UNIVERSITY OF CALIFORNIA, SAN DIEGO SCRIPPS INSTITUTION OF OCEANOGRAPHY

data report

PHYSICAL, CHEMICAL AND BIOLOGICAL DATA

CalCOFI Cruise 8801
19 January – 2 February 1988

CalCOFI Cruise 8805
28 April – 12 May 1988

SIO Reference 88-23
15 January 1989

UNIVERSITY OF CALIFORNIA

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Approved for distribution:

Edward A. Frieman, Director

CONTENTS

Introduction 3

Literature Cited 6

Cruise 8801

List of Figures 7

Personnel 13

Tabulated Hydrographic Cast Data 14

Tabulated Primary Productivity Cast Data 42

Tabulated Secchi Disk Observations 44

Tabulated Macrozooplankton Data 45

Cruise 8805

List of Figures 46

Personnel 52

Tabulated Hydrographic Cast Data 53

Tabulated Primary Productivity Data 77

Tabulated Secchi Disk Observations 79

Tabulated Macrozooplankton Data 80

INTRODUCTION

The data in this report were collected during Cruises 8801*, and 8805 of the California Cooperative Oceanic Fisheries Investigations (CalCOFI) program 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 8801 and 8805 were collected and processed by personnel of the Marine Life Research Group and the Southwest Fisheries Center, National Marine Fisheries Service. Volunteers and SIO Oceanographic Data Facility staff members also assisted in the collection of data and chemical analyses at sea.

STANDARD PROCEDURES

Hydrographic Cast Data

The hydrographic casts usually consisted of 20 3-1 plastic (PVC) bottles lowered to a maximum sampling depth of 525 meters, bottom depth permitting. 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 200 meter hydrographic casts at a few non-standard CalCOFI sampling locations. Special near-bottom casts were done in the Santa Monica (Cruise 8805) and Santa Barbara (Cruises 8801 and 8805) Basins.

Paired protected reversing thermometers were used to determine temperatures which are recorded to hundredths of a degree Celsius. Most 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 standardized with substandard seawater. Periodic checks on the concentration of the substandard were made by comparison with Wormley Standard Seawater batch P-90 on 8801 and batch P-103 on 8805. Salinity values have been calculated from the algorithms for the Practical Salinity Scale, 1978 (PSS78, UNESCO, 1981a).

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 Gilbert, Pawley and Park (1967).

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). Due to analytical problems at sea, much of the phosphate data on cruise 8805 were lost and the remaining phosphate data are of unusually poor quality; the data should be used with caution. On a subsequent cruise, the problem was traced to a bad surfactant added to the phosphate reagents.

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% acetone (Venrick and Hayward, 1984) and the fluorescence determined before and after acidification with a 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 jiCi of C as NaHCO . These were incubated 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 millipore 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 Coordinated Universal Time (UTC) 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, 198l,b). Computed values of potential temperature, sigma-theta, specific volume anomaly (SVA), dynamic height or geopotential anomaly, and pressure are included with both observed and interpolated standard depth levels.

Primary Productivity Casts

In addition to the normal hydrographic data, the tabulated data include: the 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. Also shown are 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, assuming that the shallowest measured value extends to the surface and that negative values (when dark uptake exceeds light uptake) are zero. The uptake data have been presented to two significant digits (values <1.00) or one decimal (values >1.00). The higher production values may not warrant all of the digits presented. Incubation time, LAN, and civil twilight are given in local Pacific Standard Time (PST); to convert to UTC, add eight hours to the PST time.

Secchi Disk Observations

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

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

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FIGURES

Cruise 8801

1. CalCOFI Cruise 8801 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.

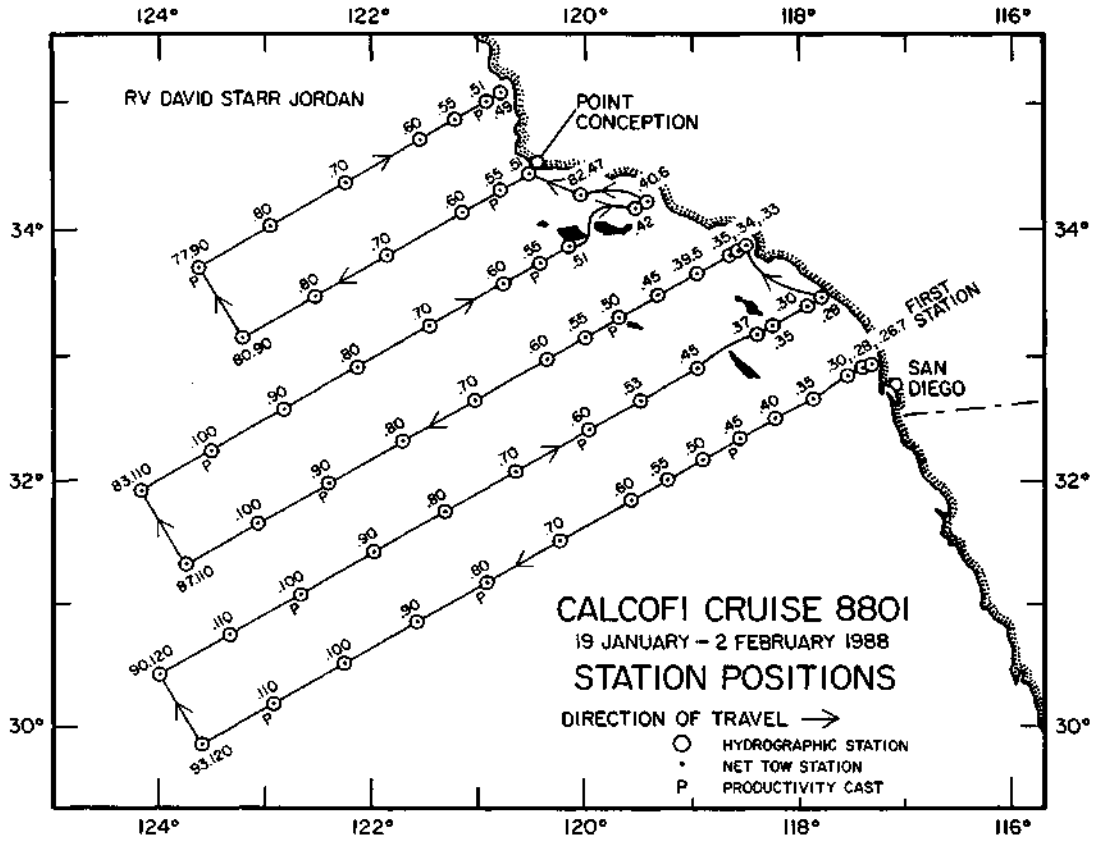
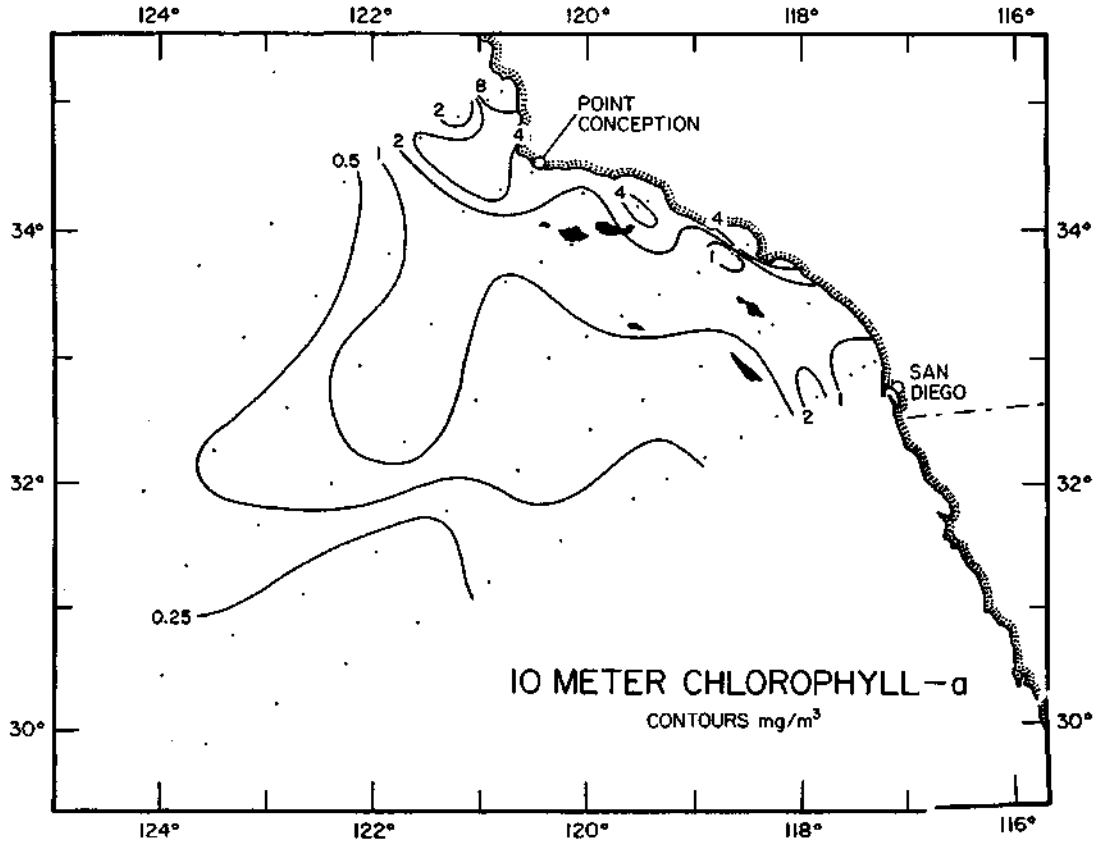


FIGURE 1



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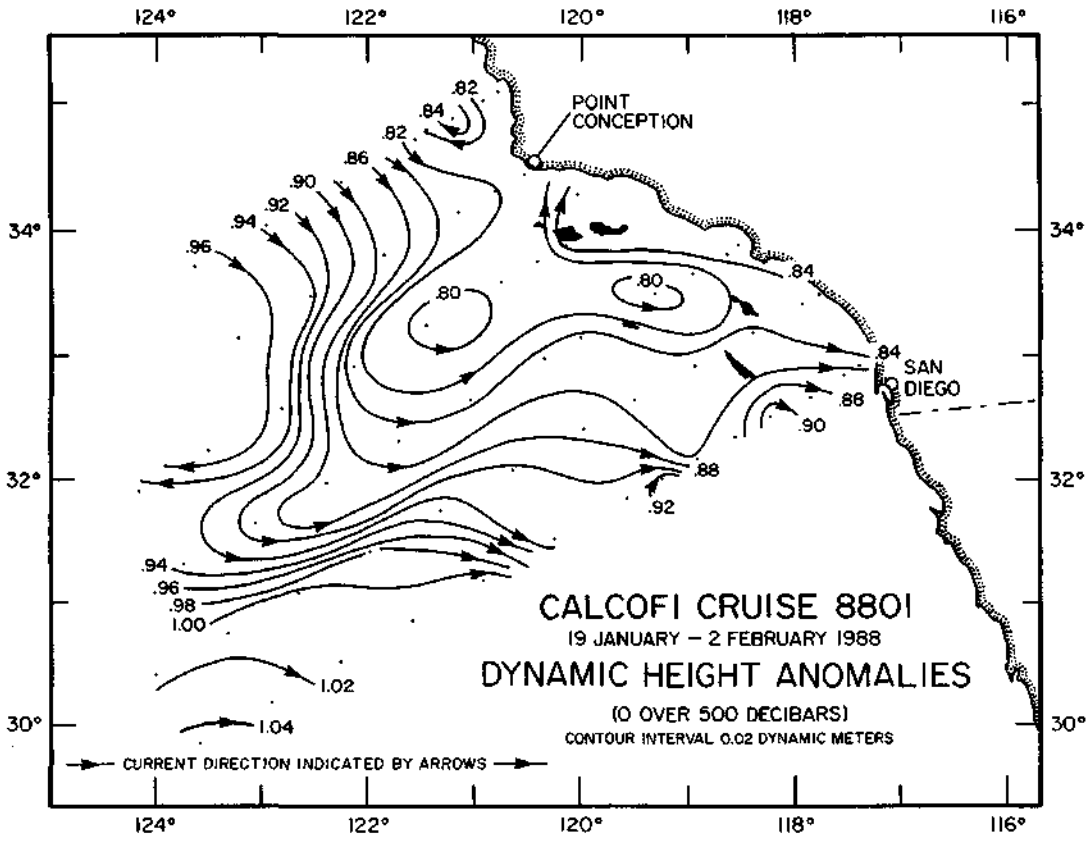
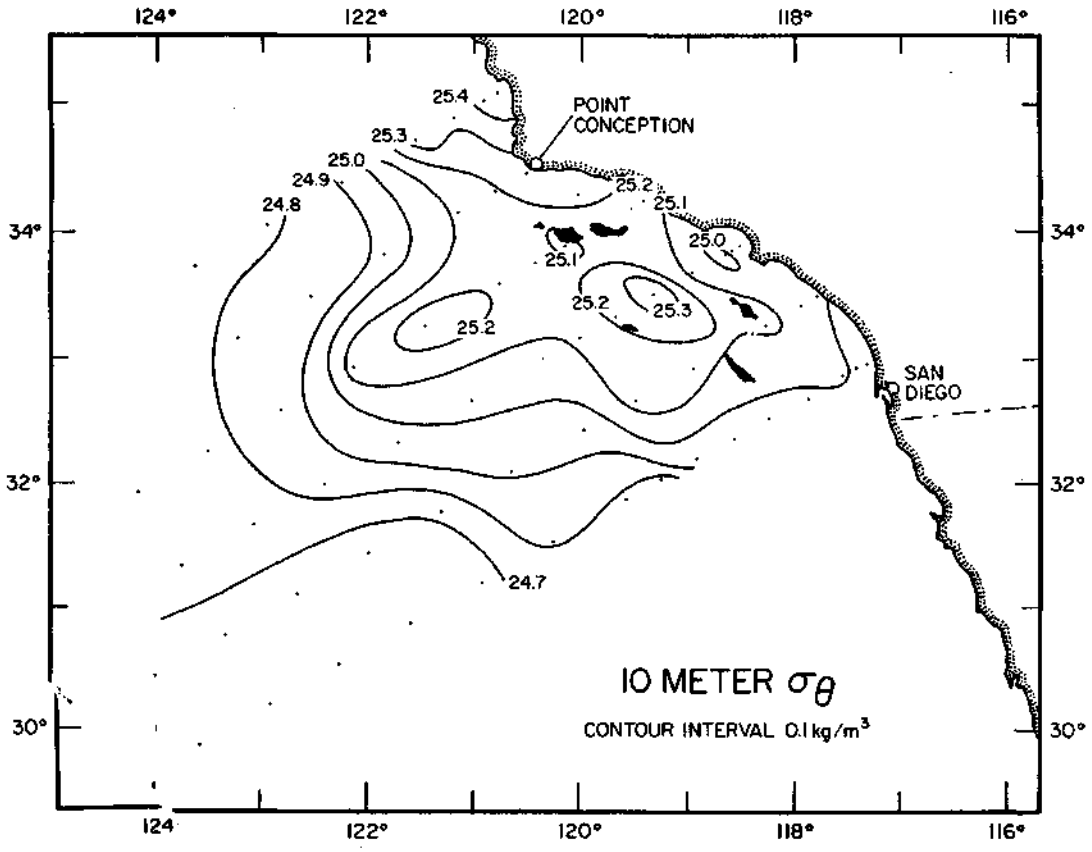


FIGURE 3



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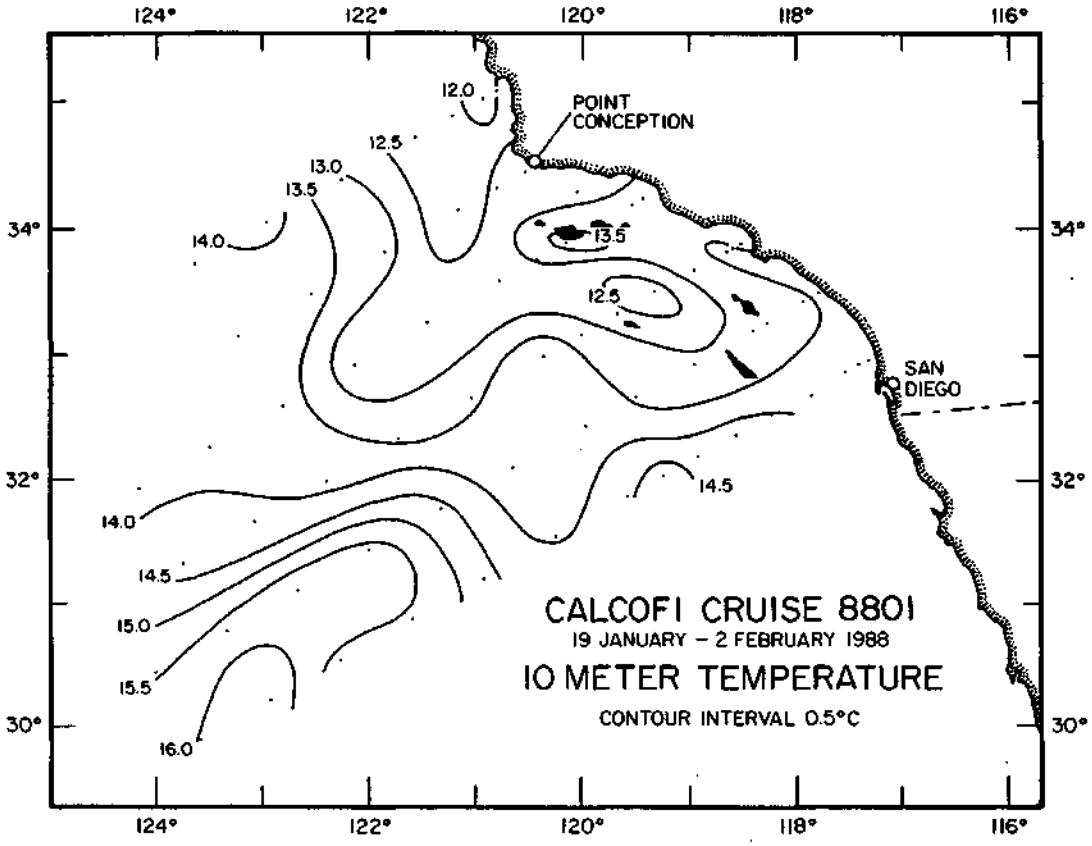

FIGURE 5

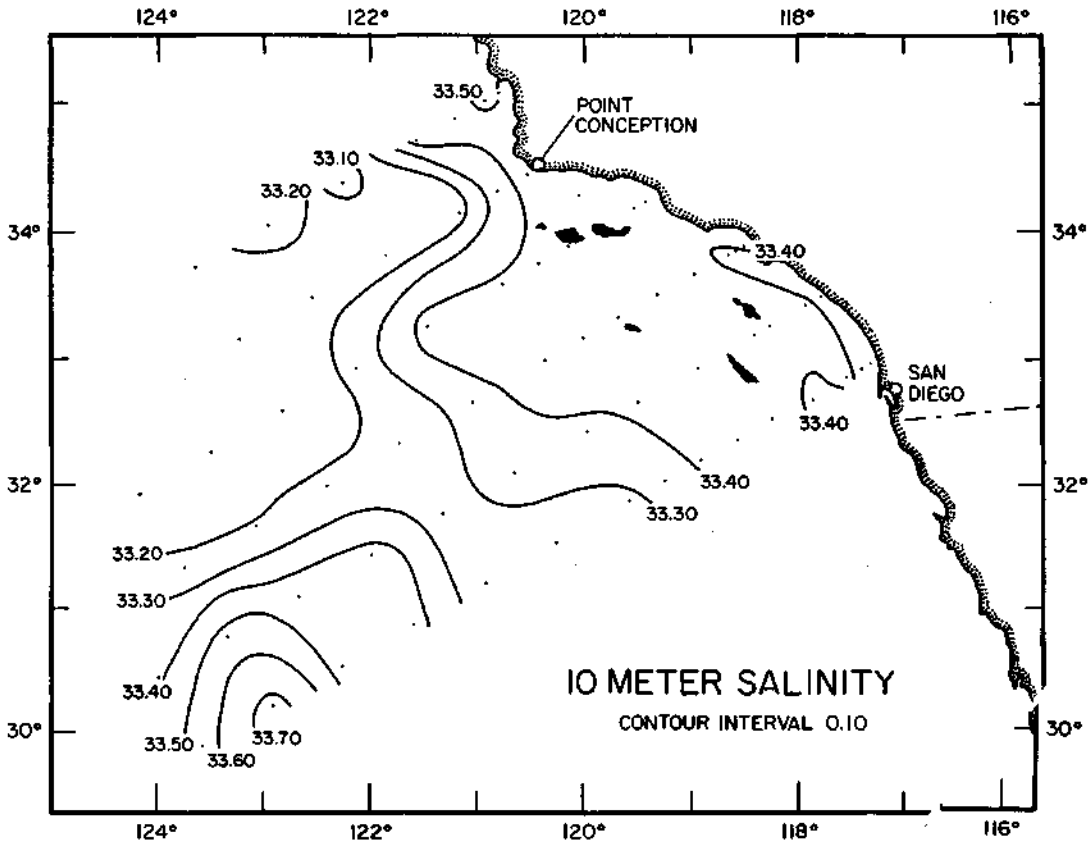

FIGURE 6

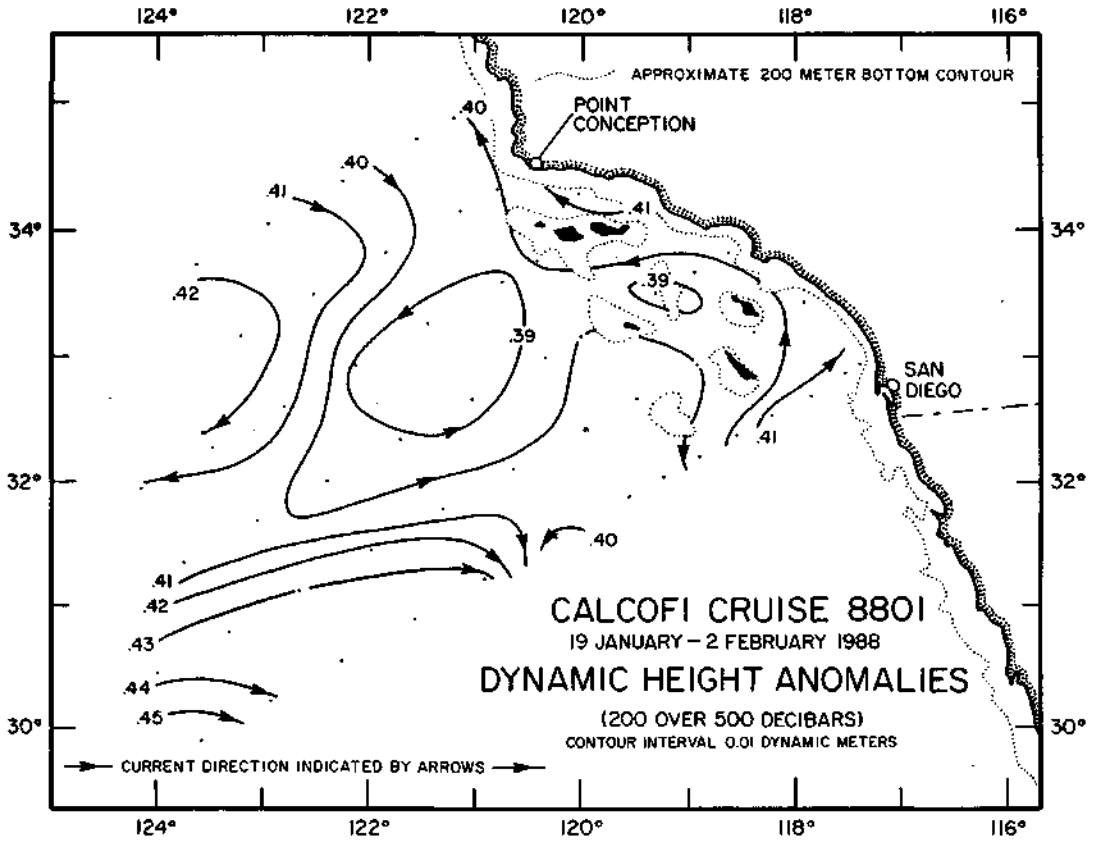

FIGURE 7

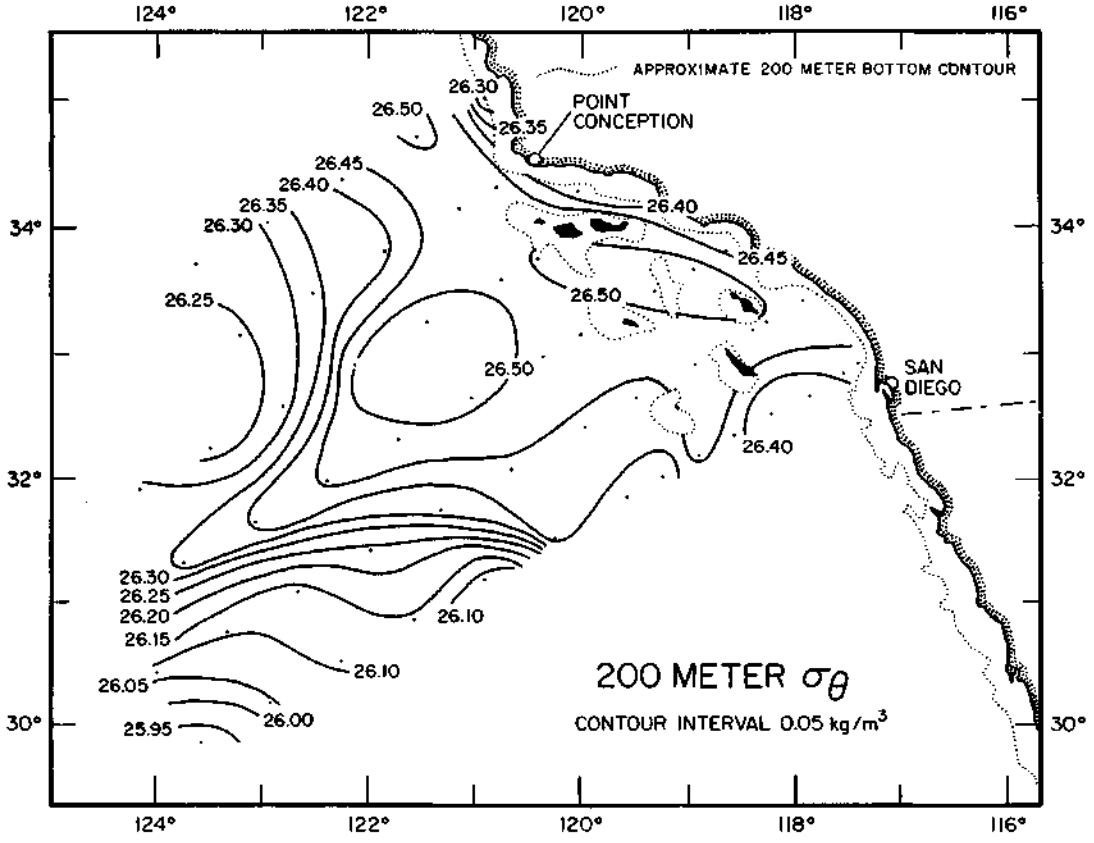

FIGURE 8

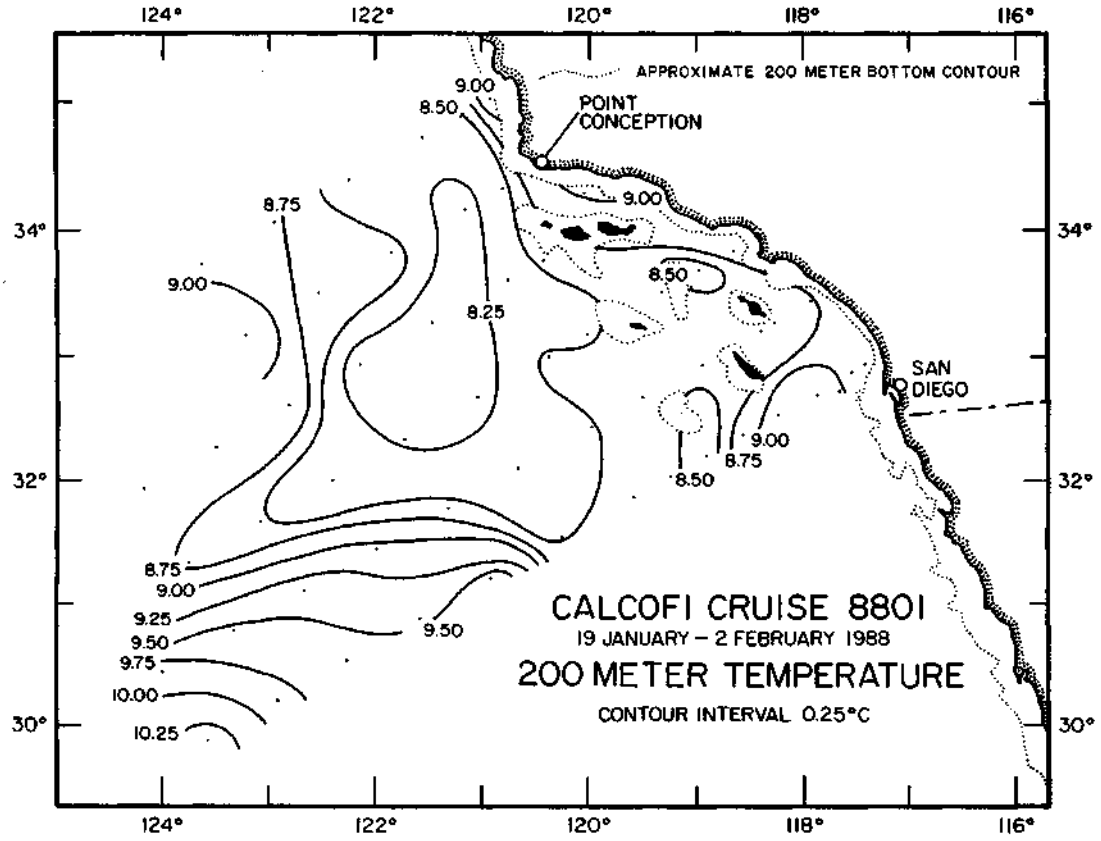

FIGURE 9

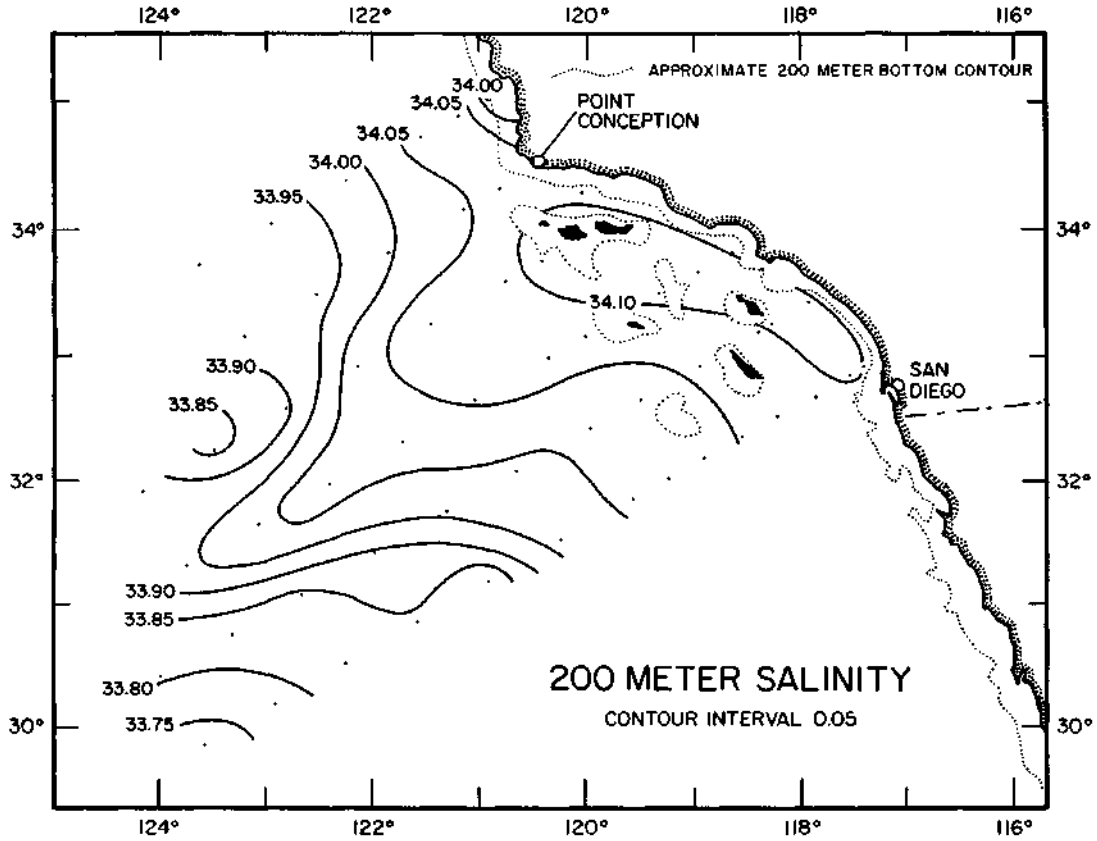

FIGURE 10

PERSONNEL

Calcofi Cruise 8801

SHIPS' CAPTAINS

Thomas L. Meyer, RV *David Starr Jordan*

PERSONNEL PARTICIPATING IN THE COLLECTION OF DATA

Flerx, William C. (in charge)	Fishery Biologist, N M F S
Abramenkoff, Dimitry N.	Fishery Biologist, N M F S
Bryan, Walter R.	Marine Technician, S I O
Butler, Sheila C.	Student, U C S B
Clark, Ross P.	Student, U C S B
Dotson, Ronald C.	Fishery Biologist, N M F S
Dowler, Gary S.	Biologist Technician, N M F S
Gripp, Sherry L.	Staff Research Associate, S I O
Gruber, Dennis W.	Marine Technician, S I O
Sweet, Paul R.	Staff Research Associate, S I O
Taveras, Susan M.	Fishery Biological Technician, N M F S
Veit, Richard R.	Graduate Student, U C I

RV DAVID STARR JORDAN CALCOFI CRUISE 8801 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 U	01/02/88	2201 UTC	66 M	280	02 KT	290 03 08	1	1015.0 MB	12.8 C	10.6 C	4/8	CC

CAST	DEPTH M	TEMP DEC C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	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	12.11	12.11	33.490	25.396	257.1	0.000	6.65	109.1	7.4	0.65	3.1	0.24	9.81	2.01	0
1	1	12.11	12.11	33.490	25.396	257.1	0.003	6.65	109.1	7.4	0.65	3.1	0.24	9.81	2.01	1
	10 ISL	12.03	12.03	33.494	25.415	255.6	0.026	6.54	107.1	7.5	0.67	3.6	0.26	9.57	1.95	10
1	11	12.02	12.02	33.494	25.417	255.4	0.028	6.51	106.6	7.5	0.67	3.7	0.26	9.54	1.94	11
	20 ISL	11.92	11.92	33.499	25.439	253.5	0.051	6.16	100.6	7.8	0.71	4.9	0.28	8.25	1.87	20
1	21	11.91	11.91	33.499	25.441	253.3	0.054	6.12	100.0	7.9	0.72	5.0	0.28	8.07	1.86	21
	30 ISL	11.89	11.89	33.499	25.445	253.2	0.076	5.88	96.0	8.7	0.78	6.0	0.32	6.29	1.34	30
1	31	11.89	11.89	33.499	25.445	253.2	0.079	5.86	95.7	8.8	0.79	6.1	0.32	6.12	1.29	31
1	41	11.86	11.85	33.498	25.450	253.0	0.104	5.84	95.3	9.0	0.79	6.3	0.32	5.74	1.60	41
	50 ISL	11.79	11.78	33.510	25.473	251.0	0.127	5.62	91.6	10.0	0.87	7.6	0.36	4.75	1.24	50
1	51	11.78	11.77	33.511	25.476	250.8	0.129	5.59	91.1	10.1	0.88	7.7	0.36	4.54	1.17	51
1	61	11.09	11.08	33.626	25.691	230.5	0.154	4.41	70.8	17.9	1.31	14.2	0.38	0.31	0.46	61

