.453	4.45	69.0	15.9	1.40	17.1	0.02	0.03	0.05	151
1	175	9.13	9.11	33.590	25.997	203.5	0.506	4.18	64.3	19.4	1.49	19.3	0.02	0.02	0.04	176
	200 ISL	8.75	8.73	33.778	26.204	184.2	0.554	3.96	60.5	24.3	1.61	21.6	0.01	0.02	0.01	201
1	206	8.67	8.65	33.816	26.246	180.3	0.565	3.92	59.7	25.4	1.64	22.1	0.01	0.02	0.00	207
1	235	8.29	8.27	33.906	26.375	168.4	0.616	3.83	57.9	28.7	1.68	23.3	0.01			236
	250 ISL	8.07	8.04	33.941	26.436	162.9	0.641	3.63	54.6	31.7	1.77	24.7	0.01			251
1	275	7.71	7.68	33.983	26.522	154.9	0.680	3.21	47.9	37.5	1.96	27.4	0.00			277
	300 ISL	7.38	7.35	34.006	26.587	149.0	0.718	2.79	41.3	43.0	2.14	29.8	0.00			302
1	330	7.01	6.98	34.022	26.651	143.1	0.762	2.29	33.6	49.5	2.34	32.5	0.00			332
1	389	6.37	6.34	34.060	26.767	132.6	0.844	1.4,8	21.4	61.9	2.64	36.6	0.00			391
	400 ISL	6.29	6.25	34.067	26.783	131.1	0.858	1.38	19.9	63.7	2.69	37.1	0.00			402
1	454	5.91	5.87	34.102	26.859	124.3	0.927	1.00	14.3	72.3	2.87	39.3	0.00			457
	500 ISL	5.51	5.47	34.127	26.928	118.0	0.983	0.79	11.2	80.5	2.97	40.8	0.00			503
1	523	5.31	5.27	34.141	26.963	114.7	1.009	0.69	9.7	84.6	3.02	41.6	0.00			526

RV DAVID STARR JORDAN CALCOFI CRUISE 9108 STATION 87 33

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	NAVES	NEA	BAROMETER	DRY	NET	SECCBI/FOREL	CLD AMT TYPE
33 53.4 N	118 29.4 N	31/07/91	0048 UTC	55 a	110 08 kn	220 01 03	4	1015.8 ab	18.5 C	17.6 C	15a 03	8/8 ST

CAST	DEPTH a	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA TBETA	SVA	DYN BT	OXYGEN al/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 UM/1	CHL-A ug/1	PBAEO ug/1	PRESS db
1	0	18.22	18.22	33.574	24.127	377.9	0.000	6.19	114.9	4.1	0.26	0.1	0.00	0.49	0.13	0
	10 ISL	17.59	17.59	33.557	24.268	364.8	0.037	6.43	117.9	4.2	0.26	0.0	0.00	0.47	0.14	10
1	11	17.53	17.53	33.555	24.281	363.6	0.041	6.45	118.1	4.2	0.26	0.0	0.00	0.47	0.14	11
	20 ISL	14.35	14.35	33.457	24.923	302.7	0.071	6.34	109.0	6.1	0.45	0.1	0.02	1.49	0.51	20
1	21	13.99	13.99	33.453	24.995	295.8	0.074	6.33	108.0	6.4	0.48	0.1	0.02	1.58	0.55	21
	30 ISL	12.89	12.89	33.445	25.211	275.4	0.099	5.49	91.5	8.6	0.86	4.5	0.22	1.01	0.59	30
1	31	12.84	12.84	33.444	25.221	274.6	0.102	5.39	89.8	8.8	0.91	5.1	0.24	0.90	0.59	31
1	42	12.30	12.29	33.438	25.321	265.3	0.132	4.77	78.5	11.4	1.29	8.3	0.38	0.28	0.27	42
	50 ISL	11.65	11.64	33.465	25.464	251.9	0.153	4.43	72.0	12.9	1.32	11.8	0.42	0.18	0.29	50
1	52	11.49	11.48	33.473	25.500	248.5	0.158	4.35	70.4	13.3	1.33	12.7	0.43	0.15	0.30	52

RV DAVID STARR JORDAN | CALCOri CRUISE 9108 | STATION 87 35

LATITUDE	LONGITUDE	DAY/NO/YR	MESSENGER	BOTTOM	HIND SPEED	NAVES	NEA	BAROMETER	DRY	NET	SECCHI/FOREL	CLD AMT	TYPE
33 49.4 N	118 37.7 N	31/07/91	0244 UTC	C70 -	270 06 ten	280 01 05	2	1016.0 mb	19.2 C	17.7 C	19a 03	8/8	SC

CAST	DEPTH -		TEMP DEC C	POT TEMP DEC C	SALINITY PSS 78	SIGMA TBETA	SVA	DYN HT	OXYGEN Ml/1	OXY PCT	SIO3 uM/1	PO4 UM/1	NOS uM/1	NO2 UM/1	CBL-A ug/1	PHAEO ug/1	PRESS db
1	0		19.04	19.04	33.616	23.955	394.4	0.000	5.68	107.1	3.0	0.28	0.0	0.00	0.20	0.05	0
1	10		18.19	18.19	33.584	24.143	376.8	0.039	5.89	109.3	3.0	0.28	0.0	0.00	0.24	0.07	10
1	19		15.78	15.78	33.508	24.651	328.6	0.070	6.73	119.1	3.0	0.30	0.0	0.00	0.45	0.16	19
	20	ISL	15.60	15.60	33.503	24.688	325.1	0.074	6.73	118.6	3.0	0.30	0.0	0.00	0.58	0.19	20
1	30		14.27	14.27	33.471	24.951	300.3	0.105	6.73	115.5	3.9	0.31	0.0	0.00	1.58	0.40	30
1	40		13.14	13.13	33.470	25.182	278.6	0.134	5.44	91.2	6.9	0.62	1.4	0.15	0.52	0.36	40
1	50		12.32	12.31	33.485	25.354	262.4	0.161	4.98	82.1	8.5	0.94	8.9	0.18	0.38	0.35	50
1	61		11.56	11.55	33.513	25.518	247.0	0.189	4.51	73.1	11.7	1.15	12.5	0.06	0.20	0.25	61
1	70		10.85	10.84	33.547	25.673	232.4	0.210	4.20	67.1	14.6	1.33	15.6	0.03	0.08	0.14	70
	75	ISL	10.76	10.75	33.578	25.713	228.7	0.222	4.05	64.6	15.5	1.38	16.4	0.03	0.07	0.13	75
1	84		10.61	10.60	33.588	25.747	225.6	0.242	3.84	61.0	16.5	1.44	17.1	0.02	0.05	0.12	84
1	100		10.45	10.44	33.616	25.797	221.2	0.278	3.71	58.8	17.7	1.49	18.1	0.02	0.04	0.11	100
1	120		10.01	10.00	33.691	25.931	208.8	0.321	3.58	56.2	20.2	1.58	19.8	0.02	0.02	0.07	121
	125	ISL	9.89	9.88	33.719	25.973	205.0	0.331	3.53	55.3	21.1	1.61	20.4	0.02	0.02	0.07	126
1	144		9.49	9.47	33.825	26.122	191.1	0.369	3.32	51.5	24.4	1.73	22.4	0.02	0.01	0.06	145
	ISO	ISL	9.43	9.41	33.846	26.148	188.7	0.381	3.28	50.9	25.1	1.75	22.8	0.02	0.01	0.06	151
1	175		9.25	9.23	33.923	26.238	180.7	0.427	3.10	47.9	27.7	1.83	24.0	0.02	0.00	0.05	176
	200	ISL	9.00	8.98	34.023	26.357	169.8	0.470	2.84	43.7	31.3	1.95	25.4	0.03	0.00	0.05	201
1	205		8.96	8.94	34.041	26.377	168.0	0.479	2.79	42.9	32.0	1.98	25.7	0.03	0.00	0.05	206
1	234		9.00	8.97	34.085	26.406	165.9	0.527	2.50	38.5	33.9	2.08	26.7	0.02			235
	250	ISL	9.00	8.97	34.119	26.433	163.7	0.554	2.29	35.2	35.4	2.15	27.3	0.02			251
1	275		9.00	8.97	34.173	26.476	160.1	0.594	1.99	30.6	37.6	2.25	28.2	0.02			277
	300	ISL	8.91	8.88	34.186	26.500	158.2	0.634	1.89	29.0	38.9	2.29	28.7	0.02			302
1	330		8.75	8.71	34.187	26.527	156.2	0.681	1.83	28.0	40.4	2.33	29.2	0.02			332
1	390		8.31	8.27	34.212	26.615	148.7	0.773	1.53	23.2	45.6	2.48	31.0	0.01			392
	400	ISL	8.17	8.13	34.216	26.639	146.5	0.787	1.44	21.7	47.5	2.53	31.6	0.01			403
1	455		7.41	7.37	34.242	26.771	134.3	0.865	0.91	13.5	58.1	2.79	35.0	0.01			458
	500	ISL	7.15	7.10	34.272	26.831	129.1	0.924	0.66	9.7	63.2	2.91	36.3	0.01			503
1	525		7.01	6.96	34.289	26.864	126.2	0.956	0.52	7.6	66.0	2.98	37.0	0.01			529

RV DAVID STARR JORDAN | CALCOFI CRUISE 9108 | STATION 87 39.4

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	HIND SPEED	NAVES	NEA	BAROMETER	DRY	HET	SECCHI/FOREL	CLD AMT	TYPE
33 41.0 N	118 56.0 N	31/07/91	0735 UTC	895 -	070 03 kn			1016.9 mb	17.7 C	17.0 C			

CAST	DEPTH -		TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN al/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
1	0	A	19.09	19.09	33.647	23.966	393.3	0.000	5.57	105.2	3.0	0.28	0.0	0.00	0.16	0.05	0
1	9		18.92	18.92	33.637	24.001	390.2	0.035	5.64	106.1	3.0	0.22	0.0	0.00	0.20	0.05	9
	10	ISL	18.70	18.70	33.628	24.050	385.6	0.039	5.69	106.6	3.0	0.23	0.0	0.00	0.21	0.05	10
1	20		16.00	16.00	33.543	24.629	330.8	0.075	6.17	109.7	2.7	0.33	0.0	0.00	0.28	0.10	20
1	30		14.08	14.08	33.473	24.992	296.4	0.106	6.35	108.5	4.2	0.39	0.4	0.02	0.64	0.33	30
1	39		12.96	12.95	33.486	25.230	273.9	0.132	5.35	89.4	6.4	0.75	5.8	0.22	0.84	0.50	39
1	50		12.37	12.36	33.483	25.342	263.5	0.162	4.93	81.3	8.7	0.95	9.1	0.12	0.53	0.41	50
1	60		11.75	11.74	33.494	25.468	251.7	0.187	4.75	77.3	10.6	1.09	11.3	0.06	0.32	0.30	60
1	70		11.37	11.36	33.513	25.553	243.8	0.212	4.55	73.5	12.2	1.20	13.2	0.04	0.22	0.25	70
	75	ISL	11.24	11.23	33.520	25.582	241.2	0.224	4.44	71.5	12.7	1.24	13.8	0.04	0.19	0.23	75
1	84		11.03	11.02	33.538	25.634	236.4	0.246	4.21	67.5	13.8	1.30	14.9	0.03	0.16	0.19	84
1	99		10.49	10.48	33.603	25.780	222.8	0.280	3.75	59.4	16.8	1.47	17.9	0.01	0.07	0.13	99
	100	ISL	10.46	10.45	33.607	25.788	222.1	0.282	3.73	59.1	17.0	1.48	18.0	0.01	0.07	0.13	100
1	119		10.05	10.04	33.686	25.920	209.9	0.323	3.51	55.1	19.9	1.61	20.1	0.01	0.02	0.09	120
	125	ISL	9.95	9.94	33.713	25.958	206.4	0.336	3.42	53.6	20.9	1.65	20.7	0.01	0.02	0.08	126
1	139		9.74	9.72	33.779	26.045	198.4	0.364	3.24	50.6	23.0	1.72	22.1	0.01	0.03	0.06	140
	150	ISL	9.57	9.55	33.827	26.111	192.3	0.386	3.21	49.9	24.2	1.75	22.7	0.01	0.02	0.06	151
1	169		9.32	9.30	33.918	26.223	182.0	0.421	3.09	47.8	26.8	1.83	23.9	0.01	0.00	0.05	170
1	199		9.12	9.10	34.102	26.400	165.8	0.473	2.20	33.9	34.6	2.15	27.5	0.01	0.00	0.07	200
	200	ISL	9.12	9.10	34.103	26.400	165.8	0.475	2.20	33.9	34.7	2.15	27.5	0.01			201
1	229		8.95	8.93	34.106	26.430	163.5	0.523	2.18	33.5	35.8	2.18	27.9	0.02			230
	250	ISL	8.65	8.62	34.129	26.495	157.5	0.557	2.01	30.7	39.1	2.28	29.1	0.02			251
1	269		8.34	8.31	34.149	26.559	151.7	0.586	1.85	28.0	42.6	2.38	30.3	0.02			271
	300	ISL	7.88	7.85	34.139	26.620	146.2	0.632	1.82	27.3	46.2	2.40	31.4	0.01			302
1	319		7.66	7.63	34.135	26.649	143.7	0.660	1.78	26.6	48.2	2.41	32.0	0.01			321
1	378		7.57	7.53	34.242	26.747	135.4	0.742	0.97	14.5	55.2	2.77	34.4	0.00			380
	400	ISL	7.42	7.38	34.266	26.788	131.8	0.771	0.78	11.6	58.4	2.86	35.3	0.00			403
1	438		7.09	7.05	34.293	26.855	125.7	0.820	0.55	8.1	63.9	2.97	36.8	0.01	'		441
	500	ISL	6.60	6.55	34.308	26.934	118.7	0.896	0.37	5.4	71.4	3.08	38.6	0.01			503
1	508		6.54	6.49	34.309	26.943	118.0	0.906	0.36	5.2	72.3	3.09	38.8	0.01			511
	600	ISL	5.88	5.83	34.340	27.053	108.1	1.010	0.22	3.2	84.6	3.21	40.0	0.00			604
1	648		5.60	5.54	34.356	27.101	103.9	1.060	0.17	2.4	90.9	3.26	40.6	0.00			653
	700	ISL	5.43	5.37	34.368	27.131	101.4	1.114	0.14	2.0	96.3	3.31	39.6	0.00			705
	800	ISL	5.23	5.16	34.385	27.169	98.7	1.214	0.08	1.1	105.8	3.39	36.0	0.00			806
1	847		5.19	5.12	34.391	27.179	98.3	1.260	0.05	0.7	109.8	3.42	33.6	0.00			854
1	879		5.14	5.07	34.396	27.189	97.6	1.292	0.06	0.8	112.8	3.43	32.0	0.01			886
1	888		5.15	5.08	34.397	27.189	97.8	1.300	0.06	0.8	113.3	3.43	31.8	0.01			895
1	893		5.14	5.06	34.397	27.190	97.7	1.305	0.06	0.8	113.6	3.44	31.8	0.01			900
1	898		5.14	5.06	34.396	27.189	97.9	1.310	0.06	0.8	113.4	3.36	31.7	0.01			905

A) SANTA MONICA BASIN STATION.

RV DAVID STARR JORDAN CALCOFI CRUISE 9108 STATION 87 45

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	NAVES	NBA	BAROMETER	DRY	NET	SECCHI/FOREL	CLD AMT TYPE
33 29.4 N	11» 19.2 N	31/07/91	1135 UTC		290 13 kn			1015.9 Bib	16.4 C	15.5 C		

CAST	DEPTH II	TEMP DEC C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/1	OXY PCT	SIOJ UM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL-A ug/1	PBAEO ug/1	PRESS db
1	0	17.99	17.99	33.626	24.223	368.7	0.000	5.67	104.8	2.1	0.30	0.0	0.00	0.27	0.06	0
1	9	18.00	18.00	33.624	24.220	369.4	0.033	5.70	105.4	2.0	0.29	0.0	0.00	0.27	0.07	9
	10 ISL	17.89	17.89	33.627	24.249	366.6	0.037	5.73	105.7	2.1	0.29	0.0	0.00	0.34	0.09	10
1	19	16.54	16.54	33.645	24.583	335.1	0.068	6.03	108.4	3.6	0.29	0.1	0.02	1.03	0.33	19
	20 ISL	16.43	16.43	33.644	24.608	332.7	0.072	6.02	108.0	3.7	0.30	0.2	0.02	1.10	0.36	20
1	30	14.98	14.98	33.590	24.891	306.0	0.104	5.93	103.3	4.3	0.49	2.5	0.11	1.49	0.58	30
1	39	12.59	12.58	33.508	25.319	265.4	0.129	5.39	89.3	7.9	0.90	8.3	0.25	1.18	0.61	39
1	50	11.45	11.44	33.496	25.525	246.0	0.158	4.88	78.9	11.6	1.16	12.5	0.27	0.53	0.30	50
1	61	10.67	10.66	33.561	25.715	228.2	0.184	4.41	70.2	16.0	1.39	16.6	0.13	0.31	0.23	61
1	71	10.33	10.32	33.714	25.894	211.4	0.206	3.49	55.2	20.4	1.59	20.1	0.07	0.25	0.25	71
	75 ISL	10.19	10.18	33.743	25.940	207.0	0.214	3.32	52.3	21.5	1.65	21.0	0.05	0.22	0.25	75
1	84	9.91	9.90	33.781	26.017	199.9	0.232	3.11	48.7	23.5	1.75	22.5	0.03	0.14	0.25	84
1	100	9.54	9.53	33.861	26.141	188.4	0.263	2.78	43.2	26.8	1.89	24.9	0.02	0.05	0.12	101
1	120	9.30	9.29	33.926	26.231	180.2	0.300	2.62	40.5	29.1	1.99	26.0	0.02	0.02	0.11	121
	125 ISL	9.25	9.24	33.940	26.251	178.5	0.309	2.58	39.9	29.6	2.01	26.3	0.02	0.02	0.11	126
1	145	9.05	9.03	33.991	26.323	172.0	0.344	2.45	37.7	31.7	2.07	27.2	0.02	0.01	0.12	146
	150 ISL	9.01	8.99	34.002	26.338	170.6	0.353	2.43	37.4	32.2	2.08	27.4	0.02	0.01	0.12	151
1	174	8.83	8.81	34.049	26.404	164.8	0.393	2.31	35.4	34.5	2.13	28.2	0.04	0.01	0.10	175
	200 ISL	8.61	8.59	34.100	26.478	158.2	0.435	2.10	32.0	37.6	2.23	29.2	0.05	0.00	0.07	201
1	204	8.58	8.56	34.107	26.488	157.3	0.441	2.06	31.4	38.1	2.25	29.4	0.05	0.00	0.07	205
1	233	8.33	8.31	34.141	26.553	151.5	0.486	1.77	26.8	42.2	2.37	30.9	0.02			234
	250 ISL	8.18	8.15	34.166	26.596	147.8	0.512	1.60	24.2	44.9	2.46	31.8	0.02			251
1	273	8.00	7.97	34.200	26.650	143.0	0.545	1.39	20.9	48.5	2.58	32.8	0.03			275
	300 ISL	7.84	7.81	34.227	26.695	139.1	0.583	1.14	17.1	51.6	2.67	33.7	0.04			302
1	329	7.69	7.66	34.247	26.733	135.9	0.623	0.92	13.7	54.3	2.74	34.4	0.04			331
1	388	7.42	7.38	34.261	26.784	132.0	0.702	0.75	11.1	58.4	2.83	35.6	0.02			391
	400 ISL	7.32	7.28	34.267	26.802	130.3	0.718	0.69	10.2	59.9	2.86	36.0	0.02			403
1	452	6.87	6.83	34.292	26.885	123.0	0.784	0.47	6.9	66.7	2.99	37.7	0.01			455
	500 ISL	6.54	6.49	34.289	26.927	119.4	0.842	0.42	6.1	71.8	3.04	38.7	0.01			503
1	520	6.40	6.35	34.288	26.945	117.8	0.866	0.40	5.8	73 9	3.06	39.1	0.01			524

RV DAVID STARR JORDAN CALCOFI CRUISE 9108 STATION 87 50

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	NAVES	NEA	BAROMETER	DRY	NET	SECCHI/FOREL	CLD AMT TYPE
33 19.4 N	119 39.7 N	31/07/91	1513 UTC	75 -	310 06 kn	300 01 07	2	1018.1 Lib	15.8 C	15.0 C	15a 03	8/8 SC

CAST	DEPTH -	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/X	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 UM/1	NO2 uM/1	CHL-A ug/1	PBAEO ug/1	PRESS db
1	0	16.16	16.16	33.637	24.664	326.8	0.000	5.88	104.9	4.0	0.37	1.0	0.05	0.84	0.32	0
1	10	15.70	15.70	33.615	24.751	318.8	0.032	5.95	105.2	3.3	0.41	1.4	0.07	1.47	0.56	10
1	19	13.27	13.27	33.560	25.225	273.9	0.059	5.53	93.0	7.1	0.80	6.9	0.27	0.67	0.36	19
	30 ISL	12.99	12.99	33.549	25.272	269.4	0.062	5.45	91.1	7.7	0.85	7.7	0.26	0.62	0.34	20
1	30	10.82	10.82	33.500	25.641	234.5	0.087	4.5»	73.3	13.8	1.30	15.2	0.11	0.34	0.21	30
1	40	10.31	10.31	33.604	25.810	218.6	0.110	4.10	64.7	18.2	1.51	18.6	0.06	0.15	0.13	40
1	50	10.12	10.11	33.667	25.892	211.0	0.131	3.80	59.8	20.6	1.60	20.0	0.07	0.12	0.13	50
1	58	10.13	10.12	33.723	25.934	207.2	0.148	3.5!)	56.5	22.4	1.65	20.7	0.11	0.10	0.13	58
1	68	10.10	10.09	33.738	25.951	205.8	0.168	3.51	55.2	23.2	1.68	21.0	0.12	0.09	0.14	68

RV DAVID STARR JORDAN CALCOFI CRUISE 9108 STATION 87 55

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	NIND SPEED	NAVES	NEA	BAROMETER	DRY	NET	SECCHI/FOREL	CLD AMT TYPE
33 9.4 N	120 0.4 H	31/07/91	2008 UTC	1176 -	340 06 kn	260 01 06	2	1019.8 Mb	16.0 C	15.5 C	16a 04	8/8 SC

CAST	DEPTH -	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN al/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 UM/1	NO2 uM/1	CHL-A ug/1	PBAEO ug/1	PRESS db
1	0	16.19	16.19	33.604	24.632	329.8	0.000	5.93	105.8	2.6	0.36	0.8	0.05	0.44	0.11	0
1	9	15.90	15.90	33.593	24.689	324.6	0.029	5.95	105.6	2.7	0.38	1.1	0.06	0.82	0.20	9
	10 ISL	15.67	15.67	33.582	24.733	320.5	0.033	5.94	104.9	2.9	0.41	1.5	0.10	0.81	0.22	10
1	19	13.17	13.17	33.505	25.202	276.0	0.060	5.61	94.1	6.2	0.80	6.9	0.48	0.50	0.32	19
	20 ISL	12.92	12.92	33.502	25.249	271.6	0.062	5.53	92.3	6.8	0.85	7.7	0.47	0.46	0.31	20
1	30	10.90	10.90	33.506	25.631	235.4	0.088	4.63	74.0	13.5	1.32	15.4	0.32	0.16	0.17	30
1	39	9.93	9.93	33.543	25.827	216.9	0.108	4.02	62.9	18.5	1.54	19.3	0.04	0.06	0.11	39
1	50	9.57	9.56	33.550	25.892	210.9	0.132	3.86	59.9	20.0	1.61	20.3	0.03	0.04	0.09	50
1	60	9.48	9.47	33.646	25.982	202.6	0.152	3.59	55.7	22.7	1.71	22.1	0.02	0.02	0.07	60
1	70	9.47	9.46	33.677	26.008	200.3	0.172	3.52	54.6	23.4	1.73	22.5	0.02	0.02	0.06	70
	75 ISL	9.45	9.44	33.684	26.017	199.6	0.182	3.52	54.6	23.5	1.73	22.6	0.02	0.02	0.06	75
1	85	9.34	9.33	33.706	26.052	196.4	0.202	3.51	54.3	23.6	1.74	22.7	0.03	0.01	0.06	85
1	100	9.00	8.99	33.809	26.188	183.9	0.231	3.40	52.2	25.9	1.76	23.6	0.04	0.01	0.07	101
1	120	8.68	8.67	33.927	26.330	170.6	0.266	3.05	46.5	30.7	1.90	25.8	0.03	0.01	0.05	121
	125 ISL	8.65	8.64	33.950	26.353	168.6	0.275	2.92	44.5	31.8	1.94	26.4	0.03	0.01	0.06	126
1	144	8.57	8.55	34.014	26.416	163.0	0.306	2.47	37.6	35.6	2.09	28.2	0.03	0.01	0.08	145
	150 ISL	8.53	8.51	34.026	26.432	161.6	0.316	2.39	36.4	36.4	2.12	28.6	0.03	0.01	0.08	151
1	176	8.36	8.34	34.056	26.481	157.3	0.357	2.20	33.4	39.0	2.20	29.6	0.01	0.00	0.07	177
	200 ISL	8.24	8.22	34.082	26.520	154.0	0.395	2.05	31.0	41.1	2.26	30.3	0.01	0.00	0.06	201
1	206	8.21	8.19	34.088	26.530	153.2	0.404	2.02	30.5	41.6	2.28	30.5	0.01	0.00	0.06	207
1	234	8.00	7.98	34.114	26.582	148.7	0.446	1.82	27.4	44.8	2.36	31.6	0.01			235
	250 ISL	7.85	7.83	34.131	26.617	145.5	0.470	1.70	25.5	47.0	2.42	32.3	0.01			252
1	374	7.61	7.58	34.161	26.676	140.3	0.504	1.49	22.2	51.0	2.54	33.4	0.01			276
	300 ISL	7.35	7.32	34.212	26.754	133.2	0.540	1.09	16.2	57.0	2.70	35.0	0.01			302
1	330	7.11	7.08	34.264	26.828	126.5	0.578	0.67	9.9	63.2	2.87	36.6	0.01			332
1	390	6.94	6.90	34.271	26.858	124.6	0.654	0.57	8.4	66.2	2.96	37.2	0.01			393
	400 ISL	6.91	6.87	34.272	26.863	124.2	0.666	0.56	8.2	66.7	2.97	37.3	0.01			403
1	455	6.71	6.67	34.280	26.897	121.7	0.734	0.48	7.0	69.8	2.99	38.1	0.01			458
	500 ISL	6.44	6.39	34.288	26.939	118.1	0.788	0.40	s.8	74.2	3.05	39.1	0.01			504
1	524	6.29	6.24	34.293	26.963	116.0	0.816	0.16	5.2	76.5	3.08	39.6	0.01			528

RV DAVID STARR JORDAN CALCOFI CRUISE 9108 STATION B7 60

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	NAVES	NBA	BAROMETER	DRY	NET	SECCHI/FOREL	CLD AMT TYPE
32 59.4 N	120 21.0 N	01/08/91	0000 UTC		290 10 kn	240 02 05	2	1018.5 Mb	17.4 C	IS.2 C	15a 03	8/8 SC

CAST	DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN BT	OXYGEN al/1	OZY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL-A ug/1	PBAEO ug/1	PRESS; db
1	0	16.32	16.32	33.607	24.604	332.4	0.000	5.90	105.6	2.5	0.38	0.6	0.04	0.35	0.09	I)
	10 ISL	16.19	16.19	33.607	24.634	329.9	0.033	5.92	105.7	2.5	0.38	0.6	0.04	0.40	0.11	lit
1	11	16.18	16.18	33.607	24.637	329.7	0.036	5.92	105.6	2.5	0.38	0.6	0.04	0.40	0.11	VI
1	20	15.40	15.40	33.615	24.818	312.7	0.065	5.89	103.5	3.3	0.46	1.8	0.09	0.53	0.27	20
1	30	12.73	12.73	33.651	25.402	257.3	0.094	5.05	84.0	9.9	1.01	9.8	0.50	0.58	0.44	30
1	39	11.63	11.63	33.664	25.622	236.6	0.116	4.51	73.3	14.1	1.29	14.4	0.38	0.40	0.40	39
1	50	10.86	10.85	33.701	25.790	220.8	0.141	3.93	62.8	18.4	1.51	18.4	0.06	0.27	0.28	50
1	58	10.07	10.06	33.766	25.978	203.0	0.158	3.35	52.7	23.3	1.73	22.1	0.03	0.14	0.15	58
1	69	9.72	9.71	33.796	26.060	195.4	0.180	3.15	49.2	25.3	1.82	23.6	0.02	0.08	0.12	69
	75 ISL	9.49	9.48	33.829	26.124	189.5	0.192	2.99	46.4	26.9	1.88	24.5	0.02	0.05	0.10	75
1	83	9.25	9.24	33.872	26.197	182.7	0.206	2.81	43.4	28.8	1.95	25.6	0.02	0.03	0.08	83
1	98	9.23	9.22	33.891	26.215	181.3	0.234	2.74	42.3	29.5	1.96	26.0	0.01	0.03	0.09	99
	100 ISL	9.21	9.20	33.897	26.223	180.5	0.237	2.71	41.8	29.8	1.97	26.1	0.01	0.03	0.09	101
1	118	8.94	8.93	33.958	26.314	172.2	0.269	2.46	37.8	32.6	2.08	27.6	0.01	0.01	0.08	119
	125 ISL	8.85	8.84	33.972	26.339	169.9	0.281	2.42	37.1	33.5	2.10	28.0	0.01	0.01	0.08	136
1	143	8.62	8.61	34.001	26.398	164.7	0.311	2.35	35.8	35.5	2.13	28.7	0.01	0.01	0.09	144
	150 ISL	8.54	8.52	34.012	26.419	162.8	0.323	2.32	35.3	36.3	2.15	29.0	0.01	0.01	0.08	1S1
1	173	8.30	8.28	34.045	26.482	157.2	0.360	2.21	33.5	38.8	2.22	29.8	0.01	0.00	0.06	174
	200 ISL	8.06	8.04	34.083	26.548	151.3	0.401	2.01	30.3	42.2	2.32	31.0	0.01	0.00	0.06	201
1	203	8.03	8.01	34.087	26.556	150.6	0.406	1.98	29.8	42.7	2.33	31.1	0.01	0.00	0.06	2Ø4
1	232	7.66	7.64	34.125	26.640	143.0	0.448	1.66	24.8	48.6	2.48	32.7	0.02			213
	250 ISL	7.53	7.51	34.129	26.662	141.2	0.474	1.58	23.5	50.3	2.52	33.3	0.02			252
1	273	7.40	7.37	34.129	26.681	139.7	0.506	1.51	22.4	52.1	2.55	33.9	0.01			275
	300 ISL	7.14	7.11	34.150	26.734	135.0	0.543	1.27	18.7	56.7	2.67	35.2	0.01			302
1	329	6.86	6.83	34.178	26.795	129.5	0.582	0.99	14.5	62.1	2.80	36.7	0.01			331
1	387	6.51	6.47	34.217	26.873	122.7	0.655	0.68	9.9	69.1	2.94	38.3	0.01			390
	400 ISL	6.43	6.39	34.225	26.890	121.2	0.671	0.63	9.1	70.6	2.97	38.7	0.01			403
1	450	6.18	6.14	34.256	26.947	116.3	0.730	0.46	6.6	75.9	3.05	39.8	0.01			453
	500 ISL	6.02	5.98	34.287	26.993	112.6	0.787	0.36	5.2	80.1	3.11	40.3	0.01			504
1	517	5.96	5.91	34.298	27.009	111.2	0.806	0.33	4.7	81.5	3.13	40.5	0.01			531

RV DAVID STARR JORDAN CALCOFI CRUISE 9108 STATION 87 60 MOS

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	HIND SPEED	NAVES	NEA	BAROMETER	DRY	NET	SECCHI/FOREL	CLD AMT TYPE
32 59.4 N	120 21.0 N	01/08/91	0213 UTC									

CAST	DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN «1/1	OXY PCT	SIO3 uM/1	PO4 UM/1	NO3 UM/1	NO2 UM/1	CHL-A ug/1	PHAEO ug/1	PRESS lib
2	2	16.42	16.42	33.629	24.598	333.1	0.007	5.90	105.8					0.40	0.11	2
2	13	16.28	16.28	33.636	24.636	329.8	0.043	5.90	105.5					0.40	0.11	13
2	25	15.53	15.53	33.633	24.803	314.3	0.082	5.84	102.9					0.48	0.22	25
2	30	13.94	13.94	33.632	25.144	281.9	0.097	5.57	95.0					0.63	0.43	30
2	32	12.96	12.96	33.651	25.357	261.6	0.102	5.13	85.8					0.59	0.59	32
2	37	11.59	11.59	33.684	25.645	234.3	0.115	4.35	70.7					0.37	0.35	37
2	48	11.01	11.00	33.708	25.769	222.7	0.140	3.97	63.7					0.25	0.28	48
2	61	10.48	10.47	33.760	25.903	210.3	0.168	3.52	55.8					0.18	0.20	61
2	72	9.96	9.95	33.777	26.005	200.7	0.190	3.31	51.9					0.13	0.14	72

RV DAVID STARR JORDAN CALCOFI CRUISE 9108 STATION 87 70

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	NIND SPEED	NAVES	NEA	BAROMETER	DRY	NET	SECCHI/FOREL	CLD AMT TYPE
32 39.4 N	121 2.0 N	01/08/91	0659 UTC		330 14 kn			1018.3 Mb	15.9 C	15.0 C		

CAST	DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN Ml/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 UM/1	NO2 UM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
1	0	16.04	16.04	33.076	24.260	365.3	0.000	5.83	103.4	2.1	0.40	0.0	0.00	0.13	0.05	0
1	9	16.02	16.02	33.074	24.263	365.2	0.033	5.84	103.6	2.1	0.40	0.0	0.00	0.13	0.05	9
	10 ISL	15.99	15.99	33.076	24.271	364.5	0.037	5.84	103.5	2.1	0.40	0.0	0.00	0.13	0.05	10
1	20	15.57	15.57	33.096	24.381	354.3	0.072	5.91	103.9	2.1	0.39	0.0	0.00	0.13	0.06	20
1	29	15.27	15.27	33.099	24.450	348.0	0.104	6.00	104.8	2.1	0.39	0.0	0.00	0.21	0.11	29
	30 ISL	15.20	15.20	33.102	24.467	346.4	0.108	6.02	105.0	2.1	0.39	0.0	0.00	0.23	0.13	30
1	39	14.40	14.39	33.120	24.653	328.9	0.138	6.21	106.6	2.2	0.41	0.1	0.02	0.42	0.30	39
1	49	13.31	13.30	33.073	24.841	311.3	0.170	6.13	102.9	2.7	0.54	1.6	0.18	0.46	0.33	49
	50 ISL	13.26	13.25	33.074	24.851	310.3	0.173	6.12	102.6	2.8	0.54	1.7	0.21	0.46	0.33	50
1	59	12.93	12.92	33.105	24.941	301.9	0.201	5.97	99.4	3.6	0.59	3.0	0.37	0.40	0.29	59
1	69	12.27	12.26	33.147	25.101	286.8	0.230	5.74	94.3	4.9	0.79	6.2	0.06	0.22	0.18	69
	75 ISL	11.86	11.8S	33.162	25.190	278.5	0.247	5.62	91.5	5.8	0.87	7.6	0.04	0.16	0.14	75
1	83	11.40	11.39	33.191	25.297	268.4	0.269	5.49	88.5	7.2	0.96	9.3	0.02	0.10	0.11	83
1	98	11.08	11.07	33.328	25.462	253.1	0.308	5.29	84.8	10.2	1.15	12.5	0.02	0.02	0.06	98
	100 ISL	11.02	11.01	33.340	25.482	251.2	0.313	5.24	83.9	10.6	1.17	12.9	0.02	0.02	0.06	100
1	118	10.48	10.47	33.436	25.652	235.4	0.357	4.66	73.8	14.9	1.33	16.2	0.02	0.01	0.05	119
	125 ISL	10.28	10.27	33.489	25.728	228.3	0.373	4.35	68.6	16.8	1.43	17.7	0.02	0.01	0.05	126
1	142	9.85	9.83	33.626	25.907	211.5	0.410	3.62	56.6	21.4	1.67	21.2	0.01	0.01	0.05	143
	150 ISL	9.71	9.69	33.689	25.980	204.8	0.427	3.35	52.2	23.3	1.75	22.5	0.01	0.01	0.05	151
1	174	9.34	9.32	33.854	26.170	187.2	0.474	2.77	42.9	28.4	1.93	25.4	0.01	0.00	0.04	175
	200 ISL	8.84	8.82	33.964	26.336	171.8	0.521	2.58	39.5	32.7	2.02	27.2	0.01	0.00	0.05	201
1	204	8.76	8.74	33.975	26.357	169.8	0.528	2.57	39.3	33.3	2.03	27.4	0.01	0.00	0.05	205
1	233	8.29	8.27	34.022	26.466	159.8	0.575	2.48	37.5	37.4	2.12	28.8	0.01			234
	250 ISL	8.12	8.09	34.054	26.517	155.2	0.602	2.28	34.4	40.3	2.21	29.8	0.01			251
1	275	7.91	7.88	34.095	26.581	149.5	0.640	1.94	29.1	44.9	2.35	31.4	0.01			277
	300 ISL	7.57	7.54	34.112	26.644	143.8	0.677	1.70	25.3	49.6	2.48	32.9	0.01			302
1	331	7.16	7.13	34.124	26.711	137.6	0.721	1.45	21.4	55.3	2.62	34.6	0.01			333
1	391	6.67	6.63	34.158	26.805	129.3	0.801	1.02	14.9	64.1	2.81	37.0	0.01			393
	400 ISL	6.61	6.57	34.165	26.819	128.1	0.812	0.95	13.8	65.4	2.84	37.3	0.01			403
1	45S	6.23	6.19	34.211	26.905	120.4	0.881	0.60	8.7	73.5	2.99	39.2	0.01			458
	500 ISL	5.88	5.84	34.242	26.974	114.1	0.933	0.44	6.3	80.2	3.08	40.5	0.01			503
1	521	5.72	5.68	34.257	27.006	111.2	0.957	0.37	5.3	83.3	3.12	41.1	0.01			525

RV DKVXD STARR JORDAN CALCOFI CRUISE 9108 STATION 87 80

LATITUDE	LONGITUDE	DAY/HO/YR	MESSENGER	BOTTOM	HIND SPEED	NAVES	NBA	BAROMETER	DRY	NET	SECCHI/FOREL	CID AMT TYPE
32 19.4 N	121 42.9 N	01/08/91	1224 UTC		330 14 kn			1018.1 Mb	IS.5 C	14.7 C		

CAST	DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN BT	OXYGEN	OXY	SIOl	PO4	NO3	MO2	CHL-A	PHAEO	PRESS
	II	DEC C	DEG C	PSS 78	THETA			»1/1	PCT	uM/1	UM/1	UM/1	UM/1	ug/1	ug/1	db
1	0	15.97	15.97	33.028	24.239	367.3	0.000	5.90	104.5	2.0	0.40	0.0	0.00	0.14	0.04	0
1	9	15.97	15.97	33.028	24.239	367.5	0.033	5.89	104.3	1.9	0.39	0.0	0.00	0.15	0.04	9
	II) ISL	15.96	15.96	33.028	24.241	367.3	0.037	5.89	104.3	1.9	0.39	0.0	0.00	0.15	0.04	10
1	20	15.91	15.91	33.028	24.253	366.5	0.073	5.90	104.4	1.9	0.39	0.0	0.00	0.15	0.05	20
1	30	15.10	15.10	32.942	24.366	356.0	0.110	6.09	105.9	1.9	0.39	0.0	0.00	0.17	0.07	30
1	40	14.43	14.42	33.079	24.615	332.6	0.144	6.21	106.6	2.4	0.43	0.3	0.03	0.53	0.33	40
1	50	13.84	13.83	33.117	24.767	318.3	0.177	6.14	104.2	2.7	0.51	1.4	0.12	0.55	0.38	50
1	60	13.37	13.36	33.110	24.858	310.0	0.208	6.05	101.7	3.1	0.58	2.1	0.24	0.44	0.35	60
1	70	12.90	12.89	33.110	24.951	301.3	0.239	5.97	99.3	3.6	0.64	2.9	0.34	0.39	0.29	70
	75 ISL	12.61	12.60	33.116	25.012	295.5	0.253	5.88	97.3	4.0	0.69	3.9	0.30	0.32	0.27	75
1	85	11.99	11.98	33.138	25.148	282.8	0.282	5.66	92.4	5.3	0.80	6.2	0.17	0.19	0.25	85
1	99	11.13	11.12	33.180	25.338	264.9	0.321	5.32	85.3	7.8	0.95	9.2	0.04	0.12	0.19	99
	100 ISL	11.08	11.07	33.182	25.348	263.9	0.323	5.31	85.0	8.0	0.96	9.4	0.04	0.12	0.19	100
1	120	10.31	10.30	33.248	25.534	246.5	0.374	4.97	78.3	11.4	1.19	13.3	0.02	0.05	0.10	121
	125 ISL	10.16	10.15	33.292	25.594	240.9	0.387	4.81	75.5	12.6	1.25	14.4	0.02	0.04	0.09	126
1	145	9.66	9.64	33.500	25.840	217.9	0.432	4.10	63.8	17.9	1.50	18.8	0.01	0.02	0.05	146
	150 ISL	9.56	9.54	33.550	25.896	212.7	0.443	3.94	61.2	19.2	1.56	19.8	0.01	0.02	0.05	151
1	176	9.12	9.10	33.779	26.146	189.3	0.495	3.26	50.2	25.7	1.80	23.8	0.01	0.00	0.04	177
	200 ISL	8.69	8.67	33.917	26.322	172.9	0.539	3.00	45.8	30.4	1.91	25.9	0.01	0.00	0.02	201
1	207	8.57	8.55	33.945	26.363	169.2	0.551	2.97	45.2	31.6	1.93	26.3	0.01	0.00	0.02	208
1	236	8.18	8.16	34.000	26.466	159.8	0.599	2.97	44.8	35.3	1.97	27.2	0.01			237
	250 ISL	8.00	7.97	34.016	26.505	156.3	0.621	2.85	42.8	37.6	2.03	28.1	0.01			251
1	277	7.67	7.64	34.037	26.570	150.4	0.662	2.52	37.6	42.5	2.19	30.1	0.01			279
	300 ISL	7.40	7.37	34.053	26.621	145.8	0.696	2.23	33.1	46.8	2.32	31.7	0.01			302
1	332	7.05	7.02	34.073	26.686	139.9	0.742	1.82	26.8	53.0	2.49	33.9	0.00			334
1	392	6.44	6.40	34.108	26.796	130.0	0.823	1.21	17.5	64.3	2.75	37.3	0.00			394
	400 ISL	6.37	6.33	34.112	26.808	128.8	0.833	1.15	16.6	65.6	2.78	37.7	0.00			402
1	456	5.92	5.88	34.143	26.891	121.4	0.903	0.81	11.6	74.3	2.94	39.8	0.00			459
	500 ISL	5.64	5.60	34.168	26.945	116.5	0.956	0.65	9.3	80.3	3.03	40.9	0.00			503
1	523	5.49	5.45	34.181	26.974	114.0	0.982	0.56	7.9	83.5	3.07	41.5	0.00			526

RV DAVID STARR JORDAN CALCOFI CRUISE 9108 STATION 87 90

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	HIND SPEED	NAVES	NEA	BAROMETER	DRY	NET	SECCHI/FOREL	CLD AMT TYPE
31 59.4 N	122 23.6 N	01/08/91	17S2 UTC	4087 •	360 15 k.0	360 03 09	2	1020.2 Mb	16.5 C	15.3 C	31» 01	8/8 SC

CAST	DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SIO3	PO4	NO3	NO2	CHL-A	PHAEO	PRESS
	•	DEG C	DEG C	PSS 78	THETA			»1/1	PCT	UM/1	uM/1	uM/1	uM/1	ug/1	ug/1	db
1	0	17.03	17.03	33.274	24.184	372.5	0.000	5.65	102.3	2.4	0.38	0.0	0.00	0.08	0.02	0
1	10	17.03	17.03	33.287	24.194	371.9	0.037	5.65	102.3	2.4	0.31	0.0	0.00	0.09	0.02	10
1	30	17.06	17.06	33.403	24.276	364.4	0.074	5.67	102.8	2.5	0.34	0.0	0.00	0.10	0.02	20
1	39	16.65	16.65	33.375	24.351	357.5	0.107	5.75	103.4	2.5	0.34	0.0	0.00	0.13	0.03	29
	30 ISL	16.54	16.54	33.374	24.376	355.2	0.110	5.77	103.6	2.5	0.34	0.0	0.00	0.13	0.03	30
1	40	15.44	15.43	33.389	24.636	330.7	0.144	5.94	104.3	2.7	0.35	0.0	0.00	0.17	0.06	40
1	49	15.06	15.05	33.411	24.736	321.3	0.174	5.93	103.4	2.6	0.36	0.0	0.00	0.25	0.14	49
	50 ISL	15.04	15.03	33.412	24.742	320.9	0.177	5.93	103.3	2.6	0.36	0.0	0.00	0.25	0.15	50
1	60	14.89	14.88	33.421	24.781	317.4	0.209	5.89	102.3	2.8	0.38	0.0	0.00	0.28	0.23	60
1	75	14.72	14.71	33.422	24.819	314.2	0.256	5.85	101.3	2.8	0.39	0.0	0.00	0.31	0.26	75
1	89	14.30	14.29	33.403	24.894	307.5	0.300	5.75	98.7	3.0	0.45	0.3	0.24	0.26	0.26	89
	100 ISL	13.47	13.46	33.363	25.034	294.3	0.333	5.62	94.8	4.0	0.S8	2.7	0.15	0.17	0.17	100
1	U0	12.62	12.61	33.336	25.182	280.3	0.362	5.47	90.6	5.2	0.72	5.4	0.02	0.09	0.09	110
	125 ISL	11.68	11.66	33.347	25.368	262.8	0.402	S.22	84.8	7.2	0.86	8.1	0.02	0.06	0.08	126
1	139	11.46	11.44	33.356	25.416	258.3	0.413	5.15	83.2	7.8	0.90	8.8	0.02	0.06	0.08	130
	150 ISL	10.54	10.52	33.425	25.634	237.9	0.465	4.78	75.8	11.4	1.10	13.5	0.01	0.03	0.05	151
1	155	10.35	10.33	33.452	35.687	333.8	0.477	4.68	73.9	13.5	1.16	13.5	0.01	0.02	0.04	156
1	184	9.27	9.25	33.746	26.097	194.2	0.538	3.77	58.2	22.4	1.59	20.9	0.00	0.00	0.03	185
	200 ISL	8.94	8.92	33.856	26.236	181.3	0.569	3.47	53.2	26.5	1.73	23.2	0.00	0.00	0.02	201
1	219	8.66	8.64	33.946	26.350	170.7	0.602	3.22	49.1	30.5	1.84	25.0	0.00	0.00	0.01	220
	250 ISL	8.18	8.15	34.017	26.479	158.8	0.653	2.93	44.2	36.0	1.98	27.2	0.00			251
1	255	8.11	8.08	34.023	36.494	157.5	0.661	3.89	43.5	36.9	3.00	37.5	0.00			256
1	295	7.51	7.48	34.049	26.603	147.5	0.722	2.41	35.8	45.0	2.24	30.6	0.01			397
	300 ISL	7.45	7.43	34.053	36.614	146.5	0.729	2.34	34.7	46.0	2.27	31.0	0.01			302
1	349	6.89	6.86	34.086	26.718	137.0	0.799	1.69	24.8	55.8	2.50	34.4	0.01			351
	400 ISL	6.39	6.35	34.115	26.808	128.9	0.867	1.20	17.4	65.4	2.75	37.3	0.01			402
1	414	6.27	6.23	34.124	26.831	126.8	0.884	1.09	15.7	67.8	2.81	38.0	0.01			417
1	483	5.90	5.86	34.183	26.925	118.5	0.969	0.66	9.5	76.6	3.00	40.0	0.01			486
	500 ISL	5.79	5.75	34.197	26.950	116.3	0.989	0.60	8.6	79.1	3.04	40.5	0.01			503
1	562	5.40	5.35	34.251	27.040	108.1	1.059	0.36	5.1	88.1	3.19	42.1	0.01			566

RV DAVID STARR JORDAN CALCOFI CRUISE 9108 STATION 87 95 ROS

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	NAVES	NEA	BAROMETER	DRY	NET	SECCHI/FOREL	CLD AMT TYPE
31 49.1 N	122 44.9 N	01/08/91	2158 UTC		360 16 kn	360 03 06	1	1020.1 Kb	18.1 C	15.8 C		7/8 SC

CAST	DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SIO3	PO4	NO3	NO2	CHL-A	PHAEO	PRESS
	•	DEG C	DEG C	PSS 78	THETA			al/1	PCT	uM/1	uM/1	UM/1	UM/1	ug/1	ug/1	db
2	13	16.91	16.91	33.206	24.160	375.2	0.049	5.70	102.9	3.5	0.42	0.1	0.00	0.09	0.02	13
2	42	15.70	15.69	33.356	24.553	338.6	0.152	5.95	105.0	3.6	0.37	0.0	0.01	0.13	0.05	42
2	59	14.95	14.94	33.341	24.707	324.5	0.209	5.98	103.9	2.6	0.41	0.0	0.00	0.27	0.15	59
2	70	14.58	14.57	33.359	24.800	315.9	0.244	5.95	102.7	2.6	0.41	0.1	0.01	0.38	0.30	70
2	76	13.89	13.88	33.250	24.861	310.2	0.263	6.05	102.8	2.9	0.45	0.9	0.08	0.42	0.32	76
2	84	13.34	13.33	33.255	24.976	299.3	0.287	5.90	99.2	3.2	0.52	2.0	0.25	0.35	0.32	84
2	1.02	12.20	12.19	33.236	25.185	279.8	0.339	5.S0	90.2	5.2	0.75	5.7	0.04	0.15	0.18	102
2	154	9.93	9.91	33.460	25.765	225.3	0.470	4.38	68.5	15.1	1.35	16.4	0.01	0.02	0.04	155

XV DAVID STARR JORDAN CALCOFI CRUISE 9108 STATION 87 100

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	NAVES	NEA	BAROMETER	DRY	NET	SECCHI/FOREL	CLD AMT	TYPE
31 39.3 N	123 4.4 N	02/08/91	0106 UTC		350 14 kn	350 02 06	1	1019.0 ab	17.8 C	16.1 C	27a 01	6/8	SC

CAST	DEPTH		TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SIOS	PO4	NO3	NO2	CBL-A	PBAEO	PRESS
	a		DEG C	DEC C	PSS 78	THETA			ml/l	PCT	UM/1	UM/1	UM/1	UM/1	ug/1	ug/1	db
1	0		17.02	17.02	33.182	24.116	379.0	0.000	5.72	103.5	2.6	0.38	0.1	0.00	0.08	0.03	0
	10	ISL	16.78	16.78	33.169	24.162	374.9	0.038	5.74	103.4	2.5	0.39	0.1	0.00	0.09	0.03	IIO
1	15		16.66	16.66	33.163	24.186	372.8	0.056	5.75	103.3	2.4	0.39	0.1	0.00	0.09	0.03	.15
	20	ISL	16.52	16.52	33.217	24.259	365.9	0.075	5.79	103.8	2.5	0.39	0.1	0.00	0.10	0.04	210
1	29		16.10	16.10	33.299	24.419	351.0	0.107	5.89	104.7	2.7	0.38	0.0	0.00	0.13	0.05	29
	30	ISL	16.00	16.00	33.295	24.438	349.2	0.111	5.90	104.7	2.7	0.38	0.0	0.00	0.13	0.05	30
1	40		15.05	15.04	33.246	24.611	333.0	0.145	5.99	104.3	2.5	0.39	0.0	0.00	0.14	0.06	40
	50	ISL	14.77	14.76	33.288	24.704	324.4	0.178	5.98	103.5	2.7	0.39	0.0	0.00	0.21	0.10	50
1	51		14.75	14.74	33.292	24.712	323.7	0.181	5.98	103.5	2.7	0.39	0.0	0.00	0.22	0.11	51
1	60		14.30	14.29	33.250	24.775	317.9	0.210	6.04	103.6	2.7	0.40	0.0	0.00	0.27	0.18	60
1	71		13.58	13.57	33.236	24.913	305.0	0.244	5.93	100.2	2.9	0.47	0.4	0.11	0.32	0.26	71
	75	ISL	13.17	13.16	33.219	24.982	298.5	0.256	5.81	97.3	3.4	0.54	1.7	0.14	0.28	0.24	75
1	79		12.78	12.77	33.206	25.049	292.1	0.268	5.69	94.5	4.0	0.62	3.1	0.15	0.23	0.22	79
1	95		12.52	12.51	33.286	25.162	281.8	0.314	5.49	90.7	5.1	0.70	4.8	0.04	0.17	0.19	95
	100	ISL	12.15	12.14	33.271	25.221	276.3	0.328	5.41	88.7	5.9	0.77	6.0	0.03	0.15	0.17	100
1	110		11.37	11.36	33.250	25.349	264.1	0.355	5.24	84.5	7.8	0.93	8.6	0.02	0.10	0.12	111)
	125	ISL	10.89	10.87	33.360	25.521	248.1	0.393	4.98	79.5	10.0	1.06	11.2	0.01	0.05	0.08	12K
1	126		10.87	10.85	33.369	25.532	247.1	0.396	4.96	79.2	10.2	1.07	11.4	0.01	0.05	0.08	12?
	150	ISL	9.73	9.71	33.436	25.779	223.8	0.452	4.38	68.2	16.0	1.41	17.1	0.00	0.02	0.04	151
1	151		9.69	9.67	33.439	25.788	223.0	0.454	4.35	67.7	16.3	1.42	17.3	0.00	0.02	0.04	151!
1	177		9.27	9.25	33.703	26.063	197.3	0.509	3.52	54.3	23.2	1.71	22.2	0.00	0.00	0.03	171
	200	ISL	8.88	8.86	33.865	26.252	179.7	0.552	3.10	47.5	28.5	1.87	25.1	0.00	0.00	0.03	201
1	207		8.76	8.74	33.901	26.299	175.3	0.565	3.02	46.1	29.9	1.91	25.7	0.00	0.00	0.03	208
1	235		8.33	8.31	33.980	26.427	163.5	0.612	2.85	43.1	34.5	2.02	27.4	0.01			236
	250	ISL	8.12	8.09	34.001	26.476	159.1	0.636	2.79	42.0	36.7	2.06	28.1	0.01			251
1	275		7.80	7.77	34.021	26.539	153.4	0.675	2.67	39.9	40.4	2.14	29.3	0.00			277
	300	ISL	7.52	7.49	34.043	26.596	148.2	0.713	2.39	35.5	44.8	2.27	30.9	0.00			302
1	332		7.15	7.12	34.061	26.663	142.2	0.760	1.99	29.3	51.1	2.45	33.2	0.00			334
1	391		6.26	6.23	34.057	26.779	131.4	0.840	1.57	22.7	63.5	2.70	36.9	0.00			393
	400	ISL	6.17	6.13	34.062	26.795	130.0	0.852	1.49	21.5	65.3	2.74	37.4	0.00			402
1	456		5.71	5.67	34.106	26.887	121.5	0.923	0.98	14.0	75.7	2.93	40.0	0.00			459
	500	ISL	5.43	5.39	34.146	26.953	115.5	0.975	0.73	10.3	82.8	3.04	41.5	0.00			503
1	524		5.27	5.23	34.168	26.990	112.2	1.002	0.59	8.3	86.7	3.10	42.3	0.00			527

RV DAVID STARR JORDAN CALCOFI CRUISE 9108 STATION 87 105 ROS

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	KIND SPEED	NAVES	NEA	BAROMETER	DRY	NET	SECCHI/FOREL	CLD AMT	TYPE
31 28.5 N	123 25.5 N	02/08/91	0445 UTC		360 15 kn			1019.9 ab	17.0 C	15.9 C			

CAST	DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SIO3	PO4	NO3	NO2	CHL-A	PHAEO	PRESS
	-	DEG C	DEG C	PSS 78	THETA			«1/1	PCT	UM/1	UM/1	UM/1	UM/1	ug/1	ug/1	db
2	12	16.85	16.85	32.940	23.970	393.3	0.047	5.66	101.9	2.1	0.40	0.0	0.00	0.08	0.02	12
2	28	16.24	16.24	32.932	24.105	380.9	0.109	5.81	103.4	2.1	0.41	0.0	0.00	0.13	0.03	28
2	69	14.81	14.80	33.072	24.530	341.6	0.257	5.93	102.6	2.3	0.41	0.0	0.00	0.25	0.11	69
2	80	14.50	14.49	33.187	24.685	327.1	0.294	5.96	102.6	2.3	0.39	0.0	0.00	0.31	0.22	80
2	90	14.46	14.45	33.262	24.751	321.1	0.326	5.93	102.0	2.4	0.44	0.0	0.00	0.33	0.26	90
2	98	14.34	14.33	33.338	24.836	313.3	0.352	5.83	100.1	2.7	0.39	0.1	0.01	0.34	0.29	98
2	108	14.02	14.00	33.345	24.908	306.6	0.383	5.74	97.9	2.9	0.42	0.5	0.07	0.29	0.26	108
2	121	12.02	12.00	33.210	25.199	278.9	0.421	5.37	87.8	5.5	0.70	5.4	0.08	0.18	0.21	121
2	132	10.63	10.61	33.161	25.412	258.5	0.450	5.28	83.7	8.5	0.98	9.6	0.02	0.12	0.16	133

RV DAVID STARR JORDAN CALCOFI CRUISE 9108 STATION 87 110

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	NIND SPEED	NAVES	NEA	BAROMETER	DRY	NET	SECCHI/FOREL	CLD AMT	TYPE
31 19.3 N	123 44.7 N	02/08/91	0743 UTC		350 14 kn			1020.1 ab	16.5 C	15.6 C			

CAST	DEPTH		TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SIO3	PO4	NO3	NO2	CHL-A	PHAEO	PRESS
	m		DEG C	DEG C	PSS 78	THETA			ml/l	PCT	UM/1	uM/1	uM/1	UM/1	ug/1	ug/1	db
1	0		17.61	17.61	33.186	23.979	392.1	0.000	5.61	102.7	2.2	0.38	0.1	0.00	0.06	0.03	0
1	10		17.61	17.61	33.184	23.977	392.5	0.039	5.60	102.5	2.2	0.39	0.1	0.00	0.07	0.01	10
1	19		17.69	17.69	33.420	24.139	377.4	0.074	5.63	103.4	2.2	0.34	0.0	0.00	0.08	0.01	19
	20	ISL	17.69	17.69	33.429	24.146	376.8	0.078	5.63	103.4	2.2	0.34	0.0	0.00	0.08	0.01	20
1	30		17.64	17.63	33.477	24.195	372.4	0.115	5.65	103.7	2.2	0.33	0.0	0.00	0.08	0.01	30
1	40		17.52	17.51	33.522	24.259	366.7	0.152	5.70	104.4	2.2	0.31	0.0	0.00	0.08	0.03	40
	50	ISL	16.57	16.56	33.368	24.365	356.9	0.188	5.82	104.5	2.2	0.34	0.0	0.00	0.09	0.03	50
1	51		16.46	16.45	33.350	24.377	355.8	0.192	5.83	104.4	2.2	0.34	0.0	0.00	0.09	0.03	51
1	60		16.00	15.99	33.281	24.429	351.1	0.224	5.88	104.3	2.2	0.35	0.0	0.00	0.09	0.03	60
1	71		15.69	15.68	33.308	24.519	342.8	0.262	5.92	104.4	2.2	0.35	0.0	0.00	0.10	0.03	71
	75	ISL	15.56	15.55	33.325	24.561	338.9	0.275	5.93	104.3	2.2	0.35	0.0	0.00	0.10	0.04	75
1	85		15.31	15.30	33.391	24.668	329.0	0.309	5.94	104.0	2.2	0.34	0.0	0.00	0.12	0.06	85
1	99		15.38	15.36	33.552	24.777	319.1	0.354	5.82	102.2	2.2	0.31	0.0	0.00	0.16	0.12	99
	100	ISL	15.34	15.32	33.552	24.786	318.3	0.357	5.81	101.9	2.2	0.31	0.1	0.01	0.17	0.12	100
1	121		13.91	13.89	33.439	25.004	297.9	0.422	5.65	96.2	3.4	0.44	1.4	0.13	0.25	0.19	121
	125	ISL	13.45	13.43	33.399	25.067	291.9	0.434	5.60	94.4	4.0	0.51	2.4	0.12	0.24	0.19	126
1	146		11.07	11.05	33.270	25.420	258.2	0.492	5.28	84.6	7.8	0.91	8.7	0.03	0.13	0.14	147
	150	ISL	10.80	10.78	33.280	25.475	253.0	0.502	5.24	83.4	8.3	0.95	9.5	0.03	0.11	0.13	151
1	176		9.68	9.66	33.452	25.800	222.3	0.564	4.81	74.8	13.2	1.21	14.4	0.01	0.03	0.06	177
	200	ISL	9.09	9.07	33.706	26.094	194.7	0.614	3.81	58.6	22.3	1.62	21.3	0.01	0.01	0.04	201
1	206		8.99	8.97	33.766	26.157	188.8	0.625	3.57	54.8	24.5	1.72	22.8	0.01	0.00	0.03	207
1	235		8.56	8.54	33.887	26.319	173.8	0.678	3.32	50.5	29.4	1.85	25.0	0.01			236
	250	ISL	8.37	8.34	33.947	26.396	166.8	0.703	3.03	45.9	32.9	1.96	26.6	0.01			251
1	276		8.04	8.01	34.025	26.507	156.6	0.745	2.53	38.1	39.0	2.15	29.4	0.01			277
	300	ISL	7.68	7.65	34.038	26.570	150.8	0.782	2.42	36.1	43.0	2.24	30.6	0.01			302
1	332		7.20	7.17	34.031	26.632	145.1	0.830	2.34	34.5	48.0	2.34	31.9	0.00			334
1	392		6.53	6.49	34.071	26.755	133.9	0.913	1.55	22.5	60.4	2.67	36.1	0.00			394
	400	ISL	6.45	6.41	34.077	26.770	132.5	0.924	1.46	21.2	62.0	2.70	36.6	0.00			402
1	457		5.96	5.92	34.120	26.867	123.6	0.997	0.97	13.9	72.6	2.87	39.3	0.00			460
	500	ISL	5.65	5.61	34.149	26.929	118.1	1.049	0.76	10.8	79.6	3.01	40.7	0.00			503
1	526		5.46	5.42	34.168	26.967	114.6	1.079	0.63	8.9	83.8	3.09	41.6	0.00			529

RV DAVID STARR JORDAN | CALCOFI CRUISE »108 | STATION 90 28

LATITUDE	XANCITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	NEA	BAROMETER	DRY	NET	SECCHI/FOREL	CLD ANT TYPE
33 29.1 N	117 46.0 W	30/07/91	1525 UTC	52 -	100 06 kn	090 01 09	4	1016.2 ab	17.9 C	17.4 C	05a 05	8/8 ST

CAST	DEPTH -	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA TBETA	SVA	DYN BT	OXYGEN *ml/l*	OXY PCT	SIO3 UM/1	PO4 UM/1	NO3 UM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
1	0	17.17	17.87	33.571	24.211	370.0	0.000	6.44	118.8	4.9	0.26	0.0	0.01	1.84	0.31	0
	10 ISL	16.12	16.12	33.544	24.602	333.0	0.035	6.46	115.1	6.7	0.30	0.0	0.02	2.74	0.89	10
1	11	15.94	15.94	33.543	24.642	329.2	0.038	6.46	114.7	6.9	0.30	0.0	0.02	2.83	0.95	11
	20 ISL	14.30	14.30	33.518	24.981	297.2	0.067	5.84	100.3	7.6	0.39	0.0	0.05	1.87	1.12	20
1	21	14.14	14.14	33.516	25.013	294.2	0.070	5.75	98.4	7.7	0.40	0.0	0.05	1.72	1.14	21
	30 ISL	13.37	13.37	33.501	25.159	280.4	0.095	4.88	82.2	9.3	0.63	0.6	0.22	0.92	0.66	30
1	31	13.32	13.32	33.500	25.169	279.6	0.098	4.80	80.8	9.5	0.66	0.7	0.25	0.85	0.60	31
1	42	12.72	12.71	33.499	25.287	268.6	0.128	4.68	77.8	9.9	0.85	3.7	0.56	0.54	0.54	42
	50 ISL	12.34	12.33	33.496	25.358	262.0	0.150	4.38	72.2	11.6	1.06	5.8	0.68	0.42	0.55	50
1	52	12.24	12.23	33.496	25.377	260.2	0.155	4.30	70.7	12.0	1.11	6.3	0.71	0.39	0.55	52

RV DAVID STARR JORDAN | CALCOFI CRUISE 9108 | STATION 90 30

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCBI/FOREL	CLD AMT TYPE
33 25.2 N	1.17 54.2 W	30/07/91	1303 UTC	612 -	120 04 kn	160 01 08	4	1015.5 *mb*	18.0 C	17.0 C	08a 05	8/8 ST

CAST	DEPTH -	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN BT	OXYGEN Ml/1	OXY PCT	SIOS uM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
1	0	18.24	18.24	33.547	24.102	380.3	0.000	6.22	115.5	5.1	0.29	0.0	0.00	0.91	0.13	0
1	9	16.97	16.97	33.521	24.388	353.4	0.033	6.48	117.4	4.8	0.32	0.0	0.00	0.64	0.20	9
	10 ISL	16.68	16.68	33.517	24.452	347.2	0.037	6.46	116.4	4.6	0.33	0.1	0.00	0.66	0.22	10
1	19	14.13	14.13	33.507	25.008	294.6	0.065	6.06	103.7	3.1	0.45	0.5	0.04	0.87	0.42	19
	20 ISL	13.96	13.96	33.502	25.039	291.6	0.068	6.02	102.7	3.3	0.47	0.9	0.06	0.85	0.42	20
1	30	12.89	12.89	33.456	25.220	274.6	0.097	5.56	92.7	6.3	0.73	5.3	0.22	0.60	0.35	30
1	40	12.46	12.45	33.491	25.331	264.3	0.124	5.00	82.6	8.1	0.92	8.2	0.27	0.52	0.45	40
	50 ISL	11.95	11.94	33.493	25.430	255.1	0.150	1.84	79.1	9.6	0.99	9.6	0.22	0.41	0.33	50
1	51	11.90	11.89	33.492	25.439	254.3	0.152	4.84	79.0	9.8	1.00	9.7	0.21	0.40	0.31	51
1	61	11.37	11.36	33.507	25.548	244.1	0.177	1.69	75.7	12.1	1.18	13.1	0.05	0.16	0.17	61
1	71	11.02	11.01	33.516	25.618	237.6	0.201	4.50	72.1	13.4	1.26	14.5	0.02	0.08	0.11	71
	75 ISL	10.87	10.86	33.533	25.658	233.9	0.211	4.36	69.7	14.2	1.30	15.2	0.02	0.07	0.11	75
1	85	10.52	10.51	33.579	25.756	224.8	0.233	4.02	63.8	16.0	1.39	16.8	0.02	0.05	0.11	85
1	100	10.25	10.24	33.607	25.824	218.6	0.267	3.83	60.4	17.6	1.47	18.3	0.01	0.01	0.10	101
1	120	10.06	10.05	33.664	25.901	211.7	0.310	3.63	57.0	19.6	1.57	19.7	0.01	0.01	0.08	121
	125 ISL	9.»8	9.97	33.688	25.934	208.7	0.320	3.56	55.8	20.3	1.60	20.1	0.01	0.01	0.08	126
1	146	9.64	9.62	33.800	26.078	195.3	0.363	3.28	51.1	23.3	1.71	22.0	0.01	0.01	0.06	147
	150 ISL	9.60	9.58	33.819	26.100	193.4	0.370	3.24	50.4	23.8	1.73	22.3	0.01	0.01	0.06	151
1	176	9.36	9.34	33.921	26.219	182.6	0.419	3.03	46.9	27.1	1.84	23.9	0.02	0.00	0.05	177
	200 ISL	9.05	9.03	33.979	26.315	173.9	0.462	3.01	46.3	29.5	1.88	24.8	0.02	0.00	0.05	201
1	206	8.»7	8.95	33.993	26.338	171.7	0.472	3.00	46.1	30.2	1.89	25.1	0.02	0.00	0.05	207
1	235	8.75	8.72	34.084	26.444	162.1	0.521	2.53	38.7	35.1	2.08	27.2	0.02			236
	250 ISL	8.45	8.42	34.073	26.482	158.7	0.545	3.61	39.6	36.7	2.08	27.7	0.02			251
1	275	7.95	7.92	34.038	26.530	154.3	0.584	2.80	42.0	39.0	2.07	28.2	0.01			277
	300 ISL	7.85	7.82	34.068	26.569	151.1	0.622	2.58	38.7	42.0	2.16	29.4	0.01			302
1	331	7.73	7.70	34.095	26.608	147.8	0.669	2.12	31.7	45.6	2.33	31.0	0.01			333
1	390	7.98	7.94	34.233	26.681	142.3	0.754	1.19	17.9	50.7	2.64	32.9	0.01			393
	400 ISL	7.89	7.85	34.232	26.693	141.2	0.768	1.17	17.6	51.8	2.66	33.3	0.01			403
1	455	7.17	7.23	34.206	26.762	135.0	0.844	1.07	15.8	57.8	2.75	35.1	0.01			458
	500 ISL	7.11	7.06	34.248	26.818	130.3	0.904	0.76	11.2	62.2	2.88	36.2	0.01			503
1	524	7.02	6.97	34.271	26.849	127.7	0.935	0.60	8.8	64.6	2.95	36.8	0.01			528

RV DAVID STARR JORDAN | CALCOFI CRUISE 9108 | STATION 90 35

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	NAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
33 15.1 N	118 15.3 W	30/07/91	0913 UTC	402 -	170 06 kn			1016.0 ab	17.9 C	16.9 C		

CAST	DEPTH -	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN *ul/l*	OXY PCT	SIO3 UM/1	PO4 UM/1	NO3 UM/1	NO2 UM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
1	0	19.04	19.04	33.643	23.975	392.4	0.000	5.59	105.4	3.1	0.29	0.0	0.00	0.15	0.04	0
1	10	19.00	19.00	33.642	23.985	391.8	0.039	5.60	105.5	3.0	0.29	0.0	0.00	0.14	0.06	10
	20 ISL	18.80	18.80	33.638	24.033	387.6	0.078	s.64	105.9	3.0	0.29	0.0	0.00	0.15	0.05	20
1	21	18.78	18.78	33.638	24.038	387.2	0.082	5.64	105.9	3.0	0.29	0.0	0.00	0.15	0.05	21
1	30	16.26	16.26	33.539	24.567	337.0	0.115	6.26	111.8	2.5	0.33	0.0	0.00	0.18	0.23	30
1	40	14.73	14.72	33.514	24.887	306.8	0.147	6.31	109.3	2.5	0.37	0.0	0.00	0.35	0.15	40
	50 ISL	13.03	13.02	33.491	25.220	275.2	0.176	5.64	94.3	6.2	0.68	5.2	0.22	0.68	0.38	50
1	51	12.88	12.87	33.490	25.249	272.4	0.179	5.56	92.7	6.7	0.71	5.8	0.24	0.71	0.41	51
1	61	11.98	11.97	33.484	25.418	256.6	0.205	4.93	80.6	9.6	0.92	9.8	0.08	0.61	0.45	61
1	70	11.27	11.26	33.528	25.583	241.0	0.228	4.12	66.4	13.3	1.24	13.5	0.02	0.22	0.27	70
	75 ISL	10.96	10.95	33.548	25.654	234.3	0.239	3.93	62.9	14.6	1.34	15.1	0.02	0.17	0.20	75
1	85	10.50	10.49	33.587	25.766	223.9	0.262	3.76	59.6	16.6	1.45	17.5	0.01	0.07	0.12	85
1	99	10.23	10.22	33.656	25.866	214.6	0.293	3.51	55.3	19.0	1.58	19.5	0.01	0.04	0.09	99
	100 ISL	10.20	10.19	33.663	25.876	213.6	0.295	3.49	55.0	19.2	1.58	19.6	0.01	0.04	0.09	100
1	119	9.67	9.66	33.798	26.071	195.5	0.334	3.13	48.8	23.9	1.60	22.1	0.01	0.01	0.06	120
	125 ISL	9.56	9.55	33.830	26.114	191.5	0.346	3.08	47.9	24.8	1.64	22.7	0.01	0.01	0.06	126
1	145	9.35	9.33	33.926	26.224	181.4	0.383	2.93	45.4	27.5	1.83	24.2	0.01	0.01	0.06	146
	150 ISL	9.35	9.33	33.958	26.249	179.1	0.392	2.84	44.0	28.4	1.88	24.6	0.01	0.01	0.06	151
1	176	9.37	9.35	34.099	26.357	169.5	0.437	2.34	36.3	32.6	2.09	26.4	0.01	0.01	0.06	177
	200 ISL	9.20	9.18	34.156	26.429	163.1	0.477	2.11	32.6	35.3	2.19	27.5	0.01	0.00	0.06	201
1	206	9.15	9.13	34.163	36.443	161.9	0.487	2.07	32.0	35.8	2.21	27.7	0.01	0.00	0.06	207
1	240	9.02	8.99	34.193	26.487	158.3	0.541	1.82	28.0	38.6	2.32	28.7	0.01			241
	250 ISL	9.00	8.97	34.205	26.500	157.3	0.557	1.74	26.8	39.3	2.35	29.0	0.01			251
1	291	8.90	8.87	34.242	26.546	153.8	0.621	1.53	23.5	41.7	2.44	29.8	0.01			293
	300 ISL	8.87	8.84	34.241	26.550	153.5	0.635	1.55	23.8	41.8	2.44	29.8	0.01			302
1	344	8.59	8.55	34.218	26.576	151.7	0.702	1.63	24.9	43.2	2.43	30.2	0.01			346
	400 ISL	7.69	7.65	34.203	26.699	140.4	0.784	1.23	18.4	52.8	2.64	33.4	0.01			403
1	409	7.55	7.51	34.202	26.719	138.6	0.796	1.17	17.4	54.4	2.67	33.9	0.01			412

RV DAVID STARK JORDAN CALCOFI CRUISE 9108 STATION 90 37

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	HIND SPEED	NAVES	HEA	BAROMETER	DRY	NET	SECCHI/FOREL	CLD AMT TYPE
33 11.1 N	118 33.2 N	30/07/91	0621 UTC	1186 -	280 13 kn			1015.0 ab	17.4 C	16.6 C		

CAST	DEPTH -	T1BMP D1BG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN IT	OXYGEN al/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 UM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
1	0	18.69	18.69	33.632	24.055	384.8	0.000	5.64	105.7	3.3	0.29	0.0	0.00	0.15	0.05	0
1	10	111.70	18.70	33.632	24.053	385.3	0.039	5.66	106.1	3.2	0.29	0.0	0.00	0.14	0.08	10
1	20	17.35	17.35	33.564	24.331	359.1	0.076	5.94	108.4	2.7	0.31	0.0	0.00	0.24	0.08	20
1	29	14.84	14.84	33.431	24.799	314.8	0.106	6.3c	110.4	2.1	0.38	0.1	0.02	0.47	0.23	29
	30 ISL	14.63	14.63	33.422	24.837	311.2	0.109	6.35	109.7	2.2	0.40	0.4	0.04	0.46	0.23	30
1	40	13.10	13.09	33.384	25.123	284.1	0.139	6.05	101.3	3.7	0.65	3.9	0.24	0.37	0.27	40
1	50	12.38	12.37	33.424	25.295	268.0	0.167	5.67	93.5	6.4	0.83	6.7	0.38	0.56	0.43	50
1	60	11.77	11.76	33.464	25.441	254.3	0.193	5.11	83.2	9.4	1.05	10.6	0.24	0.38	0.32	60
1	70	11.35	11.34	33.496	25.543	244.7	0.218	4.83	78.0	11.8	1.18	13.0	0.04	0.26	0.23	70
	75 ISL	11.11	11.10	33.528	25.612	238.4	0.230	4.52	72.6	13.3	1.26	14.3	0.03	0.20	0.20	75
1	84	10.72	10.71	33.587	25.727	227.5	0.251	3.99	63.6	15.9	1.38	16.5	0.02	0.12	0.16	84
1	99	10.36	10.35	33.632	25.825	218.5	0.284	3.77	59.6	17.9	1.49	18.4	0.02	0.06	0.11	99
	100 ISL	10.33	10.32	33.638	25.835	217.6	0.286	3.75	59.3	18.1	1.50	18.6	0.02	0.06	0.11	100
1	120	9.67	9.66	33.761	26.042	198.2	0.328	3.43	53.5	22.7	1.64	21.6	0.01	0.03	0.13	121
	125 ISL	9.58	9.57	33.789	26.079	194.8	0.338	3.36	52.3	23.6	1.68	22.1	0.01	0.02	0.12	126
1	145	9.35	9.33	33.890	26.196	184.1	0.376	3.14	48.6	26.5	1.80	23.7	0.01	0.01	0.05	146
	150 ISL	9.31	9.29	33.916	26.223	181.6	0.385	3.10	48.0	27.2	1.82	24.0	0.01	0.01	0.05	151
1	176	9.07	9.05	34.020	26.343	170.7	0.431	2.91	14.8	30.5	1.92	25.1	0.01	0.01	0.05	177
	200 ISL	11.73	8.71	34.048	26.419	163.9	0.471	2.76	12.2	33.5	1.99	26.4	0.01	0.00	0.05	201
1	206	8.65	8.63	34.050	26.433	162.6	0.480	2.73	11.7	34.2	2.01	26.7	0.01	0.00	0.05	207
1	235	8.36	8.34	34.065	26.490	157.6	0.527	2.63	39.9	37.5	2.09	27.9	0.02			236
	250 ISL	8.23	8.20	34.098	26.535	153.5	0.550	2.53	38.2	39.0	2.14	28.5	0.02			251
1	276	8.02	7.99	34.157	26.613	146.5	0.589	2.29	34.5	42.0	2.24	29.7	0.02			278
	300 ISL	7.77	7.74	34.159	26.652	143.2	0.624	1.97	39.5	46.4	2.37	31.3	0.02			302
1	332	7.49	7.46	34.156	26.690	139.9	0.669	1.50	32.3	52.3	2.56	33.3	0.01			334
1	390	7.49	7.45	34.268	26.779	132.5	0.748	0.77	11.5	58.3	2.82	35.1	0.01			393
	400 ISL	7.45	7.41	34.276	26.791	131.5	0.762	0.71	10.6	59.3	2.84	35.4	0.01			403
1	454	7.10	7.06	34.296	26.857	125.9	0.831	0.53	7.8	64.9	2.94	36.8	0.01			457
	500 ISL	fi.70	6.65	34.302	26.916	120.6	0.888	0.39	5.7	70.7	3.04	38.3	0.01			503
1	520	6.53	6.48	34.305	26.941	118.3	0.912	0.33	4.8	73.2	3.08	38.9	0.01			524

