UNIVERSITY OF CALIFORNIA, SAN DIEGO SCRIPPS INSTITUTION OF OCEANOGRAPHY

data report

PHYSICAL, CHEMICAL AND BIOLOGICAL DATA

CalCOFI Cruise 8703
2 – 17 March 1987

CalCOFI Cruise 8705
30 April – 14 May 1987

SIO Reference 87-19
14 August 1987

UNIVERSITY OF CALIFORNIA

SCRIPPS INSTITUTION OF OCEANOGRAPHY

PHYSICAL, CHEMICAL AND BIOLOGICAL DATA

CalCOFI Cruise 8703
2-17 March 1987

CalCOFI Cruise 8705
30 April — 14 May 1987

SIO Reference 87-19
14 August 1987

Approved for distribution:

Edward A. Frieman, Director

CONTENTS

Introduction 3

Literature Cited 6

Cruise 8703

List of Figures 7

Personnel 13

Tabulated Hydrographic Cast Data 14

Tabulated Primary Productivity Cast Data 45

Tabulated Secchi Disk Observations 48

Tabulated Macrozooplankton Data 49

Cruise 8705

List of Figures 50

Personnel 56

Tabulated Hydrographic Cast Data 57

Tabulated Primary Productivity Data 89

Tabulated Secchi Disk Observations 92

Tabulated Macrozooplankton Data 93

INTRODUCTION

The data in this report were collected during Cruises 8703*, and 8705 of the California Cooperative Oceanic Fisheries Investigations (CalCOFI) aboard the *RV David Starr Jordan* of the National Marine Fisheries Service (NMFS). 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 the National Marine Fisheries Service Southwest Fisheries Center, the California Department of Fish and Game, and the Marine Life Research Group (MLRG) of the 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 8703 and 8705 were collected and processed by personnel of the Marine Life Research Group and the Southwest Fisheries Center, National Marine Fisheries Service. Volunteers and other SIO staff members also assisted in the collection of data at sea.

STANDARD PROCEDURES

Hydrographic Cast Data

The hydrographic casts usually consisted of 20 bottles lowered to a maximum sampling depth of 525 meters, bottom depth permitting. Several types of sampler bottles were used on the two cruises: 1.25 l epoxy lined Nansen bottles, 5 l Niskin bottles, and an experimental 3 l plastic bottle. The experimental bottles pre-tripped with considerable loss of data on station 93.28, Cruise 8703, and were not used for the rest of the cruise. After modification, the experimental bottles were used more extensively on Cruise 8705, but the malfunction rate and data loss remained higher than is typical of older types of samplers. Development of a new sampler designed to combine the requirements for hydrographic, productivity, microzooplankton, and rosette cast sampling continues.

Temperature, salinity, oxygen and nutrients were determined for all depths sampled. Chlorophyll-a and phaeopigments were usually determined from the top 14 depths. Productivity casts were merged with the hydrographic casts on some stations. Special near-bottom casts were done in the Santa Monica and Santa Barbara Basins.

Paired protected reversing thermometers were used to determine temperatures which are recorded to hundredths of a degree Celsius. 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.

Salinity samples were analyzed at sea using inductive-type salinometers. Salinometers were standardized with substandard seawater. Periodic checks on the concentration of the substandard were made by comparison with Wormley Standard Seawater batch P-96. The salinity values are reported to three decimal places.

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

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

Chlorophyll-a and phaeopigments were measured with a fluorometric technique (Yentsch and Menzel, 1963; Holm-Hansen *et al.*, 1965) from subsamples filtered onto GF/C filters. The pigments were extracted with a cold extraction technique in 90% acetqne (Venrick and Hayward, 1984) and the fluorescence determined before and after acidification with a Turner Designs fluorometer.

The observed data have been evaluated using the methodology described by Klein (1973). This involves consideration of their variation as functions of density or depth and their relations to each other, and comparisons with adjacent observations.

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

Primary Productivity Casts

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). Six depths, corresponding to predetermined levels of light penetration, were sampled with 5 1 Niskin bottles. Temperature, salinity, oxygen, nutrients, chlorophyll-a, and phaeopigments were determined for all depths sampled. Triplicate samples (two light and one dark control) were drawn from each depth into 250 ml polycarbonate incubation bottles which were innoculated with approximately 10 uCi of C as NaHCO . These were incubated approximately from local apparent noon to civil twilight in seawater-cooled incubators with neutral-density screens which simulate the *in situ* light levels. At the end of the incubation, the samples were filtered onto HA milipore filters and placed in scintillation vials. One-half ml of 10% HC1 was added to each sample. The sample was then allowed to sit, without a cap, at room temperature for 12 hours (after Lean and Burnison, 1979). Following this, 10 ml of scintillation fluor were added to each sample and the samples were returned to SIO where the radioactivity was determined with a scintillation counter.

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 Cast Data

The reported hydrographic cast time is the Greenwich Mean Time (GMT) 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.

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. Density-related parameters have been calculated from the International Equation of State of Seawater 1980 (EOS80, UNESCO, 1981). 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 light levels at which the samples were incubated, 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 shown are the total for the incubation period. The times of local apparent noon (LAN), civil twilight, and the vertically integrated value of the mean uptake from the surface to the deepest sample depth (assuming that the shallowest measured value extends to the surface and that negative values are zero) are also shown for each experiment. 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 GMT, add eight hours to the PST time.

Secchi Disk Observations

Secchi disk observations were made on most daylight stations. The times are given in local PST (+8) time. Weather codes and cloud observations are also presented.

Macrozooplankton Data

Macrozooplankton biomass volumes are tabulated as total biomass volume (cm/1000 m strained) and as the total volume minus the volume of larger organisms under the heading "Small."

FOOTNOTES

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

ISL: After depth values indicates interpolated or extrapolated standard level.

P: After depth values indicates the bottle posttripped.

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

LITERATURE CITED

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

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

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

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

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

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

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

Lean, D. R. S., and B. K. Burnison, 1979. An evaluation of errors in the C method of primary production measurement. *Limnol. Oceanogr., 24:* 799-998.

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

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

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

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

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

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

FIGURES

Cruise 8703

1. CalCOFI Cruise 8703 track and station positions.

2. Horizontal distribution of chlorophyll-a at 10 meters.

3. 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).

4. Horizontal distribution of sigma-theta at 10 meters.

5. Horizontal distribution of temperature at 10 meters.

6. Horizontal distribution of salinity at 10 meters.

7. Horizontal distribution of dynamic height anomaly (200 over 500 m).

8. Horizontal distribution of sigma-theta at 200 meters.

9. Horizontal distribution of temperature at 200 meters.

10. Horizontal distribution of salinity at 200 meters.

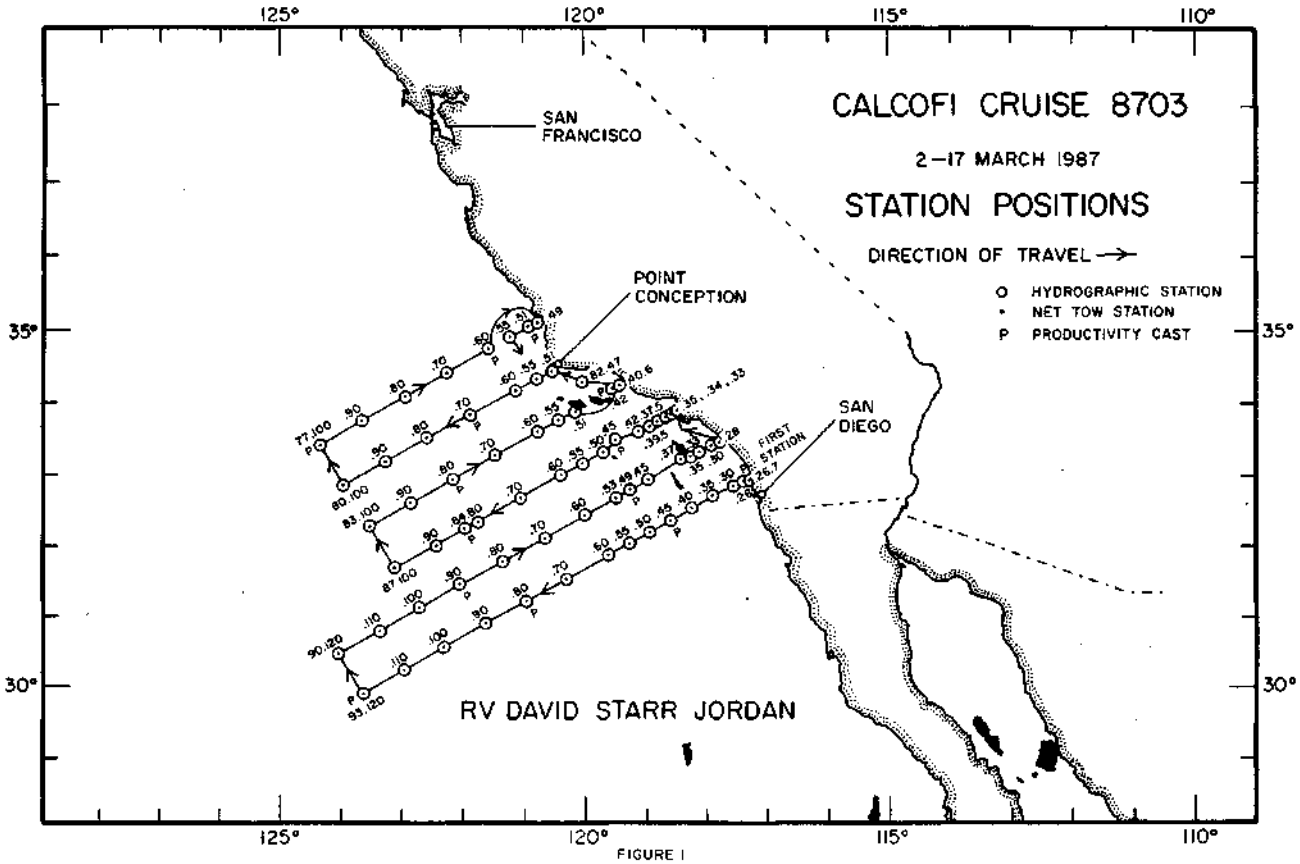

FIGURE 1

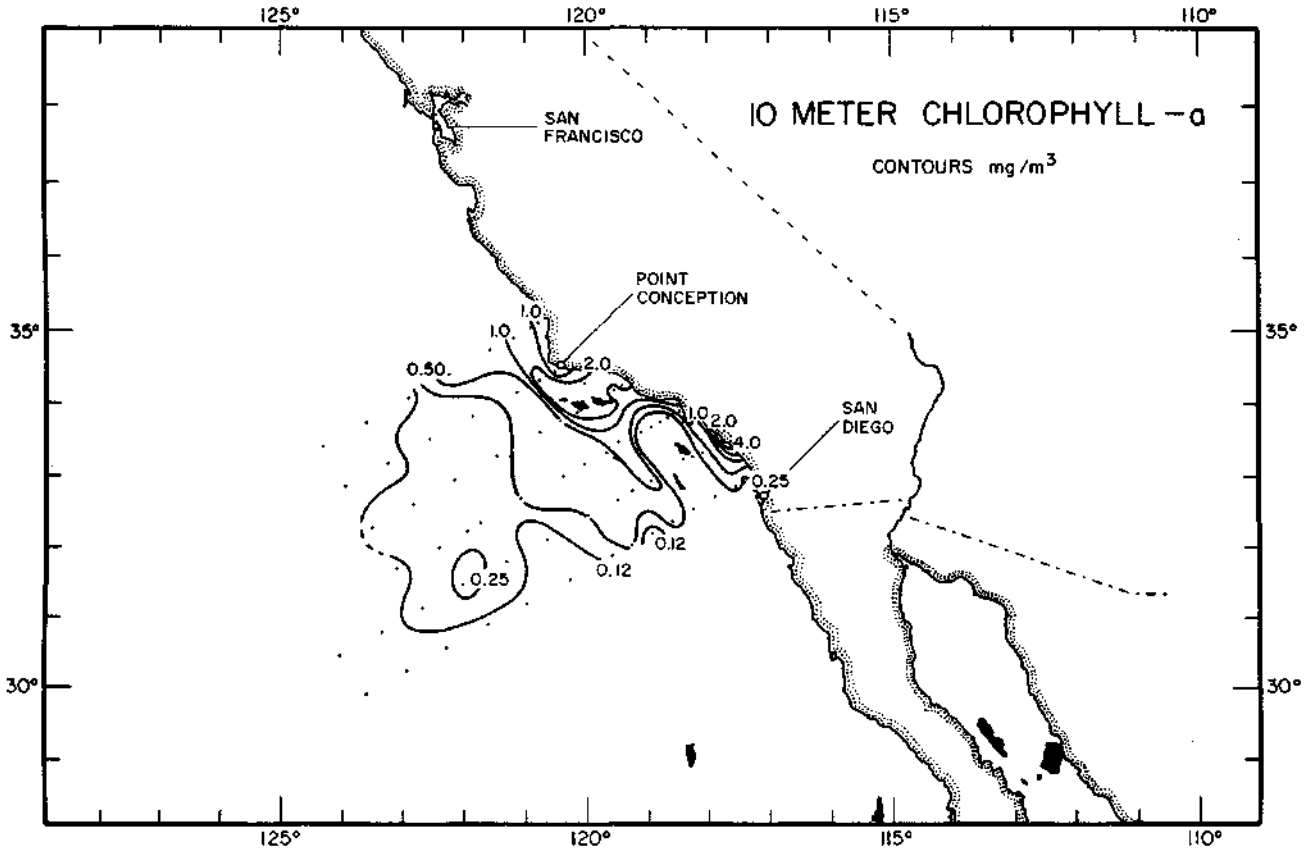

FIGURE 2

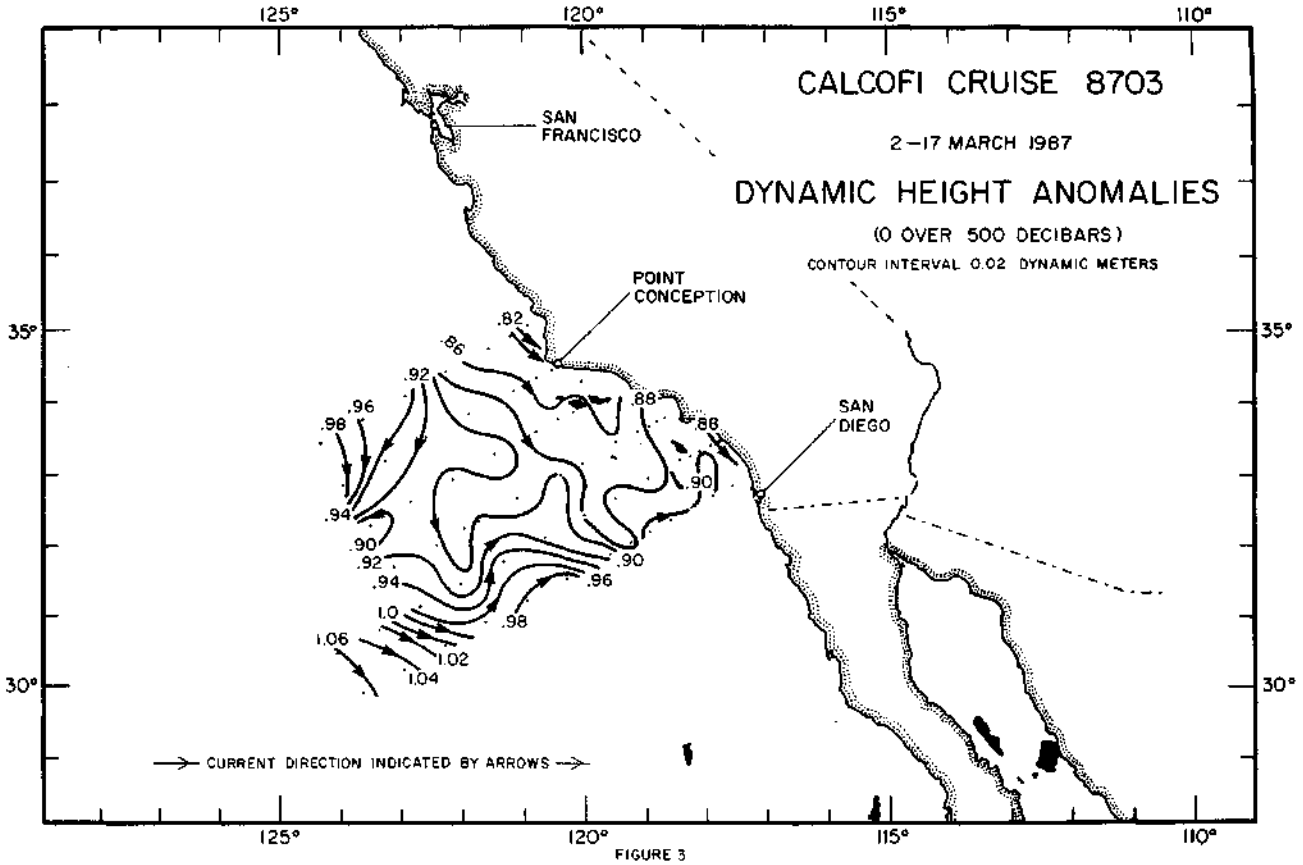

FIGURE 3

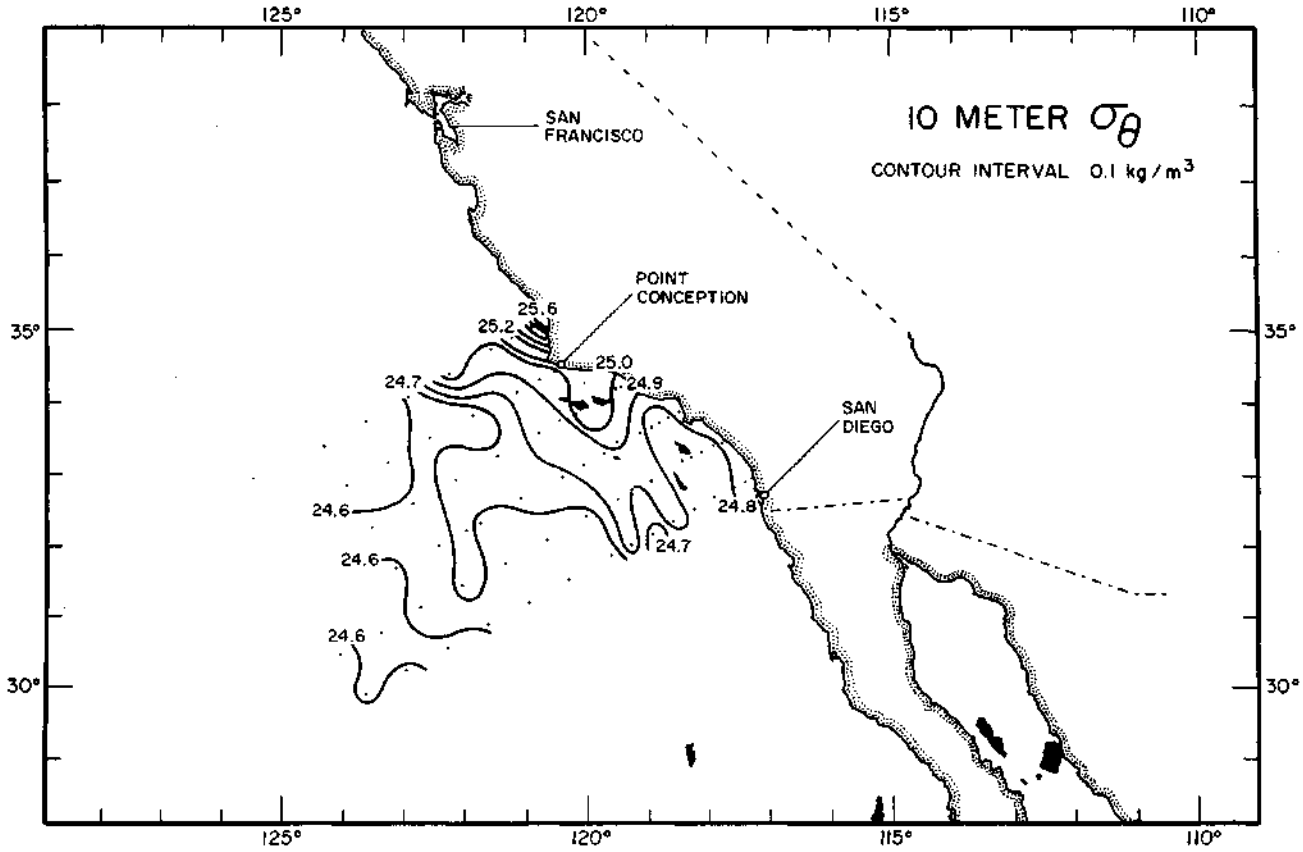

FIGURE 4

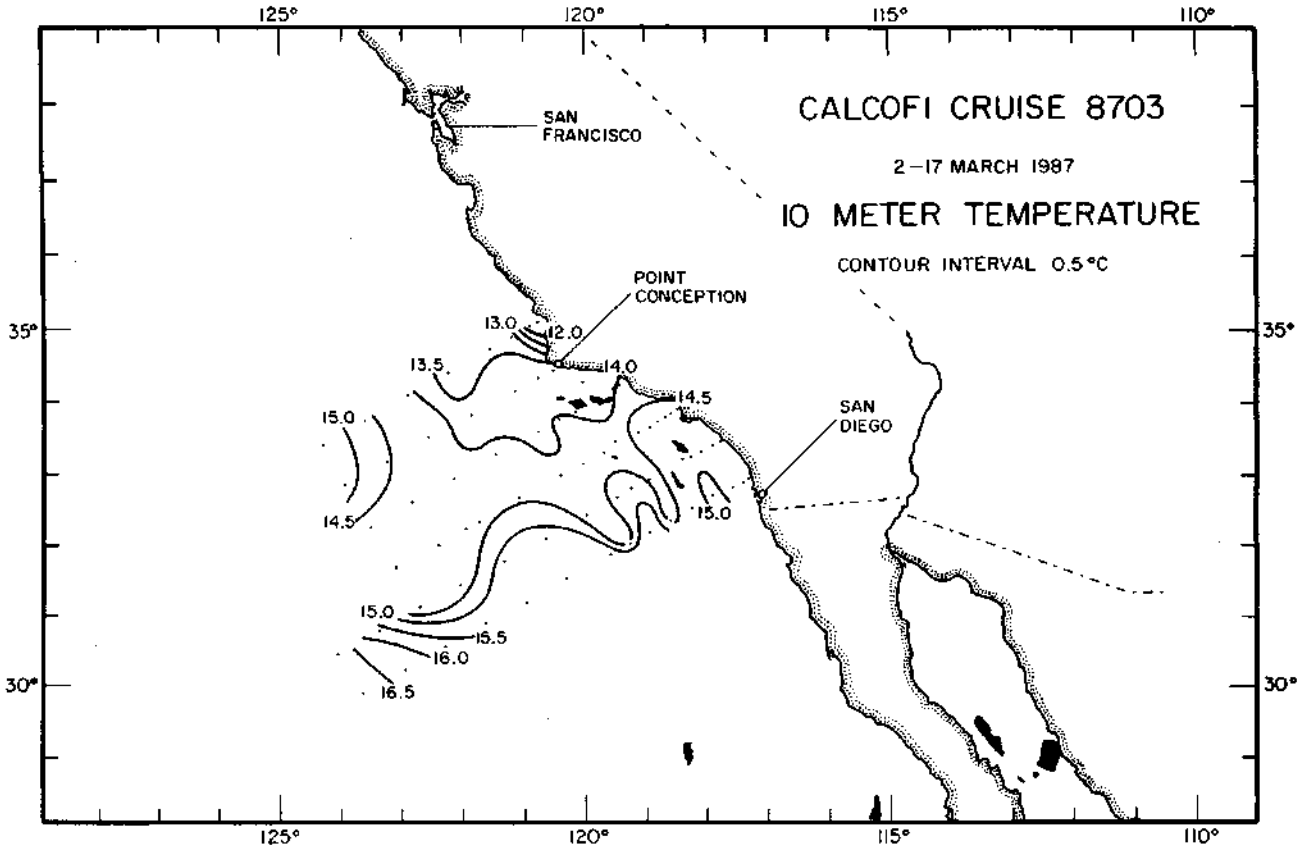

FIGURE 5

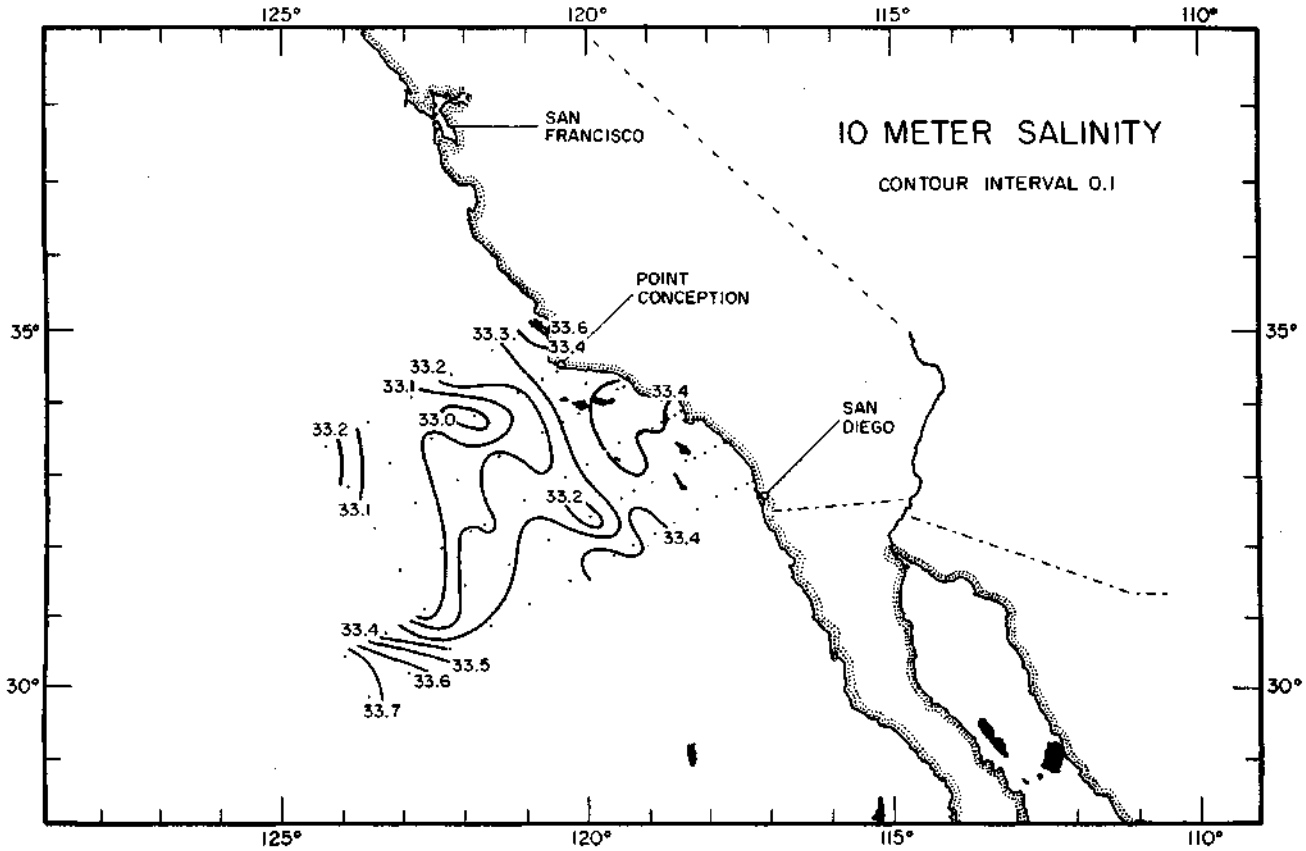

FIGURE 6

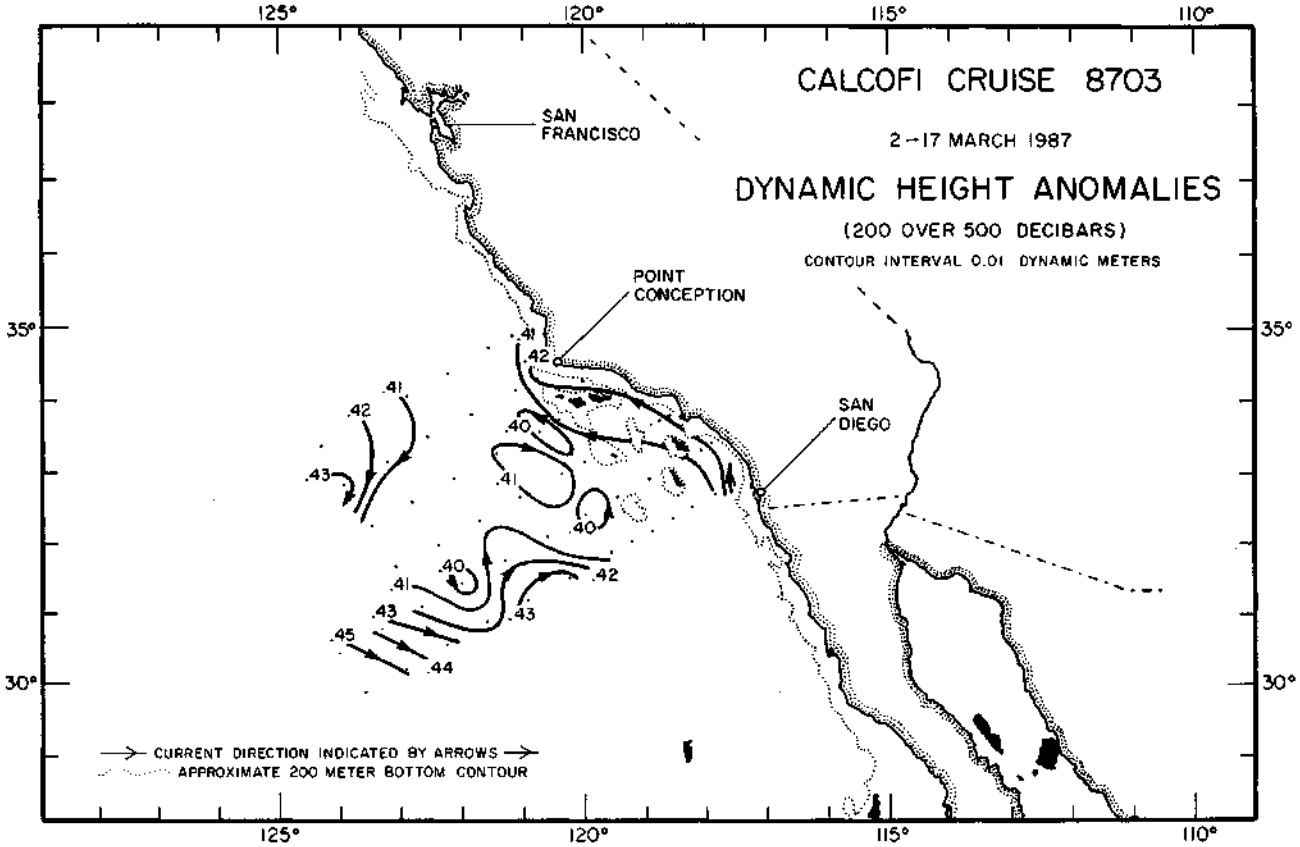

FIGURE 7

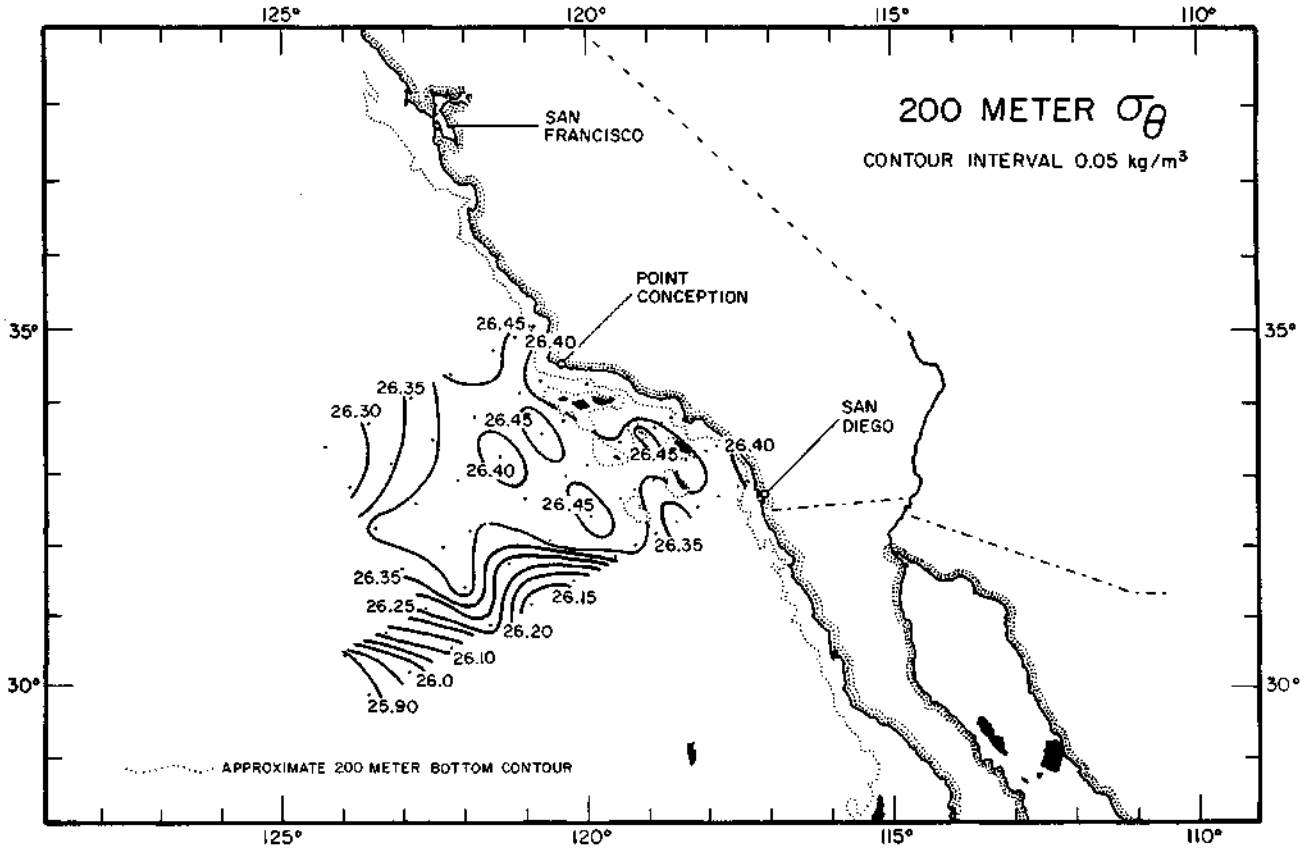

FIGURE 8

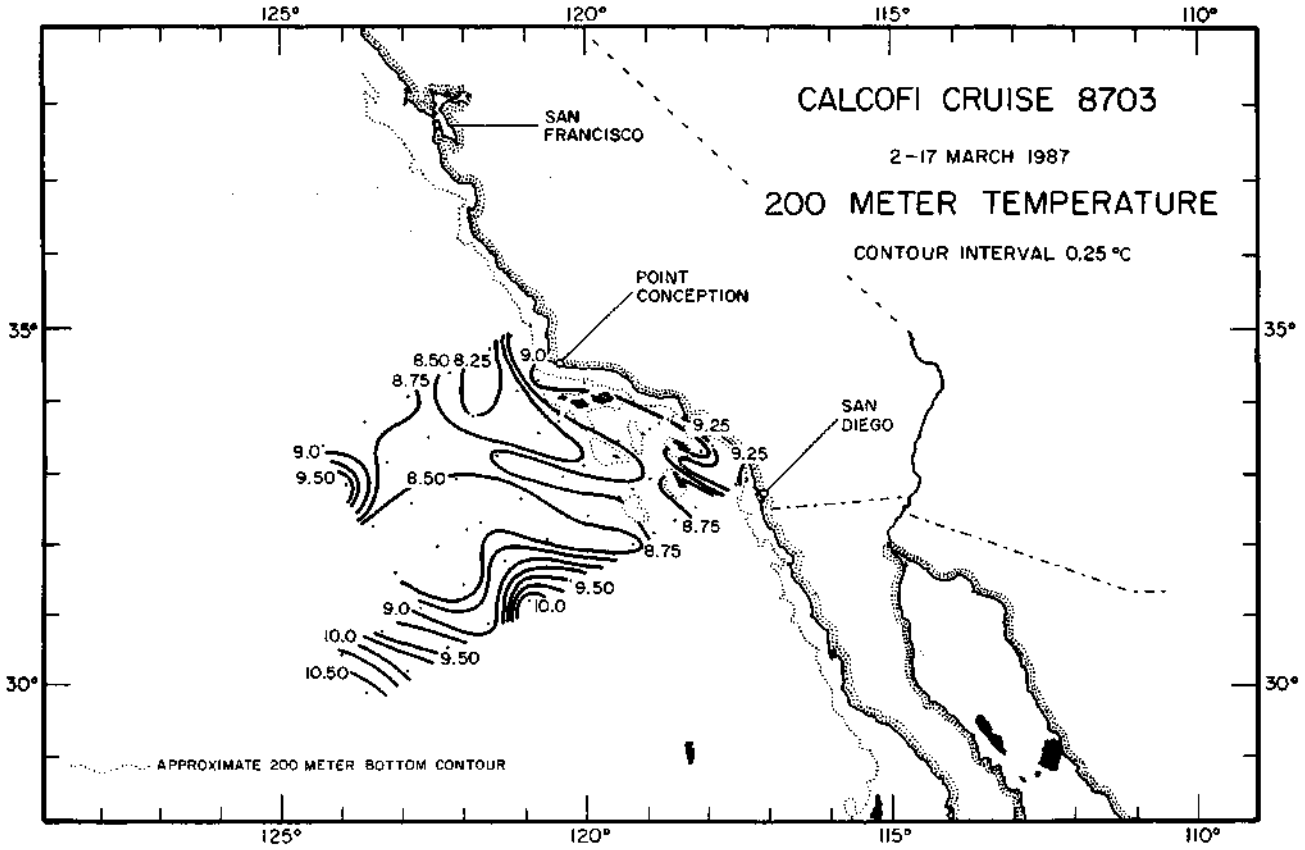

FIGURE 9

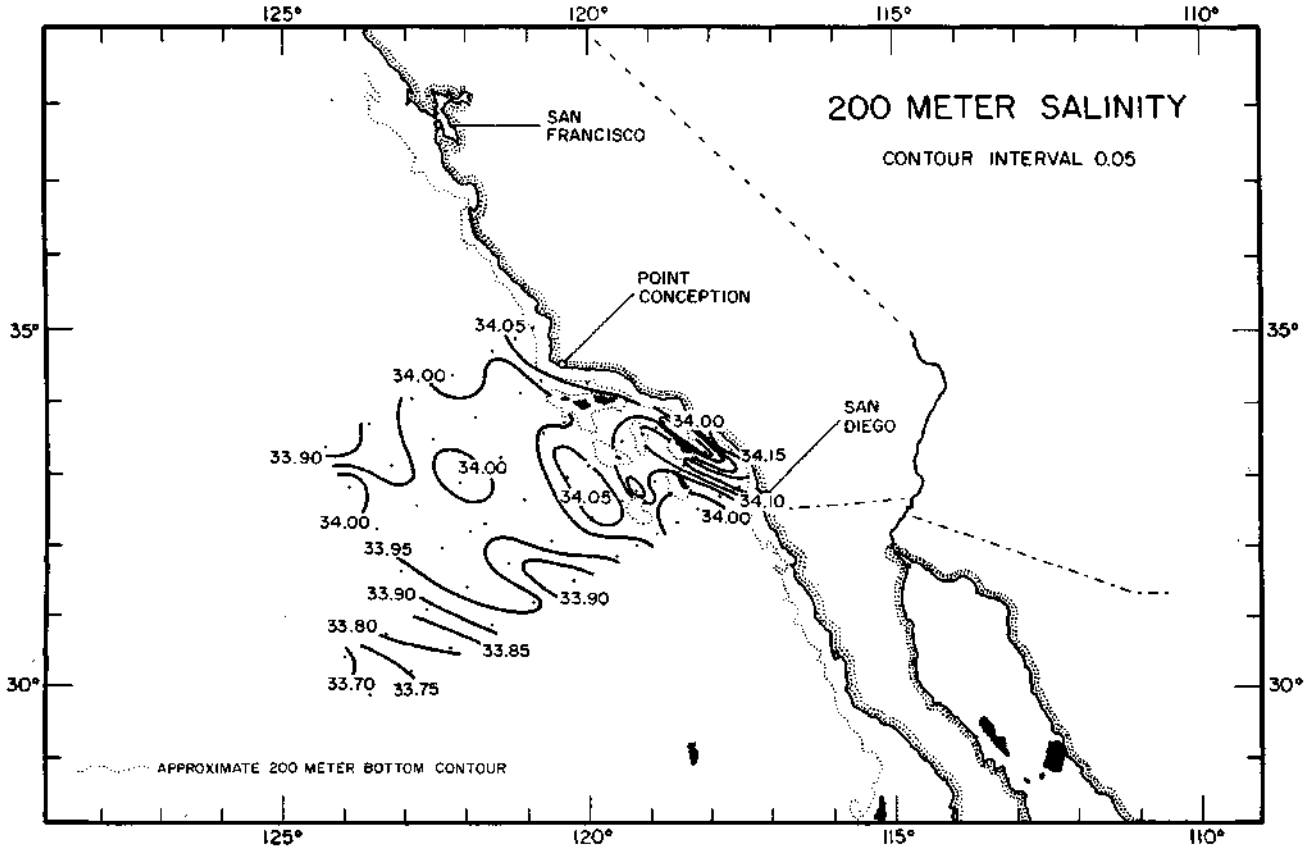

FIGURE 10

PERSONNEL

Cruise 8703

SHIP'S CAPTAIN

Milton Roll, RV *David Starr Jordan*

PERSONNEL PARTICIPATING IN THE COLLECTION OF DATA

		Participation (Leg)
Flerx, William C. (in charge)	Fishery Biologist, NMFS	I, II
Ambrose, David A.	Fishery Biologist, NMFS	I, II
Anderson, George C.	Staff Research Associate, SIO	I, II
Bryan, Walter R.	Marine Technician, SIO	I, II
Deibert, Mark C.	Volunteer, SIO	I
Dotson, Ronald C.	Fishery Biologist, NMFS	I, II
Escamilla, Abraham	Student, CICESE	II
Garcia, Alberto	Marine Biologist, IEO, Spain	I
Gripp, Sherry L.	Staff Res. Assoc./Marine Tech., SIO	I, II
Gruber, Dennis W.	Marine Technician, SIO	I, II
Guanes, Rodolfo	Student, CICESE	II
Jacobson, Susan	Computer Programmer, NMFS	II
Meyer, Cindy A.	Computer Programmer, NMFS	I
Miranda, Ana Maria	Marine Biologist, IEO, Spain	I, II
Theilacker, Gail H.	Fishery Biologist, NMFS	I, II
Wilkinson, James	Staff Research Associate	I, II

Leg I: San Diego to Dana Point, CA, March 2-8, 1987.

Leg II: Dana Point to San Diego, CA, March 8-17, 1987.

RV DAVID STARR JORDAN CALCOFI CRUISE 8703 STATION 77 49

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
35 5.3 N	120 46.6 W	16/03/87	1656 GMT	75 M	250	07 KT	270 06 07	0	1016.9 MB	13.9 C	10.9 C	1/8	CI

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG / L	PRESS D.BAR
	0	ISL	11.33	11.33	33.638	25.656	232.4	0.000	4.61	74.4	16.9	1.39	14.0	0.23	0.89	0.52	0
1	1		11.33	11.33	33.638	25.656	232.4	0.002	4.61	74.4	16.9	1.39	14.0	0.23	0.89	0.52	1
	10	ISL	11.23	11.23	33.648	25.682	230.1	0.023	4.56	73.5	17.5	1.40	14.7	0.23	0.76	0.59	10
1	11		11.21	11.21	33.650	25.687	229.7	0.025	4.55	73.3	17.6	1.40	14.8	0.23	0.73	0.60	11
	20	ISL	10.98	10.98	33.676	25.749	224.0	0.046	4.20	67.3	18.8	1.54	16.1	0.21	0.48	0.65	20
1	21		10.95	10.95	33.680	25.757	223.2	0.048	4.15	66.5	19.0	1.56	16.3	0.21	0.45	0.66	21
	30	ISL	10.49	10.49	33.742	25.887	211.1	0.068	3.48	55.2	22.2	1.67	19.6	0.14	0.14	0.45	30
1	32		10.38	10.38	33.758	25.918	208.2	0.072	3.34	52.9	23.0	1.69	20.4	0.13	0.08	0.40	32
1	42		10.07	10.07	33.817	26.017	198.9	0.092	3.06	48.1	25.4	1.80	22.3	0.10	0.07	0.35	42
	50	ISL	9.81	9.80	33.876	26.107	190.5	0.108	2.77	43.3	27.7	1.92	24.0	0.07	0.05	0.31	50
1	52		9.75	9.74	33.890	26.128	188.6	0.112	2.70	42.2	28.3	1.95	24.4	0.06	0.04	0.30	52
1	62		9.57	9.56	33.933	26.192	182.8	0.130	2.46	38.3	30.8	2.02	25.6	0.09	0.03	0.29	62

RV DAVID STARR JORDAN CALCOFI CRUISE 8703 STATION 77 51

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
35 1.3 N	120 55.1 W	16/03/87	1857 GMT	243 M	320	15 KT	330 08 09	1	1016.5 MB	13.2 C	11.1 C	1/8	CU

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0	ISL	11.98	11.98	33.495	25.425	254.3	0.000	5.34	87.4	10.4	1.13	8.9	0.22	1.24	0.33	0
1	2		11.98	11.98	33.495	25.425	254.4	0.005	5.34	87.4	10.4	1.13	8.9	0.22	1.24	0.33	2
	10	ISL	11.94	11.94	33.494	25.431	254.0	0.025	5.36	87.6	10.3	1.17	8.9	0.21	1.16	0.41	10
1	11		11.93	11.93	33.494	25.433	253.8	0.028	5.36	87.6	10.3	1.17	8.9	0.21	1.15	0.42	11
	20	ISL	11.91	11.91	33.498	25.440	253.4	0.051	5.27	86.1	10.5	1.09	9.4	0.20	1.17	0.37	20
1	21		11.91	11.91	33.499	25.441	253.3	0.053	5.26	85.9	10.5	1.08	9.4	0.20	1.17	0.36	21
	30	ISL	11.43	11.43	33.586	25.598	238.6	0.075	4.47	72.3	14.9	1.25	13.6	0.13	0.34	0.31	30
1	32		11.30	11.30	33.611	25.641	234.6	0.080	4.26	68.7	16.1	1.31	14.7	0.11	0.16	0.30	32
1	40		10.84	10.84	33.690	25.785	221.0	0.098	3.69	59.0	19.6	1.53	18.0	0.02	0.09	0.23	40
1	50		10.75	10.74	33.702	25.811	218.8	0.120	3.60	57.4	20.1	1.54	18.5	0.01	0.09	0.22	50
1	60		10.46	10.45	33.750	25.899	210.7	0.142	3.35	53.1	22.0	1.68	20.3	0.01	0.08	0.20	60
1	70		9.95	9.94	33.860	26.072	194.3	0.162	2.86	44.9	26.4	1.85	23.5	0.01	0.03	0.15	71
	75	ISL	9.80	9.79	33.895	26.124	189.5	0.172	2.71	42.4	28.0	1.92	24.5	0.01	0.03	0.16	76
1	82		9.64	9.63	33.931	26.179	184.4	0.185	2.56	39.9	29.9	2.01	25.4	0.01	0.03	0.18	83
	100	ISL	9.29	9.28	33.992	26.284	174.7	0.217	2.29	35.4	34.2	2.13	27.0	0.01	0.02	0.15	101
1	101		9.28	9.27	33.994	26.288	174.5	0.219	2.28	35.3	34.4	2.13	27.1	0.01	0.02	0.15	102
1	121		9.18	9.17	34.026	26.329	170.9	0.253	2.22	34.3	34.6	2.19	27.6	0.01	0.02	0.12	122
	125	ISL	9.18	9.17	34.031	26.333	170.6	0.260	2.21	34.1	34.7	2.19	27.7	0.01	0.02	0.11	126
1	140		9.14	9.12	34.045	26.351	169.2	0.286	2.18	33.6	35.1	2.18	27.9	0.00	0.01	0.10	141
	150	ISL	9.02	9.00	34.058	26.380	166.6	0.303	2.10	32.3	36.6	2.22	28.3	0.02	0.01	0.11	151
1	170		8.79	8.77	34.079	26.433	162.0	0.335	1.93	29.5	39.7	2.31	29.2	0.06	0.02	0.14	171
	200	ISL	8.78	8.76	34.082	26.437	162.1	0.384	1.93	29.5	39.9	2.30	29.4	0.06	0.01	0.15	202
1	202		8.78	8.76	34.082	26.437	162.2	0.387	1.93	29.5	39.9	2.30	29.4	0.06	0.01	0.15	204

RV DAVID STARR JORDAN CALCOFI CRUISE 8703 STATION 77 55

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
34 53.3 N	121 11.9 W	16/03/87	2320 GMT	575 M	320	27 KT	330 11 07	1	1015.9 MB	14.1 C	11.5 C	6/8	AS

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0	ISL	13.04	13.04	33.363	25.117	283.6	0.000	6.10	102.0	2.7	0.50	1.8	0.11	1.33	0.58	0
1	1		13.04	13.04	33.363	25.117	283.6	0.003	6.10	102.0	2.7	0.50	1.8	0.11	1.33	0.58	1
	10	ISL	13.05	13.05	33.362	25.115	284.1	0.028	6.18	103.3	2.9	0.50	1.8	0.11	1.41	0.67	10
1	12		13.05	13.05	33.362	25.115	284.1	0.034	6.20	103.7	2.9	0.50	1.8	0.11	1.42	0.68	12
	20	ISL	13.02	13.02	33.363	25.122	283.7	0.057	6.12	102.3	3.0	0.51	1.9	0.12	1.28	0.51	20
1	21		13.02	13.02	33.363	25.122	283.7	0.060	6.10	101.9	3.0	0.51	1.9	0.12	1.26	0.49	21
	30	ISL	12.75	12.75	33.365	25.177	278.7	0.085	5.84	97.0	4.3	0.61	3.5	0.14	1.08	0.63	30
1	32		12.68	12.68	33.366	25.191	277.4	0.090	5.78	95.9	4.6	0.63	3.9	0.15	1.06	0.67	32
1	41		12.58	12.57	33.374	25.217	275.2	0.115	5.71	94.5	5.1	0.67	4.5	0.18	1.17	0.56	41
1	50		12.36	12.35	33.385	25.268	270.5	0.140	5.52	91.0	6.3	0.75	5.9	0.22	0.85	0.46	50
1	61		11.46	11.45	33.465	25.499	248.8	0.168	4.72	76.3	11.5	1.10	12.1	0.14	0.13	0.31	61
1	71		11.08	11.07	33.507	25.601	239.3	0.193	4.43	71.1	13.4	1.24	14.1	0.07	0.10	0.23	72
	75	ISL	10.85	10.84	33.551	25.676	232.2	0.202	4.23	67.5	15.0	1.33	15.6	0.05	0.08	0.21	76
1	85		10.34	10.33	33.662	25.851	215.7	0.225	3.75	59.2	18.9	1.53	19.0	0.01	0.05	0.17	86
1	99		10.18	10.17	33.707	25.914	210.1	0.255	3.59	56.5	20.4	1.59	20.1	0.01	0.03	0.13	100
	100	ISL	10.16	10.15	33.710	25.920	209.5	0.257	3.58	56.4	20.5	1.60	20.2	0.01	0.03	0.13	101
1	120		9.82	9.81	33.779	26.031	199.3	0.297	3.37	52.7	23.2	1.72	22.0	0.01	0.02	0.11	121
	125	ISL	9.77	9.76	33.802	26.058	196.9	0.307	3.28	51.2	24.0	1.75	22.4	0.01	0.02	0.11	126
1	143		9.59	9.57	33.891	26.157	187.8	0.342	2.92	45.4	27.0	1.88	24.0	0.01	0.01	0.09	144
	150	ISL	9.48	9.46	33.924	26.201	183.7	0.355	2.80	43.5	28.4	1.93	24.8	0.01	0.01	0.08	151
1	174		9.09	9.07	34.022	26.341	170.8	0.398	2.43	37.4	33.2	2.10	27.2	0.01	0.00	0.07	175
	200	ISL	8.85	8.83	34.082	26.427	163.2	0.441	2.14	32.8	36.6	2.23	28.8	0.01	0.00	0.08	202
1	203		8.82	8.80	34.087	26.435	162.4	0.446	2.11	32.3	36.9	2.24	28.9	0.01	0.00	0.08	205
1	233		8.47	8.45	34.118	26.514	155.4	0.494	1.97	29.9	40.2	2.32	30.1	0.00			235
	250	ISL	8.33	8.30	34.135	26.549	152.3	0.520	1.84	27.9	42.3	2.38	30.7	0.00			252
1	272		8.15	8.12	34.155	26.592	148.5	0.553	1.65	24.9	45.2	2.46	31.6	0.00			274
	300	ISL	7.84	7.81	34.174	26.653	143.1	0.594	1.43	21.4	49.6	2.56	33.0	0.00			303
1	326		7.52	7.49	34.187	26.710	137.9	0.630	1.24	18.4	53.8	2.65	34.4	0.00			329
1	385		6.85	6.81	34.190	26.806	129.3	0.709	0.95	13.9	62.0	2.81	36.8	0.00			388
	400	ISL	6.75	6.71	34.199	26.827	127.5	0.728	0.87	12.7	63.9	2.85	37.3	0.00			403
1	449		6.46	6.42	34.235	26.894	121.6	0.789	0.64	9.3	70.1	2.95	38.6	0.00			453
	500	ISL	6.08	6.04	34.256	26.960	115.7	0.850	0.51	7.3	77.0	3.04	40.0	0.00			504
1	518		5.95	5.90	34.264	26.983	113.6	0.870	0.46	6.6	79.4	3.07	40.5	0.00			523

RV DAVID STARR JORDAN CALCOFI CRUISE 8703 STATION 77 60

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
34 A3.3 N	121 32.9 W	15/03/87	1834 GMT	982 M	320	24 KT	330 15 10	1	1013.7 MB	13.0 C	10.5 C	5/8	CU

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0	ISL	13.46	13.46	33.277	24.967	297.9	0.000	6.11	103.0	2.7	0.43	0.8	0.04	0.61	0.18	0
1	1		13.46	13.46	33.277	24.967	298.0	0.003	6.11	103.0	2.7	0.43	0.8	0.04	0.61	0.18	1
	10	ISL	13.46	13.46	33.276	24.966	298.2	0.030	6.18	104.2	2.7	0.44	0.7	0.04	0.72	0.22	10
1	11		13.46	13.46	33.276	24.966	298.3	0.033	6.19	104.3	2.7	0.44	0.7	0.04	0.73	0.23	11
	20	ISL	13.47	13.47	33.278	24.966	298.5	0.060	6.15	103.7	2.4	0.43	0.8	0.04	0.73	0.20	20
1	22		13.47	13.47	33.278	24.966	298.6	0.066	6.14	103.5	2.3	0.43	0.8	0.04	0.73	0.19	22
	30	ISL	13.46	13.46	33.279	24.969	298.5	0.090	6.10	102.8	2.3	0.43	0.7	0.04	0.72	0.22	30
1	33		13.46	13.46	33.279	24.969	298.6	0.098	6.09	102.6	2.3	0.43	0.7	0.04	0.71	0.24	33
1	43		13.06	13.05	33.343	25.099	286.5	0.128	5.85	97.8	3.7	0.58	3.0	0.17	0.70	0.35	43
	50	ISL	12.59	12.58	33.409	25.243	273.0	0.147	5.54	91.8	5.7	0.74	5.4	0.35	0.55	0.30	50
1	53		12.36	12.35	33.441	25.312	266.4	0.155	5.37	88.5	6.8	0.82	6.7	0.40	0.48	0.29	53
1	62		11.73	11.72	33.543	25.510	247.8	0.179	4.66	75.8	11.2	1.10	11.5	0.27	0.40	0.44	62
1	73		11.50	11.49	33.560	25.566	242.7	0.206	4.40	71.3	12.5	1.20	13.3	0.11	0.21	0.33	74
	75	ISL	11.38	11.37	33.574	25.599	239.6	0.210	4.29	69.3	13.1	1.24	14.0	0.09	0.18	0.31	76
1	87		10.65	10.64	33.674	25.807	220.0	0.238	3.65	58.1	17.4	1.50	18.4	0.02	0.06	0.22	88
	100	ISL	10.24	10.23	33.748	25.936	208.0	0.266	3.40	53.6	20.1	1.63	20.7	0.01	0.04	0.22	101
1	101		10.22	10.21	33.752	25.942	207.4	0.268	3.39	53.4	20.3	1.64	20.8	0.01	0.04	0.22	102
1	122		9.44	9.43	33.771	26.088	193.9	0.310	3.41	52.8	23.4	1.73	23.0	0.00	0.01	0.10	123
	125	ISL	9.39	9.38	33.784	26.106	192.2	0.316	3.37	52.2	23.9	1.75	23.3	0.00	0.01	0.10	126
1	146		9.10	9.08	33.881	26.229	180.9	0.355	3.07	47.2	27.5	1.88	25.2	0.00	0.01	0.07	147
	150	ISL	9.02	9.00	33.893	26.251	178.9	0.362	3.06	47.0	28.1	1.89	25.5	0.00	0.01	0.07	151
1	175		8.50	8.48	33.948	26.375	167.4	0.405	3.00	45.6	32.0	1.96	26.8	0.00	0.01	0.05	176
	200	ISL	8.02	8.00	34.004	26.492	156.6	0.446	2.96	44.5	36.4	2.01	27.9	0.00	0.00	0.04	202
1	204		7.95	7.93	34.011	26.508	155.2	0.452	2.95	44.2	37.1	2.02	28.1	0.00	0.00	0.04	206
1	232		7.67	7.65	34.016	26.553	151.3	0.495	2.84	42.3	40.2	2.10	29.1	0.00			234
	250	ISL	7.59	7.57	34.037	26.581	148.8	0.522	2.55	37.9	42.7	2.20	30.3	0.00			252
1	271		7.52	7.49	34.070	26.617	145.7	0.553	2.14	31.8	46.0	2.34	31.9	0.00			273
	300	ISL	7.25	7.22	34.114	26.690	139.2	0.594	1.62	23.9	51.8	2.54	34.0	0.00			302
1	323		7.03	7.00	34.150	26.749	133.8	0.626	1.25	18.4	56.4	2.69	35.5	0.00			326
1	380		6.82	6.78	34.226	26.838	126.1	0.700	0.75	11.0	63.8	2.87	37.4	0.00			383
	400	ISL	6.75	6.71	34.237	26.85 7	124.7	0.725	0.67	9.8	65.3	2.90	37.8	0.00			403
1	445		6.57	6.53	34.253	26.894	121.7	0.780	0.56	8.1	68.3	2.96	38.5	0.00			449
	500	ISL	6.33	6.28	34.287	26.953	116.7	0.846	0.43	6.2	73.8	3.04	39.4	0.00			504
1	515		6.26	6.21	34.296	26.969	115.3	0.863	0.39	5.6	75.3	3.06	39.6	0.00			520

RV DAVID STARR JORDAN CALCOFI CRUISE 8703 STATION 77 70

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
34 23.3 N	122 14.8 W	15/03/87	1120 GMT	4018 M	320	25 KT			1012.9 MB	12.1 C	8.9 C		

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0	ISL	13.11	13.11	33.260	25.024	292.5	0.000	6.22	104.1	4.4	0.43	0.5	0.07	0.63	0.24	0
1	3		13.11	13.11	33.260	25.024	292.6	0.009	6.22	104.1	4.4	0.43	0.5	0.07	0.63	0.24	3
	10	ISL	13.13	13.13	33.259	25.019	293.2	0.029	6.26	104.8	4.3	0.43	0.5	0.07	0.63	0.24	10
1	14		13.14	13.14	33.259	25.017	293.5	0.041	6.28	105.1	4.3	0.43	0.5	0.07	0.63	0.24	14
	20	ISL	13.15	13.15	33.258	25.015	293.9	0.059	6.25	104.6	4.2	0.42	0.5	0.07	0.64	0.23	20
1	25		13.15	13.15	33.257	25.014	294.1	0.073	6.22	104.1	4.2	0.42	0.5	0.07	0.64	0.22	25
	30	ISL	13.15	13.15	33.257	25.014	294.2	0.088	6.20	103.8	4.0	0.42	0.5	0.07	0.62	0.22	30
1	34		13.15	13.15	33.257	25.014	294.3	0.100	6.20	103.8	3.8	0.42	0.5	0.07	0.60	0.22	34
1	43		13.13	13.12	33.257	25.019	294.1	0.126	6.23	104.3	3.8	0.43	0.5	0.07	0.64	0.25	43
	50	ISL	13.08	13.07	33.258	25.030	293.3	0.147	6.20	103.7	3.7	0.44	0.6	0.10	0.73	0.28	50
1	54		13.02	13.01	33.249	25.035	292.9	0.159	6.18	103.2	3.7	0.44	0.6	0.11	0.75	0.31	54
1	63		12.71	12.70	33.281	25.120	285.0	0.185	6.01	99.7	4.3	0.52	1.5	0.32	0.53	0.43	63
1	73		12.57	12.56	33.273	25.142	283.2	0.213	5.89	97.4	4.5	0.57	2.3	0.58	0.32	0.31	74
	75	ISL	12.45	12.44	33.290	25.178	279.8	0.219	5.72	94.4	5.4	0.64	3.6	0.53	0.28	0.29	76
1	88		11.43	11.42	33.416	25.467	252.5	0.253	4.59	74.2	11.6	1.14	12.6	0.05	0.09	0.19	89
	100	ISL	10.46	10.45	33.424	25.646	235.6	0.282	4.62	73.1	13.1	1.23	14.5	0.03	0.03	0.11	101
1	103		10.24	10.23	33.425	25.684	232.0	0.290	4.63	72.9	13.3	1.24	14.7	0.02	0.03	0.09	104
1	122		9.34	9.33	33.586	25.959	206.1	0.331	4.13	63.8	19.4	1.52	19.7	0.01	0.00	0.05	123
	125	ISL	9.25	9.24	33.612	25.994	202.8	0.337	4.11	63.4	20.0	1.54	20.1	0.01	0.00	0.05	126
1	147		8.86	8.84	33.799	26.202	183.4	0.380	3.87	59.2	23.9	1.65	22.5	0.01	0.00	0.06	148
	150	ISL	8.84	8.82	33.825	26.226	181.2	0.385	3.73	57.0	25.0	1.70	23.2	0.01	0.00	0.06	151
1	177		8.67	8.65	34.004	26.393	165.8	0.432	2.57	39.2	34.0	2.08	28.4	0.01	0.00	0.04	178
	200	ISL	8.34	8.32	34.023	26.459	159.9	0.469	2.60	39.4	36.4	2.10	28.7	0.00	0.00	0.04	202
1	207		8.23	8.21	34.018	26.472	158.8	0.481	2.61	39.4	36.8	2.11	28.8	0.00	0.00	0.04	209
1	235		7.84	7.82	34.036	26.544	152.2	0.524	2.52	37.7	40.4	2.20	29.9	0.00			237
	250	ISL	7.75	7.73	34.061	26.577	149.3	0.547	2.29	34.2	42.7	2.28	30.7	0.00			252
1	275		7.61	7.58	34.098	26.626	145.0	0.584	1.88	28.0	46.9	2.42	32.1	0.00			277
	300	ISL	7.24	7.21	34.091	26.674	140.7	0.619	1.72	25.4	50.9	2.50	33.7	0.00			302
1	330		6.75	6.72	34.076	26.729	135.6	0.661	1.60	23.3	55.7	2.57	35.5	0.00			333
1	389		6.24	6.21	34.116	26.828	126.7	0.738	1.07	15.4	66.2	2.80	38.5	0.00			392
	400	ISL	6.28	6.24	34.142	26.844	125.4	0.752	0.96	13.9	67.0	2.84	38.8	0.00			403
1	454		6.47	6.43	34.267	26.918	119.4	0.818	0.52	7.5	70.3	2.98	39.9	0.01			458
	500	ISL	6.08	6.04	34.287	26.985	113.4	0.872	0.41	5.9	77.5	3.05	40.5	0.00			504
1	522		5.89	5.84	34.298	27.018	110.4	0.896	0.36	5.2	80.9	3.09	40.8	0.00			527"

RV DAVID STARR JORDAN CALCOFI CRUISE 8703 STATION 77 80

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
34 3.3 N	122 56.5 W	15/03/87	0602 GMT	4114 M	330	23 KT			1015.2 MB	12.7 C	9.2 C		

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
1	0	14.30	14.30	33.038	24.609	331.9	0.000			1.8	0.40	0.2	0.00	0.10	0.03	0
1	10	14.31	14.31	33.039	24.608	332.3	0.033	6.07	104.0	1.8	0.40	0.2	0.00	0.10	0.02	10
1	19	14.30	14.30	33.033	24.606	332.8	0.063	6.02	103.1	1.8	0.40	0.2	0.00	0.10	0.03	19
	20 ISL	14.30	14.30	33.033	24.606	332.9	0.066	6.01	102.9	1.8	0.40	0.2	0.00	0.10	0.03	20
1	30	14.29	14.29	33.030	24.606	333.1	0.100	5.98	102.4	1.8	0.40	0.2	0.00	0.10	0.06	30
1	40	14.07	14.06	33.012	24.638	330.3	0.133	6.03	102.7	1.7	0.40	0.2	0.00	0.14	0.05	40
1	50	13.95	13.94	33.014	24.665	328.1	0.166	6.00	102.0	1.7	0.40	0.2	0.00	0.24	0.09	50
1	60	13.94	13.93	33.040	24.687	326.2	0.199	6.01	102.1	1.8	0.41	0.2	0.00	0.22	0.11	60
1	70	13.72	13.71	33.056	24.745	320.9	0.231	5.93	100.3	2.0	0.44	0.5	0.10	0.30	0.46	71
	75 ISL	13.62	13.61	33.076	24.781	317.6	0.247	5.88	99.3	2.1	0.46	0.9	0.11	0.29	0.40	76
1	84	13.27	13.26	33.121	24.887	307.8	0.275	5.75	96.4	2.9	0.54	2.3	0.14	0.27	0.19	85
1	99	11.74	11.73	33.202	25.244	273.9	0.319	5.28	85.8	6.5	0.84	7.5	0.02	0.12	0.13	100
	100 ISL	11.68	11.67	33.210	25.26 1	272.3	0.321	5.25	85.2	6.8	0.86	7.8	0.02	0.11	0.13	101
1	118	10.92	10.91	33.353	25.510	248.9	0.368	4.70	75.1	11.5	1.16	12.9	0.01	0.05	0.07	119
	125 ISL	10.69	10.68	33.411	25.596	240.9	0.385	4.52	71.8	13.0	1.25	14.5	0.01	0.03	0.06	126
1	144	10.11	10.09	33.567	25.818	220.1	0.429	4.08	64.1	17.1	1.46	18.3	0.01	0.01	0.05	145
	150 ISL	9.85	9.83	33.618	25.901	212.3	0.442	3.96	61.9	19.0	1.53	19.5	0.01	0.01	0.04	151
1	173	9.00	8.98	33.807	26.187	185.4	0.488	3.47	53.2	26.3	1.78	23.8	0.00	0.00	0.03	174
	200 ISL	8.77	8.75	33.973	26.354	170.1	0.536	2.69	41.1	32.8	2.04	27.3	0.00	0.00	0.04	202
1	202	8.76	8.74	33.981	26.362	169.3	0.539	2.64	40.3	33.2	2.05	27.5	0.00	0.00	0.04	204
1	231	8.10	8.08	34.015	26.489	157.5	0.587	2.69	40.5	37.9	2.12	28.9	0.01			233
	250 ISL	7.90	7.87	34.047	26.544	152.5	0.616	2.43	36.4	41.1	2.22	30.1	0.01			252
1	269	7.77	7.74	34.078	26.588	148.7	0.645	2.10	31.4	44.4	2.33	31.4	0.00			271
	300 ISL	7.52	7.49	34.117	26.655	142.7	0.690	1.67	24.8	49.9	2.49	33.2	0.00			302
1	326	7.24	7.21	34.131	26.705	138.2	0.726	1.41	20.8	54.6	2.61	34.7	0.00			329
1	382	6.23	6.20	34.079	26.800	129.3	0.801	1.31	18.9	65.0	2.75	38.0	0.00			385
	400 ISL	6.08	6.05	34.090	26.828	126.7	0.824	1.18	16.9	67.9	2.80	38.7	0.00			403
1	449	5.84	5.80	34.140	26.898	120.6	0.885	0.78	11.1	74.8	2.94	40.3	0.00			453
	500 ISL	5.58	5.54	34.184	26.965	114.6	0.945	0.58	8.2	81.0	3.05	41.4	0.00			504
1	521	5.48	5.44	34.202	26.991	112.2	0.969	0.50	7.1	83.6	3.10	41.9	0.00			526

RV DAVID STARR JORDAN CALCOFI CRUISE 8703 STATION 77 90

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
33 43.3 N	123 38.2 W	15/03/87	0032 GMT	4114 M	320	17 KT	300 10 10	6	1015.2 MB	13.0 C	12.0 C	8/8	SC

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA •	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0 ISL	14.50	14.50	33.043	24.571	335.6	0.000	5.99	103.0	1.8	0.39	0.2	0.00	0.11	0.02	0
1	2	14.50	14.50	33.043	24.571	335.6	0.007	5.99	103.0	1.8	0.39	0.2	0.00	0.11	0.02	2
	10 ISL	14.52	14.52	33.040	24.565	-336.5	0.034	6.01	103.4	1.7	0.38	0.2	0.00	0.11	0.02	10
1	11	14.52	14.52	33.040	24.565	336.5	0.037			1.7	0.38	0.2	0.00	0.11	0.02	11
	20 ISL	14.51	14.51	33.041	24.568	336.5	0.067	6.03	103.7	1.5	0.38	0.2	0.00	0.11	0.02	20
1	21	14.51	14.51	33.041	24.568	336.5	0.071	6.03	103.7	1.5	0.38	0.2	0.00	0.11	0.02	21
	30 ISL	14.37	14.37	33.041	24.598	333.9	0.101	6.00	102.9	1.5	0.38	0.2	0.00	0.14	0.02	30
1	31	14.35	14.35	33.041	24.602	333.5	0.104	6.00	102.8	1.5	0.38	0.2	0.00	0.14	0.02	31
1	42	14.11	14.10	33.045	24.656	328.7	0.141	6.04	103.0	1.5	0.39	0.2	0.00	0.17	0.04	42
	50 ISL	14.03	14.02	33.041	24.669	327.6	0.167	6.02	102.5	1.5	0.39	0.2	0.00	0.20	0.07	50
1	51	14.02	14.01	33.041	24.671	327.5	0.170	6.02	102.5	1.5	0.39	0.2	0.00	0.20	0.07	51
1	60	13.91	13.90	33.051	24.702	324.8	0.199	5.98	101.6	1.7	0.39	0.2	0.02	0.37	0.23	60
1	71	13.74	13.73	33.070	24.752	320.4	0.235	5.93	100.4	1.9	0.43	0.6	0.12	0.36	0.16	72
	75 ISL	13.65	13.64	33.079	24.777	318.0	0.248	5.89	99.5	2.1	0.45	1.0	0.13	0.35	0.17	76
1	84	13.31	13.30	33.107	24.868	309.6	0.276	5.75	96.5	2.8	0.54	2.3	0.14	0.31	0.20	85
1	99	12.09	12.08	33.186	25.166	281.4	0.320	5.41	88.5	5.3	0.81	6.4	0.03	0.18	0.15	100
	100 ISL	12.02	12.01	33.189	25.182	280.0	0.323	5.39	88.1	5.5	0.82	6.6	0.03	0.17	0.15	101
1	118	10.93	10.92	33.275	25.448	254.9	0.371	4.98	79.5	9.4	1.03	11.1	0.02	0.07	0.10	119
	125 ISL	10.62	10.61	33.362	25.570	243.3	0.389	4.70	74.6	11.8	1.16	13.5	0.02	0.05	0.08	126
1	144	9.97	9.95	33.615	25.879	214.3	0.432	3.92	61.4	18.6	1.52	19.7	0.01	0.02	0.04	145
	150 ISL	9.78	9.76	33.669	25.953	207.4	0.445	3.75	58.5	20.4	1.60	21.0	0.01	0.01	0.04	151
1	172	9.19	9.17	33.814	26.162	187.8	0.488	3.30	50.9	26.0	1.79	24.3	0.01	0.00	0.03	173
	200 ISL	8.79	8.77	33.911	26.302	175.0	0.539	3.04	46.5	30.0	1.90	26.3	0.00	0.00	0.02	202
1	203	8.75	8.73	33.918	26.314	173.9	0.544	3.03	46.3	30.4	1.91	26.4	0.00	0.00	0.02	205
1	231	8.13	8.11	33.992	26.467	159.7	0.591	2.93	44.1	35.7	2.03	28.1	0.00			233
	250 ISL	7.87	7.85	34.010	26.519	154.8	0.621	2.81	42.1	38.4	2.09	29.1	0.00			252
1	270	7.67	7.64	34.016	26.553	151.9	0.651	2.64	39.3	41.0	2.15	30.1	0.00			272
	300 ISL	7.36	7.33	34.038	26.615	146.3	0.696	2.28	33.7	46.1	2.30	32.1	0.00			302
1	325	7.10	7.07	34.053	26.663	142.0	0.732	1.97	29.0	50.6	2.43	33.7	0.00			328
1	383	6.45	6.42	34.062	26.758	133.4	0.812	1.58	22.9	60.1	2.62	36.6	0.00			386
	400 ISL	6.27	6.23	34.065	26.784	131.0	0.835	1.45	20.9	63.0	2.68	37.5	0.00			403
1	449	5.81	5.77	34.083	26.857	124.4	0.897	1.10	15.7	71.4	2.84	39.7	0.01			453
	500 ISL	5.51	5.47	34.131	26.931	117.7	0.959	0.79	11.2	79.5	2.98	41.2	0.00			504
1	520	5.39	5.35	34.150	26.961	115.0	0.982	0.67	9.5	82.7	3.03	41.8	0.00			525

RV DAVID STARR JORDAN — CALCOFI CRUISE 8703 — STATION 77 100

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
33 23.3 N	124 19.4 W	14/03/87	1909 GMT	4305 M	270	16 KT	290 09 08	1	1018.5 MB	16.8 C	14.8 C	7/8	CC

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
1	0	15.43	15.43	33.263	24.540	338.6	0.000	5.84	102.4	1.6	0.34	0.2	0.00	0.06	0.01	0
	10 ISL	15.40	15.40	33.260	24.544	338.4	0.034	5.89	103.2	1.7	0.34	0.2	0.00	0.06	0.01	10
1	16	15.39	15.39	33.258	24.545	338.6	0.054	5.92	103.7	1.7	0.34	0.2	0.00	0.06	0.01	16
	20 ISL	15.31	15.31	33.240	24.549	338.3	0.068	5.93	103.7	1.8	0.35	0.2	0.00	0.06	0.01	20
	30 ISL	15.06	15.06	33.185	24.562	337.4	0.101	5.96	103.7	2.0	0.36	0.2	0.00	0.08	0.02	30
1	36	14.87	14.86	33.146	24.573	336.5	0.122	5.97	103.5	2.1	0.37	0.2	0.00	0.09	0.02	36
	50 ISL	14.46	14.45	33.069	24.601	334.2	0.169	5.98	102.7	2.1	0.38	0.2	0.00	0.15	0.04	50
1	56	14.29	14.28	33.043	24.617	332.9	0.189	5.98	102.4	2.1	0.38	0.2	0.00	0.18	0.06	56
1	71	14.00	13.99	33.023	24.662	328.9	0.238	6.00	102.1	2.1	0.41	0.2	0.00	0.28	0.13	72
	75 ISL	13.94	13.93	33.023	24.675	327.8	0.251	6.01	102.1	2.1	0.40	0.2	0.00	0.30	0.19	76
1	80	13.88	13.87	33.024	24.688	326.7	0.268	6.02	102.2	2.1	0.40	0.2	0.00	0.31	0.26	81
1	90	13.74	13.73	33.027	24.719	324.0	0.300	5.93	100.4	2.2	0.44	0.5	0.11	0.32	0.21	91
	100 ISL	13.55	13.54	33.040	24.768	319.6	0.333	5.86	98.8	2.7	0.47	1.1	0.16	0.26	0.18	101
1	101	13.51	13.50	33.044	24.779	318.5	0.336	5.85	98.5	2.8	0.47	1.2	0.17	0.25	0.18	102
1	111	12.76	12.75	33.146	25.007	297.0	0.366	5.52	91.6	4.8	0.67	4.6	0.03	0.18	0.19	112
1	124	11.47	11.45	33.261	25.340	265.4	0.403	5.02	81.1	8.9	0.96	10.0	0.02	0.09	0.11	125
	125 ISL	11.40	11.38	33.270	25.360	263.5	0.406	4.99	80.5	9.2	0.98	10.3	0.02	0.08	0.10	126
1	139	10.59	10.57	33.400	25.605	240.3	0.441	4.57	72.5	13.3	1.22	14.6	0.01	0.02	0.05	140
	150 ISL	10.08	10.06	33.530	25.794	222.5	0.466	4.16	65.3	17.1	1.42	17.8	0.01	0.01	0.06	151
1	159	9.76	9.74	33.634	25.929	209.8	0.486	3.84	59.9	20.2	1.56	20.2	0.01	0.00	0.07	160
1	179	9.40	9.38	33.799	26.117	192.3	0.526	3.32	51.4					0.00	0.03	180
	200 ISL	8.92	8.90	33.880	26.257	179.2	0.565	3.18	48.7	28.8	1.81	25.2	0.01	0.00	0.03	202
1	203	8.85	8.83	33.888	26.275	177.6	0.570	3.18	48.6	29.3	1.82	25.4	0.01	0.00	0.03	205
1	231	8.42	8.40	33.986	26.418	164.4	0.618	2.93	44.4	34.1	1.96	27.2	0.01			233
	250 ISL	8.10	8.07	34.007	26.483	158.4	0.649	2.84	42.7	36.9	2.02	28.2	0.01			252
1	271	7.76	7.73	34.014	26.53 9	153.3	0.682	2.72	40.6	40.1	2.09	29.4	0.00			273
	300 ISL	7.38	7.35	34.039	26.613	146.6	0.725	2.33	34.5	46.0	2.27	31.7	0.00			302
1	326	7.09	7.06	34.062	26.672	141.2	0.763	1.94	28.5	51.5	2.44	33.8	0.01			329
1	385	6.55	6.51	34.102	26.777	131.8	0.843	1.29	18.7	61.9	2.69	37.3	0.00			388
	400 ISL	6.42	6.38	34.108	26.799	129.8	0.863	1.17	16.9	64.2	2.74	38.0	0.00			403
1	450	6.05	6.01	34.138	26.870	123.4	0.926	0.85	12.2	71.0	2.89	39.7	0.00			454
	500 ISL	5.94	5.90	34.205	26.937	117.6	0.986	0.60	8.6	75.9	2.98	40.4	0.00			504
1	521	5.89	5.84	34.233	26.966	115.2	1.011	0.50	7.2	77.9	3.02	40.7	0.00			526

RV DAVID STARR JORDAN — CALCOFI CRUISE 8703 — STATION 80 51

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
34 27.0 N	120 31.4 W	13/03/87	0633 GMT	85 M	U0	07 KT			1020.2 MB	14.4 C	13.0 C		

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
1	0	13.97	13.97	33.361	24.927	301.6	0.000	6.38	108.7	2.3	0.33	0.5	0.02	0.82	0.18	0
1	10	13.80	13.80	33.372	24.971	297.8	0.030	6.31	107.2	2.8	0.37	0.8	0.04	0.96	0.19	10
1	20	13.31	13.31	33.421	25.109	284.9	0.059	6.00	100.9	4.5	0.53	2.5	0.13	1.51	0.28	20
	30 ISL	12.98	12.98	33.460	25.205	276.1	0.087	5.44	90.9	5.9	0.67	4.1	0.24	2.80	0.12	30
1	31	12.94	12.94	33.463	25.216	275.1	0.090	5.39	90.0	6.0	0.68	4.3	0.25	2.86	0.11	31
1	41	12.36	12.35	33.496	25.354	262.1	0.117	5.35	88.2	8.1	0.86	6.7	0.40	0.68	0.24	41
	50 ISL	11.99	11.98	33.527	25.449	253.3	0.140	4.86	79.5	10.5	1.04	10.0	0.51	0.47	0.46	50
1	51	11.96	11.95	33.531	25.457	252.5	0.142	4.80	78.5	10.7	1.06	10.4	0.52	0.45	0.48	51
1	61	11.70	11.69	33.561	25.530	245.9	0.167	4.42	71.9	12.3	1.18	12.1	0.39	0.38	0.47	61
1	75	10.90	10.89	33.696	25.780	222.3	0.200	3.64	58.2	19.9	1.51	17.2	0.22	0.25	0.41	76

RV DAVID STARR JORDAN — CALCOFI CRUISE 8703 — STATION 80 55

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
34 19.0 N	120 48.1 W	13/03/87	1016 GMT	829 M	300	15 KT			1020.3 MB	14.4 C	13.3 C		

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0 ISL	13.89	13.89	33.280	24.881	306.1	0.000	6.67	113.4	0.8	0.32	0.2	0.00	2.16	0.32	0
1	1	13.89	13.89	33.280	24.881	306.1	0.003	6.67	113.4	0.8	0.32	0.2	0.00	2.16	0.32	1
	10 ISL	13.67	13.67	33.327	24.963	298.5	0.030	6.87	116.3	1.6	0.31	0.2	0.00	2.43	0.42	10
1	11	13.63	13.63	33.334	24.977	297.3	0.033	6.88	116.4	1.7	0.31	0.2	0.00	2.48	0.44	11
	20 ISL	13.32	13.32	33.346	25.049	290.7	0.060	6.32	106.3	2.6	0.43	0.8	0.05	3.10	0.69	20
1	21	13.27	13.27	33.346	25.059	289.7	0.063	6.23	104.6	2.8	0.45	0.9	0.06	3.17	0.71	21
	30 ISL	12.61	12.61	33.346	25.189	277.5	0.088	5.48	90.8	5.7	0.75	5.4	0.20	0.86	0.58	30
1	31	12.54 A	12.54	33.348	25.204	276.1	0.091	5.40	89.3	6.1	0.78	6.0	0.21	0.58	0.57	31
1	41	12.17	12.16	33.423	25.334	264.0	0.118	5.04	82.7	8.2	0.94	8.6	0.16	0.36	0.20	41
1	50	11.55	11.54	33.493	25.504	248.0	0.141	4.52	73.3	11.9	1.19	12.5	0.07	0.19	0.19	50
1	60	11.00	10.99	33.573	25.666	232.8	0.165	4.14	66.3	14.6	1.35	15.4	0.03	0.13	0.18	60
1	70	10.71	10.70	33.659	25.784	221.8	0.188	3.80	60.5	17.3	1.50	17.6	0.03	0.09	0.17	71
	75 ISL	10.55	10.54	33.707	25.850	215.6	0.199	3.62	57.5	18.9	1.58	18.8	0.03	0.09	0.15	76
1	84	10.28	10.27	33.784	25.957	205.6	0.218	3.32	52.4	21.7	1.71	20.6	0.02	0.09	0.13	85
1	100	9.99	9.98	33.850	26.058	196.4	0.250	3.03	47.6	25.6	1.82	22.4	0.05	0.08	0.18	101
1	119	9.58	9.57	33.929	26.188	184.4	0.286	2.81	43.7	28.9	1.92	24.4	0.01	0.04	0.11	120
	125 ISL	9.51	9.50	33.942	26.210	182.4	0.297	2.76	42.9	29.5	1.94	24.8	0.01	0.04	0.11	126
1	144	9.39	9.37	33.968	26.250	178.9	0.331	2.65	41.1	31.0	1.99	25.5	0.01	0.03	0.10	145
	150 ISL	9.36	9.34	33.975	26.260	178.1	0.342	2.62	40.6	31.4	2.00	25.7	0.01	0.03	0.10	151
1	173	9.24	9.22	34.001	26.301	174.7	0.383	2.52	38.9	32.8	2.04	26.4	0.01	0.02	0.08	174
	200 ISL	9.06	9.04	34.036	26.357	169.8	0.429	2.39	36.8	35.0	2.10	27.3	0.01	0.02	0.09	202
1	203	9.04	9.02	34.040	26.364	169.3	0.434	2.37	36.4	35.2	2.11	27.4	0.01	0.02	0.09	205
1	231	8.82	8.80	34.086	26.435	163.0	0.481	2.22	34.0	37.0	2.18	28.3	0.01			233
	250 ISL	8.55	8.52	34.126	26.508	156.2	0.511	1.97	30.0	40.7	2.29	29.6	0.01			252
1	271	8.24	8.21	34.166	26.587	149.0	0.543	1.68	25.4	45.2	2.41	31.2	0.00			273
	300 ISL	7.99	7.96	34.190	26.644	144.0	0.586	1.44	21.6	49.0	2.52	32.5	0.00			302
1	325	7.85	7.82	34.199	26.672	141.8	0.621	1.30	19.5	51.4	2.58	33.2	0.00			328
1	383	7.57	7.53	34.222	26.731	137.0	0.702	1.03	15.3	55.4	2.69	34.6	0.01			386
	400 ISL	7.31	7.27	34.210	26.759	134.4	0.725	0.98	14.5	58.4	2.73	35.5	0.01			403
1	449	6.56	6.52	34.192	26.847	126.1	0.789	0.81	11.8	67.6	2.86	38.1	0.00			453
	500 ISL	6.36	6.31	34.260	26.928	119.1	0.852	0.52	7.5	73.7	2.98	39.3	0.00			504
1	519	6.28	6.23	34.285/	26.958	116.4	0.874	0.41	5.9	76.0	3.03	39.7	0.00			524

A) THE REPORTED TEMPERATURE IS THE MEAN of 12.49 AND 12.58 DEGREES CELSIUS.