RV DAVID STARR JORDAN CALCOFI CRUISE 8801 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	01/02/88	1952 UTC	222 M	330	04 KT	300 04 05	1	1015.9 MB	10.5 C	9.4 C	4/8	CC

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	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	11.90	11.90	33.509	25.450	251.9	0.000	6.21	101.4	8.3	0.72	4.8	0.22	7.59	2.07	0
1	10	11.78	11.78	33.509	25.473	250.0	0.025	6.02	98.1	8.7	0.75	5.5	0.22	7.80	1.71	10
	20 ISL	11.65	11.65	33.537	25.519	245.9	0.050	5.44	88.4	11.0	0.92	8.3	0.25	4.44	1.13	20
1	21	11.63	11.63	33.542	25.527	245.2	0.052	5.37	87.2	11.3	0.94	8.7	0.25	4.04	1.07	21
	30 ISL	11.17	11.17	33.602	25.657	232.9	0.074	4.68	75.3	15.0	1.18	12.7	0.23	1.88	0.64	30
1	31	11.12	11.12	33.609	25.672	231.6	0.076	4.61	74.1	15.4	1.21	13.1	0.23	1.70	0.60	31
1	40	10.84	10.84	33.659	25.761	223.3	0.097	4.12	65.8	18.3	1.38	15.9	0.18	0.77	0.39	40
	50 ISL	10.60	10.59	33.702	25.837	216.3	0.119	3.81	60.6	20.4	1.50	17.8	0.13	0.34	0.31	50
1	51	10.57	10.56	33.706	25.845	215.5	0.121	3.78	60.0	20.6	1.51	18.0	0.13	0.32	0.31	51
1	60	10.22	10.21	33.765	25.952	205.6	0.140	3.37	53.1	23.1	1.64	20.3	0.09	0.11	0.20	60
1	70	9.92	9.91	33.820	26.046	196.9	0.160	3.12	48.9	25.9	1.75	22.1	0.09	0.05	0.16	71
	75 ISL	9.81	9.80	33.842	26.082	193.6	0.170	3.01	47.1	27.0	1.80	22.7	0.09	0.04	0.16	76
1	85	9.65	9.64	33.876	26.135	188.7	0.189	2.82	43.9	28.7	1.88	23.7	0.09	0.03	0.16	86
	100 ISL	9.51	9.50	33.908	26.183	184.4	0.217	2.67	41.5	30.4	1.94	24.6	0.09	0.03	0.14	101
1	105	9.49	9.48	33.914	26.191	183.8	0.226	2.65	41.1	30.7	1.95	24.8	0.09	0.03	0.14	106
1	124	9.48	9.47	33.923	26.200	183.3	0.261	2.62	40.7	31.3	1.96	24.9	0.08	0.03	0.16	125
	125 ISL	9.48	9.47	33.923	26.200	183.3	0.263	2.62	40.7	31.3	1.96	24.9	0.08	0.03	0.16	126
1	146	9.44	9.42	33.935	26.216	182.2	0.301	2.60	40.3	31.8	1.98	25.2	0.07	0.03	0.13	147
	150 ISL	9.41	9.39	33.941	26.226	181.4	0.308	2.57	39.8	32.1	1.99	25.4	0.07	0.03	0.13	151
1	175	9.23	9.21	33.976	26.283	176.4	0.353	2.40	37.1	34.4	2.07	26.3	0.09	0.02	0.13	176
	200 ISL	9.20	9.18	33.984	26.294	175.8	0.397	2.35	36.3	35.1	2.09	26.5	0.07	0.02	0.12	202
1	207	9.19	9.17	33.986	26.298	175.6	0.409	2.34	36.1	35.3	2.09	26.6	0.06	0.02	0.12	209

RV DAVID STARR JORDAN CALCOFI CRUISE 8801 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 12.0 W	01/02/88	1552 UTC	585 M	320	20 KT	320 04 05	1	1015.1 MB	11.0 C	9.1 C	5/8	CC

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	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	12.22	12.22	33.416	25.318	264.5	0.000	6.03	99.1	6.8	0.64	3.7	0.42	1.63	0.61	0
1	1	12.22	12.22	33.416	25.318	264.5	0.003	6.03	99.1	6.8	0.64	3.7	0.42	1.63	0.61	1
	10 ISL	12.23	12.23	33.416	25.316	264.9	0.026	6.03	99.1	6.7	0.64	3.7	0.42	1.59	0.63	10
1	15	12.23	12.23	33.416	25.316	265.1	0.040	6.03	99.1	6.7	0.64	3.7	0.42	1.56	0.65	15
	20 ISL	12.23	12.23	33.415	25.316	265.2	0.053	6.03	99.1	6.7	0.64	3.7	0.42	1.53	0.65	20
1	30	12.22	12.22	33.414	25.317	265.4	0.080	6.02	98.9	6.6	0.64	3.7	0.43	1.47	0.65	30
1	40	12.24	12.23	33.418	25.317	265.7	0.106	6.01	98.8	6.6	0.65	3.8	0.43	1.38	0.62	40
1	50	12.23	12.22	33.423	25.323	265.3	0.133	5.97	98.1	6.9	0.66	4.0	0.44	1.20	0.52	50
1	60	12.25	12.24	33.427	25.322	265.7	0.159	5.97	98.2	7.0	0.67	4.1	0.44	1.20	0.56	60
1	71	12.15	12.14	33.476	25.380	260.5	0.188	5.75	94.4	8.4	0.75	5.6	0.37	1.44	0.91	72
	75 ISL	11.95	11.94	33.510	25.444	254.4	0.198	5.43	88.8	10.3	0.89	7.8	0.39	0.97	0.71	76
1	80	11.67	11.66	33.554	25.530	246.3	0.211	4.98	80.9	12.8	1.07	10.8	0.41	0.32	0.40	81
1	95	11.08	11.07	33.644	25.708	229.7	0.247	4.19	67.3	16.6	1.29	15.1	0.09	0.11	0.21	96
	100 ISL	10.94	10.93	33.665	25.749	225.8	0.258	4.08	65.3	17.4	1.34	15.9	0.08	0.10	0.19	101
1	110	10.69	10.68	33.706	25.826	218.8	0.280	3.91	62.3	19.1	1.44	17.4	0.07	0.07	0.17	111
1	125	10.20	10.19	33.787	25.974	205.0	0.312	3.34	52.6	22.8	1.63	20.6	0.02	0.04	0.11	126
1	150	9.69	9.67	33.834	26.097	193.7	0.362	3.14	48.9	25.9	1.74	22.9	0.01	0.03	0.09	151
1	175	9.03	9.01	33.938	26.285	176.1	0.408	2.85	43.8	30.5	1.92	26.1	0.01	0.01	0.06	176
	200 ISL	8.50	8.48	34.066	26.468	159.1	0.450	2.29	34.8	38.1	2.16	28.9	0.01	0.00	0.04	202
1	206	8.39	8.37	34.090	26.504	155.8	0.459	2.18	33.0	39.8	2.21	29.4	0.01	0.00	0.04	208
1	235	8.00	7.98	34.086	26.560	150.8	0.504	2.24	33.6	42.0	2.23	30.1	0.01			237
	250 ISL	7.90	7.87	34.113	26.596	147.6	0.526	1.99	29.8	44.7	2.32	31.1	0.01			252
1	275	7.78	7.75	34.167	26.656	142.3	0.563	1.48	22.1	49.7	2.49	32.8	0.00			277
	300 ISL	7.63	7.60	34.190	26.696	138.9	0.598	1.27	18.9	52.7	2.58	33.7	0.00			303
1	330	7.42	7.39	34.202	26.736	135.5	0.639	1.13	16.8	56.0	2.65	34.6	0.00			333
1	387	6.80	6.76	34.221	26.837	126.3	0.713	0.80	11.7	65.4	2.82	36.9	0.00			390
	400 ISL	6.66	6.62	34.218	26.854	124.8	0.730	0.76	11.1	67.2	2.84	37.4	0.00			403
1	450	6.17	6.13	34.213	26.914	119.4	0.791	0.66	9.5	73.7	2.92	39.1	0.00			454
	500 ISL	5.86	5.82	34.249	26.982	113.3	0.849	0.48	6.9	80.6	3.01	40.1	0.01			504
1	517	5.76	5.72	34.262	27.005	111.3	0.868	0.42	6.0	82.9	3.04	40.4	0.01			522

RV DAVID STARR JORDAN CALCOFI CRUISE 8801 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 33.0 W	01/02/88	1224 UTC	960 M	330	18 KT			1015.4 MB	11.1 C	9.7 C	

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	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		12.11	12.11	33.441	25.358	260.7	0.000	6.16	101.0	6.0	0.64	3.8	0.38	4.57	1.53	0
	10	ISL	12.10	12.10	33.439	25.359	260.9	0.026	6.16	101.0	6.0	0.64	3.8	0.38	4.60	1.44	10
1	15		12.09	12.09	33.438	25.360	260.9	0.039	6.16	101.0	6.0	0.64	3.8	0.38	4.62	1.39	15
	20	ISL	12.10	12.10	33.438	25.358	261.2	0.052	6.16	101.0	6.0	0.64	3.8	0.38	4.61	1.39	20
	30	ISL	12.12	12.12	33.438	25.355	261.8	0.078	6.16	101.0	6.0	0.64	3.8	0.38	4.53	1.40	30
1	31		12.12	12.12	33.438	25.355	261.8	0.081	6.16	101.0	6.0	0.64	3.8	0.38	4.52	1.40	31
1	41		12.13	12.12	33.438	25.353	262.2	0.107	6.02	98.8	6.0	0.64	3.8	0.38	4.35	1.75	41
	50	ISL	12.12	12.11	33.438	25.355	262.2	0.131	6.14	100.7	6.1	0.65	4.0	0.39	4.50	1.81	50
1	51		12.12	12.11	33.438	25.355	262.3	0.133	6.15	100.9	6.1	0.65	4.0	0.39	4.52	1.82	51
1	60		12.07	12.06	33.457	25.380	260.2	0.157	5.93	97.2	7.6	0.73	5.5	0.49	2.71	1.23	60
1	70		11.99	11.98	33.492	25.422	256.4	0.183	5.65	92.4	9.3	0.86	7.3	0.60	0.65	0.62	71
	75	ISL	11.52	11.51	33.482	25.502	248.9	0.195	5.19	84.0	11.2	1.02	10.2	0.41	0.27	0.43	76
1	80		10.97	10.96	33.486	25.604	239.2	0.208	4.66	74.6	13.5	1.19	13.6	0.19	0.12	0.29	81
1	95		9.95	9.94	33.724	25.966	205.0	0.241	3.42	53.6	21.5	1.61	21.2	0.03	0.04	0.14	96
	100	ISL	9.84	9.83	33.761	26.014	200.6	0.251	3.24	50.7	22.8	1.68	22.2	0.03	0.03	0.12	101
1	U0		9.74	9.73	33.806	26.066	195.8	0.271	3.06	47.7	24.5	1.76	23.2	0.02	0.02	0.10	111
1	125		9.47	9.46	33.880	26.168	186.3	0.299	2.89	44.8	27.3	1.85	24.5	0.02	0.02	0.08	126
1	150		8.97	8.95	33.962	26.313	173.0	0.344	2.73	41.9	31.2	1.95	26.4	0.01	0.03	0.06	151
1	175		8.64	8.62	34.038	26.425	162.8	0.386	2.39	36.4	34.7	2.07	28.2	0.13	0.01	0.05	176
	200	ISL	8.31	8.29	34.078	26.507	155.4	0.426	2.32	35.1	38.5	2.16	29.3	0.04	0.01	0.04	202
1	205		8.24	8.22	34.081	26.520	154.2	0.434	2.31	34.9	39.2	2.17	29.5	0.01	0.01	0.04	207
1	234		7.76	7.74	34.068	26.581	148.7	0.478	2.33	34.8	42.6	2.21	30.5	0.01			236
	250	ISL	7.60	7.58	34.083	26.616	145.6	0.501	2.14	31.8	45.5	2.29	31.5	0.01			252
1	273		7.41	7.38	34.110	26.664	141.3	0.534	1.82	27.0	49.8	2.41	33.1	0.01			275
	300	ISL	7.13	7.10	34.114	26.707	137.5	0.572	1.63	24.0	53.6	2.49	34.3	0.01			302
1	328		6.83	6.80	34.113	26.747	133.9	0.610	1.48	21.6	57.4	2.57	35.5	0.00			331
1	387		6.26	6.23	34.149	26.852	124.5	0.686	0.95	13.7	67.6	2.79	38.5	0.00			390
	400	ISL	6.18	6.14	34.168	26.877	122.2	0.702	0.83	12.0	69.8	2.84	39.0	0.00			403
1	451		5.89	5.85	34.240	26.971	113.8	0.762	0.44	6.3	77.7	3.00	40.6	0.00			455
	500	ISL	5.57	5.53	34.258	27.025	109.0	0.817	0.36	5.1	83.3	3.05	41.6	0.00			504
1	519		5.45	5.41	34.265	27.045	107.2	0.837	0.33	4.7	85.5	3.07	42.0	0.00			524

RV DAVID STARR JORDAN CALCOFI CRUISE 8801 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 14.7 W	01/02/88	0703 UTC	3924 M	310	15 KT			1017.5 MB	12.3 C	10.4 C	

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	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	13.05	13.05	33.094	24.907	303.6	0.000	6.06	101.2	3.5	0.48	1.2	0.11-	0.44	0.21	0
1	1		13.05	13.05	33.094	24.907	303.6	0.003	6.06	101.2	3.5	0.48	1.2	0.11	0.44	0.21	1
	10	ISL	13.04	13.04	33.092	24.908	303.8	0.030	6.07	101.3	3.5	0.48	1.2	0.10	0.44	0.20	10
1	17		13.04	13.04	33.091	24.907	304.0	0.052	6.07	101.3	3.5	0.48	1.2	0.10	0.44	0.20	17
	20	ISL	13.02	13.02	33.089	24.910	303.9	0.061	6.07	101.3	3.5	0.48	1.2	0.10	0.45	0.21	20
	30	ISL	12.95	12.95	33.082	24.919	303.3	0.091	6.07	101.1	3.6	0.48	1.3	0.12	0.48	0.23	30
1	31		12.94	12.94	33.081	24.920	303.2	0.094	6.07	101.1	3.6	0.48	1.3	0.12	0.48	0.23	31
1	40		12.57	12.56	33.042	24.962	299.4	0.121	6.18	102.1	3.8	0.51	1.6	0.12	0.63	0.37	40
	50	ISL	12.45	12.44	33.032	24.977	298.2	0.151	6.24	102.8	3.5	0.51	1.6	0.12	0.67	0.33	50
1	51		12.45	12.44	33.032	24.977	298.2	0.154	6.24	102.8	3.5	0.51	1.6	0.12	0.67	0.33	51
1	60		12.33	12.32	33.038	25.005	295.8	0.181	6.20	101.9	3.9	0.54	2.1	0.15	0.62	0.28	60
1	69		11.71	11.70	33.059	25.138	283.3	0.207	5.96	96.7	5.7	0.70	4.7	0.30	0.34	0.29	70
	75	ISL	11.82	11.81	33.118	25.164	281.0	0.224	5.80	94.3	5.9	0.72	5.2	0.26	0.23	0.25	76
1	79		11.93	11.92	33.174	25.187	278.9	0.235	5.65	92.1	6.2	0.74	5.7	0.23	0.18	0.21	80
1	94		11.09	11.08	33.471	25.571	242.6	0.274	4.52	72.5	11.8	1.12	12.9	0.02	0.05	0.08	95
	100	ISL	10.67	10.66	33.510	25.676	232.7	0.288	4.25	67.6	14.2	1.27	15.5	0.02	0.03	0.06	101
1	109		10.13	10.12	33.552	25.802	220.9	0.309	4.02	63.2	17.2	1.44	18.3	0.01	0.02	0.04	II0
1	123		9.82	9.81	33.706	25.975	204.7	0.339	3.98	62.2	18.8	1.44	18.8	0.01	0.01	0.04	124
	125	ISL	9.77	9.76	33.717	25.991	203.2	0.343	3.95	61.6	19.2	1.46	19.1	0.01	0.01	0.04	126
1	147		9.26	9.24	33.794	26.135	189.8	0.386	3.58	55.3	24.0	1.66	22.4	0.01	0.01	0.03	148
	150	ISL	9.21	9.19	33.808	26.154	188.1	0.392	3.57	55.0	24.4	1.67	22.6	0.01	0.01	0.03	151
1	173		8.82	8.80	33.910	26.296	175.0	0.433	3.53	54.0	27.4	1.72	23.6	0.01	0.00	0.03	174
	200	ISL	8.34	8.32	33.982	26.427	162.9	0.479	3.18	48.1	33.0	1.88	26.2	0.00	0.00	0.03	202
1	202		8.31	8.29	33.986	26.435	162.2	0.482	3.15	47.6	33.4	1.89	26.4	0.00	0.00	0.03	204
1	232		7.91	7.89	34.030	26.529	153.6	0.530	2.78	41.7	38.8	2.06	28.7	0.00			234
	250	ISL	7.64	7.62	34.034	26.572	149.8	0.557	2.67	39.8	42.0	2.12	29.8	0.00			252
1	271		7.32	7.29	34.034	26.617	145.6	0.588	2.55	37.7	45.8	2.19	31.0	0.00			273
	300	ISL	6.95	6.92	34.046	26.678	140.1	0.629	2.21	32.4	51.3	2.33	33.0	0.00			302
1	327		6.67	6.64	34.064	26.730	135.4	0.667	1.84	26.8	56.4	2.47	34.8	0.00			330
1	384		6.30	6.27	34.126	26.828	126.7	0.741	1.10	15.9	65.8	2.75	38.0	0.00			387
	400	ISL	6.19	6.15	34.139	26.853	124.5	0.761	0.97	14.0	68.3	2.80	38.6	0.00			403
1	449		5.85	5.81	34.171	26.921	118.4	0.821	0.70	10.0	75.4	2.92	40.2	0.00			453
	500	ISL	5.54	5.50	34.199	26.982	113.0	0.880	0.54	7.7	82.0	3.01	41.4	0.00			504
1	515		5.45	5.41	34.208	27.000	111.4	0.897	0.49	6.9	83.9	3.03	41.7	0.00			520

RV DAVID STARR JORDAN CALCOFI CRUISE 8801 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 56.6 W	01/02/88	0146 UTC	4114 M	320	18 KT	330 05 05	1	1017.9 MB	11.8 C	11.4 C	3/8	SC

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	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	14.18	14.18	33.247	24.796	314.2	0.000	5.96	101.9	2.3	0.37	0.2	0.01	0.33	0.13	0
1	1		14.18	14.18	33.247	24.796	314.2	0.003	5.96	101.9	2.3	0.37	0.2	0.01	0.33	0.13	1
	10	ISL	14.18	14.18	33.246	24.796	314.5	0.031	5.95	101.8	2.2	0.37	0.2	0.01	0.32	0.12	10
1	17		14.19	14.19	33.245	24.793	315.0	0.053	5.95	101.8	2.1	0.36	0.2	0.01	0.31	0.12	17
	20	ISL	14.19	14.19	33.245	24.793	315.1	0.063	5.95	101.8	2.1	0.36	0.2	0.01	0.31	0.12	20
	30	ISL	14.20	14.20	33.245	24.791	315.5	0.094	5.96	102.0	2.1	0.35	0.2	0.01	0.32	0.13	30
1	35		14.20	14.19	33.245	24.791	315.7	0.110	5.97	102.1	2.1	0.35	0.2	0.01	0.32	0.13	35
	50	ISL	14.20	14.19	33.243	24.790	316.2	0.158	5.97	102.1	2.1	0.35	0.2	0.01	0.32	0.12	50
1	56		14.20	14.19	33.242	24.790	316.4	0.177	5.97	102.1	2.1	0.35	0.2	0.01	0.32	0.12	56
1	71		13.92	13.91	33.197	24.813	314.5	0.224	5.93	100.8	2.2	0.39	0.5	0.07	0.23	0.13	72
	75	ISL	13.72	13.71	33.163	24.828	313.2	0.236	5.90	99.9	2.4	0.42	0.8	0.13	0.19	0.13	76
1	79		13.50	13.49	33.138	24.854	310.9	0.249	5.85	98.6	2.8	0.46	1.3	0.17	0.15	0.12	80
1	90		12.91	12.90	33.216	25.032	294.1	0.282	5.56	92.6	4.5	0.61	4.1	0.07	0.11	0.11	91
1	100		12.40	12.39	33.478	25.334	265.6	0.310	5.22	86.1	6.4	0.70	6.4	0.04	0.10	0.10	101
1	109		11.33	11.32	33.479	25.535	246.5	0.333	4.80	77.4	9.7	0.97	10.8	0.02	0.06	0.06	110
1	124		10.18	10.17	33.465	25.726	228.4	0.369	4.12	64.8	16.4	1.41	17.9	0.01	0.03	0.04	125
	125	ISL	10.17	10.16	33.479	25.739	227.3	0.371	4.10	64.5	16.6	1.41	18.0	0.01	0.03	0.04	126
1	139		10.03	10.01	33.663	25.906	211.7	0.402	3.94	61.8	18.3	1.44	18.7	0.01	0.02	0.04	140
	150	ISL	9.69	9.67	33.736	26.020	201.0	0.425	3.81	59.3	20.6	1.52	20.2	0.01	0.01	0.03	151
1	160		9.37	9.35	33.778	26.105	193.0	0.444	3.66	56.6	22.9	1.61	21.8	0.01	0.01	0.03	161
1	181		9.07	9.05	33.864	26.221	182.3	0.484	3.21	49.3	27.3	1.79	24.5	0.01	0.02	0.03	182
	200	ISL	8.78	8.76	33.919	26.310	174.2	0.518	3.33	50.9	28.9	1.78	24.7	0.01	0.01	0.02	202
1	206		8.69	8.67	33.934	26.336	171.8	0.528	3.39	51.7	29.3	1.78	24.8	0.01	0.01	0.02	208
1	234		8.30	8.28	33.993	26.442	162.1	0.575	2.98	45.0	34.3	1.95	27.2	0.01			236
	250	ISL	8.10	8.07	34.017	26.491	157.6	0.600	2.82	42.4	36.9	2.02	28.2	0.01			252
1	275		7.79	7.76	34.043	26.557	151.6	0.639	2.59	38.7	41.0	2.13	29.7	0.00			277
	300	ISL	7.43	7.40	34.056	26.619	146.0	0.676	2.30	34.1	45.9	2.25	31.5	0.00			302
1	330		7.02	6.99	34.068	26.686	139.8	0.719	1.93	28.3	51.9	2.41	33.7	0.00			333
1	390		6.49	6.45	34.121	26.800	129.6	0.800	1.17	17.0	63.1	2.72	37.4	0.00			393
	400	ISL	6.41	6.37	34.127	26.815	128.3	0.813	1.09	15.8	64.7	2.75	37.8	0.00			403
1	452		6.01	5.97	34.158	26.891	121.4	0.878	0.79	11.3	72.4	2.89	39.7	0.00			456
	500	ISL	5.67	5.63	34.189	26.958	115.4	0.934	0.58	8.3	79.6	2.99	40.9	0.00			504
1	518		5.54	5.50	34.201	26.984	113.1	0.955	0.50	7.1	82.3	3.03	41.4	0.00			523

RV DAVID STARR JORDAN CALCOFI CRUISE 8801 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	31/01/88	2035 UTC	3923 M	350	18 KT	360 05 04	2	1020.5 MB	13.7 C	11.3 C	8/8	ST

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	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	13.88	13.88	33.159	24.790	314.7	0.000	6.00	101.9	2.2	0.39	0.3	0.02	0.44	0.16	0
1	1		13.88	13.88	33.159	24.790	314.8	0.003	6.00	101.9	2.2	0.39	0.3	0.02	0.44	0.16	1
	10	ISL	13.87	13.87	33.158	24.792	314.9	0.031	6.00	101.9	2.2	0.39	0.3	0.02	0.43	0.17	10
1	17		13.86	13.86	33.157	24.793	314.9	0.054	6.00	101.9	2.2	0.39	0.3	0.02	0.42	0.18	17
	20	ISL	13.86	13.86	33.157	24.793	315.0	0.063	6.00	101.9	2.2	0.39	0.3	0.02	0.42	0.18	20
	30	ISL	13.87	13.87	33.157	24.792	315.5	0.094	6.00	101.9	2.3	0.39	0.3	0.02	0.42	0.19	30
1	37		13.88	13.87	33.157	24.790	315.8	0.117	5.99	101.8	2.4	0.39	0.3	0.02	0.43	0.19	37
	50	ISL	13.88	13.87	33.156	24.789	316.2	0.158	5.97	101.4	2.5	0.39	0.3	0.03	0.43	0.20	50
1	56		13.88	13.87	33.156	24.790	316.4	0.177	5.96	101.2	2.6	0.39	0.3	0.04	0.43	0.20	56
1	71		13.77	13.76	33.143	24.802	315.5	0.224	5.94	100.7	2.8	0.42	0.6	0.10	0.23	0.15	72
	75	ISL	13.77	13.76	33.143	24.803	315.7	0.237	5.91	100.1	3.2	0.42	0.7	0.10	0.20	0.14	76
1	81		13.77	13.76	33.142	24.802	315.9	0.256	5.88	99.6	3.6	0.43	0.7	0.10	0.17	0.13	82
1	90		13.73	13.72	33.144	24.812	315.2	0.284	5.88	99.6	3.0	0.44	0.7	0.11	0.14	0.10	91
1	100		13.77	13.76	33.148	24.807	315.9	0.316	5.87	99.5	3.0	0.43	0.8	0.11	0.10	0.09	101
1	111		13.59	13.57	33.166	24.858	311.4	0.350	5.75	97.1	3.7	0.48	1.6	0.18	0.08	0.08	112
1	125		11.99	11.97	33.298	25.273	271.9	0.391	5.01	81.9	8.3	0.87	8.4	0.02	0.07	0.08	126
1	139		11.16	11.14	33.457	25.549	245.8	0.427	4.56	73.2	12.1	1.10	12.6	0.02	0.04	0.07	140
	150	ISL	10.51	10.49	33.567	25.750	226.9	0.453	4.23	67.0	15.7	1.29	16.0	0.01	0.02	0.05	151
1	159		10.04	10.02	33.647	25.892	213.4	0.473	3.99	62.6	18.7	1.43	18.4	0.01	0.01	0.03	160
1	180		9.29	9.27	33.797	26.133	190.7	0.515	3.66	56.5	24.0	1.62	21.9	0.01	0.01	0.02	181
	200	ISL	8.89	8.87	33.901	26.279	177.2	0.552	3.63	55.6	27.0	1.68	22.9	0.01	0.00	0.02	202
1	205		8.82	8.80	33.921	26.305	174.7	0.561	3.62	55.4	27.8	1.69	23.1	0.01	0.00	0.02	207
1	233		8.34	8.32	34.002	26.443	162.0	0.608	2.90	43.9	35.7	1.98	27.2	0.01			235
	250	ISL	8.09	8.06	34.027	26.500	156.8	0.635	2.71	40.8	38.8	2.07	28.5	0.01			252
1	272		7.80	7.77	34.043	26.556	151.7	0.669	2.59	38.7	41.8	2.13	29.5	0.00			274
	300	ISL	7.47	7.44	34.045	26.605	147.4	0.711	2.49	36.9	45.4	2.20	30.6	0.00			302
1	328		7.13	7.10	34.038	26.648	143.6	0.752	2.37	34.9	49.4	2.27	31.8	0.00			331
1	384		6.26	6.23	34.045	26.769	132.2	0.829	1.80	25.9	61.5	2.54	35.7	0.00			387
	400	ISL	6.11	6.07	34.061	26.801	129.2	0.850	1.57	22.6	64.7	2.62	36.7	0.00			403
1	448		5.80	5.76	34.121	26.888	121.4	0.910	0.93	13.3	73.4	2.85	39.4	0.00			452
	500	ISL	5.49	5.45	34.180	26.973	113.8	0.971	0.60	8.5	81.3	2.99	41.0	0.00			504
1	515		5.40	5.36	34.197	26.997	111.6	0.988	0.51	7.2	83.6	3.03	41.5	0.00			519

RV DAVID STARR JORDAN CALCOFI CRUISE 8801 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	30/01/88	1451 UTC	72 M	290	18 KT	290 04 07	1	1020.1 MB	12.5 C	11.7 C	2/8	SC

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	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	12.96	12.96	33.470	25.216	274.2	0.000	6.31	105.4	6.3	0.53	2.4	0.12	2.29	0.45	0
1	1		12.96	12.96	33.470	25.216	274.2	0.003	6.31	105.4	6.3	0.53	2.4	0.12	2.29	0.45	1
	10	ISL	12.96	12.96	33.470	25.217	274.4	0.027	6.28	104.9	6.2	0.52	2.4	0.12	2.28	0.39	10
1	11		12.96	12.96	33.470	25.217	274.4	0.030	6.28	104.9	6.2	0.52	2.4	0.12	2.28	0.38	11
	20	ISL	12.59	12.59	33.459	25.281	268.6	0.055	6.07	100.6	7.0	0.63	3.9	0.20	1.48	0.69	20
1	21		12.55	12.55	33.458	25.288	267.9	0.057	6.04	100.0	7.1	0.64	4.1	0.21	1.39	0.73	21
	30	ISL	12.46	12.46	33.461	25.308	266.3	0.081	5.91	97.6	7.2	0.68	4.6	0.25	1.16	0.73	30
1	31		12.45	12.45	33.463	25.311	266.0	0.084	5.90	97.5	7.2	0.69	4.7	0.26	1.14	0.73	31
1	41		11.92	11.91	33.542	25.473	250.8	0.110	5.03	82.2	11.2	0.99	9.3	0.40	0.43	0.40	41
	50	ISL	11.55	11.54	33.596	25.584	240.4	0.132	4.73	76.7	13.9	1.13	11.7	0.36	0.30	0.37	50
1	51		11.51	11.50	33.602	25.596	239.3	0.134	4.70	76.2	14.2	1.15	12.0	0.35	0.29	0.37	51

RV DAVID STARR JORDAN CALCOFI CRUISE 8801 STATION 80 55

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
34 19.1 N	120 48.1 W	30/01/88	1730 UTC	797 M	320	20 KT	330 04 05	1	1020.9 MB	13.8 C	12.8 C	6/8	CU

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	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		12.61	12.61	33.324	25.172	278.4	0.000	6.66	110.3	2.9	0.47	1.1	0.10	4.49	1.64	0
	10	ISL	12.54	12.54	33.324	25.185	277.4	0.028	6.64	109.8	2.9	0.48	1.2	0.11	4.43	1.86	10
1	11		12.53	12.53	33.324	25.187	277.2	0.031	6.64	109.8	2.9	0.48	1.2	0.11	4.42	1.88	11
1	20		12.49	12.49	33.323	25.195	276.8	0.055	6.54	108.0	3.3	0.52	1.7	0.13	4.30	1.52	20
1	30		12.22	12.22	33.335	25.256	271.2	0.083	5.92	97.2	6.3	0.69	4.9	0.42	1.11	0.68	30
1	40		12.16	12.15	33.354	25.282	268.9	0.110	5.80	95.2	6.8	0.75	5.6	0.60	0.51	0.48	40
	50	ISL	12.14	12.13	33.390	25.314	266.1	0.137	5.73	94.0	7.3	0.77	6.0	0.57	0.29	0.31	50
1	51		12.14	12.13	33.394	25.317	265.9	0.139	5.72	93.8	7.4	0.77	6.1	0.57	0.28	0.30	51
1	60		11.98	11.97	33.403	25.355	262.5	0.163	5.51	90.1	8.4	0.83	7.2	0.50	0.18	0.28	60
1	71		11.22	11.21	33.510	25.578	241.5	0.191	4.64	74.7	13.4	1.13	12.8	0.19	0.09	0.18	72
	75	ISL	10.92	10.91	33.558	25.669	232.9	0.200	4.34	69.4	15.4	1.25	14.8	0.13	0.07	0.16	76
1	85		10.25	10.24	33.672	25.875	213.5	0.223	3.73	58.8	20.0	1.50	19.1	0.05	0.04	0.12	86
1	100		9.79	9.78	33.763	26.024	199.6	0.254	3.33	52.0	23.9	1.66	21.8	0.02	0.02	0.09	101
1	120		9.26	9.25	33.884	26.205	182.6	0.292	3.20	49.4	28.5	1.83	24.6	0.02	0.01	0.05	121
	125	ISL	9.18	9.17	33.907	26.236	179.8	0.301	3.10	47.8	29.5	1.86	25.0	0.02	0.01	0.05	126
1	145		8.93	8.91	33.977	26.331	171.2	0.336	2.69	41.3	32.8	1.95	26.3	0.02	0.01	0.04	146
	150	ISL	8.86	8.84	33.992	26.354	169.1	0.344	2.65	40.6	33.5	1.97	26.6	0.02	0.01	0.04	151
1	175		8.56	8.54	34.047	26.444	160.9	0.386	2.52	38.3	36.5	2.06	27.9	0.01	0.01	0.04	176
	200	ISL	8.44	8.42	34.076	26.485	157.4	0.426	2.34	35.5	39.0	2.13	28.8	0.01	0.00	0.03	202
1	206		8.42	8.40	34.081	26.492	156.9	0.435	2.29	34.7	39.6	2.15	29.0	0.01	0.00	0.03	208
1	234		8.23	8.21	34.108	26.543	152.5	0.478	2.06	31.1	42.8	2.24	30.0	0.01			236
	250	ISL	8.08	8.05	34.127	26.580	149.2	0.502	1.87	28.1	45.2	2.32	30.9	0.01			252
1	274		7.84	7.81	34.157	26.640	143.9	0.538	1.58	23.7	48.9	2.44	32.3	0.00*			276
	300	ISL	7.67	7.64	34.188	26.689	139.6	0.574	1.30	19.4	52.3	2.56	33.5	0.00			302
1	329		7.47	7.44	34.213	26.738	135.3	0.614	1.05	15.6	56.0	2.67	34.6	0.00			332
1	387		6.83	6.79	34.215	26.829	127.2	0.690	0.81	11.8	65.0	2.80	36.9	0.00			390
	400	ISL	6.63	6.59	34.206	26.849	125.3	0.707	0.77	11.2	67.4	2.83	37.6	0.00			403
1	451		5.94	5.90	34.190	26.925	118.1	0.769	0.61	8.7	75.9	2.94	39.9	0.00			455
	500	ISL	5.84	5.80	34.254	26.989	112.7	0.825	0.41	5.9	79.9	3.01	40.5	0.00			504
1	518		5.81	5.77	34.277	27.011	110.8	0.846	0.34	4.9	81.4	3.04	40.7	0.00			523

RV DAVID STARR JORDAN CALCOFI CRUISE 8801 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	30/01/88	2202 UTC	2040 M	320	22 KT	310 04 04	1	1019.8 MB	13.8 C	12.1 C	3/8	CU