RV DAVID STARR JORDAN CALCOFI CRUISE 9108 STATION 90 45

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	HIND SPEED	NAVES	HEA	BAROMETER	DRY	NET	SECCHI/FOREL	CLD AMT TYPE
32 55.1 N	118 56.1 N	30/07/91	0123 UTC	1670 -	290 16 kn	300 05 05	2	1014.6 ab	16.8 C	16.0 C	16B 03	8/8 SC

CAST	DEPTH -	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN »1/1	OXY PCT	SIO3 UM/1	PO4 uM/l	NO3 uM/l	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
1	0	16.86	16.86	33.536	24.425	349.6	0.000	5.89	106.5	2.4	0.37	0.3	0.02	0.29	0.09	0
1	9	16.50	16.50	33.547	24.517	341.0	0.031	5.90	105.9	2.4	0.40	0.7	0.04	0.33	0.10	9
	10 ISL	16.27	16.27	33.540	24.564	336.6	0.034	5.90	105.4	2.6	0.42	1.0	0.06	0.33	0.10	10
1	20	13.76	13.76	33.490	25.071	288.6	0.066	5.89	100.0	4.8	0.68	4.7	0.26	0.35	0.17	20
1	30	12.70	12.70	33.465	25.264	270.4	0.094	5.59	92.8	6.9	0.87	7.5	0.48	0.43	0.28	30
1	40	11.78	11.77	33.440	25.420	255.8	0.120	5.18	114.4	9.7	1.05	10.6	0.38	0.51	0.40	40
	50 ISL	11.13	11.12	33.456	25.552	243.5	0.145	4.80	77.1	12.3	1.20	13.5	0.13	0.31	0.27	50
1	51	11.08	11.07	33.459	25.563	242.4	0.147	4.77	76.5	12.5	1.21 .	13.7	0.11	0.29	0.25	51
1	61	10.74	10.73	33.479	25.639	235.4	0.171	4.60	73.3	14.4	1.30	15.3	0.06	0.18	0.20	61
1	71	10.34	10.33	33.515	25.737	226.3	0.194	4.32	68.2	16.5	1.42	17.1	0.03	0.08	0.09	71
	75 ISL	10.21	10.20	33.539	25.777	222.5	0.203	4.21	66.3	17.5	1.47	17.9	0.03	0.06	0.08	75
1	85	9.94	9.93	33.610	25.879	213.0	0.225	3.94	61.7	20.0	1.59	19.7	0.02	0.03	0.07	85
	100 ISL	9.60	9.59	33.712	26.015	200.4	0.256	3.51	54.6	23.5	1.72	22.2	0.02	0.01	0.05	101
1	101	9.58	9.57	33.720	26.025	199.5	0.258	3.48	54.1	23.7	1.73	22.3	0.02	0.01	0.05	102
1	120	9.22	9.21	33.899	26.223	180.9	0.294	2.98	«6.0	28.4	1.88	24.7	0.01	0.01	0.06	121
	125 ISL	9.17	9.16	33.919	26.247	178.8	0.303	2.93	«5.2	29.0	1.90	25.0	0.01	0.01	0.06	126
1	144	9.02	9.00	33.956	26.300	174.1	0.337	2.80	«3.1	31.0	1.96	25.9	0.01	0.01	0.05	145
	150 ISL	8.92	8.90	33.969	26.326	171.7	0.347	2.72	41.7	32.1	2.00	26.4	0.01	0.01	0.05	151
1	176	8.50	8.48	34.023	26.434	161.8	0.390	2.40	216.5	37.1	2.17	28.7	0.02	0.00	0.06	177
	200 ISL	8.31	8.29	34.072	26.502	155.8	0.429	2.25	314.1	39.9	2.23	29.5	0.02	0.00	0.07	201
1	206	8.27	8.25	34.082	26.516	154.6	0.438	2.21	213.4	40.6	2.24	29.6	0.02	0.00	0.07	207
1	235	8.00	7.98	34.114	26.582	148.7	0.482	1.92	28.9	44.9	2.36	31.0	0.02			236
	250 ISL	7.89	7.86	34.123	26.605	146.7	0.504	1.81	27.2	46.5	2.42	31.6	0.02			251
1	275	7.70	7.67	34.135	26.643	143.5	0.540	1.63	114.3	49.3	2.51	32.7	0.01			277
	300 ISL	7.42	7.39	34.157	26.700	138.3	0.576	1.37	210.3	53.8	2.63	34.1	0.01			302
1	331	7.11	7.08	34.191	26.771	132.0	0.617	1.04	15.3	59.5	2.77	35.8	0.01			333
1	390	6.98	6.94	34.268	26.850	125.3	0.693	0.59	8.7	65.3	2.94	37.1	0.01			393
	400 ISL	6.90	6.86	34.271	26.864	124.2	0.706	0.55	8.1	66.6	2.96	37.4	0.01			403
1	456	6.45	6.41	34.276	26.928	118.5	0.774	0.43	6.2	73.4	3.07	39.1	0.01			459
	500 ISL	6.34	6.29	34.297	26.960	116.1	0.825	0.33	4.8	76.0	3.11	39.5	0.01			503
1	525	6.27	6.22	34.309	26.978	114.6	0.854	0.28	4.0	77.5	3.13	39.8	0.01			529

RV DAVID STARR JORDAN CALCOFI CRUISE 9108 STATION 90 53 ROS

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	HIND SPEED	HAVES	HEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
32 39.0 N	119 28.9 W	29/07/91	1754 UTC		320 16 kn	300 03 05	2	1017.1 ab	17.5 C	16.7 C		8/8 SC

CAST	DEPTH a	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN al/1	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/1	PHAEO ug/1	PRESS db
2	14	16.36	16.36	33.581	24.576	335.6	0.047							0.36	0.09	14
2	28	15.02	15.02	33.616	24.902	304.9	0.092							0.39	0.13	28
2	36	13.92	13.91	33.616	25.136	282.8	0.115							0.45	0.20	36
2	42	12.49	12.48	33.623	25.428	255.2	0.131							0.6S	0.43	42
2	52	11.45	11.44	33.660	25.652	234.0	0.156							0.52	0.40	52
2	62	10.80	10.79	33.712	25.810	219.2	0.179							0.27	0.25	62
2	73	10.37	10.36	33.751	25.916	209.4	0.202							0.17	0.19	73
2	99	9.45	9.44	33.872	26.165	186.1	0.254							0.04	0.11	99
2	200	8.03	8.01	34.095	26.562	150.0	0.423							0.01	0.06	201

RV DAVID STARR JORDAN CALCOFI CRUISE 9108 STATION 90 53

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	KIND	SPEED	NAVES	NEA	BAROMETER	DRY	NET	SECCRI/FOREL	CLD AMT	TYPE
32 39.0 N	119 28.9 N	29/07/91	1856 UTC	1337 ▪	320	IS kn	300 03 05	2	1017.1 ab	17.5 C	16.7 C	20a 03	8/8	SC

CAST	DEPTH ▪		TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN «T	OXYGEN ml/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
	0	ISL	16.44	16.44	33.574	24.551	337.5	0.000	5.83	104.6	2.4	0.44	1.2	0.05	0.34	0.11	0
1	1		16.44	16.44	33.574	24.551	337.5	0.003	5.83	104.6	2.4	0.44	1.2	0.05	0.34	0.11	1
	10	ISL	16.22	16.22	33.575	24.603	332.9	0.034	5.83	104.1	2.4	0.43	1.2	0.05	0.34	0.07	10
1	11		16.20	16.20	33.575	24.608	332.5	0.037	5.83	104.1	2.4	0.43	1.2	0.05	0.34	0.07	11
	20	ISL	15.02	15.02	33.616	24.902	304.7	0.066	5.86	102.2	4.2	0.54	3.0	0.11	0.42	0.13	20
1	21		14.89	14.89	33.621	24.934	301.6	0.069	5.86	101.9	4.4	0.55	3.2	0.12	0.43	0.14	21
1	30		14.51	14.51	33.617	25.013	294.4	0.095	5.79	99.9	5.0	0.60	3.9	0.15	0.40	0.13	30
1	41		12.91	12.90	33.626	25.348	262.8	0.126	5.24	87.5	9.3	0.93	8.6	0.43	0.59	0.36	41
	50	ISL	11.64	11.63	33.650	25.610	238.0	0.149	4.49	73.0	14.4	1.27	14.3	0.31	0.53	0.38	50
1	52		11.40	11.39	33.658	25.660	233.3	0.153	4.32	69.9	15.6	1.34	15.5	0.26	0.52	0.38	52
1	61		10.74	10.73	33.713	25.821	218.1	0.174	3.78	60.3	19.8	1.55	19.1	0.07	0.25	0.25	61
1	72		10.37	10.36	33.747	25.912	209.6	0.197	3.52	55.7	22.0	1.66	20.9	0.03	0.16	0.19	72
	75	ISL	10.26	10.25	33.752	25.935	207.5	0.203	3.47	54.8	22.5	1.68	21.3	0.03	0.14	0.17	75
1	86		9.87	9.86	33.781	26.024	199.2	0.226	3.25	50.9	24.7	1.77	22.8	0.03	0.09	0.12	86
1	99		9.43	9.42	33.872	26.168	185.8	0.251	2.81	43.6	28.6	1.93	25.1	0.02	0.03	0.10	100
	100	ISL	9.41	9.40	33.876	26.174	185.2	0.253	2.79	43.3	28.8	1.94	25.2	0.02	0.03	0.10	101
1	121		9.17	9.16	33.923	26.250	178.4	0.291	2.63	40.6	31.1	2.00	26.3	0.02	0.02	0.09	122
	125	ISL	9.11	9.10	33.934	26.268	176.7	0.298	2.59	39.9	31.7	2.02	26.6	0.02	0.02	0.09	126
2	148		8.77	8.75	33.997	26.372	167.3	0.337	2.34	35.8	35.2	2.13	28.2	0.02	0.01	0.09	149
	150	ISL	8.74	8.72	34.002	26.380	166.5	0.341	2.32	35.5	35.5	2.14	28.3	0.02	0.01	0.09	151
2	178		8.35	8.33	34.061	26.487	156.8	0.386	2.14	32.4	39.7	2.25	29.7	0.01	0.01	0.07	179
	200	ISL	8.09	8.07	34.093	26.551	151.0	0.420	2.03	30.6	42.9	2.32	30.5	0.02	0.01	0.05	201
2	209		7.99	7.97	34.104	26.575	148.9	0.433	1.97	29.6	44.3	2.35	30.9	0.02	0.01	0.04	210
2	238		7.62	7.60	34.143	26.660	141.2	0.476	1.57	23.4	50.3	2.53	32.9	0.01			239
	250	ISL	7.51	7.49	34.157	26.687	138.8	0.492	1.43	21.3	52.4	2.59	33.5	0.01			252
2	278		7.29	7.26	34.181	26.737	134.4	0.531	1.17	17.3	56.8	2.71	34.8	0.01			280
	300	ISL	7.12	7.09	34.183	26.763	132.2	0.560	1.02	15.0	59.8	2.79	35.7	0.01			302
2	335		6.90	6.87	34.181	26.792	129.9	0.606	0.83	12.2	63.7	2.88	36.8	0.01			337
2	393		6.69	6.65	34.212	26.845	125.6	0.680	0.57	8.3	68.5	2.99	37.9	0.00			396
	400	ISL	6.66	6.62	34.216	26.853	125.0	0.689	0.55	8.0	69.1	3.00	38.0	0.00			403
2	457		6.44	6.40	34.255	26.913	119.9	0.758	0.41	6.0	73.9	3.08	39.0	0.00			460
	500	ISL	6.23	6.19	34.286	26.965	115.4	0.809	0.35	5.1	77.9	3.14	39.6	0.00			503
2	526		6.11	6.06	34.306	26.996	112.7	0.839	0.31	4.5	80.3	3.17	40.0	0.00			530

RV DAVID STARR JORDAN CALCOFI CRUISE 9108 STATION 90 60

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	NAVES	NEA	BAROMETER	DRY	NET	SECCBI/FOREL	CLD AMT	TYPE
32 25.1 N	119 57.6 N	29/07/91	1310 UTC	840 a	280	19 kn			1016.3 ab	14.7 C	13.0 C	13a 03		

CAST	DEPTH a		TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN al/1	OXY PCT	SIO3 uM/1	PO4 UM/1	NO3 uM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
1	0		15.38	15.38	33.474	24.713	322.0	0.000	6.07	106.5	2.8	0.47	1.8	0.07	0.46	0.14	0
	10	ISL	15.38	15.38	33.473	24.713	322.4	0.032	6.06	106.4	2.8	0.47	1.8	0.07	0.42	0.31	10
1	11		15.38	15.38	33.473	24.713	322.4	0.035	6.06	106.3	2.8	0.47	1.8	0.07	0.42	0.33	11
	20	*XSl*	14.67	14.67	33.367	24.786	315.8	0.064	6.17	106.7	2.8	0.52	2.3	0.10	0.47	0.21	20
1	21		14.51	14.51	33.335	24.795	314.9	0.067	6.17	106.3	2.8	0.52	2.3	0.11	0.48	0.20	21
	30	*Y.SL*	11.71	11.71	33.041	25.123	283.8	0.094	5.88	95.4	6.2	0.84	6.9	0.25	0.44	0.31	30
1	31		11.40	11.40	33.018	25.162	280.1	0.097	5.83	93.9	6.6	0.88	7.5	0.26	0.44	0.32	31
1	40		10.67	10.67	33.056	25.321	265.1	0.122	5.46	86.6	9.4	1.06	10.7	0.05	0.26	0.21	40
	50	ISL	11.40	11.39	33.430	25.483	250.1	0.147	5.36	86.6	8.0	1.14	10.9	0.57	0.10	0.13	50
1	51		11.45	11.44	33.461	25.498	248.7	0.150	5.34	86.4	8.0	1.15	10.9	0.61	0.09	0.12	51
1	60		9.87	9.86	33.300	25.648	234.4	0.172	4.67	72.9	14.6	1.36	16.1	0.04	0.05	0.08	60
1	71		9.75	9.74	33.366	25.719	227.8	0.197	4.42	68.8	16.5	1.45	17.7	0.02	0.03	0.07	71
	75	ISL	9.67	9.66	33.402	25.761	224.0	0.206	4.30	66.9	17.4	1.49	18.5	0.02	0.03	0.06	75
1	85		9.54	9.53	33.501	25.860	214.8	0.228	4.03	62.5	19.7	1.60	20.2	0.01	0.02	0.05	85
1	100		9.89	9.88	33.645	25.915	209.9	0.260	3.90	61.0	21.7	1.68	21.2	0.01	0.02	0.06	100
1	121		9.34	9.33	33.795	26.123	190.5	0.302	3.11	48.1	27.1	1.88	24.9	0.01	0.02	0.03	122
	125	ISL	9.24	9.23	33.816	26.155	187.5	0.309	3.11	48.0	27.5	1.88	25.0	0.01	0.02	0.03	126
1	145		8.78	8.76	33.897	26.292	174.8	0.346	3.12	47.7	29.2	1.88	25.3	0.02	0.01	0.03	146
	150	ISL	8.69	8.67	33.912	26.318	172.5	0.354	3.10	47.3	29.8	1.89	25.5	0.02	0.01	0.03	151
1	175		8.35	8.33	33.981	26.424	162.7	0.396	2.99	45.3	33.9	1.98	27.0	0.02	0.00	0.03	176
	200	ISL	t.u	8.09	34.067	26.528	153.2	0.436	2.40	36.2	40.0	2.20	29.3	0.03	0.00	0.04	201
1	206		8.07	8.05	34.086	26.549	151.4	0.445	2.25	33.9	41.5	2.25	29.9	0.03	0.00	0.04	207
1	235		7.93	7.91	34.134	26.608	146.3	0.488	1.85	27.8	45.8	2.41	31.4	0.02			236
	250	ISL	7.84	7.82	34.158	26.640	143.4	0.510	1.64	24.6	48.1	2.48	32.2	0.02			251
1	275		7.67	7.64	34.191	26.691	138.9	0.545	1.31	19.6	52.0	2.60	33.4	0.01			277
	300	ISL	7.42	7.39	34.211	26.743	134.3	0.579	1.07	15.9	56.2	2.72	34.7	0.01			302
1	331		7.08	7.05	34.228	26.804	128.8	0.620	0.83	12.2	61.5	2.86	36.2	0.01			333
1	391		6.55	6.51	34.258	26.900	120.3	0.695	0.51	7.4	70.6	3.01	38.6	0.00			394
	400	ISL	6.48	6.44	34.261	26.912	119.2	0.705	0.49	7.1	71.7	3.03	38.9	0.00			403
1	457		6.16	6.12	34.278	26.967	114.5	0.772	0.39	5.6	77.3	3.11	40.0	0.00			460
	500	ISL	6.04	6.00	34.302	27.002	111.7	0.821	0.32	4.6	80.2	3.13	40.4	0.00			503
1	527		5.97	5.92	34.317	27.023	110.1	0.851	0.27	3.9	82.1	3.15	40.6	0.00			531

RV DAVID STARK JORDAN | CALCOFI CRUISE 9108 | STATION 90 70

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	KIND	SPEED	NAVES	NEA	BAROMETER	DRY	NET	SECCHI/FOREL	CLD AMT	TYPE
32 5.1 N	120 38.4 N	29/07/91	0716 UTC	3810 m	320	18 kn			1018.4 «b	15.2 C	14.4 C			

CAST	DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA TBETA	SVA	DYN HT	OXYGEN *ml/l*	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRESS db
1	0	15.73	15.73	33.022	24.288	362.S	0.000	5.93	104.5	2.3	0.39	0.0	0.01	0.19	0.05	0
1	10	15.71	15.71	33.020	24.291	362.6	0.036	5.96	105.0	2.2	0.32 U	0.0	0.01	0.18	0.05	10
1	20	15.34	15.34	33.039	24.388	353.7	0.072	6.05	105.8	2.2	0.39	0.1	0.01	0.20	0.07	20
1	30	14.91	14.91	33.020	24.467	346.4	0.107	6.11	105.9	2.2	0.39	0.1	0.01	0.25	0.09	30
1	40	14.55	14.54	33.041	24.560	337.8	0.141	6. IS'	106.5	2.4	0.42	0.3	0.02	0.41	0.18	40
1	50	14.16	14.15	33.042	24.643	330.1	0.175	6.21	106.0	2.7	0.45	0.7	0.04	0.47	0.27	50
1	59	13.39	13.38	33.054	24.810	314.4	0.204	6.07	102.0	3.0	0.50	1.2	0.14	0.45	0.32	59
1	70	12.90	12.89	33.072	24.922	304.1	0.238	6.02	100.2	3.5	0.60	2.3	0.32	0.40	0.31	70
	75 ISL	12.46	12.45	33.079	25.013	295.5	0.253	5.90	97.3	4.3	0.69	4.0	0.26	0.32	0.26	75
1	84	11.63	11.62	33.108	25.191	278.6	0.279	5.64	91.4	6.2	0.88	7.6	0.11	0.16	0.17	84
1	100	10.82	10.81	33.230	25.432	256.0	0.321	5.23	83.3	9.9	1.11	11.6	0.06	0.07	0.10	100
1	120	9.84	9.83	33.325	25.673	233.2	0.370	4.59	71.6	15.6	1.41	16.8	0.02	0.04	0.06	121
	125 ISL	9.71	9.70	33.360	25.722	228.7	0.382	4.46	69.4	16.4	1.44	17.5	0.02	0.03	0.06	126
1	145	9.38	9.36	33.528	25.908	211.4	0.426	4.00	61.8	19.4	1.54	19.7	0.01	0.01	0.05	146
	150 ISL	9.30	9.28	33.584	25.965	206.1	0.436	3.8S	59.4	20.7	1.59	20.6	0.01	0.01	0.04	151
1	175	8.93	8.91	33.836	26.221	182.2	0.485	3.23	49.5	27.4	1.81	24.4	0.01	0.01	0.02	176
	200 ISL	8.54	8.52	33.942	26.365	168.9	0.529	3.17	48.2	31.0	1.88	25.7	0.01	0.00	0.03	201
1	205	8.46	8.44	33.952	26.385	167.0	0.537	3.16	48.0	31.6	1.88	25.8	0.01	0.00	0.03	206
1	233	8.04	8.02	33.992	26.480	158.3	0.583	3.20	48.1	35.3	1.92	26.6	0.01			234
	250 ISL	7.85	7.83	34.005	26.518	154.9	0.609	3.12	46.7	37.6	1.98	27.4	0.01			251
1	274	7.62	7.59	34.017	26.562	151.1	0.646	2.90	43.2	41.1	2.09	28.8	0.01			276
	300 ISL	7.33	7.30	34.034	26.616	146.2	0.685	2.53	37.4	46.0	2.22	30.7	0.01			302
1	329	7.01	6.98	34.053	26.676	140.8	0.726	2.08	10.6	51.8	2.38	32.9	0.00			331
1	387	6.53	6.49	34.096	26.775	132.0	0.805	1.39	20.2	61.9	2.70	36.4	0.00			389
	400 ISL	6.40	6.36	34.104	26.798	129.8	0.822	1.27	18.4	64.4	2.76	37.1	0.00			402
1	450	5.92	5.88	34.140	26.888	121.6	0.885	0.87	12.5	73.7	2.93	39.5	0.00			453
	500 ISL	5.67	5.63	34.196	26.964	114.9	0.944	0.56	8.0	80.9	3.05	41.0	0.00			503
1	515	5.59	5.55	34.213	26.987	112.8	0.961	0.47	6.7	83.0	3.08	41.4	0.00			518

RV DAVID STARK JORDAN | CALCOFI CRUISE 9108 | STATION 90 80

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	HIND	SPEED	HAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
31 45.1 N	121 18.9 N	29/07/91	0042 UTC	3622 -	330	10 kn	320 03 07	1	1019.8 «b	17.0 C	15.8 C	25a	02	7/8	SC

CAST	DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN Ml/1	OXY PCT	SIO3 UM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
1	0	16.40	16.40	33.109	24.203	370.6	0.000	5.78	103.3	2.7	0.38	0.0	0.00	0.10	0.03	0
1	9	16.07	16.07	33.098	24.270	364.5	0.033	5.84	103.7	2.5	0.40	0.0	0.00	0.10	0.03	9
	10 ISL	16.04	16.04	33.098	24.277	363.9	0.037	5.85	103.8	2.5	0.40	0.0	0.00	0.10	0.03	10
1	19	15.88	15.88	33.098	24.313	360.8	0.069	5.87	103.8	2.5	0.38	0.0	0.00	0.11	0.03	19
	20 ISL	15.88	15.88	33.098	24.313	360.8	0.073	5.87	103.8	2.5	0.38	0.0	0.00	0.11	0.03	20
1	30	15.83	15.83	33.106	24.331	359.4	0.109	5.84	103.2	2.5	0.38	0.0	0.00	0.14	0.04	30
1	41	15.51	15.50	33.124	24.417	351.6	0.148	5.92	103.9	2.4	0.37	0.0	0.00	0.16	0.06	41
	50 ISL	14.57	14.56	33.117	24.615	332.9	0.179	6.07	104.6	2.4	0.39	0.0	0.00	0.18	0.12	50
1	51	14.46	14.45	33.116	24.637	330.8	0.182	6.08	104.5	2.4	0.39	0.0	0.00	0.18	0.13	51
1	60	13.98	13.97	33.097	24.724	322.8	0.212	6.10	103.8	2.4	0.40	0.0	0.00	0.24	0.18	60
1	71	13.50	13.49	33.095	24.820	313.8	0.247	6.07	102.3	2.6	0.43	0.2	0.05	0.44	0.30	71
	75 ISL	13.21	13.20	33.113	24.892	307.0	0.259	5.97	100.0	3.1	0.49	1.3	0.08	0.40	0.29	75
1	85	12.38	12.37	33.165	25.095	287.9	0.289	5.66	93.2	4.8	0.69	4.7	0.14	0.21	0.27	85
1	100	11.06	11.05	33.189	25.358	263.1	0.330	5.27	14.4	8.0	0.94	9.2	0.03	0.11	0.16	100
1	121	10.10	10.09	33.284	25.598	240.5	0.383	4.76	74.7	12.7	1.24	14.1	0.01	0.04	0.06	122
	125 ISL	10.00	9.99	33.314	25.638	236.7	0.393	4.64	72.6	13.6	1.29	15.0	0.01	0.03	0.06	126
1	147	9.60	9.58	33.510	25.858	216.2	0.442	4.00	62.1	18.8	1.53	19.3	0.00	0.01	0.03	148
	150 ISL	9.55	9.53	33.544	25.893	213.0	0.449	3.93	61.0	19.5	1.55	19.8	0.00	0.01	0.03	151
1	177	9.11	9.09	33.817	26.178	186.4	0.503	3.48	53.6	25.2	1.71	22.8	0.00	0.00	0.03	178
	200 ISL	8.81	8.79	33.903	26.293	175.8	0.544	3.40	52.0	27.9	1.77	23.9	0.00	0.00	0.03	201
1	208	8.70	8.68	33.917	26.321	173.2	0.558	3.37	51.4	28.8	1.78	24.2	0.00	0.00	0.03	209
1	236	8.21	8.19	33.982	26.447	161.6	0.605	3.28	49.5	33.5	1.87	25.8	0.00			237
	250 ISL	8.01	7.98	33.997	26.489	157.8	0.628	3.20	48.1	35.7	1.93	26.6	0.00			251
1	277	7.68	7.65	34.013	26.550	152.3	0.669	2.95	44.0	40.4	2.06	28.4	0.00			279
	300 ISL	7.41	7.38	34.035	26.606	147.2	0.704	2.54	37.7	45.5	2.23	30.5	0.00			302
1	333	7.04	7.01	34.066	26.682	140.3	0.751	1.91	28.1	52.9	2.47	33.4	0.00			335
1	392	6.42	6.38	34.102	26.794	130.1	0.831	1.27	18.4							394
	400 ISL	6.35	6.31	34.107	26.807	129.0	0.841	1.20	17.4							402
1	457	5.97	5.93	34.151	26.891	121.5	0.913	0.81	11.6							460
	500 ISL	5.85	5.81	34.207	26.950	116.3	0.964	0.56	8.0							503
1	525	5.78	5.73	34.240	26.985	113.3	0.993	0.41	5.9							528

RV DAVID STARR JORDAN | CALCOFI CRUISE 9108 | STATION 90 80 ROS

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	HIND	SPEED	HAVES	NEA	BAROMETER	DRY	NET	SECCHI/FOREL	CLD AMT	TYPE
31 45.1 N	121 18.9 H	29/07/91	0225 UTC											

CAST	DEPTH -	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN Ml/1	OXY PCT	SIO3 UM/1	PO4 UM/1	NO3 UM/1	NO2 UM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
2	3	16.40	16.40	33.117	24.210	370.2	0.011	5.80	103.6					0.10	0.02	3
2	12	15.97	15.97	33.119	24.309	360.9	0.044	5.84	103.5					0.10	0.02	12
2	22	15.86	15.86	33.115	24.331	359.2	0.080	5.86	103.6					0.11	0.04	22
2	37	15.65	15.64	33.120	24.382	354.7	0.134	5.88	103.5					0.15	0.06	37
2	76	13.06	13.05	33.135	24.939	302.6	0.262	5.86	97.9							76
2	101	10.98	10.97	33.194	25.376	261.4	0.332	5.25	83.9					0.10	0.15	101
2	152	9.44	9.42	33.609	25.962	206.5	0.452	3.69	57.2					0.00	0.03	153
2	204	8.69	8.67	33.920	26.325	172.8	0.550	3.38	51.6					0.01	0.03	205

RV DAVID STARR JORDAN CALCOFI CRUISE 9108 STATION »0 90

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER.	BOTTOM	HIND SPEED	NAVES	NEA	BAROMETER	DRY	NET	SECCHI/FOREL	CLD AMT	TYPE
31 25.1 N	121 59.4 N	28/07/91	1835 UTC	3839 -	340 08 kn	340 03 09	2	1021.7 *mb*	18.1 C	16.0 C	28a 01	8/8	SC

CAST	DEPTH m		TEMP DEG C	POT TEMP DEC C	SALINITY PSS 78	SIGMA THETA	SVA	DYN RT	OrYGEN ml/1	OXY PCT	SIO3 UM/1	PO4 UM/1	NO3 uM/1	NO2 UM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
1	0		16.82	16.82	33.338	24.282	363.1	0.000	5.70	102.8	2.6	0.37	0.0	0.00	0.11	0.02	0
1	10		16 53	16.53	33.319	24.335	358.4	0.036	5.74	103.0	2.5	0.41	0.0	0.00	0.10	0.02	10
1	19		1631	16.31	33.318	24.385	353.9	0.068	5.77	103.1	2.5	0.36	0.0	0.00	0.14	0.04	19
	20	ISL	16.30	16.30	33.318	24.387	353.7	0.072	5.77	103.0	2.5	0.36	0.0	0.00	0.14	0.04	20
1	30		16,20	16.20	33.321	24.413	351.6	0.107	5.83	103.9	2.5	0.36	0.0	0.00	0.17	0.04	30
1	40		15.23	15.22	33.330	24.637	330.6	0.141	6.01	105.1	2.5	0.37	0.0	0.00	0.21	0.08	40
	50	ISL	14.04	14.03	33.302	24.869	308.7	0.173	5.98	102.0	2.9	0.42	0.5	0.08	0.48	0.26	50
1	51		13.94	13.93	33.300	24.888	306.9	0.176	5.98	101.8	2.9	0.43	0.6	0.09	0.50	0.28	51
1	61		13.75	13.74	33.303	24.930	303.1	0.207	5.93	100.6	3.0	0.46	0.9	0.13	0.47	0.28	61
1	72		13.24	13.23	33.301	25.032	293.7	0.239	5.74	96.3	3.6	0.56	2.6	0.21	0.36	0.26	72
	75	ISL	13.04	13.03	33.305	25.075	289.7	0.248	5.68	94.9	4.0	0.60	3.4	0.18	0.32	0.24	75
1	86		12.30	12.29	33.333	25.240	274.1	0.279	5.46	89.8	5.7	0.78	6.4	0.04	0.18	0.17	86
	100	ISL	11.68	11.67	33.386	25.398	259.3	0.317	5.21	84.6	8.2	0.97	9.6	0.02	0.08	0.09	100
1	101		11.64	11.63	33.390	25.409	258.3	0.319	5.19	84.2	8.4	0.98	9.8	0.02	0.07	0.08	101
1	122		10.45	10.44	33.495	25.703	230.6	0.370	4.53	71.7	14.2	1.29	15.3	0.01	0.01	0.05	123
	125	ISL	10.33	10.32	33.509	25.735	227.7	0.377	4.45	70.2	14.8	1.32	15.8	0.01	0.01	0.05	126
1	146		9.71	9.69	33.614	25.921	210.2	0.423	4.01	62.5	18.8	1.48	18.6	0.01	0.01	0.04	147
	150	ISL	9.62	9.60	33.642	25.958	206.8	0.432	3.95	61.4	19.5	1.51	19.1	0.01	0.01	0.04	151
1	178		9.09	9.07	33.837	26.197	184.6	0.486	3.60	55.4	24.9	1.67	22.2	0.01	0.00	0.03	179
	200	ISL	8.72	8.70	33.943	26.338	171.5	0.526	3.23	49.3	29.9	1.82	24.6	0.00	0.00	0.03	201
1	208		8.59	8.57	33.971	26.380	167.6	0.539	3.11	47.4	31.6	1.87	25.4	0.00	0.00	0.03	209
1	237		8.19	8.17	34.011	26.473	159.2	0.587	3.03	45.7	35.5	1.95	26.8	0.00			238
	250	ISL	7.99	7.96	34.024	26.513	155.5	0.607	2.88	43.3	38.1	2.03	27.8	0.00			251
1	278		7.60	7.57	34.049	26.590	148.5	0.650	2.47	36.8	44.2	2.22	30.2	0.00			280
	300	ISL	7.38	7.35	34.073	26.640	144.0	0.682	2.12	31.4	48.6	2.36	31.9	0.00			302
1	333		7.10	7.07	34.111	26.709	137.8	0.728	1.60	23.6	55.1	2.56	34.2	0.00			335
1	392		6.61	6.57	34.181	26.831	126.8	0.806	0.91	13.3	66.2	2.85	37.4	0.00			394
	400	ISL	6.55	6.51	34.190	26.847	125.4	0.816	0.84	12.2	67.5	2.88	37.7	0.00			402
1	456		6.18	6.14	34.243	26.937	117.3	0.884	0.49	7.1	75.9	3.03	39.5	0.00			459
	500	ISL	5.87	5.83	34.269	26.997	112.0	0.935	0.37	5.3	81.6	3.11	40.6	0.00			503
1	525		5.69	5.65	34.285	27.032	108.8	0.962	0.30	4.3	84.9	3.15	41.3	0.00			528

RV DAVID STARR JORDAN CALCOFI CRUISE 9108 STATION 90 100

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	HIND SPEED	HAVES	HEA	BAROMETER	DRY	NET	SECCHI/FOREL	CLD AMT	TYPE
31 5.2 N	122 39.6 H	28/07/91	1237 UTC	4016 -	100 06 kn			1019.9 mb	17.0 C	14.7 C			

CAST	DEPTH m		TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ial/1	OXY PCT	SIO3 uM/1	PO4 UM/1	NO3 UM/1	NO2 UM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
1	0		17.32	17.32	33.359	24.180	372.8	0.000	5.62	102.4	3.1	0.36	0.1	0.00	0.08	0.03	0
	10	ISL	17.28	17.28	33.357	24.189	372.4	0.037	5.64	102.7	2.9	0.36	0.1	0.00	0.09	0.02	10
1	11		17.28	17.28	33.357	24.189	372.4	0.041	5.64	102.7	2.9	0.36	0.1	0.00	0.09	0.02	11
1	20		17.15	17.15	33.354	24.218	370.0	0.074	5.66	102.8	2.9	0.35	0.0	0.00	0.13	0.03	20
1	30		16.63	16.63	33.344	24.332	359.4	0.111	5.81	104.4	2.9	0.35	0.0	0.00	0.14	0.04	30
1	40		15.84	15.83	33.278	24.462	347.3	0.146	5.91	104.5	2.8	0.35	0.0	0.00	0.11	0.03	40
1	49		15.46	15.45	33.256	24.530	341.1	0.177	5.94	104.3	2.8	0.36	0.0	0.00	0.13	0.05	49
	50	ISL	15.36	15.35	33.246	24.544	339.7	0.181	5.95	104.2	2.8	0.36	0.0	0.00	0.14	0.05	50
1	58		14.51	14.50	33.182	24.678	327.1	0.207	6.04	104.0	2.7	0.38	0.0	0.00	0.19	0.09	58
1	69		13.57	13.56	33.241	24.919	304.4	0.242	5.91	99.8	3.3	0.45	0.6	0.07	0.29	0.26	69
	75	ISL	13.14	13.13	33.229	24.996	297.2	0.260	5.80	97.1	3.7	0.53	1.7	0.10	0.29	0.27	75
1	83		12.53	12.52	33.193	25.088	288.6	0.283	s.63	93.0	4.7	0.66	3.9	0.12	0.29	0.29	83
1	98		10.96	10.95	33.159	25.352	263.5	0.325	5.25	83.8	8.5	0.96	9.3	0.03	0.18	0.18	98
	100	ISL	10.82	10.81	33.168	25.383	260.5	0.330	5.19	82.6	9.0	1.00	9.9	0.03	0.16	0.17	100
1	119		9.94	9.93	33.311	25.646	235.8	0.377	4.62	72.2	13.9	1.31	15.2	0.01	0.03	0.06	120
	125	ISL	9.79	9.78	33.369	25.716	229.3	0.391	4.44	69.2	15.3	1.38	16.5	0.01	0.03	0.05	126
1	144		9.48	9.46	33.555	25.913	210.9	0.433	3.92	60.7	19.6	1.55	19.7	0.00	0.01	0.03	145
	150	ISL	9.38	9.36	33.610	25.972	205.4	0.446	3.81	58.9	20.8	1.59	20.5	0.00	0.01	0.03	151
1	174		9.01	8.99	33.795	26.176	186.4	0.493	3.44	52.8	25.4	1.74	23.1	0.00	0.00	0.03	175
	200	ISL	8.72	8.70	33.911	26.313	173.9	0.539	2.98	45.5	30.6	1.91	26.0	0.00	0.00	0.03	201
1	204		8.68	8.66	33.923	26.329	172.4	0.546	2.94	44.9	31.2	1.93	26.3	0.00	0.00	0.03	205
1	234		8.129	8.27	33.981	26.434	162.8	0.597	3.43	51.9	32.2	1.81	25.1	0.00			235
	250	ISL	8.04	8.01	33.999	26.486	158.1	0.622	3.22	48.4	35.3	1.90	26.4	0.00			251
1	273		7.68	7.65	34.017	26.553	152.0	0.658	2.73	40.7	40.8	2.10	29.0	0.00			274
	300	ISL	7.36	7.33	34.033	26.611	146.7	0.698	2.43	36.0	45.5	2.25	30.9	0.00			302
1	328		7.07	7.04	34.046	26.662	142.1	0.739	2.17	31.9	50.3	2.39	32.6	0.00			330
1	388		6.37	6.34	34.073	26.777	131.6	0.821	1.49	21.6	63.2	2.69	36.6	0.00			390
	400	ISI	6.25	6.21	34.082	26.800	129.5	0.836	1.37	19.8	65.6	2.74	37.3	0.00			402
1	452		5.84	5.80	34.131	26.891	121.2	0.902	0.89	12.7	74.9	2.91	39.6	0.00			455
	500	ISL	5.63	5.59	34.186	26.961	115.1	0.958	0.58	8.3	81.9	3.05	40.4	0.00			503
1	518		5.55	5.51	34.207	26.987	112.7	0.979	0.47	6.7	84.5	3.10	40.7	0.00			521

RV DAVID STARR JORDAN | CALCOFI CRDISE 9108 | STATION 90 IIO

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	HIND SPEED	WAVES	KEA	BAROMETER	DRY	NET	SECCBI/FOREL	CUD AMT TYPE
30 45.1 N	123 19.9 N	38/07/91	0657 DTC		200 05 kn			1020.2 Bb	17.9 C	15.0 C		

CAST	DEPTB -	TEMP DBG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA TBETA	SVA	DYN RT	OXYGEN »1/1	OXY PCT	SIO3 UM/1	PO4 UM/1	NO3 UM/1	NO2 UM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
1	0	17.41	17.41	33.150	23.999	390.1	0.000	5.67	103.4	2.8	0.38	0.0	0.00	0.08	0.02	0
1	10	1.7.11	17.11	33.132	24.057	385.0	0.039	5.69	103.1	2.8	0.38	0.0	0.00	0.08	0.03	10
1	20	17.01	17.01	33.126	24.076	383.5	0.077	5.70	103.1	2.7	0.37	0.0	0.00	0.09	0.03	20
1	30	16.91	16.91	33.217	24.169	374.9	0.115	5.75	103.8	2.7	0.36	0.0	0.00	0.09	0.03	30
1	41	16.36	16.35	33.211	24.292	363.5	0.156	5.84	104.3	2.7	0.36	0.0	0.00	0.09	0.03	41
1	50	15.89	15.88	33.182	24.377	355.7	0.188	5.90	104.4	2.8	0.36	0.0	0.00	0.11	0.05	50
1	61	15.63	15.62	33.220	24.465	347.6	0.227	5.93	104.4	2.8	0.36	0.0	0.00	0.13	0.04	61
1	71	15.42	15.41	33.293	24.568	338.1	0.261	5.94	104.2	2.7	0.34	0.0	0.00	0.14	0.06	71
	75 ISL	15.34	15.33	33.308	24.597	335.5	0.275	5.94	104.0	2.7	0.34	0.0	0.00	0.15	0.07	75
1	85	15.14	15.13	33.334	24.661	329.6	0.308	5.95	103.8	2.7	0.34	0.0	0.00	0.17	0.10	85
1	100	14.90	14.89	33.379	24.748	321.8	0.357	5.91	102.6	2.8	0.33	0.0	0.00	0.20	0.18	100
1	120	14.06	14.04	33.424	24.961	301.9	0.419	5.70	97.3	3.5	0.43	0.9	0.09	0.22	0.22	120
	125 ISL	13.56	13.54	33.389	25.037	294.7	0.434	5.63	95.1	4.1	0.50	2.1	0.09	0.21	0.22	126
1	146	11.32	11.30	33.271	25.376	262.5	0.492	5.28	85.0	7.8	0.87	8.2	0.04	0.15	0.17	147
	150 ISL	11.04	11.02	33.276	25.430	257.4	0.503	5.22	83.6	8.5	0.93	9.1	0.03	0.13	0.16	151
1	176	9.73	9.71	33.409	25.758	226.3	0.566	4.70	73.2	14.2	1.26	14.9	0.01	0.04	0.09	177
	200 ISL	9.07	9.05	33.629	26.037	200.1	0.617	3.97	61.0	21.7	1.58	20.3	0.01	0.01	0.04	201
1	205	8.98	8.96	33.678	26.090	195.2	0.627	3.83	58.7	23.2	1.63	21.3	0.01	0.00	0.03	206
1	235	8.65	8.63	33.922	26.333	172.6	0.682	3.54	54.0	28.7	1.74	23.6	0.01			236
	250 ISL	8.45	8.42	33.971	26.402	166.2	0.707	3.48	52.8	31.2	1.78	24.5	0.01			251
1	275	8.08	8.05	34.001	26.482	159.0	0.748	3.37	50.7	35.3	1.87	25.9	0.00			276
	300 ISL	7.71	7.68	34.016	26.548	152.9	0.787	3.03	45.2	40.1	2.02	28.0	0.00			302
1	330	7.27	7.24	34.021	26.615	146.8	0.832	2.54	37.5	46.4	2.23	30.7	0.00			332
1	389	6.55	6.51	34.054	26.739	135.4	0.915	1.72	25.0	59.3	2.59	35.3	0.00			391
	400 ISL	6.45	6.41	34.069	26.764	133.1	0.930	1.55	22.5	61.8	2.66	36.1	0.00			402
1	454	6.01	5.97	34.144	26.880	122.5	0.999	0.82	11.8	73.5	2.94	39.3	0.00			457
	500 ISL	5.64	5.60	34.177	26.952	115.9	1.054	0.61	8.7	81.0	3.07	40.5	0.00			503
1	523	5.45	5.41	34.194	26.989	112.5	1.080	0.50	7.1	84.8	3.14	41.1	0.00			526

RV DAVID STARR JORDAN | CALCOFI CRUISE 9108 | STATION 90 120 ROS

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	NIND SPEED	WAVES	NBA	BAROMETER	DRY	NET	SECCBI/FOREL	CLD AMT TYPE
30 25.0 N	123 59.9 N	28/07/91	0018 UTC		210 10 kn	310 05 07	2	1018.9 *mb*	19.0 C	17.2 C		8/8 SC

CAST	DEPTH II	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA TBETA	SVA	DYN BT	OXYGEN al/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 UM/1	NO2 UM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
2	2	18.17	18.17	33.652	24.199	371.1	0.007	5.54	102.8					0.07	0.02	2
2	11	17.91	17.91	33.648	24.260	365.6	0.041	5.57	102.8					0.08	0.01	11
2	20	17.83	17.83	33.652	24.283	363.7	0.073	5.61	103.4					0.08	0.02	20
2	37	17.32	17.31	33.679	24.427	350.6	0.134	5.74	104.8					0.11	0.03	37
2	49	16.87	16.86	33.742	24.582	336.2	0.175	5.78	104.6					0.12	0.03	49
2	74	17.20	17.19	34.081	24.766	319.7	0.257	5.64	103.0					0.21	0.08	74
2	98	16.97	16.95	34.081	24.821	315.2	0.333	5.60	101.8					0.27	0.16	98
2	149	13.30	13.28	33.681	25.316	268.8	0.482	5.24	88.2					0.14	0.17	150
2	199	9.98	9.96	33.617	25.880	215.4	0.603	4.41	69.1					0.01	0.03	200

RV DAVID STARR JORDAN | CALCOFI CRUISE 9108 | STATION 90 120

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	NAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
30 25.0 N	123 59.9 N	28/07/91	0131 UTC	4300 -	210 10 kn	310 05 07	2	1018.9 Bb	19.0 C	17.2 C	30a 01	8/8 SC

CAST	DEPTH -	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN BT	OXYGEN Ml/1	OXY PCT	SIO3 UM/1	PO4 UM/1	NO3 uM/1	NO2 uM/1	CBL-A ug/1	PHAEO ug/1	PRESS db
1	0	18.17	18.17	33.654	24.201	370.9	0.000	5.54	102.8	3.7	0.31	0.1	0.01	0.07	0.02	0
1	9	17.87	17.87	33.650	24.271	364.5	0.033	5.58	102.9	3.4	0.31	0.1	0.01	0.08	0.02	9
	10 ISL	17.87	17.87	33.650	24.271	364.5	0.037	5.59	103.1	3.4	0.31	0.1	0.01	0.08	0.02	10
1	19	17.83	17.83	33.649	24.281	363.9	0.070	5.62	103.6	3.4	0.29	0.1	0.01	0.09	0.02	19
	30 ISL	17.82	17.82	33.648	24.283	363.8	0.073	5.62	103.6	3.4	0.29	0.1	0.01	0.09	0.02	20
1	29	17.71	17.71	33.640	24.303	362.1	0.106	5.62	103.3	3.3	0.29	0.0	0.00	0.10	0.02	29
	30 ISL	17.70	17.69	33.642	24.307	361.8	0.109	5.62	103.3	3.3	0.29	0.0	0.00	0.10	0.02	30
1	39	17.51	17.50	33.665	24.371	3S6.0	0.142	5.68	104.1	3.2	0.29	0.0	0.00			39
1	49	16.94	16.93	33.657	24.501	344.0	0.177	5.79	104.9	3.2	0.26	0.0	0.00	0.10	0.02	49
	50 ISL	16.93	16.92	33.668	24.511	342.9	0.180	5.79	104.9	3.2	0.26	0.0	0.00	0.10	0.02	50
1	59	16.88	16.87	33.772	24.603	334.5	0.211	5.78	104.7	3.2	0.23	0.0	0.00	0.12	0.03	59
1	69	17.37	17.36	34.101	24.740	321.9	0.243	5.65	103.5	3.2	0.22	0.0	0.00	0.15	0.05	69
	75 ISL	17.32	17.31	34.104	24.755	320.7	0.263	5.65	103.4	3.2	0.22	0.0	0.01	0.17	0.06	75
1	83	17.26	17.25	34.107	24.771	319.4	0.288	5.64	103.1	3.2	0.23	0.0	0.02	0.20	0.07	83
1	98	17.08	17.06	34.085	24.798	317.4	0.336	5.62	102.3	3.0	0.23	0.0	0.00	0.24	0.12	98
	100 ISL	17.06	17.04	34.083	24.801	317.1	0.342	5.62	102.3	3.0	0.23	0.0	0.00	0.25	0.13	100
1	119	16.60	16.58	34.031	24.870	311.2	0.402	5.58	100.6	3.0	0.22	0.1	0.01	0.28	0.23	119
	125 ISL	16.23	16.21	33.998	24.930	305.6	0.421	5.53	99.0	3.2	0.25	0.3	0.05	0.27	0.22	126
1	144	14.64	14.62	33.855	25.172	282.7	0.477	5.33	92.3	4.4	0.43	2.1	0.15	0.19	0.20	145
	150 ISL	13.99	13.97	33.778	25.250	275.3	0.493	5.27	90.0	5.2	0.52	3.4	0.13	0.16	0.18	151
1	173	11.63	11.61	33.556	25.541	247.5	0.553	4.98	80.9	9.0	0.88	9.2	0.01	0.07	0.08	174
	200 ISL	10.22	10.20	33.590	25.818	221.4	0.617	4.51	71.0	14.5	1.17	14.5	0.02	0.03	0.04	201
1	203	10.12	10.10	33.605	25.847	218.7	0.623	4.45	70.0	15.2	1.20	15.0	0.02	0.02	0.03	204
1	232	9.30	9.27	33.821	26.151	190.1	0.683	3.94	60.9	22.4	1.48	20.0	0.00			233
	250 ISL	8.92	8.89	33.903	26.276	178.4	0.716	3.60	55.2	26.8	1.66	22.6	0.00			251
1	272	8.56	8.53	33.968	26.384	168.5	0.754	3.21	48.8	31.8	1.87	25.3	0.00			273
	300 ISL	8.23	8.20	34.021	26.475	160.1	0.800	2.81	42.5	36.9	2.05	27.6	0.00			302
1	327	7.95	7.92	34.049	26.540	154.4	0.842	2.47	37.1	41.5	2.19	29.4	0.00			329
1	386	7.18	7.14	34.095	26.686	140.9	0.929	1.71	25.2	53.6	2.52	33.6	0.00			388
	400 ISL	7.05	7.01	34.106	26.713	138.5	0.949	1.56	22.9	56.1	2.59	34.4	0.00			402
1	450	6.60	6.56	34.137	26.799	130.7	1.016	1.12	16.3	64.7	2.80	37.1	0.00			453
	500 ISL	6.01	5.97	34.145	26.881	123.0	1.080	0.86	12.3	74.1	2.93	39.2	0.00			503
1	520	5.78	5.74	34.150	26.914	119.9	1.104	0.75	10.7	77.8	2.98	40.1	0.00			523

KV DAVID iSTARR JORDAN CALCOFI CRUISE 9108 STATION 93 26.7

LATITUDE	IONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	HAVES	NEA	BAROMETER	DRY	NET	SECCHI/FOREL	CLD AMT	TYPE
32 57.4 N	117 18.3 N	24/07/91	1815 UTC	55 •	250 05 kn	260 02 04	2	1016.5 *mto*	20.2 C	17.9 C	07B 06	8/8	SC

CAST	DEPTH •	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN lll/l	OXY PCX	SIO3 UM/1	PO4 UM/1	NO3 UM/1	NO2 UM/1	CBL-A ug/1	PHAEO ug/1	PRESS db
1	0	18.71	18.71	33.627	24.046	385.6	0.000	6.41	120.1	11.3	0.27	0.0	0.00	1.83	0.27	0
1	9	13.93	13.93	33.514	25.054	289.9	0.030	6.06	103.3	11.1	0.39	0.0	0.02	1.49	0.80	9
	10 ZSL	13.81	13.81	33.512	25.078	287.7	0.033	5.91	100.5	11.3	0.44	0.3	0.06	1.37	0.79	10
1	19	12.77	12.77	33.501	25.278	268.8	0.058	4.60	76.5	12.7	0.87	3.1	0.48	0.32	0.49	19
	20 IS1	12.71	12.71	33.501	25.290	267.7	0.061	4.58	76.1	12.7	0.87	3.2	0.48	0.31	0.48	20
1	30	12.18	12.18	33.505	25.395	257.9	0.087	4.39	72.1	12.7	0.91	5.5	0.52	0.25	0.38	30
1	39	11.48	11.48	33.526	25.542	244.1	0.110	4.21	68.2	14.3	1.17	11.7	0.12	0.21	0.28	39
1	50	10.72	10.71	33.545	25.694	229.9	0.136	3.97	63.2	16.6	1.33	16.3	0.13	0.10	0.21	50

RV DAVID STARR JORDAN CALCOFI CRUISE 9108 STATION 93 28 ROS

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	NAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
32 54.8 N	117 23.7 N	24/07/91	2130 UTC										

CAST	DEPTH •	TEMP DEG C	POT TEMP DEC C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN lll/l	OXY PCT	SIO3 UM/1	PO4 UM/1	NO3 UM/1	NO2 UM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
2	1	19.86	19.86	33.652	23.772	411.9	0.004	6.29	120.5					1.90	0.19	1
2	11	15.71	15.71	33.521	24.677	325.9	0.041	7.80	137.8					0.98	0.31	11
2	21	13.98	13.98	33.512	25.043	291.3	0.072	7.34	125.2					1.32	0.71	21
2	36	12.06	12.06	33.508	25.421	255.7	0.113	4.43	72.6					0.35	0.65	36
2	51	11.18	11.17	33.512	25.586	240.2	0.150	4.35	70.0					0.20	0.30	51
2	76	10.51	10.50	33.584	25.761	224.1	0.208	3.89	61.7					0.05	0.12	76
2	102	10.02	10.01	33.703	25.938	207.8	0.264	3.35	52.6					0.02	0.12	103
2	152	9.S3	9.51	33.897	26.172	186.5	0.363	2.96	46.0					0.01	0.07	153
2	202	9.02	9.00	34.009	26.343	171.2	0.452	2.74	42.1					0.00	0.07	203

RV DAVID STARR JORDAN CALCOFI CRUISE 9108 STATION 93 28

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	NIND SPEED	NAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
32 54.8 N	117 23.7 W	24/07/91	2241 UTC	614 •	250 09 kn	250 01 06	2	1016.1 *mto*	20.6 C	18.5 C	06a 05	8/8	SC

CAST	DEPTH •	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/1	OXY PCT	SIO3 UM/1	PO4 uM/1	NO3 UM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
1	0	19.95	19.95	33.657	23.752	413.7	0.000	6.33	121.5	8.3	0.22	0.0	0.01	2.09	0.21	0
1	10	15.31	15.31	33.520	24.764	317.5	0.037	7.96	139.5	7.5	0.28	0.0	0.00	1.25	0.41	10
1	20	13.43	13.43	33.494	25.141	281.9	0.067	6.40	108.0	8.6	0.36	0.0	0.01	0.72	0.59	20
	30 ISL	12.70	12.70	33.503	25.294	267.6	0.094	4.92	81.7	10.5	0.63	1.1	0.29	0.45	0.59	30
1	31	12.65	12.65	33.504	25.304	266.6	0.097	4.81	79.8	10.7	0.66	1.2	0.31	0.43	0.59	31
1	42	11.69	11.68	33.504	25.487	249.5	0.125	4.66	75.8	12.5	1.08	10.9	0.18	0.34	0.63	42
	50 ISL	11.27	11.26	33.509	25.568	242.0	0.145	4.48	72.2	13.7	1.19	13.5	0.10	0.24	0.36	50
1	51	11.23	11.22	33.510	25.576	241.2	0.147	4.45	71.7	13.8	1.20	13.6	0.09	0.23	0.32	51
1	61	11.05	11.04	33.534	25.627	236.6	0.171	4.18	67.1	14.9	1.28	14.7	0.04	0.15	0.24	61
1	72	10.63	10.62	33.582	25.739	226.1	0.196	3.95	62.8	17.5	1.39	17.1	0.03	0.06	0.22	72
	75 ISL	10.55	10.54	33.594	25.762	224.0	0.203	3.88	61.6	18.0	1.42	17.6	0.03	0.06	0.20	75
1	86	10.30	10.29	33.639	25.840	216.8	0.227	3.64	57.5	19.6	1.51	19.0	0.04	0.04	0.13	86
1	99	10.08	10.07	33.711	25.934	208.1	0.255	3.35	52.7	22.0	1.62	20.7	0.04	0.03	0.12	100
	100 ISL	10.0C	10.05	33.715	25.941	207.5	0.257	3.35	52.6	22.1	1.62	20.7	0.04	0.03	0.12	101
1	120	9.69	9.68	33.790	26.062	196.4	0.298	3.40	53.0	23.5	1.65	21.5	0.10	0.01	0.07	121
	125 ISL	9.6)	9.62	33.809	26.086	194.1	0.307	3.32	51.7	24.3	1.68	22.0	0.08	0.01	0.07	126
1	144	9.49	9.47	33.878	26.164	187.2	0.344	2.96	46.0	27.4	1.81	24.1	0.01	0.01	0.08	145
	150 ISL	9.46	9.44	33.897	26.184	185.4	0.355	2.90	45.0	28.0	1.84	24.4	0.02	0.01	0.08	151
1	175	9.35	9.33	33.964	26.254	179.2	0.400	2.77	42.9	30.0	1.91	25.1	0.07	0.01	0.07	176
	200 ISL	9.1L	9.09	34.006	26.326	172.8	0.444	2.69	41.5	32.2	1.96	26.1	0.02	0.00	0.07	201
1	203	9.08	9.06	34.012	26.336	171.9	0.449	2.68	41.3	32.5	1.97	26.2	0.01	0.00	0.07	204
1	233	9.04	9.01	34.126	26.432	163.5	0.500	2.29	35.3	36.2	2.12	27.5	0.02			234
	250 ISL	9.09	9.06	34.170	26.458	161.3	0.527	2.07	31.9	37.5	2.19	28.0	0.02			251
1	274	9.13	9.10	34.211	26.485	159.4	0.566	1.81	27.9	39.0	2.28	28.7	0.02			276
	300 ISL	8.96	8.93	34.225	26.523	156.1	0.607	1.67	25.7	11.1	2.35	29.5	0.02			302
1	333	8.62	8.58	34.223	26.575	151.6	0.658	1.56	23.8	44.1	2.42	30.5	0.01			335
2	391	7.98	7.94	34.222	26.672	143.1	0.743	1.32	19.8	S0.2	2.57	32.8	0.01			394
	400 ISL	7.89	7.85	34.227	26.689	141.5	0.756	1.24	18.6	51.5	2.61	33.3	0.01			403
2	457	7.37	7.33	34.270	26.799	131.7	0.834	0.75	11.1	60.0	2.83	36.0	0.01			460
	500 ISL	7.09	7.04	34.290	26.854	126.9	0.889	0.56	8.3	65.0	2.91	37.3	0.02			503
2	528	6.90	6.85	34.304	26.891	123.6	0.924	0.44	6.5	68.2	2.97	38.2	0.02			532

RV DAVID STARR JORDAN CALCOFI CRUISE 9108 STATION 93 30

LATITUDE	IjONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	MIND SPEED	NAVES	NEA	BAROMETER	DRY	NET	SECCHI/FOREL		CLD AMT TYPE
32 50.8 N	1117 31.9 N	25/07/91	0158 UTC	852 a	040 03 kn	240 02 04	2	1014.8 ab	18.0 C	16.5 C	05a	05	8/8 SC

CAST	DEPTH a	TEMP DEG C	POT TEMP DEC C	SALINITY PSS 78	SIGMA TBETA	SVA	DYN BT	OXYGEN ml/1	OXY PCT	SIO3 uM/1	PO4 UM/1	MO3 uM/1	NO2 uM/1	CBL-A ug/1	PHAEO ug/1	PRESS db
1	0	19.40	19.40	33.(59	23.896	400.0	0.000	6.07	115.3	6.4	0.25	0.0	0.00	1.22	0.17	0
1	10	18.07	18.07	33.594	24.180	373.2	0.039	6.13	113.5	5.4	0.26	0.0	0.00	0.90	0.44	10
1	20	15.93	15.93	33.528	24.633	330.4	0.074	6.99	124.1	5.2	0.35	0.0	0.00	1.08	0.46	20
1	30	13.32	13.32	33.510	25.176	278.8	0.104	5.77	97.1	9.5	0.45	0.0	0.04	0.65	0.96	30
1	40	12.10	12.09	33.486	25.396	258.1	0.131	4.88	80.0	10.4	0.99	8.8	0.17	0.40	0.46	40
1	50	11.88	11.87	33.510	25.456	252.6	0.157	4.36	71.2	12.4	1.05	8.4	0.42	0.25	0.35	S0
1	60	11.48	11.47	33.528	25.544	244.4	0.182	4.15	67.2	13.9	1.18	11.9	0.12	0.18	0.27	60
1	70	11.12	11.11	33.535	25.615	237.9	0.206	4.41	70.8	14.5	1.25	14.2	0.03	0.13	0.20	70
	75 ISL	10.81	10.80	33.563	25.692	230.7	0.217	4.25	67.8	16.1	1.33	15.7	0.03	0.09	0.15	75
1	84	10.28	10.27	33.627	25.834	217.3	0.238	3.83	60.4	19.2	1.49	18.1	0.02	0.02	0.07	84
1	99	10.01	10.00	33.694	25.933	208.2	0.269	3.55	55.7	21.6	1.59	19.9	0.02	0.01	0.06	99
	100 ISL	9.98	9.97	33.702	25.944	207.2	0.272	3.53	55.4	21.9	1.60	20.1	0.02	0.01	0.06	100
1	118	9.53	9.52	33.865	26.146	188.3	0.307	3.15	49.0	26.5	1.76	22.9	0.02	0.00	0.04	119
	125 ISL	9.50	9.49	33.914	26.190	184.3	0.320	3.06	47.6	27.5	1.80	23.4	0.02	0.00	0.04	126
1	144	9.41	9.39	33.992	26.266	177.5	0.355	2.90	45.0	29.5	1.86	24.1	0.01	0.00	0.04	145
	150 ISL	9.35	9.33	34.010	26.290	175.3	0.365	2.89	44.8	30.0	1.87	24.3	0.01	0.00	0.04	151
1	174	9.19	9.17	34.068	26.361	169.0	0.406	2.73	42.2	32.2	1.94	25.3	0.01	0.00	0.05	175
	200 ISL	9.39	9.37	34.144	26.389	167.0	0.450	2.04	31.7	35.6	2.16	27.1	0.02	0.00	0.08	201
1	204	9.42	9.40	34.153	26.391	166.9	0.457	1.94	30.1	36.1	2.19	27.3	0.02	0.00	0.08	205
1	232	9.14	9.11	34.169	26.449	161.8	0.503	2.06	31.8	37.1	2.18	27.7	0.02			233
	250 ISL	9.04	9.01	34.185	26.478	159.4	0.532	2.00	30.8	38.2	2.23	28.1	0.02			251
1	272	t.95	8.92	34.206	26.509	156.9	0.566	1.85	28.4	39.9	2.31	28.7	0.01			274
	300 ISL	8.88	8.85	34.239	26.547	153.9	0.610	1.58	24.3	42.3	2.40	29.5	0.01			302
1	328	8.75	8.71	34.262	26.586	150.6	0.653	1.33	20.4	44.9	2.47	30.4	0.01			330
1	388	7.95	7.91	34.223	26.677	142.5	0.741	1.29	19.4	51.0	2.56	32.4	0.01			390
	400 ISL	7.79	7.75	34.211	26.691	141.2	0.758	1.27	19.0	52.3	2.57	32.8	0.01			403
1	453	7.18	7.14	34.189	26.761	134.9	0.831	1.16	17.1	59.0	2.68	34.9	0.01			4S6
	500 ISL	6.89	6.84	34.265	26.861	125.9	0.892	0.65	9.5	66.7	2.89	36.9	0.01			503
1	523	6.75	6.70	34.303	26.911	121.5	0.920	0.40	5.8	70.5	3.00	37.9	0.01			527

RV DAVID STARR JORDAN CALCOFI CRUISE 9108 STATION 93 35

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	HIND SPEED	NAVES	NEA	BAROMETER	DRY	NET	SECCHI/FOREL		CLD AMT TYPE
32 41.0 M	117 52.4 N	25/07/91	0537 UTC		330 02 k.n			1014.9 ab	17.2 C	16.1 C			

CAST	DEPTH a	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN al/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
1	0	17.98	17.98	33.661	24.253	365.9	0.000	5.95	110.0	4.6	0.15	0.0	0.00	0.55	0.18	0
1	10	15.95	15.95	33.607	24.689	324.7	0.035	6.53	116.0	4.8	0.24	0.0	0.00	0.62	0.24	10
1	19	14.50	14.50	33.S89	24.993	296.0	0.062	6.76	116.6	5.0	0.31	0.0	0.00	1.20	0.74	19
	20 ISL	14.27	14.27	33.587	25.040	291.5	0.065	6.59	113.2	5.8	0.38	0.8	0.03	1.17	0.75	20
1	30	12.01	12.01	33.598	25.500	248.0	0.092	4.52	74.0	14.8	1.12	11.0	0.30	0.89	0.85	30
1	40	10.63	10.63	33.625	25.771	222.3	0.116	3.64	S7.9	19.1	1.46	18.3	0.04	0.15	0.27	40
1	50	10.20	10.19	33.660	25.873	212.8	0.138	3.56	56.1	20.5	1.54	19.4	0.02	0.08	0.25	50
1	60	10.15	10.14	33.670	25.890	211.5	0.159	3.53	55.6	20.7	1.56	19.7	0.01	0.07	0.19	60
1	70	9.92	9.91	33.705	25.956	205.4	0.180	3.50	54.8	21.9	1.59	20.4	0.02	0.03	0.13	70
	75 ISL	9.84	9.83	33.721	25.982	203.0	0.190	3.47	54.3	22.4	1.61	20.7	0.02	0.02	0.10	75
1	8!i	9.69	9.68	33.752	26.031	198.5	0.210	3.41	53.2	23.5	1.65	21.4	0.01	0.01	0.07	85
1	99	9.48	9.47	33.802	26.105	191.8	0.237	3.37	52.3	25.1	1.71	22.2	0.01	0.01	0.07	100
	100 ISL	9.47	9.46	33.804	26.108	191.5	0.239	3.37	52.3	25.1	1.71	22.2	0.01	0.01	0.07	101
1	120	9.25	9.24	33.847	26.178	185.3	0.277	3.43	53.0	26.2	1.70	22.5	0.01	0.01	0.06	121
	125 ISL	9.23	9.22	33.874	26.202	183.0	0.286	3.37	52.0	26.8	1.72	22.8	0.01	0.01	0.06	126
1	145	9.08	9.06	33.982	26.311	173.1	0.322	3.07	47.3	30.2	1.84	24.4	0.01	0.01	0.07	146
	150 ISL	8.96	8.94	33.994	26.340	170.5	0.330	3.04	46.7	31.2	1.86	24.8	0.01	0.01	0.07	151
1	175	8.40	8.38	34.035	26.459	159.4	0.372	2.89	43.8	36.1	1.99	26.7	0.00	0.01	0.0S	176
	200 ISL	8.47	8.45	34.088	26.490	157.0	0.411	2.43	36.9	38.8	2.14	28.2	0.00	0.00	0.06	201
1	205	8.49	8.47	34.099	26.496	156.6	0.419	2.32	35.3	39.4	2.17	28.5	0.00	0.00	0.06	206
1	235	8.04	8.02	34.153	26.606	146.4	0.464	1.76	26.5	46.4	2.38	31.1	0.00			236
	250 ISL	7.97	7.94	34.173	26.633	144.2	0.486	1.59	23.9	48.2	2.45	31.8	0.00			252
1	275	7.91	7.88	34.196	26.660	142.0	0.522	1.40	21.0	50.4	2.S3	32.6	0.00			277
	300 ISL	7.72	7.69	34.208	26.698	138.8	0.557	1.22	18.2	53.4	2.62	33.5	0.00			302
1	330	7.46	7.43	34.218	26.743	134.8	0.598	1.03	IS.3	57.2	2.71	34.6	0.00			332
1	391	6.99	6.95	34.245	26.831	127.2	0.678	0.71	10.4	64.6	2.88	36.7	0.00			394
	400 ISL	6.95	6.91	34.256	26.845	126.0	0.689	0.(5	9.5	65.6	2.90	37.0	0.00			403
1	457	6.72	6.(8	34.318	26.926	119.0	0.759	0.34	5.0	71.8	3.03	38.4	0.00			460
	500 ISl	6.43	6.38	34.321	26.967	115.5	0.810	0.30	4.4	76.1	3.07	39.4	0.00			503
1	527	6.24	6.19	34.324	26.994	113.1	0.841	0.28	4.0	78.8	3.09	40.0	0.00			531

RV DAVID iiTARR JORDAN CALCOFI CRUISE 9108 STATION 93 40

LATITUDE	IANGITUDE	DAY/NO/YR	MESSENGER	BOTTOM	WIND SPEED	HAVES	NEA	BAROMETER	DRY	NET	SECCHI/FOREL	CLD AMT TYPE
32 30.8 N	1.18 12.8 N	25/07/91	0924 CTC		310 04 kn			1014.8 ab	17.5 C	16.3 C		

CAST	DEPTH ·	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/1	OZY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
1	0	18.28	18.28	33.639	24.162	374.6	0.000	5.70	106.0	4.8	0.29	0.0	0.00	0.18	0.07	0
	10 ISI,	18.30	18.30	33.637	24.156	375.5	0.038	5.73	106.6	4.5	0.28	0.0	0.00	0.17	0.07	10
1	11	18.30	18.30	33.637	24.156	375.5	0.041	s.73	106.6	4.5	0.28	0.0	0.00	0.17	0.07	11
	20 ISI,	15.50	15.50	33.491	24.701	323.9	0.073	6.47	113.8	4.6	0.34	0.0	0.00	0.38	0.14	20
1	21	15.13	15.13	33.480	24.773	317.0	0.076	6.53	114.0	4.6	0.35	0.0	0.00	0.41	0.16	21
1	30	13.00	13.00	33.483	25.219	274.7	0.103	5.80	97.0	7.4	0.59	2.4	0.16	0.73	0.47	30
1	40	12.15	12.14	33.476	25.379	259.8	0.129	5.26	86.4	9.4	0.81	5.0	0.34	0.48	0.40	40
	50 ISL	11.87	11.86	33.484	25.438	254.4	0.155	4.99	81.4	10.7	0.95	7.7	0.32	0.31	0.38	50
1	51	11.85	11.84	33.485	25.442	253.9	0.158	4.97	81.1	10.9	0.96	8.0	0.32	0.30	0.38	51
1	60	11.25	11.24	33.509	25.571	241.8	0.180	4.66	75.1	13.9	1.20	12.8	0.06	0.18	0.22	60
1	71	11.05	11.04	33.515	25.612	238.2	0.206	4.71	75.5	14.8	1.28	14.8	0.03	0.09	0.30	71
	75 ISI	10.85	10.84	33.543	25.670	232.8	0.216	4.36	69.6	15.9	1.34	16.0	0.03	0.08	0.26	75
1	83	10.43	10.42	33.610	25.795	221.0	0.234	3.62	57.3	18.4	1.47	18.3	0.02	0.07	0.16	83
1	98	10.07	10.06	33.672	25.906	210.8	0.266	3.50	55.0	21.1	1.61	20.4	0.01	0.02	0.11	98
	100 ISI	10.03	10.02	33.679	25.918	209.7	0.270	3.50	55.0	21.5	1.62	20.6	0.01	0.02	0.10	100
1	119	9.69	9.68	33.754	26.033	199.0	0.309	3.44	53.6	25.1	1.73	22.4	0.01	0.01	0.07	120
	125 ISL	9.59	9.58	33.791	26.079	194.8	0.321	3.38	52.6	25.8	1.74	22.7	0.01	0.01	0.07	126
1	144	9.30	9.28	33.912	26.221	181.7	0.357	3.15	48.7	27.9	1.79	23.7	0.01	0.01	0.06	145
	150 ISL	9.21	9.19	33.943	26.260	178.1	0.368	3.06	47.3	29.0	1.83	24.2	0.01	0.01	0.06	151
1	174	8.91	8.89	34.033	26.378	167.2	0.409	2.73	41.9	33.5	1.98	26.4	0.01	0.00	0.06	175
	200 ISI	8.66	8.64	34.067	26.444	161.4	0.452	2.56	39.1	36.3	2.06	27.5	0.02	0.01	0.06	201
1	203	8.63	8.61	34.070	26.451	160.8	0.457	2.54	38.7	36.6	2.07	27.6	0.02	0.01	0.06	204
1	234	8.27	8.25	34.124	26.549	152.0	0.505	2.10	31.8	42.5	2.25	29.8	0.01			235
	250 ISI	8.1L3	8.10	34.142	26.585	148.8	0.529	1.90	28.7	45.0	2.34	30.7	0.01			251
1	274	7.94	7.91	34.163	26.630	144.9	0.564	1.63	24.5	48.4	2.47	32.0	0.01			276
	300 ISL	7.72	7.69	34.186	26.680	140.4	0.601	1.36	20.3	52.4	2.58	33.3	0.01			302
1	330	7.46	7.43	34.208	26.735	135.6	0.643	1.09	16.2	56.8	2.68	34.6	0.01			332
1	390	6.96	6.92	34.238	26.829	127.3	0.722	0.73	10.7	64.4	2.85	36.7	0.00			393
	400 ISL	6.90	6.86	34.242	26.841	126.3	0.734	0.69	10.1	65.5	2.87	37.0	0.00			403
1	455	6.57	6.53	34.263	26.902	121.1	0.802	0.52	7.6	71.4	2.95	38.4	0.00			458
	500 ISL	6.25	6.21	34.289	26.965	115.5	0.856	CI.38	5.5	77.3	3.05	39.7	0.00			503
1	521	6.10	6.05	34.301	26.994	112.9	0.880	0.32	4.6	80.1	3.09	40.3	0.00			525

RV DAVID STARR JORDAN CALCOFI CRUISE 9108 STATION 93 45

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	NIND SPEED	HAVES	NEA	BAROMETER	DRY	NET	SECCHI/FOREL	CLD AMT TYPE
32 20.8 N	118 33.4 H	25/07/91	1401 UTC	1418 B	030 08 k.n	270 03 06	5	1014.9 mb	15.7 C	15.2 C	18a 03	8/8 ST

CAST	DEPTH ·	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN Bil/1	OXY PCT	SIO3 UM/1	POt UM/1	NO3 UM/1	NO2 UM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
1	0	16.77	16.77	33.540	24.449	347.3	0.000			4.6	0.35	0.1	0.01	0.36	0.10	0
1	10	14.87	14.87	33.455	24.810	313.1	0.033	6.15	106.8	4.6	0.48	1.3	0.07	0.49	0.22	10
1	20	13.58	13.58	33.398	25.037	291.8	0.063	6.05	102.3	5.1	0.58	3.0	0.15	0.55	0.33	20
1	30	13.12	13.12	33.386	25.120	284.1	0.092	5.90	98.8	5.7	0.67	4.2	0.26	0.57	0.39	30
1	40	12.77	12.76	33.381	25.186	278.2	0.120	5.73	95.3	6.5	0.75	5.5	0.39	0.53	0.37	40
1	49	12.38	12.37	33.371	25.254	271.9	0.145	5.53	91.2	7.3	0.83	6.8	0.49	0.37	0.34	49
	50 ISL	12.27	12.26	33.368	25.272	270.1	0.148	5.49	90.3	7.6	0.85	7.3	0.45	0.35	0.32	50
1	59	11.31	11.30	33.358	25.443	254.0	0.171	5.09	82.0	10.8	1.09	11.6	0.06	0.17	0.15	59
1	70	10.96	10.95	33.435	25.566	242.5	0.199	4.86	77.8	13.3	1.22	13.7	0.03	0.10	0.10	70
	75 ISL	10.77	10.76	33.476	25.632	236.4	0.211	4.70	74.9	14.8	1.30	14.9	0.03	0.07	0.09	75
1	84	10.45	10.44	33.543	25.740	226.3	0.231	4.40	69.7	17.4	1.43	16.9	0.02	0.04	0.07	84
1	99	10.17	10.16	33.594	25.828	218.2	0.265	4.09	64.4	19.7	1.51	18.8	0.02	0.03	0.06	99
	100 ISL	10.15	10.14	33.598	25.834	217.6	0.267	4.07	64.0	19.8	1.52	18.9	0.02	0.03	0.06	100
1	119	9.70	9.69	33.682	25.975	204.5	0.307	3.66	57.0	22.8	1.64	21.2	0.01	0.01	0.04	120
	125 ISL	9.60	9.59	33.726	26.026	199.8	0.319	3.53	54.9	23.9	1.68	21.9	0.01	0.01	0.04	126
1	145	9.27	9.25	33.873	26.195	184.1	0.357	3.10	47.9	28.1	1.81	24.1	0.01	0.01	0.06	146
	150 ISL	9.16	9.14	33.897	26.232	180.7	0.367	3.00	46.3	29.4	1.85	24.7	0.01	0.01	0.06	151
1	175	8.64	8.62	33.991	26.388	166.3	0.410	2.56	39.0	35.5	2.04	27.6	0.01	0.00	0.06	176
	200 ISL	8.37	8.35	34.076	26.496	156.4	0.450	2.30	34.9	39.6	2.17	29.0	0.01	0.00	0.04	201
1	205	8.33	8.31	34.089	26.512	154.9	0.4S8	2.26	34.2	40.4	2.19	29.2	0.01	0.00	0.04	206
1	233	7.97	7.95	34.122	26.592	147.7	0.500	1.95	29.3	45.5	2.34	30.9	0.01			234
	250 ISL	7.89	7.86	34.128	26.609	146.3	0.525	1.88	28.2	46.7	2.37	31.3	0.01			251
1	275	7.80	7.77	34.134	26.627	145.0	0.562	1.79	26.8	48.3	2.42	31.9	0.01			277
	300 ISL	7.58	7.55	34.159	26.679	140.4	0.598	1.51	22.5	52.3	2.55	33.2	0.01			302
1	329	7.29	7.26	34.190	26.745	134.5	0.637	1.15	17.0	57.7	2.72	34.9	0.00			331
1	390	6.76	6.72	34.221	26.843	125.8	0.717	0.75	11.0	66.5	2.87	37.4	0.00			393
	400 ISL	6.67	6.63	34.226	26.859	124.4	0.729	0.70	10.2	67.9	2.89	37.8	0.00			403
1	456	6.27	6.23	34.255	26.935	117.7	0.797	0.49	7.1	75.3	3.02	39.4	0.00			459
	500 ISL	6.23	6.19	34.285	26.964	115.5	0.848	0.38	5.5	79.2	3.09	40.2	0.00			503
1	526	6.20	6.15	34.302	26.982	114.2	0.878	0.31	4.5	81.5	3.13	40.6	0.00			530

RV DAVID STARR JORDAN CALCOFI CROISE 9108 STATION »J 3v

LATITUDE	14NGITUDE	DAY/NO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	NEA	BAROMETER	DRY	NET	SECCBI/FOREL	CID AMT TYPE
32 10.9 N	1H8 53.6 N	25/07/91	1755 UTC	1472 •	010 10 k.n	300 03 06 2		1015.1 ab	17.2 C	15.8 C	17a 03	8/8 SC