RV DAVID STARR JORDAN — CALCOFI CRUISE 8703 — STATION 80 60

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
34 9.0 N	121 9.1 W	13/03/87	1426 GMT	2227 M	300	17 KT			1020.9 MB	14.5 C	12.7 C		

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0 ISL	13.78	13.78	33.182	24.828	311.1	0.000	6.17	104.6	2.3	0.41	0.2	0.00	0.30	0.06	0
1	1	13.78	13.78	33.182	24.828	311.1	0.003	6.17	104.6	2.3	0.41	0.2	0.00	0.30	0.06	1
1	10	13.75	13.75	33.183	24.836	310.7	0.031	6.16	104.4	2.7	0.41	0.2	0.00	0.30	0.06	10
	20 ISL	13.49	13.49	33.190	24.894	305.4	0.062	6.19	104.3	2.5	0.41	0.2	0.00	0.34	0.10	20
1	21	13.46	13.46	33.191	24.901	304.8	0.065	6.19	104.3	2.5	0.41	0.2	0.00	0.34	0.11	21
	30 ISL	13.38	13.38	33.203	24.927	302.6	0.092	6.15	103.4	2.6	0.43	0.2	0.01	0.65	0.22	30
1	31	13.38	13.38	33.205	24.928	302.5	0.095	6.14	103.3	2.6	0.43	0.2	0.01	0.68	0.23	31
1	41	13.27	13.26	33.244	24.981	297.7	0.125	6.00	100.7	2.8	0.48	1.1	0.10	0.76	0.25	41
	50 ISL	13.01	13.00	33.268	25.051	291.2	0.152	5.82	97.2	3.5	0.58	2.3	0.25	0.76	0.29	50
1	51	12.97	12.96	33.269	25.060	290.4	0.155	5.80	96.7	3.6	0.59	2.5	0.26	0.76	0.29	51
1	62	12.53	12.52	33.255	25.135	283.5	0.186	5.57	92.0	4.7	0.73	4.8	0.14	0.45	0.25	62
1	72	11.64	11.63	33.266	25.312	266.9	0.214	5.12	83.0	8.2	0.99	9.1	0.03	0.19	0.16	73
	75 ISL	11.42	11.41	33.269	25.354	262.8	0.222	5.03	81.2	9.0	1.05	10.1	0.03	0.15	0.14	76
1	84	10.85	10.84	33.307	25.486	250.5	0.245	4.76	75.9	11.4	1.21	12.7	0.02	0.09	0.10	85
1	99	10.17	10.16	33.526	25.775	223.3	0.280	4.14	65.1	16.5	1.50	17.9	0.01	0.02	0.06	100
	100 ISL	10.15	10.14	33.536	25.786	222.2	0.283	4.11	64.6	16.7	1.51	18.1	0.01	0.02	0.06	101
1	119	9.80	9.79	33.675	25.953	206.7	0.323	3.70	57.8	20.4	1.67	21.0	0.01	0.01	0.05	120
	125 ISL	9.65	9.64	33.712	26.007	201.6	0.336	3.60	56.0	21.7	1.72	21.9	0.01	0.01	0.05	126
1	145	9.16	9.14	33.813	26.166	186.9	0.374	3.33	51.3	25.8	1.85	24.3	0.00	0.00	0.04	146
	150 ISL	9.08	9.06	33.832	26.194	184.3	0.384	3.28	50.4	26.5	1.87	24.7	0.00	0.00	0.04	151
1	174	8.76	8.74	33.906	26.302	174.4	0.427	3.10	47.3	29.5	1.95	26.0	0.01	0.01	0.04	175
	200 ISL	8.31	8.29	33.980	26.430	162.6	0.471	3.00	45.4	33.8	2.02	27.4	0.01	0.01	0.04	**202**
1	204	8.23	8.21	33.989	26.449	160.9	0.477	2.98	45.0	34.6	2.03	27.6	0.01	0.01	0.04	206
1	233	7.64	7.62	34.017	26.558	150.8	0.522	2.73	40.7	40.7	2.14	29.7	0.01			235
	250 ISL	7.51	7.49	34.043	26.597	147.3	0.548	2.43	36.1	43.7	2.25	30.9	0.01			252
1	271	7.43	7.40	34.075	26.634	144.1	0.578	2.04	30.2	47.2	2.39	32.4	0.01			**273**
	300 ISL	7.22	7.19	34.103	26.686	139.6	0.619	1.66	24.5	51.9	2.52	34.1	0.00			**302**
1	325	7.05	7.02	34.124	26.726	136.0	0.654	1.40	20.6	55.6	2.61	35.3	0.00			**328**
1	384	6.79	6.75	34.190	26.814	128.4	0.732	0.87	12.7	62.1	2.81	37.4	0.00			**387**
	400 ISL	6.68	6.64	34.197	26.835	126.7	0.752	0.79	11.5	64.3	2.85	37.9	0.00			**403**
1	449	6.35	6.31	34.213	26.891	121.7	0.813	0.62	9.0	70.4	2.93	39.2	0.00			**453**
	500 ISL	6.25	6.21	34.250	26.934	118.4	0.874	0.48	6.9	73.6	2.99	39.8	0.00			**504**
1	520	6.21	6.16	34.264	26.950	117.1	0.898	0.43	6.2	74.8	3.02	40.0	0.00			**525**

RV DAVID STARR JORDAN — CALCOFI CRUISE 8703 — STATION 80 70

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
33 49.1 N	121 50.6 W	13/03/87	2054 GMT	3638 M	320	11 KT	290 09 08	1	1023.3 MB	16.0 C	14.0 C	2/8	CC

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
1	0	14.14	14.14	33.008	24.620	331.0	0.000	6.03	102.9	2.0	0.40	0.2	0.00	0.16	0.03	0
	10 ISL	13.86	13.86	32.992	24.666	326.9	0.033	6.06	102.8	1.9	0.41	0.2	0.00	0.18	0.03	10
1	16	13.69	13.69	32.982	24.693	324.5	0.052	6.08	102.8	1.9	0.41	0.2	0.00	0.19	0.03	16
	20 ISL	13.62	13.62	33.011	24.729	321.1	0.065	6.12	103.3	2.0	0.41	0.2	0.00	0.29	0.05	20
	30 ISL	13.49	13.49	33.092	24.819	312.9	0.097	6.20	104.4	2.4	0.40	0.2	0.00	0.53	0.11	30
1	31	13.48	13.48	33.101	24.828	312.0	0.100	6.21	104.6	2.4	0.40	0.2	0.00	0.55	0.12	31
1	41	13.40	13.39	33.131	24.867	308.5	0.131	6.20	104.3	2.5	0.41	0.2	0.01	0.56	0.16	41
1	50	13.13	13.12	33.215	24.986	297.4	0.158	6.16	103.1	3.0	0.44	0.6	0.08	0.66	0.21	50
1	60	12.85	12.84	33.287	25.098	287.1	0.188	5.95	99.0	4.1	0.55	1.9	0.29	0.53	0.29	60
1	70	12.85	12.84	33.308	25.114	285.8	0.216	5.96	99.2	4.3	0.55	2.0	0.29	0.66	0.45	71
	75 ISL	12.65	12.64	33.321	25.163	281.2	0.231	5.71	94.6	5.2	0.66	3.9	0.27	0.45	0.37	76
1	80	12.32	12.31	33.336	25.239	274.1	0.244	5.39	88.7	6.6	0.80	6.4	0.23	0.20	0.25	81
1	94	10.82	10.81	33.403	25.566	243.1	0.281	4.54	72.4	12.6	1.26	14.2	0.03	0.07	0.16	95
	100 ISL	10.41	10.40	33.459	25.681	232.2	0.295	4.29	67.8	14.9	1.39	16.4	0.02	0.04	0.12	101
1	109	9.97	9.96	33.539	25.819	219.3	0.315	4.03	63.1	17.8	1.53	18.8	0.01	0.02	0.08	110
1	125	9.53	9.52	33.585	25.927	209.2	0.349	3.93	60.9	20.1	1.62	20.5	0.01	0.01	0.06	126
1	149	9.09	9.07	33.818	26.181	185.5	0.397	3.39	52.1	26.3	1.82	24.1	0.01	0.00	0.04	150
	150 ISL	9.08	9.06	33.823	26.187	185.0	0.399	3.38	52.0	26.5	1.82	24.2	0.01	0.00	0.04	151
1	174	8.72	8.70	33.903	26.306	174.0	0.442	3.20	48.8	29.9	1.90	25.7	0.01	0.00	0.03	175
	200 ISL	8.25	8.23	33.964	26.426	163.0	0.486	3.22	48.6	33.4	1.95	26.8	0.01	0.00	0.03	202
1	204	8.18	8.16	33.971	26.442	161.4	0.492	3.22	48.5	34.0	1.96	27.0	0.01	0.00	0.03	206
1	233	7.81	7.79	33.999	26.519	154.5	0.538	2.95	44.1	38.4	2.08	28.7	0.00			**235**
	250 ISL	7.60	7.58	34.017	26.564	150.5	0.564	2.67	39.7	42.1	2.19	30.2	0.00			**252**
1	271	7.35	7.32	34.037	26.615	145.8	0.595	2.31	34.2	46.7	2.33	32.1	0.00			**273**
	300 ISL	7.05	7.02	34.052	26.669	141.0	0.636	1.99	29.2	51.4	2.46	33.8	0.00			**302**
1	326	6.80	6.77	34.062	26.711	137.3	0.673	1.76	25.7	55.3	2.55	35.1	0.00			**329**
1	385	6.22	6.19	34.100	26.818	127.6	0.751	1.13	16.3	66.4	2.81	38.6	0.00			**388**
	400 ISL	6.22	6.18	34.124	26.837	126.0	0.770	1.01	14.6	67.9	2.85	38.9	0.00			**403**
1	450	6.20	6.16	34.193	26.895	121.3	0.832	0.70	10.1	72.0	2.96	39.6	0.00			**454**
	500 ISL	5.82	5.78	34.202	26.950	116.3	0.891	0.59	8.4	78.6	3.05	40.9	0.00			**504**
1	520	5.67	5.63	34.206	26.972	114.4	0.914	0.54	7.7	81.2	3.08	41.4	0.00			**525**

RV DAVID STARR JORDAN CALCOFI CRUISE 8703 STATION 80 80

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
33 29.0 N	122 32.0 W	14/03/87	0205 GMT	3924 M	320	16 KT	300 10 11	1	1021.9 MB	14.5 C	11.5 C	3/8	CC

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0	ISL	14.50	14.50	33.100	24.615	331.4	0.000	6.06	104.2	2.2	0.38	0.2	0.00	0.16	0.02	0
1	1		14.50	14.50	33.100	24.615	331.4	0.003	6.06	104.2	2.2	0.38	0.2	0.00	0.16	0.02	1
	10	ISL	14.28	14.28	33.132	24.686	324.9	0.033	6.06	103.8	2.1	0.38	0.2	0.00	0.17	0.03	10
1	15		14.11	14.11	33.156	24.740	319.9	0.049	6.06	103.4	2.1	0.38	0.2	0.00	0.18	0.03	15
	20	ISL	14.01	14.01	33.154	24.760	318.2	0.065	6.06	103.2	2.1	0.38	0.2	0.00	0.21	0.04	20
	30	ISL	13.92	13.92	33.161	24.784	316.2	0.097	6.05	102.9	2.1	0.39	0.2	0.00	0.32	0.09	30
1	31		13.92	13.92	33.163	24.786	316.0	0.100	6.05	102.9	2.1	0.39	0.2	0.00	0.33	0.10	31
1	40		14.00	13.99	33.231	24.822	312.8	0.128	6.01	102.4	2.1	0.41	0.2	0.00	0.47	0.18	40
	50	ISL	13.94	13.93	33.245	24.845	310.9	0.159	5.99	101.9	2.2	0.40	0.3	0.04	0.58	0.25	50
1	51		13.93	13.92	33.246	24.848	310.6	0.162	5.99	101.9	2.2	0.40	0.3	0.05	0.59	0.25	51
1	61		13.45	13.44	33.171	24.888	307.0	0.193	5.97	100.5	2.6	0.45	0.6	0.14	0.54	0.26	61
1	71		13.01	13.00	33.188	24.990	297.7	0.224	5.84	97.4	3.5	0.54	2.1	0.29	0.22	0.18	72
	75	ISL	12.95	12.94	33.188	25.002	296.6	0.235	5.79	96.5	3.6	0.56	2.5	0.27	0.19	0.17	76
1	81		12.83	12.82	33.190	25.027	294.3	0.253	5.70	94.7	4.0	0.60	3.3	0.20	0.15	0.16	82
1	94		12.01	12.00	33.248	25.229	275.3	0.290	5.35	87.4	6.6	0.83	7.3	0.04	0.11	0.13	95
	100	ISL	11.36	11.35	33.282	25.376	201.4	0.306	5.11	82.4	8.7	0.97	9.9	0.03	0.08	0.11	101
1	109		10.42	10.41	33.349	25.594	240.7	0.329	4.74	74.9	12.2	1.19	13.8	0.01	0.04	0.08	II0
1	124		9.67	9.66	33.478	25.821	219.3	0.363	4.29	66.7	17.5	1.47	18.4	0.01	0.01	0.05	125
	125	ISL	9.64	9.63	33.490	25.835	217.9	0.366	4.26	66.2	17.8	1.48	18.6	0.01	0.01	0.05	126
1	148		9.25	9.23	33.745	26.098	193.4	0.413	3.58	55.2	23.8	1.73	22.9	0.00	0.00	0.04	149
	150	ISL	9.23	9.21	33.760	26.113	192.0	0.417	3.54	54.6	24.2	1.74	23.1	0.00	0.00	0.04	151
1	173		9.05	9.03	33.893	26.247	179.8	0.459	3.14	48.3	28.2	1.87	25.2	0.01	0.00	0.03	174
	200	ISL	8.61	8.59	33.992	26.393	166.2	0.506	2.75	41.9	33.1	2.04	27.4	0.00	0.00	0.03	202
1	202		8.58	8.56	33.997	26.402	165.4	0.509	2.73	41.5	33.5	2.05	27.6	0.00	0.00	0.03	204
1	232		8.22	8.20	34.055	26.502	156.3	0.558	2.41	36.4	38.6	2.19	29.5	0.01			234
	250	ISL	7.93	7.90	34.050	26.542	152.8	0.586	2.48	37.2	40.5	2.19	29.9	0.01			252
1	271		7.59	7.56	34.037	26.581	149.2	0.617	2.57	38.2	42.8	2.20	30.4	0.01			273
	300	ISL	7.21	7.18	34.055	26.649	143.0	0.660	2.18	32.1	48.8	2.37	32.7	0.01			302
1	326		6.94	6.91	34.082	26.708	137.7	0.696	1.71	25.1	54.5	2.55	34.9	0.01			329
1	383		6.65	6.61	34.147	26.799	129.7	0.772	1.11	16.2	62.3	2.79	37.4	0.00			386
	400	ISL	6.47	6.43	34.149	26.824	127.4	0.794	1.00	14.5	65.2	2.84	38.2	0.00			403
1	450		5.93	5.89	34.150	26.895	121.0	0.856	0.78	11.2	73.7	2.95	40.3	0.00			454
	500	ISL	5.62	5.58	34.188	26.963	114.8	0.915	0.61	8.7	80.6	3.05	41.5	0.00			504
1	522		5.49	5.45	34.205	26.993	112.2	0.940	0.53	7.5	83.6	3.09	42.0	0.00			527

RV DAVID STARR JORDAN CALCOFI CRUISE 8703 STATION 80 90

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
33 9.0 N	123 13.3 W	14/03/87	0751 GMT	4305 M	320	16 KT			1022.0 MB	14.0 C	10.9 C		

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
1	0		14.57	14.57	33.035	24.550	337.6	0.000	5.99	103.1	1.6	0.42	0.1	0.00	0.10	0.02	0
	10	ISL	14.56	14.56	33.034	24.552	337.7	0.034	6.01	103.5	1.5	0.44	0.2	0.00	0.11	0.02	10
1	16		14.55	14.55	33.034	24.554	337.7	0.054	6.02	103.6	1.5	0.45	0.2	0.00	0.11	0.02	16
	20	ISL	14.42	14.42	33.026	24.575	335.8	0.067	6.02	103.3	1.5	0.43	0.2	0.00	0.11	0.02	20
1	30		14.11	14.11	33.016	24.633	330.6	0.101	6.01	102.5	1.4	0.39	0.1	0.00	0.10	0.03	30
1	41		14.11	14.10	33.047	24.657	328.6	0.137	5.99	102.2	1.4	0.40	0.1	0.00	0.13	0.05	41
	50	ISL	14.04	14.03	33.067	24.687	325.9	0.167	6.00	102.2	1.5	0.39	0.1	0.00	0.20	0.10	50
1	51		14.03	14.02	33.068	24.690	325.7	0.170	6.00	102.2	1.5	0.39	0.1	0.00	0.21	0.11	51
1	60		13.89	13.88	33.060	24.713	323.8	0.199	5.97	101.4	1.6	0.42	0.2	0.03	0.35	0.16	60
1	71		13.24	13.23	33.080	24.861	309.9	0.234	5.84	97.9	2.4	0.51	1.4	0.17	0.35	0.18	72
	75	ISL	12.89	12.88	33.108	24.951	301.4	0.246	5.75	95.7	3.1	0.57	2.6	0.12	0.32	0.18	76
1	80		12.48	12.47	33.149	25.063	290.8	0.261	5.63	92.9	3.9	0.64	4.0	0.04	0.27	0.18	81
1	94		12.13	12.12	33.228	25.191	278.9	0.301	5.48	89.8	4.4	,0.70	5.2	0.03	0.17	0.17	95
	100	ISL	11.62	11.61	33.264	25.314	267.3	0.317	5.24	84.9	6.6	0.86	7.9	0.02	0.12	0.14	101
1	U0		10.74	10.73	33.337	25.529	246.9	0.343	4.78	76.0	11.0	1.16	12.8	0.01	0.05	0.08	111
1	125		10.15	10.14	33.461	25.728	228.3	0.379	4.31	67.7	15.2	1.38	16.9		0.02	0.05	126
1	149		9.47	9.45	33.736	26.056	197.5	0.430	3.52	54.6	22.7	1.69	22.4	0.00	0.00	0.03	150
	150	ISL	9.45	9.43	33.743	26.065	196.7	0.432	3.50	54.2	22.9	1.70	22.5	0.00	0.00	0.03	151
1	174		9.07	9.05	33.852	26.211	183.1	0.477	3.18	48.9	26.8	1.84	24.7	0.00	0.00	0.03	175
	200	ISL	8.68	8.66	33.938	26.340	171.3	0.523	3.04	46.3	30.6	1.94	26.3	0.00	0.00	0.03	202
1	204		8.62	8.60	33.948	26.357	169.7	0.530	3.02	46.0	31.2	1.95	26.5	0.00	0.00	0.03	206
1	232		8.08	8.06	33.998	26.479	158.5	0.576	2.82	42.4	36.0	2.05	28.4	0.00			234
	250	ISL	7.83	7.81	34.021	26.534	153.5	0.604	2.64	39.5	39.3	2.14	29.6	0.00			252
1	271		7.60	7.57	34.042	26.584	148.9	0.636	2.39	35.6	43.2	2.26	30.9	0.00			273
	300	ISL	7.30	7.27	34.072	26.650	143.0	0.678	1.97	29.1	48.7	2.42	32.9	0.00			302
1	325		7.05	7.02	34.092	26.701	138.4	0.713	1.63	23.9	53.2	2.54	34.5	0.00			328
1	383		f 44	6.41	34.097	26.787	130.7	0.791	1.27	18.4	62.0	2.72	37.3	0.00			386
	400	ISL	6.31	6.27	34.113	26.817	128.0	0.813	1.12	16.2	64.8	2.78	38.0	0.00			403
1	447		5.99	5.95	34.166	26.900	120.5	0.872	0.72	10.3	72.7	2.95	39.8	0.00			451
	500	ISL	5.62	5.58	34.212	26.982	113.0	0.934	0.49	7.0	80.6	3.06	41.3	0.00			504
1	515		5.52	5.48	34.225	27.005	111.0	0.950	0.43	6.1	82.8	3.09	41.7	0.00			519

RV DAVID STARR JORDAN — CALCOFI CRUISE 8703 — STATION 80 100

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
32 49.0 N	123 54.2 W	14/03/87	1322 GMT	4114 M	300	15 KT			1019.7 MB	15.0 C	11.7 C		

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
1	0	15.13	15.13	33.189	24.549	337.7	0.000	5.87	102.3	1.5	0.35	0.2	0.00	0.07	0.02	0
	10 ISL	15.12	15.12	33.187	24.549	338.0	0.034	5.87	102.3	1.5	0.35	0.2	0.01	0.08	0.02	10
1	15	15.12	15.12	33.186	24.549	338.2	0.051	5.87	102.3	1.5	0.35	0.2	0.01	0.08	0.02	15
	20 ISL	15.12	15.12	33.185	24.548	338.4	0.068	5.87	102.3	1.5	0.35	0.2	0.01	0.08	0.02	20
1	29	15.11	15.11	33.184	24.550	338.5	0.098	5.87	102.2	1.6	0.35	0.2	0.00	0.08	0.02	29
	30 ISL	15.10	15.10	33.183	24.552	338.4	0.101	5.87	102.2	1.6	0.35	0.2	0.00	0.08	0.02	30
1	41	14.93	14.92	33.165	24.575	336.5	0.139	5.89	102.2	1.5	0.35	0.2		0.09	0.02	41
	50 ISL	14.77	14.76	33.151	24.599	334.5	0.169	5.91	102.2	1.5	0.36	0.2	0.00	0.10	0.05	50
1	51	14.75	14.74	33.150	24.602	334.2	0.172	5.91	102.2	1.5	0.36	0.2	0.00	0.10	0.05	51
1	60	14.70	14.69	33.159	24.620	332.7	0.202	5.91	102.1	1.6	0.36	0.2	0.00	0.11	0.04	60
1	70	14.31	14.30	33.094	24.653	329.8	0.235	5.96	102.1	1.6	0.37	0.2	0.00	0.17	0.08	71
	75 ISL	14.04	14.03	33.064	24.686	326.8	0.252	5.95	101.3	1.7	0.39	0.2	0.03	0.25	0.13	76
1	78	13.88	13.87	33.049	24.707	324.8	0.261	5.95	101.0	1.7	0.40	0.2	0.05	0.30	0.16	79
1	94	13.38	13.37	33.055	24.814	315.0	0.313	5.83	97.9	2.9	0.49	1.4	0.14	0.29	0.18	95
	100 ISL	13.00	12.99	33.084	24.912	305.8	0.331	5.77	96.2	3.4	0.55	2.5	0.09	0.27	0.18	101
1	108	12.42	12.41	33.140	25.068	291.0	0.355	5.61	92.4	4.6	0.66	4.5	0.02	0.22	0.17	109
1	124	11.25	11.23	33.296	25.407	259.0	0.399	4.90	78.8	9.6	1.03	11.0	0.02	0.07	0.09	125
	125 ISL	11.19	11.17	33.305	25.425	257.3	0.402	4.87	78.2	9.9	1.05	11.3	0.02	0.07	0.09	126
1	148	10.13	10.11	33.536	25.790	222.8	0.457	4.16	65.4	16.6	1.42	17.8	0.01	0.01	0.05	149
	150 ISL	10.12	10.10	33.568	25.817	220.3	0.461	4.05	63.6	17.3	1.46	18.4	0.01	0.01	0.05	151
1	173	10.04	10.02	33.871	26.067	197.1	0.509	2.75	43.2	25.3	1.86	24.0	0.01	0.00	0.04	174
	200 ISL	9.64	9.62	34.045	26.27 1	178.3	0.560	2.05	32.0	31.5	2.12	27.4	0.01	0.00	0.03	202
1	203	9.59	9.57	34.056	26.287	176.7	0.565	2.01	31.3	32.0	2.14	27.6	0.01	0.00	0.03	205
1	231	9.34	9.31	34.144	26.397	166.8	0.613	1.70	26.3	35.6	2.28	29.2	0.01			233
	250 ISL	9.14	9.11	34.180	26.458	161.3	0.645	1.54	23.8	38.0	2.36	30.0	0.01			252
1	270	8.91	8.88	34.205	26.515	156.3	0.676	1.41	21.6	40.5	2.43	30.8	0.00			272
	300 ISL	8.59	8.56	34.225	26.581	150.4	0.722	1.26	19.2	43.9	2.51	31.8	0.00			302
1	323	8.34	8.31	34.229	26.622	146.7	0.757	1.17	17.7	46.5	2.57	32.5	0.00			326
1	382	7.57	7.53	34.221	26.730	137.0	0.840	1.00	14.9	54.2	2.71	34.9	0.00			385
	400 ISL	7.37	7.33	34.224	26.761	134.2	0.865	0.92	13.6	56.9	2.75	35.6	0.00			403
1	449	6.90	6.86	34.241	26.840	127.1	0.929	0.69	10.1	64.1	2.86	37.4	0.00			453
	500 ISL	6.58	6.53	34.264	26.902	121.7	0.992	0.55	8.0	69.3	2.96	38.7	0.00			504
1	520	6.45	6.40	34.273	26.927	119.6	1.016	0.49	7.1	71.3	3.00	39.2	0.00			525

RV DAVID STARR JORDAN — CALCOFI CRUISE 8703 — STATION 82 47

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
34 16.9 N	120 2.0 W	13/03/87	0222 GMT	580 M	280	12 KT	270 05 12	1	1020.1 MB	14.5 C	12.5 C	6/8	SC

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
1	0 A	13.52	13.52	33.378	25.033	291.6	0.000	7.05	119.0	0.3	0.22	0.2	0.01	2.43	0.45	0
1	10	13.34	13.34	33.378	25.069	288.4	0.029	7.05	118.6	0.5	0.22	0.2	0.00	2.66	0.46	10
	20 ISL	12.87	12.87	33.432	25.205	275.8	0.057	6.12	102.0	3.5	0.55	2.9	0.10	2.87	0.99	20
1	25	12.59	12.59	33.467	25.287	268.1	0.071	5.55	92.0	5.6	0.75	4.9	0.17	2.97	1.27	25
	30 ISL	12.32	12.32	33.493	25.359	261.4	0.084	5.19	85.5	7.7	0.89	7.1	0.28	2.58	1.26	30
1	40	11.85	11.84	33.544	25.488	249.4	0.110	4.67	76.2	11.5	1.11	11.1	0.44	1.65	1.23	40
	50 ISL	11.68	11.67	33.596	25.560	242.7	0.134	4.42	71.9	12.9	1.18	12.2	0.33	1.18	1.15	50
1	54	11.61	11.60	33.615	25.588	240.2	0.144	4.34	70.5	13.4	1.20	12.6	0.25	1.03	1.12	54
1	69	10.93	10.92	33.676	25.759	224.2	0.179	3.68	58.9	18.0	1.49	17.7	0.05	0.35	0.48	70
	75 ISL	10.75	10.74	33.703	25.812	219.3	0.192	3.53	56.3	19.3	1.55	18.7	0.04	0.31	0.51	76
1	84	10.55	10.54	33.744	25.879	213.1	0.211	3.37	53.5	20.9	1.61	19.8	0.03	0.24	0.64	85
1	98	10.36	10.35	33.802	25.957	206.0	0.241	3.10	49.0	23.4	1.73	21.4	0.04	0.24	0.51	99
	100 ISL	10.32	10.31	33.808	25.969	204.9	0.245	3.08	48.7	23.6	1.74	21.6	0.04	0.22	0.49	101
1	113	10.05	10.04	33.847	26.046	197.9	0.271	2.97	46.7	24.6	1.80	22.9	0.03	0.08	0.35	114
	125 ISL	9.84	9.83	33.893	26.117	191.3	0.294	2.81	44.0	26.4	1.88	24.0	0.02	0.08	0.33	126
1	143	9.58	9.56	33.958	26.211	182.7	0.328	2.60	40.5	29.2	1.98	25.4	0.01	0.08	0.30	144
	150 ISL	9.51	9.49	33.971	26.233	180.7	0.341	2.59	40.2	29.7	1.99	25.7	0.01	0.09	0.28	151
1	173	9.30	9.28	34.008	26.297	175.1	0.382	2.52	39.0	31.7	2.04	26.5	0.01	0.10	0.23	174
	200 ISL	9.07	9.05	34.081	26.391	166.6	0.428	2.01	30.9	36.5	2.22	28.5	0.01	0.04	0.23	202
1	202	9.05	9.03	34.087	26.399	165.9	0.431	1.97	30.3	36.9	2.24	28.7	0.01	0.04	0.23	204
1	239	8.63	8.60	34.156	26.520	155.0	0.491	1.44	22.0	43.8	2.46	31.0	0.00	0.03	0.17	241
	250 ISL	8.53	8.50	34.165	26.542	153.1	0.507	1.43	21.8	44.5	2.48	31.4	0.00	0.03	0.15	252
1	294	8.17	8.14	34.182	26.611	147.2	0.574	1.40	21.1	47.0	2.52	32.4	0.01	0.01	0.05	296
	300 ISL	8.11	8.08	34.184	26.621	146.3	0.582	1.35	20.3	48.1	2.55	32.6	0.01			302
1	373	7.43	7.39	34.208	26.740	135.8	0.685	0.63	9.3	63.8	2.91	34.8	0.00			376
	400 ISL	7.19	7.15	34.215	26.780	132.3	0.722	0.51	7.5	68.5	2.99	34.6	0.00			403
1	451	6.79	6.75	34.225	26.843	126.8	0.788	0.34	5.0	78.4	3.12	34.2	0.00			455
	500 ISL	6.53	6.48	34.233	26.884	123.3	0.849	0.11	1.6	91.7	3.30	30.3	0.00			504
1	503	6.52	6.47	34.233	26.885	123.3	0.853	0.10	1.5	92.6	3.31	30.0	0.00			507
1	533	6.45	6.40	34.234	26.896	122.7	0.889	0.04	0.6	101.6	3.47	25.4	0.00			538
1	553	6.40	6.35	34.234	26.903	122.2	0.914	0.07	1.0	111.9	3.68	19.2	0.00			558
1	569	6.39	6.34	34.234	26.904	122.4	0.934	0.06	0.9	116.1	3.87	16.6	0.01			574

A) SANTA BARBARA BASIN STATION.

RV DAVID STARR JORDAN — CALCOFI CRUISE 8703 — STATION 83 40.6

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
34 13.5 N	119 24.7 W	12/03/87	2154 GMT	37 M	300	11 KT	270 02 06	2	1020.2 MB	15.1 C	13.3 C	8/8	ST

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0 ISL	14.32	14.32	33.406	24.889	305.3	0.000	6.30	108.2	1.2	0.30	0.2	0.00	1.38	0.17	0
1	1	14.32	14.32	33.406	24.889	305.3	0.003	6.30	108.2	1.2	0.30	0.2	0.00	1.38	0.17	1
	10 ISL	14.04	14.04	33.409	24.950	299.8	0.030	6.19	105.7	1.5	0.35	0.5	0.02	2.49	0.14	10
1	11	13.99	13.99	33.410	24.961	298.8	0.033	6.17	105.2	1.5	0.36	0.5	0.02	2.63	0.14	11
	20 ISL	13.66	13.66	33.426	25.042	291.3	0.060	5.86	99.3	2.8	0.45	1.7	0.07	2.35	0.30	20
1	21	13.62	13.62	33.428	25.052	290.4	0.063	5.82	98.5	3.0	0.46	1.8	0.08	2.32	0.32	21
	30 ISL	13.38	13.38	33.442	25.111	285.0	0.089	5.53	93.1	4.2	0.60	2.7	0.13	1.28	0.47	30
1	31	13.35	13.35	33.443	25.118	284.4	0.091	5.50	92.6	4.3	0.62	2.8	0.14	1.17	0.49	31

RV DAVID STARR JORDAN CALCOFI CRUISE 8703 STATION 83 42

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
34 10.7 N	119 30.5 W	12/03/87	2017 GMT	126 M	280	09 KT	270 02 06	2	1021.9 MB	15.4 C	13.1 C	8/8	ST

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
1	0	14.05	14.05	33.414	24.952	299.3	0.000	6.77	115.6	0.3	0.18	0.2	0.00	1.33	0.14	0
	10 ISL	14.00	14.00	33.411	24.960	298.8	0.030	6.78	115.6	0.3	0.18	0.2	0.00	1.38	0.22	10
1	11	14.00	14.00	33.411	24.960	298.9	0.033	6.78	115.6	0.3	0.18	0.2	0.00	1.38	0.23	11
1	20	13.31	13.31	33.444	25.127	283.3	0.059	6.45	108.5	0.9	0.28	0.2	0.01	1.57	0.23	20
	30 ISL	12.45	12.45	33.505	25.344	262.9	0.086	5.08	83.9	7.0	0.82	6.9	0.25	1.15	0.49	30
1	31	12.38	12.38	33.511	25.362	261.2	0.089	4.95	81.7	7.6	0.87	7.6	0.28	1.10	0.52	31
1	41	12.10	12.09	33.535	25.434	254.5	0.115	4.71	77.3	9.5	1.00	9.5	0.34	1.04	0.77	41
	50 ISL	11.87	11.86	33.548	25.488	249.6	0.137	4.51	73.6	10.6	1.08	11.0	0.32	0.77	0.78	50
1	51	11.84	11.83	33.550	25.495	249.0	0.140	4.49	73.2	10.7	1.09	11.2	0.32	0.74	0.78	51
1	61	11.49	11.48	33.582	25.584	240.6	0.164	4.25	68.8	12.8	1.20	13.2	0.22	0.64	0.70	61
1	70	10.83	10.82	33.661	25.765	223.6	0.185	3.85	61.5	16.4	1.41	16.7	0.08	0.56	0.95	71
	75 ISL	10.70	10.69	33.677	25.800	220.4	0.196	3.78	60.2	17.2	1.45	17.5	0.06	0.45	0.73	76
1	83	10.62	10.61	33.691	25.825	218.2	0.214	3.72	59.1	17.9	1.49	18.1	0.04	0.29	0.30	84
1	97	10.32	10.31	33.749	25.923	209.2	0.244	3.44	54.4	20.7	1.62	19.8	0.05	0.30	0.37	98

RV DAVID STARR JORDAN CALCOFI CRUISE 8703 STATION 83 51

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
33 52.7 N	120 7.0 W	12/03/87	1402 GMT	100 M	320	10 KT			1021.1 MB	13.2 C	12.3 C		

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0 ISL	13.57	13.57	33.395	25.036	291.3	0.000	6.10	103.1	2.0	0.42	0.7	0.04	2.03	0.47	0
1	2	13.57	13.57	33.395	25.036	291.4	0.006	6.10	103.1	2.0	0.42	0.7	0.04	2.03	0.47	2
	10 ISL	13.53	13.53	33.394	25.043	290.9	0.029	6.10	103.0	1.8	0.43	0.7	0.04	2.12	0.45	10
1	12	13.51	13.51	33.394	25.048	290.6	0.035	6.10	103.0	1.8	0.43	0.7	0.04	2.14	0.45	12
	20 ISL	13.46	13.46	33.396	25.059	289.7	0.058	6.06	102.2	2.0	0.44	0.9	0.05	2.02	0.49	20
1	22	13.45	13.45	33.397	25.062	289.4	0.064	6.05	102.0	2.1	0.44	1.0	0.05	1.98	0.50	22
	30 ISL	13.41	13.41	33.409	25.080	288.0	0.087	5.89	99.2	2.8	0.49	1.7	0.07	1.93	0.53	30
1	33	13.40	13.40	33.422	25.092	286.9	0.096	5.80	97.7	3.2	0.52	2.1	0.08	1.91	0.55	33
1	43	13.10	13.09	33.461	25.183	278.6	0.124	5.44	91.1	5.1	0.65	3.8	0.14	1.31	0.66	43
	50 ISL	12.63	12.62	33.497	25.303	267.2	0.143	5.06	83.9	7.6	0.86	6.5	0.16	1.36	0.69	50
1	53	12.43	12.42	33.512	25.353	262.5	0.151	4.90	80.9	8.7	0.94	7.6	0.17	1.38	0.70	53
1	62	12.16	12.15	33.539	25.426	255.8	0.174	4.66	76.5	10.1	1.02	9.2	0.20	1.12	1.03	62
1	72	11.81	11.80	33.576	25.521	247.0	0.199	4.42	72.1	12.3	1.13	11.4	0.18	1.10	1.10	73
	75 ISL	11.69	11.68	33.587	25.552	244.1	0.207	4.30	69.9	13.0	1.18	12.2	0.18	0.99	0.96	76
1	81	11.46	11.45	33.609	25.612	238.6	0.221	4.07	65.9	14.4	1.28	13.9	0.18	0.76	0.67	82

RV DAVID STARR JORDAN CALCOFI CRUISE 8703 STATION 83 55

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
33 44.8 N	120 24.6 W	12/03/87	1019 GMT	1016 M	290	08 KT			1021.8 MB	15.2 C	13.9 C		

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0 ISL	14.22	14.22	33.306	24.833	310.6	0.000	6.09	104.3	2.3	0.36	0.1	0.00	0.53	0.12	0
1	1	14.22	14.22	33.306	24.833	310.7	0.003	6.09	104.3	2.3	0.36	0.1	0.00	0.53	0.12	1
	10 ISL	14.20	14.20	33.305	24.837	310.6	0.031	6.09	104.2	2.4	0.37	0.1	0.00	0.50	0.12	10
1	11	14.20	14.20	33.305	24.837	310.6	0.034	6.09	104.2	2.4	0.37	0.1	0.00	0.50	0.12	11
	20 ISL	14.08	14.08	33.315	24.870	307.8	0.062	6.08	103.8	2.4	0.37	0.2	0.01	0.54	0.11	20
1	22	14.04	14.04	33.322	24.884	306.5	0.068	6.08	103.7	2.4	0.37	0.2	0.01	0.56	0.11	22
1	30	13.79	13.79	33.394	24.991	296.5	0.092	5.98	101.5	2.6	0.41	0.6	0.04	0.69	0.26	30
1	41	13.57	13.56	33.424	25.059	290.2	0.125	5.80	98.1	3.3	0.48	1.5	0.10	0.72	0.30	41
	50 ISL	13.01	13.00	33.423	25.171	279.8	0.150	5.51	92.1	5.2	0.65	3.9	0.24	0.48	0.26	50
1	51	12.93	12.92	33.424	25.188	278.2	0.153	5.46	91.1	5.5	0.68	4.3	0.25	0.45	0.25	51
1	60	12.08	12.07	33.498	25.409	257.3	0.177	4.66	76.4	10.1	1.01	10.2	0.10	0.27	0.22	60
1	70	11.49	11.48	33.543	25.554	243.7	0.202	4.30	69.6	12.7	1.18	13.1	0.04	0.18	0.19	71
	75 ISL	11.13	11.12	33.583	25.651	234.6	0.214	4.10	65.9	14.7	1.29	14.9	0.02	0.13	0.16	76
1	84	10.56	10.55	33.654	25.807	219.9	0.235	3.81	60.5	18.0	1.46	17.8	0.01	0.06	0.12	85
1	99	10.33	10.32	33.695	25.879	213.4	0.267	3.67	58.0	19.4	1.53	19.1	0.01	0.04	0.10	100
	100 ISL	10.31	10.30	33.697	25.884	212.9	0.269	3.67	58.0	19.5	1.53	19.2	0.01	0.04	0.10	101
1	119	9.84	9.83	33.746	26.002	202.0	0.309	3.56	55.6	22.2	1.64	21.1	0.01	0.02	0.08	120
	'-25 ISL	9.71	9.70	33.771	26.043	198.2	0.321	3.46	53.9	23.4	1.68	21.8	0.01	0.02	0.07	126
1	143	9.40	9.38	33.853	26.159	187.6	0.355	3.11	48.2	27.0	1.82	24.0	0.00	0.02	0.06	144
	150 ISL	9.34	9.32	33.885	26.193	184.4	0.368	2.98	46.1	28.0	1.87	24.6	0.00	0.02	0.06	151
1	173	9.14	9.12	33.970	26.292	175.4	0.410	2.68	41.3	31.1	1.99	26.2	0.00	0.02	0.06	174
	200 ISL	8.53	8.51	33.998	26.410	164.6	0.456	2.73	41.5	34.8	2.04	27.7	0.00	0.00	0.03	202
1	202	8.49	8.47	34.000	26.418	163.9	0.459	2.73	41.5	35.1	2.05	27.8	0.00	0.00	0.03	204
1	231	8.38	8.36	34.141	26.546	152.3	0.505	1.80	27.3	43.0	2.38	30.8	0.00			233
	250 ISL	8.24	8.21	34.170	26.590	148.4	0.533	1.57	23.7	45.7	2.48	31.8	0.00			252
1	271	8.06	8.03	34.177	26.623	145.6	0.564	1.46	22.0	47.7	2.53	32.5	0.00			273
	300 ISL	7.87	7.84	34.198	26.668	141.7	0.606	1.26	18.9	50.8	2.61	33.5	0.00			302
1	326	7.72	7.69	34.215	26.703	138.7	0.642	1.11	16.6	53.5	2.67	34.3				329
1	385	7.33	7.29	34.250	26.787	131.5	0.722	0.80	11.8	60.3	2.83	36.2	0.00			3 88
	400 ISL	7.24	7.20	34.250	26.800	130.5	0.742	0.77	11.4	61.3	2.85	36.6	0.00			403
1	450	6.93	6.89	34.247	26.841	127.1	0.806	0.69	10.1	65.0	2.90	37.7	0.00			454
	500 ISL	6.58	6.53	34.274	26.910	121.0	0.868	0.54	7.9	71.9	2.99	39.0	0.00			504
1	520	6.44	6.39	34.286	26.938	118.5	0.892	0.48	7.0	74.7	3.03	39.5	0.00			525

RV DAVID STARR JORDAN CALCOFI CRUISE 8703 STATION 83 60

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
33 34.7 N	120 45.3 W	12/03/87	0634 GMT	1427 M	280	06 KT			1023.8 MB	14.9 C	13.5 C		

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
1	0	14.03	14.03	33.193	24.785	315.2	0.000	6.11	104.1	2.8	0.40	0.1	0.01	0.41	0.06	0
1	10	13.70	13.70	33.193	24.854	309.0	0.031	6.26	106.0	2.7	0.39	0.1	0.00	0.43	0.07	10
1	20	13.62	13.62	33.194	24.871	307.6	0.062	6.18	104.5	2.5	0.39	0.1	0.00	0.50	0.13	20
	30 ISL	13.61	13.61	33.256	24.921	303.1	0.093	6.04	102.1	2.6	0.41	0.1	0.04	0.60	0.21	30
1	31	13.61	13.61	33.263	24.927	302.6	0.096	6.03	101.9	2.6	0.41	0.1	0.05	0.61	0.22	31
1	41	13.49	13.48	33.290	24.972	298.6	0.126	5.91	99.7	2.8	0.46	0.6	0.13	0.55	0.20	41
	50 ISL	13.16	13.15	33.308	25.052	291.1	0.152	5.83	97.7	3.6	0.52	1.3	0.26	0.39	0.20	50
1	51	13.12	13.11	33.310	25.062	290.2	0.155	5.82	97.4	3.7	0.53	1.4	0.27	0.37	0.20	51
1	60	12.87	12.86	33.326	25.124	284.6	0.181	5.56	92.6	4.7	0.64	3.5	0.19	0.24	0.16	60
1	72	12.24	12.23	33.328	25.248	273.0	0.214	5.34	87.7	6.5	0.80	6.1	0.05	0.17	0.13	73
	75 ISL	12.10	12.09	33.381	25.315	266.7	0.223	5.12	83.9	7.8	0.89	7.6	0.07	0.17	0.16	76
1	84	11.67	11.66	33.553	25.529	246.5	0.246	4.42	71.8	12.2	1.15	12.3	0.13	0.18	0.24	85
1	98	10.91	10.90	33.629	25.727	228.0	0.279	3.94	63.0	16.2	1.38	16.6	0.04	0.14	0.22	99
	100 ISL	10.79	10.78	33.643	25.759	225.0	0.283	3.88	61.9	16.9	1.41	17.2	0.04	0.13	0.21	101
1	120	9.78	9.77	33.793	26.049	197.6	0.326	3.33	52.0	23.7	1.71	22.6	0.01	0.03	0.13	121
	125 ISL	9.75	9.74	33.833	26.085	194.3	0.335	3.19	49.8	24.8	1.77	23.4	0.01	0.03	0.12	126
1	143	9.62	9.60	33.923	26.177	185.9	0.370	2.78	43.3	28.1	1.92	25.2	0.01	0.03	0.11	144
	150 ISL	9.47	9.45	33.942	26.217	182.2	0.383	2.77	43.0	29.1	1.95	25.7	0.01	0.03	0.10	151
1	173	8.91	8.89	33.981	26.338	171.1	0.423	2.75	42.2	32.5	2.02	27.2	0.01	0.03	0.09	174
	200 ISL	8.38	8.36	34.043	26.469	159.0	0.468	2.51	38.0	37.6	2.16	29.6	0.01	0.02	0.09	202
1	202	8.35	8.33	34.048	26.477	158.2	0.471	2.48	37.5	38.0	2.17	29.8	0.01	0.02	0.09	204
1	231	8.25	8.23	34.132	26.559	151.0	0.516	1.86	28.1	43.2	2.40	31.9	0.00			233
	250 ISL	8.16	8.13	34.161	26.595	147.9	0.544	1.62	24.4	45.6	2.48	32.8	0.00			252
1	270	8.03	8.00	34.181	26.630	144.8	0.573	1.44	21.7	47.9	2.54	33.6	0.00			272
	300 ISL	7.72	7.69	34.205	26.695	139.0	0.616	1.19	17.8	52.4	2.65	35.2	0.00			302
1	326	7.43	7.40	34.224	26.752	133.9	0.651	1.00	14.8	56.6	2.75	36.5	0.00			329
1	383	6.90	6.86	34.274	26.865	123.7	0.725	0.58	8.5	65.8	2.94	38.8	0.00			386
	400 ISL	6.81	6.77	34.281	26.884	122.2	0.746	0.53	7.8	67.2	2.97	39.2	0.00			403
1	450	6.56	6.52	34.291	26.925	118.8	0.806	0.46	6.7	71.0	3.02	40.1	0.00			454
	500 ISL	6.10	6.06	34.289	26.984	113.5	0.864	0.39	5.6	77.9	3.10	41.6	0.00			504
1	521	5.91	5.86	34.289	27.008	111.3	0.888	0.36	5.2	80.8	3.13	42.2	0.00			526

RV DAVID STARR JORDAN CALCOFI CRUISE 8703 STATION 83 70

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
33 14.7 N	121 26.6 W	12/03/87	0128 GMT	3828 M	250	02 KT	280 08 09	1	1022.5 MB	16.8 C	15.1 C	4/8	CI

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0 ISL	14.46	14.46	33.205	24.705	322.9	0.000	6.01	103.3	2.2	0.39	0.2	0.00	0.20	0.05	0
1	2	14.46	14.46	33.205	24.705	322.9	0.006	6.01	103.3	2.2	0.39	0.2	0.00	0.20	0.05	2
	10 ISL	14.43	14.43	33.204	24.710	322.6	0.032	6.05	104.0	2.1	0.40	0.0	0.00	0.20	0.03	10
1	12	14.42	14.42	33.204	24.713	322.4	0.039	6.06	104.1	2.1	0.40	0.0	0.00	0.20	0.03	12
	20 ISL	14.35	14.35	33.205	24.728	321.2	0.064	6.01	103.1	2.0	0.39	0.0	0.00	0.20	0.05	20
1	22	14.33	14.33	33.205	24.733	320.9	0.071	6.00	102.9	2.0	0.39	0.0	0.00	0.20	0.06	22
	30 ISL	14.24	14.24	33.203	24.750	319.4	0.097	5.98	102.4	2.1	0.38	0.0	0.00	0.24	0.08	30
1	31	14.23	14.23	33.202	24.751	319.3	0.100	5.98	102.3	2.1	0.38	0.0	0.00	0.25	0.08	31
1	41	14.05	14.04	33.182	24.774	317.4	0.132	6.05	103.1	2.2	0.39	0.0	0.00	0.38	0.06	41
	50 ISL	13.97	13.96	33.182	24.791	316.1	0.160	6.04	102.8	2.4	0.39	0.1	0.01	0.42	0.08	50
1	53	13.96	13.95	33.191	24.800	315.3	0.170	6.04	102.8	2.4	0.39	0.1	0.01	0.43	0.09	53
1	63	14.05	14.04	33.283	24.853	310.6	0.201	5.92	101.0	2.2	0.41	0.2	0.03	0.47	0.14	63
1	71	13.23	13.22	33.272	25.011	295.6	0.225	5.65	94.8	4.0	0.58	2.5	0.13	0.33	0.20	72
	75 ISL	12.83	12.82	33.282	25.098	287.4	0.237	5.48	91.1	5.0	0.67	4.1	0.11	0.28	0.20	76
1	85	11.96	11.95	33.338	25.308	267.5	0.264	5.05	82.5	7.7	0.90	8.0	0.06	0.18	0.20	86
1	99	11.26	11.25	33.457	25.530	246.7	0.300	4.56	73.4	11.6	1.14	12.0	0.02	0.08	0.11	100
	100 ISL	11.21	11.20	33.465	25.545	245.3	0.303	4.53	72.9	11.9	1.16	12.3	0.02	0.08	0.11	101
1	U8	10.31	10.30	33.603	25.811	220.3	0.345	3.98	62.8	17.5	1.45	17.4	0.01	0.03	0.07	119
	125 ISL	10.04	10.03	33.655	25.898	212.1	0.360	3.82	59.9	19.6	1.54	19.0	0.01	0.02	0.06	126
1	1*3	9.50	9.48	33.782	26.087	194.4	0.397	3.46	53.7	24.6	1.74	22.4	0.01	0.00	0.04	144
	150 ISL	9.35	9.33	33.832	26.150	188.5	0.410	3.29	50.9	26.3	1.80	23.4	0.01	0.00	0.04	151
1	172	9.02	9.00	33.954	26.299	174.7	0.450	2.87	44.1	30.7	1.94	25.5	0.01	0.00	0.03	173
	200 ISL	8.82	8.80	33.988	26.358	169.7	0.498	2.82	43.1	33.1	1.99	26.2	0.01	0.00	0.03	202
1	201	8.81	8.79	33.988	26.359	169.6	0.500	2.82	43.1	33.2	1.99	26.2	0.01	0.00	0.03	203
1	229	8.40	8.38	34.051	26.472	159.2	0.546	2.48	37.6	38.1	2.14	28.4	0.01			231
	250 ISL	8.22	8.19	34.086	26.527	154.3	0.579	2.19	33.1	41.1	2.26	29.8	0.01			252
1	270	8.08	8.05	34.110	26.567	150.8	0.609	1.93	29.0	43.8	2.37	31.0	0.01			272
	300 ISL	7.73	7.70	34.125	26.631	145.1	0.654	1.69	25.2	48.1	2.48	32.6	0.00			302
1	323	7.44	7.41	34.130	26.677	141.0	0.687	1.54	22.8	51.8	2.55	33.9	0.00			326
1	381	6.74	6.70	34.155	26.793	130.3	0.765	1.03	15.0	63.2	2.78	37.6	0.00			384
	400 ISL	6.55	6.51	34.166	26.827	127.2	0.790	0.90	13.1	66.4	2.84	38.5	0.00			403
1	448	6.14	6.10	34.195	26.904	120.3	0.849	0.64	9.2	73.7	2.97	40.3	0.00			45 2
	500 ISL	5.81	5.77	34.216	26.962	115.1	0.910	0.50	7.1	80.4	3.05	41.6	0.00			504
1	520	5.69	5.65	34.225	26.984	113.2	0.933	0.44	6.3	83.0	3.08	42.1	0.00			525

RV DAVID STARR JORDAN CALCOFI CRUISE 8703 STATION 83 80

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
32 54.7 N	122 7.7 W	11/03/87	2010 GMT	4257 M	250	08 KT	270 05 10	1	1024.2 MB	16.8 C	15.3 C	7/8	SC

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0 ISL	14.39	14.39	33.204	24.719	321.6	0.000	6.01	103.2	2.2	0.40	0.1	0.00	0.21	0.04	0
1	1	14.39	14.39	33.204	24.719	321.6	0.003	6.01	103.2	2.2	0.40	0.1	0.00	0.21	0.04	1
	10 ISL	14.15	14.15	33.195	24.762	317.7	0.032	6.04	103.2	2.1	0.40	0.1	0.00	0.23	0.03	10
1	11	14.11	14.11	33.194	24.770	317.0	0.035			2.1	0.40	0.1	0.00	0.23	0.03	11
	20 ISL	!4.00	14.00	33.192	24.791	315.2	0.064	6.08	103.6	2.1	0.40	0.1	0.00	0.28	0.05	20
1	21	13.99	13.99	33.193	24.794	315.0	0.067	6.08	103.5	2.1	0.40	0.1	0.00	0.29	0.05	21
	30 ISL	13.87	13.87	33.236	24.852	309.6	0.095	6.06	103.0	2.2	0.39	0.1	0.00	0.41	0.09	30
1	31	13.86	13.86	33.241	24.858	309.1	0.098	6.06	103.0	2.2	0.39	0.1	0.00	0.43	0.10	31
1	41	13.72	13.71	33.259	24.901	305.3	0.129	6.05	102.5	2.2	0.41	0.2	0.03	0.64	0.21	41
	50 ISL	13.67	13.66	33.272	24.922	303.6	0.156	6.01	101.7	2.3	0.41	0.4	0.07	0.59	0.21	50
1	51	13.67	13.66	33.275	24.924	303.4	0.159	6.00	101.6	2.3	0.41	0.4	0.08	0.59	0.21	51
1	62	13.14	13.13	33.283	25.037	292.9	0.192	5.65	94.6	4.0	0.59	3.0	0.18	0.31	0.17	62
1	71	11.97	11.96	33.318	25.291	268.9	0.217	5.11	83.5	7.4	0.90	8.2	0.03	0.16	0.16	72
	75 ISL	11.75	11.74	33.330	25.341	264.1	0.228	4.99	81.1	8.2	0.97	9.4	0.03	0.13	0.15	76
1	86	11.39	11.38	33.374	25.441	254.8	0.256	4.76	76.8	10.2	1.09	11.6	0.02	0.09	0.13	87
1	100	10.55	10.54	33.510	25.697	230.8	0.290	4.30	68.2	14.9	1.34	16.2	0.01	0.05	0.08	101
1	121	9.85	9.84	33.677	25.947	207.3	0.336	3.74	58.5	20.8	1.59	20.6	0.00	0.02	0.05	122
	125 ISL	9.71	9.70	33.706	25.993	203.0	0.345	3.66	57.0	21.9	1.63	21.3	0.00	0.02	0.05	126
1	145	9.12	9.10	33.833	26.188	184.8	0.383	3.35	51.6	26.6	1.80	24.3	0.00	0.00	0.03	146
	150 ISL	9.03	9.01	33.857	26.221	181.7	0.393	3.29	50.5	27.6	1.83	24.8	0.00	0.00	0.03	151
1	175	8.72	8.70	33.949	26.342	170.6	0.437	3.01	45.9	31.6	1.94	26.5	0.00	0.00	0.03	176
	200 ISL	8.48	8.46	34.016	26.432	162.5	0.478	2.77	42.1	34.9	2.05	27.8	0.00	0.00	0.02	202
1	205	8.43	8.41	34.025	26.447	161.2	0.486	2.73	41.4	35.6	2.07	28.0	0.00	0.00	0.02	207
1	233	8.03	8.01	34.047	26.525	154.1	0.530	2.46	37.0	40.3	2.20	30.0	0.00			235
	250 ISL	7.78	7.76	34.050	26.564	150.5	0.556	2.35	35.1	43.0	2.26	31.0	0.00			252
1	273	7.47	7.44	34.054	26.612	146.3	0.590	2.20	32.6	46.9	2.34	32.3	0.00			275
	300 ISL	7.19	7.16	34.080	26.672	140.8	0.629	1.86	27.4	52.5	2.50	34.0	0.00			302
1	327	6.95	6.92	34.108	26.727	135.9	0.667	1.51	22.1	57.9	2.66	35.7	0.00			330
1	386	6.45	6.42	34.133	26.814	128.2	0.744	1.09	15.8	65.3	2.80	38.3	0.00			389
	400 ISL	6.35	6.31	34.141	26.834	126.4	0.762	1.01	14.6	67.2	2.84	38.8	0.00			403
1	451	6.03	5.99	34.176	26.903	120.3	0.825	0.76	10.9	74.0	2.96	40.4	0.00			455
	500 ISL	5.77	5.73	34.221	26.971	114.3	0.883	0.56	8.0	79.9	3.05	41.4	0.00			504
1	521	5.66	5.62	34.240	27.000	111.7	0.906	0.47	6.7	82.5	3.09	41.8	0.00			526

RV DAVID STARR JORDAN CALCOFI CRUISE 8703 STATION 83 90

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
32 34.7 N	122 48.7 W	11/03/87	1437 GMT	3733 M	250	10 KT	310 09 09	1	1022.6 MB	15.5 C	14.3 C	6/8	SC

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0 ISL	14.16	14.16	33.002	24.611	331.8	0.000	6.00	102.4	1.9	0.43	0.3	0.00	0.15	0.02	0
1	1	14.16	14.16	33.002	24.611	331.9	0.003	6.00	102.4	1.9	0.43	0.3	0.00	0.15	0.02	1
	10 ISL	14.14	14.14	33.005	24.618	331.4	0.033	6.10	104.1	1.9	0.41	0.2	0.00	0.16	0.02	10
1	11	14.14	14.14	33.005	24.618	331.5	0.036	6.11	104.3	1.9	0.41	0.2	0.00	0.16	0.02	11
	20 ISL	14.00	14.00	33.001	24.644	329.2	0.066	6.07	103.3	1.9	0.41	0.2	0.00	0.17	0.03	20
1	22	13.96	13.96	33.000	24.651	328.6	0.073	6.05	102.9	1.9	0.41	0.2	0.00	0.17	0.03	22
	30 ISL	13.84	13.84	32.997	24.674	326.6	0.099	6.06	102.8	2.0	0.41	0.2	0.00	0.19	0.05	30
1	32	13.81	13.81	33.001	24.683	325.8	0.106	6.06	102.7	2.0	0.41	0.2	0.00	0.19	0.05	32
1	41	13.67	13.66	33.082	24.775	317.4	0.134	6.02	101.8	2.1	0.44	0.2	0.05	0.53	0.15	41
1	49	13.50	13.49	33.128	24.845	310.9	0.160	5.89	99.3	2.7	0.49	1.0	0.28	0.39	0.17	49
	50 ISL	13.46	13.45	33.129	24.854	310.1	0.163	5.88	99.0	2.7	0.50	1.1	0.27	0.38	0.17	50
1	59	13.13	13.12	33.136	24.926	303.4	0.190	5.83	97.5	3.1	0.56	2.0	0.16	0.27	0.18	59
1	69	12.87	12.86	33.190	25.019	294.8	0.220	5.81	96.7	3.8	0.58	2.5	0.20	0.17	0.14	70
	75 ISL	12.55	12.54	33.198	25.087	288.4	0.238	5.66	93.5	4.7	0.67	4.0	0.13	0.13	0.11	76
1	83	12.03	12.02	33.215	25.200	277.8	0.260	5.37	87.8	6.4	0.83	6.8	0.02	0.10	0.08	84
1	96	11.14	11.13	33.330	25.453	254.0	0.295	4.78	76.7	10.5	1.12	12.0	0.01	0.06	0.07	97
	100 ISL	10.87	10.86	33.358	25.522	247.4	0.305	4.65	74.2	11.8	1.20	13.4	0.01	0.05	0.07	101
1	116	9.97	9.96	33.463	25.760	225.0	0.343	4.25	66.5	16.8	1.46	18.0	0.01	0.02	0.05	117
	125 ISL	9.72	9.71	33.524	25.849	216.7	0.363	4.08	63.5	18.7	1.54	19.5	0.01	0.02	0.05	126
1	141	9.43	9.41	33.636	25.984	204.1	0.396	3.82	59.1	21.7	1.65	21.4	0.00	0.01	0.04	142
	150 ISL	9.22	9.20	33.719	26.083	194.8	0.414	3.61	55.6	24.2	1.73	22.8	0.00	0.01	0.04	151
1	170	8.78	8.76	33.883	26.281	176.3	0.451	3.23	49.3	29.5	1.88	25.4	0.01	0.00	0.03	171
1	199	8.32	8.30	33.963	26.415	164.0	0.501	3.17	47.9	33.3	1.95	26.6	0.00	0.00	0.03	201
	200 ISL	8.31	8.29	33.966	26.419	163.7	0.502	3.15	47.6	33.5	1.96	26.7	0.00			202
1	227	8.04	8.02	34.018	26.500	156.3	0.546	2.68	40.3	38.4	2.13	29.1	0.00			229
	250 ISL	7.68	7.66	34.026	26.559	150.9	0.581	2.52	37.6	42.6	2.22	30.5	0.00			252
1	266	7.42	7.39	34.024	26.595	147.7	0.605	2.44	36.1	45.5	2.27	31.3	0.00			268
	300 ISL	7.03	7.00	34.040	26.662	141.7	0.654	2.10	30.8	51.4	2.41	33.4	0.00			302
i	318	6.85	6.82	34.050	26.695	138.7	0.679	1.89	27.6	54.5	2.49	34.5	0.00			321
1	378	6.29	6.26	34.094	26.804	128.9	0.759	1.22	17.6	65.4	2.78	38.1	0.00			381
	400 ISL	6.14	6.10	34.107	26.834	126.2	0.787	1.06	15.2	68.6	2.84	39.0	0.00			403
1	441	5.89	5.85	34.133	26.886	121.6	0.838	0.84	12.0	74.1	2.92	40.2	0.00			445
	500 ISL	5.56	5.52	34.185	26.968	114.3	0.908	0.57	8.1	82.3	3.05	41.6	0.00			504
1	509	5.51	5.47	34.193	26.980	113.2	0.918	0.53	7.5	83.6	3.07	41.8	0.00			513

RV DAVID STARR JORDAN CALCOFI CRUISE 8703 STATION 83 100

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
32 14.6 N	123 29.5 W	11/03/87	0926 GMT	4114 M	220	13 KT			1022.1 MB	15.4 C	14.2 C		

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0	ISL	14.22	14.22	33.006	24.601	332.7	0.000	6.04	103.2	2.8	0.40	0.2	0.00	0.17	0.01	0
1	2		14.22	14.22	33.006	24.601	332.7	0.007	6.04	103.2	2.8	0.40	0.2	0.00	0.17	0.01	2
	10	ISL	14.03	14.03	33.008	24.643	329.1	0.033	6.07	103.3	2.8	0.40	0.2	0.00	0.18	0.02	10
1	16		13.82	13.82	33.018	24.694	324.3	0.053	6.11	103.6	2.9	0.40	0.2	0.00	0.18	0.04	16
	20	ISL	13.69	13.69	33.033	24.732	320.8	0.066	6.13	103.7	2.9	0.40	0.2	0.00	0.21	0.06	20
1	30		13.41	13.41	33.077	24.823	312.4	0.097	6.18	103.9	3.0	0.40	0.2	0.00	0.31	0.12	30
1	41		13.32	13.31	33.115	24.871	308.2	0.131	6.23	104.6	3.0	0.40	0.2	0.00	0.46	0.16	41
1	50		13.21	13.20	33.135	24.909	304.8	0.159	6.14	102.9	3.0	0.42	0.3	0.06	0.87	0.34	50
1	60		13.08	13.07	33.157	24.952	301.0	0.189	6.00	100.2	3.2	0.45	0.7	0.16	0.76	0.34	60
1	70		12.82	12.81	33.206	25.041	292.7	0.219	5.84	97.1	4.1	0.56	2.5	0.26	0.44	0.24	71
	75	ISL	12.46	12.45	33.281	25.169	280.6	0.233	5.50	90.8	6.0	0.72	5.4	0.13	0.27	0.20	76
1	78		12.22	12.21	33.328	25.251	272.8	0.242	5.27	86.6	7.3	0.83	7.4	0.04	0.18	0.18	79
1	93		11.17	11.16	33.413	25.512	248.3	0.281	4.50	72.3	12.2	1.22	13.8	0.01	0.07	0.13	94
	100	ISL	10.78	10.77	33.461	25.619	238.2	0.298	4.33	69.0	13.9	1.31	15.6	0.01	0.04	0.10	101
1	109		10.34	10.33	33.524	25.744	226.4	0.319	4.17	65.8	16.0	1.40	17.3	0.00	0.02	0.07	II0
1	123		9.78	9.77	33.619	25.913	210.5	0.349	3.87	60.4	19.8	1.57	20.2	0.01	0.01	0.05	124
	125	ISL	9.73	9.72	33.632	25.931	208.8	0.353	3.83	59.7	20.2	1.59	20.5	0.01	0.01	0.05	126
1	147		9.25	9.23	33.757	26.108	192.4	0.398	3.53	54.5	24.4	1.72	23.1	0.01	0.00	0.04	148
	150	ISL	9.16	9.14	33.768	26.131	190.3	0.403	3.52	54.2	25.0	1.73	23.4	0.01	0.00	0.04	151
1	172		8.55	8.53	33.843	26.285	175.9	0.444	3.48	52.9	28.8	1.83	25.0	0.01	0.00	0.06	173
	200	ISL	8.30	8.28	33.955	26.412	164.3	0.491	3.21	48.5	33.0	1.94	26.6	0.00	0.00	0.03	202
1	203		8.29	8.27	33.966	26.422	163.5	0.496	3.17	47.9	33.5	1.95	26.8	0.00	0.00	0.03	205
1	230		7.92	7.90	34.013	26.514	155.0	0.539	2.70	40.5	39.3	2.13	29.3	0.00			232
	250	ISL	7.60	7.58	34.024	26.569	150.0	0.570	2.48	36.9	43.3	2.23	30.8	0.00			252
1	271		7.29	7.26	34.033	26.621	145.3	0.601	2.26	33.4	47.4	2.33	32.2	0.00			273
	300	ISL	7.07	7.04	34.076	26.685	139.5	0.642	1.79	26.3	52.7	2.50	34.1	0.00			302
1	325		6.93	6.90	34.114	26.735	135.1	0.676	1.40	20.5	57.0	2.64	35.6	0.00			328
1	385		6.40	6.37	34.140	26.826	126.9	0.755	0.99	14.3	65.7	2.83	38.3	0.00			388
	400	ISL	6.27	6.23	34.149	26.850	124.8	0.774	0.89	12.8	68.1	2.87	38.9	0.00			403
1	452		5.91	5.87	34.186	26.926	118.1	0.837	0.61	8.7	75.8	3.00	40.4	0.01			456
	500	ISL	5.75	5.71	34.228	26.979	113.5	0.892	0.47	6.7	80.7	3.08	41.1	0.01			504
1	523		5.67	5.63	34.249	27.006	111.2	0.918	0.40	5.7	83.0	3.12	41.5	0.01			528

RV DAVID STARR JORDAN CALCOFI CRUISE 8703 STATION 87 33

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
33 53.3 N	118 29.5 W	09/03/87	0048 GMT	60 M	230	08 KT	230 03 06	1	1016.4 MB	16.5 C	12.7 C	7/8	CU

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	S 103 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0	ISL	14.87	14.87	33.391	24.760	317.5	0.000	6.29	109.2	1.7	0.30	0.2	0.00	0.45	0.07	0
1	1		14.87	14.87	33.391	24.760	317.6	0.003	6.29	109.2	1.7	0.30	0.2	0.00	0.45	0.07	1
	10	ISL	14.64	14.64	33.380	24.802	313.9	0.032	6.73	116.3	1.9	0.28	0.1	0.01	0.76	0.11	10
1	11		14.60	14.60	33.379	24.809	313.2	0.035	6.79	117.2	1.9	0.28	0.1	0.01	0.80	0.11	11
	20	ISL	14.28	14.28	33.383	24.880	306.7	0.063	6.94	119.0	2.4	0.35	0.2	0.02	26.93	0.06	20
1	21	A	14.24	14.24	33.384	24.890	305.9	0.066	6.96	119.3	2.5	0.36	0.2	0.02	29.86	0.06	21
	30	ISL	14.00	14.00	33.392	24.946	300.8	0.093	6.69	114.1	3.4	0.39	0.3	0.04	22.41	0.14	30
1	32	A	13.94	13.94	33.394	24.960	299.5	0.099	6.60	112.4	3.6	0.40	0.4	0.05	17.63U	-0.79U	32
1	42		13.52	13.51	33.409	25.058	290.4	0.128	6.09	102.8	4.7	0.44	1.1	0.09	0.85	0.25	42
	50	ISL	13.17	13.16	33.422	25.139	282.9	0.151	5.63	94.4	6.3	0.62	2.9	0.13	1.20	0.23	50
1	52		13.08	13.07	33.425	25.159	281.0	0.157	5.51	92.2	6.7	0.67	3.4	0.14	1.29	0.22	52

A) UNUSUAL VALUES OF CHLOROPHYLL-A AND PHAEOPIGMENTS AT 21 AND 32 M MAY BE DUE TO THE PROXIMITY OF THIS STATION TO THE HYPERION WASTE-WATER OUTFALL.

RV DAVID STARR JORDAN CALCOFI CRUISE 8703 STATION 87 34

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
33 51.2 N	118 33.8 W	09/03/87	0208 GMT	81 M	230	13 KT	230 03 06	1	1017.0 MB	15.2 C	12.8 C	7/8	ST

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0	ISL	14.98	14.98	33.400	24.744	319.1	0.000	6.08	105.8	1.9	0.33	0.2	0.00	0.18	0.05	0
1	1		14.98	14.98	33.400	24.744	319.2	0.003	6.08	105.8	1.9	0.33	0.2	0.00	0.18	0.05	1
	10	ISL	14.87	14.87	33.396	24.765	317.4	0.032	6.20	107.6	1.9	0.33	0.2	0.00	0.19	0.05	10
1	11		14.85	14.85	33.396	24.769	317.1	0.035	6.21	107.7	1.9	0.33	0.2	0.00	0.19	0.05	11
	20	ISL	14.76	14.76	33.396	24.789	315.5	0.063	6.13	106.2	1.8	0.33	0.2	0.00	0.52	0.05	20
1	21		14.75	14.75	33.396	24.791	315.3	0.067	6.12	106.0	1.8	0.33	0.2	0.00	0.57	0.05	21
	30	ISL	14.49	14.49	33.396	24.846	310.3	0.095	6.03	103.9	2.2	0.36	0.4	0.02	0.90	0.13	30
1	32		14.41	14.41	33.396	24.863	308.7	0.101	6.00	103.2	2.3	0.37	0.5	0.03	0.97	0.15	32
1	42		13.92	13.91	33.391	24.962	299.6	0.131	5.77	98.2	3.3	0.50	1.7	0.09	1.30	0.29	42
	50	ISL	13.36	13.35	33.390	25.076	288.9	0.155	5.57	93.7	4.8	0.63	3.4	0.17	1.46	0.25	50
1	52		13.23	13.22	33.392	25.104	286.4	0.161	5.52	92.6	5.2	0.66	3.8	0.19	1.47	0.23	52
1	62		12.84	12.83	33.412	25.197	277.7	0.189	5.30	88.2	6.6	0.80	5.5	0.20	1.20	0.16	62
1	72		12.36	12.35	33.454	25.322	265.9	0.216	4.91	80.9	8.9	1.01	8.3	0.34	0.26	0.23	73

t

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
33 49.4 N	118 37.7 W	09/03/87	0313 GMT	685 M	260	12 KT			1017.1 MB	15.0 C	13.0 C		

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG-/L	PHAEO UG/L	PRESS D.BAR
	0	ISL	14.99	14.99	33.403	24.744	319.1	0.000	6.04	105.1	1.8	0.32	0.2	0.00	0.21	0.05	0
1	1		i4.99	14.99	33.403	24.744	319.2	0.003	6.04	105.1	1.8	0.32	0.2	0.00	0.21	0.05	1
	10	ISL	14.93	14.93	33.399	24.754	318.5	0.032	6.08	105.7	1.7	0.32	0.2	0.00	0.21	0.05	10
1	11		14.92	14.92	33.399	24.756	318.3	0.035	6.09	105.8	1.7	0.32	0.2	0.00	0.21	0.05	11
1	20		14.84	14.84	33.401	24.775	316.8	0.064	6.12	106.2	1.6	0.33	0.2	0.00	0.27	0.06	20
	30	ISL	14.43	14.43	33.400	24.862	308.7	0.095	6.53	112.3	1.7	0.30	0.2	0.00	1.75	0.06	30
1	31		14.37	14.37	33.400	24.875	307.6	0.098	6.56	112.7	1.7	0.30	0.2	0.00	1.87	0.06	31
1	40		13.81	13.80	33.398	24.990	296.8	0.125	6.19	105.1	2.9	0.40	0.9	0.05	1.18	0.16	40
1	50		13.53	13.52	33.393	25.044	292.0	0.155	5.85	98.8	4.1	0.53	1.9	0.10	1.05	0.29	50
1	60		13.21	13.20	33.398	25.112	285.7	0.184	5.61	94.1	5.3	0.67	3.4	0.15	1.71	0.11	60
1	70	A	12.60	12.59	33. .25	25.254	272.5	0.211	5.10	84.5	7.4	0.87	6.8	0.20	0.29 A	0.14 A	71
	75	ISL	12.35	12.34	33.4<»6	25.318	266.4	0.225	4.93	81.2	8.0	0.93	8.0	0.16	0.24	0.17	76
1	85		11.80	11.79	33.503	25.466	252.5	0.251	4.63	75.4	9.6	1.04	10.6	0.05	0.15	0.21	86
1	99		10.63	10.62	33.622	25.770	223.8	0.284	4.09	65.0	15.4	1.36	16.5	0.02	0.06	0.15	100
	100	ISL	10.58	10.57	33.632	25.787	222.2	0.286	4.05	64.3	15.8	1.38	16.8	0.02	0.06	0.15	101
1	118		10.02	10.CI	33.801	26.015	200.8	0.325	3.40	53.4	22.2	1.68	21.3	0.01	0.02	0.08	119
	125	ISL	9.91	9.90	33.858	26.078	195.0	0.338	3.18	49.8	24.3	1.77	22.5	0.01	0.02	0.07	126
1	143		9.75	9.73	33.976	26.197	184.0	0.372	2.73	42.6	28.5	1.95	24.8	0.01	0.01	0.06	144
	150	ISL	9.68	9.66	34.009	26.235	180.6	0.385	2.62	40.9	29.6	2.00	25.4	0.01	0.01	0.06	151
1	174		9.42	9.40	34.077	26.331	171.9	0.428	2.41	37.4	32.1	2.09	26.6	0.01	0.02	0.07	175
	200	ISL	9.00	8.98	34.072	26.395	166.2	0.471	2.47	38.0	33.7	2.12	27.2	0.01	0.01	0.05	202
1	204		8.93	8.91	34.069	26.404	165.4	0.478	2.49	38.2	33.9	2.12	27.3	0.01	0.01	0.05	206
1	231		8.60	8.58	34.086	26.469	159.6	0.522	2.37	36.1	36.8	2.18	28.6	0.01			233
	250	ISL	8.54	8.51	34.116	26.502	156.9	0.552	2.16	32.9	38.7	2.26	29.4	0.01			252
1	272		8.50	8.47	34.153	26.53 8	153.9	0.586	1.89	28.7	41.1	2.36	30.3	0.01			274
	300	ISL	8.22	8.19	34.175	26.598	148.6	0.629	1.64	24.8	44.9	2.48	31.5	0.00			302
1	325		7.93	7.90	34.187	26.651	143.8	0.665	1.45	21.8	48.4	2.57	32.5	0.00			328
1	384		7.43	7.39	34.209	26.741	136.0	0.748	1.11	16.5	55.8	2.72	35.1	0.00			387
	400	ISL	7.27	7.23	34.218	26.771	133.3	0.769	1.00	14.8	58.5	2.78	35.8	0.00			403
1	450		6.80	6.76	34.251	26.862	125.0	0.834	0.66	9.6	66.6	2.95	37.8	0.00			454
	500	ISL	6.56	6.51	34.288	26.924	119.7	0.895	0.47	6.8	71.5	3.04	38.8	0.00			504
1	520		6.47	6.42	34.303	26.948	117.7	0.919	0.40	5.8	73.4	3.08	39.2	0.00			525

A) SECOND FLOUROMETER READING NOT RECORDED. CHLOROPHYLL AND PHAEOPHYTIN CALCULATED WITH ASSUMED ACID RATIO INTERPOLATED FROM ADJACENT LEVELS.

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
33 44.4 N	118 48.1 W	09/03/87	0649 GMT	909 M	260	07 KT			1017.9 MB	15.0 C	13.0 C		

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
1	0	A	15.05	15.05	33.403	24.731	320.4	0.000	6.01	104.7	1.1	0.32	0.2	0.01	0.23	0.07	0
	10	ISL	14.93	14.93	33.401	24.755	318.3	0.032	5.99	104.1	1.1	0.32	0.2	0.00	0.23	0.06	10
1	11		14.92	14.92	33.401	24.758	318.2	0.035	5.99	104.1	1.1	0.32	0.2	0.00	0.23	0.06	11
	20	ISL	14.53	14.53	33.406	24.845	310.1	0.063	6.03	104.0	1.5	0.32	0.2	0.00	0.24	0.08	20
1	21		14.49	14.49	33.407	24.855	309.2	0.066	6.03	103.9	1.5	0.32	0.2	0.00	0.24	0.08	21
1	30		14.38	14.38	33.412	24.882	306.9	0.094	5.97	102.6	1.4	0.34	0.2	0.00	0.49	0.24	30
1	41		14.10	14.09	33.426	24.952	300.5	0.128	6.07	103.7	0.9	0.34	0.2	0.01	0.63	0.31	41
	50	ISL	13.41	13.40	33.427	25.094	287.2	0.154	5.41	91.2	4.3	0.63	3.2	0.23	0.53	0.33	50
1	51		13.33	13.32	33.427	25.111	285.6	0.157	5.33	89.7	4.7	0.66	3.6	0.25	0.51	0.33	51
1	61		12.88	12.87	33.445	25.214	276.0	0.185	5.05	84.2	7.0	0.79	6.0	0.25	0.40	0.38	61
1	71		12.14	12.13	33.483	25.387	259.8	0.212	4.63	76.0	9.0	0.98	9.3	0.07	0.30	0.32	72
	75	ISL	11.89	11.88	33.509	25.454	253.5	0.222	4.48	73.1	10.1	1.06	10.6	0.06	0.26	0.30	76
1	85		11.35	11.34	33.582	25.611	238.7	0.247	4.15	67.0	12.9	1.23	13.4	0.03	0.18	0.25	86
1	100		10.79	10.78	33.680	25.787	222.2	0.281	3.73	59.5	16.5	1.43	16.7	0.02	0.10	0.15	101
1	120		10.33	10.32	33.772	25.939	208.1	0.324	3.38	53.4	20.2	1.59	19.4	0.01	0.03	0.14	121
	125	ISL	10.17	10.16	33.785	25.977	204.6	0.335	3.37	53.1	21.0	1.62	20.0	0.01	0.03	0.13	126
1	145		9.54	9.52	33.831	26.119	191.5	0.374	3.31	51.4	24.0	1.70	22.2	0.01	0.02	0.08	146
	150	ISL	9.43	9.41	33.844	26.147	188.9	0.384	3.29	51.0	24.7	1.73	22.6	0.01	0.02	0.08	151
1	175		9.03	9.01	33.915	26.267	177.9	0.430	3.11	47.8	28.0	1.86	24.3	0.01	0.01	0.08	176
	200	ISL	8.80	8.78	33.997	26.368	168.7	0.473	2.75	42.1	31.9	2.01	26.2	0.00	0.01	0.12	202
1	204		8.77	8.75	34.010	26.383	167.4	0.480	2.68	41.0	32.5	2.03	26.5	0.00	0.01	0.13	206
1	232		8.54	8.52	34.086	26.478	158.8	0.525	2.24	34.1	37.1	2.21	28.4	0.01			234
	250	ISL	8.43	8.40	34.128	26.528	154.3	0.553	1.93	29.3	39.8	2.31	29.6	0.01			252
1	272		8.31	8.28	34.172	26.581	149.6	0.587	1.59	24.1	42.8	2.43	31.0	0.00			274
	300	ISL	8.10	8.07	34.210	26.643	144.2	0.628	1.30	19.6	46.5	2.56	32.3	0.00			302
1	326		7.89	7.86	34.233	26.693	139.9	0.665	1.11	16.6	49.7	2.65	33.2	0.00			329
1	385		7.39	7.35	34.251	26.780	132.3	0.745	0.82	12.2	56.8	2.79	35.0	0.00			388
	400	ISL	7.23	7.19	34.253	26.804	130.1	0.765	0.76	11.2	58.9	2.83	35.6	0.00			403
1	449		6.74	6.70	34.265	26.881	123.1	0.827	0.59	8.6	65.7	2.94	37.4	0.00			453
	500	ISL	6.43	6.38	34.299	26.949	117.1	0.888	0.42	6.1	71.0	3.04	38.8	0.00			504
1	517		6.34	6.29	34.311	26.971	115.3	0.908	0.37	5.4	72.7	3.07	39.1	0.00			522
1	590		5.93	5.88	34.345	27.051	108.3	0.990	0.26	3.7	80.8	3.14	39.8	0.00			595
	600	ISL	5.87	5.82	34.348	27.060	107.4	1.000	0.25	3.6	82.1	3.15	39.8	0.00			605
1	664		5.55	5.49	34.363	27.112	102.9	1.068	0.20	2.8	90.5	3.20	39.6	0.00			670
	700	ISL	5.40	5.34	34.372	27.137	100.8	1.104	0.18	2.5	94.6	3.25	39.2	0.00			706
1	737		5.28	5.22	34.379	27.157	99.1	1.141	0.15	2.1	98.7	3.29	38.3	0.00			744
	800	ISL	5.17	5.10	34.387	27.177	97.8	1.203	0.10	1.4	106.1	3.32	35.1	0.00			808
1	812		5.16	5.09	34.388	27.179	97.8	1.215	0.09	1.3	107.5	3.32	34.2	0.00			820
1	890		5.11	5.04	34.391	27.188	97.8	1.291	0.05	0.7	114.7	3.41	26.4	0.04			899

A) SANTA MONICA BASIN STATION.

RV DAVID STARR JORDAN CALCOFI CRUISE 8703 STATION 87 39.5

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
33 40.4 N	118 56.4 W	09/03/87	1024 GMT	919 M	010	09 KT			1017.1 MB	14.9 C	12.8 C		

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
1	0 A	14.95	14.95	33.403	24.752	318.3	0.000	5.93	103.1	1.4	0.32	0.2	0.00	0.19	0.04	0
1	10	14.94	14.94	33.403	24.755	318.4	0.032	5.93	103.1	1.3	0.32	0.2	0.00	0.18	0.05	10
1	20	14.63	14.63	33.407	24.825	312.0	0.063	6.00	103.6	1.1	0.31	0.2	0.00	0.25	0.08	20
	30 ISL	14.33	14.33	33.424	24.902	305.0	0.094	6.15	105.6	0.6	0.30	0.2	0.00	0.30	0.15	30
1	31	14.30	14.30	33.426	24.910	304.3	0.097	6.16	105.7	0.6	0.30	0.2	0.00	0.31	0.16	31
1	41	13.97	13.96	33.428	24.980	297.8	0.127	5.94	101.3	2.2	0.39	0.5	0.03	0.54	0.18	41
1	50	13.87	13.86	33.427	25.001	296.1	0.154	5.78	98.3	3.0	0.45	1.1	0.10	0.52	0.25	50
1	61	13.02	13.01	33.437	25.180	279.2	0.186	5.15	86.1	6.2	0.74	5.6	0.28	0.40	0.30	61
1	75	12.20	12.19	33.478	25.372	261.3	0.224	4.66	76.6	9.0	0.96	9.5	0.07	0.22	0.30	76
1	90	11.17	11.16	33.633	25.683	232.0	0.261	3.93	63.2	15.3	1.31	15.3	0.05	0.17	0.25	91
	100 ISL	10.73	10.72	33.701	25.814	219.6	0.283	3.66	58.3	17.9	1.46	17.7	0.03	0.10	0.18	101
1	II0	10.41	10.40	33.751	25.909	210.8	0.305	3.48	55.1	19.7	1.56	19.3	0.01	0.04	0.11	111
	125 ISL	10.07	10.06	33.811	26.014	201.0	0.336	3.25	51.1	22.2	1.66	21.1	0.01	0.04	0.10	126
1	134	9.90	9.88	33.842	26.067	196.2	0.353	3.14	49.2	23.6	1.71	22.0	0.01	0.04	0.10	135
	150 ISL	9.53	9.51	33.907	26.180	185.8	0.384	2.96	46.0	26.4	1.82	23.6	0.01	0.02	0.08	151
1	164	9.23	9.21	33.962	26.272	177.3	0.409	2.82	43.5	28.9	1.91	24.9	0.01	0.01	0.06	165
1	193	8.83	8.81	34.047	26.402	165.3	0.459	2.48	38.0	33.8	2.07	26.7		0.01	0.07	195
	200 ISL	8.79	8.77	34.064	26.422	163.6	0.471	2.38	36.4	34.7	2.11	27.1	0.00	0.01	0.07	202
1	222	8.72	8.70	34.109	26.469	159.6	0.506	2.07	31.6	37.1	2.23	28.3	0.00	0.01	0.06	224
	250 ISL	8.58	8.55	34.145	26.519	155.3	0.550	1.82	27.7	39.2	2.31	29.3	0.00			252
1	261	8.51	8.48	34.155	26.53 8	153.7	0.567	1.74	26.5	40.1	2.34	29.6	0.00			263
	300 ISL	8.11	8.08	34.193	26.628	145.6	0.626	1.38	20.8	45.8	2.50	31.4	0.00			302
1	315	7.93	7.90	34.206	26.666	142.3	0.647	1.24	18.6	48.3	2.56	32.2	0.00			318
1	372	7.29	7.25	34.238	26.783	131.6	0.725	0.84	12.4	57.1	2.78	34.9	0.00			375
	400 ISL	7.11	7.07	34.265	26.830	127.5	0.762	0.67	9.9	60.7	2.86	35.7	0.00			403
1	435	6.92	6.88	34.296	26.881	123.1	0.805	0.50	7.3	64.9	2.93	36.5	0.00			439
	500 ISL	6.43	6.38	34.320	26.966	115.6	0.883	0.34	4.9	72.9	3.03	37.9	0.01			504
1	504	6.40	6.35	34.321	26.971	115.2	0.888	0.33	4.8	73.4	3.04	38.0	0.01			508
1	576	5.93	5.88	34.354	27.057	107.4	0.968	0.22	3.2	82.5	3.13	38.9	0.01			581
	600 ISL	5.82	5.77	34.357	27.074	106.1	0.993	0.21	3.0	84.8	3.15	38.9	0.01			605
1	651	5.60	5.54	34.360	27.104	103.6	1.047	0.20	2.8	89.5	3.18	38.9	0.01			657
	700 ISL	5.37	5.31	34.373	27.142	100.3	1.097	0.18	2.5	95.3	3.22	38.2	0.00			706
1	724	5.28	5.22	34.379	27.157	99.0	1.121	0.17	2.4	98.2	3.24	37.6	0.00			731
1	799	5.17	5.10	34.386	27.177	97.9	1.194	0.07	1.0	106.3	3.32	33.7	0.01			806
	800 ISL	5.17	5.10	34.386	27.177	97.9	1.195	0.07	1.0	106.4	3.32	33.6	0.01			808
1	876	5.13	5.06	34.390	27.185	97.9	1.270	0.04	0.6	112.8	3.38	28.5	0.01			884

A) SANTA MONICA BASIN STATION.

RV DAVID STARR JORDAN CALCOFI CRUISE 8703 STATION 87 42

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
33 35.5 N	119 6.7 W	09/03/87	1400 GMT	268 M	310	09 KT	260 02 06		1016.5 MB				

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
1	0	14.73	14.73	33.390	24.790	314.8	0.000	5.95	103.0	1.7	0.35	0.0	0.00	0.18	0.05	0
1	9	14.69	14.69	33.389	24.798	314.3	0.028	6.06	104.8	1.8	0.36	0.0	0.00	0.19	0.06	9
	10 ISL	14.68	14.68	33.390	24.801	314.0	0.031	6.06	104.8	1.8	0.36	0.0	0.00	0.19	0.06	10
	20 ISL	14.53	14.53	33.394	24.836	311.0	0.063	6.01	103.6	1.6	0.35	0.1	0.00	0.21	0.05	20
1	21	14.52	14.52	33.394	24.838	310.8	0.066	6.01	103.6	1.6	0.35	0.1	0.00	0.21	0.05	21
1	30	14.03	14.03	33.390	24.938	301.5	0.093	5.84	99.7	2.3	0.44	0.7	0.07	0.53	0.27	30
1	38	13.79	13.78	33.396	24.993	296.5	0.117	5.78	98.1	2.9	0.49	1.6	0.10	0.58	0.27	38
1	48	13.09	13.08	33.397	25.135	283.2	0.146	5.38	90.0	5.2	0.69	4.8	0.13	0.62	0.49	48
	50 ISL	12.99	12.98	33.415	25.169	280.0	0.152	5.28	88.2	5.8	0.73	5.4	0.14	0.58	0.48	50
1	59	12.48	12.47	33.509	25.342	263.8	0.176	4.81	79.5	9.1	0.95	8.7	0.17	0.36	0.38	59
1	70	11.51	11.50	33.582	25.581	241.2	0.204	4.20	68.0	13.2	1.25	13.9	0.07	0.22	0.27	71
	75 ISL	11.26	11.25	33.622	25.658	234.0	0.216	4.01	64.6	15.1	1.34	15.6	0.07	0.19	0.26	76
1	84	10.97	10.96	33.687	25.761	224.4	0.237	3.77	60.4	18.0	1.47	17.8	0.07	0.17	0.24	85
1	100	10.55	10.54	33.746	25.881	213.3	0.272	3.54	56.2	20.4	1.60	19.7	0.04	0.11	0.23	101
1	119	10.25	10.24	33.806	25.980	204.3	0.311	3.21	50.7	23.5	1.72	21.7	0.03	0.11	0.18	120
	125 ISL	10.18	10.17	33.817	26.000	202.4	0.324	3.15	49.6	24.0	1.75	22.1	0.03	0.13	0.23	126
1	144	9.92	9.90	33.862	26.080	195.2	0.361	2.97	46.5	25.8	1.85	23.7	0.03	0.16	0.38	145
	150 ISL	9.79	9.77	33.892	26.125	191.0	0.373	2.86	44.7	27.2	1.90	24.5	0.03	0.14	0.37	151
1	169	9.37	9.35	33.994	26.274	177.2	0.408	2.47	38.3	32.1	2.09	27.1	0.01	0.07	0.29	170
1	194	8.91	8.89	34.091	26.424	163.3	0.450	2.05	31.4	37.2	2.28	29.7	0.00	0.03	0.19	196
	200 ISL	8.82	8.80	34.107	26.451	160.9	0.460	1.96	30.0	38.5	2.32	30.2	0.00			202
1	222	8.56	8.54	34.148	26.524	154.3	0.495	1.68	25.6	42.8	2.45	31.7	0.01			224
	250 ISL	8.42	8.39	34.166	26.560	151.3	0.538	1.55	23.5	45.1	2.50	32.5	0.01			252
1	253	8.41	8.38	34.168	26.563	151.1	0.542	1.54	23.4	45.4	2.51	32.6	0.01			255

RV DAVID STARR JORDAN CALCOFI CRUISE 8703 STATION 87 45

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
33 29.4 N	119 19.1 W	09/03/87	1549 GMT	1679 M	300	10 KT	290 02 06	1	1019.0 MB	16.7 C	14.1 C	6/8	SC

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
1	0	14.41	14.41	33.419	24.880	306.2	0.000	6.13	105.4	0.8	0.30	0.2	0.00	0.47	0.11	0
1	9	14.25	14.25	33.414	24.910	303.6	0.027	6.12	104.9	0.8	0.30	0.2	0.00	0.54	0.17	9
	10 ISL	14.24	14.24	33.414	24.912	303.4	0.030	6.12	104.9	0.8	0.30	0.2	0.00	0.56	0.18	10
1	20	14.16	14.16	33.420	24.934	301.6	0.061	6.13	104.9	0.7	0.31	0.2	0.00	0.91	0.25	20
1	30	14.03	14.03	33.423	24.964	299.1	0.091	6.08	103.8	0.9	0.34	0.2	0.01	1.37	0.30	30
1	40	13.24	13.23	33.457	25.151	281.4	0.120	5.44	91.4	4.7	0.64	3.9	0.14	0.76	0.47	40
1	49	13.10	13.09	33.464	25.185	278.5	0.145	5.28	88.4	5.1	0.71	4.8	0.16	0.77	0.40	49
	50 ISL	13.00	12.99	33.466	25.207	276.5	0.148	5.22	87.2	5.5	0.74	5.3	0.16	0.73	0.39	50
1	59	12.04	12.03	33.500	25.418	256.4	0.172	4.59	75.2	9.9	1.03	10.4	0.11	0.39	0.31	59
1	69	11.53	11.52	33.561	25.561	243.1	0.197	4.21	68.2	13.0	1.21	13.4	0.06	0.30	0.27	70
	75 ISL	11.23	11.22	33.605	25.650	234.8	0.211	3.99	64.3	14.9	1.33	15.2	0.04	0.23	0.24	76
1	83	10.87	10.86	33.663	25.760	224.4	0.229	3.72	59.5	17.2	1.47	17.4	0.02	0.14	0.20	84
1	98	10.42	10.41	33.742	25.900	211.4	0.262	3.38	53.5	20.8	1.63	20.2	0.02	0.07	0.15	99
	100 ISL	10.38	10.37	33.751	25.914	210.1	0.266	3.35	53.0	21.1	1.65	20.5	0.02	0.06	0.15	101
1	119	10.04	10.03	33.823	26.029	199.6	0.305	3.09	48.5	23.7	1.77	22.4	0.01	0.03	0.11	120
	125 ISL	9.94	9.93	33.847	26.064	196.3	0.317	3.01	47.2	24.7	1.81	23.0	0.01	0.03	0.10	126
1	144	9.64	9.62	33.920	26.172	186.4	0.353	2.76	43.0	27.9	1.93	24.8	0.01	0.02	0.08	145
	150 ISL	9.57	9.55	33.939	26.198	184.1	0.365	2.69	41.8	28.7	1.96	25.2	0.01	0.02	0.08	151
1	173	9.34	9.32	34.004	26.287	176.0	0.406	2.44	37.8	31.5	2.08	26.6	0.00	0.02	0.07	174
	200 ISL	8.99	8.97	34.080	26.403	165.5	0.452	2.11	32.4	35.6	2.22	28.5	0.00	0.02	0.08	202
1	202	8.96	8.94	34.085	26.412	164.7	0.455	2.09	32.1	35.9	2.23	28.6	0.00	0.02	0.08	204
1	231	8.71	8.69	34.131	26.487	158.0	0.502	1.85	28.3	39.5	2.34	30.0	0.00			233
	250 ISL	8.53	8.50	34.151	26.531	154.1	0.532	1.71	26.0	41.6	2.41	30.7	0.00			252
1	271	8.33	8.30	34.170	26.577	150.1	0.564	1.55	23.5	44.1	2.48	31.5	0.00			273
	300 ISL	8.02	7.99	34.201	26.648	143.7	0.606	1.26	18.9	49.0	2.61	33.0	0.01			302
1	324	7.76	7.73	34.226	26.706	138.4	0.640	1.03	15.4	53.2	2.71	34.2	0.01			327
1	382	7.27	7.23	34.274	26.815	128.9	0.718	0.63	9.3	61.4	2.91	36.5	0.01			385
	400 ISL	7.13	7.09	34.282	26.841	126.6	0.741	0.56	8.3	63.6	2.95	37.0	0.01			403
1	448	6.79	6.75	34.297	26.899	121.5	0.800	0.43	6.3	69.1	3.02	38.0	0.00			452
	500 ISL	6.47	6.42	34.315	26.957	116.5	0.862	0.34	4.9	74.4	3.09	38.9	0.00			504
1	518	6.36	6.31	34.321	26.976	114.8	0.883	0.31	4.5	76.3	3.12	39.2	0.00			523

RV DAVID STARR JORDAN CALCOFI CRUISE 8703 STATION 87 50

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
33 19.4 N	119 39.8 W	09/03/87	2127 GMT	81 M	320	15 KT	290 05 08	1	1018.5 MB	16.0 C	13.7 C	6/8	SC

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0 ISL	14.46	14.46	33.405	24.859	308.2	0.000	6.11	105.2	1.2	0.30	0.1	0.00	0.40	0.06	0
1	1	14.46	14.46	33.405	24.859	308.2	0.003	6.11	105.2	1.2	0.30	0.1	0.00	0.40	0.06	1
	10 ISL	14.41	14.41	33.400	24.866	307.8	0.031	6.11	105.1	1.2	0.30	0.1	0.00	0.40	0.07	10
1	11	14.40	14.40	33.400	24.868	307.7	0.034	6.11	105.1	1.2	0.30	0.1	0.00	0.40	0.07	11
	20 ISL	14.36	14.36	33.402	24.878	306.9	0.062	6.11	105.0	1.2	0.30	0.1	0.00	0.41	0.11	20
1	21	14.35	14.35	33.402	24.880	306.8	0.065	6.11	104.9	1.2	0.30	0.1	0.00	0.41	0.11	21
	30 ISL	14.15	14.15	33.385	24.909	304.2	0.092	6.11	104.5	1.4	0.33	0.1	0.00	0.66	0.16	30
1	32	14.09	14.09	33.382	24.920	303.4	0.098	6.11	104.4	1.4	0.34	0.1	0.00	0.73	0.17	32
1	42	13.75	13.74	33.400	25.004	295.5	0.128	5.89	99.9	2.8	0.46	1.0	0.05	0.90	0.24	42
	50 ISL	13.45	13.44	33.424	25.084	288.2	0.151	5.59	94.3	4.5	0.59	2.9	0.09	0.72	0.32	50
1	52	13.37	13.36	33.430	25.105	286.2	0.157	5.51	92.8	4.9	0.62	3.4	0.10	0.68	0.34	52

RV DAVID STARR JORDAN CALCOFI CRUISE 8703 STATION 87 55

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
33 9.5 N	120 0.5 W	10/03/87	0131 GMT	1226 M	320	23 KT	300 09 09	1	1018.2 MB	14.8 C	12.6 C	3/8	SC

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0 ISL	14.42	14.42	33.365	24.836	310.3	0.000	6.05	104.1	0.5	0.33	0.2	0.00	0.37	0.08	0
1	1	14.42	14.42	33.365	24.836	310.4	0.003	6.05	104.0	0.5	0.33	0.2	0.00	0.37	0.08	1
	10 ISL	14.42	14.42	33.365	24.837	310.6	0.031	6.05	104.0	0.5	0.34	0.2	0.00	0.37	0.09	10
1	11	14.42	14.42	33.365	24.837	310.6	0.034			0.5	0.34	0.2	0.00	0.37	0.09	11
	20 ISL	14.43	14.43	33.366	24.836	311.0	0.062	6.06	104.2	0.4	0.34	0.2	0.00	0.38	0.10	20
1	21	14.43	14.43	33.366	24.836	311.0	0.065	6.06	104.2	0.4	0.34	0.2	0.00	0.38	0.10	21
	30 ISL	14.37	14.37	33.370	24.852	309.7	0.093	6.11	105.0	0.7	0.34	0.2	0.00	0.39	0.11	30
1	31	14.36	14.36	33.370	24.854	309.6	0.096	6.11	104.9	0.7	0.34	0.2	0.00	0.39	0.11	31
1	41	14.20	14.19	33.380	24.896	305.9	0.127	6.07	103.9	0.9	0.35	0.2	0.00	0.64	0.22	41
	50 ISL	13.95	13.94	33.420	24.979	298.2	0.154	5.77	98.3	1.9	0.44	1.2	0.06	0.74	0.43	50
1	51	13.91	13.90	33.424	24.990	297.2	0.157	5.73	97.5	2.1	0.46	1.4	0.07	0.75	0.45	51
1	61	13.34	13.33	33.434	25.114	285.6	0.186	5.37	90.4	4.9	0.65	4.1	0.21	0.45	0.40	61
1	69	12.70	12.69	33.445	25.250	272.8	0.209	5.04	83.7	7.3	0.83	7.4	0.20	0.43	0.39	70
	75 ISL	12.34	12.33	33.456	25.328	265.5	0.225	4.88	80.4	8.6	0.93	9.0	0.16	0.38	0.37	76
1	84	11.81	11.80	33.487	25.452	253.8	0.248	4.65	75.8	10.7	1.08	11.4	0.08	0.29	0.32	85
1	98	10.66	10.65	33.596	25.745	226.2	0.282	4.06	64.6	16.0	1.38	17.0	0.02	0.13	0.22	99
	100 ISL	10.56	10.55	33.607	25.771	223.7	0.286	4.01	63.6	16.5	1.41	17.5	0.02	0.12	0.21	101
1	118	9.96	9.95	33.695	25.942	207.7	0.325	3.66	57.3	20.7	1.59	20.7	0.01	0.06	0.17	119
	125 ISL	9.75	9.74	33.738	26.011	201.3	0.339	3.52	54.9	22.4	1.66	21.8	0.01	0.05	0.15	126
1	143	9.30	9.28	33.845	26.168	186.6	0.374	3.20	49.4	26.5	1.81	24.2	0.01	0.03	0.11	144
	150 ISL	9.20	9.18	33.874	26.208	183.1	0.387	3.11	48.0	27.6	1.85	24.8	0.01	0.03	0.12	151
1	174	8.93	8.91	33.954	26.313	173.4	0.430	2.86	43.9	31.1	1.97	26.3	0.01	0.02	0.16	175
	200 ISL	8.52	8.50	34.031	26.438	162.0	0.474	2.62	39.8	35.7	2.11	28.1	0.00	0.01	0.05	202
1	201	8.50	8.48	34.033	26.442	161.5	0.475	2.61	39.6	35.9	2.11	28.2	0.00	0.01	0.05	203
1	230	8.16	8.14	34.039	26.499	156.6	0.521	2.60	39.2	38.4	2.14	29.1	0.00			232
	250 ISL	7.95	7.92	34.083	26.565	150.6	0.552	2.18	32.7	42.7	2.30	30.7	0.01			252
1	269	7.77	7.74	34.130	26.628	144.8	0.580	1.71	25.6	47.2	2.47	32.4	0.01			271
	300 ISL	7.58	7.55	34.165	26.684	140.0	0.624	1.39	20.7	51.4	2.59	33.9	0.01			302
1	324	7.46	7.43	34.184	26.716	137.3	0.658	1.24	18.4	53.9	2.65	34.7	0.00			327
1	383	7.10	7.06	34.254	26.823	128.0	0.736	0.77	11.3	61.2	2.87	36.5	0.00			386
	400 ISL	7.00	6.96	34.264	26.844	126.1	0.757	0.69	10.1	63.0	2.92	37.0	0.00			403
1	446	6.72	6.68	34.282	26.897	121.6	0.814	0.54	7.9	68.0	3.02	38.3	0.00			450
	500 ISL	6.31	6.26	34.306	26.970	115.0	0.878	0.39	5.6	74.6	3.07	39.8	0.00			504
1	516	6.19	6.14	34.314	26.992	113.0	0.897	0.35	5.0	76.5	3.09	40.2	0.00			520