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	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	12.39	12.39	33.192	25.112	284.1	0.000	6.48	106.7	3.1	0.52	2.1	0.18	1.64	0.61	0
1	1		12.39	12.39	33.192	25.112	284.2	0.003	6.48	106.7	3.1	0.52	2.1	0.18	1.64	0.61	1
	10	ISL	12.37	12.37	33.191	25.115	284.1	0.028	6.45	106.2	3.3	0.52	2.0	0.18	1.60	0.62	10
1	11		12.37	12.37	33.191	25.115	284.1	0.031	6.44	106.0	3.3	0.52	2.0	0.18	1.59	0.62	11
	20	ISL	12.34	12.34	33.190	25.120	283.8	0.057	6.40	105.3	3.4	0.54	2.3	0.20	1.63	0.79	20
1	21		12.34	12.34	33.190	25.120	283.8	0.060	6.39	105.1	3.4	0.54	2.3	0.20	1.63	0.81	21
	30	ISL	12.26	12.26	33.192	25.137	282.4	0.085	6.14	100.9	4.4	0.60	3.3	0.28	1.22	0.68	30
1	31		12.25	12.25	33.191	25.138	282.4	0.088	6.11	100.3	4.6	0.61	3.5	0.29	1.16	0.66	31
1	41		12.07	12.06	33.271	25.235	273.5	0.116	5.76	94.3	6.8	0.73	5.6	0.32	0.55	0.49	41
	50	ISL	12.13	12.12	33.421	25.340	263.7	0.140	5.68	93.2	8.3	0.79	6.6	0.51	0.54	0.45	50
1	51		12.14	12.13	33.436	25.350	262.8	0.143	5.68	93.2	8.4	0.80	6.7	0.53	0.54	0.45	51
1	61		11.95	11.94	33.471	25.413	257.0	0.169	5.49	89.7	9.5	0.88	8.2	0.48	0.28	0.43	61
1	70		11.11	11.10	33.498	25.588	240.5	0.191	4.54	72.9	13.8	1.20	13.8	0.13	0.09	0.17	71
	75	ISL	10.78	10.77	33.549	25.687	231.2	0.203	4.12	65.7	16.1	1.34	16.3	0.09	0.07	0.15	76
1	85		10.32	10.31	33.662	25.855	215.4	0.225	3.51	55.4	20.0	1.55	19.9	0.02	0.04	0.11	86
1	99		10.02	10.01	33.748	25.973	204.4	0.254	3.20	50.2	23.2	1.69	21.9	0.01	0.02	0.09	100
	100	ISL	10.00	9.99	33.753	25.981	203.7	0.256	3.19	50.0	23.4	1.70	22.0	0.01	0.02	0.09	101
1	119		9.57	9.56	33.823	26.107	192.0	0.294	3.05	47.4	26.4	1.79	23.7	0.01	0.02	0.08	120
	125	ISL	9.45	9.44	33.839	26.139	189.1	0.305	3.04	47.1	27.0	1.81	24.0	0.01	0.02	0.07	126
1	145		9.09	9.07	33.890	26.237	180.1	0.342	3.01	46.3	29.0	1.86	25.1	0.01	0.01	0.05	146
	150	ISL	8.99	8.97	33.908	26.268	177.3	0.351	2.97	45.6	29.9	1.88	25.5	0.01	0.01	0.05	151
1	175		8.51	8.49	33.992	26.408	164.3	0.394	2.76	41.9	34.8	2.00	27.3	0.01	0.00	0.04	176
	200	ISL	8.23	8.21	34.023	26.476	158.3	0.434	2.67	40.3	37.6	2.06	28.1	0.00	0.00	0.04	202
1	205		8.18	8.16	34.026	26.485	157.4	0.442	2.65	40.0	38.1	2.07	28.3	0.00	0.00	0.04	207
1	234		7.84	7.82	34.059	26.562	150.5	0.487	2.28	34.1	43.2	2.22	30.4	0.00			236
	250	ISL	7.62	7.60	34.071	26.604	146.7	0.511	2.07	30.8	46.4	2.31	31.6	0.00			252
1	273		7.31	7.28	34.086	26.660	141.7	0.544	1.79	26.5	50.9	2.44	33.2	0.00			275
	300	ISL	7.01	6.98	34.103	26.715	136.7	0.581	1.53	22.5	55.6	2.55	34.7	0.00			302
1	330		6.73	6.70	34.123	26.769	131.8	0.622	1.29	18.8	60.3	2.65	36.0	0.00			333
1	387		6.40	6.37	34.170	26.850	124.7	0.695	0.84	12.2	68.6	2.84	38.1	0.00			390
	400	ISL	6.34	6.30	34.175	26.862	123.8	0.711	0.78	11.3	69.9	2.86	38.4	0.00			403
1	451		6.09	6.05	34.195	26.910	119.7	0.773	0.61	8.8	74.5	2.94	39.4	0.00			455
	500	ISL	5.79	5.75	34.228	26.974	114.0	0.830	0.45	6.4	80.4	3.02	40.5	0.00			504
1	517		5.69	5.65	34.239	26.996	112.1	0.850	0.40	5.7	82.4	3.05	40.9	0.00			522

RV DAVID STARR JORDAN CALCOFI CRUISE 8801 STATION 80 70

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
33 49.2 N	121 50.6 W	31/01/88	0335 UTC	3800 M	320	24 KT			1019.8 MB	12.5 C	10.8 C		

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	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	13.13	13.13	33.149	24.934	301.1	0.000	6.12	102.4	3.3	0.47	1.2	0.08	0.82	0.32	0
1	1	13.13	13.13	33.149	24.934	301.1	0.003	6.12	102.4	3.3	0.47	1.2	0.08	0.82	0.32	1
	10 ISL	13.12	13.12	33.146	24.934	301.3	0.030	6.13	102.5	3.2	0.47	1.2	0.08	0.81	0.30	10
1	16	13.11	13.11	33.145	24.935	301.3	0.048	6.13	102.5	3.2	0.47	1.2	0.08	0.81	0.29	16
	20 ISL	12.89	12.89	33.150	24.983	297.0	0.060	6.12	101.9	3.5	0.50	1.7	0.11	0.93	0.36	20
	30 ISL	12.30	12.30	33.155	25.101	285.9	0.089	6.07	99.8	4.5	0.59	3.1	0.20	1.07	0.49	30
1	31	12.24	12.24	33.155	25.112	284.9	0.092	6.06	99.5	4.6	0.60	3.3	0.21	1.07	0.50	31
1	40	11.99	11.98	33.128	25.139	282.5	0.118	5.95	97.1	5.5	0.66	4.3	0.26	0.62	0.38	40
	50 ISL	11.98	11.97	33.185	25.185	278.4	0.146	5.86	95.7	6.0	0.71	4.9	0.36	0.47	0.35	50
1	51	11.98	11.97	33.191	25.190	278.0	0.149	5.86	95.7	6.0	0.71	5.0	0.37	0.46	0.35	51
1	60	12.51	12.50	33.356	25.217	275.6	0.173	5.93	98.0	5.6	0.64	3.8	0.42	0.82	0.63	60
1	71	12.43	12.42	33.362	25.238	274.0	0.204	5.76	95.0	6.5	0.69	4.6	0.58	0.41	0.46	72
	75 ISL	12.39	12.38	33.375	25.255	272.4	0.215	5.71	94.1	6.8	0.71	5.0	0.57	0.41	0.43	76
1	81	12.29	12.28	33.399	25.293	268.9	0.231	5.62	92.5	7.5	0.75	5.8	0.51	0.42	0.38	82
1	96	11.65	11.64	33.468	25.467	252.7	0.270	5.08	82.5	11.0	0.99	10.2	0.27	0.16	0.19	97
	100 ISL	11.61	11.60	33.495	25.496	250.1	0.280	5.03	81.6	11.5	1.02	10.6	0.27	0.16	0.19	101
1	110	11.38	11.37	33.583	25.607	239.7	0.304	4.75	76.7	13.7	1.13	12.5	0.26	0.15	0.19	111
1	125	9.98	9.97	33.795	26.017	200.8	0.338	3.23	50.7	23.8	1.67	21.8	0.02	0.07	0.12	126
	150 ISL	9.41	9.39	33.935	26.221	181.8	0.385	2.77	42.9	29.5	1.88	25.0	0.01	0.05	0.10	151
1	151	9.39	9.37	33.931	26.222	181.8	0.387	2.75	42.6	29.5	1.89	25.1	0.01	0.05	0.10	152
1	175	8.91	8.89	33.937	26.303	174.4	0.430	2.91	44.6	31.0	1.91	25.8	0.01	0.04	0.07	176
	200 ISL	8.62	8.60	33.996	26.395	166.1	0.472	2.83	43.1	34.0	1.97	26.9	0.01	0.05	0.07	202
1	205	8.57	8.55	34.009	26.413	164.4	0.481	2.79	42.4	34.7	1.98	27.2	0.01	0.05	0.07	207
1	232	8.25	8.23	34.038	26.485	158.0	0.524	2.61	39.4	38.0	2.07	28.5	0.01			234
	250 ISL	7.98	7.95	34.060	26.542	152.7	0.552	2.39	35.9	41.6	2.16	29.8	0.01			252
1	271	7.72	7.69	34.092	26.606	146.9	0.584	2.09	31.2	46.1	2.29	31.3	0.00			273
	300 ISL	7.68	7.65	34.157	26.663	142.0	0.626	1.60	23.9	50.4	2.47	32.8	0.00			302
1	323	7.66	7.63	34.201	26.701	138.8	0.658	1.25	18.6	53.5	2.59	33.8	0.00			326
1	378	6.98	6.94	34.202	26.798	130.1	0.732	0.97	14.2	62.0	2.75	36.2	0.00			381
	400 ISL	6.73	6.69	34.209	26.838	126.4	0.760	0.84	12.3	65.5	2.81	37.2	0.00			403
1	441	6.28	6.24	34.221	26.907	120.1	0.811	0.62	9.0	72.2	2.92	38.9	0.00			445
	500 ISL	5.65	5.61	34.217	26.983	113.1	0.879	0.48	6.8	82.2	3.03	41.0	0.00			504
1	508	5.57	5.53	34.217	26.993	112.1	0.888	0.46	6.5	83.6	3.05	41.3	0.00			512

RV DAVID STARR JORDAN CALCOFI CRUISE 8801 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	31/01/88	0914 UTC	3733 M	330	20 KT			1019.6 MB	11.7 C	9.6. C		

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	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	13.66	13.66	33.159	24.835	310.4	0.000	6.03	102.0	2.7	0.42	0.5	0.03	0.40	0.21	0
1	2	13.66	13.66	33.159	24.835	310.5	0.006	6.03	102.0	2.7	0.42	0.5	0.03	0.40	0.21	2
	10 ISL	13.66	13.66	33.159	24.835	310.7	0.031	6.04	102.1	2.7	0.42	0.5	0.03	0.40	0.21	10
1	17	13.66	13.66	33.159	24.836	310.9	0.053	6.05	102.3	2.6	0.41	0.5	0.03	0.40	0.22	17
	20 ISL	13.66	13.66	33.159	24.836	310.9	0.062	6.06	102.5	2.6	0.41	0.5	0.03	0.40	0.22	20
	30 ISL	13.67	13.67	33.158	24.833	311.5	0.093	6.08	102.8	2.6	0.40	0.5	0.03	0.39	0.23	30
1	37	13.68	13.67	33.157	24.831	311.9	0.115	6.08	102.9	2.6	0.40	0.5	0.03	0.39	0.24	37
	50 ISL	13.48	13.47	33.141	24.859	309.5	0.155	6.03	101.6	2.9	0.44	1.0	0.06	0.39	0.26	50
1	56	13.37	13.36	33.133	24.875	308.2	0.174	6.01	101.0	3.0	0.46	1.2	0.08	0.39	0.27	56
1	72	13.13	13.12	33.125	24.917	304.6	0.223	6.01	100.5	3.3	0.48	1.5	0.10	0.35	0.23	73
	75 ISL	13.05	13.04	33.122	24.931	303.3	0.232	5.98	99.8	3.5	0.50	1.7	0.12	0.31	0.21	76
1	81	12.89	12.88	33.121	24.962	300.5	0.250	5.89	98.0	4.0	0.54	2.3	0.17	0.23	0.17	82
1	92	12.74	12.73	33.162	25.023	295.0	0.283	5.73	95.0	4.6	0.59	3.4	0.20	0.13	0.12	93
	100 ISL	12.69	12.68	33.174	25.042	293.3	0.307	5.65	93.6	4.9	0.62	3.7	0.19	0.11	0.11	101
1	101	12.68	12.67	33.177	25.047	293.0	0.309	5.64	93.4	4.9	0.62	3.8	0.19	0.11	0.11	102
1	111	12.49	12.48	33.250	25.140	284.3	0.338	5.40	89.1	5.9	0.70	5.5	0.14	0.08	0.10	112
1	125	11.40	11.38	33.409	25.468	253.2	0.376	4.83	78.0	10.1	0.97	10.4	0.04	0.06	0.08	126
1	142	10.47	10.45	33.568	25.757	226.0	0.417	4.26	67.4	15.8	1.29	16.0	0.01	0.03	0.06	143
	150 ISL	10.03	10.01	33.654	25.899	212.5	0.434	4.02	63.1	18.8	1.42	18.3	0.01	0.02	0.05	151
1	161	9.51	9.49	33.762	26.070	196.4	0.457	3.74	58.0	22.6	1.57	21.0	0.01	0.02	0.03	162
1	182	8.96	8.94	33.862	26.237	180.8	0.496	3.47	53.2	27.1	1.73	23.6	0.01	0.01	0.04	183
	200 ISL	8.64	8.62	33.938	26.347	170.6	0.528	3.12	47.5	31.2	1.87	25.6	0.01	0.01	0.04	202
1	207	8.54	8.52	33.961	26.380	167.6	0.540	3.00	45.6	32.7	1.91	26.3	0.01	0.01	0.04	209
1	236	8.07	8.05	34.005	26.486	157.9	0.587	2.97	44.7	37.2	1.99	27.6	0.01			238
	250 ISL	7.82	7.80	34.012	26.528	154.0	0.609	2.90	43.4	39.8	2.04	28.4	0.01			252
1	275	7.41	7.38	34.020	26.594	148.0	0.647	2.71	40.1	44.4	2.14	30.0	0.01			277
	300 ISL	7.15	7.12	34.034	26.641	143.7	0.683	2.44	35.9	48.4	2.25	31.5	0.01			302
1	330	6.92	6.89	34.053	26.688	139.6	0.726	2.07	30.3	53.0	2.39	33.3	0.00			333
1	389	6.48	6.44	34.091	26.777	131.7	0.806	1.39	20.1	62.2	2.64	36.5	0.00			392
	400 ISL	6.39	6.35	34.098	26.795	130.1	0.820	1.29	18.7	63.9	2.68	37.0	0.00			403
1	453	5.92	5.88	34.130	26.880	122.4	0.887	0.90	12.9	72.8	2.85	39.3	0.00			457
	500 ISL	5.50	5.46	34.161	26.957	115.3	0.943	0.64	9.1	81.7	2.97	40.8	0.00			504
2	505	5.46	5.42	34.165	26.964	114.6	0.948	0.61	8.6	82.6	2.98	41.0	0.00			509

RV DAVID STARR JORDAN | CALCOFI CRUISE 8801 | STATION 80 90

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
33 9.1 N	123 13.3 W	31/01/88	1449 UTC	4266 M	350	20 KT	3 40 05 09	1	1019.0 MB	12.5 C	10.1 C	7/8	SC

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	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	13.75	13.75	33.154	24.813	312.6	0.000	6.03	102.2	2.5	0.40	0.3	0.03	0.43	0.22	0
1	1		13.75	13.75	33.154	24.813	312.6	0.003	6.03	102.2	2.5	0.40	0.3	0.03	0.43	0.22	1
	10	ISL	13.75	13.75	33.155	24.814	312.7	0.031	6.02	102.0	2.5	0.40	0.3	0.03	0.42	0.23	10
1	15		13.75	13.75	33.155	24.814	312.9	0.047	6.01	101.8	2.5	0.40	0.3	0.03	0.42	0.23	15
	20	ISL	13.75	13.75	33.155	24.814	313.0	0.063	6.02	102.0	2.5	0.40	0.3	0.03	0.42	0.23	20
1	30		13.76	13.76	33.155	24.813	313.4	0.094	6.03	102.2	2.5	0.40	0.3	0.03	0.41	0.23	30
1	40		13.77	13.76	33.154	24.810	314.0	0.125	6.01	101.9	2.5	0.39	0.3	0.03	0.39	0.20	40
1	50		13.74	13.73	33.157	24.819	313.4	0.157			2.5	0.41	0.5	0.04	0.42	0.26	50
1	60		13.66	13.65	33.156	24.835	312.2	0.188	5.99	101.3	2.6	0.42	0.5	0.04	0.34	0.26	60
1	75		13.50	13.49	33.142	24.857	310.5	0.235	5.97	100.6	2.7	0.44	0.8	0.07	0.26	0.26	76
1	91		13.37	13.36	33.134	24.877	308.9	0.284	5.94	99.8	2.7	0.46	1.0	0.10	0.18	0.15	92
	100	ISL	13.26	13.25	33.141	24.905	306.5	0.312	5.87	98.4	3.1	0.50	1.5	0.15	0.14	0.12	101
1	106		13.10	13.09	33.147	24.941	303.2	0.330	5.84	97.6	3.4	0.52	1.9	0.17	0.12	0.10	107
1	121		12.02	12.00	33.311	25.277	271.4	0.373	5.03	82.2	7.6	0.85	8.1	0.05	0.06	0.08	122
	125	ISL	11.75	11.73	33.353	25.360	263.6	0.384	4.84	78.7	9.0	0.94	9.7	0.04	0.05	0.08	126
1	141		10.81	10.79	33.514	25.656	235.7	0.424	4.17	66.5	14.8	1.28	15.5	0.01	0.04	0.06	142
	150	ISL	10.43	10.41	33.600	25.789	223.1	0.445	3.85	60.9	17.9	1.43	18.0	0.01	0.02	0.04	151
1	160		10.08	10.06	33.684	25.915	211.3	0.466	3.55	55.8	20.9	1.57	20.3	0.01	0.01	0.03	161
1	186		9.41	9.39	33.826	26.137	190.6	0.518	3.20	49.6	26.0	1.77	23.7	0.01	0.01	0.03	187
	200	ISL	9.22	9.20	33.903	26.228	182.1	0.545	2.98	46.0	28.5	1.86	25.0	0.01	0.01	0.03	202
1	220		9.01	8.99	33.994	26.333	172.5	0.580	2.68	41.2	31.9	1.98	26.5	0.01	0.00	0.03	222
	250	ISL	8.59	8.56	34.060	26.451	161.8	0.630	2.42	36.8	36.6	2.11	28.3	0.00			252
1	255		8.51	8.48	34.065	26.467	160.2	0.638	2.39	36.3	37.3	2.13	28.5	0.00			257
1	295		7.81	7.78	34.063	26.570	150.8	0.700	2.40	35.9	42.9	2.19	30.0	0.00			297
	300	ISL	7.74	7.71	34.064	26.581	149.8	0.708	2.37	35.4	43.7	2.21	30.3	0.00			302
1	349		7.14	7.11	34.080	26.680	140.9	0.779	1.90	28.0	52.4	2.41	33.3	0.00			352
	400	ISL	6.71	6.67	34.123	26.772	132.6	0.849	1.32	19.2	60.6	2.64	36.1	0.00			403
1	413		6.61	6.57	34.135	26.795	130.5	0.866	1.17	17.0	62.7	2.70	36.8	0.00			416
1	481		5.95	5.91	34.193	26.927	118.4	0.951	0.63	9.0	75.8	2.94	39.9	0.00			485
	500	ISL	5.83	5.79	34.204	26.950	116.3	0.973	0.57	8.1	78.2	2.97	40.3	0.00			504
1	560		5.45	5.40	34.239	27.025	109.6	1.041	0.39	5.5	85.6	3.06	41.5	0.00			565

RV DAVID STARR JORDAN | CALCOFI CRUISE 8801 | 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 2.3 W	30/01/88	1058 UTC	573 M	280	20 KT			1018.2 MB	12.8 C	11.9 C		

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	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	12.73	12.73	33.453	25.248	271.1	0.000	6.07	100.9	7.0	0.63	3.8	0.16*	1.20	0.40	0
1	2	A	12.73	12.73	33.453	25.248	271.2	0.005	6.07	100.9	7.0	0.63	3.8	0.16	1.20	0.40	2
	10	ISL	12.69	12.69	33.453	25.256	270.6	0.027	6.08	100.9	7.0	0.61	3.8	0.16	1.25	0.38	10
1	12		12.68	12.68	33.453	25.258	270.5	0.033	6.08	100.9	7.0	0.61	3.8	0.16	1.27	0.38	12
	20	ISL	12.66	12.66	33.457	25.265	270.0	0.054	6.06	100.5	7.1	0.63	4.0	0.16	1.37	0.48	20
1	27		12.65	12.65	33.461	25.271	269.7	0.073	6.04	100.2	7.1	0.64	4.1	0.16	1.45	0.57	27
	30	ISL	12.59	12.59	33.468	25.288	268.2	0.081	5.96	98.7	7.5	0.67	4.6	0.18	1.34	0.56	30
1	41		12.29	12.28	33.500	25.371	260.6	0.110	5.59	92.0	9.2	0.81	6.9	0.28	0.82	0.46	41
	50	ISL	12.05	12.04	33.525	25.436	254.6	0.133	5.34	87.5	10.5	0.91	8.4	0.34	0.48	0.36	50
1	56		11.89	11.88	33.543	25.480	250.5	0.148	5.17	84.4	11.5	0.97	9.4	0.36	0.31	0.29	56
1	72		11.43	11.42	33.607	25.615	238.0	0.188	4.68	75.7	14.7	1.15	12.6	0.34	0.16	0.22	73
	75	ISL	11.29	11.28	33.627	25.656	234.1	0.195	4.50	72.6	15.8	1.21	13.7	0.29	0.15	0.23	76
1	87		10.69	10.68	33.711	25.829	217.9	0.222	3.81	60.7	19.8	1.46	17.9	0.10	0.11	0.25	88
	100	ISL	10.22	10.21	33.769	25.956	206.1	0.249	3.45	54.4	21.8	1.59	20.2	0.03	0.04	0.11	101
1	102		10.17	10.16	33.776	25.970	204.8	0.253	3.41	53.7	22.0	1.60	20.4	0.03	0.03	0.09	103
1	117		10.01	10.00	33.821	26.032	199.2	0.284	3.17	49.8	24.2	1.71	21.9	0.03	0.04	0.09	118
	125	ISL	9.89	9.88	33.852	26.077	195.1	0.300	3.03	47.4	25.7	1.77	22.8	0.02	0.04	0.09	126
1	142		9.62	9.60	33.914	26.170	186.5	0.332	2.76	43.0	28.6	1.89	24.4	0.01	0.04	0.10	143
	150	ISL	9.53	9.51	33.930	26.198	184.1	0.347	2.72	42.3	29.3	1.91	24.8	0.01	0.03	0.09	151
1	173		9.30	9.28	33.972	26.269	177.8	0.388	2.60	40.2	31.5	1.98	25.8	0.01	0.01	0.06	174
	200	ISL	9.00	8.98	34.058	26.384	167.2	0.435	2.13	32.7	36.7	2.17	28.0	0.01	0.01	0.06	202
1	202		8.98	8.96	34.064	26.392	166.5	0.438	2.09	32.1	37.1	2.18	28.2	0.01	0.01	0.06	204
1	240		8.62	8.59	34.121	26.494	157.5	0.500	1.64	25.0	42.8	2.37	30.4	0.01	0.01	0.05	242
	250	ISL	8.47	8.44	34.137	26.530	154.2	0.515	1.51	22.9	45.0	2.42	31.0	0.01	0.01	0.05	252
1	290		7.87	7.84	34.185	26.657	142.5	0.575	1.08	16.2	54.2	2.62	33.2	0.01	0.01	0.05	292
	300	ISL	7.74	7.71	34.188	26.679	140.6	0.589	1.02	15.2	56.1	2.65	33.6	0.01			302
1	339		7.33	7.30	34.191	26.740	135.1	0.643	0.85	12.6	62.5	2.76	34.7	0.01			342
1	387		7.06	7.02	34.215	26.797	130.3	0.706	0.56	8.2	69.1	2.92	35.1	0.01			390
	400	ISL	6.93	6.89	34.225	26.823	128.0	0.723	0.44	6.5	72.9	2.98	34.9	0.01			403
1	428		6.67	6.63	34.243	26.873	123.5	0.758	0.20	2.9	81.4	3.11	34.0	0.01			432
1	466		6.54	6.50	34.250	26.896	121.8	0.805	0.12	1.7	88.4	3.21	32.0	0.00			470
1	495		6.49	6.44	34.254	26.906	121.2	0.840	0.08	1.2	93.1	3.27	30.1	0.01			499
	500	ISL	6.48	6.43	34.255	26.908	121.1	0.846	0.06	0.9	95.6	3.31	28.8	0.01			504
1	516		6.45	6.40	34.256	26.913	120.8	0.866	0.01	0.1	103.0	3.45	24.9	0.01			521
1	535		6.44	6.39	34.256	26.915	120.9	0.889	0.02	0.3	104.8	3.52	23.8	0.01			540
1	555		6.40	6.35	34.257	26.921	120.6	0.913	0.06	0.9	97.1	3.36	28.3	0.01			560
1	571		6.30	6.25	34.260	26.936	119.2	0.932	0.23	3.3	90.0	3.24	32.3	0.15			576

A) SANTA BARBARA BASIN STATION.

RV DAVID STARR JORDAN CALCOFI CRUISE 8801 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	30/01/88	0636 UTC	34 M	070	08 KT			1019.5 MB	12.3 C	12.0 C		

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	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	13.36	13.36	33.447	25.119	283.4	0.000	6.87	115.7	4.3	0.34	0.3	0.02	2.43	0.35	0
1	10	13.28	13.28	33.446	25.134	282.3	0.028	6.84	115.0	4.3	0.34	0.3	0.02	2.84	0.41	10
1	20	13.17	13.17	33.453	25.162	279.9	0.056	6.71	112.5	4.6	0.36	0.4	0.03	3.96	0.62	20
	30 ISL	12.64	12.64	33.459	25.271	269.7	0.084	6.00	99.5	8.1	0.65	3.8	0.20	1.68	0.40	30
1	31	12.59	12.59	33.460	25.282	268.8	0.087	5.93	98.2	8.5	0.68	4.1	0.22	1.45	0.38	31

RV DAVID STARR JORDAN CALCOFI CRUISE 8801 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	30/01/88	0505 UTC	101 M	240	12 KT			1019.5 MB	13.8 C	13.5 C		

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	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	13.30	13.30	33.451	25.134	282.0	0.000	7.22	121.4	3.8	0.34	0.2	0.00	4.40	0.53	0
1	10	13.27	13.27	33.447	25.137	282.0	0.028	7.22	121.3	3.8	0.34	0.2	0.00	5.24	0.64	10
1	20	12.83	12.83	33.451	25.228	273.6	0.056	5.95	99.1	5.7	0.55	2.5	0.14	2.14	0.98	20
	30 ISL	12.65	12.65	33.459	25.269	269.9	0.083	5.88	97.5	6.9	0.62	3.9	0.21	1.52	0.53	30
1	31	12.64	12.64	33.461	25.273	269.6	0.086	5.87	97.4	7.0	0.63	4.1	0.21	1.51	0.48	31
1	40	12.48	12.47	33.481	25.320	265.4	0.110	5.35	88.4	8.1	0.77	6.4	0.23	0.63	0.49	40
1	50	12.10	12.09	33.522	25.424	255.7	0.136	4.91	80.5	10.2	0.93	9.2	0.21	0.38	0.34	50
1	61	11.47	11.46	33.594	25.598	239.4	0.163	4.36	70.6	13.7	1.15	13.1	0.11	0.20	0.17	61
	75 ISL	10.73	10.72	33.700	25.813	219.2	0.195	3.82	60.9	18.7	1.40	17.2	0.04	0.10	0.13	76
1	76	10.68	10.67	33.708	25.828	217.8	0.197	3.78	60.2	19.1	1.42	17.5	0.04	0.09	0.13	77

RV DAVID STARR JORDAN CALCOFI CRUISE 8801 STATION 83 51

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
33 52.6 N	120 8.1 W	29/01/88	2313 UTC	101 M	270	15 KT	270 04 08	1	1019.3 MB	14.1 C	13.3 C	6/8	CC

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	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	13.71	13.71	33.414	25.022	292.7	0.000	6.48	109.9	3.6	0.35	0.2	0.01	1.25	0.35	0
1	1	13.71	13.71	33.414	25.022	292.7	0.003	6.48	109.9	3.6	0.35	0.2	0.01	1.25	0.35	1
	10 ISL	13.70	13.70	33.414	25.024	292.7	0.029	6.50	110.2	3.5	0.35	0.2	0.01	1.39	0.34	10
1	11	13.70	13.70	33.414	25.024	292.7	0.032	6.50	110.2	3.5	0.35	0.2	0.01	1.42	0.34	11
	20 ISL	13.58	13.58	33.413	25.048	290.7	0.058	6.51	110.1	3.5	0.35	0.2	0.00	1.65	0.39	20
1	21	13.57	13.57	33.413	25.051	290.5	0.061	6.51	110.1	3.5	0.35	0.2	0.00	1.68	0.40	21
1	30	12.98	12.98	33.426	25.179	278.5	0.087	5.87	98.0	5.0	0.52	2.5	0.12	1.83	0.78	30
1	40	12.43	12.42	33.499	25.3 43	263.2	0.114	5.51	91.0	9.0	0.77	6.3	0.21	0.84	0.34	40
1	50	12.37	12.36	33.509	25.363	261.6	0.140	5.36	88.4	9.5	0.79	6.8	0.20	0.80	0.37	50
1	60	11.60	11.59	33.585	25.567	242.3	0.165	4.46	72.4	13.8	1.11	12.4	0.18	0.28	0.26	60
1	75	10.77	10.76	33.693	25.801	220.4	0.200	3.82	60.9	18.9	1.40	17.3	0.10	0.13	0.18	76

RV DAVID STARR JORDAN CALCOFI CRUISE 8801 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 24.6 W	29/01/88	1955 UTC	959 M	280	08 KT	280 05 10	1	1020.1 MB	14.8 C	13.1 C	4/8	SC

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	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	13.18	13.18	33.449	25.156	279.9	0.000	6.26	105.0	6.5	0.57	3.0	0.08	1.52	0.47	0
1	1	13.18	13.18	33.449	25.156	279.9	0.003	6.26	105.0	6.5	0.57	3.0	0.08	1.52	0.47	1
	10 ISL	13.01	13.01	33.447	25.189	277.1	0.028	6.23	104.1	6.8	0.58	3.3	0.09	1.45	0.46	10
1	16	12.83	12.83	33.449	25.226	273.7	0.044	6.21	103.4	7.0	0.58	3.5	0.09	1.40	0.45	16
	20 ISL	12.74	12.74	33.457	25.250	271.5	0.055	5.97	99.2	7.3	0.63	4.2	0.14	1.11	0.41	20
	30 ISL	12.44	12.44	33.480	25.326	264.5	0.082	5.40	89.2	8.5	0.78	6.5	0.28	0.42	0.31	30
1	31	12.41	12.41	33.482	25.334	263.8	0.085	5.34	88.1	8.6	0.80	6.8	0.29	0.35	0.30	31
1	41	11.96	11.95	33.499	25.432	254.6	0.111	5.27	86.2	10.3	0.92	9.1	0.33	0.24	0.29	41
	50 ISL	11.66	11.65	33.546	25.525	246.0	0.133	5.01	81.4	12.4	1.03	11.0	0.30	0.18	0.23	50
1	51	11.63	11.62	33.551	25.535	245.2	0.136	4.98	80.9	12.6	1.04	11.2	0.29	0.18	0.22	51
1	60	11.46	11.45	33.576	25.585	240.5	0.157	4.75	76.9	13.7	1.10	12.5	0.25	0.15	0.21	60
1	70	10.72	10.71	33.629	25.760	224.1	0.181	4.07	64.8	17.0	1.34	16.7	0.11	0.06	0.12	71
	75 ISL	10.51	10.50	33.655	25.817	218.8	0.192	3.88	61.5	18.3	1.42	18.0	0.07	0.05	0.11	76
1	81	10.30	10.29	33.689	25.879	212.9	0.205	3.70	58.4	19.8	1.50	19.3	0.04	0.04	0.10	82
1	95	9.72	9.71	33.807	26.070	195.1	0.233	3.21	50.1	24.9	1.70	22.7	0.01	0.02	0.06	96
	100 ISL	9.58	9.57	33.845	26.122	190.2	0.243	3.09	48.1	26.4	1.75	23.4	0.01	0.02	0.06	101
1	110	9.39	9.38	33.909	26.204	182.7	0.262	2.92	45.2	28.8	1.83	24.4	0.01	0.01	0.06	111
1	125	9.21	9.20	33.961	26.274	176.3	0.289	2.74	42.3	30.6	1.91	25.6	0.01	0.01	0.06	126
	150 ISL	9.03	9.01	34.006	26.338	170.6	0.332	2.65	40.7	32.5	1.97	26.3	0.01	0.01	0.04	151
1	151	9.02	9.00	34.008	26.341	170.4	0.334	2.65	40.7	32.6	1.97	26.3	0.01	0.01	0.04	152
1	176	8.76	8.74	34.074	26.434	162.0	0.375	2.29	35.0	36.5	2.11	28.2	0.00	0.01	0.04	177
	200 ISL	8.56	8.54	34.119	26.501	156.0	0.413	1.99	30.3	40.0	2.23	29.5	0.00	0.01	0.03	202
1	207	8.50	8.48	34.130	26.519	154.4	0.424	1.90	28.9	41.0	2.27	29.9	0.00	0.01	0.03	209
1	235	8.26	8.24	34.179	26.594	147.7	0.466	1.48	22.4	45.9	2.43	31.6	0.00			237
	250 ISL	8.14	8.11	34.191	26.622	145.3	0.488	1.37	20.7	47.6	2.48	32.1	0.00			252
1	274	7.96	7.93	34.201	26.657	142.4	0.523	1.26	18.9	49.8	2.54	32.8	0.00			276
	300 ISL	7.80	7.77	34.213	26.690	139.6	0.560	1.14	17.1	52.2	2.60	33.5	0.00			302
1	330	7.62	7.59	34.224	26.725	136.7	0.601	1.01	15.0	55.1	2.65	34.3	0.00			333
1	388	7.26	7.22	34.244	26.792	131.0	0.679	0.80	11.8	61.2	2.75	35.7	0.00			391
	400 ISL	7.16	7.12	34.248	26.810	129.5	0.694	0.75	11.1	62.7	2.78	36.1	0.00			403
1	451	6.68	6.64	34.267	26.891	122.2	0.758	0.53	7.7	69.5	2.90	37.8	0.00			455
	500 ISL	6.22	6.18	34.292	26.971	114.8	0.817	0.39	5.6	76.7	2.97	39.3	0.00			504
1	517	6.06	6.01	34.302	26.999	112.2	0.836	0.34	4.9	79.2	3.00	39.8	0.00			522

RV DAVID STARR JORDAN CALCOFI CRUISE 8801 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.A W	29/01/88	1538 UTC	1622 M	290	06 KT	300 06 10	1	1019.3 MB	12.8 C	11.9 C	4/8	SC