CAST	DEPTH •	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN al/1	OXY PCT	SIO3 UM/1	PO4 uM/1	MO3 uM/1	NO2 uM/1	CBL-A ug/1	PBAEO ug/1	PRESS <D>
1	0	15.64	15.64	33.362	24.569	335.8	0.000	6.04	106.5	3.7	0.37	0.0	0.01	0.42	0.13	0
1	10	15.57	15.57	33.371	24.592	333.9	0.033	6.04	106.3	3.7	0.37	0.0	0.01	0.40	0.15	10
1	19	15.52	15.52	33.345	24.584	335.0	0.064	6.08	106.9	3.7	0.38	0.0	0.01	0.44	0.17	19
	20 ISL	15.44	15.44	33.339	24.597	333.8	0.067	6.08	106.7	3.7	0.38	0.0	0.01	0.44	0.18	20
1	30	14.39	14.39	33.279	24.777	316.8	0.099	6.00	103.1	4.2	0.40	0.1	0.02	0.46	0.24	30
1	40	13.58	13.57	33.234	24.911	304.4	0.131	5.91	99.8	4.8	0.47	0.8	0.09	0.47	0.26	40
1	49	12,68	12.67	33.201	25.064	290.0	0.157	5.66	93.8	5.8	0.62	3.5	0.20	0.45	0.37	49
	50 ISL	12.60	12.59	33.208	25.085	288.0	0.160	5.64	93.3	5.9	0.64	3.9	0.20	0.43	0.36	50
1	61	11.84	11.83	33.312	25.310	266.8	0.191	5.44	88.6	7.6	0.90	8.5	0.10	0.19	0.16	61
1	71	11.41	11.40	33.378	25.441	254.5	0.217	5.26	84.9	10.0	1.08	11.2	0.04	0.08	0.09	71
	75 ISL	11.15	11.14	33.392	25.499	249.1	0.227	5.11	82.1	11.2	1.13	12.2	0.03	0.07	0.09	75
1	85	10.59	10.58	33.430	25.627	237.0	0.251	4.72	74.9	14.1	1.24	14.3	0.02	0.04	0.08	85
1	100	10.59	10.58	33.554	25.724	228.1	0.286	4.36	69.2	17.4	1.37	16.5	0.02	0.05	0.06	100
1	120	9.79	9.78	33.682	25.961	206.0	0.329	3.61	56.4	22.6	1.60	20.7	0.01	0.02	0.04	121
	125 ISL	9.64	9.63	33.728	26.021	200.3	0.340	3.46	53.9	24.1	1.65	21.6	0.01	0.02	0.04	126
1	145	9.22	9.20	33.901	26.225	181.2	0.378	2.98	46.0	29.3	1.84	24.5	0.01	0.01	0.04	146
	150 ISL	9.17	9.15	33.927	26.254	178.6	0.387	2.93	45.2	30.0	1.86	24.8	0.01	0.01	0.04	151
1	176	8.94	8.92	34.008	26.354	169.6	0.432	2.73	41.9	33.2	1.97	26.0	0.01	0.01	0.04	177
	200 IJiL	8.47	8.45	34.044	26.456	160.2	0.472	2.31	35.1	38.8	2.14	28.7	0.01	0.01	0.06	201
1	206	8.35	8.33	34.051	26.479	158.0	0.481	2.21	33.5	40.3	2.18	29.4	0.01	0.01	0.06	207
1	234	7.95	7.93	34.102	26.580	148.9	0.524	1.99	29.9	45.6	2.31	30.8	0.01			235
	250 ISL	7.77	7.75	34.119	26.620	145.3	0.548	1.83	27.4	48.2	2.41	31.6	0.01			251
1	276	7.51	7.48	34.139	26.673	140.6	0.585	1.55	23.1	52.6	2.57	33.0	0.01			278
	300 ISL	7.21	7.18	34.160	26.732	135.2	0.618	1.26	18.6	57.8	2.69	34.7	0.01			302
1	331	6.86	6.83	34.186	26.801	128.9	0.659	0.93	13.6	64.1	2.80	36.6	0.00			333
1	391	6.57	6.53	34.224	26.871	123.1	0.734	0.66	9.6	70.3	2.91	38.0	0.00			393
	400 ISL	6.53	6.49	34.229	26.880	122.3	0.745	0.63	9.2	71.2	2.93	38.2	0.00			403
1	456	6.30	6.26	34.261	26.936	117.6	0.813	0.45	6.5	76.2	3.01	39.4	0.00			459
	500 ISL	6.13	6.09	34.287	26.979	114.0	0.864	0.36	5.2	79.7	3.05	40.1	0.00			503
1	526	6.03	5.98	34.302	27.003	111.9	0.893	0.31	4.5	81.8	3.08	40.5	0.00			530

RV DAVID STARR JORDAN CALCOFI CRUISE 9108 STATION 93 50 ROS

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	KIND SPEED	NAVES	NEA	BAROMETER	DRY	NET	SECCBI/FOREL	CLD AMT TYPE
32 10.9 N	118 53.6 N	25/07/91	2013 UTC									

CAST	DEPTH •	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN BT	OXYGEN al/1	OXY PCT	SIO3 uM/1	PO4 UM/1	NO3 uM/1	NO2 UM/1	CBL-A ug/1	PBAEO ug/1	PRESS <D>
2	3	15.65	15.65	33.280	24.504	342.1	0.010	6.04	106.4					0.35	0.12	3
2	12	15.49	15.49	33.304	24.559	337.2	0.041	6.08	106.8					0.40	0.14	12
2	21	14.88	14.88	33.290	24.681	325.8	0.071	6.01	104.3					0.44	0.47	21
2	37	13.53	13.52	33.206	24.899	305.4	0.121	5.98	100.9					0.46	0.30	37
2	69	11.39	11.38	33.360	25.430	255.5	0.211	5.19	83.8					0.09	0.11	69
2	89	1.0.62	10.61	33.489	25.668	233.2	0.260	4.50	71.5					0.04	0.08	89
2	138	9.30	9.28	33.847	26.170	186.4	0.363	3.08	47.6					0.01	0.07	139
2	194	8.40	8.38	34.041	26.464	159.3	0.459	2.22	33.7					0.01	0.08	195

RV DAVID STARR JORDAN CALCOFI CRUISE 9108 STATION 93 55

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	NAVES	NEA	BAROMETER	DRY	NET	SECCBI/FOREL	CLD AMT TYPE
32 1.0 li	119 13.9 N	25/07/91	2325 UTC	1588 •	320 18 kn	340 05 06 2		1014.1 ab	16.1 C	15.9 C	17a 03	8/8 SC

CAST	DEPTB a	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN al/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CBL-A ug/1	PBAEO ug/1	PRESS db
	0 ISL	15.90	15.90	33.272	24.442	347.9	0.000	5.94	105.2	4.7	0.37	0.1	0.01	0.30	0.09	0
1	1	15.90	15.90	33.272	24.442	347.9	0.003	5.94	105.2	4.7	0.37	0.1	0.01	0.30	0.09	1
	10 ISL	15.90	15.90	33.267	24.439	348.5	0.035	5.95	105.4	4.3	0.35	0.l	0.01	0.30	0.09	10
1	11	15.90	15.90	33.267	24.439	348.6	0.038	5.95	105.4	4.2	0.35	0.1	0.01	0.30	0.09	11
1	20	15.54	15.54	33.379	24.605	333.0	0.069	6.08	107.0	4.2	0.39	0.5	0.03	0.42	0.16	20
	30 ISL	13.09	13.09	33.170	24.959	299.5	0.101	6.08	101.6	5.8	0.63	3.5	0.27	0.51	0.33	30
1	31	12.84	12.84	33.151	24.994	296.2	0.104	6.08	101.1	6.0	0.66	3.8	0.29	0.51	0.35	31
1	41	12.47	12.46	33.228	25.125	283.9	0.133	5.78	95.4	6.8	0.77	5.5	0.31	0.39	0.34	41
1	50	12.19	12.18	33.369	25.288	268.6	0.157	5.71	93.8	6.5	0.92	7.2	0.56	0.21	0.17	50
1	61	11.31	11.30	33.289	25.390	259.1	0.186	5.31	85.5	9.1	1.02	10.1	0.30	0.12	0.14	61
1	71	10.55	10.54	33.296	25.530	246.0	0.212	4.90	77.6	12.8	1.17	13.1	0.03	0.09	0.12	71
	75 ISL	10.41	10.40	33.344	25.591	240.2	0.221	4.76	75.2	13.9	1.21	14.0	0.03	0.07	0.10	75
1	85	10.21	10.20	33.483	25.734	226.8	0.245	4.46	70.2	16.1	1.30	15.7	0.02	0.02	0.06	85
1	100	9.78	9.77	33.592	25.892	212.1	0.278	4.09	63.8	19.3	1.42	18.0	0.02	0.01	0.06	100
1	120	9.51	9.50	33.684	26.008	201.4	0.319	3.81	59.1	22.0	1.54	20.1	0.02	0.01	0.04	121
	125 ISL	9.41	9.40	33.720	26.053	197.2	0.329	3.71	57.5	23.1	1.58	20.8	0.02	0.01	0.04	126
1	145	9.02	9.00	33.865	26.229	180.8	0.367	3.30	50.7	28.2	1.75	23.8	0.01	0.00	0.03	146
	150 ISL	8.95	8.93	33.893	26.262	177.8	0.376	3.21	49.3	29.3	1.79	24.4	0.01	0.00	0.03	151
1	17K	8.60	8.58	34.002	26.402	164.9	0.420	2.79	42.5	34.9	1.97	26.9	0.01	0.00	0.05	177
	200 ISL	8.20	8.18	34.045	26.497	156.2	0.459	2.44	36.9	40.0	2.13	29.2	0.01	0.00	0.05	201
1	207	8.09	8.07	34.052	26.519	154.2	0.470	2.35	35.4	41.4	2.18	29.8	0.01	0.00	0.05	208
1	236	7.70	7.68	34.074	26.594	147.4	0.513	2.13	31.8	46.3	2.34	31.3	0.01			237
	250 ISL	7.67	7.65	34.095	26.615	145.7	0.534	1.99	29.7	47.9	2.39	31.7	0.01			251
1	277	7.62	7.59	34.136	26.655	142.3	0.573	1.70	25.3	50.9	2.46	32.4	0.01			279
	300 ISL	7.46	7.43	34.160	26.697	138.7	0.605	1.43	21.2	54.3	2.55	33.6	0.01			302
1	334	7.14	7.11	34.183	26.760	133.0	0.651	1.08	15.9	59.9	2.69	35.5	0.00			336
1	392	6.48	6.44	34.186	26.852	124.7	0.726	0.80	11.6	69.6	2.86	38.3	0.00			395
	400 ISL	6.45	6.41	34.197	26.865	123.6	0.736	0.74	10.7	70.7	2.88	38.5	0.00			403
1	455	6.31	6.27	34.283	26.952	116.1	0.802	0.37	S.4	76.8	3.03	39.8	0.00			458
	500 ISL	6.09	6.05	34.314	27.005	111.5	0.853	0.28	4.0	80.8	3.11	40.6	0.00			503
1	521	5.99	5.94	34.329	27.030	109.4	0.876	0.24	3.4	82.7	3.14	40.9	0.00			525

RV DAVID STARR JORDAN CALCOFI CRUISE 9108 STATION 93 55 ROS

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	MIND SPEED	NAVES	NEA	BAROMETER	DRY	NET	SECCHI/FOREL	CLD AMT	TYPE
32 1.0 N	119 13.9 N	26/07/91	0114 UTC										

CAST	DEPTH		TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SIO3	PO4	NO3	NO2	CBL-A	PRAEO	PRESS
	-		DEG C	DEG C	PSS 78	THETA			aO/1	PCT	uM/1	uM/1	uM/1	uK/1	ug/1	ug/1	db
2	4		15.97	15.97	33.277	24.430	349.1	0.014	5.93	105.2					0.30	0.09	4
2	14		15.89	15.89	33.301	24.4S7	345.9	0.049	5.96	105.6					0.34	0.11	14
2	22		14.08	14.08	33.256	24.824	312.1	0.075	6.24	106.5					0.64	0.34	22
2	35		12.42	12.42	33.237	25.142	282.2	0.114	5.77	95.1					0.39	0.37	35
2	77		10.42	10.41	33.413	25.643	235.3	0.222	4.70	74.3					0.04	0.08	77
2	103		9.C8	9.C7	33.621	25.931	208.4	0.280	3.93	61.2					0.01	0.05	103
2	145		8.98	8.96	33.877	26.245	179.4	0.361	3.26	50.1					0.01	0.04	146
2	193		8.22	8.20	34.055	26.502	155.6	0.442	2.23	33.7					0.00	0.07	194

RV DAVID STARR JORDAN CALCOFI CRUISE 9108 STATION 93 60

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	NAVES	NEA	BAROMETER	DRY	NET	SECCHI/FOREL	CLD AMT	TYPE
31 50.8 N	11L9 34.3 N	26/07/91	0401 UTC		330 18 kn			1015.1 ab	17.0 C	14.9 C			

CAST	DEPTH		TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SIO3	PO4	NO3	NO2	CHL-A	PHAEO	PRESS
	-		DEG C	DEG C	PSS 78	THETA			»1/1	PCT	uM/1	uM/1	UM/1	UM/1	ug/1	ug/1	db
1	0		16.15	16.15	33.537	24.589	333.9	0.000	5.94	105.9	4.1	0.37	0.4	0.02	0.51	0.15	0
1	9		16.15	16.15	33.552	24.601	333.0	0.030	5.95	106.1	3.6	0.37	0.4	0.02	0.47	0.14	9
	10	ISL	16.15	16.15	33.552	24.601	333.0	0.033	5.95	106.1	3.6	0.37	0.4	0.02	0.47	0.14	10
1	20		16.13	16.13	33.554	24.608	332.8	0.067	5.96	106.2	3.4	0.36	0.4	0.02	0.46	0.14	20
1	30		14.77	14.77	33.567	24.919	303.4	0.098	6.09	105.6	4.1	0.50	2.2	0.09	0.45	0.26	30
1	40		13.22	13.21	33.600	25.266	270.5	0.127	5.65	94.9	6.6	0.80	5.9	0.37	0.49	0.43	40
1	49		12.01	12.00	33.588	25.492	249.2	0.151	4.91	80.4	11.8	1.16	11.5	0.95	0.23	0.27	49
	50	ISL	11.89	11.88	33.585	25.513	247.3	0.153	4.85	79.2	12.3	1.19	12.0	0.89	0.21	0.26	50
1	61		10.84	10.83	33.562	25.686	230.9	0.179	4.44	70.9	16.5	1.38	16.2	0.05	0.12	0.16	61
1	70		10.57	10.56	33.583	25.750	225.0	0.200	4.27	67.8	18.3	1.43	17.3	0.03	0.07	0.12	70
	75	ISL	10.37	10.36	33.629	25.820	218.4	0.211	4.05	64.0	20.0	1.50	18.5	0.02	0.06	0.11	75
1	84		9.99	9.98	33.714	25.952	206.1	0.230	3.63	57.0	23.0	1.63	20.7	0.01	0.05	0.09	84
1	99		9.44	9.43	33.743	26.065	195.5	0.260			25.5	1.73	22.5	0.01	0.02	0.08	99
	100	ISL	9.42	9.41	33.748	26.073	194.8	0.262	3.26	50.5	25.7	1.74	22.6	0.01	0.02	0.08	100
1	119		9.06	9.05	33.857	26.216	181.6	0.298	3.04	46.8	29.6	1.86	24.8	0.01	0.01	0.07	120
	125	ISL	8.96	8.95	33.882	26.251	178.3	0.309	2.96	45.4	30.6	1.89	25.3	0.01	0.01	0.07	126
1	144		8.71	8.69	33.943	26.339	170.3	0.342	2.77	42.3	33.4	1.98	26.4	0.01	0.00	0.06	145
	150	ISL	8.65	8.63	33.956	26.358	168.6	0.352	2.75	41.9	34.0	1.99	26.6	0.01	0.00	0.06	151
1	174		8.43	8.41	33.995	26.423	162.8	0.392	2.69	40.8	36.4	2.03	27.3	0.02	0.01	0.05	175
	200	ISL	8.17	8.15	34.041	26.499	156.0	0.433	2.41	36.4	40.2	2.15	28.9	0.03	0.00	0.05	201
1	205		8.11	8.10	34.049	26.513	154.8	0.441	2.35	35.4	41.0	2.18	29.2	0.03	0.00	0.05	206
1	235		7.87	7.85	34.083	26.577	149.2	0.487	2.04	30.6	45.5	2.31	30.8	0.02			236
	250	ISL	7.61	7.59	34.085	26.616	145.6	0.509	1.94	28.9	48.5	2.38	31.7	0.02			251
1	275		7.16	7.13	34.086	26.681	139.6	0.544	1.79	26.4	53.7	2.49	33.2	0.01			277
	300	ISL	6.90	6.87	34.103	26.730	135.2	0.579	1.56	22.9	58.1	2.59	34.4	0.01			302
1	331		6.72	6.69	34.138	26.782	130.6	0.620	1.23	18.0	62.8	2.72	35.7	0.01			333
1	390		6.70	6.66	34.248	26.872	123.0	0.695	0.57	8.3	68.7	2.95	37.5	0.00			393
	400	ISL	6.64	6.60	34.256	26.887	121.7	0.707	0.52	7.6	70.0	2.97	37.8	0.00			403
1	454		6.24	6.20	34.279	26.958	115.5	0.771	0.40	5.8	77.2	3.06	39.2	0.00			457
	500	ISL	5.93	5.89	34.302	27.016	110.3	0.823	0.31	4.4	82.8	3.12	40.3	0.00			503
1	520		5.79	5.75	34.313	27.042	107.9	0.845	0.27	3.9	85.3	3.15	40.8	0.00			524

RV DAVID STARR JORDAN CALCOFI CRUISE 9108 STATION 93 70

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	HIND SPEED	NAVES	NEA	BAROMETER	DRY	NET	SECCHI/FOREL	CLD AMT	TYPE
31 30.1 N	120 14.8 N	26/07/91	0942 UTC		320 17 kn			1016.0 ab	14.9 C	13.8 C			

CAST	DEPTH		TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SIO3	PO4	NO3	NO2	CHL-A	PHAEO	PRESS
	-		DEG <:	DEG C	PSS 78	THETA			Ml/1	PCT	uM/1	UM/1	uM/1	UM/1	ug/1	ug/1	db
1	0		15.12	15.12	33.377	24.696	323.7	0.000	6.15	107.3	4.2	0.47	1.6	0.09	0.71	0.20	0
1	9		15.i:t	15.13	33.378	24.694	324.1	0.029	6.10	106.5	4.0	0.47	1.6	0.09	0.81	0.21	9
	10	ISL	15.09	15.09	33.376	24.702	323.5	0.032	6.10	106.4	4.0	0.47	1.7	0.09	0.80	0.21	10
	20	ISL	14.72	14.72	33.421	24.817	312.8	0.064	6.06	104.9	4.6	0.51	2.2	0.12	0.67	0.24	20
1	21		14.68	14.68	33.432	24.834	311.2	0.067	6.06	104.8	4.7	0.51	2.2	0.12	0.65	0.24	21
	30	ISL	13.08	13.08	33.206	24.989	296.6	0.095	5.97	99.8	6.0	0.69	4.3	0.27	0.70	0.31	30
1	31		12.88	12.88	33.180	25.008	294.8	0.098	5.95	99.0	6.2	0.71	4.6	0.29	0.70	0.32	31
1	41		11.49	11.48	33.103	25.212	275.6	0.126	5.62	90.8	8.8	0.92	8.1	0.26	0.35	0.23	41
1	50		11.14	11.13	33.298	25.427	255.3	0.150	5.32	85.4	10.3	1.07	11.4	0.34	0.14	0.11	50
1	60		11.11.	11.10	33.408	25.518	246.9	0.175	5.19	83.3	11.1	1.14	12.5	0.40	0.08	0.10	60
	75	ISL	10.06	10.05	33.450	25.733	226.6	0.211	4.40	69.0	17.5	1.42	17.4	0.05	0.02	0.06	75
1	76		9.98	9.97	33.450	25.747	225.3	0.213	4.34	68.0	18.0	1.44	17.7	0.02	0.02	0.06	76
1	89		9.43	9.42	33.447	25.835	217.1	0.242	3.96	61.3	20.7	1.51	19.4	0.01	0.03	0.04	89
	100	ISL	9.22	9.21	33.617	26.002	201.5	0.265	3.60	55.5	24.0	1.65	21.5	0.01	0.03	0.05	100
1	111		9.10	9.09	33.814	26.176	185.2	0.286	3.25	50.0	27.5	1.79	23.6	0.01	0.03	0.05	112
	125	ISL	8.88	8.87	33.915	26.290	174.6	0.311	2.89	44.3	31.3	1.84	25.7	0.01	0.02	0.05	126
1	130		8.81	8.80	33.935	26.317	172.2	0.320	2.78	42.5	32.5	1.85	26.3	0.01	0.01	0.05	131
	150	ISL	8.56	8.54	33.999	26.406	164.0	0.353	2.51	38.2	36.3	2.02	27.8	0.01	0.01	0.07	151
1	156		8.SCI	8.48	34.011	26.424	162.4	0.363	2.45	37.2	37.2	2.08	28.1	0.01	0.01	0.07	157
1	184		8.28	8.26	34.063	26.499	155.7	0.408	2.22	33.6	41.6	2.23	29.8	0.01	0.00	0.07	185
	200	ISL	8.13;	8.11	34.079	26.535	152.6	0.432	2.07	31.2	43.7	2.26	30.4	0.01	0.00	0.07	201
1	220		7.93	7.91	34.095	26.577	148.9	0.463	1.88	28.2	46.1	2.29	31.1	0.01	0.00	0.06	221
	250	ISL	7.64	7.62	34.124	26.642	143.1	0.506	1.65	24.6	50.1	2.42	32.3	0.01			251
1	253		7.61	7.59	34.127	26.649	142.5	0.511	1.63	24.3	50.6	2.44	32.4	0.01			254
1	294		7.03	7.00	34.149	26.748	133.4	0.567	1.24	18.2	59.8	2.67	35.2	0.01			296
	300	ISL	6.99	6.96	34.159	26.762	132.2	0.575	1.17	17.2	60.9	2.70	35.5	0.01			302
1	349		6.76	6.73	34.243	26.860	123.6	0.638	0.64	9.4	68.9	2.90	37.3	0.01			351
	400	ISL	6.42	6.38	34.277	26.932	117.2	0.699	0.42	6.1	75.4	3.02	38.6	0.00			403
1	413		6.33	6.29	34.281	26.947	115.9	0.714	0.40	5.8	76.8	3.04	38.9	0.00			416
1	484		6.03	5.99	34.310	27.009	110.8	0.795	0.32	4.6	83.3	3.13	39.8	0.00			487
	500	ISL	5.98	5.94	34.314	27.019	110.1	0.813	0.30	4.3	84.4	3.14	39.9	0.00			503
2	560		5.80	5.75	34.330	27.055	107.3	0.878	0.22	3.1	88.3	3.17	40.3	0.00			564

RV DAVID STARR JORDAN CALCOFI CRUISE 9108 STATION 93 60

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	NAVES	NEA	BAROMETER	DRY	NET	SECCHI/FOREL	CLD AMT	TYPE
31 10.8 N	lit0 55.2 N	26/07/91	1545 UTC		300 09 kn	310 04 07	2	1018.0 Mb	15.6 C	14.0 C	19a 04	8/8	ST

CAST	DEPTH		TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN BT	OXYGEN	OXY	SIO3	PO4	NO3	NO2	CHL-A	PHAEO	PRESS
	-		DEG C	DEG C	PSS 78	THETA			Bl/1	PCT	uM/1	UM/1	UM/1	UM/1	ug/1	ug/1	db
1	0		15.77	15.77	33.324	24.511	341.3	0.000	5.99	105.9	3.6	0.39	0.4	0.03	0.41	0.11	0
1	10		15.77	15.77	33.324	24.512	341.6	0.034	6.00	106.0	3.4	0.39	0.3	0.03	0.37	0.10	10
1	19		14.87	14.87	33.412	24.777	316.5	0.064	6.14	106.6	3.6	0.48	1.7	0.08	0.76	0.29	19
	20	ISL	14.78	14.78	33.424	24.806	313.8	0.067	6.13	106.3	3.7	0.49	1.9	0.09	0.74	0.29	20
1	29		13.83	13.83	33.503	25.067	289.2	0.094	5.82	99.0	5.5	0.64	4.1	0.23	0.43	0.30	29
	30	ISL	13.67	13.67	33.502	25.099	286.2	0.097	5.76	97.6	5.9	0.67	4.6	0.25	0.43	0.30	30
1	40		12.11	12.10	33.469	25.381	259.5	0.124	5.17	84.8	10.0	0.97	9.5	0.39	0.40	0.31	40
1	50		11.19	11.18	33.435	25.525	246.1	0.149	4.82	77.5	12.4	1.15	12.5	0.20	0.23	0.22	50
1	60		10.93	10.92	33.453	25.585	240.5	0.174	4.71	75.3	13.7	1.22	13.8	0.14	0.19	0.18	60
1	75		10.30	10.29	33.496	25.729	227.1	0.209	4.34	68.5	17.5	1.42	17.1	0.04	0.10	0.11	75
1	90		10.0S	10.04	33.552	25.815	219.2	0.242	4.08	64.0	19.6	1.51	18.8	0.03	0.07	0.09	90
	100	ISL	9.89	9.88	33.613	25.890	212.3	0.264	3.86	60.4	21.6	1.59	20.1	0.02	0.05	0.08	100
1	110		9.7L	9.70	33.683	25.974	204.4	0.285	3.62	56.4	23.8	1.68	21.5	0.02	0.03	0.07	111
	125	ISL	9.37	9.36	33.784	26.109	191.9	0.314	3.22	49.9	27.1	1.80	23.6	0.01	0.01	0.06	126
1	130		9.26	9.25	33.816	26.152	187.9	0.324	3.10	47.9	28.1	1.83	24.2	0.01	0.01	0.06	131
	150	ISL	8.94	8.92	33.909	26.276	176.4	0.360	2.82	43.3	31.6	1.92	25.9	0.01	0.01	0.05	151
1	155		8.87	8.85	33.927	26.301	174.1	0.369	2.77	42.4	32.4	1.94	26.2	0.01	0.01	0.05	156
1	186		8.3*	8.37	34.016	26.446	160.9	0.421	2.55	38.7	37.6	2.08	28.0	0.01	0.01	0.07	187
	200	ISL	8.22	8.20	34.043	26.493	156.6	0.443	2.39	36.1	40.1	2.15	29.0	0.01	0.01	0.07	201
1	221		7.98	7.96	34.073	26.552	151.3	0.476	2.15	32.3	43.7	2.25	30.3	0.01	0.00	0.07	222
	250	ISL	7.67	7.65	34.095	26.615	145.7	0.519	1.99	29.7	47.8	2.34	31.4	0.01			251
1	256		7.61	7.58	34.098	26.626	144.7	0.527	1.96	29.2	48.6	2.36	31.6	0.01			257
1	296		7.16	7.13	34.106	26.697	138.4	0.584	1.65	24.3	54.8	2.52	33.8	0.01			298
	300	ISL	7.13	7.10	34.108	26.702	137.9	0.590	1.62	23.9	55.3	2.53	34.0	0.01			302
1	352		6.88	6.85	34.155	26.774	131.8	0.660	1.15	16.9	61.9	2.70	35.9	0.00			354
	400	ISL	6.67	6.63	34.219	26.853	124.9	0.721	0.73	10.7	68.2	2.87	37.3	0.00			403
1	416		6.58	6.54	34.237	26.880	122.6	0.741	0.62	9.0	70.4	2.92	37.8	0.00			419
1	484		5.90	5.86	34.242	26.972	114.2	0.822	0.45	6.4	80.5	3.04	40.0	0.00			487
	500	ISL	5.84	5.80	34.259	26.993	112.3	0.840	0.41	5.9	82.2	3.06	40.3	0.00			503
1	561		5.61	5.57	34.326	27.073	105.3	0.906	0.25	3.6	88.8	3.16	41.3	0.00			565

RV DAVID STARR JORDAN CALCOFI CRUISE 9108 STATION 93 80 ROS

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	HIND SPEED	HAVES	HEA	BAROMETER	DRY	NET	SECCHI/FOREL	CLD AMT	TYPE
31 10.8 N	120 55.2 H	26/07/91	1753 UTC										

CAST	DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SIO3	PO4	NO3	NO2	CHL-A	PHAEO	PRESS
	-	DEG C	DEG C	PSS 78	THETA			al/1	PCT	uM/1	uM/1	uM/1	uM/1	ug/1	ug/1	db
2	2	15.75	15.75	33.322	24.514	341.1	0.007	6.00	106.0					0.43	0.12	2
2	11	15.73	15.73	33.318	24.516	341.2	0.038	6.03	106.5					0.41	0.12	11
2	21	15.70	15.70	33.319	24.524	340.8	0.072	6.02	106.2					0.40	0.12	21
2	36	13.77	13.76	33.439	25.030	292.9	0.119	6.01	102.1					0.53	0.29	36
2	49	11.82	11.81	33.428	25.404	257.6	0.155	5.02	81.8					0.33	0.28	49
2	75	10.65	10.64	33.442	25.626	236.9	0.219	4.56	72.5					0.17	0.16	75
2	101	10.12	10.11	33.554	25.805	220.4	0.279	4.13	64.9					0.06	0.08	101
2	149	9.15	9.13	33.866	26.209	182.8	0.375	2.86	44.1					0.01	0.06	150
2	198	8.34	8.34	34.016	26.450	160.6	0.460	2.61	39.6					0.00	0.05	199

RV DAVID STARR JORDAN CALCOFI CRUISE 9108 STATION 93 90

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	HIND SPEED	HAVES	HEA	BAROMETER	DRY	NET	SECCHI/FOREL	CLD AMT	TYPE
30 50.9 N	121 35.3 H	26/07/91	2359 UTC	4076 -	300 08 k.D	330 04 05	2	1017.6 *Ub*	18.0 C	15.4 C	29a 02	8/8	ST

CAST	DEPTH		TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SIO3	PO4	NO3	NO2	CHL-A	PHAEO	PRESS
	-		DEG C	DEG C	PSS 78	THETA			al/1	PCT	UM/1	UM/1	UM/1	UM/1	ug/1	ug/1	db
1	0		17.1.'>	17.15	33.294	24.171	373.8	0.000	5.65	102.6	4.7	0.37	0.0	0.00	0.08	0.03	0
1	9		17.06	17.06	33.292	24.191	372.1	0.034	5.66	102.6	4.5	0.37	0.0	0.00	0.09	0.03	9
	10	ISL	17.015	17.05	33.291	24.193	372.0	0.037	5.66	102.6	4.5	0.37	0.0	0.00	0.09	0.03	10
1	20		17.00	17.00	33.286	24.201	371.6	0.074	5.67	102.6	4.4	0.36	0.0	0.00	0.09	0.03	20
1	30		16.25	16.25	33.333	24.411	351.8	0.111	5.86	104.5	4.4	0.35	0.0	0.00	0.12	0.04	30
1	39		15.90	15.89	33.318	24.479	345.6	0.142	5.88	104.2	4.1	0.36	0.0	0.00	0.13	0.04	39
	50	ISL	15.7:i	15.70	33.299	24.507	343.3	0.180	5.91	104.3	4.1	0.36	0.0	0.00	0.15	0.06	50
1	51		15.69	15.68	33.301	24.513	342.7	0.183	5.91	104.2	4.1	0.36	0.0	0.00	0.15	0.06	51
1	60		14.74	14.73	33.224	24.662	328.7	0.214	6.02	104.1	4.1	0.37	0.0	0.00	0.20	0.11	60
1	71		14.i:i	14.10	33.230	24.799	315.9	0.249	6.05	103.3	4.4	0.40	0.0	0.00	0.24	0.18	71
	75	ISL	13.75	13.74	33.215	24.862	310.0	0.262	5.98	101.3	4.7	0.45	0.5	0.05	0.27	0.21	75
1	85		12.85	12.84	33.184	25.019	295.2	0.292	5.76	95.8	5.5	0.59	2.3	0.17	0.33	0.27	85
	100	ISL	12.02	12.01	33.205	25.194	278.8	0.335	5.52	90.2	6.9	0.77	5.6	0.06	0.23	0.22	100
1	101		11.97	11.96	33.207	25.205	277.7	0.338	5.50	89.8	7.0	0.78	5.9	0.05	0.22	0.22	101
1	120		10.41	10.40	33.203	25.482	251.5	0.388	5.07	80.0	11.5	1.08	11.5	0.02	0.08	0.11	121
	125	ISL	10.20	10.19	33.241	25.548	245.3	0.400	4.92	77.3	12.8	1.15	12.8	0.02	0.06	0.09	126
1	146		9.73.	9.69	33.444	25.788	222.8	0.449	4.31	67.1	17.7	1.41	17.2	0.01	0.02	0.05	147
	150	ISL	9.64	9.62	33.474	25.823	219.6	0.458	4.22	65.6	18.4	1.44	17.8	0.01	0.02	0.05	151
1	177		9.26	9.24	33.668	26.037	199.7	0.515	3.79	58.5	22.9	1.61	20.9	0.01	0.00	0.04	178
	200	ISL	8.89	8.87	33.853	26.241	180.7	0.559	3.67	56.2	26.9	1.68	22.4	0.01	0.00	0.03	201
1	206		8.79	8.77	33.896	26.290	176.1	0.569	3.62	55.4	28.1	1.70	22.8	0.01	0.00	0.03	207
1	235		8.25	8.23	33.994	26.450	161.3	0.618	2.84	42.9	36.6	2.02	27.4	0.00			236
	250	ISL	7.95	7.92	34.015	26.512	155.6	0.642	2.71	40.7	40.0	2.07	28.5	0.00			251
1	276		7.49	7.46	34.036	26.595	147.9	0.682	2.59	38.5	45.1	2.12	29.8	0.01			277
	300	ISL	7.25	7.22	34.064	26.651	142.9	0.716	2.19	32.4	49.8	2.31	31.7	0.01			302
1	332		6.99	6.96	34.092	26.709	137.7	0.761	1.62	23.8	56.2	2.58	34.3	0.00			334
1	390		6.18	6.15	34.104	26.826	126.8	0.838	1.18	17.0	68.9	2.81	37.6	0.00			392
	400	ISL	6.1;!	6.08	34.114	26.842	125.4	0.851	1.10	15.8	70.4	2.84	38.0	0.00			402
1	456		5.92	5.88	34.176	26.917	119.0	0.919	0.68	9.7	77.7	2.98	39.5	0.00			459
	500	ISL	5.611	5.57	34.203	26.976	113.6	0.970	0.53	7.5	83.6	3.04	40.5	0.00			503
1	524		5.44	5.40	34.218	27.009	110.6	0.997	0.45	6.4	86.8	3.07	41.0	0.00			527

RV DAVID STARR JORDAN CALCOFI CRUISE 9108 STATION 93 100

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	NAVES	NEA	BAROMETER	DRY	NET	SECCBI/FOREL	CLD AMT	TYPE
30 30.8 N	122 IS.5 N	37/07/91	0606 UTC		310 08 kn			1017.9 ab	17.1 C	14.9 C			

CAST	DEPTH		TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN IT	OXYGEN	OXY	SIO3	PO4	NO3	NO2	CHL-A	PHAEO	PRESS
	▪		DEG C	DEG C	PSS 78	THETA			*1/1	PCT	UM/1	UM/1	UM/1	uM/1	ug/1	ug/1	db
1	0		17.28	17.28	33.321	24.161	374.7	0.000	5.63	102.5	4.2	0.36	0.0	0.00	0.09	0.03	0
1	10		17.27	17.27	33.322	24.164	374.7	0.037	5.64	102.6	4.1	0.26 U	0.0	0.00	0.09	0.03	10
1	20		17.17	17.17	33.320	24.187	372.9	0.075	5.65	102.6	4.1	0.36	0.0	0.00	0.09	0.03	20
1	30		16.85	16.85	33.333	24.272	365.1	0.112	5.76	104.0	4.0	0.35	0.0	0.00	0.13	0.04	30
1	40		16.33	16.32	33.293	24.362	356.8	0.148	5.84	104.3	4.0	0.35	0.0	0.00	0.13	0.05	40
1	49		15.77	15.76	33.273	24.474	346.4	0.179	5.90	104.2	4.0	0.36	0.0	0.00	0.14	0.05	49
	50	ISL	15.75	15.74	33.273	24.478	346.0	0.183	5.91	104.3	4.0	0.36	0.0	0.00	0.15	0.05	50
1	60		15.41	15.40	33.262	24.546	339.9	0.217	5.97	104.7	4.0	0.36	0.0	0.00	0.21	0.10	60
1	70		14.39	14.38	33.206	24.722	323.2	0.250	6.07	104.2	4.0	0.38	0.0	0.00	0.25	0.14	70
	75	ISL	14.15	14.14	33.218	24.782	317.7	0.266	6.04	103.2	4.1	0.39	0.0	0.00	0.35	0.25	75
1	84		13.78	13.77	33.243	24.878	308.7	0.295	5.92	100.4	4.3	0.42	0.1	0.03	0.50	0.43	84
	100	ISL	12.48	12.47	33.162	25.074	290.3	0.343	5.65	93.2	5.8	0.64	3.6	0.15	0.34	0.34	100
1	101		12.39	12.38	33.158	25.088	289.0	0.345	5.63	92.7	6.0	0.66	3.9	0.16	0.32	0.33	101
1	120		10.88	10.87	33.262	25.447	255.0	0.397	5.04	80.4	10.8	1.07	11.2	0.02	0.11	0.15	120
	125	ISL	10.57	10.56	33.290	25.523	247.8	0.410	4.91	77.8	12.0	1.15	12.6	0.02	0.08	0.12	126
1	145		9.64	9.62	33.409	25.773	224.3	0.457	4.38	68.1	17.1	1.40	16.9	0.01	0.03	0.06	146
	150	ISL	9.51	9.49	33.455	25.830	218.9	0.468	4.23	65.6	18.5	1.46	17.9	0.01	0.02	0.05	151
1	176		9.11	9.09	33.910 U			0.522	3.48	53.5	25.3	1.72	22.6	0.00	0.00	0.03	177
	200	ISL	8.75	8.73	33.862	26.270	177.9	0.567	3.04	46.4	30.6	1.90	25.5	0.00	0.00	0.02	201
1	207		8.65	8.63	33.911	26.324	172.9	0.579	2.95	45.0	31.9	1.94	26.1	0.00	0.00	0.02	208
1	236		8.29	8.27	33.994	26.444	161.9	0.628	2.77	41.9	36.3	2.04	27.5	0.00			237
	250	ISL	8.06	8.03	34.007	26.489	157.8	0.650	2.79	42.0	38.3	2.06	27.9	0.00			251
1	277		7.58	7.55	34.013	26.564	150.9	0.692	2.81	41.8	42.4	2.10	28.9	0.00			278
	300	ISL	7.21	7.18	34.015	26.618	145.9	0.726	2.62	38.7	46.9	2.19	30.4	0.00			302
1	333		6.76	6.73	34.026	26.688	139.5	0.773	2.18	31.8	54.0	2.37	32.9	0.00			335
1	392		6.28	6.25	34.103	26.813	128.2	0.852	1.20	17.3	67.0	2.77	37.4	0.00			394
	400	ISL	6.34	6.20	34.114	26.827	127.0	0.862	1.11	16.0	68.3	2.81	37.7	0.00			402
1	455		6.00	5.96	34.180	26.910	119.7	0.930	0.67	9.6	76.4	3.00	39.2	0.00			458
	500	ISL	5.69	5.65	34.211	26.973	114.0	0.983	0.49	7.0	82.7	3.09	40.6	0.00			503
1	521		5.55	5.51	34.226	27.002	111.4	1.006	0.41	5.8	85.6	3.13	41.2	0.00			524

RV DAVID STARR JORDAN CALCOFI CRUISE 9108 STATION 93 110

LATITUDE	1ONGITODE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	NAVES	NEA	BAROMETER	DRY	NET	SECCBI/FOREL	CLD AMT	TYPE
30 10.9 N	1.22 55.3 N	27/07/91	1153 UTC		240 05 k.B			1018.3 *nt*>	18.7 C	15.4 C			

CAST	DEPTH		TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SIO3	PO4	NO3	NO2	CBL-A	PHAEO	PRESS
	▪		DEG C	DEG C	PSS 78	THETA			ml/1	PCT	UM/1	UM/1	uM/1	uM/1	ug/1	ug/1	db
1	0		17.58	17.58	33.366	24.124	378.2	0.000	5.62	102.9	4.0	0.34	0.0	0.00	0.07	0.03	0
1	10		17.56	17.56	33.363	24.126	378.3	0.038	5.62	102.9	3.9	0.34	0.0	0.00	0.07	0.02	10
1	20		17.52	17.52	33.356	24.131	378.2	0.076	5.64	103.2	3.8	0.34	0.0	0.00	0.07	0.02	20
	30	ISL	16.83	16.83	33.347	24.288	363.6	0.113	5.77	104.1	3.8	0.34	0.0	0.00	0.09	0.04	30
1	31		16.74	16.73	33.345	24.307	361.8	0.116	5.79	104.3	3.8	0.34	0.0	0.00	0.09	0.04	31
1	40		16.04	16.03	33.314	24.444	349.0	0.148	5.91	105.0	3.8	0.34	0.0	0.00	0.09	0.04	40
	50	ISL	15.63	15.62	33.367	24.577	336.6	0.183	5.94	104.7	3.8	0.33	0.0	0.00	0.11	0.04	50
1	51		15.60	15.59	33.373	24.589	335.5	0.186	5.94	104.6	3.8	0.33	0.0	0.00	0.11	0.04	51
1	62		15.21	15.20	33.371	24.673	327.8	0.222	5.95	104.0	3.8	0.33	0.0	0.00	0.14	0.06	62
1	71		15.14	15.13	33.445	24.746	321.1	0.252	5.91	103.2	3.8	0.32	0.0	0.00	0.15	0.08	71
	75	ISL	15.12	15.11	33.469	24.769	319.1	0.264	5.89	102.8	3.7	0.33	0.0	0.00	0.17	0.11	75
1	85		14.99	14.98	33.513	24.831	313.4	0.296	5.83	101.5	3.6	0.34	0.0	0.00	0.24	0.18	85
	100	I2SL	14.34	14.33	33.559	25.006	297.1	0.342	5.62	96.6	4.6	0.43	1.5	0.12	0.26	0.23	100
1	101		14.27	14.26	33.558	25.020	295.8	0.345	5.61	96.3	4.7	0.44	1.6	0.13	0.26	0.23	101
1	120		12.13	12.11	33.287	25.238	275.2	0.399	5.46	89.5	7.0	0.72	5.4	0.09	0.20	0.26	120
	125	ISL	11.77	11.75	33.289	25.307	268.7	0.413	5.40	87.8	7.6	0.77	6.4	0.07	0.18	0.24	126
1	146		10.69	10.67	33.404	25.591	241.9	0.466	5.05	80.3	10.7	0.99	10.6	0.01	0.08	0.11	147
	150	ISL	10.49	10.47	33.417	25.636	237.6	0.476	4.95	78.4	11.7	1.05	11.6	0.01	0.07	0.10	151
1	176		9.39	9.37	33.528	25.907	212.1	0.534	4.28	66.2	18.9	1.44	18.0	0.00	0.02	0.04	177
	200	IiSL	8.88	8.86	33.725	26.142	190.1	0.583	3.80	58.2	24.7	1.64	21.6	0.00	0.00	0.02	201
1	207		8.79	8.77	33.783	26.202	184.5	0.596	3.69	56.4	26.2	1.68	22.3	0.00	0.00	0.02	208
1	236		t.45	8.43	33.928	26.368	169.2	0.647	3.41	51.7	31.0	1.81	24.4	0.00			237
	250	ISL	8.25	8.22	33.966	26.429	163.6	0.670	3.40	51.4	33.1	1.83	25.0	0.00			251
1	276		7.87	7.84	34.004	26.515	155.7	0.712	3.38	50.6	37.3	1.88	26.0	0.00			277
	300	ISL	7.52	7.49	34.014	26.574	150.3	0.749	3.11	46.3	41.9	2.01	27.8	0.00			302
1	332		7.08	7.05	34.014	26.636	144.7	0.796	2.62	38.5	48.7	2.22	30.6	0.00			334
1	392		6.33	6.30	34.042	26.758	133.4	0.879	1.76	25.4	62.3	2.59	35.5	0.00			394
	400	ISL	6.28	6.24	34.053	26.773	132.0	0.890	1.64	23.7	63.9	2.64	36.0	0.00			402
1	458		5.97	5.93	34.134	26.877	122.8	0.964	0.88	12.6	74.4	2.92	39.2	0.00			461
	500	ISL	S.64	5.60	34.165	26.943	116.8	1.014	0.67	9.5	81.3	3.03	40.3	0.00			503
1	526		5.43	5.39	34.185	26.984	113.0	1.044	0.54	7.6	85.5	3.09	41.0	0.00			529

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	HIND SPEED	NAVES	NEA	BAROMETER	DRY	NET	SECCHI/FOREL	CID AMT TYPE
29 50.9 N	113 35.2 N	27/07/91	1747 UTC	4072 -	230 08 kn	320 05 07	2	1019.8 ab	18.7 C	15.8 C	37a 01	8/8 SC

CAST	DEPTH -		TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN nl/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRESS db
	0	ISL	17.91	17.91	33.510	24.154	375.3	0.000	5.55	102.4	3.6	0.32	0.0	0.00	0.08	0.02	0
1	1		17.91	17.91	33.510	24.154	375.4	0.004	5.55	102.4	3.6	0.32	0.0	0.00	0.08	0.02	1
1	10		17.91	17.91	33.510	24.155	375.6	0.038	5.56	102.6	3.6	0.32	0.0	0.00	0.08	0.02	10
	20	ISL	17.88	17.88	33.508	24.161	375.4	0.075	5.56	102.5	3.6	0.32	0.0	0.00	0.08	0.02	20
1	21		17.88	17.88	33.508	24.161	375.4	0.079	5.56	102.5	3.6	0.32	0.0	0.00	0.08	0.02	21
	30	ISL	17.20	17.20	33.436	24.269	365.4	0.112	5.70	103.7	3.5	0.33	0.0	0.00	0.09	0.03	30
1	31		17.1.1	17.10	33.427	24.283	364.1	0.116	5.72	103.8	3.5	0.33	0.0	0.00	0.09	0.03	31
1	41		16.59	16.58	33.366	24.359	357.2	0.152	5.80	104.2	3.6	0.34	0.0	0.00	0.09	0.03	41
	50	ISL	16.03	16.02	33.339	24.466	347.2	0.184	5.88	104.4	3.6	0.34	0.0	0.00	0.11	0.03	50
1	51		15.99	15.98	33.347	24.481	345.8	0.187	5.89	104.5	3.6	0.34	0.0	0.00	0.11	0.03	51
1	60		16.42	16.41	33.657	24.622	332.7	0.218	s.82	104.4	3.6	0.29	0.0	0.00	0.12	0.03	60
1	71		16.57	16.56	33.804	24.701	325.6	0.254	s.74	103.3	3.6	0.27	0.0	0.00	0.15	0.05	71
	75	ISL	16.53	16.52	33.824	24.725	323.4	0.267	s.73	103.1	3.6	0.27	0.0	0.00	0.16	0.06	75
1	85		16.38	16.37	33.849	24.780	318.6	0.299	s.71	102.4	3.6	0.26	0.0	0.00	0.20	0.10	85
1	99		16.24	16.22	33.909	24.858	311.5	0.343	5.65	101.1	3.6	0.26	0.0	0.00	0.23	0.15	99
	100	ISL	16.22	16.20	33.907	24.861	311.2	0.346	5.65	101.1	3.6	0.26	0.0	0.00	0.23	0.15	100
1	120		15.38	15.36	33.796	24.965	301.8	0.407	s.57	97.9	4.0	0.34	0.4	0.09	0.23	0.20	120
	125	ISL	14.96	14.94	33.744	25.017	296.9	0.422	s.53	96.4	4.3	0.39	1.1	0.09	0.22	0.19	126
1	146		13.07	13.05	33.564	25.271	272.9	0.482	5.34	89.4	6.1	0.62	4.6	0.04	0.14	0.17	147
	150	ISL	12.80	12.78	33.553	25.316	268.7	0.493	s.31	88.4	6.4	0.65	5.1	0.03	0.13	0.16	151
1	176		11.29	11.27	33.564	25.610	241.0	0.559	s.04	81.3	9.4	0.87	9.1	0.01	0.07	0.08	177
	200	ISL	10.06	10.04	33.632	25.878	215.6	0.614	4.49	70.5	15.6	1.23	14.9	0.00	0.02	0.04	201
1	207		9.78	9.76	33.665	25.951	208.8	0.629	4.31	67.3	17.6	1.34	16.6	0.00	0.01	0.03	208
1	236		9.34	9.31	33.877	26.189	186.6	0.686	3.76	58.2	24.0	1.58	20.7	0.00			237
	250	ISL	9.13	9.10	33.938	26.271	179.1	0.712	3.60	55.5	26.5	1.67	22.0	0.00			251
1	277		8.71	8.68	34.008	26.392	167.9	0.759	3.38	51.6	31.2	1.81	24.1	0.00			278
	300	ISL	8.31	8.28	34.033	26.473	160.4	0.796	3.19	48.3	35.4	1.93	25.9	0.00			302
1	332		7.73	7.70	34.038	26.563	152.1	0.646	2.89	43.2	41.8	2.11	28.3	0.00			334
1	391		6.63	6.59	34.034	26.713	138.0	0.932	2.13	31.0	56.5	2.49	33.3	0.00			393
	400	ISL	6.52	6.48	34.043	26.734	135.9	0.944	1.98	28.8	58.8	2.55	34.1	0.00			402
1	455		5.99	5.95	34.108	26.854	124.9	1.016	1.12	16.1	71.5	2.90	38.2	0.00			458
	500	ISL	5.63	5.59	34.142	26.926	118.4	1.071	0.84	11.9	79.2	3.02	40.0	0.00			503
1	522		5.16	5.42	34.159	26.960	115.2	1.097	0.70	9.9	83.0	3.08	40.9	0.00			525

PRIMARY PRODUCTIVITY CASTS

RV DAVID STARR JORDAN — CALCOFI CRUISE 9108 — STATION 77 65

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
34 33.0 N	121 54.0 W	7/ 8/91	1924 UTC	15 a	04	1210 - 1931 PST	1213 PST	1931 PST	656.3 ag C/m2

DEPTH -	TEMP DEG C	SALINITY PSS 78	SIGMA THETA	DISS O2 al/1	OXY PCT	SIO3 UM/1	PO4 UM/1	NO3 uM/1	NO2 UM/1	CHL ug/1	PHAEO ug/1	LIGHT PCT		UPTAKE (ug C/a3) 1	2	MEAN	DARK
0	15.87	33.601	24.702	6.05	107.3	6.2	0.36	0.3	0.02	0.36	0.08	100.	A	11.1	10.1	10.6	0.14
11	14.50	33.479	24.908	6.20	106.9	4.8	0.52	2.2	0.12	0.83	0.16	32.		22.1	25.0	23.5	0.19
19	14.05	33.462	24.990	5.98	102.1	5.2	0.64	3.9	0.111	0.90	0.28	14.		22.9	22.5	22.7	0.16
34	12.16	33.533	25.421	5.15	84.6	10.5	1.05	10.5	0.60	0.48	0.28	3.1		6.0	6.3	6.1	0.11
40	11.62	33.567	25.549	4.77	77.5	12.6	1.21	13.1	0.59	0.40	0.26	1.7		2.9	3.1	3.0	0.09
67	10.10	33.757	25.966	3.19	50.2	22.8	1.71	21.6	0.02	0.04	0.12	0.11		0.01	0.00	0.01	0.04

RV DAVID STARR JORDAN — CALCOFI CRUISE 9108 — STATION 77 100

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
33 23.3 N	124 19.4 W	6/ 8/91	1922 UTC	24 a	02	1223 - 1937 PST	1223 PST	1937 PST	243.0 ag C/a2

DEPTH -	TEMP DEG C	SALINITY PSS 78	SIGMA THETA	DISS O2 al/1	OXY PCT	SIO3 UM/1	PO4 uM/1	NO3 UM/1	NO2 UM/1	CHL ug/1	PHAEO ug/1	LIGHT PCT		UPTAKE (ag C/a3) 1	2	MEAN	DARK
0	16.94	32.775	23.822	5.84	105.3	2.5	0.42	0.1	0.00	0.16	0.03	100.	A	4.1	4.0	4.0	0.05
17	1(5.13	32.83:1	24.053	5.84	103.6	2.4	0.41	0.0	0.00	0.09	0.02	34.		2.1	2.0	2.1	0.07
29	15.83	32.855	24.138	5.89	103.9	2.3	0.40	0.0	0.00	0.12	0.04	16.		2.1	2.2	2.1	0.13
53	13.70	32.827	24.572	6.18	104.4	2.2	0.42	0.0	0.00	0.34	0.20	3.4		2.3	2.2	2.2	0.13
64	12.59	32.742	24.726	6.15	101.4	2.5	0.50	0.3	0.19	0.84	0.46	1.7		4.0	4.0	4.0	0.07
104	10.53	32.890	25.217	5.80	91.6	7.3	0.99	9.3	0.01	0.06	0.07	0.13		0.01	0.02	0.01	0.03

RV DAVID STARR JORDAN — CALCOFI CRUISE 9108 — STATION 80 70

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	SECCHI	FOREL	INCUBATION TIME	LAIN	CIVIL TWILIGHT	INTEGRATED VALUE
33 49.0 N	121 50.5 K	5/ 8/91	1909 UTC	15 a	04	1213 - 1929 PST	1213 PST	1932 PST	575.7 ag C/m2

DEPTH «	TEMP DEG C	SALINITY PSS 78	SIGMA THETA	DISS O2 Bl/1	OXY PCT	SIO3 UM/1	POI UM/1	NO3 UM/1	NO2 UM/1	CHL ug/1	PHAEO ug/1	LIGHT PCT		UPTAKE (ag C/ll3) 1	2	MEAN	DARK
0	15.63	33.610	24.763	6.01	106.1	3.9	0.37	0.2	0.02	0.67	0.18	100.	A	10.6	10.0	10.3	0.13
10	15.60	33.608	24.768	5.99	105.7	3.8	0.38	0.2	0.02	0.73	0.21	36.		19.B	22.9	21.3	0.15
19	15.59	33.609	24.771	5.99	105.7	3.8	0.37	0.2	0.02	0.61	0.18	14.		19.6	19.9	19.7	0.13
34	13.35	33.616	25.252	5.18	87.3	8.9	0.89	7.3	0.62	0.41	0.33	3.1		5.1	5.5	5.3	0.06
40	12.53	33.629	25.425	4.71	78.0	11.4	1.09	10.6	1.13	0.22	0.18	1.7		1.7	1.9	1.8	0.11
67		33.633		3.96		19.5	1.59	19.6	0.04	0.07	0.11	0.11		0.01	0.01	0.01	0.04

RV DAVID STARK JORDAN — CALCOFI CRUISE 9108 — STATION 83 70

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
33 14.6 N	121 26.6 W	3/ 8/91	1913 UTC	17 -	02	1216 - 1929 PST	1212 PST	1929 PST	226.6 mg C/m2

DEPTH -	TEMP DEG C	SALINITY PSS 78	SIGMA THETA	DISS O2 al/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 UM/1	MO2 uK/1	CHL ug/1	PHAEO ug/1	LIGHT PCT		UPTAKE (mg C/nO) 1	2	MEAN	DARK
CI	15.03	32.986	24.414	6.04	104.9	2.3	0.45	0.7	0.04	0.29	0.07	100.	A	4.9	4.9	4.9	0.05
13	14.93	12.<)89	24.438	6.07	105.3	2.3	0.46	0.7	0.04	0.32	0.08	31.		6.4	6.7	6.5	0.06
22	14.89	32.495	24.452	6.08	105.3	2.3	0.46	0.8	0.04	0.35	0.09	14.		S.5	5.8	5.6	0.06
38	13.41	32.J43	24.720	6.28	105.5	2.3	0.48	0.8	0.08	0.40	0.15	3.2		2.4	2.3	2.3	0.04
45	12.33	32.965	24.948	6.05	99.4	3.7	0.61	2.7	IS.36	0.46	0.24	1.7		1.3	1.5	1.4	0.03
75	11.02	33.020	25.232	5.75	91.9	8.2	0.94	9.2	0.06	0.26	0.15	0.11		0.05	0.06	0.06	0.03

RV DAVID STARR JORDAN — CALCOFI CRUISE 9108 — STATION 83 105

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
32 5.0 N	123 4SLO W	2/ 8/91	1911 UTC	26 m	02	1221 - 1936 PST	1221 PST	1935 PST	313.0 ag C/m2

DEPTB a	TEMP DEG C	SALINITY PSS 78	SIGMA THETA	DISS O2 ml/1	OXY PCT	SIO3 UM/1	PO4 UM/1	NO3 UM/1	MO2 \1M/1	CHL Ug/1	PHAEO ug/1	LIGHT PCT		UPTAKE (ag C/B3) 1	2	MEAN	DARK
0	16.76	32.938	23.989	5.63	101.2	1.9	0.41	0.0	CI.OO	0.12	0.02	100.	A	2.3	2.4	2.4	0.04
18	16.61	32.929	24.018	5.70	102.2	1.9	0.36	0.0	0.00	0.14	0.02	35.		3.3	3.3	3.3	0.05
32	13.92	32.823	24.523	6.28	106.6	2.7	0.45	0.3	0.03	0.35	0.09	15.		5.5	5.8	5.7	0.11
57	12.88	32.817	24.728	6.14	101.9	2.7	0.51	1.4	0.17	0.53	0.16	3.5		4.1	4.0	4.0	0.03
69	11.80	33.049 U		5.98	97.2	3.2	0.60	2.3	0.44	0.47	0.21	1.7		2.1	1.6	1.9	0.03
113	10.02	33.048	25.427	5.29	82.7	11.9	1.17	12.7	0.01	0.03	0.07	0.13		0.01	0.01	0.01	0.02

A) INCUBATION LIGHT INTENSITIES WERE 97, 35, 15, 3.4, 1.8, 0.13 PERCENT RESPECTIVELY.

PRIMARY PRODUCTIVITY CASTS

RV DAVID STARR JORDAN — CALCOFI CRUISE 9108 — STATION 87 55

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
33 9.4 N	120 0.4 N	31/ 7/91	1940 UTC	IS •	04	1.203 - 1929 PST	120C PST	1929 PST	473.2 ag C/a2

DEPTH •	TEMP DEC C	SALINITY PSS 78	SIGMA THETA	DISS O2 al/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL ug/i	PHAEO ug/1	LIGHT PCT	UPTAKE (ag C/a3) 1	2	MEAN	DARK
0	16.23	33.603	24.622	5.90	105.4	2.7	0.39	0.8	0.05	0.44	0.12	100. A	14.6	15.0	14.8	0.13
10	15.99	33.599	24.674	5.92	105.2	2.7	0.39	0.9	0.05	0.49	0.13	38.	17.7	17.3	17.5	0.15
19	13.50	33.511	25.140	5.73	96.8	5.7	0.74	5.8	0.37	0.49	0.29	16.	16.6	17.5	17.1	0.16
34	10.96	33.504	25.619	4.66	74.6	13.1	1.32	14.9	0.37	0.18	0.20	3.8	1.4	1.4	1.4	0.06
42	10.66	33.535	25.696	4.33	68.9	15.5	1.40	16.7	0.14	0.14	0.19	1.8	0.64	0.69	0.66	0.05
69	9.64	33.654	25.963	3.54	55.1	22.8	1.71	22.2	0.02	0.03	0.09	0.13	0.01	0.00	0.01	0.02

RV DAVID STARR JORDAN — CALCOFI CRUISE 9108 — STATION 87 90

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
31 59.4 N	122 23.6 H	1/ 8/91	1927 UTC	31 •	01	1216 - 1938 PST	1216 PST	1938 PST	189.5 ag C/a2

DEPTH •	TEMP DEG C	SALINITY *VSS* 78	SIGMA THETA	DISS O2 ml/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL ug/1	PHAEO ug/1	LIGHT PCT	UPTAKE (ag C/»3) 1	2	MEAN	DARK
1	17.06	33.280	24.181	5.64	102.2	2.8	0.37	0.1	0.00	0.08	0.01	95. A	1.3	1.4	1.3	0.05
21	17.08	33.403	24.272	5.65	102.5	2.9	0.36	0.0	0.00	0.10	0.02	35.	2.2	2.1	2.1	0.06
37	15.Bl	33.380	24.547	5.91	104.5	2.9	0.36	0.0	0.00	0.15	0.04	16.	2.0	2.1	2.0	0.09
68	15.05	33.412	24.740	5.92	103.1	2.9	0.37	0.0	0.00	0.27	0.18	3.4	1.6	1.9	1.7	0.04
80	14.72	33.422	24.819	5.84	101.1	2.9	0.41	0.0	0.00	0.33	0.25	1.9	1.6	1.6	1.6	0.02
134	11.74	33.351	25.361	5.20	84.5	7.7	0.88	8.2	0.02	0.07	0.08	0.13	0.04	0.04	0.04	0.01

RV DAVID STARR JORDAN — CALCOFI CRUISE 9108 — STATION 90 29

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	SECCHI	FOREL	INCUBATION TIME!	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
33 30.7 N	117 54.6 W	30/ 7/91	1931 UTC	9 a	04	1205 - 1925 PST	1202 PST	1924 PST	536.9 ag C/a2

DEPTH a	TEMP DEG C	SALINITY PSS 78	SIGMA THETA	DISS O2 ml/1	OXY PCT	SIO3 UM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL ug/1	PHAEO ug/1	LIGHT PCT	UPTAKE (ag C/a3) 1	2	MEAN	DARK
0	17.112	33.512	24.177	6.32	116.4	5.0	0.31	0.0	0.01	1.12	0.16	100. A	32.1	32.7	32.4	0.35
6	17.28	33.511	24.307	6.43	117.2	5.0	0.31	0.0	0.01	1.18	0.22	36.	34.1	33.1	33.6	0.33
11	16.32	33.520	24.538	6.63	118.6	5.1	0.31	0.0	0.01	1.23	0.33	15.	26.5	27.1	26.8	0.33
19	14.04	33.496	25.018	5.94	101.5	3.5	0.47	0.9	0.07	0.77	0.40	3.9	6.3	6.9	6.6	0.07
23	13.55	33.491	25.115	5.72	96.7	4.5	0.59	3.0	0.17	0.84	0.48	2.0	3.6	4.1	3.8	0.05
40	12.14	33.499	25.398	4.56	74.9	10.1	1.00	9.0	0.38	0.36	0.36	0.11	0.16	0.13	0.14	0.08
50	11.44	33.511	25.538	4.44	71.8	11.7	1.17	12.8	0.07	0.21	0.26					
60	10.92	33.548	25.661	3.96	63.3	14.7	1.33	15.4	0.03	0.13	0.18					
70	10.67	3:1.589	25.737	3.70	58.9	16.6	1.45	17.3	0.02	0.08	0.14					
84	10.52	3:1.597	25.770	3.81	60.4	17.0	1.45	17.5	0.02	0.05	0.12					
104	10.15	3:t.661	25.884	3.59	56.5	19.0	1.54	19.3	0.01	0.03	0.08					
123	9.89	33.740	25.989	3.47	54.3	21.5	1.63	20.7	0.01	0.01	0.06					
144	9.59	331.836	26.114	3.24	50.4	24.5	1.73	22.4	0.01	0.01	0.05					
175	9.41	331.911	26.203	2.97	46.1	27.2	1.84	23.9	0.01	0.01	0.05					
207	9.40	34.037	26.304	2.49	38.6	31.2	2.02	25.9	0.01							

nv DAVID *ST.KKR* JORDAN — CALCOFI CRUISE 9108 — STATION 90 53

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
32 39.0 N	119 28.9 W	29/ 7/91	1953 UTC	20 a	03	1211 - 1924 PST	1204 PST	1925 PST	583.8 ag C/a2

DEPTH a	TEMP DEG C	SALINITY PSS 78	SIGMA THETA	DISS O2 ml/1	OXY PCT	SIO3 UM/1	PO4 UM/1	NO3 uM/1	NO2 UM/1	CHL ug/1	PHAEO ug/1	LIGHT PCT	UPTAKE (ag C/a3) 1	2	MEAN	DARK
0	16.411	33.554	24.527	5.83	104.6	2.4	0.44	1.1	0.05	0.29	0.08	100. A	10.1	11.0	10.6	0.07
14	16.36	33.560	24.559	5.85	104.7	2.4	0.44	1.1	0.05	0.32	0.11	34.	12.4	12.8	12.6	0.07
25	15.56	33.613	24.781	5.93	104.5	3.5	0.49	2.1	0.08	0.41	0.14	15.	11.7	11.8	11.7	0.09
45	13.05	33.598	25.299	5.32	89.1	8.9	0.91	8.3	0.46	0.61	0.36	3.2	6.6	7.2	6.9	0.08
53	11.701	33.618	25.574	4.57	74.4	14.1	1.26	14.0	0.38	0.59	0.40	1.7	3.5	3.6	3.5	0.07
87	10.36	33.747	25.914	3.47	54.9	22.7	1.68	21.3	0.04	0.12	0.16	0.13	0.04	0.03	0.04	0.04

A) INCUBATION LIGHT INTENSITIES WERE 97, 35, 15, 3.4, 1.8, 0.13 PERCENT RESPECTIVELY.

RV DAVID STARR JORDAN — CALCOFI CRUISE 91.08 — STATION 90 90

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
31 25.1 N	121 59.4 N	28/ 7/91	1914 UTC	28 -	01	1217 - 1935 *PUT*	1214 PST	1932 PST	233.0 mg C/m2

DEPTH -	TEMP DE<; C	SALINITY PSS 78	SIGMA THETA	DISS O2 ml/1	OXY PCT	SIO3 UM/1	PO4 UM/1	NO3 UM/1	NO2 uM/1	CHI, ug/1	PHAEO ug/1	LIGHT PCT	1	UPTAKE («c C/m3) 2	MEAN	DARK
1	16.95	33.335	24.249	5.71	103.3	2.8	0.37	0.1	0.00	0.09	0.02	95. A	1.5	1.6	1.5	0.05
20	16.33	33.309	24.374	5.78	103.3	2.8	0.35	0.1	0.00	0.12	0.03	33.	2.5	2.6	2.5	0.11
36	16.25	33.317	24.399	5.79	103.3	2.7	0.37	0.1	0.00	0.16	0.04	14.	2.7	2.8	2.8	0.09
64	13.85	33.300	24.907	5.94	100.9	3.2	0.45	0.6	0.11	0.48	0.29	3.0	3.3	3.1	3.2	0.05
75	13.25	33.305	25.033	5.75	96.5	3.7	0.57	2.5	0.25	0.37	0.29	1.6	1.7	1.7	1.7	0.03
122	10.66	33.485	25.659	4.55	72.3	14.0	1.27	15.0	0.01	0,01	0.04	0.12	0.00	CI.01	0.01	0.02

RV DAVID STARR JORDAN — CALCOFI CRUISE 9108 — STATION 93 26.7

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
32 57.4 N	117 18.3 W	24/ 7/91	1930 UTC	7 m	06	1157 - 2030 PST	1155 PST	1922 PST	955.4 mg C/«2

DEPTH -	TEMP DEG C	SALINITY PSS 78	SIGMA THETA	DISS O2 ml/1	OXY PCT	SIO3 uM/1	PO4 UM/1	NO3 uM/1	NO2 uM/1	CM. ug/1	PHAEO ug/1	LIGHT PCT	1	UPTAKE <mg C/n3) 2	MEAN	DARK
0	19.74	33.639	23.793	6.44	123.1	8.6	0.23	0.0	0.01	1.77	0.22	100. A	89.9	87.2	88.6	0.68
4	18.79	33.629	24.028	6.54	122.8	8.4	0.23	0.0	0.01	1.86	0.23	42.	91.0	91.6	91.3	0.82
9	1.4.36	33.521	24.970	8.25	141.9	9.3	0.23	0.0	0.01	1.65	0.58	14.	54.2	55.2	54.7	0.83
15	13.41	33.505	25.154	4.90	82.6	10.3	0.51	0.2	0.08	0.81	0.99	3.7	.10.1	9.6	9.8	0.40
18	12.85	321.505	25.266			10.8	0.59	0.3	0.19	0.48	0.62	1.9	2.8	2.9	2.9	0.27
30	12.66	33.506	25.304	4.58	76.0	11.3	0.80	2.9	0.46	0.34	CI.55	0.14	0.09	0.12	0.10	0.17

RV DAVID STARR JORDAN — CALCOFI CRUISE 9108 — STATION 93 50

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	SECCHI	FOKEL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
32 10.9 N	118 53.6 W	25/ 7/91	1931 UTC	17 ft	03	1159 - 1926 PST	1201 PST	1928 PST	291.1 nig C/*2

DEPTH -	TEMP DEG C	SALXNITY PSJ. 78	SIGMA THETA	DISS O2 ml/1	OXY PCT	SIO3 UM/1	PO4 UM/1	NO3 UM/1	MO2 uM/1	CHL ug/1	PHAEO ug/1	LIGHT PCT	1	UPTAKE <mg C/m3) 2	MEAN	DARK
0	15.59	33.273	24.512	6.04	106.3	4.2	0.38	0.0	0.00	0.36	0.13	100. A	10.4	10.6	10.5	0.12
12	15.42	33.299	24.570	6.08	106.7	4.0	0.38	0.0	0.01	0.40	0.15	34.	10.9	11.1	11,0	0.15
21	14.75	33.291	24.710	6.00	103.8	4.2	0.38	0.0	0.00	0.31	0.16	15.	4.9	4.9	4.9	0.06
37	13.87	33.231	24.849	6.01	102.1	4.5	0.42	0,2	0.02	0.47	0.28	3.5	2.1	2.3	2.2	0.05
45	13.47	33.212	24.916	5.95	100.3	4.8	0.47	1.0	0.11	0.47	0.36	1.7	1.3	1.4	1.3	0.03
75	11.37	33.372	25.444	5.17	83.4	10.8	1.11	12.0	0.05	0.08	0.13	0.11	0.02	0.02	0.02	0.03

RV DAVID STARR JORDAN — CALCOFI CRUISE 9108 — STATION 93 80

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
31 10.8 N	120 55.2 W	26/ 7/91	1922 UTC	19 n	04	1214 - 1935 PST	1.210 PST	1935 PST	452.0 Big C/«2

DEPTH HI	TEMP DEG C	SALINITY PSS 78	SIGMA THETA	DISS O2 ml/1	OXY PCT	SIO3 UM/1	PO4 UM/1	NO3 UM/1	NO2 UM/1	CHL ug/1	PHAEO ug/1	LIGHT PCT	X	UPTAKE (Big C/Bl3) 2	MEAN	DARK
0	15.88	33.318	24.482	6.01	106.4	4.5	0.37	0.4	0.02	0.34	0.08	100. A	9.6	9.3	9.4	0.12
13	15.68	33.318	24.527	6.03	106.4	4.2	0.37	0.4	0.02	0.38	0.11	35.	12.2	12.7	12.5	0.17
23	15.21	33.401	24.695	6.18	108.0	3.8	0.43	1.2	0.06	0.47	0.17	16.	10.8	11.2	11.0	0.14
42	12.84	33.415	25.198	5.64	93.9	7.4	0.77	6.3	0.35	0.fi0	0.46	3.4	4.4	4.3	4.3	0.05
50	11.95	33.452	25.398	5.11	83.5	1.0.7	0.99	10.0	0.36	0.34	0.27	1.8	1.4	1.5	1.5	0.04
81	10.42	33.501	25.712	4.29	67.9	18.2	1.43	17.4	0.04	0.09	0.10	0.14	0.01	0.02	0.02	0.03

RV DAVID STARR JORDAN — CALCOFI CRUISE 9108 — STATION 93 120

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
29 50.9 N	123 35.2 W	27/ 7/91	1918 UTC	37 m	01	1218 - 1940 PST	1220 PST	1939 PST	154.7 »ig C/m2

DEPTH -	TEMP DEG C	SALINITY PSS 7B	SIGMA THETA	DISS O2 ml/1	OXY PCT	SIO3 uM/1	PO4 UM/1	NO3 UM/1	NO2 UM/1	CHL Ug/1	PHAEO ug/1	LIGHT PCT	1	UPTAKE (Big C/m3) 2	MEAN	DARK
0	18.05	33.515	24.124	5.55	102.7	4.0	0.33	0.0	0.00	0.07	0.01	100. A	1.4	1.5	1.4	0.06
25	17.86	33.517	24.173	5.56	102.5	3.9	0.33	0.0	0.00	0.09	0.02	35.	1.9	1.9	1.9	0.07
46	16.29	33.36-1	24.426	5.85	104.5	3.8	0.34	9.0	0.00	0.10	0.02	15.	1.5	1.4	1.4	0.07
81	16.87	33.96!)	24.758	5.68	102.9	3.6	0.25	0.0	0.00	0.19	0.06	3.5	0.83	0.84	0.83	0.02
96	16.48	33.9411	24.833	5.66	101.8	3.8	0.25	0.0	0.00	0.23	0.14	1.9	0.86	0.74	0.80	0.02
160	12.21	33.601	25.467	5.14	84.5	8.1	0.76	7.3	0.02	0.08	0.11	0.13	0.06	0.06	0.06	0.00

A) INCUBATION LIGHT IN1ENSITIES WERE 97, 35, 15, 3.4, 1.8, 0.13 PERCENT RESPECTIVELY.