RV DAVID STARR JORDAN CALCOFI CRUISE 8703 STATION 87 60

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
32 59.A N	120 21.0 W	10/03/87	0600 GMT	742 M	320	22 KT			1020.2 MB	13.8 C	11.9 C		

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0 ISL	14.23	14.23	33.247	24.785	315.2	0.000	6.00	102.7	2.0	0.38	0.2	0.00	0.28	0.06	0
1	1	14.23	14.23	33.247	24.785	315.3	0.003	6.00	102.7	2.0	0.38	0.2	0.00	0.28	0.06	1
	10 ISL	14.24	14.24	33.246	24.783	315.7	0.032	6.08	104.1	2.1	0.38	0.2	0.00	0.29	0.07	10
1	11	14.24	14.24	33.246	24.783	315.8	0.035	6.09	104.3	2.1	0.38	0.2	0.00	0.29	0.07	11
	20 ISL	14.25	14.25	33.245	24.780	316.3	0.063	6.03	103.3	2.0	0.38	0.2	0.00	0.28	0.06	20
1	21	14.25	14.25	33.245	24.780	316.3	0.066	6.02	103.1	2.0	0.38	0.2	0.00	0.28	0.06	21
1	30	14.25	14.25	33.245	24.781	316.5	0.095	5.99	102.6	2.0	0.39	0.2	0.00	0.31	0.07	30
1	41	14.05	14.04	33.250	24.826	312.4	0.129	6.05	103.2	2.0	0.39	0.3	0.01	0.42	0.08	41
	50 ISL	13.73	13.72	33.262	24.902	305.5	0.157	6.07	102.9	2.3	0.42	0.5	0.03	0.54	0.14	50
1	52	13.65	13.64	33.269	24.924	303.5	0.163	6.08	102.9	2.4	0.43	0.6	0.04	0.56	0.16	52
1	61	13.32	13.31	33.342	25.047	291.9	0.190	6.00	100.9	3.3	0.48	1.5	0.09	0.53	0.22	61
1	70	13.25	13.24	33.394	25.102	287.0	0.2.16	5.93	99.6	3.8	0.52	2.1	0.13	0.41	0.19	71
	75 ISL	12.89	12.88	33.385	25.166	280.9	0.230	5.66	94.3	5.0	0.64	4.1	0.12	0.32	0.16	76
1	84	12.02	12.01	33.375	25.326	265.9	0.255	5.08	83.1	7.7	0.89	8.5	0.09	0.18	0.13	85
1	99	10.73	10.72	33.517	25.671	233.2	0.292	4.59	73.1	12.3	1.18	13.8	0.02	0.12	0.16	100
	100 ISL	10.67	10.66	33.527	25.689	231.5	0.295	4.55	72.3	12.7	1.20	14.2	0.02	0.12	0.16	101
1	119	9.86	9.85	33.693	25.958	206.3	0.336	3.88	60.7	19.6	1.54	19.8	0.01	0.04	0.16	120
	125 ISL	9.71	9.70	33.730	26.011	201.2	0.349	3.73	58.1	21.2	1.60	20.7	0.01	0.03	0.13	126
1	143	9.39	9.37	33.826	26.139	189.4	0.384	3.31	51.2	25.6	1.76	22.9	0.00	0.01	0.04	144
	150 ISL	9.26	9.24	33.875	26.198	183.9	0.397	3.07	47.4	27.8	1.85	24.2	0.00	0.01	0.04	151
1	173	8.91	8.89	34.020	26.368	168.2	0.437	2.33	35.7	34.4	2.14	27.9	0.00	0.01	0.04	174
	200 ISL	8.79	8.77	34.095	26.446	161.3	0.482	1.90	29.1	38.3	2.31	29.6	0.00	0.01	0.04	202
1	203	8.79	8.77	34.099	26.449	161.1	0.487	1.87	28.6	38.6	2.32	29.7	0.00	0.01	0.04	205
1	232	8.73	8.71	34.127	26.481	158.6	0.533	1.72	26.3	39.9	2.36	30.3	0.00			234
	250 ISL	8.58	8.55	34.158	26.529	154.3	0.561	1.54	23.5	42.3.	2.44	31.2	0.00			252
1	270	8.37	8.34	34.193	26.589	149.0	0.591	1.33	20.2	45.4	2.54	32.2	0.00			272
	300 ISL	8.14	8.11	34.213	26.640	144.6	0.635	1.17	17.6	48.5	2.62	33.1	0.00			302
1	325	7.95	7.92	34.216	26.670	142.0	0.671	1.10	16.5	50.8	2.66	33.8	0.00			328
1	385	7.32	7.28	34.211	26.758	134.3	0.754	0.97	14.4	57.4	2.76	35.7	0.00			388
	400 ISL	7.19	7.15	34.218	26.782	132.1	0.774	0.90	13.3	59.2	2.80	36.2	0.00			403
1	450	6.81	6.77	34.248	26.858	125.4	0.838	0.66	9.6	65.3	2.92	37.7	0.00			454
	500 ISL	6.48	6.43	34.273	26.922	119.7	0.900	0.50	7.3	71.0	3.00	38.9	0.00			504
1	519	6.35	6.30	34.282	26.947	117.6	0.922	0.44	6.4	73.1	3.03	39.4	0.00			524

RV DAVID STARR JORDAN CALCOFI CRUISE 8703 STATION 87 70

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
32 39.4 N	121 2.0 W	10/03/87	1117 GMT	3828 M	300	13 KT			1019.8 MB	14.1 C	11.6 C		

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0 ISL	14.45	14.45	33.260	24.749	318.6	0.000	6.00	103.2	1.0	0.37	0.2	0.00	0.25	0.07	0
1	1	14.45	14.45	33.260	24.749	318.7	0.003	6.00	103.2	1.0	0.37	0.2	0.00	0.25	0.07	1
	10 ISL	14.46	14.46	33.259	24.747	319.2	0.032	6.06	104.2	1.0	0.37	0.2	0.00	0.25	0.07	10
1	15	14.46	14.46	33.258	24.746	319.4	0.048	6.10	104.9	1.0	0.37	0.2	0.00	0.25	0.07	15
	20 ISL	14.45	14.45	33.265	24.753	318.8	0.064	6.09	104.7	1.0	0.37	0.2	0.00	0.25	0.07	20
1	29	14.39	14.39	33.266	24.767	317.8	0.092	6.06	104.1	1.1	0.36	0.2	0.00	0.26	0.08	29
	30 ISL	14.38	14.38	33.277	24.778	316.8	0.096	6.06	104.1	1.0	0.36	0.2	0.00	0.27	0.08	30
1	39	14.22	14.21	33.362	24.877	307.6	0.124	6.08	104.1	0.6	0.35	0.2	0.00	0.34	0.15	39
1	49	13.82	13.81	33.331	24.937	302.2	0.154	5.84	99.2	1.9	0.46	1.3	0.06	0.73	0.33	49
	50 ISL	13.76	13.75	33.330	24.948	301.1	0.157	5.81	98.6	2.1	0.48	1.5	0.07	0.72	0.33	50
1	58	13.26	13.25	33.338	25.056	291.0	0.181	5.54	93.0	3.8	0.61	3.6	0.14	0.55	0.30	58
1	69	12.91	12.90	33.386	25.163	281.1	0.212	5.35	89.2	5.6	0.70	5.3	0.18	0.40	0.28	70
	75 ISL	11.98	11.97	33.401	25.353	263.0	0.229	5.04	82.4	8.1	0.90	8.7	0.08	0.25	0.21	76
1	76	11.81	11.80	33.405	25.388	259.7	0.231	4.98	81.1	8.6	0.93	9.3	0.06	0.22	0.20	77
1	92	10.78	10.77	33.521	25.665	233.6	0.271	4.56	72.7	13.0	1.19	14.0	0.02	0.09	0.15	93
	100 ISL	10.41	10.40	33.614	25.802	220.7	0.289	4.06	64.2	16.9	1.40	17.4	0.01	0.06	0.14	101
1	105	10.24	10.23	33.667	25.873	214.1	0.300	3.77	59.4	19.1	1.52	19.2	0.01	0.05	0.13	106
1	120	10.11	10.10	33.704	25.924	209.6	0.332	3.61	56.8	20.4	1.58	20.2	0.01	0.04	0.10	121
	125 ISL	9.96	9.95	33.726	25.967	205.6	0.342	3.52	55.2	21.5	1.63	21.0	0.01	0.03	0.09	126
1	144	9.29	9.27	33.822	26.152	188.2	0.379	3.17	49.0	26.6	1.83	24.4	0.00	0.00	0.04	145
	150 ISL	9.14	9.12	33.851	26.199	183.8	0.391	3.09	47.6	27.9	1.87	25.1	0.00	0.00	0.04	151
1	170	8.74	8.72	33.930	26.324	172.2	0.426	2.93	44.7	31.6	1.96	26.5	0.00	0.00	0.04	171
1	199	8.23	8.21	33.969	26.433	162.3	0.475	3.06	46.2	34.9	1.97	27.4	0.00	0.00	0.03	201
	200 ISL	8.21	8.19	33.970	26.437	161.9	0.476	3.06	46.2	35.0	1.97	27.4	0.00			202
1	226	7.85	7.83	33.991	26.507	155.6	0.518	2.87	42.9	38.6	2.07	28.9	0.00			228
	250 ISL	7.59	7.57	34.012	26.561	150.7	0.554	2.60	38.7	42.6	2.18	30.4	0.00			252
1	267	7.44	7.41	34.027	26.595	147.8	0.580	2.39	35.4	45.5	2.26	31.4	0.00			269
	300 ISL	7.22	7.19	34.057	26.650	143.0	0.628	1.99	29.3	50.0	2.41	33.2	0.00			302
1	321	7.06	7.03	34.072	26.684	140.0	0.657	1.75	25.7	53.0	2.50	34.3	0.00			324
1	379	6.31	6.28	34.085	26.794	129.8	0.736	1.27	18.3	63.8	2.75	37.8	0.00			382
	400 ISL	6.14	6.10	34.098	26.827	126.9	0.763	1.11	16.0	67.1	2.82	38.7	0.00			403
1	444	5.91	5.87	34.139	26.888	121.5	0.817	0.79	11.3	72.8	2.95	40.0	0.00			448
	500 ISL	5.87	5.83	34.230	26.966	114.9	0.883	0.48	6.9	77.7	3.06	40.7	0.00			504
1	513	5.86	5.82	34.251	26.984	113.3	0.898	0.41	5.9	78.8	3.08	40.9	0.00			517

RV DAVID STARR JORDAN CALCOFI CRUISE 8703 STATION 87 80

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
32 19.4 N	121 A3.0 W	10/03/87	1637 GMT	3924 M	280	13 KT	290 05 10	1	1022.0 MB	14.7 C	13.0 C	4/8	CU

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0	ISL	14.44	14.44	33.176	24.687	324.6	0.000	5.96	102.4	2.1	0.38	0.2	0.00	0.13	0.03	0
1	1		14.44	14.44	33.176	24.687	324.6	0.003	5.96	102.4	2.1	0.38	0.2	0.00	0.13	0.03	1
	10	ISL	14.43	14.43	33.176	24.689	324.7	0.032	6.01	103.3	2.0	0.38	0.2	0.00	0.13	0.03	10
1	17		14.43	14.43	33.175	24.688	324.9	0.055	6.06	104.1	1.9	0.38	0.2	0.00	0.13	0.03	17
	20	ISL	14.37	14.37	33.186	24.709	323.0	0.065	6.06	104.0	1.9	0.38	0.2	0.00	0.14	0.03	20
	30	ISL	14.16	14.16	33.220	24.780	316.6	0.097	6.04	103.2	2.1	0.37	0.2	0.00	0.19	0.05	30
1	32		14.11	14.11	33.227	24.796	315.1	0.103	6.03	103.0	2.1	0.37	0.2	0.00	0.20	0.05	32
1	41		14.00	13.99	33.228	24.820	313.1	0.131	6.02	102.6	2.3	0.38	0.2	0.00	0.28	0.11	41
	50	ISL	13.83	13.82	33.237	24.862	309.3	0.159	5.96	101.2	2.4	0.41	0.3	0.04	0.42	0.15	50
1	52		13.79	13.78	33.241	24.873	308.3	0.166	5.95	100.9	2.4	0.42	0.4	0.05	0.44	0.16	52
1	60		13.69	13.68	33.266	24.913	304.7	0.190	5.92	100.2	2.5	0.43	0.7	0.10	0.37	0.17	60
1	70		13.37	13.36	33.285	24.993	297.3	0.220	5.67	95.4	3.7	0.55	2.6	0.18	0.28	0.17	71
	75	ISL	12.91	12.90	33.300	25.096	287.6	0.235	5.39	89.8	5.4	0.70	5.1	0.15	0.24	0.17	76
1	80		12.39	12.38	33.327	25.218	276.0	0.249	5.08	83.7	7.4	0.87	7.9	0.10	0.21	0.16	81
1	95		11.16	11.15	33.493	25.576	242.3	0.288	4.29	68.9	13.1	1.27	15.0	0.03	0.12	0.15	96
	100	ISL	10.91	10.90	33.517	25.639	236.3	0.300	4.19	67.0	14.0	1.33	16.0	0.02	0.11	0.14	101
1	108		10.58	10.57	33.550	25.723	228.4	0.318	4.09	64.9	15.4	1.40	17.1	0.01	0.09	0.12	109
1	124		9.76	9.75	33.695	25.976	204.6	0.353	3.68	57.4	21.0	1.63	21.2	0.01	0.02	0.05	125
	125	ISL	9.73	9.72	33.701	25.985	203.7	0.355	3.66	57.1	21.3	1.64	21.4	0.01	0.02	0.05	126
1	149		9.20	9.18	33.806	26.154	188.1	0.402	3.30	50.9	25.9	1.81	24.1	0.00	0.00	0.03	150
	150	ISL	9.18	9.16	33.810	26.160	187.5	0.404	3.29	50.7	26.1	1.81	24.2	0.00	0.00	0.03	151
1	173		8.82	8.80	33.895	26.284	176.1	0.446	3.22	49.2	29.4	1.86	25.4	0.00	0.00	0.04	174
	200	ISL	8.41	8.39	33.962	26.400	165.5	0.492	3.11	47.1	32.9	1.93	26.7	0.00	0.00	0.02	202
1	202		8.38	8.36	33.966	26.408	164.8	0.495	3.10	46.9	33.2	1.94	26.8	0.00	0.00	0.02	204
1	229		8.03	8.01	34.000	26.488	157.6	0.539	2.91	43.7	37.2	2.05	28.3	0.00			231
	250	ISL	7.79	7.77	34.017	26.536	153.2	0.571	2.71	40.5	40.7	2.14	29.5	0.00			252
1	269		7.59	7.56	34.030	26.576	149.7	0.600	2.49	37.0	44.0	2.23	30.6	0.00			271
	300	ISL	7.25	7.22	34.049	26.639	144.0	0.646	2.09	30.8	49.6	2.40	32.8	0.00			302
1	322		7.01	6.98	34.063	26.683	140.0	0.677	1.80	26.4	53.7	2.52	34.4	0.00			325
1	380		6.45	6.42	34.112	26.798	129.6	0.755	1.12	16.2	64.1	2.80	37.8	0.00			383
	400	ISL	6.29	6.25	34.125	26.829	126.9	0.781	0.97	14.0	67.4	2.87	38.7	0.00			403
1	444		5.97	5.93	34.158	26.896	120.8	0.835	0.71	10.2	74.1	2.98	40.3	0.00			448
	500	ISL	5.66	5.62	34.220	26.984	112.9	0.901	0.46	6.5	81.6	3.10	41.5	0.00			504
1	512		5.59	5.55	34.234	27.003	111.2	0.914	0.41	5.8	83.2	3.12	41.8	0.00			516

RV DAVID STARR JORDAN CALCOFI CRUISE 8703 STATION 87 84

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
32 12.6 N	121 58.1 W	10/03/87	1939 GMT	4114 M	290	12 KT	290 05 10	1	1023.1 MB	16.3 C	14.6 C	4/8	CI

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
1	0	A	14.53	14.53	33.245	24.720	321.4	0.000	5.97	102.8	2.2	0.38	0.2	0.00	0.19	0.04	0
	10	ISL	14.36	14.36	33.245	24.757	318.2	0.032	5.98	102.6	2.2	0.38	0.2	0.00	0.19	0.04	10
1	12	A	14.33	14.33	33.245	24.763	317.6	0.038	5.98	102.6	2.2	0.38	0.2	0.00	0.19	0.04	12
1	17	A	14.28	14.28	33.245	24.774	316.8	0.054	5.98	102.5	2.1	0.38	0.2	0.00	0.19	0.04	17
	20	ISL	14.24	14.24	33.245	24.782	316.1	0.064	5.99	102.6	2.1	0.38	0.2	0.00	0.19	0.04	20
1	26	A	14.15	14.15	33.245	24.801	314.4	0.083	6.02	102.9	2.1	0.38	0.2	0.00	0.20	0.05	26
	30	ISL	14.07	14.07	33.248	24.820	312.7	0.095	5.99	102.2	2.2	0.39	0.3	0.02	0.23	0.07	30
	50	ISL	13.69	13.68	33.264	24.911	304.6	0.157	5.86	99.2	2.7	0.45	1.1	0.12	0.32	0.16	50
1	56	A	13.57	13.56	33.269	24.940	302.0	0.175	5.82	98.3	2.9	0.47	1.3	0.14	0.34	0.18	56
	75	ISL	11.90	11.89	33.338	25.319	266.2	0.229	5.08	82.9	8.0	0.90	8.9	0.05	0.16	0.13	76
1	80	A	11.48	11.47	33.369	25.421	256.6	0.242	4.87	78.7	9.5	1.02	10.9	0.02	0.11	0.11	81
1	89		11.14	11.13	33.432	25.532	246.3	0.265	4.65	74.7	11.4	1.13	12.8	0.02	0.07	0.10	90
	100	ISL	10.79	10.78	33.505	25.651	235.2	0.291	4.32	68.9	14.1	1.29	15.6	0.02	0.08	0.10	101
1	105		10.63	10.62	33.539	25.706	230.1	0.303	4.16	66.1	15.4	1.37	17.0	0.02	0.08	0.10	106
1	125		9.75	9.74	33.713	25.991	203.2	0.346	3.61	56.3	21.7	1.64	21.8	0.01	0.02	0.05	126
1	145		9.09	9.07	33.817	26.180	185.5	0.385	3.46	53.2	26.0	1.77	24.2	0.01	0.00	0.03	146
	150	ISL	8.98	8.96	33.839	26.215	182.2	0.394	3.48	53.4	26.7	1.77	24.4	0.01	0.00	0.03	151
1	175		8.59	8.57	33.925	26.344	170.5	0.438	3.55	54.0	29.3	1.78	24.9	0.01	0.00	0.02	176
	200	ISL	8.38	8.36	33.966	26.408	164.7	0.480	3.27	49.5	32.8	1.91	26.6	0.01	0.00	0.02	202
1	205		8.34	8.32	33.974	26.420	163.6	0.488	3.21	48.6	33.5	1.94	26.9	0.01	0.00	0.02	207

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE DEPTHS.

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
31 59.4 N	122 23.7 W	10/03/87	2241 GMT	4118 M	220	08 KT	290 04 10	1	1022.1 MB	16.8 C	13.9 C	1/8	SC

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
1	0	14.42	14.42	33.031	24.579	334.9	0.000	6.01	103.2	1.9	0.40	0.2	0.00	0.13	0.04	0
	10 ISL	14.19	14.19	33.030	24.626	330.6	0.033	6.11	104.4	1.9	0.40	0.2	0.00	0.14	0.03	10
1	15	14.08	14.08	33.030	24.649	328.6	0.050	6.16	105.0	1.9	0.40	0.2	0.00	0.15	0.03	15
	20 ISL	14.01	14.01	33.047	24.677	326.1	0.066	6.13	104.3	1.9	0.40	0.2	0.00	0.17	0.04	20
1	29	13.91	13.91	33.082	24.725	321.7	0.095	6.04	102.6	1.9	0.41	0.2	0.00	0.20	0.08	29
	30 ISL	13.91	13.91	33.085	24.728	321.6	0.098	6.04	102.6	1.9	0.41	0.2	0.00	0.21	0.09	30
1	39	13.84	13.83	33.103	24.756	319.1	0.127	6.02	102.1	1.9	0.42	0.2	0.00	0.34	0.17	39
1	50	13.54	13.53	33.089	24.807	314.6	0.162	5.98	100.8	2.2	0.45	0.5	0.14	0.48	0.23	50
1	60	13.39	13.38	33.119	24.860	309.7	0.193	5.89	99.0	2.7	0.49	1.2	0.25	0.26	0.17	60
1	70	13.13	13.12	33.180	24.960	300.5	0.224	5.80	97.0	3.6	0.55	2.3	0.14	0.13	0.10	71
	75 ISL	12.98	12.97	33.199	25.004	296.4	0.239	5.76	96.1	3.9	0.58	2.9	0.10	0.10	0.11	76
1	80	12.78	12.77	33.213	25.054	291.6	0.254	5.70	94.7	4.4	0.63	3.7	0.06	0.08	0.11	81
1	95	11.53	11.52	33.245	25.316	267.0	0.295	5.22	84.4	7.4	0.90	8.5	0.02	0.07	0.09	96
	100 ISL	11.24	11.23	33.270	25.388	260.2	0.309	5.07	81.5	8.6	0.99	10.1	0.01	0.06	0.08	101
1	109	10.77	10.76	33.342	25.528	247.0	0.331	4.78	76.1	11.4	1.16	13.2	0.01	0.04	0.06	110
1	123	10.02	10.01	33.544	25.814	220.0	0.364	4.15	65.1	17.5	1.47	18.9	0.00	0.01	0.04	124
	125 ISL	9.94	9.93	33.568	25.847	216.9	0.368	4.07	63.7	18.3	1.51	19.5	0.00	0.01	0.04	126
1	148	9.29	9.27	33.780	26.119	191.4	0.415	3.38	52.2	25.5	1.79	24.5	0.00	0.01	0.05	149
	150 ISL	9.24	9.22	33.792	26.137	189.7	0.419	3.37	52.0	26.0	1.80	24.8	0.00	0.01	0.05	151
1	174	8.70	8.68	33.900	26.307	173.9	0.463	3.22	49.1	30.4	1.89	26.7	0.00	0.01	0.04	175
	200 ISL	8.38	8.36	33.969	26.410	164.5	0.507	3.06	46.3	33.8	1.97	28.0	0.00	0.02	0.03	202
1	203	8.35	8.33	33.974	26.419	163.7	0.512	3.04	46.0	34.2	1.98	28.1	0.00	0.02	0.03	205
1	232	8.01	7.99	34.012	26.500	156.4	0.558	2.78	41.8	39.0	2.11	29.9	0.00			234
	250 ISL	7.73	7.71	34.025	26.552	151.7	0.586	2.60	38.8	42.5	2.20	31.2	0.00			252
1	271	7.41	7.38	34.038	26.608	146.6	0.617	2.36	35.0	46.6	2.31	32.8	0.01			273
	300 ISL	7.18	7.15	34.073	26.668	141.2	0.659	1.94	28.6	51.7	2.46	34.7	0.01			302
1	324	7.01	6.98	34.098	26.711	137.4	0.692	1.62	23.8	55.7	2.58	36.2	0.00			327
1	384	6.29	6.26	34.096	26.806	128.8	0.772	1.24	17.9	65.7	2.78	39.5	0.00			387
	400 ISL	6.14	6.10	34.101	26.829	126.7	0.793	1.15	16.5	68.1	2.82	40.1	0.00			403
1	448	5.77	5.73	34.127	26.896	120.6	0.852	0.88	12.5	74.9	2.94	41.7	0.00			452
	500 ISL	5.52	5.48	34.174	26.964	114.6	0.913	0.63	8.9	82.0	3.05	43.1	0.00			504
1	517	5.44	5.40	34.190	26.987	112.6	0.933	0.55	7.8	84.3	3.09	43.6	0.00			521

RV DAVID STARR JORDAN CALCOFI CRUISE 8703 STATION 87 100

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
31 39.4 N	123 4.1 W	11/03/87	0343 GMT	3738 M	210	08 KT			1022.1 MB	15.7 C	14.0 C		

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
1	0	14.77	14.77	33.052	24.521	340.4	0.000	5.97	103.2	1.8	0.39	0.2	0.00	0.11	0.01	0
	10 ISL	14.40	14.40	33.046	24.595	333.6	0.034	6.04	103.6	1.8	0.40	0.2	0.00	0.11	0.02	10
1	14	14.25	14.25	33.043	24.624	331.0	0.047	6.07	103.8	1.8	0.40	0.2	0.00	0.11	0.03	14
	20 ISL	14.21	14.21	33.050	24.638	329.8	0.067	6.05	103.4	1.7	0.40	0.2	0.00	0.12	0.03	20
1	29	14.15	14.15	33.043	24.646	329.4	0.096	6.01	102.6	1.7	0.39	0.2	0.00	0.13	0.04	29
	30 ISL	14.14	14.14	33.041	24.646	329.4	0.100	6.01	102.6	1.7	0.39	0.2	0.00	0.13	0.04	30
1	39	14.06	14.05	33.044	24.665	327.8	0.129	6.01	102.4	1.8	0.39	0.2	0.00	0.18	0.06	39
1	49	14.07	14.06	33.148	24.744	320.6	0.162	5.99	102.1	1.9	0.39	0.3	0.03	0.36	0.16	49
	50 ISL	14.01	14.00	33.145	24.754	319.6	0.165	6.00	102.2	1.9	0.39	0.3	0.03	0.39	0.17	50
1	59	13.45	13.44	33.098	24.832	312.3	0.193	6.05	101.8	2.2	0.42	0.3	0.07	0.57	0.23	59
1	69	13.38	13.37	33.107	24.853	310.6	0.225	5.98	100.5	2.3	0.45	0.7	0.16	0.46	0.24	70
	75 ISL	13.34	13.33	33.121	24.872	308.9	0.243	5.95	99.9	2.9	0.47	0.9	0.21	0.37	0.20	76
1	78	13.30	13.29	33.129	24.887	307.7	0.252	5.93	99.5	3.2	0.48	1.0	0.22	0.32	0.18	79
1	94	12.75	12.74	33.143	25.006	296.6	0.301	5.67	94.1	4.6	0.64	3.8	0.07	0.14	0.12	95
	100 ISL	12.32	12.31	33.157	25.100	287.8	0.318	5.51	90.6	5.7	0.73	5.5	0.04	0.12	0.12	101
1	108	11.71	11.70	33.197	25.246	274.0	0.341	5.27	85.5	7.5	0.87	8.1	0.02	0.11	0.13	109
1	124	10.81	10.80	33.377	25.548	245.5	0.382	4.71	75.0	12.2	1.17	13.1	0.01	0.05	0.07	125
	125 ISL	10.74	10.73	33.391	25.572	243.2	0.385	4.68	74.5	12.6	1.19	13.4	0.01	0.05	0.07	126
1	148	9.42	9.40	33.693	26.030	199.8	0.436	4.09	63.3	20.8	1.53	20.1	0.00	0.00	0.03	149
	150 ISL	9.36	9.34	33.711	26.054	197.6	0.440	4.06	62.8	21.3	1.54	20.4	0.00	0.00	0.03	151
1	173	8.87	8.85	33.857	26.247	179.7	0.483	3.85	58.9	25.7	1.65	22.5	0.01	0.00	0.02	174
	200 ISL	8.39	8.37	33.943	26.388	166.6	0.530	3.54	53.6	31.3	1.81	25.1	0.00	0.00	0.02	202
1	202	8.36	8.34	33.947	26.396	165.9	0.533	3.52	53.3	31.7	1.82	25.3	0.00	0.00	0.02	204
1	232	7.76	7.74	33.994	26.522	154.2	0.581	3.26	48.7	38.1	1.97	27.5	0.00			234
	250 ISL	7.51	7.49	34.003	26.566	150.3	0.609	3.05	45.3	41.5	2.06	28.9	0.00			252
1	271	7.27	7.24	34.006	26.602	147.0	0.640	2.78	41.0	45.3	2.18	30.5	0.00			273
	300 ISL	6.94	6.91	34.022	26.660	141.8	0.682	2.34	34.3	50.9	2.35	32.8	0.00			302
1	324	6.68	6.65	34.037	26.708	"137.5	0.715	1.98	28.8	55.6	2.49	34.6	0.00			327
1	383	6.02	5.99	34.063	26.814	127.8	0.793	1.39	19.9	67.0	2.74	38.0	0.00			386
	400 ISL	5.90	5.87	34.076	26.839	125.5	0.815	1.24	17.7	69.8	2.80	38.8	0.00			403
1	449	5.62	5.58	34.117	26.907	119.5	0.875	0.88	12.5	77.0	2.94	40.6	0.00			453
	500 ISL	5.38	5.34	34.161	26.971	113.8	0.934	0.64	9.0	83.5	3.05	41.7	0.00			504
1	516	5.30	5.26	34.175	26.991	112.0	0.952	0.56	7.9	85.5	3.08	42.1	0.00			520

RV DAVID STARR JORDAN CALCOFI CRUISE 8703 STATION 90 28

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
33 29.1 N	117 46.1 W	08/03/87	1457 GMT	72 M	300	08 KT	280 03 09	1	1017.2 MB	15.0 C	13.1 C	7/8	CU

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0 ISL	14.69	14.69	33.380	24.791	314.7	0.000	7.02	121.4	2.4	0.34	0.1	0.00	0.88	0.11	0
1	1	14.69	14.69	33.380	24.791	314.7	0.003	7.02	121.4	2.4	0.34	0.1	0.00	0.88	0.11	1
	10 ISL	14.57	14.57	33.378	24.815	312.7	0.031	6.96	120.1	2.2	0.34	0.1	0.01	5.06	0.09	10
1	11	14.56	14.56	33.378	24.817	312.5	0.035	6.95	119.9	2.2	0.34	0.1	0.01	5.52	0.09	11
	20 ISL	13.91	13.91	33.378	24.954	299.8	0.062	6.05	103.0	3.0	0.35	0.2	0.02	2.22	0.21	20
1	21	13.83	13.83	33.378	24.970	298.2	0.065	5.94	100.9	3.1	0.35	0.2	0.02	1.71	0.22	21
	30 ISL	13.43	13.43	33.387	25.059	290.0	0.092	5.40	91.0	4.7	0.57	2.8	0.19	0.86	0.26	30
1	32	13.36	13.36	33.390	25.075	288.5	0.097	5.33	89.7	5.1	0.62	3.5	0.23	0.67	0.26	32
1	42	13.08	13.07	33.399	25.138	282.7	0.126	5.19	86.8	5.8	0.73	4.9	0.29	0.59	0.26	42
	50 ISL	12.51	12.50	33.406	25.256	271.7	0.148	5.00	82.7	7.2	0.87	7.4	0.21	0.30	0.23	50
1	52	12.34	12.33	33.412	25.293	268.2	0.153	4.94	81.4	7.7	0.91	8.2	0.18	0.23	0.22	52
1	62	11.41	11.40	33.505	25.539	245.0	0.179	4.47	72.2	11.4	1.14	12.2	0.10	0.16	0.17	62

RV DAVID STARR JORDAN CALCOFI CRUISE 8703 STATION 90 30

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
33 25.1 N	117 54.4 W	08/03/87	1211 GMT	624 M	280	07 KT			1016.1 MB	15.0 C	12.8 C		

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0	ISL	14.69	14.69	33.380	24.791	314.7	0.000	6.55	113.3	2.1	0.30	0.1	0.00	0.78	0.10	0
1	1		14.69	14.69	33.380	24.791	314.7	0.003	6.55	113.3	2.1	0.30	0.1	0.00	0.78	0.10	1
1	10		14.70	14.70	33.378	24.787	315.3	0.031	6.55	113.3	2.0	0.30	0.1	0.00	0.79	0.07	10
1	20		14.29	14.29	33.366	24.865	308.2	0.063	6.69	114.7	3.0	0.30	0.1	0.00	2.18	0.24	20
	30	ISL	14.00	14.00	33.357	24.919	303.3	0.093	6.34	108.1	3.8	0.43	0.5	0.04	1.44	0.19	30
1	31		13.97	13.97	33.356	24.925	302.8	0.096	6.28	107.0	3.9	0.45	0.5	0.05	1.31	0.19	31
1	41		13.46	13.45	33.326	25.006	295.3	0.126	5.54	93.4	5.8	0.90U	2.3	0.13	6.89U	-0.02U	41
	50	ISL	13.28	13.27	33.340	25.053	291.1	0.153	5.33	89.5	6.3	0.67	3.3	0.16	0.28	0.10	50
1	51		13.26	13.25	33.344	25.060	290.4	0.155	5.32	89.3	6.3	0.88U	3.4	0.17	0.25	0.10	51
1	60		12.88	12.87	33.411	25.188	278.5	0.181	5.04	84.0	6.5	0.80	5.7	0.34	0.25	0.22	60
1	70		12.20	12.19	33.456	25.354	262.8	0.208	4.71	77.4	8.8	0.98	9.1	0.28	0.27	0.24	71
	75	ISL	11.76	11.75	33.497	25.469	252.0	0.221	4.54	73.9	10.5	1.08	11.2	0.17	0.23	0.24	76
1	82		11.18	11.17	33.563	25.626	237.1	0.238	4.30	69.2	13.0	1.22	13.9	0.03	0.15	0.23	83
1	97		10.60	10.59	33.683	25.823	218.7	0.272	3.87	61.5	17.0	1.44	17.6	0.02	0.06	0.11	98
	100	ISL	10.50	10.49	33.694	25.849	216.3	0.279	3.84	60.9	17.5	1.46	18.0	0.02	0.05	0.10	101
1	119		9.92	9.91	33.742	25.986	203.7	0.319	3.73	58.4	20.2	1.56	20.0	0.01	0.01	0.07	120
	125	ISL	9.75	9.74	33.760	26.028	199.7	0.331	3.69	57.6	21.2	1.59	20.6	0.01	0.01	0.06	126
1	142		9.43	9.41	33.829	26.135	189.8	0.364	3.47	53.8	24.3	1.71	22.5	0.01	0.01	0.04	143
	150	ISL	9.47	9.45	33.893	26.178	185.9	0.379	3.21	49.8	26.2	1.80	23.5	0.01	0.01	0.04	151
1	170		9.57	9.55	34.036	26.274	177.3	0.415	2.51	39.1	30.7	2.04	25.8	0.00	0.01	0.05	171
1	200		9.50	9.48	34.177	26.397	166.3	0.467	1.93	30.0	35.1	2.25	27.9	0.01	0.00	0.03	202
1	229		9.20	9.17	34.213	26.474	159.4	0.514	1.74	26.9	38.0	2.35	29.1	0.00			231
	250	ISL	8.89	8.86	34.219	26.529	154.6	0.547	1.63	25.0	40.8	2.42	30.0	0.00			252
1	268		8.62	8.59	34.220	26.572	150.7	0.575	1.54	23.5	43.3	2.48	30.8	0.00			270
	300	ISL	8.26	8.23	34.228	26.633	145.3	0.622	1.36	20.6	47.0	2.57	31.9	0.00			302
1	323		8.04	8.01	34.231	26.669	142.1	0.655	1.24	18.7	49.5	2.62	32.6	0.00			326
1	381		7.46	7.42	34.221	26.746	135.5	0.735	1.07	15.9	56.2	2.75	34.8	0.00			3 84
	400	ISL	7.29	7.25	34.226	26.774	133.0	0.761	0.98	14.5	58.4	2.80	35.6	0.00			403
1	445		6.94	6.90	34.245	26.838	127.3	0.819	0.74	10.9	63.6	2.91	37.2	0.00			449
	500	ISL	6.62	6.57	34.276	26.906	121.4	0.888	0.53	7.7	69.2	3.02	38.5	0.00			504
1	514		6.54	6.49	34.284	26.923	119.9	0.905	0.48	7.0	70.6	3.05	38.8	0.00			518

RV DAVID STARR JORDAN CALCOFI CRUISE 8703 STATION 90 33

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
33 19.1 N	118 6.7 W	08/03/87	1003 GMT	753 M	290	09 KT			1016.8 MB	15.4 C	13.2 C		

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0	ISL	14.92	14.92	33.381	24.742	319.3	0.000	5.97	103.7	2.1	0.34	0.2		0.26	0.07	0
1	1		14.92	14.92	33.381	24.742	319.4	0.003	5.97	103.7	2.1	0.34	0.2		0.26	0.07	1
	10	ISL	14.81	14.81	33.380	24.765	317.4	0.032	6.00	104.0	2.0	0.33	0.2		0.33	0.09	10
1	15		14.71	14.71	33.380	24.787	315.5	0.048	6.02	104.1	1.9	0.33	0.2	0.00	0.37	0.11	15
	20	ISL	14.62	14.62	33.384	24.809	313.5	0.063	6.08	105.0	1.9	0.33	0.2	0.00	0.64	0.11	20
1	26		14.52	14.52	33.389	24.834	311.3	0.082	6.14	105.8	1.9	0.33	0.1	0.00	0.98	0.11	26
	30	ISL	14.48	14.48	33.390	24.844	310.5	0.095	6.13	105.6	1.9	0.33	0.1	0.00	1.08	0.15	30
1	36		14.39	14.38	33.390	24.863	308.8	0.113	6.08	104.5	1.9	0.32	0.1	0.00	1.28	0.21	36
1	47		14.05	14.04	33.386	24.932	302.6	0.147	5.93	101.2	2.6	0.38	0.5	0.03	2.34	0.19	47
	50	ISL	13.94	13.93	33.383	24.952	300.7	0.156	5.89	100.3	2.9	0.40	0.7	0.05	2.22	0.20	50
1	55		13.71	13.70	33.381	24.998	296.5	0.171	5.78	98.0	3.6	0.46	1.5	0.11	2.03	0.21	55
1	65		12.95	12.94	33.405	25.169	280.4	0.200	5.21	86.9	5.5	0.73	5.4	0.27	0.43	0.25	65
1	75		12.41	12.40	33.426	25.291	269.0	0.227	4.98	82.2	7.2	0.84	7.5	0.11	0.29	0.29	76
1	84		11.80	11.79	33.464	25.436	255.4	0.251	4.75	77.4	8.9	0.97	9.9	0.04	0.18	0.23	85
1	99		10.91	10.90	33.575	25.684	232.0	0.287	4.26	68.1	13.4	1.26	14.8	0.02	0.09	0.12	100
	100	ISL	10.87	10.86	33.584	25.698	230.6	0.290	4.22	67.4	13.7	1.28	15.1	0.02	0.09	0.12	101
1	113		10.50	10.49	33.703	25.856	215.9	0.319	3.71	58.8	18.0	1.49	18.3	0.01	0.05	0.12	114
	125	ISL	10.36	10.35	33.790	25.948	207.4	0.344	3.35	53.0	20.9	1.61	20.2	0.01	0.03	0.09	126
1	132		10.30	10.28	33.831	25.991	203.5	0.358	3.19	50.4	22.3	1.67	21.1	0.01	0.03	0.07	133
	150	ISL	9.90	9.88	33.906	26.118	191.8	0.394	2.98	46.7	25.5	1.81	23.2	0.01	0.02	0.06	151
1	158		9.69	9.67	33.929	26.171	186.9	0.409	2.94	45.9	26.7	1.86	24.0	0.01	0.01	0.06	159
1	188		9.00	8.98	33.970	26.315	173.5	0.463	2.90	44.5	30.1	1.94	25.9	0.01	0.00	0.06	189
	200	ISL	8.81	8.79	33.998	26.367	168.8	0.484	2.80	42.8	32.0	2.00	26.8	0.01			202
1	216		8.59	8.57	34.034	26.430	163.1	0.510	2.62	39.9	34.8	2.09	27.9	0.01			218
1	246		8.18	8.15	34.072	26.522	154.7	0.558	2.30	34.7	39.8	2.25	29.9				248
	250	ISL	8.14	8.11	34.076	26.531	153.9	0.564	2.26	34.1	40.4	2.27	30.1	0.01			252
1	285		7.88	7.85	34.120	26.605	147.4	0.617	1.89	28.3	45.2	2.40	31.8	0.01			287
	300	ISL	7.86	7.83	34.155	26.635	144.8	0.639	1.66	24.9	47.1	2.49	32.4	0.01			302
1	340		7.79	7.76	34.236	26.710	138.4	0.695	1.09	16.3	52.2	2.71	34.0	0.01			343
1	398		7.07	7.03	34.224	26.803	130.0	0.773	0.86	12.6	61.1	2.84	36.4	0.00			401
	400	ISL	7.06	7.02	34.225	26.805	129.8	0.776	0.85	12.5	61.3	2.84	36.5	0.00			403
1	462		6.71	6.67	34.260	26.881	123.3	0.854	0.59	8.6	67.9	2.98	38.3	0.00			466
	500	ISL	6.51	6.46	34.282	26.926	119.4	0.900	0.45	6.5	71.4	3.03	39.1	0.00			504
1	530		6.36	6.31	34.299	26.959	116.6	0.936	0.36	5.2	74.2	3.05	39.7	0.00			535
1	593		6.01	5.96	34.331	27.029	110.4	1.007	0.26	3.7	80.8	3.09	40.8	0.01			598
	600	ISL	5.98	5.93	34.334	27.036	109.9	1.015	0.25	3.6	81.3	3.10	40.9	0.01			605
1	653		5.76	5.70	34.353	27.079	106.3	1.072	0.23	3.3	85.7	3.17	41.3	0.00			659
	700	ISL	5.47	5.41	34.372	27.129	101.6	1.121	0.22	3.1	92.3	3.22	41.9	0.01			706
1	701		5.46	5.40	34.373	27.131	101.4	1.122	0.22	3.1	92.5	3.22	41.9	0.01			707
1	740		5.16	5.10	34.392	27.182	96.6	1.161	0.26	3.7	98.2	3.30	42.2	0.02			747

RV DAVID STARR JORDAN CALCOFI CRUISE 8703 STATION 90 35

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
33 15.1 N	118 15.0 W	08/03/87	0617 GMT	287 M	290	10 KT		5	1016.9 MB	14.6 C	13.1 C		

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
1	0	14.97	14.97	33.385	24.734	320.1	0.000	5.91	102.8	1.9	0.35	0.2	0.00	0.19	0.04	0
1	9	14.94	14.94	33.380	24.737	320.1	0.029	5.91	102.7	1.9	0.35	0.2	0.00	0.19	0.05	9
	10 ISL	14.93	14.93	33.380	24.739	319.9	0.032	5.91	102.7	1.9	0.35	0.2	0.00	0.19	0.05	10
1	19	14.80	14.80	33.381	24.769	317.3	0.061	5.90	102.3	1.9	0.35	0.1	0.00	0.16	0.04	19
	20 ISL	14.78	14.78	33.381	24.773	317.0	0.064	5.90	102.2	1.9	0.35	0.1	0.00	0.17	0.04	20
1	29	14.65	14.65	33.381	24.801	314.6	0.092	5.93	102.5	1.9	0.35	0.2	0.00	0.34	0.10	29
	30 ISL	14.65	14.65	33.381	24.801	314.6	0.095	5.95	102.8	1.9	0.35	0.2	0.00	0.35	0.11	30
1	39	14.61	14.60	33.381	24.810	314.1	0.124	6.11	105.5	1.9	0.35	0.1	0.00	0.53	0.17	39
1	49	14.04	14.03	33.378	24.927	303.1	0.155	6.05	103.2	2.2	0.35	0.2	0.01	1.26	0.22	49
	50 ISL	14.01	14.00	33.378	24.934	302.5	0.158	6.02	102.7	2.3	0.36	0.3	0.02	1.26	0.22	50
1	60	13.65	13.64	33.380	25.010	295.5	0.187	5.65	95.6	3.5	0.49	1.7	0.13	1.28	0.18	60
1	69	13.10	13.09	33.381	25.121	285.1	0.214	5.32	89.0	5.3	0.68	4.8	0.14	0.50	0.27	70
	75 ISL	12.62	12.61	33.400	25.230	274.8	0.230	5.12	84.8	6.6	0.80	6.8	0.10	0.38	0.25	76
1	84	11.86	11.85	33.453	25.417	257.3	0.254	4.82	78.6	9.0	0.98	9.9	0.04	0.19	0.23	85
1	98	10.89	10.88	33.579	25.691	231.3	0.289	4.31	68.9	13.9	1.26	14.7	0.01	0.09	0.13	99
	100 ISL	10.82	10.81	33.591	25.713	229.3	0.293	4.26	68.0	14.3	1.29	15.1	0.01	0.08	0.12	101
1	118	10.45	10.44	33.688	25.853	216.3	0.333	3.84	60.8	17.8	1.48	17.9	0.01	0.04	0.07	119
	125 ISL	10.34	10.33	33.751	25.922	209.9	0.348	3.57	56.4	19.7	1.58	19.3	0.01	0.03	0.07	126
1	143	10.06	10.04	33.908	26.092	194.1	0.385	2.93	46.1	24.7	1.84	22.7	0.00	0.01	0.07	144
	150 ISL	9.90	9.88	33.946	26.149	188.8	0.398	2.81	44.0	26.3	1.90	23.6	0.00	0.01	0.06	151
1	167	9.51	9.49	34.015	26.268	177.8	0.429	2.62	40.7	29.7	2.02	25.4	0.00	0.01	0.04	168
1	193	9.17	9.15	34.091	26.383	167.3	0.474	2.37	36.6	33.6	2.15	27.1	0.00	0.00	0.04	195
	200 ISL	8.97	8.95	34.081	26.407	165.1	0.486	2.41	37.0	34.4	2.15	27.5	0.00			202
1	221	8.44	8.42	34.055	26.469	159.4	0.520	2.49	37.8	36.9	2.17	28.5	0.00			223
1	250	8.48	8.45	34.148	26.536	153.6	0.565	1.91	29.0	41.3	2.37	30.1	0.01			252

RV DAVID STARR JORDAN CALCOFI CRUISE 8703 STATION 90 37

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
33 11.2 N	118 23.3 W	08/03/87	0317 GMT	1204 M	290	12 KT			1016.5 MB	14.8 C	13.1 C		

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0 ISL	14.96	14.96	33.383	24.735	320.0	0.000	5.90	102.6	2.4	0.35	0.1	0.00	0.16	0.03	0
1	2	14.96	14.96	33.383	24.735	320.0	0.006	5.90	102.6	2.4	0.35	0.1	0.00	0.16	0.03	2
	10 ISL	14.94	14.94	33.382	24.739	319.9	0.032	5.89	102.4	2.1	0.35	0.2	0.00	0.14	0.04	10
1	11	14.94	14.94	33.381	24.738	320.1	0.035	5.89	102.4	2.0	0.35	0.2	0.00	0.14	0.04	11
	20 ISL	14.89	14.89	33.380	24.748	319.3	0.064	5.90	102.4	2.0	0.35	0.2	0.00	0.15	0.05	20
1	23	14.86	14.86	33.380	24.755	318.8	0.074	5.90	102.4	2.0	0.35	0.2	0.00	0.16	0.05	23
	30 ISL	14.77	14.77	33.380	24.774	317.1	0.096	5.91	102.4	2.0	0.35	0.2	0.00	0.18	0.05	30
1	31	14.76	14.76	33.380	24.777	317.0	0.099	5.91	102.3	2.0	0.35	0.2	0.00	0.18	0.05	31
1	41	14.71	14.70	33.381	24.788	316.1	0.131	5.91	102.2	2.0	0.35	0.2	0.00	0.22	0.07	41
1	50	14.56	14.55	33.390	24.828	312.7	0.159	5.96	102.8	2.1	0.36	0.2	0.00	0.51	0.17	50
1	60	14.14	14.13	33.390	24.916	304.5	0.190	5.75	98.3	2.6	0.43	1.1	0.07	0.79	0.30	60
1	71	13.05	13.04	33.379	25.130	284.3	0.222	4.83	80.8	5.1	0.70	5.1	0.13	0.34	0.37	72
	75 ISL	12.56	12.55	33.406	25.247	273.3	0.233	4.78	79.1	6.6	0.81	7.0	0.11	0.26	0.33	76
1	84	11.57	11.56	33.489	25.498	249.5	0.257	4.68	75.9	10.1	1.04	11.2	0.04	0.16	0.21	85
1	100	10.90	10.89	33.583	25.692	231.3	0.295	4.25	67.9	13.8	1.27	15.0	0.01	0.08	0.11	101
1	118	10.34	10.33	33.718	25.896	212.2	0.335	3.70	58.5	18.9	1.52	19.0	0.01	0.03	0.08	119
	125 ISL	10.19	10.18	33.776	25.967	205.6	0.350	3.48	54.8	20.9	1.62	20.4	0.01	0.02	0.07	126
1	143	9.91	9.89	33.911	26.120	191.5	0.386	2.97	46.5	25.6	1.83	23.4	0.01	0.01	0.05	144
	150 ISL	9.84	9.82	33.945	26.158	187.9	0.399	2.85	44.6	26.8	1.88	24.1	0.01	0.01	0.05	151
1	173	9.64	9.62	34.038	26.264	178.3	0.441	2.52	39.3	30.1	2.03	25.8	0.00	0.02	0.04	174
1	200	9.35	9.33	34.165	26.412	164.8	0.487	1.97	30.5	35.0	2.25	28.0	0.00	0.01	0.06	202
1	228	9.04	9.02	34.189	26.481	158.7	0.533	1.84	28.3	38.1	2.32	29.2	0.00			230
	250 ISL	8.53	8.50	34.156	26.535	153.7	0.567	1.89	28.7	41.1	2.35	30.3	0.00			252
1	268	8.10	8.07	34.129	26.579	149.7	0.594	1.90	28.6	43.8	2.39	31.2	0.00			270
	300 ISL	7.73	7.70	34.168	26.665	141.9	0.641	1.49	22.3	49.5	2.57	33.1	0.00			302
1	322	7.58	7.55	34.207	26.717	137.2	0.672	1.16	17.3	53.3	2.70	34.4	0.00			325
1	382	7.11	7.07	34.238	26.809	129.3	0.752	0.81	11.9	60.5	2.86	36.7	0.00			385
	400 ISL	6.98	6.94	34.249	26.835	126.9	0.775	0.72	10.6	62.6	2.90	37.3	0.00			403
1	447	6.65	6.61	34.276	26.902	121.1	0.833	0.53	7.7	68.0	3.01	38.6	0.00			451
	500 ISL	6.35	6.30	34.307	26.966	115.4	0.896	0.39	5.6	73.6	3.10	39.7	0.00			504
1	517	6.26	6.21	34.317	26.986	113.7	0.915	0.34	4.9	75.4	3.13	40.1	0.00			521

RV DAVID STARR JORDAN CALCOFI CRUISE 8703 STATION 90 45

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
32 55.1 N	118 56.1 W	07/03/87	2202 GMT	1728 M	290	10 KT	270 03 05	2	1016.2 MB	14.9 C	12.7 C	8/8	CU

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0	ISL	14.54	14.54	33.394	24.833	310.6	0.000	6.19	106.7	0.7	0.27	0.2	0.00	0.50	0.12	0
1	2		14.54	14.54	33.394	24.833	310.7	0.006	6.19	106.7	0.7	0.27	0.2	0.00	0.50	0.12	2
	10	ISL	14.48	14.48	33.397	24.849	309.4	0.031	6.22	107.1	0.7	0.27	0.2	0.00	0.58	0.12	10
1	11		14.47	14.47	33.397	24.851	309.3	0.034	6.23	107.3	0.7	0.27	0.2	0.00	0.59	0.12	11
	20	ISL	14.19	14.19	33.425	24.932	301.8	0.062	6.26	107.2	0.7	0.28	0.2	0.00	0.62	0.18	20
1	21		14.15	14.15	33.428	24.942	300.8	0.065	6.26	107.1	0.7	0.28	0.2	0.00	0.63	0.19	21
	30	ISL	13.96	13.96	33.443	24.994	296.2	0.091	6.26	106.7	0.4	0.28	0.2	0.00	0.78	0.32	30
1	31		13.94	13.94	33.444	24.999	295.8	0.094	6.26	106.7	0.4	0.28	0.2	0.00	0.81	0.34	31
1	41		13.76	13.75	33.439	25.032	292.9	0.124	6.00	101.8	1.2	0.38	0.4	0.02	1.38	0.61	41
	50	ISL	12.88	12.87	33.469	25.232	274.0	0.149	5.11	85.2	6.4	0.78	6.3	0.22	0.84	0.50	50
1	51		12.77	12.76	33.474	25.258	271.6	0.152	5.01	83.3	7.0	0.83	7.0	0.24	0.76	0.48	51
1	60		12.30	12.29	33.495	25.365	261.5	0.176	4.75	78.2	9.2	0.96	9.4	0.17	0.63	0.43	60
1	70		11.53	11.52	33.563	25.562	243.0	0.201	4.21	68.2	12.8	1.24	13.6	0.04	0.49	0.46	71
	75	ISL	11.36	11.35	33.584	25.610	238.6	0.213	4.09	66.0	13.7	1.30	14.6	0.04	0.43	0.41	76
1	84		11.17	11.16	33.614	25.668	233.2	0.235	3.97	63.9	14.9	1.35	15.6	0.04	0.34	0.32	85
1	99		10.69	10.68	33.684	25.808	220.2	0.269	3.72	59.2	17.9	1.49	18.0	0.02	0.17	0.33	100
	100	ISL	10.66	10.65	33.690	25.818	219.3	0.271	3.70	58.9	18.1	1.50	18.2	0.02	0.16	0.32	101
1	119		10.14	10.13	33.809	26.001	202.2	0.311	3.27	51.5	22.4	1.71	21.6	0.01	0.05	0.17	120
	125	ISL	10.00	9.99	33.840	26.049	197.8	0.323	3.17	49.8	23.7	1.76	22.4	0.01	0.04	0.14	126
1	143		9.62	9.60	33.916	26.172	186.4	0.357	2.93	45.6	27.2	1.89	24.3	0.01	0.02	0.08	144
	150	ISL	9.47	9.45	33.933	26.210	182.9	0.370	2.89	44.9	28.2	1.92	24.9	0.01	0.01	0.07	151
1	173		9.04	9.02	33.972	26.310	173.8	0.411	2.79	42.9	31.0	2.00	26.4	0.01	0.00	0.04	174
	200	ISL	8.77	8.75	34.014	26.386	167.0	0.457	2.62	40.0	33.7	2.09	27.6	0.01	0.00	0.03	202
1	203		8.75	8.73	34.019	26.393	166.4	0.462	2.60	39.7	34.0	2.10	27.7	0.01	0.00	0.03	205
1	232		8.51	8.49	34.079	26.477	158.8	0.510	2.28	34.7	38.6	2.23	29.3	0.01			234
	250	ISL	8.36	8.33	34.115	26.529	154.2	0.538	2.02	30.6	41.5	2.34	30.4	0.01			252
1	271		8.19	8.16	34.152	26.584	149.3	0.570	1.73	26.1	44.7	2.46	31.6	0.01			273
	300	ISL	7.93	7.90	34.180	26.645	143.9	0.612	1.45	21.8	48.5	2.57	33.0	0.01			302
1	326		7.67	7.64	34.201	26.699	139.0	0.649	1.23	18.3	52.3	2.67	34.2	0.01			329
1	385		7.03	6.99	34.285	26.856	124.7	0.727	0.58	8.5	65.1	2.97	37.3	0.00			388
	400	ISL	6.94	6.90	34.293	26.875	123.1	0.745	0.55	8.1	66.7	3.00	37.7	0.00			403
1	450		6.69	6.65	34.305	26.919	119.5	0.806	0.44	6.4	70.5	3.07	38.6	0.00			454
	500	ISL	6.39	6.34	34.319	26.970	115.1	0.865	0.36	5.2	75.6	3.13	39.6	0.00			504
1	521		6.26	6.21	34.325	26.992	113.2	0.889	0.33	4.8	77.7	3.16	40.0	0.00			526

RV DAVID STARR JORDAN CALCOFI CRUISE 8703 STATION 90 49

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
32 48.0 N	119 12.4 W	07/03/87	1940 GMT	498 M	290	16 KT	300 05 14	2	1018.2 MB	16.9 C	13.2 C	8/8	CU

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0	ISL	14.67	14.67	33.384	24.798	314.0	0.000	6.04	104.4	0.5	0.32	0.2	0.00	0.38	0.08	0
1	1	A	14.67	14.67	33.384	24.798	314.0	0.003	6.04	104.4	0.5	0.32	0.2	0.00	0.38	0.08	1
	10	ISL	14.66	14.66	33.383	24.800	314.1	0.031	6.05	104.6	0.5	0.32	0.2	0.00	0.39	0.08	10
1	11	A	14.66	14.66	33.383	24.800	314.2	0.035	6.05	104.6	0.5	0.32	0.2	0.00	0.39	0.08	11
1	14	A	14.66	14.66	33.382	24.799	314.3	0.044	6.05	104.6	0.5	0.32	0.2	0.00	0.46	0.11	14
	20	ISL	14.49	14.49	33.399	24.848	309.8	0.063	6.04	104.0	0.7	0.34	0.2	0.00	0.41	0.11	20
1	21	A	14.45	14.45	33.403	24.860	308.7	0.066	6.04	104.0	0.7	0.34	0.2	0.00	0.40	0.11	21
	30	ISL	14.29	14.29	33.411	24.900	305.1	0.093	5.94	101.9	1.1	0.37	0.7	0.02	0.47	0.19	30
1	43	A	13.98	13.97	33.416	24.969	298.9	0.133	5.64	96.2	2.5	0.48	1.5	0.08	0.65	0.36	43
	50	ISL	13.63	13.62	33.433	25.054	291.0	0.153	5.39	91.2	3.9	0.60	3.1	0.13	0.67	0.44	50
1	62	A	12.93	12.92	33.468	25.222	275.3	0.187	4.93	82.3	6.6	0.84	6.6	0.17	0.70	0.54	62
1	71		12.44	12.43	33.491	25.336	264.7	0.212	4.62	76.3	8.6	0.98	9.2	0.13	0.55	0.56	72
	75	ISL	12.10	12.09	33.504	25.411	257.6	0.222	4.51	74.0	9.9	1.06	10.6	0.10	0.50	0.54	76
1	84		11.40	11.39	33.535	25.565	243.1	0.245	4.34	70.1	12.7	1.22	13.4	0.05	0.40	0.49	85
1	99		11.16	11.15	33.561	25.629	237.3	0.281	4.23	68.0	14.1	1.28	14.7	0.04	0.28	0.42	100
	100	ISL	11.13	11.12	33.565	25.637	236.5	0.283	4.21	67.6	14.3	1.29	14.8	0.04	0.27	0.41	101
1	U8		10.55	10.54	33.668	25.821	219.5	0.324	3.78	60.0	18.0	1.49	18.1	0.02	0.14	0.27	119
	125	ISL	10.34	10.33	33.722	25.899	212.1	0.339	3.59	56.7	20.0	1.59	19.6	0.02	0.11	0.24	126
1	138		9.97	9.95	33.827	26.044	198.5	0.366	3.22	50.5	24.1	1.77	22.3	0.02	0.06	0.19	139
	150	ISL	9.67	9.65	33.920	26.167	187.0	0.389	2.84	44.3	27.9	1.93	24.5	0.02	0.04	0.14	151
1	167		9.32	9.30	34.029	26.310	173.8	0.420	2.37	36.7	32.6	2.12	26.9	0.01	0.02	0.08	168
1	198		8.94	8.92	34.108	26.433	162.6	0.472	2.04	31.3	37.4	2.28	28.9	0.01	0.01	0.06	200
	200	ISL	8.93	8.91	34.112	26.437	162.2	0.475	2.03	31.2							202

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE DEPTHS.

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
32 39.2 N	119 28.9 W	07/03/87	1544 GMT	1347 M	320	15 KT	270 05 08	1	1017.5 MB	14.8 C	12.8 C	7/8	CU

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0	ISL	14.67	14.67	33.397	24.808	313.0	0.000	6.06	104.8	0.7	0.31	0.1	0.00	0.35	0.09	0
1	1		14.67	14.67	33.397	24.808	313.1	0.003	6.06	104.8	0.7	0.31	0.1	0.00	0.35	0.09	1
1	10		14.67	14.67	33.396	24.808	313.4	0.031	6.07	104.9	0.6	0.32	0.1	0.00	0.33	0.08	10
1	20		14.58	14.58	33.392	24.824	312.1	0.063	6.06	104.6	0.6	0.32	0.1	0.00	0.36	0.11	20
	30	ISL	14.38	14.38	33.406	24.877	307.3	0.094	6.04	103.8	0.6	0.34	0.1	0.00	0.49	0.19	30
1	32		14.34	14.34	33.410	24.889	306.3	0.100	6.04	103.7	0.6	0.34	0.1	0.00	0.52	0.21	32
1	42		14.31	14.30	33.421	24.904	305.1	0.130	6.04	103.7	0.6	0.34	0.1	0.00	0.52	0.25	42
	50	ISL	14.15	14.14	33.415	24.933	302.6	0.155	5.87	100.4	1.5	0.40	0.4	0.02	0.88	0.39	50
1	53		14.06	14.05	33.411	24.949	301.1	0.164	5.79	98.9	1.9	0.43	0.7	0.04	0.99	0.47	53
1	61		13.76	13.75	33.405	25.006	295.8	0.188	5.57	94.5	3.0	0.53	2.1	0.11	0.82	0.75	61
1	72		13.15	13.14	33.422	25.143	283.1	0.219	5.20	87.1	5.6	0.71	5.1	0.16	0.73	0.65	73
	75	ISL	12.91	12.90	33.433	25.199	277.8	0.228	5.07	84.5	6.4	0.78	6.2	0.15	0.67	0.60	76
1	86		11.99	11.98	33.486	25.418	257.2	0.257	4.60	75.2	9.6	1.03	10.6	0.12	0.44	0.42	87
1	100		11.05	11.04	33.552	25.642	236.1	0.292	4.22	67.7	13.7	1.28	14.9	0.03	0.18	0.23	101
1	121		10.55	10.54	33.664	25.817	219.8	0.340	3.82	60.6	17.5	1.46	18.0	0.02	0.09	0.14	122
	125	ISL	10.41	10.40	33.700	25.870	214.9	0.348	3.69	58.4	18.9	1.52	18.9	0.02	0.08	0.13	126
1	146		9.66	9.64	33.886	26.142	189.3	0.391	2.99	46.6	26.5	1.83	23.7	0.01	0.04	0.08	147
	150	ISL	9.56	9.54	33.907	26.175	186.2	0.398	2.91	45.2	27.5	1.87	24.3	0.01	0.03	0.07	151
1	176		9.05	9.03	33.993	26.325	172.4	0.445	2.57	39.5	32.8	2.06	26.7	0.01	0.00	0.04	177
	200	ISL	8.75	8.73	34.047	26.415	164.2	0.485	2.28	34.8	36.5	2.19	28.3	0.01	0.00	0.04	202
1	205		8.70	8.68	34.056	26.430	162.9	0.493	2.23	34.0	37.1	2.21	28.6	0.01	0.00	0.04	207
1	233		8.53	8.51	34.109	26.498	156.9	0.538	2.04	31.0	39.8	2.30	29.7	0.01			235
	250	ISL	8.29	8.26	34.145	26.563	151.0	0.564	1.77	26.8	43.3	2.42	31.0	0.01			252
1	272		7.97	7.94	34.189	26.646	143.4	0.597	1.39	20.9	48.3	2.59	32.7	0.00			274
	300	ISL	7.77	7.74	34.221	26.700	138.6	0.636	1.09	16.3	52.3	2.69	33.9	0.00			302
1	324		7.63	7.60	34.236	26.733	135.9	0.669	0.92	13.7	55.2	2.74	34.6	0.00			327
1	385		6.99	6.95	34.252	26.836	126.6	0.749	0.70	10.3	63.3	2.92	37.1	0.00			388
	400	ISL	6.91	6.87	34.262	26.855	125.0	0.768	0.64	9.4	64.9	2.95	37.4	0.00			403
1	449		6.74	6.70	34.295	26.905	120.9	0.828	0.45	6.6	69.2	3.03	38.2	0.00			453
	500	ISL	6.50	6.45	34.306	26.946	117.5	0.889	0.39	5.7	72.7	3.08	39.1	0.00			504
1	520		6.41	6.36	34.310	26.961	116.3	0.913	0.36	5.2	74.1	3.10	39.5	0.00			524

RV DAVID STARR JORDAN CALCOFI CRUISE 8703 STATION 90 60

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
32 25.1 N	119 57.7 W	07/03/87	1046 GMT	869 M	350	18 KT			1017.0 MB	14.9 C	13.8 C		

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0	ISL	14.50	14.50	33.169	24.668	326.3	0.000	5.94	102.2	2.0	0.39	0.2	0.00	0.21	0.06	0
1	1		14.50	14.50	33.169	24.668	326.4	0.003	5.94	102.2	2.0	0.39	0.2	0.00	0.21	0.06	1
	10	ISL	14.45	14.45	33.183	24.690	324.5	0.033	5.96	102.5	1.9	0.39	0.2	0.00	0.24	0.08	10
1	16		14.40	14.40	33.215	24.725	321.4	0.052	5.97	102.5	1.9	0.39	0.2	0.00	0.27	0.10	16
	20	ISL	14.39	14.39	33.265	24.766	317.6	0.065	5.90	101.3	2.0	0.40	0.4	0.02	0.31	0.14	20
	30	ISL	14.36	14.36	33.390	24.869	308.1	0.096	5.79	99.5	2.4	0.42	0.8	0.05	0.39	0.21	30
1	31		14.36	14.36	33.403	24.879	307.2	0.099	5.79	99.5	2.4	0.42	0.8	0.05	0.40	0.21	31
1	41		14.19	14.18	33.419	24.928	302.8	0.130	6.07	103.9	1.0	0.35	0.2	0.00	0.35	0.12	41
	50	ISL	14.16	14.15	33.424	24.938	302.1	0.157	5.98	102.3	1.1	0.36	0.2	0.00	0.47	0.18	50
1	51		14.16	14.15	33.425	24.939	302.1	0.160	5.97	102.2	1.1	0.36	0.2	0.00	0.48	0.19	51
1	61		13.84	13.83	33.412	24.995	296.9	0.190	5.66	96.2	3.3	0.52	2.0	0.11	0.37	0.21	61
1	71		13.55	13.54	33.424	25.064	290.6	0.219	5.49	92.8	4.2	0.60	3.3	0.16	0.43	0.27	72
	75	ISL	13.01	. 13.00	33.412	25.163	281.2	0.231	5.26	87.9	5.8	0.73	5.6	0.13	0.34	0.25	76
1	80		12.26	12.25	33.406	25.304	267.9	0.244	4.95	81.4	8.0	0.92	8.8	0.07	0.20	0.21	81
1	95		10.91	10.90	33.504	25.629	237.1	0.282	4.40	70.3	12.9	1.25	14.5	0.02	0.10	0.13	96
	100	ISL	10.60	10.59	33.561	25.728	227.8	0.294	4.30	68.3	14.8	1.34	16.0	0.02	0.07	0.10	101
1	110		10.17	10.16	33.667	25.885	213.1	0.316	4.14	65.2	18.1	1.47	18.4	0.01	0.03	0.05	111
1	125		9.87	9.86	33.717	25.975	204.8	0.347	3.81	59.6	20.2	1.56	20.0	0.01	0.02	0.06	126
1	149		9.15	9.13	33.933	26.261	177.9	0.393	2.96	45.6	28.9	1.92	25.2	0.01	0.00	0.03	150
	150	ISL	9.14	9.12	33.937	26.266	177.4	0.395	2.94	45.3	29.1	1.93	25.3	0.01	0.00	0.03	151
1	174		8.95	8.93	34.002	26.348	170.1	0.437	2.57	39.4	32.7	2.08	27.2	0.01	0.00	0.03	175
	200	ISL	8.63	8.61	34.088	26.465	159.4	0.479	2.18	33.2	37.6	2.23	29.0	0.01	0.00	0.03	202
1	203		8.59	8.57	34.097	26.479	158.2	0.484	2.14	32.6	38.2	2.25	29.2	0.01	0.00	0.03	205
1	232		8.21	8.19	34.132	26.564	150.5	0.529	1.85	27.9	42.8	2.40	31.0	0.01			234
	250	ISL	8.06	8.03	34.154	26.604	146.9	0.556	1.65	24.8	45.2	2.48	31.8	0.01			252
1	270		7.92	7.89	34.176	26.643	143.6	0.585	1.45	21.8	47.7	2.55	32.5	0.00			272
	300	ISL	7.72	7.69	34.198	26.690	139.6	0.627	1.24	18.5	51.5	2.65	33.7	0.00			302
1	323		7.55	7.52	34.212	26.725	136.5	0.659	1.10	16.4	54.6	2.72	34.6	0.00			326
1	383		6.95	6.91	34.262	26.849	125.3	0.738	0.71	10.4	64.6	2.93	37.2	0.00			386
	400	ISL	6.86	6.82	34.272	26.870	123.5	0.759	0.63	9.2	66.3	2.96	37.6	0.00			403
1	447		6.64	6.60	34.291	26.915	119.8	0.816	0.48	7.0	70.3	3.03	38.4	0.00			451
	500	ISL	6.31	6.26	34.308	26.972	114.9	0.878	0.40	5.8	76.4	3.10	39.6	0.00			504
1	520		6.18	6.13	34.315	26.994	112.9	0.901	0.37	5.3	78.7	3.12	40.1	0.00			524

RV DAVID STARR JORDAN CALCOFI CRUISE 8703 STATION 90 70

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
32 5.2 N	120 38.3 W	07/03/87	0511 GMT	3970 M	350	22 KT			1018.0 MB	14.3 C	13.1 C		

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0 ISL	15.44	15.44	33.388	24.634	329.6	0.000	5.78	101.5	1.9	0.32	0.1	0.00	0.11	0.03	0
1	1	15.44	15.44	33.388	24.634	329.6	0.003	5.78	101.5	1.9	0.32	0.1	0.00	0.11	0.03	1
	10 ISL	15.43	15.43	33.386	24.635	329.8	0.033	5.84	102.5	1.9	0.33	0.1	0.00	0.11	0.03	10
1	17	15.43	15.43	33.385	24.634	330.1	0.056	5.89	103.4	1.9	0.33	0.1	0.00	0.11	0.03	17
	20 ISL	15.43	15.43	33.385	24.634	330.2	0.066	5.88	103.2	1.8	0.33	0.1	0.00	0.11	0.03	20
	30 ISL	15.43	15.43	33.384	24.634	330.6	0.099	5.81	102.0	1.7	0.33	0.1	0.00	0.11	0.03	30
1	33	15.43	15.42	33.384	24.634	330.7	0.109	5.79	101.6	1.6	0.33	0.1	0.00	0.11	0.03	33
1	42	15.44	15.43	33.383	24.631	331.2	0.139	5.78	101.5	1.5	0.32	0.1	0.00	0.11	0.03	42
	50 ISL	15.39	15.38	33.379	24.640	330.6	0.165	5.79	101.5	1.4	0.33	0.1	0.00	0.11	0.03	50
1	51	15.38	15.37	33.379	24.642	330.4	0.168	5.79	101.5	1.4	0.33	0.1	0.00	0.11	0.03	51
1	62	15.06	15.05	33.327	24.672	327.9	0.205	5.83	101.5	1.8	0.35	0.1	0.00	0.20	0.08	62
1	71	14.56	14.55	33.337	24.787	317.1	0.234	5.87	101.2	1.9	0.39	0.2	0.02	0.31	0.19	72
	75 ISL	14.46	14.45	33.458	24.902	306.3	0.246	5.74	98.8	2.3	0.41	0.7	0.05	0.29	0.19	76
1	79	14.28	14.27	33.575	25.031	294.2	0.258	5.57	95.6	2.9	0.43	1.7	0.08	0.25	0.19	80
1	95	11.36	11.35	33.372	25.446	254.6	0.302	4.83	77.9	9.5	1.06	11.3	0.02	0.15	0.16	96
	100 ISL	11.04	11.03	33.411	25.534	246.3	0.315	4.67	74.8	10.9	1.15	12.8	0.02	0.12	0.14	101
1	109	10.75	10.74	33.520	25.670	233.6	0.336	4.39	69.9	13.4	1.26	14.9	0.01	0.07	0.09	110
1	125	10.00	9.99	33.673	25.918	210.1	0.372	3.80	59.6	19.0	1.56	19.7	0.01	0.02	0.05	126
1	149	9.46	9.44	33.788	26.098	193.5	0.420	3.48	53.9	23.6	1.70	22.5	0.01	0.01	0.04	150
	150 ISL	9.44	9.42	33.793	26.105	192.8	0.422	3.46	53.6	23.8	1.71	22.6	0.01	0.01	0.04	151
1	174	8.88	8.86	33.913	26.289	175.7	0.466	3.05	46.7	29.5	1.91	25.8	0.00	0.00	0.02	175
	200 ISL	8.40	8.38	33.982	26.417	163.8	0.510	2.84	43.0	34.1	2.02	27.7	0.00	0.00	0.02	202
1	203	8.36	8.34	33.987	26.428	162.9	0.515	2.82	42.7	34.5	2.03	27.8		0.00	0.02	205
1	232	8.06	8.04	34.022	26.500	156.4	0.562	2.65	39.8	38.2	2.13	29.1	0.00			234
	250 ISL	7.85	7.83	34.036	26.543	152.6	0.589	2.51	37.6	40.7	2.20	30.0	0.00			252
1	271	7.61	7.58	34.049	26.588	148.6	0.621	2.31	34.4	43.9	2.28	31.2	0.00			273
	300 ISL	7.29	7.26	34.071	26.651	142.9	0.663	1.96	29.0	49.3	2.43	33.1	0.00			302
1	326	7.02	6.99	34.091	26.704	138.1	0.700	1.63	23.9	54.4	2.56	34.8	0.00			329
1	384	6.49	6.46	34.129	26.806	128.9	0.777	1.09	15.8	64.3	2.79	37.7	0.00			387
	400 ISL	6.37	6.33	34.141	26.831	126.7	0.798	0.97	14.0	66.8	2.84	38.3	0.00			403
1	449	6.02	5.98	34.180	26.907	119.9	0.858	0.68	9.8	73.9	2.97	39.9	0.01			453
	500 ISL	5.68	5.64	34.217	26.979	113.4	0.918	0.50	7.1	81.0	3.06	41.1	0.00			504
1	519	5.56	5.52	34.231	27.005	111.1	0.939	0.43	6.1	83.6	3.10	41.6	0.00			523

RV DAVID STARR JORDAN CALCOFI CRUISE 8703 STATION 90 80

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
31 45.1 N	121 18.9 W	07/03/87	0013 GMT	3695 M	330	22 KT	330 09 09	1	1018.0 MB	16.1 C	12,0 C	6/8	CU

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
1	0	15.10	15.10	33.291	24.634	329.6	0.000	5.85	102.0	1.9	0.35	0.2	0.00	0.14	0.04	0
	10 ISL	15.11	15.11	33.293	24.633	330.0	0.033	5.85	102.0	2.0	0.35	0.2	0.00	0.15	0.05	10
1	15	15.12	15.12	33.293	24.631	330.4	0.049	6.06U		2.0	0.35	0.2	0.00	0.15	0.05	15
	20 ISL	15.12	15.12	33.295	24.633	330.3	0.066	5.85	102.0	1.9	0.35	0.2	0.00	0.15	0.05	20
1	30	15.13	15.13	33.298	24.633	330.6	0.099	5.85	102.0	1.7	0.35	0.2	0.00	0.15	0.05	30
1	42	15.19	15.18	33.330	24.646	329.8	0.139	5.82	101.6	1.6	0.35	0.2	0.00	0.17	0.05	42
	50 ISL	15.16	15.15	33.483	24.770	318.2	0.165	5.77	100.8	1.9	0.34	0.3	0.03	0.29	0.15	50
1	51	15.16	15.15	33.504	24.786	316.7	0.168	5.76	100.6	2.0	0.34	0.3	0.04	0.30	0.16	51
1	61	14.54	14.53	33.454	24.882	307.8	0.199	5.67	97.8	2.4	0.41	1.1	0.13	0.26	0.18	61
1	71	14.68	14.67	33.630	24.988	298.1	0.229	5.62	97.3	2.8	0.37	1.0	0.11	0.23	0.20	72
	75 ISL	14.68	14.67	33.676	25.023	294.8	0.241	5.59	96.8	2.7	0.36	1.0	0.10	0.23	0.20	76
1	79	14.69	14.68	33.721	25.056	291.8	0.253	5.55	96.1	2.6	0.36	1.0	0.09	0.23	0.19	80
1	96	13.72	13.71	33.690	25.236	275.1	0.301	5.35	90.9	3.5	0.50	3.1	0.04	0.16	0.16	97
	100 ISL	13.49	13.48	33.687	25.281	270.9	0.312	5.30	89.6	4.1	0.54	3.7	0.03	0.15	0.15	101
1	110	12.82	12.81	33.675	25.406	259.2	0.338	5.16	86.0	5.8	0.66	5.7	0.02	0.12	0.12	111
	125 ISL	11.43	11.41	33.639	25.641	236.8	0.376	4.90	79.3	8.9	0.91	10.1	0.01	0.06	0.08	126
1	126	11.34	11.32	33.637	25.656	235.4	0.378	4.88	78.8	9.2	0.93	10.4	0.01	0.06	0.08	127
1	149	9.85	9.83	33.630	25.910	211.4	0.429	4.05	63.3	18.5	1.52	19.3	0.00	0.01	0.05	150
	150 ISL	9.82	9.80	33.637	25.921	210.4	0.432	4.03	62.9	18.8	1.52	19.5	0.00	0.01	0.05	151
1	175	9.30	9.28	33.838	26.164	187.8	0.481	3.70	57.2	23.6	1.64	21.8	0.00	0.00	0.03	176
	200 ISL	8.93	8.91	33.910	26.279	177.1	0.527	3.42	52.4	27.5	1.78	24.0	0.00	0.00	0.03	202
1	204	8.87	8.85	33.916	26.293	175.8	0.534	3.38	51.7	28.1	1.80	24.3	0.00	0.00	0.03	206
1	232	8.40	8.38	33.978	26.415	164.7	0.582	3.17	48.0	32.5	1.93	26.2	0.00			234
	250 ISL	8.12	8.09	34.004	26.478	158.9	0.611	2.98	44.9	35.8	2.03	27.5	0.00			252
1	270	7.83	7.80	34.025	26.537	153.5	0.642	2.73	40.8	39.7	2.14	29.1	0.00			272
	300 ISL	7.40	7.37	34.045	26.615	146.4	0.687	2.35	34.8	46.0	2.31	31.5	0.00			302
1	324	7.08	7.05	34.057	26.669	141.4	0.722	2.03	29.8	51.1	2.44	33.4	0.00			327
1	381	6.43	6.40	34.102	26.792	130.2	0.799	1.26	18.2	62.6	2.75	37.2	0.00			384
	400 ISL	6.27	6.23	34.115	26.823	127.3	0.823	1.10	15.9	65.8	2.82	38.1	0.00			403
1	447	5.94	5.90	34.148	26.892	121.2	0.882	0.82	11.7	73.0	2.95	39.7	0.00			451
	500 ISL	5.58	5.54	34.191	26.970	114.1	0.944	0.59	8.4	80.8	3.06	41.2	0.00			504
1	519	5.45	5.41	34.207	26.999	111.5	0.966	0.51	7.2	83.6	3.10	41.7	0.00			523

RV DAVID STARR JORDAN CALCOFI CRUISE 8703 STATION 90 90

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
31 25.1 N	121 59.5 W	06/03/87	1748 GMT	3928 M	330	20 KT	330 09 09	1	1019.1 MB	16.0 C	14.7 C	2/8	CU

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0	ISL	14.33	14.33	33.241	24.760	317.6	0.000	6.00	102.9	2.2	0.38	0.2	0.00	0.31	0.09	0
1	1		14.33	14.33	33.241	24.760	317.7	0.003	6.00	102.9	2.2	0.38	0.2	0.00	0.31	0.09	1
	10	ISL	14.30	14.30	33.239	24.765	317.4	0.032	5.99	102.7	2.3	0.37	0.1	0.00	0.28	0.08	10
1	11		14.30	14.30	33.239	24.765	317.5	0.035	5.99	102.7	2.3	0.37	0.1	0.00	0.28	0.08	11
	20	ISL	14.29	14.29	33.240	24.768	317.4	0.064	5.99	102.7	2.4	0.37	0.1	0.00	0.29	0.08	20
	30	ISL	14.27	14.27	33.242	24.774	317.1	0.095	5.98	102.5	2.4	0.38	0.1	0.00	0.30	0.09	30
1	31		14.27	14.27	33.242	24.774	317.2	0.098	5.98	102.5	2.4	0.38	0.1	0.00	0.30	0.09	31
1	40		14.23	14.22	33.243	24.783	316.5	0.127	5.99	102.5	2.4	0.39	0.2	0.01	0.38	0.13	40
1	50		14.00	13.99	33.208	24.805	314.8	0.158	5.96	101.5	2.5	0.39	0.3	0.04	0.38	0.16	50
1	60		13.64	13.63	33.134	24.822	313.4	0.190	5.93	100.2	2.9	0.44	0.5	0.13	0.32	0.15	60
1	72		13.35	13.34	33.149	24.892	307.0	0.227	5.81	97.6	3.2	0.52	1.8	0.16	0.20	0.12	73
	75	ISL	12.93	12.92	33.159	24.983	298.3	0.236	5.68	94.6	4.2	0.61	3.4	0.10	0.16	0.11	76
1	79		12.33	12.32	33.176	25.113	286.1	0.248	5.49	90.3	5.6	0.74	5.7	0.02	0.11	0.10	80
1	94		11.27	11.26	33.221	25.344	264.2	0.289	5.03	80.9	9.1	1.01	10.3	0.02	0.09	0.12	95
	100	ISL	11.02	11.01	33.276	25.432	256.0	0.305	4.87	77.9	10.5	1.09	11.9	0.02	0.07	0.10	101
1	109		10.71	10.70	33.376	25.565	243.5	0.327	4.63	73.6	12.7	1.21	14.1	0.01	0.05	0.06	II0
1	124		10.13	10.12	33.540	25.793	222.1	0.362	4.15	65.2	16.7	1.41	17.7	0.01	0.02	0.04	125
	125	ISL	10.09	10.08	33.550	25.807	220.7	0.364	4.12	64.7	17.0	1.42	17.9	0.01	0.02	0.04	126
1	148		9.36	9.34	33.747	26.082	194.9	0.412	3.56	55.1	23.6	1.69	22.4	0.01	0.00	0.05	149
	150	ISL	9.31	9.29	33.765	26.104	192.8	0.416	3.50	54.1	24.2	1.71	22.8	0.01	0.00	0.05	151
1	173		8.83	8.81	33.936	26.315	173.2	0.458	2.92	44.7	30.7	1.93	26.1	0.00	0.00	0.03	174
	200	ISL	8.36	8.34	33.992	26.432	162.5	0.503	2.86	43.3	34.6	2.01	27.3	0.00	0.00	0.02	202
1	203		8.31	8.29	33.993	26.440	161.7	0.508	2.85	43.1	34.9	2.01	27.4	0.00	0.00	0.02	205
1	231		7.82	7.80	34.027	26.540	152.5	0.552	2.63	39.3	40.1	2.13	29.2	0.00			233
	250	ISL	7.54	7.52	34.044	26.594	147.6	0.581	2.36	35.1	44.2	2.24	30.8	0.00			252
1	271		7.31	7.28	34.065	26.643	143.2	0.611	2.03	30.0	48.6	2.37	32.5	0.00			273
	300	ISL	7.20	7.17	34.113	26.696	138.6	0.652	1.61	23.7	52.7	2.52	34.0	0.00			302
1	325		7.12	7.09	34.149	26.736	135.1	0.686	1.30	19.1	55.8	2.63	35.0	0.00			328
1	385		6.42	6.39	34.147	26.829	126.7	0.765	0.99	14.3	65.8	2.81	37.7	0.00			388
	400	ISL	6.29	6.25	34.158	26.855	124.4	0.784	0.89	12.8	68.1	2.85	38.3	0.00			403
1	448		5.95	5.91	34.200	26.932	117.5	0.842	0.61	8.7	74.8	2.97	39.8	0.00			452
	500	ISL	5.66	5.62	34.229	26.991	112.3	0.902	0.47	6.7	80.8	3.05	40.8	0.00			504
1	517		5.56	5.52	34.239	27.011	110.5	0.921	0.42	6.0	82.7	3.08	41.1	0.00			521

RV DAVID STARR JORDAN CALCOFI CRUISE 8703 STATION 90 100

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
31 5.1 N	122 39.8 W	06/03/87	1141 GMT	4070 M	330	25 KT			1016.9 MB	14.8 C	12.0 C		

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0	ISL	14.27	14.27	33.050	24.625	330.5	0.000	5.95	101.8	1.8	0.39	0.2	0.00	0.16	0.04	0
1	2		14.27	14.27	33.050	24.625	330.5	0.007	5.95	101.8	1.8	0.39	0.2	0.00	0.16	0.04	2
	10	ISL	14.27	14.27	33.051	24.626	330.6	0.033	5.96	102.0	1.7	0.39	0.2	0.00	0.16	0.04	10
1	17		14.27	14.27	33.053	24.628	330.7	0.056			1.6	0.39	0.2	0.00	0.16	0.04	17
	20	ISL	14.24	14.24	33.055	24.635	330.0	0.066	5.98	102.3	1.6	0.39	0.2	0.00	0.17	0.04	20
	30	ISL	14.11	14.11	33.067	24.672	326.8	0.099	5.99	102.2	1.7	0.39	0.2	0.00	0.22	0.07	30
1	37		14.01	14.00	33.081	24.704	324.0	0.122	5.99	102.0	1.8	0.39	0.2	0.00	0.27	0.09	37
	50	ISL	13.93	13.92	33.132	24.760	319.0	0.164	5.97	101.5	1.9	0.40	0.3	0.02	0.36	0.16	50
1	58		13.88	13.87	33.159	24.792	316.2	0.189	5.94	100.9	2.0	0.40	0.4	0.04	0.39	0.19	58
1	72		13.68	13.67	33.156	24.831	312.9	0.233	5.87	99.3	2.2	0.44	0.9	0.11	0.33	0.16	73
	75	ISL	13.52	13.51	33.146	24.855	310.6	0.242	5.82	98.1	2.4	0.48	1.4	0.11	0.30	0.16	76
1	81		13.18	13.17	33.141	24.920	304.5	0.261	5.70	95.4	3.0	0.55	2.6	0.12	0.24	0.16	82
1	91		12.79	12.78	33.244	25.077	289.8	0.290	5.49	91.2	3.8	0.60	3.7	0.06	0.18	0.17	92
	100	ISL	12.67	12.66	33.402	25.223	276.2	0.316	5.39	89.4	4.6	0.63	4.8	0.04	0.14	0.16	101
1	102		12.62	12.61	33.428	25.253	273.4	0.321	5.36	88.8	4.9	0.65	5.2	0.04	0.13	0.15	103
1	111		11.86	11.85	33.391	25.369	262.4	0.346	5.12	83.5	7.0	0.83	8.1	0.02	0.10	0.13	112
	125	ISL	10.76	10.75	33.424	25.594	241.1	0.381	4.68	74.5	12.6	1.22	14.3	0.01	0.05	0.08	126
1	126		10.70	10.68	33.430	25.609	239.7	0.383			13.0	1.24	14.7	0.01	0.05	0.08	127
1	1*1		10.35	10.33	33.534	25.751	226.5	0.418	4.19	66.2	15.7	1.36	16.9	0.01	0.04	0.06	142
	150	ISL	10.06	10.04	33.586	25.841	218.0	0.438	3.98	62.5	17.8	1.45	18.6	0.01	0.03	0.04	151
1	161		9.71	9.69	33.651	25.950	207.8	0.462	3.76	58.6	20.6	1.57	20.7	0.00	0.01	0.03	162
1	181		9.24	9.22	33.797	26.141	190.0	0.501	3.40	52.4	25.2	1.74	23.5	0.00	0.00	0.03	182
	200	ISL	8.94	8.92	33.883	26.257	179.3	0.536	3.12	47.8	29.2	1.85	25.2	0.00	0.00	0.03	202
1	206		8.85	8.83	33.903	26.286	176.5	0.547	3.06	46.8	30.3	1.88	25.6	0.00	0.00	0.03	208
1	234		8.26	8.24	33.984	26.441	162.2	0.595	3.00	45.3	34.8	1.95	27.0	0.00			236
	250	ISL	8.02	7.99	34.010	26.497	157.0	0.620	2.82	42.4	37.9	2.04	28.2	0.00			252
1	272		7.73	7.70	34.032	26.557	151.6	0.654	2.51	37.5	42.3	2.17	29.9	0.00			274
	300	ISL	7.35	7.32	34.044	26.621	145.8	0.696	2.15	31.8	47.9	2.32	32.0	0.00			302
1	327		7.03	7.00	34.054	26.674	141.0	0.734	1.81	26.6	53.0	2.45	33.8	0.00			330
1	386		6.62	6.58	34.129	26.789	130.7	0.815	1.11	16.1	62.5	2.72	36.8	0.00			389
	400	ISL	6.48	6.44	34.140	26.816	128.2	0.833	0.99	14.4	65.1	2.78	37.5	0.00			403
1	451		5.99	5.95	34.173	26.906	120.0	0.896	0.66	9.5	74.2	2.94	39.6	0.00			455
	500	ISL	5.72	5.68	34.211	26.969	114.4	0.953	0.50	7.1	80.0	3.02	40.6	0.00			504
1	522		5.60	5.56	34.228	26.998	111.9	0.978	0.43	6.1	82.6	3.05	41.0	0.00			526

RV DAVID STARR JORDAN CALCOFI CRUISE 8703 STATION 90 110

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
30 45.1 N	123 19.9 W	06/03/87	0524 GMT	4194 M	350	22 KT			1016.3 MB	15.2 C	13.2 C		

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0	ISL	15.61	15.61	33.355	24.571	335.6	0.000	5.77	101.6	1.7	0.31	0.2	0.00	0.08	0.02	0
1	1		15.61	15.61	33.355	24.571	335.7	0.003	5.77	101.6	1.7	0.31	0.2	0.00	0.08	0.02	1
	10	ISL	15.60	15.60	33.352	24.571	335.9	0.034	5.77	101.6	1.7	0.32	0.2	0.00	0.09	0.02	10
1	16		15.60	15.60	33.351	24.570	336.2	0.054	5.77	101.6	1.7	0.32	0.2	0.00	0.09	0.02	16
	20	ISL	15.63	15.63	33.361	24.572	336.2	0.067	5.76	101.5	1.7	0.32	0.2	0.00	0.09	0.02	20
	30	ISL	15.73	15.73	33.400	24.580	335.7	0.101	5.75	101.5	1.7	0.31	0.2	0.00	0.08	0.02	30
1	37		15.84	15.83	33.438	24.584	335.5	0.124	5.73	101.4	1.8	0.30	0.2	0.00	0.08	0.02	37
	50	ISL	16.13	16.12	33.542	24.599	334.5	0.168	5.69	101.3	2.0	0.29	0.2	0.00	0.09	0.03	50
1	58		16.24	16.23	33.589	24.611	333.7	0.195	5.67	101.2	2.1	0.29	0.2	0.00	0.10	0.03	58
1	72		16.01	16.00	33.556	24.638	331.5	0.241	5.70	101.3	1.8	0.29	0.2	0.00	0.14	0.04	73
	75	ISL	16.08	16.07	33.581	24.642	331.3	0.251	5.69	101.2	1.8	0.29	0.2	0.00	0.13	0.04	76
1	81		16.19	16.18	33.623	24.649	330.8	0.271	5.67	101.1	1.8	0.28	0.2	0.00	0.13	0.04	82
1	90		15.91	15.90	33.571	24.673	328.8	0.301	5.69	100.9	1.9	0.30	0.2	0.02	0.18	0.08	91
1	100		14.86	14.85	33.503	24.852	311.9	0.333	5.71	99.1	2.2	0.36	0.6	0.07	0.18	0.12	101
1	110		13.77	13.75	33.406	25.007	297.3	0.363	5.67	96.2	2.9	0.43	1.6	0.10	0.17	0.12	111
1	125		13.56	13.54	33.493	25.117	287.1	0.407	5.53	93.5	3.3	0.47	2.6	0.04	0.14	0.11	126
1	141		13.34	13.32	33.642	25.277	272.3	0.452	5.30	89.3	4.2	0.55	4.0	0.02	0.12	0.13	142
	150	ISL	12.88	12.86	33.673	25.393	261.4	0.476	5.17	86.3	5.4	0.64	5.5	0.01	0.09	0.11	151
1	161		12.09	12.07	33.684	25.554	246.1	0.504	4.99	81.9	7.6	0.79	8.1	0.01	0.06	0.07	162
1	181		10.32	10.30	33.700	25.886	214.5	0.550	4.60	72.6	13.8	1.15	14.4	0.00	0.02	0.03	182
	200	ISL	9.39	9.37	33.807	26.125	192.0	0.588	4.49	69.5	18.5	1.32	17.8	0.00	0.00	0.02	202
1	205		9.22	9.20	33.839	26.178	187.0	0.598	4.46	68.8	19.7	1.36	18.5	0.00	0.00	0.02	207
1	233		8.43	8.41	33.951	26.389	167.2	0.647	3.93	59.6	28.2	1.66	23.0	0.00			235
	250	ISL	8.17	8.14	33.974	26.447	161.9	0.675	3.76	56.7	31.0	1.74	24.3	0.00			252
1	272		7.92	7.89	33.981	26.490	158.0	0.711	3.56	53.3	34.0	1.82	25.6	0.00			274
	300	ISL	7.48	7.45	33.996	26.565	151.1	0.754	3.08	45.7	40.5	2.02	28.3	0.00			302
1	327		7.08	7.05	34.008	26.631	145.1	0.794	2.60	38.2	47.0	2.21	31.0	0.00			330
1	385		6.50	6.47	34.028	26.725	136.6	0.875	1.95	28.3	56.5	2.47	34.6	0.00			388
	400	ISL	6.38	6.34	34.037	26.748	134.6	0.896	1.78	25.7	58.8	2.54	35.4	0.00			403
1	451		6.03	5.99	34.078	26.825	127.6	0.963	1.24	17.8	66.6	2.74	37.9	0.00			455
	500	ISL	5.74	5.70	34.128	26.901	120.8	1.024	0.87	12.4	74.4	2.89	39.6	0.00			504
1	521		5.62	5.58	34.150	26.934	117.9	1.049	0.71	10.1	77.7	2.96	40.4	0.00			525