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	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		13.22	13.22	33.434	25.137	281.8	0.000	6.23	104.6	6.1	0.54	2.6	0.06	1.13	0.36	0
	10	ISL	12.97	12.97	33.434	25.187	277.3	0.028	6.16	102.9	6.4	0.57	3.2	0.07	0.94	0.35	10
1	16		12.82	12.82	33.434	25.216	274.6	0.045	6.12	101.9	6.6	0.58	3.5	0.07	0.83	0.34	16
	20	ISL	12.71	12.71	33.440	25.243	272.2	0.055	6.06	100.6	7.0	0.61	4.1	0.09	0.90	0.37	20
1	29		12.49	12.49	33.460	25.301	266.9	0.080	5.93	98.0	8.0	0.69	5.4	0.15	1.07	0.45	29
	30	ISL	12.47	12.47	33.464	25.308	266.2	0.082	5.93	98.0	8.1	0.70	5.5	0.15	1.06	0.46	30
1	40		12.27	12.26	33.498	25.373	260.3	0.109	5.90	97.1	9.4	0.76	6.5	0.18	0.99	0.49	40
1	50		12.16	12.15	33.506	25.400	258.0	0.135	5.75	94.4	9.9	0.82	7.3	0.24	0.62	0.46	50
1	59		11.99	11.98	33.509	25.435	254.9	0.158	5.53	90.5	10.2	0.88	8.1	0.33	0.23	0.25	59
1	69		11.77	11.76	33.532	25.494	249.5	0.183	5.17	84.2	11.7	0.98	9.9	0.33	0.16	0.21	70
	75	ISL	11.45	11.44	33.573	25.585	240.9	0.198	4.78	77.3	13.6	1.10	12.1	0.27	C I O	0.17	76
1	77		11.31	11.30	33.592	25.626	237.1	0.202	4.63	74.7	14.4	1.15	13.0	0.24	0.08	0.15	78
1	93		9.67	9.66	33.854	26.114	190.8	0.237	3.06	47.7	26.9	1.77	23.8	0.02	0.01	0.09	94
	100	ISL	9.51	9.50	33.929	26.199	182.9	0.250	2.82	43.8	29.0	1.86	24.5	0.02	0.02	0.08	101
1	108		9.33	9.32	33.948	26.244	178.8	0.264	2.72	42.1	30.2	1.90	25.4	0.01	0.04	0.07	109
1	123		9.21	9.20	33.991	26.297	174.0	0.291	2.58	39.8	32.2	1.97	26.2	0.02	0.01	0.09	124
	125	ISL	9.19	9.18	33.995	26.303	173.4	0.294	2.57	39.7	32.4	1.98	26.3	0.02	0.01	0.09	126
1	148		8.94	8.92	34.028	26.369	167.6	0.333	2.47	37.9	34.4	2.03	27.2	0.01	0.01	0.06	149
	150	ISL	8.92	8.90	34.031	26.375	167.1	0.337	2.46	37.7	34.6	2.04	27.3	0.01	0.01	0.06	151
1	173		8.69	8.67	34.059	26.433	162.0	0.375	2.41	36.8	36.3	2.09	28.0	0.01	0.00	0.05	174
	200	ISL	8.39	8.37	34.072	26.490	157.0	0.418	2.41	36.5	38.3	2.12	28.6	0.01	0.00	0.05	202
1	203		8.35	8.33	34.073	26.497	156.4	0.422	2.41	36.5	38.6	2.12	28.7	0.01	0.00	0.05	205
1	233		7.80	7.78	34.073	26.579	148.9	0.468	2.28	34.1	43.1	2.21	30.1	0.00			235
	250	ISL	7.53	7.51	34.076	26.620	145.1	0.493	2.15	31.9	46.4	2.28	31.2	0.00			252
1	273		7.24	7.21	34.087	26.670	140.6	0.526	1.93	28.5	51.1	2.39	32.8	0.00			275
	300	ISL	7.05	7.02	34.126	26.727	135.5	0.563	1.55	22.8	56.1	2.54	34.5	0.00			302
1	329		6.89	6.86	34.169	26.784	130.5	0.602	1.15	16.8	60.9	2.68	36.0	0.00			332
1	388		6.39	6.36	34.195	26.871	122.8	0.676	0.78	11.3	68.7	2.84	38.1	0.00			391
	400	ISL	6.35	6.31	34.215	26.892	120.9	0.691	0.69	10.0	70.1	2.87	38.4	0.00			403
1	453		6.23	6.19	34.304	26.979	113.4	0.753	0.36	5.2	75.8	3.00	39.4	0.00			457
	500	ISL	5.99	5.95	34.326	27.027	109.3	0.806	0.31	4.4	80.9	3.06	40.2	0.00			504
1	519		5.89	5.84	34.336	27.048	107.5	0.826	0.29	4.2	82.9	3.08	40.5	0.00			524

RV DAVID STARR JORDAN CALCOFI CRUISE 8801 STATION 83 70

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
33 14.6 N	121 26.6 W	29/01/88	1009 UTC	3543 M	200	04 KT			1017.8 MB	12.3 C	12.3 C		

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	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	12.73	12.73	33.469	25.261	270.0	0.000	6.15	102.2	7.7	0.66	4.6	0.13	1.40	0.33	0
1	1		12.73	12.73	33.469	25.261	270.0	0.003	6.15	102.2	7.7	0.66	4.6	0.13	1.40	0.33	1
	10	ISL	12.65	12.65	33.478	25.284	268.0	0.027	6.16	102.2	8.0	0.68	4.8	0.12	1.29	0.36	10
1	16		12.55	12.55	33.488	25.311	265.6	0.043	6.17	102.2	8.3	0.70	5.2	0.12	1.16	0.40	16
	20	ISL	12.45	12.45	33.493	25.334	263.5	0.054	6.08	100.5	8.5	0.72	5.6	0.14	1.07	0.42	20
	30	ISL	12.21	12.21	33.506	25.390	258.4	0.080	5.82	95.7	9.1	0.79	6.9	0.20	0.81	0.46	30
1	32		12.16	12.16	33.509	25.402	257.3	0.085	5.76	94.6	9.2	0.81	7.2	0.22	0.76	0.47	32
1	41		12.04	12.03	33.525	25.438	254.2	0.108	5.62	92.1	10.1	0.89	8.4	0.30	0.52	0.37	41
	50	ISL	11.84	11.83	33.544	25.490	249.4	0.130	5.37	87.6	11.3	0.97	9.8	0.37	0.28	0.24	50
1	51		11.82	11.81	33.546	25.495	248.9	0.133	5.34	87.1	11.4	0.98	10.0	0.37	0.26	0.23	51
1	62		11.63	11.62	33.565	25.546	244.4	0.160	5.21	84.6	12.1	1.04	11.0	0.36	0.22	0.22	62
1	71		11.29	11.28	33.613	25.645	235.1	0.182	4.75	76.6	14.5	1.18	13.4	0.26	0.14	0.17	72
	75	ISL	10.73	10.72	33.697	25.811	219.4	0.191	4.06	64.7	18.6	1.40	17.2	0.16	0.09	0.14	76
1	80		10.00	9.99	33.811	26.026	199.0	0.201	3.18	49.9	23.9	1.68	22.0	0.03	0.03	0.10	81
1	95		9.65	9.64	33.885 A	26.142	188.2	0.230	2.92	45.5	27.1	1.81	23.8	0.02	0.02	0.13	96
	100	ISL	9.54	9.53	33.904	26.175	185.2	0.240	2.87	44.6	27.9	1.84	24.3	0.02	0.02	0.12	101
1	111		9.32	9.31	33.938	26.238	179.4	0.260	2.81	43.5	29.4	1.89	25.1	0.02	0.01	0.09	112
1	125		9.13	9.12	33.969	26.292	174.4	0.284	2.77	42.7	30.8	1.93	25.7	0.02	0.01	0.07	126
1	150		8.91	8.89	34.038	26.382	166.4	0.327	2.46	37.7	34.2	2.05	27.3	0.01	0.01	0.06	151
1	174		8.68	8.66	34.095	26.463	159.2	0.366	2.17	33.1	37.6	2.18	28.7	0.01	0.00	0.05	175
	200	ISL	8.24	8.22	34.095	26.531	153.1	0.407	2.25	34.0	40.2	2.20	29.5	0.00	0.00	0.06	202
1	204		8.18	8.16	34.094	26.539	152.3	0.413	2.27	34.2	40.6	2.20	29.6	0.00	0.00	0.06	206
1	233		8.01	7.99	34.120	26.585	148.4	0.456	1.97	29.6	43.9	2.31	30.8	0.00			235
	250	ISL	7.85	7.83	34.142	26.626	144.7	0.481	1.73	25.9	46.9	2.40	31.9	0.00			252
1	272		7.61	7.58	34.171	26.684	139.5	0.513	1.42	21.1	51.0	2.52	33.3	0.00			274
	300	ISL	7.36	7.33	34.194	26.738	134.7	0.551	1.16	17.2	55.3	2.63	34.7	0.00			302
1	327		7.12	7.09	34.209	26.784	130.7	0.587	0.98	14.4	59.2	2.72	35.8	0.00			330
1	384		6.56	6.52	34.236	26.881	121.9	0.659	0.66	9.6	67.8	2.88	37.9	0.00			387
	400	ISL	6.47	6.43	34.252	26.906	119.8	0.678	0.60	8.7	69.7	2.91	38.3	0.00			403
1	447		6.25	6.21	34.294	26.968	114.4	0.733	0.45	6.5	75.0	2.98	39.2	0.00			451
	500	ISL	5.92	5.88	34.306	27.020	109.9	0.793	0.36	5.2	81.2	3.05	40.2	0.00			504
1	515		5.83	5.79	34.309	27.034	108.7	0.809	0.33	4.7	83.0	3.07	40.5	0.00			519

A) AN ERROR OF -0.01 IN CONDUCTIVITY RATIO. 0.389 SALINITY, HAS BEEN ASSUMED FOR THIS VALUE.

PV DAVID STARR JORDAN CALCOFI CRUISE 8801 STATION 83 80

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
32 54.6 N	122 7.7 W	29/01/88	0453 UTC	4190 M	150	07 KT			1016.5 MB	13.8 C	13.5 C		

CAST	DEPTH M		TEMP DEG t	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	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		12.91	12.91	33.189	25.009	293.9	0.000	6.35	105.8	4.5	0.51	1.8	0.10	1.68	0.47	0
	10	ISL	12.56	12.56	33.270	25.140	281.7	0.029	6.16	101.9	5.7	0.60	3.3	0.18	1.52	0.52	10
1	15		12.39	12.39	33.311	25.204	275.7	0.043	6.06	99.9	6.3	0.64	4.1	0.22	1.44	0.54	15
	20	ISL	12.38	12.38	33.351	25.237	272.7	0.056	6.02	99.2	6.6	0.66	4.5	0.23	1.32	0.54	20
	30	ISL	12.35	12.35	33.401	25.282	268.7	0.083	5.98	98.5	7.1	0.70	5.1	0.25	1.06	0.54	30
1	36		12.34	12.34	33.413	25.294	267.8	0.100	5.96	98.2	7.2	0.71	5.3	0.26	0.89	0.54	36
	50	ISL	12.27	12.26	33.428	25.319	265.7	0.137	5.84	96.1	7.6	0.75	5.9	0.37	0.49	0.36	50
1	54		12.25	12.24	33.437	25.330	264.8	0.148	5.80	95.4	7.8	0.76	6.1	0.40	0.39	0.31	54
1	70		11.83	11.82	33.483	25.445	254.2	0.189	5.56	90.6	9.8	0.88	8.2	0.35	0.27	0.36	71
	75	ISL	11.40	11.39	33.465	25.510	248.0	0.202	5.03	81.2	11.8	1.04	11.3	0.22	0.16	0.23	76
1	80		10.92	10.91	33.466	25.598	239.8	0.214	4.48	71.6	14.2	1.22	14.6	0.09	0.06	0.11	81
1	89		10.19	10.18	33.605	25.833	217.5	0.234	3.92	61.7	18.4	1.44	18.5	0.03	0.04	0.08	90
1	100		9.88	9.87	33.694	25.955	206.1	0.258	3.50	54.7	21.8	1.61	21.0	0.02	0.02	0.08	101
1	II0		9.37	9.36	33.749	26.082	194.2	0.278	3.57	55.2	23.9	1.64	22.2	0.02	0.01	0.05	111
	125	ISL	9.03	9.02	33.816	26.189	184.3	0.306	3.41	52.4	26.4	1.72	23.4	0.02	0.01	0.05	126
1	126		9.02	9.01	33.820	26.193	183.8	0.308	3.40	52.2	26.5	1.73	23.5	0.02	0.01	0.05	127
1	139		8.85	8.84	33.868	26.258	177.9	0.331	3.37	51.6	28.4	1.78	24.4	0.01	0.01	0.04	140
	150	ISL	8.67	8.65	33.894	26.307	173.5	0.351	3.35	51.0	29.5	1.79	24.8	0.01	0.01	0.03	151
1	160		8.51	8.49	33.917	26.349	169.6	0.368	3.34	50.7	30.6	1.81	25.1	0.01	0.01	0.03	161
1	178		8.34	8.32	33.988	26.431	162.1	0.398	3.09	46.8	34.0	1.91	26.5	0.01	0.01	0.03	179
	200	ISL	8.08	8.06	34.036	26.508	155.1	0.433	2.64	39.7	38.6	2.08	28.7	0.01	0.01	0.03	202
1	205		8.02	8.00	34.042	26.522	153.9	0.440	2.55	38.3	39.6	2.11	29.1	0.01	0.01	0.03	207
1	233		7.69	7.67	34.055	26.581	148.6	0.483	2.43	36.2	43.3	2.19	30.2	0.00			235
	250	ISL	7.50	7.48	34.075	26.624	144.8	0.508	2.17	32.2	46.7	2.30	31.4	0.00			252
1	272		7.26	7.23	34.100	26.677	139.9	0.539	1.79	26.4	51.3	2.44	33.1	0.00			274
	300	ISL	6.89	6.86	34.100	26.729	135.3	0.578	1.57	23.0	56.3	2.55	34.7	0.00			302
1	326		6.59	6.56	34.100	26.769	131.6	0.612	1.43	20.8	60.4	2.62	36.0	0.00			329
1	384		6.35	6.32	34.167	26.854	124.3	0.686	0.89	12.9	67.9	2.82	38.0	0.00			387
	400	ISL	6.28	6.24	34.187	26.879	122.1	0.706	0.77	11.1	70.1	2.87	38.5	0.00			403
1	447		6.03	5.99	34.241	26.954	115.5	0.762	0.49	7.0	76.5	2.99	39.7	0.00			451
	500	ISL	5.68	5.64	34.278	27.027	108.9	0.821	0.35	5.0	83.8	3.08	40.8	0.00			504
1	516		5.58	5.54	34.290	27.049	106.9	0.839	0.31	4.4	86.0	3.11	41.1	0.00			520

RV DAVID STARR JORDAN CALCOFI CRUISE 8801 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 48.8 W	28/01/88	2334 UTC	3733 M	180	08 KT	210 03 07	2	1016.0 MB	14.2 C	14.0 C	8/8	SC

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	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		13.90	13.90	33.163	24.789	314.8	0.000	6.07	103.2	2.7	0.38	0.4	0.02	0.49	0.18	0
	10	ISL	13.78	13.78	33.159	24.811	313.0	0.031	6.08	103.1	2.7	0.39	0.5	0.02	0.52	0.22	10
1	14		13.73	13.73	33.157	24.820	312.3	0.044	6.08	103.0	2.7	0.39	0.5	0.02	0.53	0.23	14
	20	ISL	13.67	13.67	33.155	24.831	311.4	0.063	6.05	102.3	2.7	0.40	0.6	0.03	0.53	0.25	20
	30	ISL	13.57	13.57	33.151	24.848	310.0	0.094	5.99	101.1	2.8	0.42	0.8	0.05	0.54	0.28	30
1	35		13.53	13.53	33.149	24.855	309.6	0.109	5.97	100.7	2.8	0.43	0.9	0.06	0.54	0.29	35
	50	ISL	13.40	13.39	33.140	24.875	308.1	0.155	6.03	101.4	3.0	0.45	1.0	0.07	0.53	0.30	50
1	55		13.36	13.35	33.138	24.881	307.6	0.171	6.04	101.5	3.1	0.45	1.0	0.07	0.53	0.30	55
1	69		13.21	13.20	33.137	24.911	305.1	0.214	5.95	99.7	3.3	0.47	1.5	0.10	0.35	0.21	70
	75	ISL	13.18	13.17	33.142	24.921	304.3	0.232	5.96	99.8	3.4	0.48	1.6	0.11	0.33	0.22	76
1	78		13.15	13.14	33.145	24.929	303.6	0.241	5.97	99.9	3.5	0.48	1.6	0.12	0.33	0.22	79
1	90		12.87	12.86	33.143	24.983	298.7	0.277	5.93	98.6	4.2	0.53	2.3	0.20	0.26	0.19	91
1	99		12.85	12.84	33.157	24.998	297.6	0.304	5.94	98.8	4.3	0.55	2.6	0.23	0.22	0.15	100
	100	ISL	12.85	12.84	33.157	24.998	297.6	0.307	5.94	98.8	4.3	0.55	2.6	0.23	0.21	0.15	101
1	109		12.80	12.79	33.160	25.010	296.6	0.334	5.89	97.8	4.6	0.57	2.8	0.26	0.16	0.12	II0
1	125		12.63	12.61	33.192	25.069	291.5	0.381	5.69	94.2	5.3	0.62	3.9	0.20	0.14	0.10	126
1	140		11.01	10.99	33.406	25.536	247.0	0.421	4.58	73.3	12.6	1.12	12.9	0.03	0.04	0.07	141
	150	ISL	10.37	10.35	33.524	25.7 40	227.7	0.445	4.18	66.0	16.3	1.32	16.5	0.02	0.03	0.06	151
1	159		9.97	9.95	33.615	25.879	214.6	0.465	3.95	61.9	19.3	1.45	18.8	0.02	0.02	0.05	160
1	180		9.22	9.20	33.794	26.142	189.9	0.507	3.43	52.9	26.1	1.70	23.2	0.01	0.00	0.03	181
	200	ISL	8.83	8.81	33.898	26.286	176.5	0.544	3.22	49.2	30.3	1.81	25.0	0.01	0.00	0.03	202
1	205		8.76	8.74	33.917	26.312	174.1	0.553	3.18	48.6	31.2	1.83	25.3	0.01	0.00	0.03	207
1	233		8.37	8.35	34.016	26.450	161.4	0.600	2.79	42.2	37.1	1.99	27.4	0.01			235
	250	ISL	8.11	8.08	34.038	26.506	156.2	0.627	2.68	40.3	39.9	2.06	28.4	0.01			252
1	274		7.74	7.71	34.048	26.569	150.5	0.664	2.54	37.9	43.7	2.15	29.8	0.01			276
	300	ISL	7.41	7.38	34.067	26.631	144.9	0.702	2.20	32.6	48.6	2.29	31.7	0.01			302
1	329		7.08	7.05	34.088	26.694	139.2	0.743	1.76	25.9	54.5	2.46	33.9	0.00			332
1	387		6.41	6.38	34.135	26.821	127.5	0.821	1.02	14.8	67.1	2.76	37.8	0.00			390
	400	ISL	6.30	6.26	34.144	26.843	125.6	0.83,7	0.92	13.3	69.0	2.80	38.3	0.00			403
1	451		5.94	5.90	34.178	26.916	119.0	0.899	0.64	9.2	75.5	2.93	39.8	0.00			455
	500	ISL	5.57	5.53	34.210	26.987	112.6	0.956	0.48	6.8	82.4	3.03	41.0	0.00			504
1	518		5.44	5.40	34.222	27.012	110.2	0.976	0.42	5.9	85.0	3.07	41.5	0.00			522

RV DAVID STARR JORDAN — CALCOFI CRUISE 8801 — 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	28/01/88	1712 UTC	4305 M	200	03 KT		2	1018.9 MB	12.8 C	12.8 C	8/8	SC

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	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	13.91	13.91	33.162	24.786	315.1	0.000	6.11	103.9	2.4	0.39	0.3	0.01	0.55	0.09	0
1	1	13.91	13.91	33.162	24.786	315.1	0.003	6.11	103.9	2.4	0.39	0.3	0.01	0.55	0.09	1
	10 ISL	13.86	13.86	33.160	24.795	314.5	0.031	6.11	103.8	2.4	0.40	0.3	0.02	0.56	0.10	10
1	15	13.81	13.81	33.158	24.804	313.8	0.047	6.10	103.5	2.4	0.40	0.3	0.02	0.57	0.10	15
	20 ISL	13.77	13.77	33.158	24.813	313.2	0.063	6.10	103.4	2.4	0.40	0.3	0.02	0.57	0.17	20
	30 ISL	13.71	13.71	33.158	24.825	312.2	0.094	6.08	102.9	2.5	0.40	0.4	0.02	0.56	0.30	30
1	36	13.67	13.66	33.158	24.833	311.6	0.113	6.07	102.7	2.5	0.40	0.4	0.02	0.56	0.37	36
	50 ISL	13.61	13.60	33.158	24.846	310.8	0.156	6.01	101.5	2.6	0.42	0.9	0.05	0.46	0.30	50
1	55	13.59	13.58	33.158	24.850	310.5	0.172	5.98	101.0	2.6	0.43	1.0	0.06	0.41	0.25	55
1	70	13.55	13.54	33.158	24.859	310.1	0.219	5.92	99.9	2.6	0.44	1.0	0.10	0.26	0.17	71
	75 ISL	13.52	13.51	33.158	24.865	309.7	0.234	5.90	99.5	2.7	0.45	1.1	0.11	0.22	0.15	76
1	78	13.50	13.49	33.159	24.870	309.3	0.243	5.89	99.3	2.8	0.46	1.2	0.12	0.20	0.14	79
1	89	13.43	13.42	33.165	24.889	307.8	0.277	5.88	99.0	3.0	0.47	1.5	0.14	0.21	0.15	90
1	100	13.22	13.21	33.177	24.941	303.1	0.311	5.84	97.9	3.6	0.52	2.2	0.19	0.18	0.15	101
1	108	13.05	13.04	33.189	24.984	299.2	0.335	5.77	96.3	4.0	0.56	2.8	0.27	0.14	0.13	109
1	122	12.86	12.84	33.204	25.033	294.8	0.377	5.75	95.6	4.5	0.59	3.4	0.31	0.13	0.12	123
	125 ISL	12.80	12.78	33.234	25.068	291.6	0.385	5.71	94.9	4.9	0.61	3.8	0.31	0.12	0.12	126
1	137	12.35	12.33	33.370	25.261	273.4	0.419	5.38	88.6	7.4	0.78	6.8	0.25	0.08	0.13	138
	150 ISL	11.20	11.18	33.464	25.547	246.2	0.453	4.63	74.4	12.4	1.12	12.8	0.10	0.05	0.09	151
1	158	10.47	10.45	33.518	25.718	230.0	0.472	4.17	66.0	15.6	1.32	16.5	0.02	0.03	0.06	159
1	177	9.76	9.74	33.642	25.935	209.6	0.514	3.79	59.1	20.3	1.52	20.1	0.01	0.02	0.05	178
	200 ISL	8.98	8.96	33.849	26.224	182.4	0.559	3.38	51.8	27.2	1.75	24.0	0.00	0.00	0.02	202
1	203	8.90	8.88	33.875	26.257	179.3	0.564	3.32	50.8	28.1	1.78	24.4	0.00	0.00	0.02	205
1	231	8.53	8.51	34.004	26.416	164.6	0.612	2.69	40.9	35.0	2.01	27.7	0.00			233
	250 ISL	8.22	8.19	34.037	26.489	157.9	0.643	2.55	38.5	38.3	2.09	28.9	0.00			252
1	270	7.90	7.87	34.049	26.546	152.7	0.674	2.48	37.2	41.3	2.15	29.7	0.00			272
	300 ISL	7.55	7.52	34.065	26.609	147.0	0.719	2.23	33.1	46.0	2.27	31.3	0.00			302
1	327	7.26	7.23	34.074	26.658	142.7	0.758	1.96	28.9	50.6	2.38	32.8	0.00			330
1	385	6.51	6.48	34.105	26.785	131.0	0.838	1.28	18.6	62.7	2.67	36.8	0.00			388
	400 ISL	6.38	6.34	34.120	26.813	128.4	0.857	1.13	16.3	65.2	2.73	37.5	0.00			403
1	449	6.07	6.03	34.170	26.893	121.3	0.918	0.74	10.6	72.2	2.90	39.2	0.00			453
	500 ISL	5.87	5.83	34.210	26.950	116.4	0.979	0.54	7.7	77.4	2.98	40.1	0.00			504
1	519	5.80	5.76	34.225	26.971	114.6	1.001	0.47	6.7	79.3	3.01	40.4	0.00			523

RV DAVID STARR JORDAN — CALCOFI CRUISE 8801 — STATION 83 IIO

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
31 54.8 N	124 10.4 W	28/01/88	1155 UTC	4238 M	250	02 KT			1012.5 MB	13.7 C	13.7 C		

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	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	13.96	13.96	33.160	24.774	316.2	0.000	6.11	104.0	2.2	0.38	0.2	0.00	0.42	0.15	0
	10 ISL	13.89	13.89	33.160	24.789	315.1	0.032	6.13	104.2	2.2	0.38	0.2	0.00	0.41	0.18	10
1	15	13.85	13.85	33.160	24.797	314.5	0.047	6.14	104.2	2.2	0.38	0.2	0.00	0.41	0.20	15
	20 ISL	13.81	13.81	33.159	24.805	313.9	0.063	6.12	103.8	2.2	0.38	0.2	0.00	0.43	0.21	20
	30 ISL	13.76	13.76	33.157	24.814	313.3	0.094	6.07	102.9	2.2	0.39	0.3	0.01	0.45	0.22	30
1	34	13.74	13.74	33.156	24.818	313.1	0.107	6.04	102.3	2.2	0.39	0.4	0.02	0.45	0.22	34
	50 ISL	13.74	13.73	33.162	24.823	313.0	0.157	5.93	100.4	2.3	0.42	0.7	0.06	0.35	0.21	50
1	55	13.74	13.73	33.163	24.823	313.1	0.173	5.91	100.1	2.3	0.43	0.8	0.07	0.31	0.21	55
1	70	13.74	13.73	33.175	24.833	312.6	0.220	5.92	100.3	2.3	0.42	0.8	0.07	0.28	0.22	71
	75 ISL	13.74	13.73	33.175	24.833	312.7	0.235	5.92	100.3	2.3	0.42	0.9	0.07	0.28	0.21	76
1	80	13.74	13.73	33.176	24.834	312.8	0.251	5.92	100.3	2.4	0.43	0.9	0.08	0.27	0.19	81
1	91	13.62	13.61	33.176	24.859	310.7	0.285	5.83	98.5	2.7	0.46	1.4	0.11	0.16	0.14	92
1	100	12.35	12.34	33.226	25.148	283.2	0.312	5.33	87.7	5.8	0.73	6.0	0.05	0.07	0.11	101
1	108	11.65	11.64	33.319	25.352	263.9	0.334	5.05	81.9	8.4	0.91	9.3	0.02	0.06	0.09	109
1	125	10.50	10.49	33.444	25.655	235.3	0.376	4.39	69.5	13.9	1.20	15.2	0.02	0.03	0.07	126
1	139	9.94	9.92	33.581	25.857	216.2	0.408	4.02	62.9	18.1	1.43	18.5	0.01	0.02	0.04	140
	150 ISL	9.73	9.71	33.622	25.924	210.0	0.431	3.90	60.8	19.5	1.50	19.7	0.01	0.01	0.04	151
1	160	9.60	9.58	33.655	25.972	205.7	0.452	3.79	58.9	20.8	1.55	20.5	0.01	0.01	0.05	161
1	180	9.13	9.11	33.838	26.191	185.2	0.491	3.27	50.3	26.9	1.76	24.0	0.01	0.01	0.02	181
	200 ISL	8.85	8.83	33.930	26.307	174.4	0.527	3.02	46.2	30.5	1.87	25.7	0.01	0.01	0.02	202
1	205	8.78	8.76	33.945	26.330	172.3	0.536	2.97	45.4	31.3	1.89	26.0	0.01	0.01	0.02	207
1	234	8.11	8.09	34.046	26.512	155.4	0.583	2.57	38.7	39.9	2.09	28.8	0.00			236
	250 ISL	7.87	7.85	34.062	26.560	151.0	0.608	2.46	36.8	42.5	2.15	29.7	0.00			252
1	275	7.61	7.58	34.066	26.601	147.4	0.645	2.32	34.5	45.6	2.23	30.7	0.00			277
	300 ISL	7.41	7.38	34.087	26.647	143.4	0.681	2.02	29.9	49.4	2.34	32.1	0.00			302
1	328	7.19	7.16	34.114	26.699	138.7	0.721	1.64	24.2	54.2	2.48	33.7	0.00			331
1	387	6.55	6.51	34.165	26.827	127.1	0.799	0.96	13.9	66.6	2.77	37.4	0.00			390
	400 ISL	6.42	6.38	34.172	26.849	125.0	0.816	0.87	12.6	68.7	2.81	38.0	0.00			403
1	449	5.97	5.93	34.198	26.928	117.9	0.875	0.63	9.0	75.8	2.93	39.6	0.00			453
	500 ISL	5.68	5.64	34.247	27.003	111.2	0.934	0.42	6.0	83.1	3.03	40.7	0.00			504
1	513	5.60	5.56	34.260	27.023	109.4	0.948	0.37	5.3	84.9	3.05	41.0	0.00			517

RV DAVID STARR JORDAN — CALCOFI CRUISE 8801 — 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	26/01/88	0147 UTC	55 M	030	09 KT	240 02 16		1020.2 MB	17.3 C	13.7 C		

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	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	33.401	24.942	300.3	0.000	6.52	111.3	4.5	0.42	0.5	0.05	1.52	0.29	0
1	10	13.38	13.38	33.404	25.082	287.3	0.029	6.65	112.0	4.9	0.46	0.7	0.08	6.39	0.32	10
1	20	13.16	13.16	33.406	25.128	283.2	0.058	6.14	102.9	5.0	0.48	1.4	0.11	3.17	0.52	20
1	30	13.15	13.15	33.406	25.130	283.2	0.086	6.11	102.4	4.7	0.47	1.3	0.10	2.55	0.48	30
1	40	13.10	13.09	33.407	25.141	282.5	0.115	6.09	101.9	5.0	0.46	1.1	0.08	2.93	0.54	40
1	50	12.15	12.14	33.510	25.405	257.5	0.141	4.66	76.5	11.7	1.00	8.9	0.18	0.51	0.65	50

PV DAVIL STARR JORDAN CALCOFI CRUISE 8801 STATION 87 34

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
33 51.A N	118 33.6 W	26/01/88	0307 UTC	77 M	010	12 KT			1020.2 MB	17.0 C	13.A C		

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	POA UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
1	0	13.78	13.78	33.380	2A.981	296.5	0.000	6.21	105.A	A.0	0.42	0.7	0.06	1.2A	0.31	0
1	10	13.42	13.42	33.369	25.047	290.6	0.029	6.21	104.6	4.1	0.42	0.5	0.05	7.75	0.72	10
1	20	13.31	13.31	33.375	25.074	288.3	0.058	5.90	99.2	4.5	0.51	1.9	0.16	1.54	0.38	20
1	30	13.10	13.10	33.378	25.118	284.3	0.087	5.55	92.9	5.8	0.65	3.9	0.27	0.49	0.26	30
1	40	12.67	12.66	33.432	25.245	272.5	0.115	5.06	84.0	8.2	0.83	7.0	0.30	0.26	0.19	40
1	50	11.54	11.53	33.553	25.553	243.4	0.141	4.19	67.9	14.6	1.28	13.6	0.17	0.14	0.16	50
1	60	11.21	11.20	33.602	25.651	234.3	0.164	3.96	63.7	16.1	1.36	15.3	0.14	0.12	0.17	60
1	71	11.11	11.10	33.623	25.686	231.3	0.190	3.89	62.5	16.9	1.38	15.8	0.13	0.12	0.18	72

RV DAVID STARR JORDAN CALCOFI CRUISE 8801 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	26/01/88	0409 UTC	662 M	010	16 KT			1020.9 MB	17.0 C	13.2 C		

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	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	13.99	13.99	33.382	24.940	300.5	0.000	6.48	110.5	3.7	0.35	0.2	0.00	0.50	0.15	0
1	9	13.97	13.97	33.390	24.950	299.7	0.027	6.23	106.2	3.7	0.34	0.2	0.00	0.39	0.15	9
	10 ISL	13.95	13.95	33.389	24.954	299.5	0.030	6.25	106.5	3.7	0.34	0.2	0.00	0.41	0.16	10
1	20	13.74	13.74	33.381	24.991	296.2	0.060	6.43	109.1	3.7	0.35	0.2	0.00	0.63	0.29	20
1	30	13.60	13.60	33.375	25.015	294.1	0.089	6.02	101.8	3.9	0.40	0.3	0.02	3.54	0.39	30
1	38	13.22	13.21	33.418	25.125	283.9	0.112	5.31	89.1	6.1	0.65	4.7	0.21	0.63	0.28	38
1	48	12.27	12.26	33.524	25.393	258.6	0.140	4.52	74.4	10.7	1.02	10.6	0.22	0.15	0.16	48
	50 ISL	12.16	12.15	33.540	25.427	255.5	0.145	4.43	72.8	11.2	1.06	11.3	0.20	0.14	0.15	50
1	58	11.80	11.79	33.593	25.536	245.2	0.165	4.19	68.3	13.0	1.16	13.2	0.09	0.10	0.13	58
1	70	11.26	11.25	33.656	25.684	231.4	0.193	3.90	62.9	16.0	1.32	15.8	0.06	0.06	0.09	71
	75 ISL	11.07	11.06	33.678	25.736	226.6	0.205	3.81	61.2	17.0	1.37	16.7	0.05	0.05	0.08	76
1	85	10.74	10.73	33.719	25.826	218.2	0.227	3.65	58.2	18.8	1.45	18.3	0.02	0.04	0.08	86
1	100	10.40	10.39	33.774	25.929	208.7	0.259	3.46	54.8	21.0	1.54	19.9	0.01	0.03	0.06	101
1	120	9.92	9.91	33.862	26.079	194.7	0.299	3.16	49.5	24.9	1.71	22.5	0.01	0.01	0.05	121
	125 ISL	9.83	9.82	33.883	26.111	191.8	0.309	3.09	48.3	25.7	1.74	23.0	0.01	0.01	0.05	126
1	145	9.50	9.48	33.957	26.224	181.5	0.346	2.83	44.0	28.9	1.86	24.9	0.01	0.01	0.04	146
	150 ISL	9.42	9.40	33.970	26.247	179.4	0.355	2.77	43.0	29.7	1.89	25.3	0.01	0.01	0.04	151
1	174	9.07	9.05	34.025	26.347	170.3	0.397	2.49	38.3	33.4	2.03	27.1	0.00	0.01	0.04	175
	200 ISL	8.84	8.82	34.085	26.431	162.8	0.441	2.21	33.8	36.9	2.14	28.5	0.00	0.01	0.03	202
1	205	8.81	8.79	34.095	26.443	161.7	0.449	2.16	33.1	37.5	2.16	28.7	0.00	0.01	0.03	207
1	233	8.63	8.61	34.137	26.505	156.3	0.493	1.92	29.3	40.2	2.27	29.9	0.00			235
	250 ISL	8.47	8.44	34.162	26.549	152.4	0.520	1.72	26.1	42.9	2.35	30.8	0.00			252
1	273	8.24	8.21	34.193	26.609	147.1	0.554	1.44	21.8	46.8	2.46	32.0	0.00			275
	300 ISL	8.05	8.02	34.217	26.656	142.9	0.593	1.22	18.4	49.7	2.55	33.0	0.00			302
1	327	7.85	7.82	34.236	26.701	139.1	0.631	1.04	15.6	52.9	2.64	34.0	0.00			330
1	387	7.06	7.02	34.282	26.850	125.4	0.710	0.58	8.5	65.5	2.88	36.6	0.00			390
	400 ISL	6.93	6.89	34.289	26.874	123.3	0.727	0.52	7.6	67.5	2.91	37.1	0.00			403
1	449	6.51	6.47	34.308	26.945	116.8	0.785	0.37	5.4	74.2	3.01	38.6	0.00			453
	500 ISL	6.15	6.11	34.331	27.011	111.0	0.844	0.29	4.2	80.9	3.09	39.1	0.00			504
1	516	6.04	5.99	34.339	27.031	109.2	0.861	0.26	3.7	83.0	3.12	39.3	0.00			521