CalCOFI Cruise 9108

MACROZOOPLANKTON BIOMASS
Net Mesh Size: 0305 mm

Line	Sta.	Position		Date	Time (PST)		Water Volume	Max. Tow	Volume per 1000 m Strained	
				Mo/Day	Start	End	Strained (m)	Depth (m)	Total (cm)	Small (cm)
77	49	35 053N	12046.5W	8/08	0042	0048	101	49	3953	3953
77	51	35 01.4N	12055.1W	8/07	2238	2259	393	202	176	176
77	55	34 533N	12111.9W	8/07	1929	1951	441	207	93	93
77	60	34433N	12132.9W	8/07	1536	1558	428	213	725	725
77	70	34 233N	12214.8W	8/07	0822	0844	423	212	201	177
77	80	34033N	12256.5W	8/07	0120	0142	410	222	68	68
77	90	33 433N	123 38.0W	8/06	1858	1920	408	218	142	142
77	100	33 233N	124 19.4W	8/06	1227	1249	427	220	61	61
80	51	34 27.0N	12031.4W	8/04	2158	2206	140	61	86	86
80	55	34 19.1N	12048.2W	8/05	0117	0139	418	215	134	134
80	60	34 09.0N	12109.0W	8/05	0505	0527	427	211	138	138
80	70	3349.0N	121 50.5W	8/05	1224	1246	413	215	153	153
80	80	33 29.0N	12232.0W	8/05	1835	1857	423	209	225	225
80	90	33 09.0N	12213.5W	8/06	0050	0112	426	207	96	96
80	100	3249.0N	123 544W	8/06	0618	0640	427	211	26	26
82	47	34 16.5N	12001.5W	8/04	1731	1753	422	214	31	31
83	40.6	3413.6N	119 24.8W	8/04	1237	1240	52	20	39	39
83	42	3410.7N	11930.5W	8/04	0750	0803	251	119	40	40
83	51	33 52.7N	12008.1W	8/04	0120	0129	201	83	10	10
83	55	33 44.7N	12024.6W	8/03	2150	2212	468	198	139	139
83	60	33 34.7N	120453W	8/03	1734	1756	476	197	53	53
83	70	33 14.6N	121 26.6W	8/03	1140	1202	469	201	47	47
83	80	3254.9N	12207.9W	8/03	0450	0512	478	205	21	21
83	90	32 34.7N	12248.8W	8/02	2221	2243	467	199	26	26
83	100	32 14.7N	123 29.6W	8/02	1445	1508	434	220	21	21
83	110	31 54.7N	12410.2W	8/02	0652	0714	428	220	114	114
87	33	33 53.4N	11829.4W	7/30	1714	1719	100	41	140	140
87	35	3349.4N	11837.7W	7/30	1932	1954	445	208	58	58
87	39.4	33 41 .0N	118 56.0W	7/31	0030	0052	449	203	91	91
87	45	33 29.4N	119 19.2W	7/31	0417	0439	453	207	183	183
87	50	33 19.4N	11939.7W	7/31	0743	0751	150	71	67	67
87	55	3309.4N	12000.4W	7/31	1247	1309	422	205	164	164
87	60	3259.4N	12021.0W	7/31	1717	1739	412	217	83	83
87	70	3239.4N	121 02.0W	7/31	2338	0000	408	221	101	101
87	80	32 19.4N	12142.9W	8/01	0510	0532	425	213	57	57
87	90	31 59.4N	12223.6W	8/01	1035	1057	447	206	16	16
87	100	31 393N	123 04.4W	8/01	1745	1807	444	213	41	41
87	110	31 193N	12344.7W	8/02	0025	0047	428	222	33	33
90	28	33 29.1N	11746.0W	7/30	0752	0758	108	49	111	111
90	30	33 25.2N	117 54.2W	7/30	0550	0612	433	210	46	46
90	35	33 15.1N	118 153W	7/30	0153	0215	445	210	45	45
90	37	33 11.1N	118 23.2W	7/29	2300	2322	434	210	78	78
90	45	3255.1N	118 56.1W	7/29	1806	1828	448	204	83	83
90	53	32 39.0N	119 28.9W	7/29	1259	1321	415	214	89	89
90	60	32 25.1N	119 57.6W	7/29	0606	0628	450	215	84	84
90	70	3205.1N	12038.4W	7/29	0012	0034	489	201	84	84
90	80	31 45.1N	12118.9W	7/28	1729	1751	436	211	51	51
90	90	31 25.1N	121 59.4W	7/28	1145	1207	445	217	22	22
90	100	3105.2N	12239.6W	7/28	0525	0547	437	210	94	69
90	110	3045.1N	123 19.9W	7/27	2341	0003	448	212	27	27
90	120	30 25.0N	123 59.9W	7/27	1815	1837	466	206	19	19
93	26.7	32 57.4N	117183W	7/24	1050	1057	148	53	189	189
93	28	32 54.8N	117 23.7W	7/24	1552	1614	462	213	149	149
93	30	32 50.8N	117 31.9W	7/24	1846	1908	395	207	94	94
93	35	3241.0N	117 52.4W	7/24	2218	2240	417	213	146	146
93	40	32 30.8N	118 12.8W	7/25	0305	0327	407	221	108	108
93	45	32 20.8N	118 33.4W	7/25	0700	0722	440	218	55	55
93	50	32 10.9N	118 53.6W	7/25	1040	1102	423	217	66	66
93	55	32 01 .0N	119 13.9W	7/25	1615	1637	455	206	44	44
93	60	31 50.8N	119343W	7/25	2043	2105	432	219	132	132
93	70	31 30.1N	120 14.8W	7/26	0300	0322	425	217	136	136
93	80	31 10.8N	12055.2W	7/26	0840	0902	444	206	104	104
93	90	3050.9N	121353W	7/26	1727	1749	444	214	32	32
93	100	3030.8N	12215.5W	7/26	2257	2319	454	211	51	51
93	U0	3010.9N	122553W	7/27	0443	0505	454	218	18	18
93	120	29 50.9N	123 35.2W	7/27	1028	1050	446	217	22	11

FIGURES

Cruise 9110

1. CalCOFI Cruise 9110, track and station positions.

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

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

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

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

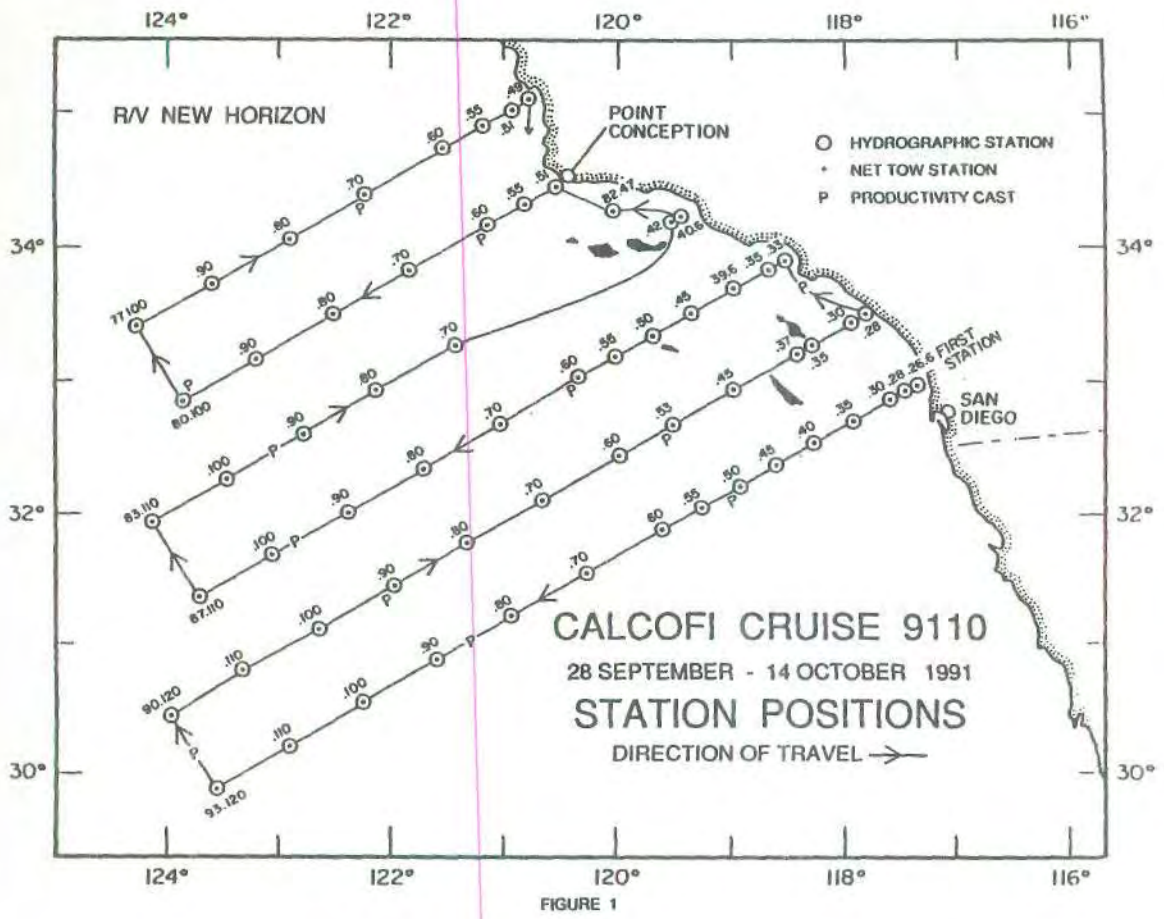

FIGURE 1

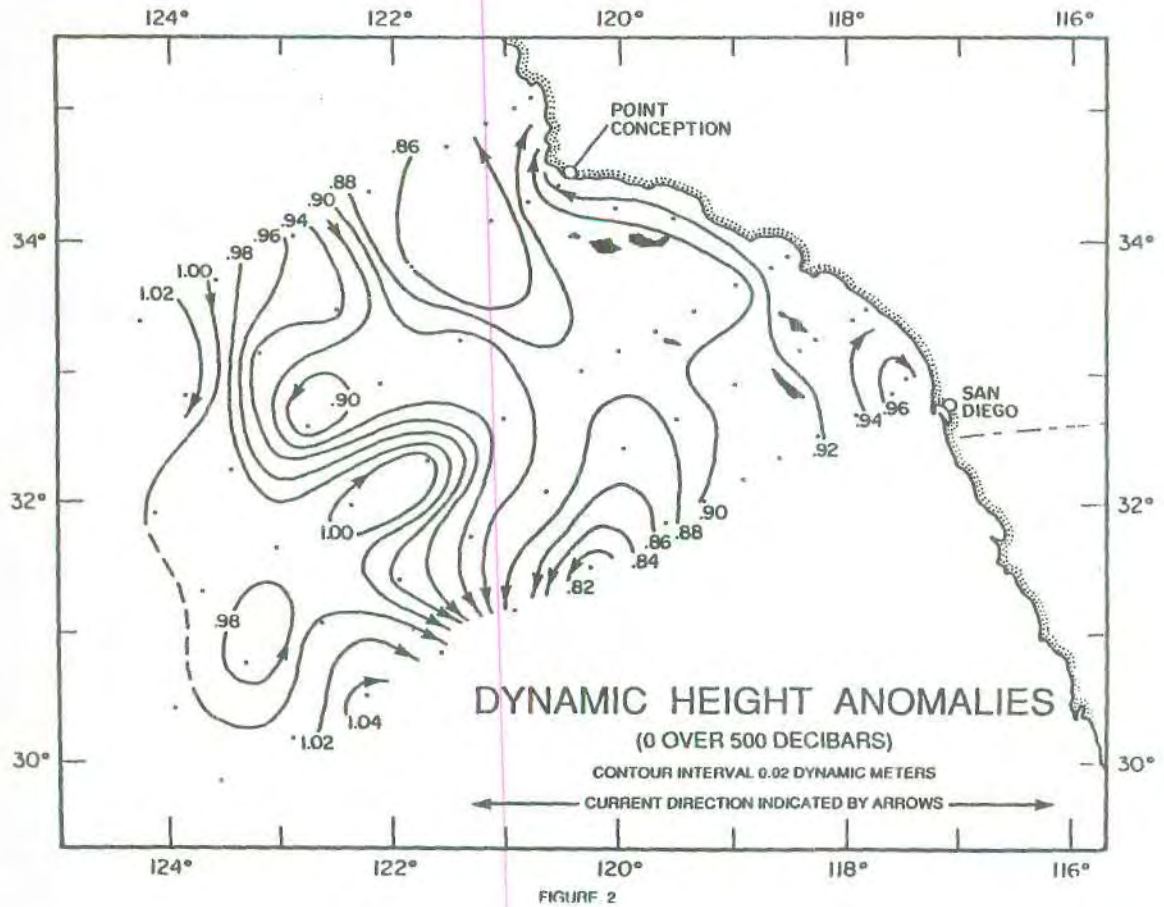

FIGURE 2

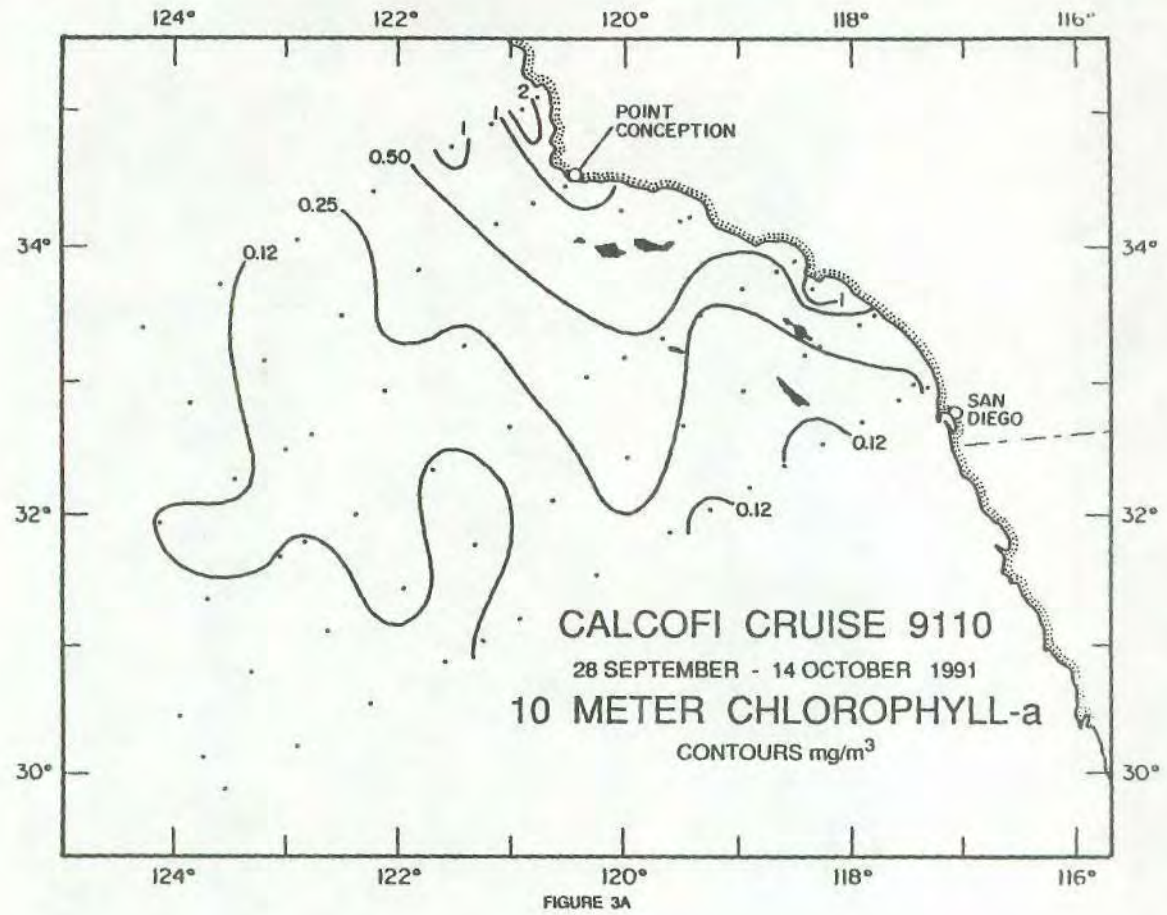

FIGURE 3A

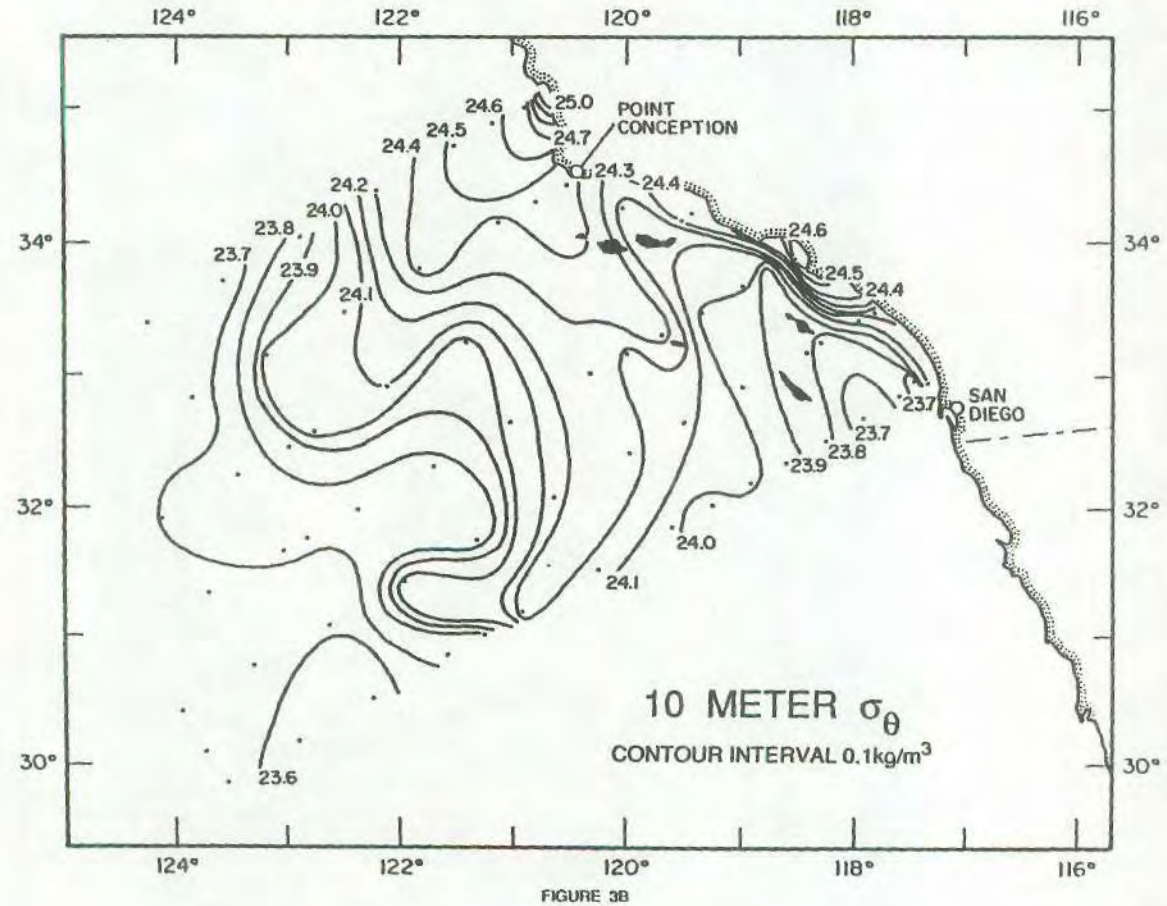

FIGURE 3B

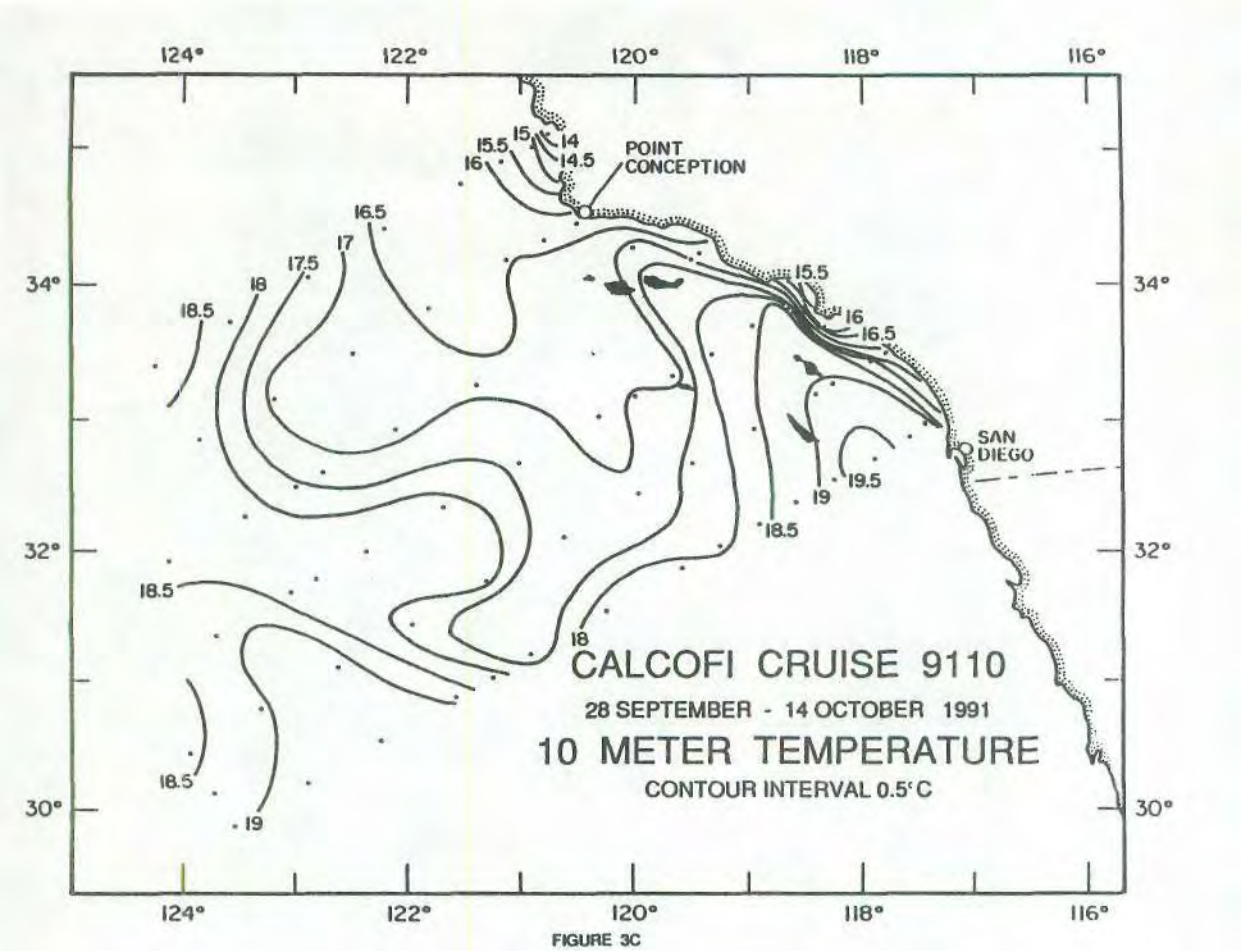

FIGURE 3C

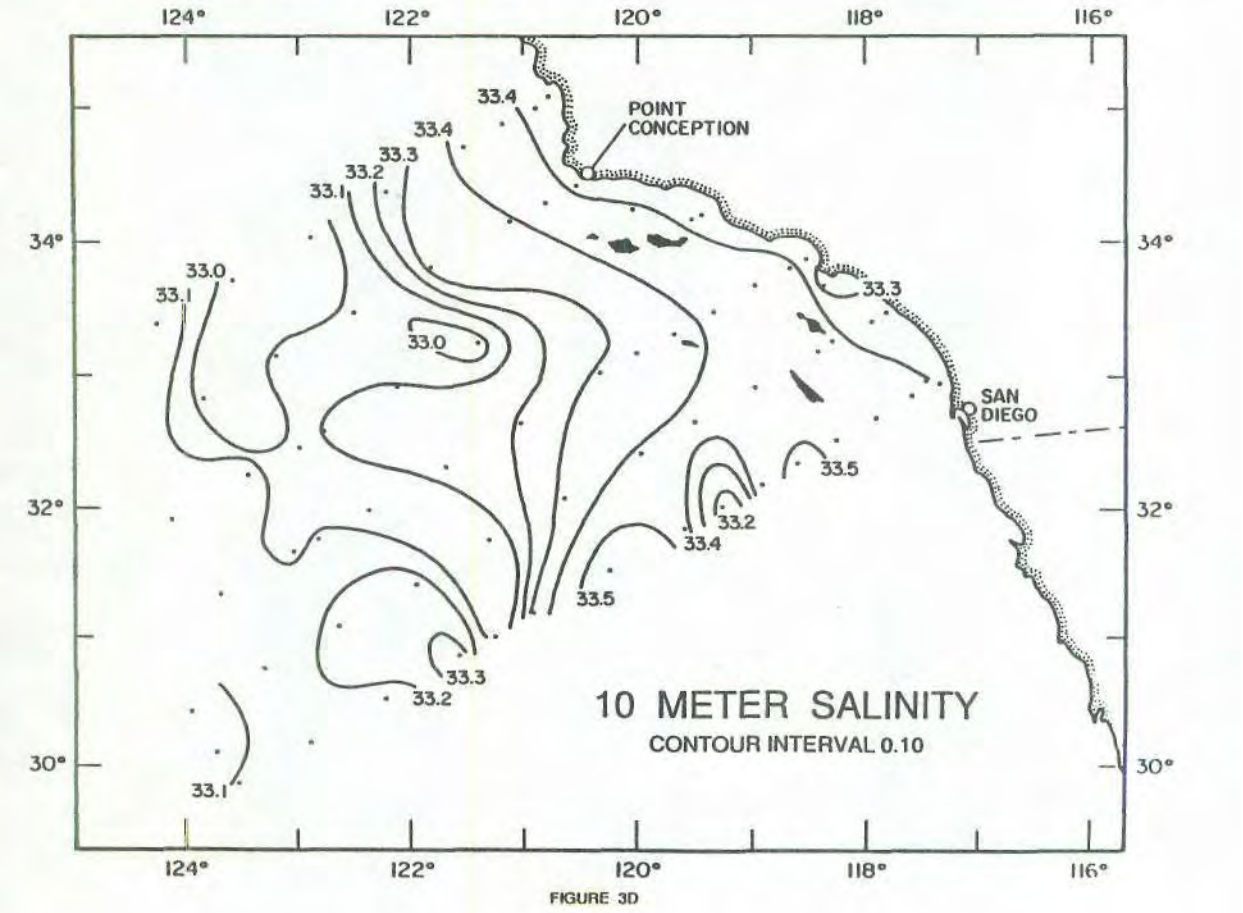

FIGURE 3D

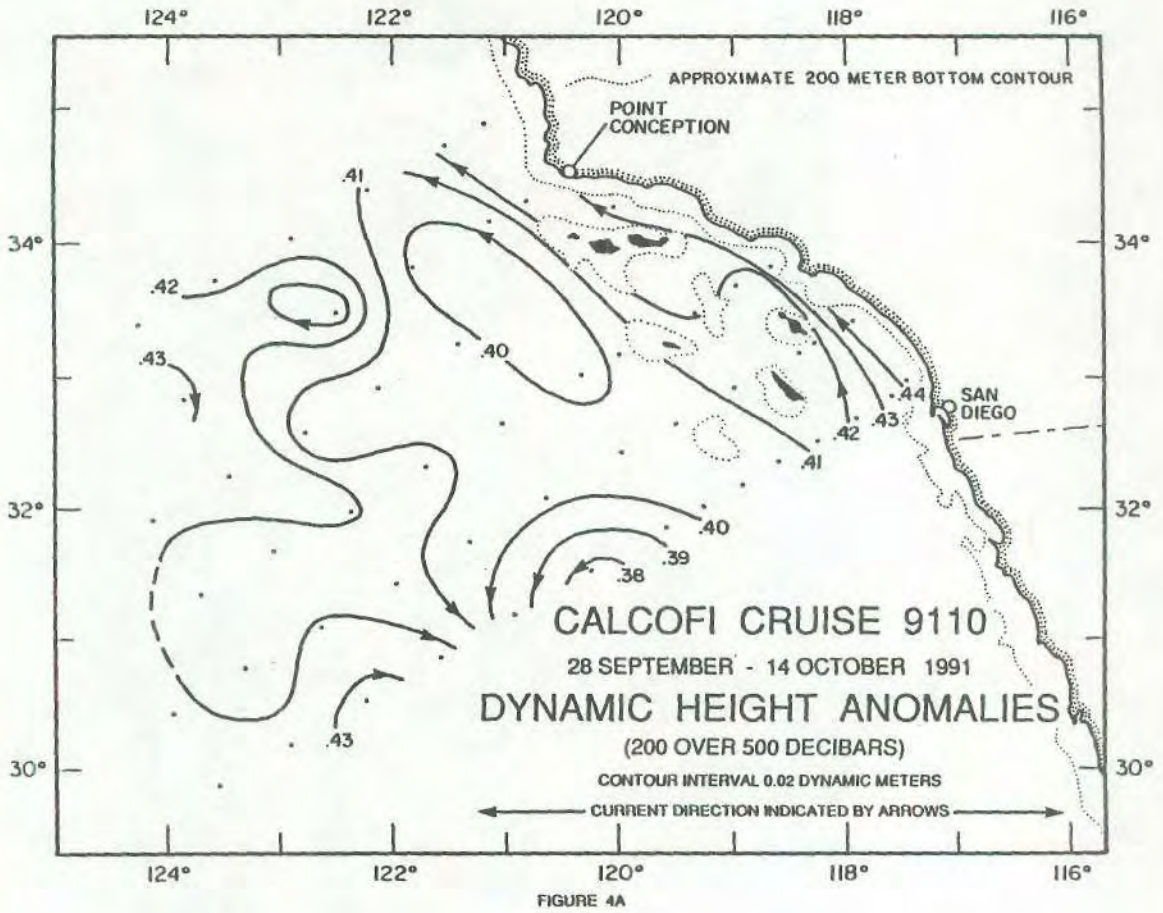

FIGURE 4A

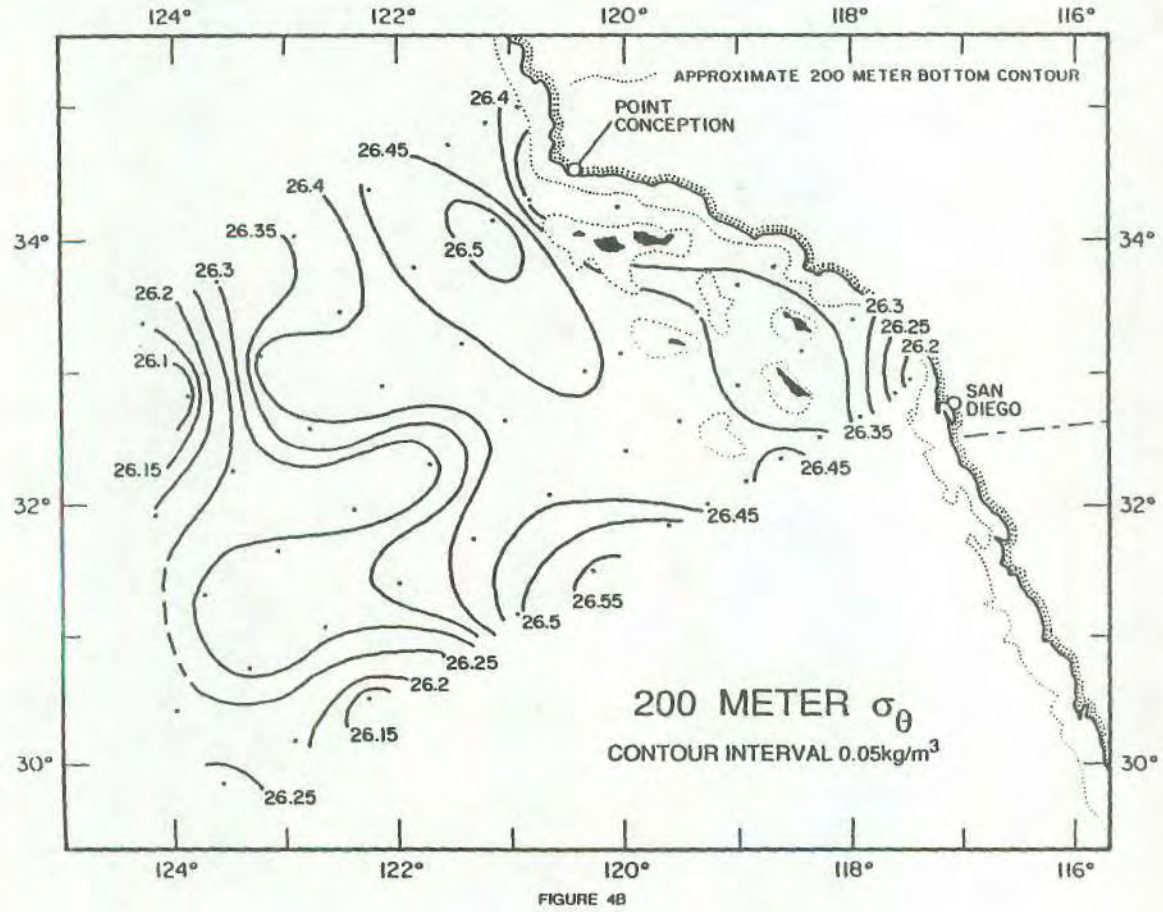

FIGURE 4B

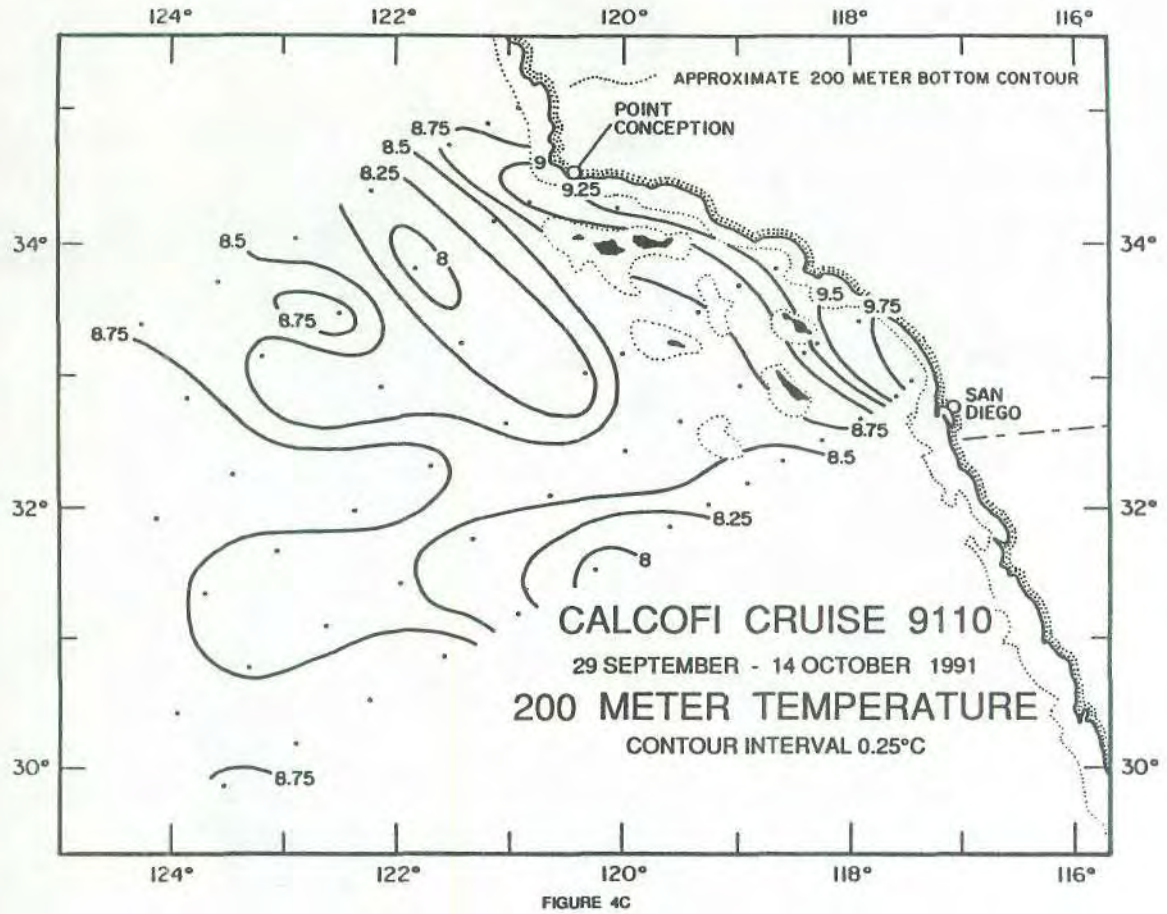

FIGURE 4C

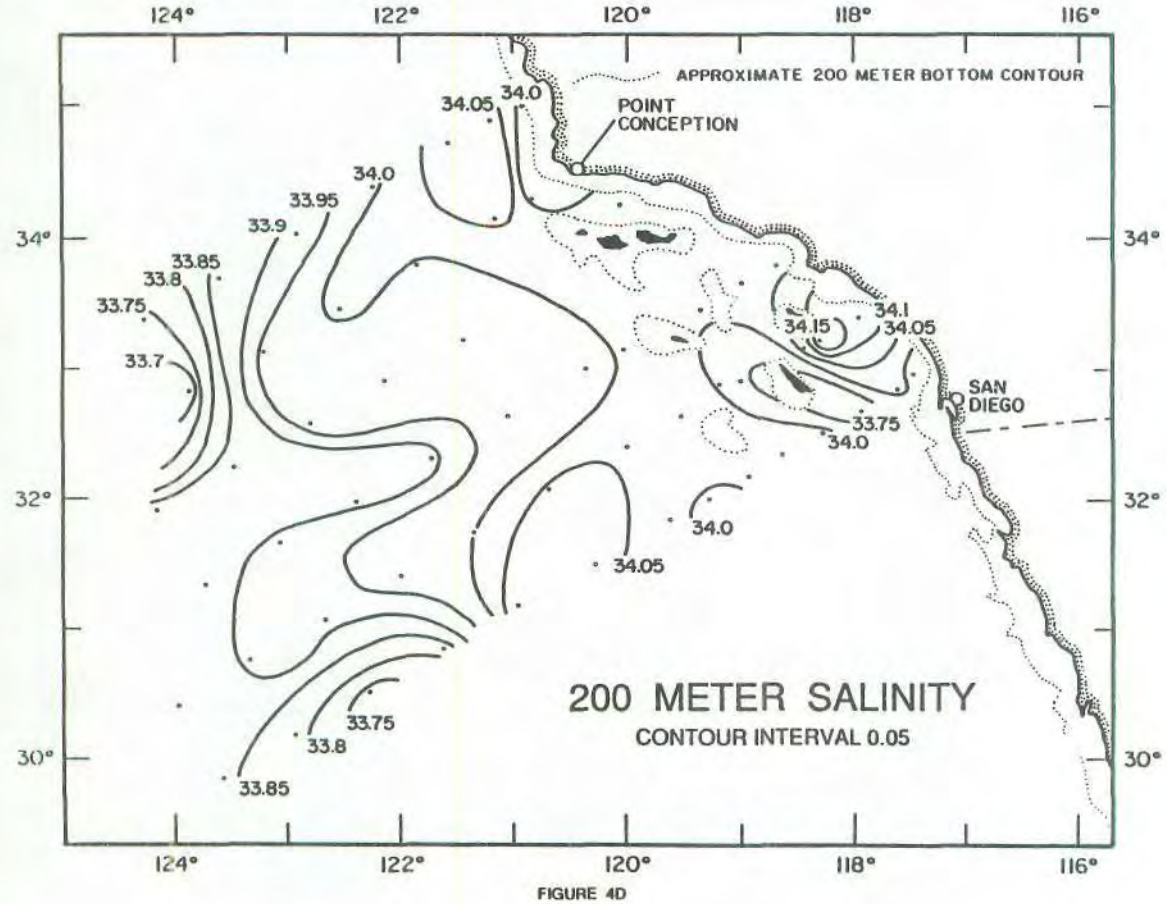

FIGURE 4D

CALCOFI CRUISE 9110

1 - 4 OCTOBER 1991

POTENTIAL DENSITY (σ_θ) ALONG CALCOFI LINE 90

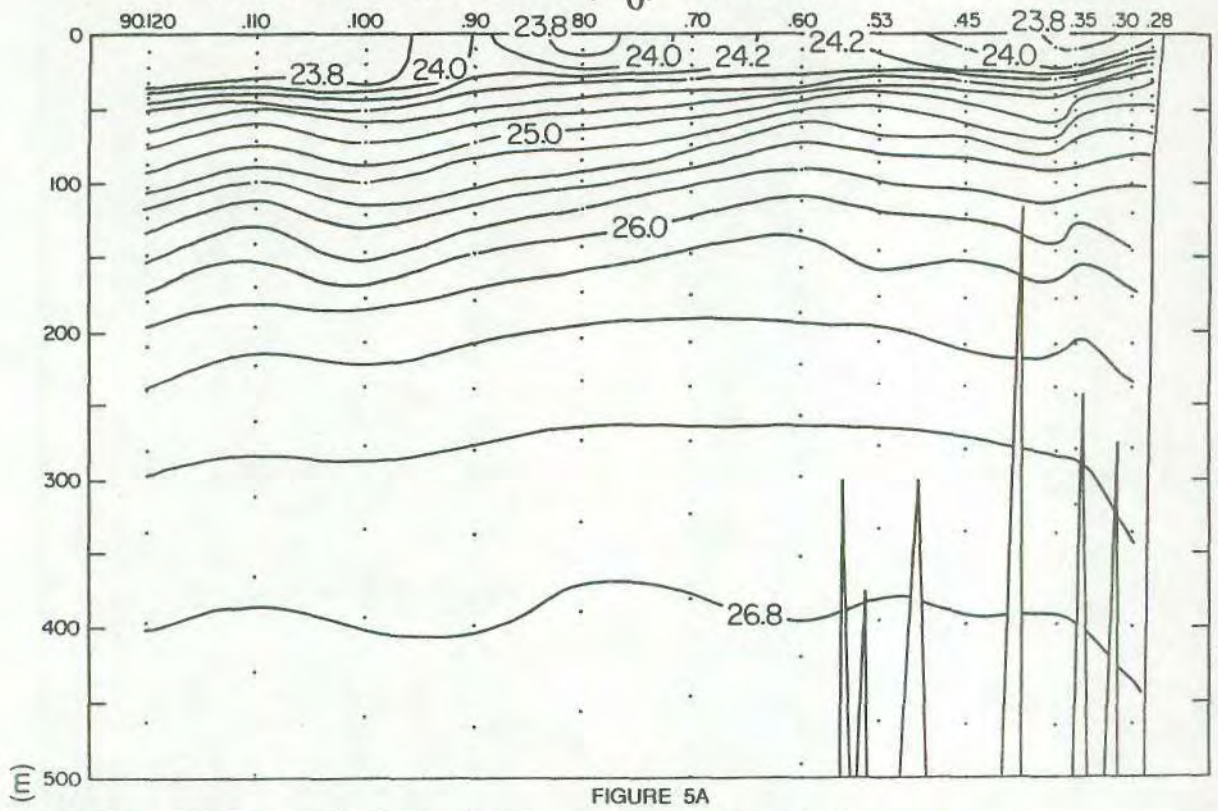

FIGURE 5A

TEMPERATURE (°C) ALONG CALCOFI LINE 90

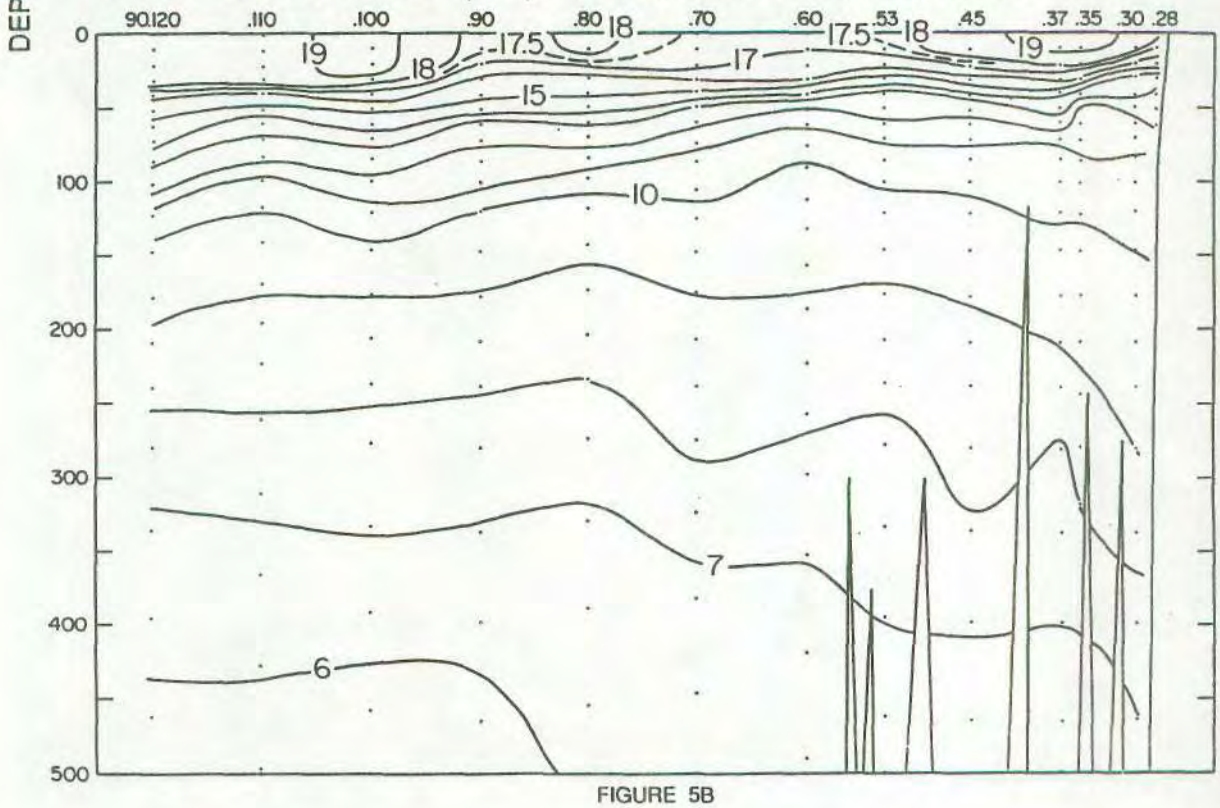

FIGURE 5B

CALCOFI CRUISE 9110

1 - 4 OCTOBER 1991

SALINITY ALONG CALCOFI LINE 90

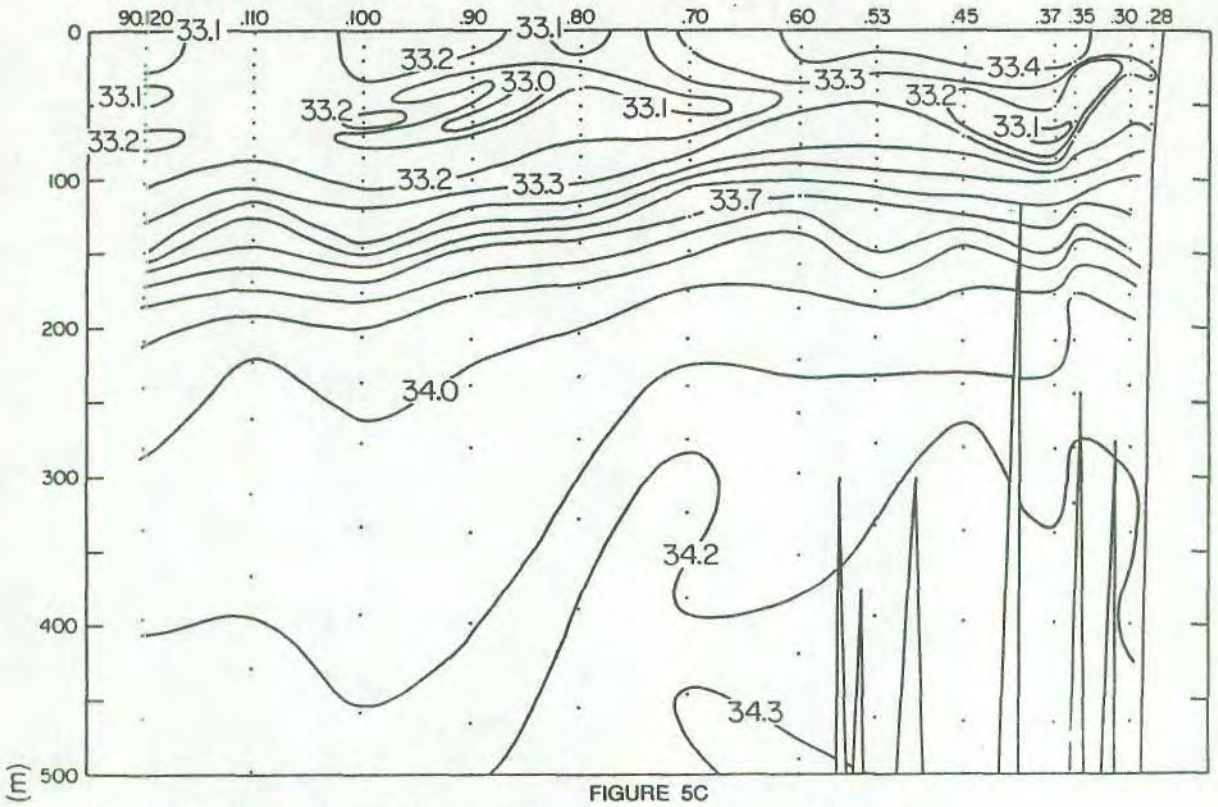

FIGURE 5C

SILICATE (µM/l) ALONG CALCOFI LINE 90

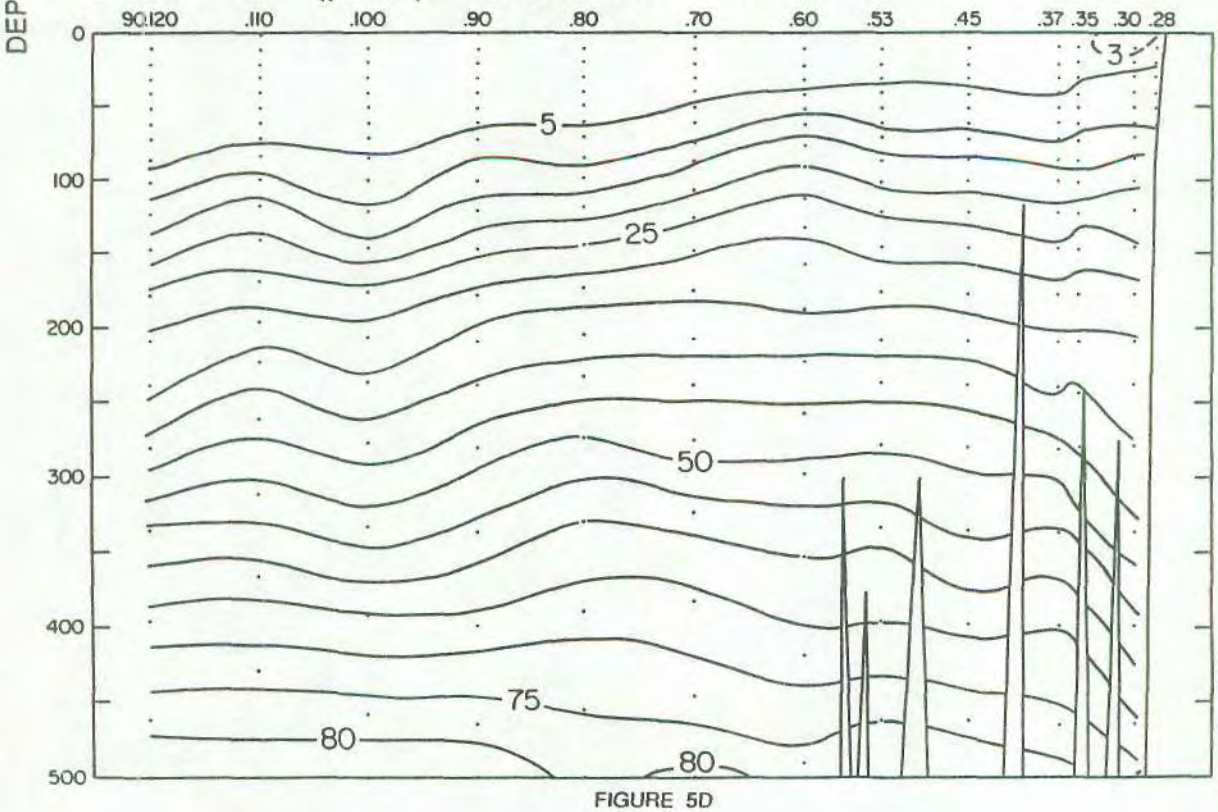

FIGURE 5D

CALCOFI CRUISE 9110

1 - 4 OCTOBER 1991

NITRATE (µM/l) ALONG CALCOFI LINE 90

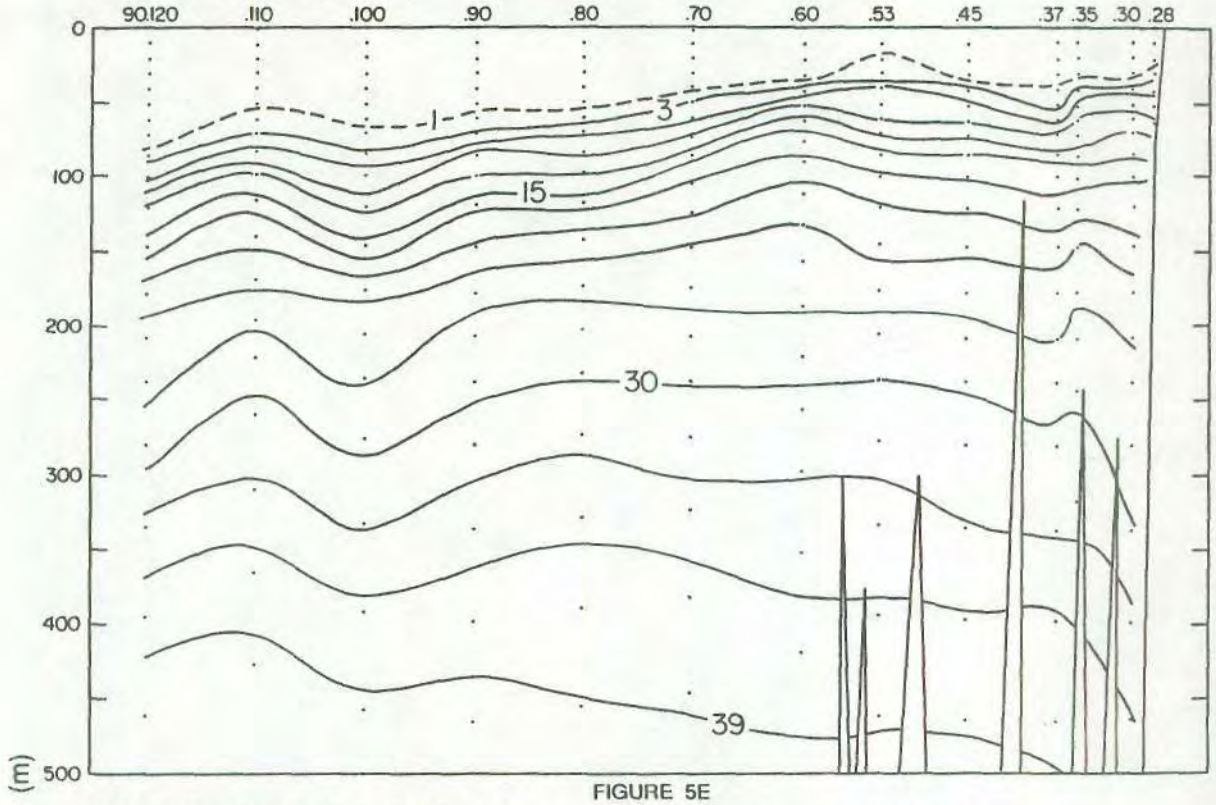

FIGURE 5E

PHOSPHATE (µM/l) ALONG CALCOFI LINE 90

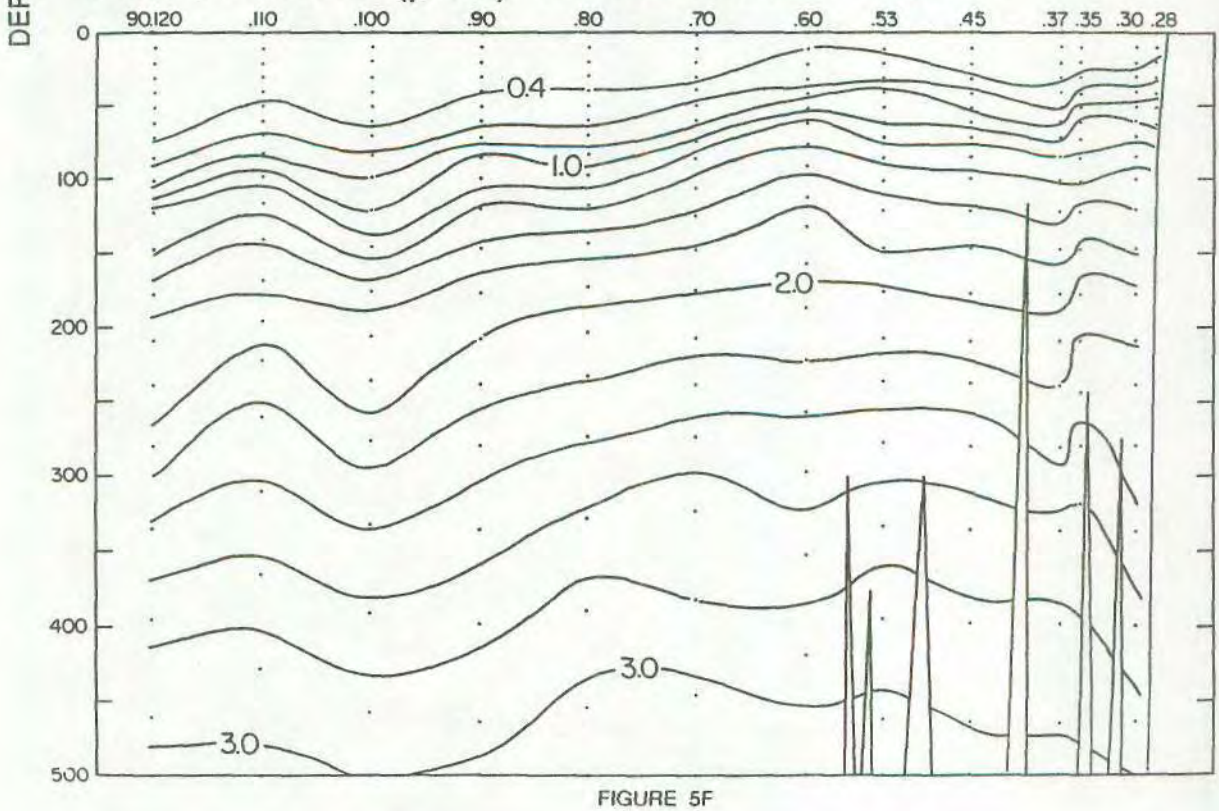

FIGURE 5F

CALCOFI CRUISE 9110

1 - 4 OCTOBER 1991

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

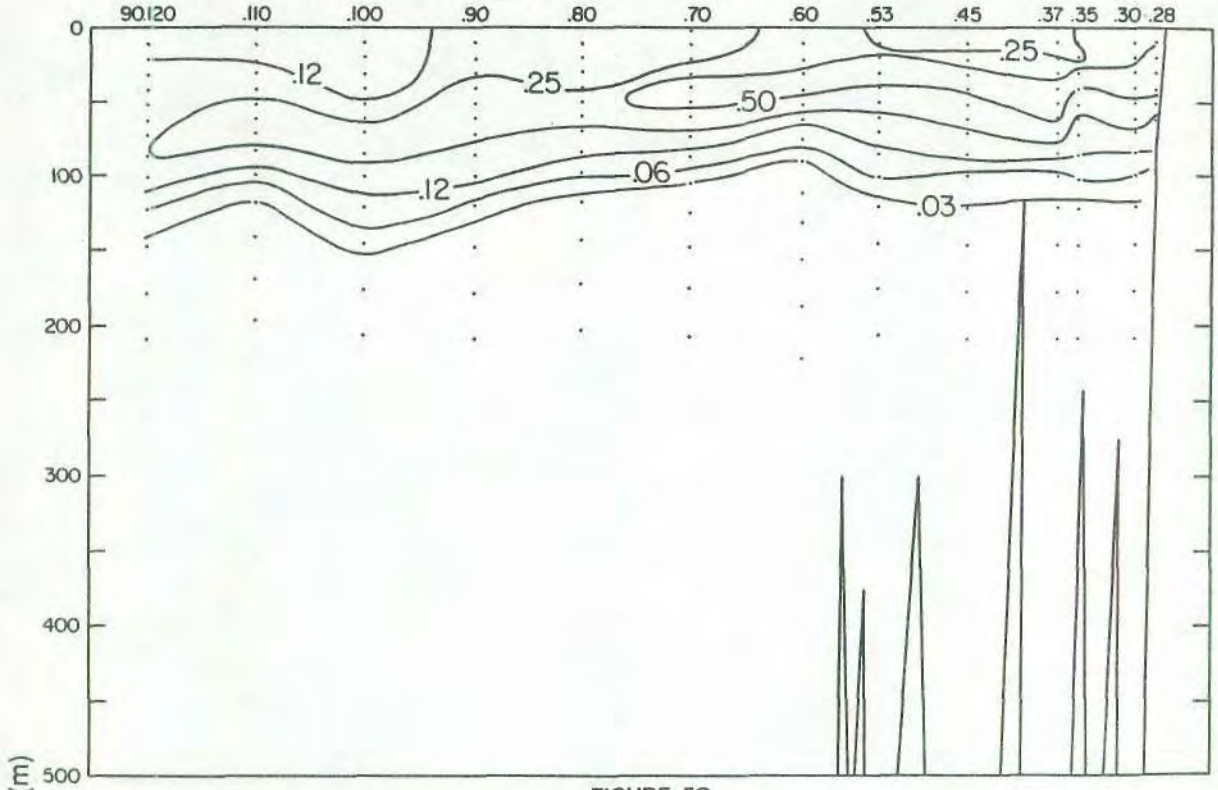

FIGURE 5G

OXYGEN SATURATION (%) ALONG CALCOFI LINE 90

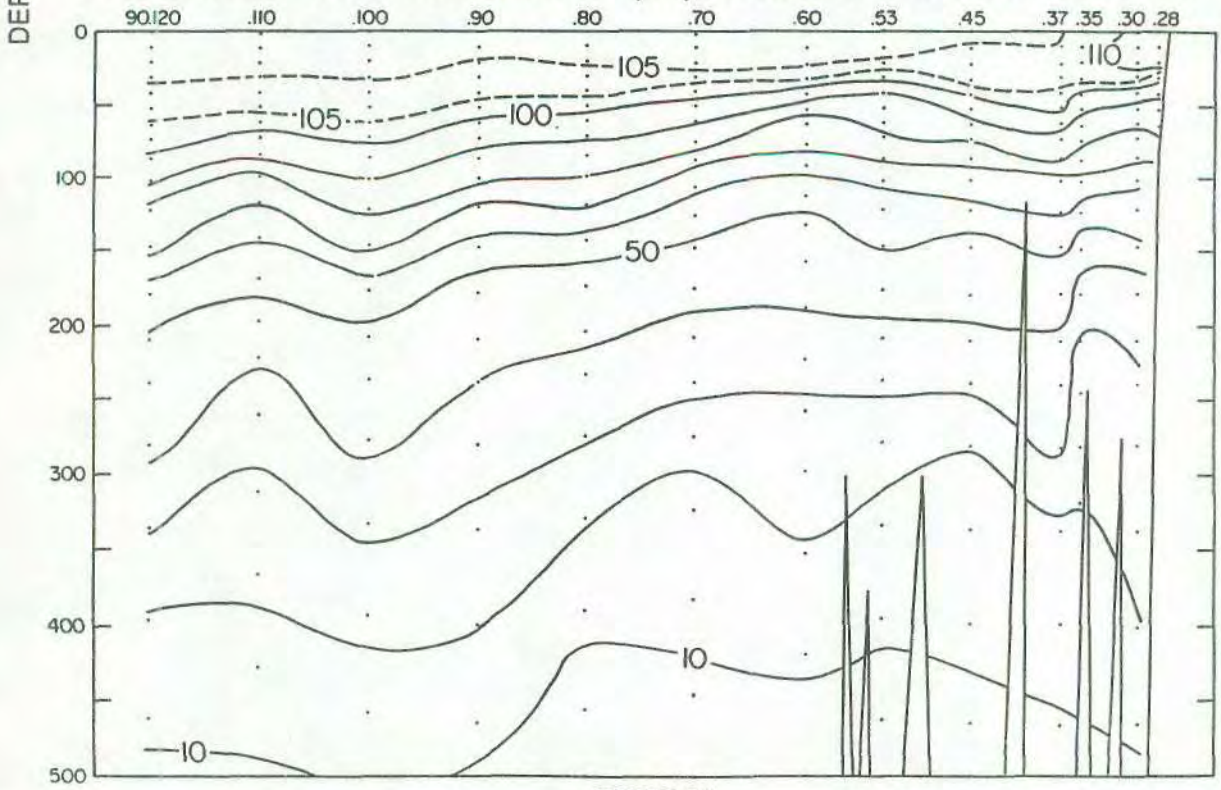

FIGURE 5H

CALCOFI CRUISE 9110

1 - 4 OCTOBER 1991

OXYGEN (ml/l) ALONG CALCOFI LINE 90

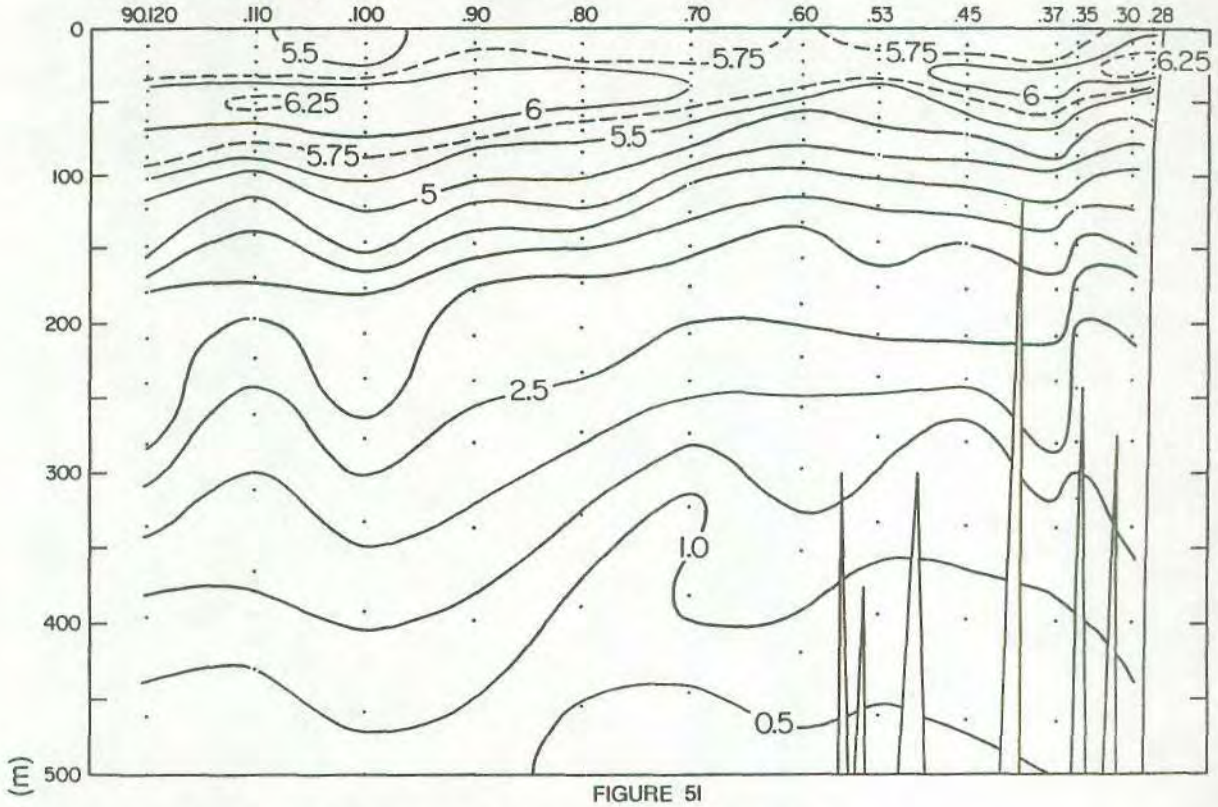

FIGURE 5I

NITRITE (µM/l) ALONG CALCOFI LINE 90

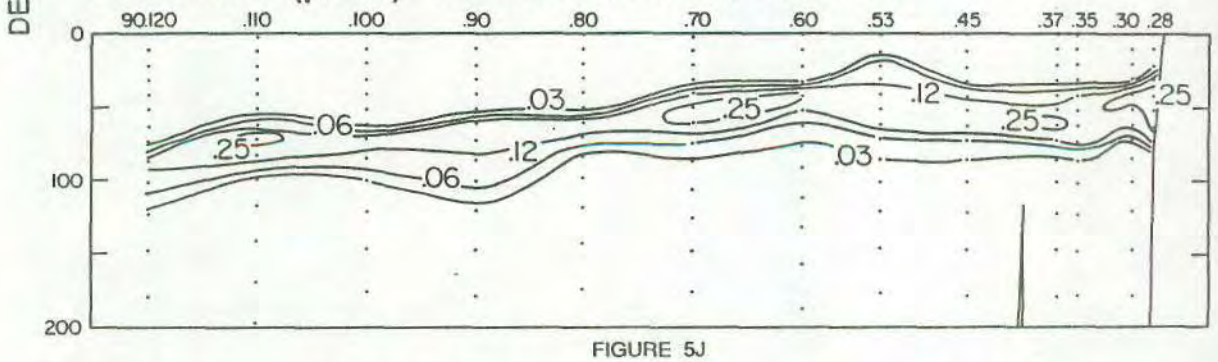

FIGURE 5J

PHAEOPIGMENTS (µg/l) ALONG CALCOFI LINE 90

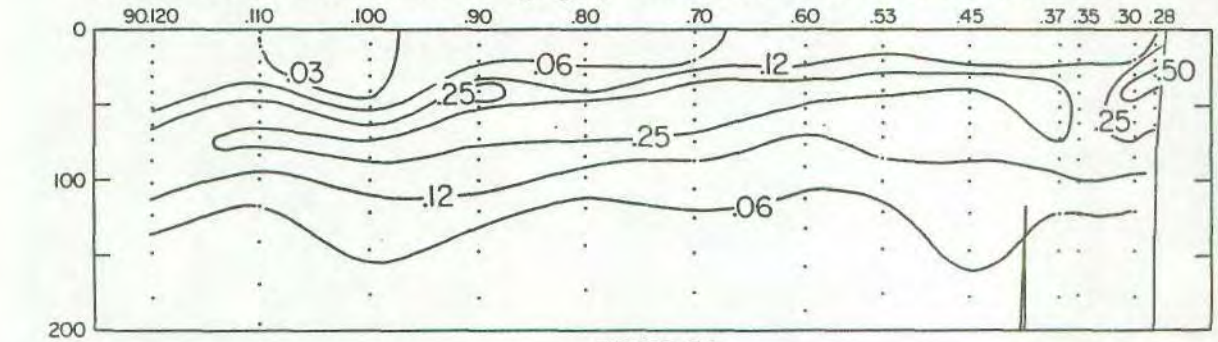

FIGURE 5K

PERSONNEL

CalCOFI Cruise 9110

SHIP'S CAPTAIN

Curtis Duane Johnson, RV *New Horizon*

PERSONNEL PARTICIPATING IN THE COLLECTION OF DATA

Renger, Edward H. (In Charge)	Staff Research Associate, SIO
Abramenkoff, Dimitry N.	Fishery Biologist, NMFS
Brody, Eric A.	Programmer/Analyst, SIO
Contini, Daniela	Volunteer, International Marine Center, Sardinia
Gripp, Sherry L.	Staff Research Associate, SIO
Gruber, Dennis W.	Marine Technician, SIO
Manion, Susan M.	Fishery Biologist, NMFS
Masten, Douglas M.	Marine Technician, SIO
Murgia, Rosalba	Volunteer, International Marine Center, Sardinia
Russell, Robert W.	Graduate Student, U.C. Irvine
Schmitt, James A.	Senior Electronics Technician, SIO
Sosik, Heidi M.	Graduate Student, SIO
Veit, Richard R.	Research Associate, SIO
Wilkinson, James R.	Staff Research Associate, SIO

KV NEK HORIZON CALCOFI CRUISE 9110 STATION 77 «9

LATITUDE	LONGITUDE	DAY/MO/TR	MESSENGER	BOTTOM	WIND SPEED	HAVES	HEA	BAROMETER	DRY	NET	SECCHI/FOREL	CLD AMT TYPE
3!) 5,6 N	120 47.0 N	12/10/91	1157 UTC	65 m	100 06 Jen			1012.0 lab	15.0 C	14.9 C		

CAST	DEPTH ·	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN «1/1	OXY PCT	SIO3 UM/1	PO4 UM/1	NO3 UM/1	NO2 UM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
3.	0	14.67	14.67	33.380	24.795	314.3	0.000	5.86	101.3	2.9	0.47	1.5	0.13	1.86	0.50	0
3.	10	11.59	13.59	33.375	25.017	293.5	0.030	5.59	94.5	5.8	0.71	3.9	0.28	1.92	0.71	10
	20 ISL	li.65	12.65	33.388	25.214	274.9	0.059	5.10	84.6	9.6	0.97	7.8	0.38	0.74	0.74	20
3.	21	1:1.58	12.58	33.390	25.229	273.5	0.062	5.06	83.8	9.9	0.99	8.2	0.39	0.61	0.74	21
	30 ISL	12.44	12.44	33.394	25.260	270.8	0.086	4.99	82.4	10.4	1.02	8.8	0.39	0.45	0.54	30
3.	32	1.4.41	12.41	33.395	25.266	270.3	0.091	4.98	82.2	10.5	1.03	8.9	0.39	0.41	0.49	32
2	43	1,1.23	12.22	33.396	25.302	267.1	0.121	4.91	80.7	10.9	1.07	9.5	0.38	0.36	0.52	43
	50 ISL	1J.19	12.18	33.398	25.311	266.4	0.140	4.85	79.7	11.1	1.08	9.7	0.37	0.36	0.46	50
3.	53	l;«.16	12.15	33.401	25.319	265.8	0.148	4.82	79.1	11.2	1.09	9.9	0.37	0.36	0.44	53
3.	64	11.81	11.80	33.430	25.407	257.6	0.176	4.61	75.1	14.1	1.29	11.4	0.32	0.28	0.87	64

RV NEW HORIZON CALCOFI CRUISE 9110 STATION 77 51

LATITUDE	LONGITUDE	DAY/MO^R	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
35 1.3 N	120 55.4 W	12/10/91	0926 UTC	249 a	320 08 kn			1013.5 lib	15.0 C	14.7 C		

CAST	DEPTH ·	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN Hi/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
	0 ISL	15.10	15.10	33.378	24.701	323.3	0.000	6.11	106.6	2.4	0.41	0.1	0.04	2.27	0.73	0
3	2	15.10	15.10	33.378	24.701	323.3	0.006	6.11	106.6	2.4	0.41	0.1	0.04	2.27	0.73	2
	10 ISL	15.11	15.11	33.377	24.698	323.8	0.032	6.13	106.9	2.4	0.40	0.1	0.05	2.46	0.78	10
3.	12	15.11	15.11	33.377	24.698	323.9	0.039	6.14	107.1	2.4	0.40	0.1	0.05	2.52	0.80	12
	20 ISL	115.04	15.04	33.375	24.712	322.8	0.065	6.16	107.3	2.4	0.41	0.3	0.06	2.57	0.83	20
3	22	13.02	15.02	33.375	24.717	322.4	0.071	6.16	107.3	2.4	0.41	0.3	0.06	2.58	0.84	22
	30 ISL	14.00	14.00	33.382	24.938	301.5	0.096	5.63	96.0	5.4	0.67	3.9	0.23	1.00	0.57	30
]	32	11.69	13.69	33.386	25.005	295.1	0.102	5.48	92.9	6.3	0.75	5.0	0.27	0.59	0.49	32
1	42	1S.52	12.51	33.394	25.245	272.6	0.130	5.08	84.0	9.4	0.99	8.8	0.35	0.29	0.30	42
	50 ISL	11.96	11.95	33.407	25.361	261.6	0.152	4.88	79.8	11.0	1.10	10.7	0.29	0.22	0.28	50
1	52	11.85	11.84	33.412	25.386	259.4	0.157	4.84	78.9	11.3	1.12	11.1	0.26	0.22	0.27	52
3	62	11.20	11.19	33.449	25.534	245.5	0.182	4.60	74.0	13.4	1.25	13.4	0.10	0.17	0.23	62
3	72	10.85	10.84	33.498	25.635	236.1	0.206	4.37	69.8	15.6	1.35	15.2	0.06	0.11	0.22	72
	75 ISL	10.77	10.76	33.512	25.660	233.7	0.213	4.31	68.7	16.1	1.37	15.6	0.05	0.10	0.21	75
1	86	10.51	10.50	33.560	25.743	226.1	0.239	4.10	65.0	17.7	1.45	17.0	0.04	0.07	0.15	86
	100 ISL	10.21	10.20	33.618	25.840	217.1	0.270	3.87	61.0	20.1	1.56	18.8	0.03	0.05	0.12	101
1	106	10.09	10.08	33.644	25.880	213.3	0.283	3.77	59.3	21.2	1.61	19.5	0.03	0.04	0.12	107
	125 ISL	!».75	9.74	33.736	26.010	201.4	0.322	3.44	53.7	24.4	1.73	21.6	0.02	0.02	0.10	126
3	126	11.73	9.72	33.741	26.017	200.8	0.324	3.42	53.4	24.6	1.74	21.7	0.02	0.02	0.10	127
3	146	!».3S	9.33	33.820	26.3.41	189.3	0.363	3.19	49.4	27.7	1.85	23.6	0.02	0.01	0.10	147
	150 ISL	"i.27	9.25	33.836	26.3.66	186.9	0.371	3.15	48.7	28.4	1.87	24.0	0.02	0.01	0.10	151
1	175	tl. 81	8.79	33.925	26.310	173.7	0.416	2.89	44.2	32.3	1.99	26.1	0.02	0.01	0.07	176
	200 ISL	111.54	8.52	33.976	26.392	166.3	0.458			35.3	2.06	27.0	0.04	0.01	0.09	201
1	202	11.52	8.50	33.980	26.398	165.8	0.461	4.14 U	63.0U	35.5	2.07	27.1	0.04	0.01	0.09	203

RV NEW HORIZON CALCOFI CRUISE 9110 STATION 77 55

LATITUDE	LONGITUDE	DAY/MO/TR	MESSENGER	BOTTOM	WIND SPEED	HAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMI' TYPE
34 53.5 N	121 11.9 W	12/10/91	0523 UTC	558 D	320 09 kn			1013.2 nb	15.3 C	15.0 C		

CISt	DEPTH D	TKMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN! ml/1	OXY PCT	SIO3 uM/1	PO4 UM/1	NO3 UM/1	NO2 UM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
	0 ISL	IN.90	15.90	33.409	24.547	337.9	0.000	5.98	106.0	2.4	0.35	0.0	0.00	0.49	0.24	0
1	1	IN.90	15.90	33.409	24.548	337.9	0.003	5.98	106.0	2.4	0.35	0.0	0.00	0.49	0.24	1
	10 ISL	IS.92	15.92	33.411	24.545	338.4	0.034	5.99	106.2	2.4	0.35	0.0	0.00	0.50	0.23	10
1	11	IS.92	15.92	33.411	24.545	338.4	0.037	5.99	106.2	2.4	0.35	0.0	0.00	0.50	0.23	11
	20 ISL	IN.81	15.81	33.410	24.569	336.4	0.068	6.01	106.3	2.6	0.35	0.0	0.00	0.57	0.33	20
1	21	IS.80	15.80	33.410	24.571	336.2	0.071	6.01	106.3	2.6	0.35	0.0	0.00	0.58	0.35	21
	30 ISL	IS.06	15.06	33.412	24.736	320.7	0.100	6.11	106.5	3.1	0.42	0.5	0.04	1.09	0.60	30
1	31	14.92	14.92	33.413	24.768	317.8	0.104	6.12	106.4	3.2	0.43	0.5	0.04	1.13	0.62	31
1	41	ia.37	12.36	33.476	25.337	263.8	0.133	4.97	82.0	11.6	1.03	10.0	0.32	0.44	0.45	41
	50 ISL	13.68	11.67	33.487	25.476	250.8	0.156	4.68	76.1	13.9	1.20	13.0	0.27	0.24	0.28	50
1	51	11.64	11.63	33.487	25.483	250.1	0.158	4.66	75.7	14.1	1.21	13.2	0.26	0.23	0.26	51
1	60	119.50	10.49	33.550	25.736	226.1	0.180	4.21	66.7	18.4	1.46	17.3	0.03	0.09	0.22	60
1	70	10.34	10.33	33.607	25.808	219.4	0.202	3.92	61.9	19.8	1.53	18.2	0.02	0.05	0.13	70
	75 ISL	10.33	10.32	33.611	25.813	219.1	0.213	3.91	61.8	19.9	1.53	18.3	0.02	0.05	0.14	75
1	84	10.30	10.29	33.613	25.820	218.6	0.233	3.90	61.6	19.9	1.53	18.4	0.02	0.05	0.15	84
1	99	10.01	10.00	33.679	25.921	209.3	0.265	3.65	57.3	22.1	1.63	20.0	0.01	0.03	0.10	100
	100 ISL	!«.99	9.98	33.687	25.931	208.4	0.267	3.62	56.8	22.4	1.64	20.2	0.01	0.03	0.10	101
1	119	St.72	9.71	33.836	26.093	193.4	0.305	3.02	47.1	27.2	1.84	23.1	0.01	0.01	0.09	120
	125 ISL	!.64	9.63	33.859	26.124	190.6	0.317	2.95	46.0	28.0	1.87	23.6	0.01	0.01	0.08	126
1	144	!>.42	9.40	33.908	26.198	183.8	0.352	2.85	44.2	30.0	1.94	24.6	0.01	0.01	0.07	145
	150 ISL	<".36	9.34	33.926	26.222	181.7	0.363	2.79	43.2	30.7	1.96	25.0	0.01	0.01	0.07	151
1	175	!.09	9.07	34.000	26.324	172.5	0.407	2.56	39.4	34.1	2.06	26.5	0.00	0.00	0.07	176
	200 ISL	I .71	8.69	34.060	26.431	162.7	0.449	2.38	36.4	37.9	2.17	28.1	0.00	0.01	0.08	201
1	205	1.64	8.62	34.070	26.450	161.0	0.457	2.35	35.9	38.6	2.19	28.4	0.00	0.01	0.08	206
1	235	1.54	8.52	34.097	26.487	158.0	0.505	2.22	33.8	40.1	2.25	29.0	0.00			236
	250 ISL	1.36	8.33	34.106	26.322	154.9	0.529	2.12	32.1	42.2	2.30	29.8	0.00			252
1	276	11.03	8.00	34.123	26.585	149.2	0.568	1.91	28.7	46.3	2.41	31.2	0.00			278
	300 ISL	7.90	7.87	34.148	26.624	145.9	0.604	1.71	25.7	49.0	2.49	32.0	0.00			302
1	332	7.74	7.71	34.176	26.670	142.0	0.650	1.45	21.7	52.5	2.59	33.0	0.00			334
1	393	7.08	7.04	34.182	26.769	133.2	0.734	1.09	16.1	61.9	2.79	35.6	0.00			396
	400 ISL	7.03	6.99	34.184	26.777	132.4	0.743	1.06	15.6	62.7	2.81	35.9	0.00			403
1	460	1.61	6.57	34.205	26.851	126.0	0.821	0.80	11.7	69.1	2.94	37.9	0.00			463
	500 ISL	I .30	6.25	34.221	26.905	121.2	0.870	0.65	9.4	75.3	3.02	38.9	0.01			504
1	533	<-05	6.00	34.235	26.948	117.3	0.909	0.52	7.5	80.4	3.09	39.8	0.01			537

RV NEW BORXZOH CALCOFI CRUISE 9110 STATION 77 60

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	HAVES	WEA	HAROMETER	DRY	MET	SECCHI/POREL	CLD AMT	TYPE
34 43.8 N	121 :I2.9 W	12/10/91	0131 UTC	909 •	320 11 kn	340 03 06	1	3L012.8 mb	16.2 C	15.8 C	10» 04	7/8	SC