RV DAVID STARR JORDAN CALCOFI CRUISE 8703 STATION 90 120

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
30 25.1 N	123 59.9 W	05/03/87	2326 GMT	4213 M	350	21 KT	310 07 10	2	1013.2 MB	17.9 C	14.9 C	8/8	SC

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0	ISL	16.88	16.88	33.779	24.606	332.2	0.000	5.60	101.3	1.8	0.27	0.2	0.00	0.10	0.02	0
1	1		16.88	16.88	33.779	24.606	332.3	0.003	5.60	101.3	1.8	0.27	0.2	0.00	0.10	0.02	1
	10	ISL	16.87	16.87	33.781	24.611	332.2	0.033	5.60	101.3	1.7	0.26	0.2	0.00	0.10	0.02	10
1	16		16.87	16.87	33.783	24.612	332.2	0.053	5.60	101.3	1.7	0.26	0.2	0.00	0.10	0.02	16
	20	ISL	16.87	16.87	33.785	24.614	332.2	0.066	5.60	101.3	1.7	0.26	0.2	0.00	0.10	0.02	20
	30	ISL	16.88	16.88	33.791	24.617	332.3	0.100	5.60	101.3	1.7	0.26	0.2	0.00	0.11	0.03	30
1	36		16.88	16.87	33.794	24.619	332.3	0.120	5.60	101.3	1.7	0.26	0.2	0.00	0.11	0.03	36
	50	ISL	16.94	16.93	33.817	24.623	332.3	0.166	5.57	100.9	1.7	0.27	0.2	0.00	0.12	0.03	50
1	57		16.97	16.96	33.827	24.624	332.4	0.189	5.56	100.8	1.7	0.27	0.2	0.00	0.12	0.03	57
1	71		16.97	16.96	33.830	24.627	332.7	0.236	5.59	101.3	1.7	0.26	0.2	0.00	0.12	0.03	72
	75	ISL	16.97	16.96	33.830	24.627	332.8	0.249	5.59	101.3	1.7	0.26	0.2	0.00	0.12	0.03	76
1	80		16.97	16.96	33.831	24.628	332.9	0.266	5.58	101.1	1.7	0.26	0.2	0.00	0.12	0.03	81
1	90		16.96	16.95	33.833	24.632	332.8	0.299	5.57	100.9	1.7	0.26	0.2	0.00	0.12	0.03	91
1	100		16.97	16.95	33.835	24.632	333.2	0.332	5.57	101.0	1.6	0.26	0.2	0.00	0.13	0.04	101
1	109		16.96	16.94	33.836	24.635	333.2	0.362	5.58	101.1	1.6	0.27	0.2	0.00	0.13	0.05	110
1	125		14.81	14.79	33.664	24.988	299.7	0.413	5.53	96.0	2.3	0.37	0.8	0.06	0.26	0.28	126
1	139		13.74	13.72	33.606	25.168	282.7	0.454	5.38	91.3	3.2	0.50	2.7	0.03	0.17	0.24	140
	150	ISL	13.15	13.13	33.633	25.309	269.5	0.484	5.22	87.6	4.3	0.60	4.5	0.02	0.11	0.16	151
1	159		12.70	12.68	33.662	25.420	259.0	0.508	5.06	84.1	5.5	0.69	6.2	0.01	0.08	0.10	160
1	178		11.46	11.44	33.635	25.634	238.8	0.555	4.69	75.9	9.6	0.97	11.1	0.01	0.04	0.06	179
	200	ISL	10.32	10.30	33.699	25.886	215.0	0.605	4.30	67.9	14.9	1.26	15.9	0.00	0.01	0.03	202
1	203		10.19	10.17	33.712	25.918	212.0	0.612	4.25	66.9	15.7	1.30	16.5	0.00	0.01	0.03	205
1	232		9.17	9.14	33.849	26.194	186.0	0.669	3.67	56.5	24.1	1.63	22.2	0.00			234
	250	ISL	8.76	8.73	33.916	26.311	175.0	0.702	3.47	53.0	27.8	1.75	24.1	0.00			252
1	271		8.41	8.38	33.975	26.412	165.7	0.738	3.29	49.8	31.4	1.85	25.6	0.00			273
	300	ISL	8.08	8.05	34.014	26.492	158.4	0.785	3.00	45.1	35.6	1.98	27.4	0.00			302
1	326		7.83	7.80	34.030	26.542	154.1	0.825	2.70	40.4	39.5	2.10	28.9	0.00			329
1	384		7.01	6.97	34.073	26.692	140.1	0.911	1.85	27.1	52.3	2.45	33.6	0.00			387
	400	ISL	6.86	6.82	34.079	26.718	137.9	0.933	1.69	24.7	54.6	2.52	34.5	0.00			403
1	450		6.45	6.41	34.115	26.801	130.4	1.000	1.22	17.7	62.2	2.72	36.9	0.00			454
	500	ISL	5.89	5.85	34.225	26.959	115.5	1.061	0.64	9.2	75.7	2.97	39.6	0.00			504
1	521		5.65	5.61	34.272	27.026	109.2	1.085	0.39	5.5	81.4	3.07	40.8	0.00			525

RV DAVID STARR JORDAN CALCOFI CRUISE 8703 STATION 93 26.7

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
32 57.3 N	117 18.3 W	03/03/87	0108 GMT	65 M	280	12 KT	290 02 03	1	1018.9 MB	14.5 C	12.0 C	6/8	CS

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0	ISL	14.81	14.81	33.399	24.780	315.7	0.000	5.93	102.8	1.8	0.35	1.0	0.00	0.22	0.05	0
1	1		14.81	14.81	33.399	24.780	315.8	0.003	5.93	102.8	1.8	0.35	1.0	0.00	0.22	0.05	1
	10	ISL	14.61	14.61	33.395	24.820	312.2	0.031	5.95	102.7	1.7	0.35	0.9	0.00	0.25	0.09	10
1	11		14.58	14.58	33.395	24.826	311.6	0.035	5.95	102.7	1.7	0.35	0.9	0.00	0.26	0.10	11
	20	ISL	14.52	14.52	33.392	24.837	310.9	0.063	5.90	101.7	1.7	0.40	1.1	0.01	0.34	0.14	20
1	21		14.51	14.51	33.392	24.839	310.7	0.066	5.90	101.7	1.7	0.40	1.1	0.01	0.35	0.15	21
	30	ISL	14.36	14.36	33.388	24.868	308.2	0.094	5.94	102.0	2.2	0.37	1.1	0.02	0.74	0.23	30
1	31		14.33	14.33	33.387	24.873	307.7	0.097	5.94	102.0	2.3	0.37	1.1	0.02	0.81	0.24	31
1	42		13.77	13.76	33.377	24.982	297.6	0.130	5.75	97.6	3.6	0.49	2.5	0.08	2.03	0.27	42
	50	ISL	12.54	12.53	33.438	25.275	269.9	0.153	5.01	82.9	7.4	0.84	8.0	0.10	0.73	0.32	50
1	52		12.23	12.22	33.456	25.348	263.0	0.158	4.82	79.2	8.3	0.93	9.4	0.11	0.40	0.33	52

RV DAVID STARR JORDAN CALCOFI CRUISE 8703 STATION 93 28

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
32 54.8 N	117 23.7 W	03/03/87	0459 GMT	603 M	320	08 KT			1019.5 MB	14.9 C	11.9 C		

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
1	0	14.70														0
1	9	14.59	14.59	33.379	24.812	313.0		5.93	102.3	.1.8	0.36	0.9	0.00	0.20	0.08	9
1	20	14.55	14.55	33.378	24.820	312.6		5.95	102.6	1.8	0.38	0.9	0.00	0.30	0.12	20
1	30	14.52	14.52	33.376	24.825	312.4		5.94	102.4	1.7	0.36	0.9	0.00	0.25	0.12	30
1	39	13.30	13.29													39
1	48	12.29	12.28													48
1	59	12.09	12.08	33.490	25.401	258.1		4.64	76.1	9.0	0.97	10.2	0.09	0.44	0.29	59
1	68	11.65	11.64													69
1	83	11.02	11.01													84
1	102	10.57	10.56	33.669	25.817	219.4		3.90	61.9	16.6	1.41	17.9	0.01	0.05	0.10	103
1	145P	9.63	9.61													146
1	205P	9.03	9.01	34.151	26.452	160.9		1.99	30.6	37.2	2.25	29.2	0.01			207
1	272P	8.70	8.67	34.199	26.543	153.5		1.60	24.4	42.3	2.39	31.0	0.00			274
1	349P	8.31	8.27	34.227	26.626	146.9		1.25	18.9	48.8	2.57	33.4	0.00			352

RV DAVID STARR JORDAN CALCOFI CRUISE 8703 STATION 93 30

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
32 50.8 N	117 31.9 W	03/03/87	0816 GMT	888 M	320	08 KT			1021.0 MB	14.2 C	11.7 C		

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0	ISL	14.57	14.57	33.377	24.814	312.5	0.000	6.14	105.9	2.2	0.35	0.8	0.00	0.45	0.06	0
1	1		14.57	14.57	33.377	24.814	312.5	0.003	6.14	105.9	2.2	0.35	0.8	0.00	0.45	0.06	1
1	10		14.53	14.53	33.374	24.820	312.1	0.031	6.27	108.1	2.0	0.39	0.9	0.01	0.45	0.08	10
1	20		14.08	14.08	33.346	24.894	305.5	0.062	6.26	106.9	3.0	0.40	1.1	0.02	2.86	0.15	20
	30	ISL	13.89	13.89	33.353	24.939	301.5	0.092	6.04	102.7	3.8	0.47	1.6	0.05	2.13	0.21	30
1	31		13.85	13.85	33.349	24.944	301.0	0.095	5.99	101.8	3.9	0.48	1.6	0.06	6.21U	-0.38U	31
1	40		12.85	12.84	33.380	25.169	279.8	0.122	5.23	87.1	5.9	0.75	6.3	0.13	0.58	0.27	40
1	50		12.43	12.42	33.452	25.307	266.9	0.149	4.89	80.7	7.8	0.88	8.7	0.20	0.50	0.33	50
1	60		12.01	12.00	33.495	25.420	256.3	0.175	4.75	77.7	9.2	0.97	10.3	0.22	0.36	0.31	60
1	70		11.73	11.72	33.534	25.503	248.6	0.200	4.48	72.9	11.0	1.08	12.1	0.06	0.26	0.28	71
	75	ISL	11.56	11.55	33.571	25.563	243.0	0.213	4.28	69.4	12.5	1.16	13.5	0.04	0.21	0.25	76
1	83		11.23	11.22	33.629	25.669	233.1	0.232	3.99	64.3	14.9	1.29	15.7	0.02	0.13	0.19	84
1	98		10.39	10.38	33.675	25.853	215.8	0.265	3.95	62.5	16.9	1.42	18.1	0.02	0.05	0.09	99
	100	ISL	10.34	10.33	33.680	25.866	214.7	0.270	3.94	62.3	17.1	1.43	18.3	0.02	0.05	0.09	101
1	118		10.11	10.10	33.740	25.952	206.9	0.308	3.83	60.2	19.8	1.50	20.0	0.01	0.03	0.06	119
	125	ISL	9.99	9.98	33.795	26.015	200.9	0.322	3.57	56.0	21.8	1.60	21.3	0.01	0.03	0.06	126
1	141		9.73	9.71	33.926	26.161	187.4	0.353	2.92	45.6	26.6	1.83	24.2	0.01	0.02	0.06	142
	150	ISL	9.63	9.61	33.966	26.209	183.0	0.370	2.77	43.2	28.2	1.89	25.1	0.01	0.02	0.06	151
1	171		9.49	9.47	34.031	26.284	176.4	0.407	2.56	39.8	30.8	1.99	26.5	0.00	0.01	0.06	172
	200	ISL	9.47	9.45	34.132	26.366	169.2	0.457	2.08	32.3	33.9	2.15	28.0	0.00	0.01	0.05	202
1	202		9.47	9.45	34.138	26.371	168.8	0.461	2.05	31.9	34.1	2.16	28.1	0.00	0.01	0.05	204
1	230		9.34	9.31	34.168	26.416	165.0	0.508	1.89	29.3	35.8	2.24	28.7	0.00			232
	250	ISL	9.14	9.11	34.177	26.456	161.6	0.540	1.84	28.4	37.4	2.29	29.3	0.02			252
1	268		8.94	8.91	34.184	26.493	158.3	0.569	1.79	27.5	39.0	2.33	29.9	0.04			270
	300	ISL	8.69	8.66	34.210	26.553	153.1	0.619	1.58	24.1	41.8	2.38	30.9	0.02			302
1	322		8.50	8.47	34.226	26.596	149.4	0.652	1.42	21.6	44.3	2.43	31.7	0.00			325
1	381		7.55	7.51	34.228	26.739	136.2	0.736	1.06	15.8	54.8	2.67	35.0	0.00			384
	400	ISL	7.36	7.32	34.232	26.769	133.5	0.762	0.96	14.2	57.2	2.73	35.8	0.00			403
1	446		7.03	6.99	34.246	26.827	128.5	0.822	0.75	11.0	62.0	2.86	37.3	0.01			450
	500	ISL	6.69	6.64	34.267	26.890	123.0	0.890	0.56	8.2	67.3	2.93	38.7	0.01			504
1	516		6.59	6.54	34.274	26.909	121.4	0.910	0.50	7.3	68.9	2.95	39.1	0.01			520

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
32 40.8 N	117 52.6 W	03/03/87	1052 GMT	579 M	030	12 KT			1021.0 MB	14.2 C	12.0 C		

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
1	0	15.11	15.11	33.382	24.701	323.2	0.000	5.81	101.3	1.8	0.35	0.7	0.00	0.18	0.05	0
	10 ISL	15.10	15.10	33.381	24.703	323.3	0.032	5.93	103.4	1.7	0.37	0.6	0.00	0.19	0.05	10
1	12	15.10	15.10	33.381	24.703	323.4	0.039	5.96	103.9	1.7	0.37	0.6	0.00	0.19	0.05	12
1	20	15.05	15.05	33.371	24.707	323.3	0.065	5.85	101.9	1.6	0.36	0.7	0.00	0.21	0.06	20
1	30	14.67	14.67	33.357	24.778	316.8	0.097	5.88	101.6	1.7	0.38	0.7	0.00	0.37	0.13	30
1	42	14.43	14.42	33.351	24.825	312.7	0.134	5.90	101.5	1.7	0.39	0.8	0.01	0.42	0.18	42
1	49	14.43	14.42	33.349	24.823	313.0	0.156	5.89	101.3	1.8	0.39	0.9	0.01	0.39	0.17	49
	50 ISL	14.35	14.34	33.347	24.839	311.6	0.159	5.87	100.8	1.9	0.40	1.1	0.02	0.39	0.18	50
1	60	13.36	13.35	33.346	25.042	292.4	0.190	5.54	93.2	3.6	0.57	3.4	0.08	0.40	0.24	60
1	71	12.82	12.81	33.382	25.177	279.8	0.221	5.25	87.4	5.4	0.72	5.8	0.05	0.29	0.25	72
	75 ISL	12.57	12.56	33.411	25.249	273.1	0.232	5.12	84.8	6.1	0.78	6.9	0.04	0.24	0.23	76
1	84	11.95	11.94	33.476	25.417	257.2	0.256	4.82	78.8	8.2	0.93	9.6	0.03	0.15	0.16	85
1	99	10.88	10.87	33.517	25.645	235.8	0.293	4.42	70.6	13.2	1.23	15.1	0.02	0.09	0.10	100
	100 ISL	10.84	10.83	33.523	25.656	234.7	0.295	4.40	70.2	13.4	1.24	15.3	0.02	0.09	0.10	101
1	120	10.30	10.29	33.648	25.848	216.8	0.341	3.94	62.2	17.5	1.45	18.9	0.01	0.03	0.08	121
	125 ISL	10.15	10.14	33.680	25.899	212.0	0.351	3.83	60.3	18.7	1.50	19.7	0.01	0.02	0.07	126
1	144	9.61	9.59	33.798	26.081	195.0	0.390	3.42	53.2	23.3	1.67	22.7	0.01	0.00	0.04	145
	150 ISL	9.47	9.45	33.833	26.132	190.3	0.401	3.30	51.2	24.8	1.73	23.6	0.01	0.00	0.04	151
1	174	9.02	9.00	33.948	26.294	175.2	0.445	2.89	44.4	30.1	1.94	26.4	0.01	0.00	0.05	175
	200 ISL	8.75	8.73	34.008	26.384	167.1	0.490	2.62	40.0	33.9	2.05	28.1	0.00	0.00	0.04	202
1	203	8.73	8.71	34.012	26.391	166.6	0.495	2.60	39.7	34.2	2.06	28.2	0.00	0.00	0.04	205
1	232	8.52	8.50	34.053	26.456	160.9	0.542	2.39	36.3	36.8	2.14	29.3	0.01			234
	250 ISL	8.35	8.32	34.074	26.498	157.1	0.571	2.26	34.2	39.0	2.20	30.2	0.01			252
1	271	8.13	8.10	34.099	26.551	152.4	0.603	2.07	31.2	42.1	2.28	31.3	0.01			273
	300 ISL	7.79	7.76	34.144	26.637	144.6	0.647	1.65	24.7	47.9	2.45	33.2	0.00			302
1	327	7.48	7.45	34.186	26.715	137.4	0.685	1.24	18.4	53.5	2.62	34.9	0.00			330
1	384	7.01	6.97	34.253	26.834	126.8	0.760	0.68	10.0	62.5	2.85	37.6	0.00			387
	400 ISL	6.88	6.84	34.263	26.860	124.5	0.780	0.60	8.8	64.7	2.89	38.1	0.00			403
1	450	6.55	6.51	34.285	26.922	119.1	0.841	0.46	6.7	70.2	2.98	39.3	0.00			454
	500 ISL	6.38	6.33	34.300	26.957	116.4	0.900	0.39	5.6	73.4	3.04	40.0	0.00			504
1	520	6.31	6.26	34.306	26.971	115.3	0.923	0.36	5.2	74.7	3.06	40.3	0.00			524

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
32 31.0 N	118 12.7 W	03/03/87	1527 GMT	1667 M	040	07 KT	050 02 04	1	1021.0 MB	15.0 C	13.8 C	6/8	SC

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0 ISL	14.96	14.96	33.397	24.746	319.0	0.000	5.85	101.7	1.7	0.37	0.5	0.00	0.20	0.05	0
1	1	14.96	14.96	33.397	24.746	319.0	0.003	5.85	101.7	1.7	0.37	0.5	0.00	0.20	0.05	1
1	10	14.92	14.92	33.389	24.748	319.0	0.032	5.96	103.6	1.7	0.36	0.5	0.00	0.21	0.05	10
1	20	14.81	14.81	33.379	24.765	317.8	0.064	5.89	102.1	1.6	0.36	0.4	0.00	0.24	0.06	20
1	30	14.46	14.46	33.387	24.846	310.3	0.095	5.92	101.9	1.5	0.37	0.4	0.00	0.24	0.08	30
1	41	14.32	14.31	33.393	24.880	3C7.3	0.129	6.06	104.0	0.9	0.34	0.4	0.00	0.63	0.20	41
	50 ISL	14.21	14.20	33.397	24.907	305.1	0.157	6.01	102.9	0.7	0.35	0.5	0.00	1.14	0.55	50
1	51	14.20	14.19	33.398	24.910	304.8	0.160	6.00	102.7	0.7	0.35	0.5	0.00	1.19	0.59	51
1	60	14.16	14.15	33.402	24.921	304.0	0.187	5.90	100.9	0.9	0.37	0.5	0.01	1.22	0.71	60
1	69	12.92	12.91	33.335	25.121	285.1	0.214	5.38	89.7	4.8	0.70	5.2	0.13	0.50	0.46	70
	75 ISL	12.35	12.34	33.361	25.252	272.7	0.230	5.17	85.2	6.7	0.82	7.4	0.10	0.28	0.31	76
1	83	11.83	11.82	33.427	25.402	258.6	0.252	4.97	81.0	8.6	0.93	9.5	0.02	0.15	0.16	84
1	98	11.31	11.30	33.524	25.573	242.6	0.289	4.58	73.8	11.5	1.09	12.6	0.02	0.07	0.09	99
	100 ISL	11.23	11.22	33.535	25.596	240.5	0.294	4.54	73.1	11.9	1.11	13.0	0.02	0.06	0.08	101
1	118	10.56	10.55	33.622	25.783	223.0	0.336	4.20	66.7	15.4	1.30	16.5	0.01	0.03	0.05	119
	125 ISL	10.34	10.33	33.653	25.845	217.2	0.351	4.06	64.1	16.8	1.37	17.7	0.01	0.02	0.04	126
1	143	9.84	9.82	33.738	25.996	203.1	0.389	3.69	57.7	20.6	1.55	20.6	0.01	0.01	0.03	144
	150 ISL	9.65	9.63	33.783	26.063	196.8	0.403	3.54	55.1	22.5	1.62	21.7	0.01	0.01	0.03	151
1	172	9.10	9.08	33.911	26.253	179.2	0.444	3.15	48.5	28.2	1.81	24.6	0.01	0.00	0.02	173
	200 ISL	8.54	8.52	33.972	26.388	166.6	0.493	3.02	45.9	32.6	1.91	26.5	0.01	0.00	0.02	202
1	201	8.52	8.50	33.973	26.392	166.3	0.494	3.02	45.9	32.7	1.91	26.5	0.01	0.00	0.02	203
1	230	7.98	7.96	34.021	26.511	155.3	0.541	2.77	41.6	38.5	2.05	28.6	0.01			232
	250 ISL	7.79	7.77	34.048	26.561	150.9	0.572	2.46	36.8	41.9	2.16	30.3	0.00			252
1	268	7.68	7.65	34.074	26.597	147.7	0.599	2.14	31.9	44.7	2.27	31.7	0.00			270
	300 ISL	7.55	7.52	34.144	26.672	141.2	0.645	1.55	23.0	50.0	2.48	33.7	0.00			302
1	324	7.47	7.44	34.193	26.722	136.7	0.678	1.16	17.2	53.7	2.62	35.0	0.00			327
1	382	7.05	7.01	34.242	26.820	128.1	0.755	0.75	11.0	61.3	2.77	37.3	0.00			385
	400 ISL	6.96	6.92	34.252	26.840	126.4	0.778	0.69	10.1	63.0	2.81	37.7	0.00			403
1	448	6.75	6.71	34.273	26.886	122.7	0.838	0.57	8.3	66.9	2.91	38.5	0.00			452
	500 ISL	6.48	6.43	34.295	26.940	118.1	0.900	0.42	6.1	71.7	3.01	39.7	0.00			504
1	519	6.38	6.33	34.304	26.960	116.3	0.922	0.37	5.4	73.5	3.05	40.1	0.00			523

RV DAVID STARR JORDAN CALCOFI CRUISE 8703 STATION 93 45

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
32 20.9 N	118 33.3 W	03/03/87	1940 GMT	1350 M	310	05 KT	300 02 06	1	1022.5 MB	17.0 C	14.1 C	2/8	SC

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
1	0	14.93	14.93	33.392	24.748	318.7	0.000	6.00	104.3	1.0	0.34	0.1	0.00	0.30	0.06	0
1	10	14.48	14.48	33.387	24.841	310.2	0.031	6.05	104.2	1.0	0.35	0.1	0.00	0.33	0.09	10
1	20	14.40	14.40	33.384	24.856	309.1	0.062	6.02	103.5	1.0	0.35	0.2	0.00	0.36	0.09	20
	30 ISL	14.39	14.39	33.386	24.860	309.0	0.093	6.01	103.3	0.9	0.34	0.2	0.00	0.36	0.11	30
1	31	14.39	14.39	33.386	24.860	309.0	0.096	6.01	103.3	0.9	0.34	0.2	0.00	0.36	0.11	31
1	41	14.30	14.29	33.387	24.880	307.4	0.127	6.02	103.3	0.9	0.36	0.2	0.01	0.60	0.20	41
	50 ISL	14.16	14.15	33.399	24.919	303.9	0.155	5.85	100.1	1.6	0.40	0.3	0.02	1.36	0.54	50
1	51	14.14	14.13	33.400	24.924	303.5	0.158	5.83	99.7	1.7	0.41	0.3	0.02	1.44	0.58	51
1	61	14.00	13.99	33.398	24.952	301.1	0.188	5.76	98.2	2.0	0.45	0.5	0.04	1.42	0.77	61
1	71	13.75	13.74	33.406	25.010	295.9	0.218	5.54	94.0	3.2	0.56	1.5	0.09	1.22	0.97	72
	75 ISL	13.27	13.26	33.402	25.104	286.9	0.230	5.35	89.9	4.7	0.68	3.5	0.08	0.97	0.81	76
1	85	12.00	11.99	33.410	25.357	262.9	0.257	4.86	79.5	8.7	0.99	9.1	0.07	0.35	0.31	86
1	100	11.43	11.42	33.468	25.508	248.9	0.295	4.58	74.0	11.0	1.12	12.0	0.04	0.22	0.21	101
1	119	10.64	10.63	33.577	25.734	227.7	0.341	4.12	65.5	15.2	1.35	13.2	0.02	0.08	0.12	120
	125 ISL	10.46	10.45	33.613	25.793	222.1	0.354	3.98	63.0	16.5	1.41	14.2	0.02	0.06	0.10	126
1	144	9.98	9.96	33.727	25.964	206.2	0.395	3.57	56.0	20.8	1.59	18.0	0.01	0.02	0.06	145
	150 ISL	9.84	9.82	33.762	26.015	201.5	0.407	3.45	53.9	22.2	1.64	19.0	0.01	0.02	0.06	151
1	174	9.33	9.31	33.885	26.196	184.7	0.453	3.03	46.9	27.5	1.84	22.1	0.01	0.00	0.04	175
	200 ISL	8.90	8.88	33.976	26.336	171.8	0.500	2.72	41.7	31.9	2.00	24.0	0.01	0.01	0.07	202
1	203	8.86	8.84	33.984	26.348	170.6	0.505	2.69	41.2	32.3	2.01	24.2	0.01	0.01	0.07	205
1	230	8.59	8.57	34.043	26.437	162.7	0.550	2.44	37.1	35.6	2.11	25.4	0.00			232
	250 ISL	8.27	8.24	34.074	26.510	155.9	0.582	2.21	33.4	39.7	2.21	27.0	0.00			252
1	271	7.93	7.90	34.104	26.585	149.1	0.614	1.93	28.9	44.4	2.33	28.9	0.00			273
	300 ISL	7.72	7.69	34.163	26.662	142.1	0.656	1.47	21.9	49.5	2.51	30.9	0.01			302
1	324	7.59	7.56	34.207	26.716	137.4	0.690	1.11	16.5	53.4	2.65	32.5	0.01			327
1	383	6.92	6.88	34.243	26.838	126.3	0.767	0.70	10.3	63.6	2.86	37.5	0.00			386
	400 ISL	6.81	6.77	34.254	26.862	124.2	0.789	0.62	9.1	65.6	2.90	38.2	0.00			403
1	448	6.55	6.51	34.285	26.922	119.1	0.847	0.46	6.7	70.5	2.98	39.6	0.00			452
	500 ISL	6.20	6.16	34.313	26.990	113.0	0.907	0.35	5.0	76.4	3.04	41.1	0.00			504
1	518	6.08	6.03	34.324	27.014	110.9	0.927	0.31	4.5	78.5	3.06	41.6	0.00			522

RV DAVID STARR JORDAN CALCOFI CRUISE 8703 STATION 93 50

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
32 10.8 N	118 53.6 W	03/03/87	2349 GMT	1502 M	290	04 KT	280 01 09	1	1020.1 MB	16.5 C	13.8 C	2/8	ST

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0 ISL	16.25	16.25	33.473	24.517	340.7	0.000	5.77	103.0	2.0	0.34	0.7	0.00	0.09	0.01	0
1	1	16.25	16.25	33.473	24.517	340.7	0.003	5.77	103.0	2.0	0.34	0.7	0.00	0.09	0.01	1
	10 ISL	15.54	15.54	33.468	24.674	326.2	0.033	5.86	103.1	1.7	0.34	0.6	0.00	0.11	0.02	10
1	11	15.44	15.44	33.468	24.696	324.1	0.037	5.87	103.1	1.7	0.34	0.6	0.00	0.11	0.02	11
	20 ISL	15.31	15.31	33.457	24.716	322.4	0.066	5.85	102.5	1.8	0.33	0.6	0.00	0.15	0.03	20
1	21	15.31	15.31	33.458	24.717	322.4	0.069	5.84	102.3	1.8	0.33	0.6	0.00	0.16	0.03	21
	30 ISL	14.93	14.93	33.422	24.772	317.4	0.098	5.85	101.7	1.9	0.35	0.5	0.01	0.33	0.13	30
1	32	14.82	14.82	33.414	24.790	315.7	0.104	5.85	101.4	1.9	0.36	0.5	0.01	0.38	0.16	32
1	42	14.26	14.25	33.402	24.900	305.5	0.135	6.12	104.9	0.7	0.35	0.5	0.00	0.77	0.30	42
	50 ISL	14.21	14.20	33.404	24.912	304.6	0.160	6.07	104.0	0.8	0.35	0.6	0.00	0.90	0.40	50
1	51	14.20	14.19	33.404	24.914	304.4	0.163	6.06	103.8	0.8	0.35	0.6	0.00	0.92	0.41	51
1	62	14.16	14.15	33.403	24.922	303.9	0.196	5.99	102.5	1.2	0.36	0.5	0.01	1.42	0.68	62
1	71	13.19	13.18	33.412	25.127	284.6	0.223	5.44	91.2	4.2	0.62	3.3	0.08	1.57	0.92	72
	75 ISL	12.87	12.86	33.434	25.208	277.0	0.234	5.16	86.0	5.7	0.75	5.2	0.07	1.25	0.81	76
1	85	12.13	12.12	33.495	25.398	259.0	0.261	4.56	74.8	9.6	1.03	10.0	0.05	0.30	0.41	86
1	100	10.86	10.85	33.544	25.669	233.5	0.298	4.26	68.0	14.3	1.29	15.3	0.02	0.11	0.19	101
1	119	10.33	10.32	33.687	25.873	214.4	0.340	3.79	59.9	18.7	1.49	18.4	0.01	0.03	0.08	120
	125 ISL	10.20	10.19	33.714	25.917	210.3	0.353	3.68	58.0	19.7	1.54	19.2	0.01	0.03	0.07	126
1	145	9.83	9.81	33.788	26..037	199.3	0.394	3.37	52.7	22.9	1.69	21.6	0.01	0.02	0.05	146
	150 ISL	9.73	9.71	33.812	26.073	196.0	0.404	3.29	51.3	23.9	1.73	22.2	0.01	0.02	0.05	151
1	173	9.30	9.28	33.921	26.229	181.6	0.447	2.95	45.6	28.6	1.88	24.7	0.00	0.00	0.04	174
	200 ISL	8.89	8.87	34.015	26.368	168.8	0.494	2.57	39.4	33.4	2.06	27.0	0.00	0.00	0.03	202
1	203	8.86	8.84	34.023	26.379	167.8	0.499	2.53	38.7	33.8	2.08	27.2	0.00	0.00	0.03	205
1	231	8.71	8.69	34.083	26.450	161.5	0.546	2.27	34.7	36.6	2.17	28.5	0.00			233
	250 ISL	8.51	8.48	34.111	26.503	156.8	0.576	2.05	31.2	39.4	2.26	29.6	0.00			252
1	271	8.26	8.23	34.139	26.563	151.3	0.608	1.78	26.9	43.0	2.38	31.0	0.00			273
	300 ISL	7.91	7.88	34.187	26.653	143.1	0.651	1.36	20.4	48.8	2.55	32.9	0.00			302
1	323	7.65	7.62	34.222	26.719	137.1	0.683	1.06	15.8	53.2	2.67	34.2	0.00			326
1	382	7.26	7.22	34.263	26.807	129.5	0.762	0.76	11.2	60.2	2.84	36.3	0.00			385
	400 ISL	7.11	7.07	34.277	26.839	126.6	0.785	0.66	9.7	62.8	2.89	37.0	0.00			403
1	448	6.70	6.66	34.308	26.920	119.4	0.844	0.43	6.3	69.7	3.01	38.6	0.00			452
	500 ISL	6.32	6.27	34.322	26.982	114.0	0.904	0.34	4.9	75.6	3.08	39.7	0.00			504
1	518	6.19	6.14	34.328	27.003	112.0	0.925	0.31	4.5	77.7	3.10	40.1	0.00			522

RV DAVID STARR JORDAN CALCOFI CRUISE 8703 STATION 93 55

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
32 0.5 N	119 14.0 W	04/03/87	0313 GMT	1487 M	310	04 KT			1020.1 MB	14.6 C	12.2 C		

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
1	0	15.56	15.56	33.390	24.609	332.0	0.000	5.96	104.9	1.5	0.38	0.4	0.00	0.19	0.04	0
1	9	14.51	14.51	33.379	24.828	311.4	0.029	6.06	104.4	1.6	0.37	0.4	0.00	0.25	0.05	9
	10 ISL	14.50	14.50	33.378	24.830	311.2	0.032	6.06	104.4	1.6	0.37	0.4	0.00	0.25	0.05	10
1	19	14.37	14.37	33.372	24.853	309.3	0.060	6.01	103.3	1.7	0.36	0.1	0.00	0.20	0.07	19
	20 ISL	14.37	14.37	33.372	24.853	309.4	0.063	6.00	103.1	1.7	0.36	0.1	0.00	0.20	0.07	20
1	29	14.34	14.34	33.375	24.862	308.8	0.091	5.96	102.3	1.8	0.37	0.1	0.00	0.22	0.08	29
	30 ISL	14.34	14.34	33.375	24.862	308.8	0.094	5.97	102.5	1.8	0.37	0.1	0.00	0.23	0.09	30
1	38	14.29	14.28	33.377	24.874	307.8	0.119	6.02	103.3	1.5	0.38	0.1	0.00	0.34	0.15	38
1	49	14.04	14.03	33.400	24.945	301.5	0.152	5.81	99.2	2.0	0.43	0.4	0.03	1.42	0.73	49
	50 ISL	14.01	14.00	33.402	24.952	300.7	0.155	5.78	98.6	2.1	0.44	0.5	0.04	1.43	0.74	50
1	59	13.62	13.61	33.420	25.047	292.0	0.182	5.47	92.6	3.5	0.56	1.9	0.11	1.49	0.83	59
1	69	12.72	12.71	33.452	25.251	272.7	0.210	4.93	81.9	7.2	0.87	6.3	0.15	0.51	0.41	70
	75 ISL	12.24	12.23	33.493	25.375	261.0	0.226	4.65	76.5	9.2	1.01	8.8	0.11	0.27	0.27	76
1	82	11.71	11.70	33.543	25.514	247.9	0.244	4.37	71.1	11.5	1.15	11.6	0.04	0.16	0.18	83
1	96	10.70	10.69	33.604	25.744	226.2	0.277			15.9	1.41	16.0	0.02	0.09	0.14	97
	100 ISL	10.53	10.52	33.628	25.792	221.7	0.286	4.07	64.6	16.7	1.45	16.8	0.02	0.07	0.12	101
1	115	10.06	10.05	33.723	25.947	207.2	0.318	3.94	61.9	19.5	1.56	19.1	0.01	0.02	0.06	116
	125 ISL	9.74	9.73	33.786	26.050	197.6	0.338	3.69	57.6	22.1	1.66	21.0	0.01	0.01	0.05	126
1	140	9.32	9.30	33.868	26.183	185.2	0.367	3.34	51.6	25.8	1.79	23.5	0.01	0.00	0.04	141
	150 ISL	9.14	9.12	33.897	26.235	180.4	0.385	3.24	49.9	27.3	1.84	24.3	0.01	0.00	0.03	151
1	170	8.87	8.85	33.935	26.308	173.8	0.421	3.14	48.1	29.7	1.92	25.3	0.01	0.00	0.02	171
1	200	8.45	8.43	33.998	26.423	163.4	0.471	2.93	44.4	33.8	2.02	27.2	0.01	0.01	0.03	202
1	229	8.28	8.26	34.023	26.469	159.5	0.518	2.83	42.8	36.0	2.07	27.9	0.01			231
	250 ISL	7.96	7.93	34.058	26.544	152.6	0.551	2.44	36.6	40.8	2.23	30.0	0.01			252
1	268	7.65	7.62	34.088	26.613	146.2	0.578	2.06	30.7	45.5	2.38	32.1	0.01			270
	300 ISL	7.24	7.21	34.100	26.681	140.0	0.624	1.73	25.5	51.0	2.52	34.2	0.00			302
1	324	7.00	6.97	34.103	26.716	136.9	0.657	1.56	22.9	54.6	2.59	35.3	0.00			327
1	382	6.60	6.57	34.156	26.813	128.4	0.734	1.00	14.5	64.5	2.81	38.2	0.00			3 85
	400 ISL	6.44	6.40	34.170	26.845	125.5	0.757	0.88	12.7	67.4	2.87	39.0	0.00			403
1	447	6.07	6.03	34.211	26.925	118.2	0.814	0.62	8.9	74.1	3.00	40.5	0.00			451
	500 ISL	5.91	5.87	34.280	27.000	111.7	0.875	0.40	5.7	78.7	3.10	41.2	0.00			504
1	517	5.86	5.82	34.302	27.024	109.6	0.894	0.33	4.7	80.2	3.13	41.4	0.00			521

RV DAVID STARR JORDAN CALCOFI CRUISE 8703 STATION 93 60

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
31 50.8 N	119 34.2 W	04/03/87	0646 GMT	1859 M	090	09 KT			1019.8 MB	14.5 C	12.8 C		

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
1	0	15.58	15.58	33.473	24.668	326.3	0.000	6.15	108.3	2.4	0.33	0.4	0.00	0.12	0.02	0
1	9	15.44	15.44	33.450	24.682	325.3	0.029	6.09	106.9	2.4	0.33	0.4	0.00	0.13	0.03	9
	10 ISL	15.43	15.43	33.452	24.686	325.0	0.033	6.07	106.6	2.4	0.33	0.4	0.00	0.13	0.03	10
1	19	15.34	15.34	33.471	24.720	322.0	0.062	5.92	103.8	2.4	0.33	0.4	0.00	0.13	0.03	19
	20 ISL	15.33	15.33	33.469	24.721	322.0	0.065	5.92	103.7	2.4	0.33	0.4	0.00	0.13	0.03	20
1	30	15.25	15.25	33.445	24.720	322.3	0.097	5.88	102.9	2.3	0.33	0.2	0.00	0.13	0.04	30
1	40	15.03	15.02	33.398	24.732	321.4	0.129	5.87	102.2	2.2	0.34	0.3	0.00	0.15	0.05	40
	50 ISL	14.96	14.95	33.401	24.750	320.1	0.161	5.89	102.4	2.3	0.34	0.4	0.00	0.21	0.07	50
1	51	14.95	14.94	33.403	24.754	319.7	0.165	5.89	102.4	2.3	0.34	0.4	0.00	0.22	0.07	51
1	60	14.82	14.81	33.408	24.786	316.9	0.193	5.89	102.1	2.3	0.35	0.4	0.00	0.25	0.08	60
1	70	14.75	14.74	33.404	24.798	316.0	0.225	5.82	100.8	2.6	0.38	0.5	0.02	0.58	0.28	71
	75 ISL	14.11	14.10	33.391	24.924	304.2	0.240	5.61	95.9	3.8	0.50	2.3	0.03	0.55	0.30	76
1	85	12.57	12.56	33.401	25.241	274.0	0.269	5.10	84.4	6.8	0.80	6.7	0.05	0.33	0.34	86
1	100	11.37	11.36	33.522	25.561	243.9	0.308	4.65	75.1	10.7	1.04	11.1	0.01	0.10	0.14	101
1	119	10.63	10.62	33.619	25.768	224.4	0.353	4.14	65.8	15.5	1.31	15.8	0.01	0.05	0.07	120
	125 ISL	10.46	10.45	33.647	25.820	219.6	0.366	4.02	63.7	16.7	1.37	16.8	0.01	0.04	0.06	126
1	144	9.95	9.93	33.739	25.979	204.8	0.406	3.70	58.0	20.6	1.53	19.7	0.00	0.01	0.03	145
	150 ISL	9.74	9.72	33.778	.26.044	198.7	0.418	3.59	56.0	22.3	1.59	20.8	0.00	0.01	0.03	151
1	175	8.95	8.93	33.928	26.290	175.7	0.465	3.20	49.1	29.0	1.81	24.9	0.00	0.00	0.02	176
	200 ISL	8.61	8.59	33.985	26.388	166.7	0.508	3.04	46.3	32.7	1.90	26.4	0.00	0.00	0.03	202
1	204	8.57	8.55	33.990	26.398	165.8	0.515	3.01	45.8	33.3	1.91	26.6	0.00	0.00	0.03	206
1	233	8.15	8.13	34.057	26.515	155.1	0.561	2.49	37.5	39.6	2.12	29.7	0.01			235
	250 ISL	7.90	7.87	34.070	26.562	150.8	0.587	2.33	34.9	42.5	2.20	30.9	0.01			252
1	272	7.58	7.55	34.075	26.613	146.2	0.620	2.19	32.6	46.0	2.29	32.2	0.00			274
	300 ISL	7.23	7.20	34.083	26.669	141.2	0.660	1.93	28.5	50.6	2.39	34.1	0.00			302
1	326	6.97	6.94	34.096	26.715	137.1	0.696	1.67	24.5	54.8	2.48	3.5.8	0.00			329
1	385	6.60	6.56	34.170	26.824	127.4	0.774	1.01	14.7	64.3	2.76	38.3	0.00			388
	400 ISL	6.54	6.50	34.187	26.845	125.5	0.793	0.89	12.9	66.1	2.81	38.7	0.00			403
1	451	6.36	6.32	34.239	26.910	120.0	0.856	0.61	8.8	71.5	2.92	39.8	0.00			455
	500 ISL	6.08	6.04	34.269	26.970	114.7	0.913	0.50	7.2	77.0	3.00	41.3	0.00			504
1	521	5.96	5.91	34.282	26.996	112.5	0.937	0.45	6.4	79.4	3.03	42.0	0.00			525

RV DAVID STARR JORDAN CALCOFI CRUISE 8703 STATION 93 70

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
31 30.6 N	120 14.8 W	04/03/87	1215 GMT	3733 M	140	11 KT			1016.9 MB	15.1 C	13.8 C		

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0 ISL	15.43	15.43	33.378	24.628	330.1	0.000	5.79	101.6	1.7	0.34	0.2	0.00	0.08	0.02	0
1	2	15.43	15.43	33.378	24.628	330.2	0.007	5.79	101.6	1.7	0.34	0.2	0.00	0.08	0.02	2
	10 ISL	15.45	15.45	33.377	24.624	330.9	0.033	5.86	102.9	1.7	0.34	0.1	0.00	0.08	0.03	10
1	12	15.45	15.45	33.377	24.624	331.0	0.040	5.87	103.1	1.7	0.34	0.1	0.00	0.08	0.03	12
	20 ISL	15.43	15.43	33.377	24.628	330.8	0.066	5.80	101.8	1.7	0.35	0.1	0.00	0.08	0.02	20
1	21	15.43	15.43	33.377	24.628	330.8	0.069	5.79	101.6	1.7	0.35	0.1	0.00	0.08	0.02	21
	30 ISL	15.39	15.39	33.375	24.636	330.4	0.099	5.80	101.7	1.8	0.34	0.1	0.00	0.08	0.02	30
1	33	15.38	15.37	33.374	24.637	330.3	0.109	5.80	101.7	1.8	0.34	0.1	0.00	0.08	0.02	33
1	42	15.33	15.32	33.367	24.643	330.0	0.139	5.82	101.9	1.7	0.34	0.1	0.00	0.08	0.03	42
	50 ISL	15.23	15.22	33.356	24.657	329.0	0.165	5.81	101.5	1.7	0.34	0.1	0.00	0.09	0.03	50
1	51	15.22	15.21	33.354	24.658	328.9	0.168	5.81	101.5	1.7	0.34	0.1	0.00	0.09	0.03	51
1	63	15.02	15.01	33.322	24.677	327.4	0.208	5.84	101.6	1.7	0.36	0.1	0.00	0.14	0.06	63
1	72	14.89	14.88	33.306	24.693	326.2	0.237	5.83	101.2	1.9	0.36	0.1	0.00	0.21	0.09	73
	75 ISL	14.82	14.81	33.305	24.707	324.9	0.247	5.82	100.8	2.0	0.37	0.1	0.03	0.24	0.12	76
1	86	14.40	14.39	33.317	24.806	315.7	0.282	5.72	98.3	2.5	0.44	0.1	0.13	0.32	0.21	87
	100 ISL	13.53	13.52	33.381	25.036	294.1	0.325	5.44	91.9	4.3	0.58	1.5	0.08	0.24	0.19	101
1	102	13.38	13.37	33.391	25.074	290.5	0.331	5.39	90.7	4.6	0.61	1.9	0.07	0.22	0.19	103
1	120	11.87	11.85	33.434	25.401	259.6	0.380	4.84	78.9	8.6	0.95	7.2	0.02	0.11	0.13	121
	125 ISL	11.63	11.61	33.465	25.469	253.2	0.393	4.71	76.4	9.6	1.02	8.4	0.02	0.09	0.11	126
1	145	10.90	10.88	33.599	25.706	231.0	0.442	4.25	67.9	13.8	1.25	13.0	0.01	0.03	0.05	146
	150 ISL	10.65	10.63	33.618	25.765	225.5	0.453	4.18	66.5	15.1	1.31	14.2	0.01	0.02	0.04	151
1	174	9.64	9.62	33.713	26.010	202.3	0.504	3.83	59.6	21.2	1.58	19.5	0.00	0.00	0.02	175
	200 ISL	9.48	9.46	33.877	26.165	188.2	0.555	3.20	49.7	26.0	1.78	22.7	0.00	0.00	0.03	202
1	203	9.46	9.44	33.891	26.180	186.9	0.561	3.12	48.4	26.5	1.80	23.0	0.00	0.00	0.03	205
1	231	9.32	9.29	34.036	26.316	174.5	0.611	2.53	39.1	31.4	2.03	25.7	0.01			233
	250 ISL	8.99	8.96	34.074	26.399	166.8	0.644	2.37	36.4	34.5	2.11	27.0	0.01			252
1	270	8.60	8.57	34.092	26.474	159.9	0.676	2.27	34.6	37.6	2.18	28.1	0.01			272
	300 ISL	8.26	8.23	34.134	26.560	152.2	0.723	1.92	29.0	42.3	2.33	30.1	0.01			302
1	325	8.01	7.98	34.158	26.616	147.1	0.761	1.62	24.3	46.4	2.45	31.8	0.01			328
1	383	7.10	7.06	34.154	26.744	135.4	0.843	1.26	18.5	56.8	2.67	36.4	0.00			386
	400 ISL	6.85	6.81	34.152	26.776	132.3	0.865	1.15	16.8	60.2	2.73	37.6	0.00			403
1	448	6.26	6.22	34.157	26.859	124.7	0.927	0.86	12.4	69.4	2.86	40.5	0.00			452
	500 ISL	5.94	5.90	34.203	26.936	117.8	0.990	0.65	9.3	76.0	2.97	41.7	0.00			504
1	519	5.82	5.78	34.220	26.964	115.3	1.012	0.57	8.1	78.4	3.01	42.2	0.00			523

RV DAVID STARR JORDAN CALCOFI CRUISE 8703 STATION 93 80

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
31 10.8 N	120 55.1 W	04/03/87	1743 GMT	3923 M	160	13 KT	230 06 09	1	1017.1 MB	16.3 C	14.2 C	7/8	SC

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0 ISL	15.17	15.I	33.322	24.642	328.8	0.000	5.81	101.4	1.3	0.36	0.1	0.00	0.08	0.02	0
1	1	15.17	15.17	33.322	24.642	328.9	0.003	5.81	101.4	1.3	0.36	0.1	0.00	0.08	0.02	1
	10 ISL	15.16	15.16	33.319	24.642	329.1	0.033	5.84	101.9	1.4	0.37	0.2	0.00	0.08	0.02	10
1	16	15.15	15.15	33.316	24.643	329.3	0.053	5.86	102.2	1.4	0.38	0.2	0.00	0.08	0.02	16
	20 ISL	15.13	15.13	33.316	24.647	329.0	0.066	5.85	102.0	1.4	0.38	0.2	0.00	0.08	0.02	20
1	30	15.05	15.05	33.309	24.659	328.1	0.099	5.82	101.3	1.4	0.38	0.2	0.00	0.09	0.02	30
1	40	14.94	14.93	33.285	24.665	327.9	0.131	5.84	101.4	1.4	0.35	0.2	0.00	0.15	0.05	40
	50 ISL	14.95	14.94	33.313	24.685	326.3	0.164	5.81	100.9	1.4	0.35	0.2	0.00	0.18	0.08	50
1	51	14.95	14.94	33.317	24.688	326.0	0.167	5.81	100.9	1.4	0.35	0.2	0.00	0.18	0.09	51
1	59	14.72	14.71	33.291	24.718	323.4	0.193	5.85	101.2	1.4	0.37	0.2	0.01	0.31	0.16	59
1	70	14.57	14.56	33.298	24.755	320.1	0.229	5.86	101.0	1.6	0.38	0.2	0.02	0.31	0.15	71
	75 ISL	14.40	14.39	33.321	24.809	315.1	0.245	5.77	99.1	2.1	0.42	0.8	0.08	0.36	0.19	76
1	79	14.21	14.20	33.339	24.863	310.1	0.257	5.67	97.1	2.6	0.47	1.4	0.12	0.39	0.22	80
1	93	13.23	13.22	33.358	25.078	289.8	0.299	5.33	89.4	4.6	0.65	4.5	0.06	0.31	0.27	94
	100 ISL	12.68	12.67	33.358	2.5.187	279.6	0.319	5.21	86.4	5.6	0.76	6.1	0.04	0.24	0.22	101
1	109	12.01	12.00	33.378	25.331	266.0	0.344	5.05	82.6	7.0	0.90	8.2	0.02	0.14	0.14	II0
1	123	11.29	11.27	33.499	25.558	244.6	0.379	4.70	75.7	10.0	1.05	11.6	0.01	0.06	0.08	124
	125 ISL	11.24	11.22	33.519	25.583	242.3	0.384	4.60	74.0	10.6	1.08	12.2	0.01	0.06	0.08	126
1	147	11.00	10.98	33.723	25.785	223.6	0.436	3.43	55.0	17.3	1.48	17.8	0.00	0.03	0.07	148
	150 ISL	10.96	10.94	33.744	25.808	221.4	0.442	3.32	53.2	18.0	1.52	18.4	0.00	0.03	0.07	151
1	172	10.63	10.61	33.864	25.960	207.4	0.489	2.80	44.6	22.5	1.75	21.6	0.00	0.00	0.03	173
	200 ISL	10.15	10.13	33.953	26.113	193.4	0.546	2.64	41.6	26.1	1.88	23.7	0.00	0.00	0.03	202
1	201	10.13	10.11	33.955	26.118	192.9	0.547	2.63	41.4	26.2	1.88	23.7	0.00	0.00	0.03	203
1	230	9.16	9.13	33.985	26.302	175.7	0.601	2.81	43.3	30.4	1.92	25.4	0.00			232
	250 ISL	8.91	8.88	34.044	26.388	167.8	0.635	2.60	39.9	33.4	2.02	26.7	0.00			252
1	269	8.79	8.76	34.107	26.457	161.7	0.667	2.27	34.7	36.5	2.15	27.9	0.00			271
	300 ISL	8.47	8.44	34.189	26.571	151.3	0.715	1.66	25.2	42.9	2.38	30.2	0.00			302
1	322	8.24	8.21	34.232	26.640	145.0	0.748	1.26	19.0	47.5	2.53	31.7	0.00			325
1	382	7.56	7.52	34.246	26.751	135.0	0.832	0.91	13.5	56.1	2.71	34.2	0.00			385
	400 ISL	7.39	7.35	34.245	26.775	133.0	0.856	0.84	12.4	57.8	2.75	34.8	0.00			403
1	447	6.99	6.95	34.244	26.831	128.1	0.917	0.70	10.3	62.1	2.83	36.1	0.00			451
	500 ISL	6.65	6.60	34.271	26.898	122.2	0.983	0.53	7.7	68.5	2.93	37.4	0.00			504
1	517	6.54	6.49	34.280	26.920	120.3	1.004	0.47	6.8	70.6	2.96	37.8	0.00			521

RV DAVID STARR JORDAN CALCOFI CRUISE 8703 STATION 93 90

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
30 50.8 N	121 35.A W	04/03/87	2350 GMT	4114 M	150	20 KT	220 07 09	2	1014.2 MB	16.0 C	14.5 C	8/8	SC

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0	ISL	15.33	15.33	33.308	24.596	333.2	0.000	5.82	101.9	1.5	0.34	0.2	0.00	0.10	0.01	0
1	1		15.33	15.33	33.308	24.596	333.2	0.003	5.82	101.9	1.5	0.34	0.2	0.00	0.10	0.01	1
	10	ISL	15.29	15.29	33.304	24.603	332.9	0.033	5.88	102.9	1.5	0.34	0.2	0.00	0.10	0.02	10
1	16		15.27	15.27	33.306	24.609	332.5	0.053	5.92	103.5	1.5	0.34	0.2	0.00	0.10	0.02	Lb
	20	ISL	15.21	15.21	33.293	24.612	332.3	0.067	5.91	103.2	1.5	0.34	0.2	0.00	0.10	0.02	20
	30	ISL	15.03	15.03	33.264	24.629	331.0	0.100	5.86	102.0	1.5	0.35	0.2	0.00	0.11	0.02	30
1	31		15.01	15.01	33.262	24.632	330.8	0.103	5.86	101.9	1.5	0.35	0.2	0.00	0.11	0.02	31
1	40		14.87	14.86	33.272	24.670	327.4	0.133	5.87	101.8	1.7	0.35	0.2	0.01	0.27	0.08	40
1	50		14.20	14.19	33.154	24.721	322.7	0.165	5.98	102.2	1.7	0.39	0.2	0.00	0.26	0.07	50
1	60		14.19	14.18	33.178	24.742	321.0	0.197	5.97	102.1	1.8	0.39	0.2	0.00	0.28	0.10	60
1	69		14.14	14.13	33.182	24.756	320.0	0.226	5.98	102.1	1.8	0.40	0.2	0.00	0.36	0.15	70
	75	ISL	14.14	14.13	33.194	24.765	319.2	0.245	5.94	101.5	1.9	0.40	0.2	0.01	0.35	0.16	76
1	79		14.14	14.13	33.206	24.775	318.4	0.258	5.90	100.8	1.9	0.40	0.2	0.03	0.35	0.16	80
1	94		14.33	14.32	33.341	24.840	312.8	0.305	5.78	99.2	2.1	0.41	0.8	0.11	0.25	0.14	95
	100	ISL	13.97	13.96	33.363	24.932	304.1	0.324	5.68	96.8	2.7	0.46	1.8	0.10	0.21	0.15	101
1	107		13.48	13.47	33.396	25.058	292.2	0.345	5.55	93.6	3.6	0.53	3.0	0.08	0.17	0.16	108
1	123		12.91	12.89	33.593	25.325	267.2	0.390	5.25	87.6	4.8	0.62	5.0	0.02	0.13	0.16	124
	125	ISL	12.73	12.71	33.599	25.365	263.4	0.395	5.20	86.5	5.3	0.66	5.7	0.02	0.12	0.15	126
1	147		10.64	10.62	33.629	25.775	224.4	0.449	4.67	74.2	12.0	1.11	13.4	0.00	0.03	0.05	148
	150	ISL	10.47	10.45	33.644	25.816	220.5	0.455	4.64	73.5	12.6	1.14	14.0	0.00	0.02	0.04	151
1	172		9.60	9.58	33.769	26.061	197.5	0.501	4.36	67.8	17.6	1.35	17.6	0.00	0.00	0.02	173
	200	ISL	8.93	8.91	33.908	26.278	177.3	0.554	3.43	52.6	27.4	1.75	23.6	0.00	0.00	0.02	202
1	201		8.91	8.89	33.912	26.284	176.7	0.555	3.40	52.1	27.8	1.76	23.8	0.00	0.00	0.02	203
1	229		8.27	8.25	33.995	26.448	161.5	0.603	3.10	46.8	34.2	1.94	26.5	0.00			231
	250	ISL	7.96	7.93	34.024	26.517	155.1	0.636	2.85	42.8	38.3	2.05	28.0	0.00			252
1	269		7.75	7.72	34.038	26.559	151.3	0.665	2.61	39.0	41.7	2.15	29.3	0.00			271
	300	ISL	7.37	7.34	34.057	26.629	145.1	0.711	2.23	33.0	47.2	2.31	31.7	0.00			302
1	323		7.13	7.10	34.069	26.672	141.2	0.744	1.96	28.8	51.0	2.43	33.3	0.00			326
1	381		6.74	6.70	34.113	26.760	133.4	0.824	1.39	20.3	58.8	2.66	35.4	0.00			384
	400	ISL	6.51	6.47	34.122	26.798	130.0	0.849	1.22	17.7	61.7	2.74	36.5	0.00			403
1	448		5.95	5.91	34.146	26.889	121.5	0.909	0.85	12.2	69.3	2.93	39.2	0.00			452
	500	ISL	5.68	5.64	34.183	26.952	116.0	0.971	0.63	9.0	78.1	3.04	40.2	0.00			504
1	520		5.58	5.54	34.198	26.976	113.8	0.994	0.54	7.7	81.5	3.08	40.6	0.00			524

RV DAVID STARR JORDAN CALCOFI CRUISE 8703 STATION 93 100

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
30 30.7 N	122 15.4 W	05/03/87	0524 GMT	4213 M	160	17 KT			1013.8 MB	16.8 C	15.5 C		

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
1	0		15.75	15.75	33.408	24.580	334.7	0.000	5.80	102.5	1.3	0.33	0.2	0.00	0.08	0.02	0
	10	ISL	15.75	15.75	33.410	24.582	334.9	0.033	5.80	102.5	1.5	0.32	0.2	0.00	0.08	0.02	10
1	15		15.75	15.75	33.411	24.583	335.0	0.050	5.80	102.5	1.6	0.32	0.2	0.00	0.08	0.02	15
	20	ISL	15.75	15.75	33.411	24.583	335.1	0.067	5.79	102.3	1.6	0.32	0.2	0.00	0.08	0.02	20
	30	ISL	15.74	15.74	33.411	24.586	335.2	0.100	5.78	102.1	1.5	0.31	0.2	0.00	0.08	0.02	30
1	31		15.74	15.74	33.411	24.586	335.2	0.104	5.78	102.1	1.5	0.31	0.2	0.00	0.08	0.02	31
1	40		15.75	15.74	33.412	24.585	335.6	0.134	5.80	102.4	1.5	0.31	0.2	0.00	0.08	0.02	40
	50	ISL	15.73	15.72	33.412	24.590	335.4	0.168	5.77	101.9	1.5	0.32	0.2	0.00	0.09	0.02	50
1	51		15.73	15.72	33.412	24.590	335.4	0.171	5.77	101.9	1.5	0.32	0.2	0.00	0.09	0.02	51
1	61		15.74	15.73	33.411	24.587	336.0	0.204	5.77	101.9	1.4	0.31	0.2	0.00	0.09	0.02	61
1	71		15.74	15.73	33.416	24.591	335.9	0.238	5.77	101.9	1.4	0.32	0.2	0.00	0.10	0.02	72
	75	ISL	15.80	15.79	33.440	24.596	335.6	0.252	5.74	101.5	1.5	0.31	0.2	0.00	0.13	0.04	76
1	81		15.88	15.87	33.492	24.619	333.7	0.272	5.70	101.0	1.6	0.30	0.2	0.00	0.18	0.09	82
1	94		15.72	15.71	33.654	24.780	318.8	0.314	5.65	99.9	1.9	0.30	0.3	0.03	0.23	0.16	95
	100	ISL	15.41	15.39	33.690	24.876	309.7	0.333	5.65	99.3	2.2	0.32	0.5	0.06	0.22	0.15	101
1	109		14.86	14.84	33.715	25.016	296.6	0.360	5.63	97.9	2.7	0.35	1.0	0.09	0.20	0.13	110
1	125		14.08	14.06	33.704	25'.173	281.9	0.406	5.48	93.7	3.1	0.42	2.1	0.04	0.16	0.17	126
1	149		11.87	11.85	33.673	25.587	242.7	0.469	5.06	82.6	7.6	0.83	8.8	0.02	0.05	0.06	150
	150	ISL	11.81	11.79	33.673	25.598	241.6	0.472	5.04	82.2	7.8	0.84	9.0	0.02	0.05	0.06	151
1	175		10.58	10.56	33.692	25.835	219.4	0.529	4.65	73.9	12.5	I.II	13.7	0.01	0.02	0.05	176
	200	ISL	9.44	9.42	33.803	26.114	193.0	0.581	4.27	66.2	19.8	1.40	18.7	0.00	0.00	0.02	202
1	204		9.29	9.27	33.823	26.154	189.2	0.589	4.21	65.0	21.0	1.44	19.4	0.00	0.00	0.02	206
1	233		8.67	8.65	33.919	26.327	173.1	0.641	3.90	59.4	27.0	1.64	22.5	0.00			235
	250	ISL	8.39	8.36	33.951	26.396	166.8	0.670	3.77	57.1	29.9	1.72	23.9	0.00			252
1	272		8.06	8.03	33.978	26.467	160.3	0.706	3.55	53.4	34.0	1.83	25.7	0.00			274
	300	ISL	7.53	7.50	34.006	26.566	151.1	0.750	2.93	43.5	42.1	2.08	29.1	0.00			302
1	328		7.03	7.00	34.027	26.653	143.0	0.791	2.28	33.5	50.4	2.33	32.4	0.00			331
1	384		6.36	6.33	34.048	26.759	133.3	0.868	1.67	24.1	60.9	2.59	35.9	0.00			387
	400	ISL	6.22	6.18	34.060	26.786	130.7	0.889	1.52	21.9	63.7	2.66	36.8	0.00			403
1	451		5.86	5.82	34.111	26.873	123.0	0.954	1.08	15.4	72.1	2.85	39.1	0.00			455
	500	ISL	5.66	5.62	34.175	26.948	116.3	1.013	0.76	10.8	79.0	2.98	40.3	0.00			504
1	521		5.58	5.54	34.202	26.979	113.5	1.037	0.62	8.8	82.0	3.03	40.8	0.00			525

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
30 10.8 N	122 55.4 W	05/03/87	1125 GMT	3642 M	170	24 KT			1012.2 MB	16.6 C	15.2 C		

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0	ISL	16.40	16.40	33.635	24.607	332.1	0.000			1.8	0.30	0.2	0.00	0.08	0.03	0
1	1		16.40	16.40	33.635	24.607	332.2	0.003			1.8	0.30	0.2	0.00	0.08	0.03	1
	10	ISL	16.40	16.40	33.636	24.608	332.4	0.033			1.9	0.30	0.2	0.00	0.08	0.02	10
1	17		16.39	16.39	33.638	24.613	332.2	0.056	5.75	103.0	2.0	0.30	0.2	0.00	0.08	0.02	17
	20	ISL	16.39	16.39	33.638	24.613	332.3	0.066	5.74	102.8	2.0	0.30	0.2	0.00	0.08	0.02	20
	30	ISL	16.38	16.38	33.639	24.616	332.3	0.100	5.69	101.9	2.0	0-, 29	0.2	0.00	0.08	0.02	30
1	36		16.38	16.37	33.639	24.616	332.5	0.120	5.66	101.3	2.0	0.29	0.2	0.00	0.08	0.02	36
	50	ISL	16.39	16.38	33.641	24.616	333.0	0.166	5.66	101.4	1.8	0.29	0.2	0.00	0.09	0.02	50
1	56		16.40	16.39	33.642	24.615	333.3	0.186	5.66	101,4	1.7	0.29	0.2	0.00	0.09	0.02	56
1	72		16.40	16.39	33.642	24.615	333.7	0.240	5.67	101.5	1.6	0.29	0.2	0.00	0.09	0.02	73
	75	ISL	16.41	16.40	33.642	24.613	334.1	0.250	5.68	101.7	1.6	0.29	0.2	0.00	0.09	0.02	76
1	80		16.42	16.41	33.643	24.612	334.3	0.266	5.70	102.1	1.6	0.29	0.2	0.00	0.09	0.03	81
1	90		16.39	16.38	33.644	24.620	333.9	0.300	5.67	101.5	1.6	0.29	0.2	0.00	0.12	0.04	91
1	100		16.38	16.36	33.645	24.623	333.9	0.333	5.65	101.1	1.5	0.29	0.2	0.00	0.15	0.05	101
1	109		16.21	16.19	33.654	24.669	329.8	0.363	5.67	101.2	1.8	0.30	0.2	0.02	0.21	0.13	II0
1	125		14.46	14.44	33.597	25.011	297.4	0.413	5.54	95.4	2.8	0.42	1.4	0.06	0.19	0.21	126
1	141		13.31	13.29	33.569	25.227	277.1	0.459	5.29	89.0	4.2	0.57	3.7	0.02	0.14	0.18	142
	150	ISL	12.80	12.78	33.605	25.356	264.9	0.483	5.05	84.1	5.7	0.69	5.9	0.02	0.11	0.14	151
1	160		12.25	12.23	33.649	25.497	251.6	0.509	4.79	78.8	7.7	0.84	8.6	0.01	0.07	0.10	161
1	178		11.04	11.02	33.658	25.728	229.8	0.553	4.52	72.5	11.9	1.10	13.1	0.00	0.02	0.05	179
	200	ISL	9.98	9.96	33.752	25.985	205.5	0.601	4.15	65.1	17.7	1.39	17.8	0.00	0.00	0.02	202
1	204		9.83	9.81	33.772	26.026	201.6	0.609	4.08	63.8	18.7	1.44	18.5	0.00	0.00	0.02	206
1	232		9.15	9.12				0.663	3.75	57.7	24.5	1.63	22.0	0.00			234
	250	ISL	8.82	8.79	33.857	26.256	180.3	0.696	3.68	56.2	27.3	1.69	23.2	0.00			252
1	272		8.45	8.42	33.879 A	26.330	173.4	0.735	3.57	54.1	30.8	1.77	24.5	0.00			274
	300	ISL	7.91	7.88	33.964	26.478	159.6	0.781	3.08	46.1	37.6	1.99	27.5	0.00			302
1	325		7.45	7.42	34.034	26.600	148.3	0.820	2.56	38.0	44.3	2.20	30.4	0.00			328
1	385		6.64	6.60	34.074	26.743	135.0	0.905	1.63	23.7	58.1	2.58	35.3	0.00			388
	400	ISL	6.50	6.46	34.086	26.771	132.5	0.925	1.45	21.0	61.1	2.65	36.2	0.00			403
1	450		6.10	6.06	34.126	26.854	124.9	0.989	0.97	13.9	70.3	2.85	38.6	0.00			454
	500	ISL	5.74	5.70	34.165	26.930	118.1	1.050	0.70	10.0	78.1	2.98	40.2	0.00			504
1	521		5.59	5.55	34.182	26.962	115.2	1.075	0.59	8.4	81.4	3.03	40.9	0.00			525

A) AN ERROR OF -.01 (-0.391S) SALINOMETER CONDUCTIVITY RATIO READING HAS BEEN ASSUMED FOR THIS VALUE.

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
29 50.8 N	123 35.2 W	05/03/87	1709 GMT	3928 M	190	19 KT	190 07 11	6	1013.0 MB	16.4 C	16.0 C	8/8	CU

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0	ISL	16.75	16.75	33.725	24.595	333.3	0.000	5.60	101.0	1.6	0.27	0.2	0.00	0.09	0.02	0
1	1		16.75	16.75	33.725	24.595	333.3	0.003	5.60	101.0	1.6	0.27	0.2	0.00	0.09	0.02	1
	10	ISL	16.76	16.76	33.727	24.595	333.7	0.033	5.63	101.6	1.6	0.28	0.2	0.00	0.09	0.02	10
1	16		16.76	16.76	33.730	24.597	333.7	0.053	5.66	102.1	1.6	0.29	0.2	0.00	0.09	0.02	16
	20	ISL	16.76	16.76	33.732	24.599	333.6	0.067	5.65	102.0	1.5	0.29	0.2	0.00	0.09	0.02	20
	30	ISL	16.76	16.76	33.737	24.603	333.6	0.100	5.63	101.6	1.2	0.28	0.2	0.00	0.09	0.03	30
1	36		16.76	16.75	33.739	24.605	333.5	0.120	5.61	101.2	1.1	0.27	0.2	0.00	0.09	0.03	36
	50	ISL	16.81	16.80	33.752	24.604	334.1	0.167	5.61	101.3	1.2	0.27	0.2	0.00	0.10	0.03	50
1	56		16.83	16.82	33.757	24.603	334.4	0.187	5.61	101.4	1.2	0.27	0.2	0.00	0.10	0.03	56
1	71		16.82	16.81	33.769	24.615	333.8	0.237	5.60	101.2	1.3	0.27	0.2	0.00	0.11	0.03	72
	75	ISL	16.83	16.82	33.772	24.615	333.9	0.250	5.60	101.2	1.3	0.27	0.2	0.00	0.11	0.03	76
1	80		16.85	16.84	33.774	24.613	334.3	0.267	5.60	101.2	1.2	0.27	0.2	0.00	0.11	0.03	81
1	90		16.86	16.85	33.777	24.613	334.6	0.301	5.59	101.1	1.3	0.27	0.2	0.00	0.11	0.03	91
1	100		16.86	16.84	33.781	24.616	334.6	0.334	5.59	101.1	1.1	0.26	0.2	0.00	0.12	0.05	101
1	U0		16.88	16.86	33.798	24.625	334.2	0.367	5.55	100.4	1.5	0.27	0.2	0.00	0.15	0.08	111
1	125		15.21	15.19	33.664	24.901	308.0	0.416	5.56	97.3	1.8	0.35	0.4	0.08	0.24	0.24	126
1	139		14.22	14.20	33.755	25.184	281.4	0.457	5.22	89.6	3.3	0.49	2.7	0.03	0.14	0.22	140
	150	ISL	13.46	13.44	33.745	25.333	267.3	0.487	5.03	85.0	4.6	0.62	4.9	0.02	0.10	0.16	151
1	159		12.88	12.86	33.717	25.427	258.4	0.511	4.90	81.8	5.8	0.73	6.8	0.01	0.08	0.10	160
1	178		11.85	11.83	33.704	25.615	240.7	0.558	4.67	76.2	8.9	0.92	10.3	0.01	0.05	0.07	179
	200	ISL	10.65	10.63	33.739	25.860	217.6	0.608	4.24	67.5	15.4	1.23	15.5	0.00	0.01	0.03	202
1	203		10.49	10.47	33.749	25.896	214.2	0.615	4.18	66.3	16.4	1.27	16.2	0.00	0.01	0.03	205
1	231		9.31	9.28	33.904	26.215	184.0	0.671	3.64	56.3	25.5	1.62	21.8	0.00			233
	250	ISL	8.87	8.84	33.957	26.326	173.6	0.705	3.47	53.1	29.2	1.74	23.7	0.00			252
1	271		8.54	8.51	33.987	26.401	166.7	0.740	3.33	50.6	32.5	1.83	25.0	0.00			273
	300	ISL	8.08	8.05	34.020	26.497	158.0	0.788	3.01	45.3	37.8	1.98	27.2	0.00			302
1	325		7.76	7.73	34.044	26.563	152.0	0.826	2.67	39.9	42.5	2.12	29.0	0.00			328
1	384		7.30	7.26	34.136	26.702	139.5	0.912	1.55	22.9	53.7	2.54	33.7	0.00			387
	400	ISL	7.17	7.13	34.150	26.731	136.9	0.934	1.37	20.2	56.3	2.61	34.5	0.00			403
1	450		6.72	6.68	34.177	26.814	129.4	1.001	0.99	14.4	64.2	2.78	36.7	0.00			454
	500	ISL	6.17	6.13	34.185	26.893	122.1	1.064	0.75	10.8	73.0	2.90	38.8	0.00			504
1	522		5.93	5.88	34.190	26.927	118.9	1.090	0.64	9.2	76.9	2.96	39.7	0.00			526

RV DAVID STARR JORDAN — CALCOFI CRUISE 8703 — STATION 77 51

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	SECCHI DEPTH	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
35 1.3 N	120 55.1 W	16/ 3/87	1931 GMT	8 M	1210 - 1836 PST	1213 PST	1836 PST	524.8 MG C/M2

DEPTH M	TEMP DBG C	SALINITY	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 (MGC/M3) 1	2	MEAN	DARK
1	12.04	33.494	25.413	5.35	87.6	9.7	0.97	9.0	0.21	1.28	0.27	99.	11.7	15.8	13.7	0.18
5	12.01	33.493	25.417	5.35	87.6	9.7	0.96	8.9	0.21	1.26	0.31	36.	25.8	28.3	27.0	0.19
7	12.01	33.495	25.419	5.34	87.4	9.7	0.96	8.9	0.22	1.35	0.33	26.	31.0	31.4	31.2	0.20
U	12.00	33.493	25.419	5.34	87.4	9.7	0.97	8.9	0.23	1.38	0.32	13.	26.6	26.9	26.8	0.20
23	11.69	33.536	25.511	4.86	79.0	12.0	1.10	11.2	0.20	0.91	0.30	1.4	8.4	7.7	8.1	0.18
34	10.87	33.675	25.768	3.77	60.3	18.5	1.48	17.4	0.06	0.12	0.24	0.20	0.25	0.32	0.28	0.12

RV DAVID STARR JORDAN — CALCOFI CRUISE 8703 — STATION 77 60

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	SECCHI DEPTH	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
34 43.3 N	121 32.9 W	15/ 3/87	1958 GMT	12 M	1220 - 1837 PST	1215 PST	1837 PST	368.7 MG C/M2

DEPTH M	TEMP DEG C	SALINITY	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 (MGC/M3) 1	2	MEAN	DARK
0	13.40	33.278	24.980	6.12	103.0	2.9	0.43	0.7	0.06	0.76	0.22	99.	4.7	4.1	4.4	0.20
9	13.39	33.278	24.982	6.12	103.0	2.9	0.43	0.7	0.06	0.68	0.23	36.	12.4	12.2	12.3	0.18
12	13.39	33.278	24.982	6.12	103.0	2.9	0.43	0.7	0.06	0.73	0.18	26.	12.6	12.7	12.6	0.17
16	13.39	33.278	24.982	6.13	103.2	3.4	0.43	0.7	0.06	0.80	0.23	13.	12.6	11.9	12.3	0.19
35	12.40	33.294	25.190	5.47	90.2	6.6	0.75	6.0	0.12	0.65	0.22	1.4	4.6	4.7	4.7	0.16
51	11.94	33.406	25.364	5.05	82.5	9.6	0.96	9.5	0.13	0.31	0.23	0.20	0.87	0.95	0.91	0.12

RV DAVID STARR JORDAN — CALCOFI CRUISE 8703 — STATION 77 100

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	SECCHI DEPTH	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
33 23.3 N	124 19.4 W	14/ 3/87	1942 GMT	38 M	1221 - 1846 PST	1226 PST	1846 PST	130.2 MG C/M2

DEPTH M	TEMP DEG C	SALINITY	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 (MG C/M3) 1	2	MEAN	DARK
1	15.40	33.261	24.545	5.82	102.0	1.6	0.35	0.2	0.00	0.06	0.01	99.	0.78	0.98	0.88	0.15
28	15.21	33.221	24.557	5.85	102.1	1.6	0.34	0.2	0.00	0.08	0.01	36.	1.2	1.1	1.2	0.14
35	14.80	33.124	24.571	5.92	102.4	1.6	0.37	0.2	0.00	0.11	0.02	26.	1.2	1.4	1.3	0.18
54	14.28	33.043	24.619	5.97	102.2	1.5	0.38	0.2	0.00	0.19	0.05	13.	1.4	1.5	1.5	0.19
109	12.93	33.128	24.960	5.61	93.4	3.8	0.62	3.8	0.04	0.20	0.15	1.4	0.48	0.46	0.47	0.12
158	9.94	33.548	25.832	4.10	64.1	17.4	1.45	18.6	0.00	0.01	0.04	0.20	-0.02*	0.04	0.01	0.09

*DARK UPTAKE EXCEEDED LIGHT UPTAKE.

RV DAVID STARR JORDAN — CALCOFI CRUISE 8703 — STATION 80 70

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	SECCHI DEPTH	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
33 49.1 N	121 50.6 W	13/ 3/87	1952 GMT	28 M	1215 - 1843 PST	1217 PST	1840 PST	473.1 MG C/M2

DEPTH M	TEMP DEG C	SALINITY	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 (MG C/M3) 1	2	MEAN	DARK
0	14.26	33.012	24.598	6.00	102.6	2.0	0.39	0.2	0.00	0.15	0.02	99.	2.4	2.4	2.4	0.16
19	13.57	32.975	24.712	6.09	102.7	2.1	0.40	0.2	0.00	0.25	0.05	36.	4.0	3.9	4.0	0.14
25	13.46	33.075	24.811	6.16	103.7	2.6	0.39	0.2	0.01	0.58	0.11	26.	8.9	8.7	8.8	0.21
37	13.39	33.134	24.871	6.19	104.1	2.7	0.39	0.2	0.01	0.68	0.21	13.	8.0	7.7	7.9	0.20
79	12.69	33.309	25.146	5.76	95.5	4.7	0.59	3.2	0.41	0.39	0.33	1.4	2.8	2.8	2.8	0.21
114	9.94	33.518	25.807	4.07	63.7	17.6	1.48	18.6	0.02	0.03	0.08	6.20	-0.01*	0.02	0.0	0.15

*DARK UPTAKE EXCEEDED LIGHT UPTAKE.

RV DAVID STARR JORDAN — CALCOFI CRUISE 8703 — STATION 83 42

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	SECCHI DEPTH	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
34 10.7 N	119 30.5 W	12/ 3/87	1922 GMT	12 M	1159 - 1830 PST	1208 PST	1830 PST	610.1 MG C/M2

DEPTH M	TEMP DEG C	SALINITY	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 (MGC/M3) 1	2	MEAN	DARK
0	14.11	33.412	24.938	6.71	114.7	0.4	0.21	0.2	0,00	1.25	0.16	99.	21.2	25.2	23.2	0.51
9	14.07	33.410	24.945	6.70	114.4	0.4	0.20	0.2	0.00	1.38	0.19	36.	32.2	20.8	26.5	0.50
12	14.05	33.409	24.948	6.70	114.4	0.4	0.20	0.2	0.00	1.42	0.22	26.	26.5	25.0	25.8	0.62
16	13.97	33.409	24.965	6.67	113.7	0.5	0.21	0.2	0.00	1.17	0.25	13.	13.9	14.5	14.2	0.41
35	12.47	33.506	25.341	5.05	83.5	7.0	0.83	6.8	0.25	1.22	0.37	1.4	5.6	4.3	5.0	0.25
51	11.80	33.554	25.505	4.33	70.6	11.1	1.10	11.4	0.32	0.79	0.56	0.20	0.70	0.70	0.70	0.14

RV DAVID STARR JORDAN — CALCOFI CRUISE 8703 — STATION 83 80

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	SECCHI DEPTH	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
32 54.7 N	122 7.7 W	11/ 3/87	1942 GMT	19 M	1212 - 1835 PST	1218 PST	1836 PST	231.5 MG C/M2

DEPTH M	TEMP DEG C	SALINITY	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 (MGC/M3) 1	2	MEAN	DARK
0	14.42	33.203	24.711	6.00	103.1	2.3	0.39	0.2	0.00	0.20	0.03	99.	1.1	1.4	1.2	0.35
13	14.03	33.188	24.782	6.05	103.1	2.3	0.40	0.2	0.00	0.25	0.04	36.	4.9	4.1	4.5	0.31
18	13.99	33.188	24.790	6.04	102.9	2.2	0.39	0.2	0.00	0.26	0.05	26.	4.6	4.7	4.6	0.30
26	13.96	33.192	24.800	6.05	103.0	2.2	0.39	0.2	0.00	0.32	0.05	13.	3.4	3.6	3.5	0.27
54	13.64	33.294	24.945	5.93	100.3	2.7	0.44	0.8	0.11	0.52	0.22	1.4	3.6	3.3	3.4	0.26
78	11.61	33.332	25.368	4.93	79.9	8.7	0.99	9.9	0.02	0.13	0.16	0.20	0.17	0.16	0.16	0.14

RV DAVID STARR JORDAN — CALCOFI CRUISE 8703 — STATION 87 45

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	SECCHI DEPTH	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
33 29.4 N	119 19.1 W	9/ 3/87	1850 GMT	14 M	1204 - 1826 PST	1207 PST	1827 PST	347.1 MG C/M2

DEPTH M	TEMP DEG C	SALINITY	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 (MGC/M3) 1	2	MEAN	DARK
0		33.421		6.15		0.6	0.30	0.1	0.00	0.54	0.13	99.	5.0	5.5	5.2	0.51*
10		33.421		6.14		0.6	0.30	0.1	0.00	0.51	0.14	36.	6.7	9.1	7.9	0.21
12		33.421		6.16		0.6	0.30	0.1	0.00	0.64	0.16	26.	10.4	9.3	9.8	0.23
20		33.425		6.15		0.6	0.30	0.1	0.00	0.89	0.30	13.	14.2	11.8	13.0	0.19
41		33.449		5.62		4.0	0.55	2.4	0.11	0.85	0.34	1.4	1.5	1.5	1.5	0.21
59		33.538		4.37		12.3	1.15	12.3	0.08	0.38	0.39	0.20	0.76	0.77	0.77	0.09

*THE DARK VALUE APPEARS TO BE TOO HIGH. AS A RESULT, UPTAKES MAY BE TOO LOW.

RV DAVID STARR JORDAN — CALCOFI CRUISE 8703 — STATION 87 84

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	SECCHI DEPTH	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
32 12.6 N	121 58.1 W	10/ 3/87	1939 GMT	20 M	1224 - 1840 PST	1218 PST	1839 PST	158.5 MG C/M2

DEPTH M	TEMP DEG C	SALINITY	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 (MGC/M3) 1	2	MEAN	DARK
0	14.53	33.245	24.720	5.97	102.8	2.2	0.38	0.2	0.00	0.19	0.04	99.	1.2	1.7	1.4	0.24
12	14.33	33.245	24.763	5.98	102.6	2.2	0.38	0.2	0.00	0.19	0.04	36.	3.2	3.4	3.3	0.24
17	14.28	33.245	24.774	5.98	102.5	2.1	0.38	0.2	0.00	0.19	0.04	26.	2.9	2.9	2.9	0.26
26	14.15	33.245	24.801	6.02	102.9	2.1	0.38	0.2	0.00	0.20	0.05	13.	2.5	2.2	2.3	0.26
56	13.57	33.269	24.940	5.82	98.3	2.9	0.47	1.3	0.14	0.34	0.18	1.4	1.9	2.2	2.0	0.31
80	11.48	33.369	25.421	4.87	78.7	9.5	1.02	10.9	0.02	0.11	0.11	0.20	0.27	0.20	0.24	0.16

RV DAVID STARR JORDAN — CALCOFI CRUISE 8703 — STATION 90 49

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	SECCHI DEPTH	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
32 48.0 N	119 12.4 W	7/ 3/87	1940 GMT	15 M	1207 - 1820 PST	1207 PST	1819 PST	179.5 MG C/M2

DEPTH M	TEMP DEG C	SALINITY	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 (MGC/M3) 1	2	MEAN	DARK
1	14.67	33.384	24.798	6.04	104.4	0.5	0.32	0.2	0.00	0.38	0.08	99.	7.4	5.2	6.3	0.13
11	14.66	33.383	24.800	6.05	104.6	0.5	0.32	0.2	0.00	0.39	0.08	36.	5.3	5.1	5.2	0.18
14	14.66	33.382	24.799	6.05	104.6	0.5	0.32	0.2	0.00	0.46	0.11	26.	5.0	4.7	4.9	0.19
21	14.45	33.403	24.860	6.04	104.0	0.7	0.34	0.2	0.00	0.40	0.11	13.	3.3	2.8	3.1	0.18
43	13.98	33.416	24.969	5.64	96.2	2.5	0.48	1.5	0.08	0.65	0.36	1.4	1.7	1.6	1.7	0.12
62	12.93	33.468	25.222	4.93	82.3	6.6	0.84	6.6	0.17	0.70	0.54	0.20	0.36	0.40	0.38	0.09

RV DAVID STARR JORDAN — CALCOFI CRUISE 8703 — STATION 90 90

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	SECCHI DEPTH	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
31 25.1 N	121 59.5 W	6/ 3/87	1925 GMT	22 M	1216 - 1830 PST	1219 PST	1831 PST	252.3 MG C/M2

DEPTH M	TEMP DEG C	SALINITY	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 (MGC/M3) 1	2	MEAN	DARK
0	14.38	33.248	24.755	5.96	102.3	2.6	0.38	0.2	0.00	0.32	0.08	99.	1.1	0.91	1.0	0.09
14	14.32	33.248	24.768	5.96	102.2	2.2	0.38	0.2	0.00	0.31	0.09	36.	4.4	4.5	4.4	0.11
18	14.32	33.248	24.768	5.96	102.2	2.2	0.40	0.2	0.00	0.31	0.09	26.	4.1	4.2	4.2	0.12
29	14.33	33.248	24.766	5.96	102.2	2.7	0.38	0.2	0.00	0.34	0.10	13.	4.2	4.2	4.2	0.12
60	14.09	33.271	24.835	5.91	100.9	2.7	0.40	0.4	0.07	0.49	0.19	1.4	2.5	3.0	2.8	0.10
88	12.60	33.146	25.038	5.57	92.1	4.8	0.69	4.5	0.03	0.15	0.11	0.20	0.24	0.24	0.24	0.05

PRIMARY PRODUCTIVITY CASTS

RV DAVID STARR JORDAN — CALCOFI CRUISE 8703 — STATION 93 45

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	SECCHI DEPTH	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
32 20.9 N	118 33.3 W	3/ 3/87	1904 GMT	25 M	1159 - 1815 PST	1206 PST	1819 PST	473.3 MG C/M2

DEPTH M	TEMP DEG C	SALINITY	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 (MGC/M3) 1	2	MEAN	DARK
1	14.90	33.398	24.759	6.02	104.6	1.2	0.34	0.3	0.00	0.33	0.06	99.	3.9	4.2	4.1	0.22
17	14.44	33.394	24.855	6.01	103.4	1.2	0.34	0.3	0.01	0.40	0.09	36.	7.2	6.9	7.1	0.26
22	14.39	33.394	24.866	6.00	103.1	1.2	0.34	0.2	0.00	0.37	0.09	26.	7.9	7.4	7.6	0.24
35	14.36	33.394	24.873	6.02	103.4	1.1	0.34	0.2	0.00	0.43	0.10	13.	5.8	6.1	6.0	0.22
71	13.15	33.439	25.156	5.10	85.5	5.9	0.74	5.0	0.12	0.79	0.74	1.4	4.3	4.1	4.2	0.20
103	10.98	33.542	25.646	4.22	67.6	13.9	1.28	14.3	0.02	0.16	0.23	0.20	0.24	0.22	0.23	0.06

RV DAVID STARR JORDAN — CALCOFI CRUISE 8703 — STATION 93 80

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	SECCHI DEPTH	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
31 10.8 N	120 55.1 W	4/ 3/87	1922 GMT	27 M	1214 - 1831 PST	1216 PST	1831 PST	105.5 MG C/M2

DEPTH M	TEMP DEG C	SALINITY	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 (MGC/M3) 1	2	MEAN	DARK
1	15.37	33.366	24.632	5.78	101.3	1.6	0.34	0.2	0.00	0.08	0.02	99.	1.1	1.2	1.1	0.07
18	15.34	33.366	24.639	5.79	101.4	1.6	0.35	0.2	0.00	0.08	0.02	36.	0.97	0.87	0.92	0.09
24	15.34	33.364	24.638	5.78	101.2	1.6	0.34	0.2	0.00	0.08	0.02	26.	0.89	0.90	0.89	0.09
38	15.33	33.366	24.642	5.79	101.4	1.5	0.33	0.2	0.00	0.09	0.02	13.	0.63	0.72	0.68	0.08
76	14.79	33.323	24.728	5.84	101.1	1.9	0.37	0.2	0.01	0.45	0.21	1.4	1.4	1.6	1.5	0.07
111	12.50	33.377	25.237	5.12	84.6	6.4	0.79	6.8	0.02	0.22	0.19	0.20	0.17	0.19	0.18	0.03

RV DAVID STARR JORDAN — CALCOFI CRUISE 8703 — STATION 93 120

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	SECCHI DEPTH	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
29 50.8 N	123 35.2 W	5/ 3/87	1845 GMT	27 M	1220 - 1839 PST	1226 PST	1841 PST	110.1 MG C/M2

DEPTH M	TEMP DEG C	SALINITY	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 (MGC/M3) 1	2	MEAN	DARK
0	16.83	33.748	24.594	5.58	100.9	1.6	0.27	0.2	0.00	0.09	0.02	99.	0.73	0.72	0.73	0.06
18	16.83	33.755	24.600	5.58	100.8	1.5	0.27	0.2	0.00	0.10	0.02	36.	1.4	1.3	1.3	0.06
24	16.81	33.754	24.604	5.59	101.0	1.7	0.27	0.2	0.00	0.10	0.03	26.	1.3	1.3	1.3	0.07
36	16.83	33.757	24.603	5.59	101.0	1.4	0.27	0.2	0.00	0.11	0.02	13.	1.3	1.4	1.4	0.06
76	16.93	33.799	24.613	5.56	100.7	1.3	0.26	0.2	0.00	0.15	0.05	1.4	0.92	1.0	0.97	0.05
110	16.88	33.813	24.637	5.55	100.4	1.5	0.26	0.2	0.00	0.16	0.07	0.20	0.22	0.24	0.23	0.03

Secchi Disk Observations

CalCOFI Cruise 8703

Line	Sta.	Day	Mo	Local Time (+8: PST)	Secchi Depth (m)	Forel Water Color	Weather	Clouds Type	Clouds Amt
77	49	16	3	0840	5	4	1	CI	1/8
77	51	16	3	1116	8	-	1	CU	1/8
77	55	16	3	1456	12	4	1	AS	6/8
77	60	15	3	1143	12	-	1	CU	5/8
77	90	14	3	1610	23	3	6	SC	8/8
77	100	14	3	1130	38	2	1	CC	7/8
80	70	13	3	1130	28	2	1	CC	2/8
80	80	13	3	1744	18	3	1	CC	3/8
83	40.6	12	3	1343	14	3	2	ST	8/8
83	42	12	3	1115	12	4	2	ST	8/8
83	70	11	3	1700	23	3	1	CI	4/8
83	80	11	3	1130	19	3	1	SC	7/8
83	90	11	3	0657	23	2	1	SC	6/8
87	33	8	3	1635	14	4	2	CU	7/8
87	34	8	3	1755	21	3	1	ST	7/8
87	45	9	3	1030	14	3	1	SC	6/8
87	50	9	3	1250	15	3	1	SC	6/8
87	55	9	3	1703	14	3	1	SC	3/8
87	80	10	3	0830	19	2	1	CU	4/8
87	83.6	10	3	1114	20	3	1	CI	4/8
87	90	10	3	1412	25	3	1	SC	1/8
90	28	8	3	1435	14	3	1	CU	7/8
90	45	7	3	1315	15	3	2	CU	8/8
90	49	7	3	1125	15	3	2	CU	8/8
90	53	7	3	0815	17	3	1	CU	7/8
90	80	6	3	1545	21	3	1	CU	6/8
90	90	6	3	1110	22	3	6	CU	2/8
90	120	5	3	1456	35	2	2	SC	8/8
93	26.4	2	3	1530	11	4	1	CS	6/8
93	26.7	2	3	1633	24	3	1	CS	6/8
93	40	3	3	1050	26	3	1	SC	6/8
93	45	3	3	1110	25	3	1	SC	2/8
93	50	3	3	1520	36	3	1	ST	2/8
93	80	4	3	1110	27	2	1	SC	7/8
93	90	4	3	1522	18	2	2	SC	8/8
93	120	5	3	1030	27	2	6	CU	8/8

MACROZOOPLANKTON BIOMASS
Net Mesh Size: 0.505 mm

Line	Sta.	Position		Date Mo/Day	Time (GMT) Start	End	Water Volume Strained (m)	Max. Tow Depth (m)	Volume per 1000 m Strained Total (cm)	Small (cm)
77	49	35 05.3N	120 46.6W	3/16	1743	1751	150	71	167	167
77	51	35 01.3N	120 55.1W	3/16	2055	2117	472	207	87	87
77	55	34 53.3N	121 11.9W	3/16	2350	0012	432	207	148	148
77	60	34 43.3N	121 32.9W	3/15	1905	1927	440	218	82	82
77	70	34 23.3N	122 14.8W	3/15	1200	1222	445	207	184	184
77	80	34 03.3N	122 56.5W	3/15	0635	0657	408	208	91	91
77	90	33 43.3N	123 38.2W	3/15	0110	0132	435	213	53	39
77	100	33 23.3N	124 19.4W	3/14	2005	2026	435	212	39	39
80	51	34 27.0N	120 31.4W	3/13	0753	0802	162	77	111	111
80	55	34 19.0N	120 48.1W	3/13	1143	1205	410	213	122	122
80	60	34 09.0N	121 09.1W	3/13	1537	1559	433	206	81	81
80	70	33 49.1N	121 50.6W	3/13	2138	2200	448	213	67	67
80	80	33 29.0N	122 32.0W	3/14	0304	0326	435	210	92	92
80	90	33 09.0N	123 13.3W	3/14	0909	0931	412	213	126	58
80	100	32 49.0N	123 54.2W	3/14	1429	1451	415	211	185	113
81.8	46.9	34 16.9N	120 02.0W	3/13	0337	0359	402	208	239	239
83	42	34 10.7N	119 30.5W	3/12	2047	2101	247	125	219	219
83	51	33 52.7N	120 08.0W	3/12	1503	1512	168	83	417	417
83	55	33 44.8N	120 24.6W	3/12	1143	1205	423	209	114	114
83	60	33 34.7N	120 45.3W	3/12	0728	0750	418	205	103	103
83	70	33 14.7N	121 26.6W	3/12	0209	0231	424	206	101	101
83	80	32 54.7N	122 07.7W	3/11	2050	2112	451	208	55	55
83	90	32 34.7N	122 48.7W	3/11	1519	1541	439	207	48	48
83	100	32 14.6N	123 29.5W	3/11	1012	1034	456	212	94	94
87	33	33 53.3N	118 29.5W	3/9	0120	0126	100	49	150	150
87	35	33 49.4N	118 37.7W	3/9	0430	0452	393	211	92	92
87	39.5	33 40.4N	118 56.4W	3/9	1208	1230	392	206	222	99
87	45	33 29.4N	119 19.1W	3/9	1725	1747	398	214	98	98
87	50	33 19.4N	119 39.8W	3/9	2305	2313	133	71	143	143
87	55	33 09.5N	120 00.5W	3/10	0234	0256	409	211	108	108
87	60	32 59.4N	120 21.0W	3/10	0657	0719	390	215	100	100
87	70	32 39.4N	121 02.0W	3/10	1208	1230	426	205	108	108
87	80	32 19.4N	121 43.0W	3/10	1727	1749	410	210	80	80
87	90	31 59.4N	122 23.7W	3/10	2328	2350	443	207	45	45
87	100	31 39.4N	123 04.1W	3/11	0423	0445	428	210	93	93
90	28	33 29.1N	117 46.1W	3/8	1535	1541	113	56	88	88
90	35	33 15.1N	118 15.0W	3/8	0743	0805	394	213	76	76
90	37	33 11.2N	118 23.3W	3/8	0426	0448	397	218	83	83
90	45	32 55.1N	118 56.1W	3/7	2327	2349	413	212	107	107
90	53	32 39.2N	119 28.9W	3/7	1705	1727	427	206	73	73
90	60	32 25.1N	119 57.7W	3/7	1225	1247	424	206	120	120
90	70	32 05.2N	120 38.3W	3/7	0616	0638	433	211	48	48
90	80	31 45.1N	121 18.9W	3/7	0046	0108	439	214	27	27
90	90	31 25.1N	121 59.5W	3/6	1935	1957	439	209	581	57
90	100	31 05.1N	122 39.8W	3/6	1255	1317	422	211	195	195
90	110	30 45.1N	123 19.9W	3/6	0651	0713	424	217	201	35
90	120	30 25.1N	123 59.9W	3/6	0033	0055	437	212	16	16
93	26.7	32 57.3N	117 18.3W	3/3	0139	0201	415	206	63	63
93	28	32 54.8N	117 23.7W	3/3	0345	0407	393	209	69	69
93	30	32 50.8N	117 31.9W	3/3	0637	0659	383	216	60	60
93	35	32 40.8N	117 52.6W	3/3	1230	1252	401	207	60	60
93	40	32 31.0N	118 12.7W	3/3	1620	1642	385	214	49	49
93	45	32 20.9N	118 33.3W	3/3	2040	2102	414	201	101	101
93	50	32 10.8N	118 53.6W	3/4	0035	0057	379	211	82	82
93	55	32 00.5N	119 14.0W	3/4	0356	0418	382	215	110	110
93	60	31 50.8N	119 34.2W	3/4	0744	0807	408	217	54	54
93	70	31 30.6N	120 14.8W	3/4	1302	1324	421	214	50	50
93	80	31 10.8N	120 55.1W	3/4	1829	1851	430	216	46	46
93	90	30 50.8N	121 35.4W	3/5	0028	0050	446	210	56	56
93	100	30 30.7N	122 15.4W	3/5	0623	0645	440	210	64	50
93	110	30 10.8N	122 55.4W	3/5	1209	1231	439	209	34	34
93	120	29 50.8N	123 35.2W	3/5	1755	1817	442	216	14	14

FIGURES

Cruise 8705

1. CalCOFI Cruise 8705 track and station positions.

2. Horizontal distribution of chlorophyll-a at 10 meters.

3. 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).