RV DAVID STARR JORDAN CALCOFI CRUISE 8801 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 56.5 W	26/01/88	0743 UTC	899 M	020	01 KT			1021.1 MB	15.7 C	13.A C		

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	POA UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0 ISL	13.61	13.61	33.A27	25.052	289.8	0.000	6.21	105.1	A.3	0.Al	0.9	0.02	1.A2	0.38	0
1	1	13.61	13.61	33.A27	25.052	289.8	0.003	6.21	105.1	A.3	0.Al	0.9	0.02	1.A2	0.38	1
	10 ISL	13.AA	13.44	33.425	25.086	286.9	0.029	6.17	104.0	4.4	0.43	1.1	0.04	1.63	0.39	10
1	11	13.40	13.40	33.425	25.094	286.1	0.032	6.16	103.8	A.A	0.A3	1.1	0.0A	1.64	0.39	11
	20 ISL	12.95	12.95	33.446	25.200	276.3	0.057	5.82	97.1	6.1	0.58	3.8	0.14	1.14	0.48	20
1	21	12.90	12.90	33.449	25.212	275.1	0.060	5.78	96.4	6.3	0.60	4.1	0.15	1.07	0.49	21
	30 ISL	12.64	12.64	33.464	25.275	269.4	0.084	5.54	91.9	7.3	0.71	5.8	0.23	0.66	0.37	30
1	31	12.62	12.62	33.465	25.280	269.0	0.087	5.52	91.5	7.4	0.72	5.9	0.24	0.63	0.35	31
1	41	12.28	12.27	33.485	25.361	261.5	0.113	5.61	92.3	8.5	0.79	6.9	0.2A	0.56	0.34	41
	50 ISL	12.08	12.07	33.505	25.415	256.6	0.137	5.34	87.5	9.8	0.87	8.5	0.26	0.33	0.25	50
1	51	12.06	12.05	33.508	25.421	256.0	0.139	5.30	86.8	10.0	0.88	8.7	0.26	0.30	0.24	51
1	61	11.71	11.70	33.5AA	25.515	2A7.3	0.165	A.88	79.A	11.7	1.02	10.6	0.23	0.20	0.19	61
1	71	10.95	10.9A	33.636	25.72A	227.5	0.188	A.1A	66.3	16.6	1.31	16.2	0.11	0.07	0.1A	72
	75 ISL	10.72	10.71	33.665	25.788	221.6	0.197	3.92	62.5	18.0	1.40	17.7	0.08	0.06	0.13	76
1	85	10.26	10.25	33.726	25.915	209.6	0.219	3.53	55.7	20.7	1.56	20.2	0.02	0.03	0.10	86
1	100	9.77	9.76	33.803	26.058	196.3	0.249	3.39	52.9	23.4	1.6A	21.9	0.02	0.02	0.07	101
1	120	9.11	9.10	33.908	26.2A8	178.6	0.287	3.3A	51.A	27.2	1.73	23.8	0.02	0.01	0.06	121
	125 ISL	9.09	9.08	33.937	26.274	176.2	0.296	3.22	A9.6	28.3	1.77	2A.A	0.02	0.01	0.06	126
1	1A5	9.00	8.98	3A.011	26.3A6	169.7	0.330	2.68	Al.2	32.A	1.96	26.6	0.01	0.01	0.05	1A6
	150 ISL	8.96	8.94	3A.02A	26.363	168.2	0.339	2.62	A0.2	33.0	1.99	26.9	0.01	0.01	0.05	151
1	175	8.71	8.69	3A.076	26.AA3	161.0	0.380	2.39	36.5	36.0	2.10	28.2	0.00	0.00	0.03	176
	200 ISL	8.41	8.39	34.131	26.533	152.9	0.419	1.97	29.9	41.2	2.26	30.1	0.01	0.00	0.03	202
1	20A	8.36	8.3A	3A.138	26.5A6	151.7	0.A25	1.91	28.9	A2.0	2.29	30.4	0.01	0.00	0.03	206
1	234	8.02	8.00	34.156	26.612	145.9	0.470	1.73	26.0	46.2	2.39	31.7	0.00			236
	250 ISL	7.92	7.89	3A.17A	26.641	143.4	0.493	1.57	23.6	48.1	2.45	32.4	0.00			252
1	272	7.83	7.80	34.201	26.676	140.4	0.52A	1.33	19.9	50.5	2.5A	33.3	0.00			27A
	300 ISL	7.71	7.68	3A.225	26.712	137.4	0.563	1.12	16.7	53.1	2.62	34.2	0.00			302
1	326	7.58	7.55	3A.2A2	26.7A5	134.7	0.598	0.96	14.3	55.7	2.69	34.9	0.00			329
1	385	7.08	7.04	34.279	26.8A5	125.8	0.675	0.61	9.0	6A.0	2.87	36.9	0.00			388
	A00 ISL	6.92	6.88	3A.287	26.873	123.3	0.69A	0.5A	7.9	66.7	2.91	37.A	0.00			A03
1	AA9	6.46	6.42	34.311	26.954	115.9	0.753	0.36	5.2	74.9	3.00	38.8	0.00			453
	500 ISL	6.25	6.21	34.324	26.992	112.9	0.811	0.31	4.5	78.9	3.05	39.3	0.00			504
1	516	6.18	6.13	34.328	27.005	111.9	0.829	0.30	4.3	80.2	3.06	39.4	0.00			521

RV DAVID STARR JORDAN CALCOFI CRUISE 8801 STATION 87 45

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
33 29.5 N	119 19.A W	26/01/88	1159 UTC	1668 M	070	03 KT			1019.9 MB	14.2 C	13.1 C		

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	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		12.67	12.67	33.479	25.280	268.1	0.000	6.01	99.8	7.5	0.62	4.5	0.12	1.15	0.24	0
1	10		12.37	12.37	33.489	25.346	262.1	0.027	5.92	97.6	8.2	0.69	5.5	0.14	1.15	0.36	10
1	20		12.34	12.34	33.489	25.352	261.8	0.053	5.88	96.9	8.0	0.71	5.8	0.15	0.99	0.38	20
1	30		12.32	12.32	33.491	25.358	261.5	0.079	5.80	95.6	8.2	0.73	6.2	0.16	0.91	0.44	30
1	40		12.17	12.16	33.508	25.400	257.8	0.105	5.63	92.5	9.0	0.79	7.2	0.18	0.68	0.32	40
1	50		11.30	11.29	33.614	25.644	234.7	0.129	4.49	72.4	14.5	1.18	13.9	0.16	0.24	0.21	50
1	60		10.59	10.58	33.594	25.755	224.4	0.152	3.87	61.5	17.8	1.39	17.7	0.04	0.07	0.11	60
1	70		10.30	10.29	33.723	25.906	210.2	0.174	3.68	58.1	20.1	1.50	19.5	0.03	0.05	0.10	71
	75	ISL	10.19	10.18	33.755	25.949	206.1	0.185	3.58	56.4	21.1	1.55	20.2	0.03	0.04	0.09	76
1	85		9.96	9.95	33.799	26.023	199.4	0.205	3.35	52.5	23.3	1.65	21.6	0.02	0.03	0.08	86
	100	ISL	9.43	9.42	33.906	26.194	183.3	0.234	2.95	45.7	28.6	1.83	24.5	0.01	0.01	0.07	101
1	101		9.40	9.39	33.913	26.205	182.3	0.235	2.93	45.4	28.9	1.84	24.7	0.01	0.01	0.07	102
1	120		9.24	9.23	33.961	26.269	176.6	0.269	2.66	41.1	31.4	1.94	25.8	0.02	0.01	0.08	121
	125	ISL	9.18	9.17	33.974	26.289	174.8	0.278	2.63	40.6	32.0	1.96	26.1	0.02	0.01	0.07	126
1	145		8.94	8.92	34.026	26.368	167.7	0.312	2.50	38.4	34.4	2.03	27.2	0.01	0.01	0.05	146
	150	ISL	8.87	8.85	34.043	26.392	165.4	0.321	2.41	36.9	35.4	2.07	27.7	0.01	0.01	0.05	151
1	176		8.59	8.57	34.114	26.492	156.4	0.363	1.96	29.9	40.1	2.24	29.8	0.01	0.00	0.05	177
	200	ISL	8.57	8.55	34.121	26.501	156.0	0.400	1.94	29.5	39.9	2.26	29.9	0.00	0.00	0.04	202
1	206		8.56	8.54	34.122	26.503	155.9	0.410	1.94	29.5	39.9	2.26	29.9	0.00	0.00	0.04	208
1	234		8.16	8.14	34.184	26.613	145.9	0.452	1.50	22.6	45.8	2.43	32.0	0.00			236
	250	ISL	8.02	7.99	34.206	26.651	142.5	0.475	1.31	19.7	48.4	2.51	32.8	0.00			252
1	273		7.86	7.83	34.227	26.692	139.0	0.507	1.10	16.5	51.7	2.60	33.7	0.00			275
	300	ISL	7.63	7.60	34.246	26.740	134.7	0.544	0.94	14.0	55.1	2.69	34.7	0.00			302
1	327		7.41	7.38	34.260	26.783	131.0	0.580	0.82	12.2	58.3	2.76	35.5	0.00			330
1	385		7.00	6.96	34.283	26.859	124.4	0.654	0.58	8.5	65.2	2.87	37.0	0.00			388
	400	ISL	6.89	6.85	34.289	26.879	122.7	0.673	0.54	7.9	66.9	2.90	37.4	0.00			403
1	450		6.53	6.49	34.308	26.943	117.1	0.733	0.43	6.2	72.9	2.98	38.5	0.00			454
	500	ISL	6.19	6.15	34.329	27.004	111.7	0.790	0.33	4.8	79.5	3.05	39.4	0.00			504
1	517		6.08	6.03	34.337	27.025	109.9	0.809	0.29	4.2	81.8	3.07	39.7	0.00			522

RV DAVID STARR JORDAN CALCOFI CRUISE 8801 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	26/01/88	1523 UTC	77 M	090	02 KT	330 02 07	1	1020.4 MB	14.9 C	12.2 C	6/8	ST

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	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	12.94	12.94	33.468	25.219	274.0	0.000	6.05	101.0	5.8	0.54	3.1	0.10	1.21	0.39	0
1	10	12.81	12.81	33.472	25.248	271.5	0.027	6.01	100.0	6.5	0.58	3.8	0.11	1.32	0.38	10
1	20	12.28	12.28	33.499	25.371	259.9	0.054	5.59	92.0	8.2	0.80	7.4	0.21	0.61	0.43	20
1	30	11.94	11.94	33.536	25.465	251.3	0.079	5.25	85.8	10.4	0.94	9.6	0.24	0.29	0.23	30
1	40	11.72	11.71	33.563	25.527	245.6	0.104	5.06	82.3	11.6	1.01	10.8	0.23	0.23	0.23	40
1	50	11.44	11.43	33.597	25.605	238.4	0.128	4.76	77.0	13.7	1.12	12.7	0.20	0.17	0.18	50

RV DAVID STARR JORDAN CALCOFI CRUISE 8801 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 0.2 W	26/01/88	2228 UTC	1251 M	030	06 KT	310 02 08	1	1019.5 MB	17.1 C	15.8 C	6/8	CC

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	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	13.81	13.81	33.436	25.019	293.0	0.000	6.05	102.8	4.7	0.52	2.6	0.10	0.75	0.22	0
1	1		13.81	13.81	33.436	25.019	293.0	0.003	6.05	102.8	4.7	0.52	2.6	0.10	0.75	0.22	1
1	10		13.31	13.31	33.431	25.117	284.0	0.029	6.07	102.1	4.6	0.52	2.5	0.10	0.92	0.29	10
1	20		13.28	13.28	33.432	25.124	283.5	0.057	6.05	101.7	4.6	0.52	2.6	0.10	1.06	0.34	20
1	30		13.23	13.23	33.432	25.134	282.8	0.086	5.98	100.4	4.5	0.54	2.8	0.12	0.94	0.39	30
1	40		13.16	13.15	33.431	25.147	281.8	0.114	5.90	98.9	4.5	0.56	3.2	0.16	0.86	0.42	40
1	50		13.16	13.15	33.429	25.146	282.2	0.142	5.81	97.4	4.9	0.58	3.4	0.17	0.59	0.37	50
1	60		13.00	12.99	33.436	25.184	278.9	0.170	5.68	94.9	5.7	0.65	4.4	0.19	0.46	0.31	60
1	71		12.67	12.66	33.456	25.264	271.5	0.200	5.73	95.1	7.1	0.72	5.6	0.20	0.44	0.35	72
	75	ISL	12.49	12.48	33.467	25.308	267.5	0.211	5.66	93.6	7.7	0.76	6.3	0.21	0.37	0.32	76
1	85		11.84	11.83	33.521	25.473	251.9	0.237	5.19	84.6	10.5	0.95	9.5	0.25	0.16	0.20	86
1	99		10.30	10.29	33.703	25.891	212.3	0.270	3.64	57.5	19.8	1.51	19.5	0.03	0.04	0.08	100
	100	ISL	10.27	10.26	33.715	25.905	210.9	0.272	3.62	57.1	20.1	1.53	19.6	0.03	0.04	0.08	101
1	120		9.76	9.75	33.791	26.051	197.4	0.313	3.27	51.0	23.9	1.73	22.5	0.01	0.02	0.05	121
	125	ISL	9.64	9.63	33.820	26.093	193.5	0.322	3.19	49.7	24.9	1.76	23.1	0.01	0.02	0.05	126
1	145		9.23	9.21	33.934	26.250	179.0	0.360	2.93	45.2	29.0	1.85	25.1	0.01	0.01	0.04	146
	150	ISL	9.15	9.13	33.953	26.277	176.4	0.368	2.88	44.4	29.9	1.87	25.5	0.01	0.01	0.04	151
1	175		8.80	8.78	34.022	26.387	166.4	0.411	2.65	40.5	34.2	2.00	27.0	0.01	0.00	0.04	176
	200	ISL	8.48	8.46	34.071	26.475	158.4	0.452	2.39	36.3	38.0	2.12	28.7	0.01	0.00	0.03	202
1	206		8.41	8.39	34.083	26.496	156.6	0.461	2.31	35.0	39.1	2.15	29.1	0.01	0.00	0.03	208
1	235		8.05	8.03	34.163	26.613	145.8	0.505	1.64	24.7	46.6	2.41	31.8	0.00			237
	250	ISL	7.95	7.92	34.179	26.641	143.4	0.527	1.49	22.4	48.4	2.47	32.4	0.00			252
1	274		7.85	7.82	34.190	26.664	141.6	0.561	1.38	20.7	50.1	2.51	32.9	0.00			276
	300	ISL	7.72	7.69	34.206	26.696	139.0	0.598	1.24	18.5	51.7	2.57	33.6	0.00			302
1	327		7.58	7.55	34.221	26.728	136.3	0.635	1.11	16.5	53.6	2.63	34.3	0.00			330
1	385		7.22	7.18	34.241	26.796	130.6	0.712	0.86	12.7	60.4	2.76	35.8	0.00			388
	400	ISL	7.09	7.05	34.249	26.820	128.4	0.732	0.78	11.5	62.5	2.80	36.3	0.00			403
1	449		6.64	6.60	34.279	26.905	120.7	0.793	0.52	7.6	69.8	2.93	38.1	0.00			453
	500	ISL	6.15	6.11	34.307	26.992	112.8	0.852	0.38	5.5	78.4	3.03	39.7	0.00			504
1	518		5.98	5.93	34.317	27.021	110.1	0.872	0.33	4.7	81.5	3.06	40.2	0.00			522

RV I/AVID STARR JORDAN CALCOFI CRUISE 8801 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 20.9 W	27/01/88	0200 UTC	723 M	020	08 KT	290 02 11	1	1018.0 MB	15.4 C	1A.5 C	6/8	CC

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	POA UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
1	0		14.18	14.18	33.478	24.974	297.2	0.000	6.04	103.4	4.0	0.48	2.0	0.06	0.82	0.22	0
	10	ISL	13.82	13.82	33.483	25.053	290.0	0.029	6.00	102.0	4.2	0.49	2.1	0.07	0.78	0.33	10
1	15		13.64	13.64	33.486	25.092	286.4	0.044	5.98	101.3	4.3	0.50	2.2	0.07	0.76	0.39	15
	20	ISL	13.57	13.57	33.486	25.107	285.1	0.058	5.92	100.1	4.4	0.52	2.4	0.08	0.72	0.41	20
1	29		13.51	13.51	33.482	25.116	284.5	0.084	5.81	98.1	4.5	0.55	2.8	0.09	0.63	0.44	29
	30	ISL	13.50	13.50	33.481	25.118	284.4	0.087	5.81	98.1	4.5	0.55	2.8	0.09	0.62	0.44	30
1	40		13.41	13.40	33.472	25.129	283.6	0.115	5.78	97.4	4.8	0.57	3.1	0.11	0.55	0.38	40
1	49		13.34	13.33	33.467	25.140	282.8	0.140	5.78	97.3	5.1	0.58	3.3	0.13	0.49	0.37	49
	50	ISL	13.34	13.33	33.466	25.139	282.9	0.143	5.78	97.3	5.1	0.58	3.3	0.13	0.48	0.36	50
1	60		13.29	13.28	33.462	25.146	282.5	0.172	5.73	96.3	5.3	0.59	3.5	0.15	0.41	0.29	60
1	71		13.20	13.19	33.465	25.167	280.9	0.203	5.75	96.5	5.5	0.60	3.7	0.15	0.39	0.29	72
	75	ISL	13.14	13.13	33.467	25.180	279.7	0.214	5.68	95.2	5.8	0.62	4.1	0.17	0.32	0.26	76
1	80		13.06	13.05	33.469	25.198	278.1	0.228	5.60	93.7	6.2	0.65	4.5	0.18	0.21	0.21	81
1	95		10.36	10.35	33.651	25.840	217.0	0.265	3.77	59.6	18.3	1.46	18.6	0.02	0.05	0.08	96
	100	ISL	10.01	10.00	33.685	25.926	208.9	0.275	3.73	58.5	19.6	1.50	19.3	0.02	0.04	0.07	101
1	U0		9.71	9.70	33.740	26.019	200.2	0.296	3.64	56.7	21.2	1.57	20.7	0.01	0.03	0.05	HI
1	124		9.43	9.42	33.883	26.177	185.5	0.323	3.01	46.7	27.0	1.81	24.1	0.01	0.02	0.06	125
	125	ISL	9.42	9.41	33.888	26.182	185.0	0.325	3.01	46.7	27.2	1.81	24.1	0.01	0.02	0.06	126
1	149		9.15	9.13	33.944	26.270	177.0	0.368	2.95	45.5	29.4	1.86	24.9	0.01	0.01	0.05	150
	150	ISL	9.14	9.12	33.947	26.274	176.7	0.370	2.94	45.3	29.5	1.87	25.0	0.01	0.01	0.05	151
1	175		8.83	8.81	34.020	26.381	167.0	0.413	2.61	39.9	33.8	2.02	27.0	0.00	0.01	0.05	176
	200	ISL	8.52	8.50	34.089	26.483	157.7	0.454	2.23	33.9	39.0	2.17	29.0	0.00	0.00	0.03	202
1	205		8.46	8.44	34.100	26.501	156.0	0.461	2.16	32.8	39.9	2.20	29.3	0.00	0.00	0.03	207
1	235		8.23	8.21	34.123	26.555	151.4	0.507	1.98	29.9	42.3	2.29	30.4	0.00			237
	250	ISL	8.11	8.08	34.138	26.585	148.8	0.530	1.84	27.7	44.1	2.35	31.0	0.00			252
1	275		7.90	7.87	34.165	26.637	144.2	0.567	1.58	23.7	47.8	2.45	32.2	0.00			277
	300	ISL	7.62	7.59	34.189	26.697	138.8	0.602	1.30	19.4	52.3	2.57	33.6	0.00			302
1	328		7.30	7.27	34.214	26.762	132.9	0.640	1.01	14.9	57.5	2.70	35.1	0.00			331
1	386		6.78	6.74	34.261	26.872	123.1	0.714	0.63	9.2	66.7	2.89	37.2	0.00			389
	400	ISL	6.70	6.66	34.268	26.888	121.7	0.731	0.58	8.5	68.1	2.91	37.5	0.00			403
1	449		6.43	6.39	34.289	26.941	117.2	0.790	0.46	6.7	72.8	2.97	38.6	0.00			453
	500	ISL	6.02	5.98	34.311	27.011	110.8	0.848	0.35	5.0	79.4	3.05	39.9	0.00			504
1	518		5.87	5.82	34.319	27.037	108.5	0.868	0.31	4.4	81.7	3.08	40.4	0.00			522

RV DAVID STARR JORDAN CALCOFI CRUISE 8801 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	27/01/88	1301 UTC	3924 M	040	05 KT			1019.0 MB	14.8 C	14.0 C		

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	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		13.71	13.71	33.367	24.986	296.1	0.000	6.11	103.6	3.3	0.46	1.4	0.06	0.99	0.28	0
	10	ISL	13.40	13.40	33.337	25.026	292.6	0.029	5.98	100.7	3.4	0.49	1.9	0.11	0.88	0.43	10
1	15		13.25	13.25	33.322	25.044	290.9	0.044	5.92	99.4	3.5	0.51	2.1	0.14	0.83	0.50	15
	20	ISL	13.25	13.25	33.325	25.047	290.9	0.059	5.91	99.2	3.6	0.52	2.2	0.15	0.76	0.47	20
	30	ISL	13.24	13.24	33.330	25.053	290.5	0.088	5.88	98.7	3.7	0.53	2.4	0.16	0.63	0.42	30
1	35		13.24	13.24	33.333	25.056	290.4	0.102	5.86	98.3	3.8	0.53	2.4	0.16	0.56	0.39	35
	50	ISL	13.27	13.26	33.350	25.063	290.1	0.146	5.84	98.1	3.9	0.54	2.5	0.17	0.38	0.29	50
1	55		13.28	13.27	33.357	25.067	289.9	0.160	5.83	97.9	4.0	0.54	2.5	0.17	0.34	0.26	55
1	71		13.09	13.08	33.340	25.092	288.0	0.206	5.75	96.2	4.4	0.58	3.1	0.18	0.29	0.23	72
	75	ISL	12.23	12.22	33.369	25.281	269.9	0.218	5.24	86.1	7.9	0.82	7.4	0.13	0.19	0.17	76
1	80		11.13	11.12	33.440	25.540	245.3	0.230	4.54	72.9	12.7	1.14	13.1	0.07	0.08	0.10	81
1	90		10.34	10.33	33.654	25.845	216.4	0.254	3.63	57.3	19.1	1.50	19.3	0.01	0.04	0.09	91
	100	ISL	10.00	9.99	33.721	25.956	206.1	0.275	3.47	54.4	21.5	1.60	21.1	0.01	0.02	0.06	101
1	101		9.98	9.97	33.723	25.961	205.6	0.277	3.45	54.1	21.6	1.60	21.1	0.01	0.02	0.06	102
1	112		9.65	9.64	33.784	26.063	196.0	0.299	3.30	51.4	23.9	1.69	22.5	0.01	0.01	0.05	113
	125	ISL	9.30	9.29	33.877	26.193	183.9	0.324	3.05	47.1	27.4	1.80	24.3	0.01	0.01	0.04	126
1	126		9.27	9.26	33.884	26.204	182.9	0.325	3.03	46.8	27.7	1.81	24.4	0.01	0.01	0.04	127
1	142		8.87	8.85	33.963	26.329	171.2	0.354	2.92	44.7	31.4	1.89	25.8	0.01	0.00	0.04	143
	150	ISL	8.70	8.68	33.975	26.365	167.9	0.367	2.96	45.2	32.1	1.90	26.0	0.01	0.00	0.04	151
1	161		8.52	8.50	33.983	26.400	164.8	0.386	3.01	45.7	32.9	1.90	26.2	0.00	0.00	0.03	162
1	181		8.34	8.32	34.021	26.457	159.7	0.418	2.81	42.5	36.0	1.99	27.4	0.00	0.00	0.03	182
	200	ISL	8.12	8.10	34.052	26.515	154.5	0.448	2.65	39.9	39.0	2.07	28.5	0.00	0.00	0.03	202
1	206		8.03	8.01	34.058	26.533	152.9	0.457	2.61	39.2	40.0	2.09	28.8	0.00	0.00	0.03	208
1	236		7.38	7.36	34.047	26.619	144.9	0.502	2.45	36.3	46.0	2.20	30.6	0.00			238
	250	ISL	7.20	7.18	34.050	26.646	142.4	0.522	2.32	34.2	48.5	2.26	31.5	0.00			252
1	275		7.01	6.98	34.070	26.689	138.8	0.557	2.00	29.4	52.6	2.38	33.0	0.00			277
	300	ISL	7.00	6.97	34.128	26.736	134.7	0.591	1.56	22.9	56.3	2.53	34.3	0.00			302
1	330		6.99	6.96	34.195	26.790	130.0	0.631	1.04	15.3	60.3	2.69	35.6	0.00			333
1	386		6.78	6.74	34.264	26.874	122.8	0.702	0.59	8.6	66.4	2.86	37.2	0.00			389
	400	ISL	6.70	6.66	34.273	26.892	121.3	0.719	0.53	7.7	68.1	2.89	37.6	0.00			403
1	450		6.37	6.33	34.297	26.955	115.8	0.778	0.40	5.8	73.9	2.97	38.8	0.00			45 4
	500	ISL	6.08	6.04	34.327	27.016	110.4	0.835	0.30	4.3	78.8	3.04	39.8	0.00			504
1	517		5.98	5.93	34.338	27.038	108.5	0.853	0.26	3.7	80.4	3.07	40.2	0.00			521

RV DAVID STARR JORDAN CALCOFI CRUISE 8801 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	27/01/88	0728 UTC	4018 M	270	02 KT			1016.4 MB	14.4 C	14.1 C		

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	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	13.51	13.51	33.242	24.930	301.4	0.000	6.19	104.4	2.3	0.42	0.7	0.04	1.20	0.28	0
1	1		13.51	13.51	33.242	24.930	301.5	0.003	6.19	104.4	2.3	0.42	0.7	0.04	1.20	0.28	1
	10	ISL	13.48	13.48	33.249	24.942	300.6	0.030	6.20	104.5	2.4	0.43	0.8	0.05	1.21	0.30	10
1	16		13.46	13.46	33.269	24.961	298.9	0.048	6.20	104.5	2.7	0.44	0.9	0.05	1.22	0.31	16
	20	ISL	13.43	13.43	33.291	24.984	296.8	0.060	6.17	103.9	3.0	0.45	1.2	0.06	1.18	0.35	20
	30	ISL	13.31	13.31	33.346	25.051	290.7	0.089	6.05	101.7	3.8	0.50	2.1	0.11	1.01	0.42	30
1	35		13.22	13.22	33.372	25.090	287.2	0.104	5.98	100.3	4.3	0.53	2.6	0.14	0.90	0.44	35
	50	ISL	12.84	12.83	33.385	25.175	279.4	0.146	5.77	96.1	5.3	0.63	4.0	0.24	0.48	0.28	50
1	54		12.71	12.70	33.382	25.198	277.3	0.157	5.72	95.0	5.7	0.66	4.5	0.26	0.40	0.24	54
1	67		12.22	12.21	33.365	25.280	269.8	0.193	5.65	92.8	7.7	0.78	6.6	0.24	0.47	0.34	68
	75	ISL	12.16	12.15	33.480	25.381	260.5	0.214	5.64	92.6	9.0	0.81	7.4	0.26	0.32	0.30	76
1	76		12.15	12.14	33.495	25.394	259.2	0.217	5.64	92.6	9.2	0.82	7.5	0.26	0.30	0.29	77
1	87		11.86	11.85	33.506	25.458	253.4	0.245	5.28	86.1	10.7	0.95	9.5	0.27	0.15	0.19	88
1	96		11.57	11.56	33.530	25.530	246.6	0.268	5.04	81.7	12.1	1.03	11.0	0.25	0.14	0.18	97
	100	ISL	11.28	11.27	33.556	25.604	239.8	0.277	4.70	75.7	13.7	1.14	13.0	0.18	0.11	0.16	101
1	106		10.80	10.79	33.604	25.727	228.1	0.291	4.14	66.0	16.4	1.33	16.3	0.07	0.07	0.12	107
1	121		10.10	10.09	33.716	25.935	208.5	0.324	3.45	54.2	21.4	1.59	20.8	0.01	0.02	0.09	122
	125	ISL	9.91	9.90	33.743	25.988	203.5	0.332	3.35	52.4	22.7	1.64	21.7	0.01	0.02	0.08	126
1	136		9.44	9.42	33.815	26.122	190.9	0.354	3.17	49.1	25.9	1.76	23.6	0.01	0.01	0.05	137
	150	ISL	9.05	9.03	33.908	26.258	178.2	0.380	2.95	45.3	29.4	1.87	25.4	0.00	0.00	0.05	151
1	155		8.95	8.93	33.936	26.296	174.7	0.389	2.89	44.3	30.5	1.90	25.9	0.00	0.00	0.05	156
1	175		8.56	8.54	33.997	26.405	164.6	0.423	2.78	42.3	33.7	1.97	27.1	0.00	0.00	0.03	176
	200	ISL	8.22	8.20	34.032	26.484	157.4	0.463	2.72	41.1	37.1	2.02	28.1	0.00	0.00	0.03	202
1	201		8.21	8.19	34.033	26.486	157.2	0.464	2.72	41.0	37.2	2.02	28.1	0.00	0.00	0.03	203
1	230		7.86	7.84	34.062	26.561	150.5	0.509	2.44	36.5	41.7	2.16	29.8	0.00			232
	250	ISL	7.61	7.59	34.082	26.614	145.8	0.539	2.16	32.2	45.8	2.28	31.3	0.00			252
1	270		7.37	7.34	34.101	26.663	141.3	0.567	1.86	27.5	50.1	2.39	32.7	0.00			272
	300	ISL	7.11	7.08	34.126	26.719	136.3	0.609	1.52	22.4	55.2	2.53	34.4	0.00			302
1	327		6.89	6.86	34.144	26.764	132.4	0.645	1.27	18.6	59.3	2.64	35.7	0.00			330
1	385		6.34	6.31	34.175	26.862	123.6	0.719	0.84	12.1	67.8	2.82	38.2	0.00			388
	400	ISL	6.21	6.17	34.182	26.884	121.6	0.738	0.76	11.0	70.0	2.86	38.7	0.00			403
1	448		5.86	5.82	34.210	26.951	115.6	0.795	0.55	7.9	76.9	2.97	40.0	0.00			452
	500	ISL	5.57	5.53	34.255	27.022	109.2	0.853	0.37	5.3	83.2	3.06	41.1	0.00			504
1	512		5.50	5.46	34.265	27.039	107.7	0.866	0.33	4.7	84.7	3.08	41.3	0.00			516

RV DAVID STARR JORDAN CALCOFI CRUISE 8801 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	27/01/88	1835 UTC	4214 M	180	07 KT	320 03 10	1	1018.9 MB	15.8 C	15.5 C	6/8	AC

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	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	14.14	14.14	33.221	24.784	315.3	0.000	6.02	102.9	2.2	0.39	0.3	0.03	0.43	0.13	0
1	1		14.14	14.14	33.221	24.784	315.3	0.003	6.02	102.9	2.2	0.39	0.3	0.03	0.43	0.13	1
	10	ISL	13.70	13.70	33.218	24.873	307.1	0.031	6.11	103.5	2.7	0.42	0.5	0.05	0.70	0.19	10
1	15		13.36	13.36	33.219	24.943	300.6	0.046	6.17	103.7	3.0	0.44	0.7	0.07	0.89	0.24	15
	20	ISL	13.22	13.22	33.226	24.976	297.6	0.061	6.16	103.3	3.1	0.46	1.0	0.11	0.88	0.30	20
	30	ISL	13.04	13.04	33.243	25.025	293.1	0.091	6.09	101.7	3.4	0.50	1.7	0.19	0.85	0.40	30
1	36		13.00	13.00	33.256	25.044	291.6	0.108	6.03	100.6	3.5	0.53	2.2	0.24	0.83	0.44	36
	50	ISL	12.96	12.95	33.284	25.074	289.1	0.149	5.93	98.9	4.0	0.57	2.9	0.32	0.51	0.36	50
1	57		12.94	12.93	33.300	25.090	287.7	0.169	5.87	97.9	4.3	0.59	3.2	0.35	0.33	0.29	57
1	71		12.75	12.74	33.343	25.161	281.3	0.209	5.70	94.7	5.4	0.65	4.3	0.40	0.15	0.18	72
	75	ISL	12.54	12.53	33.346	25.204	277.3	0.220	5.54	91.6	6.2	0.71	5.4	0.32	0.11	0.15	76
1	80		12.20	12.19	33.352	25.274	270.7	0.234	5.30	87.0	7.4	0.81	7.2	0.20	0.07	0.12	81
1	91		11.19	11.18	33.396	25.495	249.8	0.263	4.73	76.0	10.8	1.05	11.7	0.03	0.05	0.09	92
	100	ISL	10.80	10.79	33.449	25.606	239.4	0.285	4.43	70.6	13.0	1.20	14.1	0.02	0.05	0.07	101
1	101		10.77	10.76	33.456	25.617	238.4	0.287	4.40	70.1	13.3	1.22	14.4	0.02	0.05	0.07	102
1	110		10.26	10.25	33.541	25.771	223.8	0.308	4.02	63.3	16.9	1.42	17.7	0.02	0.03	0.07	111
	125	ISL	9.78	9.77	33.679	25.960	206.1	0.340	3.69	57.6	20.9	1.57	20.6	0.01	0.01	0.04	126
1	126		9.76	9.75	33.687	25.969	205.2	0.342	3.68	57.4	21.1	1.58	20.7	0.01	0.01	0.04	127
1	141		9.47	9.45	33.750	26.067	196.3	0.372	3.51	54.4	23.4	1.67	22.1	0.01	0.01	0.04	142
	150	ISL	9.21	9.19	33.827	26.169	186.7	0.389	3.28	50.6	26.3	1.77	23.8	0.01	0.01	0.04	151
1	161		8.92	8.90	33.918	26.286	175.7	0.409	3.01	46.1	29.8	1.88	25.7	0.01	0.00	0.03	162
1	182		8.68	8.66	33.962	26.359	169.2	0.446	2.92	44.5	31.8	1.93	26.4	0.01	0.00	0.03	183
	200	ISL	8.31	8.29	34.007	26.451	160.6	0.475	2.82	42.6	35.2	2.00	27.6	0.00	0.00	0.02	202
1	207		8.16	8.14	34.022	26.485	157.4	0.486	2.79	42.1	36.5	2.02	28.0	0.00	0.00	0.02	209
1	235		7.81	7.79	34.027	26.541	152.5	0.530	2.85	42.6	39.5	2.06	28.6	0.00			237
	250	ISL	7.58	7.56	34.031	26.578	149.1	0.552	2.72	40.4	42.3	2.12	29.2	0.00			252
1	276		7.19	7.16	34.043	26.643	143.2	0.590	2.36	34.8	47.9	2.27	30.6	0.00			278
	300	ISL	6.90	6.87	34.063	26.698	138.1	0.624	1.98	29.0	53.0	2.42	32.9	0.00			302
1	330		6.59	6.56	34.092	26.763	132.3	0.665	1.51	21.9	59.1	2.61	35.9	0.00			333
1	386		6.11	6.08	34.140	26.864	123.2	0.736	0.92	13.2	68.7	2.84	38.6	0.00			389
	400	ISL	6.03	6.00	34.154	26.885	121.3	0.753	0.82	11.8	70.8	2.88	39.1	0.00			403
1	450		5.81	5.77	34.209	26.956	115.0	0.812	0.56	8.0	77.3	3.00	40.3	0.00			454
	500	ISL	5.67	5.63	34.264	27.018	109.8	0.869	0.39	5.6	82.5	3.08	41.0	0.00			504
1	518		5.62	5.58	34.283	27.039	108.0	0.888	0.33	4.7	84.4	3.11	41.2	0.00			522