CAST	DEPTH •	TUMP D15G C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN al/1	OHY POT	SIO3 uM/1	PO4 uM/1	NC>3 UM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
1	0	16.30	16.30	33.475	24.507	341.7	0.000	5.89	105.3	2.3	0.37	0.2	0.01	1.18	0.38	0
	10 ISL	16.23	16.23	33.468	24.518	340.9	0.034	5.89	105.l	2.5	0.40	0.6	0.03	1.10	0.39	10
1	11	16.22	16.22	33.467	24.520	340.8	0.038	5.89	105.l	2.5	0.40	0.6	0.03	1.09	0.39	11
	20 ISL	12.65	12.65	33.409	25.230	273.4	0.065	5.08	84.3	10.0	0.97	9.4	0.25	0.48	0.31	20
1	21	12.24	12.24	33.414	25.313	265.5	0.068	4.98	81.9	10.9	1.04	10.4	0.27	0.41	0.30	21
	30 ISL	11.26	11.26	33.462	25.532	244.8	0.091	4.60	74.1	13.9	1.23	13.6	0.13	0.19	0.18	30
1	31	11.23	11.23	33.468	25.542	243.9	0.093	4.57	73.6	14.1	1.24	13.8	0.11	0.18	0.17	31
1	40	10.65	10.65	33.531	25.695	229.6	0.115	4.24	67.4	16.8	1.40	16.3	0.03	0.07	0.14	40
	50 ISL	10.44	10.43	33.573	25.764	223.2	0.137	4.04	64.0	18.4	1.48	17.5	0.02	0.06	0.13	50
1	51	10.44	10.43	33.575	25.766	223.1	0.139	4.03	63.B	18.5	1.48	17.5	0.02	0.06	0.13	51
1	61	10.41	10.40	33.588	25.781	221.8	0.162	3.98	63.0	18.9	1.51	17.8	0.02	0.05	0.14	61
1	75	10.27	10.26	33.618	25.829	217.6	0.192	3.88	61..2	19.8	1.55	18.5	0.02	0.04	0.13	75
1	90	10.00	9.99	33.699	25.938	207.5	0.224	3.57	56.0	22.7	1.66	20.4	0.01	0.02	0.10	90
	100 ISL	9.88	9.87	33.737	25.988	203.0	0.245	3.45	54.0	23.8	1.71	21.2	0.01	0.01	0.09	101
1	111	9.77	9.76	33.777	26.038	198.5	0.267	3.32	53.. 9	25.0	1.76	22.0	0.01	0.01	0.08	112
	125 ISL	9.59	9.5(1	33.852	26.127	190.3	0.294	3.07	47.8	27.6	1.86	23.5	0.01	0.01	0.08	126
1	131	9.51	9.50	33.884	26.165	186.8	0.305	2.96	411.0	28.7	1.90	24.1	0.01	0.01	0.08	132
	150 ISL	9.33	9.31	33.947	26.244	179.7	0.340	2.74	42.4	31.1	1.99	25.4	0.01	0.01	0.07	151
1	157	9.27	9.25	33.966	26.268	177.5	0.353	2.68	43.. 4	31.9	2.02	25.7	0.01	0.01	0.07	158
1	187	9.01	8.99	34.062	26.386	166.9	0.404	2.45	37.7	35.1	2.12	37.0	0.01	0.01	0.09	188
	200 ISL	8.90	8.811	34.086	26.422	163.6	0.426	2.38	36.5	36.5	2.17	37.6	0.01	0.01	0.08	201
1	222	8.72	8.70	34.113	26.472	159.3	0.461	2.26	34.5	38.9	2.24	28.5	0.01	0.00	0.05	223
	250 ISL	8.49	8.46	34.141	26.530	154.2	0.505	2.03	30.9	42.1	2.33	29.7	0.01			252
1	258	8.42	8.39	34.147	26.545	152.9	0.518	1.96	29.B	43.0	2.35	30.0	0.01			260
1	299	8.10	8.07	34.171	26.613	147.1	0.579	1.68	25.3	47.5	2.48	31.5	0.00			301
	300 ISL	8.10	8.07	34.171	26.613	147.1	0.581	1.67	25.2	47.6	2.48	31.5	0.00			302
1	354	7.91	7.87	34.195	26.661	143.4	0.659	1.41	21.2	50.5	2.59	32.6	0.00			356
	400 ISL	7.62	7.58	34.212	26.717	138.7	0.724	1.19	17.7	55.1	2.71	34.0	0.00			403
1	422	7.44	7.40	34.219	26.748	136.0	0.754	1.09	16.2	57.8	2.77	34.8	0.00			425
1	493	6.77	6.72	34.242	26.859	125.9	0.847	0.73	10.7	67.8	2.95	37.5	0.02			496
	500 ISL	6 .71	6.66	34.244	26.869	125.0	0.856	0.71	10.4	68.7	2.96	37.7	0.02			504
1	573	6.11	6.06	34.266	26.965	116.3	0.944	0.46	6.6	78.2	3.10	39.9	0.00			577

RV NEW HORI2ION CALCOFI CRUISE 9110 STATION 77 70

LATITUDE	LOMGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
34 23.5 N	122 3L5.0 W	11/10/91	1944 UTC	4013 a	320 08 kn	340 03 04	1	3 014.3 mb	16.2 C	15.3 C	16B 04	6/8	SC

CAST	DEPTH •	T1!MP DIK5 C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT ml/l	OXYGEN	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
	0 ISL	16.44	16.44	33.250	24.302	361.2	0.000	5.79	103.5	2.5	0.37	0.0	0.00	0.31	0.09	0
1	1	16.44	16.44	33.250	24.303	361.2	0.004	5.79	103.6	2.5	0.37	0.0	0.00	0.31	0.09	1
1	10	16.42	16.42	33.250	24.307	361.0	0.036	5.78	103.1	2.5	0.38	0.0	0.00	0.33	0.09	10
	20 ISL	16.07	16.07	33.310	24.434	349.3	0.072	5.88	10i.5	2.9	0.37	0.0	0.00	0.39	0.14	20
1	21	16.03	16.03	33.327	24.456	347.2	0.075	5.89	104.5	2.9	0.37	0.0	0.00	0.40	0.15	21
	30 ISL	13.80	13.80	33.094	24.757	318.7	0.105	6.02	102.1	4.2	0.56	2.3	0.17	0.88	0.43	30
1	32	13.26	13.26	33.048	24.831	311.7	0.111	6.03	101.1	4.6	0.62	3.0	0.23	0.97	0.49	32
1	42	11.93	11.92	33.087	25.118	284.6	0.141	5.66	92.3	7.8	0.94	7.8	0.56	0.66	0.40	42
	S0 ISL	10.99	10.98	33.089	25.291	268.2	0.163	5.39	86.L	10.3	1.13	11.3	0.34	0.41	0.27	50
1	52	10.80	10.79	33.093	25.328	264.8	0.169	5.33	84.5	10.9	1.17	12.1	0.26	0.36	0.24	52
1	62	10.49	10.48	33.184	25.452	253.1	0.195	5.06	80.3	12.7	1.30	14.2	0.04	0.20	0.15	62
1	73	10.44	10.43	33.408	25.636	235.9	0.221	4.51	71.3	15.8	1.48	17.1	0.04	0.11	0.10	73
	75 ISL	10.33	10.32	33.410	25.656	234.0	0.226	4.51	71.2	16.0	1.48	17.2	0.04	0.10	0.09	75
1	88	9.54	9.53	33.384	25.768	223.5	0.256	4.51	6<l.9	17.2	1.46	17.5	0.02	0.05	0.07	88
	100 ISL	9.27	9.26	33.492	25.897	211.5	0.282	4.18	64.5	21,2	1.62	20.2	0.01	0.02	0.05	100
1	103	9.23	9.22	33.525	25.929	208.5	0.288	4.08	62.9	22.3	1.66	20.9	0.01	0.01	0.05	104
1	124	8.81	8.80	33.67	26.109	191.7	0.330	3.77	57.5	25.2	1.72	22.4	0.01	0.00	0.04	125
	125 ISL	8.80	8.79	33.678	26.117	191.0	0.332	3.75	57.3	25.4	1.73	22.5	0.01	0.00	0.04	126
1	149	8.70	8.68	33.843	26.262	177.7	0.376	3.27	49. 9	29.8	1.87	24.9	0.01	0.00	0.04	150
	150 ISL	8.69	8.67	33.848	26.267	177.2	0.378	3.25	44.5	30.0	1.88	25.0	0.01	0.00	0.04	151
1	179	8.41	8.39	33.967	26.404	164.7	0.428	2.84	43.1	34.9	2.03	27.3	0.0l	0.00	0.03	180
	200 ISL	8.18	8.16	33.999	26.464	159.3	0.462	2.72	41.9	37.6	2.09	28.3	0.01	0.00	0.03	201
1	211	8.07	8.05	34.011	26.490	157.0	0.479	2.65	39.9	39.1	2.13	28.8	0.01	0.00	0.03	212
1	240	7.87	7.85	34.080	26.574	149.5	0.524	2.11	31.6	45.0	2.34	31.2	0.01			241
	250 ISL	7.79	7.77	34.087	26.592	148.0	0.539	2.07	31.0	46.2	2.37	31.6	0.01			251
1	282	7.46	7.43	34.084	26.637	144.0	0.585	1.96	29.1	49.5	2.43	32.6	0.01			284
	300 ISL	7.15	7.12	34.068	26.668	141.2	0.611	1.92	28..3	52.4	2.48	33.5	0.01			302
1	337	6.59	6.56	34.051	26.731	135.4	0.662	1.76	25. 6	58.5	2.59	35.4	0.01			339
1	399	6.54	6.50	34.149	26.815	128.3	0.744	1.04	15.1	65.8	2.84	37.6	0.00			402
	400 ISL	6.54	6.50	34.151	26.817	128.2	0.745	1.03	15. 0	65.9	2.84	37.6	0.00			403
1	464	6.42	6.38	34.229	26.895	121.7	0.825	0.62	9.0	72.3	3.01	38.7	0.04			467
	500 ISL	6.15	6.11	34.236	26.936	118.1	0.868	0.54	7.B	76.5	3.06	39.7	0.02			503
1	536	5.87	5.82	34.245	26.978	114.2	0.910	0.46	6.6	80.7	3.11	40.7	0.00			540

RV MEW HORIZON CALCOFI CRUISE 9110 STATION 77 80

LATITUDE	LONGITUDE	DAY/HO/YR	MESSENGER	BOTTOM	WIND SPEED	NAVES	NEA	BAROMETER	DRY	NET	SECCHI/FOREL	CLD AMT TYPE
34 3.4 N	122 55.6 *V*	11/10/91	1326 UTC	4226 m	310 07 kn			1013.8 *mb*	16.2 C	15.3 C		

CAST	DEPTH ·	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 UM/1	NO2 uM/1	CHL-A ug/1	PBAEO ug/1	PRESS «tt»
1	0	17.32	17.32	32.942	23.861	403.3	0.000	5.69	103.4	3.2	0.42	0.0	0.00	0.17	0.05	0
1	10	17.33	17.33	32.978	23.886	401.2	0.040	5.70	103.6	3.1	0.40	0.0	0.00	0.17	0.05	10
1	20	17.19	17.19	33.054	23.978	392.8	0.080	5.70	103.4	3.0	0.39	0.0	0.00	0.19	0.06	20
1	30	17.25	17.25	33.079	23.984	392.6	0.119	5.70	103.5	2.9	0.39	0.0	0.00	0.20	0.06	30
1	40	14.74	14.73	32.778	24.317	361.0	0.157	6.33	109.2	3.4	0.43	0.0	0.00	0.33	0.19	40
	50 ISL	13.43	13.42	32.740	24.559	338.1	0.192	6.28	105.4	3.7	0.48	0.3	0.03	0.48	0.34	50
1	51	13.36	13.35	32.750	24.581	336.0	0.195	6.27	105.1	3.7	0.48	0.3	0.03	0.49	0.35	51
1	61	13.12	13.11	33.005	24.826	312.9	0.228	5.93	99.1	3.9	0.50	0.6	0.08	0.29	0.32	61
1	71	11.71	11.70	32.842	24.969	299.4	0.258	5.83	94.4	4.9	0.66	3.0	0.09	0.24	0.29	71
	75 ISL	11.26	11.25	32.833	25.044	292.3	0.270	5.76	92.4	6.1	0.76	4.8	0.07	0.20	0.24	75
1	85	10.46	10.45	32.899	25.236	274.1	0.298	5.55	87.5	9.2	1.01	9.4	0.01	0.11	0.13	85
1	100	10.10	10.09	33.146	25.490	250.3	0.338	5.20	81.5	11.7	1.13	11.9	0.01	0.07	0.10	100
1	122	9.34	9.33	33.303	25.738	227.0	§.390	4.80	74.0	16.0	1.35	16.0	0.00	0.03	0.04	123
	125 ISL	9.26	9.25	33.333	25.774	223.6	0.397	4.73	72.8	16.7	1.38	16.6	0.00	0.03	0.04	126
1	147	8.84	8.82	33.805 U			0.444	4.12	62.9	22.5	1.62	20.7	0.00	0.01	0.02	148
	150 ISL	8.81	8.79	33.567	26.029	199.8	0.450	4.01	61.2	23.4	1.66	21.3	0.00	0.01	0.02	151
1	178	8.59	8.57	33.805	26.250	179.4	0.503	3.08	46.9	31.2	1.98	26.4	0.00	0.00	0.02	179
	2(10 ISL	8.44	8.42	33.908	26.354	169.9	0.541	2.83	42.9	34.8	2.06	27.7	0.00	0.00	0.02	201
1	209	8.36	8.34	33.937	26.389	166.7	0.557	2.73	41.4	35.7	2.09	28.2	0.00	0.00	0.02	210
1	2319	7.84	7.82	33.982	26.502	156.3	0.605	3.62	54.2	36.0	1.84	25.4	0.00			240
	250 ISL	7.69	7.67	33.985	26.526	154.1	0.622	3.58	53.4	37.0	1.87	25.9	0.00			251
1	2111	7.34	7.31	33.984	26.575	149.8	0.669	3.46	51.2	41.3	1.96	27.2	0.00			2821
	300 ISL	7.15	7.12	33.997	26.612	146.4	0.697	3.08	45.4	45.1	2.11	29.1	0.00			302
1	339	6.79	6.76	34.031	26.688	139.6	0.753	2.18	31.9	54.0	2.45	33.3	0.00			341
1	398	6.18	6.14	34.076	26.804	129.0	0.832	1.42	20.5	66.3	2.76	37.5	0.00			401
	400 ISL	6.17	6.13	34.078	26.807	128.8	0.835	1.40	20.2	66.6	2.77	37.6	0.00			403
1	464	5.95	5.91	34.146	26.889	121.7	0.915	0.86	12.3	74.0	2.97	39.7	0.02			467
	500 ISL	5.77	5.73	34.174	26.934	117.8	0.958	0.70	10.0	78.7	3.04	40.5	0.01			503
1	535	5.59	5.54	34.202	26.979	113.8	0.999	0.54	7.7	83.3	3.10	41.2	0.00			539

RV NEW HORIZON CALCOFI CRUISE 9110 STATION 77 90

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
33 43.2 N	123 38.3 W	11/10/91	0741 UTC	4126 ·	290 08 kn			1015.0 mb	16.8 C	15.1 C		

CAST	DEPTH ·	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN »1/1	OXY PCT	SIO3 UM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
1	0	18.23	18.23	32.899	23.609	427.4	0.000	5.54	102.4	3.7	0.40	0.0	0.00	0.1.0	0.03	0
1	10	18.30	18.30	32.946	23.628	425.9	0.043	5.54	102.6	3.6	0.40	0.0	0.00	0.10	0.03	10
	20 ISL	18.29	18.29	32.946	23.631	426.0	0.085	5.54	102.6	3.6	0.39	0.0	0.00	0.10	0.03	20
1	21	18.29	18.29	32.946	23.631	426.0	0.090	5.54	102.6	3.6	0.39	0.0	0.00	0.10	0.03	21
	30 ISL	18.26	18.25	32.943	23.636	425.8	0.128	5.55	102.7	3.5	0.39	0.0	0.00	0.12	0.03	30
1	31	18.26	18.25	32.943	23.636	425.8	0.132	5.55	102.7	3.5	0.39	0.0	0.00	0.12	0.03	31
1	II	16.10	16.09	32.913	24.123	379.6	0.172	6.09	108.0	3.4	0.40	0.0	0.00	0.30U	-0.05 U	41
1	19	14.39	14.38	32.837	24.437	349.8	0.202	6.21	106.4	3.4	0.41	0.0	0.00	0.29	0.14	49
	50 ISL	14.27	14.26	32.833	24.459	347.7	0.205	6.21	106.1	3.4	0.41	0.0	0.00	0.29	0.15	50
1	60	13.64	13.63	32.861	24.611	333.5	0.239	6.16	103.9	3.5	0.43	0.1	0.00	0.32	0.26	60
1	70	13.59	13.58	33.037	24.757	319.8	0.272	6.04	101.9	3.6	0.44	0.1	0.03	0.25	0.27	70
	75 ISL	13.33	13.32	33.051	24.820	313.9	0.288	5.96	100.0	3.9	0.48	0.7	0.08	0.23	0.2S	75
1	84	12.65	12.64	33.028	24.937	303.0	0.315	5.79	95.8	4.9	0.S9	2.4	0.15	0.20	0.20	81
1	99	11.22	11.21	33.027	25.203	277.8	0.359	5.54	88.9	7.5	0.85	6.8	0.03	0.13	0.19	99
	100 ISL	11.14	11.13	33.031	25.220	276.1	0.362	5.52	88.4	7.7	0.87	7.1	0.03	0.13	0.19	100
1	119	9.93	9.92	33.163	25.532	246.7	0.411	5.15	80.4	12.5	1.18	12.9	0.01	0.06	0.08	120
	125 ISL	9.65	9.64	33.215	25.619	238.5	0.426	5.01	77.8	14.2	1.26	14.4	0.01	0.04	0.06	126
1	144	9.05	9.03	33.401	25.861	215.7	0.469	4.45	68.2	19.9	1.51	18.9	0.00	0.01	0.03	145
	150 ISL	8.95	8.93	33.473	25.933	208.9	0.482	4.19	64.1	22.0	1.60	20.5	0.00	0.01	0.03	151
1	171	8.76	8.74	33.705	26.145	189.2	0.524	3.34	51.0	28.6	1.89	25.0	0.00	0.00	0.03	172
	200 ISL	8.54	8.52	33.865	26.305	174.6	0.576	2.98	45.3	32.8	2.00	26.8	0.00	0.00	0.02	201
1	201	8.53	8.51	33.868	26.308	174.2	0.578	2.97	45.1	32.9	2.00	26.9	0.00	0.00	0.02	202
1	229	8.20	8.18	33.957	26.429	163.2	0.625	3.73	56.3	32.3	1.77	24.1	0.00			230
	250 ISL	7.83	7.81	33.978	26.500	156.6	0.659	3.68	55.1	35.3	1.83	24.7	0.00			251
1	268	7.51	7.48	33.983	26.550	152.0	0.687	3.63	53.9	39.1	1.89	26.3	0.00			269
	300 ISL	7.11	7.08	33.996	26.617	146.0	0.734	3.06	45.0	46.6	2.13	29.5	0.00			302
1	323	6.86	6.83	34.005	26.658	142.2	0.768	2.56	37.5	52.2	2.32	32.0	0.00			325
1	381	6.20	6.17	34.041	26.774	131.7	0.847	1.72	24.8	63.8	2.66	36.6	0.00			383
	400 ISL	6.07	6.04	34.057	26.803	129.0	0.872	1.51	21.7	66.9	2.74	37.5	0.00			402
1	447	5.83	5.79	34.102	26.869	123.2	0.931	1.09	15.6	73.9	2.90	39.2	0.00			450
	500 ISL	5.59	5.55	34.160	26.945	116.5	0.995	0.71	10.1	81.5	3.05	40.8	0.00			503
1	518	5.51	5.47	34.180	26.971	114.2	1.015	0.58	8.2	84.1	3.10	41.3	0.00			521

RV KEN HORIZON — CALCOFI CRUISE 9110 — STATION 77 100

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	NAVES	NEA	BAROMETKR	DRY	NET	SECCHI/FOREL	CLD AMT	TYPE
33 23.5 M	124 19.4 VI	11/10/91	0159 UTC	4484 n	260 03 kn	330 03 04	2	101.4.7 lib	17.4 C	15.7 C		8/8	SC

CAST	DEPTH		TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SIO3	PO4	NO3	NO2	CHL-A	PHAEO	PRESS
	▪		DBG C	DEC C	PSS 78	THETA			mX/X	PCT	UM/1	UM/1	UM/1	UM/1	ug/1	ug/1	db
1	0		18.83	18.83	33.160	23.659	422.5	0.000	5.50	103.0	3.3	0.39	0.0	0.00	0.09	0.03	0
1	10		18.85	18.85	33.159	23.654	423.4	0.042	5.50	103.1	3.1	0.39	0.0	0.00	0.08	0.04	10
	20	ISL	18.80	18.80	33.157	23.665	422.7	0.085	5.50	103.0	3.1	0.39	0.0	0.00	0.08	0.04	20
1	21		18.80	18.80	33.157	23.665	422.7	0.089	5.50	103.0	3.1	0.39	0.0	0.00	0.08	0.04	21
	30	ISL	18.82	18.81	33.158	23.662	423.4	0.127	5.50	103.0	3.2	0.39	0.0	0.00	0.09	0.03	30
1	31		18.82	18.81	33.158	23.662	423.4	0.131	5.50	103.0	3.2	0.39	0.0	0.00	0.09	0.03	31
1	41		17.15	17.14	33.163	24.072	384.6	0.172	6.00	108.8	3.0	0.37	0.0	0.00	0.14	0.04	41
	501	ISL	16.01	16.00	33.150	24.325	360.6	0.205	6.10	108.2	3.0	0.36	0.0	0.00	0.15	0.05	50
1	51		15.91	15.90	33.148	24.346	358.6	0.209	6.11	108.1	3.0	0.36	0.0	0.00	0.15	0.05	51
1	61		15.37	15.36	33.154	24.471	347.0	0.244	6.12	107.2	3.0	0.37	0.0	0.00	0.16	0.07	61
1	71		14.52	14.51	33.105	24.617	333.3	0.278	6.12	105.3	3.0	0.38	0.0	0.00	0.19	0.10	71
	7!ii	ISL	14.20	14.19	33.081	24.666	328.7	0.291	6.12	104.6	3.0	0.38	0.0	0.00	0.20	0.12	75
1	86		13.47	13.46	33.040	24.784	317.6	0.327	6.12	103.0	3.1	0.41	0.0	0.00	0.22	0.18	86
	100	ISL	12.94	12.93	33.085	24.925	304.6	0.370	5.91	98.4	3.7	0.48	0.9	0.13	0.22	0.23	100
1	102		12.87	12.86	33.095	24.946	302.6	0.376	5.87	97.6	31.9	0.50	1.1	0.15	0.22	0.23	102
1	122		11.39	11.37	33.167	25.282	270.9	0.434	5.54	89.3	7.1	0.79	6.4	0.02	0.12	0.14	123
	125	ISL	11.10	11.08	33.164	25.331	266.1	0.442	5.50	88.1	7.9	0.85	7.4	0.02	0.11	0.13	126
1	147		9.26	9.24	33.193	25.665	234.4	0.497	5.16	79.4	13.8	1.24	14.1	0.01	0.04	0.05	148
	150	ISL	9.21	9.19	33.234	25.705	230.6	0.504	5.10	78.4	14.5	1.28	14.7	0.01	0.03	0.05	151
1	178		8.78	8.76	33.541	26.013	201.8	0.564	4.53	69.1	20.4	1.49	18.6	0.00	0.01	0.02	179
	200	ISL	8.74	8.72	33.740	26.176	186.8	0.607	4.29	65.5	23.1	1.54	20.0	0.00	0.00	0.02	201
1	209		8.73	8.71	33.804	26.228	182.1	0.624	4.18	63.8	24.3	1.56	20.6	0.00	0.00	0.02	210
1	238		8.32	8.30	33.916	26.379	168.2	0.674	3.49	52.8	31.7	1.84	24.8	0.01			239
	250	ISL	8.13	8.10	33.944	26.429	163.5	0.694	3.32	50.0	34.3	1.91	26.0	0.01			251
1	279		7.65	7.62	33.984	26.531	154.1	0.740	3.06	45.6	40.1	2.04	28.3	0.00			281
	300	ISL	7.35	7.32	33.994	26.582	149.5	0.772	2.93	43.4	43.7	2.13	29.5	0.00			302
1	335		6.87	6.84	33.997	26.651	143.2	0.824	2.69	39.4	50.0	2.29	31.4	0.00			337
1	396		5.98	5.95	34.019	26.784	130.7	0.907	1.84	26.4	65.3	2.66	36.8	0.00			398
	400	ISL	5.94	5.91	34.021	26.791	130.1	0.912	1.80	25.8	66.0	2.68	37.0	0.00			402
1	462		5.51	5.47	34.063	26.877	122.3	0.990	1.23	17.4	76.4	2.87	40.0	0.00			465
	500	ISL	5.24	5.20	34.094	26.934	117.1	1.036	0.97	13.7	83.0	2.99	41.3	0.00			503
1	532		5.01	4.97	34.121	26.982	112.6	1.073	0.76	10.7	88.6	3.09	42.4	0.00			536

RV NEW HORIZON — CALCOFI CRUISE 9110 — STATION BO 51

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	HAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
34 27.0 N	120 31.!i N	09/10/91	1035 UTC	70 ▪	320 13 k.n			1014.3 nb	14.2 C	14.1 C			

CAST	DEPTH		TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SIO3	PO4	NO3	NO2	CHL-A	PHAEO	PRESS
	IB		DEG C	DEG C	PSS 78	THETA			nX/X	PCT	uM/1	UM/1	UM/1	UM/1	ug/1	ug/1	db
1	0		16.53	16.53	33.405	24.401	351.8	0.000	6.08	109.1	2.3	0.35	0.1	0.00	1.70	0.46	0
1	10		16.35	16.35	33.399	24.438	348.6	0.035	6.08	108.7	2.4	0.36	0.2	0.01	1.69	0.51	10
	20	ISL	15.12	15.12	33.358	24.682	325.7	0.069	5.95	103.8	4.2	0.52	1.1	0.10	1.66	0.70	20
1	21		14.97	14.97	33.354	24.711	322.9	0.072	5.93	103.1	4.4	0.54	1.3	0.11	1.66	0.71	21
	30	ISL	13.70	13.70	33.326	24.957	299.7	0.100	5.68	96.2	6.6	0.72	3.6	0.26	0.87	0.52	30
1	31		13.59	13.59	33.324	24.978	297.7	0.103	5.65	95.5	6.8	0.74	3.8	0.27	0.78	0.50	31
1	42		13.43	13.42	33.322	25.009	295.1	0.136	5.61	94.5	7.2	0.75	4.4	0.28	0.76	0.55	42
	50	ISL	13.34	13.33	33.323	25.028	293.5	0.159	5.55	93.3	7.3	0.78	4.7	0.36	0.70	0.62	50
1	52		13.31	13.30	33.324	25.035	292.9	0.165	5.53	92.9	7.4	0.79	4.8	0.38	0.68	0.63	52
1	63		13.09	13.08	33.332	25.085	288.3	0.197	5.40	90.3	8.3	0.83	5.6	0.51	0.51	0.44	63

RV MEN HORIZON — CALCOFI CRUISE 9110 — STATION 80 55

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	HAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
34 19.4 N	120 49.2 W	09/10/91	1336 UTC	796 M	310 14 kn			1014.1 nb	14.3 C	14.1 C			

CAST	DEPTH		TEW?	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SIOS	PO4	NO3	NO2	CHL-A	PHAEO	PRESS
	▪		DEG C	DEG C	PSS 78	THETA			ml/1	PCT	UM/1	UM/1	uM/1	uM/1	ug/1	ug/1	db
1	0		16.23	16.23	33.414	24.476	344.6	0.000	5.93	105.8	2.3	0.36	0.4	0.02	0.72	0.35	0
	10	ISL	16.16	16.16	33.409	24.489	343.7	0.034	5.94	105.8	2.3	0.37	0.5	0.03	0.73	0.31	10
1	11		16.15	16.15	33.409	24.491	343.5	0.038	5.94	105.8	2.3	0.37	0.5	0.03	0.73	0.31	11
1	20		14.13	14.13	33.367	24.900	304.9	0.067	5.66	96.8	5.5	0.66	3.4	0.28	1.00	0.57	20
1	30		13.49	13.49	33.368	25.032	292.5	0.097	5.44	91.8	7.0	0.79	5.3	0.40	0.86	0.64	30
1	41		12.64	12.63	33.373	25.205	276.3	0.128	5.13	85.0	9.2	0.97	8.3	0.39	0.47	0.41	41
	50	ISL	12.00	11.99	33.396	25.345	263.2	0.152	4.88	79.8	11.1	1.10	10.8	0.28	0.24	0.39	50
1	51		11.93	11.92	33.399	25.361	261.7	0.155	4.86	79.4	11.3	1.11	11.0	0.26	0.22	0.39	51
1	61		11.42	11.41	33.427	25.477	250.9	0.181	4.68	75.6	12.8	1.19	12.5	0.08	0.16	0.27	61
1	71		11.10	11.09	33.473	25.571	242.1	0.205	4.51	72.4	14.7	1.29	14.2	0.13	0.15	0.32	71
	75	ISL	10.98	10.97	33.487	25.603	239.2	0.215	4.45	71.2	15.2	1.32	14.7	0.12	0.14	0.29	75
1	85		10.73	10.72	33.518	25.672	232.8	0.239	4.31	68.6	16.4	1.38	15.9	0.08	0.11	0.21	85
	100	ISL	10,44	10.43	33.564	25.758	224.9	0.273	4.12	65.2	18.4	1.46	17.5	0.04	0.02	0.29	101
1	101		1042	10.41	33.568	25.765	224.3	0.275	4.10	64.9	18.6	1.47	17.6	0.04	0.02	0.29	102
1	12CI		10,05	10.04	33.704	25.934	208.6	0.316	3.52	55.3	22.7	1.67	20.5	0.02	0.03	0.10	121
	125	ISL	9.92	9.91	33.733	25.979	204.4	0.327	3.42	53.6	23.8	1.71	21.2	0.02	0.03	0.09	126
1	147		9.41	9.39	33.838	26.146	188.9	0.370	3.13	48.5	27.9	1.85	23.9	0.01	0.01	0.05	148
	150	ISL	9.40	9.38	33.854	26.160	187.6	0.376	3.09	47.9	28.3	1.87	24.1	0.01	0.01	0.05	151
1	176		9.28	9.26	33.940	26.247	179.9	0.423	2.83	43.8	30.7	1.97	25.1	0.00	0.01	0.06	177
	200	IS1L	9.16	9.14	33.983	26.300	175.3	0.466	2.71	41.8	32.4	2.02	25.7	0.00	0.01	0.08	201
1	206		9.11	9.09	33.992	26.315	174.0	0.476	2.68	41.3	32.9	2.03	25.9	0.00	0.01	0.08	207
1	236		8.56	8.54	34.057	26.453	161.3	0.527	2.41	36.7	38.4	2.19	28.4	0.01			237
	250	ISL	8.42	8.39	34.075	26.489	158.1	0.549	2.30	34.9	40.1	2.24	29.1	0.01			251
1	275		8.25	8.22	34.103	26.536	153.9	0.588	2.10	31.s	42.8	2.32	30.2	0.00			277
	300	ISL	8.11	8.08	34.144	26.590	149.2	0.626	1.82	27.4	46.1	2.43	31.2	0.00			302
1	332		7.90	7.87	34.192	26.659	143.1	0.673	1.45	2 1 . (I	50.7	2.59	32.6	0.01			334
1	390		7.25	7.21	34.229	26.782	132.0	0.752	0.94	13.<l	60.5	2.84	35.7	0.00			393
	400	ISL	7.19	7.15	34.236	26.796	130.8	0.766	0.88	13.0	61.6	2.87	36.0	0.00			403
1	457		6.85	6.81	34.255	26.858	125.5	0.839	0.67	9.11	67.5	2.98	37.5	0.01			460
	500	ISL	«.27	6.23	34.231	26.917	120.0	0.891	0.59	8. !>	74.8	3.04	39.3	0.00			503
1	525		5.93	5.88	34.220	26.951	116.7	0.921	0.55	7.)	79.1	3.08	40.4	0.00			529

RV NEW HORIZON CALCOFI CRUISE 9110 STATION 80 60

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	HEA	BAROMETER	DRY	NET	SECCHI/FOKEL	CLD AMT	TYPE
34 9.5 N	121 9.0 N	09/10/91	1752 UTC	2187 •	330 09 Icn	360 04 07	2	1015.9 *Wto*	15.2 C	14.9 C	17« 04	8/8	ST

CAST	DEPTH •	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
	0> ISL	16.50	16.50	33.392	24.398	352.1	0.000	5.75	103.1	2.1	0.40	0.1	0.02	0.57	0.22	0
1	2	16.50	16.50	33.392	24.398	352.2	0.007	5.75	103.1	2.1	0.40	0.1	0.02	0.57	0.22	2
	10 ISL	16.50	16.50	33.392	24.398	352.4	0.035	5.75	103.1	2.2	0.40	0.1	0.02	0.57	0.21	10
1	12	16.50	16.50	33.392	24.398	352.5	0.042	5.75	103.1	2.2	0.40	0.1	0.02	0.57	0.21	12
	20 ISL	16.45	16.45	33.389	24.408	351.8	0.070	5.72	102.5	2.1	0.42	0.2	0.03	0.55	0.23	30
1	21	16.44	16.44	33.388	24.409	351.7	0.074	5.72	102.5	2.1		0.2	0.03	0.55	0.23	21
1	30	15.61	15.61	33.374	24.586	335.1	0.105	5.72	100.8	2.6	0.44	0.7	0.07	0.55	0.27	30
1	39	13.84	13.83	33.301	24.909	304.5	0.134	5.53	94.0	5.4	0.71	4.9	0.22	0.47	0.33	39
1	48	12.64	12.63	33.304	25.152	281.6	0.160	5.41	89.6	6.6	0.84	6.8	0.18	0.40	0.32	48
	50 XSL	12.26	12.25	33.282	25.208	276.3	0.166	5.37	88.3	7.3	0.89	7.7	0.15	0.36	0.30	50
1	57	10.99	10.98	33.237	25.406	257.4	0.184	5.15	82.4	10.4	1.09	11.3	0.04	0.20	0.20	57
1	66	10.13	10.12	33.368	25.658	233.7	0.206	4.73	74.3	13.8	1.27	14.4	0.07	0.11	0.14	66
	75 ISL	9.87	9.86	33.457	25.771	223.0	0.227	4.37	88.3	17.3	1.47	17.7	0.04	0.05	0.09	75
1	80	9.81	9.80	33.495	25.810	219.4	0.238	4.20	65.5	19.1	1.56	19.3	0.02	0.03	0.07	80
1	93	9.29	9.28	33.598	25.976	203.8	0.266	3.92	60.5	22.3	1.67	21.2	0.01	0.02	0.05	93
	100 ISL	9.11	9.17	33.631	26.020	199.8	0.280	3.82	58.8	23.4	1.70	21.8	0.01	0.02	0.05	10C
1	112	9.1C	9.09	33.689	26.078	194.5	0.303	3.62	55.7	25.2	1.75	22.8	0.01	0.01	0.04	113
	125 ISL	9.01	9.00	33.824	26.198	183.4	0.328	3.18	48.9	28.8	1.88	24.7	0.01	0.00	0.05	126
1	135	8.94	8.93	33.924	26.2813	175.1	0.346	2.86	43.9	31.5	1.98	26.1	0.01	0.00	0.06	136
	150 ISL	8.83	8.81	33.972	26.343	170.1	0.372	2.72	41.7	33.3	2.03	26.9	0.01	0.00	0.05	151
1	164	8.71	8.69	33.988	26.374	167.3	0.395	2.67	40.B	34.5	2.06	27.3	0.01	Cl.00	0.03	165
1	185 P	8.51	8.49	34.048	26.452	160.3	0.430	2.43	37.0	37.6	2.17	28.3	0.01	0.00	0.04	18(1
	200 ISL	8.3(1	8.28	34.079	26.509	155.1	0.453	2.25	34.1	40.6	2.25	29.4	0.01			201
1	215 P	8.0?	8.05	34.099	26.559	150.5	0.476	2.11	31.8	43.5	2.32	30.4	0.01			216
	250 ISL	7.6'ii	7.63	34.092	26.616	145.6	0.528	2.08	31.0	47.4	2.39	31.6	0.00			251
1	258 P	7.5li	7.53	34.085	26.623	145.0	0.540	2.07	30.8	48.1	2.40	31.8	0.00			260
	300 ISL	7.01	7.04	34.064	26.676	140.4	0.600	1.96	28.8	53.4	2.50	33.5	0.00			302
1	316 P	6.8®	6.86	34.060	26.698	138.5	0.622	1.88	27.5	55.6	2.54	34.2	0.00			3113
1	379 P	6.38	6.33	34.102	26.802	129.2	0.706	1.28	18.5	65.9	2.78	37.5	0.00			381
	400 ISL	6.1<»	6.15	34.116	26.835	126.2	0.733	1.11	16.0	69.5	2.85	38.4	0.00			403
1	448 P	5.81$	5.82	34.147	26.901	120.3	0.792	0.82	11.7	76.3	2.99	40.1	0.01			451
	500 ISL	5.75	5.71	34.169	26.933	117.9	0.854	0.69	9.8	79.1	3.05	40.7	0.00			503
1	522 P	5.70	5.66	34.179	26.947	116.8	0.880	0.63	9.0	80.3	3.08	40.9	0.00			526

RV NEW HORIZON CALCOFI CRUISE 9110 STATION 80 70

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	HEA	BAROMETER	DRY	NET	SECCHI/FOREL	CLD AMT	TYPE
33 49.2 N	121 51.1 N	10/10/91	0100 UTC:	3621 •	310 06 k.n	320 03 05	2	1014.6 Mb	15.9 C	15.0 C	15m 03	8/8	ST

CAST	DEPTH •	TEW DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN »1/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS dt>
	0 ISL	16.¿1	16.21	33.320	24.409	351.1	0.000	5.88	104.8	2.8	0.36	0.0	0.00	0.32	0.12	0
1	1	16.21	16.21	33.320	24.409	351.1	0.004	5.88	104.8	2.8	0.36	0.0	0.00	0.32	0.12	1
	10 ISL	16.211	16.21	33.324	24.412	351.1	0.035	5.89	105.0	2.8	0.36	0.0	0.00	0.35	0.13	10
1	11	16.11	16.21	33.324	24.412	351.1	0.039	5.89	105.0	2.B	0.36	0.0	0.00	0.35	0.13	11
	20 ISL	16.:.8	16.18	33.338	24.430	349.7	0.070	5.90	105.1	2.8	0.36	0.0	0.00	0.51	0.18	20
1	21	16.118	16.18	33.339	24.431	349.6	0.074	5.90	105.1	2.8	0.36	0.0	0.00	0.53	0.19	21
	30 ISL	14.11	14.11	33.228	24.797	315.0	0.104	5.99	102.3	4.1	0.61	2.5	0.21	0.55	0.35	30
1	31	13.14	13.84	33.216	24.843	310.5	0.107	6.00	101.9	4.3	0.65	2.9	0.25	0.55	0.36	31
1	40	12.24	12.23	33.153	25.111	285.2	0.133	5.64	92.6	7.0	0.95	7.3	0.84	0.37	0.24	10
1	50	11.18	11.17	33.170	25.320	265.5	0.161	5.32	85.4	10.1	1.16	11.6	0.26	0.20	0.15	50
1	60	10.95	10.94	33.287	25.452	253.1	0.187	5.09	81.3	12.0	1.28	13.8	0.02	0.13	0.12	60
1	74	10.08	10.07	33.399	25.690	230.7	0.221	4.56	71.6	17.4	1.52	18.0	0.02	0.04	0.07	74
	75 ISL	10.06	10.05	33.406	25.699	229.9	0.223	4.53	71.1	17.6	1.53	18.2	0.02	0.04	0.07	75
1	819	9.89	9.88	33.501	25.802	220.4	0.252	4.10	64.1	20.2	1.62	19.8	0.01	0.02	0.07	88
	100 ISL	9.59	9.58	33.608	25.935	207.9	0.278	3.68	57.2	23.6	1.75	22.0	0.01	0.01	0.06	100
1	108	9.35	9.34	33.674	26.026	199.4	0.294	3.44	53.2	26.0	1.84	23.5	0.01	0.01	0.06	109
	125 ISL	8.75	8.74	33.744	26.176	185.4	0.327	3.22	49.2	29.8	1.95	25.7	0.01	0.00	0.07	126
1	127	8.69	8.68	33.750	26.190	184.1	0.331	3.20	48.8	30.2	1.96	25.9	0.01	0.00	0.07	128
	150 ISL	8.53	8.51	33.860	26.302	173.9	0.372	2.88	43.8	33.5	2.05	27.6	0.01	0.00	0.05	151
1	152	8.52	8.50	33.867	26.308	173.3	0.375	2.85	43.3	33.7	2.06	27.7	0.01	0.00	0.05	153
. 1	181	8.23	8.21	33.973	26.436	161.6	0.424	2.55	38.5	38.3	2.18	27.7	0.01	0.00	0.04	182
	200 ISL	7.96	7.94	33.992	26.491	156.6	0.454	2.59	38.9	40.1	2.19	28.7	0.01	0.00	0.03	201
1	215	7.78	7.76	34.004	26.527	153.4	0.477	2.63	39.3	41.6	2.19	29.8	0.01	0.00	0.03	216
1	250	7.73	7.71	34.101	26.611	146.1	0.530	1.88	28.1	48.1	2.46	32.4	0.01			3i51
1	291	7.32	7.29	34.122	26.687	139.4	0.588	1.55	22.9	54.4	2.61	34.2	0.02			293
	300 ISL	7.24	7.21	34.132	26.706	137.7	0.601	1.45	21.4	56.0	2.65	34.6	0.02			302
1	344	6 88	6.85	34.176	26.791	130.1	0.660	1.01	14.8	63.5	2.84	36.5	0.01			346
	400 ISL	6 41	6.37	34.187	26.862	123.18	0.731	0.80	11.6	70.2	2.95	38.3	0.00			403
1	410	6 33	6.29	34.187	26.873	122.)	0.743	0.78	11.3	71.3	2.96	38.6	0.00			413
1	480	5 92	5.88	34.228	26.958	115.1	0.827	0.53	7.6	79.6	3.10	40.4	0.01			483
	500 ISL	5 82	5.78	34.244	26.983	113.2	0.849	0.48	6.9	81.9	3.13	40.7	0.01			503
1	562	5 53	5.48	34.294	27.059	106.6	0.918	0.33	4.7	89.2	3.22	41.7	0.00			566

KV MEN HORIZON CALCOFI CRUISE 9110 STATION 80 80

LATITUDE	LONIJITUDE	DAY/MO/YR	MESSENGER	BOTTOM	HIND SPEED	HAVES	HEA	BAROMETER	DRY	NET	SECC1II/FOREL	CLD AMT	TYPE
33 28.9 *K*	122 32.2 N	10/10/91	0659 UTC	3992 -	290 05 kn			1015.5 ab	15.8 C	15.0 C			

CAST	DEPTH -	TEMP 1DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN » V 1	OXY PCT	SI03 uM/1	P04 uM/1	N03 UM/1	N02 MM/1	CHL-A ug/1	PBAEO ug/1	PRESS db
1	0	LIS.94	16.94	33.019	24.009	389.2	0.000	5.74	103.6	3.1	0.40	0.0	0.00	0.17	0.06	0
1	10	16.95	16.95	33.016	24.005	389.9	0.039	5.74	103.6	3.1	0.40	0.0	0.00	0.17	0.05	10
	20 ISL	L6.41	16.41	33.014	24.129	378.4	0.077	s.85	104.5	3.1	0.40	0.0	0.00	0.20	0.08	20
1	21	16.34	16.34	33.016	24.146	376.7	0.081	5.86	104.5	3.1	0.40	0.0	0.00	0.21	0.08	21
	30 ISL	15.93	15.93	33.074	24.284	363.9	0.114	5.91	104.6	3.1	0.40	0.0	0.00	0.30	0.11	30
1	31	15.86	15.86	33.078	24.303	362.1	0.118	5.92	104.6	3.1	0.40	0.0	0.00	0.32	0.11	31
1,	41	14.27	14.26	32.989	24.579	336.0	0.153	fi.38	10S.1	3.6	0.44	0.0	0.00	0.60	0.32	41
	50 ISL	12.33	12.32	32.873	24.877	307.7	0.182	6.15	101.0	4.5	0.65	2.7	0.24	0.63	0.52	50
1.	51	12.14	12.13	32.864	24.906	305.0	0.185	6.11	95.9	4.6	0.67	3.1	0.27	0.63	0.53	51
1	62	11.61	11.60	32.899	25.032	293.2	0.218	5.90	95.4	5.9	0.80	5.4	0.26	0.44	0.45	62
1	72	11.04	11.03	33.053	25.255	272.2	0.246	5.45	87.1	9.3	1.04	9.8	0.04	0.26	0.27	72
	75 ISL	10.98	10.97	33.105	25.306	267.4	0.254	5.32	8!i.0	10.2	1.10	10.8	0.04	0.23	0.24	75
1	86	10.82	10.81	33.283	25.473	251.8	0.283	4.87	77.6	13.3	1.27	13.8	0.02	0.16	0.17	86
	100 ISL	10.31	10.30	33.448	25.690	231.4	0.317	4.33	6(1.3	17.5	1.49	17.5	0.01	0.08	0.09	100
1	101	10.27	10.26	33.458	25.705	230.0	0.319	4.29	67.6	17.8	1.50	17.7	0.01	0.07	0.09	101
1	121	9.74	9.73	33.669	25.959	206.2	0.363	3.53	5!i.l	23.9	1.75	22.0	0.01	0.01	0.05	122
	125 ISL	9.65	9.64	33.695	25.994	202.9	0.371	3.44	53.6	24.8	1.78	22.6	0.01	0.01	0.05	126
I	147	9.29	9.27	33.809	26.142	189.2	0.414	3.05	47.1	28.9	1.92	24.9	0.00	0.01	0.04	148
	150 ISL	9.27	9.25	33.828	26.160	187.5	0.420	2.99	4<i.2	29.4	1.94	25.1	0.00	0.01	0.04	151
1	177	9.15	9.13	33.977	26.297	175.1	0.469	2.53	3!I.0	32.8	2.07	26.7	0.00	0.00	0.03	178
	200 ISL	8.91	8.89	34.026	26.373	168.2	0.508	2.49	311.2	35.1	2.11	27.4	0.00	0.00	0.04	201
1	207	8.84	8.82	34.035	26.392	166.6	0.520	2.48	311.0	35.7	2.12	27.6	0.00	0.00	0.04	208
I	237	8.74	8.71	34.109	26.466	160.2	0.569	2.23	3-1.1	38.7	2.22	28.4	0.00			238
	250 ISL	8.65	8.62	34.121	26.489	158.1	0.589	2.11	3:t.2	40.1	2.27	29.0	0.00			251
1	277	8.45	8.42	34.133	26.530	154.7	0.632	1.87	211.4	43.1	2.38	30.3	0.00			279
	300 ISL	8.32	8.29	34.155	26.567	151.5	0.667	1.72	2(5.1	45.4	2.45	31.0	0.00			302
1	333	8.12	8.09	34.185	26.621	146.9	0.716	1.52	2.2.9	48.7	2.55	31.9	0.00			335
1	394	7.61	7.57	34.211	26.717	138.5	0.803	1.10	us.4	56.2	2.74	34.1	0.CI0			396
	400 ISL	7.55	7.51	34.208	26.723	138.0	0.811	1.09	15.2	56.8	2.75	34.3	0.00			403
1	461	6.91	6.87	34.185	26.795	131.6	0.894	1.02	15.0	63.7	2.84	36.3	0.02			464
	500 ISL	6.56	6.51	34.209	26.861	125.6	0.944	0.79	11.5	69.8	2.96	37.9	0.01			503
1	533	6.27	6.22	34.231	26.917	120.5	0.984	0.59	8.5	75.0	3.06	39.2	0.00			537

RV NEK HORIZON CALCOFI CRUISE 9110 STATION 80 90

LATITUDE!	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	HIND SPEED	WAVES	HEA	BAROMETER	DRY	HET	SECCHI/FOREL	CLD AMT	TYPE
33 9.4 N	123 14.3 W	10/10/91	1315 UTC	4211 *m*	330 09 k.n			1014.5 Bb	16.5 C	15.2 C			

CAST	DEPTH -I	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN Hi/1	OXY PCT	SI03 uM/1	P04 uM/1	N03 UM/1	N02 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
	0 ISL	17.07	17.07	33.033	23.990	391.0	0.000	5.70	103.2	3.1	0.39	0.0	0.00	0.19	0.06	0
1	1	17.07	17.07	33.033	23.990	391.1	0.004	5.70	103.2	3.1	0.39	0.0	0.00	0.19	0.06	1
	10 ISL	16.94	16.94	33.028	24.017	388.8	0.039	5.75	103.8	3.1	0.40	0.0	0.00	0.19	0.06	10
1	11	16.92	16.92	33.028	24.021	388.4	0.043	5.75	103.8	3.1	0.40	0.0	0.00	0.19	0.06	11
	20 ISL	16.08	16.08	33.068	24.245	367.3	0.077	5.90	104.7	3.0	0.40	0.0	0.00	0.37	0.15	20
1	21	15.97	15.97	33.072	24.273	364.6	0.081	5.92	104.9	3.0	0.40	0.0	0.00	0.39	0.16	21
	30 ISL	15.50	15.50	33.053	24.364	356.3	0.113	6.02	10 5.6	3.1	0.41	0.0	0.00	0.49	0.23	30
1	32	15.33	15.33	33.033	24.386	354.2	0.120	6.05	10 5.8	3.1	0.42	0.0	0.00	0.50	0.25	32
1	41	13.51	13.50	32.826	24.609	333.1	0.151	6.25	105.2	3.6	0.47	0.3	0.04	0.53	0.38	41
	50 ISL	12.44	12.43	32.790	24.792	315.9	0.180	6.08	100.0	4.3	0.61	1.8	0.26	0.41	0.39	50
1	51	12.35	12.34	32.792	24.810	314.1	0.183	6.05	99.3	4.4	0.63	2.0	0.28	0.39	0.39	51
1	61	11.56	11.55	32.793	24.958	300.1	0.214	5.87	94.8	5.4	0.73	3.8	0.28	0.28	0.34	61
1	71	10.72	10.71	32.845	25.149	282.2	0.243	5.65	89.6	8.0	0.95	7.9	0.04	0.19	0.20	71
	75 ISL	10.44	10.43	32.888	25.231	274.4	0.254	5.56	87.7	9.2	1.03	9.4	0.03	0.15	0.16	75
1	8!5	9.86	9.85	33.000	25.416	257.0	0.281	5.36	83.5	12.1	1.19	12.5	0.01	0.08	0.09	85
1	100	9.28	9.27	33.099	25.588	240.8	0.318	5.08	78.2	15.6	1.36	15.3	0.01	0.04	0.06	100
1	121	9.62	9.61	33.549	25.885	213.2	0.366	3.95	61.4	21.3	1.64	20.3	0.01	0.02	0.04	122
	125 ISL	9.59	9.58	33.592	25.923	209.6	0.374	3.79	58.9	22.3	1.68	21.0	0.01	0.02	0.04	126
1	146	9.45	9.43	33.767	26.083	194.8	0.417	3.14	48.7	27.0	1.87	24.1	0.01	0.01	0.04	147
	150 ISL	9.38	9.36	33.790	26.113	192.1	0.425	3.04	417.1	27.9	1.90	24.6	0.01	0.01	0.04	151
1	176	8.83	8.81	33.900	26.287	175.9	0.472	2.71	41.5	32.8	2.0S	27.0	0.01	0.00	0.03	177
	200 ISL	8.42	8.40	33.975	26.409	164.6	0.513	3.01	45.7	34.6	1.98	26.4	0.01	0.00	0.02	201
1	206	8.34	8.32	33.990	26.433	162.4	0.523	3.08	46.6	35.0	1.97	26.3	0.01	0.00	0.02	207
1	236	8.11	8.09	34.057	26.521	154.6	0.571	2.48	37.4	41.0	2.22	29.1	0.00			237
	250 ISL	7.90	7.87	34.059	26.554	151.6	0.592	2.37	35.5	43.2	2.28	30.1	0.00			251
1	276	7.50	7.47	34.051	26.605	146.9	0.631	2.24	33.3	47.1	2.37	31.6	0.00			278
	300 ISL	7.27	7.24	34.070	26.653	142.7	0.666	1.96	:19.0	51.1	2.48	33.0	0.00			302
1	333	7.05	7.02	34.105	26.712	137.5	0.712	1.56	22.9	56.3	2.63	34.7	0.00			335
1	393	6.76	6.72	34.153	26.789	130.9	0.792	1.08	15.8	63.8	2.84	36.8	0.00			395
	400 ISL	6.72	6.68	34.157	26.798	130.2	0.802	1.04	15.2	64.6	2.86	37.0	0.00			403
1	460	6.34	6.30	34.193	26.877	123.2	0.878	0.76	11.0	71.6	2.98	38.8	0.02			463
	500 ISL	6.16	6.12	34.225	26.926	119.0	0.926	0.59	8.5	75.9	3.06	39.6	0.01			503
1	532	6.02	5.97	34.251	26.964	115.7	0.964	0.45	6.5	79.4	3.12	40.3	0.00			536

RV NEW HORIZON CALCOFI CRUISE 9110 STATION 80 100

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	SEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
32 49.6 N	123 54.4 W	10/10/91	1947 UTC	4348 -	250 04 kn	330 02 05	2	1016.4 ab	18.6 C	17.0 C	31» 01	8/8	SC

CAST	DEPTH II	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN «1/1	OXY PCT	SIO3 UM/1	PO4 uM/1	NO3 uM/'l	NO2 uM/1	CRL-A ug/1	PBAEO ug/1	PRESS db
1	0	18.36	18.36	32.917	23.590	429.1	0.000	5.55	102.9	2.9	0.41	0.0	0.00	0.08	0.02	0
1	10	18.09	18.09	32.937	23.672	421.7	0.043	5.57	102.7	2.9	0.41	0.0	0.00	0.10	0.03	10
	20 ISL	17.99	17.99	32.945	23.703	419.0	0.085	5.62	103.5	2.9	0.42	0.0	0.00	0.10	0.03	20
1	21	17.98	17.98	32.946	23.706	418.8	0.089	5.62	103.5	2.9	0.42	0.0	0.00	0.10	0.03	21
	30 ISL	17.79	17.78	32.985	23.783	411.8	0.126	5.63	103.3	2.8	0.41	0.1	0.00	0.14	0.05	30
1	31	17.77	17.76	32.989	23.790	411.1	0.130	5.63	103.2	2.8	0.41	0.1	0.00	0.14	0.05	31
1	41	15.97	15.96	33.056	24.262	366.4	0.169	6.08	107.7	2.7	0.40	0.1	0.00	0.16	0.05	41
	50 ISL	15.23	15.22	33.025	24.402	353.2	0.202	6.11	106.6	2.7	0.41	0.1	0.00	0.18	0.07	50
1	51	15.19	15.18	33.020	24.407	352.8	0.205	6.11	106.5	2.7	0.41	0.1	0.00	0.18	0.07	51
1	61	14.91	14.90	33.043	24.486	345.6	0.240	6.12	106.1	2.7	0.41	0.1	0.00	0.19	0.09	61
1	71	14.41	14.40	33.070	24.613	333.7	0.274	6.08	104.4	2.7	0.41	0.1	0.00	0.23	0.18	71
	75 ISL	14.30	14.29	33.103	24.662	329.1	0.287	6.06	103.8	2.8	0.41	0.1	0.01	0.25	0.22	75
1	85	14.07	14.06	33.195	24.781	318.0	0.320	5.98	102.0	2.9	0.42	0.2	0.03	0.28	0.28	85
1	100	13.55	13.54	33.283	24.956	301.7	0.366	5.74	96.9	3.9	0.50	1.4	0.17	0.22	0.24	100
1	120	11.64	11.62	33.226	25.282	270.9	0.423	5.48	88.8	7.3	0.81	6.9	0.03	0.10	0.12	120
	125 ISL	11.32	11.30	33.226	25.340	265.4	0.437	5.43	87.4	8.0	0.87	7.9	0.03	0.08	0.11	126
1	146	10.32	10.30	33.276	25.555	245.1	0.490	5.20	81.9	10.7	1.05	11.2	0.01	0.05	0.08	147
	150 XSL	10.18	10.16	33.302	25.599	241.0	0.500	5.16	81.1	11.2	1.07	11.7	0.01	0.04	0.07	151
1	176	9.43	9.41	33.499.	25.878	214.9	0.559	4.82	74.6	15.3	1.25	15.1	0.00	0.02	0.02	177
	200 ISL	8.86	8.84	33.655	26.091	195.0	0.608	4.20	64.2	22.4	1.56	20.0	0.00	0.00	0.02	201
1	207	8.73	8.71	33.701	26.147	189.7	0.622	4.02	61.3	24.5	1.64	21.4	0.00	0.00	0.02	208
1	236	8.47	8.45	33.924	26.362	169.8	0.674	3.66	55.6	30.3	1.77	23.9	0.00			237
	250 ISL	8.25	8.22	33.966	26.429	163.6	0.697	3.53	53.3	33.1	1.83	25.0	0.00			251
1	277	7.77	7.74	33.995	26.522	155.0	0.740	3.26	48.7	38.7	1.97	27.1	0.00			278
	300 ISL	7.42	7.39	34.012	26.586	149.1	0.775	2.92	43.3	43.7	2.12	29.2	0.00			302
1	333	6.99	6.96	34.026	26.657	142.6	0.823	2.39	35.1	50.9	2.35	32.2	0.00			33s
1	393	6.44	6.40	34.071	26.767	132.7	0.906	1.55	22.5	62.6	2.68	36.3	0.00			395
	400 ISL	6.37	6.33	34.077	26.781	131.5	0.915	1.47	21.3	64.1	2.71	36.8	0.00			402
1	460	5.81	5.77	34.129	26.893	121.1	0.991	0.89	12.7	75.9	2.96	40.0	0.01			4s3
	500 ISL	5.61	5.57	34.169	26.950	116.1	1.039	0.67	9.5	81.5	3.05	40.9	0.00			501
1	532	5.45	5.41	34.201	26.995	112.1	1.075	0.50	7.1	85.9	3.13	41.7	0.00			536

RV NEW HORIZON CALCOFI CRUISE 9110 STATION 82 47

LATITUDE	LONGITUDB	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
34 16.4 N	120 1.9 W	09/10/91	0541 UTC	579 B	230 05 len			1014.4 mb	16.5 C	16.4 C			

CAST	DEPTH -l	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN BT	OXYGEN Bl/1	OXY PCT	SIO3 UM/1	PO4 uM/1	NO3 uM/1	NO2 "M/l	CHL-A ug/1	PHAEO ug/1	PRESS db
	0 ISL	18.27	18.27	33.444	24.016	388.6	0.000	5.88	109.2	3.0	0.31	0.0	0.00	0.36	0.15	0
1	1 A	18.27	18.27	33.444	24.016	388.6	0.004	5.88	109.2	3.0	0.31	0.0	0.00	0.36	0.15	1
	10 ISL	17.47	17.47	33.413	24.186	372.6	0.038	6.09	111.3	3.4	0.36	0.1	0.01	0.76	0.34	10
1	17	16.26	16.26	33.373	24.439	348.8	0.063	6.19	110.5	3.7	0.39	0.1	0.01	1.05	0.49	17
	20 ISL	15.58	15.58	33.348	24.573	336.1	0.074	6.09	107.2	4.4	0.46	1.0	0.08	0.94	0.46	20
	30 ISL	13.43	13.43	33.316	25.004	295.2	0.105	5.63	94.9	7.1	0.72	4.8	0.28	0.44	0.32	30
1	31	13.23	13.23	33.317	25.045	291.3	0.108	5.57	93.5	7.4	0.75	5.3	0.30	0.38	0.30	31
1	41	12.27	12.26	33.380	25.281	269.0	0.136	5.15	84.7	10.2	0.98	9.0	0.28	0.21	0.24	41
	50 ISL	11.49	11.48	33.438	25.472	251.0	0.160	4.72	76.4	13.0	1.17	12.4	0.13	0.13	0.18	50
1	52	11.34	11.33	33.452	25.511	247.4	0.165	4.62	74.5	13.7	1.21	13.1	0.09	0.12	0.17	!>2
1	61	10.95	10.94	33.534	25.645	234.9	0.186	4.23	67.7	16.9	1.38	15.7	0.05	0.07	0.16	(61
1	71	10.65	10.64	33.570	25.726	227.4	0.209	4.09	65.1	18.0	1.45	16.8	0.04	0.06	0.16	71
	75 ISL	10.57	10.56	33.590	25.755	224.6	0.218	4.00	63.5	18.5	1.48	17.3	0.04	0.05	0.14	75
1	81	10.41	10.47	33.617	25.792	221.2	0.232	3.87	61.3	19.3	1.52	17.9	0.03	0.04	0.10	81
1	95	10.31	10.37	33.639	25.827	218.3	0.263	3.80	60.1	20.0	1.54	18.5	0,02	0.04	0.08	95
	100 ISL	10.35	10.34	33.646	25.838	217.4	0.273	3.77	59.6	20.2	1.55	18.7	0.02	0.03	0.08	101
1	110	10.2)1	10.27	33.665	25.865	215.0	0.295	3.69	58.2	20.8	1.59	19.1	0.02	0.02	0.08	111
	125 ISL	10.10	10.09	33.709	25.930	209.1	0.327	3.53	55.5	22.4	1.66	20.2	0.02	0.00	0.10	126
1	130	10.03	10.02	33.728	25.957	206.7	0.337	3.46	54.3	23.1	1.69	20.7	0.02	0.00	0.10	131
1	149	9.83	9.81	33.819	26.062	197.1	0.376	3.12	48.8	26.0	1.81	22.6	0.02	0.02	0.08	150
	150 ISL	9.82	9.80	33.825	26.068	196.5	0.378	3.10	48.5	26.2	1.82	22.7	0.02	0.02	0.08	151
1	178	9.54	9.52	33.967	26.226	182.0	0.431	2.61	40.6	31.0	2.00	25.2	0.02	0.01	0.09	179
	200 ISL	9.31	9.29	34.036	26.317	173.7	0.470	2.37	36.7	33.8	2.10	26.6	0.02	0.01	0.10	201
1	208	9.23	9.21	34.054	26.345	171.3	0.484	2.28	35.2	34.9	2.14	27.1	0.02	0.01	0.11	209
1	236	8.91	8.88	34.108	26.438	162.8	0.530	1.81	27.8	40.6	2.33	29.3	0.02			237
	250 ISL	8.71	8.75	34.129	26.475	159.5	0.553	1.61	24.6	42.5	2.41	30.4	0.02			251
1	275	8.5s	8.53	34.158	26.533	154.5	0.592	1.32	20.1	45.4	2.53	32.0	0.02			277
	300 ISL	8.34	8.31	34.173	26.578	150.5	0.630	1.16	17.6	48.8	2.61	32.9	0.02			302
1	324	8.12	8.09	34.181	26.618	147.1	0.666	1.06	16.0	52.4	2.67	33.4	0.02			326
1	383	7.50	7.46	34.192	26.718	138.2	0.750	0.80	11.9	62.9	2.88	34.6	0.01			385
	400 ISL	7.34	7.30	34.199	26.746	135.6	0.773	0.73	10.8	65.7	2.94	34.7	0.01			403
1	443	6.98	6.94	34.219	26.812	129.8	0.830	0.54	7.9	73.8	3.09	35.0	0.01			446
	500 ISL	6.67	6.62	34.235	26.867	125.1	0.903	0.20	2.9	88.8	3.33	32.7	0.01			503
1	511	6.63	6.58	34.237	26.874	124.6	0.917	0.14	2.0	92.1	3.38	31.9	0.01			515
1	531	6.56	6.51	34.238	26.885	123.8	0.942	0.08	1.2	98.3	3.48	30.1	0.01			535
1	552	6.48	6.43	34.243	26.899	122.7	0.967	0.05	0.7	103.7	3.55	28.5	0.01			556
1	563	6.46	6.41	34.246	26.905	122.3	0.981	0.05	0.7	108.6	3.61	26.9	0.00			567
1	567	6.45	6.40	34.246	26.906	122.2	0.986	0.05	0.7	110.7	3.67	26.0	0.01			571
1	572	6.44	6.39	34.246	26.907	122.2	0.992	0.04	0.6	115.4	3.73	24.1	0.01			576
1	577	6.45	6.40	34.246	26.906	122.4	0.998	0.03	0.4	115.5	3.77	23.9	0.01			581

A) SANTA BARBARA I1ASIN STATION.

KV MEW HORIZON CALCOFI CRUISE 9110 STATION 83 40.6

LATITUDE	XON3ITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
34 13.4 M	119 24.6 W	09/10/91	0110 UTC	32 -	270 06 kn	300 01 06	1	1014.0 *mb*	18.0 C	17.8 C		5/8	ST

CAST	DEPIfH -	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN »1/1	OXY PCT	SIO3 UM/1	PO4 uM/1	NO3 UM/1	NO2 UM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
1	0	17.48	17.48	33.377	24.156	375.2	0.000	6.02	110.0	3.1	0.32	0.1	0.00	0.45	0.17	0
1	5	17.16	17.16	33.374	24.230	368.3	0.019	6.06	110.1	3.1	0.33	0.0	0.00	0.46	0.19	5
	10 ISL	16.50	16.50	33.349	24.365	355.6	0.037	6.22	111.5	3.3	0.37	0.1	0.02	0.62	0.24	10
1	16	15.45	15.45	33.311	24.573	335.9	0.057	6.31	110.8	3.9	0.41	0.2	0.04	0.80	0.30	16
	20 ISL	14.63	14.63	33.286	24.732	320.9	0.071	6.08	l0.'i.0	4.9	0.53	1.4	0.14	0.73	0.34	20
1	26	13.39	13.39	33.264	24.972	298.2	0.089	5.73	9(1.4	6.3	0.71	3.3	0.29	0.63	0.39	26

RV NEW HORIZON CALCOFI CRUISE 9110 STATION 83 42

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
34 11.0 IK	115 30.4 W	08/10/91	2313 UTC	98 -	230 01 kB	300 01 05	1	1014.2 ab	18.6 C	17.3 C	17B 03	5/8	CI

CAST	DEPTH -	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ML/1	OXY PCT	SIO3 UM/1	PO4 UM/1	NO3 UM/1	NO2 UM/1	CHL-A Ug/1	PHAEO ug/1	PRESS Ob
1	0	17.71	17.71	33.389	24.110	379.6	0.000	6.06	111.3	3.5	0.31	0.0	0.00	0.48	0.19	0
1 10		16.64	16.64	33.350	24.333	358.6	0.037	6.20	111.5	3.9	0.33	0.0	0.00	0.69	0.32	10
1	20	15.30	15.30	33.305	24.601	333.3	0.072	6.11	105.9	4.3	0.43	0.9	0.06	1.04	0.46	20
	30 ISL	14.19	14.19	33.271	24.813	313.4	0.104	6.00	102.7	5.3	0.53	2.1	0.10	0.73	0.36	30
1 31		14.09	14.09	33.267	24.831	311.7	0.107	5.99	102.3	5.4	0.54	2.2	0.U	0.68	0.35	31
1	42	13.03	13.02	33.199	24.994	296.5	0.140	5.88	98.2	5.8	0.64	3.3	0.21	0.49	0.39	42
	50 ISL	12.24	12.23	33.334	25.252	272.1	0.163	5.21	85.6	8.8	0.93	8.2	0.15	0.24	0.28	50
1	53	11.98	11.97	33.390	25.344	263.3	0.171	4.96	81.1	10.0	1.04	10.1	0.12	0.16	0.23	53
1	63	11.43	11.42	33.401	25.455	253.0	0.197	4.76	76.9	12.2	1.17	12.3	0.06	0.12	0.20	63
1	74	11.39	11.38	33.431	25.486	250.3	0.225	4.71	76.1	12.3	1.18	12.5	0.04	0.15	0.21	74
	75i ISL	11.38	11.37	33.433	25.489	250.0	0.227	4.70	75.9	12.4	1.18	12.5	0.04	0.15	0.21	75
1	87	11.19	11.18	33.468	25.551	244.4	0.257	4.52	72.7	13.8	1.26	13.7	0.05	0.09	0.17	87
1	9Si	10.78	10.77	33.546	25.685	231.9	0.285	4.15	66.2	16.7	1.40	16.1	0.04	0.06	0.16	99

RV NEW HORIZON CALCOFI CRUISE 9110 STATION 83 70

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
33 14.8 N	121 26.3 W	08/10/91	1011 UTC	3794 B	330 13 kn			1014.1 ab	16.3 C	15.6 C			

CAST	DEPTH ID	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN Hi/1	OXY 1>CT	SIO3 UM/1	PO4 UM/1	NO3 UM/1	NO2 UM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
	0 ISL	16.97	16.97	33.000	23.988	391.2	0.000	5.73	103.5	3.6	0.41	0.0	0.00	0.18	0.06	0
1	1	16.97	16.97	33.000	23.988	391.2	0.004	5.73	103.5	3.6	0.41	0.0	0.00	0.18	0.06	1
	10 ISL	16.99	16.99	32.996	23.980	392.2	0.039	5.73	103.5	3.4	0.42	0.0	0.00	0.18	0.06	10
1	11	16.99	16.99	32.995	23.980	392.3	0.043	5.73	103.5	3.4	0.42	0.0	0.00	0.18	0.06	11
	20 ISL	15.96	15.96	33.030	24.243	367.5	0.077	6.03	106.8	3.5	0.41	0.0	0.00	0.31	0.14	20
1	22	15.66	15.66	33.031	24.311	361.1	0.085	6.10	1)7.4	3.5	0.41	0.0	0.00	0.34	0.16	22
	30 ISL	14.53	14.53	32.923	24.473	345.8	0.113	6.26	107.6	3.6	0.43	0.0	0.00	0.36	0.22	30
1	32	14.24	14.24	32.890	24.509	342.4	0.120	6.28	1)7.3	3.6	0.44	0.0	0.00	0.37	0.24	32
1	42	12.89	12.88	32.784	24.700	324.4	0.153	6.21	103.1	4.2	0.51	0.3	0.06	0.51	0.36	42
	50 ISL	12.35	12.34	32.795	24.813	313.8	0.179	5.96	»7.8	4.6	0.61	1.6	0.29	0.37	0.33	50
1	52	12.24	12.23	32.804	24.841	311.2	0.185	5.90	96.6	4.8	0.64	2.1	0.33	0.33	0.31	52
1	62	11.51	11.50	32.841	25.005	295.7	0.215	5.82	93.9	6.2	0.76	4.7	0.16	0.27	0.24	62
1	72	10.42	10.41	32.865	25.216	275.7	0.244	5.61	88.4	9.7	1.01	9.4	0.03	0.16	0.16	72
	75 ISL	10.28	10.27	32.911	25.276	270.1	0.252	5.53	86.9	10.5	1.07	10.5	0.03	0.14	0.14	75
1	87	10.00	9.99	33.115	25.482	250.7	0.283	5.18	81.0	13.2	1.26	13.8	0.01	0.13U	-0.01 U	87
	100 ISL	9.50	9.49	33.219	25.646	235.3	0.315	4.84	74.9	16.6	1.41	16.4	0.01	0.02	0.04	100
1	102	9.42	9.41	33.233	25.670	233.1	0.319	4.78	73.8	17.1	1.43	16.8	0.01	0.02	0.04	102
1	122	9.02	9.01	33.492	25.937	208.1	0.364	4.08	62.6	22.6	1.64	20.8	0.00	0.01	0.03	123
	125 ISL	8.97	8.96	33.521	25.967	205.2	0.370	4.08	62.5	22.9	1.64	20.9	0.00	0.01	0.03	126
1	148	8.69	8.67	33.706	26.156	187.7	0.415	4.0B	62.2	24.8	1.62	21.3	0.01	0.00	0.02	149
	15i0 ISL	8.67	8.65	33.724	26.173	186.1	0.419	4.06	61.9	25.1	1.62	21.4	0.01	0.00	0.02	151
1	179	8.43	8.41	33.933	26.374	167.5	0.470	3.75	56.9	30.5	1.73	23.6	0.01	0.00	0.02	180
	200 ISL	8.23	8.21	33.967	26.432	162.4	0.505	3.63	54.8	33.0	1.80	24.6	0.01	0.00	0.02	201
1	209	8.13	8.11	33.967	26.447	161.1	0.519	3.57	53.8	34.2	1.84	25.1	0.01	0.00	0.02	210
1	239	7.61	7.59	33.994	26.544	152.1	0.566	3.22	48.0	40.8	2.01	27.8	0.00			240
	250 ISL	7.49	7.47	34.003	26.569	150.0	0.583	3.03	45.0	42.9	-2.08	28.8	0.00			251
1	280	7.20	7.17	34.022	26.625	145.0	0.627	2.52	37.2	48.7	2.28	31.3	0.00			282
	300 ISL	6.89	6.86	34.022	26.667	141.1	0.656	2.29	33.5	53.0	2.39	32.9	0.00			302
1	336	6.33	6.30	34.022	26.742	134.2	0.705	1.96	28.3	60.7	2.56	35.4	0.00			338
1	397	5.82	5.79	34.060	26.837	125.6	0.784	1.34	19.1	72.1	2.82	38.9	0.00			400
	400 ISL	5.82	5.79	34.067	26.842	125.1	0.788	1.30	18.6	72.5	2.83	39.0	0.00			403
1	4(53	5.98	5.94	34.216	26.941	116.9	0.864	0.56	8.0	79.4	3.07	40.4	0.00			466
	500 IS!	5.77	5.73	34.235	26.982	113.2	0.907	0.46	6.6	83.7	3.13	41.2	0.00			503
1	536	5.57	5.52	34.253	27.021	109.8	0.947	0.37	5.3	87.8	3.18	41.9	0.00			540

RV MEW HORIZON CALCOFI CRUISE 9110 STATION 83 80

1IATITODE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	HIND SPEED	HAVES	H1EA	BAROMETER	DRY	HET	SECCHI/FOREL	CLD AMT TYPE
;I2 54.9 N	122 8.6 W	08/10/91	0349 UTC	4172 ->	340 10 kn			1013.9 nb	16.5 C	15.7 C		

CAST	DEPTH ▪		TEMP DBS C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN »1/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 UM/1	CHL-A ug/1	PHAEO ug/1	PRESS <l>
	0	ISL	16,86	16.86	33.110	24.098	380.7	0.000	5.76	103.9	3.1	0.39	0.0	0.00	0.23	0.08	0
1	2		16.86	16.86	33.110	24.098	380.8	0.008	5.76	103.9	3.1	0.39	0.0	0.00	0.23	0.08	2
	10	ISL	16.88	16.88	33.120	24.101	380.7	0.038	5.75	103.7	3.1	0.38	0.0	0.00	0.22	0.07	10
1	11		16.89	16.89	33.122	24.100	380.8	0.042	5.75	103.7	3.1	0.38	0.0	0.00	0.22	0.07	11
	20	ISL	16,96	16.96	33.176	24.126	378.7	0.076	5.75	103.9	3.1	0.37	0.0	0.00	0.25	0.07	20
1	21		16 98	16.98	33.187	24.130	378.4	0.080	5.75	104.0	3.1	0.37	0.0	0.00	0.25	0.07	21
	30	ISL	17 31	17.31	33.369	24.192	372.8	0.114	5.71	104.0	2.6	0.36	0.0	0.00	0.34	0.12	30
1	31		17 32	17.31	33.388	24.204	371.6	0.117	5.71	104.1	2.6	0.36	0.0	0.00	0.36	0.13	31
1	41		16 27	16.26	33.401	24.459	347.6	0.153	5.87	104.8	2.7	0.38	0.0	0.01	0.59	0.35	41
	50	ISL	14 98	14.97	33.347	24.704	324.1	0.184	5.76	100.2	3.5	0.52	1.4	0.33	0.53	0.41	50
1	51		14 82	14.81	33.339	24.733	321.7	0.187	5.74	99.5	3.7	0.54	1.6	0.39	0.52	0.42	51
1	60		13 25	13.24	33.263	25.000	296.4	0.215	5.56	93.3	5.9	0.74	4.4	1.11	0.32	0.29	60
1	75		11.44	11.43	33.285	25.363	262.0	0.256	4.93	79.6	11.4	1.15	12.0	0.02	0.10	0.11	75
1	89		10.03	10.02	33.244	25.578	241.7	0.292	4.81	75.3	15.0	1.36	15.6	0.02	0.06	0.08	89
	100	ISL	10.06	10.05	33.424	25.714	229.0	0.318	4.37	68.5	17.5	1.47	17.7	0.01	0.03	0.07	100
1	109		10.08	10.07	33.557	25.814	219.7	0.338	3.95	62.0	19.7	1.56	19.3	0.01	0.02	0.06	109
	125	ISL	9.67	9.66	33.696	25.991	203.1	0.372	3.41	53.1	24.6	1.77	22.9	0.01	0.01	0.05	126
1	129		9.54	9.53	33.721	26.032	199.3	0.380	3.30	51.3	25.8	1.82	23.7	0.01	0.01	0.05	130
	150	ISL	9.09	9.07	33.838	26.197	184.0	0.420	3.07	47.2	29.4	1.89	25.2	0.01	0.00	0.04	151
L	154		9.02	9.00	33.855	26.221	181.8	0.427	3.06	47.0	29.8	1.90	25.3	0.01	0.00	0.04	155
L	184		8.54	8.52	33.942	26.365	168.6	0.480	3.18	48.4	32.4	1.91	25.9	0.01	0.00	0.03	185
	200	ISL	8.31	8.29	33.975	26.426	163.0	0.506	3.00	45.4	35.3	2.00	27.2	0.01	0.00	0.03	201
1	217		8.09	8.07	34.002	26.480	158.1	0.534	2.75	41.4	38.7	2.11	28.7	0.01	0.00	0.03	218
	250	ISL	7.76	7.74	34.037	26.557	151.3	0.585	2.42	36.2	43.6	2.24	30.6	0.01			251
1	252		7.74	7.72	34.038	26.560	150.9	0.588	2.40	35.9	43.9	2.25	30.7	0.01			253
L	292		7.33	7.30	34.058	26.635	144.3	0.647	2.06	30.5	49.9	2.43	32.7	0.00			294
	300	ISL	7.27	7.24	34.069	26.652	142.8	0.658	1.95	28.8	51.4	2.47	33.2	0.00			302
:L	347		6.93	6.90	34.129	26.747	134.3	0.723	1.32	19.4	60.7	2.70	35.9	0.00			349
	400	ISL	6.34	6.30	34.134	26.830	126.8	0.793	1.07	15.5	69.3	2.85	38.2	0.00			403
:L	412		6.21	6.17	34.135	26.847	125.2	0.808	1.04	15.0	71.1	2.88	38.6	0.00			415
I	482		5.96	5.92	34.234	26.958	115.5	0.892	0.52	7.5	80.2	3.08	40.5	0.00			485
	500	ISL	5.84	5.80	34.243	26.980	113.5	0.913	0.48	6.9	82.5	3.10	40.9	0.00			503
II	563		5.13	5.38	34.274	27.055	106.8	0.982	0.34	4.8	90.4	3.19	42.3	0.00			5c7