4. Horizontal distribution of sigma-theta at 10 meters.

5. Horizontal distribution of temperature at 10 meters.

6. Horizontal distribution of salinity at 10 meters.

7. Horizontal distribution of dynamic height anomaly (200 over 500 m).

8. Horizontal distribution of sigma-theta at 200 meters.

9. Horizontal distribution of temperature at 200 meters.

10. Horizontal distribution of salinity at 200 meters.

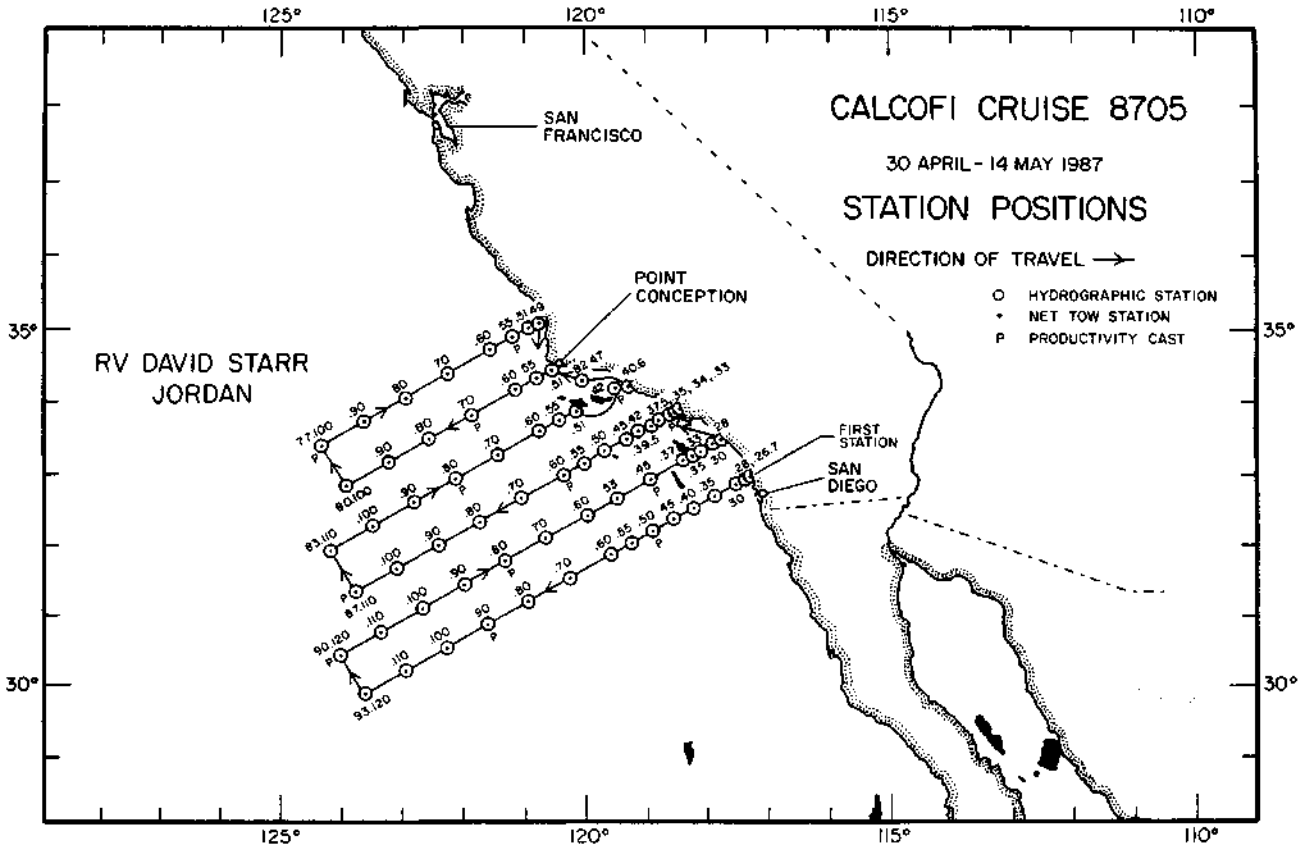

FIGURE 1

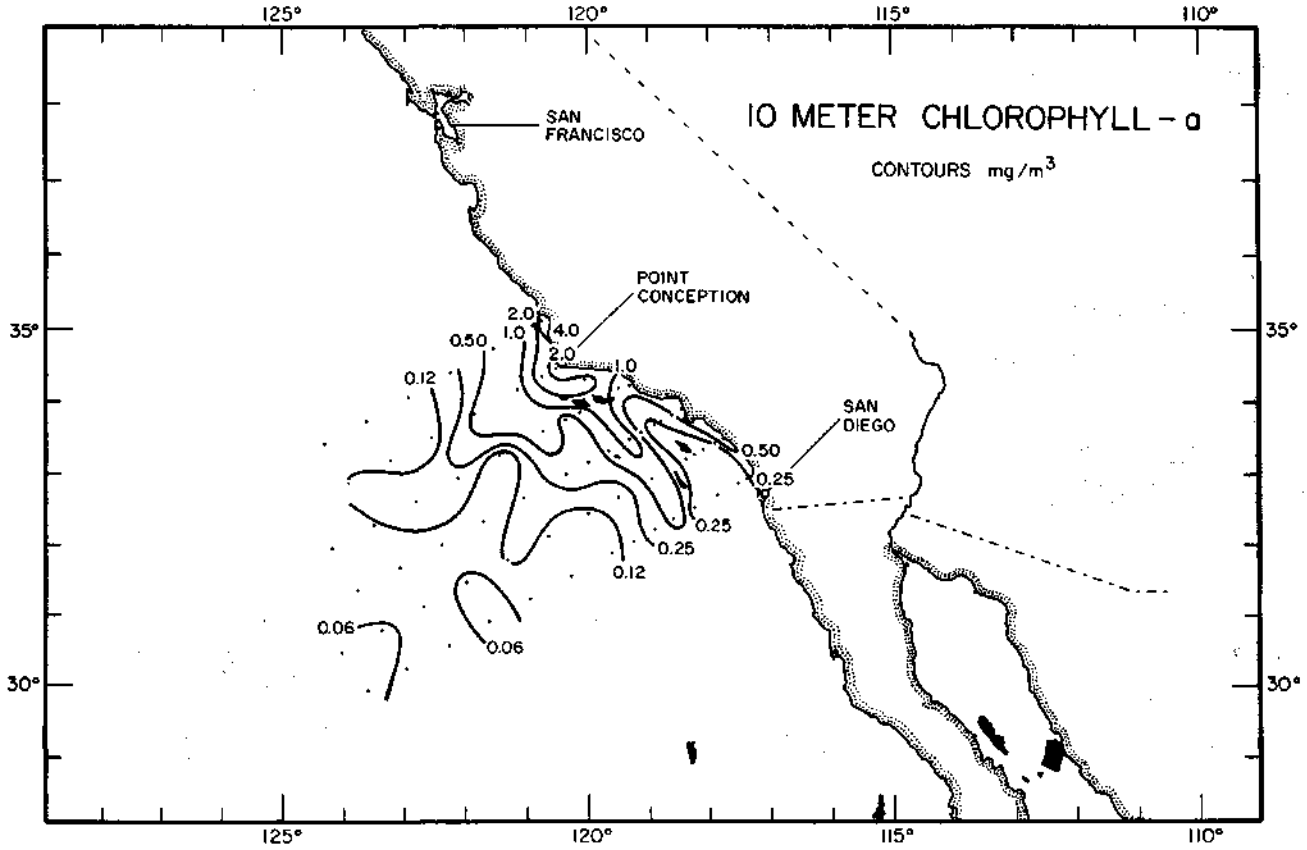

FIGURE 2

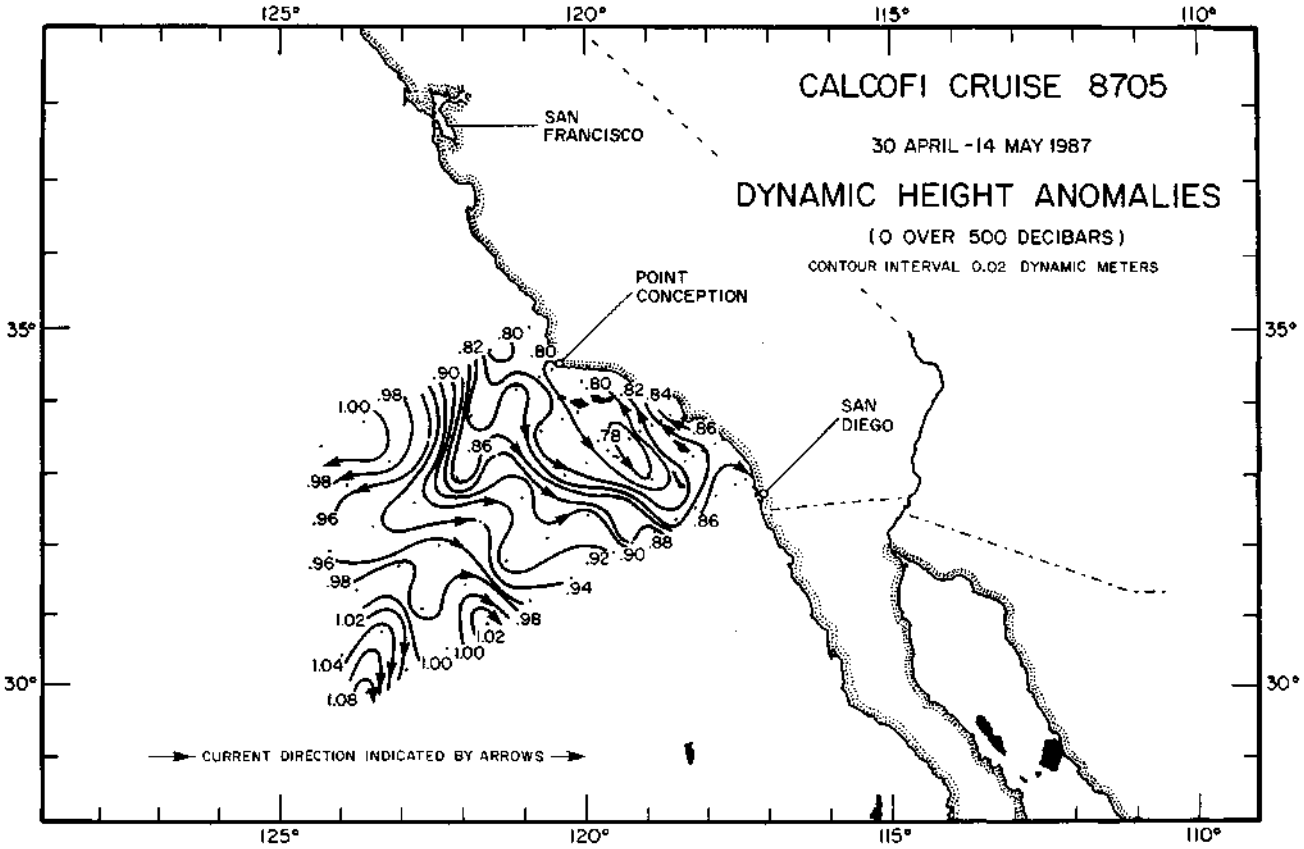

FIGURE 3

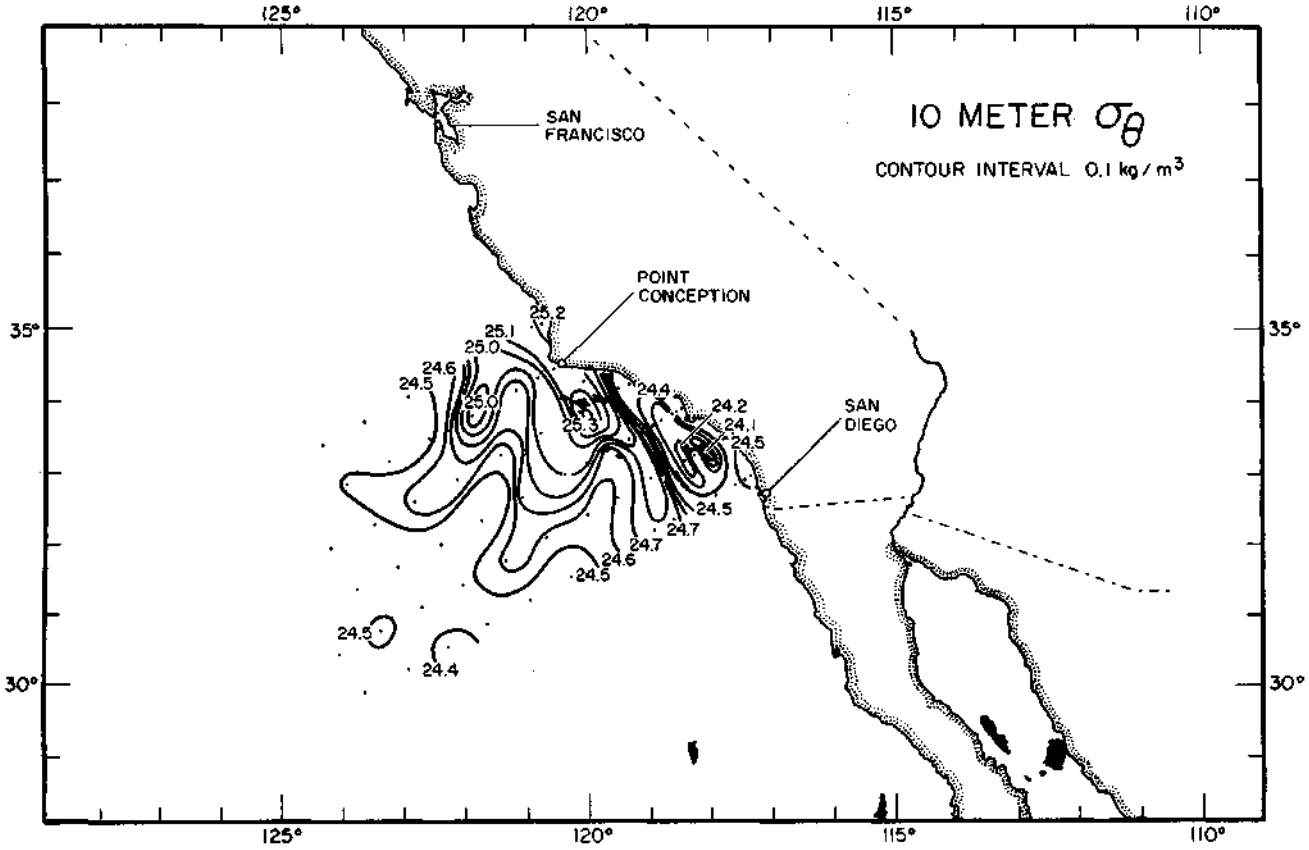

FIGURE 4

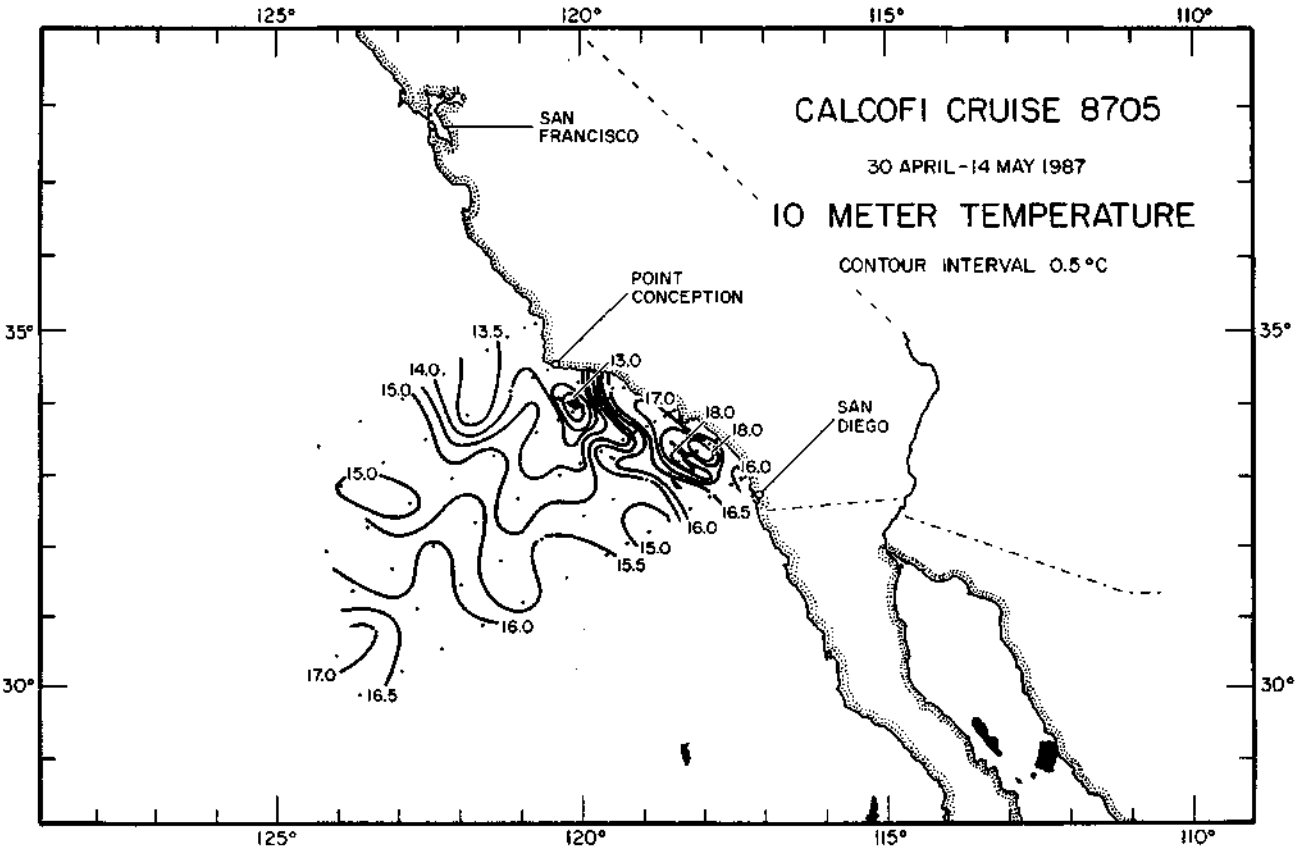

FIGURE 5

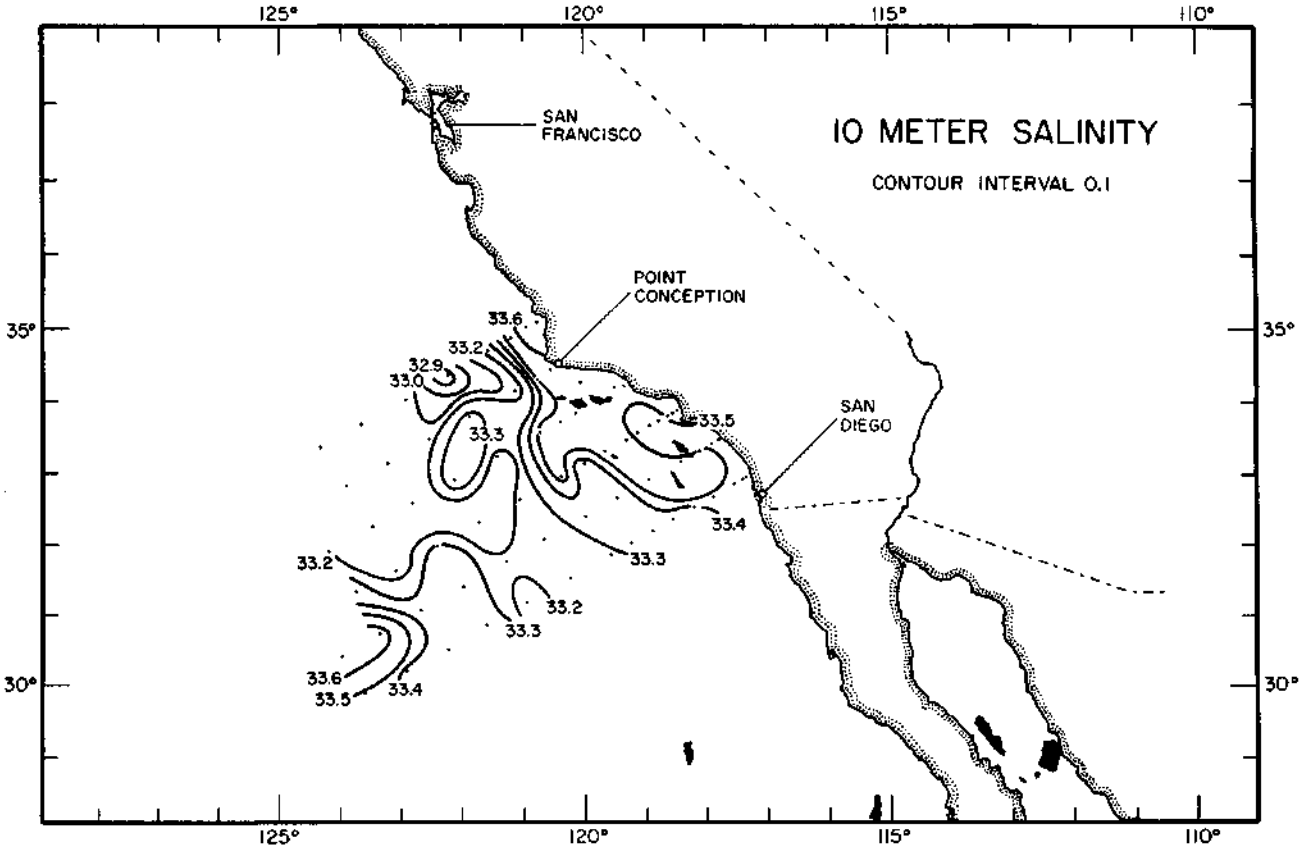

FIGURE 6

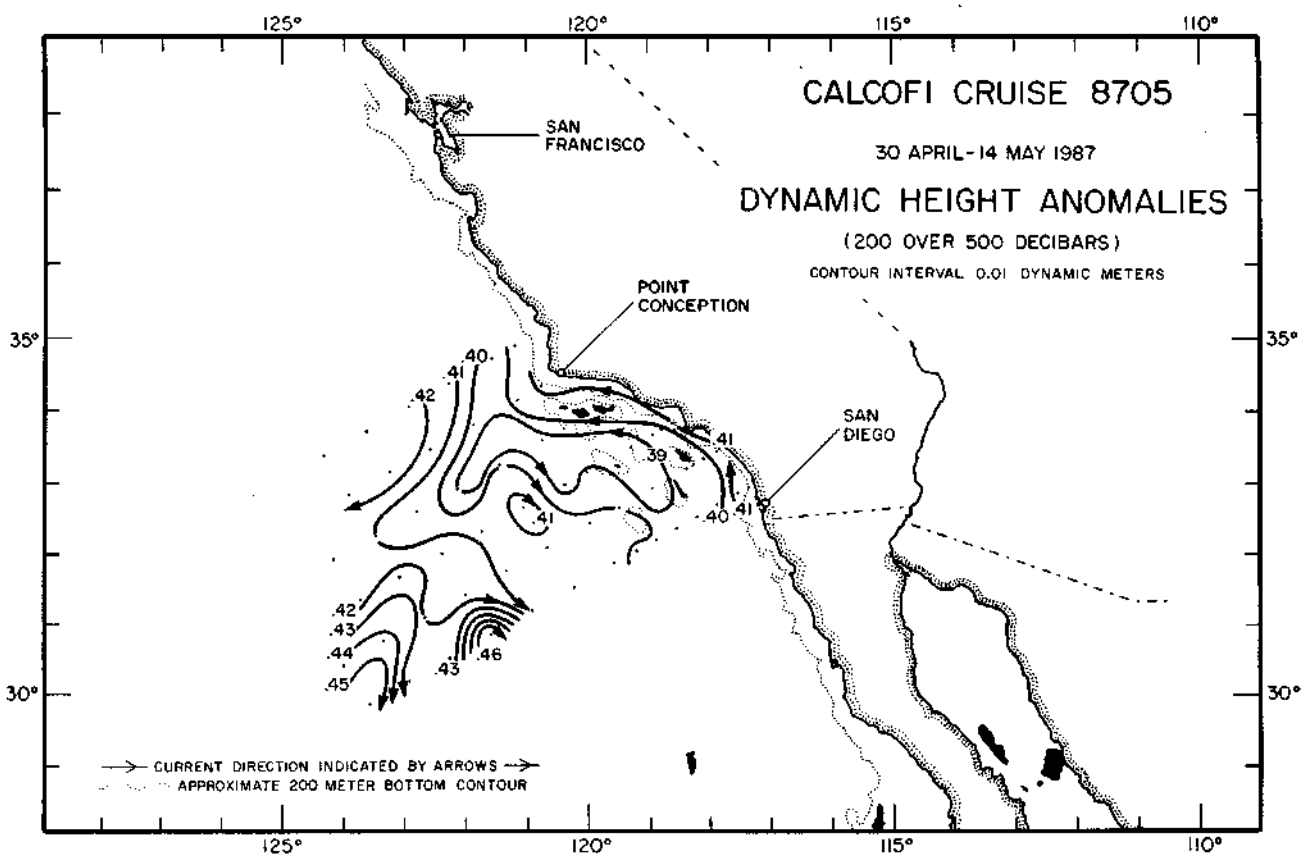

FIGURE 7

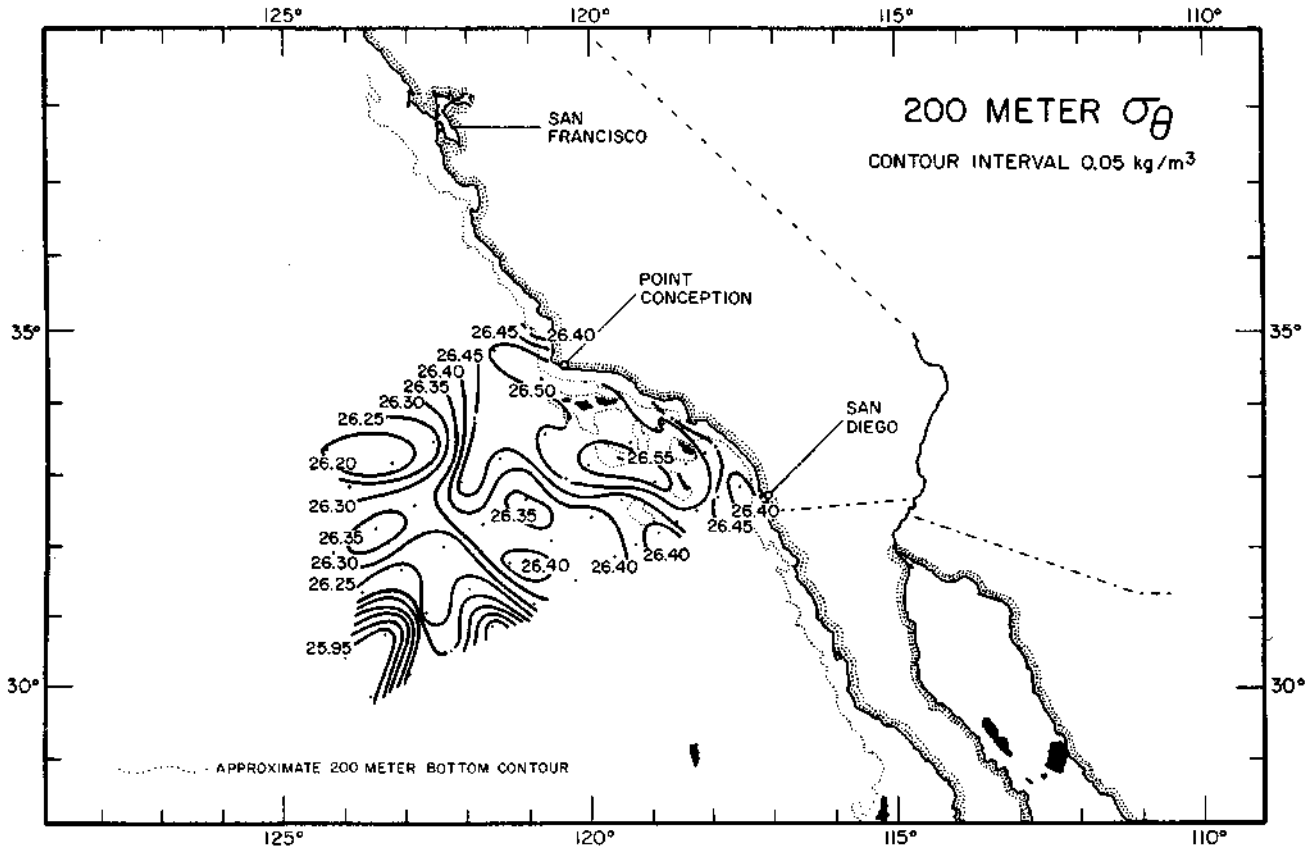

FIGURE 8

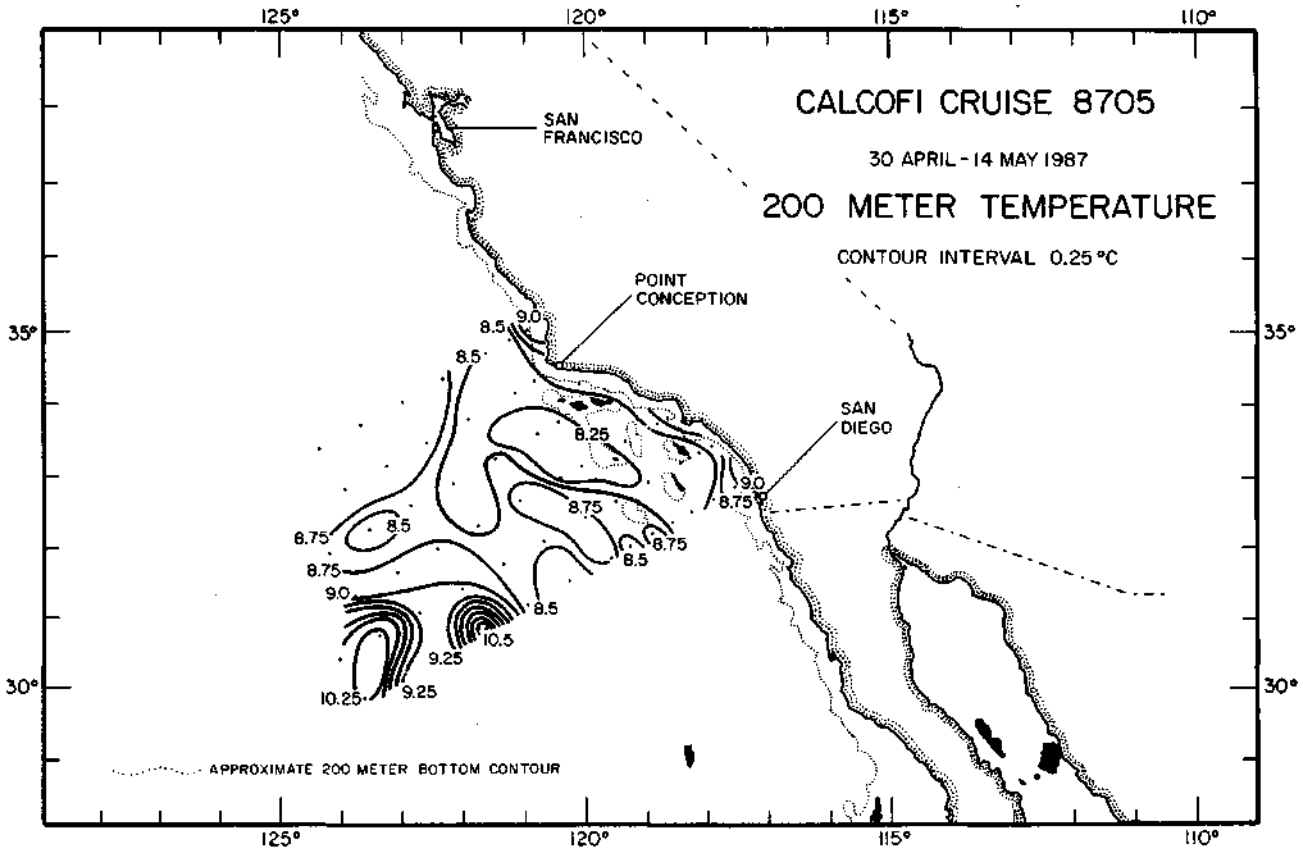

FIGURE 9

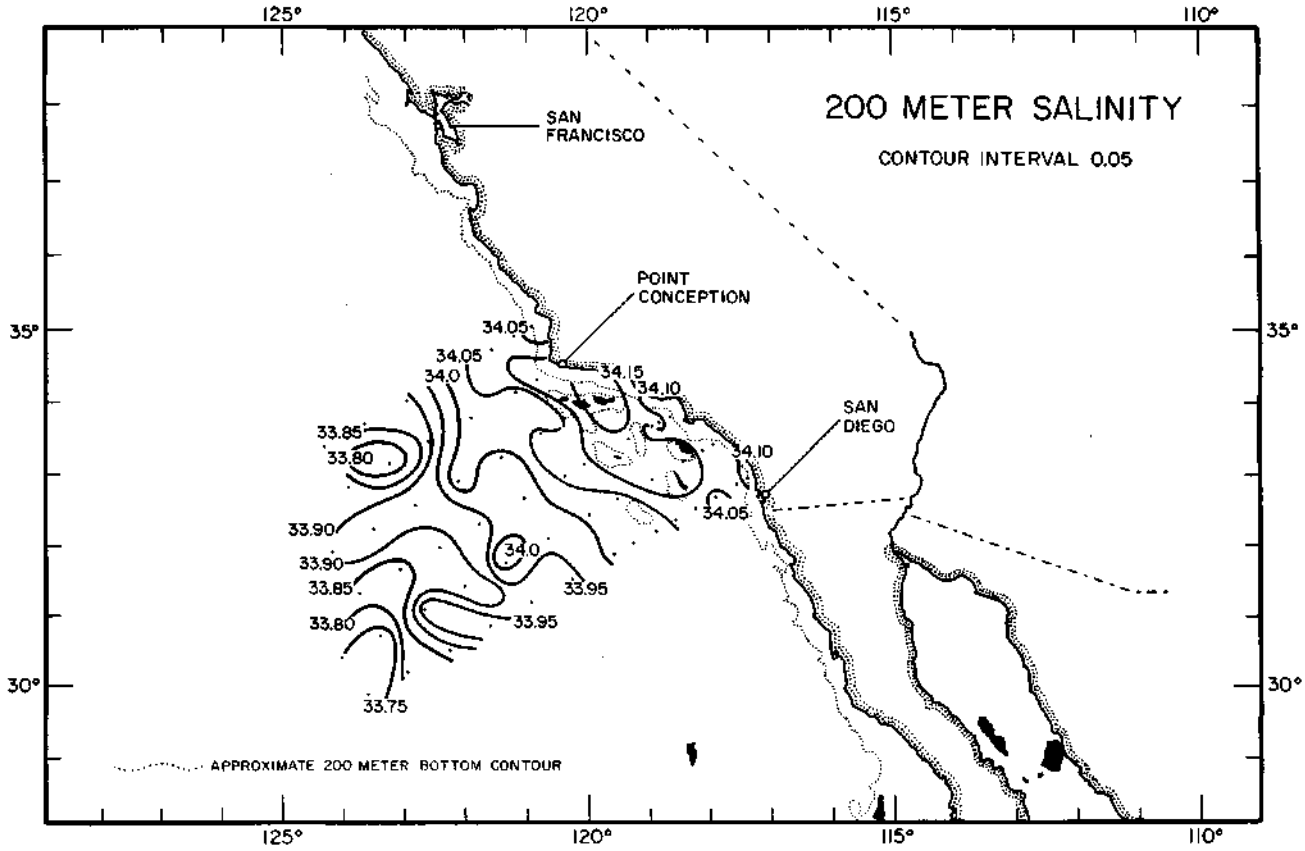

FIGURE 10

PERSONNEL

Cruise 8705

SHIP'S CAPTAIN

Milton Roll, RV *David Starr Jordan*

PERSONNEL PARTICIPATING IN THE COLLECTION OF DATA

Flerx, William C. (in charge)	Fishery Biologist, NMFS
Abramenkoff, Dimitry N.	Fishery Biologist, NMFS
Anderson, George C.	Staff Research Associate, SIO
Butler, Steve B.	Fishery Biologist, NMFS
Cunha, Maria Emilia	Fishery Research Assistant, INIP, Portugal
Dotson, Ronald C.	Fishery Biologist, NMFS
Gruber, Dennis W.	Marine Technician, SIO
Hester, Arthur W.	Staff Research Associate, SIO
Meneses, Isabel	Fishery Research Assistant, INIP, Portugal
Nolan, Ann P.	Volunteer, SIO
Veit, Richard R.	Graduate Student, UCI
Whelan, Julie A.	Engineering Aid, SIO

RV DAVID STARR JORDAN CALCOFI CRUISE 8705 STATION 77 49

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
35 5.3 N	120 46.6 W	13/05/87	2346 GMT	73 M	240	06 KT	280 04 04	2	1013.5 MB	15.0 C	13.8 C	8/8	ST

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0 ISL	14.95	14.95	33.693	24.976	297.0	0.000	7.13	124.2	4.8	0.34	0.7	0.08	2.07	0.12	0
1	1	14.95	14.95	33.693	24.976	297.1	0.003	7.13	124.2	4.8	0.34	0.7	0.08	2.07	0.12	1
	10 ISL	13.65	13.65	33.687	25.246	271.6	0.029	6.76	114.7	6.5	0.53	2.4	0.14	5.44	0.53	10
1	11	13.46	13.46	33.687	25.284	268.0	0.031	6.68	112.9	6.8	0.57	2.8	0.15	5.84	0.59	11
	20 ISL	12.73	12.73	33.673	25.419	255.4	0.055	5.60	93.2	10.5	0.91	7.5	0.34	4.16	0.63	20
1	21	12.67	12.67	33.671	25.429	254.5	0.057	5.47	90.9	10.9	0.95	8.1	0.36	3.82	0.63	21
	30 ISL	12.07	12.07	33.674	25.547	243.5	0.080	4.76	78.1	13.5	1.20	11.8	0.56	1.73	0.50	30
1	32	11.96	11.96	33.676	25.570	241.4	0.085	4.65	76.1	13.9	1.24	12.4	0.59	1.35	0.48	32
1	41	11.68	11.67	33.685	25.629	236.0	0.106	4.41	71.8	15.2	1.33	13.6	0.61	0.89	0.66	41
	50 ISL	11.02	11.01	33.725	25.781	221.7	0.127	3.70	59.4	19.9	1.59	17.3	0.42	0.50	0.71	50
1	51	10.95	10.94	33.730	25.797	220.2	0.129	3.63	58.2	20.4	1.62	17.7	0.40	0.47	0.72	51
1	60	10.94	10.93	33.744	25.810	219.2	0.149	3.58	57.3	21.8	1.69	17.7	0.46	0.46	0.91	60

RV DAVID STARR JORDAN CALCOFI CRUISE 8705 STATION 77 51

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
35 1.3 N	120 55.1 W	13/05/87	2142 GMT	243 M	260	09 KT	300 05 05	2	1013.2 MB	15.5 C	13.9 C	8/8	ST

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0 ISL	14.66	14.66	33.618	24.980	296.6	0.000	6.34	109.7	7.3	0.48	2.0	0.09	1.31	0.11	0
1	1	14.66	14.66	33.618	24.981	296.7	0.003	6.34	109.7	7.3	0.48	2.0	0.09	1.31	0.11	1
	10 ISL	13.87	13.87	33.608	25.139	281.8	0.029	5.88	100.1	8.7	0.67	5.0	0.21	1.06	0.13	10
	20 ISL	12.79	12.79	33.612	25.360	261.0	0.056	5.22	86.9	11.1	0.93	9.2	0.35	0.74	0.15	20
	30 ISL	11.49	11.49	33.642	25.630	235.6	0.081	4.41	71.4	14.3	1.26	14.3	0.47	0.35	0.18	30
1	32	11.20	11.20	33.652	25.691	229.8	0.086	4.23	68.1	15.0	1.33	15.5	0.50	0.27	0.19	32
	50 ISL	10.44	10.43	33.740	25.894	210.9	0.125	3.54	56.1	20.0	1.59	19.7	0.25	0.18	0.20	50
1	61	10.24	10.23	33.790	25.968	204.1	0.148	3.25	51.3	22.8	1.69	21.4	0.08	0.13	0.20	61
	75 ISL	9.98	9.97	33.831	26.044	197.1	0.176	2.94	46.1	25.8	1.81	23.0	0.14	0.09	0.21	76
1	82	9.89	9.88	33.846	26.07 1	194.7	0.190	2.84	44.5	26.8	1.85	23.5	0.18	0.07	0.21	83
1	100	9.77	9.76	33.869	26.109	191.4	0.225	2.80	43.7	27.0	1.88	24.3	0.10	0.06	0.20	101
1	119	9.65	9.64	33.893	26.148	188.1	0.261	2.70	42.1	28.3	1.92	24.7	0.06	0.07	0.26	120
	125 ISL	9.63	9.62	33.897	26.155	187.6	0.272	2.69	41.9	28.6	1.93	24.8	0.06	0.06	0.24	126
1	135	9.58	9.56	33.907	26.171	186.3	0.291	2.66	41.4	29.1	1.95	25.2	0.07	0.05	0.21	136
1	144	9.49	9.47	33.929	26.203	183.4	0.307	2.56	39.7	30.0	1.99	25.8	0.05	0.05	0.21	145
	150 ISL	9.37	9.35	33.953	26.242	179.9	0.318	2.50	38.7	31.0	2.03	26.3	0.06	0.04	0.18	151
1	154	9.29	9.27	33.968	26.267	177.6	0.325	2.47	38.2	31.6	2.05	26.6	0.07	0.04	0.16	155
1	164	9.25	9.23	33.972	26.276	176.8	0.343	2.45	37.8	31.8	2.05	26.7	0.05	0.03	0.13	165
1	174	9.22	9.20				0.361									175
1	184	9.09	9.07	34.013	26.334	171.7	0.378	2.29	35.3	34.6	2.13	27.5	0.05	0.03	0.13	185
1	194	9.06	9.04	34.020	26.345	170.9	0.395	2.26	34.8	34.9	2.15	27.8	0.08	0.02	0.16	196
	200 ISL	9.04	9.02	34.024	26.351	170.4	0.405	2.19	33.7	35.6	2.17	28.0	0.11	0.03	0.19	202
1	205	9.02	9.00	34.027	26.357	170.0	0.414	2.13	32.7	36.1	2.19	28.1	0.14	0.03	0.22	207

RV DAVID STARR JORDAN CALCOFI CRUISE 8705 STATION 77 55

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
34 53.3 N	121 11.9 W	13/05/87	1759 GMT	585 M	320	12 KT	300 04 06	4	1012.5 MB	14.3 C	13.8 C		

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0 ISL	14.09	14.09	33.605	25.091	286.1	0.000	6.26	107.1	9.3	0.54	3.2	0.04	0.99	0.22	0
1	1	14.09	14.09	33.605	25.091	286.1	0.003	6.26	107.1	9.3	0.54	3.2	0.04	0.99	0.22	1
	10 ISL	13.89	13.89	33.598	25.127	282.9	0.028	6.17	105.1	9.5	0.59	3.8	0.04	0.77	0.25	10
1	13	13.75	13.75	33.596	25.155	280.4	0.037	6.10	103.6	9.5	0.61	4.3	0.04	0.68	0.27	13
	20 ISL	13.30	13.30	33.604	25.253	271.3	0.056	5.86	98.6	9.8	0.74	5.8	0.11	0.67	0.34	20
1	23	13.07	13.07	33.610	25.303	266.5	0.064	5.72	95.8	10.2	0.81	6.7	0.15	0.67	0.37	23
	30 ISL	12.55	12.55	33.628	25.420	255.6	0.083	5.32	88.2	12.4	1.00	9.6	0.25	0.52	0.34	30
1	33	12.34	12.34	33.633	25.464	251.5	0.090	5.16	85.1	13.2	1.07	10.7	0.29	0.46	0.33	33
1	42	11.80	11.79	33.615	25.552	243.2	0.112	4.94	80.6	12.1	1.17	11.4	0.41	0.43	0.37	42
	50 ISL	11.33	11.32	33.645	25.662	233.0	0.131	4.58	73.9	13.8	1.32	13.8	0.59	0.27	0.25	50
1	53	11.15	11.14	33.661	25.708	228.7	0.138	4.41	70.9	14.9	1.38	15.0	0.61	0.21	0.19	53
1	64	10.35	10.34	33.717	25.892	211.4	0.163	3.64	57.5	20.7	1.58	20.1	0.06	0.10	0.14	64
1	73	10.16	10.15	33.775	25.970	204.1	0.181	3.31	52.1	23.2	1.66	21.4	0.03	0.07	0.14	74
	75 ISL	10.09	10.08	33.787	25.991	202.2	0.185	3.26	51.3	23.7	1.68	21.7	0.03	0.06	0.13	76
1	86	9.70	9.69	33.851	26.107	191.4	0.207	3.06	47.7	26.4	1.80	23.4	0.02	0.04	0.07	87
	100 ISL	9.34	9.33	33.929	26.227	180.2	0.233	2.79	43.2	30.0	1.93	25.4	0.03	0.02	0.09	101
1	101	9.32	9.31	33.934	26.23 4	179.6	0.235	2.77	42.9	30.2	1.94	25.5	0.03	0.02	0.09	102
1	122	8.95	8.94	34.009	26.352	168.7	0.271	2.44	37.4	34.5	2.10	27.6	0.01	0.01	0.09	123
	125 ISL	8.91	8.90	34.011	26.360	168.0	0.276	2.44	37.4	34.8	2.10	27.7	0.01	0.01	0.09	126
1	146	8.68	8.66	34.016	26.400	164.5	0.311	2.45	37.4	36.0	2.13	28.1	0.02	0.02	0.10	147
	150 ISL	8.68	8.66	34.025	26.407	163.9	0.318	2.42	36.9	36.3	2.14	28.2	0.02	0.02	0.09	151
1	175	8.65	8.63	34.078	26.454	160.0	0.358	2.21	33.7	38.6	2.21	29.1	0.01	0.01	0.06	176
	200 ISL	8.31	8.29	34.066	26.497	156.2	0.398	2.27	34.3	40.3	2.22	29.7	0.02	0.02	0.10	202
1	205	8.23	8.21	34.063	26.507	155.4	0.406	2.27	34.3	40.7	2.23	29.9	0.02	0.02	0.11	207
1	234	8.03	8.01	34.116	26.579	149.0	0.450	1.89	28.4	44.7	2.38	31.4	0.02			236
	250 ISL	7.96	7.93	34.152	26.618	145.6	0.473	1.63	24.5	47.3	2.48	32.2	0.02			252
1	272	7.86	7.83	34.193	26.665	141.5	0.505	1.31	19.6	50.7	2.60	33.2	0.01			274
	300 ISL	7.61	7.58	34.197	26.705	138.1	0.544	1.16	17.3	54.0	2.68	34.4	0.01			303
1	326	7.37	7.34	34.191	26.734	135.5	0.580	1.10	16.3	56.6	2.73	35.3	0.01			329
1	384	7.09	7.05	34.234	26.808	129.3	0.657	0.80	11.8	62.3	2.87	36.6	0.01			387
	400 ISL	6.93	6.89	34.230	26.827	127.6	0.677	0.75	11.0	64.4	2.90	37.2	0.01			403
1	450	6.42	6.38	34.215	26.884	122.5	0.740	0.64	9.3	70.9	2.98	39.0	0.00			454
	500 ISL	6.14	6.10	34.240	26.940	117.6	0.800	0.50	7.2	76.2	3.06	40.2	0.00			504
1	519	6.04	5.99	34.250	26.961	115.9	0.822	0.45	6.5	78.2	3.09	40.6	0.00			524

RV DAVID STARR JORDAN CALCOFI CRUISE 8705 STATION 77 60

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
34 43.3 N	121 32.9 W	13/05/87	1446 GMT	926 M	340	17 KT	320 05 06	2	1012.5 MB	13.8 C	13.0 C	8/8	SC

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	-NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0 ISL	13.31	13.31	33.235	24.965	298.1	0.000	6.20	104.1	4.8	0.58	2.9	0.12	0.78	0.18	0
1	1	13.31	13.31	33.235	24.965	298.2	0.003	6.20	104.1	4.8	0.58	2.9	0.12	0.78	0.18	1
	10 ISL	13.24	13.24	33.254	24.994	295.6	0.030	6.20	104.0	5.3	0.60	3.2	0.13	0.81	0.26	10
1	12	13.23	13.23	33.258	24.999	295.2	0.036	6.20	104.0	5.4	0.61	3.3	0.13	0.82	0.28	12
	20 ISL	12.58	12.58	33.327	25.180	278.1	0.059	6.05	100.1	8.1	0.83	5.6	0.17	0.60	0.26	20
1	21	12.48	12.48	33.335	25.206	275.7	0.061	6.02	99.4	8.5	0.86	6.0	0.18	0.57	0.26	21
	30 ISL	11.63	11.63	33.328	25.361	261.2	0.085	5.71	92.6	11.4	0.98	8.6	0.28	0.43	0.26	30
1	32	11.44	11.44	33.329	25.396	257.8	0.091	5.59	90.3	12.0	1.01	9.3	0.29	0.41	0.26	32
1	42	10.55	10.55	33.450	25.649	233.9	0.115	4.49	71.2	14.2	1.26	14.9	0.10	0.37	0.25	42
	50 ISL	10.32	10.31	33.515	25.740	225.5	0.134	4.17	65.8	16.0	1.38	17.1	0.05	0.25	0.18	50
1	52	10.30	10.29	33.531	25.755	224.1	0.138	4.11	64.8	16.6	1.41	17.5	0.05	0.22	0.17	52
1	61	10.19	10.18	33.638	25.858	214.5	0.158	3.56	56.1	20.6	1.60	20.5	0.03	0.08	0.19	61
1	70	9.96	9.95	33.726	25.966	204.5	0.177	3.21	50.3	22.8	1.72	22.3	0.02	0.04	0.18	71
	75 ISL	9.85	9.84	33.742	25.997	201.6	0.187	3.20	50.0	23.4	1.75	22.8	0.02	0.04	0.17	76
1	85	9.66	9.65	33.753	26.037	198.0	0.207	3.17	49.4	24.3	1.79	23.4	0.02	0.03	0.15	86
1	100	9.50	9.49	33.796	26.097	192.6	0.236	3.05	47.3	26.3	1.84	24.3	0.02	0.03	0.13	101
1	119	9.07	9.06	33.885	26.236	179.6	0.272	2.89	44.4	29.3	1.93	25.9	0.02	0.02	0.14	120
	125 ISL	8.99	8.98	33.912	26.270	176.5	0.282	2.81	43.1	30.3	1.96	26.4	0.02	0.02	0.14	126
1	144	8.82	8.80	33.985	26.354	168.8	0.315	2.53	38.7	33.5	2.06	27.8	0.02	0.02	0.13	145
	150 ISL	8.78	8.76	34.003	26.375	167.0	0.325	2.45	37.5	34.4	2.09	28.1	0.02	0.02	0.19	151
1	173	8.64	8.62	34.057	26.43 9	161.3	0.363	2.17	33.1	37.5	2.18	29.2	0.01	0.03	0.38	174
	200 ISL	8.38	8.36	34.096	26.510	155.1	0.406	1.97	29.9	41.0	2.30	30.6	0.01	0.02	0.17	202
1	203	8.35	8.33	34.100	26.518	154.4	0.410	1.95	29.5	41.4	2.31	30.7	0.01	0.02	0.15	205
1	231	8.05	8.03	34.139	26.594	147.6	0.452	1.67	25.1	46.0	2.43	31.9	0.04			233
	250 ISL	7.91	7.88	34.156	26.628	144.6	0.480	1.52	22.8	48.6	2.50	32.6	0.04			252
1	271	7.77	7.74	34.171	26.661	141.8	0.510	1.36	20.3	51.4	2.57	33.4	0.03			273
	300 ISL	7.48	7.45	34.192	26.719	136.6	0.551	1.12	16.6	55.7	2.69	34.8	0.03			302
1	326	7.21	7.18	34.207	26.769	132.1	0.586	0.93	13.7	59.5	2.78	36.0	0.03			329
1	384	6.72	6.68	34.217	26.845	125.5	0.660	0.72	10.5	66.5	2.89	38.0	0.01			387
	400 ISL	6.59	6.55	34.224	26.868	123.5	0.680	0.66	9.6	68.8	2.93	38.5	0.01			403
1	449	6.22	6.18	34.251	26.938	117.2	0.739	0.48	6.9	75.6	3.03	40.0	0.00			453
	500 ISL	5.99	5.95	34.290	26.999	112.0	0.798	0.37	5.3	80.8	3.10	40.8	0.00			504
1	519	5.91	5.86	34.305	27.021	110.1	0.819	0.33	4.7	82.8	3.12	41.1	0.00			524

RV DAVID STARR JORDAN CALCOFI CRUISE 8705 STATION 77 70

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
34 23.3 N	122 14.8 W	13/05/87	0946 GMT	4066 M	340	18 KT			1013.1 MB	14.8 C	13.8 C		

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0 ISL	13.83	13.83	32.848	24.560	336.6	0.000	6.18	104.7	1.0	0.39	0.0	0.00	0.18	0.05	0
1	2	13.83	13.83	32.848	24.560	336.7	0.007	6.18	104.7	1.0	0.39	0.0	0.00	0.18	0.05	2
	10 ISL	13.83	13.83	32.850	24.562	336.8	0.034	6.19	104.9	0.9	0.39	0.0	0.00	0.18	0.06	10
1	12	13.83	13.83	32.851	24.562	336.7	0.040	6.19	104.9	0.9	0.39	0.0	0.00	0.18	0.06	12
	20 ISL	14.11	14.11	33.003	24.623	331.3	0.067	6.13	104.5	2.0	0.38	0.0	0.00	0.19	0.07	20
1	21	14.15	14.15	33.026	24.632	330.4	0.070	6.12	104.5	2.2	0.38	0.0	0.00	0.19	0.07	21
	30 ISL	14.17	14.17	33.194	24.758	318.7	0.100	6.04	103.2	2.6	0.36	0.0	0.00	0.22	0.10	30
1	32	14.17	14.17	33.231	24.786	316.0	0.106	6.03	103.1	2.7	0.36	0.0	0.00	0.23	0.11	32
1	41	13.59	13.58	33.156	24.848	310.4	0.134	6.12	103.3	3.7	0.38	0.0	0.00	0.26	0.13	41
	50 ISL	13.21	13.20	33.161	24.929	302.9	0.162	5.96	99.9	4.0	0.45	0.7	0.26	0.39	0.17	50
1	52	13.13	13.12	33.169	24.951	300.8	0.168	5.91	98.9	4.1	0.47	1.0	0.30	0.42	0.18	52
1	61	12.61	12.60	33.209	25.084	288.4	0.194	5.71	94.5	5.1	0.60	3.5	0.05	0.43	0.26	61
1	71	12.43	12.42	33.309	25.197	277.9	0.223	5.50	90.7	5.7	0.69	5.3	0.03	0.22	0.18	72
	75 ISL	12.06	12.05	33.320	25.275	270.4	0.234	5.39	88.2	6.5	0.76	6.6	0.03	0.17	0.16	76
1	86	11.01	11.00	33.366	25.504	248.8	0.262	4.92	78.7	10.2	1.01	11.1	0.02	0.10	0.12	87
1	100	10.75	10.74	33.562	25.702	230.2	0.296	3.84	61.2	17.9	1.47	17.8	0.03	0.04	0.09	101
1	119	9.99	9.98	33.649	25.901	211.6	0.338	3.36	52.7	24.1	1.75	22.2	0.02	0.03	0.14	120
	125 ISL	9.88	9.87	33.698	25.958	206.3	0.350	3.21	50.2	25.1	1.79	23.0	0.02	0.03	0.13	126
1	144	9.63	9.61	33.855	26.123	191.1	0.388	2.80	43.6	27.4	1.89	24.8	0.01	0.02	0.10	145
	150 ISL	9.51	9.49	33.889	26.169	186.8	0.399	2.70	41.9	28.7	1.93	25.5	0.01	0.02	0.09	151
1	174	9.06	9.04	33.982	26.315	173.3	0.443	2.41	37.1	33.4	2.08	27.7	0.01	0.01	0.08	175
	200 ISL	8.79	8.77	34.022	26.389	166.7	0.487	2.33	35.6	35.7	2.15	28.6	0.01	0.00	0.07	202
1	204	8.75	8.73	34.025	26.397	166.0	0.493	2.32	35.4	35.9	2.16	28.7	0.01	0.00	0.07	206
1	232	8.36	8.34	34.044	26.473	159.2	0.539	2.30	34.8	38.7	2.21	29.7	0.01			234
	250 ISL	8.15	8.12	34.062	26.519	155.0	0.567	2.21	33.3	41.0	2.26	30.4	0.01			252
1	271	7.95	7.92	34.084	26.566	150.9	0.599	2.05	30.8	43.9	2.34	31.3	0.01			273
	300 ISL	7.74	7.71	34.108	26.616	146.5	0.642	1.81	27.0	47.5	2.45	32.4	0.01			302
1	325	7.56	7.53	34.126	26.656	143.0	0.679	1.58	23.5	50.8	2.55	33.5	0.01			328
1	384	6.97	6.93	34.172	26.776	132.3	0.760	1.04	15.3	60.8	2.79	36.6	0.01			387
	400 ISL	6.79	6.75	34.172	26.800	130.0	0.781	0.96	14.0	63.2	2.84	37.3	0.01			403
1	450	6.29	6.25	34.181	26.874	123.4	0.844	0.75	10.8	70.6	2.97	39.2	0.00			454
	500 ISL	6.06	6.02	34.253	26.960	115.6	0.904	0.47	6.8	77.9	3.10	40.4	0.00			504
1	519	5.97	5.92	34.281	26.994	112.6	0.926	0.37	5.3	80.7	3.15	40.9	0.00			524

RV DAVID STARR JORDAN CALCOFI CRUISE 8705 STATION 77 80

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
34 3.3 N	122 56.5 W	13/05/87	0439 GMT	4114 M	340	17 KT			1014.1 MB	15.6 C	14.5 C		

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
1	0	15.43	15.43	33.134	24.440	348.0	0.000	5.85	102.5	2.4	0.35	0.0	0.00	0.08	0.02	0
	10 ISL	15.40	15.40	33.134	24.447	347.7	0.035	5.85	102.5	2.2	0.36	0.0	0.00	0.09	0.02	10
1	11	15.40	15.40	33.134	24.447	347.7	0.038	5.85	102.5	2.2	0.36	0.0	0.00	0.09	0.02	11
	20 ISL	15.40	15.40	33.134	24.448	348.0	0.070	5.86	102.6	2.1	0.36	0.0	0.00	0.09	0.01	20
1	21	15.40	15.40	33.134	24.448	348.0	0.073	5.86	102.6	2.1	0.36	0.0	0.00	0.09	0.01	21
	30 ISL	15.17	15.17	33.133	24.498	343.5	0.104	5.93	103.4	1.9	0.35	0.0	0.00	0.12	0.03	30
1	32	15.11	15.11	33.133	24.511	342.3	0.111	5.94	103.4	1.9	0.35	0.0	0.00	0.12	0.03	32
1	41	14.95	14.94	33.143	24.553	338.5	0.142	5.95	103.3	1.7	0.35	0.0	0.00	0.11	0.03	41
1	50	14.73	14.72	33.130	24.591	335.2	0.172	5.97	103.2	1.8	0.35	0.0	0.00	0.13	0.05	50
1	61	14.40	14.39	33.184	24.703	324.8	0.208	5.91	101.5	1.9	0.35	0.0	0.00	0.19	0.09	61
1	70	13.95	13.94	33.162	24.780	317.7	0.237	5.90	100.4	2.2	0.39	0.0	0.02	0.38	0.21	71
	75 ISL	13.81	13.80	33.181	24.823	313.7	0.253	5.89	99.9	2.4	0.41	0.2	0.13	0.38	0.20	76
1	85	13.54	13.53	33.230	24.917	305.1	0.284	5.85	98.7	2.9	0.45	0.7	0.29	0.37	0.19	86
1	99	12.86	12.85	33.245	25.064	291.3	0.326	5.67	94.3	4.2	0.58	3.3	0.01	0.12	0.11	100
	100 ISL	12.80	12.79	33.247	25.078	290.0	0.329	5.64	93.7	4.4	0.60	3.6	0.01	0.12	0.11	101
1	119	11.65	11.63	33.323	25.355	263.9	0.381	4.93	80.0	8.7	0.96	9.9	0.01	0.09	0.10	120
	125 ISL	11.30	11.28	33.364	25.451	254.8	0.397	4.73	76.2	10.4	1.07	11.8	0.01	0.08	0.09	126
1	144	10.37	10.35	33.516	25.734	228.2	0.443	4.15	65.5	15.9	1.38	17.1	0.01	0.03	0.05	145
	150 ISL	10.19	10.17	33.565	25.802	221.7	0.456	4.00	62.9	17.4	1.45	18.3	0.01	0.02	0.05	151
1	174	9.63	9.61	33.744	26.036	199.9	0.507	3.51	54.6	23.1	1.66	22.0	0.01	0.00	0.05	175
	200 ISL	8.94	8.92	33.897	26.268	178.3	0.556	3.12	47.8	29.0	1.85	25.3	0.00	0.01	0.03	202
1	203	8.87	8.85	33.911	26.290	176.2	0.561	3.09	47.3	29.6	1.87	25.6	0.00	0.01	0.03	205
1	232	8.38	8.36	33.987	26.425	163.7	0.610	2.92	44.2	34.5	2.00	27.3	0.00			234
	250 ISL	8.14	8.11	34.024	26.490	157.7	0.639	2.66	40.1	38.0	2.11	28.8	0.00			252
1	271	7.90	7.87	34.057	26.552	152.1	0.672	2.32	34.8	42.1	2.25	30.5	0.00			273
	300 ISL	7.62	7.59	34.080	26.611	146.9	0.715	2.03	30.2	46.4	2.37	32.1	0.00			302
1	326	7.42	7.39	34.096	26.653	143.3	0.753	1.80	26.7	50.0	2.47	33.3	0.00			329
1	384	7.06	7.02	34.168	26.760	133.8	0.833	1.12	16.5	58.9	2.74	36.1	0.00			387
	400 ISL	6.89	6.85	34.175	26.789	131.2	0.855	1.00	14.6	61.5	2.80	36.8	0.00			403
1	448	6.36	6.32	34.186	26.869	123.9	0.916	0.75	10.8	69.4	2.94	38.9	0.00			452
	500 ISL	5.90	5.86	34.212	26.948	116.6	0.978	0.56	8.0	77.7	3.06	40.7	0.00			504
1	519	5.73	5.69	34.222	26.977	113.9	1.000	0.49	7.0	80.8	3.10	41.4	0.00			524

RV DAVID STARR JORDAN CALCOFI CRUISE 8705 STATION 77 90

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
33 43.3 N	123 38.0 W	12/05/87	2305 GMT	4324 M	340	18 KT	350 05 05	2	1014.6 MB	16.7 C	15.4 C	8/8	ST

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0 ISL	15.39	15.39	33.127	24.444	347.7	0.000	5.86	102.6	1.3	0.35	0.0	0.00	0.10	0.02	0
1	1	15.39	15.39	33.127	24.444	347.8	0.003	5.86	102.6	1.3	0.35	0.0	0.00	0.10	0.02	1
	10 ISL	15.36	15.36	33.126	24.450	347.4	0.035	5.88	102.9	1.2	0.35	0.0	0.00	0.09	0.02	10
1	11	15.36	15.36	33.126	24.450	347.5	0.038	5.88	102.9	1.2	0.35	0.0	0.00	0.09	0.02	11
1	20	15.34	15.34	33.125	24.454	347.4	0.070	5.87	102.7	1.2	0.35	0.0	0.00	0.10	0.01	20
1	30	15.31	15.31	33.124	24.460	347.1	0.104	5.88	102.8	1.3	0.35	0.0	0.00	0.11	0.02	30
1	40	15.00	14.99	33.105	24.513	342.3	0.139	5.95	103.4	1.2	0.35	0.0	0.00	0.15	0.03	40
2	50	14.63	14.62	33.091	24.582	336.0	0.173	6.01	103.6	1.4	0.36	0.0	0.00	0.20	0.06	50
2	61	14.21	14.20	33.077	24.660	328.9	0.209	6.03	103.1	1.7	0.37	0.0	0.00	0.33	0.11	61
1	71	14.06	14.05	33.131	24.733	322.2	0.242	6.04	103.0	1.6	0.38	0.0	0.00	0.48	0.21	72
	75 ISL	13.94	13.93	33.148	24.771	318.6	0.255	6.00	102.0	1.8	0.40	0.1	0.08	0.46	0.20	76
1	84	13.64	13.63	33.178	24.856	310.8	0.283	5.90	99.7	2.3	0.44	0.2	0.26	0.34	0.19	85
1	99	13.27	13.26	33.202	24.950	302.2	0.329	5.82	97.6	2.5	0.49	1.5	0.22	0.13	0.11	100
	100 ISL	13.25	13.24	33.201	24.953	301.9	0.332	5.81	97.4	2.5	0.49	1.6	0.21	0.12	0.11	101
1	U9	12.61	12.59	33.192	25.072	291.0	0.388	5.55	91.8	4.2	0.65	4.4	0.02	0.05	0.06	120
	125 ISL	12.22	12.20	33.203	25.156	283.1	0.405	5.32	87.3	5.8	0.77	6.5	0.02	0.04	0.06	126
1	143	10.95	10.93	33.266	25.438	256.4	0.454	4.54	72.5	11.7	1.17	13.6	0.01	0.03	0.06	144
	150 ISL	10.57	10.55	33.283	25.518	248.9	0.472	4.28	67.8	14.2	1.30	15.9	0.01	0.02	0.06	151
1	173	9.60	9.58	33.416	25.785	223.7	0.526	3.58	55.5	22.1	1.66	21.8	0.01	0.00	0.04	174
	200 ISL	8.96	8.94	33.853	26.230	181.8	0.581	3.07	47.1	29.4	1.88	25.5	0.00	0.00	0.03	202
1	203	8.91	8.89	33.899	26.274	177.7	0.586	3.03	46.4	30.0	1.90	25.8	0.00	0.00	0.03	205
1	230	8.49	8.47	33.981	26.404	165.8	0.633	2.81	42.7	33.8	2.02	27.7	0.00			232
	250 ISL	8.19	8.16	34.005	26.468	159.9	0.665	2.80	42.2	36.3	2.06	28.3	0.00			252
1	270	7.90	7.87	34.015	26.519	155.2	0.697	2.79	41.8	39.2	2.10	28.9	0.00			272
	300 ISL	7.49	7.46	34.041	26.599	147.9	0.742	2.34	34.7	45.8	2.29	31.4	0.00			302
1	323	7.20	7.17	34.059	26.654	142.9	0.776	1.94	28.6	51.2	2.45	33.5	0.00			326
1	382	6.56	6.53	34.085	26.762	133.2	0.857	1.41	20.5	61.3	2.69	36.7	0.00			385
	400 ISL	6.41	6.37	34.095	26.790	130.7	0.881	1.27	18.4	64.2	2.76	37.5	0.00			403
1	448	6.06	6.02	34.125	26.859	124.5	0.942	0.93	13.3	71.8	2.91	39.5	0.00			452
	500 ISL	5.76	5.72	34.157	26.922	118.9	1.005	0.67	9.5	79.4	3.03	41.1	0.00			504
1	518	5.65	5.61	34.168	26.944	116.9	1.026	0.58	8.2	82.0	3.07	41.6	0.00			523

RV DAVID STARR JORDAN — CALCOFI CRUISE 8705 — STATION 77 100

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
33 23.3 N	124 19.4 W	12/05/87	1725 GMT	4305 M	350	18 KT	330 05 07	2	1015.5 MB	17.0 C	15.8 C	8/8	SC

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0 ISL	15.50	15.50	33.149	24.437	348.4	0.000	5.84	102.5	2.4	0.33	0.0	0.00	0.06	0.04	0
1	1	15.50	15.50	33.149	24.437	348.4	0.003	5.84	102.5	2.4	0.33	0.0	0.00	0.06	0.04	1
	10 ISL	15.50	15.50	33.148	24.436	348.8	0.035	5.84	102.5	2.4	0.34	0.0	0.00	0.07	0.02	10
1	12	15.50	15.50	33.148	24.436	348.8	0.042	5.84	102.5	2.4	0.34	0.0	0.00	0.07	0.01	12
	20 ISL	15.50	15.50	33.150	24.438	348.9	0.070	5.85	102.7	2.3	0.34	0.0	0.00	0.07	0.01	20
1	21	15.50	15.50	33.150	24.438	348.9	0.073	5.85	102.7	2.3	0.34	0.0	0.00	0.07	0.01	21
	30 ISL	15.49	15.49	33.151	24.441	348.9	0.105	5.85	102.6	2.2	0.34	0.0	0.00	0.08	0.01	30
1	31	15.49	15.49	33.151	24.441	348.9	0.108	5.85	102.6	2.2	0.34	0.0	0.00	0.08	0.01	31
1	42	15.41	15.40	33.189	24.489	344.7	0.146	5.88	103.0	1.8	0.34	0.0	0.00	0.09	0.01	42
	50 ISL	15.34	15.33	33.182	24.499	344.0	0.174	5.89	103.1	1.7	0.34	0.0	0.00	0.10	0.03	50
1	52	15.30	15.29	33.175	24.502	343.7	0.181	5.90	103.1	1.7	0.34	0.0	0.00	0.11	0.03	52
1	61	14.92	14.91	33.109	24.534	340.9	0.212	5.95	103.2	2.1	0.36	0.0	0.00	0.17	0.05	61
1	71	14.84	14.83	33.153	24.586	336.3	0.245	5.96	103.2	1.9	0.35	0.0	0.00	0.21	0.08	72
	75 ISL	14.58	14.57	33.117	24.614	333.8	0.259	6.00	103.4	2.0	0.36	0.0	0.00	0.24	0.10	76
1	86	13.92	13.91	33.047	24.698	326.0	0.295	6.06	102.9	2.3	0.38	0.0	0.00	0.30	0.14	87
	100 ISL	14.18	14.17	33.268	24.815	315.2	0.340	5.89	100.7	2.5	0.38	0.1	0.06	0.31	0.14	101
1	101	14.21	14.20	33.288	24.824	314.4	0.343	5.87	100.4	2.5	0.38	0.1	0.06	0.31	0.14	102
1	120	13.52	13.50	33.476	25.112	287.4	0.400	5.55	93.7	3.9	0.47	2.4	0.14	0.21	0.19	121
	125 ISL	13.21	13.19	33.477	25.175	281.5	0.414	5.49	92.1	4.2	0.52	3.3	0.12	0.19	0.18	126
1	145	11.77	11.75	33.444	25.427	257.7	0.468	5.20	84.6	6.6	0.78	7.6	0.03	0.11	0.13	146
	150 ISL	11.38	11.36	33.445	25.500	250.8	0.481	5.11	82.5	7.8	0.87	9.1	0.03	0.09	0.12	151
1	176	9.65	9.63	33.544	25.877	215.0	0.542	4.47	69.5	16.3	1.36	17.1	0.00	0.02	0.05	177
	200 ISL	8.93	8.91	33.808	26.199	184.7	0.590	3.51	53.8	26.0	1.77	23.8	0.00	0.00	0.03	202
1	205	8.84	8.82	33.861	26.255	179.5	0.599	3.33	50.9	27.8	1.83	24.9	0.00	0.00	0.02	207
1	234	8.36	8.34	33.950	26.399	166.2	0.649	3.18	48.1	32.3	1.92	26.6	0.00			236
	250 ISL	8.13	8.10	33.973	26.452	161.4	0.675	3.16	47.6	34.2	1.95	27.1	0.00			252
1	273	7.83	7.80	33.991	26.510	156.1	0.712	3.10	46.4	37.1	2.01	28.0	0.00			275
	300 ISL	7.50	7.47	34.012	26.575	150.3	0.753	2.73	40.5	42.2	2.18	30.1	0.00			302
1	327	7.17	7.14	34.024	26.631	145.1	0.793	2.32	34.2	47.7	2.36	32.4	0.00			330
1	385	6.35	6.32	34.011	26.731	135.9	0.874	2.05	29.6	57.8	2.52	35.1	0.00			388
	400 ISL	6.17	6.13	34.017	26.759	133.3	0.895	1.89	27.2	61.1	2.59	36.1	0.00			403
1	451	5.71	5.67	34.058	26.849	125.0	0.960	1.26	17.9	72.1	2.84	39.4	0.00			455
	500 ISL	5.51	5.47	34.131	26.931	117.7	1.020	0.78	11.0	80.0	3.02	41.3	0.00			504
1	519	5.43	5.39	34.160	26.964	114.7	1.042	0.60	8.5	83.1	3.09	42.0	0.00			524

RV DAVID STARR JORDAN — CALCOFI CRUISE 8705 — STATION 80 51

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
34 27.0 N	120 31.4 W	11/05/87	0642 GMT	75 M	300	15 KT			1012.5 MB	14.5 C	13.4 C		

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
1	0	15.21	15.21	33.563	24.819	312.0	0.000	6.17	107.9	4.4	0.36	0.5	0.05	1.69	0.40	0
1	10	13.79	13.79	33.550	25.111	284.5	0.030	5.52	93.8	7.1	0.65	4.2	0.31	1.54	0.34	10
1	20	12.50	12.50	33.562	25.378	259.3	0.057	4.82	79.8	9.5	0.97	8.3	0.54	1.63	0.50	20
1	30	11.64	11.64	33.582	25.556	242.6	0.082	4.10	66.6	12.5	1.25	13.7	0.16	0.83	0.39	30
1	41	11.05	11.05	33.644	25.712	228.0	0.108	3.62	58.1	16.6	1.48	17.4	0.14	0.34	0.33	41
	50 ISL	10.74	10.73	33.674	25.791	220.7	0.128	3.32	52.9	18.9	1.60	19.2	0.10	0.19	0.34	50
1	51	10.71	10.70	33.677	25.798	220.0	0.130	3.30	52.6	19.1	1.61	19.3	0.09	0.18	0.34	51
1	61	10.40	10.39	33.732	25.895	211.1	0.152	3.23	51.1	21.1	1.66	20.6	0.07	0.11	0.37	61

RV DAVID STARR JORDAN — CALCOFI CRUISE 8705 — STATION 80 55

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
34 19.0 N	120 48.1 W	11/05/87	0928 GMT	806 M	320	15 KT			1012.2 MB	14.0 C	12.8 C		

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0 ISL	14.52	14.52	33.572	24.975	297.1	0.000	5.98	103.2	6.8	0.49	2.2	0.06	2.41	0.53	0
1	1	14.52	14.52	33.572	24.975	297.2	0.003	5.98	103.2	6.8	0.49	2.2	0.06	2.41	0.53	1
	10 ISL	14.47	14.47	33.572	24.986	296.4	0.030	5.98	103.1	6.7	0.50	2.3	0.05	2.40	0.48	10
1	11	14.46	14.46	33.572	24.988	296.2	0.033	5.98	103.1	6.7	0.50	2.3	0.05	2.40	0.48	11
	20 ISL	14.18	14.18	33.591	25.062	289.5	0.059	5.96	102.1	7.7	0.57	3.3	0.07	2.28	0.54	20
1	22	14.10	14.10	33.595	25.082	287.6	0.065	5.95	101.8	8.0	0.59	3.6	0.08	2.25	0.54	22
	30 ISL	13.85	13.85	33.596	25.135	282.8	0.088	5.76	98.0	8.5	0.66	4.7	0.11	1.63	0.38	30
1	32	13.72	13.72	33.596	25.161	280.3	0.093	5.71	96.9	8.8	0.70	5.0	0.13	1.44	0.33	32
1	41	12.27	12.26	33.612	25.461	251.9	0.117	4.70	77.4	11.8	1.06	10.9	0.28	0.67	0.28	41
	50 ISL	11.17	11.16	33.662	25.705	228.9	0.139	3.92	63.1	15.9	1.36	16.2	0.11	0.33	0.22	50
1	51	11.08	11.07	33.668	25.725	227.0	0.141	3.86	62.0	16.3	1.39	16.7	0.08	0.31	0.21	51
1	61	10.63	10.62	33.710	25.838	216.5	0.163	3.60	57.3	18.7	1.51	18.8	0.04	0.18	0.14	61
1	71	10.17	10.16	33.767	25.962	204.9	0.184	3.33	52.4	21.5	1.65	21.1	0.02	0.06	0.12	72
	75 ISL	10.01	10.00	33.795	26.011	200.3	0.192	3.23	50.7	22.8	1.70	21.9	0.02	0.05	0.11	76
1	84	9.71	9.70	33.853	26.107	191.4	0.210	3.03	47.3	25.4	1.79	23.4	0.02	0.03	0.08	85
1	99	9.47	9.46	33.900	26.183	184.4	0.238	2.90	45.0	27.3	1.87	24.5	0.01	0.02	0.08	100
	100 ISL	9.45	9.44	33.905	26.190	183.7	0.240	2.88	44.7	27.6	1.88	24.6	0.01	0.02	0.08	101
1	H9	9.00	8.99	34.007	26.343	169.5	0.274	2.45	37.6	33.2	2.08	27.3	0.04	0.01	0.09	120
	125 ISL	8.92	8.91	34.026	26.370	167.0	0.284	2.36	36.2	34.5	2.12	27.8	0.06	0.01	0.09	126
1	144	8.75	8.73	34.064	26.427	162.0	0.315	2.15	32.9	37.3	2.21	28.7	0.09	0.02	0.08	145
	150 ISL	8.71	8.69	34.073	26.440	160.8	0.325	2.13	32.5	37.8	2.23	28.9	0.08	0.02	0.08	151
1	174	8.57	8.55	34.102	26.485	157.0	0.363	2.05	31.2	39.1	2.28	29.6	0.03	0.01	0.09	175
	200 ISL	8.43	8.41	34.140	26.537	152.6	0.403	1.83	27.8	41.5	2.38	30.6	0.02	0.01	0.07	202
1	204	8.41	8.39	34.146	26.545	151.9	0.409	1.79	27.2	41.9	2.39	30.7	0.02	0.01	0.07	206
1	232	8.33	8.31	34.167	26.574	149.6	0.451	1.67	25.3	43.8	2.44	31.2	0.02			234
	250 ISL	8.28	8.25	34.178	26.590	148.4	0.478	1.58	23.9	44.7	2.48	31.5	0.02			252
1	272	8.22	8.19	34.188	26.607	147.1	0.511	1.48	22.4	45.7	2.52	31.9	0.01			274
	300 ISL	8.17	8.14	34.193	26.619	146.5	0.552	1.43	21.6	46.6	2.55	32.2	0.02			302
1	327	8.06	8.03	34.197	26.639	145.0	0.591	1.36	20.5	48.4	2.58	32.7	0.02			330
1	385	7.34	7.30	34.221	26.763	133.8	0.672	0.93	13.8	59.2	2.80	35.5	0.00			388
	400 ISL	7.22	7.18	34.227	26.785	131.9	0.692	0.85	12.5	61.5	2.85	35.9	0.00			403
1	449	6.85	6.81	34.248	26.853	125.9	0.755	0.63	9.2	68.3	2.98	37.0	0.00			453
	500 ISL	6.34	6.29	34.277	26.944	117.5	0.817	0.46	6.7	75.2	3.08	39.3	0.00			504
1	520	6.14	6.09	34.289	26.979	114.3	0.840	0.40	5.8	77.9	3.12	40.2	0.00			525

RV DAVID STARR JORDAN CALCOFI CRUISE 8705 STATION 80 60

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
34 9.0 N	121 9.0 W	11/05/87	1302 GMT	2227 M	340	18 KT	320 04 07	2	1012.0 MB	13.5 C	12.1 C	8/8	SC

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
1	0		13.97	13.97	33.109	24.733	320.2	0.000	6.13	104.3	2.2	0.43	0.7	0.05	0.54	0.11	0
1	10		13.97	13.97	33.108	24.732	320.5	0.032	6.14	104.5	2.1	0.46	0.7	0.05	0.79	0.16	10
	20	ISL	13.95	13.95	33.105	24.734	320.6	0.064	6.16	104.8	1.9	0.46	0.8	0.05	0.55	0.16	20
1	21		13.95	13.95	33.105	24.735	320.6	0.067	6.16	104.8	1.9	0.46	0.8	0.05	0.52	0.16	21
	30	ISL	12.52	12.52	33.101	25.017	293.9	0.095	6.06	100.0	2.7	0.61	2.2	0.27	0.54	0.19	30
1	32		12.19	12.19	33.108	25.085	287.4	0.101	6.02	98.7	3.0	0.65	2.7	0.34	0.55	0.20	32
1	41		11.92	11.91	33.187	25.198	277.0	0.126	5.69	92.8	4.9	0.80	5.4	0.63	0.42	0.17	41
	50	ISL	11.73	11.72	33.276	25.302	267.2	0.151	5.37	87.3	6.8	0.92	8.2	0.45	0.38	0.21	50
1	51		11.70	11.69	33.285	25.315	266.0	0.153	5.33	86.6	7.0	0.93	8.5	0.42	0.38	0.21	51
1	61		11.19	11.18	33.351	25.459	252.5	0.179	4.94	79.4	10.0	1.11	11.8	0.36	0.38	0.18	61
1	71		10.96	10.95	33.399	25.538	245.2	0.204	4.72	75.5	11.3	1.20	13.5	0.33	0.18	0.23	72
	75	ISL	10.72	10.71	33.435	25.608	238.6	0.214	4.47	71.1	12.9	1.29	15.2	0.25	0.14	0.21	76
1	85		10.14	10.13	33.549	25.797	220.8	0.237	3.81	59.9	17.7	1.55	19.6	0.04	0.08	0.15	86
1	100		9.95	9.94	33.732	25.972	204.5	0.269	3.41	53.4	22.9	1.76	22.7	0.04	0.09	0.24	101
1	118		9.45	9.44	33.851	26.148	188.1	0.304	2.89	44.8	26.2	1.90	25.0	0.02	0.05	0.19	119
	125	ISL	9.39	9.38	33.888	26.187	184.5	0.317	2.72	42.1	27.2	1.95	25.6	0.02	0.05	0.20	126
1	144		9.29	9.27	33.965	26.264	177.6	0.351	2.40	37.1	29.9	2.08	27.0	0.01	0.06	0.23	145
	150	ISL	9.18	9.16	33.983	26.296	174.7	0.362	2.39	36.9	31.0	2.10	27.4	0.01	0.05	0.22	151
1	174		8.71	8.69	34.031	26.408	164.3	0.403	2.33	35.6	35.0	2.16	28.7	0.02	0.03	0.19	175.
	200	ISL	8.36	8.34	34.046	26.474	158.5	0.445	2.31	35.0	37.4	2.21	29.5	0.02	0.03	0.19	202
1	203		8.32	8.30	34.046	26.480	157.9	0.449	2.31	34.9	37.6	2.22	29.6	0.02	0.03	0.19	205
1	232		7.97	7.95	34.062	26.545	152.1	0.494	2.22	33.3	40.6	2.30	30.8	0.02			234
	250	ISL	7.86	7.84	34.084	26.579	149.2	0.521	2.02	30.2	43.0	2.38	31.6	0.02			252
1	271		7.76	7.73	34.111	26.615	146.1	0.552	1.76	26.3	46.1	2.48	32.5	0.02			273
	300	ISL	7.51	7.48	34.131	26.667	141.5	0.594	1.51	22.4	49.8	2.59	33.8	0.02			302
1	325		7.27	7.24	34.146	26.713	137.4	0.629	1.32	19.5	53.6	2.68	34.9	0.02			328
1	385		6.71	6.67	34.201	26.833	126.6	0.708	0.80	11.7	67.7	2.93	37.9	0.00			388
	400	ISL	6.65	6.61	34.209	26.848	125.4	0.727	0.74	10.8	69.0	2.96	38.2	0.00			403
1	449		6.46	6.42	34.231	26.891	121.9	0.788	0.61	8.8	72.3	3.03	39.0	0.00			453
	500	ISL	6.02	5.98	34.253	26.965	115.1	0.848	0.45	6.5	79.9	3.12	40.6	0.00			504
1	519		5.86	5.81	34.262	26.993	112.6	0.870	0.39	5.6	82.8	3.16	41.2	0.00			524

RV DAVID STARR JORDAN CALCOFI CRUISE 8705 STATION 80 70

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
33 49.0 N	121 50.6 W	11/05/87	1817 GMT	3733 M	340	15 KT	320 04 07	2	1014.8 MB	14.8 C	12.9 C	8/8	SC

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
1	0		13.26	13.26	33.324	25.043	290.6	0.000	6.18	103.8	6.6	0.67	4.1	0.13	0.52	0.11	0
1	10		13.25	13.25	33.317	25.040	291.2	0.029	6.18	103.7	6.5	0.67	4.1	0.13	0.73	0.15	10
1	20		13.24	13.24	33.320	25.045	291.0	0.058	6.17	103.5	6.2	0.66	4.2	0.13	0.54	0.13	20
	30	ISL	12.91	12.91	33.266	25.069	289.0	0.087	6.15	102.5	6.3	0.68	4.5	0.15	0.68	0.11	30
1	31		12.88	12.88	33.261	25.071	288.8	0.090	6.15	102.4	6.3	0.68	4.5	0.15	0.70	0.11	31
1	40		11.48	11.48	33.125	25.230	273.8	0.115	5.91	95.4	8.0	0.86	7.0	0.17	0.60	0.18	40
1	50		10.99	10.98	33.168	25.352	262.4	0.142	5.36	85.7	10.6	1.06	10.2	0.24	0.46	0.34	50
1	60		10.64	10.63	33.277	25.499	248.7	0.168	5.00	79.3	13.1	1.18	12.7	0.33	0.29	0.15	60
1	70		10.31	10.30	33.440	25.683	231.3	0.192	4.18	65.9	16.5	1.41	17.6	0.21	0.15	0.16	71
	75	ISL	10.22	10.21	33.507	25.751	225.0	0.203	4.02	63.3	17.9	1.49	19.0	0.17	0.16	0.19	76
1	85		10.06	10.05	33.621	25.867	214.1	0.225	3.85	60.4	20.7	1.63	21.0	0.12	0.18	0.25	86
1	100		9.56	9.55	33.759	26.058	196.2	0.256	3.29	51.1	26.3	1.86	24.7	0.02	0.13	0.31	101
1	121		9.20	9.19	33.857	26.194	183.7	0.296	2.89	44.6	29.1	1.94	26.3	0.02	0.05	0.24	122
	125	ISL	9.14	9.13	33.872	26.215	181.8	0.303	2.84	43.7	29.6	1.95	26.5	0.02	0.05	0.24	126
1	144		8.89	8.87	33.931	26.301	173.9	0.337	2.62	40.1	32.0	2.01	27.5	0.01	0.03	0.23	145
	150	ISL	8.85	8.83	33.949	26.322	172.1	0.347	2.54	38.9	32.8	2.03	27.8	0.01	0.03	0.23	151
1	174		8.69	8.67	34.007	26.392	165.8	0.388	2.31	35.2	35.6	2.10	28.9	0.01	0.03	0.24	175
	200	ISL	8.31	8.29	34.036	26.474	158.5	0.430	2.36	35.7	38.0	2.14	29.6	0.01	0.02	0.22	202
1	202		8.28	8.26	34.038	26.480	157.9	0.433	2.36	35.7	38.2	2.14	29.7	0.01	0.02	0.22	204
1	232		8.07	8.05	34.073	26.539	152.8	0.480	2.13	32.0	41.6	2.24	30.8	0.01			234
	250	ISL	7.82	7.80	34.072	26.575	149.5	0.507	2.01	30.1	44.5	2.30	31.4	0.01			252
1	271		7.52	7.49	34.071	26.618	145.7	0.538	1.86	27.6	48.2	2.37	32.2	0.02			273
	300	ISL	7.28	7.25	34.112	26.685	139.7	0.579	1.50	22.2	53.3	2.53	34.1	0.02			302
1	326		7.11	7.08	34.156	26.743	134.5	0.615	1.17	17.2	57.7	2.67	35.8	0.01			329
1	385		6.61	6.57	34.196	26.843	125.6	0.692	0.77	11.2	66.4	2.89	38.4	0.01			388
	400	ISL	6.46	6.42	34.199	26.865	123.6	0.710	0.71	10.3	68.5	2.93	39.0	0.01			403
1	448		6.02	5.98	34.205	26.927	118.0	0.768	0.57	8.2	74.9	3.01	40.5	0.00			452
	500	ISL	5.69	5.65	34.228	26.987	112.7	0.828	0.43	6.1	81.8	3.09	41.6	0.00			504
1	517		5.58	5.54	34.236	27.006	111.0	0.847	0.39	5.5	84.0	3.11	42.0	0.00			522