RV DAVID STARR JORDAN CALCOFI CRUISE 8801 STATION 87 100

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
31 39.A N	123 4.2 W	28/01/88	0048 UTC	3833 M	230	06 KT	310 03 09	1	1016.1 MB	16.9 C	16.1 C	3/8	CI

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	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	14.49	14.49	33.230	24.718	321.7	0.000	6.01	103.4	2.0	0.37	0.2	0.00	0.36	0.10	0
	10 ISL	14.15	14.15	33.205	24.770	316.9	0.032	5.99	102.4	2.1	0.40	0.5	0.05	0.39	0.15	10
1	16	13.94	13.94	33.191	24.803	314.0	0.051	5.98	101.7	2.2	0.41	0.6	0.08	0.40	0.18	16
	20 ISL	13.87	13.87	33.189	24.816	312.8	0.063	5.95	101.1	2.2	0.42	0.7	0.09	0.37	0.18	20
	30 ISL	13.74	13.74	33.188	24.842	310.6	0.095	5.90	100.0	2.3	0.43	0.9	0.11	0.29	0.17	30
1	35	13.70	13.70	33.190	24.852	309.8	0.110	5.87	99.4	2.4	0.44	1.0	0.12	0.25	0.16	35
	50 ISL	13.48	13.47	33.192	24.899	305.8	0.156	5.91	99.6	2.8	0.46	1.4	0.14	0.36	0.23	50
1	56	13.39	13.38	33.193	24.918	304.1	0.175	5.92	99.6	3.0	0.47	1.5	0.15	0.39	0.24	56
1	72	12.08	12.07	33.291	25.249	272.9	0.221	5.17	84.6	7.3	0.83	7.8	0.04	0.09	0.12	73
	75 ISL	11.88	11.87	33.304	25.297	268.4	0.229	5.05	82.3	8.0	0.89	8.8	0.03	0.09	0.12	76
1	80	11.56	11.55	33.331	25.377	260.8	0.242	4.86	78.7	9.3	0.98	10.3	0.02	0.09	0.13	81
1	90	10.97	10.96	33.426	25.558	243.8	0.267	4.47	71.5	12.6	1.17	13.7	0.01	0.05	0.08	91
	100 ISL	10.68	10.67	33.509	25.674	233.0	0.291	4.16	66.2	15.0	1.31	16.1	0.01	0.03	0.06	101
1	101	10.66	10.65	33.517	25.683	232.1	0.293	4.13	65.7	15.2	1.32	16.3	0.01	0.03	0.06	102
1	111	10.31	10.30	33.600	25.809	220.3	0.316	3.89	61.4	17.5	1.42	18.1	0.01	0.02	0.05	112
1	125	9.83	9.82	33.705	25.972	205.0	0.346	3.58	55.9	21.3	1.58	20.8	0.01	0.01	0.04	126
1	141	9.41	9.39	33.797	26.113	191.9	0.378	3.33	51.6	24.7	1.71	23.0	0.01	0.01	0.03	142
	150 ISL	9.27	9.25	33.836	26.166	186.9	0.395	3.19	49.3	26.3	1.77	23.9	0.01	0.01	0.03	151
1	159	9.16	9.14	33.871	26.212	182.8	0.411	3.07	47.3	27.8	1.83	24.6	0.00	0.00	0.03	160
1	180	8.82	8.80	33.954	26.331	171.8	0.449	2.84	43.4	31.5	1.93	26.2	0.00	0.00	0.03	181
	200 ISL	8.51	8.49	33.996	26.412	164.4	0.482	2.81	42.7	34.1	1.99	27.2	0.00	0.00	0.03	202
1	205	8.43	8.41	34.004	26.430	162.7	0.490	2.81	42.6	34.7	2.00	27.4	0.00	0.00	0.03	207
1	234	8.01	7.99	34.064	26.541	152.6	0.536	2.49	37.4	40.3	2.14	29.3	0.00			236
	250 ISL	7.87	7.85	34.075	26.570	150.0	0.560	2.35	35.2	42.4	2.20	30.1	0.00			252
1	274	7.68	7.65	34.081	26.603	147.2	0.596	2.14	31.9	45.2	2.28	31.1	0.00			276
	300 ISL	7.41	7.38	34.094	26.652	142.8	0.634	1.89	28.0	49.4	2.39	32.5	0.00			302
1	328	7.08	7.05	34.108	26.710	137.7	0.673	1.62	23.8	54.5	2.51	34.2	0.00			331
1	386	6.37	6.34	34.131	26.823	127.2	0.750	1.07	15.5	65.3	2.75	37.5	0.00			389
	400 ISL	6.24	6.20	34.138	26.846	125.2	0.767	0.97	14.0	67.5	2.80	38.1	0.00			403
1	449	5.86	5.82	34.169	26.919	118.6	0.827	0.69	9.9	74.8	2.93	39.8	0.00			453
	500 ISL	5.52	5.48	34.217	26.999	111.4	0.886	0.48	6.8	82.9	3.04	40.9	0.00			504
1	516	5.41	5.37	34.232	27.024	109.1	0.903	0.42	5.9	85.4	3.07	41.3	0.00			520

RV DAVID STARR JORDAN CALCOFI CRUISE 8801 STATION 87 110

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
31 19.4 N	123 44.5 W	28/01/88	0622 UTC	3928 M	200	02 KT			1017.1 MB	14.8 C	14.3 C		

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	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	14.60	14.60	33.258	24.716	321.8	0.000	5.94	102.5	2.1	0.35	0.2	0.00	0.26	0.09	0
	10 ISL	14.20	14.20	33.211	24.764	317.5	0.032	6.03	103.1	2.0	0.36	0.2	0.01	0.45	0.16	10
1	15	14.00	14.00	33.188	24.788	315.4	0.048	6.08	103.6	1.9	0.37	0.2	0.01	0.54	0.19	15
	20 ISL	13.95	13.95	33.192	24.802	314.2	0.064	6.09	103.6	1.9	0.37	0.2	0.01	0.59	0.23	20
	30 ISL	13.86	13.86	33.188	24.818	313.0	0.095	6.10	103.6	2.0	0.37	0.2	0.01	0.65	0.30	30
1	34	13.82	13.82	33.182	24.821	312.7	0.107	6.11	103.7	2.0	0.37	0.2	0.01	0.66	0.32	34
	50 ISL	13.79	13.78	33.186	24.831	312.3	0.157	6.08	103.1	2.1	0.38	0.3	0.02	0.60	0.34	50
1	54	13.79	13.78	33.187	24.832	312.3	0.170	6.06	102.8	2.1	0.39	0.3	0.02	0.58	0.34	54
1	70	13.71	13.70	33.183	24.845	311.4	0.220	5.95	100.7	2.2	0.41	0.7	0.09	0.40	0.27	71
	75 ISL	13.70	13.69	33.181	24.846	311.5	0.235	5.95	100.7	2.3	0.41	0.7	0.10	0.33	0.25	76
1	79	13.70	13.69	33.180	24.845	311.7	0.248	5.96	100.9	2.4	0.41	0.7	0.10	0.28	0.23	80
1	89	13.65	13.64	33.191	24.864	310.1	0.279	5.93	100.3	2.5	0.42	0.8	0.11	0.22	0.18	90
1	99	13.50	13.49	33.195	24.898	307.2	0.310	5.84	98.4	2.9	0.46	1.5	0.16	0.16	0.15	100
	100 ISL	13.39	13.38	33.198	24.923	304.9	0.313	5.79	97.4	3.2	0.49	1.9	0.15	0.15	0.15	101
1	110	12.18	12.17	33.265	25.211	277.5	0.342	5.18	85.0	6.7	0.79	7.2	0.04	0.09	0.14	111
1	124	11.29	11.27	33.461	25.528	247.5	0.379	4.60	74.1	11.1	1.07	12.4	0.02	0.07	0.09	125
	125 ISL	11.23	11.21	33.469	25.546	245.9	0.381	4.57	73.5	11.4	1.09	12.7	0.02	0.07	0.09	126
1	140	10.46	10.44	33.557	25.750	226.6	0.417	4.15	65.7	15.9	1.32	16.6	0.01	0.03	0.04	141
	150 ISL	10.00	9.98	33.639	25.893	213.1	0.439	3.90	61.1	19.0	1.46	19.0	0.01	0.02	0.03	151
1	159	9.66	9.64	33.714	26.008	202.3	0.457	3.71	57.7	21.6	1.57	20.8	0.01	0.01	0.03	160
1	179	9.19	9.17	33.829	26.174	186.8	0.496	3.38	52.1	26.2	1.72	23.5	0.01	0.01	0.03	180
	200 ISL	8.62	8.60	33.949	26.358	169.5	0.534	3.13	47.7	31.5	1.86	25.7	0.00	0.01	0.02	202
1	205	8.50	8.48	33.973	26.395	166.0	0.542	3.09	46.9	32.7	1.89	26.1	0.00	0.01	0.02	207
1	234	8.15	8.13	34.012	26.479	158.5	0.589	2.92	44.0	36.4	1.98	27.4	0.00			236
	250 ISL	7.93	7.90	34.036	26.531	153.8	0.614	2.67	40.0	39.8	2.09	28.8	0.00			252
1	272	7.63	7.60	34.068	26.600	147.5	0.647	2.26	33.7	44.9	2.25	30.8	0.00			274
	300 ISL	7.34	7.31	34.102	26.668	141.3	0.688	1.83	27.1	50.6	2.42	32.9	0.00			302
1	328	7.09	7.06	34.130	26.726	136.2	0.726	1.47	21.6	55.9	2.57	34.6	0.00			331
1	387	6.52	6.48	34.167	26.832	126.6	0.804	0.96	13.9	65.8	2.79	37.4	0.00			390
	400 ISL	6.40	6.36	34.170	26.850	124.9	0.820	0.89	12.9	67.5	2.82	37.9	0.00			403
1	451	6.00	5.96	34.187	26.915	119.1	0.883	0.67	9.6	73.9	2.93	39.4	0.00			455
	500 ISL	5.71	5.67	34.244	26.997	111.8	0.939	0.44	6.3	80.9	3.04	40.5	0.00			504
1	520	5.59	5.55	34.268	27.031	108.7	0.961	0.34	4.8	83.8	3.08	41.0	0.00			524

RV DAVID STARR JORDAN CALCOFI CRUISE 8801 STATION 90 28

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
33 29.0 N	117 46.1 W	25/01/88	1607 UTC	66 M	290	04 KT	230 01 04	1	1023.7 MB	14.5 C	12.3 C	3/8	CS

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	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	13.66	13.66	33.391	25.015	293.4	0.000	6.18	104.7	3.6	0.40	0.4	0.02	1.47	0.35	0
	10 ISL	13.61	13.61	33.390	25.024	292.7	0.029	6.14	103.9	3.7	0.41	0.5	0.02	1.75	0.46	10
1	11	13.61	13.61	33.390	25.024	292.7	0.032	6.14	103.9	3.7	0.41	0.5	0.02	1.78	0.47	11
1	20	13.33	13.33	33.412	25.098	286.0	0.058	5.98	100.6	3.8	0.43	1.2	0.06	0.98	0.47	20
1	30	13.11	13.11	33.429	25.156	280.8	0.087	5.57	93.3	5.2	0.59	3.9	0.18	0.52	0.35	30
1	41	12.30	12.29	33.546	25.404	257.3	0.116	4.54	74.8	10.1	0.98	10.4	0.04	0.17	0.15	41
	50 ISL	11.88	11.87	33.578	25.509	247.6	0.139	4.23	69.1	12.6	1.25	12.7	0.11	0.12	0.21	50
1	51	11.83	11.82..	33.582	25.522	246.4	0.141	4.19	68.4	12.9	1.28	13.0	0.12	0.11	0.22	51

RV DAVID STARR JORDAN CALCOFI CRUISE 8801 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 54.5 W	25/01/88	1359 UTC	628 M	310	04 KT			1022.6 MB	14.5 C	13.2 C		

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	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	13.47	13.47	33.415	25.072	287.9	0.000	6.30	106.3	3.6	0.37	0.3	0.01	1.14	0.35	0
1	1	13.47	13.47	33.415	25.072	288.0	0.003	6.30	106.3	3.6	0.37	0.3	0.01	1.14	0.35	1
	10 ISL	13.39	13.39	33.413	25.087	286.8	0.029	6.27	105.6	3.6	0.37	0.4	0.01	1.27	0.35	10
1	11	13.38	13.38	33.413	25.089	286.6	0.032	6.27	105.6	3.6	0.37	0.4	0.01	1.28	0.35	11
	20 ISL	13.32	13.32	33.413	25.101	285.7	0.057	6.10	102.6	3.8	0.39	0.7	0.04	2.17	0.54	20
1	21	13.31	13.31	33.413	25.103	285.5	0.060	6.08	102.2	3.8	0.40	0.8	0.05	2.23	0.56	21
	30 ISL	13.20	13.20	33.420	25.131	283.1	0.086	5.86	98.3	4.6	0.50	2.2	0.13	1.07	0.49	30
1	31	13.18	13.18	33.422	25.136	282.7	0.089	5.84	97.9	4.7	0.51	2.4	0.14	0.91	0.48	31
1	41	12.81	12.80	33.456	25.236	273.4	0.116	5.67	94.4	6.8	0.65	4.7	0.21	0.64	0.39	41
	50 ISL	12.37	12.36	33.490	25.348	262.9	0.141	5.19	85.6	9.3	0.85	8.2	0.24	0.29	0.23	50
1	51	12.31	12.30	33.494	25.363	261.6	0.143	5.13	84.5	9.6	0.88	8.6	0.24	0.26	0.21	51
1	60	11.64	11.63	33.551	25.533	245.6	0.166	4.56	74.1	12.9	1.11	12.6	0.13	0.17	0.16	60
1	72	11.18	11.17	33.594	25.651	234.6	0.195	4.14	66.6	15.2	1.27	15.3	0.05	0.10	0.12	73
	75 ISL	11.01	11.00	33.621	25.702	229.8	0.202	4.04	64.8	16.0	1.31	16.1	0.04	0.08	0.11	76
1	86	10.38	10.37	33.733	25.900	211.1	0.226	3.68	58.2	19.4	1.48	19.0	0.01	0.03	0.07	87
1	100	9.82	9.81	33.830	26.071	195.1	0.254	3.20	50.0	24.6	1.71	22.5	0.01	0.01	0.06	101
1	120	9.55	9.54	33.905	26.175	185.6	0.293	2.99	46.5	27.3	1.82	24.0	0.00	0.01	0.05	121
	125 ISL	9.49	9.48	33.924	26.199	183.4	0.302	2.91	45.2	28.1	1.85	24.4	0.00	0.01	0.05	126
1	145	9.25	9.23	33.993	26.292	174.9	0.338	2.61	40.3	31.6	1.97	26.1	0.00	0.01	0.04	146
	150 ISL	9.18	9.16	34.007	26.315	172.9	0.346	2.57	39.6	32.4	1.99	26.4	0.00	0.01	0.04	151
1	176	8.83	8.81	34.071	26.421	163.2	0.390	2.37	36.3	36.3	2.10	27.9	0.00	0.01	0.03	177
	200 ISL	8.63	8.61	34.122	26.492	156.9	0.428	2.05	31.3	39.8	2.24	29.4	0.00	0.01	0.04	202
1	206	8.58	8.56	34.133	26.509	155.4	0.438	1.97	30.0	40.7	2.27	29.7	0.00	0.01	0.04	208
1	235	8.26	8.24	34.167	26.584	148.6	0.482	1.75	26.5	44.7	2.37	31.1	0.00*			237
	250 ISL	8.21	8.18	34.179	26.602	147.3	0.504	1.64	24.8	45.9	2.41	31.5	0.00			252
1	274	8.13	8.10	34.195	26.627	145.3	0.539	1.46	22.0	47.8	2.48	32.2	0.00			276
	300 ISL	7.82	7.79	34.213	26.687	139.9	0.576	1.23	18.4	52.4	2.59	33.5	0.00			302
1	328	7.47	7.44	34.233	26.754	133.8	0.615	0.99	14.7	57.5	2.71	34.9	0.00			331
1	386	7.29	7.25	34.266	26.806	129.7	0.691	0.72	10.6	61.5	2.83	35.9	0.00			3 89
	400 ISL	7.17	7.13	34.273	26.828	127.8	0.709	0.65	9.6	63.2	2.86	36.4	0.00			403
1	449	6.67	6.63	34.300	26.918	119.6	0.770	0.44	6.4	70.7	2.99	38.2	0.00			453
	500 ISL	6.15	6.11	34.332	27.012	111.0	0.828	0.28	4.0	80.3	3.11	39.4	0.00			504
1	515	6.00	5.95	34.342	27.039	108.4	0.845	0.23	3.3	83.1	3.14	39.8	0.00			519

RV DAVID STARR JORDAN CALCOFI CRUISE 8801 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 15.2 W	25/01/88	1023 UTC	391 M	360	08 KT			1022.9 MB	17.9 C	11.9 C		

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	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	13.32	13.32	33.452	25.130	282.3	0.000	5.95	100.1	6.1	0.55	3.3	0.10	1.22	0.38	0
1	1	13.32	13.32	33.452	25.131	282.4	0.003	5.95	100.1	6.1	0.55	3.3	0.10	1.22	0.38	1
	10 ISL	13.11	13.11	33.457	25.177	278.2	0.028	5.94	99.5	6.7	0.58	3.7	0.12	1.32	0.43	10
1	11	13.08	13.08	33.458	25.183	277.6	0.031	5.94	99.4	6.8	0.59	3.8	0.12	1.32	0.44	11
	20 ISL	12.92	12.92	33.462	25.219	274.5	0.056	5.86	97.8	7.3	0.63	4.7	0.14	1.02	0.46	20
1	21	12.90	12.90	33.463	25.223	274.1	0.058	5.85	97.6	7.4	0.64	4.8	0.14	0.98	0.46	21
1	30	12.70	12.70	33.469	25.267	270.1	0.083	5.76	95.7	7.8	0.69	5.5	0.18	0.75	0.39	30
1	40	12.54	12.53	33.477	25.305	266.8	0.110	5.79	95.8	8.3	0.72	6.0	0.17	0.86	0.38	40
	50 ISL	12.46	12.45	33.481	25.324	265.3	0.136	5.68	93.9	8.7	0.76	6.6	0.21	0.67	0.37	50
1	51	12.45	12.44	33.481	25.326	265.1	0.139	5.66	93.5	8.7	0.76	6.7	0.22	0.64	0.37	51
1	61	12.32	12.31	33.488	25.356	262.4	0.165	5.41	89.1	9.0	0.81	7.6	0.26	0.31	0.24	61
1	71	11.94	11.93	33.527	25.459	252.9	0.191	4.95	80.9	11.2	0.96	10.1	0.19	0.15	0.19	72
	75 ISL	11.71	11.70	33.552	25.521	247.0	0.201	4.74	77.1	12.6	1.04	11.5	0.16	0.11	0.17	76
1	85	11.09	11.08	33.623	25.689	231.2	0.225	4.23	67.9	16.5	1.25	15.1	0.08	0.06	0.11	86
	100 ISL	10.38	10.37	33.715	25.886	212.7	0.258	3.63	57.4	21.3	1.51	19.4	0.02	0.03	0.08	101
1	101	10.34	10.33	33.721	25.898	211.6	0.260	3.60	56.9	21.6	1.52	19.6	0.02	0.03	0.08	102
1	120	9.84	9.83	33.827	26.066	196.1	0.299	3.20	50.0	24.9	1.70	22.6	0.01	0.02	0.07	121
	125 ISL	9.69	9.68	33.862	26.118	191.1	0.309	3.08	48.0	26.3	1.76	23.4	0.01	0.02	0.06	126
1	145	9.17	9.15	33.993	26.305	173.7	0.345	2.65	40.9	31.9	1.97	26.4	0.00	0.01	0.04	146
	150 ISL	9.10	9.08	34.012	26.331	171.3	0.354	2. 8	39.7	32.9	2.01	26.9	0.00	0.01	0.04	151
1	176	8.84	8.82	34.080	26.426	162.7	0.397	2.28	34.9	36.8	2.15	28.5	0.00	0.01	0.04	177
	200 ISL	8.63	8.61	34.130	26.499	156.3	0.436	1.98	30.2	40.1	2.26	29.7	0.00	0.01	0.04	202
1	206	8.59	8.57	34.140	26.513	155.0	0.445	1.91	29.1	40.9	2.28	30.0	0.00	0.01	0.04	208
1	235	8.44	8.42	34.168	26.558	151.2	0.489	1.68	25.5	43.9	2.38	31.0	0.00			237
	250 ISL	8.34	8.31	34.185	26.587	148.7	0.512	1.55	23.5	45.6	2.43	31.6	0.00			252
1	269	8.19	8.16	34.205	26.625	145.4	0.540	1.38	20.8	47.9	2.50	32.3	0.00			271
	300 ISL	7.92	7.89	34.228	26.684	140.2	0.584	1.14	17.1	51.5	2.60	33.5	0.00			302
1	315	7.78	7.75	34.238	26.713	137.7	0.605	1.04	15.6	53.5	2.65	34.1	0.00			318
1	357	7.36	7.33	34.265	26.795	130.4	0.661	0.77	11.4	60.4	2.81	35.7	0.00			360

RV DAVID STARR JORDAN | CALCOFI CRUISE 8801 | STATION 90 37

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT TYPE
23 11.1 N	118 23.2 W	25/01/88	0755 UTC	1223 M	040	11 KT			1023.A MB	15.6 C	13.7 C	

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	POA UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
1	0		13.55	13.55	33.A35	25.071	288.0	0.000	6.01	101.6	4.9	0.A9	2.2	0.10	1.11	0.36	0
1	10		13.43	13.43	33.437	25.097	285.8	0.029	6.00"	101.2	4.9	0.49	2.2	0.10	1.11	0.41	10
1	20		13.05	13.05	33.449	25.183	277.9	0.057	5.77	96.5	5.8	0.60	4.0	0.21	0.84	0.45	20
1	30		12.75	12.75	33.457	25.248	272.0	0.084	5.62	93.4	6.9	0.70	5.5	0.32	0.49	0.38	30
1	40		12.61	12.60	33.468	25.284	268.8	0.111	5.69	94.3	7.5	0.72	5.9	0.24	0.53	0.35	40
	50	ISL	12.55	12.54	33.472	25.299	267.6	0.138	5.63	93.2	7.7	0.75	6.3	0.26	0.53	0.39	50
1	51		12.55	12.54	33.472	25.299	267.6	0.141	5.62	93.0	7.7	0.75	6.3	0.26	0.53	0.39	51
1	60		12.49	12.48	33.475	25.313	266.5	0.165	5.58	92.3	7.9	0.77	6.5	0.27	0.48	0.33	60
1	71		12.38	12.37	33.484	25.3 42	264.1	0.194	5.57	91.9	8.3	0.79	6.9	0.29	0.41	0.37	72
	75	ISL	12.16	12.15	33.505	25.400	258.6	0.205	5.29	86.9	9.5	0.88	8.5	0.24	0.32	0.31	76
1	86		11.38	11.37	33.588	25.610	238.8	0.232	4.41	71.2	13.7	1.16	13.6	0.09	0.08	0.12	87
1	100		10.53	10.52	33.698	25.847	216.5	0.264	3.96	62.8	17.7	1.38	17.4	0.04	0.04	0.09	101
1	121		10.16	10.15	33.759	25.959	206.3	0.308	3.76	59.2	20.2	1.A8	19.2	0.03	0.03	0.07	122
	125	ISL	10.05	10.04	33.774	25.989	203.5	0.316	3.69	58.0	21.0	1.52	19.8	0.03	0.03	0.07	126
1	146		9.45	9.43	33.861	26.157	187.8	0.357	3.29	51.0	25.7	1.72	23.1	0.01	0.01	0.05	1A7
	150	ISL	9.35	9.33	33.880	26.188	18A.9	0.365	3.25	50.3	26.5	1.75	23.5	0.01	0.01	0.05	151
1	176		8.85	8.83	33.995	26.358	169.2	0.411	2.97	45.5	31.6	1.92	25.7	0.01	0.00	0.04	177
	200	ISL	8.62	8.60	34.077	26.458	160.0	0.450	2.43	37.0	36.9	2.11	28.0	0.00	0.00	0.04	202
1	207		8.58	8.56	34.097	26.480	158.1	0.462	2.25	34.3	38.4	2.17	28.7	0.00	0.00	0.04	209
1	235		8.39	8.37	34.169	26.567	150.4	0.505	1.63	24.7	43.4	2.40	31.1	0.00		r	237
	250	ISL	8.28	8.25	34.189	26.599	147.5	0.527	1.48	22.4	45.2	2.47	31.8	0.00			252
1	273		8.11	8.08	34.208	26.640	1AA.0	0.561	1.3A	20.2	A7.7	2.5A	32.5	0.00			275
	300	ISL	7.86	7.83	34.232	26.696	139.0	0.599	1.11	16.6	51.8	2.64	33.7	0.00			302
1	327		7.61	7.58	34.251	26.748	134.5	0.636	0.90	13.4	55.9	2.73	34.8	0.00			330
1	385		7.15	7.11	34.271	26.829	127.4	0.712	0.66	9.7	62.7	2.87	36.5	0.00			388
	400	ISL	7.02	6.98	34.277	26.852	125.4	0.731	0.61	9.0	64.4	2.90	36.9	0.00			403
1	449		6.62	6.58	34.297	26.922	119.1	0.791	0.45	6.6	70.5	3.00	38.2	0.00			453
	500	ISL	6.24	6.20	34.324	26.994	112.7	0.850	0.32	4.6	78.4	3.09	39.2	0.00			504
1	515		6.13	6.08	34.332	27.014	110.9	0.867	0.28	4.0	80.7	3.12	39.5	0.00			519

RV DAVID STARR JORDAN | CALCOFI CRUISE 8801 | 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 55.9 W	25/01/88	0325 UTC	1724 M	330	06 KT			1022.7 MB	14.8 C	1A.0 C	

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	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		13.58	13.58	33.448	25.075	287.6	0.000	5.90	99.8	5.2	0.54	3.1	0.12	0.81	0.27	0
1	10		13.29	13.29	33.444	25.131	282.6	0.029	5.87	98.7	5.4	0.55	3.2	0.14	0.75	0.31	10
1	20		13.17	13.17	33.444	25.155	280.6	0.057	5.83	97.8	5.5	0.58	3.6	0.16	0.73	0.35	20
1	30		13.11	13.11	33.444	25.167	279.6	0.085	5.77	96.6	5.6	0.62	4.1	0.19	0.81	0.40	30
1	40		13.00	12.99	33.446	25.191	277.7	0.113	5.91	98.7	5.9	0.61	4.1	0.16	1.17	0.46	40
1	49		13.00	12.99	33.458	25.200	277.0	0.138	5.77	96.4	6.4	0.63	4.5	0.16	0.86	0.43	49
	50	ISL	13.00	12.99	33.459	25.201	277.0	0.140	5.77	96.4	6.4	0.63	4.5	0.16	0.86	0.43	50
1	60		12.92	12.91	33.465	25.222	275.3	0.168	5.75	95.9	6.5	0.64	4.7	0.18	0.84	0.A2	60
1	70		12.68	12.67	33.A71	25.274	270.6	0.195	5.53	91.8	7.5	0.73	6.1	0.23	0.39	0.27	71
	75	ISL	12.48	12.47	33.479	25.319	266.4	0.209	5.40	89.3	8.3	0.79	7.1	0.23	0.27	0.23	76
1	84		12.00	11.99	33.514	25.438	255.3	0.232	5.06	82.8	10.5	0.93	9.7	0.22	0.16	0.18	85
1	99		10.83	10.82	33.665	25.769	224.0	0.268	4.02	64.2	17.7	1.34	16.7	0.09	0.07	0.10	100
	100	ISL	10.77	10.76	33.673	25.786	222.4	0.270	3.97	63.3	18.1	1.36	17.0	0.08	0.07	0.10	101
1	119		9.97	9.96	33.801	26.023	200.0	0.310	3.35	52.5	24.2	1.64	21.5	0.02	0.03	0.07	120
	125	ISL	9.82	9.81	33.832	26.073	195.5	0.322	3.22	50.3	25.7	1.70	22.4	0.02	0.03	0.07	126
1	142		9.48	9.46	33.902	26.184	185.2	0.355	2.99	46.4	29.1	1.81	24.2	0.02	0.02	0.06	143
	150	ISL	9.29	9.27	33.922	26.230	180.9	0.369	3.02	46.7	29.7	1.82	24.6	0.02	0.02	0.05	151
1	173		8.80	8.78	33.975	26.350	169.8	0.410	3.08	47.1	31.4	1.87	25.6	0.01	0.01	0.04	174
	200	ISL	8.51	8.49	34.069	26.469	159.0	0.454	2.43	36.9	38.0	2.10	28.5	0.01	0.01	0.03	202
1	203		8.48	8.46	34.080	26.482	157.8	0.459	2.34	35.5	38.9	2.13	28.9	0.01	0.01	0.03	205
1	231		8.16	8.14	34.156	26.591	147.9	0.502	1.71	25.8	45.8	2.36	31.6	0.01			233
	250	ISL	8.08	8.05	34.178	26.620	145.4	0.529	1.54	23.2	47.6	2.43	32.2	0.01			252
1	272		8.01	7.98	34.192	26.642	143.7	0.561	1.43	21.5	48.8	2.48	32.6	0.01			274
	300	ISL	7.79	7.76	34.216	26.694	139.2	0.601	1.20	18.0	52.3	2.58	33.8	0.01			302
1	325		7.58	7.55	34.235	26.739	135.2	0.635	1.00	14.9	55.7	2.67	34.9	0.01			328
1	382		7.25	7.21	34.263	26.809	129.4	0.711	0.73	10.8	62.0	2.80	36.4	0.01			3 85
	400	ISL	7.10	7.06	34.271	26.836	126.9	0.734	0.65	9.6	64.4	2.84	37.0	0.01			403
1	447		6.69	6.65	34.291	26.908	120.5	0.792	0.48	7.0	70.7	2.94	38.5	0.00			451
	500	ISL	6.34	6.29	34.315	26.974	114.7	0.854	0.35	5.1	76.4	3.03	39.6	0.00			504
1	514		6.25	6.20	34.322	26.991	113.2	0.870	0.31	4.5	77.9	3.06	39.9	0.00			518

RV DAVID STARR JORDAN CALCOFI CRUISE 8801 STATION 90 53

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
32 39.3 N	119 28.6 W	24/01/88	2301 UTC	1334 M	350	08 KT	330 03 06	1	1020.9 MB	16.8 C	15.5 C	3/8	CI

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	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	13.50	13.50	33.453	25.095	285.7	0.000	5.93	100.1	4.8	0.52	2.9	0.11	0.82	0.27	0
1	1		13.50	13.50	33.453	25.095	285.7	0.003	5.93	100.1	4.8	0.52	2.9	0.11	0.82	0.27	1
	10	ISL	13.44	13.44	33.453	25.107	284.8	0.029	5.90	99.5	4.9	0.53	3.1	0.12	0.79	0.28	10
1	15		13.38	13.38	33.453	25.120	283.8	0.043	5.89	99.2	5.0	0.54	3.2	0.12	0.78	0.28	15
	20	ISL	13.30	13.30	33.453	25.136	282.4	0.057	5.91	99.4	5.2	0.55	3.3	0.12	0.87	0.30	20
1	30		13.14	13.14	33.455	25.170	279.4	0.085	5.95	99.7	5.6	0.57	3.6	0.13	1.08	0.36	30
1	40		13.07	13.06	33.457	25.185	278.2	0.113	5.93	99.2	5.8	0.59	3.9	0.14	1.20	0.48	40
1	50		12.88	12.87	33.466	25.230	274.2	0.140	5.82	97.0	6.7	0.62	4.7	0.18	0.94	0.43	50
1	60		12.77	12.76	33.461	25.248	272.8	0.168	5.60	93.1	7.2	0.64	5.6	0.25	0.38	0.32	60
1	71		12.54	12.53	33.473	25.303	267.8	0.198	5.43	89.9	8.1	0.77	6.7	0.25	0.23	0.22	72
	75	ISL	12.16	12.15	33.503	25.399	258.7	0.208	5.09	83.6	10.1	0.89	8.8	0.19	0.16	0.18	76
1	80		11.65	11.64	33.548	25.529	246.4	0.221	4.64	75.4	12.7	1.04	11.7	0.11	0.09	0.13	81
1	95		11.09	11.08	33.613	25.682	232.1	0.257	4.21	67.6	15.7	1.24	15.2	0.05	0.06	0.10	96
	100	ISL	10.67	10.66	33.674	25.804	220.6	0.268	3.96	63.0	18.3	1.36	17.3	0.04	0.05	0.09	101
1	II0		9.87	9.86	33.799	26.038	198.4	0.289	3.49	54.6	23.5	1.58	21.3	0.02	0.02	0.06	111
1	124		9.51	9.50	33.864	26.149	188.1	0.316	3.23	50.2	26.3	1.72	23.4	0.01	0.01	0.05	125
	125	ISL	9.49	9.48	33.867	26.155	187.6	0.318	3.22	50.0	26.4	1.73	23.5	0.01	0.01	0.05	126
1	150		9.16	9.14	33.909	26.241	179.8	0.364	3.11	47.9	28.9	1.80	24.8	0.01	0.01	0.04	151
1	175		8.84	8.82	33.976	26.345	170.4	0.408	2.92	44.7	32.3	1.90	26.2	0.01	0.00	0.04	176
	200	ISL	8.59	8.57	34.030	26.426	163.1	0.449	2.64	40.2	35.6	2.01	27.7	0.01	0.00	0.04	202
1	204		8.55	8.53	34.038	26.439	162.0	0.456	2.59	39.4	36.2	2.03	28.0	0.01	0.00	0.04	206
1	234		8.16	8.14	34.085	26.535	153.2	0.503	2.28	34.4	41.7	2.18	30.1	0.01			236
	250	ISL	8.05	8.02	34.112	26.573	149.9	0.527	2.06	31.0	44.1	2.27	31.0	0.01			252
1	272		7.93	7.90	34.147	26.619	145.9	0.560	1.76	26.4	47.1	2.38	32.2	0.01			274
	300	ISL	7.73	7.70	34.185	26.678	140.6	0.600	1.42	21.2	51.4	2.51	33.6	0.01			302
1	326		7.53	7.50	34.212	26.728	136.2	0.636	1.17	17.4	55.2	2.62	34.8	0.01			329
1	385		7.09	7.05	34.236	26.810	129.2	0.714	0.87	12.8	61.9	2.76	36.6	0.00			388
	400	ISL	6.99	6.95	34.247	26.832	127.2	0.733	0.77	11.3	63.7	2.80	37.1	0.00			403
1	448		6.66	6.62	34.286	26.908	120.5	0.793	0.49	7.1	69.6	2.94	38.7	0.00			452
	500	ISL	6.30	6.25	34.312	26.977	114.4	0.854	0.36	5.2	75.4	3.03	39.9	0.01			504
1	515		6.20	6.15	34.320	26.996	112.7	0.871	0.32	4.6	77.1	3.05	40.3	0.01			519