RV MEW HORIZON CALCOFI CRUISE 9110 STATION 83 90

LATITUDE	LONGITJDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
32 34.7 N	122 48.4 W	07/10/91	2142 UTC	4264 n	360 11 kn	360 04 04	2	1015.8 *mb*	17.5 C	17.0 C	20m 03	8/8 SC

CtST	DEPTH n		TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN «1/1	OXY PCT	SIO3 UM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS dlb
1	0		17.:»7	17.27	33.163	24.042	386.0	0.000	5.71	103.8	2.7	0.38	0.1	0.00	0.22	0.07	0
1	10		17.;J8	17.28	33.172	24.047	385.9	0.039	5.70	103.7	2.7	0.38	0.1	0.00	0.23	0.06	10
1	19		17.24	17.24	33.393	24.226	369.1	0.073	5.76	104.8	2.5	0.36	0.1	0.00	0.39	0.15	19
	20	ISL	17.13	17.13	33.402	24.259	366.0	0.076	5.78	105.0	2.5	0.36	0.1	0.00	0.41	0.16	20
1	30		15.16	15.76	33.408	24.579	335.8	0.111	5.98	105.7	2.7	0.37	0.1	0.00	0.56	0.33	30
1	40		14.4 7	14.66	33.341	24.766	318.2	0.144	5.87	101.5	3.7	0.48	1.2	0.18	0.71	0.55	40
	50	ISL	12.311	12.20	33.099	25.075	288.9	0.174	5.63	92.3	6.7	0.81	6.4	0.12	0.34	0.35	50
1	51		11.97	11.96	33.079	25.105	286.0	0.177	5.60	91.4	7.0	0.84	7.0		0.30	0.32	51
1	61		11.14	11.13	33.045	25.230	274.2	0.205	5.44	87.2	9.1	0.99	9.5	0.05	0.17	0.20	61
1	71		10.510	10.89	33.101	25.317	266.2	0.232	5.25	83.7	10.4	1.10	11.1	0.02	0.14	0.15	71
	75	ISL	10.119	10.88	33.175	25.376	260.7	0.243	5.10	81.3	11.3	1.16	12.2	0.02	0.12	0.13	75
1	85		10.07	10.86	33.384	25.543	245.1	0.268	4.65	74.2	14.2	1.32	15.2	0.02	0.08	0.09	85
	100	ISL	10.27	10.26	33.545	25.772	223.5	0.303	4.05	63.9	19.4	1.58	19.5	0.02	0.05	0.07	100
1	101		10.22	10.21	33.552	25.786	222.2	0.306	4.01	63.2	19.7	1.60	19.8	0.02	0.05	0.07	101
1	121		9.co	9.59	33.678	25.989	203.3	0.348	3.50	54.4	24.8	1.78	22.9	0.01	0.01	0.05	122
	125	ISL	9.51	9.50	33.700	26.021	200.3	0.356	3.41	52.9	25.5	1.81	23.4	0.01	0.01	0.05	126
1	147		9.13	9.11	33.809	26.168	186.7	0.399	3.02	46.5	29.0	1.92	25.4	0.01	0.01	0.05	148
	150	ISL	9.09	9.07	33.823	26.185	185.1	0.404	2.97	45.7	29.5	1.94	25.7	0.01	0.01	0.05	151
1	178		8.80	8.78	33.929	26.314	173.4	0.454	2.65	40.5	33.5	2.06	27.7	0.01	0.00	0.04	179
	200	ISL	8.50	8.48	33.971	26.394	166.1	0.492	2.57	39.1	36.1	2.11	28.6	0.01	0.00	0.04	201
1	209		8.38	8.36	33.984	26.422	163.5	0.507	2.55	38.7	37.1	2.12	28.9	0.01	0.00	0.04	210
1	240		8.02	8.00	34.036	26.518	154.9	0.556	2.44	36.7	41.4	2.20	30.0	0.01			241
	250	ISL	7.91	7.88	34.046	26.542	152.7	0.571	2.37	35.6	42.9	2.25	30.5	0.01			251
1	281		7.56	7.53	34.067	26.609	146.7	0.618	2.12	31.6	47.9	2.41	32.0	0.01			283
	300	ISL	7.33	7.30	34.070	26.645	143.5	0.645	1.99	29.5	51.0	2.47	33.0	0.01			302
1	338		6.91	6.91	34.087	26.712	137.5	0.699	1.66	24.4	57.5	2.60	35.1	0.01			340
1	399		6.61	6.60	34.214	26.854	124.8	0.779	0.76	11.1	69.5	2.94	38.0	0.00			402
	400	ISL	6.62	6.58	34.213	26.855	124.7	0.780	0.76	11.1	69.7	2.94	38.1	0.00			403
1	466		5.62	5.58	34.161	26.942	116.4	0.860	0.70	10.0	81.1	3.04	41.2	0.00			469
	500	ISL	5.54	5.50	34.213	26.993	112.0	0.898	0.52	7.4	85.8	3.12	41.8	0.00			503
1	535		5.45	5.41	34.267	27.047	107.2	0.937	0.34	4.8	90.6	3.21	42.5	0.00			539

RV MEW HORIZON CALCOFI CRUISE 9110 STATION 83 100

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	HIND SPEED	HAVES	HEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
32 15,0 N	123 30.0 W	07/10/91	1413 UTC	4124 m	340 10 kn	340 03 04	2	1016.0 ab	17.0 C	16.1 C	26ll 01	8/8	SC

CAST	DEPTH m	TEMP 3EG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA TRETA	SVA	DYN BT	OXYGEN Ml/1	OXY PCT	SIO3 uM/1	PO4 UM/1	NO3 uM/1	NOZ uM/l	CHL-A ug/1	PHAEO Ug/1	PRESS db
	0 ISL	L8.41	18.41	33.142	23.750	413.9	0.000	5.51	102.4	3.3	0.40	0.0	0.00	0.11	0.03	0
J.	1	L8.41	18.41	33.142	23.750	413.9	0.004	5.51	102.4	3.3	0.40	0.0	0.00	0.11	0.03	1
	10 ISL	18.41	18.41	33.142	23.750	414.2	0.041	5.51	102.4	3.1	0.39	0.0	0.00	0.11	0.03	10
1	11	18.41	18.41	33.142	23.750	414.2	0.046	5.51	102.4	3.1	0.39	0.0	0.00	0.11	0.03	11
	20 ISL	18.40	18.40	33.141	23.753	414.3	0.083	5.51	102.4	3.1	0.39	0.0	0.00	0.11	0.03	20
1	21	18.40	18.40	33.141	23.753	414.4	0.087	5.51	102.4	3.1	0.39	0.0	0.00	0.11	0.03	21
	30 ISL	18.37	18.36	33.152	23.769	413.1	0.124	5.55	1031.1	3.1	0.38	0.0	0.00	0.15	0.05	30
1	32	18.36	18.35	33.154	23.773	412.8	0.132	5.56	103.2	3.1	0.38	0.0	0.00	0.16	0.05	32
1	42	16.13	16.12	33.130	24.282	364.4	0.171	6.05	107.5	3.1	0.38	0.0	0.00	0.20	0.08	42
	50 ISL	15.37	15.36	33.202	24.508	343.2	0.200	6.08	106.5	3.3	0.39	0.0	0.00	0.25	0.13	50
1	52	15.26	15.25	33.220	24.546	339.6	0.206	6.09	101.4	3.3	0.39	0.0	0.00	0.26	0.15	52
1	62	14.68	14.67	33.244	24.690	326.1	0.240	6.04	104.4	3.3	0.43	0.2	0.01	0.32	0.24	62
1	72	13.60	13.59	33.188	24.872	309.0	0.272	5.90	9<».7	3.9	0.54	1.3	0.17	0.25	0.20	72
	75 ISL	13.42	13.41	33.194	24.913	305.1	0.281	5.85	91:1.5	4.1	0.57	1.8	0.16	0.23	0.20	75
1	86	12.91	12.90	33.235	25.046	292.6	0.314	5.64	93.9	5.1	0.66	3.9	0.14	0.18	0.19	86
	100 ISL	12.00	11.99	33.237	25.223	276.0	0.353	5.39	88.1	6.9	0.84	7.2	0.03	0.10	0.13	100
1	101	11.93	11.92	33.238	25.237	274.7	0.356	5.37	87.6	7.1	0.85	7.4	0.02	0.09	0.12	101
1	120	11.00	10.99	33.358	25.500	250.0	0.406	4.97	79.5	10.9	1.06	11.3	0.01	0.04	0.06	121
	125 ISL	10.75	10.74	33.388	25.568	243.6	0.418	4.84	77.1	12.2	1.13	12.6	0.01	0.03	0.05	126
1	145	9.88	9.86	33.517	25.817	220.1	0.465	4.29	67.1	17.8	1.41	17.4	0.00	0.01	0.04	146
	150 ISL	9.74	9.72	33.559	25.873	214.9	0.476	4.16	61.8	19.1	1.46	18.4	0.00	0.01	0.04	151
I	176	9.26	9.24	33.764	26.112	192.6	0.529	3.59	55.4	25.4	1.69	22.2	0.00	0.00	0.03	177
	200 ISL	8.93	8.91	33.879	26.255	179.4	0.573	3.29	50.5	29.5	1.82	24.3	0.00	0.00	0.02	201
1	206	8.85	8,83	33.901	26.285	176.7	0.581	3.23	49.5	30.5	1.85	24.7	0.00	0.00	0.02	207
1	236	8.39	8.37	33.997	26.432	163.2	0.635	2.93	41.4	36.2	2.02	27.2	0.00			237
	250 ISL	8.19	8,16	34.019	26.479	158.8	0.657	2.81	42.4	38.6	2.08	28.1	0.00			251
1	277	7.84	7.81	34.044	26.551	152.3	0.699	2.58	38.6	43.0	2.19	29.7	0.00			279
	300 ISL	7.59	7.56	34.060	26.600	147.9	0.734	2.34	34.8	46.8	2.30	31.1	0.00			302
1	333	7.26	7.23	34.080	26.663	142.3	0.782	1.97	29.1	52.4	2.47	33.2	0.00			335
1	393	6.69	6.65	34.129	26.780	131.8	0.864	1.24	18.1	63.3	2.76	36.7	0.00			395
	400 ISL	6.64	6.6Q	34.133	26.790	130.9	0.873	1.19	17.3	64.3	2.78	37.0	0.00			402
1	459	6.19	6.15	34.163	26.872	123.5	0.948	0.87	12.5	72.5	2.93	39.0	0.00			462
	500 ISL	5.80	5.76	34.182	26.937	117.5	0.998	0.69	9.9	79.9	3.05	40.6	0.00			503
1.	530i	5.51	5.47	34.197	26.984	113.1	1.032	0.55	7.8	85.3	3.13	41.8	0.00			534

RV NEW HORI&ON CALCOFI CRUISE 9110 STATION 83 110

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	HIND SPEED	NAVES	HEA	BAROMETER	DRY	NET	SECCHI/FOREL	CLD AMT	TYPE
31 54.8 N	124 10.5 H	07/10/91	0817 UTC	4190 *n*	340 09 kn			1017.1 Mb	18.0 C	16.0 C			

CAST	DEPTH ••	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT m1/1	OXYGEN	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
1	0	18.44	18.44	33.133	23.736	415.2	0.000	5.53	102.8	3.4	0.38	0.0	0.00	0.13	0.04	0
1	10	18.45	18.45	33.133	23.734	415.8	0.042	5.53	102.8	3.4	0.38	0.0	0.00	0.13	0.04	10
1	20	18.42	18.42	33.130	23.739	415.6	0.083	5.60	104.1	3.3	0.37	0.0	0.00	0.13	0.04	20
	30 ISL	17.53	17.52	33.081	23.919	398.8	0.124	5.76	105.2	3.3	0.37	0.0	0.00	0.19	0.08	30
1	31	17.41	17.40	33.076	23.943	396.5	0.128	5.78	105.3	3.3	0.37	0.0	0.00	0.20	0.08	31
1	41	16.14	16.13	33.074	24.237	368.7	0.166	6.12	108.8	3.2	0.39	0.0	0.00	0.25	0.10	41
	50 ISL	14.92	14.91	33.068	24.502	343.6	0.198	6.30	109.3	3.2	0.40	0.0	0.00	0.30	0.18	50
1	51	14.80	14.79	33.068	24.528	341.2	0.202	6.31	109.2	3.2	0.40	0.0	0.00	0.31	0.19	51
1	61	14.01	14.00	33.085	24.708	324.3	0.235	6.27	106.7	3.4	0.42	0.1	0.01	0.36	0.32	61
1	71	13.03	13.02	33.132	24.943	302.1	0.266	5.89	98.3	4.6	0.60	2.6	0.25	0.29	0.28	71
	75 ISL	12.73	12.72	33.134	25.003	296.4	0.27JI	5.80	»6.2	5.1	0.65	3.6	0.22	0.26	0.26	75
1	85	12.12	12.11	33.141	25.125	285.0	0.307	5.61	91.8	6.4	0.77	6.1	0.06	0.19	0.21	85
1	100	11.47	11.46	33.241	25.324	266.3	0.34!>	5.27	85.1	8.8	0.93	9.1	0.02	0.09	0.15	100
1	120	10.43	10.42	33.252	25.517	248.2	0.400	5.00	79.0	11.8	1.13	12.7	0.01	0.05	0.07	121
	125 ISL	10.25	10.24	33.269	25.561	244.1	0.412	4.92	77.4	12.7	1.18	13.6	0.01	0.04	0.07	126
1	146	9.70	9.68	33.388	25.746	226.8	0.462	4.48	69.7	16.9	1.39	17.1	0.01	0.02	0.05	147
	150 ISL	9.62	9.60	33.422	25.786	223.1	0.471	4.36	67.7	17.9	1.43	17.9	0.01	0.02	0.05	151
1	176	9.22	9.20	33.663	26.040	199.5	0.526	3.63	56.0	24.2	1.68	22.3	0.00	0.00	0.04	177
	200 ISL	8.92	11.90	33.858	26.240	180.8	0.571	3.32	50.9	28.8	1.80	24.4	0.00	0.00	0.02	201
1	207	8.84	11.82	33.904	26.289	176.3	0.584	3.26	49.9	30.0	1.82	24.8	0.00	0.00	0.02	208
1	236	8.41	1.39	33.991	26.424	163.9	0.633	3.03	46.0	34.9	1.94	26.8	0.00			237
	2S0 ISL	8.24	IS.21	34.014	26.468	159.9	0.6515	2.89	43.7	37.2	2.01	27.8	0.00			251
1	277	7.95	7.92	34.043 A	26.534	154.0	0.69S	2.57	38.6	41.7	2.16	29.6	0.00			279
	300 ISL	7.70	7.67	34.070	26.592	148.7	0.733	2.26	33.7	46.0	2.29	31.2	0.00			302
1	3313	7.30	7.27	34.097 A	26.671	141.6	0.781	1.84	27.2	52.6	2.48	33.5	0.00			335
1	3SI4	6.37	6.33	34.098 A	26.797	129.8	0.861	1.30	18.8	65.7	2.76	37.8	0.00			396
	400 ISL	6.31	6.27	34.101	26.807	128.9	0.871	1.25	18.1	66.8	2.78	38.1	0.00			402
1	461	5.84	5.80	34.141 A	26.899	120.6	0.948	0.85	12.2	76.6	2.93	40.3	0.01			464
	500 ISL	5.63	5.59	34.177	26.953	115.7	0.994	0.65	9.2	82.0	3.03	41.3	0.00			503
1	533	5.46	5.42	34.208 A	26.999	111.7	1.031	0.48	6.8	86.5	3.11	42.1	0.00			537

A) THE SALINITY SAMPLES FROM 277 TO 533 METERS APPEAR TO HAVE BEEN ANALYZED IN REVERSE ORDER. THEY ARE ASSUMED TO NOW BE IN THE CORRECT ORDER.

RV NEW HORIZON CALCOFI CRUISE 9110 STATION 87 33

LATITUDE	IONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	HIND SPEED	HAVES	HEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
33 53.4 N	118 29.4 H	04/10/91	2121 UTC	55 B	230 04 kn	00 00 1		1013.2 Bb	19.9 C	18.4 C	15m 03	1/8	CU

CAST	DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN *mX/1.*	OXY PCT	SIO3 UM/1	PO4 UM/1	NO3 uM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
1	0	18.69	18.69	33.397	23.875	401.9	0.000	5.95	111.3	2.2	0.31	0.1	0.00	0.56	0.16	0
1	10	15.13	15.13	33.326	24.654	328.0	0.0316	6.42	112.0	3.3	0.37	0.1	0.00	0.64	0.31	10
	20 ISL	13.19	13.19	33.244	24.996	295.7	0.068	5.50	92.2	7.2	1.07	4.6	0.61	1.08	0.83	20
1	21	13.08	13.08	33.237	25.013	294.1	0.071	5.39	90.1	7.6	1.14	5.1	0.68	1.10	0.87	21
	30 ISL.	12.88	12.88	33.296	25.098	286.2	0.097	5.36	89.3	7.9	1.02	5.8	0.90	0.48	0.70	30
1	31	12.86	12.86	33.296	25.102	285.9	0.100	5.36	89.2	7.9	0.99	5.8	0.92	0.40	0.68	31
1	42	12.40	12.39	33.319	25.209	275.9	0.131	4.99	82.3	9.8	1.16	8.4	1.16	0.22	0.27	42
	50 ISL,	12.14	12.13	33.344	25.278	269.5	0.152	4.65	76.3	11.6	1.26	9.5	0.98	0.16	0.36	50
1	52	12.08	12.07	33.351	25.295	268.0	0.158	4.56	74.7	12.1	1.28	9.8	0.93	0.15	0.38	52

RV NEW HORIZON CALCOFI CRUISE 9110 STATION 87 35

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	NET	SECCHI/FOREI,	CLD AMT	TYPE
33 49.3 N	118 38.0 N	04/10/91	2319 UTC	660 m	260 06 kn	00 00 1		1012.7 mb	19.8 C	18.2 C	23B 03	1/8	CU

CAST	DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN BT m1/1	OXYGEN	OXY PCT	SIO3 uM/1	PO4 UM/1	NO3 uM/1	NO2 UM/1	CHL-A ug/1	PBAEO ug/1	PRESS db
1	0	19.73	19.73	33.479	23.673	421.2	0.000	5.62	107.3	3.2	0.29	0.0	0.00	0.32	0.06	0
1	10	18.82	18.82	33.449	23.883	401.5	0.041	5.78	108.4	3.2	0.29	0.0	0.00	0.36	0.09	10
	20 ISI.	15.67	15.67	33.325	24.535	339.7	0.078	6.50	114.6	2.6	0.34	0.0	0.00	0.54	0.28	20
1	21	15.34	15.34	33.318	24.603	333.2	0.082	6.56	114.9	2.5	0.34	0.0	0.00	0.56	0.30	21
	30 ISI,	14.09	14.09	33.288	24.847	310.1	0.111	6.46	110.3	2.1	0.53	1.2	0.13	10.19	3.67	30
1	31	14.01	14.01	33.285	24.862	308.8	0.114	6.45	110.0	2.0	0.56	1.4	0.16	10.9')	3.96	31
1	41	13.25	13.24	33.266	25.002	295.7	0.144	5.42	90.9	7.5	1.08	4.8	0.62	0.91	0.97	41
	50 ISI.	12.69	12.68	33.300	25.139	282.9	0.170	5.20	86.3	8.7	1.07	6.7	0.94	0.32	0.39	50
1	51	12.63	12.62	33.307	25.156	281.2	0.173	5.19	86.0	8.7	1.07	6.9	0.9S	0.25	0.33	51
1	61	11.85	11.84	33.411	25.385	259.6	0.200	4.88	79.6	10.7	1.07	10.8	0.22	0.17	0.25	61
1	71	11.65	11.64	33.438	25.443	254.3	0.225	4.72	76.6	11.9	1.14	12.0	0.07	0.12	0.20	71
	75 ISL	11.56	11.55	33.447	25.467	252.1	0.236	4.67	75.7	12.2	1.17	12.4	0.06	0.11	0.19	75
1	86	11.31	11.30	33.476	25.536	245.9	0.263	4.53	73.0	13.4	1.24	13.5	0.04	0.10	0.17	86
	100 ISL	10.94	10.93	33.533	25.646	235.6	0.297	4.22	67.5	16.1	1.36	15.6	0.02	0.07	0.12	100
1	101	10.91	10.90	33.537	25.655	234.8	0.299	4.20	67.2	16.3	1.37	15.8	0.02	0.07	0.12	101
1	121	10.61	10.60	33.595	25.753	225.9	0.345	3.92	62.3	18.6	1.48	17.5	0.03	0.04	0.13	122
	125 ISL	10.53	10.52	33.620	25.787	222.8	0.354	3.81	60.5	19.4	1.52	18.1	0.03	0.03	0.12	126
1	146	10.13	10.11	33.783	25.983	204.5	0.399	3.19	50.2	24.3	1.74	21.5	0.02	0.01	0.07	147
	150 ISL	10.08	10.06	33.822	26.022	200.9	0.407	3.07	48.3	25.3	1.78	22.1	0.02	0.01	0.07	151
1	177	9.73	9.71	34.037	26.249	179.9	0.458	2.52	39.4	31.0	2.00	25.3	0.01	0.00	0.09	178
	200 ISL	9.31	9.29	34.048	26.327	172.8	0.499	2.64	40.9	32.7	1.99	36.0	0.01	0.00	0.05	201
1	207	9.17	9.15	34.037	26.341	171.6	CI.511	2.68	41.4	33.0	1.99	26.0	0.01	0.00	0.04	208
1	236	8.65	8.63	34.029	26.417	164.7	0.560	2.79	42.6	35.6	2.02	26.9	0.01			237
	250 ISL	8.49	8.46	34.053	26.461	160.8	0.583	2.65	40.3	37.8	2.09	27.7	0.01			251
1	277	8.25	8.22	34.111	26.543	153.4	0.625	2.27	34.3	42.6	2.25	29.4	0.01			279
	300 ISL	8.07	8.04	34.143	26.595	148.7	0.660	1.98	29.8	46.3	2.37	30.6	0.01			302
1	332	7.83	7.80	34.170	26.652	143.7	0.707	1.65	24.7	50.7	2.51	32.1	0.00			334
1	392	7.39	7.35	34.170	26.716	138.4	0.791	1.40	20.8	56.1	2.63	34.0	0.00			394
	400 ISL	7.35	7.31	34.178	26.728	137.3	0.802	1.32	19.6	57.1	2.66	34.3	0.00			403
1	459	7.05	7.01	34.252	26.829	128.5	0.881	0.74	10.9	65.3	2.88	36.6	0.03			462
	500 ISL	6.77	6.72	34.285	26.893	122.8	0.932	0.54	7.9	71.2	3.00	37.9	0.02			503
1	529	6.57	6.52	34.308	26.939	118.8	0.967	0.40	5.8	75.4	3.08	38.8	0.01			533

RV NEW HORIZON CALCOFI CRUISE 9110 STATION 87 39.6

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
33 40.9 N	118 57.3 W	05/10/91	0321 UTC	900 n	00 kn			1012.0 «b	18.8 C	17.6 C			

CAST	DEPTH -	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN Ml/1	OXY PCT	SIO3 UM/1	PO4 UM/1	NO3 uM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
1	0 A	19.74	19.74	33.494	23.682	420.3	0.000	5.50	105.0	3.9	0.33	0.2	0.01	0.21	0.06	0
	10 ISL	18.14	18.14	33.434	24.040	386.6	0.040	5.81	107.6	4.2	0.35	0.2	0.01	0.27	0.09	10
1	16	17.18	17.18	33.412	24.255	366.3	0.063	6.00	109.1	4.3	0.36	0.2	0.01	0.30	0.10	16
	20 ISL	16.33	16.33	33.387	24.434	349.3	0.077	6.17	110.3	4.7	0.38	0.2	0.01	0.70	0.26	20
1	25	15.39	15.39	33.366	24.629	330.9	0.094	6.32	110.9	5.2	0.41	0.3	0.02	1.16	0.44	25
	30 ISL	14.96	14.96	33.356	24.715	322.8	0.111	6.26	108.9	5.4	0.45	0.9	0.03	1.09	0.44	30
1	35	14.66	14.65	33.346	24.772	317.5	0.127	6.13	105.9	5.6	0.50	1.6	0.04	1.01	0.43	35
1	45	13.68	13.67	33.317	24.954	300.3	0.157	6.03	102.1	6.0	0.58	2.5	0.09	0.78	0.46	45
	50 ISL	13.14	13.13	33.324	25.069	289.6	0.172	5.72	95.8	7.6	0.73	5.1	0.17	0.59	0.42	50
1	54	12.66	12.65	33.328	25.166	280.3	0.184	5.44	90.2	9.1	0.86	7.5	0.23	0.43	0.36	54
1	64	11.21	11.20	33.278	25.399	258.3	0.211	5.07	81.5	12.2	1.14	12.3	0.15	0.16	0.18	64
1	75	10.86	10.85	33.407	25.562	243.0	0.238	4.65	74.2	14.7	1.29	14.5	0.05	0.11	0.14	75
1	88	10.64	10.63	33.530	25.697	230.5	0.269	4.26	67.7	16.8	1.37	16.1	0.02	0.07	0.13	88
	100 ISL	10.31	10.30	33.608	25.815	219.5	0.296	3.92	61.9	19.7	1.50	18.3	0.01	0.04	0.10	100
1	103	10.22	10.21	33.624	25.843	216.9	0.302	3.85	60.7	20.4	1.53	18.8	0.01	0.03	0.09	103
1	122	9.81	9.80	33.706	25.976	204.6	0.342	3.58	55.9	23.6	1.67	21.1	0.01	0.01	0.06	123
	125 ISL	9.74	9.73	33.724	26.002	202.2	0.349	3.52	54.9	24.3	1.69	21.5	0.01	0.01	0.06	126
1	141	9.40	9.38	33.818	26.131	190.1	0.380	3.22	49.9	27.8	1.81	23.6	0.01	0.01	0.05	142
	150 ISL	9.25	9.23	33.862	26.190	184.7	0.397	3.10	47.9	29.5	1.87	24.5	0.01	0.01	0.09	151
1	170	9.01	8.99	33.946	26.294	175.1	0.433	2.90	44.6	32.6	1.97	25.9	0.01	0.01	0.17	171
1	199	8.88	8.86	34.042	26.391	166.6	0.482	2.60	39.9	35.4	2.05	26.8	0.01	0.01	0.05	200
	200 ISL	8.87	8.85	34.044	26.394	166.3	0.484	2.59	39.7	35.5	2.05	26.8	0.01			201
1	227	8.45	8.43	34.076	26.484	158.0	0.528	2.47	37.5	39.7	2.14	28.3	0.01			228
	250 ISL	8.23	8.20	34.100	26.537	1.53.4	0.564	2.30	34.8	42.8	2.24	29.4	0.01			251
1	266	8.10	8.07	34.115	26.568	150.7	0.588	2.16	32.6	45.0	2.31	30.2	0.01			368
	300 ISL	7.75	7.72	34.143	26.642	144.0	0.638	1.79	26.8	50.3	2.47	31.9	0.01			302
1	313	7.63	7.60	34.155	26.669	141.7	0.657	1.63	24.3	52.3	2.53	32.6	0.01			315
1	370	7.35	7.31	34.236	26.773	132.6	0.735	0.98	14.5	60.6	2.79	35.2	0.00			372
	400 ISL	7.11	7.07	34.262	26.828	127.8	0.774	0.74	10.9	65.5	2.89	36.5	0.01			403
1	427	6.89	6.85	34.278	26.871	123.9	0.808	0.59	8.7	69.4	2.96	37.4	0.01			430
1	494	6.62	6.57	34.298	26.924	119.7	0.889	0.45	6.6	74.0	3.05	38.5	0.00			497
	500 ISL	6.58	6.53	34.300	26.931	119.1	0.897	0.44	6.4	74.7	3.06	38.6	0.00			503
	600 ISL	5.951	5.94	34.336	27.036	109.9	1.011	0.29	4.2	88.2	3.17	40.0	0.01			604
1	629	5.81	5.76	34.346	27.067	107.1	1.043	0.25	3.6	92.7	3.20	40.2	0.01			634
	700 ISL	5.53!	5.46	34.367	27.119	102.6	1.117	0.18	2.6	100.4	3.27	38.3	0.01			705
	800 ISL	5.2!	5.18	34.389	27.170	98.7	1.218	0.10	1.4	112.6	3.36	35.6	0.00			806
1	827	5.2)	5.14	34.393	27.178	98.2	1.244	0.09	1.3	116.1	3.39	34.9	0.00			834
1	863	5.0	5.10	34.397	27.186	97.8	1.279	0.07	1.0	122.1	3.43	31.5	0.00			870
1	873	5.1"	5.10	34.398	27.187	97.8	1.289	0.06	0.8	123.7	3.45	30.9	0.00			880
1	878	5.n	5.10	34.398	27.187	97.9	1.294	0.07	1.0	124.3	3.49	30.6	0.01			885
1	883	5.IIS	5.09	34.401	27.191	97.6	1.299	0.06	0.8	125.1	3.51	29.9	0.00			890

A) SANTA MONICA BASIN STATION.

RV NEW HORIZON CALCOFI CRUISE 9110 STATION 87 45

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	NAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CIO AMT TYPE
33 29.4 N	119 19.1 W	05/10/91	0739 UTC	1634 -	060 02 kn			1014.1 nb	17.3 C	16.1 C		

CAST	DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN BT	OXYGEN ml/1	OXY PCT	SIO3 UM/1	PO4 UM/1	NO3 uM/1	NO2 UM/1	CHL-A ug/1	PBAEO ug/1	PRESS db
	0 XSL	19.16	19.16	33.480	23.820	407.2	0.000	5.54	104.6	3.2	0.34	0.0	0.00	0.26	0.07	0
1	1	19.16	19.16	33.480	23.830	407.2	0.004	5.54	104.6	3.2	0.34	0.0	0.00	0.26	0.07	1
	10 ISL	18.35	18.35	33.442	23.995	390.9	0.040	5.69	105.8	3.3	0.35	0.0	0.00	0.24	0.08	10
1	11	18.20	18.20	33.435	24.026	387.9	0.044	5.72	106.1	3.3	0.35	0.0	0.00	0.24	0.08	11
	20 ISL	16.68	16.68	33.378	24.346	357.7	0.077	6.01	108.2	3.5	0.37	0.1	0.00	0.30	0.12	20
1	22	16.27	16.27	33.362	24.428	349.9	0.085	6.07	108.4	3.5	0.37	0.1	0.00	0.33	0.13	22
	30 ISL	14.37	14.37	33.272	24.776	316.9	0.111	6.05	103.9	4.3	0.49	1.3	0.08	0.53	0.23	30
1	32	13.SI	13.91	33.255	24.859	309.1	0.117	6.05	102.9	4.7	0.53	1.9	0.10	0.58	0.26	32
1	42	12.47	12.46	33.237	25.132	283.3	0.147	5.57	91.9	7.9	0.85	7.1	0.20	0.55	0.34	42
	50 ISL	12.(6	12.05	33.296	25.256	271.6	0.169	5.29	86.6	10.0	0.99	9.5	0.28	0.39	0.25	50
1	52	12.(1	12.00	33.313	25.279	269.5	0.175	5.23	85.5	10.5	1.02	9.9	0.30	0.34	0.22	52
1	62	11.(3	11.62	33.366	25.391	259.1	0.201	5.01	81.3	12.1	1.14	12.0	0.32	0.22	0.19	62
1	72	11.(10	10.99	33.423	25.550	244.2	0.226	4.64	74.3	14.7	1.30	14.8	0.11	0.14	0.16	72
	75 ISL	10.H2	10.91	33.438	25.576	241.8	0.234	4.58	73.2	15.0	1.32	15.1	0.10	0.13	0.15	75
1	86	10.(8	10.67	33.505	25.670	233.0	0.260	4.36	69.4	16.3	1.37	16.2	0.06	0.09	0.11	86
	100 ISL	10.07	10.06	33.641	25.881	213.1	0.291	3.81	59.9	21.3	1.59	19.7	0.02	0.04	0.09	100
1	101	10.03	10.02	33.651	25.896	211.8	0.293	3.77	59.2	21.7	1.61	20.0	0.02	0.04	0.09	101
1	121	*9.52*	9.51	33.809	26.104	192.3	0.333	3.25	50.5	26.9	1.80	23.1	0.02	0.01	0.06	122
	125 ISL	9. 16	9.45	33.825	26.127	190.3	0.341	3.20	19.7	27.5	1.82	23.4	0.02	0.01	0.06	126
1	147	9.26	9.24	33.884	26.206	183.2	0.382	3.01	46.S	29.8	1.90	24.6	0.01	0.00	0.06	148
	150 ISL	9 23	9.21	33.894	26.218	182.0	0.388	2.98	46.0	30.2	1.91	24.8	0.01	0.00	0.06	151
1	178	8.»6	8.94	33.983	26.332	171.8	0.437	2.71	41.6	33.7	2.02	26.4	0.01	0.00	0.05	179
	200 ISL	8.73	8.71	34.024	26.400	165.6	0.474	2.55	39.0	36.5	2.10	27.6	0.02	0.00	0.04	201
1	208	8.55	8.63	34.036	26.422	163.7	0.487	2.50	38.1	37.4	2.13	28.0	0.02	0.00	0.04	209
1	337	8.46	8.44	34.082	26.488	157.9	0.534	2.32	35.3	40.1	2.22	28.7	0.01			238
	250 ISL	8.36	8.33	34.099	26.516	155.4	0.554	2.21	33.5	41.7	2.27	29.3	0.01			251
1	278	8.14	8.11	34.133	26.577	150.1	0.597	1.93	29.1	45.6	2.39	30.8	0.01			2801
	300 ISL	8.02	7.99	34.161	26.617	146.6	0.630	1.70	25.6	48.4	2.48	31.8	0.01			302
1	334	7.84	7.81	34.201	26.675	141.6	0.679	1.36	20.4	52.8	2.62	33.2	0.01			336
1	394	7.36	7.32	34.251	26.784	132.0	0.761	0.85	12.6	61.3	2.84	35.6	0.01			397
	400 ISL	7.32	7.28	34.254	26.792	131.3	0.769	0.82	12.1	62.0	2.86	35.8	0.01			403
1	460	6.93	6.89	34.282	26.869	124.7	0.846	0.58	8.5	69.1	2.98	37.1	0.04			463
	500 ISL	6.60	6.55	34.297	26.926	119.6	0.894	0.46	6.7	75.5	3.06	38.3	0.02			503
1	529	6.36	6.31	34.309	26.967	115.8	0.929	0.38	5.5	80.1	3.12	39.2	0.01			533

RV NEW HORIZON CALCOFI CRUISE 9110 STATION 87 50

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	HEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
33 19.4 N	119 39.9 W	05/10/91	1113 UTC	75 m	270 03 kn			1014.0 mb	15.1 C	14.9 C		

CAST	DEPTH m	DEG C TEMP	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS <lb
1	0	16.97	16.97	33.384	24.282	363.1	0.000	5.86	106.1	2.6	0.34	0.0	0.00	0.29	0.09	0
1	10	16.87	16.87	33.378	24.301	361.6	0.036	5.91	106.8	2.3	0.34	0.0	0.00	0.48	0.18	10
	20 ISL	16.79	16.79	33.385	24.326	359.6	0.072	5.93	107.0	2.3	0.33	0.0	0.00	0.71	0.33	20
1	21	16.78	16.78	33.386	24.329	359.4	0.076	5.93	106.9	2.3	0.33	0.0	0.00	0.76	0.34	21
	30 ISL	15.86	15.86	33.378	24.534	340.1	0.107	5.86	103.8	3.2	0.44	0.9	0.04	1.72	0.96	30
1	31	15.75	15.75	33.377	24.558	337.9	0.111	5.85	103.4	3.3	0.45	1.0	0.05	1.81	1.02	31
1	42	IS.23	15.22	33.366	24.664	328.0	0.147	5.72	100.0	4.5	0.56	2.4	0.09	1.51	0.88	42
	50 I5L	13.49	13.48	33.327	25.001	296.1	0.172	5.42	91.41	7.5	0.79	6.1	0.16	0.77	0.50	50
1	52	13.02	13.01	33.324	25.093	287.3	0.178	5.33	89.0	8.4	0.85	7.1	0.17	0.58	0.40	52
1	63	11.59	11.58	33.361	25.395	258.8	0.208	4.95	80.;!	11.9	1.09	11.2	0.16	0.26	0.22	63

RV NEW HORIZON CALCOFI CRUISE 9110 STATION 87 55

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
33 9.7 N	120 0.3 W	05/10/91	1435 UTC	1191 m	330 07 kn	310 02 06	2	1014.8 mb	15.5 C	15.1 C	20m 02	8/8 ST

CAST	DEPTH; m	T1!MP DSG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/1	OXY PCT	SIO3 UM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
1	0	17.06	17.06	33.310	24.204	370.6	0.000	5.69	103.1	2.4	0.38	0.1	0.00	0.28	0.10	0
1	10	17.08	17.08	33.306	24.197	371.6	0.037	5.69	103.2	2.6	0.37	0.1	0.00	0.29	0.09	10
	20 ISL	16.80	16.80	33.352	24.298	362.3	0.074	5.78	104.3	2.4	0.37	0.1	0.00	0.41	0.17	20
1	21	16.77	16.77	33.364	24.314	360.8	0.077	5.80	104.6	2.4	0.37	0.1	0.00	0.43	0.18	21
	30 ISL	15.50	15.50	33.239	24.507	342.6	0.109	6.03	105.9	2.8	0.40	0.1	0.02	0.56	0.38	30
1	31	15.33	15.33	33.221	24.531	340.4	0.112	6.05	105.9	2.9	0.41	0.1	0.02	0.57	0.40	31
1	41	14.05	14.04	33.091	24.704	324.1	0.146	6.06	103.3	3.7	0.54	1.7	0.18	0.60	0.43	41
	50 ISL	13.35	13.34	33.201	24.932	302.6	0.174	5.69	95.6	5.3	0.70	4.0	0.59	0.38	0.32	50
1	51	13.27	13.26	33.216	24.959	300.0	0.177	5.64	94.6	5.5	0.72	4.3	0.62	0.35	0.30	51
1	61	11.99	11.98	33.203	25.198	277.5	0.206	5.30	86 6	8.5	0.96	8.9	0.11	0.16	0.16	61
1	72	10.88	10.87	33.196	25.394	258.9	0.235	5.12	81.7	11.3	1.12	11.8	0.02	0.07	0.09	72
	75 ISL	10.62	10.61	33.222	25.460	252.7	0.243	5.04	79.9	12.0	1.16	12.5	0.02	0.06	0.08	75
1	86	9.85	9.84	33.347	25.688	231.1	0.270	4.72	73.7	14.7	1.28	15.0	0.01	0.04	0.07	86
	100 ISL	9.34	9.33	33.466	25.865	214.5	0.301	4.42	68.3	18.3	1.43	17.6	0.01.	0.02	0.04	1.00
1	101	9.32	9.31	33.473	25.874	213.7	0.303	4.40	67.9	18.5	1.44	17.8	0.01.	0.02	0.04	1.01
1	122	8.88	8.87	33.581	26.028	199.4	0.346	4.12	63.0	23.1	1.61	20.6	0.00	0.01	0.03	1.23
	125 ISL	8.84	8.83	33.605	26.053	197.0	0.352	4.05	61.9	23.8	1.63	21.0	0.00	0.01	0.03	1.26
1	147	8.66	8.64	33.785	26.223	181.3	0.394	3.50	53.3	28.7	1.80	24.1	0.00	0.00	0.02	148
	150 ISL	8.66	8.64	33.804	26.238	180.0	0.399	3.43	52.3	29.2	1.82	24.4	0.00	0.00	0.02	151
1	178	8.70	8.68	33.946	26.343	170.6	0.448	2.83	43.2	33.7	2.00	26.7	0.00	0.00	0.02	179
	200 ISL	8.54	8.52	34.025	26.430	162.7	0.485	2.49	37.9	37.7	2.13	28.2	0.00	0.00	0.03	201
1	208	8.45	8.43	34.045	26.460	160.0	0.498	2.40	36.5	39.1	2.17	28.7	0.00	0.00	0.03	209
1	238	8.04	8.02	34.078	26.548	152.1	0.545	2.24	33.7	43.6	2.27	30.1	0.00			239
	250 ISL	7.90	7.87	34.088	26.576	149.5	0.563	2.15	32.3	45.5	2.32	30.7	0.00			251
1	279	7.59	7.56	34.110	26.639	143.9	0.605	1.91	28.5	50.1	2.45	32.3	0.01			281
	300 ISL	7.42	7.39	34.129	26.678	140.4	0.635	1.69	25.1	53.4	2.54	33.3	0.01			302
I.	335	7.18	7.15	34.163	26.739	135.1	0.683	1.32	IS .5	58.6	2.68	34.9	0.01			337
1	396	6.87	6.83	34.221	26.828	127.4	0.763	0.82	13.0	66.2	2.89	37.1	0.00			399
	400 ISL	6.85	6.81	34.224	26.833	127.0	0.769	0.80	11.7	66.7	2.90	37.2	0.00			403
1	463	6.49	6.45	34.270	26.918	119.6	0.846	0.51	7.4	74.1	3.05	39.0	0.02			466
	500 ISL	6.32	6.27	34.284	26.952	116.8	0.890	0.44	li.4	77.8	3.09	39.6	0.01			503
1	534	6.17	6.12	34.298	26.983	114.2	0.929	0.38	5.5	81.2	3.13	40.2	0.00			538

RV NEW HORIZON CALCOFI CRUISE 9110 STATION 87 60

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	NAVES	HEA	BAROMETER	DRY	NET	SECCHI/TOREL	CID AMT TYPE
33 0.6 N	130 19 9 w	05/10/91	2056 UTC	769 a	310 01 fcn	320 02 06	2	1016.9 «b	16.5 C	15.5 C	16n 03	8/8 ST

CAST	DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYH HT	OXYGEN nl/1	OXY PCT	SIO3 uM/1	PO4 UM/1	NO3 UM/1	NO2 uM/1	C1L-A ug/1	PBAEO ug/1	PRESS db
1	0	16.94	16.94	33.322	24.242	367.0	0.000	5.80	104.9	2.6	0.37	0.1	0.00	0.30	0.08	0
1	10	16.78	16.78	33.319	24.277	363.9	0.037	5.90	106.4	2.6	0.37	0.1	0.00	0.32	0.10	10
	20 ISL	16.71	16.71	33.325	24.298	362.2	0.073	5.89	106.0	2.6	0.36	0.1	0.00	0.39	0.12	20
1	21	16.70	16.70	33.327	24.302	361.9	0.076	5.89	106.0	2.6	0.36	0.1	0.00	0.40	0.12	21
	30 ISL	16.47	16.47	33.355	24.377	355.0	0.109	5.98	107.2	2.6	0.36	0.1	0.00	0.53	0.21	30
1	31.	16.44	16.44	33.364	24.391	353.8	0.112	5.99	107.3	2.6	0.36	0.1	0.00	0.55	0.23	31
1	41	14.91	14.90	33.159	24.574	336.5	0.147	6.11	106.0	3.1	0.48	0.8	0.07	0.82	0.53	41
	SCI ISL	13.1118	13.87	33.196	24.820	313.3	0.176	5.89	100.1	4.0	0.65	2.3	0.26	0.52	0.40	50
1	51	13.77	13.76	33.202	24.847	310.7	0.179	5.86	99.4	4.1	0.67	2.6	0.29	0.47	0.37	51
1	62	12.02	12.01	33.100	25.112	285.6	0.212	5.67	92.6	7.1	0.96	7.9	0.64	0.17	0.15	62
1	72	11.38	11.27	33.112	25.257	272.0	0.240	5.44	87.5	9.6	1.08	10.6	0.11	0.14	0.15	72
	75 ISL	U.:t4	11.13	33.167	25.326	265.5	0.248	5.26	84.3	10.8	1.13	11.7	0.09	0.12	0.14	75
1	86	10.(89	10.68	33.397	25.584	241.1	0.276	4.54	72.2	15.3	1.35	15.6	0.02	0.06	0.09	86
	100 ISL	10.00	9.99	33.521	25.799	220.9	0.308	4.07	63.8	19.9	1.58	19.2	0.03	0.04	0.07	100
1	101	9.'»5	9.94	33.526	25.812	219.7	0.310	4.05	63.4	20.2	1.59	19.4	0.03	0.04	0.07	101
1	122	9.16	9.35	33.619	25.982	203.9	0.355	3.95	61.1	22.8	1.64	21.0	0.01	0.02	0.04	123
	125 ISL	9. 18	9.27	33.640	26.011	201.2	0.361	3.91	60.4	23.3	1.65	21.3	0.01	0.02	0.04	126
1	147	8.79	8.77	33.794	26.209	182.7	0.403	3.58	54.7	27.6	1.76	23.4	0.01	0.00	0.02	148
	150 ISL	8.74	8.72	33.811	26.231	180.7	0.409	3.57	54.5	28.1	1.77	23.6	0.01	0.00	0.02	151
1	177	8.14	8.32	33.928	26.384	166.5	0.455	3.46	53.4	32.3	1.85	25.2	0.01	0.00	0.02	178
	200 ISL	8.12	8.10	33.987	26.464	159.3	0.493	3.09	46.6	36.7	2.00	27.3	0.00	0.00	0.02	201
1	208	8.105	8.03	34.001	26.485	157.4	0.506	3.94	44.2	38.3	2.06	28.0	0.00	0.00	0.02	209
1	237	7.72	7.70	34.035	26.561	150.6	0.550	2.60	38.8	43.5	2.21	30.0	0.00			238
	250 ISL	7.53	7.51	34.041	26.593	147.7	0.570	3.46	36.6	46.1	2.27	31.0	0.00			251
1	278	7.14	7.11	34.051	26.656	142.0	0.610	2.16	31.8	51.9	2.41	33.0	0.00			280
	5100 ISL	6.10	6.87	34.064	26.699	138.1	0.641	1.89	27.7	56.3	2.53	34.5	0.00			302
1	333	6.107	6.64	34.101	26.760	132.7	0.686	1.47	21.4	62.2	2.70	36.3	0.00			335
1	393	6.75	6.71	34.252	26.869	123.4	0.762	0.64	9.4	69.8	2.97	38.0	0.00			396
	400 ISL	6.72	6.68	34.259	26.878	122.6	0.771	0.62	9.1	70.5	2.99	38.2	0.00			403
1	460	6.16	6.32	34.283	26.945	116.8	0.843	0.48	7.0	77.1	3.09	39.6	0.01			463
	500 ISL	6.198	6.04	34.303	26.998	112.2	0.889	0.38	5.5	82.8	3.15	40.5	0.00			503
1	S32	5.H5	5.80	34.320	27.040	108.3	0.924	0.30	4.3	87.3	3.19	41.3	0.00			536

RV HEN HORIZON CALCOFI CRUISE 9110 STATION 87 70

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	NIND SPEED	NAVES	NEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
32 39.0 N	121 2.4 W	06/10/91	0305 UTC	3735 B	310 10 kn			1015.4 lib	16.0 C	15.0 C		

CAST	DEPTH ••	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN »1/1	OXY PCT	SIO3 UM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS <1>
I	0	17.16	17.46	33.215	24.037	386.5	0.000	5.68	103.7	2.9	0.39	0.0	0.00	0.20	0.06	0
].	10	17.14	17.44	33.249	24.068	383.9	0.039	5.70	104.0	2.7	0.38	0.0	0.00	0.23	0.07	10
	20 ISL	17.10	17.40	33.300	24.117	379.6	0.077	5.71	104.2	2.5	0.37	0.0	0.00	0.27	0.09	20
1.	21	17.10	17.40	33.311	24.125	378.8	0.080	5.71	104.2	2.5	0.37	0.0	0.00	0.28	0.09	21
	30 ISL	16.35	16.85	33.359	24.292	363.2	0.114	5.81	104.9	2.5	0.37	0.0	0.00	0.41	0.19	30
1L	31	16.77	16.76	33.362	24.313	361.2	0.117	5.82	104.9	2.5	0.37	0.0	0.00	0.43	0.20	31
]L	41	16.08	16.07	33.321	24.441	349.3	0.153	5.92	105.2	2.7	0.37	0.0	0.01	0.53	0.30	41
	50 ISL	15.53	15.52	33.380	24.609	333.5	0.184	5.88	103.4	2.9	0.42	0.3	0.05	0.50	0.39	50
)L	51	15.17	15.46	33.387	24.628	331.7	0.187	5.87	103.1	2.9	0.43	0.4	0.06	0.50	0.39	51
:.	62	14. S3	14.62	33.368	24.796	316.0	0.223	5.74	99.1	3.5	0.54	1.5	0.24	0.32	0.29	62
1	72	12.53	12.52	33.155	25.058	291.1	0.253	5.58	92.2	6.4	0.82	5.7	0.74	0.17	0.20	72
	75 ISL	12.10	12.09	33.142	25.130	284.3	0.262	5.50	90.0	7.4	0.89	7.1	0.63	0.15	0.18	75
1	86	11.05	11.04	33.189	25.359	262.6	0.292	5.12	81.9	11.1	1.13	11.9	0.02	0.09	0.12	86
	100 ISL	10.47	10.46	33.344	25.581	241.7	0.327	4.60	72.8	15.2	1.34	15.6	0.02	0.04	0.07	100
IL	101	10.45	10.44	33.356	25.594	240.5	0.329	4.57	72.3	15.5	1.35	15.8	0.02	0.04	0.07	101
I	122	9.76	9.75	33.490	25.816	219.7	0.378	4.19	65.3	20.3	1.58	19.9	0.01	0.02	0.06	123
	125 ISL	9.68	9.67	33.516	25.849	216.6	0.384	4.13	64.3	20.8	1.59	20.2	0.01	0.02	0.06	126
:L	147	9.20	9.18	33.704	26.074	195.6	0.430	3.71	57.2	23.8	1.65	21.8	0.01	0.01	0.02	148
	150 ISL	9.14	9.12	33.723	26.099	193.3	0.436	3.66	56.4	24.3	1.67	22.1	0.01	0.01	0.02	151
:L	178	8.67	8.65	33.863	26.283	176.3	0.487	3.42	52.1	29.5	1.81	24.6	0.01	0.00	0.02	179
	300 ISL	8.30	8.28	33.952	26.409	164.6	0.525	3.56	53.9	32.5	1.81	24.9	0.01	0.00	0.02	301
1	209	8.14	8.12	33.978	26.454	160.4	0.539	3.59	54.1	33.9	1.81	25.1	0.01	0.00	0.02	210
1	238	7.61	7.59	33.992	26.543	152.3	0.585	3.00	44.7	41.5	2.07	28.9	0.01			239
	250 ISL	7.50	7.48	34.007	26.570	149.8	0.603	2.77	41.2	44.0	2.16	30.0	0.01			251
1	279	7.30	7.27	34.044	26.628	144.7	0.646	2.30	34.0	49.2	2.34	32.1	0.01			281
	300 ISL	7.11	7.08	34.054	26.662	141.7	0.676	2.09	30.8	52.4	2.42	33.2	0.01			302
1	336	6.75	6.72	34.063	26.719	136.6	0.726	1.80	26.3	58).	2.54	35.0	0.01			338
1	396	6.09	6.06	34.094	26.830	126.5	0.805	1.22	17.5	70.5	2.80	38.7	0.01			398
	400 ISL	6.05	6.02	34.096	26.837	125.9	0.810	1.19	17.1	71.3	2.81	38.9	0.01			403
L	464	5.55	5.51	34.139	26.933	117.2	0.887	0.79	11.2	82.5	2.99	41.3	0.02			467
	500 ISL	5.47	5.43	34.183	26.978	113.3	0.929	0.62	8.8	86.6	3.07	41.9	0.02			503
L	536	5.38	5.34	34.227	27.023	109.3	0.969	0.44	6.2	90.6	3.14	42.4	0.01			540

RV NEW HORIZON CALCOFI CRUISE 9110 SSTATION 87 80

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	HAVES	WEA	BAROMETER	DRY	WET	SECCBI/FOREL	CID AMT TYPE
32 19.3 N	121 43.2 K	06/10/91	0907 UTC	4048	m270 03 kn			1016.1 ab	16.2 C	IS.2 C		

CAST	DEPTH		TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SIO3	PO4	MO3	NO2	CHL-A	PHAEO	PRESS
	-		DEG C	DEG C	PSS 78	THETA			ml/1	PCT	uM/1	UM/1	UM/1	UM/1	ug/1	U(J/1	db
1	0		18.11.	18.11	33.108	23.798	409.3	0.000	5,56	102.7	3.2	0.38	0.0	0.00	0.12	0.04	0
1	10		18.13	18.13	33.109	23.794	410.0	0.041	5.55	102.6	3.2	0.38	0.0	0.00	0.11	0.03	10
1	20		18.12	18.12	33.104	23.793	410.5	0.082	5.56	102.7	3.2	0.38	0.1	0.00	0.12	0.03	20
1	30		It.11	18.10	33.107	23.798	410.3	0.123	5.55	102.5	3.1	0.38	0.1	0.00	0.13	0.03	30
1	40		16.99	16.98	33.193	24.133	378.7	0.162	5.80	104.9	2.6	0.38	0.1	0.00	0.29	0.10	40
1	50		15.89	15.88	33.092	24.308	362.3	0.200	6.03	106.6	2.8	0.39	0.1	0.00	0.34	0.14	50
2	63		13.75	13.74	32.944	24.652	329.6	0.245	6.21	105.1	3.2	0.43	0.1	0.00	0.46	0.41	63
1	70		13.47	13.46	32.930	24.699	325.3	0.267	6.20	104.3	3.2	0.45	0.2	0.02	0.42	0.46	70
	75	ISL	13.23	13.22	32.957	24.768	318.9	0.284	6.12	102.4	3.5	0.49	0.8	0.11	0.39	0.43	75
1	83		12.78	12.77	33.014	24.901	306.4	0.309	5.93	98.4	4.4	0.58	2.3	0.23	0.33	0.35	83
1	99		11.62	11.61	33.055	25.152	282.7	0.356	5.54	89.7	7.5	0.88	7.4	0.07	0.20	0.23	99
	100	ISL	11.56	11.55	33.061	25.168	281.2	0.358	5.52	89.2	7.7	0.90	7.7	0.07	0.19	0.22	100
1	119		10.67	10.66	33.209	25.442	255.4	0.409	5.11	81.1	11.3	1.14	12.1	0.02	0.10	0.12	119
	125	ISL	10.57	10.56	33.266	25.504	249.6	0.425	4.95	78.4	12.4	1.20	13.2	0.02	0.09	0.11	126
1	144		10.39	10.37				0.471	4.43	70.0	16.1	1.36	16.3	0.01	0.07	0.09	145
	150	ISL	10.23	10.21	33.501	25.746	227.1	0.484	4.26	67.1	17.5	1.42	17.4	0.01	0.06	0.08	151
1	174		9.54	9.52	33.715	26.029	200.6	0.536	3.60	55.9	23.7	1.67	21.6	0.00	0.01	0.04	175
	200	ISL	9,00	8.98	33.890	26.253	179.7	0.585	2.98	45.8	30.7	1.93	25.6	0.00	0.01	0.03	201
1	205		8.91	8.89	33.917	26.288	176.4	0.594	2.89	44.3	31.9	1.97	26.2	0.00	0.01	0.03	206
1	234		8.46	8.44	34.003	26.426	163.7	0.643	3.62	39.8	37.1	2.10	28.2	0.00			235
	250	ISL	8.25	8.22	34.032	26.480	158.7	0.669	2.55	38.5	39.5	2.15	28.9	0.00			251
1	275		7.96	7.93	34.064	26.549	152.5	0.708	2.42	36.3	43.0	2.23	29.8	0.00			276
	300	ISL	7.71	7.68	34.090	26.606	147.4	0.746	2.12	31.7	47.0	2.36	31.3	0.00			302
1	331		7.42	7.39	34.115	26.668	141.9	0.790	1.70	25.3	52.4	2.53	33.4	0.00			333
1	392		(.74	6.70	34.150	26.790	130.8	0.874	1.09	15.»	64.2	2.83	37.1	0.00			394
	400	ISL	(i.66	6.62	34.154	26.803	129.6	0.884	1.03	15.)	65.6	2.86	37.5	0.00			402
1	458		i».13	6.09	34.183	26.896	121.2	0.957	0.72	10.I	74.7	3.00	39.5	0.00			461
	500	ISL	3.91	5.87	34.213	26.948	116.7	1.007	0.57	8.2	79.7	3.08	40.6	0.00			503
1	529		5.75	5.70	34.234	26.984	113.4	1.040	0.46	6.6	83.2	3.14	41.3	0.00			532

RV NEW HORIZON CALCOFI CRUISE'. 9110 STATION 87 90

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CID AMT TYPE
31 59.4 11	122 24.2 W	06/10/91	1439 UTC	4093 -	310 07 KB	320 02 06	2	1016.8 nb	16.8 C	15.2 C	25n 01	8/8 ST

CAST	DEPTH		TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SIO3	PO4	NO3	NO2	CHL-A	PHAEO	PRESS
	a		DEG C	DEG C	PSS 78	THETA			nl/1	PCT	uM/1	uM/1	UM/1	UM/1	ug/1	ug/1	db
	0	ISL	18.10	18.10	33.006	23.722	416.5	0.000	5.57	102.8	3.2	0.40	0.0	0.00	0.13	0.03	0
1	1		18.10	18.10	33.006	23.722	416.6	0.004	5.57	102.8	3.2	0.40	0.0	0.00	0.13	0.03	1
	10	ISL	18.11	18.11	33.006	23.720	417.1	0.042	5.57	102.8	3.2	0.40	0.0	0.00	0.14	0.04	10
1	16		18.11	18.11	33.006	23.720	417.3	0.067	5.57	102.8	3.2	0.40	0.0	0.00	0.14	0.04	16
	20	ISL	18.13	18.13	33.044	23.745	415.1	0.083	5.58	103.1	3.2	0.39	0.0	0.00	0.14	0.04	20
	30	ISL	18.18	18.17	33.139	23.806	409.6	0.125	5.59	103.4	3.2	0.38	0.0	0.00	0.14	0.04	30
1	32		18.19	18.18	33.158	23.818	408.5	0.133	5.59	103.4	3.2	0.38	0.0	0.00	0.14	0.04	32
1	42		16.62	16.61	33.108	24.154	376.8	0.172	5.94	106.6	2.8	0.41	0.0	0.00	0.23	0.08	42
	50	ISL	15.52	15.51	33.078	24.379	355.4	0.201	6.11	107.3	2.8	0.40	0.0	0.00	0.25	0.12	50
1	52		15.31	15.30	33.084	24.430	350.6	0.208	6.13	11)7.2	2.8	0.39	0.0	0.00	0.25	0.13	52
1	62		15.11	15.10	33.288	24.631	331.7	0.243	6.03	105.1	3.2	0.38	0.0	0.00	0.35	0.21	62
1	72		14.59	14.58	33.336	24.780	317.8	0.275	5.95	102.7	3.5	0.42	0.1	0.02	0.30	0.28	72
	75	ISL	14.44	14.43	33.332	24.809	315.1	0.284	5.93	102.0	3.5	0.44	0.2	0.04	0.29	0.27	75
1	HI		14.08	14.07	33.308	24.866	309.8	0.303	5.88	100.4	3.6	0.48	0.4	0.08	0.28	0.23	81
1	96		12.65	12.64	33.206	25.075	290.1	0.3148	5.62	93.1	5.1	0.68	4.2	0.09	0.17	0.17	96
	100	ISL	12.43	12.42	33.222	25.130	285.0	0.360	5.54	91.3	5.6	0.73	5.1	0.07	0.15	0.16	100
1	110		11.98	11.97	33.283	25.263	272.5	0.388	5.32	86.9	7.2	0.84	7.3	0.02	0.11	0.13	110
1	125		11.13	11.11	33.319	25.447	255.2	0.427	5.03	80.7	10.1	1.04	10.8	0.01	0.06	0.07	126
	150	ISL	10.02	10.00	33.496	25.778	224.0	0.487	4.38	68.7	16.8	1.37	16.7	0.00	0.01	0.03	151
1	151		9.98	9.96	33.505	25.791	222.7	0.489	4.35	68.1	17.1	1.38	16.9	0.00	0.01	0.03	152
1	175		9.20	9.18	33.707	26.077	195.9	0.510	3.57	55.0	24.7	1.72	22.3	0.00	0.00	0.02	176
	200	ISL	8.76	8.74	33.882	26.284	176.6	0.586	3.09	47.2	30.7	1.92	25.8	0.00	0.00	0.02	201
1	206		8.68	8.66	33.914	26.322	173.2	0.597	3.03	46.2	31.8	1.95	26.3	0.00	0.00	0.02	207
1	234		8.26	8.24	33.987	26.443	162.0	0.644	3.01	45.5	35.9	2.00	27.3	0.00			235
	250	ISL	8.05	8.02	34.007	26.491	157.7	0.669	2.92	43.9	38.3	2.06	28.1	0.00			251
1	274		7.73	7.70	34.023	26.550	152.2	0.706	2.71	40.5	42.3	2.17	29.6	0.00			275
	300	I.'IL	7.33	7.30	34.039	26.620	145.8	0.745	2,39	35.4	48.1	2.32	31.7	0.00			302
1	329		6.92	6.89	34.056	26.690	139.4	0.786	2.00	29.3	54.6	2.48	34.0	0.00			331
1	387		6.55	6.51	34.095	26.771	132.3	0.865	1.38	20.1	63.1	2.72	36.9	0.00			389
	400	ISL	6.43	6.39	34.099	26.790	130.6	0.882	1.29	18.7	65.1	2.77	37.5	0.00			402
1	453		5.96	5.92	34.121	26.868	123.5	0.950	0.98	14.1	73.4	2.93	39.6	0.01			456
	500	ISL	5.67	5.63	34.164	26.938	117.2	1.006	0.72	10.3	80.5	3.04	41.0	0.00			503
1	525		5.52	5.48	34.187	26.975	113.9	1.035	0.58	8.2	84.3	3.10	41.8	0.00			528

RV NEW HORIZON CALCOFI CRUISE 9110 STATION 87 100

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	NAVES	NEA	BAROMETER	DRY	WET	SECCHI/FORBL	CLD AMT TYPE
31 39.5 K	123 4.8 M	06/10/91	2107 UTC	4120 n	340 06 km	320 02 06	2	1018.4 Mb	18.1 C	16.2 C	29« 01	8/8 SC

CAST	DEPTH n	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT m1/1	OXYGEN	OXY PCT	SIO3 UM/1	PO4 UM/1	NO3 UM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
	0 ISL	18.25	18.25	33.026	23.701	418.6	0.000	5.55	102.8	2.8	0.39	0.1	0.00	0.11	0.03	0
1	1	18.25	18.25	33.026	23.701	418.6	0.004	S.5S	102.8	2.8	0.39	0.1	0.00	0.11	0.03	1
	10 ISL	18.22	18.22	33.024	23.707	418.3	0.042	S.55	102.7	2.8	0.39	0.1	0.00	0.12	0.03	10
1	17	18.20	18.20	33.023	23.711	418.1	0.071	5.55	102.6	2.8	0.39	0.1	0.00	0.12	0.03	17
	20 ISL	18.10	18.10	33.030	23.741	415.4	0.084	5.57	102.8	2.8	0.39	0.1	0.00	0.14	0.04	20
	30 ISL	17.75	17.74	33.055	23.846	405.8	0.125	5.72	104.9	2.8	0.38	0.1	0.00	0.19	0.06	30
1	32	17.68	17.67	33.060	23.867	403.8	0.133	5.76	105.5	2.8	0.38	0.1	0.00	0.20	0.06	32
1	42	16.11	16.10	33.114	24.275	365.2	0.171	6.10	108.4	2.8	0.38	CL.l	0.00	0.15	0.06	42
	50 ISL	15.37	15.36	33.154	24.471	346.7	0.200	6.15	107.7	2.8	0.38	0.1	0.00	0.18	0.09	50
1	52	15.23	15.22	33.161	24.507	343.3	0.207	6.16	107.6	2.8	0.38	0.1	0.00	0.19	0.10	52
1	62	14.62	14.61	33.166	24.643	330.6	0.240	6.14	105.9	2.8	0.40	0.1	0.00	0.23	0.14	62
1	72	14.02	14.01	33.236	24.823	313.7	0.273	5.98	101.9	3.5	0.44	0.4	0.03	0.26	0.26	72
	75 ISL	13.75	13.74	33.219	24.865	309.7	0.282	5.93	100.5	3.7	0.49	1.0	0.10	0.26	0.23	75
1	111	13.20	13.19	33.180	24.946	302.1	0.300	5.82	97.5	4.2	0.60	2.5	0.23	0.26	0.16	81
1	97	12.27	12.26	33.266	25.194	278.7	0.347	5.48	90.1	6.2	0.77	6.1	0.07	0.17	0.14	97
	100 ISL	12.06	12.05	33.259	25.229	275.5	0.355	5.42	88.7	6.7	0.81	6.8	0.05	0.16	0.15	100
1	112	11.21	11.20	33.231	25.364	262.8	0.387	5.18	83.2	9.1	0.98	9.7	0.02	0.12	0.19	112
	125 ISL	10.36	10.35	33.284	25.554	244.8	0.420	4.85	76.5	12.6	1.20	13.5	0.01	0.07	0.11	126
1	127	10.24	10.23	33.298	25.585	241.8	0.425	4.79	75.4	13.2	1.23	14.1	0.01	0.06	0.10	128
	150 ISL	9.48	9.46	33.548	25.907	211.6	0.477	4.00	62.0	20.3	1.55	19.7	0.00	0.01	0.04	151
1	153	9.42	9.40	33.584	25.94S	208.0	0.484	3.90	60.4	21.2	1.59	20.3	0.00	0.01	0.04	154
1	178	9.04	9.02	33.802	26.177	186.4	0.533	3.35	51.5	27.2	1.80	23.9	0.00	0.00	0.02	179
	200 ISL	8.72	8.70	33.914	26.315	173.6	0.572	3.10	47.3	31.3	1.92	25.9	0.00	0.00	0.02	201
1	209	8.60	8.58	33.943	26.357	169.8	0.588	3.04	46.3	32.8	1.95	26.5	0.00	0.00	0.02	210
1	238	8.22	8.20	34.000	26.459	160.5	0.636	2.89	43.6	36.8	2.03	27.9	0.00			239
	250 ISL	8.06	8.03	34.014	26.495	157.3	0.655	2.82	42.4	38.7	2.07	28.5	0.00			251
1	279	7.70	7.67	34.039	26.567	150.7	0.700	2.57	38.4	43.8	2.20	30.2	0.00			281
	300 ISL	7.46	7.43	34.060	26.618	146.1	0.731	2.28	33.9	48.0	2.33	31.7	0.00			302
1	33«	7.12	7.09	34.103	26.700	138.7	0.782	1.71	25.2	55.4	2.56	34.4	0.00			338
1	397	6.75	6.71	34.203	26.830	127.1	0.863	0.85	12.4	66.4	2.89	37.7	0.00			399
	400 ISL	6.72	6.68	34.204	26.835	126.7	0.867	0.83	12.1	66.9	2.90	37.8	0.00			402
1	464	6.10	6.06	34.208	26.919	119.0	0.946	0.63	9.1	76.0	3.01	40.1	0.01			467
	500 ISL	5.94	5.90	34.243	26.968	114.8	0.988	0.49	7.0	80.0	3.09	40.8	0.01			503
1	536	5.78	5.73	34.279	27.016	110.5	1.028	0.35	5.0	84.0	3.16	41.5	0.00			540

RV NEW HORIZON CALCOFI CRUISE 9110 STATION 87 110

LATITUDE	LONGITUDE!	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	NAVES	NEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
31 19.8 N	123 45.2 N	07/10/91	0240 UTC	3965 •	350 07 km			1015.6 ab	17.6 C	16.0 C		

CAST	DEPTH •	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/1	OXY PCT	SIO3 UM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
	0 ISL	18.95	18.95	33.144	23.617	426.6	0.000	5.46	102.5	2.9	0.39	0.0	0.00	0.10	0.02	0
1	1	18.95	18.95	33.144	23.617	426.6	0.004	5.46	102.5	2.9	0.39	0.0	0.00	0.10	0.02	1
	10 ISL	18.97	18.97	33.141	23.610	4 27.6	0.043	5.49	103.1	2.9	0.39	0.0	0.00	0.10	0.02	10
1	11	18.97	18.97	33.140	23.609	427.7	0.047	5.49	103.1	2.9	0.39	0.0	0.00	0.10	0.02	11
	20 ISL	18.94	18.94	33.139	23.617	427.3	0.085	5.49	103.0	2.9	0.38	0.0	0.00	0.10	0.03	20
).	22	18.93	18.93	33.139	23.619	427.2	0.094	5.49	103.0	2.9	0.38	0.0	0.00	0.10	0.03	22
	30 ISL	18.48	18.47	33.107	23.707	419.0	0.128	5.64	104.9	2.9	0.38	0.0	0.00	0.14	0.04	30
1	31	18.39	18.38	33.102	23.726	417.3	0.132	5.67	105.3	2.9	0.38	0.0	0.00	0.14	0.04	31
1	42	16.81	16.80	33.059	24.072	384.5	0.176	6.01	108.2	2.9	0.39	0.0	0.00	0.17	0.05	42
	50 ISL	15.66	15.65	33.044	24.322	360.9	0.206	6.17	108.6	2.9	0.40	0.0	0.00	0.17	0.07	50
1	52	15.40	15.39	33.044	24.380	355.4	0.213	6.19	108.4	2.9	0.40	0.0	0.00	0.17	0.08	52
1	62	14.59	14.58	33.073	24.577	336.8	0.248	6.21	107.0	3.0	0.42	0.0	0.00	0.20	0.13	62
1	72	14.20	14.19	33.179	24.741	321.4	0.281	6.09	104.1	3.2	0.42	0.0	0.00	0.37	0.25	72
	75 ISL	14.04	14.03	33.200	24.791	316.8	0.290	6.03	102.8	3.3	0.44	0.3	0.05	0.36	0.25	75
1	86	13.30	13.29	33.237	24.971	299.9	0.324	5.78	97.1	4.1	0.57	2.1	0.21	0.31	0.27	86
	100 ISL	11.96	11.95	33.192	25.195	278.7	0.365	5.52	90.1	6.5	0.79	6.2	0.07	0.17	0.11	100
1	101	11.86	11.85	33.189	25.212	277.1	0.367	5.50	89.6	6.7	0.81	6.5	0.06	0.16	0.10	101
1	121	10.71	10.70	33.293	25.500	249.9	0.420	4.97	79.0	11.2	1.11	12.0	0.02	0.08	0.08	121
	125 ISL	10.52	10.51	33.322	25.556	244.6	0.430	4.85	76.8	12.3	1.17	13.1	0.02	0.07	0.07	126
1	146	9.73	9.71	33.491	25.822	219.7	0.479	4.22	65.7	18.2	1.46	18.1	0.01	0.02	0.04	147
	150 ISL	9.62	9.60	33.524	25.866	215.6	0.487	4.11	63.9	19.2	1.51	18.9	0.01	0.02	0.04	151
1	176	9.08	9.06	33.729	26.114	192.4	0.540	3.57	54.9	25.2	1.73	22.6	0.00	0.00	0.03	177
	200 ISL	8.65	8.63	33.891	26.308	174.3	0.584	3.42	52.1	30.0	1.81	24.4	0.00	0.00	0.02	201
1	207	8.54	8.52	33.928	26.354	170.0	0.597	3.40	51.7	31.2	1.83	24.8	0.00	0.00	0.02	208
1	235	8.20	8.18	33.991	26.455	160.8	0.643	3.25	49.1	35.3	1.93	26.2	0.00			236
	250 XSL	7.96	7.93	34.008	26.505	156.3	0.667	3.07	46.1	38.4	2.01	27.5	0.00			251
1	276	7.52	7.49	34.026	26.583	149.1	0.706	2.71	40.3	44.4	2.17	30.0	0.00			277
	300 ISL	7.20	7.17	34.041	26.640	143.9	0.741	2.39	35.3	49.4	2.31	31.9	0.00			302
1	331	6.83	6.80	34.056	26.703	138.2	0.785	2.01	29.4	55.7	2.49	34.1	0.00			333
1	391	6.15	6.12	34.081	26.812	128.2	0.865	1.41	20.3	67.7	2.77	37.9	0.00			393
	400 ISL	6.10	6.06	34.092	26.827	126.8	0.877	1.31	18.8	69.1	2.81	38.3	0.00			402
1	4 58	5.88	5.84	34.169	26.916	119.0	0.948	0.75	10.7	77.1	3.00	40.3	0.01			461
	500 ISL	5.70	5.66	34.212	26.973	114.0	0.997	0.57	8.1	82.0	3.08	41.2	0.00			503
1	532	5.57	5.52	34.246	27.016	110.2	1.033	0.44	6.3	85.7	3.14	41.8	0.00			535

RV NEW HORIZON CALCOFI CRUISE 9110 STATION 90 28

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	NAVES	WEA	BAROMETER	DRY	NET	SECCHI/FOREL	CLD AMT	TYPE
33 29.1 N	117 46.4 N	04/10/91	1430 UTC	85 m	060 02 kn	060 01 06	2	1011.9 Mb	18.3 C	17.5 C		8/8	ST

CAST	DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT ml/1	OXYGEN	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
1	0	18.58	18.58	33.353	23.869	402.5	0.000	5.86	109.4	2.6	0.34	0.0	0.00	0.42	0.10	0
1	10	17.38	17.38	33.334	24.147	376.3	0.039	6.19	112.9	3.5	0.33	0.0	0.00	0.45	0.14	10
	20 ISL	15.42	15.42	33.310	24.579	335.5	0.075	6.32	110.9	4.6	0.41	0.1	0.02	0.88	0.44	20
1	21	15.21	15.21	33.309	24.624	331.2	0.078	6.33	110.6	4.7	0.42	0.1	0.02	0.92	0.47	21
	30 ISL	13.60	13.60	33.298	24.956	299.8	0.106	6.05	102.3	5.7	0.54	1.7	0.15	0.88	0.54	30
1	31	13.46	13.46	33.298	24.984	297.1	0.109	6.01	101.3	5.8	0.56	1.9	0.17	0.88	0.55	31
1	42	12.90	12.89	33.335	25.125	284.0	0.141	5.58	93.0	7.0	0.73	4.7	0.46	0.60	0.49	42
	50 ISL	12.47	12.46	33.367	25.233	273.9	0.164	5.25	86.7	8.4	0.90	7.3	0.48	0.39	0.38	50
1	52	12.37	12.36	33.373	25.257	271.6	0.169	5.18	85.4	8.8	0.94	7.9	0.49	0.34	0.35	52
1	63	12.09	12.08	33.376	25.313	266.6	0.199	5.04	82.6	9.8	0.98	9.1	0.32	0.21	0.26	63

RV NEW HORIZON CALCOFI CRUISE 9110 STATION 90 30

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	NAVES	WEA	BAROMETER	DRY	NET	SECCHI/FOREL	CLD AMT	TYPE
33 25.4 N	117 54.3 P	04/10/91	1206 UTC	609 m	090 04 kn			1012.1 mb	18.2 C	17.6 C			

CAST	DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT m1/1	OXYGEN	OXY PCT	SIO3 UM/1	PO4 uM/1	NO3 uM/1	NO2 UM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
1	0	18.85	18.85	33.378	23.821	407.1	0.000	5.89	110.5	2.6	0.33	0.0	0.00	0.35	0.07	0
1	10	18.42	18.42	33.352	23.909	399.1	0.040	6.02	112.0	2.6	0.34	0.0	0.00	0.30	0.10	10
1	20	15.68	15.68	33.292	24.507	342.3	0.077	6.39	112.7	4.1	0.37	0.0	0.00	0.31	0.11	20
1	30	13.95	13.95	33.303	24.888	306.3	0.110	6.34	108.0	5.1	0.42	0.0	0.01	0.74	0.40	30
1	41	13.06	13.05	33.337	25.095	286.9	0.142	5.81	97.1	6.9	0.67	3.6	0.48	0.72	0.56	41
	50 ISL	12.29	12.28	33.361	25.263	271.0	0.168	5.29	87.0	8.7	0.91	8.0	0.16	0.49	0.47	50
1	51	12.22	12.21	33.364	25.279	269.5	0.170	5.24	86.1	8.9	0.93	8.4	0.11	0.46	0.45	51
1	61	11.93	11.92	33.400	25.362	261.9	0.197	5.08	83.0	9.8	1.00	9.7	0.07	0.32	0.33	61
1	71	11.50	11.49	33.458	25.487	250.2	0.222	4.74	76.7	12.4	1.15	12.2	0.03	0.21	0.28	71
	75 ISL	11.34	11.33	33.473	25.527	246.4	0.232	4.64	74.9	13.2	1.20	12.9	0.03	0.18	0.25	75
1	85	10.99	10.98	33.511	25.620	237.8	0.257	4.38	70.2	15.2	1.30	14.6	0.02	0.12	0.17	85
	100 ISL	10.59	10.58	33.603	25.763	224.5	0.291	3.87	61.5	19.1	1.48	17.4	0.01	0.05	0.10	100
1	101	10.57	10.56	33.609	25.771	223.8	0.293	3.84	61.0	19.3	1.49	17.6	0.01	0.05	0.10	101
1	121	10.22	10.21	33.686	25.891	212.7	0.337	3.56	56.1	21.8	1.60	19.4	0.01	0.02	0.06	122
	125 ISL	10.18	10.17	33.700	25.909	211.1	0.346	3.51	55.3	22.2	1.62	19.7	0.01	0.02	0.06	126
1	147	10.03	10.01	33.799	26.012	201.7	0.391	3.15	49.5	25.1	1.76	21.7	0.01	0.01	0.05	148
	150 ISL	10.01	9.99	33.823	26.035	199.7	0.397	3.06	48.1	25.8	1.79	22.1	0.01	0.01	0.05	151
1	178	9.87	9.85	34.041	26.229	181.9	0.450	2.25	35.3	32.2	2.06	25.5	0.01	0.01	0.05	179
	200 ISL	9.70	9.68	34.122	26.321	173.6	0.490	2.06	32.2	34.5	2.16	26.5	0.01	0.00	0.04	201
1	209	9.63	9.61	34.141	26.347	171.2	0.505	2.03	31.7	35.1	2.18	26.7	0.01	0.00	0.04	210
1	239	9.46	9.43	34.188	26.413	165.6	0.556	1.85	28.8	37.5	2.26	27.5	0.00			240
	250 ISL	9.35	9.32	34.190	26.432	163.9	0.574	1.86	28.8	38.2	2.27	27.7	0.00			251
1	280	9.01	8.98	34.186	26.484	159.4	0.622	1.90	29.2	40.2	2.29	28.3	0.00			282
	300 ISL	8.87	8.84	34.198	26.516	156.7	0.654	1.82	27.9	41.8	2.34	28.8	0.00			302
1	337	8.56	8.52	34.215	26.578	151.4	0.711	1.60	24.4	45.8	2.45	30.1	0.00			339
1	399	7.42	7.38	34.182	26.721	138.0	0.800	1.32	19.6	56.4	2.64	33.5	0.00			402
	400 ISL	7.41	7.37	34.182	26.723	137.9	0.802	1.31	19.4	56.5	2.64	33.5	0.00			403
1	464	6.98	6.94	34.234	26.824	128.9	0.887	0.83	12.2	65.3	2.86	36.0	0.00			457
	500 ISL	6.59	6.54	34.279	26.913	120.8	0.932	0.56	8.2	73.6	3.00	37.6	0.00			503
1	536	6.19	6.14	34.326	27.002	112.4	0.974	0.29	4.2	81.8	3.13	39.2	0.00			540