RV DAVID STARR JORDAN CALCOFI CRUISE 8705 STATION 80 80

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
33 29.0 N	122 32.0 W	12/05/87	0228 GMT	4066 M	340	10 KT	320 04 04	1	1014.2 MB	15.8 C	13.9 C	6/8	ST

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0 ISL	15.37	15.37	33.146	24.463	345.9	0.000	5.88	102.9	2.1	0.40	0.0	0.00	0.10	0.03	0
1	1	15.37	15.37	33.146	24.463	345.9	0.003	5.88	102.9	2.1	0.40	0.0	0.00	0.10	0.03	1
	10 ISL	15.35	15.35	33.145	24.467	345.8	0.035	5.91	103.4	2.0	0.41	0.0	0.00	0.10	0.03	10
1	11	15.35	15.35	33.145	24.467	345.8	0.038	5.91	103.4	2.0	0.41	0.0	0.00	0.10	0.03	11
	20 ISL	15.35	15.35	33.147	24.469	346.0	0.069	5.89	103.1	2.0	0.41	0.0	0.00	0.11	0.03	20
1	21	15.35	15.35	33.147	24.469	346.0	0.073	5.89	103.1	2.0	0.41	0.0	0.00	0.11	0.03	21
	30 ISL	15.30	15.30	33.143	24.477	345.5	0.104	5.91	103.3	2.0	0.39	0.0	0.00	0.13	0.02	30
1	31	15.29	15.29	33.143	24.479	345.3	0.107	5.91	103.3	2.0	0.39	0.0	0.00	0.13	0.02	31
1	41	15.03	15.02	33.132	24.528	340.9	0.142	5.96	103.6	2.7	0.41	0.0	0.00	0.14	0.04	41
	50 ISL	14.71	14.70	33.134	24.598	334.5	0.172	5.98	103.3	2.3	0.41	0.0	0.00	0.18	0.06	50
1	51	14.67	14.66	33.134	24.607	333.7	0.175	5.98	103.2	2.3	0.41	0.0	0.00	0.19	0.06	51
1	62	14.04	14.03	33.085	24.702	324.9	0.211	6.12	104.3	2.8	0.42	0.0	0.00	0.31	0.10	62
1	72	13.85	13.84	33.110	24.760	319.6	0.244	6.07	103.0	2.9	0.43	0.0	0.00	0.35	0.13	73
	75 ISL	13.84	13.83	33.135	24.782	317.6	0.253	6.05	102.7	2.9	0.44	0.0	0.04	0.37	0.14	76
1	86	13.74	13.73	33.241	24.885	308.1	0.288	5.93	100.5	2.9	0.48	0.2	0.16	0.42	0.19	87
	100 ISL	13.17	13.16	33.333	25.071	290.7	0.330	5.66	94.8	3.7	0.56	2.5	0.09	0.32	0.21	101
1	101	13.12	13.11	33.338	25.085	289.4	0.333	5.64	94.4	3.8	0.57	2.7	0.08	0.31	0.21	102
1	121	11.82	11.80	33.361	25.353	264.1	0.388	5.24	85.3	7.0	0.83	7.5	0.03	0.21	0.17	122
	125 ISL	11.57	11.55	33.377	25.412	258.6	0.398	5.15	83.4	7.9	0.90	8.6	0.02	0.18	0.15	126
1	144	10.47	10.45	33.485	25.692	232.2	0.445	4.69	74.2	12.7	1.21	13.9	0.01	0.05	0.08	145
	150 ISL	10.13	10.11	33.529	25.785	223.4	0.459	4.56	71.6	14.6	1.29	15.5	0.01	0.04	0.07	151
1	176	9.07	9.05	33.722	26.110	192.8	0.513	3.91	60.1	23.1	1.64	21.9	0.01	0.01	0.04	177
	200 ISL	9.00	8.98	33.858	26.228	182.1	0.558	2.91	44.7	30.4	1.98	26.4	0.01	0.06	0.12	202
1	205	8.98	8.96				0.567	2.74	42.0	31.7	2.04	27.0	0.01	0.07	0.14	207
1	234	8.29	8.27	33.978	26.432	163.1	0.617	2.96	44.7	35.3	2.04	27.6	0.01			236
	250 ISL	8.04	8.01	34.002	26.488	157.9	0.642	2.87	43.1	37.9	2.09	28.5	0.01			252
1	273	7.74	7.71	34.020	26.546	152.6	0.678	2.60	38.8	42.2	2.21	30.2	0.01			275
	300 ISL	7.38	7.35	34.040	26.614	146.5	0.718	2.26	33.5	47.7	2.37	32.1	0.01			302
1	327	7.06	7.03	34.060	26.674	140.9	0.757	1.89	27.8	53.4	2.53	34.0	0.00			330
1	385	6.53	6.50	34.125	26.797	129.8	0.836	1.12	16.3	64.9	2.84	37.7	0.00			388
	400 ISL	6.38	6.34	34.130	26.821	127.7	0.855	1.02	14.8	67.4	2.89	38.4	0.00			403
1	449	5.93	5.89	34.139	26.886	121.8	0.916	0.82	11.7	74.6	3.01	40.4	0.00			453
	500 ISL	5.63	5.59	34.168	26.946	116.4	0.977	0.63	9.0	81.1	3.11	41.6	0.00			504
1	516	5.53	5.49	34.177	26.966	114.7	0.995	0.57	8.1	83.1	3.14	42.0	0.00			520

RV DAVID STARR JORDAN CALCOFI CRUISE 8705 STATION 80 90

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
33 9.0 N	123 13.2 W	12/05/87	0638 GMT	4305 M	340	17 KT			1015.6 MB	14.8 C	13.0 C		

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
1	0	15.38	15.38	33.155	24.468	345.4	0.000	5.86	102.6	1.8	0.35	0.0	0.00	0.09	0.03	0
1	10	15.38	15.38	33.154	24.467	345.8	0.035	5.87	102.8	1.8	0.35	0.0	0.00	0.08	0.02	10
1	19	15.38	15.38	33.153	24.467	346.1	0.066	5.86	102.6	1.8	0.35	0.0	0.00	0.08	0.02	19
	20 ISL	15.38	15.38	33.153	24.467	346.2	0.069	5.86	102.6	1.8	0.35	0.0	0.00	0.08	0.02	20
	30 ISL	15.39	15.39	33.156	24.467	346.4	0.104	5.88	103.0	1.7	0.35	0.0	0.00	0.08	0.02	30
1	31	15.39	15.39	33.156	24.467	346.5	0.107	5.88	103.0	1.7	0.35	0.0	0.00	0.08	0.02	31
1	41	15.28	15.27	33.146	24.484	345.2	0.142	5.89	102.9	2.8	0.35	0.0	0.00	0.06	0.07	41
1	50	14.85	14.84	33.116	24.554	338.7	0.173	5.96	103.2	2.7	0.36	0.0	0.00	0.16	0.06	50
1	60	14.18	14.17	33.090	24.676	327.3	0.206	6.05	103.4	3.2	0.37	0.0	0.00	0.23	0.11	60
1	70	14.07	14.06	33.105	24.711	324.2	0.238	6.06	103.3	3.5	0.38	0.0	0.00	0.28	0.13	71
	75 ISL	14.01	14.00	33.107	24.725	323.1	0.255	6.04	102.8	3.5	0.39	0.0	0.01	0.37	0.17	76
1	84	13.89	13.88	33.138	24.774	318.6	0.284	6.00	101.9	3.6	0.41	0.1	0.04	0.50	0.23	85
1	99	13.59	13.58	33.347	24.998	297.8	0.330	5.69	96.2	4.1	0.47	1.8	0.20	0.28	0.20	100
	100 ISL	13.54	13.53	33.349	25.009	296.7	0.333	5.67	95.7	4.2	0.48	2.0	0.20	0.27	0.20	101
1	121	12.22	12.20	33.323	25.249	274.2	0.393	5.39	88.5	6.1	0.70	5.7	0.04	0.17	0.16	122
	125 ISL	11.97	11.95	33.327	25.299	269.4	0.404	5.33	87.1	6.7	0.75	6.5	0.04	0.15	0.15	126
1	145	10.85	10.83	33.390	25.552	245.6	0.455	5.01	79.9	10.3	0.98	10.8	0.02	0.08	0.09	146
	150 ISL	10.63	10.61	33.424	25.617	239.5	0.467	4.91	77.9	11.4	1.05	11.9	0.02	0.07	0.08	151
1	174	9.75	9.73	33.604	25.907	212.2	0.521	4.43	69.0	17.0	1.34	17.0	0.01	0.02	0.06	175
	200 ISL	8.92	8.90	33.751	26.156	188.8	0.574	4.14	63.4	23.3	1.55	20.9	0.01	0.03	0.04	202
1	203	8.84	8.82	33.768	26.182	186.3	0.579	4.09	62.5	24.1	1.58	21.3	0.01	0.03	0.04	205
1	232	8.51	8.49	33.962	26.386	167.5	0.630	2.91	44.2	34.0	1.99	27.3	0.00			234
	250 ISL	8.24	8.21	34.009	26.464	160.3	0.660	2.76	41.7	37.8	2.09	28.8	0.00			252
1	270	7.92	7.89	34.029	26.527	154.5	0.691	2.59	38.8	41.1	2.16	29.6	0.00			272
	300 ISL	7.50	7.47	34.050	26.605	147.4	0.737	2.28	33.8	47.0	2.32	31.6	0.00			302
1	324	7.19	7.16	34.058	26.655	142.8	0.772	2.01	29.6	51.6	2.45	33.3	0.00			327
1	383	6.56	6.53	34.089	26.765	132.9	0.853	1.39	20.2	62.2	2.71	36.9	0.00			386
	400 ISL	6.40	6.36	34.104	26.798	129.9	0.875	1.21	17.5	65.6	2.79	37.9	0.00			403
1	447	6.00	5.96	34.145	26.882	122.2	0.934	0.80	11.5	74.5	2.97	40.2	0.00			451
	500 ISL	5.69	5.65	34.178	26.947	116.4	0.998	0.60	8.5	80.7	3.07	41.3	0.00			504
1	518	5.59	5.55	34.189	26.968	114.6	1.018	0.53	7.5	82.8	3.10	41.7	0.00			522

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
32 49.0 N	123 54.5 W	12/05/87	1155 GMT	4477 M	340	16 KT			1014.5 MB	16.2 C	13.4 C		

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0	ISL	14.97	14.97	33.115	24.526	339.9	0.000	5.94	103.1	3.1	0.37	0.0	0.00	0.15	0.03	0
1	1		14.97	14.97	33.115	24.526	339.9	0.003	5.94	103.1	3.1	0.37	0.0	0.00	0.15	0.03	1
	10	ISL	14.98	14.98	33.114	24.524	340.4	0.034	5.95	103.3	3.0	0.36	0.0	0.00	0.15	0.02	10
1	11		14.98	14.98	33.114	24.524	340.5	0.037	5.95	103.3	3.0	0.36	0.0	0.00	0.15	0.02	11
	20	ISL	14.99	14.99	33.113	24.521	341.0	0.068	5.97	103.7	2.9	0.36	0.0	0.00	0.14	0.03	20
1	21		14.99	14.99	33.113	24.521	341.0	0.071	5.97	103.7	2.9	0.36	0.0	0.00	0.14	0.03	21
	30	ISL	14.70	14.70	33.114	24.584	335.3	0.102	5.99	103.4	3.1	0.36	0.0	0.00	0.15	0.04	30
1	32		14.61	14.61	33.114	24.604	333.5	0.109	6.00	103.4	3.1	0.36	0.0	0.00	0.16	0.04	32
1	41		14.11	14.10	33.100	24.698	324.7	0.138	6.07	103.6	3.0	0.38	0.0	0.00	0.21	0.05	41
1	50		13.96	13.95	33.137	24.758	319.2	0.167	6.06	103.1	2.8	0.38	0.0	0.00	0.28	0.07	50
1	60		13.58	13.57	33.178	24.868	309.0	0.199	6.01	101.5	2.9	0.41	0.1	0.06	0.42	0.12	60
1	70		13.49	13.48	33.226	24.923	304.0	0.229	5.96	100.5	2.9	0.44	0.2	0.14	0.39	0.16	71
	75	ISL	13.34	13.33	33.225	24.953	301.3	0.244	5.90	99.1	3.1	0.47	0.8	0.15	0.35	0.16	76
1	83		13.08	13.07	33.230	25.009	296.1	0.268	5.80	96.9	3.5	0.53	1.9	0.22	0.27	0.14	84
1	98		12.85	12.84	33.373	25.165	281.7	0.312	5.71	95.1	4.3	0.66	3.7	0.74	0.15	0.16	99
	100	ISL	12.77	12.76	33.370	25.179	280.4	0.317	5.67	94.2	4.5	0.67	4.0	0.69	0.14	0.16	101
1	118		11.81	11.79	33.320	25.323	266.9	0.367	5.17	84.2	7.6	0.84	8.0	0.03	0.11	0.11	119
	125	ISL	11.32	11.30	33.364	25.447	255.2	0.385	4.88	78.6	9.9	0.99	10.7	0.02	0.08	0.09	126
1	143		10.15	10.13	33.536	25.787	223.1	0.428	4.13	64.9	16.5	1.41	17.7	0.01	0.02	0.05	144
	150	ISL	9.90	9.88	33.597	25.876	214.6	0.443	3.90	61.0	18.8	1.52	19.5	0.01	0.02	0.07	151
1	172		9.39	9.37	33.762	26.090	194.7	0.488	3.40	52.6	24.7	1.75	23.3	0.01	0.02	0.12	173
	200	ISL	8.84	8.82	33.887	26.275	177.5	0.540	3.31	50.6	29.0	1.82	25.0	0.01	0.00	0.03	202
1	201		8.82	8.80	33.890	26.281	177.0	0.542	3.31	50.6	29.1	1.82	25.0	0.01	0.00	0.03	203
1	229		8.29	8.27	33.974	26.428	163.3	0.590	3.07	46.4	34.3	1.97	27.3	0.01			231
	250	ISL	8.06	8.03	34.002	26.485	158.2	0.623	2.88	43.3	37.5	2.04	28.5	0.01			252
1	270		7.87	7.84	34.014	26.523	154.9	0.655	2.69	40.3	40.5	2.12	29.5	0.01			272
	300	ISL	7.48	7.45	34.037	26.597	148.1	0.700	2.35	34.9	45.8	2.35	31.5	0.00			302
1	321		7.19	7.16	34.050	26.648	143.4	0.731	2.10	30.9	49.7	2.51	32.9	0.00			324
1	382		6.48	6.45	34.073	26.763	133.0	0.815	1.46	21.2	62.0	2.65	37.0	0.00			3 85
	400	ISL	6.34	6.30	34.089	26.794	130.2	0.839	1.28	18.5	65.2	2.73	37.9	0.00			403
1	446		6.04	6.00	34.136	26.870	123.4	0.897	0.87	12.5	72.6	2.93	39.9	0.00			450
	500	ISL	5.73	5.69	34.179	26.943	116.9	0.962	0.61	8.7	79.7	3.06	41.3	0.00			504
1	517		5.63	5.59	34.193	26.966	114.8	0.982	0.53	7.5	82.0	3.10	41.8	0.00			521

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
34 17.0 N	120 2.0 W	11/05/87	0222 GMT	594 M	270	15 KT	270 03 04	1	1010.9 MB	15.9 C	14.3 C	5/8	AC

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0	ISL	15.58	15.58	33.586	24.755	318.1	0.000	6.50	114.6	7.7	0.36	0.2	0.01	1.82	0.38	0
1	1	A	15.58	15.58	33.586	24.755	318.1	0.003	6.50	114.6	7.7	0.36	0.2	0.01	1.82	0.38	1
	10	ISL	13.67	13.67	33.566	25.148	281.0	0.030	5.81	98.5	9.3	0.63	3.2	0.27	3.77	0.79	10
1	11		13.38	13.38	33.567	25.208	275.3	0.033	5.70	96.1	9.6	0.68	3.7	0.31	4.00	0.84	11
	20	ISL	12.31	12.31	33.581	25.429	254.5	0.057	4.83	79.6	11.7	1.02	9.4	0.35	2.29	0.61	20
1	26		11.91	11.91	33.596	25.517	246.3	0.072	4.33	70.8	13.1	1.22	13.1	0.37	0.64	0.35	26
	30	ISL	11.71	11.71	33.616	25.570	241.3	0.082	4.20	68.4	13.9	1.28	14.2	0.33	0.52	0.28	30
1	41		11.31	11.30	33.667	25.683	230.8	0.108	4.02	64.9	16.1	1.37	15.9	0.19	0.20	0.19	41
	50	ISL	10.93	10.92	33.686	25.766	223.1	0.128	3.78	60.5	17.7	1.46	17.6	0.08	0.12	0.17	50
1	56		10.70	10.69	33.697	25.815	218.5	0.141	3.63	57.8	18.7	1.51	18.6	0.03	0.10	0.16	56
1	70		10.40	10.39	33.745	25.906	210.2	0.171	3.39	53.7	21.0	1.62	20.3	0.03	0.06	0.16	71
	75	ISL	10.27	10.26	33.784	25.958	205.3	0.182	3.25	51.3	22.6	1.69	21.3	0.03	0.07	0.13	76
1	85		9.93	9.92				0.202									86
1	99		9.26	9.25	33.985	26.284	174.8	0.227	2.55	39.4	31.3	2.02	26.3	0.03	0.02	0.12	100
	100	ISL	9.23	9.22	33.991	26.293	173.9	0.229	2.53	39.1	31.6	2.03	26.4	0.03	0.02	0.12	101
1	115		9.01	9.00	34.061	26.383	165.6	0.254	2.22	34.1	35.4	2.18	28.0	0.03	0.03	0.12	116
	125	ISL	8.92	8.91	34.089	26.420	162.3	0.271	2.00	30.7	37.4	2.26	28.9	0.02	0.04	0.18	126
1	139		8.84	8.83	34.112	26.450	159.7	0.293	1.77	27.1	39.5	2.34	29.8	0.01	0.05	0.26	140
	150	ISL	8.79	8.77	34.121	26.466	158.5	0.311	1.79	27.4	40.0	2.34	29.8	0.04	0.04	0.23	151
1	169		8.72	8.70	34.130	26.484	157.1	0.341	1.83	28.0	40.5	2.34	29.7	0.11	0.03	0.15	170
1	200		8.60	8.58	34.155	26.523	153.9	0.389	1.63	24.8	43.4	2.43	30.5	0.18	0.03	0.16	202
1	237		8.41	8.39	34.171	26.565	150.6	0.445	1.39	21.1	46.4	2.53	31.6	0.08	0.05	0.25	239
	250	ISL	8.33	8.30	34.175	26.581	149.3	0.465	1.30	19.7	47.9	2.58	32.0	0.05	0.05	0.25	252
1	286		8.08	8.05	34.184	26.625	145.6	0.518	1.06	16.0	52.7	2.71	33.2	0.01	0.04	0.25	288
	300	ISL	7.97	7.94	34.189	26.646	143.8	0.538	0.97	14.6	54.6	2.76	33.6	0.01			302
1	337		7.62	7.59	34.203	26.708	138.4	0.590	0.73	10.9	61.2	2.89	34.6	0.01			340
1	385		6.99	6.95	34.219	26.810	129.1	0.655	0.39	5.7	74.5	3.09	35.3	0.00			388
	400	ISL	6.87	6.83	34.223	26.830	127.3	0.674	0.33	4.8	77.4	3.14	35.1	0.00			403
1	424		6.73	6.69	34.228	26.853	125.4	0.704	0.27	3.9	81.6	3.20	34.5	0.00			428
1	463		6.56	6.52	34.234	26.881	123.2	0.753	0.21	3.1	89.6	3.30	32.3	0.00			467
1	493		6.49	6.44	34.238	26.893	122.4	0.790	0.16	2.3	94.5	3.36	30.1	0.00			497
	500	ISL	6.48	6.43	34.239	26.895	122.2	0.798	0.17	2.5	94.5	3.36	30.2	0.00			504
1	514		6.47	6.42	34.242	26.899	122.1	0.815	0.19	2.8	94.6	3.36	30.4	0.00			519
1	533		6.43	6.38	34.250	26.911	121.2	0.838	0.19	2.8	89.0	3.29	33.3	0.00			538
1	554		6.40	6.35	34.252	26.917	121.0	0.864	0.23	3.3	90.7	3.41	33.8	0.02			559
1	569		6.39	6.34	34.253	26.919	121.0	0.882	0.26	3.8	88.6	3.35	34.7	0.05			574

A) SANTA BARBARA BASIN STATION.

RV DAVID STARR JORDAN CALCOFI CRUISE 8705 STATION 83 40.6

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
34 13.4 N	119 24.7 W	10/05/87	2141 GMT	38 M	270	02 KT	290 01 05	2	1012.1 MB	19.0 C	16.7 C	8/8	ST

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0 ISL	18.42	18.42	33.547	24.057	384.6	0.000	5.94	110.5	3.3	0.23	0.1	0.00	0.63	0.06	0
1	1	18.42	18.42	33.547	24.057	384.6	0.004	5.94	110.5	3.3	0.23	0.1	0.00	0.63	0.06	1
	10 ISL	16.84	16.84	33.528	24.423	350.0	0.037	6.21	112.1	3.8	0.26	0.1	0.00	0.52	0.07	10
1	11	16.56	16.56	33.527	24.488	343.9	0.040	6.25	112.2	3.9	0.27	0.1	0.00	0.51	0.07	11
	20 ISL	14.34	14.34	33.512	24.968	298.4	0.069	6.23	107.1	5.3	0.34	0.0	0.01	1.41	0.36	20
1	21	14.11	14.11	33.513	25.016	293.8	0.072	6.23	106.6	5.5	0.35	0.0	0.01	1.54	0.40	21
	30 ISL	13.10	13.10	33.522	25.229	273.8	0.098	5.04	84.4	9.6	0.84	5.0	0.48	2.38	0.54	30
1	32	12.87	12.87	33.526	25.278	269.2	0.103	4.77	79.5	10.5	0.95	6.1	0.58	2.57	0.57	32

RV DAVID STARR JORDAN CALCOFI CRUISE 8705 STATION 83 42

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
34 10.7 N	119 30.5 W	10/05/87	1903 GMT	173 M	200	02 KT	270 01 09	2	1013.2 MB	17.8 C	16.1 C	8/8	SC

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
1	0	16.93	16.93	33.535	24.407	351.2	0.000	6.08	110.0	3.4	0.26	0.1	0.00	0.42	0.05	0
1	10	16.63	16.63	33.528	24.472	345.3	0.035	6.13	110.2	3.2	0.26	0.1	0.00	0.51	0.10	10
1	20	15.25	15.25	33.512	24.772	317.1	0.068	6.30	110.3	3.8	0.30	0.1	0.00	0.94	0.27	20
	30 ISL	13.18	13.18	33.507	25.202	276.4	0.098	5.26	88.3	7.3	0.73	3.7	0.72	1.02	0.56	30
1	31	13.00	13.00	33.508	25.23 9	272.9	0.100	5.13	85.8	7.7	0.78	4.2	0.80	1.03	0.58	31
1	40	12.48	12.47	33.518	25.348	262.7	0.124	4.55	75.2	9.7	1.01	7.5	1.18	0.83	0.56	40
1	50	11.74	11.73	33.540	25.505	247.9	0.150	4.37	71.1	11.3	1.14	12.6	0.14	0.37	0.27	50
1	62	11.00	10.99	33.600	25.687	230.9	0.179	3.97	63.6	15.2	1.35	16.2	0.03	0.15	0.15	62
1	71	10.48	10.47	33.676	25.838	216.7	0.199	3.59	56.9	18.4	1.54	19.0	0.06	0.07	0.13	72
	75 ISL	10.33	10.32	33.709	25.890	211.9	0.207	3.43	54.2	20.1	1.61	20.0	0.08	0.05	0.14	76
1	83	10.11	10.10	33.766	25.972	204.2	0.224	3.18	50.0	23.2	1.72	21.5	0.12	0.04	0.15	84
	100 ISL	9.80	9.79	33.814	26.062	196.0	0.258	3.19	49.8	24.5	1.74	22.6	0.04	0.02	0.08	101
1	104	9.75	9.74	33.821	26.075	194.8	0.266	3.19	49.8	24.8	1.75	22.7	0.02	0.02	0.06	105
	125 ISL	9.53	9.52	33.908	26.180	185.2	0.306	2.83	44.0	28.0	1.91	24.5	0.06	0.02	0.09	126
1	129	9.50	9.49	33.925	26.198	183.5	0.313	2.75	42.7	28.6	1.94	24.9	0.07	0.02	0.09	130
	150 ISL	9.32	9.30	33.986	26.276	176.6	0.351	2.57	39.8	31.0	2.03	26.1	0.05	0.02	0.11	151
1	155	9.28	9.26	34.000	26.293	175.0	0.360	2.53	39.1	31.6	2.05	26.4	0.04	0.02	0.11	156

RV DAVID STARR JORDAN CALCOFI CRUISE 8705 STATION 83 51

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
33 52.7 N	120 8.0 W	10/05/87	1158 GMT	99 M	320	21 KT			1012.1 MB	14.0 C	12.9 C		

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0 ISL	14.09	14.09	33.555	25.052	289.8	0.000	5.44	93.0	8.6	0.70	5.5	0.16	0.69	0.27	0
1	1	14.09	14.09	33.555	25.052	289.8	0.003	5.44	93.0	8.6	0.70	5.5	0.16	0.69	0.27	1
	10 ISL	12.89	12.89	33.575	25.312	265.4	0.028	5.03	83.9	10.7	0.90	8.3	0.22	0.77	0.30	10
1	11	12.71	12.71	33.579	25.350	261.8	0.031	4.96	82.4	11.0	0.93	8.8	0.23	0.78	0.30	11
	20 ISL	12.17	12.17	33.605	25.474	250.1	0.054	4.46	73.3	13.2	1.12	11.9	0.29	0.62	0.31	20
1	21	12.13	12.13	33.609	25.485	249.1	0.056	4.40	72.3	13.5	1.14	12.2	0.29	0.59	0.31	21
	30 ISL	11.50	11.50	33.666	25.647	234.0	0.078	3.96	64.2	16.4	1.34	15.4	0.26	0.33	0.27	30
1	32	11.36	11.36	33.680	25.684	230.5	0.082	3.87	62.5	17.2	1.39	16.2	0.24	0.27	0.26	32
1	42			33.758			0.105	3.38	53.9	21.7	1.61	20.2	0.15	0.10	0.16	42
	50 ISL	10.336	10.330	33.749	25.919	208.5	0.122	3.32	52.5	22.2	1.63	20.7	0.12	0.08	0.16	50
1	52	10.25	10.24	33.755	25.939	206.7	0.126	3.30	52.1	22.3	1.64	20.8	0.11	0.08	0.16	52
1	62	9.97	9.96	33.801	26.022	198.9	0.146	3.17	49.7	24.1	1.71	22.0	0.05	0.03	0.10	62
1	72	9.89	9.88	33.822	26.052	196.3	0.166	3.10	48.5	24.8	1.75	22.6	0.05	0.03	0.10	73
	75 ISL	9.84	9.83	33.832	26.068	194.8	0.172	3.07	48.0	25,3	1.77	22.9	0.05	0.03	0.10	76
1	91	9.58	9.57	33.884	26.153	187.1	0.202	2.88	44.8	27.7	1.86	24.2	0.06	0.02	0.11	92

RV DAVID STARR JORDAN CALCOFI CRUISE 8705 STATION 83 55

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
33 44.7 N	120 24.5 W	10/05/87	0845 GMT	982 M	310	22 KT			1013.1 MB	14.2 C	12.9 C		

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO'4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0	ISL	14.46	14.46	33.511	24.941	300.4	0.000	6.02	103.7	4.7	0.47	2.0	0.05	0.43	0.09	0
1	1		14.46	14.46	33.511	24.941	300.4	0.003	6.02	103.7	4.7	0.47	2.0	0.05	0.43	0.09	1
1	10		14.46	14.46	33.509	24.939	300.8	0.030	6.02	103.7	4.7	0.49	2.0	0.06	0.44	0.08	10
1	20		14.41	14.41	33.510	24.951	300.0	0.060	6.01	103.4	4.7	0.48	2.1	0.06	0.43	0.09	20
	30	ISL	14.04	14.04	33.504	25.024	293.3	0.090	5.95	101.6	4.9	0.53	2.8	0.09	0.40	0.16	30
1	31		14.00	14.00	33.503	25.032	292.6	0.093	5.94	101.4	4.9	0.54	2.9	0.09	0.40	0.17	31
1	42		12.07	12.06	33.511	25.421	255.8	0.123	5.17	84.7	8.8	1.00	9.4	0.29	0.24	0.15	42
1	50		11.80	11.79	33.523	25.481	250.2	0.143	5.01	81.6	9.6	1.06	10.6	0.34	0.25	0.22	50
1	61		11.18	11.17	33.575	25.635	235.8	0.170	4.52	72.7	14.1	1.26	14.1	0.46	0.28	0.24	61
1	70		10.79	10.78	33.619	25.739	226.0	0.191	4.15	66.2	17.1	1.41	16.9	0.40	0.25	0.25	71
	75	ISL	10.46	10.45	33.663	25.831	217.4	0.202	3.87	61.3	19.5	1.52	18.9	0.31	0.21	0.21	76
1	85		9.82	9.81	33.758	26.014	200.1	0.223	3.34	52.2	24.2	1.73	22.5	0.12	0.13	0.12	86
	100	ISL	9.45	9.44	33.835	26.135	188.9	0.252	3.00	46.5	27.9	1.86	24.6	0.04	0.06	0.16	101
1	101		9.44	9.43	33.838	26.140	188.5	0.254	2.99	46.4	28.1	1.86	24.7	0.04	0.06	0.16	102
1	118		9.18	9.17	33.898	26.229	180.4	0.285	2.83	43.6	30.1	1.93	25.8	0.03	0.05	0.17	119
	125	ISL	9.12	9.11	33.919	26.255	178.0	0.298	2.75	42.3	30.9	1.96	26.2	0.03	0.07	0.18	126
1	143		8.96	8.94	33.963	26.315	172.6	0.329	2.58	39.6	32.8	2.04	27.2	0.03	0.11	0.21	144
	150	ISL	8.84	8.82	33.972	26.341	170.3	0.341	2.60	39.8	33.5	2.05	27.5	0.03	0.09	0.19	151
1	173		8.42	8.40	33.994	26.424	162.8	0.379	2.69	40.8	35.9	2.07	28.4	0.02	0.03	0.12	174
	200	ISL	8.14	8.12	34.036	26.499	156.0	0.422	2.46	37.1	39.4	2.18	29.5	0.02	0.04	0.12	202
1	201		8.13	8.11	34.037	26.501	155.8	0.424	2.45	36.9	39.5	2.18	29.5	0.02	0.04	0.12	203
1	229		7.85	7.83	34.069	26.568	149.8	0.467	2.15	32.2	43.8	2.32	31.3	0.01			231
	250	ISL	7.66	7.64	34.107	26.626	144.6	0.498	1.79	26.7	47.8	2.47	32.8	0.01			252
1	268		7.50	7.47	34.139	26.674	140.3	0.523	1.48	22.0	51.2	2.59	34.0	0.01			270
	300	ISL	7.24	7.21	34.171	26.737	134.8	0.567	1.16	17.1	55.9	2.73	35.5	0.00			302
1	321		7.09	7.06	34.187	26.770	131.8	0.595	1.02	15.0	58.7	2.79	36.3	0.00			324
1	380		6.79	6.75	34.242	26.855	124.5	0.671	0.67	9.8	66.2	2.94	38.0	0.00			383
	400	ISL	6.70	6.66	34.247	26.871	123.2	0.696	0.62	9.0	67.8	2.97	38.4	0.00			403
1	446		6.49	6.45	34.253	26.905	120.6	0.752	0.55	8.0	71.2	3.02	39.1	0.00			450
	500	ISL	6.19	6.15	34.275	26.961	115.7	0.816	0.43	6.2	76.3	3.09	40.2	0.00			504
1	518		6.09	6.04	34.283	26.980	114.0	0.836	0.39	5.6	78.0	3.12	40.6	0.00			523

RV DAVID STARR JORDAN CALCOFI CRUISE 8705 STATION 83 60

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
33 34.7 N	120 45.3 W	10/05/87	0505 GMT	1334 M	220	20 KT			1014.7 MB	14.0 C	13.0 C		

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0	ISL	14.43	14.43	33.564	24.988	295.9	0.000	6.15	105.9	7.3	0.52	2.3	0.06	0.77	0.39	0
1	1		14.43	14.43	33.564	24.988	296.0	0.003	6.15	105.9	7.3	0.52	2.3	0.06	0.77	0.39	1
1	10		14.43	14.43	33.560	24.985	296.5	0.030	6.15	105.9	7.3	0.53	2.3	0.06	0.74	0.30	10
	20	ISL	14.41	14.41	33.561	24.990	296.3	0.059	6.16	106.0	7.1	0.52	2.4	0.06	0.75	0.31	20
1	21		14.41	14.41	33.561	24.990	296.3	0.062	6.16	106.0	7.1	0.52	2.4	0.06	0.75	0.31	21
1	30		13.96	13.96	33.572	25.094	286.8	0.088	5.94	101.3	6.4	0.57	3.4	0.08	0.66	0.27	30
1	40		13.73	13.72	33.566	25.136	282.9	0.117	5.83	99.0	6.6	0.62	3.9	0.11	1.22	0.28	40
	50	ISL	12.97	12.96	33.568	25.292	268.4	0.145	5.51	92.1	7.9	0.81	6.5	0.28	0.63	0.24	50
1	51		12.88	12.87	33.572	25.312	266.4	0.147	5.47	91.2	8.1	0.84	6.8	0.29	0.55	0.23	51
1	60		12.02	12.01	33.669	25.553	243.7	0.170	5.24	85.9	8.9	1.10	9.9	0.22	0.33	0.18	60
1	70		10.94	10.93	33.763	25.825	218.0	0.193	4.11	65.8	15.4	1.50	16.4	0.44	0.20	0.11	71
	75	ISL	10.57	10.56	33.790	25.911	209.8	0.204	3.66	58.2	18.5	1.65	19.3	0.38	0.15	0.12	76
1	84		10.08	10.07	33.827	26.024	199.2	0.222	3.04	47.8	23.2	1.84	23.3	0.17	0.09	0.14	85
1	99		9.58	9.57	33.901	26.166	186.0	0.251	2.59	40.3	27.4	1.98	25.8	0.02	0.12	0.16	100
	100	ISL	9.56	9.55	33.904	26.172	185.5	0.253	2.59	40.3	27.6	1.99	25.9	0.02	0.12	0.16	101
1	118		9.23	9.22	33.941	26.254	178.0	0.286	2.52	38.9	30.4	2.04	26.9	0.02	0.08	0.20	119
	125	ISL	9.10	9.09	33.959	26.289	174.7	0.298	2.51	38.6	31.3	2.05	27.3	0.02	0.08	0.20	126
1	144		8.79	8.77	34.005	26.375	166.9	0.331	2.48	37.9	33.7	2.09	28.1	0.02	0.07	0.21	145
	150	ISL	8.72	8.70	34.013	26.392	165.4	0.341	2.46	37.6	34.5	2.10	28.3	0.02	0.07	0.21	151
1	173		8.47	8.45	34.033	26.447	160.6	0.378	2.39	36.3	37.6	2.16	29.1	0.02	0.06	0.21	174
	200	ISL	8.10	8.08	34.056	26.521	153.9	0.421	2.29	34.5	41.2	2.23	30.3	0.02	0.02	0.22	202
1	202		8.07	8.05	34.058	26.527	153.4	0.424	2.28	34.3	41.5	2.24	30.4	0.02	0.02	0.22	204
1	231		7.77	7.75	34.096	26.601	146.7	0.467	2.03	30.3	46.3	2.36	31.9	0.02			233
	250	ISL	7.57	7.55	34.111	26.642	143.1	0.495	1.79	26.6	50.3	2.47	33.1	0.01			252
1	270		7.39	7.36	34.128	26.681	139.6	0.523	1.52	22.5	54.3	2.58	34.3	0.01			272
	300	ISL	7.23	7.20	34.172	26.739	134.6	0.564	1.22	18.0	58.0	2.70	35.5	0.02			302
1	325		7.10	7.07	34.206	26.784	130.6	0.597	1.02	15.0	60.5	2.77	36.3	0.02			328
1	383		6.60	6.56	34.212	26.857	124.2	0.671	0.77	11.2	67.6	2.90	38.2	0.00			386
	400	ISL	6.44	6.40	34.208	26.875	122.6	0.692	0.72	10.4	69.9	2.93	38.8	0.00			403
1	448		6.03	5.99	34.202	26.923	118.4	0.750	0.61	8.8	76.3	3.02	40.4	0.00			452
	500	ISL	5.74	5.70	34.227	26.979	113.4	0.810	0.46	6.6	82.1	3.10	41.5	0.00			504
1	519		5.64	5.60	34.237	27.000	111.6	0.832	0.41	5.8	84.2	3.13	41.9	0.00			524

RV DAVID STARR JORDAN CALCOFI CRUISE 8705 STATION 83 70

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
33 14.7 N	121 26.6 W	10/05/87	0057 GMT	3828 M	330	18 KT	330 03 06	2	1015.1 MB	15.5 C	13.0 C	8/8	ST

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
1	0	15.60	15.60	33.205	24.458	346.4	0.000	5.86	103.1	2.2	0.36	0.0	0.00	0.12	0.02	0
1	10	15.38	15.38	33.199	24.502	342.5	0.034	5.92	103.7	2.3	0.37	0.0	0.00	0.11	0.02	10
1	20	14.89	14.89	33.201	24.610	332.5	0.068	5.99	103.9	2.3	0.36	0.0	0.00	0.14	0.03	20
1	30	14.29	14.29	33.210	24.745	319.9	0.101	6.05	103.7	2.4	0.37	0.0	0.00	0.23	0.08	30
1	41	13.55	13.54	33.288	24.958	299.9	0.135	6.15	103.8	2.6	0.42	0.3	0.04	0.80	0.26	41
1	50	13.33	13.32	33.356	25.056	290.8	0.161	5.94	99.9	3.1	0.51	1.2	0.11	0.75	0.31	50
1	61	12.67	12.66	33.334	25.169	280.2	0.193	5.59	92.7	4.4	0.66	4.2	0.32	0.47	0.27	61
1	71	11.93	11.92	33.288	25.275	270.4	0.220	5.17	84.4	6.9	0.86	8.0	0.19	0.48	0.30	72
	75 ISL	11.58	11.57	33.278	25.332	265.0	0.231	4.96	80.3	8.5	0.97	9.9	0.14	0.39	0.25	76
1	84	10.91	10.90	33.289	25.461	252.8	0.254	4.53	72.3	12.1	1.20	13.9	0.08	0.16	0.13	85
1	98	10.72	10.71	33.426	25.602	239.8	0.289	4.16	66.2	16.0	1.42	17.4	0.16	0.07	0.12	99
	100 ISL	10.65	10.64	33.457	25.638	236.4	0.294	4.08	64.8	16.7	1.45	17.9	0.15	0.07	0.12	101
1	118	9.96	9.95	33.737	25.975	204.6	0.333	3.33	52.2	22.5	1.73	22.3	0.02	0.06	0.14	119
	125 ISL	9.75	9.74	33.787	26.049	197.7	0.347	3.28	51.2	23.8	1.76	23.2	0.02	0.05	0.13	126
1	143	9.33	9.31				0.382									144
	150 ISL	9.21	9.19	33.901	26.227	181.2	0.395	3.09	47.7	27.7	1.85	25.5	0.01	0.03	0.10	151
1	173	8.90	8.88	33.910	26.283	176.2	0.436	2.92	44.7	30.1	1.93	26.3	0.01	0.01	0.06	174
	200 ISL	8.51	8.49	33.988	26.406	165.0	0.482	2.70	41.0	34.5	2.05	28.0	0.01	0.00	0.06	202
1	202	8.48	8.46	33.993	26.414	164.2	0.485	2.69	40.8	34.8	2.06	28.1	0.01	0.00	0.06	204
1	231	8.00	7.98	34.034	26.519	154.6	0.531	2.59	38.9	39.8	2.15	29.3	0.01			233
	250 ISL	7.79	7.77	34.066	26.575	149.5	0.560	2.26	33.8	43.6	2.28	30.9	0.01			252
1	270	7.61	7.58	34.096	26.625	145.1	0.590	1.87	27.8	47.6	2.42	32.6	0.01			272
	300 ISL	7.32	7.29	34.112	26.679	140.3	0.632	1.60	23.7	52.3	2.54	34.2	0.00			302
1	325	7.08	7.05	34.121	26.720	136.7	0.667	1.43	21.0	56.0	2.63	35.2	0.00			328
1	384	6.57	6.53	34.182	26.837	126.1	0.745	0.83	12.1	66.6	2.89	38.2	0.00			387
	400 ISL	6.46	6.42	34.198	26.865	123.7	0.765	0.72	10.4	69.0	2.94	38.8	0.00			403
1	446	6.19	6.15	34.242	26.935	117.4	0.820	0.50	7.2	75.2	3.06	40.1	0.00			450
	500 ISL	5.89	5.85	34.280	27.003	111.4	0.882	0.37	5.3	81.8	3.15	41.2	0.00			504
1	515	5.81	5.77	34.291	27.022	109.7	0.898	0.33	4.7	83.6	3.17	41.5	0.00			519

RV DAVID STARR JORDAN CALCOFI CRUISE 8705 STATION 83 80

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
32 54.7 N	122 7.7 W	09/05/87	1747 GMT	4210 M	330	12 KT	340 03 07	2	1017.5 MB	16.5 C	13.8 C	8/8	SC

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
1	0	15.32	15.32	33.305	24.596	333.2	0.000	5.92	103.6	1.2	0.39	0.0	0.00	0.18	0.04	0
	10 ISL	15.11	15.11	33.305	24.643	329.1	0.033	5.95	103.7	1.3	0.38	0.0	0.00	0.19	0.05	10
1	16	14.98	14.98	33.306	24.672	326.5	0.053	5.97	103.8	1.3	0.38	0.0	0.00	0.19	0.05	16
	20 ISL	14.92	14.92	33.329	24.702	323.7	0.066	6.00	104.2	1.4	0.38	0.1	0.00	0.22	0.06	20
	30 ISL	14.55	14.55	33.376	24.818	313.0	0.098	6.08	104.8	1.8	0.41	0.2	0.03	0.33	0.12	30
1	31	14.50	14.50	33.380	24.832	311.7	0.101	6.09	104.9	1.8	0.41	0.2	0.03	0.35	0.13	31
1	39	13.78	13.77	33.366	24.972	298.6	0.125	6.10	103.5	2.1	0.44	0.7	0.08	0.49	0.21	39
1	50	12.79	12.78	33.352	25.159	280.9	0.157	5.80	96.4	3.1	0.62	3.6	0.44	0.71	0.36	50
1	60	12.08	12.07	33.359	25.302	267.6	0.184	5.26	86.1	5.9	0.86	8.0	0.20	0.47	0.30	60
1	69	11.61	11.60	33.396	25.418	256.7	0.208	4.94	80.1	8.2	1.02	10.8	0.13	0.39	0.23	70
	75 ISL	11.35	11.34	33.460	25.515	247.5	0.223	4.73	76.3	10.2	1.15	12.8	0.22	0.31	0.20	76
1	79	11.20	11.19	33.509	25.581	241.4	0.233	4.58	73.7	11.6	1.24	14.1	0.28	0.25	0.19	80
1	93	10.76	10.75	33.649	25.769	223.9	0.266	3.99	63.6	17.1	1.52	18.8	0.07	0.09	0.13	94
	100 ISL	10.35	10.34	33.672	25.858	215.5	0.281	3.77	59.6	18.9	1.59	20.2	0.05	0.05	0.11	101
1	108	9.91	9.90	33.691	25.947	207.0	0.298	3.56	55.7	20.6	1.64	21.4	0.02	0.02	0.09	109
1	122	9.62	9.61	33.773	26.060	196.6	0.326	3.25	50.6	23.5	1.77	23.4	0.02	0.02	0.11	123
	125 ISL	9.56	9.55	33.782	26.077	195.0	0.332	3.23	50.2	23.8	1.78	23.6	0.02	0.02	0.11	126
1	146	9.12	9.10	33.835	26.189	184.6	0.372	3.16	48.6	26.0	1.83	24.8	0.01	0.02	0.10	147
	150 ISL	9.02	9.00	33.856	26.222	181.6	0.379	3.11	47.8	27.0	1.86	25.2	0.01	0.02	0.10	151
1	172	8.53	8.51	33.969	26.387	166.2	0.417	2.79	42.4	32.5	2.01	27.6	0.01	0.01	0.07	173
1	200	8.30	8.28	34.020	26.463	159.5	0.463	2.56	38.7	36.0	2.12	29.0	0.01	0.01	0.07	202
1	230	7.82	7.80	34.057	26.563	150.3	0.509	2.28	34.1	42.1	2.26	30.9	0.01			232
	250 ISL	7.49	7.47	34.066	26.618	145.3	0.539	2.08	30.9	46.2	2.36	32.3	0.01			252
1	270	7.18	7.15	34.070	26.665	141.0	0.568	1.87	27.6	50.3	2.47	33.8	0.01			272
	300 ISL	6.83	6.80	34.088	26.727	135.4	0.609	1.54	22.5	56.4	2.61	35.7	0.01			302
1	323	6.61	6.58	34.104	26.770	131.5	0.640	1.30	18.9	60.7	2.71	37.0	0.01			326
1	383	6.19	6.16	34.143	26.856	124.0	0.716	0.86	12.4	68.3	2.91	39.4	0.00			386
	400 ISL	6.08	6.05	34.159	26.883	121.6	0.737	0.75	10.8	70.8	2.96	40.0	0.00			403
1	447	5.82	5.78	34.207	26.953	115.3	0.793	0.52	7.4	77.8	3.06	41.2	0.00			45 1
	500 ISL	5.60	5.56	34.255	27.019	109.6	0.853	0.39	5.5	84.2	3.14	42.0	0.00			504
1	515	5.54	5.50	34.269	27.037	108.0	0.869	0.35	5.0	86.0	3.16	42.2	0.00			519

RV DAVID STARR JORDAN CALCOFI CRUISE 8705 STATION 83 90

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
32 34.7 N	122 48.7 W	09/05/87	1236 GMT	4210 M	340	08 KT	320 03 09	2	1015.9 MB	15.9 C	13.0 C	8/8	SC

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
1	0	14.85	14.85	33.112	24.550	337.6	0.000	6.01	104.1	1.6	0.36	0.0	0.00	0.23	0.04	0
	10 ISL	14.60	14.60	33.109	24.601	333.0	0.034	6.04	104.1	1.7	0.37	0.0	0.00	0.24	0.05	10
1	15	14.47	14.47	33.108	24.628	330.6	0.050	6.06	104.2	1.7	0.37	0.0	0.00	0.24	0.05	15
	20 ISL	14.31	14.31	33.094	24.651	328.6	0.067	6.06	103.8	1.8	0.37	0.0	0.00	0.21	0.05	20
1	29	14.06	14.06	33.073	24.687	325.4	0.096	6.06	103.3	1.9	0.38	0.0	0.00	0.19	0.06	29
	30 ISL	14.04	14.04	33.072	24.691	325.1	0.099	6.06	103.2	1.9	0.38	0.0	0.00	0.20	0.07	30
1	39	13.93	13.92	33.085	24.724	322.1	0.128	6.08	103.3	1.9	0.38	0.0	0.00	0.30	0.12	39
1	49	13.85	13.84	33.146	24.788	316.4	0.160	6.09	103.4	2.1	0.39	0.0	0.01	0.35	0.15	49
	50 ISL	13.84	13.83	33.150	24.793	315.9	0.163	6.08	103.2	2.1	0.39	0.0	0.02	0.35	0.15	50
1	60	13.60	13.59	33.187	24.871	308.8	0.195	5.90	99.7	2.6	0.42	0.5	0.13	0.30	0.15	60
1	68	13.21	13.20	33.211	24.968	299.7	0.219	5.75	96.4	3.0	0.50	1.9	0.20	0.27	0.14	69
	75 ISL	13.06	13.05	33.235	25.016	295.2	0.240	5.68	94.9	3.2	0.52	2.5	0.17	0.27	0.16	76
1	78	12.99	12.98	33.247	25.040	293.1	0.249	5.64	94.1	3.3	0.54	2.8	0.15	0.27	0.17	79
1	93	12.03	12.02	33.353	25.307	267.9	0.291	5.24	85.7	6.8	0.84	8.0	0.04	0.16	0.18	94
	100 ISL	11.80	11.79	33.413	25.397	259.5	0.309	5.13	83.5	7.9	0.95	9.8	0.05	0.13	0.18	101
1	108	11.57	11.56	33.475	25.488	251.0	0.330	4.97	80.6	9.3	1.07	11.8	0.60U	0.11	0.16	109
1	123	10.84	10.83	33.537	25.668	234.1	0.366	4.31	68.8	14.3	1.31	16.2	0.08	0.06	0.10	124
	125 ISL	10.73	10.72	33.546	25.694	231.6	0.371	4.25	67.7	14.9	1.34	16.7	0.07	0.05	0.09	126
1	148	9.63	9.61	33.672	25.979	204.7	0.421	3.67	57.1	20.9	1.60	21.4	0.01	0.01	0.04	149
	150 ISL	9.58	9.56	33.688	26.000	202.8	0.425	3.61	56.1	21.5	1.62	21.8	0.01	0.01	0.04	151
1	172	9.16	9.14	33.856	26.200	184.2	0.468	3.18	49.0	27.2	1.80	24.7	0.01	0.00	0.05	173
	200 ISL	8.66	8.64	33.925	26.333	171.9	0.517	3.59	54.7	27.9	1.74	24.3	0.01	0.01	0.03	202
1	202	8.63	8.61	33.927	26.339	171.4	0.521	3.62	55.1	27.9	1.74	24.3	0.01	0.01	0.03	204
1	231	8.13	8.11	33.995	26.469	159.4	0.569	2.96	44.6	35.6	2.00	28.1	0.01			233
	250 ISL	7.79	7.77	34.018	26.537	153.1	0.598	2.69	40.2	40.0	2.12	29.8	0.01			252
1	271	7.43	7.40	34.032	26.600	147.3	0.630	2.47	36.6	44.3	2.23	31.3	0.00			273
	300 ISL	7.07	7.04	34.043	26.659	142.0	0.672	2.14	31.4	49.5	2.38	33.3	0.00			302
1	326	6.79	6.76	34.048	26.701	138.2	0.708	1.86	27.2	54.2	2.50	35.0	0.00			329
1	384	6.11	6.08	34.076	26.813	127.9	0.786	1.28	18.4	66.9	2.75	38.7	0.00			387
	400 ISL	5.99	5.96	34.091	26.840	125.5	0.806	1.13	16.2	69.8	2.81	39.5	0.00			403
1	449	5.69	5.65	34.139	26.916	118.7	0.866	0.74	10.5	77.9	2.97	41.3	0.00			453
	500 ISL	5.34	5.30	34.176	26.987	112.2	0.925	0.56	7.9	85.4	3.08	42.6	0.00			504
1	518	5.21	5.17	34.190	27.014	109.8	0.945	0.49	6.9	88.1	3.12	43.0	0.00			522

RV DAVID STARR JORDAN CALCOFI CRUISE 8705 STATION 83 100

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
32 14.7 N	123 29.5 W	09/05/87	0658 GMT	4305 M	320	06 KT			1016.1 MB	16.4 C	13.9 C		

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
1	0	15.60	15.60	33.152	24.417	350.3	0.000	5.86	103.1	1.2	0.37	0.0	0.00	0.10	0.02	0
1	9	15.57	15.57	33.150	24.422	350.1	0.032	5.85	102.8	1.2	0.37	0.0	0.00	0.10	0.02	9
	10 ISL	15.56	15.56	33.150	24.424	349.9	0.035	5.85	102.8	1.2	0.37	0.0	0.00	0.10	0.02	10
1	19	15.52	15.52	33.147	24.431	349.5	0.066	5.88	103.2	1.2	0.36	0.0	0.00	0.09	0.02	19
	20 ISL	15.52	15.52	33.147	24.431	349.5	0.070	5.88	103.2	1.2	0.36	0.0	0.00	0.09	0.02	20
1	30	15.49	15.49	33.150	24.440	349.0	0.105	5.88	103.2	1.4	0.36	0.0	0.00	0.09	0.02	30
1	39	15.20	15.19	33.161	24.513	342.3	0.136	5.94	103.6	1.6	0.36	0.0	0.00	0.13	0.02	39
1	50	14.49	14.48	33.205	24.700	324.8	0.173	6.02	103.6	1.2	0.37	0.0	0.00	0.17	0.05	50
1	60	14.32	14.31	33.206	24.737	321.6	0.205	6.01	103.0	1.2	0.36	0.0	0.00	0.22	0.09	60
1	70	13.64	13.63	33.174	24.853	310.7	0.237	5.98	101.1	1.4	0.40	0.0	0.05	0.36	0.20	71
	75 ISL	13.33	13.32	33.185	24.924	304.0	0.252	5.89	98.9	1.9	0.45	0.9	0.07	0.36	0.22	76
1	84	12.80	12.79	33.223	25.058	291.4	0.279	5.65	93.9	3.1	0.57	3.3	0.09	0.35	0.25	85
1	98	12.03	12.02	33.277	25.248	273.6	0.318	5.23	85.5	5.4	0.80	7.4	0.03	0.19	0.20	99
	100 ISL	11.91	11.90	33.285	25.277	270.9	0.324	5.17	84.3	5.9	0.83	8.0	0.03	0.18	0.19	101
1	118	10.89	10.88	33.379	25.536	246.5	0.370	4.66	74.4	11.1	1.13	13.2	0.01	0.09	0.09	119
	125 ISL	10.53	10.52	33.444	25.649	235.8	0.387	4.42	70.0	13.6	1.26	15.4	0.01	0.06	0.09	126
1	143	9.75	9.73	33.622	25.921	210.2	0.427	3.87	60.3	19.7	1.54	20.2	0.02	0.02	0.08	144
	150 ISL	9.52	9.50	33.675	26.000	202.8	0.442	3.74	58.0	21.5	1.60	21.4	0.02	0.02	0.07	151
1	173	8.93	8.91	33.813	26.203	183.8	0.486	3.51	53.8	26.1	1.73	23.9	0.01	0.00	0.04	174
	200 ISL	8.43	8.41	33.923	26.367	168.7	0.534	3.43	52.0	30.5	1.81	25.5	0.00	0.00	0.02	202
1	202	8.40	8.38	33.929	26.376	167.8	0.537	3.43	52.0	30.8	1.81	25.6	0.00	0.00	0.02	204
1	232	8.02	8.00	33.986	26.478	158.5	0.586	3.24	48.7	35.6	1.92	27.2	0.00			234
	250 ISL	7.77	7.75	34.000	26.526	154.1	0.614	3.02	45.1	39.1	2.02	28.6	0.00			252
1	271	7.48	7.45	34.011	26.576	149.6	0.646	2.71	40.2	43.5	2.15	30.4	0.00			273
	300 ISL	7.17	7.14	34.042	26.645	143.4	0.689	2.17	32.0	49.8	2.36	33.0	0.00			302
1	326	6.93	6.90	34.070	26.700	138.4	0.725	1.71	25.0	55.3	2.53	35.2	0.00			329
1	385	6.36	6.33	34.101	26.801	129.3	0.804	1.16	16.8	65.5	2.77	38.4	0.00			388
	400 ISL	6.25	6.21	34.116	26.827	127.0	0.824	1.03	14.9	68.1	2.83	39.0	0.00			403
1	450	5.94	5.90	34.170	26.909	119.6	0.885	0.67	9.6	76.2	2.99	40.8	0.00			454
	500 ISL	5.66	5.62	34.209	26.975	113.7	0.944	0.48	6.8	83.0	3.08	41.9	0.00			504
1	519	5.55	5.51	34.225	27.001	111.4	0.965	0.41	5.8	85.6	3.11	42.3	0.00			523

RV DAVID STARR JORDAN — CALCOFI CRUISE 8705 — STATION 83 110

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
31 54.7 N	124 10.2 W	09/05/87	0150 GMT	4305 M	300	09 KT	260 03 03	2	1014.5 MB	16.2 C	13.8 C	8/8	SC

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0 ISL	15.81	15.81	33.176	24.388	353.0	0.000	5.84	103.1	2.1	0.37	0.0	0.00	0.10	0.02	0
1	1	15.81	15.81	33.176	24.388	353.1	0.004	5.84	103.1	2.1	0.37	0.0	0.00	0.10 A	0.02 A	1
	10 ISL	15.72	15.72	33.176	24.409	351.4	0.035	5.85	103.1	2.4	0.38	0.0	0.00	0.10	0.02	10
1	17	15.61	15.61	33.176	24.434	349.2	0.060	5.86	103.1	2.8	0.38	0.0	0.00	0.10	0.02	17
	20 ISL	15.58	15.58	33.176	24.440	348.7	0.070	5.87	103.2	2.8	0.38	0.0	0.00	0.11	0.02	20
	30 ISL	15.46	15.46	33.174	24.466	346.6	0.105	5.88	103.1	3.0	0.37	0.0	0.00	0.12	0.03	30
1	33	15.43	15.42	33.173	24.472	346.1	0.115	5.89	103.2	3.0	0.37	0.0	0.00	0.13	0.03	33
1	41	14.80	14.79	33.197	24.627	331.5	0.142	6.01	104.0	2.9	0.37	0.0	0.00	0.18	0.05	41
	50 ISL	14.45	14.44	33.213	24.714	323.4	0.172	6.01	103.3	2.9	0.37	0.0	0.01	0.23	0.08	50
1	51	14.42	14.41	33.214	24.721	322.8	0.175	6.01	103.3	2.9	0.37	0.0	0.01	0.24	0.09	51
1	63	14.03	14.02	33.221	24.809	314.7	0.213	5.95	101.4	3.0	0.41	0.0	0.01	0.43	0.20	63
1	72	13.56	13.55	33.226	24.909	305.4	0.241	5.82	98.2	3.6	0.50	1.0	0.18	0.55	0.30	73
	75 ISL	13.28	13.27	33.232	24.970	299.6	0.250	5.70	95.7	4.2	0.56	2.2	0.16	0.49	0.29	76
1	80	12.80	12.79	33.247	25.077	289.5	0.265	5.49	91.2	5.3	0.66	4.4	0.10	0.36	0.25	81
1	96	11.79	11.78	33.300	25.311	267.6	0.310	5.03	81.8	8.7	0.92	9.2	0.02	0.18	0.14	97
	100 ISL	11.60	11.59	33.315	25.358	263.2	0.320	4.94	80.1	9.3	0.98	10.1	0.02	0.16	0.13	101
1	111	11.13	11.12	33.371	25.487	251.1	0.349	4.68	75.1	11.1	1.13	12.6	0.01	0.11	0.11	112
1	125	10.43	10.42	33.490	25.703	230.7	0.382	4.31	68.2	14.7	1.32	16.2	0.01	0.04	0.06	126
	150 ISL	9.57	9.55	33.695	26.008	202.1	0.436	3.67	57.0	21.6	1.63	21.6	0.01	0.01	0.06	151
1	151	9.54	9.52	33.702	26.018	201.1	0.438	3.65	56.7	21.9	1.64	21.8	0.01	0.01	0.06	152
1	174	9.05	9.03	33.834	26.200	184.1	0.483	3.30	50.7	27.3	1.79	24.7	0.01	0.00	0.03	175
	200 ISL	8.65	8.63	33.942	26.348	170.5	0.529	2.93	44.6	32.1	1.95	27.1	0.00	0.00	0.02	202
1	204	8.59	8.57	33.954	26.367	168.8	0.536	2.89	44.0	32.8	1.97	27.4	0.00	0.00	0.02	206
1	232	8.01	7.99	33.994	26.486	157.8	0.581	2.90	43.5	37.5	2.03	28.6	0.00			234
	250 ISL	7.75	7.73	34.009	26.536	153.2	0.609	2.75	41.1	40.5	2.11	29.7	0.00			252
1	271	7.51	7.48	34.022	26.581	149.2	0.641	2.51	37.3	44.0	2.21	31.1	0.00			273
	300 ISL	7.19	7.16	34.039	26.640	143.9	0.684	2.18	32.1	49.0	2.35	33.0	0.00			302
1	326	6.94	6.91	34.056	26.688	139.6	0.-720	1.87	27.4	53.6	2.48	34.6	0.00			329
1	385	6.49	6.46	34.109	26.790	130.4	0.800	1.21	17.5	63.9	2.75	37.9	0.00			388
	400 ISL	6.32	6.28	34.115	26.817	128.0	0.819	1.09	15.7	66.8	2.81	38.7	0.00			403
1	449	5.80	5.76	34.137	26.900	120.3	0.880	0.76	10.8	75.7	2.96	41.0	0.00			453
	500 ISL	5.52	5.48	34.191	26.978	113.4	0.940	0.51	7.2	83.0	3.07	42.2	0.00			504
1	519	5.42	5.38	34.211	27.006	110.8	0.961	0.42	5.9	85.7	3.11	42.7	0.00			523

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

RV DAVID STARR JORDAN — CALCOFI CRUISE 8705 — STATION 87 33

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
33 53.4 N	118 29.4 W	06/05/87	1737 GMT	54 M	230	07 KT	250 01 06	2	1014.8 MB	19.0 C	16.6 C	8/8	CI

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
1	0	17.40	17.40	33.518	24.283	363.0	0.000	6.06	110.6	2.9	0.28	0.0	0.00	0.57	0.08	0
	10 ISL	16.40	16.40	33.510	24.512	341.6	0.035	6.26	112.1	3.4	0.27	0.0	0.04	0.84	0.16	10
1	11	16.30	16.30	33.510	24.534	339.4	0.039	6.28	112.2	3.4	0.27	0.0	0.04	0.87	0.17	11
	20 ISL	13.98	13.98	33.485	25.022	293.3	0.067	5.93	101.1	5.8	0.44	0.0	0.01	3.22	1.02	20
1	21	13.73	13.73	33.485	25.073	288.4	0.070	5.87	99.6	6.1	0.47	0.0	0.01	3.42	1.10	21
1	30	12.82	12.82	33.489	25.259	270.9	0.095	5.27	87.7	6.4	0.67	3.4	0.34	1.74	0.67	30
1	42	12.31	12.30	33.506	25.371	260.5	0.127	4.71	77.6	8.9	0.91	8.4	0.44	0.88	0.41	42
	50 ISL	11.70														50
1	52	11.55														52

RV DAVID STARR JORDAN' — CALCOFI CRUISE 8705 — STATION 87 34

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
33 51.4 N	118 33.6 W	06/05/87	1846 GMT	73 M	210	08 KT	190 01 06	2	1014.7 MB	18.4 C	15.5 C	8/8	CI

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0 ISL	17.46	17.46	33.509	24.262	365.0	0.000	6.06	110.7	3.5	0.26	0.0	0.00	0.40	0.05	0
1	1	17.46	17.46	33.509	24.262	365.1	0.004	6.06	110.7	3.5	0.26	0.0	0.00	0.40	0.05	1
	10 ISL	16.67	16.67	33.505	24.445	347.9	0.036	6.21	111.7	3.5	0.26	0.0	0.00	0.69	0.16	10
1	11	16.53	16.53	33.505	24.478	344.8	0.039	6.23	111.8	3.5	0.26	0.0	0.00	0.75	0.18	11
	20 ISL	15.47	15.47	33.501	24.715	322.5	0.069	6.29	110.6	4.1	0.30	0.0	0.00	1.38	0.44	20
1	21	15.32	15.32	33.498	24.746	319.6	0.072	6.30	110.4	4.2	0.31	0.0	0.00	1.44	0.46	21
	30 ISL	13.14	13.14	33.438	25.156	280.7	0.099	4.76	79.8	10.2	1.23	5.8	0.48	1.25	0.38	30
1	32	12.66	12.66	33.428	25.243	272.5	0.105	4.35	72.2	11.9	1.48	7.5	0.60	1.21	0.35	32
1	41	11.56	11.55	33.381	25.415	256.3	0.129	3.22	52.2	18.3	2.30	13.7	0.94	0.35	0.30	41
	50 ISL	11.45	11.44	33.526	25.548	243.8	0.151	3.57	57.7	15.7	1.73	14.3	0.71	0.34	0.25	50
1	52	11.42	11.41	33.555	25.576	241.2	0.156	3.72	60.1	14.8	1.54	14.4	0.61	0.34	0.24	52
1	62	10.89	10.88	33.622	25.724	227.4	0.180	3.76	60.1	16.2	1.40	17.0	0.09	0.26	0.20	62
1	72	10.47	10.46	33.701	25.859	214.7	0.202	3.18	50.4	20.7	1.68	19.7	0.47	0.08	0.27	73

RV DAVID STARR JORDAN CALCOFI CRUISE 8705 STATION 87 35

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
33 49.4 N	118 37.7 W	06/05/87	1957 GMT	659 M	230	07 KT	210 01 06	2	1014.6 MB	18.2 C	16.2 C	8/8	CI

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
1	0	18.39	18.39	33.535	24.055	384.7	0.000	5.97	111.0	2.8	0.20	0.0	0.00	0.33	0.03	0
	10 ISL	17.41	17.41	33.520	24.282	363.4	0.037	6.19	113.0	2.8	0.21	0.0	0.00	0.41	0.06	10
1	11	17.31	17.31	33.519	24.306	361.3	0.041	6.21	113.1	2.8	0.21	0.0	0.00	0.42	0.06	11
1	20	15.47	15.47	33.476	24.696	324.4	0.072	6.42	112.8	2.7	0.26	0.0	0.00	0.70	0.15	20
1	30	13.50	13.50	33.459	25.100	286.1	0.102	6.07	102.5	4.5	0.38	0.1	0.01	1.61	0.34	30
1	41	12.42	12.41	33.490	25.338	263.7	0.133	4.98	82.2	8.4	0.83	7.5	0.23	1.31	0.40	41
	50 ISL	11.87	11.86	33.524	25.469	251.4	0.156	4.46	72.8	11.2	1.08	11.5	0.33	1.11	0.41	50
1	51	11.82	11.81	33.528	25.481	250.2	0.158	4.42	72.1	11.5	1.10	11.8	0.34	1.08	0.41	51
1	61	11.38	11.37	33.558	25.586	240.5	0.183	4.04	65.3	13.6	1.27	14.3	0.36	0.61	0.35	61
1	70	10.81	10.80	33.615	25.733	226.7	0.204	3.91	62.4	16.2	1.36	17.0	0.02	0.16	0.16	71
	75 ISL	10.57	10.56	33.646	25.799	220.5	0.215	3.81	60.5	17.5	1.42	18.1	0.02	0.12	0.14	76
1	85	10.20	10.19	33.705	25.909	210.2	0.237	3.62	57.0	19.8	1.52	19.7	0.01	0.05	0.10	86
1	99	9.80	9.79	33.776	26.032	198.8	0.265	3.47	54.2	22.6	1.62	21.6	0.01	0.02	0.05	100
	100 ISL	9.78	9.77	33.780	26.038	198.2	0.267	3.45	53.9	22.8	1.63	21.7	0.01	0.02	0.05	101
1	119	9.55	9.54	33.852	26.133	189.6	0.304	3.16	49.1	25.5	1.75	23.5	0.01	0.01	0.05	120
	125 ISL	9.47	9.46	33.872	26.162	186.9	0.315	3.10	48.1	26.6	1.78	24.0	0.01	0.01	0.05	126
1	143	9.24	9.22	33.936	26.249	179.0	0.348	2.90	44.8	30.0	1.89	25.4	0.01	0.01	0.04	144
	150 ISL	9.19	9.17	33.969	26.283	175.9	0.361	2.77	42.7	31.4	1.95	26.0	0.01	0.01	0.04	151
1	173	9.06	9.04	34.060	26.376	167.5	0.400	2.38	36.6	35.1	2.10	27.7	0.01	0.00	0.05	174
	200 ISL	8.80	8.78	34.076	26.430	162.9	0.445	2.31	35.3	36.6	2.13	28.4	0.01	0.00	0.06	202
1	202	8.78	8.76	34.077	26.434	162.5	0.448	2.31	35.3	36.7	2.13	28.4	0.01	0.00	0.06	204
1	231	8.73	8.71	34.152	26.501	156.7	0.494	1.87	28.6	40.3	2.30	29.9	0.02			233
	250 ISL	8.57	8.54	34.174	26.543	153.0	0.524	1.68	25.6	42.4	2.38	30.8	0.02			252
1	269	8.38	8.35	34.183	26.579	149.8	0.553	1.55	23.5	44.4	2.44	31.6	0.01			271
	300 ISL	8.13	8.10	34.188	26.622	146.3	0.598	1.43	21.6	47.2	2.51	32.5	0.01			302
1	323	7.94	7.91	34.189	26.651	143.8	0.632	1.36	20.4	49.5	2.56	33.2	0.01			326
1	381	7.43	7.39	34.225	26.753	134.7	0.713	0.96	14.2	57.8	2.75	35.5	0.00			384
	400 ISL	7.21	7.17	34.237	26.794	131.0	0.738	0.83	12.2	61.2	2.82	36.4	0.00			403
1	447	6.71	6.67	34.266	26.886	122.6	0.797	0.55	8.0	69.2	2.97	38.4	0.00			451
	500 ISL	6.38	6.33	34.296	26.954	116.7	0.861	0.40	5.8	75.1	3.07	39.5	0.00			504
1	518	6.27	6.22	34.306	26.976	114.7	0.882	0.35	5.1	77.1	3.10	39.9	0.00			523

RV DAVID STARR JORDAN CALCOFI CRUISE 8705 STATION 87 37.5

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
33 44.4 N	118 48.2 W	06/05/87	2259 GMT	917 M	230	06 KT	230 01 06	1	1012.9 MB	18.2 C	16.2 C	7/8	ST

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0 ISL	17.75	17.75	33.434	24.135	377.2	0.000	5.89	108.1	3.6	0.29	0.0	0.00	0.21	0.03	0
1	1 A	17.75	17.75	33.434	24.135	377.3	0.004	5.89	108.1	3.6	0.29	0.0	0.00	0.21	0.03	1
1	10	17.33	17.33	33.435	24.237	367.8	0.037	5.90	107.5	3.2	0.29	0.0	0.00	0.24	0.03	10
	20 ISL	15.80	15.80	33.420	24.579	335.5	0.072	6.16	108.9	3.0	0.28	0.0	0.00	0.39	0.08	20
1	21	15.62	15.62	33.420	24.619	331.7	0.076	6.20	109.2	3.0	0.28	0.0	0.00	0.41	0.08	21
	30 ISL	14.30	14.30	33.446	24.925	302.7	0.104	6.54	112.2	4.0	0.32	0.0	0.00	1.85	0.45	30
1	31	14.16	14.16	33.451	24.958	299.6	0.107	6.58	112.6	4.2	0.33	0.0	0.00	1.98	0.49	31
1	41	12.86	12.85	33.508	25.266	270.5	0.136	5.31	88.5	7.0	0.69	4.8	0.61	1.22	0.51	41
	50 ISL	12.30	12.29	33.527	25.390	258.9	0.160	4.74	78.1	9.4	0.94	9.2	0.34	0.64	0.33	50
1	51	12.25	12.24	33.529	25.401	257.9	0.162	4.70	77.3	9.7	0.96	9.7	0.29	0.59	0.31	51
1	61	11.55	11.54	33.575	25.568	242.2	0.187	4.24	68.7	12.8	1.16	13.5	0.04	0.25	0.18	61
1	72	11.08	11.07	33.627	25.694	230.5	0.213	3.91	62.8	15.7	1.32	16.3	0.02	0.13	0.15	73
	75 ISL	10.92	10.91	33.647	25.738	226.3	0.220	3.81	61.0	16.6	1.37	17.1	0.02	0.11	0.14	76
1	85	10.43	10.42	33.713	25.876	213.4	0.242	3.50	55.4	19.7	1.53	19.6	0.02	0.06	0.10	86
	100 ISL	9.98	9.97	33.787	26.010	200.9	0.273	3.23	50.7	23.0	1.67	22.0	0.02	0.03	0.08	101
1	101	9.96	9.95	33.792	26.018	200.2	0.275	3.22	50.5	23.2	1.68	22.1	0.02	0.03	0.08	102
1	121	9.42	9.41	33.890	26.184	184.7	0.314	2.93	45.4	27.8	1.84	24.8	0.01	0.01	0.06	122
	125 ISL	9.35	9.34	33.909	26.210	182.3	0.321	2.88	44.6	28.5	1.87	25.2	0.01	0.01	0.06	126
1	145	9.11	9.09	33.991	26.313	172.9	0.357	2.67	41.1	31.4	1.98	26.6	0.01	0.01	0.05	146
	150 ISL	9.05	9.03	34.003	26.332	171.2	0.365	2.62	40.3	32.1	2.00	26.9	0.01	0.01	0.05	151
1	174	8.82	8.80	34.055	26.410	164.2	0.405	2.33	35.7	35.6	2.11	28.3	0.01	0.01	0.06	175
	200 ISL	8.65	8.63	34.143	26.506	155.6	0.447	1.89	28.8	40.0	2.28	29.9	0.01	0.01	0.04	202
1	204	8.62	8.60	34.155	26.520	154.4	0.453	1.83	27.9	40.7	2.31	30.1	0.01	0.01	0.04	206
1	233	8.24	8.22	34.163	26.584	148.6	0.497	1.64	24.8	44.6	2.41	31.6	0.01			235
	250 ISL	8.05	8.02	34.166	26.615	145.9	0.522	1.53	23.0	46.7	2.47	32.4	0.01			252
1	272	7.82	7.79	34.175	26.656	142.3	0.554	1.38	20.7	49.5	2.56	33.5	0.01			274
	300 ISL	7.54	7.51	34.206	26.722	136.4	0.593	1.19	17.7	54.6	2.69	34.9	0.01			302
1	325	7.32	7.29	34.235	26.776	131.5	0.626			59.0	2.80	36.0	0.01			328
1	384	7.00	6.96	34.247	26.831	127.1	0.703	0.69	10.1	64.0	2.88	37.2	0.00			387
	400 ISL	6.89	6.85	34.254	26.851	125.3	0.723	0.63	9.2	65.8	2.92	37.7	0.00			403
1	448	6.56	6.52	34.280	26.917	119.6	0.782	0.47	6.8	71.7	3.02	39.1	0.00			452
	500 ISL	6.26	6.22	34.309	26.979	114.1	0.842	0.34	4.9	77.4	3.09	40.2	0.00			504
1	514	6.19	6.14	34.316	26.994	112.9	0.858	0.31	4.5	78.9	3.10	40.4	0.00			518
1	587	5.84	5.79	34.344	27.061	107.2	0.939	0.21	3.0	86.5	3.16	40.8	0.00			592
	600 ISL	5.78	5.73	34.348	27.072	106.2	0.952	0.20	2.9	87.9	3.17	40.8	0.00			605
1	661	5.53	5.47	34.364	27.115	102.5	1.016	0.18	2.6	94.4	3.23	40.7	0.00			667
	700 ISL	5.40	5.34	34.371	27.137	100.8	1.056	0.16	2.3	98.8	3.26	40.0	0.00			706
1	735	5.31	5.25	34.376	27.152	99.7	1.091	0.15	2.1	102.1	3.28	39.5	0.00			742
	800 ISL	5.20	5.13	34.386	27.173	98.3	1.155	0.19	2.7	103.8	3.28	40.1	0.00			808
1	810	5.19	5.12	34.387	27.175	98.2	1.165	0.19	2.7	104.0	3.28	40.1	0.00			818
1	886	5.08	5.01	34.397	27.197	96.8	1.239	0.14	2.0	110.0	3.33	36.9	0.01			894

A) SANTA MONICA BASIN STATION.

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
33 40.4 N	118 56.4 W	07/05/87	0132 GMT	926 M	300	07 KT	260 01 06	1	1012.1 MB	17.5 C	15.5 C	6/8	ST

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0	ISL	17.60	17.60	33.477	24.204	370.6	0.000	5.88	107.7	3.2	0.28	0.0	0.00	0.31	0.04	0
1	1	A	17.60	17.60	33.477	24.204	370.6	0.004	5.88	107.7	3.2	0.28	0.0	0.00	0.31	0.04	1
	10	ISL	16.72	16.72	33.457	24.397	352.5	0.036	5.98	107.7	3.1	0.32	0.1	0.01	0.23	0.03	10
1	11		16.56	16.56	33.455	24.433	349.2	0.040	6.00	107.7	3.1	0.32	0.1	0.01	0.22	0.03	11
	20	ISL	14.97	14.97	33.455	24.789	315.5	0.070	6.33	110.1	3.4	0.32	0.0	0.00	0.37	0.10	20
1	21		14.77	14.77	33.456	24.833	311.3	0.073	6.36	110.2	3.5	0.32	0.0	0.00	0.39	0.11	21
	30	ISL	13.16	13.16	33.449	25.161	280.3	0.099	6.13	102.8	4.5	0.50	1.9	0.19	1.35	0.36	30
1	31		13.01	13.01	33.449	25.191	277.4	0.102	6.11	102.1	4.7	0.52	2.2	0.22	1.44	0.39	31
1	41		12.40	12.39	33.462	25.320	265.3	0.129	5.36	88.4	6.8		6.5	0.73	1.13	0.45	41
	50	ISL	12.27	12.26	33.516	25.387	259.2	0.153	5.20	85.6	7.5	0.88	8.1	0.55	0.86	0.34	50
1	51		12.25	12.24	33.523	25.396	258.4	0.156	5.19	85.4	7.6	0.90	8.3	0.51	0.83	0.32	51
1	61		11.53	11.52	33.554	25.555	243.4	0.181	4.58	74.2	12.4	1.16	13.2	0.33	0.38	0.17	61
1	71		10.84	10.83	33.588	25.706	229.2	0.204	4.05	64.7	15.8	1.34	16.8	0.01	0.12	0.15	72
	75	ISL	10.68	10.67	33.607	25.749	225.2	0.213	3.93	62.5	16.7	1.38	17.5	0.01	0.11	0.13	76
1	86		10.37	10.36	33.670	25.853	215.6	0.238	3.70	58.5	18.9	1.48	19.0	0.01	0.07	0.10	87
1	100		9.87	9.86	33.765	26.011	200.7	0.267	3.30	51.6	23.1	1.68	22.1	0.01	0.05	0.13	101
1	120		9.58	9.57	33.859	26.134	189.5	0.306	2.98	46.3	27.0	1.80	24.1	0.01	0.02	0.08	121
	125	ISL	9.48	9.47	33.881	26.167	186.4	0.315	2.91	45.2	28.1	1.84	24.6	0.01	0.02	0.08	126
1	143		9.12	9.10	33.955	26.283	175.7	0.348	2.67	41.1	32.0	1.96	26.4	0.01	0.01	0.07	144
	150	ISL	9.01	8.99	33.978	26.319	172.4	0.360	2.59	39.8	33.3	2.00	27.0	0.01	0.01	0.07	151
1	174		8.70	8.68	34.041	26.417	163.4	0.400	2.33	35.6	37.2	2.13	28.6	0.01	0.01	0.06	175
	200	ISL	8.51	8.49	34.084	26.481	157.9	0.442	2.10	31.9	40.2	2.22	29.7	0.01	0.01	0.05	202
1	204		8.48	8.46	34.089	26.490	157.2	0.448	2.06	31.3	40.7	2.24	29.9	0.01	0.01	0.05	206
1	232		8.09	8.07	34.146	26.594	147.7	0.491	1.63	24.5	46.2	2.41	32.1	0.01			234
	250	ISL	7.91	7.88	34.168	26.637	143.7	0.517	1.45	21.7	48.9	2.49	32.9	0.01			252
1	271		7.74	7.71	34.185	26.676	140.3	0.547	1.29	19.3	51.6	2.56	33.6	0.01			273
	300	ISL	7.51	7.48	34.206	26.726	136.0	0.587	1.08	16.1	55.2	2.66	34.8	0.00			302
1	326		7.32	7.29	34.223	26.767	132.4	0.622	0.91	13.5	58.3	2.74	35.9	0.00			329
1	384		6.93	6.89	34.263	26.853	124.9	0.697	0.63	9.2	65.0	2.86	37.7	0.00			387
	400	ISL	6.81	6.77	34.270	26.875	123.0	0.716	0.57	8.3	67.2	2.90	38.2	0.00			403
1	453		6.43	6.39	34.292	26.943	117.0	0.780	0.39	5.7	74.6	3.01	39.5	0.00			457
	500	ISL	6.18	6.14	34.320	26.998	112.2	0.834	0.29	4.2	79.9	3.07	40.2	0.00			504
1	517		6.10	6.05	34.329	27.016	110.8	0.853	0.26	3.7	81.7	3.09	40.3	0.00			522
1	589		5.70	5.65	34.350	27.083	104.9	0.931	0.21	3.0	90.5	3.16	40.6	0.00			594
	600	ISL	5.66	5.61	34.353	27.090	104.3	0.942	0.21	3.0	91.5	3.17	40.6	0.00			605
1	664		5.44	5.38	34.370	27.131	101.0	1.008	0.19	2.7	96.7	3.21	40.6	0.00			670
	700	ISL	5.33	5.27	34.375	27.148	99.6	1.044	0.17	2.4	100.1	3.23	39.8	0.00			706
1	736		5.24	5.18	34.380	27.163	98.5	1.080	0.15	2.1	103.5	3.25	38.7	0.00			7 43
	800	ISL	5.14	5.07	34.398	27.189	96.6	1.142	0.15	2.1	109.4	3.29	35.9	0.00			808
1	811		5.13	5.06	34.401	27.193	96.4	1.153	0.15	2.1	110.1	3.30	35.7	0.00			819
1	884		5.05	4.98	34.397	27.200	96.5	1.223	0.20	2.8	107.8	3.27	39.7	0.03			892

A) SANTA MONICA BASIN STATION.