RV DAVID STARR JORDAN CALCOFI CRUISE 8801 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	24/01/88	1811 UTC	881 M	100	05 KT	3 40 03 07	1	1023.1 MB	14.8 C	14.1 C	3/8	CI

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	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		13.87	13.87	33.349	24.939	300.6	0.000	5.94	101.0	3.2	0.44	1.5	0.05	0.72	0.16	0
	10	ISL	13.86	13.86	33.349	24.941	300.6	0.030	5.95	101.2	3.3	0.44	1.5	0.05	0.69	0.22	10
1	15		13.85	13.85	33.349	24.943	300.6	0.045	5.95	101.1	3.3	0.44	1.5	0.05	0.68	0.25	15
	20	ISL	13.84	13.84	33.348	24.945	300.6	0.060	5.94	100.9	3.4	0.44	1.5	0.05	0.68	0.25	20
1	29		13.83	13.83	33.345	24.945	300.8	0.087	5.91	100.4	3.6	0.45	1.6	0.05	0.69	0.26	29
	30	ISL	13.83	13.83	33.345	24.945	300.8	0.090	5.91	100.4	3.6	0.45	1.6	0.05	0.69	0.26	30
1	40		13.82	13.81	33.344	24.947	301.0	0.120	5.90	100.2	3.4	0.45	1.6	0.06	0.69	0.26	40
1	50		13.79	13.78	33.342	24.952	300.8	0.150	5.87	99.6	3.2	0.47	1.8	0.06	0.61	0.26	50
1	59		13.79	13.78	33.351	24.959	300.4	0.177	5.85	99.3	3.4	0.47	1.8	0.07	0.54	0.22	59
1	70		13.76	13.75	33.358	24.970	299.5	0.210	5.80	98.4	3.4	0.48	2.0	0.08	0.40	0.21	71
	75	ISL	12.94	12.93	33.411	25.177	280.0	0.225	5.17	86.3	6.9	0.75	6.7	0.08	0.27	0.19	76
1	80		11.98	11.97	33.483	25.417	257.1	0.238	4.48	73.3	11.0	1.06	12.1	0.07	0.14	0.17	81
1	94		10.48	10.47	33.619	25.794	221.4	0.272	3.78	59.9	17.5	1.43	18.8	0.01	0.04	0.09	95
	100	ISL	10.19	10.18	33.655	25.872	214.0	0.285	3.64	57.3	19.0	1.51	20.1	0.01	0.03	0.07	101
1	109		9.96	9.95	33.696	25.943	207.5	0.304	3.51	55.0	20.7	1.58	21.2	0.01	0.02	0.06	II0
1	124		9.62	9.61	33.764	26.053	197.3	0.334	3.25	50.6	23.7	1.71	23.4	0.01	0.01	0.04	125
	125	ISL	9.60	9.59	33.768	26.059	196.7	0.336	3.24	50.4	23.8	1.72	23.5	0.01	0.01	0.04	126
1	149		9.18	9.16	33.846	26.189	184.8	0.382	3.08	47.5	26.7	1.82	25.2	0.00	0.01	0.05	150
	150	ISL	9.17	9.15	33.850	26.193	184.4	0.384	3.07	47.3	26.8	1.82	25.2	0.00	0.01	0.05	151
1	174		8.84	8.82	33.935	26.313	173.4	0.427	2.94	45.0	30.1	1.90	26.4	0.00	0.00	0.03	175
	200	ISL	8.42	8.40	34.006	26.433	162.3	0.470	2.70	40.9	34.5	2.00	28.1	0.00	0.00	0.03	202
1	204		8.35	8.33	34.014	26.451	160.8	0.477	2.67	40.4	35.2	2.02	28.4	0.00	0.00	0.03	206
1	231		7.99	7.97	34.043	26.527	153.8	0.519	2.56	38.4	38.9	2.12	29.5	0.00			233
	250	ISL	7.83	7.81	34.051	26.557	151.2	0.548	2.49	37.2	40.6	2.16	30.1	0.00			252
1	273		7.65	7.62	34.055	26.587	148.7	0.583	2.37	35.3	42.9	2.21	31.0	0.00			275
	300	ISL	7.25	7.22	34.059	26.647	143.2	0.622	2.09	30.8	48.3	2.34	32.9	0.00			302
1	327		6.88	6.85	34.080	26.715	137.0	0.660	1.71	25.0	54.4	2.49	35.0	0.00			330
1	385		6.72	6.68	34.229	26.854	124.6	0.736	0.69	10.1	64.7	2.84	37.9	0.00			388
	400	ISL	6.69	6.65	34.240	26.867	123.6	0.755	0.65	9.5	65.7	2.88	38.2	0.00			403
1	448		6.49	6.45	34.249	26.901	120.9	0.813	0.51	7.4	69.0	2.94	38.9	0.00			452
	500	ISL	5.92	5.88	34.270	26.991	112.6	0.874	0.39	5.6	78.3	3.03	40.8	0.00			504
1	516		5.75	5.71	34.278	27.019	110.0	0.892	0.35	5.0	81.2	3.06	41.4	0.00			520

RV DAVID STARR JORDAN CALCOFI CRUISE 8801 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 38.5 W	24/01/88	1237 UTC	3733 M	320	11 KT			1019.2 MB	13.6 C	13.4 C		

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	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	13.87	13.87	33.381	24.964	298.2	0.000	5.94	101.0	3.2	0.45	1.5	0.05	0.63	0.20	0
1	1		13.87	13.87	33.381	24.964	298.2	0.003	5.94	101.0	3.2	0.45	1.5	0.05	0.63	0.20	1
	10	ISL	13.87	13.87	33.381	24.964	298.5	0.030	5.95	101.2	3.3	0.45	1.5	0.05	0.62	0.21	10
1	16		13.87	13.87	33.381	24.964	298.6	0.048	5.95	101.2	3.4	0.45	1.5	0.05	0.61	0.22	16
	20	ISL	13.87	13.87	33.382	24.965	298.7	0.060	5.95	101.2	3.4	0.46	1.5	0.05	0.62	0.23	20
	30	ISL	13.85	13.85	33.382	24.969	298.5	0.090	5.93	100.8	3.4	0.47	1.5	0.05	0.65	0.24	30
1	31		13.85	13.85	33.382	24.969	298.6	0.093	5.93	100.8	3.4	0.47	1.5	0.05	0.65	0.24	31
1	41		13.82	13.81	33.391	24.983	297.5	0.122	5.92	100.6	3.3	0.46	1.8	0.06	0.79	0.31	41
	50	ISL	13.81	13.80	33.396	24.989	297.2	0.149	5.84	99.2	3.4	0.48	2.0	0.07	0.65	0.29	50
1	51		13.81	13.80	33.397	24.990	297.2	0.152	5.83	99.0	3.4	0.48	2.0	0.07	0.63	0.29	51
1	61		13.81	13.80	33.401	24.993	297.1	0.182	5.84	99.2	3.4	0.48	2.1	0.06	0.58	0.28	61
1	70		13.77	13.76	33.404	25.004	296.4	0.208	5.84	99.1	3.6	0.49	2.2	0.07	0.57	0.27	71
	75	ISL	13.77	13.76	33.404	25.004	296.5	0.223	5.82	98.8	3.8	0.49	2.2	0.07	0.53	0.26	76
1	80		13.76	13.75	33.404	25.006	296.4	0.238	5.80	98.4	4.1	0.49	2.3	0.07	0.47	0.25	81
1	95		13.64	13.63	33.408	25.03 4	294.1	0.282	5.69	96.3	4.4	0.54	2.9	0.08	0.34	0.20	96
	100	ISL	12.99	12.98	33.430	25.182	280.1	0.297	5.27	88.0	6.8	0.73	6.3	0.07	0.26	0.17	101
1	II0		11.54	11.53	33.505	25.517	248.3	0.323	4.35	70.5	12.5	1.15	13.7	0.05	0.10	0.11	111
1	125		10.47	10.46	33.618	25.796	221.9	0.358	3.77	59.7	17.7	1.44	18.8	0.01	0.04	0.08	126
1	150		9.58	9.56	33.826	26.108	192.6	0.410	3.17	49.3	25.1	1.73	23.6	0.01	0.01	0.05	151
1	175		8.80	8.78	33.923	26.309	173.7	0.456	2.99	45.7	30.3	1.87	26.3	0.01	0.00	0.04	176
	200	ISL	8.42	8.40	33.995	26.425	163.1	0.498	2.77	42.0	35.0	1.98	27.9	0.01	0.00	0.03	202
1	205		8.36	8.34	34.006	26.443	161.5	0.506	2.73	41.3	35.9	2.00	28.2	0.01	0.00	0.03	207
1	233		7.92	7.90	34.041	26.536	153.0	0.550	2.54	38.1	41.4	2.12	29.9	0.00			235
	250	ISL	7.70	7.68	34.050	26.576	149.4	0.576	2.41	35.9	44.2	2.19	30.8	0.00			252
1	273		7.45	7.42	34.057	26.617	145.8	0.610	2.20	32.6	47.8	2.28	31.9	0.00			275
	300	ISL	7.19	7.16	34.073	26.667	141.4	0.649	1.91	28.2	52.1	2.40	33.5	0.00			302
1	327		6.96	6.93	34.092	26.713	137.2	0.686	1.60	23.5	56.5	2.52	35.1	0.00			330
1	385		6.43	6.40	34.138	26.821	127.5	0.763	1.03	14.9	66.1	2.76	38.1	0.00			388
	400	ISL	6.33	6.29	34.154	26.847	125.2	0.782	0.91	13.1	68.4	2.81	38.7	0.00			403
1	448		6.05	6.01	34.203	26.922	118.5	0.841	0.59	8.5	75.3	2.95	40.1	0.00			452
	500	ISL	5.74	5.70	34.240	26.990	112.5	0.901	0.42	6.0	81.3	3.04	41.3	0.00			504
1	515		5.65	5.61	34.251	27.010	110.7	0.917	0.37	5.3	83.0	3.07	41.6	0.00			519

RV DAVID STARR JORDAN CALCOFI CRUISE 8801 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 19.0 W	24/01/88	0754 UTC	3638 M	320	16 KT			1022.5 MB	14.4 C	13.0 C		

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	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	14.56	14.56	33.251	24.719	321.5	0.000	5.91	101.9	2.6	0.36	0.2	0.01	0.25	0.09	0
1	1		14.56	14.56	33.251	24.719	321.5	0.003	5.91	101.9	2.6	0.36	0.2	0.01	0.25	0.09	1
	10	ISL	14.54	14.54	33.249	24.722	321.5	0.032	5.92	102.0	2.8	0.36	0.2	0.01	0.26	0.09	10
1	16		14.52	14.52	33.248	24.725	321.4	0.051	5.93	102.1	2.9	0.36	0.2	0.01	0.26	0.10	16
	20	ISL	14.46	14.46	33.243	24.735	320.6	0.064	5.93	102.0	2.9	0.37	0.3	0.02	0.28	0.11	20
	30	ISL	14.31	14.31	33.231	24.757	318.7	0.096	5.93	101.7	3.0	0.39	0.4	0.03	0.31	0.12	30
1	32		14.28	14.28	33.229	24.762	318.4	0.103	5.93	101.6	3.0	0.40	0.4	0.03	0.32	0.12	32
1	40		13.84	13.83	33.214	24.842	310.9	0.128	5.94	100.9	3.2	0.42	0	.07	0.54	0.23	40
1	50		13.64	13.63	33.208	24.879	307.7	0.159	6.00	101.4	3.3	0.43	1.1	0.07	0.60	0.17	50
1	60		13.60	13.59	33.204	24.884	307.5	0.189	5.99	101.2	3.2	0.44	1.1	0.09	0.53	0.13	60
1	70		13.50	13.49	33.201	24.902	306.0	0.220	5.95	100.3	3.3	0.44	1.3	0.08	0.56	0.22	71
	75	ISL	13.48	13.47	33.203	24.908	305.6	0.235	5.94	100.1	3.4	0.45	1.4	0.08	0.54	0.21	76
1	79		13.47	13.46	33.204	24.911	305.4	0.248	5.93	99.9	3.5	0.46	1.5	0.09	0.53	0.20	80
1	95		13.32	13.31	33.204	24.941	302.9	0.296	5.87	98.6	3.8	0.50	2.0	0.12	0.31	0.17	96
	100	ISL	12.82	12.81	33.252	25.078	290.0	0.311	5.56	92.4	5.4	0.63	4.4	0.09	0.22	0.14	101
1	II0		11.69	11.68	33.383	25.394	260.0	0.339	4.87	79.1	9.4	0.92	10.0	0.02	0.08	0.09	111
1	124		10.77	10.76	33.549	25.689	232.0	0.373	4.34	69.2	14.5	1.22	15.5	0.01	0.03	0.04	125
	125	ISL	10.72	10.71	33.558	25.705	230.5	0.375	4.30	68.5	14.8	1.24	15.8	0.01	0.03	0.04	126
1	149		9.83	9.81	33.728	25.990	203.8	0.428	3.50	54.7	22.1	1.61	21.7	0.00	0.01	0.02	150
	150	ISL	9.79	9.77	33.734	26.002	202.7	0.430	3.49	54.5	22.4	1.62	21.9	0.00	0.01	0.02	151
1	174		9.01	8.99	33.852	26.221	182.2	0.476	3.36	51.6	27.6	1.76	24.6	0.00	0.01	0.03	175
	200	ISL	8.53	8.51	33.956	26.377	167.7	0.521	3.18	48.3	32.1	1.86	26.4	0.00	0.00	0.02	202
1	204		8.48	8.46	33.969	26.395	166.0	0.528	3.14	47.7	32.8	1.88	26.6	0.00	0.00	0.02	206
1	233		8.10	8.08	34.037	26.506	155.9	0.575	2.75	41.4	38.3	2.04	28.7	0.00			235
	250	ISL	7.88	7.85	34.046	26.546	152.3	0.601	2.67	40.0	40.6	2.09	29.5	0.00			252
1	272		7.60	7.57	34.044	26.585	148.8	0.634	2.61	38.8	43.5	2.15	30.4	0.00			274
	300	ISL	7.18	7.15	34.044	26.645	143.4	0.675	2.39	35.2	48.7	2.26	32.2	0.00			302
1	328		6.80	6.77	34.056	26.707	137.7	0.714	2.06	30.1	54.4	2.40	34.1	0.00			331
1	386		6.49	6.46	34.154	26.826	127.1	0.791	1.04	15.1	64.9	2.76	37.9	0.00			389
	400	ISL	6.36	6.32	34.162	26.849	125.0	0.809	0.92	13.3	67.2	2.81	38.6	0.00			403
1	449		5.92	5.88	34.181	26.921	118.5	0.868	0.69	9.9	74.7	2.94	40.3	0.00			453
	500	ISL	5.64	5.60	34.230	26.994	111.9	0.927	0.51	7.3	81.9	3.04	41.4	0.00			504
1	516		5.55	5.51	34.246	27.018	109.8	0.945	0.45	6.4	84.1	3.07	41.8	0.00			520

RV DAVID STARR JORDAN CALCOFI CRUISE 8801 STATION 90 90

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
31 24.9 N	121 59.1 W	24/01/88	0048 UTC	4080 M	320	15 KT	320 03 06	0	1023.1 MB	16.0 C	14.1 C	0/8	

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	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	15.68	15.68	33.434	24.616	331.3	0.000	5.78	102.0	2.3	0.32	0.2	0.00	0.15	0.05	0
1	2	15.68	15.68	33.434	24.616	331.4	0.007	5.78	102.0	2.3	0.32	0.2	0.00	0.15	0.05	2
	10 ISL	15.67	15.67	33.433	24.618	331.5	0.033	5.76	101.6	2.4	0.32	0.2	0.00	0.15	0.05	10
1	17	15.65	15.65	33.432	24.622	331.3	0.056	5.75	101.4	2.5	0.32	0.2	0.00	0.15	0.05	17
	20 ISL	15.64	15.64	33.432	24.624	331.2	0.066	5.75	101.4	2.5	0.32	0.2	0.00	0.15	0.05	20
	30 ISL	15.60	15.60	33.432	24.633	330.6	0.099	5.77	101.6	2.4	0.33	0.2	0.00	0.16	0.06	30
1	36	15.58	15.57	33.432	24.638	330.4	0.119	5.78	101.8	2.4	0.34	0.2	0.00	0.16	0.06	36
	50 ISL	15.60	15.59	33.434	24.635	331.0	0.165	5.77	101.6	2.4	0.33	0.2	0.00	0.17	0.06	50
1	56	15.61	15.60	33.437	24.636	331.2	0.185	5.76	101.5	2.4	0.32	0.2	0.00	0.17	0.06	56
1	71	15.61	15.60	33.440	24.639	331.4	0.235	5.77	101.6	2.4	0.31	0.2	0.00	0.16	0.06	72
	75 ISL	15.62	15.61	33.442	24.638	331.6	0.248	5.76	101.5	2.4	0.31	0.2	0.00	0.16	0.06	76
1	79	15.63	15.62	33.444	24.638	331.7	0.262	5.75	101.3	2.4	0.31	0.2	0.00	0.17	0.06	80
1	90	15.62	15.61	33.453	24.647	331.2	0.298	5.74	101.1	2.4	0.31	0.2	0.00	0.18	0.06	91
1	100	13.97	13.96	33.503	25.040	293.8	0.329	5.47	93.3	4.2	0.47	2.5	0.08	0.16	0.16	101
1	II0	12.74	12.73	33.344	25.165	282.0	0.358	5.32	88.3	5.6	0.64	5.1	0.03	0.13	0.13	111
1	124	12.33	12.31	33.580	25.427	257.3	0.396	5.06	83.4	7.4	0.72	7.4	0.01	0.06	0.10	125
	125 ISL	12.29	12.27	33.586	25.440	256.2	0.398	5.04	83.0	7.5	0.73	7.6	0.01	0.06	0.10	126
1	140	11.66	11.64	33.628	25.591	242.0	0.436	4.83	78.5	9.7	0.87	10.0	0.01	0.04	0.05	141
	150 ISL	11.10	11.08	33.658	25.716	230.2	0.459	4.68	75.2	11.8	1.00	12.2	0.01	0.03	0.04	151
1	161	10.48	10.46	33.700	25.859	216.8	0.484	4.52	71.6	14.5	1.14	14.7	0.00	0.02	0.03	162
1	180	9.64	9.62	33.809	26.086	195.3	0.523	4.31	67.1	19.4	1.34	18.3	0.00	0.01	0.02	181
	200 ISL	9.09	9.07	33.899	26.245	180.4	0.561	4.20	64.6	23.3	1.45	20.4	0.00	0.00	0.02	202
1	204	9.00	8.98	33.913	26.271	178.1	0.568	4.19	64.3	24.0	1.47	20.7	0.00	0.00	0.02	206
1	234	8.41	8.39	33.984	26.418	164.4	0.619	4.03	61.1	29.5	1.59	23.0	0.00			236
	250 ISL	8.13	8.10	34.001	26.474	159.3	0.645	3.86	58.1	32.6	1.68	24.3	0.00			252
1	274	7.75	7.72	34.011	26.538	153.4	0.683	3.54	52.8	37.5	1.82	26.4	0.00			276
	300 ISL	7.36	7.33	34.015	26.597	148.0	0.722	3.13	46.3	43.1	1.99	28.8	0.00			302
1	329	6.94	6.91	34.018	26.658	142.5	0.764	2.64	38.7	49.6	2.19	31.6	0.00			332
1	388	6.16	6.13	34.050	26.786	130.6	0.844	1.68	24.2	63.7	2.58	36.9	0.00			391
	400 ISL	6.06	6.03	34.063	26.809	128.5	0.860	1.51	21.7	66.1	2.65	37.7	0.00			403
1	451	5.75	5.71	34.124	26.896	120.6	0.924	0.93	13.2	74.8	2.87	40.1	0.00			455
	500 ISL	5.57	5.53	34.186	26.968	114.3	0.981	0.61	8.7	81.3	3.00	41.3	0.00			504
1	516	5.51	5.47	34.206	26.991	112.3	0.999	0.51	7.2	83.4	3.04	41.7	0.00			520

RV DAVID STARR JORDAN CALCOFI CRUISE 8801 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	23/01/88	1838 UTC	4310 M	350	11 KT	030 03 06		1027.5 MB	17.4 C	13.2 C		

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/E	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0 ISL	15.75	15.75	33.480	24.636	329.4	0.000	5.73	101.3	2.0	0.31	0.2	0.02	0.14	0.06	0
1	2	15.75	15.75	33.480	24.636	3 29.5	0.007	5.73	101.3	2.0	0.31	0.2	0.02	0.14	0.06	2
	10 ISL	15.72	15.72	33.480	24.643	329.1	0.033	5.73	101.2	2.2	0.31	0.2	0.02	0.15	0.05	10
1	16	15.70	15.70	33.481	24.648	328.7	0.053	5.74	101.3	2.3	0.31	0.2	0.02	0.15	0.05	16
	20 ISL	15.70	15.70	33.482	24.649	328.8	0.066	5.75	101.5	2.2	0.31	0.2	0.02	0.15	0.05	20
	30 ISL	15.69	15.69	33.482	24.652	328.9	0.099	5.76	101.7	2.0	0.31	0.1	0.02	0.15	0.06	30
1	37	15.69	15.68	33.482	24.652	329.1	0.122	5.76	101.7	1.8	0.31	0.1	0.02	0.15	0.06	37
	50 ISL	15.72	15.71	33.500	24.660	328.7	0.164	5.74	101.4	1.9	0.30	0.1	0.02	0.15	0.06	50
1	55	15.73	15.72	33.506	24.662	328.7	0.181	5.73	101.2	1.9	0.30	0.1	0.02	0.15	0.06	55
1	71	15.90	15.89	33.548	24.657	329.7	0.234	5.74	101.8	2.0	0.29	0.1	0.02	0.15	0.07	72
	75 ISL	15.91	15.90	33.551	24.657	329.8	0.247	5.71	101.2	2.1	0.29	0.1	0.02	0.16	0.06	76
1	79	15.92	15.91	33.553	24.656	330.0	0.260	5.69	100.9	2.1	0.29	0.1	0.02	0.16	0.05	80
1	89	15.89	15.88	33.554	24.664	329.6	0.293	5.71	101.2	2.1	0.29	0.1	0.02	0.16	0.06	90
1	100	15.90	15.88	33.555	24.663	330.0	0.329	5.71	101.2	2.1	0.29	0.1	0.02	0.16	0.07	101
1	108	15.70	15.68	33.625	24.762	320.8	0.355	5.62	99.3	2.3	0.30	0.4	0.06	0.14	0.10	109
1	125	14.36	14.34	33.736	25.139	285.2	0.407	5.39	92.8	3.6	0.41	2.4	0.05	0.13	0.14	126
1	139	12.56	12.54	33.489	25.313	268.7	0.446	5.10	84.4	6.4	0.71	6.9	0.01	0.07	0.09	140
	150 ISL	12.06	12.04	33.522	25.43 4	257.3	0.474	5.03	82.4	7.4	0.78	8.2	0.01	0.05	0.07	151
1	159	11.81	11.79	33.603	25.544	247.0	0.497	4.96	80.9	8.4	0.83	9.2	0.01	0.04	0.06	160
1	178	10.35	10.33	33.707	25.887	214.4	0.541	4.49	71.0	14.7	1.17	15.2	0.00	0.01	0.02	179
	200 ISL	9.44	9.42	33.844	26.146	189.9	0.585	4.23	65.6	20.3	1.38	19.0	0.00	0.00	0.02	202
1	204	9.33	9.31	33.866	26.181	186.7	0.593	4.20	64.9	21.2	1.40	19.5	0.00	0.00	0.02	206
1	233	8.59	8.57	33.965	26.376	168.5	0.645	3.96	60.2	27.9	1.59	22.6	0.00			235
	250 ISL	8.30	8.27	33.990	26.440	162.6	0.673	3.79	57.3	30.9	1.68	24.0	0.00			252
1	273	7.99	7.96	34.003	26.497	157.5	0.709	3.52	52.8	34.7	1.80	25.8	0.00			275
	300 ISL	7.59	7.56	34.012	26.562	151.5	0.751	3.18	47.3	40.1	1.96	28.1	0.00			302
1	327	7.21	7.18	34.018	26.621	146.1	0.791	2.80	41.3	45.7	2.12	30.4	0.00			330
1	386	6.57	6.53	34.050	26.733	135.9	0.875	1.88	27.3	57.6	2.47	35.1	0.00			389
	400 ISL	6.40	6.36	34.063	26.766	132.9	0.893	1.66	24.0	60.8	2.56	36.2	0.00			403
1	449	5.86	5.82	34.115	26.876	122.7	0.956	1.00	14.3	71.9	2.83	39.5	0.00			453
	500 ISL	5.48	5.44	34.165	26.962	114.8	1.017	0.68	9.6	81.2	2.97	41.3	0.00			504
1	515	5.37	5.33	34.180	26.987	112.5	1.034	0.58	8.2	83.9	3.01	41.8	0.00			519

PV DAVID STARR JORDAN | CALCOFI CRUISE 8801 | 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	23/01/88	1257 UTC	4080 M	030	11 KT			1027.1 MB	17.5 C	12.8 C	

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	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	33.542	24.677	325.5	0.000	5.74	101.5	2.6	0.31	0.2	0.00	0.15	0.06	0
1	1		15.78	15.78	33.542	24.677	325.6	0.003	5.74	101.5	2.6	0.31	0.2	0.00	0.15	0.06	1
	10	ISL	15.78	15.78	33.539	24.675	326.0	0.033	5.74	101.5	2.7	0.30	0.2	0.00	0.16	0.06	10
1	16		15.78	15.78	33.536	24.673	326.4	0.052	5.74	101.5	2.7	0.29	0.2	0.00	0.16	0.06	16
	20	ISL	15.78	15.78	33.535	24.672	326.6	0.065	5.74	101.5	2.7	0.29	0.2	0.00	0.16	0.06	20
	30	ISL	15.78	15.78	33.534	24.672	327.0	0.098	5.72	101.2	2.7	0.30	0.2	0.00	0.16	0.06	30
1	36		15.78	15.77	33.533	24.671	327.2	0.118	5.72	101.2	2.7	0.30	0.2	0.00	0.16	0.06	36
	50	ISL	15.80	15.79	33.534	24.668	328.0	0.163	5.74	101.6	2.5	0.30	0.2	0.00	0.16	0.05	50
1	57		15.81	15.80	33.534	24.666	328.4	0.186	5.75	101.7	2.4	0.30	0.2	0.00	0.16	0.05	57
1	71		15.81	15.80	33.534	24.666	328.8	0.232	5.75	101.7	2.3	0.29	0.2	0.00	0.15	0.06	72
	75	ISL	15.81	15.80	33.533	24.666	329.0	0.246	5.75	101.7	2.2	0.29	0.2	0.00	0.15	0.06	76
1	81		15.81	15.80	33.532	24.665	329.2	0.265	5.74	101.6	2.2	0.29	0.2	0.00	0.15	0.05	82
1	91		15.79	15.78	33.534	24.672	328.9	0.298	5.75	101.7	2.3	0.30	0.2	0.00	0.15	0.05	92
	100	ISL	15.80	15.78	33.534	24.670	329.4	0.328	5.73	101.4	2.2	0.30	0.2	0.00	0.15	0.06	101
1	102		15.80	15.78	33.534	24.670	329.4	0.334	5.73	101.4	2.2	0.30	0.2	0.00	0.15	0.06	103
1	112		14.89	14.87	33.647	24.957	302.2	0.366	5.56	96.7	3.0	0.35	1.0	0.15	0.17	0.18	113
	125	ISL	14.74	14.72	33.906	25.190	280.5	0.404	5.31	92.2	3.6	0.37	2.2	0.05	0.11	0.12	126
1	127		14.73	14.71	33.935	25.214	278.3	0.409	5.28	91.6	3.7	0.37	2.4	0.03	0.10	0.10	128
1	142		13.54	13.52	33.764	25.331	267.2	0.450	5.20	88.0	4.8	0.52	4.5	0.02	0.07	0.08	143
	150	ISL	12.66	12.64	33.698	25.456	255.4	0.471	5.05	83.9	6.6	0.67	6.9	0.02	0.05	0.06	151
1	162		11.37	11.35	33.655	25.666	235.4	0.501	4.77	77.1	10.2	0.91	11.0	0.01	0.03	0.04	163
1	183		9.98	9.96	33.747	25.981	205.5	0.547	4.34	68.0	17.1	1.26	17.1	0.01	0.01	0.02	184
	200	ISL	9.53	9.51	33.811	26.106	193.8	0.581	4.24	65.8	19.7	1.37	18.9	0.00	0.00	0.01	202
1	207		9.44	9.42	33.834	26.139	190.8	0.594	4.23	65.6	20.4	1.39	19.2	0.00	0.00	0.01	209
1	236		8.91	8.88	33.924	26.294	176.4	0.648	4.12	63.1	24.4	1.49	21.2	0.00			238
	250	ISL	8.61	8.58	33.955	26.365	169.8	0.672	3.99	60.7	27.4	1.57	22.5	0.00			252
1	277		8.03	8.00	33.998	26.487	158.5	0.716	3.65	54.8	33.9	1.75	25.3	0.00			279
	300	ISL	7.63	7.60	34.011	26.556	152.1	0.752	3.29	49.0	39.2	1.90	27.6	0.00			302
1	331		7.17	7.14	34.021	26.629	145.4	0.798	2.75	40.5	46.2	2.12	30.6	0.00			334
1	389		6.55	6.51	34.076	26.756	133.8	0.879	1.65	24.0	59.3	2.53	35.9	0.00			392
	400	ISL	6.44	6.40	34.085	26.778	131.8	0.894	1.50	21.7	61.5	2.59	36.6	0.00			403
1	451		5.97	5.93	34.125	26.870	123.3	0.959	0.99	14.2	71.0	2.81	39.2	0.00			455
	500	ISL	5.60	5.56	34.162	26.945	116.5	1.017	0.70	9.9	79.5	2.94	40.8	0.00			504
1	517		5.47	5.43	34.175	26.971	114.1	1.037	0.60	8.5	82.4	2.98	41.4	0.00			521

RV DAVID STARR JORDAN | CALCOFI CRUISE 8801 | 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 59.8 W	23/01/88	0732 UTC	4310 M	060	10 KT			1029.5 MB	16.1 C	14.0 C	

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	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		15.51	15.51	33.402	24.629	330.1	0.000	5.78	101.6	2.6	0.32	0.2	0.00	0.17	0.06	0
	10	ISL	15.45	15.45	33.399	24.641	329.3	0.033	5.77	101.3	2.8	0.33	0.2	0.00	0.17	0.06	10
1	15		15.42	15.42	33.398	24.647	328.9	0.049	5.77	101.3	2.9	0.33	0.2	0.00	0.17	0.06	15
	20	ISL	15.42	15.42	33.398	24.647	329.0	0.066	5.77	101.3	2.9	0.33	0.2	0.00	0.17	0.06	20
	30	ISL	15.43	15.43	33.399	24.646	329.4	0.099	5.78	101.4	2.8	0.32	0.2	0.00	0.17	0.06	30
1	35		15.43	15.42	33.399	24.646	329.6	0.115	5.78	101.4	2.8	0.32	0.2	0.00	0.17	0.06	35
	50	ISL	15.65	15.64	33.485	24.664	328.4	0.165	5.75	101.4	2.7	0.31	0.1	0.00	0.18	0.07	50
1	55		15.73	15.72	33.516	24.670	327.9	0.181	5.74	101.4	2.7	0.30	0.1	0.00	0.18	0.07	55
1	70		15.82	15.81	33.557	24.682	327.3	0.230	5.73	101.4	2.5	0.29	0.1	0.00	0.17	0.08	71
	75	ISL	15.86	15.85	33.570	24.683	327.3	0.247	5.73	101.5	2.4	0.29	0.1	0.00	0.17	0.07	76
1	79		15.87	15.86	33.579	24.688	327.0	0.260	5.73	101.5	2.3	0.29	0.1	0.00	0.17	0.07	80
1	89		15.78	15.77	33.583	24.711	325.1	0.292	5.69	100.6	2.4	0.29	0.2	0.03	0.15	0.08	90
1	100		15.78	15.76	33.706	24.806	316.4	0.327	5.59	98.9	2.8	0.30	0.4	0.10	0.13	0.14	101
1	111		15.71	15.69	33.873	24.951	303.0	0.362	5.50	97.3	2.9	0.28	0.7	0.13	0.15	0.15	112
1	125		14.62	14.60	33.925	25.230	276.7	0.402	5.28	91.4	3.9	0.38	2.6	0.03	0.09	0.09	126
1	141		13.10	13.08	33.841	25.480	253.0	0.445	5.07	85.1	6.1	0.59	6.0	0.01	0.04	0.05	142
	150	ISL	12.24	12.22	33.770	25.593	242.3	0.467	4.92	81.0	8.2	0.75	8.5	0.00	0.03	0.04	151
1	160		11.41	11.39	33.715	25.705	231.6	0.491	4.76	77.0	10.5	0.92	11.2	0.00	0.02	0.04	161
1	180		10.61	10.59	33.794	25.910	212.4	0.535	4.59	73.0	13.6	1.08	14.1	0.00	0.01	0.02	181
	200	ISL	9.77	9.75	33.807	26.063	198.0	0.576	4.29	67.0	18.2	1.31	17.9	0.00	0.00	0.01	202
1	206		9.54	9.52	33.811	26.104	194.1	0.588	4.20	65.2	19.7	1.38	19.0	0.00	0.00	0.01	208
1	235		8.83	8.80	33.922	26.305	175.4	0.641	3.92	59.9	25.8	1.58	22.3	0.00			237
	250	ISL	8.51	8.48	33.960	26.385	167.9	0.667	3.78	57.4	29.0	1.67	23.7	0.00			252
1	274		8.06	8.03	34.000	26.484	158.7	0.706	3.55	53.4	34.0	1.79	25.7	0.00			276
	300	ISL	7.68	7.65	34.013	26.550	152.7	0.747	3.30	49.2	38.3	1.91	27.5	0.00			302
1	328		7.32	7.29	34.014	26.602	148.0	0.789	2.97	43.9	43.2	2.06	29.5	0.00			331
1	386		6.47	6.44	34.047	26.744	134.8	0.871	1.87	27.1	58.1	2.51	35.5	0.00			389
	400	ISL	6.35	6.31	34.057	26.768	132.7	0.890	1.69	24.4	60.5	2.58	36.4	0.00			403
1	449		6.01	5.97	34.097	26.843	125.9	0.953	1.19	17.1	68.2	2.78	38.8	0.00			453
	500	ISL	5.54	5.50	34.148	26.941	116.8	1.015	0.77	10.9	78.2	2.96	41.0	0.00			504
1	516		5.39	5.35	34.164	26.972	113.9	1.033	0.64	9.0	81.4	3.01	41.7	0.00			520