RV NEW HORIZON CALCOFI CRUISE 9110 STATION 90 35

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	NAVES	WEA	BAROMETER	DRY	NET	SECCHI/FOREL	CLD AMT	TYPE
33 15.0 N	118 15.0 N	04/10/91	0824 UTC	336 -	120 01 kn	HAVES	WEA	1012.0 Mb	18.1 C	17.1 C			

CAST	DEPTH -	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN »1/1	OXY PCT	SIO3 UM/1	PO4 uM/1	NO3 uM/1	NO2 UM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
1	0	19.35	19.35	33.427	23.732	415.7	0.000	5.69	107.8	3.2	0.31	0.0	0.00	0.31	0.09	0
1	10	19.08	19.08	33.423	23.798	409.7	0.041	5.74	108.2	3.1	0.32	0.0	0.00	0.32	0.09	10
1	20	18.31	18.31	33.414	23.984	392.3	0.081	5.83	108.3	3.5	0.33	0.0	0.00	0.19	0.07	20
	30 ISL	15.34	15.34	33.104	24.438	349.2	0.118	6.12	107.1	4.1	0.41	0.3	0.02	0.51	0.20	30
1	31	15.02	15.02	33.079	24.489	344.4	0.122	6.14	106.7	4.2	0.42	0.3	0.02	0.55	0.21	31
1	42	13.18	13.17	33.166	24.938	301.8	0.157	5.92	99.1	5.9	0.65	3.7	0.12	0.50	0.18	42
	50 ISL	12.10	12.09	33.118	25.111	285.5	0.181	5.72	93.6	7.4	0.83	6.5	0.18	0.41	0.20	50
1	52	11.89	11.88	33.106	25.141	282.7	0.187	5.67	92.4	7.8	0.87	7.1	0.19	0.38	0.20	52
1	62	11.43	11.42	33.186	25.288	268.8	0.214	5.38	86.8	9.3	1.01	9.4	0.22	0.24	0.17	62
1	73	11.42	11.41	33.335	25.406	257.9	0.243	5.06	81.7	10.7	1.08	10.8	0.07	0.21	0.21	73
	75 ISL	11.37	11.36	33.356	25.431	255.5	0.248	4.99	80.5	11.1	1.10	11.2	0.06	0.20	0.20	75
1	87	10.98	10.97	33.452	25.576	242.0	0.278	4.61	73.8	13.6	1.22	13.7	0.03	0.12	0.14	87
	100 ISL	10.58	10.57	33.499	25.683	232.0	0.309	4.33	68.7	16.0	1.36	15.7	0.02	0.08	0.12	100
1	102	10.52	10.51	33.506	25.699	230.6	0.314	4.29	68.0	16.4	1.38	16.0	0.02	0.07	0.12	102
1	123	10.08	10.07	33.734	25.953	206.9	0.360	3.50	55.0	22.4	1.65	20.5	0.01	0.01	0.06	124
	125 ISL	10.03	10.02	33.752	25.975	204.8	0.364	3.45	54.2	22.9	1.67	20.9	0.01	0.01	0.06	126
1	148	9.59	9.57	33.927	26.186	185.2	0.408	2.92	45.5	28.1	1.87	24.1	0.00	0.00	0.04	149
	150 ISL	9.59	9.57	33.942	26.198	184.1	0.412	2.87	44.7	28.5	1.89	24.3	0.00	0.00	0.04	151
1	178	9.64	9.62	34.100	26.313	173.8	0.462	2.27	35.4	32.8	2.11	26.3	0.01	0.00	0.05	179
	200 ISL	9.49	9.47	34.161	26.386	167.3	0.500	1.97	30.6	35.0	2.20	27.5	0.01	0.00	0.04	201
1	209	9.38	9.36	34.175	26.415	164.7	0.515	1.89	29.3	35.9	2.23	27.9	0.01	0.00	0.04	210
1	244	8.73	8.70	34.194	26.534	153.8	0.570	1.85	28.3	41.1	2.36	29.5	0.01			245
	250 ISL	8.67	8.64	34.196	26.545	152.9	0.580	1.82	27.8	41.7	2.38	29.7	0.01			251
1	280	8.46	8.43	34.204	26.584	149.6	0.625	1.65	25.1	44.5	2.46	30.7	0.01			282
	300 ISL	8.26	8.23	34.215	26.623	146.2	0.655	1.50	22.7	47.1	2.53	31.6	0.00			.302
1	318	8.08	8.05	34.226	26.659	143.0	0.681	1.36	20.5	49.5	2.60	32.4	0.00			320

RV NEW HORIZON CALCOFI CRUISE 9110 STATION 90 37

LATI1UDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	MIND SPEED	NAVES	WEA	BAROMETER	DRY	NET	SECCHI/FOREL	CLD AMT TYPE
33 11.3 N	118 22.8 W	04/10/91	0536 UTC	1174 m	240 01	kn		1011.9 mb	17.4 C	16.9 C		

CAST	DEPTH m		TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT ml/1	OXYGEN	OXY PCT	SIO3 uM/1	PO4 UM/1	NO3 uM/1	NO2 uM/1	CHL--A ug/1	PHAEO U9/I	PRESS db
1	0		19.23	19.23	33.469	23.794	409.7	0.000	5.51	104.2	3.9	0.33	0.0	0.00	0.19	0.06	0
1	10		19.18	19.18	33.463	23.803	409.2	0.041	5.56	105.0	3.9	0.32	CI.0	CI.00	0.19	0.06	10
	20	ISI,	18.52	18.52	33.444	23.955	395.1	0.081	5.69	106.1	4.0	0.33	Cl.l	0.00	0.25	0.09	20
1	21		18.40	18.40	33.440	23.981	392.6	0.085	5.71	106.3	4.0	0.33	Cl.l	0.00	0.26	0.10	21
	30	ISI.	16.63	16.63	33.372	24.353	357.3	0.119	6.06	108.9	4.2	0.35	Cl.l	0.00	0.39	0.17	30
1	31		16.40	16.40	33.363	24.400	352.9	0.122	6.09	109.0	4.2	0.35	Cl.l	0.00	0.41	0.18	31
1	41		14.25	14.24	33.240	24.777	317.2	0.156	6.08	104.1	4.9	0.49	1.2	0.08	0.91	0.45	41
	50	ISI.	13.68	13.67	33.211	24.873	308.3	0.184	5.99	101.4	5.2	0.55	2.2	0.14	0.87	0.47	50
1	51		13.64	13.63	33.208	24.879	307.7	0.187	5.97	101.0	5.3	0.56	2.3	0.15	0.86	0.47	51
1	61		12.63	12.62	33.130	25.019	294.5	0.217	5.72	94.7	6.8	0.71	4.7	0.26	0.53	0.29	61
1	72		11.12	11.11	33.065	25.250	272.7	0.248	5.45	87.3	9.8	0.99	9.2	0.06	0.35	0.26	73
	75	ISI,	10.87	10.86	33.079	25.305	267.5	0.257	5.39	85.9	10.5	1.04	10.2	0.05	0.30	0.24	75
1	86		10.37	10.36	33.205	25.490	250.0	0.285	5.09	80.3	13.2	1.20	13.2	0.02	0.13	0.15	86
	100	ISL	10.39	10.38	33.483	25.704	230.1	0.319	4.37	69.1	17.0	1.38	16.4	0.01	0.05	0.09	100
1	101		10.39	10.38	33.500	25.717	228.8	0.321	4.32	68.3	17.3	1.39	16.6	0.01	0.05	0.09	101
1	122		10.13	10.12	33.619	25.854	216.2	0.368	3.93	61.8	20.5	1.52	18.9	0.01	0.02	0.06	123
	125	ISL	10.10	10.09	33.638	25.874	214.3	0.374	3.86	60.7	21.0	1.54	19.2	0.01	0.02	0.06	126
1	147		9.84	9.82	33.784	26.032	199.8	0.420	3.35	52.4	25.1	1.71	21.8	0.01	0.01	0.05	148
	150	ISL	9.78	9.76	33.808	26.061	197.1	0.426	3.28	51.3	25.8	1.74	22.2	0.01	0.01	0.05	151
1	178		9.27	9.25	34.000	26.295	175.3	0.478	2.78	43.0	32.2	1.95	25.4	0.01	0.00	0.04	179
	200	ISL	9.08	9.06	34.056	26.370	168.6	0.516	2.61	40.2	34.7	2.03	26.6	0.01	0.00	0.04	201
1	209		9.02	9.00	34.066	26.387	167.1	0.531	2.56	39.4	35.5	2.06	26.9	0.01	0.00	0.04	210
1	239		8.75	8.72	34.105	26.461	160.6	0.580	2.35	35.9	39.0	2.17	28.3	0.00			240
	250	ISL	8.53	8.50	34.105	26.495	157.5	0.597	2.31	35.2	40.9	2.21	28.9	0.00			251
1	281		7.92	7.89	34.105	26.587	149.0	0.645	2.15	32.3	46.9	2.33	30.8	0.00			283
	300	ISL	7.77	7.74	34.137	26.635	144.8	0.673	1.87	28.0	50.1	2.45	31.9	0.01			302
1	337		7.60	7.57	34.203	26.711	138.1	0.725	1.28	19.1	56.0	2.67	33.9	0.02			339
1	398		7.01	6.97	34.225	26.812	129.1	0.807	0.91	13.4	64.8	2.84	36.5	0.00			401
	400	ISL	7.00	6.96	34.226	26.811	128.9	0.809	0.90	13.2	65.0	2.84	36.6	0.00			403
1	465		6.66	6.62	34.255	26.884	123.0	0.891	0.65	9.5	71.4	2.98	38.2	0.00			468
	500	ISL	6.45	6.40	34.279	26.931	118.9	0.933	0.51	7.4	75.7	3.05	39.1	0.00			503
1	535		6.24	6.19	34.304	26.978	114.7	0.974	0.36	5.2	80.0	3.11	40.0	0.00			539

RV NEW HORIZON CALCOFI CRUISE 9110 STATION 90 45

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	MIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
32 55.1 N	118 56.5 W	04/10/91	0035 UTC	1683 in	260 08 kn	270 02 06	2	1010.9 mb	17.5 C	16.9 C	21B 02	8/8 NS

CAST	DEPTH m		TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT ml/l	OXYGEN	OXY PCT	SKO3 UM/1	PO4 uM/l	NO3 UM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
	0	ISL	18.85	18.85	33.491	23.907	398.9	0.000	5.57	104.6	3.9	0.34	0.1	0.00	0.21	0.06	0
1	1		18.85	18.85	33.491	23.907	398.9	0.004	5.57	104.6	3.9	0.34	0.1	0.00	0.21	0.06	1
	10	ISL	18.42	18.42	33.458	23.990	391.4	0.040	5.65	105.2	3.7	0.34	0.1	0.00	0.20	0.06	10
1	11		18.35	18.35	33.453	24.003	390.1	0.043	5.66	105.3	3.7	0.34	0.1	0.00	0.20	0.06	11
	20	ISL	17.79	17.79	33.420	24.115	379.7	0.078	5.75	105.8	3.7	0.35	0.1	0.00	0.28	0.08	20
1	22		17.57	17.57	33.408	24.159	375.6	0.086	5.79	106.0	3.7	0.35	0.1	0.00	0.30	0.09	22
	30	ISL	15.79	15.79	33.329	24.512	342.2	0.114	6.11	108.0	4.0	0.40	0.5	0.01	0.66	0.24	30
1	32		15.29	15.29	33.309	24.607	333.2	0.121	6.17	108.0	4.2	0.42	0.6	0.02	0.74	0.27	32
1	42		13.34	13.33	33.191	24.926	303.0	0.153	5.95	100.0	5.7	0.63	3.7	0.10	0.55	0.24	42
	50	ISL	12.49	12.48	33.192	25.094	287.1	0.177	5.72	94.4	7.0	0.76	5.8	0.13	0.40	0.20	50
1	52		12.35	12.34	33.197	25.125	284.2	0.182	5.66	93.2	7.3	0.79	6.3	0.14	0.37	0.19	52
1	62		11.78	11.77	33.197	25.232	274.2	0.210	5.47	88.9	8.8	0.93	8.6	0.17	0.32	0.16	62
1	72		11.06	11.05	33.315	25.455	253.2	0.237	5.01	80.3	11.6	1.12	11.9	0.06	0.22	0.16	72
	75	ISL	10.92	10.91	33.338	25.498	249.1	0.244	4.92	78.6	12.4	1.16	12.7	0.05	0.20	0.15	75
1	86		10.57	10.56	33.405	25.611	238.5	0.271	4.64	73.6	15.2	1.30	15.0	0.03	0.15	0.12	86
	100	ISL	10.20	10.19	33.508	25.755	225.1	0.303	4.24	66.7	18.3	1.44	17.5	0.01	0.06	0.10	100
1	101		10.18	10.17	33.516	25.765	224.2	0.306	4.21	66.2	18.5	1.45	17.7	0.01	0.05	0.10	101
1	122		9.80	9.79	33.677	25.955	206.5	0.351	3.68	57.5	22.6	1.62	20.6	0.01	0.03	0.09	123
	125	ISL	9.78	9.77	33.707	25.982	204.1	0.357	3.59	56.1	23.3	1.65	21.0	0.01	0.03	0.09	126
1	147		9.64	9.62	33.904	26.160	187.7	0.400	3.00	46.8	28.2	1.83	23.6	0.01	0.00	0.07	148
	150	ISL	9.61	9.59	33.923	26.179	185.8	0.406	2.96	46.1	28.6	1.85	23.8	0.01	0.00	0.07	151
1	178		9.23	9.21	34.016	26.314	173.5	0.456	2.75	42.5	32.5	1.97	25.7	0.00	0.00	0.05	179
	200	ISL	8.71	8.69	33.951	26.346	170.8	0.494	2.61	39.9	36.6	2.08	27.5	0.00	0 00	0.04	201
1	209		8.52	8.50	33.934	26.362	169.3	0.509	2.53	38.5	38.3	2.12	28.2	0.00	0.00	0.04	210
1	238		8.47	8.45	34.139	26.531	153.9	0.556	2.07	31.5	42.4	2.27	29.6	0.00			239
	250	ISL	8.48	8.45	34.186	26.566	150.7	0.574	1.83	27.8	44.0	2.35	30.1	0.00			251
1	280		8.52	8.49	34.256	26.616	146.7	0.619	1.32	20.1	47.7	2.53	31.2	0.00			282
	300	ISL	8.33	8.30	34.260	26.648	143.9	0.648	1.26	19.1	50.0	2.59	32.0	0.00			302
1	336		7.86	7.83	34.240	26.703	139.0	0.699	1.16	17.4	54.4	2.66	33.4	0.00			338
1	397		7.10	7.06	34.238	26.810	129.3	0.781	0.84	12.4	64.0	2.84	36.2	0.00			400
	400	ISL	7.07	7.03	34.239	26.815	128.9	0.785	0.82	12.1	64.5	2.85	36.3	0.00			403
1	464		6.48	6.44	34.263	26.914	120.0	0.864	0.54	7.8	73.8	2.99	38.7	0.00			467
	500	ISL	6.33	6.28	34.278	26.946	117.3	0.907	0.44	6.4	77.4	3.05	39.6	0.00			503
1	534		6.19	6.14	34.293	26.976	114.8	0.946	0.34	4.9	80.8	3.11	40.4	0.00			538

RV NEH HORIZON CALCOFI CRUISE 9110 STATION 90 53

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	NAVES	WEA	BAROMETER	DRY	NET	SECCHI/FOREL	CLD AMT TYPE
32 39.1 N	119 29.2 W	03/10/91	1753 UTC	1315 m	270 10 kn	310 02 05	2	1010.2 mb	16.8 C	16.8 C	19n 02	8/8 ST

CAST	DEPTH m-		TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN »1/1	OXY PCT	SIO3 UM/1	PO4 UM/1	NO3 uM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
	0	ISL	17.73	17.73	33.404	24.117	378.9	0.000	5.64	103.6	3.3	0.37	0.0	0.00	0.22	0.06	0
1	1		17.73	17.73	33.404	24.117	378.9	0.004	5.64	103.6	3.3	0.37	0.0	0.00	0.22	0.06	1
	10	ISL	17.76	17.76	33.404	34.110	379.9	0.038	5.64	103.7	3.1	0.36	0.0	0.00	0.22	0.06	10
1	11		17.76	17.76	33.404	24.110	379.9	0.042	5.64	103.7	3.1	0.36	0.0	0.00	0.22	0.06	11
	20	ISL	16.50	16.50	33.343	24.361	356.3	0.075	5.88	105.4	3.9	0.45	1.0	0.03	0.53	0.17	20
1	21		16.32	16.32	33.336	24.397	352.9	0.078	5.91	105.6	4.7 U	0.54 U	2.3 U	0.10 U	0.57	0.18	21
	30	ISL	14.86	14.86	33.293	24.688	325.3	0.109	5.86	101.7	4.7	0.54	2.2	0.09	0.60	0.25	30
1	31		14.68	14.68	33.289	24.724	322.0	0.112	5.85	101.1	4.8	0.55	2.3	0.10	0.60	0.25	31
1	41		12.51	12.50	33.264	25.145	282.0	0.142	5.45	90.0	7.6	0.84	6.8	0.22	0.44	0.25	41
	50	ISL	12.29	12.28	33.305	25.220	275.1	0.167	5.31	87.3	8.3	0.92	7.9	0.20	0.33	0.22	50
1	51		12.26	12.25	33.309	25.229	274.3	0.170	5.30	87.1	8.3	0.92	7.9	0.20	0.32	0.22	51
1	61		11.99	11.98	33.326	25.293	268.4	0.197	5.19	84.8	9.0	0.97	8.9	0.14	0.22	0.21	61
1	71		11.35	11.34	33.366	25.442	254.4	0.223	4.93	79.5	11.5	1.11	11.4	0.06	0.16	0.40	71
	75	ISL	11.08	11.07	33.383	25.504	248.6	0.234	4.83	77.5	12.7	1.17	12.5	0.05	0.14	0.35	75
1	86		10.47	10.46	33.441	25.657	234.2	0.260	4.53	71.7	15.8	1.33	15.3	0.03	0.10	0.12	86
	100	ISL	10.13	10.12	33.543	25.795	221.4	0.292	4.11	64.6	19.1	1.50	18.0	0.02	0.06	0.09	100
1	101		10.12	10.11	33.551	25.803	220.6	0.294	4.08	64.1	19.3	1.51	18.2	0.02	0.06	0.09	101
1	131		9.77	9.76	33.735	26.005	201.8	0.336	3.51	54.8	24.2	1.69	21.1	0.01	0.01	0.05	122
	125	ISL	9.72	9.71	33.748	2(5.024	200.1	0.344	3.46	54.0	24.7	1.71	21.4	0.01	0.01	0.05	126
1	146		9.44	9.42	33.794	26.106	192.7	0.386	3.30	51.2	27.1	1.78	22.9	0.01	0.01	0.04	147
	ISO	ISL	9.36	9.34	33.816	26.136	189.8	0.393	3.23	50.0	28.0	1.81	23.4	0.01	0.01	0.04	151
1	176		8.85	8.83	33.966	26.335	171.3	0.440	2.77	42.4	34.1	2.01	26.2	0.01	0.00	0.04	177
	300	ISL	8.63	8.60	34.038	26.428	162.9	0.480	2.57	39.2	37.0	2.10	27.5	0.01	0.00	0.03	201
1	307		8.56	8.54	34.052 A	26.448	161.1	0.492	2.52	38.4	37.8	2.13	27.8	0.01	0.00	0.03	208
1	236		8.17	8.15	34.109 A	26.553	151.6	0.537	2.11	31.9	4,3.9	2.31	30.0	0.00			237
	250	ISL	S.05	8.02	34.126	26.584	148.8	0.558	1.96	29.5	46.0	2.38	30.7	0.00			251
1	277		7.86	7.83	34.151 A	26.632	144.7	0.598	1.71	25.6	49.7	2.49	31.9	0.00			279
	300	ISL	7.64	7.61	34.175	26.683	140.1	0.630	1.45	21.6	53.5	2.60	33.1	0.00			302
1	333		7.35	7.32	34.207 A	26.750	134.1	0.676	1.11	16.5	58.7	2.74	34.8	0.01			335
1	394		7.06	7.02	34.24	26.817	128.6	(1.756	0.79	11.6	65.0	2.89	36.7	0.00			397
	400	ISL	7.01	6.97	34.244	26.827	127.7	0.764	0.76	11.2	65.9	2.90	36.9	0.00			403
1	461	6	.49	6.45	34.284	26.929	118.5	0.839	0.48	7.0	75.0	3.04	38.8	0.00			464
	500	ISL	6.26	6.22	34.300	26.972	114.8	0.884	0.40	5.8	79.5	3.10	39.6	0.00			503
1	533		6.07	6.02	34.315	27.009	111.6	0.921	0.34	4.9	83.3	3.15	40.3	0.00			537

A) THE SALINITY SAMPLES FROM 207 TO 333 METERS APPEAR TO HAVE BEEN ANALYZED IN REVERSE ORDER. THEY ARE ASSUMED TO NOW BE IN THE COItRECT ORDER.

RV NEH HORIZON CALCOFI CRUISE 9110 STATION 90 60

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	HIND SPEED	HAVES	WEA	BAROMETER	DRY	NET	SECCHI/FOREL	CLD AMT TYPE
32 25.2 N	119 58.2 W	03/10/91	1316 UTC	885 n	300 12 kn			1010.0 ab	16.0 C	16.0 C		

CAST	DEPTH m		TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT m1/1	OXYGEN	OXY PCT	SIO3 UM/1	PO4 UM/1	NO3 UM/1	NO2 UM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
	0	ISL	17 02	17.02	33.405	24.287	362.7	0.000	5.76	104.4	3.6	0.37	0.0	0.00	0.31	0.09	0
1	1		17 02	17.02	33.405	24.287	362.7	0.004	5.76	104.4	3.6	0.37	0.0	0.00	0.31	0.09	1
	10	ISL	17.04	17.04	33.403	24.281	363.6	0.036	5.78	104.8	3.6	0.40	0.1	0.00	0.31	0.11	10
1	11		17.04	17.04	33.403	24.281	363.6	0.040	5.78	104.8	3.6	0.40	0.1	0.00	0.31	0.11	11
	20	ISL	17.00	17.00	33.401	24.289	363.2	0.073	5.80	105.1	3.6	0.37	0.1	0.00	0.31	0.10	20
L	22		16.99	16.99	33.400	24.291	363.1	0.080	5.80	105.0	3.6	0.36	0.1	0.00	0.31	0.10	22
	30	ISL	16.27	16.27	33.371	24.435	349.5	0.108	5.90	105.3	3.7	0.42	0.5	0.02	0.48	0.20	30
1	32		15.96	15.95	33.357	24.495	343.9	0.115	5.92	105.0	3.7	0.44	0.6	0.03	0.53	0.23	32
1	42		13.22	13.21	33.251	24.996	296.2	0.147	5.72	95.9	6.3	0.74	4.1	0.25	0.70	0.37	42
	50	ISL	12.05	12.04	33.274	25.241	273.1	0.170	5.33	87.2	9.1	0.94	8.2	0.16	0.40	0.26	50
1	52		11.86	11.85	33.287	25.287	268.8	0.176	5.22	85.1	9.8	0.99	9.3	0.12	0.31	0.22	52
1	62		11.05	11.04	33.372	25.501	248.6	0.201	4.79	76.8	13.4	1.24	13.2	0.05	0.14	0.15	62
	75	ISL	10.31	10.30	33.397	25.650	234.6	0.233	4.54	71.6	16.4	1.38	16.1	0.02	0.07	0.09	75
1	76		10.27	10.26	33.398	25.657	233.9	0.335	4.53	71.4	16.6	1.39	16.3	0.02	0.07	0.09	76
1	91		9.16	9.85	33.517	25.819	218.8	0.269	4.10	64.1	20.1	1.54	18.9	0.01	0.03	0.08	91
	100	ISL	9.14	9.63	33.593	25.915	209.8	0.288	3.84	59.7	22.4	1.64	20.6	0.01	0.02	0.07	100
1	112		9.43	9.42	33.702	26.035	198.7	0.313	3.50	54.2	25.3	1.76	22.5	0.01	0.01	0.05	113
	125	ISL	9.45	9.44	33.838	26.139	189.1	0.338	3.16	49.0	27.7	1.84	23.6	0.01	0.01	0.04	126
1	132		9.46	9.45	33.899	26.185	184.9	0.351	3.01	46.7	28.8	1.87	24.0	0.01	0.01	0.04	133
	150	ISL	9.1!0	9.18	33.952	26.268	177.3	0.384	2.86	44.2	31.4	1.95	25.4	0.01	0.00	0.04	151
1	157		9.(38	9.06	33.958	26.292	175.1	0.396	2.83	43.6	32.2	1.97	25.8	0.01	0.00	0.04	158
1	187		8.5)6	8.94	34.029	26.368	168.5	0.448	2.62	40.3	34.7	2.05	26.6	0.01	0.00	0.04	188
	200	ISL	8."0	8.68	34.041	26.418	163.9	0.469	2.55	38.9	37.1	2.10	27.5	0.01	0.00	0.04	201
1	222		8.27	8.25	34.066	26.504	156.0	0.504	2.39	36.2	41.5	2.20	29.1	0.00	0.00	0.03	223
	250	ISL	8.25	8.22	34.145	26.569	150.4	0.547	1.97	29.8	44.9	2.35	30.4	0.00			251
1	257		8.24	8.21	34.160	26.582	149.2	0.558	1.87	28.3	45.7	2.39	30.7	0.00			258
1	297		7.58	7.55	34.134	26.659	142.2	0.616	1.76	26.2	51.7	2.50	32.6	0.00			299
	300	ISL	7.54	7.51	34.133	26.664	141.8	0.620	1.74	25.9	52.2	2.51	32.8	0.00			302
1	352		7.05	7.02	34.150	26.747	134.5	0.692	1.32	19.4	60.0	2.69	35.4	0.00			354
	400	ISL	6.94	6.90	34.214	26.813	128.9	0.755	0.90	13.2	64.9	2.85	36.5	0.00			403
1	418		6.92	6.88	34.241	26.837	127.0	0.779	0.76	11.2	66.6	2.91	36.8	0.00			421
1	489		6.47	6.43	34.310	26.953	116.7	0.865	0.38	5.5	76.3	3.08	39.1	0.00			192
	500	ISL	6.37	6.32	34.313	26.968	115.3	0.878	0.37	5.4	78.2	3.10	39.4	0.00			503
1	572		5.79	5.65	34.340	27.075	105.4	0.957	0.28	4.0	90.7	3.22	41.5	0.00			576

RV NEW HORIZON CALCOFI CRUISE 9110 STATION 90 70

LATITUDE	LONGITUDE	OAY/MO/YR	MESSENGER	BOTTOM	MIND SPEED	HAVES	NEA	BAROMETER	DRY	NET	SECCHI/FOREL	CLD AMT TYPE
32 4.6 N	120 39.2 W	03/10/91	0642 UTC	3810 B	330 10 kn			1011.1 mb	16.7 C	16.7 C		

CAST	DEPTE -i	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/1	OXY PCT	SIO3 UM/1	PO4 UM/1	NO3 uM/1	NO2 UM/1	CBL-A ug/1	PHAEO ug/1	PRESS dfo
	0 ISL	17.43	17.43	33.306	24.114	379.2	0.000	5.73	104.6	3.4	0.36	0.0	0.00	0.18	0.05	0
1	2	17.43	17.43	33.306	24.114	379.3	0.008	5.73	104.6	3.4	0.36	0.0	0.00	0.18	0.05	2
	U0 ISL	17.42	17.42	33.302	24.113	379.6	0.038	5.69	103.8	3.3	0.36	0.0	0.00	0.18	0.05	1.0
1	11	17.42	17.42	33.302	24.113	379.6	0.042	5.68	103.7	3.3	0.36	0.0	0.00	0.18	0.05	11
	20 ISL	17.28	17.28	33.296	24.142	377.1	0.076	5.72	104.1	3.1	0.36	0.0	0.00	0.21	0.06	20
1	31	17.26	17.26	33.295	24.146	376.8	0.080	5.72	104.1	3.1	0.36	0.0	0.00	0.21	0.06	21
	30 ISL	16.16	16.16	33.258	24.374	355.4	0.113	5.95	105.9	3.3	0.38	0.0	0.00	0.39	0.18	30
1	31	16.00	16.00	33.252	24.405	352.4	0.116	5.97	105.9	3.3	0.38	0.0	0.00	0.42	0.20	31
1	40	14.65	14.64	33.180	24.646	329.6	0.147	6.00	103.6	4.1	0.45	0.8	0.09	0.63	0.37	40
1	50	12.84	12.83	33.026	24.897	305.8	0.179	5.94	98.7	5.4	0.63	3.1	0.29	0.65	0.47	50
1	60	12.12	12.11	33.107	25.099	286.9	0.208	5.66	92.6	6.8	0.75	5.2	0.25	0.37	0.32	60
1	74	11.27	11.26	33.212	25.337	264.4	0.247	5.22	84.0	10.9	1.06	10.6	0.06	0.19	0.18	74
	75 ISL	11.21	11.20	33.222	25.356	262.7	0.249	5.18	113.2	11.2	1.08	10.9	0.06	0.18	0.17	75
1	87	10.60	10.59	33.355	25.567	242.8	0.280	4.73	75.0	14.6	1.27	14.4	0.03	0.09	0.12	87
	100 ISL	10.34	10.33	33.539	25.756	225.1	0.310	4.14	65.4	18.1	1.44	17.2	0.02	0.04	0.09	100
1	106	10.26	10.25	33.615	25.829	218.3	0.323	3.90	61.5	19.6	1.50	18.2	0.02	0.03	0.08	106
1	125	9.65	9.64	33.710	26.006	201.8	0.363	3.65	56.8	23.2	1.62	20.7	0.01	0.01	0.05	126
1	148	9.24	9.22	33.896	26.218	182.0	0.407	3.12	48.2	29.4	1.84	24.2	0.00	0.00	0.04	149
	IS0 ISL	9.22	9.20	33.907	26.230	180.9	0.411	3.08	47.6	29.8	1.88	24.4	0.00	0.00	0.04	151
1	175	9.04	9.02	34.009	26.339	171.0	0.455	2.73	42.0	33.6	2.00	26.1	0.01	0.00	0.05	176
	200 ISL	8.71	8.69	34.071	26.440	161.9	0.497	2.48	37.9	37.7	2.12	27.7	0.00	0.00	0.03	201
1	207	8.61	8.59	34.083	26.465	159.6	0.508	2.42	36.9	38.8	2.15	28.1	0.00	0.00	0.03	20tl
1	238	8.221	8.20	34.113	26.548	152.1	0.556	2.15	32.5	43.6	2.28	29.9	0.00			239
	250 ISL	8.IS	8.16	34.141	26.575	149.8	0.574	1.98	29.9	45.1	2.34	30.4	0.00			251
1	274	8.1(	8.13	34.198	26.625	145.5	0.610	1.60	24.2	48.1	2.48	31.4	0.00			276
	300 ISL	7.9(1	7.93	34.242	26.689	139.8	0.647	1.22	18.3	52.8	2.64	32.9	0.00			302
1	323	7.611	7.65	34.257	26.742	135.0	0.678	0.98	14.6	57.3	2.75	34.3	0.00			325
1	381	6.611.	6.58	34.149	26.806	129.0	0.755	1.12	16.3	66.7	2.80	37.4	0.00			383
	400 ISL	6.6'U	6.59	34.194	26.839	126.2	0.779	0.93	13.6	68.4	2.87	37.8	0.01			403
1	445	6.6»	6.65	34.303	26.918	119.6	0.835	0.44	6.4	72.1	3.04	38.5	0.02			448
	500 ISL	6.10	6.06	34.288	26.983	113.6	0.899	0.40	5.8	80.7	3.11	40.4	0.01			503
1	519	5.90	5.85	34.284	27.005	111.5	0.920	0.38	5.4	83.7	3.14	41.0	0.00			S23

ItV MEN HORIZON CALCOFI CRUISE 9110 STATION 90 80

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	MIND SPEED	HAVES	NEA	BAROMETER	DRY	NET	SECCHI/FOREL	CLD AMT TYPE
31 45.1 N	121 19.» N	02/10/91	2354 UTC	3729 m	3:50 13 k.n	330 04 05	1	1011.3 mb	19.0 C	18.4 C	27m 01	5/8 SC

CAST	DEPTH -	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/1	OXY PCT	SIO3 UM/1	PO4 UM/1	NO3 uM/1	NO2 UM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
1	0	18.24	18.24	33.037	23.712	417.5	0.000	5.58	103.3	3.1	0.39	0.1	0.00	0.08	0.02	0
1	10	18.17	18.17	33.046	23.736	415.6	0.042	5.59	103.3	3.1	0.39	0.1	0.00	0.09	0.02	10
1	20	17.47	17.47	33.104	23.950	395.5	0.082	5.73	104.5	3.0	0.38	0.1	0.00	0.13	0.04	20
1	30	15.43	15.43	33.041	24.370	355.7	0.120	6.13	107.4	3.3	0.39	0.1	0.00	0.18	0.08	30
1	40	15.C7	15.06	33.160	24.541	339.7	0.155	6.14	106.9	3.3	0.40	0.1	0.00	0.20	0.11	40
1	50	14.19	14.18	33.189	24.751	319.9	0.188	6.06	103.6	3.6	0.43	0.3	0.02	0.40	0.30	50
1	60	13.1.3	13.12	33.184	24.963	299.9	0.219	5.80	97.0	4.6	0.55	2.0	0.18	0.32	0.27	(10
1	70	12.!12	12.51	33.196	25.092	287.9	0.248	5.63	93.0	5.7	0.68	4.5	0.11	0.22	0.31	70
	75 ISL	12.16	12.15	33.208	25.170	280.5	0.262	5.52	90.5	6.!3	0.75	5.9	0.07	0.19	0.26	75
1	84	11.4(8	11.47	33.231	25.314	266.9	0.287	5.31	85.8	8.3	0.89	8.4	0.02	0.15	0.15	fUl
1	98	10.46	10.45	33.253	25.512	248.2	0.323	5.08	80.3	11.6	1.09	11.9	0.02	0.07	0.09	««
	100 ISL	10.:13	10.32	33.264	25.543	245.3	0.328	5.04	79.4	12.2	1.12	12.5	0.02	0.06	0.08	100
1	118	9.46	9.45	33.417	25.808	220.4	0.370	4.56	70.6	17.8	1.39	17.3	0.01	0.02	0.04	11!)
	125 ISL	9.31	9.30	33.498	25.895	212.2	0.385	4.31	66.5	19.9	1.48	18.9	0.01	0.01	0.03	126
1	143	9.:1L	9.09	33.704	26.089	194.1	0.421	3.66	56.3	25.0	1.69	22.4	0.01	0.00	0.02	144
	15(1 ISL	9.04	9.02	33.766	26.148	188.6	0.435	3.45	53.0	26.9	1.76	23.5	0.01	0.00	0.02	151
1	173	8.1110	8.78	33.918	26.306	174.1	0.476	2.92	44.7	32.4	1.95	26.4	0.01	0.00	0.03	174
	200 ISL	8.HI	8.39	34.000	26.430	162.6	0.522	2.73	41.4	37.2	2.06	28.2	0.01	0.00	0.03	2191
1	203	8.37	8.35	34.005	26.440	161.7	0.527	2.72	41.2	37.7	2.07	28.3	0.01	0.00	0.03	201
1	231!	8.110	7.98	34.038	26.522	154.3	0.573	2.57	38.6	41.8	2.17	29.5	0.01			233
	250 ISL	7.77	7.75	34.058	26.572	149.8	0.600	2.37	35.4	45.3	2.26	30.7	0.01			251
1	273	7.18	7.45	34.082	26.632	144.3	0.634	2.08	30.9	50.1	2.39	32.4	0.00			275
	300 ISL	7.16	7.13	34.101	26.693	138.9	0.672	1.78	26.3	55.3	2.53	34.1	0.00			302
1	321!	6.41	6.88	34.124	26.745	134.1	0.710	1.48	21.7	60.0	2.66	35.5	0.00			330
1.	388	6.U5	6.81	34.227	26.835	126.6	0.788	0.79	11.6	67.0	2.91	37.5	0.00			390
	400 ISL	6.79	6.75	34.239	26.853	125.0	0.804	0.71	10.4	68.5	2.94	37.8	0.00			402
1L	451	6.18	6.44	34.273	26.922	119.1	0.869	0.49	7.1	74.9	3.04	39.1	0.00			457
	500 ISL	6.27	6.23	34.289	26.962	115.7	0.923	0.41	5.9	79.1	3.10	39.9	0.00			503
:L	525	6.15	6.10	34.298	26.985	113.8	0.952	0.36	5.2	81.4	3.13	40.3	0.00			529

RV MEN HORIZON CALCOFI CRUISE 9110 STATION 90 90

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOMWIND SPEED	WAVES	WEA	BAROMETER	DRY	NET	SECCHI/FOREL	CLD AMT TYPE
31 24.9 N	121 59.3 N	02/10/91	1629 UTC	3869 n 330 10 kn	350 04 04 0		1013.7 mb	19.5 C	18.1 C	21n 02	0/8

CAST	DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL-A ug/1	PHAEO uq/1	PRESS db
1	0	17.59	17.59	33.230	24.017	388.4	0.000	5.66	103.6	3.1	0.37	0.1	0.00	0.17	0.06	0
1	10	17.56	17.56	33.231	24.026	387.9	0.039	5.67	103.7	2.9	0.38	0.1	0.00	0.17	0.04	10
	20 ISL	17.07	17.07	33.153	24.082	382.9	0.077	5.81	105.2	3.2	0.37	0.2	0.00	0.18	0.0S	20
1	21	16.9!)	16.99	33.143	24.094	381.8	0.081	5.83	105.4	3.2	0.37	0.2	0.00	0.18	0.05	21
	30 ISL	15.99	15.99	33.076	24.272	365.0	0.115	6.02	106.7	3.2	0.38	0.2	0.00	0.23	0.09	30
1	31	15.88	15.88	33.073	24.295	362.9	0.118	6.04	106.8	3.2	0.38	0.2	0.00	0.23	0.09	31
1	41	15.31	15.30	33.149	24.480	345.6	0.154	6.02	105.3	3.3	0.40	0.2	0.00	0.47	0.27	41
	50 ISL	14.37	14.36	33.038	24.596	334.7	0.184	6.11	104.8	3.4	0.41	0.2	0.00	0.36	0.24	50
1	51	14.24	14.23	33.022	24.611	333.2	0.188	6.12	104.7	3.4	0.41	0.2	0.00	0.34	0.24	51
1	61	12.84	12.83	32.947	24.836	311.9	0.220	6.01	99.8	4.6	0.56	1.9	0.20	0.35	0.36	61
1	72	12.86	12.85	33.174	25.009	295.9	0.253	5.79	96.3	5.4	0.66	3.7	0.21	0.28	0.26	72
	75 ISL	12.48	12.47	33.175	25.083	288.8	0.262	5.69	93.9	6.4	0.75	5.3	0.19	0.26	0.24	75
1	86	11.03	11.02	33.148	25.331	265.3	0.293	5.32	85.1	10.2	1.06	11.0	0.09	0.20	0.18	86
1	100	11.04	11.03	33.238	25.399	259.1	0.329	5.10	81.6	11.6	1.11	12.0	0.09	0.16	0.17	100
1	120	9.115	9.84	33.408	25.737	227.2	0.378	4.48	69.9	17.7	1.41	17.2	0.01	0.04	0.07	121
	125 ISL	9.73	9.72	33.464	25.800	221.3	0.389	4.33	67.4	18.9	1.46	18.1	0.01	0.03	0.06	126
1	147	9.50	9.48	33.702	26.024	200.4	0.436	3.68	57.1	23.8	1.63	21.4	0.00	0.01	0.04	148
	150 ISL	9.45	9.43	33.727	26.052	197.8	0.442	3.58	55.5	24.7	1.67	22.0	0.00	0.01	0.04	151
1	178	8.96	8.94	33.901	26.267	177.9	0.494	2.84	43.6	32.2	1.96	26.5	0.00	0.00	0.05	179
	200 ISL	8.S6	8.54	33.961	26.377	167.8	0.532	2.79	42.5	35.4	2.01	27.6	0.00	0.00	0.04	201
1	208	8.'112	8.40	33.973	26.408	164.9	0.546	2.77	42.0	36.3	2.02	27.8	0.00	0.00	0.04	209
1	238	8.07	8.05	34.021	26.499	156.7	0.S94	2.65	39.9	40.4	2.12	29.1	0.00			239
	250 ISL	7.90	7.87	34.033	26.533	153.6	0.612	2.56	38.4	42.5	2.17	29.8	0.00			251
1	279	7.49	7.46	34.051	26 607	146.8	0.656	2.30	34.2	47.9	2.30	31.7	0.00			281
	300 ISL	7.27	7.24	34.056	26 642	143.7	0.686	2.14	31.6	51.1	2.38	32.11	0.00			302
1	336	6.94	6.91	34.062	26 693	139.3	0.737	1.87	27.4	56.3	2.51	34.5	0.00			338
1	397	6.35	6.31	34.089	26 793	130.2	0.820	1.39	20.1	66.1	2.73	37.6	0.00			399
	400 ISL	6.32	6.28	34.090	26 797	129.8	0.824	1.37	19.8	66.7	2.74	37.7	0.00			402
1	464	5.75	5.71	34.128	26.900	120.5	0.904	0.90	12.8	79.1	2.93	40.2	0.00			467
	500 ISL	5.66	5.62	34.193	26.963	115.0	0.946	0.64	9.1	83.9	3.04	41.2	0.00			503
1	536	5.57	5.52	34.259	27.026	109.3	0.986	0.38	5.4	88.7	3.14	42.1	0.00			540

RV NEN HORIZON CALCOFI CRUISE 9110 STATION 90 100

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOMWIND SPEED	WAVES	WEA	BAROMETER	DRY	NET	SECCHI/FOREL	CLD AMT TYPE
31 5.3 N	122 39.9 N	02/10/91	1047 UTC	3996 in 350 13 kn			1010.4 mb	17.8 C	17.5 C		

CAST	DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN «1/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
1	0	19.22	19.22	33.224	23.610	427.3	0.000	5.44	102.7	3.8	0.37	0.2	0.00	0.07	0.01	0
1	10	19.23	19.23	33.224	23.608	427.8	0.043	5.44	102.7	3.7	0.36	0.2	0.00	0.07	0.01	10
1	20	19.21	19.21	33.222	23.612	427.8	0.086	5.45	102.9	3.6	0.36	0.2	0.00	0.07	0.01	20
	30 ISL	18.86	18.85	33.213	23.694	420.3	0.128	5.56	104.2	3.6	0.36	(1.2	0.00	0.10	0.02	30
1	31	18.83	18.82	33.212	23.700	419.7	0.132	5.57	104.4	3.6	0.36	0.2	0.00	0.10	0.02	31
1	41	16.83	16.82	33.150	24.137	378.3	0.172	6.01	108.3	3.5	0.36	0.3	0.00	0.09	0.02	41
	50 ISL	15.50	15.49	33.103	24.403	353.2	0.205	6.09	106.9	3.6	0.37	0.3	0.00	0.12	0.05	50
1	51	15.39	15.38	33.102	24.427	351.0	0.208	6.10	106.8	3.6	0.37	0.3	0.00	0.13	0.05	51
1	61	14.92	14.91	33.217	24.618	333.0	0.243	6.05	105.0	3.6	0.36	0.2	0.00	0.17	0.11	61
1	71	13.33	13.32	33.014	24.792	316.5	0.275	6.09	102.2	3.9	0.49	1.2	0.13	0.36	0.24	71
	75 ISL	13.10	13.09	33.028	24.848	311.2	0.288	6.02	100.5	4.1	0.53	1.8	0.12	0.35	0.24	75
1	85	12.80	12.79	33.122	24.980	298.9	0.318	5.78	96.0	5.1	0.61	3.6	0.09	0.31	0.25	85
1	100	11.69	11.68	33.139	25.204	277.7	0.361	5.55	90.0	7.7	0.80	6.9	0.03	0.17	0.14	100
1	121	10.84	10.83	33.303	25.486	251.3	0.417	5.16	82.3	10.4	0.97	10.4	0.02	0.09	0.10	121
	125 ISL	10.67	10.66	33.316	25.526	247.6	0.427	5.10	81.0	11.0	1.01	11.1	0.02	0.08	0.10	126
1	146	9.82	9.80	33.403	25.738	227.6	0.477	4.68	73.0	15.6	1.26	15.5	0.01	0.04	0.08	147
	150 ISL	9.69	9.67	33.450	25.796	222.1	0.486	4.52	70.3	17.1	1.33	16.6	0.01	0.03	0.07	151
1	176	9.05	9.03	33.768	26.149	189.1	0.539	3.53	54.3	26.6	1.73	23.2	0.00	0.00	0.03	177
	200 ISL	8.70	8.68	33.906	26.312	173.9	0.583	3.17	48.4	31.5	1.88	25.7	0.00	0.00	0.03	201
1	206	8.63	8.61	33.925	26.338	171.6	0.593	3.15	48.0	32.3	1.89	25.0	0.00	0.00	0.03	207
1	236	8.20	8.18	33.981	26.448	161.5	0.643	3.30	49.8	35.6	1.89	26.4	0.00			237
	250 ISL	8.00	7.97	33.997	26.490	157.7	0.666	3.19	47.9	38.0	1.95	27.2	0.00			251
1	276	7.66	7.63	34.017	26.556	151.7	0.706	2.87	42.8	42.9	2.09	29.2	0.00			277
	300 ISL	7.42	7.39	34.033	26.603	147.5	0.742	2.58	38.3	46.8	2.22	30.8	0.00			302
1	332	7.10	7.07	34.048	26.660	142.4	0.788	2.19	32.2	52.3	2.38	32.8	0.00			334
1	391	6.29	6.26	34.065	26.782	131.2	0.869	1.63	23.5	65.1	2.64	36.5	0.00			393
	400 ISL	6.20	6.16	34.069	26.796	129.8	0.881	1.55	22.3	66.7	2.67	36.9	0.00			402
1	457	5.73	5.69	34.103	126.882	122.0	0.952	1.11	15.8	76.7	2.87	39.4	0.01			460
	500 ISL	5.42	5.38	34.138	26.948	116.0	1.004	0.83	11.7	84.9	2.99	41.2	0.00			503
1	527	5.23	5.19	34.160	26.988	112.4	1.034	0.65	9.2	90.1	3.07	42.3	0.00			530

RV NEW HORIZON CALCOFI CRUISE 9110 STATION 90 110

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	NAVES	WE	A	BAROMETER	DRY	WET	SECCHI/FOEEL	CLD AMT	TYPE
30 45.8 N	123 20.8 N	02/10/91	0445 UTC	450S •	350	13 kn				1015.0 ab	18.8 C	18.2 C			

CAST	DEPTH m		TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN al/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 MM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
	0	ISL	18.B4	18.84	33.152	23.651	423.4	0.000	5.51	103.2	3.4	0.40	0.3	0.00	0.10	0.03	0
1	2		18.84	18.84	33.152	23.651	423.4	0.008	5.51	103.2	3.4	0.40	0.3	0.00	0.10	0.03	2
	10	ISL	18. B4	18.84	33.152	23.651	423.7	0.042	5.51	1031.2	3.4	0.40	0.3	0.00	0.10	0.03	10
1	12		18.84	18.84	33.152	23.651	423.7	0.051	5.51	103.2	3.4	(1.40	0.3	0.00	0.10	0.03	12
	20	ISL	18.76	18.76	33.153	23.672	422.0	0.085	5.53	103.5	3.3	0.39	0.3	0.00	0.11	0.03	20
1	22		18.74	18.74	33.153	23.677	421.6	0.093	5.54	103.6	3.3	0.39	0.3	0.00	0.11	0.03	22
	30	ISL	18.18	18.17	33.138	23.805	409.7	0.126	5.66	104.7	3.3	0.39	0.3	0.00	0.14	0.05	30
1	31		18.06	18.05	33.136	23.833	407.1	0.130	5.69	105.0	3.3	0.39	0.3	0.00	0.14	0.05	31
1	41		15.70	15.69	33.137	24.384	354.7	0.169	6.22	109.6	3.4	0.38	0.3	0.00	0.16	0.07	41
	50	ISL	14.39	14.38	33.146	24.675	327.1	0.199	6.26	107.5	3.5	0.41	0.5	0.01	0.26	0.14	50
1	51		14.29	14.28	33.147	24.697	325.1	0.202	6.26	107.2	3.5	0.42	0.5	0.01	0.27	0.15	51
1	61		13.61	13.60	33.174	24.859	309.9	0.234	6.03	101.9	4.1	0.51	1.5	0.10	0.29	0.22	61
1	71		12.98	12.97	33.156	24.971	299.4	0.265	5.87	97.9	4.8	0.63	3.2	0.25	0.31	0.28	71
	75	ISL	12.72	12.71	33.164	25.028	294.0	0.277	5.78	95.8	5.2	0.67	4.1	0.23	0.28	0.25	75
1	83		12.16	12.15	33.194	25.159	281.7	0.300	5.55	91.0	6.4	0.78	6.2	0.13	0.21	0.16	83
1	99		10.70	10.69	33.274	25.487	250.7	0.342	4.97	79.0	11.6	1.12	12.3	0.02	0.08	0.10	99
	100	ISL	10.65	10.64	33.282	25.502	249.3	0.345	4.94	78.4	11.9	1.14	12.6	0.02	0.08	0.10	100
1	117		10.09	10.08	33.426	25.711	229.7	0.385	4.46	70.0	16.3	1.36	16.6	0.01	0.03	0.06	117
	125	ISL	9.91	9.90	33.487	25.788	222.4	0.403	4.26	615.6	18.1	1.44	18.0	0.01	0.02	0.05	126
1	141		9.62	9.60	33.599	25.924	209.8	0.438	3.91	60.8	21.3	1.58	20.2	0.01	0.01	0.04	142
	150	ISL	9.44	9.42	33.658	26.000	202.8	0.457	3.78	519.6	22.8	1.63	21.2	0.01	0.01	0.04	151
1	169		9.10	9.08	33.775	26.146	189.2	0.494	3.52	SI.2	26.0	1.72	23.3	0.01	0.00	0.03	170
1	196		8.75	8.73	33.920	26.315	173.6	0.543	3.00	45.8	32.1	1.93	26.7	0.00	0.00	0.03	197
	200	ISL	8.69	8.67	33.935	26.337	171.6	0.550	2.95	45.0	32.9	1.95	27.0	0.00			201
1	222		8.36	8.34	34.001	26.439	162.2	0.586	2.72	41.2	36.8	2.05	28.4	0.00			223
	250	ISL	8.07	8.04	34.050	26.521	154.8	0.631	2.41	36.3	41.6	2.19	30.2	0.00			251
1	260		7.98	7.95	34.061	26.544	152.8	0.646	2.31	34.7	43.3	2.24	30.8	0.00			261
	300	ISL	7.47	7.44	34.094	26.644	143.7	0.705	1.97	29.3	49.7	2.39	33.0	0.00			302
1	310		7.33	7.30	34.097	26.666	141.7	0.720	1.90	20.1	51.4	2.43	33.5	0.00			312
1	365		6.49	6.46	34.077	26.765	132.5	0.795	1.59	23.1	62.8	2.64	36.9	0.00			367
	400	ISL	6.23	6.19	34.104	26.820	127.6	0.841	1.26	1(1.2	68.8	2.78	38.7	0.01			402
1	427		6.09	6.05	34.131	26.859	124.1	0.875	1.00	141.4	73.1	2.88	39.9	0.01			430
1	496		5.57	5.53	34.172	26.957	115.3	0.957	0.65	Si. 2	84.2	3.04	42.0	0.00			499
	500	ISL	5.55	5.51	34.174	26.961	115.0	0.962	0.63	0.9	84.7	3.05	42.1	0.00			503

RV NEN HORIZON CALCOFI CRUISE 9110 STATION 90 120

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	HIND	SPEED	WAVES	NEA	BAROMETER	DRY	NET	SECCHI/FOREL	CLD AMT	TYPE
30 25.0 N	124 0.2 W	01/10/91	2213 UTC	4205 •	020	09 kn	020 03 03	1	1017.3 ab	19.5 C	19.0 C	29a 01	3/8	SC

CAST	DEPTH •		TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN al/1	C:CY PCT	SIO3 UM/1	PO4 UM/1	NO3 UM/1	NO2 UM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
	0	ISL	18.66	18.66	33.080	23.641	424.3	0.000	5.51	102.8	3.4	0.39	0.1	0.00	0.11	0.03	0
1	1		18.66	18.66	33.080	23.641	424.3	0.004	5.51	102.8	3.4	0.39	0.1	0.00	0.11	0.03	1
	10	XSL	18.48	18.48	33.085	23.690	420.0	0.042	5.55	103.2	3.3	0.39	0.1	0.00	0.11	0.04	10
1	11		18.45	18.45	33.086	23.698	419.2	0.046	5.55	103.2	3.3	0.39	0.1	0.00	0.11	0.04	11
	20	ISL	18.39	18.39	33.090	23.716	417.8	0.084	5.53	102.7	3.4	0.39	0.1	0.00	0.12	0.03	20
1	22		18.39	18.39	33.092	23.718	417.7	0.092	5.53	102.7	3.4	0.39	0.1	0.00	0.12	0.03	22
	30	ISL	18.35	18.34	33.111	23.742	415.6	0.126	5.56	103.2	3.3	0.38	0.1	0.00	0.14	0.04	30
1	32		18.34	18.33	33.116	23.749	415.1	0.134	5.57	103.3	3.3	0.38	0.1	0.00	0.14	0.04	32
1	42		16.38	16.37	33.092	24.196	372.6	0.173	6.03	107.7	3.2	0.37	0.1	0.00	0.13	0.04	42
	50	XSL	15.61	15.60	33.098	24.375	355.8	0.203	6.07	106.8	3.3	0.37	0.5	0.00	0.15	0.05	50
1	52		15.49	15.48	33.102	24.404	353.1	0.210	6.08	106.7	3.3	0.37	0.6	0.00	0.16	0.05	52
1	63		14.92	14.91	33.153	24.568	337.8	0.248	6.03	104.6	3.4	0.38	0.1	0.00	0.20	0.10	63
1	73		14.40	14.39	33.256	24.759	319.8	0.281	5.98	102.7	3.5	0.38	0.1	0.00	0.24	0.19	73
	75	ISL	14.25	14.24	33.245	24.782	317.7	0.287	5.97	102.2	3.5	0.39	0.2	0.02	0.24	0.19	75
1	87		13.25	13.24	33.148	24.912	305.5	0.324	5.93	99.4	4.2	0.53	1.5	0.13	0.25	0.22	87
	100	ISL	12.28	12.27	33.185	25.130	285.0	0.363	5.57	91.5	6.3	0.73	5.2	0.11	0.18	0.18	100
1	102		12.13	12.12	33.196	25.167	281.5	0.368	5.50	90.1	6.7	0.77	5.9	0.11	0.17	0.17	102
1	123		10.60	10.59	33.276	25.507	249.4	0.424	4.91	77.9	12.8	1.22	13.5	0.02	0.06	0.07	123
	125	ISL	10.49	10.48	33.279	25.528	247.3	0.429	4.89	77.4	13.1	1.24	13.8	0.02	0.05	0.07	126
1	148		9.59	9.57	33.361	25.743	227.1	0.484	4.68	72.(5	16.7	1.36	16.5	0.01	0.02	0.05	149
	150	ISL	9.56	9.54	33.385	25.767	224.9	0.488	4.61	71.5	17.3	1.38	16.9	0.01	0.02	0.05	151
1	179		9.26	9.24	33.750	26.101	193.7	0.549	3.49	53.9	25.8	1.73	22.7	0.01	0.00	0.03	180
	200	ISL	8.97	8.95	33.871	26.243	180.6	0.588	3.27	50.2	29.6	1.85	24.8	0.01	0.00	0.03	201
1	209		8.83	8.81	33.899	26.287	176.6	0.604	3.17	48.5	30.8	1.87	25.3	0.01	0.00	0.03	210
1	239		8.36	8.34	33.955	26.403	165.9	0.656	3.43	52.0	33.1	1.84	25.5	0.00			240
	250	ISL	8.14	8.11	33.966	26.445	162.0	0.674	3.38	50.9	35.2	1.88	26.2	0.00			251
1	280		7.55	7.52	33.991	26.551	152.2	0.721	3.03	45.1	42.4	2.07	28.8	0.00			281
	300'	ISL	7.26	7.23	34.012	26.609	146.8	0.751	2.70	39.9	47.2	2.21	30.8	0.00			302
1	335		6.85	6.82	34.048	26.694	139.1	0.801	2.08	30.4	55.4	2.44	34.1	0.00			337
1	395		6.35	6.31	34.088	26.792	130.3	0.882	1.35	19.5	66.5	2.73	37.7	0.00			397
	400	ISL	6.31	6.27	34.092	26.800	129.5	0.888	1.30	18.8	67.4	2.75	38.0	0.00			402
1	461		5.83	5.79	34.141	26.900	120.5	0.964	0.83	11.9	78.2	2.96	40.7	0.01			464
	500	ISL	5.60	5.56	34.179	26.959	115.2	1.010	0.62	8.8	84.6	3.05	41.6	0.00			503
1	531		5.41	5.37	34.210	27.006	110.9	1.045	0.46	6.5	89.6	3.13	42.3	0.00			534

RV NEW HORIZON CALCOFI CRUISE 9110 STATION 93 26.6

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	NAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
32 57.2 M	117 17.6 N	28/09/91	1828 UTC	48 •	280	01 kn	330 01 03	1	1012.0 *mb*	21.9 C	20.8 C	18a 03	6/8	SC

CAST	DEPTH ••		TEMP DBG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN al/1	OXY PCT	SIO3 uM/1	PO4 UM/1	NO3 uM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
1	0		111.94	18.94	33.375	23.796	409.5	0.000	5.98	112.4	2.7	0.32	0.0	0.01	0.57	0.16	0
1	10		113.08	18.08	33.364	24.001	390.2	0.040	6.13	1X3.3	2.7	0.32	0.0	0.00	0.39	0.12	10
	20	ISL	15.31	15.31	33.322	24.612	332.3	0.076	6.42	112.4	3.1	0.38	0.0	0.00	0.38	0.17	20
1	21		15.02	15.02	33.322	24.676	326.3	0.079	6.44	112.1	3.2	0.39	0.0	0.00	0.38	0.17	21
	30	ISL	13.87	13.87	33.335	24.929	302.4	0.108	6.16	104.7	4.5	0.49	0.5	0.03	0.92	0.38	30
1	32		13.73	13.73	33.337	24.959	299.5	0.114	6.06	102.8	4.9	0.52	0.6	0.05	1.01	0.42	32
1	42		13.13	13.12	33.344	25.086	287.7	0.143	5.49	91.9	6.5	0.77	3.1	0.21	0.42	0.34	42

RV NEK HORIZON CALCOFI CRUISE 9110 STATION 93 28

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	NAVES	WEA	BAROMETER	DRY	MET	SECCBI/FOREL	CID AMT TYPE
32 54.« N	11? 25.0 W	28/09/91	2245 UTC	626 v	280 05 kn	280 02 03	1	1010.4 mb	21.7 C	20.6 C	20» 02	7/8 SC

CAST	DEPTH -	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT u1/1	OXYGEN	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
	0 ISL	20.98	20.98	33.442	23.315	4S5.4	0.000	5.56	108.6	1.6	0.29	0.0	0.00	0.19	0.05	0
1	1	20.98	20.98	33.442	23.315	455.4	0.005	5.56	108.6	1.6	0.29	0.0	0.00	0.19	0.05	1
	10 ISL	19.60	19.60	33.432	23.672	421.7	0.044	5.73	109.1	1.9	0.30	0.0	0.00	0.20	0.06	10
1	11	19.36	19.36	33.429	23.731	416.1	0.048	5.76	109.2	1.9	0.30	0.0	0.00	0.20	0.06	11
	30 ISL	17.29	17.29	33.343	24.176	373.9	0.084	6.02	109.6	2.2	0.33	0.0	0.00	0.23	0.08	20
1	22	16.85	16.85	33.328	34.268	365.2	0.091	6.08	109.8	2.3	0.34	0.0	0.00	0.24	0.08	22
	30 ISL	15.84	15.84	33.323	24.496	343.7	0.120	6.30	111.5	2.6	0.36	0.0	0.00	0.28	0.10	30
1	32	15.66	15.66	33.326	24.538	339.7	0.126	6.35	112.0	2.7	0.36	0.0	0.00	0.29	0.10	32
1	42	14.79	14.78	33.347	24.745	320.3	0.159	6.42	111.2	3.2	0.38	0.0	0.00	0.37	0.23	42
	50 ISL	13.66	13.65	33.348	24.983	297.8	0.184	6.00	101.6	3.9	0.S2	1.8	0.16	0.63	0.65	50
1	52	13.39	13.38	33.350	25.039	292.5	0.190	5.87	98.8	4.2	0.56	2.4	0.21	0.68	0.74	52
1	62	12.70	12.69	33.370	25.191	278.2	0.219	5.52	91.6	6.1	0.74	5.6	0.30	0.47	0.60	62
1	72	11.94	11.93	33.313	25.292	268.7	0.246	5.27	86.0	7.4	0.89	8.1	0.09	0.24	0.28	72
	75 ISL	11.74	11.73	33.302	25.321	266.0	0.254	5.24	85.2	7.8	0.93	8.7	0.08	0.20	0.26	75
1	86	11.21	11.20	33.315	2S.428	256.0	0.283	5.05	81.2	9.9	1.06	10.8	0.03	0.12	0.17	86
	100 ISL	11.06	11.05	33.496	25.596	240.4	0.317	4.35	69.8	14.2	1.28	14.2	0.02	0.07	0.13	100
1	101	11.06	11.05	33.511	25.608	239.3	0.320	4.30	69.0	14.5	1.29	14.4	0.02	0.07	0.13	101
1	122	10.68	10.67	33.640	25.776	223.8	0.368	3.76	59.9	18.1	1.49	17.4	0.01	0.03	0.10	123
	125 ISL	10.63	10.62	33.661	25.801	221.4	0.375	3.66	58.2	19.1	1.52	17.9	0.01	0.03	0.10	136
1	147	10.33	10.31	33.796	25.959	206.9	0.422	3.06	48.4	23.6	1.75	21.1	0.01	0.01	0.07	148
	150 ISL	10.30	10.28	33.805	25.971	205.8	0.428	3.03	47.9	23.9	1.77	21.3	0.01	0.01	0.07	151
1	177	10.07	10.05	33.876	26.066	197.3	0.483	2.87	45.1	25.8	1.86	22.4	0.01	0.01	0.05	178
	300 ISL	9.86	9.84	33.990	26.191	185.9	0.527	2.58	40.4	28.7	1.96	23.9	0.01	0.00	0.05	201
1	208	9.77	9.75	34.027	26.235	181.9	0.542	2.50	39.1	29.8	1.99	24.4	0.01	0.00	0.05	209
1	237	9.23	9.20	34.076	26.362	170.2	0.593	2.56	39.6	32.9	2.01	25.5	0.02			23H
	250 ISL	9.16	9.13	34.115	26.404	166.5	0.614	2.38	36.7	34.8	2.08	26.1	0.02			251
1	278	9.06	9.03	34.192	26.481	159.7	0.660	1.91	29.4	39.0	2.25	27.□	0.01			280
	300 ISL	8.80	8.77	34.307	26.534	155.0	0.695	1.77	27.1	41.8	2.33	28.5	0.01			302
1	334	8.31	8.28	34.303	26.607	148.4	0.746	1.66	25.2	46.2	2.43	30.0	0.01			336
1	394	7.53	7.49	34.199	26.719	138.2	0.832	1.29	19.2	55.4	2.66	33.5	0.01			396
	400 ISL	7.46	7.42	34.203	26.732	137.0	0.841	1.23	18.3	56.6	2.69	33.9	0.01			402
1	461	6.80	6.76	34.260	26.869	124.5	0.920	0.63	9.2	68,2	2.96	37.2	0.02			464
	500 ISL	6.56	6.51	34.291	26.926	119.5	0.968	0.48	7.0	72.9	3.04	38.3	0.01			503
1	531	6.37	6.32	34.316	26.971	115.5	1.004	0.36	5.2	76.7	3.10	39.1	0.01			535

RV NEW HORIZON CALCOFI CRUISE 9110 STATION 93 30

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
32 50.8 N	117 32.5 W	29/09/91	0129 UTC	863 -	270 05 kB	290 02 04	1	1010.3 ab	20.2 C	20.1 C		1/8 SC

CAST	DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT m1/1	OXYGEN	OXY PCT	SIO3 UM/1	PO4 uM/1	NO3 UM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
	0 ISL	20.66	20.66	33.471	23.423	44S.1	0.000	5.40	104.!)	2.9	0.35	0.0	0.00	0.13	0.03	0
1	1	20.66	20.66	33.471	23.423	445.1	0.004	5.40	104.9	2.9	0.35	0.0	0.00	0 13	0.03	1
	10 ISL	19.33	19.33	33.488	23.784	4U.0	0.043	5.58	105.7	2.7	0.35	0.0	0.00	0.13	0.03	10
1	11	19.11	19.11	33.4190	23.841	405.6	0.047	5.61	105.9	2.7	0.35	0.0	0.00	0.13	0.03	11
	20 ISL	17.64	17.64	33.462	24.184	373.2	0.082	5.83	107.0	2.7	0.34	0.0	0.00	0.13	0.04	30
1	21	17.46	17.46	33.453	24.220	369.8	0.086	5.85	106.9	2.7	0.34	0.0	0.00	0.13	0.04	21
	30 ISL	15.51	15.51	33.258	24.519	341.5	0.118	6.09	107.0	2.7	0.39	0.0	0.00	0.18	0.09	30
1	32	15.09	15.09	33.210	24.574	336.2	0.125	6.13	106.(1	2.7	0.40	0.0	0.00	0.20	0.11	32
1	42	13.59	13.58	33.035	24.755	319.3	0.157	6.11	103.1	3.5	0.47	0.7	0.11	0.40	0.25	42
	50 ISL	12.48	12.47	32.943	34.903	305.3	0.183	5.93	97.7	4.7	0.64	3.0	0.32	0.43	0.33	50
1	53	12.25	12.34	32.957	34.957	300.1	0.191	5.84	95.»	5.1	0.70	3.8	0.37	0.44	0.35	53
1	63	13.87	13.86	33.333	35.130	284.1	0.218	5.55	92.4	5.5	0.69	4.3	0.17	0.40	0.36	62
1	72	12.77	12.76	33.383	25.188	278.8	0.246	5.41	89.9	6.2	0.74	5.6	0.11	0.29	0.38	72
	75 ISL	12.62	12.61	33.383	25.217	276.0	0.254	5.36	88.8	6.6	0.78	6.3	0.09	0.26	0.36	75
1	88	11.75	11.74	33.364	25.368	261.9	0.289	5.12	83.3	9.2	1.00	9.6	0.04	00.16 A	0.22 A	88
	100 ISL	10.90	10.89	33.363	25.521	247.5	0.320	4.85	77.5	12.0	1.17	12.4	0.03	0.09	0.14	1.00
1	103	10.71	10.70	33.371	25.561	243.7	0.327	4.77	75.9	12.7	1.21	13.1	0.03	0.08	0.12	103
1	123	10.28	10.27	33.581	25.799	2211.5	0.374	4.06	64.1	18.1	1.46	17.5	0.02	0.02	0.06	124
	125 ISL	10.28	10.37	33.605	25.818	219.7	0.378	3.96	62.5	18.7	1.49	17.9	0.02	0.02	0.06	126
1	148	10.27	10.25	33.835	26.000	203.0	0.427	2.97	46.9	25.1	1.81	22.0	0.02	0.01	0.06	149
	150 ISL	10.25	10.23	33.847	26.012	201.9	0.431	2.92	46.1	25.5	1.83	22.2	0.02	0.01	0.06	151
1	180	9.93	9.91	33 .966	26.160	188.4	0.489	2.54	39.9	29.1	1.98	24.5	0.02	0.01	0.06	181
	200 ISL	9.70	9.68	34.021	26.242	181.0	0.526	2.50	39.0	30.8	2.03	25.3	0.01	0.01	0.05	201
1	210	9.60	9.513	34.048	26.280	177.6	0.544	2.48	38.6	31.6	2.05	25.6	0.01	0.01	0.05	211
1	241	9.48	9.45	34.164	26.391	167.7	0.598	2.04	31.7	35.7	2.22	27.3	0.01			242
	250 ISL	9.39	9.36	34.185	26.422	164.9	0.613	1.93	30.0	37.0	2.27	27.8	0.01			251
1	282	8.99	8.96	34.226	26.519	156.2	0.664	1.65	25.4	41.5	2.41	29.4	0.01			284
	300 ISL	8.70	8.67	34.225	26.564	152.1	0.692	1.60	24.5	43.9	2.45	30.1	0.01			302
1	338	8.08	8.05	34.207	36.645	144.8	0.748	1.52	22.9	49.0	2.53	31.6	0.01			340
1	399	7.32	7.28	34.206	26.755	134.8	0.833	1.11	16.4	58.4	2.75	34.8	0.00			401
	400 ISL	7.31	7.27	34.207	26.757	134.6	0.835	1.10	16.3	58.6	2.75	34.8	0.00			402
1	466	6.80	6.76	34.263	36.873	134.4	0.930	0.64	9.4	68.1	3.97	37.4	0.00			469
	500 ISL	6.60	6.55	34.284	36.915	130.6	0.962	0.51	7.4	72.2	3.04	38.3	0.00			503
1	536	6.39	6.34	34.307	26.961	116.5	1.005	0.38	5.5	76.6	3.12	39.2	0.00			SIO

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

RV NEW HORIZON CALCOFI CRUISE 9110 STATION 93 35

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	HIND SPEED	HAVES	HEA	BAROMETER	DRY	NET	SECCHI/FOREL	CLD AMT TYPE
32 40.6 N	117 52.4 N	29/09/91	0601 UTC	609 m	00 kn			1011.7 mb	19.1 C	18.0 C		

CAST	DEPTH m		TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT m1/1	OXYGEN	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 UM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
	0	ISL	19.95	19.95	33.465	23.606	427.7	0.000	5.42	103.9	2.9	0.32	0.0	0.00	0.15	0.03	0
1	1		19.95	19.95	33.465	23.606	427.7	0.004	5.42	103.9	2.9	0.32	0.0	0.00	0.15	0.03	1
1	10		19.92	19.92	33.466	23.615	427.2	0.043	5.44	104.2	2.9	0.33	0.0	0.00	0.16	0.04	10
	20	ISL	18.31	18.31	33.446	24.008	390.0	0.084	5.78	107.4	2.9	0.31	0.0	0.00	0.16	0.04	20
1	21		18.09	18.09	33.442	24.059	385.1	0.087	5.83	107.9	2.9	0.31	0.0	0.00	0.16	0.04	21
	30	ISL	16.04	16.04	33.339	24.463	346.8	0.120	6.21	110.3	3.2	0.35	0.0	0.00	0.23	0.09	30
1	31		15.81	15.81	33.329	24.507	342.7	0.124	6.24	110.4	3.3	0.36	0.0	0.00	0.24	0.10	31
1	41		14.14	14.13	33.301	24.847	310.5	0.157	6.28	107.4	4.0	0.40	0.0	0.00	0.73	0.31	41
1	50		13.50	13.49	33.275	24.959	300.1	0.184	6.11	103.1	4.4	0.49	1.1	0.07	0.49	0.29	50
1	62		12.73	12.72	33.345	25.166	280.6	0.219	5.59	92.8	6.4	0.70	4.2	0.20	0.44	0.37	62
1	72		12.32	12.31	33.376	25.270	271.0	0.246	5.29	87.1	8.1	0.85	7.1	0.34	0.28	0.24	72
	75	ISL	11.95	11.94	33.349	25.319	266.3	0.254	5.22	85.3	8.9	0.91	8.2	0.28	0.23	0.21	75
1	85		10.68	10.67	33.266	25.484	250.6	0.280	5.05	80.2	11.4	1.09	11.8	0.02	0.10	0.16	85
1	100		10.22	10.21	33.313	25.600	239.9	0.317	4.84	76.1	13.6	1.22	14.1	0.01	0.06	0.13	100
1	121		9.56	9.55	33.470	25.833	218.1	0.365	4.32	67.0	18.5	1.44	18.0	0.01	0.02	0.15	122
	125	ISL	9.55	9.54	33.514	25.869	214.7	0.374	4.18	64.9	19.6	1.49	18.8	0.01	0.02	0.14	126
1	146		9.48	9.46	33.712	26.036	199.3	0.417	3.46	53.7	25.1	1.73	22.5	0.00	0.01	0.07	147
	150	ISL	9.43	9.41	33.733	26.060	197.1	0.425	3.37	52.2	25.9	1.76	23.0	0.00	0.01	0.07	151
1	178		8.99	8.97	33.840	26.215	182.8	0.478	2.92	44.8	30.4	1.93	25.7	0.00	0.00	0.05	179
	200	ISL	8.76	8.74	33.948	26.336	171.7	0.517	2.72	41.6	33.8	2.02	27.0	0.00	0.00	0.04	201
1	207		8.69	8.67	33.980	26.372	168.4	0.529	2.67	40.8	34.8	2.04	27.3	0.00	0.00	0.04	208
1	237		8.32	8.30	34.059	26.491	157.6	0.578	2.48	37.6	39.4	2.16	28.5	0.00			238
	250	ISL	8.17	8.14	34.068	26.521	154.9	0.599	2.40	36.2	41.2	2.20	29.2	0.00			251
1	280		7.85	7.82	34.076	26.575	150.1	0.644	2.20	33.0	45.1	2.29	30.7	0.00			282
	300	ISL	7.68	7.65	34.093	26.613	146.8	0.674	2.03	30.3	48.0	2.37	31.6	0.00			302
1	336		7.46	7.43	34.138	26.680	140.9	0.726	1.66	24.7	53.1	2.52	33.1	0.00			338
1	397		7.36	7.32	34.253	26.786	131.9	0.809	0.86	12.8	60.4	2.81	35.1	0.00			399
	400	ISL	7.35	7.31	34.257	26.790	131.5	0.813	0.84	12.5	60.7	2.82	35.2	0.00			403
1	463		7.07	7.03	34.299	26.863	125.4	0.894	0.53	7.8	66.4	2.94	36.7	0.00			466
	500	ISL	6.74	6.69	34.301	26.910	121.2	0.939	0.46	6.7	71.2	3.01	38.0	0.00			503
1	534		6.44	6.39	34.304	26.952	117.3	0.980	0.40	5.8	75.7	3.07	39.1	0.00			538

RV NEH HORIZON CALCOFI CRUISE 9110 STATION 93 40

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	HIND SPEED	HAVES	HEA	BAROMETER	DRY	NET	SECCHI/FOREL	CLD AMT TYPE
32 31.0 N	118 13.3 I*	29/09/91	1037 UTC	1626 a	010 03	kn		1012.0 Mb	18.1 C	17.4 C		

CAST	DEPTH -		TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT ml/1	OXYGEN	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 UM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
	0	ISL	19.17	19.17	33.450	23.795	409.6	0.000	5.42	102.4	2.9	0.34	0.0	0.00			0
1	1		19.17	19.17	33.450	23.795	409.6	0.004	5.42	102.4	2.9	0.34	0.0	0.00			1
	10	ISL	19.16	19.16	33.470	23.813	408.2	0.041	5.44	102.7	2.9	0.33	0.0	0.00			10
1	11		19.16	19.16	33.472	23.815	408.1	0.045	5.44	102.7	2.9	0.33	0.0	0.00			11
	20	ISL	18.96	18.96	33.525	23.906	399.7	0.081	5.55	104.5	2.9	0.32	0.0	0.00			20
1	21		18.94	18.94	33.531	23.916	398.8	0.085	5.57	104.8	2.9	0.32	0.0	0.00			21
	30	ISL	16.56	16.56	33.385	24.380	354.8	0.119	5.97	107.2	3.0	0.35	0.0	0.00			30
1	31		16.27	16.27	33.368	24.433	349.7	0.123	6.01	107.3	3.0	0.36	0.0	0.00			31
1	41		15.00	14.99	33.239	24.617	332.5	0.157	6.10	106.1	3.5	0.41	0.2	0.01			41
	50	ISL	13.00	12.99	33.088	24.914	304.3	0.186	5.88	98.0	4.8	0.67	2.7	0.25			50
1	51		12.80	12.79	33.080	24.947	301.1	0.189	5.84	97.0	5.0	0.70	3.0	0.27			51
1	61		12.21	12.20	33.249	25.192	278.1	0.218	5.42	89.0	7.0	0.76	6.2	0.12			61
1	71		11.76	11.75	33.326	25.336	264.5	0.245	5.08	82.6	9.4	1.05	9.3	0.05			71
	75	ISL	11.72	11.71	33.397	25.399	258.7	0.255	4.88	79.3	10.4	1.11	10.5	0.04			75
1	85		11.47	11.46	33.536	25.553	244.2	0.280	4.46	72.2	12.9	1.22	13.2	0.03			85
1	100		9.86	9.85	33.417	25.742	226.3	0.316	4.46	69.6	17.5	1.44	17.1	0.01			100
1	121		9.50	9.49	33.588	25.935	208.4	0.361	3.86	59.9	21.8	1.60	20.6	0.01			122
	125	ISL	9.45	9.44	33.610	25.960	206.0	0.369	3.76	58.3	22.5	1.63	21.1	0.01			126
1	146		9.20	9.18	33.713	26.081	194.9	0.412	3.32	51.2	26.5	1.81	23.7	0.00			147
	150	ISL	9.13	9.11	33.740	26.114	191.9	0.419	3.25	50.0	27.4	1.84	24.2	0.00			151
1	176		8.69	8.67	33.908	26.315	173.2	0.467	2.84	43.3	32.9	2.01	26.9	0.00			177
	200	ISL	8.50	8.48	34.003	26.419	163.7	0.507	2.56	38.9	36.7	2.10	28.3	0.00			201
1	207		8.46	8.44	34.021	26.439	161.9	0.519	2.50	38.0	37.6	2.12	28.6	0.00			208
1	236		8.19	8.17	34.058	26.510	155.7	0.565	2.38	35.9	41.1	2.20	29.5	0.00			237
	250	ISL	8.06	8.03	34.073	26.541	152.9	0.586	2.24	33.7	43.2	2.26	30.3	0.00			251
1	277		7.78	7.75	34.093	26.598	147.8	0.627	1.96	29.3	47.5	2.39	31.9	0.00			279
	300	ISL	7.50	7.47	34.092	26.638	144.3	0.660	1.90	28.2	50.5	2.45	32.7	0.00			302
1	333		7.10	7.07	34.090	26.693	139.3	0.707	1.82	26.8	54.9	2.52	33.7	0.00			335
1	394		6.57	6.53	34.136	26.801	129.6	0.789	1.18	17.2	65.6	2.79	36.8	0.00			396
	400	ISL	6.55	6.51	34.145	26.811	128.8	0.797	1.12	16.3	66.4	2.81	37.0	0.00			403
1	462		6.40	6.36	34.235	26.902	120.9	0.874	0.61	8.8	73.5	3.00	38.7	0.00			465
	500	ISL	6.25	6.21	34.268	26.948	117.0	0.920	0.48	6.9	77.1	3.06	39.5	0.00			503
1	534		6.11	6.06	34.297	26.990	113.4	0.959	0.36	5.2	80.3	3.11	40.2	0.00			538