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
33 35.4 N	119 6.7 W	07/05/87	0451 GMT	262 M	260	07 KT			1012.4 MB	16.2 C	15.4 C		

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
1	0		17.25	17.25	33.484	24.293	362.1	0.000	5.93	107.9	2.4	0.28	0.0	0.00	0.33	0.04	0
1	9		16.00	16.00	33.476	24.577	335.4	0.031	6.05	107.4	2.2	0.28	0.0	0.00	0.40	0.05	9
	10	ISL	15.82	15.82	33.474	24.616	331.7	0.035	6.09	107.8	2.3	0.29	0.1	0.00	0.43	0.06	10
1	20		14.04	14.04	33.473	25.000	295.3	0.066	6.29	107.4	4.1	0.44	1.8	0.07	0.79	0.16	20
	30	ISL	12.59	12.59	33.525	25.332	264.0	0.094	5.78	95.8	6.0	0.74	6.2	0.22	0.94	0.36	30
1	31		12.47	12.47	33.530	25.359	261.4	0.097	5.73	94.7	6.2	0.77	6.7	0.24	0.95	0.37	31
1	40		11.73	11.72	33.526	25.496	248.5	0.120	5.79	94.2	9.5	1.04	10.8	0.45	0.94	0.30	40
1	50		11.26	11.25	33.631	25.664	232.8	0.144	4.29	69.1	14.4	1.30	15.3	0.35	0.51	0.23	50
1	60		10.75	10.74	33.662	25.780	222.0	0.166	3.85	61.4	17.7	1.46	18.2	0.07	0.29	0.16	60
1	70		10.40	10.39	33.714	25.881	212.5	0.188	3.58	56.7	20.2	1.59	20.2	0.05	0.17	0.14	71
	75	ISL	10.31	10.30	33.723	25.904	210.5	0.199	3.52	55.6	20.9	1.62	20.6	0.03	0.15	0.13	76
1	78		10.26	10.25	33.728	25.917	209.4	0.205	3.49	55.1	21.4	1.63	20.8	0.02	0.14	0.13	79
1	88		9.85	9.84	33.784	26.030	198.8	0.225	3.27	51.1	24.0	1.71	22.3	0.02	0.04	0.10	89
	100	ISL	9.61	9.60	33.843	26.116	190.8	0.249	3.03	47.2	26.4	1.81	23.9	0.01	0.02	0.11	101
1	104		9.56	9.55	33.862	26.139	188.7	0.256	2.95	45.9	27.1	1.85	24.4	0.01	0.02	0.11	105
1	119		9.30	9.29	33.942	26.244	179.0	0.284	2.66	41.1	30.6	1.99	26.0	0.01	0.02	0.10	120
	125	ISL	9.24	9.23	33.957	26.266	177.0	0.295	2.61	40.3	31.4	2.01	26.3	0.01	0.02	0.10	126
1	138		9.13	9.12	33.978	26.300	174.0	0.317	2.52	38.8	32.7	2.05	26.9	0.01	0.01	0.10	139
	150	ISL	8.99	8.97	34.008	26.346	169.9	0.338	2.38	36.6	34.5	2.11	27.6	0.02	0.01	0.11	151
1	163		8.83	8.81	34.042	26.398	165.2	0.360	2.22	34.0	36.5	2.17	28.5	0.03	0.01	0.13	164
1	187		8.55	8.53	34.093	26.482	157.6	0.399	2.01	30.6	39.8	2.27	30.0	0.02			188
	200	ISL	8.38	8.36	34.120	26.529	153.3	0.419	1.83	27.7	42.9	2.35	30.9	0.03			202
1	212		8.25	8.23	34.140	26.564	150.1	0.437	1.68	25.4	45.5	2.42	31.6	0.04			214
1	240		8.10	8.08	34.158	26.602	147.0	0.479	1.54	23.2	47.5	2.47	32.3	0.03			242
	250	ISL	8.03	8.00	34.165	26.617	145.6	0.493	1.48	22.3	48.5	2.51	32.6	0.03			252
1	272		7.88	7.85	34.181	26.653	142.7	0.525	1.35	20.2	50.7	2.59	33.3	0.03			274

RV DAVID STARR JORDAN CALCOFI CRUISE 8705 STATION 87 45

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
33 29.4 N	119 19.1 W	07/05/87	0639 GMT	1668 M	180	04 KT			1013.0 MB	14.5 C	14.0 C		

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
1	0	16.54	16.54	33.509	24.478	344.4	0.000	6.05	108.6	5.3	0.33	0.4	0.02	0.72	0.11	0
1	9	14.80	14.80	33.555	24.902	304.4	0.029	6.37	110.5	6.6	0.36	0.7	0.03	1.24	0.20	9
	10 ISL	14.73	14.73	33.557	24.919	302.8	0.032	6.35	110.0	6.7	0.37	0.9	0.03	1.29	0.22	10
1	20	13.94	13.94	33.573	25.098	286.0	0.062	6.13	104.5	7.7	0.49	2.8	0.07	1.66	0.44	20
1	30	11.54	11.54	33.673	25.645	234.1	0.088	4.41	71.5	14.3	1.20	13.4	0.62	1.59	0.50	30
1	40	10.86	10.86	33.723	25.807	218.9	0.110	3.76	60.1	18.9	1.46	18.0	0.27	0.97	0.32	40
1	50	10.38	10.37	33.773	25.930	207.4	0.132	3.34	52.9	22.4	1.63	20.9	0.06	0.26	0.18	50
1	60	10.00	9.99	33.834	26.043	196.9	0.152	3.04	47.7	25.5	1.76	23.0	0.05	0.10	0.17	60
1	70	9.86	9.85	33.854	26.082	193.4	0.171	2.95	46.2	26.7	1.80	23.7	0.05	0.06	0.16	71
	75 ISL	9.80	9.79	33.871	26.105	191.3	0.181	2.89	45.2	27.3	1.82	24.1	0.05	0.06	0.15	76
1	84	9.68	9.67	33.903	26.151	187.2	0.198	2.77	43.2	28.5	1.87	24.8	0.04	0.05	0.14	85
1	99	9.46	9.45	33.948	26.222	180.6	0.226	2.60	40.4	31.1	1.96	25.9	0.03	0.04	0.16	100
	100 ISL	9.45	9.44	33.951	26.226	180.3	0.227	2.59	40.2	31.2	1.97	26.0	0.03	0.04	0.16	101
1	119-	9.21	9.20	34.003	26.306	173.0	0.261	2.39	36.9	33.3	2.06	27.2	0.02	0.02	0.11	120
	125 ISL	9.14	9.13	34.019	26.330	170.9	0.271	2.33	35.9	34.0	2.09	27.6	0.02	0.02	0.11	126
1	144	8.94	8.92	34.061	26.395	165.1	0.303	2.17	33.3	36.4	2.17	28.6	0.02	0.02	0.09	145
	150 ISL	8.89	8.87	34.069	26.409	163.8	0.313	2.13	32.7	37.1	2.19	28.8	0.02	0.02	0.09	151
1	174	8.67	8.65	34.098	26.467	158.8	0.352	1.97	30.1	40.0	2.27	29.8	0.04	0.02	0.11	175
	200 ISL	8.38	8.36	34.144	26.548	151.5	0.392	1.71	25.9	43.5	2.40	31.1	0.03	0.03	0.08	202
1	203	8.35	8.33	34.149	26.556	150.8	0.397	1.68	25.5	43.9	2.42	31.3	0.03	0.03	0.08	205
1	232	8.03	8.01	34.170	26.621	145.0	0.440	1.50	22.6	47.8	2.50	32.6	0.02			234
	250 ISL	7.93	7.90	34.183	26.646	142.9	0.465	1.38	20.7	49.7	2.55	33.1	0.01			252
1	271	7.84	7.81	34.199	26.672	140.7	0.495	1.23	18.4	51.8	2.61	33.7	0.01			273
	300 ISL	7.64	7.61	34.229	26.726	136.1	0.535	0.98	14.6	55.7	2.72	34.8	0.01			302
1	325	7.43	7.40	34.254	26.776	131.7	0.569	0.78	11.6	59.4	2.82	35.8	0.01			328
1	383	6.89	6.85	34.285	26.876	122.7	0.643	0.50	7.3	68.4	2.97	38.0	0.00			386
	400 ISL	6.75	6.71	34.294	26.902	120.4	0.663	0.44	6.4	70.7	3.01	38.4	0.00			403
1	449	6.40	6.36	34.317	26.967	114.7	0.721	0.33	4.8	76.8	3.10	39.4	0.00			453
	500 ISL	6.10	6.06	34.333	27.019	110.2	0.778	0.27	3.9	82.8	3.17	40.0	0.00			504
1	519	5.99	5.94	34.339	27.037	108.6	0.799	0.25	3.6	85.1	3.19	40.2	0.00			524

RV DAVID STARR JORDAN CALCOFI CRUISE 8705 STATION 87 50

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
33 19.4 N	119 39.8 W	07/05/87	1020 GMT	79 M	220	03 KT			1013.9 MB	13.9 C	13.1 C		

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0 ISL	16.68	16.68	33.526	24.459	346.3	0.000	5.97	107.5	3.7	0.28	0.0	0.01	0.58	0.11	0
1	1	16.68	16.68	33.526	24.459	346.4	0.003	5.97	107.5	3.7	0.28	0.0	0.01	0.58	0.11	1
	10 ISL	15.96	15.96	33.521	24.620	331.2	0.034	6.15	109.2	4.0	0.29	0.0	0.01	0.71	0.18	10
1	11	15.88	15.88	33.521	24.638	329.6	0.037	6.15	109.0	4.0	0.29	0.0	0.01	0.73	0.20	11
	20 ISL	13.54	13.54	33.557	25.168	279.4	0.065	5.44	92.0	8.0	0.69	5.6	0.21	1.27	0.42	20
1	21	13.25	13.25	33.565	25.232	273.2	0.067	5.34	89.8	8.6	0.74	6.4	0.23	1.31	0.44	21
	30 ISL	11.59	11.59	33.598	25.578	240.6	0.091	4.58	74.3	13.1	1.16	13.0	0.33	0.70	0.24	30
1	32	11.33	11.33	33.603	25.629	235.7	0.095	4.44	71.7	13.9	1.23	14.2	0.34	0.53	0.19	32
1	42	10.89	10.88	33.615	25.718	227.5	0.118	4.18	66.8	15.8	1.34	16.3	0.33	0.38	0.21	42
	50 ISL	10.78	10.77	33.636	25.754	224.2	0.137	4.09	65.2	16.5	1.38	16.9	0.35	0.34	0.23	50
1	52	10.75	10.74	33.644	25.765	223.2	0.141	4.06	64.7	16.8	1.39	17.1	0.35	0.33	0.23	52
2	62	10.23	10.22	33.720	25.915	209.1	0.163	3.57	56.3	20.8	1.59	20.2	0.32	0.16	0.16	62
2	75	9.88	9.87	33.783	26.023	199.1	0.189	3.20	50.1	24.1	1.74	22.6	0.25	0.10	0.19	76

RV DAVID STARR JORDAN CALCOFI CRUISE 8705 STATION 87 55

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
33 9.4 N	120 0.4 W	07/05/87	1341 GMT	1241 M	320	04 KT	310 03 06	4	1012.5 MB	13.7 C	12.7 C	8/8	CI

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
1	0	14.69	14.69	33.347	24.765	317.1	0.000	6.02	104.1	2.9	0.46	1.1	0.05	0.25	0.08	0
1	9	14.23	14.23	33.393	24.898	304.7	0.028	6.11	104.7	3.2	0.49	1.7	0.07	0.32	0.11	9
	10 ISL	14.21	14.21	33.394	24.903	304.2	0.031	6.11	104.6	3.2	0.49	1.7	0.07	0.32	0.12	10
1	20	13.91	13.91	33.403	24.973	297.9	0.061	6.16	104.9	3.4	0.49	1.8	0.07	0.36	0.22	20
	30 ISL	13.17	13.17	33.445	25.156	280.7	0.090	6.07	101.8	4.0	0.61	3.5	0.10	0.55	0.27	30
1	31	13.08	13.08	33.450	25.178	278.7	0.093	6.06	101.4	4.1	0.63	3.8	0.11	0.57	0.27	31
1	41	12.01	12.00	33.476	25.405	257.3	0.120	5.53	90.5	7.6	0.93	8.1	0.20	0.60	0.23	41
1	50	11.29	11.28	33.499	25.556	243.1	0.142	4.71	75.9	11.9	1.15	12.9	0.19	0.32	0.23	50
1	60	10.49	10.48	33.525	25.718	227.8	0.166	4.18	66.2	15.1	1.33	16.8	0.02	0.13	0.11	60
1	70			33.657			0.188	3.91	61.3	18.8	1.48	19.4	0.02	0.05	0.06	71
	75 ISL	9.817	9.809	33.652	25.932	207.8	0.198	3.72	58.1	20.7	1.56	20.7	0.02	0.06	0.08	76
1	85	9.59	9.58	33.746	26.043	197.4	0.218	3.41	53.0	23.8	1.70	22.7	0.02	0.07	0.12	86
1	100	9.36	9.35	33.820	26.138	188.6	0.247	3.39	52.5	25.2	1.72	23.3	0.01	0.02	0.07	101
1	120	8.91	8.90	33.939	26.304	173.2	0.283	2.86	43.8	31.4	1.95	26.5	0.01	0.00	0.04	121
	125 ISL	8.82	8.81	33.961	26.335	170.3	0.292	2.77	42.4	32.7	1.99	27.0	0.01	0.00	0.04	126
1	145	8.51	8.49	34.027	26.435	161.2	0.325	2.52	38.3	37.3	2.10	28.5	0.00	0.00	0.03	146
	150 ISL	8.43	8.41	34.037	26.455	159.3	0.333	2.47	37.5	38.2	2.13	28.8	0.00	0.00	0.03	151
1	174	8.14	8.12	34.070	26.525	153.0	0.371	2.25	33.9	41.5	2.24	30.0	0.00	0.00	0.04	175
	200 ISL	8.00	7.98	34.097	26.568	149.4	0.410	2.00	30.0	44.0	2.34	31.3	0.00	0.00	0.03	202
1	203	7.99	7.97	34.099	26.571	149.2	0.414	1.98	29.7	44.3	2.35	31.4	0.00	0.00	0.03	205
1	232	7.73	7.71	34.097	26.608	146.1	0.457	1.89	28.2	47.0	2.41	32.3	0.00			234
	250 ISL	7.49	7.47	34.085	26.633	143.9	0.483	1.86	27.6	49.5	2.44	33.0	0.00			252
1	271	7.21	7.18	34.077	26.666	140.9	0.513	1.79	26.4	52.8	2.48	34.0	0.00			273
	300 ISL	6.95	6.92	34.098	26.719	136.2	0.553	1.51	22.1	57.4	2.60	35.5	0.00			302
1	325	6.81	6.78	34.131	26.764	132.3	0.587	1.22	17.8	60.9	2.72	36.7	0.00			328
1	383	6.83	6.79	34.225	26.836	126.4	0.662	0.74	10.8	65.6	2.89	37.8	0.00			386
	400 ISL	6.76	6.72	34.239	26.857	124.7	0.683	0.65	9.5	67.1	2.93	38.2	0.00			403
1	449	6.47	6.43	34.264	26.916	119.6	0.743	0.47	6.8	71.8	3.03	39.3	0.00			453
	500 ISL	6.14	6.10	34.282	26.973	114.5	0.803	0.38	5.5	77.3	3.10	40.5	0.00			504
1	521	6.01	5.96	34.290	26.996	112.5	0.827	0.35	5.0	79.6	3.13	41.0	0.00			526

RV DAVID STARR JORDAN CALCOFI CRUISE 8705 STATION 87 60

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
32 59.4 N	120 21.0 W	07/05/87	1747 GMT	742 M	110	04 KT	320 02 07	2	1013.8 MB	15.0 C	13.6 C	8/8	CI

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0 ISL	14.88	14.88	33.544	24.876	306.5	0.000	6.01	104.4	4.8	0.45	1.5	0.04	0.55	0.09	0
1	1	14.88	14.88	33.544	24.876	306.6	0.003	6.01	104.4	4.8	0.45	1.5	0.04	0.55	0.09	1
	10 ISL	14.80	14.80	33.552	24.900	304.6	0.031	5.97	103.6	5.0	0.49	2.0	0.05	0.35	0.06	10
1	11	14.79	14.79	33.553	24.903	304.3	0.034	5.97	103.6	5.0	0.49	2.0	0.05	0.32	0.06	11
	20 ISL	14.09	14.09	33.566	25.062	289.5	0.060	6.08	104.0	5.2	0.66	3.8	0.09	0.35	0.09	20
1	21	14.00	14.00	33.567	25.081	287.7	0.063	6.09	104.0	5.2	0.68	4.0	0.09	0.35	0.09	21
	30 ISL	13.62	13.62	33.556	25.151	281.2	0.089	6.13	103.8	5.1	0.66	4.2	0.10	0.32	0.12	30
1	31	13.58	13.58	33.552	25.156	280.8	0.092	6.14	103.9	5.1	0.66	4.2	0.10	0.32	0.12	31
1	41	12.86	12.85	33.445	25.218	275.1	0.119	5.92	98.6	5.8	0.72	5.3	0.16	0.54	0.21	41
	50 ISL	12.39	12.38	33.402	25.276	269.8	0.144	5.61	92.5	6.9	0.80	6.8	0.21	0.59	0.24	50
1	52	12.29	12.28	33.398	25.292	268.3	0.149	5.52	90.8	7.3	0.83	7.3	0.22	0.60	0.25	52
1	61	11.63	11.62	33.406	25.422	256.1	0.173	4.94	80.2	10.2	1.02	10.8	0.22	0.40	0.16	61
1	71	11.09	11.08	33.524	25.612	238.3	0.198	4.43	71.1	13.9	1.28	14.6	0.33	0.37	0.18	72
	75 ISL	10.86	10.85	33.565	25.685	231.4	0.207	4.28	68.4	15.8	1.38	16.3	0.35	0.32	0.18	76
1	85	10.37	10.36	33.657	25.842	216.5	0.229	3.91	61.8	20.3	1.60	20.1	0.39	0.18	0.17	86
1	99	10.03	10.02	33.771	25.990	202.8	0.259	3.22	50.6	23.8	1.78	23.0	0.09	0.09	0.16	100
	100 ISL	10.00	9.99	33.777	25.999	201.9	0.261	3.19	50.1	24.0	1.79	23.2	0.09	0.09	0.16	101
1	118	9.42	9.41	33.856	26.157	187.2	0.296	2.92	45.2	27.3	1.88	25.1	0.01	0.05	0.17	119
	125 ISL	9.23	9.22	33.867	26.197	183.6	0.309	2.96	45.7	27.9	1.88	25.4	0.01	0.05	0.16	126
1	144	8.80	8.78	33.889	26.282	175.7	0.343	3.10	47.4	29.6	1.89	26.0	0.01	0.04	0.11	145
	150 ISL	8.68	8.66	33.910	26.317	172.5	0.353	3.07	46.8	30.8	1.91	26.4	0.01	0.03	0.10	151
1	174	8.31	8.29	34.000	26.445	160.7	0.393	2.77	41.9	36.2	2.04	28.4	0.01	0.01	0.08	175
	200 ISL	8.12	8.10	34.064	26.524	153.6	0.434	2.28	34.3	40.9	2.22	29.9	0.00	0.01	0.08	202
1	203	8.10	8.08	34.070	26.53 2	152.9	0.439	2.22	33.4	41.4	2.24	30.1	0.00	0.01	0.08	205
1	232	7.89	7.87				0.482	1.72	25.8	47.0	2.44	32.4	0.01			234
	250 ISL	7.69	7.67	34.155	26.659	141.5	0.508	1.46	21.8	50.8	2.56	33.7	0.01			252
1	271	7.44	7.41	34.180	26.715	136.4	0.537	1.22	18.1	55.0	2.67	35.0	0.00			273
	300 ISL	7.16	7.13	34.189	26.762	132.3	0.576	1.05	15.5	58.8	2.76	36.2	0.00			302
1	324	6.97	6.94	34.192	26.791	129.9	0.608	0.96	14.1	61.2	2.80	36.9	0.00			327
1	384	6.66	6.62	34.231	26.864	123.7	0.684	0.69	10.1	67.6	2.92	38.4	0.00			387
	400 ISL	6.60	6.56	34.239	26.878	122.5	0.703	0.63	9.2	68.9	2.94	38.7	0.00			403
1	448	6.41	6.37	34.264	26.924	118.7	0.761	0.49	7.1	73.0	3.01	39.5	0.00			452
	500 ISL	6.01	5.97	34.297	27.001	111.7	0.821	0.37	5.3	80.3	3.11	40.9	0.00			504
1	516	5.89	5.85	34.307	27.025	109.6	0.839	0.33	4.7	82.5	3.14	41.3	0.00			520

RV DAVID STARR JORDAN CALCOFI CRUISE 8705 STATION 87 70

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
32 39.4 N	121 2.0 W	07/05/87	2326 GMT	3828 M	230	06 KT	290 02 07	2	1012.9 MB	16.0 C	14.0 C	8/8	SC

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
1	0	14.81	14.81	33.257	24.670	326.1	0.000	6.06	105.0	2.3	0.38	0.0	0.00	0.17	0.03	0
	10 ISL	14.55	14.55	33.265	24.732	320.6	0.032	6.07	104.6	2.3	0.38	0.0	0.00	0.19	0.05	10
1	11	14.52	14.52	33.266	24.739	319.9	0.036	6.07	104.5	2.3	0.38	0.0	0.00	0.19	0.05	11
1	19	14.50	14.50	33.307	24.775	316.7	0.061	6.06	104.3	2.3	0.38	0.0	0.00	0.21	0.06	19
	20 ISL	14.50	14.50	33.310	24.778	316.5	0.064	6.06	104.4	2.3	0.38	0.0	0.00	0.21	0.06	20
	30 ISL	14.41	14.41	33.316	24.802	314.5	0.096	6.06	104.2	2.2	0.37	0.0	0.00	0.26	0.08	30
1	31	14.39	14.39	33.315	24.805	314.2	0.099	6.06	104.1	2.2	0.37	0.0	0.00	0.26	0.08	31
1	41	14.08	14.07	33.304	24.862	309.1	0.130	6.10	104.1	2.2	0.38	0.0	0.01	0.49	0.15	41
	50 ISL	13.29	13.28	33.285	25.009	295.3	0.157	6.07	101.9	2.2	0.48	1.0	0.13	0.65	0.25	50
1	51	13.21	13.20	33.285	25.025	293.8	0.160	6.07	101.8	2.2	0.49	1.1	0.14	0.67	0.26	51
1	60	13.16	13.15	33.336	25.074	289.3	0.186	5.98	100.2	2.8	0.51	1.4	0.17	0.87	0.38	60
1	70	12.94	12.93	33.364	25.140	283.3	0.215	5.79	96.6	3.7	0.60	2.9	0.28	0.52	0.27	71
	75 ISL	12.68	12.67	33.366	25.192	278.4	0.229	5.66	93.9	4.7	0.68	4.3	0.32	0.36	0.22	76
1	85	12.12	12.11	33.382	25.312	267.2	0.256	5.40	88.5	7.0	0.86	7.4	0.36	0.13	0.16	86
1	99	11.62	11.61	33.490	25.490	250.6	0.293	5.16	83.7	10.1	1.05	10.4	0.32	0.08	0.15	100
	100 ISL	11.60	11.59	33.497	25.499	249.7	0.295	5.16	83.7	10.2	1.06	10.5	0.32	0.08	0.15	101
1	119	11.26	11.25	33.626	25.662	234.7	0.341	4.88	78.6	13.0	1.25	13.3	0.29	0.05	0.13	120
	125 ISL	11.01	10.99	33.657	25.731	228.2	0.355	4.53	72.6	15.1	1.37	15.4	0.23	0.05	0.13	126
1	143	10.19	10.17	33.746	25.944	208.2	0.394	3.40	53.6	21.9	1.71	21.9	0.04	0.05	0.13	144
	150 ISL	9.97	9.95	33.786	26.012	201.8	0.409	3.16	49.5	23.9	1.79	23.2	0.03	0.04	0.13	151
1	173	9.41	9.39	33.902	26.196	184.7	0.453	2.73	42.3	29.2	1.94	25.8	0.01	0.02	0.15	174
	200 ISL	8.87	8.85	33.967	26.333	172.0	0.501	2.62	40.1	33.0	2.03	27.6	0.01	0.02	0.15	202
1	202	8.83	8.81	33.971	26.343	171.1	0.505	2.62	40.1	33.3	2.04	27.7	0.01	0.02	0.15	204
1	231	8.25	8.23	34.052	26.496	156.9	0.552	2.36	35.6	39.5	2.19	29.8	0.01			233
	250 ISL	7.99	7.96	34.062	26.542	152.7	0.582	2.30	34.5	42.0	2.23	30.6	0.01			252
1	270	7.76	7.73	34.057	26.573	150.1	0.612	2.25	33.6	44.2	2.27	31.4	0.01			272
	300 ISL	7.39	7.36	34.067	26.634	144.6	0.656	2.01	29.8	48.9	2.38	33.0	0.00			302
1	324	7.11	7.08	34.078	26.682	140.3	0.690	1.77	26.0	53.2	2.49	34.4	0.00			327
1	384	6.49	6.46	34.122	26.800	129.5	0.771	1.14	16.5	64.7	2.78	38.0	0.00			387
	400 ISL	6.41	6.37	34.145	26.829	126.9	0.792	0.99	14.3	67.1	2.84	38.6	0.00			403
1	449	6.21	6.17	34.213	26.909	119.9	0.852	0.63	9.1	73.7	3.00	40.1	0.00			453
	500 ISL	5.84	5.80	34.244	26.981	113.5	0.912	0.45	6.4	80.5	3.09	41.3	0.00			504
1	520	5.69	5.65	34.256	27.009	110.9	0.934	0.38	5.4	83.2	3.12	41.8	0.00			524

RV DAVID STARR JORDAN CALCOFI CRUISE 8705 STATION 87 80

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
32 19.4 N	121 42.9 W	08/05/87	0439 GMT	4018 M	350	06 KT			1013.5 MB	15.2 C	13.4 C		

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
1	0	15.63	15.63	33.171	24.425	349.5	0.000	5.85	103.0	1.8	0.36	0.0	0.00	0.09	0.03	0
	10 ISL	15.51	15.51	33.155	24.439	348.5	0.035	5.88	103.2	1.9	0.37	0.0	0.00	0.10	0.03	10
1	15	15.45	15.45	33.148	24.447	347.9	0.052	5.90	103.4	1.9	0.38	0.0	0.00	0.11	0.03	15
	20 ISL	15.45	15.45	33.148	24.448	348.0	0.070	5.89	103.3	1.8	0.38	0.0	0.00	0.11	0.03	20
1	30	15.45	15.45	33.149	24.448	348.2	0.105	5.87	102.9	1.7	0.37	0.0	0.00	0.12	0.02	30
1	41	15.36	15.35	33.147	24.467	346.8	0.143	5.89	103.1	1.7	0.36	0.0	0.00	0.12	0.06	41
	50 ISL	14.62	14.61	33.123	24.609	333.5	0.173	6.02	103.8	1.7	0.37	0.0	0.00	0.14	0.06	50
1	51	14.53	14.52	33.120	24.626	331.9	0.177	6.03	103.8	1.7	0.37	0.0	0.00	0.14	0.06	51
1	60	14.00	13.99	33.109	24.728	322.3	0.206	6.02	102.5	1.9	0.38	0.0	0.00	0.22	0.09	60
1	70	13.63	13.62	33.138	24.827	313.2	0.238	5.96	100.7	2.5	0.43	0.2	0.06	0.43	0.17	71
	75 ISL	13.35	13.34	33.180	24.916	304.8	0.253	5.83	98.0	2.9	0.49	1.3	0.14	0.45	0.20	76
1	78	13.16	13.15	33.206	24.974	299.3	0.262	5.74	96.1	3.2	0.53	2.1	0.18	0.46	0.21	79
1	93	12.29	12.28	33.260	25.186	279.5	0.306	5.35	88.0	5.6	0.75	6.3	0.05	0.29	0.21	94
	100 ISL	11.62	11.61	33.285	25.331	265.7	0.325	5.15	83.5	7.4	0.87	8.7	0.04	0.21	0.17	101
1	109	10.80	10.79	33.339	25.520	247.8	0.348	4.86	77.4	10.2	1.04	11.9	0.02	0.13	0.12	II0
1	123	10.19	10.18	33.492	25.745	226.6	0.381	4.31	67.8	15.6	1.35	16.9	0.01	0.06	0.07	124
	125 ISL	10.11	10.10	33.512	25.774	223.9	0.386	4.24	66.6	16.3	1.38	17.5	0.01	0.06	0.07	126
1	147	9.41	9.39				0.432									148
	150 ISL	9.34	9.32	33.722	26.066	196.5	0.438	3.56	55.0	23.5	1.69	22.9	0.00	0.03	0.05	151
1	172	8.93	8.91	33.850	26.232	181.1	0.480	3.22	49.3	28.0	1.82	25.3	0.00	0.00	0.04	173
	200 ISL	8.47	8.45	33.945	26.378	167.6	0.529	3.11	47.2	32.0	1.92	26.7	0.00	0.00	0.02	202
1	202	8.44	8.42	33.950	26.386	166.8	0.532	3.10	47.0	32.3	1.93	26.8	0.00	0.00	0.02	204
1	231	8.17	8.15	34.031	26.491	157.3	0.579	2.62	39.5	37.9	2.10	29.1	0.00			233
	250 ISL	7.98	7.95	34.058	26.541	152.9	0.608	2.38	35.7	41.1	2.20	30.3	0.00			252
1	270	7.78	7.75	34.079	26.587	148.8	0.638	2.13	31.8	44.5	2.31	31.5	0.00			272
	300 ISL	7.53	7.50	34.125	26.659	142.3	0.682	1.64	24.4	50.4	2.51	33.5	0.00			302
1	325	7.35	7.32	34.163	26.715	137.3	0.717	1.26	18.7	55.0	2.66	35.1	0.00			328
1	384			34.209			0.796	0.87	12.8	62.0	2.85	37.3	0.00			387
	400 ISL	6.867	6.830	34.228	26.834	126.9	0.816	0.78	11.4	63.9	2.89	37.8	0.00			403
1	449	6.51	6.47	34.242	26.893	121.7	0.877	0.58	8.4	70.0	2.98	39.2	0.00			453
	500 ISL	5.97	5.93	34.234	26.957	115.9	0.938	0.49	7.0	77.9	3.07	41.0	0.00			504
1	520	5.76	5.72	34.232	26.981	113.6	0.961	0.45	6.4	81.0	3.10	41.7	0.00			524

RV DAVID STARR JORDAN CALCOFI CRUISE 8705 STATION 87 90

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
31 59.4 N	122 23.6 W	08/05/87	0937 GMT	4162 M	350	03 KT			1013.2 MB	15.3 C	12.9 C		

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
1	0	16.16	16.16	33.313	24.415	350.5	0.000	5.74	102.2	2.1	0.34	0.0	0.00	0.06	0.01	0
	10 ISL	16.11	16.11	33.305	24.420	350.3	0.035	5.76	102.4	1.9	0.37	0.1	0.00	0.06	0.01	10
1	15	16.08	16.08	33.301	24.424	350.1	0.053	5.77	102.5	1.8	0.38	0.1	0.00	0.06	0.01	15
	20 ISL	16.01	16.01	33.286	24.429	349.8	0.070	5.78	102.5	1.8	0.38	0.1	0.00	0.06	0.01	20
1	30	15.86	15.86	33.250	24.435	349.5	0.105	5.80	102.6	1.8	0.36	0.1	0.00	0.08	0.02	30
1	40	15.76	15.75	33.220	24.435	349.8	0.140	5.82	102.7	1.8	0.36	0.1	0.00	0.10	0.02	40
1	50	14.89	14.88	33.125	24.553	338.8	0.174	5.96	103.3	1.7	0.37	0.1	0.00	0.11	0.02	50
1	60	14.61	14.60	33.137	24.622	332.5	0.208	5.97	102.9	1.7	0.36	0.1	0.00	0.15	0.05	60
1	70	14.34	14.33	33.136	24.679	327.4	0.241	6.01	103.0	1.9	0.38	0.0	0.00	0.21	0.07	71
	75 ISL	14.12	14.11	33.135	24.724	323.2	0.257	6.00	102.4	2.1	0.39	0.0	0.01	0.26	0.11	76
1	79	13.95	13.94	33.145	24.767	319.2	0.270	5.97	101.5	2.2	0.40	0.0	0.01	0.29	0.15	80
1	94	13.80	13.79	33.350	24.957	301.6	0.317	5.71	96.9	2.6	0.43	1.2	0.13	0.32	0.18	95
	100 ISL	13.49	13.48	33.326	25.001	297.4	0.335	5.66	95.5	2.9	0.47	1.9	0.11	0.32	0.18	101
1	108	12.89	12.88	33.274	25.081	289.9	0.358	5.56	92.6	3.8	0.57	3.4	0.06	0.31	0.19	109
1	125	11.08	11.06	33.344	25.475	252.5	0.404	5.01	80.3	8.8	0.94	10.3	0.01	0.09	0.08	126
1	146	9.92	9.90	33.643	25.909	211.5	0.453	4.15	64.9	17.9	1.38	18.2	0.01	0.02	0.04	147
	150 ISL	9.78	9.76	33.675	25.957	206.9	0.461	4.06	63.3	19.1	1.43	19.1	0.01	0.02	0.04	151
1	171	9.27	9.25	33.783	26.125	191.3	0.503	3.76	58.0	23.5	1.59	21.9	0.01	0.00	0.04	172
1	198	8.86	8.84	33.874	26.262	178.7	0.553	3.57	54.6	27.1	1.71	23.7	0.00	0.00	0.03	200
	200 ISL	8.82	8.80	33.882	26.275	177.5	0.557	3.54	54.1	27.6	1.72	23.9	0.00			202
1	224	8.32	8.30	33.974	26.424	163.6	0.598	3.20	48.4	33.5	1.88	26.6	0.00			226
	250 ISL	7.86	7.84	34.004	26.516	155.1	0.639	2.99	44.7	38.4	2.00	28.5	0.00			252
2	270	7.61	7.58	34.017	26.563	150.9	0.670	2.78	41.4	41.8	2.10	29.8	0.00			272
	300 ISL	7.58	7.55	34.097	26.630	145.0	0.714	2.02	30.0	47.4	2.36	32.2	0.00			302
2	324	7.55	7.52	34.158	26.683	140.5	0.748	1.40	20.8	52.0	2.56	34.1	0.00			327
2	382	6.83	6.79	34.187	26.806	129.2	0.826	0.85	12.4	62.8	2.80	37.4	0.00			385
	400 ISL	6.55	6.51	34.176	26.835	126.5	0.849	0.83	12.1	66.4	2.85	38.4	0.00			403
2	447	5.91	5.87	34.151	26.898	120.6	0.908	0.76	10.9	75.1	2.95	40.6	0.00			451
	500 ISL	5.61	5.57	34.192	26.968	114.4	0.970	0.55	7.8	81.6	3.04	41.8	0.00			504
2	515	5.52	5.48	34.203	26.988	112.6	0.987	0.49	6.9	83.4	3.07	42.2	0.00			519

RV DAVID STARR JORDAN CALCOFI CRUISE 8705 STATION 87 100

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
31 39.4 N	123 4.2 W	08/05/87	1503 GMT	3924 M	270	07 KT	330 04 08	2	1014.4 MB	15.7 C	12.1 C	8/8	SC

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0 ISL	15.77	15.77	33.191	24.409	351.0	0.000	5.81	102.5	2.0	0.35	0.0	0.00	0.10	0.01	0
1	1	15.77	15.77	33.191	24.409	351.1	0.004	5.81	102.5	2.0	0.35	0.0	0.00	0.10	0.01	1
	10 ISL	15.71	15.71	33.185	24.418	350.5	0.035	5.83	102.8	2.0	0.35	0.0	0.00	0.09	0.02	10
1	17	15.69	15.69	33.195	24.430	349.5	0.060	5.84	102.9	2.0	0.35	0.0	0.00	0.08	0.02	17
	20 ISL	15.75	15.75	33.220	24.436	349.1	0.070	5.83	102.9	2.0	0.35	0.0	0.00	0.08	0.02	20
	30 ISL	15.92	15.92	33.298	24.458	347.3	0.105	5.81	102.9	1.9	0.33	0.0	0.00	0.08	0.01	30
1	32	15.95	15.94	33.313	24.463	346.9	0.112	5.81	103.0	1.9	0.33	0.0	0.00	0.08	0.01	32
1	42	15.82	15.81	33.311	24.491	344.5	0.146	5.83	103.1	1.8	0.33	0.0	0.00	0.11	0.02	42
	50 ISL	14.83	14.82	33.233	24.649	329.7	0.173	5.96	103.3	1.9	0.35	0.0	0.00	0.14	0.04	50
1	52	14.60	14.59	33.128U			0.180	5.99	103.3	1.9	0.36	0.0	0.00	0.15	0.05	52
1	62	14.79	14.78	33.156	24.598	334.9	0.213	5.95	103.0	1.9	0.35	0.0	0.00	0.18	0.10	62
1	71	14.70	14.69	33.232	24.677	327.7	0.243	5.93	102.5	2.0	0.34	0.0	0.00	0.25	0.13	72
	75 ISL	14.62	14.61	33.259	24.715	324.2	0.256	5.89	101.6	2.0	0.35	0.1	0.03	0.29	0.16	76
1	80	14.53	14.52	33.302	24.767	319.3	0.272	5.82	100.3	2.2	0.38	0.2	0.07	0.34	0.20	81
1	94	13.03	13.02	33.194	24.991	298.1	0.315	5.70	95.1	3.7	0.54	2.6	0.07	0.29	0.22	95
	100 ISL	12.55	12.54	33.196	25.086	289.1	0.333	5.52	91.2	4.8	0.65	4.5	0.05	0.23	0.19	101
1	II0	12.13	12.12	33.275	25.228	275.8	0.361	5.25	86.0	6.1	0.78	7.0	0.02	0.13	0.13	HI
1	125	12.70	12.68	33.606	25.376	262.3	0.401	5.23	86.9	5.1	0.61	5.5	0.04	0.15	0.14	126
1	149	11.75	11.73	33.728	25.652	236.5	0.461	4.84	78.9	9.4	0.85	10.0	0.02	0.07	0.07	150
	150 ISL	11.67	11.65	33.726	25.665	235.2	0.464	4.82	78.4	9.7	0.87	10.3	0.02	0.07	0.07	151
1	174	9.79	9.77	33.692	25.969	206.3	0.517	4.26	66.5	17.0	1.35	17.9	0.01	0.01	0.04	175
	200 ISL	8.89	8.87	33.842	26.232	181.6	0.567	3.94	60.3	24.3	1.59	22.1	0.00	0.00	0.02	202
1	203	8.84	8.82	33.862	26.256	179.4	0.572	3.92	59.9	25.0	1.60	22.4	0.00	0.00	0.02	205
1	233	8.37	8.35	33.953	26.400	166.1	0.624	3.72	56.3	30.3	1.72	24.4	0.00			235
	250 ISL	8.14	8.11	33.984	26.459	160.7	0.652	3.29	49.5	34.4	1.89	26.6	0.00			252
1	272	7.85	7.82	34.009	26.522	155.0	0.687	2.68	40.1	39.9	2.12	29.6	0.01			274
	300 ISL	7.45	7.42	34.021	26.589	148.8	0.729	2.27	33.7	45.9	2.30	32.1	0.01			302
1	327	7.07	7.04	34.025	26.646	143.7	0.769	2.00	29.4	51.6	2.43	34.0	0.00			330
1	385	6.29	6.26	34.056	26.774	131.8	0.849	1.39	20.1	64.8	2.72	37.9	0.00			388
	400 ISL	6.11	6.07	34.062	26.802	129.2	0.868	1.26	18.1	67.8	2.78	38.7	0.00			403
1	449	5.63	5.59	34.087	26.882	121.9	0.930	0.90	12.8	76.6	2.94	40.9	0.00			453
	500 ISL	5.36	5.32	34.127	26.946	116.1	0.990	0.67	9.5	83.8	3.05	42.3	0.00			504
1	517	5.27	5.23	34.141	26.968	114.2	1.010	0.59	8.3	86.2	3.08	42.7	0.00			521

RV DAVID STARR JORDAN CALCOFI CRUISE 8705 STATION 87 II0

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
31 19.4 N	123 44.3 W	08/05/87	2026 GMT	3781 M	300	10 KT	340 03 07	2	1016.1 MB	16.0 C	13.7 C	8/8	SC

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0 ISL	16.33	16.33	33.379	24.427	349.3	0.000	5.78	103.2	1.2	0.31	0.0	0.00	0.08	0.01	0
1	1	16.33	16.33	33.379	24.427	349.4	0.003	5.78	103.2	1.2	0.31	0.0	0.00	0.08	0.01	1
	10 ISL	16.30	16.30	33.375	24.431	349.3	0.035	5.77	103.0	1.2	0.31	0.0	0.00	0.09	0.02	10
1	16	16.29	16.29	33.377	24.435	349.1	0.056	5.77	103.0	1.2	0.31	0.0	0.00	0.09	0.02	16
	20 ISL	16.31	16.31	33.388	24.439	348.8	0.070	5.77	103.0	1.2	0.30	0.0	0.00	0.09	0.02	20
1	30	16.35	16.35	33.415	24.451	348.0	0.105	5.77	103.1	1.1	0.29	0.0	0.00	0.09	0.01	30
1	41	16.31	16.30	33.410	24.457	347.9	0.143	5.78	103.2					0.10	0.02	41
	50 ISL	16.10	16.09	33.392	24.491	344.8	0.174	5.80	103.1	1.6	0.29	0.0	0.00	0.12	0.03	50
1	51	16.06	16.05	33.390	24.499	344.2	0.178	5.80	103.1					0.12	0.03	51
1	62	15.25	15.24	33.383	24.674	327.8	0.215	5.94	103.9					0.14	0.04	62
1	72	15.79	15.78	33.595	24.718	323.9	0.247	5.81	102.8	2.3	0.29	0.1	0.00	0.16	0.05	73
	75 ISL	15.60	15.59	33.587	24.754	320.5	0.257	5.80	102.2	2.3	0.30	0.1	0.02	0.18	0.07	76
1	80	15.19	15.18	33.555	24.820	314.4	0.273	5.78	101.0	2.4	0.31	0.2	0.05	0.23	0.10	81
1	95	14.84	14.83	33.657	24.975	300.0	0.319	5.65	98.1	2.7	0.32	0.3	0.04	0.29	0.18	96
	100 ISL	14.17	14.16	33.536	25.024	295.4	0.334	5.61	96.1	3.3	0.40	1.4	0.04	0.27	0.17	101
1	II0	12.76	12.75	33.300	25.127	285.6	0.363	5.50	91.3	4.7	0.60	4.2	0.04	0.21	0.13	111
1	125	12.00	11.98	33.354	25.314	268.0	0.404	5.23	85.5	6.5	0.77	7.2	0.02	0.15	0.14	126
1	150	10.63	10.61	33.468	25.651	236.2	0.467	4.44	70.5	13.8	1.25	15.4	0.01	0.03	0.05	151
1	174	9.77	9.75	33.700	25.979	205.4	0.520	3.61	56.3	21.1	1.61	21.3	0.00	0.01	0.03	175
	200 ISL	8.88	8.86	33.839	26.231	181.7	0.571	3.63	55.6	25.8	1.70	23.6	0.00	0.00	0.03	202
1	203	8.79	8.77	33.851	26.255	179.4	0.576	3.63	55.4	26.3	1.71	23.8	0.00	0.00	0.03	205
1	230	8.42	8.40	33.985	26.417	164.4	0.622	2.96	44.9	33.8	1.97	27.4	0.00			232
	250 ISL	8.04	8.01	34.005	26.490	157.7	0.655	3.03	45.5	36.7	1.97	27.8	0.00			252
1	270	7.64	7.61	33.998	26.543	152.7	0.686	3.19	47.5	39.0	1.98	28.2	0.00			272
	300 ISL	7.19	7.16	34.005	26.613	146.4	0.730	2.83	41.7	44.9	2.14	30.5	0.00			302
1	325	6.88	6.85	34.012	26.661	142.0	0.767	2.40	35.1	50.3	2.31	32.8	0.00			328
1	383	6.27	6.24	34.040	26.764	132.7	0.846	1.72	24.8	61.4	2.63	36.9	0.00			386
	400 ISL	6.09	6.06	34.051	26.796	129.7	0.869	1.52	21.8	65.0	2.71	38.0	0.00			403
1	449	5.66	5.62	34.094	26.884	121.7	0.930	1.01	14.4	75.1	2.90	40.7	0.00			453
	500 ISL	5.43	5.39	34.167	26.969	114.0	0.990	0.65	9.2	82.8	3.05	42.1	0.00			504
1	519	5.35	5.31	34.194	27.000	111.2	1.012	0.52	7.3	85.7	3.11	42.6	0.00			523

LATITUDE LONGITUDE DAY/MO/YR MESSENGER

RV DAVID STARR JORDAN CALCOFI CRUISE 8705 STATION 90 33

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT TYPE
33 19.1 N	118 6.6 W	06/05/87	0816 GMT	779 M	090	08 KT			1014.5 MB	17.1 C	16.0 C	

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0	ISL	18.51	18.51	33.522	24.016	388.5	0.000	5.75	107.1	1.8	0.25	0.0	0.00	0.16	0.02	0
1	1		18.51	18.51	33.522	24.016	388.6	0.004	5.75	107.1	1.8	0.25	0.0	0.00	0.16	0.02	1
1	10		18.39	18.39	33.522	24.046	386.0	0.039	5.79	107.6	1.7	0.25	0.0	0.00	0.17	0.02	10
	20	ISL	14.61	14.61	33.449	24.862	308.6	0.073	6.38	110.2	3.2	0.31	0.0	0.00	0.19	0.05	20
1	21		14.21	14.21	33.450	24.947	300.4	0.077	6.43	110.2	3.4	0.32	0.0	0.00	0.19	0.05	21
1	30		13.47	13.47	33.422	25.078	288.2	0.103	6.22	104.9	4.2	0.44	1.0	0.09	0.65	0.17	30
1	40		12.61	12.60	33.494	25.304	266.9	0.131	5.42	89.9	6.8	0.72	5.7	0.75	0.77	0.27	40
	50	ISL	11.81	11.80	33.528	25.483	250.0	0.157	4.77	77.8	9.9	0.94	9.8	0.19	0.82	0.35	50
1	51		11.74	11.73	33.531	25.499	248.6	0.159	4.71	76.7	10.2	0.96	10.2	0.11	0.82	0.35	51
1	61		11.35	11.34				0.183									61
1	70		10.64	10.63	33.662	25.799	220.4	0.204	3.69	58.7	18.6		18.4	0.01	0.13	0.18	71
	75	ISL	10.42	10.41	33.688	25.858	214.9	0.215	3.58	56.7	19.9	1.45	19.4	0.01	0.10	0.15	76
1	84		10.18	10.17	33.730	25.932	208.0	0.234	3.46	54.5	21.6	1.59	20.5	0.01	0.05	0.10	85
1	99		9.83	9.82	33.792	26.039	198.1	0.264	3.24	50.7	24.1	1.70	22.4	0.01	0.02	0.08	100
	100	ISL	9.81	9.80	33.796	26.046	197.5	0.266	3.23	50.5	24.2	1.70	22.5	0.01	0.02	0.08	101
1	113		9.63	9.62	33.845	26.114	191.2	0.292	3.12	48.6	25.3	1.76	23.5	0.01	0.01	0.06	114
	125	ISL	9.41	9.40	33.885	26.182	185.0	0.314	3.02	46.8	27.0	1.82	24.5	0.01	0.01	0.05	126
1	135		9.22	9.21	33.916	26.237	180.0	0.332	2.94	45.4	28.6	1.87	25.3	0.01	0.01	0.05	136
	150	ISL	9.00	8.98	33.963	26.309	173.4	0.359	2.80	43.0	31.1	1.94	26.4	0.01	0.01	0.04	151
1	158		8.90	8.88	33.986	26.343	170.3	0.373	2.71	41.5	32.4	1.98	27.0	0.01	0.01	0.04	159
1	188		8.57	8.55	34.057	26.450	160.6	0.422	2.32	35.3	37.1	2.13	28.8	0.01	0.01	0.03	189
	200	ISL	8.44	8.42	34.074	26.484	157.6	0.441	2.23	33.8	39.0	2.19	29.5	0.01			202
1	216		8.29	8.27	34.093	26.521	154.2	0.466	2.12	32.1	41.2	2.26	30.3	0.01			218
1	246		8.23	8.20	34.142	26.570	150.2	0.512	1.76	26.6	44.0	2.38	31.4	0.00			248
	250	ISL	8.22	8.19	34.152	26.579	149.4	0.518	1.70	25.7	44.5	2.40	31.6	0.00			252
1	286		8.00	7.97	34.228	26.672	141.2	0.570	1.19	17.9	50.0	2.60	33.3	0.01			288
	300	ISL	7.77	7.74	34.235	26.711	137.6	0.590	1.06	15.9	52.9	2.67	34.2	0.01			302
1	340		7.10	7.07	34.238	26.809	128.5	0.643	0.80	11.8	60.9	2.83	36.7	0.00			343
1	398		6.80	6.76	34.261	26.869	123.5	0.716	0.57	8.3	66.4	2.94	38.1	0.00			401
	400	ISL	6.79	6.75	34.262	26.871	123.3	0.719	0.56	8.2	66.6	2.94	38.1	0.00			403
1	462		6.42	6.38	34.291	26.944	117.0	0.793	0.40	5.8	73.5	3.04	39.5	0.00			466
	500	ISL	6.26	6.22	34.306	26.977	114.3	0.837	0.34	4.9	76.1	3.07	40.1	0.00			504
1	531		6.15	6.10	34.318	27.001	112.4	0.872	0.30	4.3	78.1	3.09	40.5	0.00			536
1	594		5.89	5.84	34.342	27.053	108.0	0.942	0.22	3.1	83.5	3.17	40.9	0.00			599
	600	ISL	5.85	5.80	34.344	27.060	107.4	0.948	0.21	3.0	84.3	3.18	40.9	0.00			605
1	654		5.47	5.41	34.371	27.128	101.1	1.004	0.18	2.6	92.7	3.24	41.1	0.01			660
	700	ISL	5.10	5.04	34.399	27.194	95.0	1.050	0.22	3.1	100.0	3.26	42.8	0.01			706
1	703		5.08	5.02	34.401	27.198	94.6	1.052	0.22	3.1	100.4	3.26	42.9	0.01			709
1	737		5.01	4.95	34.404	27.208	93.8	1.084	0.24	3.4	102.4	3.26	43.1	0.02			744

RV DAVID STARR JORDAN CALCOFI CRUISE 8705 STATION 90 35

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT TYPE
33 15.1 N	118 15.0 W	06/05/87	0432 GMT	391 M	240	11 KT			1013.9 MB	17.4 C	15.9 C	

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
1	0		18.67	18.67	33.533	23.984	391.5	0.000	5.74	107.2	2.2	0.24	0.0	0.00	0.17	0.03	0
1	10		17.25	17.25	33.507	24.311	360.7	0.038	5.99	109.0	1.5	0.24	0.0	0.00	0.16	0.03	10
1	20		14.25	14.25	33.457	24.944	300.7	0.071	6.35	108.9	2.8	0.30	0.0	0.00	0.19	0.04	20
1	30		13.02	13.02	33.488	25.219	274.7	0.099	5.82	97.3	5.9	0.55	3.1	0.31	0.63	0.17	30
1	40		12.23	12.22	33.503	25.384	259.2	0.126	4.83	79.4	8.9	0.91	8.8	0.42	0.69	0.25	40
1	50		11.64	11.63	33.546	25.529	245.7	0.151	4.37	71.0	12.2	1.13	12.8	0.10	0.70	0.27	50
1	61		11.12	11.11	33.598	25.664	233.1	0.178	4.12	66.2	14.6	1.28	15.5	0.03	0.42	0.22	61
1	69		10.79	10.78	33.640	25.756	224.5	0.196	3.84	61.3	16.3	1.40	17.1	0.02	0.29	0.21	70
	75	ISL	10.54	10.53	33.685	25.834	217.1	0.209	3.65	57.9	18.6	1.49	18.6	0.01	0.18	0.15	76
1	79		10.39	10.38	33.715	25.884	212.5	0.218	3.54	56.0	20.1	1.55	19.6	0.01	0.11	0.11	80
1	88		10.11	10.10	33.761	25.968	204.7	0.237	3.36	52.8	21.5	1.63	21.0	0.01	0.05	0.14	89
	100	ISL	9.85	9.84	33.810	26.050	197.1	0.261	3.23	50.5	23.5	1.71	22.3	0.01	0.03	0.10	101
1	104		9.78	9.77	33.825	26.073	194.9	0.269	3.19	49.8	24.2	1.73	22.7	0.01	0.03	0.08	105
1	119		9.48	9.47	33.880	26.166	186.4	0.297	2.99	46.4	27.2	1.86	24.3	0.01	0.02	0.07	120
	125	ISL	9.39	9.38	33.901	26.198	183.5	0.308	2.92	45.2	28.2	1.90	24.9	0.01	0.02	0.07	126
1	139		9.20	9.18	33.946	26.263	177.5	0.334	2.77	42.7	30.3	1.96	26.0	0.01	0.02	0.07	140
	150	ISL	9.04	9.02	33.977	26.313	173.0	0.353	2.67	41.1	32.2	2.01	26.7	0.01	0.02	0.07	151
1	162		8.87	8.85	34.010	26.366	168.1	0.373	2.55	39.1	34.4	2.06	27.5	0.01	0.02	0.06	163
1	193		8.45	8.43	34.101	26.503	155.6	0.423	2.03	30.8	40.3	2.29	30.1	0.01			195
	200	ISL	8.37	8.35	34.117	26.528	153.4	0.434	1.92	29.1	41.6	2.34	30.6	0.01			202
1	221		8.15	8.13	34.153	26.590	147.8	0.466	1.66	25.0	45.2	2.45	31.7	0.01			223
1	250		7.95	7.92	34.175	26.637	143.8	0.508	1.47	22.1	48.6	2.54	32.8	0.01			252
1	285		7.75	7.72	34.193	26.681	140.1	0.558	1.28	19.1	51.6	2.62	33.8	0.01			287
	300	ISL	7.59	7.56	34.204	26.713	137.3	0.579	1.15	17.1	54.1	2.68	34.6	0.01			302
1	329		7.28	7.25	34.228	26.776	131.6	0.618	0.90	13.3	59.4	2.80	36.1	0.00			332
1	374		6.97	6.93	34.253	26.839	126.1	0.676	0.66	9.7	65.4	2.91	37.5	0.00			377

RV DAVID STARR JORDAN CALCOFI CRUISE 8705 STATION 90 37

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
33 11.2 N	118 23.2 W	06/05/87	0045 GMT	1204 M	280	14 KT	270 3 04	1	1012.1 MB	19.8 C	17.0 C	1/8	CI

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
2	0	18.38	18.38	33.511	24.040	386.2	0.000	5.78	107.4	1.9	0.25	0.0	0.00	0.24	0.03	0
1	10	18.02	18.02	33.516	24.132	377.8	0.038	5.81	107.2	1.8	0.25	0.0	0.00	0.24	0.03	10
1	19	15.39	15.39	33.479	24.716	322.4	0.070	6.48	113.7	2.3	0.25	0.0	0.00	0.46	0.07	19
	20 ISL	15.15	15.15	33.478	24.767	317.5	0.073	6.46	112.8	2.5	0.26	0.0	0.00	0.60	0.10	20
1	30	13.32	13.32	33.484	25.156	280.7	0.103	6.22	104.7	5.4	0.41	0.1	0.03	1.89	0.44	30
1	40	12.60	12.59	33.494	25.306	266.7	0.130	5.21	86.4	7.7	0.77	5.9	0.82	1.48	0.48	40
1	49	11.81	11.80	33.530	25.485	249.9	0.153	4.32	70.4	11.1	1.11	12.2	0.07	0.46	0.28	49
	50 ISL	11.75	11.74	33.534	25.499	248.5	0.156	4.27	69.5	11.4	1.13	12.6	0.07	0.44	0.27	50
1	60	11.28	11.27	33.581	25.622	237.1	0.180	4.01	64.6	14.0	1.27	15.2	0.02	0.21	0.17	60
2	70	10.77	10.76	33.648	25.765	223.6	0.203	3.74	59.6	16.3	1.40	17.5	0.03	0.13	0.14	71
	75 ISL	10.55	10.54	33.672	25.823	218.2	0.214	3.65	57.9	17.7	1.46	18.5	0.03	0.09	0.12	76
1	83	10.26	10.25	33.706	25.899	211.1	0.231	3.53	55.7	20.0	1.55	19.9	0.02	0.04	0.10	84
1	99	9.92	9.91	33.791	26.024	199.6	0.264	3.23	50.6	23.2	1.71	22.2	0.02	0.02	0.08	100
	100 ISL	9.90	9.89	33.795	26.030	199.0	0.266	3.22	50.4	23.4	1.72	22.3	0.02	0.02	0.08	101
1	118	9.53	9.52	33.866	26.147	188.2	0.301	2.99	46.5	26.8	1.84	24.3	0.01	0.01	0.07	119
	125 ISL	9.38	9.37	33.898	26.197	183.6	0.314	2.85	44.1	28.7	1.91	25.3	0.01	0.01	0.07	126
2	143			34.013			0.346	2.49	38.3	33.5	2.07	27.6	0.01	0.01	0.06	144
	150 ISL	8.905	8.889	34.003	26.355	169.0	0.358	2.40	36.8	34.9	2.12	28.2	0.01	0.01	0.06	151
1	172	8.57	8.55	34.077	26.466	158.8	0.394	2.18	33.2	38.3	2.23	29.5	0.01	0.00	0.06	173
	200 ISL	8.35	8.33	34.109	26.525	153.6	0.438	1.98	30.0	41.0	2.31	30.6	0.01	0.00	0.05	202
1	202	8.34	8.32	34.110	26.527	153.5	0.441	1.96	29.7	41.2	2.32	30.7	0.01	0.00	0.05	204
1	231	7.98	7.96	34.155	26.617	145.3	0.484	1.57	23.6	46.8	2.50	32.5	0.01			233
	250 ISL	7.83	7.81	34.173	26.653	142.2	0.511	1.39	20.8	49.2	2.57	33.4	0.01			252
1	270	7.71	7.68	34.187	26.682	139.7	0.540	1.25	18.7	51.3	2.63	34.1	0.01			272
	300 ISL	7.53	7.50	34.206	26.723	136.2	0.581	1.08	16.1	54.3	2.72	35.0	0.01			302
1	325	7.40	7.37	34.219	26.752	133.9	0.615	0.96	14.2	56.6	2.78	35.7	0.01			328
1	382	7.13	7.09	34.246	26.812	128.9	0.690	0.74	10.9	61.5	2.89	36.9	0.00			385
	400 ISL	7.01	6.97	34.257	26.837	126.7	0.713	0.66	9.7	63.8	2.93	37.4	0.00			403
1	448	6.66	6.62	34.285	26.907	120.5	0.772	0.46	6.7	70.2	3.04	38.9	0.00			452
	500 ISL	6.35	6.30	34.307	26.966	115.4	0.833	0.36	5.2	75.3	3.09	39.9	0.00			504
1	519	6.23	6.18	34.315	26.988	113.5	0.855	0.33	4.8	77.1	3.11	40.3	0.00			524

RV DAVID STARR JORDAN CALCOFI CRUISE 8705 STATION 90 45

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
32 55.1 N	118 56.1 W	05/05/87	1952 GMT	1761 M	280	08 KT	270 3 08	0	1014.0 MB	18.0 C	15.8 C		

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
1	0	15.99	15.99	33.569	24.650	328.1	0.000	6.11	108.5	6.4	0.39	1.3	0.04	0.72	0.10	0
1	10	15.21	15.21	33.566	24.822	312.0	0.032	6.20	108.5	6.4	0.39	1.4	0.04	0.87	0.16	10
1	20	14.60	14.60	33.565	24,953	299.8	0.063	6.19	107.0	6.5	0.41	1.9	0.06	1.10	0.22	20
1	30	12.99	12.99	33.573	25.291	267.9	0.091	5.74	96.0	8.9	0.70	6.0	0.14	1.61	0.63	30
1	40	11.57	11.56	33.631	25.607	238.0	0.116	4.71	76.4	13.4	1.15	12.8	0.50	0.86	0.49	40
1	49	11.08	11.07	33.649	25.711	228.4	0.137	4.18	67.1	16.4	1.35	16.0	0.52	0.41	0.24	49
	50 ISL	10.99	10.98	33.657	25.733	226.2	0.140	4.10	65.7	16.9	1.38	16.5	0.48	0.37	0.23	50
1	61 P	9.96	9.95	33.770	26.000	201.0	0.163	3.28	51.4	22.7	1.67	21.9	0.03	0.07	0.14	61
	75 ISL	9.50	9.49	33.828	26.122	189.7	0.190	3.07	47.7	25.8	1.81	23.4	0.02	0.05	0.14	76
1	89 P	9.34	9.33	33.866	26.177	184.6	0.217	2.87	44.4	27.8	1.86	24.9	0.02	0.03	0.15	90
	100 ISL	9.00	8.99	33.945	26.294	173.8	0.236	2.69	41.3	31.2	1.96	26.6	0.02	0.01	0.11	101
1	101 P	8.97	8.96	33.952	26.304	172.8	0.238	2.67	41.0	31.5	1.97	26.7	0.02	0.01	0.11	102
	125 ISL	8.66	8.65	34.025	26.410	163.1	0.278	2.42	36.9	35.5	2.09	28.4	0.01	0.01	0.10	126
1	132 P	8.63	8.62	34.034	26.422	162.2	0.290	2.37	36.1	36.2	2.11	28.6	0.01	0.01	0.10	133
	150 ISL	8.57	8.55	34.076	26.465	158.5	0.319	2.19	33.3	38.0	2.18	29.3	0.01			151
1	177 P	8.49	8.47	34.124	26.515	154.2	0.361	1.93	29.3	40.5	2.28	30.2	0.02			178
	200 ISL	8.27	8.25	34.148	26.567	149.6	0.396	1.72	26.0	43.4	2.37	31.2	0.02			202
1	213 P	8.13	8.11	34.158	26.596	147.0	0.415	1.61	24.3	45.2	2.43	31.8	0.02			215
1	247 P	7.79	7.77	34.188	26.671	140.4	0.464	1.32	19.7	50.7	2.58	33.5	0.01			249
	250 ISL	7.76	7.74	34.191	26.677	139.8	0.468	1.29	19.3	51.2	2.59	33.7	0.01			252
1	292 P	7.41	7.38	34.231	26.760	132.6	0.525	0.93	13.8	57.5	2.76	35.6	0.01			294
	300 ISL	7.34	7.31	34.234	26.772	131.5	0.536	0.89	13.2	58.5	2.78	35.9	0.01			302
1	358 P	6.87	6.84	34.252	26.852	124.5	0.610	0.66	9.7	65.2	2.89	37.6	0.00			361
	400 ISL	6.67	6.63	34.271	26.894	121.0	0.662	0.53	7.7	69.1	2.96	38.5	0.00			403
1	428 P	6.54	6.50	34.284	26.922	118.7	0.695	0.45	6.5	71.7	3.01	39.1	0.00			432

RV DAVID STARR JORDAN CALCOFI CRUISE 8705 STATION 90 53

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
32 39.1 N	119 29.0 W	05/05/87	1252 GMT	1297 M	300	16 KT	300 4 06	1	1013.0 MB	15.0 C	13.7 C	7/8	ST

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0	ISL	15.07	15.07	33.314	24.658	327.3	0.000	5.91	102.9	1.9	0.34	0.1	0.00	0.15	0.02	0
1	1		15.07	15.07	33.314	24.658	327.4	0.003	5.91	102.9	1.9	0.34	0.1	0.00	0.15	0.02	1
	10	ISL	15.08	15.08	33.314	24.656	327.8	0.033	5.93	103.3	1.8	0.34	0.0	0.00	0.15	0.02	10
1	11		15.08	15.08	33.314	24.656	327.9	0.036	5.93	103.3	1.8	0.34	0.0	0.00	0.15	0.02	11
1	20		14.86	14.86	33.315	24.705	323.5	0.065	5.97	103.6	1.8	0.34	0.0	0.01	0.18	0.04	20
1	30		14.80	14.80	33.312	24.716	322.7	0.098	5.97	103.4	1.8	0.35	0.0	0.01	0.24	0.07	30
1	41		14.14	14.13	33.289	24.838	311.4	0.133	5.96	101.9	2.2	0.40	0.4	0.05	0.74	0.25	41
1	50		13.05	13.04	33.310	25.076	288.9	0.160	5.59	93.4	4.1	0.61	3.9	0.23	0.73	0.35	50
1	61		12.18	12.17	33.372	25.293	268.4	0.190	5.15	84.5	6.9	0.86	8.3	0.10	0.40	0.26	61
1	70		11.50	11.49	33.434	25.468	252.0	0.214	4.70	76.1	10.3	1.07	12.1	0.05	0.23	0.18	71
	75	ISL	11.30	11.29	33.455	25.521	247.0	0.226	4.57	73.6	11.2	1.13	13.2	0.03	0.19	0.16	76
1	84		11.06	11.05	33.484	25.586	241.0	0.248	4.42	70.9	12.2	1.20	14.4	0.02	0.15	0.13	85
1	100		10.64	10.63	33.553	25.715	229.1	0.286	4.15	66.0	15.4	1.33	16.7	0.01	0.08	0.09	101
1	119		9.77	9.76	33.713	25.988	203.4	0.327	3.68	57.4	20.9	1.58	21.0	0.01	0.02	0.05	120
	125	ISL	9.58	9.57	33.766	26.061	196.5	0.339	3.49	54.2	22.8	1.66	22.3	0.01	0.02	0.05	126
1	143		9.17	9.15	33.900	26.232	180.5	0.373	2.98	45.9	28.0	1.86	25.5	0.00	0.01	0.04	144
	150	ISL	9.08	9.06	33.926	26.267	177.3	0.385	2.88	44.3	29.2	1.90	26.1	0.00	0.01	0.04	151
1	174		8.87	8.85	33.979	26.342	170.6	0.427	2.66	40.7	32.2	2.01	27.3	0.01	0.00	0.05	175
	200	ISL	8.58	8.56	34.046	26.440	161.7	0.470	2.36	35.9	36.2	2.15	29.0	0.01	0.00	0.04	202
1	203		8.54	8.52	34.053	26.452	160.7	0.475	2.32	35.3	36.7	2.17	29.2	0.01	0.00	0.04	205
1	232		8.06	8.04	34.098	26.560	150.8	0.520	2.01	30.2	42.7	2.32	31.3	0.01			234
	250	ISL	7.84	7.82	34.094	26.590	148.2	0.547	1.99	29.8	44.4	2.35	31.9	0.01			252
1	272		7.63	7.60	34.088	26.616	146.0	0.579	1.95	29.0	46.2	2.39	32.6	0.00			274
	300	ISL	7.43	7.40	34.134	26.681	140.2	0.619	1.52	22.5	51.2	2.55	34.3	0.00			302
1	327		7.27	7.24	34.190	26.748	134.2	0.657	1.06	15.7	56.5	2.73	35.9	0.00			330
1	386		6.94	6.90	34.260	26.849	125.3	0.733	0.67	9.8	64.8	2.93	37.6	0.01			389
	400	ISL	6.84	6.80	34.264	26.866	123.8	0.751	0.62	9.1	66.3	2.95	38.0	0.01			403
1	450		6.46	6.42	34.267	26.919	119.2	0.811	0.50	7.3	71.3	3.01	39.4	0.00			454
	500	ISL	6.14	6.10	34.289	26.979	114.0	0.870	0.39	5.6	77.5	3.08	40.5	0.00			504
1	519		6.02	5.97	34.298	27.001	112.0	0.891	0.35	5.0	79.8	3.11	40.9	0.00			523

RV DAVID STARR JORDAN CALCOFI CRUISE 8705 STATION 90 60

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
32 25.1 N	119 57.6 W	05/05/87	0814 GMT	862 M	310	17 KT			1014.8 MB	15.2 C	13.5 C		

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0	ISL	15.40	15.40	33.317	24.588	334.0	0.000	5.88	103.1	2.2	0.34	0.0	0.00	0.11	0.02	0
1	1		15.40	15.40	33.317	24.588	334.0	0.003	5.88	103.1	2.2	0.34	0.0	0.00	0.11	0.02	1
	10	ISL	15.39	15.39	33.316	24.590	334.1	0.033	5.89	103.3	2.4	0.36	0.0	0.00	0.11	0.02	10
1	12		15.39	15.39	33.316	24.590	334.2	0.040	5.89	103.3	2.4	0.36	0.0	0.00	0.11	0.02	12
	20	ISL	15.21	15.21	33.307	24.623	331.3	0.067	5.92	103.4	2.3	0.36	0.0	0.00	0.13	0.03	20
1	21		15.18	15.18	33.306	24.628	330.8	0.070	5.92	103.3	2.3	0.36	0.0	0.00	0.13	0.03	21
	30	ISL	15.08	15.08	33.304	24.649	329.1	0.100	5.95	103.7	2.3	0.36	0.0	0.00	0.16	0.04	30
1	31		15.06	15.06	33.304	24.653	328.7	0.103	5.95	103.6	2.3	0.36	0.0	0.00	0.17	0.04	31
1	42		14.40	14.39	33.311	24.800	315.0	0.138	6.07	104.3	2.4	0.36	0.0	0.00	0.37	0.17	42
	50	ISL	14.10	14.09	33.325	24.874	308.2	0.163	6.08	103.8	2.5	0.38	0.0	0.01	0.59	0.32	50
1	51		14.06	14.05	33.326	24.883	307.3	0.166	6.08	103.8	2.5	0.38	0.0	0.01	0.61	0.34	51
1	60		13.53	13.52	33.333	24.998	296.7	0.194	5.79	97.7	3.4	0.50	1.8	0.27	0.56	0.35	60
1	70		13.14	13.13	33.359	25.096	287.5	0.223	5.53	92.6	4.2	0.62	3.9	0.25	0.34	0.26	71
	75	ISL	12.99	12.98	33.366	25.132	284.2	0.237	5.44	90.8	4.6	0.66	4.7	0.18	0.29	0.24	76
1	84		12.62	12.61	33.376	25.212	276.8	0.262	5.26	87.1	5.8	0.74	6.4	0.04	0.23	0.20	85
1	99		11.40	11.39	33.418	25.474	252.0	0.302	4.77	77.0	10.0	1.03	11.5	0.01	0.13	0.11	100
	100	ISL	11.34	11.33	33.427	25.492	250.3	0.305	4.73	76.3	10.3	1.05	11.8	0.01	0.12	0.11	101
1	119		10.39	10.38	33.617	25.808	220.6	0.349	4.11	65.0					0.04	0.05	120
	125	ISL	10.16	10.15	33.658	25.880	213.8	0.362	3.96	62.3	17.5	1.43	18.4	0.00	0.03	0.04	126
1	144		9.60	9.58	33.768	26.060	197.1	0.401	3.54	55.0	22.9	1.65	22.2	0.00	0.01	0.03	145
	150	ISL	9.45	9.43	33.811	26.118	191.6	0.413	3.38	52.4	24.7	1.72	23.2	0.00	0.01	0.03	151
1	172		9.04	9.02	33.950	26.293	175.4	0.453	2.86	44.0	30.7	1.92	26.0	0.00	0.00	0.03	173
	200	ISL	8.78	8.76	34.015	26.385	167.1	0.501	2.55	39.0	34.7	2.06	27.7	0.00	0.00	0.03	202
1	202		8.76	8.74	34.018	26.390	166.6	0.505	2.53	38.7	34.9	2.07	27.8	0.00	0.00	0.03	204
1	231		8.36	8.34	34.100	26.517	155.0	0.551	2.06	31.2	41.1	2.27	30.2	0.00			233
	250	ISL	8.04	8.01	34.107	26.570	150.1	0.580	1.96	29.5	44.1	2.34	31.3	0.00			252
1	270		7.73	7.70	34.104	26.614	146.2	0.610	1.89	28.2	46.9	2.39	32.2	0.00			272
	300	ISL	7.51	7.48	34.140	26.674	140.9	0.653	1.55	23.0	51.1	2.52	33.7	0.00			302
1	324		7.38	7.35	34.170	26.717	137.2	0.686	1.27	18.8	54.4	2.63	34.9	0.00			327
1	382		6.80	6.76	34.180	26.805	129.3	0.764	0.94	13.7	63.3	2.82	37.4	0.00			385
	400	ISL	6.68	6.64	34.195	26.833	126.8	0.787	0.83	12.1	65.7	2.87	38.0	0.00			403
1	448		6.41	6.37	34.242	26.906	120.4	0.846	0.56	8.1	71.8	2.98	39.3	0.00			452
	500	ISL	6.08	6.04	34.270	26.971	114.7	0.907	0.41	5.9	78.2	3.06	40.6	0.00			504
1	518		5.96	5.91	34.280	26.995	112.6	0.928	0.36	5.2	80.4	3.09	41.1	0.00			522

RV DAVID STARR JORDAN CALCOFI CRUISE 8705 STATION 90 70

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT TYPE
32 5.1 N	120 38.3 W	05/05/87	0222 GMT	3924 M	330	18 KT	320 07 09	0	1014.5 MB	16.2 C	14.5 C	

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
1	0	15.63	15.63	33.283	24.511	341.3	0.000	5.84	102.8	2.3	0.36	0.0	0.00	0.08	0.01	0
1	10	15.64	15.64	33.282	24.508	341.9	0.034	5.85	103.0	2.2	0.36	0.0	0.00	0.08	0.01	10
1	20	15.57	15.57	33.279	24.522	340.9	0.068	5.86	103.1	2.4	0.36	0.0	0.00	0.08	0.01	20
	30 ISL	15.44	15.44	33.276	24.549	338.7	0.102	5.88	103.1	2.5	0.36	0.0	0.00	0.09	0.01	30
1	31	15.43	15.43	33.276	24.551	338.5	0.106	5.88	103.1	2.5	0.36	0.0	0.00	0.09	0.01	31
1	41	15.39	15.38	33.275	24.559	338.0	0.139	5.89	103.2	1.9	0.35	0.0	0.00	0.10	0.02	41
	50 ISL	14.54	14.53	33.242	24.718	323.1	0.169	6.04	104.0	1.9	0.36	0.0	0.00	0.17	0.05	50
1	52	14.32	14.31	33.236	24.760	319.2	0.176	6.07	104.1	1.9	0.36	0.0	0.00	0.19	0.06	52
1	62	13.72	13.71	33.230	24.879	308.0	0.207	5.98	101.3	2.4	0.43	0.3	0.06	0.84	0.33	62
1	71	12.84	12.83	33,270	25.087	288.4	0.234	5.47	91.0	5.0	0.67	4.6	0.21	0.49	0.26	72
	75 ISL	12.57	12.56	33.279	25.146	282.8	0.245	5.34	88.3	5.5	0.74	5.9	0.19	0.48	0.25	76
1	85	11.96	11.95	33.307	25.284	269.8	0.273	5.06	82.6	7.0	0.89	8.9	0.09	0.46	0.23	86
	100 ISL	10.77	10.76	33.439	25.603	239.7	0.311	4.46	71.0	12.9	1.22	14.7	0.02	0.16	0.14	101
1	101	10.70	10.69	33.449	25.623	237.8	0.314	4.42	70.3	13.3	1.24	15.1	0.02	0.14	0.13	102
1	121	10.03	10.02	33.592	25.850	216.5	0.359	3.97	62.3	17.4	1.48	19.2	0.01	0.04	0.05	122
	125 ISL	9.90	9.89	33.624	25.897	212.1	0.368	3.87	60.5	18.4	1.53	20.0	0.01	0.03	0.05	126
1	145	9.33	9.31	33.776	26.110	192.2	0.408	3.42	52.9	23.8	1.72	23.4	0.00	0.00	0.03	146
	150 ISL	9.22	9.20	33.805	26.150	188.4	0.417	3.34	51.5	25.2	1.76	24.0	0.00	0.00	0.03	151
1	175	8.82	8.80	33.911	26.297	175.0	0.463	3.06	46.8	31.3	1.89	26.2	0.00	0.00	0.03	176
	200 ISL	8.58	8.56	33.958	26.371	168.3	0.506	2.92	44.4	33.7	1.96	27.2	0.00	0.00	0.03	202
1	204	8.55	8.53	33.962	26.379	167.6	0.513	2.91	44.2	33.9	1.97	27.3	0.00	0.00	0.03	206
1	232	8.23	8.21	34.000	26.458	160.5	0.558	2.83	42.7	37.2	2.03	28.3	0.00			234
	250 ISL	7.96	7.93	34.013	26.509	155.9	0.587	2.74	41.1	40.1	2.09	29.2	0.00			252
1	271	7.63	7.60	34.028	26.568	150.4	0.619	2.56	38.1	44.1	2.19	30.5	0.00			273
	300 ISL	7.21	7.18	34.060	26.653	142.6	0.662	2.01	29.6	50.4	2.41	33.3	0.00			302
1	325	6.93	6.90	34.098	26.722	136.3	0.696	1.49	21.8	55.6	2.60	35.7	0.00			328
1	383	6.85	6.81	34.230	26.838	126.3	0.773	0.72	10.5	63.4	2.87	37.7	0.00			386
	400 ISL	6.74	6.70	34.247	26.866	123.8	0.794	0.62	9.1	65.8	2.92	38.3	0.00			403
1	451	6.35	6.31	34.271	26.937	117.5	0.855	0.47	6.8	72.6	3.02	39.8	0.00			455
	500 ISL	6.06	6.02	34.276	26.979	113.9	0.912	0.39	5.6	77.5	3.07	40.8	0.00			504
1	521	5.93	5.88	34.279	26.998	112.3	0.936	0.36	5.2	79.6	3.09	41.2	0.00			525

RV DAVID STARR JORDAN CALCOFI CRUISE 8705 STATION 90 80

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT TYPE
31 45.0 N	121 19.0 W	04/05/87	1958 GMT	3544 M	330	18 KT	330 08 08	0	1017.0 MB	17.1 C	15.0 C	

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
1	0	15.31	15.31	33.298	24.593	333.5	0.000	5.91	103.4	1.4	0.36	0.0	0.00	0.11	0.02	0
	10 ISL	15.21	15.21	33.295	24.613	331.9	0.033	5.92	103.4	1.3	0.36	0.0	0.00	0.12	0.03	10
1	15	15.16	15.16	33.293	24.623	331.2	0.050	5.93	103.5	1.3	0.36	0.0	0.00	0.12	0.04	15
	20 ISL	15.14	15.14	33.290	24.625	331.1	0.066	5.94	103.6	1.3	0.36	0.0	0.00	0.12	0.04	20
1	29	15.09	15.09	33.285	24.632	330.7	0.096	5.95	103.7	1.3	0.36	0.0	0.00	0.13	0.03	29
	30 ISL	15.03	15.03	33.281	24.642	329.8	0.099	5.96	103.7	1.4	0.36	0.0	0.00	0.13	0.03	30
1	39	14.31	14.30	33.265	24.784	316.5	0.129	6.08	104.3	2.1	0.38	0.1	0.02	0.24	0.07	39
1	49	13.44	13.43	33.344	25.024	293.8	0.159	6.15	103.6	2.1	0.45	0.9	0.08	0.61	0.24	49
	50 ISL	13.38	13.37	33.341	25.034	292.9	0.162	6.11	102.8	2.2	0.46	1.1	0.09	0.60	0.24	50
1	60	13.01	13.00	33.313	25.086	288.2	0.191	5.74	95.8	3.2	0.58	3.0	0.19	0.47	0.22	60
1	69	12.98	12.97	33.387	25.150	282.4	0.217	5.89	98.3	2.6	0.62	2.6	0.19	0.33	0.17	70
	75 ISL	12.72	12.71	33.398	25.209	276.8	0.234	5.71	94.8	3.9	0.71	4.1	0.30	0.25	0.17	76
1	78	12.57	12.56	33.401	25.241	273.9	0.242	5.59	92.5	4.8	0.76	5.0	0.37	0.21	0.17	79
1	93	12.10	12.09	33.455	25.373	261.6	0.282	5.38	88.2	7.7	0.93	7.9	0.53	0.12	0.14	94
	100 ISL	11.75	11.74	33.486	25.463	253.2	0.300	5.10	83.0	9.8	1.05	10.4	0.50	0.09	0.13	101
1	109	11.25	11.24	33.525	25.585	241.7	0.322	4.68	75.4	12.4	1.21	13.7	0.45	0.06	0.12	II0
1	124	10.47	10.46	33.565	25.754	225.9	0.357	4.03	63.8	15.1	1.39	17.6	0.02	0.03	0.07	125
	125 ISL	10.43	10.42	33.572	25.766	224.7	0.360	4.00	63.3	15.3	1.40	17.8	0.02	0.03	0.07	126
1	148	9.65	9.63	33.754	26.041	199.0	0.408	3.45	53.7	21.4	1.66	22.2	0.01	0.01	0.05	149
	150 ISL	9.59	9.57	33.768	26.061	197.0	0.412	3.41	53.0	22.0	1.68	22.5	0.01	0.01	0.05	151
1	173	9.01	8.99	33.906	26.263	178.2	0.455	3.05	46.8	28.5	1.87	25.7	0.01	0.00	0.05	174
	200 ISL	8.60	8.58	34.003	26.404	165.2	0.502	2.71	41.3	33.1	2.03	27.8	0.01	0.00	0.05	202
1	202	8.58	8.56	34.008	26.411	164.6	0.505	2.69	40.9	33.4	2.04	27.9	0.01	0.00	0.05	204
1	230	8.38	8.36	34.060	26.482	158.2	0.550	2.41	36.5	36.6	2.15	29.2	0.01			232
	250 ISL	8.02	7.99	34.046	26.525	154.3	0.581	2.49	37.4	38.7	2.16	29.8	0.01			252
1	270	7.65	7.62	34.031	26.568	150.4	0.612	2.54	37.8	41.2	2.19	30.6	0.00			272
	300 ISL	7.46	7.43	34.093	26.644	143.7	0.656	1.95	28.9	46.7	2.41	32.8	0.00			302
1	324	7.34	7.31	34.146	26.703	138.4	0.690	1.40	20.7	51.9	2.60	34.8	0.00			327
1	382	6.40	6.37	34.120	26.811	128.4	0.767	1.11	16.1	64.9	2.79	38.4	0.00			385
	400 ISL	6.22	6.18	34.129	26.841	125.6	0.790	1.00	14.4	68.2	2.85	39.2	0.00			403
1	448	5.87	5.83	34.168	26.916	118.8	0.849	0.70	10.0	75.6	2.99	40.9	0.00			452
	500 ISL	5.60	5.56	34.217	26.989	112.4	0.909	0.49	7.0	82.0	3.09	42.0	0.00			504
1	519	5.50	5.46	34.235	27.015	110.1	0.930	0.42	6.0	84.3	3.12	42.4	0.00			523

RV DAVID STARR JORDAN CALCOFI CRUISE 8705 STATION 90 90

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
31 25.1 N	121 59.5 W	04/05/87	1340 GMT	3733 M	350	18 KT	340 06 06	1	1017.5 MB	16.0 C	13.9 C	2/8	ST

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
1	0	15.95	15.95	33.356	24.495	342.8	0.000	5.78	102.5	1.8	0.33	0.0	0.00	0.06	0.01	0
2	10	15.95	15.95	33.355	24.495	343.1	0.034	5.78	102.5	1.8	0.33	0.0	0.00			10
1	15	15.96	15.96	33.355	24.493	343.6	0.051	5.79	102.7	1.8	0.34	0.0	0.00	0.06	0.01	15
	20 ISL	15.96	15.96	33.354	24.492	343.8	0.069	5.79	102.7	1.8	0.34	0.0	0.00	0.06	0.01	20
1	30	15.95	15.95	33.354	24.495	343.8	0.103	5.78	102.5	1.8	0.34	0.0	0.00	0.06	0.01	30
1	40	15.97	15.96	33.355	24.491	344.5	0.137	5.79	102.7	2.3	0.33	0.0	0.00	0.06	0.01	40
1	50	15.83	15.82	33.352	24.521	341.9	0.172	5.81	102.7	1.7	0.33	0.0	0.00	0.06	0.01	50
1	61	15.60	15.59	33.343	24.566	338.0	0.209	5.85	103.0	1.7	0.33	0.0	0.00	0.09	0.02	61
1	70	15.44	15.43	33.339	24.598	335.2	0.239	5.86	102.8	1.7	0.33	0.0	0.00	0.11	0.03	71
	75 ISL	15.20	15.19	33.324	24.640	331.4	0.256	5.87	102.5	1.8	0.33	0.0	0.00	0.13	0.04	76
1	80	14.91	14.90	33.311	24.693	326.4	0.273	5.88	102.1	1.9	0.34	0.0	0.00	0.16	' 0.06	81
1	94	14.03	14.02	33.336	24.898	307.1	0.317	5.72	97.6	3.0	0.42	0.8	0.10	0.38	0.19	95
	100 ISL	13.67	13.66	33.356	24.988	298.7	0.335	5.59	94.6	3.5	0.48	1.9	0.10	0.36	0.19	101
1	II0	13.19	13.17	33.390	25.112	287.2	0.364	5.39	90.4	4.4	0.59	3.9	0.11	0.33	0.20	111
1	124	12.93	12.91	33.411	25.180	281.0	0.404	5.27	87.9	5.3	0.66	5.2	0.07	0.28	0.20	125
	125 ISL	12.89	12.87	33.415	25.191	280.0	0.407	5.25	87.5	5.5	0.67	5.4	0.07	0.27	0.20	126
1	148	11.59	11.57	33.547	25.541	246.9	0.468	4.58	74.3	11.1	1.03	11.6	0.02	0.13	0.16	149
	150 ISL	11.46	11.44	33.559	25.574	243.8	0.472	4.52	73.1	11.8	1.07	12.3	0.02	0.12	0.15	151
1	173	10.04	10.02	33.704	25.937	209.5	0.525	3.88	60.9	19.6	1.47	19.2	0.00	0.02	0.06	174
	200 ISL	9.02	9.00	33.869	26.233	181.6	0.577	3.53	54.2	26.7	1.71	23.5	0.00	0.00	0.03	202
1	203	8.94	8.92	33.884	26.257	179.3	0.583	3.51	53.8	27.3	1.73	23.8	0.00	0.00	0.03	205
1	232	8.43	8.41	33.969	26.403	165.8	0.633	3.21	48.7	32.2	1.89	26.3	0.00			234
	250 ISL	8.21	8.18	34.012	26.470	159.6	0.662	2.84	42.8	36.4	2.03	28.2	0.00			252
1	270	8.02	7.99	34.056	26.534	153.9	0.693	2.37	35.6	41.2	2.20	30.3	0.00			272
	300 ISL	7.81	7.78	34.130	26.623	145.9	0.738	1.71	25.6	47.4	2.45	32.8	0.00			302
1	325	7.66	7.63	34.185	26.688	140.1	0.774	1.24	18.5	52.0	2.63	34.4	0.00			328
1	383	7.30	7.26	34.264	26.802	130.0	0.853	0.68	10.1	60.2	2.88	36.7	0.00			386
	400 ISL	7.16	7.12	34.274	26.830	127.5	0.874	0.59	8.7	62.5	2.92	37.3	0.00			403
1	449	6.75	6.71	34.290	26.899	121.4	0.935	0.44	6.4	68.7	3.01	38.7	0.00			453
	500 ISL	6.49	6.44	34.301	26.943	117.8	0.996	0.36	5.2	73.4	3.07	39.6	0.00			504
1	520	6.39	6.34	34.306	26.960	116.4	1.020	0.33	4.8	75.2	3.10	40.0	0.00			524

RV DAVID STARR JORDAN CALCOFI CRUISE 8705 STATION 90 100

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
31 5.1 N	122 39.7 W	04/05/87	0734 GMT	4210 M	350	19 KT			1017.9 MB	15.9 C	13.8 C		

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0 ISL	16.17	16.17	33.324	24.421	349.9	0.000	5.77	102.7	2.8	0.34	0.0	0.00	0.07	0.01	0
1	1	16.17	16.17	33.324	24.421	349.9	0.003	5.77	102.7	2.8	0.34	0.0	0.00	0.07	0.01	1
	10 ISL	16.18	16.18	33.323	24.418	350.5	0.035	5.77	102.7	2.8	0.35	0.0	0.00	0.08	0.01	10
1	17	16.18	16.18	33.323	24.418	350.7	0.060	5.77	102.7	2.8	0.35	0.0	0.00	0.08	0.01	17
	20 ISL	16.18	16.18	33.324	24.419	350.7	0.070	5.77	102.7	2.8	0.35	0.0	0.00	0.08	0.01	20
	30 ISL	16.18	16.18	33.326	24.421	350.9	0.105	5.77	102.7	2.8	0.35	0.0	0.00	0.07	0.01	30
1	32	16.18	16.17	33.326	24.421	350.9	0.112	5.77	102.7	2.8	0.35	0.0	0.00	0.07	0.01	32
1	41	15.81	15.80	33.339	24.515	342.2	0.143	5.84	103.2	2.9	0.34	0.0	0.00	0.08	0.02	41
	50 ISL	15.57	15.56	33.328	24.561	338.2	0.174	5.87	103.3	2.6	0.34	0.0	0.00	0.11	0.02	50
1	51	15.55	15.54	33.327	24.564	337.8	0.177	5.87	103.2	2.6	0.34	0.0	0.00	0.11	0.02	51
2	61	15.24	15.23	33.335	24.639	331.0	0.211	5.91	103.3	2.6	0.34	0.0	0.00	0.13	0.03	61
2	70	15.17	15.16	33.406	24.709	324.6	0.240	5.88	102.7	2.6	0.34	0.0	0.00	0.19	0.08	71
	75 ISL	14.95	14.94	33.393	24.747	321.1	0.256	5.87	102.0	2.7	0.35	0.0	0.00	0.25	0.12	76
2	79	14.71	14.70	33.374	24.784	317.7	0.269	5.86	101.4	2.7	0.36	0.0	0.00	0.30	0.15	80
2	94	13.49	13.48	33.377	25.041	293.5	0.315	5.45	91.9	4.7	0.57	3.5	0.12	0.40	0.26	95
	100 ISL	13.01	13.00	33.436	25.183	280.1	0.332	5.26	87.9	5.7	0.65	5.2	0.09	0.34	0.24	101
2	108	12.38	12.37	33.516	25.367	262.6	0.354	4.99	82.3	7.3	0.78	7.6	0.03	0.24	0.20	109
2	123	11.28	11.26	33.533	25.586	242.0	0.392	4.49	72.3	11.4	1.10	12.7	0.01	0.14	0.14	124
	125 ISL	11.17	11.15	33.543	25.614	239.4	0.397	4.44	71.4	12.0	1.13	13.2	0.01	0.13	0.13	126
2	148	10.20	10.18	33.695	25.902	212.2	0.449	3.97	62.5	18.2	1.42	18.3	0.00	0.03	0.05	149
	150 ISL	10.13	10.11	33.707	25.924	210.2	0.453	3.92	61.7	18.7	1.44	18.7	0.00	0.03	0.05	151
2	172	9.55	9.53	33.831	26.117	192.1	0.497	3.40	52.8	24.4	1.69	22.6	0.00	0.01	0.03	173
	200 ISL	9.19	9.17	33.970	26.285	176.7	0.549	2.83	43.7	30.1	1.93	25.9	0.00	0.00	0.03	202
2	202	9.17	9.15	33.979	26.295	175.8	0.552	2.80	43.2	30.5	1.94	26.1	0.00	0.00	0.03	204
2	230	8.74	8.72	34.068	26.433	163.1	0.600	2.46	37.6	35.9	2.12	28.3	0.00			232
	250 ISL	8.52	8.49	34.098	26.491	157.9	0.632	2.26	34.4	38.8	2.21	29.3	0.00			252
2	270	8.32	8.29	34.114	26.534	154.1	0.663	2.07	31.3	41.4	2.28	30.2	0.00			272
	300 ISL	7.93	7.90	34.134	26.609	147.4	0.708	1.79	26.8	45.7	2.43	32.1	0.00			302
2	325	7.57	7.54	34.141	26.667	142.1	0.744	1.57	23.4	49.8	2.55	33.7	0.00			328
2	383	6.65	6.61	34.130	26.785	131.0	0.824	1.19	17.3	61.8	2.75	37.3	0.00			386
	400 ISL	6.50	6.46	34.135	26.810	128.9	0.846	1.10	16.0	64.3	2.79	38.0	0.00			403
2	449	6.19	6.15	34.162	26.871	123.4	0.907	0.84	12.1	70.6	2.91	39.5	0.00			453
	500 ISL	5.91	5.87	34.209	26.944	117.0	0.969	0.57	8.2	77.3	3.04	40.8	0.00			504
2	518	5.81	5.77	34.226	26.970	114.6	0.990	0.47	6.7	79.7	3.09	41.2	0.00			522

RV DAVID STARR JORDAN CALCOFI CRUISE 8705 STATION 90 110

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
30 45.1 N	123 20.0 W	04/05/87	0112 GMT	3924 M	350	21 KT	340 08 09	1	1018.1 MB	16.9 C	14.4 C	7/8	SC

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
1	0	17.00	17.00	33.679	24.501	342.2	0.000	5.66	102.6	1.9	0.27	0.1	0.00	0.06	0.02	0
	10 ISL	17.00	17.00	33.678	24.501	342.6	0.034	5.67	102.8	1.8	0.27	0.0	0.00	0.06	0.02	10
1	16	17.00	17.00	33.678	24.501	342.8	0.055	5.67	102.8	1.8	0.27	0.0	0.00	0.06	0.02	16
	20 ISL	17.00	17.00	33.678	24.501	342.9	0.069	5.67	102.8	1.8	0.27	0.0	0.00	0.06	0.02	20
	30 ISL	16.99	16.99	33.679	24.505	343.0	0.103	5.66	102.6	1.8	0.27	0.0	0.00	0.06	0.02	30
1	35	16.99	16.98				0.120	5.66	102.6					0.06	0.02	35
	50 ISL	16.98	16.97	33.680	24.509	343.2	0.171	5.67	102.7	1.8	0.27	0.0	0.00	0.06	0.02	50
1	57	16.97	16.96	33.681	24.512	343.1	0.195	5.68	102.9	1.8	0.27	0.0	0.00	0.06	0.02	57
1	73	16.82	16.81	33.731	24.586	336.6	0.250	5.70	103.0	1.8	0.26	0.0	0.00	0.08	0.02	74
	75 ISL	16.81	16.80	33.756	24.608	334.6	0.257	5.70	103.0	1.8	0.26	0.0	0.00	0.10	0.03	76
1	81	16.79	16.78	33.831	24.670	328.9	0.276	5.68	102.6	1.9	0.25	0.0	0.00	0.16	0.04	82
1	90	16.85	16.84	33.881	24.695	326.8	0.306	5.64	102.0	1.8	0.24	0.0	0.00	0.09	0.04	91
	100 ISL	17.08	17.06	34.040	24.763	320.7	0.338	5.59	101.7	1.8	0.22	0.0	0.00	0.13	0.06	101
1	101	17.09 A	17.07	34.055	24.772	319.9	0.342	5.59	101.7	1.8	0.22	0.0	0.00	0.14	0.06	102
1	110	16.70	16.68	34.057	24.866	311.2	0.370	5.56	100.4	2.5	0.22	0.0	0.00	0.16	0.08	111
1	125	15.90	15.88	33.955	24.972	301.5	0.416	5.51	97.9	2.3	0.28	0.3	0.03	0.33	0.16	126
1	140	14.09	14.07	33.757	25.213	278.6	0.459	5.32	91.1	3.7	0.46	2.8	0.07	0.28	0.18	141
	150 ISL	13.34	13.32	33.732	25.347	265.9	0.487	5.15	86.8	4.9	0.58	4.8	0.05	0.22	0.16	151
1	160	12.76	12.74	33.736	25.466	254.8	0.513	4.99	83.1	6.4	0.70	6.9	0.02	0.15	0.14	161
1	180	11.60	11.58	33.707	25.664	236.0	0.562	4.75	77.1	10.2	0.92	10.7	0.01	0.08	0.10	181
	200 ISL	10.38	10.36	33.732	25.901	213.6	0.607	4.39	69.4	15.6	1.22	15.7	0.00	0.03	0.06	202
1	205	10.09	10.07	33.747	25.963	207.7	0.617	4.29	67.4	17.1	1.30	17.0	0.00	0.02	0.05	207
1	233	8.93	8.90	33.887	26.262	179.4	0.671	3.88	59.5	25.2	1.61	22.2	0.00			235
	250 ISL	8.57	8.54	33.934	26.355	170.8	0.701	3.75	57.0	28.3	1.70	23.7	0.00			252
1	272	8.26	8.23	33.969	26.430	163.9	0.738	3.59	54.2	31.9	1.78	25.1	0.00			274
	300 ISL	7.77	7.74	33.993	26.521	155.5	0.783	3.20	47.8	38.4	1.97	27.8	0.00			302
1	328	7.32	7.29	34.009	26.598	148.4	0.825	2.72	40.2	45.4	2.18	30.6	0.00			331
1	386	6.63	6.59	34.066	26.738	135.5	0.908	1.63	23.7	59.4	2.62	36.1	0.00			389
	400 ISL	6.47	6.43	34.072	26.764	133.1	0.926	1.47	21.3	62.3	2.69	37.0	0.00			403
1	450	5.96	5.92	34.097	26.849	125.3	0.991	1.06	15.2	71.9	2.87	39.6	0.00			454
	500 ISL	5.61	5.57	34.153	26.937	117.3	1.052	0.71	10.1	80.4	3.02	41.5	0.00			504
1	518	5.49	5.45	34.174	26.968	114.5	1.073	0.59	8.4	83.4	3.08	42.2	0.00			522

A) ALTERNATE VALUE, 17.34 DEGREES CELSIUS, NOT USED IN INTERPOLATION.

RV DAVID STARR JORDAN CALCOFI CRUISE 8705 STATION 90 120

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
30 25.0 N	123 59.9 W	03/05/87	1831 GMT	3924 M	350	21 KT	340 07 09	1	1021.3 MB	17.2 C	15.0 C	7/8	ST

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0 ISL	17.02	17.02	33.668	24.488	343.5	0.000	5.67	102.8	2.2	0.28	0.0	0.00	0.06	0.01	0
1	1	17.02	17.02	33.668	24.488	343.5	0.003	5.67	102.8	2.2	0.28	0.0	0.00	0.06	0.01	1
	10 ISL	17.01	17.01	33.667	24.490	343.6	0.034	5.66	102.6	2.2	0.29	0.0	0.00	0.06	0.01	10
1	16	17.00	17.00	33.666	24.492	343.7	0.055	5.66	102.6	2.2	0.29	0.0	0.00	0.06	0.01	16
	20 ISL	17.00	17.00	33.665	24.491	343.9	0.069	5.66	102.6	2.2	0.29	0.0	0.00	0.06	0.01	20
	30 ISL	16.98	16.98	33.666	24.497	343.7	0.103	5.67	102.7	2.2	0.29	0.0	0.00	0.06	0.00	30
1	36	16.97	16.96	33.667	24.500	343.5	0.124	5.67	102.7	2.2	0.29	0.0	0.00	0.06	0.00	36
	50 ISL	16.91	16.90	33.671	24.518	342.3	0.172	5.68	102.8	2.2	0.28	0.0	0.00	0.07	0.01	50
1	55	16.88	16.87	33.680	24.532	341.1	0.189	5.68	102.7	2.2	0.28	0.0	0.00	0.07	0.01	55
1	71	16.76	16.75	33.776	24.635	331.9	0.243	5.70	102.9	2.1	0.25	0.0	0.00	0.07	0.02	72
	75 ISL	16.90	16.89	33.879	24.681	327.7	0.256	5.67	102.7	2.1	0.24	0.0	0.00	0.07	0.02	76
2	79	17.00	16.99	33.968	24.726	323.5	0.269	5.64	102.4	2.1	0.23	0.0	0.00	0.08	0.03	80
2	90	16.56	16.55	33.890	24.770	319.7	0.304	5.61	100.9	2.2	0.25	0.0	0.00	0.11	0.04	91
2	99	16.10	16.08	33.904	24.886	308.8	0.333	5.57	99.3	2.5	0.27	0.0	0.00	0.18	0.08	100
	100 ISL	16.04	16.02	33.899	24.896	307.9	0.336	5.57	99.2	2.5	0.27	0.0	0.00	0.19	0.09	101
2	111	15.30	15.28	33.814	24.996	298.6	0.369	5.53	97.0	2.7	0.32	0.3	0.04	0.30	0.17	112
2	124	14.11	14.09	33.746	25.199	279.4	0.407	5.34	91.4	3.9	0.46	2.5	0.08	0.25	0.15	125
	125 ISL	14.07	14.05	33.747	25.208	278.6	0.409	5.33	91.2	3.9	0.47	2.6	0.08	0.25	0.15	126
2	139	13.62	13.60	33.769	25.319	268.4	0.448	5.19	88.0	4.8	0.57	4.0	0.04	0.20	0.13	140
	150 ISL	12.88	12.86	33.748	25.451	255.9	0.476	5.03	84.0	6.3	0.68	6.3	0.03	0.14	0.10	151
2	158	12.29	12.27	33.729	25.551	246.5	0.497	4.91	80.9	7.7	0.78	8.2	0.02	0.10	0.08	159
2	179	11.09	11.07	33.717	25.765	226.3	0.546	4.62	74.2	11.9	1.06	12.6	0.01	0.04	0.07	180
	200 ISL	10.22	10.20	33.750	25.943	209.6	0.592	4.30	67.8	16.5	1.29	16.6	0.01	0.02	0.04	202
2	203	10.11	10.09	33.758	25.968	207.2	0.598	4.25	66.8	17.2	1.32	17.1	0.01	0.02	0.04	205
2	232	9.10	9.07	33.867	26.219	183.5	0.655	3.87	59.5	24.4	1.59	21.7	0.01			234
	250 ISL	8.69	8.66	33.918	26.324	173.8	0.687	3.88	59.1	27.1	1.64	22.8	0.01			252
2	270	8.34	8.31	33.967	26.416	165.2	0.721	3.93	59.4	29.7	1.67	23.5	0.00			272
	300 ISL	7.85	7.82	34.058	26.561	151.8	0.768	3.67	54.9	35.0	1.81	25.7	0.00			302
2	326	7.48	7.45	34.112	26.657	143.0	0.807	3.27	48.5	40.5	1.99	28.2	0.00			329
2	384	6.70	6.66	34.054	26.719	137.3	0.888	1.86	27.1	56.7	2.54	35.2	0.00			387
	400 ISL	6.46	6.42	34.053	26.750	134.4	0.910	1.63	23.6	60.8	2.64	36.6	0.00			403
2	449	5.84	5.80	34.083	26.853	124.8	0.973	1.14	16.3	71.8	2.85	39.6	0.00			453
	500 ISL	5.64	5.60	34.153	26.933	117.7	1.035	0.75	10.7	78.9	3.00	41.1	0.00			504
2	519	5.57	5.53	34.180	26.963	115.0	1.057	0.61	8.7	81.6	3.06	41.7	0.00			523

RV DAVID STARR JORDAN CALCOFI CRUISE 8705 STATION 93 26.7

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
32 57.3 N	117 18.4 W	30/04/87	2354 GMT	68 M	280	07 KT	290 01 03	1	1016.9 MB	18.7 C	15.2 C	1/8	CI

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0 ISL	17.95	17.95	33.508	24.143	376.4	0.000	5.87	108.2	2.2	0.27	0.0	0.00	0.35	0.05	0
1	l	17.95	17.95	33.508	24.143	376.5	0.004	5.87	108.2	2.2	0.27	0.0	0.00	0.35	0.05	1
	10 ISL	16.02	16.02	33.456	24.557	337.3	0.036	6.27	111.4	2.2	0.27	0.0	0.00	0.26	0.06	10
1	11	15.71	15.71	33.451	24.623	331.0	0.039	6.33	111.8	2.2	0.27	0.0	0.00	0.25	0.06	11
	20 ISL	13.92	13.92	33.427	24.990	296.4	0.067	6.41	109.2	3.9	0.33	0.0	0.01	0.40	0.12	20
1	21	13.75	13.75	33.427	25.024	293.0	0.070	6.42	108.9	4.1	0.34	0.0	0.01	0.43	0.13	21
	30 ISL	12.97	12.97	33.447	25.197	276.8	0.096	5.89	98.4	6.2	0.55	3.1	0.26	0.84	0.28	30
1	32	12.84	12.84	33.455	25.229	273.8	0.102	5.69	94.8	6.8	0.62	4.2	0.32	0.92	0.31	32
1	42	11.77	11.76	33.529	25.491	249.1	0.128	4.32	70.4	12.1	1.15	11.6	0.44	0.81	0.43	42
	50 ISL	11.17	11.16	33.578	25.639	235.2	0.147	4.14	66.6	14.6	1.27	14.8	0.11	0.37	0.26	50
1	51	11.10	11.09	33.584	25.656	233.5	0.149	4.12	66.2	14.9	1.28	15.2	0.07	0.31	0.24	51

RV DAVID STARR JORDAN CALCOFI CRUISE 8705 STATION 93 28

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
32 54.8 N	117 23.7 W	01/05/87	0231 GMT	600 M	270	10 KT	270 02 07	1	1016.5 MB	18.1 C	14.0 C	6/8	SC

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0 ISL	16.87	16.87	33.451	24.357	356.0	0.000	5.81	104.9	2.4	0.35	0.1	0.00	0.15	0.02	0
1	1	16.87	16.87	33.451	24.357	356.1	0.004	5.81	104.9	2.4	0.35	0.1	0.00	0.15	0.02	1
	10 ISL	15.88	15.88	33.400	24.545	338.4	0.035	6.04	107.0	2.0	0.35	0.1	0.00	0.17	0.02	10
1	11	15.72	15.72	33.394	24.576	335.4	0.038	6.07	107.2	2.0	0.35	0.1	0.00	0.17	0.02	11
	20 ISL	14.79	14.79	33.375	24.766	317.6	0.068	6.08	105.3	2.3	0.36	0.0	0.00	0.21	0.04	20
1	21	14.70	14.70	33.374	24.784	315.9	0.071	6.08	105.2	2.3	0.36	0.0	0.00	0.22	0.05	21
1	30	14.23	14.23	33.366	24.878	307.2	0.099	6.21	106.4	2.4	0.38	0.1	0.00	0.37	0.13	30
1	41	13.17	13.16	33.381	25.107	285.7	0.131	5.97	100.1	3.4	0.55	2.5	0.29	0.74	0.37	41
1	50	12.21	12.20	33.445	25.344	263.4	0.156	5.02	82.5	8.2	0.89	8.5	0.13	0.41	0.34	50
1	61	11.37	11.36	33.538	25.572	241.8	0.184	4.36	70.4	12.5	1.17	13.1	0.02	0.21	0.18	61
1	70	10.90	10.89	33.615	25.717	228.2	0.205	3.95	63.2	15.9	1.35	16.2	0.02	0.12	0.17	71
	75 ISL	10.64	10.63	33.669	25.805	220.0	0.216	3.77	60.0	17.7	1.45	17.6	0.02	0.09	0.15	76
1	84	10.27	10.26	33.756	25.937	207.6	0.235	3.53	55.7	20.4	1.59	19.5	0.02	0.06	0.10	85
1	99	10.09	10.08	33.804	26.005	201.4	0.266	3.37	53.0	22.6	1.67	20.7	0.01	0.03	0.08	100
	100 ISL	10.08	10.07	33.808	26.010	201.0	0.268	3.35	52.7	22.7	1.67	20.8	0.01	0.03	0.08	101
1	119	9.93	9.92	33.885	26.096	193.2	0.306	3.04	47.7	24.8	1.75	22.5	0.01	0.01	0.06	120
	125 ISL	9.90	9.89	33.904	26.116	191.4	0.317	2.97	46.5	25.4	1.78	22.9	0.01	0.01	0.05	126
1	144	9.80	9.78	33.961	26.177	186.0	0.353	2.75	43.0	27.6	1.91	24.1	0.01	0.01	0.04	145
	150 ISL	9.74	9.72	33.983	26.205	183.5	0.364	2.66	41.5	28.6	1.96	24.6	0.02	0.01	0.04	151
1	173	9.46	9.44	34.063	26.314	173.5	0.405	2.33	36.2	32.4	2.12	26.4	0.05	0.00	0.06	174
	200 ISL	9.15	9.13	34.113	26.403	165.5	0.451	2.13	32.9	35.6	2.20	27.6	0.01	0.00	0.05	202
1	203	9.12	9.10	34.117	26.411	164.8	0.456	2.11	32.5	35.9	2.21	27.7	0.01	0.00	0.05	205
1	231	9.01	8.98	34.159	26.462	160.5	0.501	1.91	29.4	38.1	2.29	28.5	0.01			233
	250 ISL	8.79	8.76	34.174	26.509	156.3	0.532	1.77	27.1	41.0	2.36	29.3	0.01			252
1	271	8.50	8.47	34.185	26.563	151.5	0.564	1.62	24.6	44.5	2.44	30.3	0.01			273
	300 ISL	8.20	8.17	34.201	26.621	146.4	0.607	1.42	21.4	47.8	2.54	31.5	0.00			302
1	327	7.94	7.91	34.214	26.670	142.0	0.646	1.25	18.8	50.8	2.62	32.5	0.00			330
1	385	7.34	7.30	34.238	26.776	132.5	0.726	0.89	13.2	60.4	2.81	34.9	0.00			388
	400 ISL	7.17	7.13	34.246	26.807	129.8	0.745	0.80	11.8	63.0	2.86	35.6	0.00			403
1	450	6.66	6.62	34.276	26.900	121.2	0.808	0.54	7.9	70.6	3.00	37.6	0.00			454
	500 ISL	6.39	6.34	34.297	26.953	116.7	0.867	0.43	6.2	74.9	3.07	38.8	0.00			504
1	517	6.30	6.25	34.304	26.970	115.3	0.887	0.39	5.6	76.3	3.10	39.2	0.00			521

RV DAVID STARR JORDAN CALCOFI CRUISE 8705 STATION 93 30

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
32 50.8 N	117 31.9 W	01/05/87	0603 GMT	890 M	290	03 KT			1017.5 MB	16.8 C	14.0 C		

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0 ISL	16.94	16.94	33.452	24.341	357.5	0.000	5.74	103.8	1.9	0.31	0.0	0.00	0.12	0.03	0
1	1	16.94	16.94	33.452	24.341	357.5	0.004	5.74	103.8	1.9	0.31	0.0	0.00	0.12	0.03	1
	10 ISL	16.45	16.45	33.435	24.442	348.1	0.035	5.81	104.1	1.9	0.31	0.0	0.00	0.13	0.02	10
1	12	16.25	16.25	33.428	24.483	344.4	0.042	5.84	104.2	1.9	0.31	0.0	0.00	0.13	0.02	12
	20 ISL	15.26	15.26	33.393	24.678	326.1	0.069	6.00	105.0	2.0	0.33	0.0	0.00	0.15	0.04	20
1	21	15.13	15.13	33.389	24.703	323.7	0.072	6.02	105.0	2.0	0.33	0.0	0.00	0.15	0.04	21
	30 ISL	14.27	14.27	33.378	24.879	307.2	0.101	6.23	106.8	2.3	0.35	0.0	0.01	0.26	0.09	30
1	31	14.19	14.19	33.378	24.896	305.6	0.104	6.25	107.0	2.3	0.35	0.0	0.01	0.28	0.10	31
1	42	13.72	13.71	33.376	24.992	296.7	0.137	6.22	105.4	2.5	0.39	0.5	0.06	0.54	0.19	42
	50 ISL	12.99	12.98	33.418	25.171	279.8	0.160	5.56	92.9	5.2	0.65	4.6	0.32	0.61	0.37	50
1	52	12.78	12.77	33.433	25.224	274.8	0.166	5.36	89.1	6.0	0.72	5.8	0.37	0.63	0.41	52
1	62	11.89	11.88	33.517	25.460	252.6	0.192	4.69	76.6	9.9	0.99	10.5	0.04	0.39	0.28	62
1	71	11.50	11.49	33.534	25.545	244.6	0.214	4.40	71.2	12.0	1.13	12.6	0.03	0.25	0.23	72
	75 ISL	11.29	11.28	33.555	25.600	239.5	0.224	4.26	68.7	13.1	1.19	13.7	0.03	0.20	0.21	76
1	85	10.76	10.75	33.630	25.753	225.0	0.247	3.90	62.2	16.1	1.36	16.6	0.02	0.10	0.18	86
1	100	10.21	10.20	33.765	25.954	206.3	0.280	3.33	52.5	21.4	1.61	20.2	0.03	0.07	0.13	101
1	119	9.94	9.93	33.849	26.066	196.0	0.318	3.00	47.0	25.1	1.72	22.2	0.03	0.04	0.12	120
	125 ISL	9.89	9.88	33.866	26.088	194.0	0.329	2.96	46.4	25.6	1.75	22.5	0.03	0.03	0.11	126
1	145	9.72	9.70	33.911	26.151	188.4	0.368	2.87	44.8	27.1	1.83	23.4	0.02	0.02	0.08	146
	150 ISL	9.62	9.60	33.925	26.179	185.9	0.377	2.81	43.8	28.0	1.86	23.9	0.02	0.02	0.08	151
1	174	9.12	9.10				0.420	2.54	39.1	32.4	2.01	26.1	0.02	0.00	0.07	175
	200 ISL	8.92	8.90	34.061	26.399	165.8	0.464	2.38	36.5	35.0	2.09	27.2	0.02	0.01	0.06	202
1	204	8.90	8.88	34.071	26.410	164.9	0.471	2.36	36.2	35.4	2.10	27.3	0.02	0.01	0.06	206
1	232	8.62	8.60	34.127	26.498	156.9	0.516	2.06	31.4	39.5	2.24	28.8	0.01			234
	250 ISL	8.57	8.54	34.159	26.53 1	154.1	0.544	1.87	28.5	41.1	2.31	29.4	0.01			252
1	271	8.51	8.48	34.186	26.562	151.6	0.576	1.67	25.4	42.9	2.39	30.1	0.01			273
	300 ISL	8.10	8.07	34.184	26.623	146.1	0.619	1.51	22.7	47.0	2.48	31.6	0.00			302'
1	325	7.70	7.67	34.178	26.677	141.2	0.655	1.38	20.6	51.0	2.56	32.9	0.00			328
1	383	7.27	7.23	34.237	26.7 85	131.6	0.734	0.89	13.2	59.0	2.78	35.2	0.02			386
	400 ISL	7.11	7.07	34.249	26.817	128.7	0.756	0.78	11.5	61.7	2.83	35.9	0.02			403
1	448	6.67	6.63	34.277	26.900	121.3	0.816	0.53	7.7	68.8	2.96	37.6	0.00			452
	500 ISL	6.37	6.32	34.303	26.960	116.0	0.878	0.40	5.8	74.3	3.05	38.9	0.00			504
1	518	6.27	6.22	34.313	26.981	114.2	0.899	0.36	5.2	76.2	3.08	39.3	0.00			522

RV DAVID STARR JORDAN CALCOFI CRUISE 8705 STATION 93 35

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
32 40.8 N	117 52.5 W	01/05/87	0932 GMT	585 M	280	02 KT			1018.7 MB	16.0 C	13.7 C		

CAST	DEPTH M	TEMP DEC C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	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 D.BAR
	0 ISL	16.52	16.52	33.415	24.411	350.9	0.000	5.85	104.9	1.6	0.32	0.0	0.00	0.13	0.02	0
1	1	16.52	16.52	33.415	24.411	350.9	0.004	5.85	104.9	1.6	0.32	0.0	0.00	0.13	0.02	1
	10 ISL	16.51	16.51	33.414	24.413	351.0	0.035	5.93	106.3	1.5	0.33	0.0	0.00	0.13	0.02	10
1	11	16.51	16.51	33.414	24.413	351.0	0.039	5.94	106.5	1.5	0.33	0.0	0.00	0.13	0.02	11
1	20	15.45	15.45	33.364	24.614	332.2	0.069	6.03	105.9	1.6	0.34	0.0	0.00	0.14	0.03	20
1	30	14.93	14.93	33.357	24.722	322.1	0.102	6.24	108.4	1.7	0.34	0.0	0.00	0.17	0.05	30
1	40	14.31	14.30	33.352	24.851	310.1	0.134	6.28	107.7	1.7	0.35	0.0	0.00	0.25	0.08	40
1	50	13.50	13.49	33.391	25.048	291.6	0.164	6.02	101.6	3.0	0.47	1.6	0.14	0.71	0.27	50
1	60	12.53	12.52	33.450	25.286	269.1	0.192	5.02	83.1	6.8	0.81	7.4	0.18	0.55	0.33	60
1	70	11.84	11.83	33.504	25.459	252.8	0.218	4.55	74.2	9.8	1.03	11.2	0.06	0.38	0.26	71
	75 ISL	11.55	11.54	33.536	25.538	245.4	0.230	4.37	70.8	11.3	1.13	12.7	0.05	0.31	0.24	76
1	85	11.08	11.07	33.603	25.676	232.5	0.254	4.07	65.3	14.0	1.29	15.2	0.03	0.21	0.22	86
1	100	10.57	10.56	33.694	25.837	217.5	0.288	3.71	58.9	17.3	1.45	17.9	0.02	0.11	0.15	101
1	119	10.05	10.04	33.807	26.015	200.9	0.328	3.20	50.3	22.3	1.67	21.2	0.01	0.04	0.10	120
	125 ISL	9.94	9.93	33.838	26.057	196.9	0.340	3.11	48.7	23.4	1.72	21.9	0.01	0.03	0.09	126
1	144	9.62	9.60	33.920	26.175	186.1	0.376	2.93	45.6	26.5	1.83	23.6	0.01	0.01	0.08	145
	150 ISL	9.46	9.44	33.938	26.215	182.4	0.387	2.91	45.2	27.5	1.85	24.1	0.01	0.01	0.07	151
1	174	8.84	8.82	33.997	26.361	168.8	0.429	2.85	43.6	31.4	1.94	25.7	0.01	0.00	0.03	175
	200 ISL	8.54	8.52	34.049	26.449	161.0	0.472	2.57	39.1	35.4	2.07	27.4	0.01	0.00	0.03	202
1	204	8.51	8.49	34.056	26.459	160.1	0.479	2.51	38.1	36.0	2.09	27.7	0.01	0.00	0.03	206
1	232	8.22	8.20	34.110	26.546	152.2	0.522	2.04	30.8	40.8	2.29	29.7	0.01			234
	250 ISL	8.04	8.01	34.133	26.591	148.2	0.549	1.80	27.1	43.6	2.39	30.8	0.01			252
1	271	7.85	7.82	34.153	26.635	144.3	0.580	1.57	23.5	46.6	2.48	31.9	0.01			273
	300 ISL	7.65	7.62	34.179	26.685	140.0	0.621	1.33	19.8	50.4	2.59	33.1	0.00			302
1	324	7.49	7.46	34.199	26.724	136.6	0.654	1.15	17.1	53.6	2.68	34.0	0.00			327
1	383	6.96	6.92	34.255	26.842	126.0	0.732	0.66	9.7	63.5	2.90	36.5	0.00			386
	400 ISL	6.81	6.77	34.268	26.873	123.2	0.753	0.57	8.3	66.7	2.94	37.1	0.00			403
1	448	6.44	6.40	34.298	26.947	116.6	0.811	0.41	5.9	74.7	3.04	38.4	0.00			452
	500 ISL	6.15	6.11	34.320	27.002	111.9	0.870	0.33	4.8	79.4	3.11	39.4	0.00			504
1	517	6.06	6.01	34.328	27.020	110.3	0.889	0.30	4.3	81.0	3.13	39.7	0.00			521

RV DAVID STARR JORDAN CALCOFI CRUISE 8705 STATION 93 40

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
32 30.7 N	118 12.8 W	01/05/87	1242 GMT	1668 M	300	18 KT	280 03 07	1	1017.1 MB	14.9 C	12.1 C	1/8	ST

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
1	0	16.15	16.15	33.402	24.485	343.8	0.000	5.84	104.0	1.9	0.32	0.0	0.00	0.15	0.03	0
1	10	16.15	16.15	33.397	24.482	344.4	0.034	5.91	105.2	2.0	0.32	0.0	0.00	0.12	0.09	10
1	20	14.99	14.99	33.387	24.732	320.9	0.068	6.09	106.0	2.0	0.32	0.0	0.00	0.16	0.04	20
1	29	14.49	14.49	33.391	24.843	310.6	0.096	6.24	107.5	2.3	0.32	0.0	0.00	0.22	0.08	29
	30 ISL	14.42	14.42	33.392	24.858	309.1	0.099	6.23	107.2	2.3	0.32	0.2	0.02	0.25	0.09	30
1	40	13.54	13.53	33.408	25.053	290.8	0.129	5.88	99.3	3.8	0.46	1.7	0.23	0.47	0.20	40
1	49	12.47	12.46	33.429	25.281	269.3	0.154	5.12	84.6	7.4	0.79	7.1	0.32	0.40	0.34	49
	50 ISL	12.35	12.34	33.435	25.309	266.6	0.157	5.05	83.2	7.8	0.82	7.7	0.30	0.38	0.34	50
1	60	11.40	11.39	33.507	25.543	244.6	0.183	4.53	73.2	11.5	1.08	12.2	0.05	0.24	0.24	60
1	70	11.16	11.15	33.554	25.623	237.2	0.207	4.38	70.4	12.7	1.16	13.5	0.04	0.19	0.18	71
	75 ISL	11.03	11.02	33.581	25.667	233.1	0.218	4.29	68.8	13.5	1.21	14.3	0.03	0.16	0.16	76
1	84	10.78	10.77	33.631	25.751	225.3	0.239	4.10	65.4	15.2	1.30	15.9	0.02	0.11	0.13	85
1	99	10.28	10.27	33.714	25.903	211.2	0.272	3.75	59.2	19.0	1.49	18.8	0.01	0.04	0.07	100
	100 ISL	10.25	10.24	33.719	25.911	210.3	0.274	3.73	58.8	19.2	1.50	18.9	0.01	0.04	0.07	101
1	119	9.77	9.76	33.811	26.065	196.1	0.313	3.41	53.2	23.2	1.64	21.4	0.01	0.01	0.05	120
	125 ISL	9.65	9.64	33.840	26.107	192.1	0.324	3.30	51.4	24.6	1.69	22.2	0.01	0.01	0.05	126
1	143	9.32	9.30	33.919	26.223	181.5	0.358	2.99	46.2	28.9	1.85	24.3	0.01	0.00	0.04	144
	150 ISL	9.17	9.15	33.943	26.266	177.5	0.370	2.91	44.9	30.4	1.89	25.0	0.01	0.00	0.04	151
1	173	8.73	8.71	34.009	26.388	166.3	0.410	2.68	40.9	34.7	2.01	26.8	0.01	0.00	0.03	174
	200 ISL	8.39	8.37	34.065	26.484	157.5	0.454	2.36	35.8	39.2	2.15	28.6	0.01	0.00	0.03	202
1	203	8.36	8.34	34.069	26.492	156.8	0.458	2.33	35.3	39.7	2.17	28.8	0.01	0.00	0.03	205
1	231	8.10	8.08	34.094	26.551	151.6	0.502	2.06	31.0	43.4	2.28	30.2	0.01			233
	250 ISL	7.96	7.93	34.119	26.592	148.1	0.530	1.80	27.0	46.1	2.39	31.2	0.01			252
1	271	7.80	7.77	34.148	26.638	143.9	0.561	1.51	22.6	49.4	2.51	32.4	0.01			273
	300 ISL	7.47	7.44	34.175	26.707	137.7	0.601	1.20	17.8	54.9	2.65	34.0	0.00			302
1	326	7.20	7.17	34.196	26.762	132.8	0.637	0.98	14.5	59.5	2.75	35.3	0.00			329
1	385	6.97	6.93	34.247	26.835	126.7	0.713	0.68	10.0	64.8	2.90	36.6	0.01			388
	400 ISL	6.89	6.85	34.256	26.853	125.1	0.732	0.62	9.1	66.2	2.93	36.9	0.01			403
1	449	6.58	6.54	34.280	26.914	119.8	0.792	0.45	6.5	71.4	3.01	37.9	0.00			453
	500 ISL	6.23	6.19	34.307	26.981	113.9	0.852	0.34	4.9	77.8	3.10	39.2	0.00			504
1	519	6.10	6.05	34.318	27.007	111.6	0.873	0.30	4.3	80.2	3.13	39.7	0.00			523

RV DAVID STARR JORDAN CALCOFI CRUISE 8705 STATION 93 A5

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
32 20.8 N	118 33.3 W	01/05/87	1559 GMT	1297 M	350	20 KT	290 04 08	1	1018.1 MB	16.1 C	13.8 C	2/8	ST

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
1	0	14.78	14.78	33.400	24.787	315.1	0.000	6.25	108.3	2.5	0.37	0.3	0.02	0.63	0.17	0
	10 ISL	14.75	14.75	33.398	24.792	314.8	0.031	6.29	108.9	2.8	0.37	0.3	0.02	0.63	0.14	10
1	12	14.74	14.74	33.398	24.794	314.7	0.038	6.30	109.1	2.9	0.37	0.3	0.02	0.63	0.14	12
1	20	14.03	14.03	33.392	24.940	301.1	0.062	6.30	107.5	2.7	0.46	1.4	0.05	0.69	0.21	20
	30 ISL	12.63	12.63	33.395	25.223	274.3	0.091	5.77	95.6	4.8	0.71	5.1	0.22	1.00	0.35	30
1	31	12.50	12.50	33.398	25.251	271.7	0.094	5.71	94.4	5.1	0.74	5.5	0.24	1.02	0.36	31
1	41	12.03	12.02	33.456	25.386	259.1	0.120	5.41	88.6	7.4	0.90	8.1	0.27	0.67	0.30	41
	50 ISL	11.66	11.65	33.486	25.478	250.5	0.143	5.13	83.3	9.3	1.05	10.5	0.25	0.40	0.22	50
1	51	11.61	11.60	33.489	25.490	249.4	0.146	5.09	82.6	9.5	1.07	10.8	0.25	0.37	0.21	51
1	61	10.98	10.97	33.531	25.637	235.6	0.170	4.48	71.7	13.2	1.27	14.4	0.24	0.17	0.16	61
1	72	10.92	10.91	33.572	25.680	231.8	0.196	4.33	69.3	14.4	1.32	15.2	0.28	0.14	0.14	73
	75 ISL	10.76	10.75	33.608	25.736	226.5	0.203	4.13	65.8	16.1	1.39	16.4	0.26	0.15	0.14	76
1	87	10.07	10.06	33.755	25.970	204.4	0.229	3.33	52.3	22.9	1.69	21.2	0.14	0.18	0.15	88
	100 ISL	9.87	9.86	33.785	26.027	199.3	0.255	3.22	50.4	23.6	1.72	22.1	0.08	0.10	0.17	101
1	102	9.86	9.85	33.786	26.030	199.1	0.259	3.20	50.1	23.7	1.73	22.2	0.07	0.09	0.17	103
1	122	9.37	9.36	33.904	26.203	182.9	0.297	2.72	42.1	28.7	1.91	25.0	0.05	0.05	0.15	123
	125 ISL	9.33	9.32	33.913	26.217	181.7	0.302	2.69	41.6	29.2	1.93	25.2	0.05	0.04	0.18	126
1	146	9.11	9.09	33.958	26.287	175.4	0.340	2.56	39.4	31.7	2.04	26.1	0.03	0.02	0.34	147
	150 ISL	9.04	9.02	33.967	26.306	173.7	0.347	2.54	39.0	32.3	2.06	26.3	0.03	0.02	0.32	151
1	176	8.62	8.60	34.021	26.414	163.8	0.391	2.40	36.6	36.0	2.17	27.9	0.01	0.02	0.10	177
	200 ISL	8.36	8.34	34.065	26.489	157.1	0.429	2.17	32.9	39.4	2.28	29.3	0.02	0.02	0.10	202
1	205	8.31	8.29	34.073	26.503	155.8	0.437	2.11	31.9	40.3	2.31	29.6	0.02	0.02	0.10	207
1	233	7.86	7.84	34.116	26.604	146.6	0.479	1.73	25.9	47.3	2.49	31.8	0.01			235
	250 ISL	7.71	7.69	34.136	26.642	143.2	0.504	1.54	23.0	50.0	2.57	32.6	0.01			252
1	272	7.58	7.55	34.157	26.677	140.1	0.535	1.33	19.8	52.5	2.66	33.4	0.01			274
	300 ISL	7.46	7.43	34.175	26.709	137.6	0.574	1.17	17.4	54.8	2.73	34.1	0.00			302
1	326	7.35	7.32	34.188	26.735	135.5	0.610	1.06	15.7	56.9	2.77	34.7	0.00			329
1	385	6.92	6.88	34.230	26.828	127.2	0.687	0.71	10.4	65.0	2.89	36.7	0.00			388
	400 ISL	6.83	6.79	34.244	26.852	125.2	0.706	0.62	9.1	67.0	2.93	37.1	0.00			403
1	449	6.51	6.47	34.287	26.929	118.4	0.766	0.40	5.8	73.5	3.05	38.2	0.00			453
	500 ISL	6.11	6.07	34.301	26.992	112.7	0.825	0.33	4.7	80.1	3.10	39.6	0.00			504
1	520	5.95	5.90	34.307	27.017	110.5	0.847	0.30	4.3	82.7	3.12	40.1	0.00			524

RV DAVID STARR JORDAN CALCOFI CRUISE 8705 STATION 93 5O

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
32 10.8 N	118 53.5 W	01/05/87	2022 GMT	1371 M	310	20 KT	300 06 07	1	1019.0 MB	17.0 C	14.3 C	1/8	CU

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0 ISL	14.60	14.60	33.353	24.789	314.9	0.000	6.11	105.5	1.9	0.39	0.4	0.03	0.40	0.12	0
1	1	14.60	14.60	33.353	24.789	314.9	0.003	6.11	105.5	1.9	0.39	0.4	0.03	0.40	0.12	1
1	10	14.57	14.57	33.352	24.795	314.6	0.031	6.17	106.4	2.3	0.39	0.4	0.03	0.34	0.09	10
1	20	14.37	14.37	33.356	24.841	310.5	0.063	6.16	105.8	2.1	0.41	0.6	0.04	0.47	0.13	20
1	30	13.98	13.98	33.369	24.932	302.0	0.093	6.21	105.8	2.7	0.47	1.2	0.07	0.51	0.20	30
1	41	13.26	13.25	33.347	25.062	289.9	0.126	5.87	98.6	3.2	0.57	2.5	0.29	0.35	0.19	41
	50 ISL	12.84	12.83	33.339	25.140	282.8	0.152	5.64	93.9	4.5	0.67	4.4	0.32	0.31	0.20	50
1	51	12.80	12.79	33.342	25.150	281.9	0.155	5.62	93.5	4.7	0.68	4.6	0.32	0.31	0.20	51
1	60	12.60	12.59	33.459	25.280	269.8	0.179	5.64	93.5	5.9	0.76	5.6	0.28	0.30	0.18	60
1	69	12.20	12.19	33.461	25.358	262.4	0.203	5.39	88.6	6.6	0.88	7.6	0.21	0.32	0.21	70
	75 ISL	11.90	11.89	33.487	25.435	255.3	0.219	5.19	84.7	8.0	0.98	9.2	0.22	0.32	0.20	76
1	84	11.50	11.49	33.530	25.543	245.2	0.241	4.90	79.3	10.3	1.11	11.4	0.23	0.31	0.19	85
1	99	11.13	11.12	33.540	25.618	238.3	0.278	4.58	73.6	12.6	1.23	13.7	0.25	0.19	0.16	100
	100 ISL	11.12	11.11	33.544	25.623	237.9	0.280	4.56	73.2	12.8	1.24	13.8	0.26	0.20	0.16	101
1	118	10.93	10.92	33.630	25.724	228.7	0.322	4.23	67.7	15.9	1.35	15.7	0.34	0.31	0.15	119
	125 ISL	10.73	10.72	33.655	25.779	223.6	0.338	4.04	64.4	17.2	1.42	16.9	0.31	0.26	0.18	126
1	142	10.18	10.16	33.716	25.922	210.2	0.375	3.55	55.9	20.4	1.61	20.1	0.19	0.08	0.24	143
	150 ISL	9.99	9.97	33.753	25.983	204.6	0.391	3.36	52.7	22.1	1.68	21.3	0.14	0.07	0.23	151
1	171	9.52	9.50	33.859	26.144	189.6	0.433	2.91	45.2	26.8	1.86	23.9	0.04	0.05	0.21	172
	200 ISL	8.81	8.79	34.008	26.375	168.1	0.485	2.44	37.3	34.1	2.10	27.2	0.03	0.04	0.14	202
1	202	8.76	8.74	34.017	26.390	166.7	0.488	2.41	36.8	34.6	2.12	27.4	0.03	0.04	0.14	204
1	230	8.25	8.23	34.096	26.530	153.7	0.533	2.01	30.4	41.2	2.31	29.8	0.03			232
	250 ISL	7.98	7.95	34.123	26.592	148.1	0.563	1.80	27.0	44.8	2.40	31.1	0.02			252
1	268	7.79	7.76	34.137	26.631	144.6	0.589	1.63	24.4	47.7	2.47	32.0	0.01			270
	300 ISL	7.49	7.46	34.172	26.702	138.2	0.634	1.30	19.3	52.7	2.61	33.6	0.01			302
1	323	7.32	7.29	34.197	26.746	134.3	0.666	1.08	16.0	56.1	2.71	34.6	0.01			326
1	382	6.97	6.93	34.270	26.853	125.0	0.742	0.63	9.2	65.0	2.92	36.5	0.01			385
	400 ISL	6.85	6.81	34.281	26.878	122.7	0.765	0.56	8.2	67.2	2.95	36.9	0.01			403
1	449	6.55	6.51	34.298	26.932	118.1	0.824	0.44	6.4	72.3	3.02	37.9	0.00			453
	500 ISL	6.28	6.23	34.312	26.979	114.2	0.883	0.38	5.5	76.3	3.09	38.9	0.00			504
1	518	6.19	6.14	34.317	26.995	112.8	0.903	0.36	5.2	77.7	3.11	39.2	0.00			522

RV DAVID STARR JORDAN CALCOFI CRUISE 8705 STATION 93 55

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
32 0.7 N	119 14.0 W	01/05/87	2357 GMT	1668 M	300	20 KT	310 06 05	1	1017.9 MB	16.5 C	14.0 C	2/8	CI

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
1	0		15.14	15.14	33.320	24.647	328.4	0.000	6.00	104.7	2.7	0.34	0.1	0.00	0.20	0.05	0
1	9		15.15	15.15	33.317	24.643	329.0	0.030	6.07	105.9	2.7	0.35	0.1	0.00	0.20	0.05	9
	10	ISL	15.13	15.13	33.318	24.648	328.5	0.033	6.07	105.9	2.7	0.35	0.1	0.00	0.20	0.05	10
1	19		14.98	14.98	33.327	24.688	325.0	0.062	6.09	105.9	2.7	0.35	0.1	0.00	0.23	0.07	19
	20	ISL	14.88	14.88	33.330	24.712	322.8	0.066	6.10	105.9	2.8	0.36	0.2	0.00	0.27	0.08	20
1	30		13.82	13.82	33.357	24.956	299.8	0.097	6.18	105.0	3.4	0.44	1.2	0.07	0.65	0.24	30
1	40		13.42	13.41	33.363	25.042	291.8	0.126	6.05	101.9	3.6	0.51	2.1	0.13	0.64	0.31	40
1	50		12.91	12.90	33.363	25.144	282.4	0.155	5.75	95.8	4.6	0.64	3.9	0.30	0.56	0.26	50
1	61		12.59	12.58	33.385	25.224	275.0	0.186	5.57	92.2	5.7	0.74	5.6	0.39	0.40	0.22	61
1	71		12.37	12.36	33.386	25.268	271.1	0.213	5.40	89.0	6.6	0.80	6.9	0.34	0.29	0.23	72
	75	ISL	12.31	12.30	33.389	25.281	269.9	0.224	5.35	88.1	6.9	0.82	7.4	0.33	0.26	0.22	76
1	86		12.00	11.99	33.410	25.357	263.0	0.253	5.14	84.1	8.3	0.91	9.2	0.27	0.21	0.17	87
1	100		11.04	11.03	33.476	25.584	241.5	0.288	4.57	73.2	12.3	1.14	13.8	0.06	0.12	0.14	101
1	120		10.18	10.17	33.645	25.866	215.0	0.334	4.01	63.1	17.8	1.40	18.4	0.02	0.04	0.09	121
	125	ISL	10.05	10.04	33.679	25.915	210.5	0.345	3.86	60.6	19.2	1.46	19.4	0.02	0.03	0.08	126
1	145		9.61	9.59	33.792	26.077	195.5	0.385	3.34	52.0	24.5	1.68	23.0	0.01	0.01	0.05	146
	150	ISL	9.48	9.46	33.817	26.118	191.7	0.395	3.26	50.6	25.6	1.72	23.7	0.01	0.01	0.05	151
1	175		8.87	8.85	33.924	26.299	174.7	0.441	2.94	45.0	31.0	1.89	26.6	0.01	0.02	0.06	176
	200	ISL	8.43	8.41	34.009	26.434	162.3	0.483	2.59	39.3	36.7	2.06	28.8	0.01	0.02	0.07	202
1	204		8.37	8.35	34.020	26.452	160.6	0.489	2.54	38.5	37.6	2.09	29.1	0.01	0.02	0.07	206
1	232		8.04	8.02	34.077	26.547	152.0	0.533	2.19	32.9	42.9	2.22	31.0	0.01			234
	250	ISL	7.86	7.84	34.104	26.594	147.7	0.560	1.94	29.1	46.3	2.32	32.1	0.01			252
1	272		7.66	7.63	34.131	26.645	143.2	0.592	1.64	24.4	50.3	2.44	33.3	0.01			274
	300	ISL	7.43	7.40	34.159	26.700	138.3	0.631	1.35	20.0	54.9	2.57	34.7	0.01			302
1	325		7.25	7.22	34.182	26.744	134.5	0.666	1.13	16.7	58.7	2.68	35.9	0.01			328
1	380		6.87	6.83	34.244	26.846	125.5	0.737	0.70	10.3	66.4	2.88	38.0	0.00			383
	400	ISL	6.75	6.71	34.255	26.871	123.3	0.762	0.61	8.9	68.5	2.92	38.5	0.00			403
1	446		6.48	6.44	34.274	26.922	118.9	0.818	0.48	7.0	72.9	2.98	39.5	0.00			450
	500	ISL	6.17	6.13	34.305	26.988	113.2	0.880	0.36	5.2	79.0	3.06	40.6	0.00			504
1	520		6.06	6.01	34.316	27.010	111.2	0.903	0.32	4.6	81.3	3.09	41.0	0.00			524

RV DAVID STARR JORDAN CALCOFI CRUISE 8705 STATION 93 60

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
31 50.9 N	119 34.3 W	02/05/87	0319 GMT	2601 M	310	23 KT	310 06 06	1	1018.0 MB	15.1 C	13.0 C		

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0	ISL	15.56	15.56	33.298	24.538	338.7	0.000	5.87	103.2	2.2	0.34	0.1	0.00	0.10	0.03	0
1	1		15.56	15.56	33.298	24.538	338.8	0.003	5.87	103.2	2.2	0.34	0.1	0.00	0.10	0.03	1
1	9		15.56	15.56	33.297	24.537	339.1	0.031	5.94	104.5	2.0	0.34	0.1	0.00	0.11	0.04	9
	10	ISL	15.55	15.55	33.297	24.540	338.9	0.034	5.94	104.4	2.0	0.34	0.1	0.00	0.11	0.04	10
	20	ISL	15.49	15.49	33.298	24.554	337.9	0.068	5.92	104.0	2.1	0.35	0.1	0.00	0.10	0.03	20
1	21		15.48	15.48	33.298	24.556	337.6	0.071	5.92	103.9	2.1	0.35	0.1	0.00	0.10	0.03	21
1	30		15.08	15.08	33.290	24.638	330.1	0.101	6.02	104.9	2.0	0.35	0.1	0.00	0.15	0.04	30
1	40		14.53	14.52	33.241	24.719	322.7	0.134	6.04	104.0	2.0	0.36	0.1	0.00	0.15	0.05	40
1	49		14.05	14.04	33.253	24.829	312.5	0.162	6.11	104.2	2.1	0.38	0.1	0.00	0.21	0.09	49
	50	ISL	14.03	14.02	33.254	24.834	312.0	0.166	6.11	104.2	2.1	0.38	0.1	0.00	0.22	0.10	50
1	60		13.91	13.90	33.255	24.860	309.8	0.197	6.01	102.2	2.2	0.39	0.1	0.00	0.37	0.17	60
1	70		13.52	13.51	33.232	24.922	304.1	0.227	5.86	98.8	3.4	0.46	1.3	0.10	0.69	0.28	71
	75	ISL	13.14	13.13	33.226	24.994	297.4	0.242	5.71	95.6	4.2	0.55	2.8	0.09	0.62	0.26	76
1	84		12.41	12.40	33.240	25.147	282.9	0.268	5.41	89.2	5.8	0.73	6.0	0.07	0.37	0.23	85
1	100		11.68	11.67	33.358	25.376	261.4	0.312	4.99	81.0	8.7	0.94	10.0	0.03	0.21	0.19	101
1	118		10.88	10.87	33.561	25.679	232.9	0.356	4.27	68.2	13.8	1.24	15.4	0.02	0.08	0.13	119
	125	ISL	10.60	10.59	33.614	25.770	224.4	0.372	4.06	64.5	15.8	1.34	17.1	0.02	0.05	0.10	126
1	143		9.96	9.94	33.727	25.968	205.9	0.411	3.61	56.6	21.1	1.58	20.9	0.02	0.02	0.05	144
	150	ISL	9.73	9.71	33.779	26.047	198.4	0.425	3.43	53.5	23.3	1.67	22.3	0.02	0.02	0.05	151
1	172		9.14	9.12	33.924	26.257	178.8	0.467	2.94	45.3	29.7	1.89	25.8	0.01	0.02	0.04	173
	200	ISL	8.82	8.80	34.007	26.373	168.3	0.515	2.55	39.0	34.3	2.04	27.8	0.01	0.02	0.04	202
1	202		8.81	8.79	34.010	26.376	168.0	0.519	2.53	38.7	34.5	2.05	27.9	0.01	0.02	0.04	204
1	230		8.48	8.46	34.067	26.473	159.3	0.565	2.30	34.9	38.6	2.17	29.5	0.01			232
	250	ISL	8.27	8.24	34.114	26.542	153.0	0.596	1.95	29.5	42.6	2.31	30.9	0.01			252
1	269		8.07	8.04	34.154	26.603	147.4	0.624	1.61	24.2	46.5	2.44	32.3	0.00			271
	300	ISL	7.76	7.73	34.190	26.677	140.8	0.669	1.29	19.3	51.7	2.59	34.0	0.00			302
1	324		7.52	7.49	34.202	26.722	136.8	0.702	1.14	16.9	55.3	2.68	35.1	0.00			327
1	382		6.84	6.80	34.193	26.810	128.9	0.779	0.94	13.8	63.2	2.80	37.4	0.00			385
	400	ISL	6.65	6.61	34.196	26.838	126.3	0.802	0.85	12.4	66.1	2.85	38.1	0.00			403
1	446		6.25	6.21	34.216	26.906	120.2	0.859	0.61	8.8	73.1	2.98	39.8	0.00			450
	500	ISL	6.05	6.01	34.265	26.971	114.6	0.922	0.44	6.3	78.7	3.07	40.8	0.00			504
1	515		5.99	5.94	34.279	26.990	113.0	0.940	0.39	5.6	80.2	3.10	41.1	0.00			519

RV DAVID STARR JORDAN CALCOFI CRUISE 8705 STATION 93 70

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
31 30.8 N	120 14.8 W	02/05/87	0849 GMT	4018 M	330	16 KT			1019.0 MB	14.7 C	11.7 C		

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 . UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0 ISL	15.78	15.78	33.266	24.464	345.8	0.000	5.81	102.6	2.6	0.34	0.1	0.00	0.07	0.01	0
1	1	15.78	15.78	33.266	24.464	345.8	0.003	5.81	102.6	2.6	0.34	0.1	0.00	0.07	0.01	1
	10 ISL	15.79	15.79	33.265	24.462	346.3	0.035	5.86	103.5	2.6	0.35	0.1	0.00	0.08	0.01	10
1	16	15.80	15.80	33.264	24.459	346.8	0.055	5.90	104.2	2.5	0.35	0.1	0.00	0.08	0.01	16
	20 ISL	15.78	15.78	33.262	24.462	346.6	0.069	5.89	104.0	2.5	0.35	0.1	0.00	0.08	0.01	20
	30 ISL	15.63	15.63	33.253	24.489	344.4	0.104	5.87	103.3	2.4	0.35	0.1	0.00	0.07	0.01	30
1	32	15.58	15.58	33.250	24.498	343.6	0.111	5.87	103.2	2.4	0.35	0.1	0.00	0.07	0.01	32
1	41	15.23	15.22	33.232	24.561	337.8	0.141	5.96	104.1	2.4	0.35	0.1	0.00	0.09	0.01	41
	50 ISL	15.09	15.08	33.230	24.590	335.3	0.172	5.95	103.6	2.5	0.36	0.1	0.00	0.10	0.02	50
1	51	15.07	15.06	33.230	24.595	334.9	0.175	5.95	103.6	2.5	0.36	0.1	0.00	0.10	0.02	51
1	61	14.54	14.53	33.235	24.713	323.9	0.208	6.02	103.7	2.5	0.37	0.1	0.00	0.13'	0.05	61
1	71	13.93	13.92	33.216	24.826	313.4	0.240	5.98	101.7	2.6	0.38	0.1	0.00	0.37	0.17	72
	75 ISL	13.82	13.81	33.219	24.851	311.1	0.252	5.94	100.8	2.7	0.40	0.3	0.04	0.44	0.20	76
1	80	13.67	13.66	33.226	24.887	307.7	0.268	5.86	99.1	2.9	0.44	0.9	0.09	0.49	0.22	81
1	96	12.32	12.31	33.254	25.176	280.5	0.315	5.31	87.4	6.4	0.77	6.7	0.05	0.29	0.16	97
	100 ISL	11.97	11.96	33.284	25.265	272.1	0.326	5.13	83.8	7.7	0.87	8.5	0.04	0.24	0.15	101
1	II0	11.13	11.12	33.382	25.495	250.2	0.352	4.67	74.9	11.4	1.13	12.9	0.02	0.14	0.12	111
1	125	10.14	10.13	33.554	25.802	221.2	0.387	4.02	63.2	17.6	1.45	18.7	0.01	0.03	0.06	126
1	150	9.35	9.33	33.767	26.100	193.3	0.439	3.44	53.2	24.7	1.72	23.3	0.00	0.01	0.09	151
1	175	8.79	8.77	33.873	26.272	177.3	0.485	3.34	51.0	28.9	1.81	25.3	0.00	0.00	0.03	176
	200 ISL	8.36	8.34	33.945	26.395	166.0	0.528	3.37	51.0	32.4	1.86	26.1	0.00	0.01	0.02	202
1	203	8.32	8.30	33.952	26.406	164.9	0.533	3.37	51.0	32.8	1.87	26.2	0.00	0.01	0.02	205
1	233	8.03	8.01	34.010	26.496	156.9	0.582	2.82	42.4	38.3	2.05	28.9	0.00			235
	250 ISL	7.84	7.82	34.028	26.538	153.1	0.608	2.61	39.0	40.8	2.14	30.0	0.00			252
1	271	7.59	7.56	34.043	26.586	148.7	0.640	2.39	35.6	43.9	2.24	31.3	0.00			273
	300 ISL	7.22	7.19	34.064	26.655	142.5	0.682	1.98	29.2	50.0	2.41	33.5	0.00			302
1	325	6.93	6.90	34.082	26.709	137.5	0.717	1.63	23.9	55.3	2.55	35.3	0.00			328
1	382	6.53	6.50	34.128	26.800	129.5	0.793	1.08	15.7	64.1	2.79	38.1	0.00			385
	400 ISL	6.46	6.42	34.152	26.828	127.1	0.816	0.94	13.6	66.3	2.85	38.7	0.00			403
1	446	6.29	6.25	34.210	26.896	121.1	0.873	0.64	9.2	72.0	2.97	39.8	0.00			450
	500 ISL	5.86	5.82	34.231	26.968	114.7	0.937	0.46	6.6	80.1	3.07	41.2	0.00			504
1	515	5.74	5.70	34.237	26.988	112.9	0.954	0.41	5.8	82.4	3.10	41.6	0.00			519

RV DAVID STARR JORDAN CALCOFI CRUISE 8705 STATION 93 80

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
31 10.7 N	120 55.3 W	02/05/87	1406 GMT	3828 M	350	27 KT	350 06 08	1	1019.0 MB	15.0 C	11.8 C	5/8	ST

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
1	0	15.30	15.30	33.166	24.494	343.0	0.000	5.88	102.8	2.3	0.35	0.1	0.00	0.07	0.02	0
	10 ISL	15.32	15.32	33.165	24.489	343.7	0.034	5.92	103.5	2.2	0.36	0.1	0.00	0.08	0.02	10
1	15	15.33	15.33	33.165	24.487	344.1	0.052	5.94	103.9	2.2	0.36	0.1	0.00	0.08	0.02	15
	20 ISL	15.35	15.35	33.178	24.493	343.7	0.069	5.93	103.8	2.2	0.36	0.1	0.00	0.08	0.02	20
1	29	15.38	15.38	33.204	24.506	342.7	0.100	5.90	103.3	2.1	0.35	0.0	0.00	0.07	0.02	29
	30 ISL	15.38	15.38	33.214	24.514	342.0	0.103	5.90	103.3	2.1	0.35	0.0	0.00	0.07	0.02	30
1	40	15.43	15.42	33.312	24.579	336.1	0.137	5.92	103.8	2.1	0.33	0.0	0.00	0.07	0.03	40
	50 ISL	15.48	15.47	33.342	24.591	335.2	0.171	5.87	103.1	2.0	0.34	0.0	0.00	0.08	0.03	50
1	51	15.48	15.47	33.346	24.594	335.0	0.174	5.87	103.1	2.0	0.34	0.0	0.00	0.08	0.03	51
1	61	14.48	14.47	33.193	24.693	325.8	0.207	6.01	103.4	2.1	0.37	0.0	0.00	0.17	0.10	61
1	70	13.88	13.87	33.148	24.784	317.3	0.236	6.08	103.3	2.2	0.38	0.0	0.00	0.26	0.15	71
	75 ISL	13.45	13.44	33.129	24.856	310.5	0.252	6.01	101.2	2.6	0.43	0.5	0.08	0.34	0.21	76
1	79	13.11	13.10	33.121	24.918	304.7	0.264	5.92	98.9	3.0	0.48	1.1	0.14	0.40	0.26	80
1	94	12.42	12.41	33.166	25.088	288.8	0.308	5.55	91.4	4.7	0.66	4.8	0.06	0.33	0.24	95
	100 ISL	12.11	12.10	33.203	25.176	280.6	0.325	5.37	87.9	5.9	0.75	6.5	0.04	0.27	0.22	101
1	109	11.68	11.67	33.264	25.303	268.6	0.350	5.12	83.1	7.7	0.89	8.9	0.02	0.19	0.18	U0
1	124	11.21	11.19	33.346	25.453	254.5	0.389	4.82	77.5	10.0	1.03	11.6	0.02	0.13	0.13	125
	125 ISL	11.16	11.14	33.359	25.472	252.8	0.392	4.77	76.6	10.4	1.05	12.0	0.02	0.12	0.13	126
1	147	10.01	9.99	33.669	25.914	211.0	0.443	3.70	58.0	19.9	1.55	20.5	0.01	0.01	0.06	148
	150 ISL	9.88	9.86	33.694	25.955	207.1	0.449	3.71	58.0	20.6	1.56	20.7	0.01	0.01	0.06	151
1	173	9.06	9.04	33.824	26.191	185.0	0.494	3.81	58.5	24.2	1.62	22.3	0.00	0.00	0.05	174
	200 ISL	8.62	8.60	33.916	26.332	172.0	0.542	3.77	57.4	27.7	1.66	23.7	0.00	0.00	0.03	202
1	203	8.59	8.57	33.923	26.342	171.1	0.548	3.77	57.3	28.1	1.67	23.8	0.00	0.00	0.03	205
1	231	8.04	8.02	33.985	26.474	158.8	0.594	3.67	55.1	33.6	1.77	25.6	0.00			233
	250 ISL	7.79	7.77	34.007	26.529	153.9	0.624	3.23	48.3	37.9	1.94	27.9	0.00			252
1	271	7.58	7.55	34.023	26.572	150.1	0.655	2.64	39.3	42.8	2.14	30.5	0.00			273
	300 ISL	7.31	7.28	34.053	26.634	144.5	0.698	2.10	31.0	48.5	2.34	32.9	0.00			302
1	326	7.08	7.05	34.080	26.687	139.7	0.735	1.72	25.3	53.5	2.49	34.7	0.00			329
1	383	6.45	6.42	34.130	26.812	128.3	0.812	1.07	15.5	65.8	2.77	38.2	0.00			386
	400 ISL	6.30	6.26	34.145	26.843	125.4	0.833	0.93	13.4	68.8	2.83	39.0	0.00			403
1	448	5.95	5.91	34.187	26.921	118.5	0.892	0.64	9.2	76.2	2.97	40.7	0.00			452
	500 ISL	5.66	5.62	34.230	26.992	112.2	0.952	0.46	6.5	82.9	3.07	41.9	0.00			504
1	516	5.57	5.53	34.244	27.014	110.2	0.969	0.40	5.7	85.0	3.10	42.3	0.00			520

RV DAVID STARR JORDAN CALCOFI CRUISE 8705 STATION 93 90

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
30 50.8 N	121 35.A W	02/05/87	2001 GMT	4210 M	330	18 KT	340 06 07	1	1021.0 MB	17.3 C	13.7 C	4/8	ST

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0	ISL	16.28	16.28	33.337	24.406	351.3	0.000	5.75	102.6	1.9	0.33	0.0	0.00	0.05	0.02	0
1	1		16.28	16.28	33.337	24.406	351.4	0.004	5.75	102.6	1.9	0.33	0.0	0.00	0.05	0.02	1
	10	ISL	16.24	16.24	33.334	24.413	351.0	0.035	5.78	103.0	1.8	0.33	0.0	0.00	0.06	0.01	10
1	16		16.22	16.22	33.332	24.416	350.9	0.056	5.80	103.4	1.7	0.33	0.0	0.00	0.06	0.01	16
	20	ISL	16.17	16.17	33.330	24.426	350.1	0.070	5.80	103.2	1.7	0.33	0.0	0.00	0.06	0.01	20
1	30		16.04	16.04	33.321	24.449	348.2	0.105	5.81	103.2	1.7	0.33	0.0	0.00	0.06	0.01	30
1	41		15.90	15.89	33.307	24.470	346.5	0.143	5.84	103.4	1.7	0.33	0.0	0.00	0.06	0.01	41
	50	ISL	15.72	15.71	33.347	24.542	339.9	0.174	5.85	103.2	1.7	0.33	0.0	0.00	0.07	0.01	50
1	52		15.68	15.67	33.356	24.558	338.5	0.181	5.85	103.2	1.7	0.33	0.0	0.00	0.07	0.01	52
1	61		15.61	15.60	33.358	24.575	337.1	0.211	5.86	103.2	1.8	0.32	0.0	0.00	0.08	0.01	61
1	71		15.28	15.27	33.346	24.639	331.3	0.245	5.87	102.7	1.7	0.32	0.0	0.00	0.12	0.03	72
	75	ISL	15.06	15.05	33.339	24.682	327.3	0.258	5.88	102.4	1.8	0.32	0.0	0.00	0.13	0.04	76
1	79		14.82	14.81	33.336	24.731	322.7	0.271	5.89	102.1	2.0	0.33	0.0	0.00	0.15	0.05	80
1	93		14.11	14.10	33.373	24.910	306.0	0.315	5.79	98.9	2.7	0.41	0.6	0.04	0.75	0.30	94
	100	ISL	13.59	13.58	33.400	25.038	293.9	0.336	5.57	94.2	3.7	0.51	2.5	0.09	0.65	0.30	101
1	109		12.91	12.90	33.441	25.207	278.1	0.362	5.19	86.5	5.6	0.68	5.5	0.14	0.53	0.30	110
1	124		12.13	12.11	33.512	25.412	258.7	0.402	4.53	74.3	9.7	0.97	10.2	0.09	0.31	0.21	125
	125	ISL	12.09	12.07	33.522	25.428	257.3	0.405	4.46	73.1	10.1	1.00	10.6	0.09	0.30	0.21	126
1	147		11.49	11.47	33.746	25.714	230.5	0.458	2.98	48.3	18.3	1.55	18.7	0.01	0.11	0.14	148
	150	ISL	11.43	11.41	33.763	25.738	228.2	0.465	2.89	46.8	19.0	1.59	19.3	0.01	0.10	0.13	151
1	173		11.06	11.04	33.854	25.876	215.6	0.516	2.56	41.1	23.0	1.77	21.9	0.01	0.03	0.06	174
	200	ISL	10.69	10.67	33.976	26.038	200.8	0.572	2.18	34.8	27.0	1.95	24.2	0.00	0.00	0.04	202
1	202		10.66	10.64	33.984	26.049	199.7	0.576	2.16	34.4	27.2	1.96	24.3	0.00	0.00	0.04	204
1	230		10.23	10.20	34.048	26.174	188.3	0.631	2.13	33.6	29.2	2.02	25.9	0.00			232
	250	ISL	9.91	9.88	34.092	26.263	180.2	0.668	1.99	31.2	31.8	2.09	27.3	0.00			252
1	269		9.63	9.60	34.131	26.341	173.2	0.701	1.82	28.4	34.6	2.17	28.5	0.00			271
	300	ISL	9.28	9.25	34.193	26.447	163.6	0.753	1.62	25.1	38.2	2.28	29.6	0.01			302
1	324		9.00	8.96	34.226	26.518	157.2	0.792	1.49	22.9	41.0	2.36	30.4	0.01			327
1	382		8.04	8.00	34.216	26.658	144.3	0.879	1.24	18.7	49.4	2.55	33.3	0.00			385
	400	ISL	7.79	7.75	34.218	26.697	140.7	0.905	1.13	16.9	52.4	2.61	34.2	0.00			403
1	448		7.19	7.15	34.232	26.793	131.8	0.970	0.84	12.4	60.5	2.76	36.5	0.00			452
	500	ISL	6.63	6.58	34.259	26.892	122.8	1.036	0.58	8.4	69.1	2.91	38.8	0.00			504
1	519		6.42	6.37	34.270	26.928	119.4	1.059	0.48	7.0	72.2	2.96	39.6	0.00			523

RV DAVID STARR JORDAN CALCOFI CRUISE 8705 STATION 93 100

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
30 30.8 N	122 15.5 W	03/05/87	0142 GMT	4305 M	340	19 KT	350 07 07	1	1019.5 MB	16.6 C	13.5 C	6/8	CU

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0	ISL	16.38	16.38	33.333	24.380	353.8	0.000	5.75	102.8	2.0	0.33	0.0	0.00	0.07	0.02	0
1	1		16.38	16.38	33.333	24.380	353.8	0.004	5.75	102.8	2.0	0.33	0.0	0.00	0.07	0.02	1
	10	ISL	16.39	16.39	33.331	24.376	354.5	0.035	5.78	103.3	1.9	0.33	0.0	0.00	0.07	0.02	10
1	16		16.40	16.40	33.330	24.374	354.9	0.057	5.81	103.9	1.8	0.33	0.0	0.00	0.07	0.02	16
	20	ISL	16.30	16.30	33.322	24.390	353.5	0.071	5.82	103.9	1.8	0.33	0.0	0.00	0.07	0.02	20
	30	ISL	15.99	15.99	33.304	24.448	348.4	0.106	5.85	103.8	1.8	0.32	0.0	0.00	0.07	0.02	30
1	32		15.92	15.91	33.301	24.461	347.1	0.113	5.85	103.6	1.8	0.32	0.0	0.00	0.07	0.02	32
1	42		15.70	15.69	33.309	24.517	342.1	0.147	5.88	103.7	1.7	0.32	0.0	0.00	0.08	0.02	42
	50	ISL	15.66	15.65	33.350	24.557	338.5	0.175	5.88	103.6	1.7	0.32	0.0	0.00	0.08	0.02	50
1	51		15.65	15.64	33.357	24.565	337.8	0.178	5.88	103.6	1.7	0.32	0.0	0.00	0.08	0.02	51
1	61		14.89	14.88	33.262	24.659	329.1	0.211	5.98	103.7	1.6	0.34	0.0	0.00	0.12	0.05	61
1	72		15.04	15.03	33.372	24.711	324.4	0.247	5.89	102.6	1.6	0.32	0.0	0.00	0.14	0.07	73
	75	ISL	15.19	15.18	33.449	24.738	322.0	0.257	5.84	102.0	1.6	0.30	0.0	0.00	0.18	0.10	76
1	80		15.35	15.34	33.558	24.787	317.5	0.273	5.76	101.0	1.7	0.29	0.0	0.01	0.26	0.15	81
1	95		13.88	13.87	33.351	24.941	303.1	0.319	5.65	96.1	3.0	0.45	1.4	0.16	0.33	0.26	96
	100	ISL	13.38	13.37	33.359	25.049	292.8	0.334	5.44	91.6	4.1	0.56	3.3	0.14	0.31	0.29	101
1	111		12.42	12.41	33.427	25.291	269.9	0.365	5.00	82.5	6.6	0.79	7.7	0.05	0.24	0.35	112
1	125		11.69	11.67	33.477	25.468	253.4	0.402	4.92	80.0	8.1	0.87	9.7	0.02	0.13	0.15	126
1	150		10.60	10.58	33.687	25.827	219.5	0.461	4.54	72.1	12.7	1.09	14.2	0.01	0.03	0.06	151
1	174		9.95	9.93	33.747	25.986	204.8	0.512	4.47	70.0	15.5	1.21	16.5	0.00	0.02	0.05	175
	200	ISL	9.16	9.14	33.855	26.200	184.8	0.563	3.98	61.3	23.4	1.48	21.2	0.00	0.00	0.03	202
1	203		9.08	9.06	33.869	26.224	182.6	0.568	3.90	60.0	24.5	1.52	21.8	0.00	0.00	0.03	205
1	231		8.73	8.71	33.991	26.375	168.6	0.617	2.80	42.7	33.1	1.92	27.2	0.00			233
	250	ISL	8.45	8.42	34.032	26.450	161.7	0.649	2.54	38.5	36.9	2.04	28.8	0.00			252
1	270		8.16	8.13	34.058	26.514	155.8	0.680	2.42	36.5	40.1	2.12	29.8	0.00			272
	300	ISL	7.84	7.81	34.096	26.592	148.9	0.726	2.06	30.8	45.1	2.27	31.6	0.00			302
1	325		7.61	7.58	34.122	26.646	144.0	0.763	1.75	26.1	49.2	2.39	33.1	0.00			328
1	382		7.10	7.06	34.181	26.765	133.4	0.842	1.06	15.6	58.5	2.66	36.5	0.00			385
	400	ISL	6.95	6.91	34.192	26.794	130.7	0.866	0.94	13.8	61.1	2.72	37.1	0.00			403
1	447		6.61	6.57	34.221	26.864	124.6	0.926	0.71	10.3	67.2	2.85	38.4	0.00			451
	500	ISL	6.38	6.33	34.276	26.938	118.2	0.990	0.48	6.9	72.6	2.95	39.8	0.00			504
1	517		6.31	6.26	34.294	26.961	116.1	1.010	0.41	5.9	74.3	2.98	40.2	0.00			521

RV DAVID STARR JORDAN CALCOFI CRUISE 8705 STATION 93 110

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
30 10.9 N	122 55.3 W	03/05/87	0720 GMT	3828 M	350	20 KT			1021.1 MB	15.9 C	13.2 C		

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0 ISL	16.32	16.32	33.384	24.433	348.8	0.000	5.77	103.1	2.3	0.33	0.1	0.00	0.06	0.01	0
1	1	16.32	16.32	33.384	24.433	348.8	0.003	5.77	103.1	2.3	0.33	0.1	0.00	0.06	0.01	1
	10 ISL	16.33	16.33	33.384	24.431	349.3	0.035	5.78	103.2	2.2	0.34	0.1	0.00	0.07	0.01	10
1	16	16.33	16.33	33.384	24.431	349.5	0.056	5.79	103.4	2.2	0.34	0.1	0.00	0.07	0.01	16
	20 ISL	16.32	16.32	33.384	24.434	349.4	0.070	5.79	103.4	2.2	0.34	0.1	0.00	0.07	0.01	20
1	30	16.31	16.31	33.384	24.436	349.4	0.105	5.80	103.6	2.2	0.34	0.1	0.00	0.07	0.02	30
1	41	15.82	15.81	33.361	24.530	340.8	0.143	5.88	104.0	2.1	0.34	0.1	0.00	0.07	0.02	41
1	50	15.74	15.73	33.362	24.549	339.3	0.173	5.88	103.8	2.0	0.34	0.1	0.00	0.08	0.02	50
1	61	15.56	15.55	33.337	24.570	337.6	0.211	5.88	103.4	1.8	0.35	0.1	0.01	0.10	0.03	61
1	70	15.12	15.11	33.301	24.639	331.2	0.241	5.90	102.8	1.8	0.35	0.1	0.00	0.13	0.06	71
	75 ISL	14.96	14.95	33.303	24.676	327.9	0.257	5.91	102.7	2.0	0.36	0.1	0.00	0.17'	0.09	76
1	79	14.85	14.84	33.309	24.704	325.3	0.270	5.91	102.5	2.1	0.36	0.1	0.00	0.21	0.12	80
1	95	14.53	14.52	33.308	24.772	319.2	0.322	5.88	101.3	2.0	0.37	0.1	0.00	0.32	0.19	96
	100 ISL	14.45	14.44	33.331	24.807	316.1	0.338	5.82	100.1	2.2	0.38	0.5	0.08	0.32	0.23	101
1	110	14.03	14.01	33.358	24.916	305.9	0.369	5.64	96.2	2.6	0.46	1.4	0.20	0.33	0.28	HI
1	124	12.29	12.27	33.276	25.199	279.0	0.410	5.29	87.0	5.9	0.77	6.8	0.03	0.21	0.23	125
	125 ISL	12.19	12.17	33.279	25.220	277.0	0.412	5.26	86.3	6.2	0.79	7.2	0.03	0.20	0.22	126
1	149	10.47	10.45	33.466	25.677	233.7	0.474	4.45	70.4	14.3	1.28	15.5	0.01	0.04	0.08	150
	150 ISL	10.43	10.41	33.476	25.692	232.3	0.476	4.43	70.0	14.6	1.29	15.7	0.01	0.04	0.08	151
1	174	9.68	9.66	33.689	25.985	204.8	0.529	3.98	62.0	20.1	1.51	20.0	0.01	0.01	0.08	175
	200 ISL	9.03	9.01	33.826	26.198	184.9	0.579	3.41	52.4	26.3	1.79	24.4	0.01	0.00	0.04	202
1	204	8.95	8.93	33.841	26.222	182.6	0.587	3.34	51.2	27.2	1.83	24.9	0.01	0.00	0.03	206
1	232	8.49	8.47	33.919	26.355	170.4	0.636	3.21	48.7	31.3	1.91	26.5	0.01			234
	250 ISL	8.19	8.16	33.964	26.436	162.9	0.666	3.01	45.4	35.0	2.01	27.9	0.01			252
1	272	7.85	7.82	34.010	26.522	154.9	0.701	2.71	40.5	39.7	2.14	29.7	0.00			274
	300 ISL	7.50	7.47	34.034	26.592	148.6	0.743	2.37	35.2	44.8	2.29	31.7	0.00			302
1	327	7.22	7.19	34.048	26.643	144.1	0.783	2.04	30.1	49.6	2.43	33.5	0.00			330
1	384	6.70	6.66	34.109	26.762	133.2	0.862	1.25	18.2	61.0	2.75	37.2	0.00			387
	400 ISL	6.50	6.46	34.106	26.787	131.0	0.883	1.17	17.0	63.6	2.79	38.0	0.00			403
1	449	5.91	5.87	34.097	26.855	124.7	0.946	1.04	14.9	71.4	2.89	39.9	0.00			453
	500 ISL	5.56	5.52	34.150	26.940	116.9	1.007	0.71	10.1	80.3	3.04	41.7	0.00			504
1	518	5.44	5.40	34.169	26.970	114.2	1.028	0.59	8.3	83.5	3.09	42.3	0.00			522

RV DAVID STARR JORDAN CALCOFI CRUISE 8705 STATION 93 120

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
29 50.7 N	123 35.3 W	03/05/87	1245 GMT	4114 M	360	20 KT			1020.5 MB	15.9 C	13.0 C		

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0 ISL	16.74	16.74	33.489	24.417	350.3	0.000	5.67	102.1	1.7	0.29	0.0	0.00	0.06	0.01	0
1	1	16.74	16.74	33.489	24.417	350.4	0.004	5.67	102.1	1.7	0.29	0.0	0.00	0.06	0.01	1
	10 ISL	16.75	16.75	33.489	24.415	350.8	0.035	5.75	103.6	1.7	0.29	0.0	0.00	0.05	0.01	10
1	16	16.76	16.76	33.489	24.412	351.2	0.056	5.80	104.5	1.7	0.29	0.0	0.00	0.05	0.01	16
	20 ISL	16.75	16.75	33.488	24.414	351.2	0.070	5.78	104.1	1.7	0.29	0.0	0.00	0.05	0.01	20
	30 ISL	16.74	16.74	33.487	24.416	351.4	0.105	5.72	103.0	1.7	0.30	0.0	0.00	0.05	0.01	30
1	32	16.74	16.73	33.487	24.416	351.5	0.112	5.71	102.9	1.7	0.30	0.0	0.00	0.05	0.01	32
1	42	16.78	16.77	33.484	24.405	352.8	0.148	5.79	104.4	1.8	0.29	0.0	0.00	0.05	0.01	42
	50 ISL	16.84	16.83	33.522	24.420	351.6	0.176	5.74	103.6	2.3	0.28	0.0	0.00	0.07	0.01	50
1	52	16.85	16.84	33.532	24.426	351.2	0.183	5.73	103.5	2.4	0.28	0.0	0.00	0.07	0.01	52
1	62	16.88	16.87	33.644	24.505	344.0	0.218	5.76	104.1	2.4	0.26	0.0	0.00	0.07	0.02	62
1	71	16.80	16.79	33.639	24.520	342.8	0.248	5.72	103.2	2.0	0.26	0.0	0.00	0.07	0.01	72
	75 ISL	16.77	16.76	33.635	24.524	342.5	0.262	5.71	103.0	1.9	0.26	0.0	0.00	0.07	0.01	76
1	82	16.70	16.69	33.626	24.534	341.8	0.286	5.70	102.7	1.8	0.27	0.0	0.00	0.08	0.02	83
1	96	16.48	16.46	33.605	24.569	338.9	0.334	5.68	101.9	1.7	0.28	0.0	0.00	0.11	0.05	97
	100 ISL	16.55	16.53	33.639	24.580	338.1	0.347	5.67	101.8	1.7	0.28	0.0	0.00	0.11	0.05	101
1	111	16.75	16.73	33.752	24.620	334.6	0.384	5.65	101.9	1.8	0.26	0.0	0.00	0.11	0.06	112
	125 ISL	16.46	16.44	33.824	24.743	323.4	0.430	5.58	100.1	1.9	0.26	0.0	0.00	0.21	0.18	126
1	126	16.44	16.42	33.834	24.756	322.2	0.434	5.57	99.9	1.9	0.26	0.0	0.00	0.22	0.19	127
	150 ISL	13.87	13.85	33.738	25.244	275.9	0.505	5.22	88.9	4.6	0.52	3.6	0.05	0.14	0.20	151
1	151	13.74	13.72	33.733	25.267	273.7	0.508	5.20	88.3	4.8	0.54	3.8	0.05	0.14	0.20	152
1	176	11.83	11.81	33.686	25.605	241.6	0.572	4.77	77.8	9.3	0.89	10.2	0.01	0.06	0.08	177
	200 ISL	10.26	10.24	33.734	25.924	211.4	0.627	4.50	71.0	14.5	1.19	15.5	0.01	0.02	0.04	202
1	204	10.04	10.02	33.748	25.972	206.8	0.635	4.46	70.0	15.4	1.24	16.3	0.01	0.01	0.03	206
1	232	9.14	9.11	33.854	26.203	185.1	0.690	4.13	63.6	22.0	1.51	20.6	0.00			234
	250 ISL	8.75	8.72	33.909	26.307	175.4	0.723	4.07	62.1	25.4	1.58	21.9	0.00			252
1	270 '	8.42	8.39	33.953	26.393	167.5	0.757	4.02	60.9	28.7	1.63	23.0	0.00			272
	300 ISL	7.96	7.93	33.978	26.482	159.3	0.806	3.72	55.8	33.5	1.78	25.4	0.00			302
1	323	7.64	7.61	33.985	26.534	154.6	0.842	3.37	50.2	37.6	1.93	27.5	0.00			326
1	376	6.97	6.93	34.032	26.665	142.5	0.921	2.14	31.4	51.4	2.41	33.5	0.00			379
	400 ISL	6.75	6.71	34.055	26.713	138.1	0.954	1.79	26.1	55.8	2.54	35.1	0.00			403
1	433	6.50	6.46	34.085	26.771	133.0	0.999	1.44	20.9	60.8	2.67	36.8	0.00			437
1	491	6.06	6.02	34.128	26.862	124.8	1.074	0.97	13.9	69.5	2.87	39.2	0.00			495
	500 ISL	6.00	5.96	34.134	26.874	123.7	1.085	0.93	13.3							504

DAVID STARR JORDAN — CALCOFI CRUISE 8705 — STATION 77 55

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	SECCHI DEPTH	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
34 53.3 N	121 11.9 W	13/ 5/87	1945 GMT	11 M	1201 - 1925 +08	1201 +08	1924 +08	726.9 MG C/M2

DEPTH M	TEMP DEG C	SALINITY	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 (MG C/M3) 1	2	MEAN	DARK
0	14.28	33.622	25.064	6.39	109.7	7.3	0.45	1.9	0.03	1.01	0.17	99.	39.2	38.9	39.0	0.77
7	14.19	33.621	25.083	6.38	109.4	8.6	0.47	2.0	0.03	0.82	0.16	38.	33.4	35.0	34.2	0.80
12	14.14	33.618	25.091	6.30	107.9	8.9	0.54	2.3	0.03	1.48*	1.18*	19.	39.4	39.4	39.4	1.1
21	13.70	33.612	25.178	6.23	105.7	9.7	0.60	4.0	0.04	0.58	0.32	5.1	9.8	8.4	9.1	0.39
35	12.17	33.614	25.482	5.08	83.5	11.9	1.06	10.2	0.38	0.30	0.22	0.90	0.28	0.39	0.34	0.22
46	11.43	33.605	25.613	4.73	76.5	13.5	1.23	13.0	0.50	0.40	0.48	0.20	0.12	0.08	0.10	0.18

*DOLIOLIDS PRESENT IN SAMPLE. AMBER COLORED ACETONE EXTRACT.

RV DAVID STARR JORDAN — CALCOFI CRUISE 8705 — STATION 77 100

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	SECCHI DEPTH	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
33 23.3 N	124 19.4 W	12/ 5/87	1850 GMT	31 M	1210 - 1930 +08	1213 +08	1930 +08	79.2 MG C/M2

DEPTH M	TEMP DEG C	SALINITY	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 (MG C/M3) 1	2	MEAN	DARK
1	15.60	33.169	24.430	5.84	102.7	1.8	0.34	0.0	0.00	0.06	0.02	99.	0.97	0.75	0.86	0.14
21	15.55	33.167	24.440	5.82	102.3	1.8	0.34	0.0	0.00	0.06	0.01	38.	1.1	0.97	1.1	0.13
36	15.52	33.160	24.442	5.83	102.4	1.8	0.34	0.0	0.00	0.07	0.01	19.	1.2	1.0	1.1	0.15
62	15.09	33.193	24.562	5.92	103.1	1.8	0.34	0.0	0.00	0.13	0.03	5.1	0.56	0.55	0.56	0.17
96	14.92	33.401	24.760	5.83	101.3	2.8	0.31	0.0	0.00	0.18	0.20	0.90	0.32	0.25	0.28	0.09
128	13.02	33.433	25.179	5.48	91.6	4.8	0.55	3.5	0.20	0.28	0.22	0.20	0.16	0.08	0.12	0.11

RV DAVID STARR JORDAN — CALCOFI CRUISE 8705 — STATION 80 70

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	SECCHI DEPTH	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
33 49.0 N	121 50.6 W	11/ 5/87	1931 GMT	22 M	1203 - 1927 +08	1203 +08	1927 +08	565.2 MG C/M2

DEPTH M	TEMP DEG C	SALINITY	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 (MG C/M3) 1	2	MEAN	DARK
1	13.20	33.281	25.022	6.19	103.8	6.2	0.67	4.1	0.12	0.67	0.22	99.	12.0	12.3	12.2	0.18
14	13.19	33.286	25.029	6.19	103.7	6.0	0.68	4.1	0.12	1.02	0.40	38.	14.5	17.3	15.9	0.19
24	13.14	33.288	25.040	6.18	103.5	5.9	0.69	4.2	0.12	1.05	0.40	19.	14.8	16.6	15.7	0.24
45	12.70	33.566 U	25.343 U	5.70	94.7	8.4	0.92	7.6	0.17	0.21	0.23	5.1	2.3	1.8	2.1	0.16
69	10.07	33.548	25.808	3.88	60.9	18.4	1.54	19.6	0.08	0.20	0.31	0.90	0.03	0.00	0.01	0.34
90	9.55	33.744	26.048	3.30	51.3	26.5	1.82	24.1	0.03	0.10	0.30	0.20	0.01	0.00	0.00	0.14

RV DAVID STARR JORDAN — CALCOFI CRUISE 8705 — STATION 83 42

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	SECCHI DEPTH	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
34 10.7 N	119 30.5 W	10/ 5/87	1925 GMT	16 M	1155 - 1919 +08	1155 +08	1920 +08	689.3 MG C/M2

DEPTH M	TEMP DEG C	SALINITY	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 (MG C/M3) 1	2	MEAN	DARK
0	17.28	33.536	24.325	6.05	110.2	4.5	0.26	0.1	0.00	0.55	0.07	99.	17.0	18.1	17.5	0.36
9	16.61	33.524	24.474	6.13	110.2	4.5	0.26	0.1	0.00	0.51	0.09	38.	18.8	19.6	19.2	0.48
16	16.10	33.516	24.585	6.27	111.6	4.6	0.29	0.1	0.00	0.89	0.18	19.	21.5	21.8	21.7	0.45
30	12.99	33.507	25.240	5.18	86.6	8.5	0.77	3.9	0.76	1.11	0.60	5.1	12.7	12.2	12.5	0.30
50	11.84	33.527	25.477	4.36	71.1	11.8	1.13	11.9	0.22	0.44	0.39	0.90	0.95	0.85	0.90	0.17
66	10.68	33.648	25.781	3.75	59.7	17.9	1.45	18.0	0.02	0.09	0.15	0.20	0.03	0.06	0.05	0.09

RV DAVID STARR JORDAN — CALCOFI CRUISE 8705 — STATION 83 80

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	SECCHI DEPTH	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
32 54.7 N	122 7.7 W	9/ 5/87	1927 GMT	25 M	1206 - 1918 +08	1206 +08	1917 +08	415.7 MG C/M2

DEPTH M	TEMP DEG C	SALINITY	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 (MG C/M3) 1	2	MEAN	DARK
0	15.26	33.261	24.576	5.96	104.2	1.6	0.35	0.0	0.00	0.13	0.02	99.	4.3	4.4	4.4	0.16
16	14.72	33.324	24.741	6.06	104.8	1.7	0.36	0.0	0.00	0.21	0.06	38.	5.2	5.2	5.2	0.20
28	14.20	33.361	24.880	6.19	106.0	1.6	0.38	0.2	0.03	0.65	0.17	19.	8.7	9.6	9.1	0.21
49	13.01	33.371	25.131	5.94	99.2	2.9	0.56	2.8	0.34	0.75	0.38	5.1	6.2	6.0	6.1	0.17
77	11.43	33.522	25.549	4.78	77.3	10.9	1.17	12.7	0.77	0.29	0.21	0.90	0.28	0.32	0.30	0.17
102	10.42	33.691	25.861	3.63	57.5	20.1	1.62	20.6	0.03	0.05	0.13	0.20	0.02	0.01	0.01	0.11

RV DAVID STARR JORDAN — CALCOFI CRUISE 8705 — STATION 87 35

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	SECCHI DEPTH	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
33 49.4 N	118 37.7 W	6/ 5/87	1927 GMT	15 M	1152 - 1909 +08	1152 +08	1909 +08	626.9 MG C/M2

DEPTH M	TEMP DEG C	SALINITY	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 (MG C/M3) 1	2	MEAN	DARK
0	17.94	33.527	24.160	6.01	110.8	3.3	0.22	0.0	0.00	0.38	0.04	99.	15.8	13.1	14.4	0.35
10	17.27	33.525	24.320	6.17	112.3	3.3	0.22	0.0	0.00	0.47	0.06	38.	14.1	14.9	14.5	0.56
17	15.79	33.484	24.630	6.41	113.4	3.1	0.24	0.0	0.00	0.63	0.13	19.	14.8	15.4	15.0	0.60
30	13.35	33.468	25.138	5.92	99.7	5.3	0.43	0.3	0.05	2.04	0.44	5.1	15.1	18.6	16.9	0.27
46	11.90	33.520	25.460	4.56	74.5	11.2	1.02	11.3	0.06	0.95	0.42	0.90	2.4	2.0	2.2	0.17
62	11.34	33.567	25.600	3.99	64.4	14.2	1.29	14.6	0.34	0.56	0.34	0.20	0.19	0.17	0.18	0.20

DAVID STARR JORDAN — CALCOFI CRUISE 8705 — STATION 87 60

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	SECCHI DEPTH	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
32 59.5 N	120 20.9 W	7/ 5/87	1918 GMT	28 M	1155 - 1918 +08	1158 +08	1917 +08	666.5 MG C/M2

DEPTH M	TEMP DEG C	SALINITY	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 (MG C/M3) 1	2	MEAN	DARK
0	15.07	33.553	24.842	6.02	105.0	4.5	0.42	1.3	0.05	0.31	0.05	99.	15.6	14.8	15.2	0.27
19	14.42	33.552	24.981	5.98*	103.0	4.7	0.53	2.8	0.08	0.46	0.19	38.	13.7	15.3	14.5	0.23
32	13.67	33.564	25.147	6.16	104.4	4.9	0.63	4.0	0.11	0.56	0.19	19.	11.2	11.0	11.1	0.25
55	12.30	33.427	25.312	5.78	95.1	6.4	0.80	6.4	0.18	0.58	0.29	5.1	3.1	3.5	3.3	0.14
86	10.36	33.672	25.856	3.86	61.0	20.2	1.59	20.1	0.39	0.23	0.16	0.90	0.04	0.03	0.04	0.18
114	9.78	33.835	26.082	2.90	45.3	25.5	1.84	24.3	0.02	0.07	0.20	0.20	-0.01**	0.01	0.00	0.10

*AN ERROR OF 0.1 ML (0.75 ML/L) IN THE OXYGEN TITER HAS BEEN ASSUMEDFOR THIS VALUE.
**DARK UPTAKE EXCEED LIGHT UPTAKE.

RV DAVID STARR JORDAN — CALCOFI CRUISE 8705 — STATION 87 110

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	SECCHI DEPTH	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
31 19.4 N	123 44.3 W	8/ 5/87	2002 GMT	35 M	1217 - 1930 +08	1212 +08	1928 +08	138.4 MG C/M2

DEPTH M	TEMP DEG C	SALINITY	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 (MG C/M3) 1	2	MEAN	DARK
1	16.33	33.384	24.430	5.74	102.5	1.5	0.32	0.0	0.00	0.08	0.01	99.	1.7	1.9	1.8	0.14
23	16.31	33.388	24.439	5.75	102.7	1.5	0.31	0.0	0.00	0.09	0.02	38.	2.1	2.0	2.0	0.11
39	16.28	33.412	24.465	5.77	103.0	2.2	0.31	0.0	0.00	0.10	0.02	19.	1.8	1.7	1.8	0.13
70	15.63	33.549	24.718	5.86	103.3	1.9	0.28	0.0	0.00	0.14	0.05	5.1	0.76	0.86	0.81	0.09
109	13.51	33.453	25.096	5.58	94.2	3.5	0.48	2.4	0.07	0.25	0.14	0.90	0.22	0.19	0.21	0.07
144	10.84	33.432	25.586	4.58	73.0	11.4	1.16	13.7	0.01	0.05	0.07	0.20	0.02	0.02	0.02	0.06

RV DAVID STARR JORDAN — CALCOFI CRUISE 8705 — STATION 90 45

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	SECCHI DEPTH	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
32 55.1 N	118 56.1 W	5/ 5/87	1923 GMT	11 M	1153 - 1905 +08	1153 +08	1905 +08	570.9 MG C/M2

DEPTH M	TEMP DEG C	SALINITY	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 (MG C/M3) 1	2	MEAN	DARK
0	15.98	33.568	24.652	6.11	108.5	6.4	0.38	1.3	0.04	0.73	0.08	99.	13.4	13.5	13.4	0.19
7	15.56	33.567	24.745	6.12	107.8	6.3	0.37	1.3	0.04	0.84	0.11	38.	20.4	21.2	20.8	0.23
12	14.95	33.568	24.880	6.21	108.1	6.4	0.38	1.5	0.05	0.87	0.18	19.	22.1	23.4	22.7	0.41
21	14.22	33.567	25.035	6.10	104.6	7.5	0.48	2.7	0.08	1.31	0.33	5.1	15.5	15.1	15.3	0.49
35	12.13	33.596	25.475	5.15	84.6	11.6	0.97	10.1	0.34	1.28	0.51	0.90	4.9	4.6	4.7	0.23
47	11.11	33.649	25.705	4.26	68.5	16.8	1.35	15.9	0.53	0.46	0.27	0.20	0.51	0.56	0.54	0.18

RV DAVID STARR JORDAN — CALCOFI CRUISE 8705 — STATION 90 80

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	SECCHI DEPTH	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
31 45.0 N	121 19.0 W	4/ 5/87	1927 GMT	24 M	1159 - 1911 +08	1202 +08	1911 +08	326.3 MG C/M2

DEPTH M	TEMP DEG C	SALINITY	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 (MG C/M3) 1	2	MEAN	DARK
0	15.30	33.298	24.595	5.92	103.6	2.3	0.35	0.0	0.00	0.12	0.02	99.	1.6	1.5	1.5	0.12
16	15.18	33.298	24.622	5.93	103.5	2.2	0.35	0.0	0.00	0.13	0.02	38.	4.1	3.3	3.7	0.20
26	15.12	33.292	24.631	5.94	103.6	1.9	0.35	0.0	0.00	0.13	0.03	19.	3.8	4.2	4.0	0.17
47	13.46	33.313	24.996	6.08	102.5	2.4	0.43	0.8	0.09	0.63	0.20	5.1	6.7	6.6	6.7	0.16
75	12.94	33.385	25.156	5.86	97.7	3.1	0.63	2.8	0.21	0.35	0.25	0.90	1.6	1.3	1.5	0.11
98	12.30	33.439	25.323	5.45	89.7	6.5	0.86	6.8	0.50	0.16	0.19	0.20	0.17	0.14	0.16	0.10

RV DAVID STARR JORDAN — CALCOFI CRUISE 8705 — STATION 90 120

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	SECCHI	DEPTH	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
30 25.0 N	123 59.9 W	3/ 5/87	1925 GMT	30	M	1208 - 1917 +08	1213 +08	1917 +08	59.3 MG C/M2

DEPTH M	TEMP DEG C	SALINITY	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 (MG C/M3) 1	2	MEAN	DARK
1	17.02	33.663	24.484	5.66	102.6	2.4	0.28	0.1	0.00	0.06	0.01	99.	0.97	0.84	0.90	0.12
21	17.01	33.663	24.488	5.67	102.8	2.4	0.28	0.1	0.00	0.06	0.01	38.	0.95	0.84	0.89	0.12
35	16.97	33.666	24.500	5.67	102.7	2.3	0.28	0.1	0.00	0.07	0.01	19.	0.91	0.85	0.88	0.11
61	16.83	33.703	24.562	5.70	103.0	2.3	0.27	0.1	0.00	0.08	0.01	5.1	0.34	0.37	0.36	0.13
93	16.46	33.917	24.813	5.60	100.6	2.6	0.25	0.0	0.00	0.13	0.05	0.90	0.13	0.12	0.13	0.08
124	14.40	33.773	25.159	5.38	92.7	3.9	0.43	2.0	0.10	0.28	0.19	0.20	0.14	0.13	0.14	0.05

RV DAVID STARR JORDAN — CALCOFI CRUISE 8705 — STATION 93 50

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	SECCHI	DEPTH	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
32 10.8 N	118 53.5 W	1/ 5/87	1949 GMT	20	M	1206 - 1905 +08	1153 +08	1905 +08	409.4 MG C/M2

DEPTH M	TEMP DEG C	SALINITY	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 (MG C/M3) 1	2	MEAN	DARK
0	14.61	33.350	24.784	6.09	105.1	2.1	0.39	0.4	0.03	0.37	0.08	99.	4.6	4.7	4.7	0.16
12	14.50	33.352	24.810	6.11	105.2	2.0	0.39	0.4	0.03	0.36	0.09	38.	10.3	10.3	10.3	0.19
21	14.40	33.355	24.833	6.12	105.2	2.1	0.41	0.6	0.03	0.47	0.10	19.	12.3	12.5	12.4	0.20
40	13.26	33.346	25.062	5.82	97.7	3.3	0.57	2.6	0.25	0.40	0.20	5.1	4.2	4.6	4.4	0.13
61	12.51	33.386	25.240	5.42	89.6	6.7	0.77	6.2	0.39	0.33	0.20	0.00	0.27	0.61	0.44	0.09
81	11.87	33.496	25.448	5.18	84.5	8.9	0.98	9.4	0.19	0.26	0.17	0.20	0.23	0.25	0.24	0.06

RV DAVID STARR JORDAN — CALCOFI CRUISE 8705 — STATION 93 90

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	SECCHI	DEPTH	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
30 50.8 N	121 35.4 W	2/ 5/87	1925 GMT	30	M	1158 - 1913 +08	1203 +08	1913 +08	98.8 MG C/M2

DEPTH M	TEMP DEG C	SALINITY	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 (MG C/M3) 1	2	MEAN	DARK
0	16.28	33.339	24.407	5.77	102.9	1.7	0.34	0.1	0.00	0.06	0.01	99.	0.69	0.70	0.69	0.09
19	16.23	33.336	24.417	5.77	102.8	1.7	0.33	0.1	0.00	0.06	0.01	38.	0.97	0.93	0.95	0.10
33	16.01	33.312	24.449	5.81	103.1	2.2	0.34	0.1	0.00	0.06	0.02	19.	0.98	1.1	1.0	0.10
59	15.58	33.357	24.581	5.85	102.9	2.1	0.33	0.1	0.00	0.08	0.02	5.1	0.59	0.66	0.62	0.11
93	14.04	33.379	24.930	5.77	98.5	2.8	0.41	0.6	0.04	0.69	0.31	0.90	0.98	1.1	1.0	0.08
123	12.28	33.494	25.370	4.67	76.9	8.5	0.92	9.2	0.12	0.39	0.25	0.20	0.42	0.38	0.40	0.02

Secchi Disk Observations

CalCOFI Cruise 8705

Line	Sta.	Day	Mo	Local Time (+8: PST)	Secchi Depth (m)	Forel Water Color	Weather	Clouds Type	Clouds Amt
77	49	13	5	1530	11	5	2	ST	8/8
77	51	13	5	1320	12	5	2	ST	8/8
77	55	13	5	1130	11	5	4	-	-
77	60	13	5	1700	18	4	2	Sc	8/8
77	90	12	5	1440	23	3	2	ST	8/8
77	100	12	5	1035	31	2	2	SC	8/8
80	70	11	5	1114	22	3	2	SC	8/8
80	80	11	5	1555	26	2	1	ST	6/8
82	47	10	5	1720	7	4	1	AC	5/8
83	40.6	10	5	1310	17	3	2	ST	8/8
83	42	10	5	1114	16	4	2	SC	8/8
83	70	9	5	1534	22	2	2	ST	8/8
83	80	9	5	1111	25	2	2	SC	8/8
83	110	8	5	1715	31	1	2	SC	8/8
87	33	6	5	0926	11	4	2	CI	8/8
87	35	6	5	1118	15	4	2	CI	8/8
87	39.5	6	5	1630	18	3	1	ST	6/8
87	55	7	5	0600	28	3	4	CI	8/8
87	60	7	5	1106	28	3	2	CI	8/8
87	70	7	5	1500	22	2	2	SC	8/8
87	110	8	5	1145	35	1	2	SC	8/8
90	37	5	5	1733	14	3	1	CI	1/8
90	45	5	5	1115	11	4	0	-	0
90	70	4	5	1730	26	2	0	-	0
90	80	4	5	1115	24	2	0	-	0
90	90	4	5	0600	25	1		ST	2/8
90	120	3	5	1110	30	1		ST	7/8
93.4	26.4	30	4	1500	7	5		CI	1/8
93	26.7	30	4	1540	17	2		CI	1/8
93	45	1	5	0820	13	4		ST	2/8
93	50	1	5	1138	20	4		CU	1/8
93	55	1	5	1535	16	3		CI	2/8
93	80	2	5	0627	20	2		ST	5/8
93	90	2	5	1110	30	2		ST	4/8
93	100	2	5	1710	29	2		CU	6/8

MACROZOOPLANKTON BIOMASS
Net Mesh Size: 0.505 mm

Line	Sta.	Position		Date Mo/Day	Time (GMT) Start	End	Water Volume Strained (m)	Max. Tow Depth (m)	Volume per 1000 m Strained Total (cm)	Small (cm)
77	49	35 05.3N	120 46.6W	5/14	0020	0027	116	55	173	173
77	51	35 01.3N	120 55.1W	5/13	2210	2232	419	210	86	86
77	55	34 53.3N	121 11.9W	5/13	1902	1924	388	209	325	325
77	60	34 43.3N	121 32.9W	5/13	1523	1545	393	206	183	153
77	70	34 23.3N	122 14.8W	5/13	2017	2039	418	208	69	69
77	80	34 03.3N	122 56.5W	5/13	0517	0539	413	213	48	48
77	90	33 43.3N	123 38.0W	5/13	0010	0032	437	203	25	25
77	100	33 23.3N	124 19.4W	5/12	1800	1822	418	211	17	17
80	51	34 27.0N	120 31.4W	5/11	0729	0736	121	57	438	438
80	55	34 19.0N	120 48.1W	5/11	1023	1045	418	212	89	89
80	60	34 09.0N	121 09.0W	5/11	1354	1416	387	209	204	155
80	70	33 49.0N	121 50.6W	5/11	1941	2003	376	212	202	202
80	80	33 29.0N	122 32.0W	5/12	0120	0142	426	208	45	45
80	90	33 09.0N	123 13.2W	5/12	0748	0810	405	210	35	35
80	100	32 49.0N	123 54.5W	5/12	1246	1308	420	203	57	57
82	47	34 17.0N	120 02.0W	5/11	0345	0407	420	208	462	462
83	40.6	34 13.4N	119 24.7W	5/10	2230	2234	60	28	84	84
83	42	34 10.7N	119 30.5W	5/10	2010	2028	337	178	362	362
83	51	33 52.7N	120 08.0W	5/10	1246	1256	187	92	85	85
83	55	33 44.7N	120 24.5W	5/10	0941	1003	408	214	96	96
83	60	33 34.7N	120 45.3W	5/10	0545	0607	368	214	206	206
83	70	33 14.7N	121 26.6W	5/10	0035	0057	399	209	60	60
83	80	32 54.7N	122 07.7W	5/9	1826	1848	402	214	139	139
83	90	32 34.7N	122 48.7W	5/9	1308	1330	410	204	95	95
83	100	32 14.7N	123 29.5W	5/9	0738	0800	396	214	63	63
83	110	31 54.7N	124 10.2W	5/9	0228	0250	407	205	47	47
87	33	33 53.4N	118 29.4W	5/6	1802	1808	102	47	334	334
87	35	33 49.4N	118 37.7W	5/6	2105	2127	411	215	144	144
87	39.5	33 40.4N	118 56.4W	5/7	0255	0317	399	209	100	100
87	45	33 29.4N	119 19.1W	5/7	0755	0817	413	210	131	131
87	50	33 19.4N	119 39.8W	5/7	1114	1121	117	55	231	231
87	55	33 09.4N	120 00.4W	5/7	1508	1530	394	205	137	137
87	60	32 59.4N	120 21.0W	5/7	1829	1851	377	210	271	210
87	70	32 39.4N	121 02.0W	5/8	0000	0022	404	209	111	111
87	80	32 19.4N	121 42.9W	5/8	0517	0539	394	214	58	58
87	90	31 59.4N	122 23.6W	5/8	1010	1032	405	209	49	49
87	100	31 39.4N	123 04.2W	5/8	1538	1600	408	205	37	37
87	110	31 19.4N	123 44.3W	5/8	2110	2132	396	212	23	23
90	28	33 29.1N	117 46.1W	5/6	1308	1315	120	61	342	342
90	30	33 25.1N	117 54.4W	5/6	1127	1149	398	209	95	95
90	35	33 15.1N	118 15.0W	5/6	0546	0608	414	209	225	225
90	37	33 11.2N	118 23.2W	5/6	0230	0252	422	207	95	95
90	45	32 55.1N	118 56.1W	5/5	2055	2117	416	211	65	65
90	53	32 39.1N	119 29.0W	5/5	1351	1413	439	203	27	27
90	60	32 25.1N	119 57.6W	5/5	0918	0940	443	207	59	59
90	70	32 05.1N	120 38.3W	5/5	0343	0405	413	210	36	36
90	80	31 45.0N	121 19.0W	5/4	2115	2137	407	211	91	91
90	90	31 25.1N	121 59.5W	5/4	1451	1513	431	209	16	16
90	100	31 05.1N	122 39.7W	5/4	0848	0910	441	211	29	29
90	110	30 45.1N	123 20.0W	5/4	0227	0250	446	225	9	9
90	120	30 25.0N	123 59.9W	5/3	2020	2042	440	212	5	5
93	26.7	32 57.3N	117 18.4W	5/1	0115	0122	120	54	266	266
93	28	32 54.8N	117 23.7W	5/1	0415	0437	414	213	80	80
93	30	32 50.8N	117 31.9W	5/1	0655	0717	414	212	70	70
93	35	32 40.8N	117 52.5W	5/1	1009	1031	412	207	61	61
93	40	32 30.7N	118 12.8W	5/1	1317	1339	410	206	41	41
93	45	32 20.8N	118 33.3W	5/1	1716	1738	418	211	134	134
93	50	32 10.8N	118 53.5W	5/1	2107	2129	458	197	57	57
93	55	32 00.7N	119 14.0W	5/2	0036	0058	453	205	68	68
93	60	31 50.9N	119 34.3W	5/2	0405	0427	432	218	65	65
93	70	31 30.8N	120 14.8W	5/2	0928	0950	434	216	21	21
93	80	31 10.7N	120 55.3W	5/2	1450	1512	431	209	33	33
93	90	30 50.8N	121 35.4W	5/2	2045	2107	447	207	16	16
93	100	30 30.8N	122 15.5W	5/3	0230	0252	439	211	20	20
93	110	30 10.9N	122 55.3W	5/3	0806	0828	430	210	28	28
93	120	29 50.7N	123 35.3W	5/3	1325	1347	437	211	7	7