RV NEH HORIZON CALCOFI CRUISE 9110 STATION 93 45

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	HIND SPEED	HAVES	NEA	BAROMETER	DRY	WET	SECCHI/FOREL	CUD AMT TYPE
32 20.9 N	118 33.6 H	29/09/91	1423 UTC	1349 B	290 03 ko	280 02 07	2	1013.1 Mb	17.1 C	17.0 C	31a 01	8/8 SC

CAST	DEPTH m		TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN BT	OXYGEN »1/1	OXY PCT	SIO3 UM/1	PO4 UM/1	NO3 uM/1	NO2 UM/1	CHL-A ug/1	PHAEO ug/1	PRESS dlb
	0	ISL	18.82	18.82	33.578	23.981	391.8	0.000	5.46	102.5	3.0	0.31	0.0	0.00	0.20	0.05	0
1	1		18.82	18.82	33.578	23.981	391.9	0.004	5.46	102.5	3.0	0.31	0.0	0.00	0.20	0.05	1
	10	ISL	18.751	18.79	33.573	23.985	391.8	0.039	5.49	103.0	3.0	0.31	0.0	0.00	0.12	0.03	10
1	11		18.79	18.79	33.573	23.985	391.8	0.043	5.49	103.0	3.0	0.31	0.0	0.00	0.11	0.03	11
	20	ISL	17.BI>	17.86	33.434	24.109	380.3	0.078	5.70	105.0	2.9	0.34	0.0	0.00	0.20	0.07	20
1	21		17.72	17.72	33.417	24.130	378.4	0.082	5.73	105.3	2.9	0.34	0.0	0.00	0.21	0.08	21
	30	ISL	16.31!	16.36	33.355	24.402	352.6	0.115	5.93	106.0	2.9	0.36	0.0	0.01	0.31	0.12	30
1	31		16.21	16.21	33.355	24.437	349.4	0.118	5.95	106.1	2.9	0.36	0.0	0.01	0.32	0.13	31
1	41		15.31	15.30	33.451	24.712	323.4	0.152	6.04	105.8	3.3	0.37	0.1	0.01	0.38	0.20	41
	50	ISL	14.14	14.13	33.448	24.961	299.9	0.180	5.81	99.4	4.5	0.51	1.7	0.12	0.58	0.41	50
1	51		14.01	14.00	33.446	24.986	297.5	0.183	5.77	98.5	4.7	0.53	1.9	0.13	0.60	0.43	51
1	61		13.24	13.23	33.445	25.143	282.8	0.212	5.47	91.9	6.0	0.67	4.5	0.09	0.63	0.44	61
1	72		12.66	12.65	33.458	25.268	271.2	0.242	5.14	85.3;	7.6	0.84	7.3	0.08	0.43	0.39	72
	75	ISL	12.31	12.30	33.439	25.320	266.2	0.250	5.07	83.5	8.4	0.90	8.4	0.07	0.36	0.35	75
1	86		10.9%	10.98	33.369	25.510	248.3	0.279	4.88	78.1	11.5	1.11	12.1	0.03	0.17	0.22	86
	100	ISL	10.24	10.23	33.353	25.628	237.2	0.313	4.72	74.3	14.0	1.24	14.6	0.02	0.07	0.14	100
1	101		10.21	10.20	33.355	25.634	236.6	0.315	4.71	74.1	14.2	1.25	14.7	0.02	0.07	0.14	101
1	121		9.47	9.46	33.489	25.862	215.2	0.360	4.26	66.0	19.0	1.47	18.5	0.01	0.02	0.07	122
	125	ISL	9.3»	9.38	33.543	25.917	210.0	0.369	4.06	62.1!	20.7	1.55	19.7	0.01	0.02	0.07	126
1	146		9.10	9.08	33.821	26.182	185.3	0.410	3.02	46.5	29.7	1.93	25.6	0.01	0.01	0.06	147
	150	ISL	9.04	9.02	33.849	26.213	182.4	0.417	2.97	45.7	30.6	1.95	26.1	0.01	0.01	0.06	151
1	176		8.65	8.63	33.954	26.357	169.2	0.463	2.66	40.6	34.5	2.05	27.8	0.00	0.00	0.04	177
	200	ISL	8.34	8.33	34.013	26.451	160.6	0.503	2.53	38.3	37.9	2.13	29.0	0.00	0.01	0.03	201
1	206		8.;i7	8.25	34.022	26.469	159.0	0.512	2.51	38.0	38.7	2.15	29.3	0.00	0.01	0.03	207
1	236		7.98	7.96	34.051	26.535	153.1	0.559	2.37	35.6	42.5	2.23	30.3	0.00			237
	250	ISL	7.76	7.74	34.056	26.571	149.8	0.580	2.30	34.4	44.9	2.28	30.9	0.00			251
1	276		7.36	7.33	34.066	26.637	143.9	0.619	2.13	31.6	49.7	2.38	32.2	0.00			278
	300	ISL	7.18	7.15	34.093	26.683	139.7	0.653	1.84	27.1	53.6	2.50	33.4	0.00			302
1	333		7.05	7.02	34.135	26.735	135.3	0.698	1.41	20.7	58.4	2.65	34.9	0.00			335
1	394		6.113	6.79	34.191	26.810	129.0	0.779	0.92	13.5	64.7	2.84	36.9	0.00			396
	400	ISL	6.77	15.73	34.192	26.819	128.3	0.786	0.89	13.0	65.7	2.86	37.1	0.00			403
1	462		6.14	6.10	34.209	26.915	119.4	0.863	0.63	9.1	75.8	3.01	39.5	0.00			46S
	500	ISL	6.05	6.01	34.261	26.968	114.9	0.908	0.47	6.8	79.2	3.08	40.2	0.00			503
1	535		5.96	5.91	34.310	27.019	110.5	0.947	0.32	4.6	82.3	3.15	40.8	0.00			539

RV NEH HORIZON CALCOFI CRUISE 9110 STATION 93 50

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	HIND SPEED	HAVES	WEA	BAROMETER	DRY	HET	SECCHI/FOREL	CLD AMT TYPE
32 11.4 N	118 52.9 N	29/09/91	1938 UTC	1453 -	250 03 kn	320 02 04	2	1015.2 mb	18.0 C	18.0 C	26B 02	8/8 SC

CAST	DEPTH -		TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/1	OXY PCT	SIO3 UM/1	PO4 UM/1	NO3 UM/1	NO2 UM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
	0	ISL	18.26	18.26	33.464	24.033	386.9	0.000	5.58	103.6	2.5	0.34	0.0	0.00	0.19	0.05	0
1	1		18.26	18.26	33.464	24.033	386.9	0.004	5.58	103.6	2.5	0.34	0.0	0.00	0.19	0.05	1
1	10		18.19	18.19	33.462	24.019	385.7	0.039	5.59	103.6	2.4	0.34	0.0	0.00	0.19	0.05	10
	20	ISL	18.08	18.08	33.469	24.082	382.9	0.077	5.57	103.1	2.4	0.34	0.0	0.00	0.24	0.07	20
1	21		18.07	18.07	33.470	24.085	382.6	0.081	5.57	103.0	2.4	0.34	0.0	0.00	0.25	0.07	21
	30	ISL	16.25	16.25	33.324	24.404	352.5	0.114	6.05	107.9	2.5	0.37	0.0	0.00	0.37	0.16	30
1	31		16.02	16.02	33.309	24.445	348.6	0.117	6.11	108.5	2.5	0.37	0.0	0.00	0.39	0.17	31
1	41		14.78	14.77	33.257	24.678	326.6	0.151	6.19	107.2	3.6	0.44	0.5	0.03	0.60	0.33	41
1	50		13.44	13.43	33.21(1	24.927	303.1	0.180	5.73	96.5	5.8	0.(57	3.9	0.38	0.64	0.46	50
1	62		i;!.00	11.99	33.10(1	25.122	284.7	0.215	5.49	89.6	7.3	0.194	7.0	0.14	0.30	0.29	62
1	71		11.64	11.63	33.136	25.211	276.4	0.240	5.43	88.0	7.9	0.88	7.7	0.07	0.26	0.27	71
	75	ISL	111.42	11.41	33.166	25.274	270.5	0.251	5.34	86.1	8.6	0.93	8.6	0.05	0.22	0.23	75
1	86		KJ.77	10.76	33.262	25.4,65	252.5	0.280	5.04	80.2	11.2	1.09	11.6	0.03	0.11	0.13	86
1	100		10.00	9.99	33.347	25.664	233.8	0.314	4.69	73.4	15.3	1.32	15.3	0.02	0.05	0.11	100
1	120		')p.54	9.53	33.563	25.909	210.8	0.358	3.95	61.3	21.3	1.59	19.9	0.01	0.02	0.07	121
	125	ISL	SI.45	9.44	33.609	25.959	206.1	0.369	3.76	58.3	22.8	1.66	20.9	0.01	0.02	0.07	126
1	145		9.14	9.12	33.774	26.139	189.4	0.408	3.12	48.1	28.6	1.88	24.3	0.01	0.01	0.06	146
	150	ISL	!>.05	9.03	33.817	26.187	184.9	0.418	3.00	46.1	30.0	1.92	24.9	0.01	0.01	0.06	151
1	174		8.63	8.61	33.979	26.380	167.0	0.460	2.64	40.2	35.6	2.05	27.1	0.01	0.00	0.04	175
	200	ISL	13.36	8.34	34.014	26.449	160.8	0.502	2.57	38.9	38.2	2.10	28.0	0.01	0.00	0.04	201
1	205		IB.31	8.29	34.014	26.457	160.2	0.510	2.57	38.9	38.6	2.11	28.2	0.01	0.00	0.04	206
1	233		7.95	7.93	34.067	26.552	151.5	0.554	2.29	34.4	44.1	2.25	30.2	0.00			234
	250	ISL	7.80	7.78	31.087	26.590	148.1	0.580	2.11	31.6	46.8	2.33	31.1	0.00			251
1	273		7.64	7.61	34.111	26.632	144.4	0.613	1.86	27.7	50.1	2.43	32.2	0.00			275
	300	ISL	7.50	7.47	34.147	26.681	140.2	0.652	1.57	23.3	53.7	2.56	33.3	0.00			302
1	327		7.36	7.33	34.1113	26.730	136.0	0.689	1.29	19.1	57.4	2.68	34.3	0.00			329
1	385		6.90	6.86	34.242	26.841	126.1	0.765	0.74	10.9	66.4	2.89	36.7	0.00			387
	400	ISL	6.79	6.75	34.246	26.859	124.5	0.784	0.68	10.0	61:1.2	2.92	37.2	0.00			403
1	451		6.44	li.40	34.254	26.912	119.9	0.846	0.56	8.1	73.9	3.01	38.7	0.00			454
	500	ISL	6.22	6.18	34.294	26.973	114.7	0.904	0.43	6.2	79.2	3.09	39.5	0.00			503
1	521		6.12	IS. 07	34.311	26.999	112.4	0.927	0.38	5.5	81.5	3.12	39.9	0.00			525

RV NEW HORIZON CALCOFI CRUISE 9110 STATION 93 55

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	KIND	SPEED	NAVES	WE	A	BAROMETER	DRY	NET	SECCHX/FOREL	CLD AMT	TYPE
32 1.0 N	119 14.0 M	29/09/91	2336 UTC	1584 m	270	05 kn	300 02	04	2	1014.4 Bb	18.6 C	18.0 C	24a 02	8/8	SC

CAST	DEPTH m		TEMP DEG C	POT TEMP DEG C	SALINITY IPSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/1	OXY PCT	SIO3 UM/1	PO4 uM/1	NO3 uM/1	NO2 UM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
1	0		18.07	18.07	33.181	23.863	403.1	0.000	5.62	103.8	3.0	0.39	0.0	0.00	0.12	0.03	0
1	10		17.84	17.84	33.181	23.920	398.0	0.040	5.63	103.5	2.9	0.37	0.0	0.00	0.11	0.03	10
1	20		17.25	17.25	33.302	24.154	376.0	0.079	5.79	105.3	2.9	0.37	0.0	0.00	0.20	0.07	20
	30	ISL	16.30	16.30	33.240	24.328	359.7	0.116	6.00	107.1	2.9	0.36	0.0	0.00	0.25	0.11	30
1	31		16.18	16.18	33.227	24.345	358.1	0.119	6.02	107.2	2.9	0.36	0.0	0.00	0.26	0.11	31
1	41		14.50	14.49	33.088	24.607	333.4	0.154	6.20	106.6	3.1	0.40	0.0	0.00	0.67	0.39	41
	50	ISL	13.53	13.52	33.039	24.770	318.0	0.183	6.08	102.5	3.8	0.51	1.3	0.09	0.67	0.39	50
1	51		13.43	13.42	33.038	24.790	316.2	0.186	6.07	102.1	4.0	0.53	1.6	0.10	0.67	0.39	51
1	61		11.95	11.94	33.112	25.134	283.5	0.216	5.57	90.8	7.5	0.85	7.3	0.25	0.35	0.24	61
1	71		11.23	11.22	33.137	25.286	289.2	0.244	5.38	86.4	9.4	0.98	9.6	0.16	0.23	0.18	71
	75	ISL	10.96	10.95	33.157	25.350	263.2	0.254	5.28	84.3	10.3	1.04	10.7	0.12	0.19	0.16	75
1	86		10.42	10.41	33.240	25.509	248.2	0.283	4.97	78.5	13.0	1.21	13.5	0.02	0.11	0.12	86
	100	ISL	10.29	10.28	33.396	25.653	234.9	0.316	4.54	71.6	15.9	1.35	16.2	0.01	0.04	0.08	100
1	101		10.29	10.28	33.409	25.663	233.9	0.319	4.50	70.9	16.1	1.36	16.4	0.01	0.04	0.08	101
1	121		9.67	9.66	33.694	25.990	203.2	0.362	3.53	55.0	24.2	1.70	22.3	0.01	0.02	0.05	122
	125	ISL	9.54	9.53	33.726	26.036	198.8	0.370	3.45	53.6	25.1	1.73	22.8	0.01	0.02	0.05	126
1	147		8.95	8.93	33.836	26.217	181.9	0.412	3.26	50.0	28.6	1.81	24.4	0.00	0.00	0.03	148
	150	ISL	8.91	8.89	33.849	26.234	180.4	0.418	3.22	49.4	29.1	1.83	24.7	0.00	0.00	0.03	151
1	177		8.71	8.69	33.941	26.338	171.1	0.465	2.85	43.5	33.4	1.98	27.0	0.00	0.00	0.03	178
	200	ISL	8.48	8.46	33.998	26.418	163.8	0.504	2.60	39.5	36.8	2.08	28.5	0.00	0.00	0.04	201
1	208		8.40	8.38	34.013	26.442	161.6	0.517	2.52	38.2	38.0	2.11	29.0	0.00	0.00	0.04	209
1	237		8.08	8.06	34.054	26.523	154.4	0.563	2.29	34.5	42.fi	2.24	30.6	0.00			238
	250	ISL	7.93	7.90	34.070	26.558	151.2	0.582	2.18	32.7	44.7	2.30	31.3	0.00			251
1	278		7.61	7.58	34.095	26.624	145.3	0.624	1.94	28.9	49.3	2.41	32.7	0.00			280
	300	ISL	7.31	7.28	34.097	26.669	141.2	0.656	1.79	26.5	52.9	2.49	33.9	0.00			302
1	334		6.89	6.86	34.098	26.728	135.9	0.703	1.57	23.0	58.4	2.61	35.7	0.00			336
1	394		6.50	6.46	34.156	26.826	127.2	0.782	1.06	15.4	67.6	2.84	37.6	0.00			396
	400	ISL	6.48	6.44	34.165	26.836	126.1	0.789	1.00	14.5	68.4	2.86	37.8	0.00			403
1	460		6.26	6.22	34.251	26.933	117.9	0.862	0.53	7.7	76.2	3.04	39.6	0.00			463
	500	ISL	6.01	5.97	34.272	26.982	113.6	0.909	0.44	6.3	81.1	3.10	40.3	0.00			503
1	530		5.83	5.78	34.289	27.018	110.4	0.942	0.37	5.3	84.8	3.15	40.9	0.00			534

RV NEW HORIZON CALCOFI CRUISE 9110 STATION 93 60

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
31 50.8 N	119 34.9 W	30/09/91	0334 UTC	1837 n	280	05 kn			1015.2 nb	17.8 C	16.0 C			

CAST	DEPTH m		TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT m1/1	OXYGEN	OXY PCT	SIO3 uM/1	PO4 UM/1	NO3 uM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
	0	ISL	18.18	18.18	33.442	24.036	386.6	0.000	5.58	103.4	3.4	0.37	0.0	0.00	0.16	0.05	0
1	2		18.18	18.18	33.442	24.036	386.7	0.008	5.58	103.4	3.4	0.37	0.0	0.00	0.16	0.05	2
	10	ISL	18.15	18.15	33.463	24.060	384.7	0.039	5.58	103.4	3.3	0.36	0.0	0.00	0.16	0.04	10
1	11		18.15	18.15	33.467	24.063	384.4	0.042	5.58	103.4	3.3	0.36	0.0	0.00	0.16	0.04	11
	20	ISL	18.14	18.14	33.494	24.087	382.5	0.077	5.57	103.2	3.3	0.36	0.0	0.00	0.17	0.05	20
1	21		18.14	18.14	33.501	24.092	382.0	0.081	5.57	103.2	3.3	0.36	0.0	0.00	0.17	0.05	21
	30	ISL	17.81	17.80	33.550	24.210	371.0	0.115	5.62	103.5	3.2	0.36	0.0	0.00	0.26	0.09	30
1	31		17.77	17.76	33.556	24.225	369.7	0.118	5.63	103.6	3.2	0.36	0.0	0.00	0.27	0.10	31
1	41		14.20	14.19	33.475	24.969	298.9	0.152	5.70	97.7	5.8	0.69	4.4	0.27	0.39	0.28	41
	50	ISL	12.51	12.50	33.424	25.270	270.4	0.177	5.23	86.5	9.6	0.99	9.3	0.32	0.31	0.21	50
1	51		12.37	12.36	33.416	25.291	268.4	0.180	5.17	85.2	10.0	1.02	9.8	0.33	0.29	0.20	51
1	60		10.99	10.98	33.329	25.478	250.7	0.203	4.93	78.9	12.8	1.23	13.3	0.08	0.17	0.14	60
1	69		10.75	10.74	33.438	25.605	238.8	0.225	4.59	73.1	15.1	1.35	15.5	0.06	0.01	0.04	69
	75	ISL	10.50	10.49	33.483	25.684	231.4	0.240	4.39	69.6	16.8	1.42	16.7	0.04	0.03	0.06	75
1	84		10.09	10.08	33.526	25.788	221.7	0.260	4.14	65.0	19.1	1.51	18.2	0.01	0.11	0.11	84
1	99		9.49	9.48	33.561	25.915	209.8	0.292	3.93	60.9	21.5	1.61	20.1	0.01	0.03	0.07	99
	100	ISL	9.47	9.46	33.570	25.925	208.8	0.294	3.90	60.4	21.8	1.62	20.3	0.01	0.03	0.07	100
1	119		9.15	9.14	33.764	26.129	189.8	0.332	3.28	50.5	27.5	1.84	23.8	0.01	0.01	0.03	120
	125	ISL	9.03	9.02	33.810	26.184	184.7	0.344	3.21	49.3	28.7	1.87	24.4	0.01	0.01	0.03	126
1	143		8.72	8.70	33.915	26.315	172.6	0.376	3.07	46.9	31.5	1.93	25.5	0.01	0.00	0.03	144
	150	ISL	8.67	8.65	33.943	26.345	169.8	0.388	2.95	45.0	32.7	1.97	26.0	0.01	0.00	0.03	151
1	173		8.54	8.52	34.002	26.412	163.9	0.426	2.60	39.6	36.5	2.10	27.7	0.01	0.00	0.03	174
	200	ISL	8.13	8.11	34.039	26.503	155.6	0.469	2.50	37.7	40.9	2.18	29.1	0.01	0.00	0.02	201
1	203		8.08	8.06	34.041	26.512	154.8	0.474	2.49	37.5	41.3	2.18	29.2	0.01	0.00	0.02	204
1	232		7.63	7.61	34.026	26.566	149.9	0.518	2.76	41.1	43.2	2.16	29.2	0.01			233
	250	ISL	7.50	7.48	34.055	26.608	146.2	0.545	2.40	35.7	47.0	2.29	30.6	0.01			251
1	273		7.39	7.36	34.101	2 6.660	141.6	0.578	1.80	26.7	52.5	2.50	32.7	0.00			275
	300	ISL	7.19	7.16	34.119	26.703	137.9	0.616	1.54	22.7	56.2	2.62	34.1	0.00			302
1	328		6.96	6.93	34.130	25.743	134.4	0.654	1.38	20.3	59.5	2.70	35.2	0.00			330
1	388		6.45	6.41	34.181	26.852	124.6	0.731	0.85	12.3	70.3	2.92	38.0	0.00			390
	400	ISL	6.34	6.30	34.190	26.874	122.7	0.746	0.77	11.1	72.3	2.96	38.5	0.00			403
1	4 55		5.90	5.86	34.231	26.963	114.6	0.811	0.51	7.3	80.6	3.11	40.2	0.00			458
	500	ISL	5.73	5.69	34.272	27.017	110.0	0.862	0.39	5.6	85.3	3.17	40.9	0.00			503
1	527		5.63	5.59	34.296	27.048	107.3	0.891	0.31	4.4	88.1	3.21	41.3	0.00			531

RV NGN HORIZON | CALCOFI CRUISE 9110 | STATION 93 70

LATITUDE	LONGITUDE	DAY/NO/YR	MESSENGER	BOTTOM	WIND SPEED	HAVES	HEA	BAROMETER	DRY	NET	SECCHI/FOREL	CLD AMT TYPE
31 30.8 N	120 15.4 W	30/09/91	0938 UTC	3930 m	340 03 kn			1016.5 Mb	17.4 C	16.1 C		

CAST	DEPTH m		TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT ml/l	OXYGEN	OXY PCT	SIO3 UM/1	PO4 UM/1	NO3 UM/1	NO2 UM/1	CHL-A ug/1	PHAEO ug/1	PRESS <U>
	0	ISL	18.23	18.23	33.596	24.142	376.5	0.000	5.52	102.5	3.6	0.34	0.2	0.00	0.17	0.0S	0
1	1		18.23	18.23	33.596	24.142	376.5	0.004	5.52	102.5	3.6	0.34	0.2	0.00	0.17	0.05	1
	10	ISL	18.21	18.21	33.599	24.149	376.1	0.038	5.54	102.8	3.5	0.34	0.2	0.00	0.19	0.06	10
1	11		18.21	18.21	33.599	24.149	376.2	0.041	5.54	102.8	3.5	0.34	0.2	0.00	0.19	0.06	11
	20	ISL	17.60	17.60	33.583	24.286	363.5	0.075	5.68	104.2	3.5	0.36	0.3	0.01	0.34	0.13	20
1	22		17.46	17.46	33.580	24.317	360.6	0.082	5.71	104.5	3.5	0.37	0.3	0.01	0.37	0.15	22
	30	ISL	15.03	15.03	33.530	24.834	311.5	0.109	5.62	98.0	6.0	0.62	2.5	0.19	0.42	0.21	30
1	32		14.36	14.36	33.528	24.976	298.0	0.115	5.60	96.3	6.8	0.70	3.4	0.23	0.42	0.22	32
1	42		12.38	12.37	33.550	25.392	258.5	0.143	4.97	82.0	11.5	1.09	9.4	0.23	0.42	0.28	42
	50	ISL	11.38	11.37	33.622	25.635	235.5	0.162	4.18	67.6	17.2	1.40	15.0	0.09	0.27	0.18	50
1	52		11.18	11.17	33.639	25.685	230.8	0.167	4.00	64.4	18.6	1.47	16.2	0.05	0.22	0.15	52
1	62		10.19	10.18	33.666	25.880	212.5	0.189	3.67	57.8	22.3	1.65	18.5	0.03	0.08	0.09	62
1	72		9.93	9.92	33.687	25.940	206.9	0.210	3.57	55.9	23.6	1.69	20.2	0.02	0.06	0.07	72
	75	ISL	9.84	9.83	33.704	25.969	204.3	0.216	3.49	54.6	24.4	1.72	20.9	0.02	0.05	0.06	75
1	86		9.48	9.47	33.770	26.080	193.9	0.238	3.18	49.4	27.6	1.84	23.1	0.01	0.02	0.05	86
	100	ISL	9.06	9.05	33.811	26.180	184.6	0.265	3.05	46.9	29.8	1.91	24.6	0.00	0.01	0.04	100
1	101		9.03	9.02	33.814	26.187	184.0	0.267	3.04	46.7	29.9	1.91	24.7	0.00	0.01	0.04	101
1	121		8.81	8.80	33.913	26.299	173.7	0.302	2.78	42.5	33.2	2.00	26.4	0.01	0.00	0.03	122
	125	ISL	8.75	8.74	33.933	26.324	171.3	0.309	2.71	41.4	34.1	2.03	26.8	0.01	0.00	0.03	126
1	146		8.44	8.42	34.018	26.439	160.8	0.344	2.38	36.1	38.9	2.16	28.7	0.00	0.00	0.04	147
	150	ISL	8.40	8.38	34.026	26.451	159.7	0.351	2.35	35.7	39.5	2.17	28.9	0.00	0.00	0.04	151
1	177		8.15	8.13	34.056	26.513	154.2	0.393	2.23	33.6	42.4	2.25	30.0	0.00	0.00	0.04	178
	200	ISL	7.98	7.96	34.075	26.554	150.8	0.428	2.11	31.7	44.8	2.32	30.9	0.00	0.00	0.05	201
1	207		7.93	7.90	34.080	26.566	149.6	0.439	2.06	30.9	45.7	2.34	31.2	0.00	0.00	0.05	208
1	236		7.57	7.55	34.112	26.643	142.8	0.481	1.75	26.1	51.2	2.48	33.1	0.00			237
	250	ISL	7.44	7.42	34.121	26.669	140.5	0.501	1.64	24.4	53.3	2.54	33.8	0.00			251
1	277		7.22	7.19	34.138	26.713	136.6	0.538	1.44	21.3	57.1	2.64	34.9	0.00			279
	300	ISL	7.07	7.04	34.170	26.759	132.5	0.569	1.19	17.5	60.5	2.74	36.0	0.00			302
1	332		6.87	6.84	34.213	26.821	127.0	0.611	0.86	12.6	65.3	2.86	37.5	0.00			334
1	392		6.35	6.31	34.241	26.913	118.9	0.684	0.56	8.1	74.6	3.02	40.1	0.00			395
	400	ISL	6.30	6.26	34.245	26.922	118.1	0.694	0.53	7.7	75.5	3.03	40.3	0.00			403
1	458		5.99	5.95	34.274	26.985	112.6	0.761	0.39	5.6	81.4	3.12	41.4	0.00			461
	500	ISL	5.82	5.78	34.303	27.030	108.8	0.807	0.32	4.6	85.2	3.17	42.2	0.00			503
1	528		5.11	5.66	34.322	27.059	106.4	0.837	0.28	4.0	87.8	3.21	42.7	0.00			532

RV NEN HORIZON | CALCOFI CRUISE 9110 | STATION 93 80

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	NIND SPEED	HAVES	HEA	BAROMETER	DRY	NET	SECCHI/FOREL	CLD AMT TYPE
31 10.6 N	120 55.7 N	30/09/91	1512 UTC	3865 m	050 04 kn	340 04 05	1	1017.9 ab	17.2 C	16.9 C	24m 02	4/8 AC

CAST	DEPTH -		TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN al/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
	0	ISL	17.15	17.15	33.350	24.214	369.6	0.000	5.69	103.3	3.7	0.37	0.3	0.00	0.17	0.06	0
1	1		17.15	17.15	33.350	24.214	369.7	0.004	5.69	103.3	3.7	0.37	0.3	0.00	0.17	0.06	1
	10	ISL	17.16	17.16	33.350	24.212	370.2	0.037	5.70	103.5	3.4	0.37	0.3	0.00	0.18	0.06	10
1	11		17.16	17.16	33.350	24.212	370.2	0.041	5.70	103.5	3.4	0.37	0.3	0.00	0.18	0.06	11
	20	ISL	17.08	17.08	33.346	24.228	369.0	0.074	5.73	103.9	3.4	0.38	0.2	0.00	0.19	0.08	20
1	21		17.07	17.07	33.346	24.230	368.8	0.078	5.73	103.9	3.4	0.38	0.2	0.00	0.19	0.08	21
	30	ISL	16.46	16.46	33.333	24.363	356.4	0.110	5.89	105.5	3.6	0.37	0.2	0.00	0.23	0.13	30
1	31		16.35	16.35	33.330	24.386	354.3	0.114	5.91	105.6	3.6	0.37	0.2	0.00	0.24	0.13	31
1	41		14.76	14.75	33.251	24.677	326.7	0.148	5.99	103.7	4.3	0.47	1.0	0.07	0.29	0.14	41
	50	ISL	13.26	13.25	33.205	24.953	300.6	0.176	5.89	98.8	5.3	0.61	2.6	0.15	0.37	0.23	50
1	51		13.11	13.10	33.205	24.983	297.8	0.179	5.88	98.3	5.5	0.63	2.8	0.16	0.38	0.24	51
1	61		12.20	12.19	33.289	25.225	274.9	0.208	5.42	89.0	7.7	0.84	6.4	0.17	0.36	0.30	61
1	71		11.41	11.40	33.347	25.417	256.8	0.234	5.00	80.7	10.9	1.06	10.3	0.05	0.24	0.25	71
	75	ISL	11.19	11.18	33.374	25.478	251.1	0.244	4.85	78.0	12.0	1.13	11.4	0.04	0.20	0.22	75
1	86		10.79	10.78	33.463	25.618	237.9	0.271	4.46	71.1	14.9	1.28	14.1	0.02	0.11	0.14	86
	100	ISL	10.54	10.53	33.617	25.782	222.7	0.304	3.88	61.6	18.7	1.47	17.4	0.01	0.04	0.08	100
1	101		10.52	10.51	33.627	25.793	221.6	0.306	3.84	60.9	19.0	1.48	17.6	0.01	0.04	0.08	101
1	121		9.31	9.30	33.714	26.064	196.1	0.348	3.40	52.5	25.8	1.76	23.5	0.00	0.01	0.05	122
	125	ISL	9.35	9.34	33.766	26.098	192.9	0.355	3.28	50.8	26.7	1.80	24.0	0.00	0.01	0.05	126
1	146		9.53	9.51	33.979	26.236	180.3	0.395	2.75	42.8	30.3	1.94	25.5	0.01	0.00	0.05	147
	150	ISL	9.45	9.43	33.990	26.3.58	178.3	0.402	2.71	42.1	31.0	1.96	25.9	0.01	0.00	0.05	151
1	177		8.71	8.69	34.006	26.389	166.3	0.448	2.57	39.3	36.1	2.07	28.5	0.00	0.00	0.05	178
	200	ISL	8.311	8.29	34.071	26.501	155.9	0.485	2.39	36.2	40.6	2.19	29.8	0.01	0.00	0.04	201
1	208		8.22	8.20	34.095	26.534	152.9	0.498	2.31	34.9	42.1	2.23	30.2	0.01	0.00	0.04	209
1	238		8.06	8.04	34.151	26.602	146.9	0.543	1.86	28.0	47.0	2.42	32.3		0.00		239
	250	ISL	7.95	7.92	34.162	26.627	144.7	0.560	1.73	26.0	48.9	2.47	33.0	0.00			251
I	279		7.66	7.63	34.175	26.S80	140.1	0.601	1.47	21.9	53.2	2.57	34.6	0.00			281
	300	ISL	7.43	7.40	34.179	26.716	136.8	0.630	1.34	19.9	56.1	2.64	35.7	0.00			302
1	335		7.09	7.06	34.187	26.771	132.0	0.678	1.15	16.9	60.7	2.75	37.3	0.00			337
1	396		6.73	6.69	34.233	26.856	124.6	0.756	0.68	9.9	68.7	2.94	39.9	0.00			398
	400	ISL	6.70	6.66	34.236	26.863	124.0	0.761	0.66	9.6	69.2	2.95	40.0	0.00			403
1	462		6.33	6.29	34.276	26.944	117.0	0.835	0.43	6.2	76.8	3.08	41.6	0.00			465
	500	ISL	6.15	6.11	34.294	26.982	113.8	0.879	0.36	5.2	80.4	3.12	42.3	0.00			503
1	532		6.00	5.95	34.310	27.013	111.0	0.915	0.31	4.5	83.5	3.16	42.8	0.00			536

RV NEK HORIZON CALCOFI CRUISE 9110 STATION 93 90

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	NAVES	NEA	BAROMETER	DRY	NET	SECCHI/FOREL	CLD AMT	TYPE
30 51.0 N	121 35.7 *r	30/09/91	2221 UTC	4112 -	360 07 kn	360 03 06	1	1018.4 mb	19.0 C	18.0 C	39B 01	1/8	CS

CAST	DEPTH -	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN «1/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
1	0	19.31	19.31	33.319	23.659	422.5	0.000	5.43	102.7	3.1	0.36	0.2	0.00	0.07	0.01	0
1	10	18.98	18.98	33.316	23.741	415.1	0.042	5.45	102.5	3.0	0.37	0.2	0.00	0.07	0.02	10
	20 ISL	18.94	18.94	33.314	23.750	414.6	0.083	5.46	102.6	2.9	0.38	0.2	0.00	0.07	0.02	20
1	21	18.94	18.94	33.314	23.750	414.6	0.088	5.46	102.6	2.9	0.38	0.2	0.00	0.07	0.02	21
	30 ISL	18.94	18.93	33.317	23.753	414.7	0.125	5.46	102.6	2.9	0.37	0.2	0.00	0.07	0.02	30
1	31	18.94	18.93	33.317	23.753	414.7	0.129	5.46	102.6	2.9	0.37	0.2	0.00	0.07	0.02	31
1	41	17.84	17.83	33.310	24.020	389.6	0.169	5.77	106.2	2.9	0.35	0.2	0.00	0.10	0.03	41
	50 ISL	16.68	16.67	33.308	24.293	363.7	0.203	5.97	107.4	2.9	0.34	0.2	0.00	0.11	0.04	50
1	51	16.56	16.55	33.308	24.321	361.1	0.207	5.99	107.5	2.9	0.34	0.2	0.00	0.11	0.04	51
1	61	15.95	15.94	33.317	24.468	347.4	0.242	6.00	106.4	2.9	0.34	0.2	0.00	0.14	0.05	61
1	71	15.75	15.74	33.470	24.630	332.2	0.276	5.94	105.0	2.9	0.32	0.2	0.00	0.16	0.07	71
	75 ISL	15.72	15.71	33.529	24.683	327.3	0.289	5.91	104.4	3.0	0.32	0.2	0.00	0.18	0.09	75
1	85	15.54	15.53	33.624	24.796	316.8	0.322	5.81	102.4	3.1	0.31	0.2	0.00	0.22	0.16	85
1	100	14.61	14.60	33.557	24.947	302.8	0.368	5.64	97.5	4.0	0.41	1.0	0.10	0.26	0.20	100
1	121	11.51	11.49	33.237	25.314	267.8	0.428	5.36	86.7	8.2	0.85	7.4	0.02	0.13	0.14	121
	125 ISL	11.27	11.25	33.247	25.365	262.9	0.439	5.31	85.4	8.6	0.88	8.0	0.02	0.11	0.13	125
1	146	10.60	10.58	33.403	25.606	240.4	0.491	4.97	78.9	11.5	1.03	11.1	0.01	0.06	0.08	147
	150 ISL	10.42	10.40	33.426	25.655	235.8	0.501	4.85	76.7	12.7	1.10	12.3	0.01	0.05	0.07	151
1	176	9.39	9.37	33.600	25.963	206.8	0.558	4.01	62.0	21.2	1.53	19.8	0.00	0.01	0.03	177
	200 ISL	8.91	8.89	33.841	26.229	181.9	0.605	3.52	53.9	27.7	1.73	23.5	0.00	0.00	0.03	201
1	206	8.83	8.81	33.896	26.284	176.7	0.616	3.44	52.6	29.0	1.76	24.1	0.00	0.00	0.03	207
1	236	8.48	8.46	34.000	26.420	164.3	0.667	3.43	52.1	33.0	1.81	25.1	0.00			237
	250 ISL	8.28	8.25	34.022	26.468	159.9	0.690	3.16	47.8	36.2	1.92	26.7	0.00			251
1	278	7.87	7.84	34.044	26.547	152.8	0.733	2.51	37.6	43.2	2.19	30.6	0.00			279
	300 ISL	7.64	7.61	34.062	26.594	148.5	0.767	2.24	33.4							302
1	334	7.32	7.29	34.086	26.659	142.7	0.816	1.92	28.4							336
1	394	6.59	6.55	34.127	26.792	130.6	0.898	1.25	18.2							396
	400 ISL	6.55	6.51	34.133	26.802	129.7	0.906	1.19	17.3							402
1	461	6.19	6.15	34.189	26.893	121.6	0.983	0.73	10.5	75.1	2.96	40.9	0.00			464
	500 ISL	5.94	5.90	34.222	26.951	116.4	1.029	0.56	8.0	80.6	3.05	42.0	0.00			503
1	533	5.72	5.67	34.250	27.001	111.9	1.067	0.42	6.0	85.2	3.12	42.9	0.00			536

RV NEW HORIZON CALCOFI CRUISE 9110 STATION 93 100

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	HAVES	HEA	BAROMETER	DRY	NET	SECCHI/FOREL	CLD AMT	TYPE
30 30.9 N	122 15.9 K	01/10/91	0350 UTC	4171 -	350 08 kn			1018.5 Mb	19.3 C	18.5 C			

CAST	DEPTH -	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN «1/1	OXY PCT	SIO3 UM/1	PO4 UM/1	NO3 UM/1	NO2 UM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
	0 ISL	19.51	19.51	33.153	23.481	439.5	0.000	5.45	103.4	3.3	0.41	0.2	0.00	0.08	0.02	0
1	1	19.51	19.51	33.153	23.481	439.5	0.004	5.45	103.4	3.3	0.41	0.2	0.00	0.08	0.02	1
	10 ISL	19.14	19.14	33.150	23.574	431.0	0.044	5.48	103.3	3.3	0.39	0.2	0.00	0.08	0.02	10
1	11	19.09	19.09	33.150	23.587	429.9	0.048	5.49	103.3	3.3	0.39	0.2	0.00	0.08	0.02	11
	20 ISL	18.97	18.97	33.147	23.615	427.5	0.086	5.51	103.5	3.3	0.38	0.2	0.00	0.09	0.02	20
1	21	18.96	18.96	33.147	23.618	427.3	0.091	5.51	103.5	3.3	0.38	0.2	0.00	0.09	0.02	21
	30 ISL	17.91	17.90	33.154	23.883	402.2	0.128	5.81	106.9	3.3	0.36	0.2	0.00	0.10	0.03	30
1	31	17.77	17.76	33.156	23.918	398.9	0.132	5.85	107.4	3.3	0.36	0.2	0.00	0.10	0.03	31
1	41	16.64	16.63	33.167	24.194	372.9	0.171	6.02	108.1	3.3	0.36	0.2	0.00	0.11	0.04	41
	50 ISL	16.77	16.76	33.393	24.338	359.5	0.204	5.97	107.6	3.3	0.32	0.2	0.00	0.11	0.05	50
1	51	16.80	16.79	33.416	24.349	358.5	0.207	5.96	107.5	3.3	0.32	0.2	0.00	0.11	0.05	51
1	60	16.20	16.19	33.375	24.456	348.5	0.239	5.98	106.6	3.1	0.32	0.2	0.00	0.15	0.06	60
1	69	15.79	15.78	33.437	24.596	335.4	0.270	5.97	105.6	3.1	0.32	0.2	0.00	0.16	0.08	69
	75 ISL	15.59	15.58	33.491	24.682	327.3	0.290	5.94	104.7	3.1	0.31	0.2	0.00	0.18	0.11	75
1	84	15.35	15.34	33.565	24.793	317.1	0.319	5.87	103.0	3.2	0.31	0.2	0.00	0.21	0.17	84
1	99	14.94	14.93	33.610	24.917	305.6	0.365	5.73	99.7	3.6	0.34	0.4	0.02	0.26	0.24	99
	100 ISL	14.87	14.86	33.608	24.931	304.4	0.368	5.72	99.4	3.7	0.35	0.5	0.03	0.26	0.24	100
1	119	13.35	13.33	33.552	25.205	278.5	0.424	5.45	91.8	5.4	0.56	3.5	0.16	0.19	0.19	119
	125 ISL	13.01	12.99	33.547	25.269	272.5	0.440	5.39	90.1	5.8	0.60	4.3	0.14	0.16	0.18	125
1	144	11.97	11.95	33.536	25.462	254.5	0.490	5.20	85.1	7.9	0.76	7.1	0.02	0.09	0.14	145
	150 ISL	11.51	11.49	33.516	25.532	247.9	0.505	5.12	82.9	9.1	0.84	8.5	0.02	0.07	0.12	151
1	174	9.82	9.80	33.505	25.818	220.6	0.562	4.66	72.7	15.5	1.23	14.9	0.00	0.03	0.03	175
	200 ISL	9.00	8.98	33.720	26.120	192.3	0.615	3.77	57.9	24.8	1.64	21.8	0.00	0.00	0.02	201
1	204	8.93	8.91	33.759	26.161	188.4	0.623	3.64	55.8	26.2	1.69	22.7	0.00	0.00	0.02	205
1	233	8.63	8.61	33.920	26.334	172.4	0.675	3.25	49.5	31.7	1.85	25.6	0.00			234
	250 ISL	8.35	8.32	33.971	26.417	164.7	0.704	3.18	48.2	34.6	1.90	26.6	0.00			251
1	273	7.96	7.93	34.010	26.507	156.5	0.741	3.11	46.7	38.6	1.97	27.7	0.00			274
	300 ISL	7.61	7.58	34.034	26.577	150.1	0.782	2.77	41.3	43.8	2.12	29.8	0.00			302
1	329	7.26	7.23	34.041	26.632	145.1	0.825	2.36	34.9	49.6	2.30	32.2	0.00			331
1	389	6.44	6.40	34.048	26.749	134.4	0.909	1.86	27.0	61.4	2.56	35.8	0.00			391
	400 ISL	6.34	6.30	34.058	26.770	132.5	0.924	1.72	24.9	63.5	2.62	36.6	0.00			402
1	456	5.94	5.90	34.114	26.865	123.8	0.995	1.06	15.2	74.2	2.88	40.2	0.00			459
	500 ISL	5.59	5.55	34.144	26.932	117.7	1.049	0.83	11.8	82.1	2.99	41.7	0.00			503
1	527	5.38	5.34	34.163	26.973	114.0	1.080	0.69	9.8	86.9	3.05	42.6	0.00			530

RV MEN HORIZON CALCOFI CRUISE 9110 STATION 93 110

IATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	KIND	SPEED	NAVES	NBA	BAROMETER	DRY	NET	SECCHI/FOREL	CID	AMT	TYPE
30 11.0 N	112 55.7 N	01/10/91	0936 UTC	3981 u	070	06 kn			1017.5 «b	19.7 C	18.9 C				

CAST	DEPTH -		TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN RT ml/1	OXYGEN	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
	0	ISL	19.46	19.46	33.203	23.532	434.6	0.000	5.41	102.6	3.8	0.41	0.0	0.00	0.08	0.02	0
1	1		19.46	19.46	33.203	23.533	434.7	0.004	5.41	102.6	3.8	0.41	0.0	0.00	0.08	0.02	1
	10	ISL	19.31	19.31	33.192	23.563	432.1	0.043	5.45	103.0	3.6	0.40	0.0	0.00	0.08	0.02	10
1	11		19.28	19.28	33.191	23.570	431.5	0.048	5.45	103.0	3.6	0.40	0.0	0.00	0.08	0.02	11
	20	ISL	19.11	19.11	33.191	23.613	427.7	0.086	s.45	102.7	3.5	0.39	0.0	0.00	0.08	0.02	20
1	21		19.09	19.09	33.191	23.618	427.2	0.091	5.45	102.6	3.5	0.39	0.0	0.00	0.08	0.02	21
	30	ISL	17.84	17.83	33.149	23.896	401.0	0.128	5.79	106.4	3.5	0.39	0.0	0.00	0.10	0.03	30
1	31		17.68	17.67	33.146	23.932	397.5	0.132	5.83	106.8	3.5	0.39	0.0	0.00	0.10	0.03	31
1	41		16.72	16.71	33.190	24.193	372.9	0.170	6.01	108.1	3.5	0.37	0.0	0.00	0.11	0.04	41
	50	ISL	16.02	16.01	33.201	24.362	357.1	0.203	6.02	106.8	3.5	0.38	0.0	0.00	0.14	0.05	50
1	51		15.95	15.94	33.201	24.378	355.6	0.207	6.02	106.7	3.5	0.38	0.0	0.00	0.14	0.05	51
1	61		15.40	15.39	33.215	24.512	343.2	0.242	6.00	105.2	3.4	0.37	0.0	0.00	0.16	0.07	61
1	71		15.38	15.37	33.391	24.652	330.1	0.275	5.95	104.3	3.5	0.36	0.0	0.00	0.18	0.13	71
	75	ISL	15.25	15.24	33.452	24.727	323.0	0.288	5.90	103.2	3.6	0.37	0.1	0.01	0.18	0.14	75
1	85		14.70	14.69	33.549	24.922	304.8	0.320	5.73	99.2	4.1	0.38	0.3	0.03	0.06 U	0.05 U	85
1	100		13.41	13.40	33.502	25.154	282.9	0.364	5.47	92.2	5.9	0.59	3.6	0.24	0.20	0.19	100
1	120		11.33	11.32	33.424	25.492	250.8	0.417	5.16	83.2	9.4	0.91	9.0	0.02	0.09	0.10	120
	125	ISL	10.88	10.86	33.411	25.563	244.1	0.430	5.03	80.3	10.7	0.99	10.3	0.02	0.07	0.09	126
1	144		9.54	9.52	33.421	25.798	221.8	0.474	4.50	69.8	9.5 U	0.90 U	9.0 U	0.01 V	0.02	0.05	145
	150	ISL	9.44	9.42	33.487	25.866	215.5	0.487	4.38	67.8	17.1	1.35	16.2	0.01	0.02	0.04	151
1	176		8.99	8.97	33.703	26.107	192.9	0.540	3.92	60.1	24.0	1.64	21.0	0.01	0.00	0.02	177
	200	ISL	8.79	8.77	33.827	26.236	181.1	0.585	3.49	53.3	28.4	1.79	23.7	0.00	0.00	0.02	201
1	206		8.75	8.73	33.851	26.261	178.9	0.596	3.39	51.8	29.4	1.82	24.2	0.00	0.00	0.02	207
1	236		8.38	8.36	33.969	26.411	165.1	0.647	3.12	47.3	34.3	1.95	26.3	0.00			237
	250	ISL	8.14	8.11	33.994	26.467	159.9	0.670	3.03	45.7	37.0	2.01	27.2	0.00			251
1	277		7.67	7.64	34.018	26.555	151.8	0.712	2.84	42.4	42.6	2.13	29.0	0.00			278
	300	ISL	7.35	7.32	34.035	26.614	146.4	0.747	2.52	37.3	47.6	2.27	30.9	0.00			302
1	333		6.97	6.94	34.054	26.682	140.2	0.794	2.02	29.6	54.7	2.48	33.7	0.00			335
1	394		6.41	6.37	34.092	26.787	130.8	0.877	1.37	19.8	65.6	2.75	37.2	0.00			396
	400	ISL	6.35	6.31	34.095	26.797	129.8	0.884	1.32	19.1	66.7	2.77	37.5	0.00			402
1	461		5.79	5.75	34.131	26.897	120.7	0.961	0.87	12.4	78.0	2.98	40.2	0.00			464
	500	ISL	5.56	5.52	34.169	26.956	115.5	1.007	0.66	9.4	84.4	3.07	41.3	0.00			503
1	531		5.37	5.33	34.199	27.002	111.2	1.042	0.50	7.1	89.4	3.15	42.2	0.00			534

RV NEW HORIZON CALCOFI CRUISE 9110 STATION 93 120

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD	AMT	TYPE
29 51.1 N	123 35.2 W	01/10/91	1521 UTC	4052 -	020	10 kn	020 03 03	1	1018.0 ab	19.2 C	18.8 C	25»	01	2/8	CC

CAST	DEPTH -		TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN nl/1	OXY PCT	SIO3 UM/1	PO4 UM/1	NO3 UM/1	NO2 UM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
	0	ISL	18.84	18.84	33.119	23.625	425.8	0.000	5.49	102.8	3.6	0.39	0.1	0.00	0.10	0.03	0
1	1		18.84	18.84	33.119	23.626	425.8	0.004	5.19	102.8	3.6	0.39	0.1	0.00	0.10	0.03	1
	10	ISJ,	18.84	18.84	33.115	23.623	426.4	0.043	5.50	103.0	3.5	0.38	0.1	0.00	0.10	0.03	10
1	11		18.84	18.84	33.115	23.623	426.4	0.047	5.50	103.0	3.5	0.38	0.1	0.00	0.10	0.03	11
	20	ISL	18.55	18.55	33.093	23.679	421.4	0.085	5.54	103.2	3.4	0.39	0.1	0.00	0.11	0.03	20
1	21		18.50	18.50	33.091	23.690	420.4	0.089	5.55	103.3	3.4	0.39	0.1	0.00	0.11	0.03	21
	30	ISL	17.93	17.92	33.099	23.836	406.7	0.126	5.71	105.1	3.4	0.39	0.1	0.00	0.12	0.04	30
1	31		17.82	17.81	33.098	23.862	404.3	0.131	5.73	105.2	3.4	0.39	0.1	0.00	0.12	0.04	31
1	41		15.74	15.73	33.024	24.289	363.8	0.169	6.08	107.2	3.4	0.39	0.1	0.00	0.12	0.04	41
	50	ISL	15.47	15.46	33.079	24.391	354.3	0.201	6.06	106.3	3.3	0.38	0.1	0.00	0.13	0.05	50
1	51		15.44	15.43	33.074	24.394	354.0	0.205	6.06	106.2	3.3	0.38	0.1	0.00	0.13	0.05	51
1	62		15.23	15.22	33.127	24.481	346.1	0.243	6.06	105.8	3.2	0.38	0.1	0.00	0.16	0.07	62
1	72		14.44	14.43	33.108	24.636	331.5	0.277	6.12	105.1	3.3	0.41	0.1	0.00	0.22	0.15	72
	75	ISL	14.23	14.22	33.115	24.686	326.8	0.287	6.11	104.5	3.4	0.42	0.2	0.02	0.22	0.15	75
1	86		13.56	13.55	33.169	24.865	309.9	0.322	5.97	100.7	3.9	0.49	1.0	0.11	0.20	0.16	86
	100	ISL	12.88	12.87	33.278	25.086	289.2	0.364	5.62	93.6	5.6	0.64	3.8	0.17	0.16	0.14	100
1	101		12.83	12.82	33.285	25.101	287.8	0.367	5.59	93.0	5.8	0.65	4.0	0.17	0.16	0.14	101
1	121		LI.28	11.27	33.260	25.374	262.1	0.422	5.27	84.8	9.3	0.92	8.9	0.03	0.10	0.11	121
	125	ISL	11.03	11.01	33.270	25.426	257.1	0.432	5.16	82.6	10.2	0.98	10.0	0.03	0.09	0.11	125
1	146		9.97	9.95	33.383	25.698	231.5	0.484	4.51	70.6	15.9	1.31	15.7	0.01	0.05	0.08	147
	150	ISL	9.83	9.81	33.422	25.751	226.4	0.493	4.37	68.2	17.2	1.37	16.8	0.01	0.04	0.07	151
1	176		9.15	9.13	33.693	26.074	196.2	0.548	3.60	55.4	25.3	1.70	22.5	0.01	0.01	0.04	177
	200	ISL	8.74	8.72	33.867	26.275	177.4	0.592	3.27	49.9	30.4	1.86	25.0	0.00	0.00	0.02	201
1	206		8.66	8.64	33.899	26.313	173.9	0.603	3.22	49.1	31.4	1.89	25.4	0.00	0.00	0.02	207
1	236		8.25	8.23	33.985	26.443	162.0	0.653	3 06	46.2	35.9	1.98	27.2	0.00			237
	250	ISL	8.07	8.04	34.000	26.482	158.5	0.676	3.05	45.9	37.6	2.01	27.6	0.00			251
1	276		7.74	7.71	34.009	26.538	153.5	0.716	3.01	45.0	41.0	2.06	28.3	0.00			277
	300	ISL	7.41	7.38	34.015	26.590	148.7	0.753	2.81	41.7	45.0	2.16	39.7	B.00			302
1	332		6.99	6.96	34.022	26.654	142.9	0.799	2.46	36.1	51.1	2.32	31.9	9.00			334
1	393		6.35	6.31	34.055	26.766	132.7	0.883	1.75	25.3	63.5	2.62	35.7	'5.00			395
	400	ISL	6.30	6.26	34.064	26.780	131.5	0.893	1.65	23.8	64.9	2.66	36.2	0.00			402
1	461		5.91	5.87	34.139	26.889	121.7	0.970	0.90	12.9	76.0	2.95	40.0	0.00			464
	500	ISL	5.67	5.63	34.159	26.934	117.6	1.016	0.75	10.7	81.4	3.01	40.9	0.00			503
1	534		5.46	5.42	34.178	26.975	113.9	1.056	0.61	8.6	86.1	3.06	41.7	0.00			537

PRIMARY PRODUCTIVITY CASTS

RV NEW HORIZON — CALCOFI CRUISE 9110 — STATION 77 70

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
34 23.5 N	122 14.$ W	11/10/91	1901 UTC	16 m	04	1156 - 1810 PST	1156 PST	1802 PST	149.0 mg C/m2

DEPTH	TEMP	SALINITY	SIGMA	DISS O2	OXY	SIO3	PO4	NO3	NO2	CHL	PHAEO	LIGHT	UPTAKE (mg C/B3)			
-	DEG C	PSS 78	THETA	ml/1	PCT	UM/1	UM/1	UM/1	uM/1	ug/I	ug/1	PCT	1	2	MEAN	DARK
2	16.43	33.252	24.306	5.79	103.6	2.7	0.38	0.0	0.00	0.33	0.10	83. A	0.55	0.90	0.73	0.17
11	16.38	33.255	24.321	5.81	103.9	2.6	0.38	0.0	0.00	0.41	0.12	35.	2.8	2.4	2.6	0.13
18	16.16	33.294	24.401	5.86	104.3	2.8	0.37	0.0	0.00	0.37	0.13	18.	3.5	3.3	3.4	0.17
32	12.59	33.073	24.982	5.90	97.5	6.0	0.77	5.2	0.38	0.97	0.50	4.6	5.0	4.7	4.8	0.09
39	12.18	33.110	25.089	5.74	94.1	7.1	0.89	6.9	0.52	0.74	0.45	2.4	2.1	2.1	2.1	0.09
67	10.43	33.308	25.560	4.78	75.5	15.0	1.42	16.3	0.04	0.14	0.13	0.16	0.04	0.04	0.04	0.05

RV NEW HORIZON — CALCOFI CRUISE 9110 — STATION 80 60

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
34 9.6 N	121 8.5 N	9/10/91	1846 UTC	16 m	03	1148 - 1816 PST	1151 PST	1807 PST	154.9 mg C/m2

DEPTH	TEMP	SALINITY	SIGMA	DISS O2	OXY	SIO3	PO4	NO3	NO2	CHL	PHAEO	LIGHT	UPTAKE (mg C/m3)			
-	DEG C	PSS 7B	THETA	Ml/1	PCT	UM/1	UM/1	UM/1	UM/1	ug/1	ug/1	PCT	1	2	MEAN	DARK
2	16.54	33.392	24.389	5.76	103.4	2.8	0.41	0.0	0.01	0.58	0.20	83. A	3.3	2.8	3.1	0.14
10	16.53	33.392	24.391	5.76	103.4	2.8	0.39	0.0	0.01	0.57	0.20	38.	5.4	5.0	5.2	0.11
19	16.50	33.390	24.397	5.75	103.1	2.6	0.39	0.1	0.02	0.60	0.23	16.	4.8	4.7	4.7	0.11
33	15.75	33.359	24.544	5.70	100.7	3.4	0.48	1.0	0.09	0.57	0.29	4.2	1.8	2.1	2.0	0.07
40	13.97	33.306	24.886	5.53	94.2	5.7	0.72	4.6	0.20	0.49	0.34	2.2	1.1	0.91	0.98	0.06
67	10.98	33.39L	25.528	4.78	76.5	13.4	1.21	13.2	0.07	0.14	0.16	0.16	0.05	0.02	0.03	0.03

RV NEW HORIZON — CALCOFI CRUISE 9110 — STATION 80 100

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
32 49.2 N	123 54.5 W	10/10/91	1858 UTC	31 m	01	1158 - 1817 PST	1203 PST	1814 PST	47.5 Big C/m2

DEPTH	TEMP	SALINITY	SIGMA	DISS O2	OXY	SIO3	PO4	NO3	NO2	CHL	PHAEO	LIGHT	UPTAKE <mg C/m3)			
-	DEG C	PSS 7 J	THETA	ml/1	PCT	UM/1	uM/1	UM/1	UM/1	ug/1	ug/1	PCT	1	2	MEAN	DARK
1	18.36	32.91)	23.589	5.54	102.7	3.2	0.41	0.0	0.00	0.08	0.02	95. A	0.13	0.17	0.15	0.11
19	18.01	32.935	23.691	5.60	103.1	3.0	0.40	0.0	0.00	0.11	0.03	39.	0.51	0.36	0.43	0.12
35	17.20	33.07L	23.989	5.91	107.2	2.9	0.38	0.0	0.00	0.16	0.04	18.	0.53	0.32	0.43	0.12
62	14.38	33.03L	24.589	6.12	105.0	2.9	0.41	0.0	0.00	0.24	0.17	4.6	0.56	0.69	0.63	0.05
76	14.20	33.155	24.724	6.03	103.1	3.0	0.40	0.0	0.00	0.29	0.29	2.3	0.49	0.43	0.46	0.08
128	11.36	33.241	25.350	5.44	87.7	7.9	0.84	7.6	0.02	0.08	0.14	0.18	0.06	0.04	0.05	0.03

RV NEW HORIZON — CALCOFI CRUISE 9110 — STATION 83 93

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
32 27.9 N	123 2.3 W	7/10/91	1902 UTC	24 m	02	1156 - 1816 PST	1200 PST	1810 PST	78.8 mg C/m2

DEPTH	TEMP	SALINITY	SIGMA	DISS O2	OXY	SIO3	PO4	NO3	NO2	CHL	PHAEO	LIGHT	UPTAKE (nig C/m3)			
m	DEG C	PSS 7»	THETA	ml/1	PCT	uM/1	UM/1	UM/1	UM/1	ug/1	ug/1	PCT	1	2	MEAN	DARK
2	17.58	33.00)	23.850	5.68	103.8	3.2	0.39	0.0	0.00	0.17	0.05	88. A	0.23	0.58	0.40	0.11
14	17.58	33.00!)	23.851	5.71	104.3	3.2	0.39	0.0	0.00	0.17	0.04	41.	1.4	0.92	1.2	0.10
28	17.38	33.06JI	23.944	5.74	104.5	3.1	0.39	0.1	0.00	0.27	0.08	17.	1.3	1.3	1.3	0.10
47	13.68	32.75*i	24.520	6.36	107.3	3.5	0.44	0.5	0.00	0.37	0.27	4.9	1.2	1.0	1.1	0.06
58	12.90	32.77«i	24.692	6.18	102.6	3.9	0.52	0.8	0.14	0.35	0.33	2.4	0.78	0.84	0.81	0.06
100	10.28	32.88:!.	25.253	5.57	87.5	9.3	1.00	9.4	0.01	0.09	0.09	0.17	0.03	0.02	0.03	0.02

A) INCUBATION LIGHT INTENSITIES WERE 95, 38, 17, 4.6, 2.4, 0.17 PERCENT RESPECTIVELY.

PRIMARY PRODUCTIVITY CASTS

RV NEW HORIJON — CALCOFI CRUISE 9110 — STATION 87 60

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
32 59.6 N	120 21.1 K	5/10/91	1904 UTC	16 m	03	1151 - 1810 PST	1150 PST	1809 PST	103.1 mg C/1B2

DEPTH m	TEMP DEG C	SALINITY PSS 78	SIGMA THETA	DISS O2 ml/1	OXY PCT	SIO3 UM/1	PO4 UM/1	NO3 uM/1	NO2 uM/1	CHL ug/1	PHAEO ug/1	LIGHT PCT	UPTAKE <mg C/B3) 1	2	MEAN	DARK
1	16.77	33.317	24.278	5.79	104.4	3.0	0.37	0.1	0.00	0.31	0.08	91. A	2.8	3.0	2.9	0.15
11	16.72	33.318	24.290	5.79	104.2	2.8	0.37	0.1	0.00	0.32	0.10	35.	2.9	2.9	2.9	0.13
19	16.72	33.321	24.293	5.79	104.2	2.8	0.36	0.1	0.00	0.35	0.10	16.	2.3	2.3	2.3	0.12
32	16.56	33.379	24.375	5.82	104.5	2.7	0.37	0.1	0.00	0.S2	0.18	4.6	1.6	1.7	1.7	0.07
40	15.87	33.380	24.533	5.97	105.7	2.5	0.35	0.1	0.00	0.S5	0.28	2.2	1.1	0.99	1.0	0.07
67	11.70	33.100	25.172	5.57	90.4	8.0	1.00	9.0	0.48	0.15	0.14	0.16	0.02	0.00	0.01	0.06

RV NEN HORIZON — CALCOFI CRUISE 9110 — STATION 87 97

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
31 45.8 N	122 51.6 W	6/10/91	1855 UTC	34 B	01	1200 - 1820 PST	1159 PST	1820 PST	120.3 ag C/a2

DEPTH m	TEMP DEG C	SALINITY PSS 78	SIGMA THETA	DISS O2 ml/1	OXY PCT	SIO3 ULM/1	PO4 UM/1	NO3 uM/1	NO2 UM/1	CHL ug/1	PHAEO ug/1	LIGHT PCT	UPTAKE (ag C/a3) 1	2	MEAN	DARK
2	18.42	33.127	23.736	5.52	102.6	3.1	0.39	0.0	0.00	0.10	0.02	91. A	1.1	1.1	1.1	0.10
22	18.45	33.153	23.749	5.53	102.8	3.1	0.43	0.1	0.00	0.12	0.03	37.	1.4	1.5	1.5	0.11
39	17.32	33.171	24.038	5.84	106.3	3.0	0.38	0,0	0.00	0.16	0.04	17.	1.4	1.3	1.3	0.12
67	14.51	33.284	24.757	6.01	103.5	3.2	0.40	0 0	0.00	0.2(1	0.23	4.9	0.93	0.99	0.96	0.05
83	13.12	33.260	25.024	5.77	96.5	4.1	0.56	1.7	0.20	0.31	0.29	2.4	0.79	0.74	0.77	0.03
140	9.78	33.402	25.744	4.44	69.2	16.7	1.40	16.8	0.01	0.02	0.04	0.18	0.04	0.02	0.03	0.02

RV NEK HORIZON — CALCOFI CRUISE: 9110 — STATION 88 33

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
33 40.8 N	118 18.8 W	4/10/91	1857 UTC	10 m	04	1142 - 1805 PST	1142 PST	1801 PST	180.4 ag C/a2

DEPTH in	TEMP DEG C	SALINITY PSS 78	SIGMA THETA	DISS O2 ml/1	OXY PCT	SIO3 UM/1	PO4 UM/1	NO3 uM/1	NO2 uM/1	CBL ug/1	PHAEO ug/1	LIGHT PCT	UPTAKE (ag C/a3) I	2	MEAN	DARK
2	1L8.86	33.391	23.828	6.01	112.8	2.0	0.29	0.1	0.00	0.66	0.21	74. A	2.9	2.4	2.7	0.17
6	17.95	33.363	24.032	6.31	116.4	2.1	0.28	0.1	0.00	0.99	0.27	40.	12.5	10.9	11.7	0.26
12	14.81	33.247	24.663	6.47	112.1	3.2	0.36	0.1	0.01	1.23	0.36	16.	7.8	7.7	7.7	0.20
20	14.45	33.240	24.734	6.41	110.2	3.6	0.39	0.1	0.01	1.46	0.38	4.6	6.0	6.5	6.2	0.20
24	14.23	33.221	24.766	6.35	108.7	3.8	0.40	0.1	0.00	0.99	0.33	2,5	1.7	1.9	1.8	0.18
42	12.74	33.214	25.062	5.19	86.1	10.2	1.61	6.2	0.68	0.40	0.34	0.16	0 02	0.01	0.02	0.71

RV NEK HORIZON — CALCOFI CRUISE 9110 — STATION 90 53

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TKILIGHT	INTEGRATED VALUE
32 39.1 N	11.9 29.6 W	3/10/91	1843 UTC	19 B	02	1143 - 1807 PST	1147 PST	1805 PST	67.9 log C/u2

DEPTH m	TEMP DEG C	SALINITY PSS 78	SIGMA THETA	DISS O2 ml/1	OXY PCT	SIO3 UM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL ug/1	PHAEO ug/1	LIGHT PCT	UPTAKE (ag C/m3) 1	2	MEAN	DARK
2	17.82	33.407	24.097	5.63	103.6	3.7	0.37	0.0	0.00	0.23	0.05	85. A	1.5	1.3	1.4	0.10
13	17.82	33.407	24.098	5.65	104.0	3.5	0.36	0.0	0.00	0.23	0.06	35.	1.8	1.2	1.5	0.08
22	17.43	33.393	24.181	5.73	104.6	3.5	0.36	0.0	0.00	0.32	0.09	17.	1.4	1.5	1.5	0.06
38	14.57	33.291	24.749	5.84	100.7	5.1	0.54	2.2	0.11	0.63	0.27	4.6	1.3	1.1	1.2	0.05
45	12.39	33.244	25.153	5.47	90.1	7.8	0.84	6.7	0.21	0.44	0.27	2.6	0.48	0.45	0.47	0.03
79	10.89	33.401	25.552	4.71	75.2	14.0	1.23	13.5	0.05	0.13	0.17	0.17	0.02	0.00	0.01	0.03

A) INCUBATION LIGHT INTENSITIES WERE 95, 38, 17, 4.6, 2.4, 0.17 PERCENT RESPECTIVELY.

PRIMARY PRODUCTIVITY CASTS

RV NEW HORIZON — CALCOFI CRUISE 9110 — STATION 90 90

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
31 25.3 N	121 59.1 W	2/10/91	1807 UTC	21 m	02	1154 - 1820 PST	1157 PST	1814 PST	134.0 ag C/m2

DEPTH m	TEMP DEG C	SALINITY PSS 78	SIGMA THETA	DISS O2 ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (ag C/m3) 1	2	MEAN	DARK
1	17.60	33.3c6	24.073	5.68	104.0	3.0	0.37	0.0	0.00	0.15	0.05	93. A	0.28	0.44	0.36	0.09
14	17.50	33.304	24.096	5.68	103.8	2.9	0.36	0.0	0.00	0.16	0.05	36.	1.3	1.8	1.6	0.09
24	17.02	33.251	24.169	5.79	104.8	3.0	0.37	0.1	0.00	0.22	0.08	17.	2.9	3.7	3.3	0.12
41	16.13	33.276	24.395	5.97	106.2	3.2	0.37	0.1	0.00	0.43	0.22	5.0	2.9	2.6	2.7	0.08
51	13.89	32.9s6	24.664	6.14	104.2	3.5	0.45	0.3	0.03	0.40	0.27	2.4	1.2	1.5	1.3	0.04
87	11.09	33.138	25.304	5.40	86.5	9.6	1.02	10.1	0.11	0.22	0.20	0.17	0.12	0.11	0.11	0.03

RV NEN HORIZON — CALCOFI CRUISE 9110 — STATION 92 120

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
30 6.3 N	123 46. S W	1/10/91	1854 UTC	28 n	02	1205 - 1826 PST	1205 PST	1824 PST	120.9 ag C/m2

DEPTH m	TEMP DEG C	SALINITY PSS 78	SIGMA THETA	DISS O2 ml/l	OXY PCT	SIO3 UM/l	PO4 UM/l	NO3 UM/l	NO2 uM/l	CHL ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (ag C/a3) 1	2	MEAN	DARK
1	18.68	33.040	23.605	5.53	103.2	3.6	0.42	0.1	0.00	0.12	0.03	95. A	0.39	0.83	0.61	0.06
18	18.38	33.014	23.714	5.55	103.0	3.6	0.39	0.1	0.00	0.12	0.03	37.	1.3	0.86	1.1	0.11
33	17.84	33.113	23.869	5.71	104.9	3.6	0.38	0.1	0.00	0.16	0.05	16.	2.4	2.4	2.4	0.09
56	14.95	33.110	24.528	6.17	107.1	3.6	0.40	0.1	0.00	0.22	0.13	4.6	1.2	1.3	1.3	0.04
67	14.22	33.095	24.672	6.16	105.3	3.5	0.43	0.1	0.01	0.30	0.20	2.5	0.97	0.94	0.96	0.02
115	11.13	33.234	25.373	5.28	84.7	9.7	0.98	9.5	0.02	0.10	0.10	0.18	0.06	0.06	0.06	0.00

RV NEW HORIZON — CALCOFI CRUISE 9110 — STATION 93 50

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
32 11.1 N	118 53.4 W	29/ 9/91	1838 UTC	26 n	02	1146 - 1809 PST	1146 PST	1809 PST	302.9 ag C/m2

DEPTH m	TEMP DEG C	SALINITY PSS 78	SIGMA THETA	DISS O2 ml/l	OXY PCT	SIO3 UM/l	PO4 uM/l	NO3 uM/l	NO2 UM/l	CHL ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (ag C/m3) 1	2	MEAN	DARK
2	18.29	33.471	24.031	5.55	103.1	3.0	0.35	0.0	0.00	0.22	0.05	89. A	5.6	5.8	5.7	0.08
16	18.17	33.471	24.062	5.56	103.0	2.8	0.35	0.0	0.00	0.20	0.06	39.	4.8	5.2	5.0	0.08
30	17.75	33.475	24.167	5.66	104.1	2.8	0.37	0.0	0.00	0.28	0.11	17.	5.3	4.8	5.0	0.06
53	13.23	33.162	24.926	5.82	97.6	5.6	0.64	3.3	0.26	0.61	0.41	4.4	3.8	4.0	3.9	0.04
63	11.77	33.097	25.156	5.49	89.2	7.8	0.87	7.2	0.12	0.30	0.29	2.4	0.92	0.86	0.89	0.02
108	9.69	33.430	25.772	4.43	68.9	17.6	1.43	17.2	0.01	0.03	0.07	0.17	0.01	0.01	0.01	0.00

RV NEW HORIZON — CALCOFI CRUISE 9110 — STATION 93 85

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
30 59.9 N	121 16.4 W	30/ 9/91	1920 UTC	30 m	02	1208 - 1823 PST	1155 PST	1820 PST	163.2 ag C/m2

DEPTH m	TEMP DEG C	SALINITY PSS 78	SIGMA THETA	DISS O2 ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 UM/l	NO2 uM/l	CHL ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (ag C/m3) 1	2	MEAN	DARK
1	18.24	33.047	23.719	5.57	103.1	3.5	0.42	0.2	0.00	0.14	0.03	95. A	2.2	1.8	2.0	0.06
19	17.96	33.061	23.799	5.61	103.3	3.2	0.40	0.2	0.00	0.15	0.04	38.	3.0	2.7	2.9	0.13
35	17.11	33.130	24.056	5.88	106.5	3.2	0.38	0.2	0.00	0.17	0.05	17.	1.4	1.6	1.5	0.11
60	14.56	33.158	24.649	6.08	104.7	3.6	0.41	0.2	0.01	0.35	0.26	4.6	1.5	1.8	1.6	0.06
73	13.84	33.235	24.859	5.90	100.2	3.9	0.47	0.9	0.10	0.28	0.26	2.4	0.89	1.1	1.0	0.02
125	10.17	33.339	25.629	4.73	74.3	14.2	1.25	14.0	0.01	0.04	0.05	0.17	0.01	0.01	0.01	0.01

A) INCUBATION LIGHT INTENSITIES WERE 95, 38, 17, 4.6, 2.4, 0.17 PERCENT RESPECTIVELY.

CalCOFI Cruise 9110

MACROZOOPLANKTON BIOMASS
Net Mesh Size: 0.505 mm

Line	Sta	Position		Date	Time (PST)		Water Volume	Max. Tow	Volume per 1000 m	Strained
				Mo/Day	Start	End	Strained (m)	Depth (m)	Total (cm)	Small (cm)
77	49	35 06.2N	12047.9W	10/12	0439	0445	151	61	113	113
77	51	35 01.4N	120563W	10/12	0206	0229	454	213	203	203
77	55	34 54.1N	121 123W	10/11	2215	2237	440	200	191	191
77	60	34 44.2N	121 33.4W	10/11	1820	1842	457	210	79	79
77	70	34 23.6N	122 15.5W	10/11	1230	1252	427	220	68	56
77	80	34 03.6N	12255.6W	10/11	0613	0635	438	208	32	16
77	90	33 43.1N	123 38.7W	10/11	0027	0049	435	219	37	37
77	100	33 24.0N	124 19.8W	10/10	1845	1907	454	198	44	44
80	51	34 27.1N	12032.0W	10/09	0305	0312	149	63	40	40
80	55	34 20.2N	12049.5W	10/09	0625	0648	461	225	82	82
80	60	34 08.9N	121 07.6W	10/09	1136	1158	465	190	26	26
80	70	33 49.9N	121 52.0W	10/09	1753	1815	440	212	89	89
80	80	33 28.8N	12233.0W	10/09	2350	0012	428	220	72	61
80	90	33 10.1N	123 15.0W	10/10	0559	0621	408	211	42	42
80	100	32 50.1N	123 54.4W	10/10	1240	1302	458	204	20	20
82	47	34 17.0N	12002.1W	10/08	2248	22110	430	186	44	44
83	40.6	34 12.8N	11924.0W	10/08	1745	1748	71	22	14	14
83	42	34 10.6N	11929.6W	10/08	1550	1600	202	91	40	40
83	70	33 15.1N	121 26.4W	10/08	0252	0314	447	215	47	47
83	80	32 55.4N	122 09.4W	10/07	2042	2104	473	212	51	51
83	90	32 34.8N	12248.1W	10/07	1425	1448	430	226	30	30
83	100	32 15.7N	123 30.4W	10/07	0706	0729	449	231	13	13
83	110	3155.2N	124 10.8W	10/07	0058	0120	425	217	45	45
87	33	33 53.4N	118 29.9W	10/04	1350	1355	90	47	45	45
87	35	33 50.0N	118 38.8W	10/04	1600	1622	432	205	56	56
87	39.5	33 40.9N	118 58.6W	10/04	2037	2059	459	191	105	105
87	45	33 29.7N	119 18.4W	10/05	0024	0046	448	212	71	71
87	50	33 19.6N	11940.3W	10/05	0341	0349	148	70	74	74
87	55	33 10.3N	12000.8W	10/05	0728	0751	464	221	32	32
87	60	33 01 .0N	120 18 J W	10/05	1339	1401	457	211	24	24
87	70	32 39.0N	121 02.8W	10/05	2000	2022	416	213	60	60
87	80	32 19.5N	121 43.8W	10/06	0202	0:224	434	215	46	46
87	90	31 59.9N	122 24.9W	10/06	0727	0749	437	214	27	27
87	100	31 39.5N	123 05.5W	10/06	1355	1417	439	219	16	16
87	110	31 20.5N	123 45.8W	10/06	1933	1955	446	221	27	27
90	28	33 29.1N	11747.2W	10/04	0704	0726	427	207	42	42
90	30	33 25.1N	117 54.1 W	10/04	0455	0517	443	203	129	129
90	35	33 15.0N	118 15.7W	10/04	0102	0124	422	216	81	81
90	37	33 10.9N	118 21.9W	10/03	2232	2254	462	200	54	54
90	45	32 55.0N	118 57.2W	10/03	1720	1742	431	215	35	35
90	53	32 39.2N	119 30.4W	10/03	1139	1201	440	209	50	50
90	60	32 253N	119 59.2W	10/03	0605	0627	445	213	135	135
90	70	32 04.1N	12040.8W	10/02	2340	0002	466	211	54	54
'90	80	31 45.2N	121 21.1W	10/02	1643	1705	451	219	27	27
'90	90	31 25.1N	121 59.2W	10/02	0916	0S'38	434	198	30	30
90	100	31 05.9N	12240.4W	10/02	0332	0355	472	225	17	17
90	110	3046.5N	123 21.4W	10/01	2135	2157	467	201	28	28
90	120	30 25.1N	124003W	10/01	1455	1517	415	217	19	19
93	26.6	32 56.0N	11717.8W	9/28	1250	1255	93	44	204	204
93	28	32 543N	117 25.0W	9/28	1535	1558	434	219	9	9
93	30	32 50.5N	117 33.4W	9/28	1857	1920	445	222	49	49
93	35	3240.5N	117 53.6W	9/28	2337	2359	442	209	63	63
93	40	3231.4N	118 14.2W	9/29	0322	0344	419	219	64	64
93	45	32 21.2N	118 34.0W	9/29	0740	0804	451	215	51	51
93	50	32 11.4N	118 53.1 W	9/29	1222	1245	449	233	40	40
93	55	32 00.4N	11913.4W	9/29	1624	1646	439	216	27	27
93	60	31 51.1N	119 36.8W	9/29	2056	2120	501	223	100	100
SB	70	31 31.0N	12016.2W	9/30	0221	0243	430	216	105	65
S>3	80	31 10.4N	120 563W	9/30	0805	0829	485	225	41	41
SB	90	3051.5N	121 36.1W	9/30	1503	1525	435	227	12	12
93	100	3031.4N	122 16.4W	9/30	2045	2107	442	215	18	18
93	110	30 11.6N	122 56.1W	10/01	0223	0245	446	222	18	18
93	120	29 51.6N	123 35.5W	10/01	0813	0835	467	201	17	17