RV DAVID STARR JORDAN CALCOFI CRUISE 8801 STATION 93 26.7

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
32 57.2 N	117 18.3 W	19/01/88	2323 UTC	60 M	220	05 KT	300 04 12	0	1019.7 MB	15.7 C	11.4 C	0/8	

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	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	33.356	24.849	309.2	0.000	5.79	99.4	5.3	0.77	0.5	0.12	2.55	0.37	0
1	1		14.33	14.33	33.356	24.849	309.2	0.003	5.79	99.4	5.3	0.77	0.5	0.12	2.55	0.37	1
	10	ISL	14.00	14.00	33.356	24.918	302.9	0.031	5.70	97.2	4.9	0.68	0.5	0.10	0.84	0.32	10
1	11		13.95	13.95	33.356	24.928	301.9	0.034	5.69	96.9	4.8	0.67	0.5	0.10	0.61	0.31	11
	20	ISL	13.88	13.88	33.370	24.954	299.7	0.061	5.65	96.1	4.9	0.69	0.9	0.12	0.48	0.35	20
1	21		13.87	13.87	33.371	24.957	299.5	0.064	5.64	95.9	4.9	0.69	0.9	0.12	0.47	0.35	21
	30	ISL	12.79	12.79	33.494	25.269	269.9	0.089	4.82	80.2	9.0	0.91	7.7	0.18	0.27	0.30	30
1	31		12.66	12.66	33.509	25.306	266.5	0.092	4.72	78.3	9.5	0.94	8.5	0.18	0.25	0.30	31
1	41		12.23	12.22	33.550	25.421	255.8	0.118	4.48	73.7	11.3	1.06	10.5	0.15	0.23	0.39	41
	50	ISL	11.94	11.93	33.582	25.501	248.4	0.141	4.29	70.1	12.7	1.15	12.0	0.13	0.16	0.36	50
1	51		11.91	11.90	33.585	25.509	247.7	0.143	4.27	69.8	12.9	1.16	12.2	0.13	0.15	0.36	51

RV DAVID STARR JORDAN CALCOFI CRUISE 8801 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	20/01/88	0121 UTC	620 M	210	08 KT	290 04 10	0	1021.2 MB	14.3 C	10.7 C	0/8	

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	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	33.401	24.946	299.9	0.000	5.89	100.5	4.1	0.44	1.0	0.08	0.61	0.17	0
1	10		13.97	13.97	33.399	24.957	299.1	0.030	5.90	100.6	4.3	0.44	1.0	0.08	0.69	0.22	10
1	20		13.91	13.91	33.399	24.970	298.2	0.060	5.88	100.1	4.3	0.44	1.0	0.09	0.89	0.26	20
1	30		13.91	13.91	33.399	24.970	298.4	0.090	5.85	99.6	4.1	0.44	1.1	0.10	0.74	0.28	30
1	41		13.82	13.81	33.405	24.994	296.5	0.122	5.76	97.9	4.4	0.46	1.6	0.13	0.40	0.24	41
	50	ISL	12.37	12.36	33.542	25.388	259.1	0.147	4.66	76.9	10.0	0.93	9.6	0.04	0.16	0.17	50
1	51		12.19	12.18	33.559	25.436	254.6	0.150	4.53	74.5	10.7	0.99	10.5	0.03	0.14	0.16	51
1	61		11.47	11.46	33.588	25.593	239.8	0.175	4.27	69.1	13.4	1.15	13.5	0.01	0.08	0.11	61
1	72		11.05	11.04	33.624	25.697	230.2	0.201	4.16	66.7	15.0	1.24	15.0	0.01	0.05	0.11	73
	75	ISL	10.97	10.96	33.644	25.727	227.4	0.207	4.07	65.2	15.7	1.28	15.6	0.01	0.04	0.10	76
1	85		10.79	10.78	33.722	25.820	218.8	0.230	3.72	59.4	18.2	1.42	17.6	0.01	0.03	0.07	86
1	100		10.66	10.65	33.832	25.929	208.8	0.262	3.21	51.1	21.6	1.60	20.2	0.00	0.01	0.06	101
1	120		10.50	10.49	33.999	26.087	194.2	0.302	2.58	41.0	26.3	1.85	23.7	0.00	0.01	0.05	121
	125	ISL	10.47	10.46	34.036	26.121	191.0	0.312	2.45	38.9	27.3	1.90	24.3	0.00	0.01	0.05	126
1	147		10.19	10.17	34.134	26.247	179.6	0.352	2.11	33.3	31.1	2.06	25.9	0.00	0.01	0.04	148
	150	ISL	10.08	10.06	34.129	26.262	178.2	0.358	2.13	33.5	31.5	2.06	26.0	0.00	0.01	0.04	151
1	176		9.18	9.16	34.062	26.358	169.3	0.403	2.36	36.4	34.1	2.05	27.0	0.01	0.03	0.06	177
	200	ISL	8.94	8.92	34.097	26.424	163.4	0.443	2.21	33.9	36.8	2.12	27.9	0.00	0.03	0.05	202
1	207		8.93	8.91	34.113	26.439	162.2	0.454	2.14	32.8	37.5	2.14	28.2	0.00	0.03	0.05	209
1	236		8.81	8.78	34.135	26.475	159.3	0.501	2.02	30.9	39.0	2.20	28.9	0.00			238
	250	ISL	8.73	8.70	34.149	26.499	157.3	0.523	1.94	29.6	40.0	2.23	29.3	0.00			252
1	276		8.54	8.51	34.176	26.550	152.9	0.563	1.74	26.5	42.5	2.31	30.2	0.00			278
	300	ISL	8.27	8.24	34.201	26.611	147.4	0.599	1.47	22.2	46.4	2.42	31.6	0.00			302
1	329		7.92	7.89	34.229	26.685	140.6	0.641	1.13	17.0	51.7	2.57	33.3	0.00			332
1	388		7.33	7.29	34.265	26.799	130.4	0.721	0.73	10.8	60.9	2.78	35.6	0.00			391
	400	ISL	7.19	7.15	34.273	26.825	128.0	0.737	0.66	9.7	63.1	2.82	36.1	0.00			403
1	451		6.60	6.56	34.305	26.931	118.3	0.799	0.41	6.0	72.4	2.95	38.0	0.01			455
	500	ISL	6.12	6.08	34.334	27.017	110.4	0.856	0.30	4.3	80.5	3.05	39.4	0.00			504
1	518		5.95	5.90	34.346	27.048	107.5	0.875	0.26	3.7	83.5	3.08	39.9	0.00			522

RV DAVID STARR JORDAN CALCOFI CRUISE 8801 STATION 93 30

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
32 50.7 N	117 31.9 W	20/01/88	0352 UTC	872 M	280	07 KT			1022.5 MB	14.4 C	11.7 C		

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	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		13.66	13.66	33.410	25.029	292.0	0.000	5.83	98.7	4.5	0.51	2.0	0.13	0.68	0.27	0
1	10		13.66	13.66	33.408	25.028	292.4	0.029	5.81	98.4	4.6	0.49	1.9	0.14	0.69	0.26	10
1	20		13.63	13.63	33.406	25.033	292.2	0.058	5.78	97.8	4.7	0.49	2.0	0.14	0.71	0.30	20
1	30		13.63	13.63	33.406	25.033	292.4	0.088	5.75	97.3	5.0	0.50	2.0	0.14	0.65	0.31	30
1	40		13.61	13.60	33.414	25.044	291.7	0.117	5.74	97.1	4.9	0.50	2.1	0.15	0.55	0.29	40
	50	ISL	13.50	13.49	33.413	25.065	289.9	0.146	5.60	94.5	5.1	0.55	2.8	0.15	0.31	0.24	50
1	51		13.49	13.48	33.413	25.068	289.8	0.149	5.59	94.3	5.1	0.55	2.9	0.15	0.29	0.23	51
1	60		12.45	12.44	33.476	25.322	265.7	0.174	4.77	78.8	8.9	0.91	9.0	0.07	0.17	0.18	60
1	71		11.92	11.91	33.521	25.458	253.0	0.202	4.58	74.8	10.5	1.01	10.8	0.04	0.12	0.16	72
	75	ISL	11.75	11.74	33.552	25.514	247.8	0.212	4.44	72.3	11.4	1.08	11.8	0.03	0.10	0.14	76
1	85		11.32	11.31	33.637	25.659	234.2	0.237	4.07	65.7	14.1	1.25	14.5	0.02	0.05	0.09	86
1	100		10.65	10.64	33.740	25.859	215.4	0.270	3.71	59.0	18.1	1.44	17.8	0.02	0.02	0.07	101
1	120		10.15	10.14	33.872	26.048	197.7	0.312	3.23	50.9	23.0	1.66	21.2	0.00	0.01	0.05	121
	125	ISL	10.08	10.07	33.899	26.081	194.7	0.321	3.13	49.2	23.9	1.70	21.8	0.00	0.01	0.05	126
1	145		9.87	9.85	33.982	26.182	185.6	0.359	2.81	44.0	27.1	1.85	23.7	0.00	0.01	0.04	146
	150	ISL	9.78	9.76	33.994	26.207	183.3	0.369	2.74	42.8	28.0	1.88	24.2	0.00	0.01	0.04	151
1	175		9.33	9.31	34.043	26.319	173.0	0.413	2.42	37.5	32.2	2.03	26.3	0.00	0.01	0.04	176
	200	ISL	8.94	8.92	34.103	26.429	163.0	0.455	2.14	32.8	36.4	2.17	28.0	0.00	0.01	0.03	202
1	205		8.88	8.86	34.114	26.447	161.3	0.463	2.10	32.2	37.1	2.19	28.3	0.00	0.01	0.03	207
1	234		8.72	8.70	34.149	26.500	156.8	0.509	1.98	30.2	40.0	2.27	29.3	0.00			236
	250	ISL	8.64	8.61	34.158	26.520	155.2	0.534	1.88	28.7	41.2	2.30	29.7	0.00			252
1	274		8.48	8.45	34.170	26.554	152.4	0.571	1.70	25.8	43.3	2.36	30.4	0.00			276
	300	ISL	8.22	8.19	34.198	26.616	146.8	0.610	1.43	21.6	47.3	2.48	31.7	0.00			302
1	328		7.90	7.87	34.230	26.689	140.2	0.650	1.14	17.1	52.2	2.61	33.2	0.00			331
1	386		7.32	7.28	34.264	26.800	130.3	0.729	0.73	10.8	60.8	2.80	35.6	0.00			389
	400	ISL	7.18	7.14	34.271	26.825	128.1	0.747	0.66	9.7	62.9	2.84	36.1	0.00			403
1	450		6.70	6.66	34.295	26.910	120.4	0.809	0.47	6.9	70.1	2.96	37.8	0.00			45 4
	500	ISL	6.36	6.31	34.316	26.972	114.9	0.868	0.36	5.2	75.4	3.03	39.0	0.01			504
1	517		6.24	6.19	34.323	26.993	113.0	0.887	0.32	4.6	77.2	3.06	39.4	0.01			521

RV DAVID STARR JORDAN CALCOFI CRUISE 8801 STATION 93 35

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT TYPE
32 40.4 N	117 51.3 W	20/01/88	0838 UTC	668 M	290	07 KT			1024.2 MB	13.9 C	11.0 C	

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	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	13.84	13.84	33.394	24.980	296.7	0.000	5.90	100.3	3.4	0.41	0.9	0.09	2.24	0.19	0
	10 ISL	13.83	13.83	33.395	24.983	296.7	0.030	5.91	100.4	3.4	0.41	0.9	0.09	2.23	0.24	10
1	15	13.83	13.83	33.395	24.983	296.8	0.045	5.92	100.6	3.4	0.41	0.9	0.09	2.23	0.27	15
	20 ISL	13.83	13.83	33.395	24.983	296.9	0.059	5.92	100.6	3.4	0.41	0.9	0.09	2.09	0.32	20
1	29	13.83	13.83	33.395	24.984	297.2	0.086	5.92	100.6	3.5	0.41	0.9	0.09	1.85	0.36	29
	30 ISL	13.83	13.83	33.395	24.984	297.2	0.089	5.91	100.4	3.5	0.41	0.9	0.09	1.71	0.35	30
1	40	13.84	13.83	33.394	24.981	297.7	0.119	5.85	99.4	3.5	0.42	1.0	0.11	0.45	0.26	40
1	49	13.83	13.82	33.394	24.983	297.7	0.146	5.83	99.1	3.6	0.43	1.1	0.12	0.39	0.20	49
	50 ISL	13.83	13.82	33.394	24.984	297.7	0.149	5.83	99.1	3.6	0.43	1.1	0.12	0.39	0.20	50
1	60	13.84	13.83	33.394	24.982	298.2	0.178	5.83	99.1	3.5	0.44	1.1	0.12	0.36	0.22	60
1	70	13.12	13.11	33.432	25.157	281.7	0.207	5.29	88.6	6.2	0.67	5.1	0.12	0.16	0.15	71
	75 ISL	12.62	12.61	33.467	25.283	269.9	0.221	4.92	81.6	8.2	0.84	7.8	0.09	0.12	0.14	76
1	80	12.14	12.13	33.509	25.407	258.1	0.234	4.56	74.8	10.2	1.00	10.5	0.06	0.10	0.13	81
1	94	11.34	11.33	33.634	25.653	234.9	0.269	3.96	63.9	14.4	1.26	15.0	0.02	0.04	0.09	95
	100 ISL	11.20	11.19	33.665	25.703	230.3	0.283	3.82	61.5	15.5	1.33	16.0	0.02	0.04	0.08	101
1	U0	11.05	11.04	33.705	25.761	225.0	0.306	3.66	58.7	17.0	1.41	17.3	0.02	0.03	0.07	HI
	125 ISL	10.61	10.60	33.781	25.898	212.2	0.338	3.39	53.9	20.1	1.55	19.6	0.01	0.02	0.05	126
1	126	10.58	10.56	33.786	25.907	211.4	0.340	3.37	53.6	20.3	1.56	19.7	0.01	0.02	0.05	127
	150 ISL	10.03	10.01	33.915	26.103	193.2	0.389	2.93	46.0	25.4	1.76	22.9	0.01	0.01	0.03	151
1	152	9.99	9.97	33.925	26.118	191.9	0.393	2.90	45.5	25.8	1.78	23.1	0.01	0.01	0.03	153
1	177	9.53	9.51	34.035	26.281	176.8	0.439	2.55	39.7	30.7	1.97	25.7	0.00	0.01	0.04	178
	200 ISL	9.24	9.22	34.076	26.360	169.6	0.479	2.33	36.0	33.7	2.07	27.1	0.00	0.00	0.05	202
1	208	9.15	9.13	34.085	26.382	167.7	0.492	2.27	35.0	34.6	2.10	27.4	0.00	0.00	0.06	210
1	237	8.83	8.80	34.139	26.475	159.3	0.540	2.02	30.9	38.4	2.20	28.7	0.00			239
	250 ISL	8.64	8.61	34.146	26.510	156.1	0.560	1.94	29.6	40.1	2.24	29.3	0.00			252
1	278	8.24	8.21	34.153	26.577	150.1	0.603	1.77	26.7	44.1	2.33	30.8	0.00			280
	300 ISL	7.99	7.96	34.175	26.632	145.2	0.636	1.54	23.1	47.9	2.44	32.0	0.00			302
1	332	7.68	7.65	34.207	26.703	138.8	0.681	1.19	17.8	53.5	2.59	33.7	0.00			335
1	391	7.11	7.07	34.226	26.799	130.3	0.760	0.84	12.4	61.8	2.76	35.9	0.00			394
	400 ISL	7.04	7.00	34.231	26.813	129.1	0.772	0.79	11.6	63.1	2.78	36.2	0.00			403
1	456	6.63	6.59	34.267	26.897	121.6	0.842	0.53	7.7	69.7	2.92	37.9	0.00			460
	500 ISL	6.31	6.26	34.298	26.964	115.6	0.894	0.40	5.8	71.9	3.00	38.9	0.00			504
1	519	6.17	6.12	34.312	26.993	112.9	0.916	0.34	4.9	72.9	3.04	39.4	0.00			523

RV DAVID STARR JORDAN CALCOFI CRUISE 8801 STATION 93 40

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT TYPE
32 30.5 N	118 12.9 W	20/01/88	1339 UTC	1593 M	100	08 KT			1025.0 MB	13.5 C	10.3 C	

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	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	33.409	24.952	299.3	0.000	5.73	97.8	3.5	0.47	2.0	0.03	0.51	0.25	0
	10 ISL	14.02	14.02	33.408	24.954	299.4	0.030	5.74	97.9	3.8	0.48	2.0	0.03	0.50	0.26	10
1	15	14.01	14.01	33.407	24.955	299.4	0.045	5.74	97.9	4.0	0.48	2.0	0.03	0.50	0.26	15
	20 ISL	14.01	14.01	33.407	24.955	299.6	0.060	5.74	97.9	4.0	0.48	2.0	0.03	0.50	0.25	20
1	30	14.03	14.03	33.408	24.952	300.2	0.090	5.74	98.0	4.1	0.48	2.0	0.03	0.49	0.24	30
1	40	14.05	14.04	33.408	24.948	300.8	0.120	5.73	97.8	4.1	0.48	2.0	0.03	0.48	0.24	40
1	50	14.04	14.03	33.411	24.953	300.7	0.150	5.73	97.8	4.1	0.48	2.0	0.03	0.42	0.18	50
1	60	14.05	14.04	33.414	24.954	300.9	0.180	5.70	97.3	4.0	0.49	2.1	0.04	0.42	0.23	60
1	71	13.98	13.97	33.416	24.970	299.6	0.213							0.38	0.18	72
	75 ISL	13.93	13.92	33.416	24.981	298.8	0.225	5.66	96.4	4.2	0.51	2.5	0.04	0.37	0.19	76
1	80	13.77	13.76	33.416	25.014	295.7	0.240	5.64	95.7	4.2	0.52	2.6	0.04	0.35	0.20	81
1	95	11.86	11.85	33.603	25.533	246.4	0.281	4.22	68.9	12.5	1.13	12.8	0.02	0.08	0.12	96
	100 ISL	11.55	11.54	33.628	25.610	239.2	0.293	4.07	66.0	13.8	1.21	14.1	0.02	0.07	0.11	101
1	U0	11.16	11.15	33.665	25.710	229.9	0.316	3.90	62.7	15.9	1.31	15.8	0.01	0.04	0.09	111
1	125	10.55	10.54	33.801	25.924	209.7	0.349	3.25	51.6	21.5	1.60	20.2	0.00	0.02	0.06	126
	150 ISL	9.96	9.94	33.907	26.109	192.7	0.399	2.94	46.1	25.7	1.77	22.8	0.00	0.01	0.04	151
1	152	9.93	9.91	33.912	26.118	191.8	0.403	2.94	46.1	25.9	1.78	22.9	0.00	0.01	0.04	153
1	172	9.64	9.62	34.005	26.239	180.7	0.441	2.69	41.9	29.9	1.90	24.7	0.00	0.01	0.04	173
	200 ISL	9.20	9.18	34.072	26.363	169.3	0.490	2.39	36.9	34.1	2.05	26.8	0.00	0.01	0.03	202
1	206	9.12	9.10	34.082	26.384	167.4	0.500	2.33	35.9	34.9	2.08	27.2	0.00	0.01	0.03	208
1	235	8.87	8.84	34.143	26.472	159.6	0.547	2.00	30.7	38.5	2.21	28.6	0.00			237
	250 ISL	8.64	8.61	34.163	26.524	154.9	0.571	1.83	27.9	41.2	2.29	29.6	0.00			252
1	275	8.25	8.22	34.190	26.605	147.4	0.608	1.57	23.7	46.0	2.42	31.2	0.00			277
	300 ISL	8.03	8.00	34.220	26.662	142.4	0.645	1.30	19.6	49.6	2.53	32.5	0.00			302
1	328	7.82	7.79	34.243	26.711	138.1	0.684	1.06	15.9	53.1	2.63	33.6	0.00			331
1	386	7.24	7.20	34.231	26.785	131.6	0.762	0.91	13.4	59.5	2.74	35.4	0.00			389
	400 ISL	7.09	7.05	34.231	26.806	129.7	0.780	0.85	12.5	61.5	2.78	35.9	0.00			403
1	449	6.59	6.55	34.244	26.884	122.7	0.842	0.62	9.0	68.4	2.90	37.8	0.00			453
	500 ISL	6.26	6.22	34.277	26.954	116.5	0.903	0.44	6.4	74.2	3.00	39.2	0.00			504
1	518	6.14	6.09	34.289	26.979	114.3	0.924	0.38	5.5	76.3	3.03	39.7	0.00			522

RV DAVID STARR JORDAN | CALCOFI CRUISE 8801 | 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 33.4 W	20/01/88	1831 UTC	1334 M	140	05 KT	290 05 08	1	1029.1 MB	14.3 C	12.1 C	1/8	CS

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	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	33.405	24.922	302.2	0.000	5.73	98.0	3.6	0.47	1.8	0.05	0.46	0.15	0
1	2		14.16	14.16	33.405	24.922	302.2	0.006	5.73	98.0	3.6	0.47	1.8	0.05	0.46	0.15	2
	10	ISL	14.12	14.12	33.403	24.929	301.8	0.030	5.74	98.1	3.7	0.48	1.8	0.05	0.50	0.16	10
1	17		14.07	14.07	33.401	24.938	301.1	0.051	5.74	98.0	3.7	0.48	1.8	0.05	0.54	0.18	17
	20	ISL	14.07	14.07	33.401	24.938	301.2	0.060	5.74	98.0	3.7	0.48	1.8	0.05	0.54	0.18	20
	30	ISL	14.07	14.07	33.401	24.939	301.4	0.090	5.73	97.9	3.6	0.47	1.8	0.05	0.54	0.20	30
1	32		14.07	14.07	33.401	24.939	301.5	0.097	5.73	97.9	3.6	0.47	1.8	0.05	0.54	0.20	32
1	42		14.08	14.07	33.401	24.937	302.0	0.127	5.73	97.9	3.5	0.47	1.8	0.05	0.50	0.23	42
	50	ISL	14.06	14.05	33.403	24.943	301.6	0.151	5.73	97.8	3.6	0.47	1.8	0.04	0.51	0.21	50
1	52		14.06	14.05	33.403	24.943	301.7	0.157	5.73	97.8	3.6	0.47	1.8	0.04	0.52	0.20	52
1	62		14.08	14.07	33.401	24.938	302.5	0.187	5.72	97.7	3.6	0.47	1.8	0.05	0.52	0.20	62
1	73		14.05	14.04	33.402	24.945	302.1	0.220	5.74	98.0	3.4	0.47	1.8	0.05	0.50	0.19	74
	75	ISL	14.05	14.04	33.402	24.945	302.2	0.226	5.73	97.8	3.4	0.47	1.8	0.05	0.50	0.19	76
1	82		14.05	14.04	33.402	24.945	302.4	0.248	5.70	97.3	3.5	0.48	1.9	0.05	0.49	0.17	83
1	97		11.66	11.65	33.543	25.524	247.3	0.289	4.39	71.3	12.2	1.13	12.7	0.11	0.14	0.13	98
	100	ISL	11.41	11.40	33.567	25.589	241.2	0.296	4.22	68.2	13.4	1.21	14.1	0.10	0.13	0.12	101
1	112		10.81	10.80	33.642	25.755	225.6	0.324	3.77	60.2	17.1	1.43	17.7	0.06	0.08	0.09	113
	125	ISL	10.40	10.39	33.692	25.865	215.3	0.353	3.57	56.5	19.7	1.53	19.5	0.03	0.06	0.10	126
1	127		10.34	10.33	33.699	25.881	213.8	0.357	3.55	56.1	20.1	1.54	19.7	0.03	0.06	0.10	128
	150	ISL	9.27	9.25	33.873	26.195	184.2	0.403	3.35	51.7	26.5	1.72	23.1	0.01	0.01	0.04	151
1	151		9.23	9.21	33.881	26.208	183.0	0.405	3.34	51.5	26.8	1.73	23.2	0.01	0.01	0.04	152
1	176		9.07	9.05	33.999	26.327	172.3	0.449	3.00	46.2	31.1	1.87	25.0	0.01	0.00	0.04	177
	200	ISL	8.81	8.79	34.063	26.418	164.0	0.489	2.59	39.6	35.5	2.03	27.0	0.01	0.00	0.03	202
1	206		8.74	8.72	34.073	26.437	162.3	0.499	2.49	38.0	36.6	2.07	27.5	0.01	0.00	0.03	208
1	235		8.46	8.44	34.110	26.510	155.8	0.545	2.20	33.4	40.5	2.20	29.0	0.01			237
	250	ISL	8.28	8.25	34.141	26.561	151.1	0.568	1.91	28.9	43.9	2.32	30.3	0.01			252
1	275		7.95	7.92	34.190	26.649	143.1	0.605	1.42	21.3	49.9	2.51	32.4	0.01			277
	300	ISL	7.63	7.60	34.203	26.707	137.9	0.640	1.18	17.6	54.2	2.62	33.9	0.01			302
1	329		7.31	7.28	34.207	26.756	133.5	0.680	1.02	15.1	58.3	2.70	35.1	0.01			332
1	387		6.97	6.93	34.250	26.837	126.5	0.755	0.67	9.8	65.4	2.86	36.8	0.00			390
	400	ISL	6.89	6.85	34.258	26.855	125.0	0.771	0.61	8.9	66.5	2.89	37.1	0.00			403
1	450		6.57	6.53	34.287	26.921	119.2	0.832	0.44	6.4	70.7	2.98	38.3	0.01			45 4
	500	ISL	6.26	6.22	34.307	26.978	114.3	0.891	0.34	4.9	76.6	3.05	39.4	0.00			504
1	517		6.16	6.11	34.314	26.996	112.7	0.910	0.30	4.3	78.6	3.08	39.8	0.00			521

RV DAVID STARR JORDAN | CALCOFI CRUISE 8801 | STATION 93 50

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
32 10.7 N	118 53.8 W	20/01/88	2315 UTC	1446 M	310	08 KT	300 04 08	1	1027.9 MB	15.3 C	12.9 C	1/8	CS

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	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	14.41	14.41	33.464	24.915	302.8	0.000	5.84	100.5	3.5	0.47	1.9	0.04	0.49	0.11	0
1	1		14.41	14.41	33.464	24.915	302.9	0.003	5.84	100.5	3.5	0.47	1.9	0.04	0.49	0.11	1
	10	ISL	14.04	14.04	33.430	24.967	298.2	0.030	5.86	100.0	3.9	0.50	2.1	0.06	0.53	0.16	10
1	16		13.71	13.71	33.402	25.013	293.9	0.048	5.88	99.7	4.3	0.52	2.2	0.07	0.57	0.20	16
	20	ISL	13.69	13.69	33.401	25.017	293.7	0.060	5.88	99.6	4.3	0.52	2.2	0.07	0.60	0.21	20
	30	ISL	13.65	13.65	33.399	25.024	293.4	0.089	5.86	99.2	4.3	0.51	2.3	0.07	0.66	0.24	30
1	38		13.62	13.61	33.398	25.029	293.0	0.112	5.83	98.6	4.3	0.51	2.3	0.07	0.69	0.25	38
	50	ISL	13.51	13.50	33.414	25.064	290.0	0.147	5.78	97.6	4.7	0.55	2.7	0.08	0.61	0.26	50
1	58		13.38	13.37	33.429	25.102	286.6	0.170	5.75	96.8	5.0	0.57	3.3	0.08	0.52	0.27	58
1	73		12.90	12.89	33.457	25.220	275.8	0.213	5.37	89.5	7.1	0.73	6.0	0.08	0.29	0.21	74
	75	ISL	12.63	12.62	33.469	25.282	269.9	0.218	5.19	86.1	8.1	0.80	7.3	0.07	0.25	0.19	76
1	82		11.65	11.64	33.526	25.512	248.1	0.236	4.56	74.1	11.8	1.07	12.0	0.05	0.13	0.13	83
1	92		10.96	10.95	33.602	25.697	230.7	0.260	4.09	65.5	15.0	1.29	15.6	0.03	0.06	0.11	93
	100	ISL	10.60	10.59	33.638	25.788	222.1	0.278	3.95	62.8	17.2	1.38	17.3	0.01	0.05	0.09	101
1	103		10.50	10.49	33.649	25.814	219.7	0.285	3.92	62.1	17.9	1.41	17.8	0.01	0.05	0.08	104
1	113		10.18	10.17	33.697	25.907	211.0	0.306	3.68	57.9	19.7	1.52	19.6	0.00	0.04	0.07	114
	125	ISL	9.77	9.76	33.790	26.048	197.8	0.331	3.40	53.1	23.3	1.65	22.0	0.00	0.02	0.05	126
1	128		9.68	9.67	33.813	26.081	194.7	0.337	3.34	52.0	24.2	1.68	22.5	0.00	0.02	A 0.05 A	129
1	143		9.44	9.42	33.873	26.168	186.7	0.365	3.19	49.5	26.5	1.75	23.6	0.00	0.01	0.04	144
	150	ISL	9.23	9.21	33.908	26.229	181.0	0.378	3.17	48.9	28.0	1.78	24.2	0.00	0.01	0.04	151
1	164		8.80	8.78	33.969	26.345	170.1	0.403	3.14	48.0	30.7	1.83	25.1	0.00	0.00	0.04	165
1	183		8.50	8.48	33.991	26.409	164.3	0.435	3.22	48.9	32.7	1.85	25.6	0.00	0.00	0.04	184
	200	ISL	8.29	8.27	34.009	26.456	160.2	0.462	3.14	47.5	34.7	1.89	26.3	0.00	0.00	0.03	202
1	207		8.21	8.19	34.017	26.474	158.5	0.473	3.10	46.8	35.7	1.92	26.7	0.00	0.00	0.03	209
1	236		7.86	7.84	34.074	26.571	149.7	0.518	2.47	37.0	42.1	2.17	29.6	0.00			238
	250	ISL	7.80	7.78	34.110	26.608	146.4	0.539	2.12	31.7	45.0	2.29	30.8	0.00			252
1	277		7.74	7.71	34.172	26.666	141.4	0.578	1.53	22.9	49.8	2.48	32.6	0.00			279
	300	ISL	7.63	7.60	34.196	26.701	138.4	0.610	1.29	19.2	52.7	2.57	33.5	0.00			302
1	329		7.43	7.40	34.209	26.740	135.1	0.650	1.13	16.8	56.0	2.65	34.4	0.00			332
1	389		6.74	6.70	34.222	26.846	125.5	0.728	0.78	11.4	65.3	2.83	37.3	0.00			392
	400	ISL	6.69	6.65	34.234	26.863	124.0	0.741	0.71	10.4	66.5	2.86	37.5	0.00			403
1	450		6.54	6.50	34.292	26.929	118.4	0.802	0.45	6.5	71.3	2.97	38.3	0.00			454
	500	ISL	6.25	6.21	34.317	26.987	113.4	0.860	0.35	5.1	76.9	3.05	39.3	0.00			504
1	516		6.16	6.11	34.325	27.005	111.8	0.878	0.32	4.6	78.7	3.07	39.6	0.00			520

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

RV DAVIL STARR JORDAN CALCOFI CRUISE 8801 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	21/01/88	0258 UTC	1580 M	300	08 KT			1027.8 MB	14.8 C	10.2 C	

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	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	14.79	14.79	33.337	24.736	319.9	0.000	5.82	100.8	2.9	0.39	0.6	0.02	0.27	0.08	0
1	10	14.73	14.73	33.332	24.745	319.3	0.032	5.79	100.2	2.9	0.40	0.7	0.02	0.27	0.08	10
1	20	14.68	14.68	33.332	24.756	318.5	0.064	5.80	100.2	2.9	0.39	0.7	0.02	0.28	0.09	20
1	30	14.69	14.69	33.337	24.759	318.6	0.096	5.82	100.6	3.1	0.39	0.7	0.02	0.28	0.10	30
1	40	14.67	14.66	33.338	24.764	318.4	0.128	5.80	100.2	3.0	0.39	0.8	0.02	0.30	0.10	40
1	50	14.67	14.66	33.338	24.764	318.7	0.159	5.83	100.7	2.7	0.40	0.8	0.02	0.32	0.12	50
1	60	14.66	14.65	33.341	24.769	318.6	0.191	5.79	100.0	2.8	0.40	0.8	0.02	0.34	0.09	60
1	71	14.62	14.61	33.340	24.777	318.1	0.226	5.78	99.8	2.8	0.40	0.8	0.03	0.32	0.12	72
	75 ISL	14.47	14.46	33.335	24.805	315.5	0.239	5.74	98.8	3.0	0.43	1.2	0.03	0.29	0.13	76
1	85	14.08	14.07	33.324	24.879	308.7	0.270	5.64	96.3	3.4	0.49	2.2	0.03	0.21	0.14	86
1	99	11.90	11.89	33.394	25.364	262.6	0.310	4.89	79.8	8.6	0.92	9.5	0.02	0.14	0.18	100
	100 ISL	11.83	11.82	33.400	25.381	261.0	0.313	4.86	79.2	8.9	0.94	9.8	0.02	0.14	0.18	101
1	120	11.03	11.02	33.523	25.623	238.3	0.363	4.40	70.5	13.3	1.18	14.1	0.01	0.06	0.08	121
	125 ISL	10.79	10.77	33.561	25.695	231.5	0.374	4.27	68.1	14.6	1.25	15.3	0.01	0.05	0.07	126
1	145	9.89	9.87	33.721	25.975	205.2	0.418	3.77	59.0	20.4	1.51	19.8	0.00	0.03	0.04	146
	150 ISL	9.70	9.68	33.763	26.039	199.1	0.428	3.64	56.7	22.0	1.57	20.8	0.00	0.03	0.03	151
1	175	8.99	8.97	33.937	26.291	175.6	0.475	3.11	47.7	29.3	1.82	24.7	0.00	0.01	0.02	176
	200 ISL	8.72	8.70	34.000	26.383	167.3	0.518	2.87	43.8	32.9	1.93	26.2	0.00	0.02	0.03	202
1	206	8.68	8.66	34.008	26.395	166.2	0.528	2.83	43.2	33.6	1.95	26.4	0.00	0.02	0.03	208
1	233	8.38	8.36	34.075	26.494	157.2	0.572	2.47	37.4	37.9	2.11	28.4	0.00			235
	250 ISL	8.16	8.13	34.101	26.548	152.3	0.598	2.22	33.5	41.1	2.21	29.7	0.00			252
1	273	7.87	7.84	34.128	26.613	146.5	0.632	1.89	28.3	45.6	2.34	31.3	0.00			275
	300 ISL	7.64	7.61	34.164	26.675	140.9	0.671	1.52	22.7	50.2	2.48	32.8	0.00			302
1	328	7.45	7.42	34.197	26.728	136.3	0.710	1.19	17.7	54.6	2.62	34.1	0.00			331
1	385	6.99	6.95	34.236	26.823	127.8	0.785	0.79	11.6	62.5	2.83	36.4	0.00			388
	400 ISL	6.86	6.82	34.252	26.854	125.0	0.804	0.68	10.0	64.9	2.88	37.0	0.00			403
1	447	6.44	6.40	34.297	26.946	116.7	0.861	0.41	5.9	72.2	2.99	38.6	0.00			451
	500 ISL	6.05	6.01	34.316	27.012	110.8	0.921	0.32	4.6	78.7	3.06	40.0	0.00			504
1	512	5.96	5.92	34.321	27.027	109.4	0.934	0.30	4.3	80.2	3.08	40.3	0.00			516

RV DAVID STARR JORDAN CALCOFI CRUISE 8801 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 34.4 W	21/01/88	0727 UTC	2232 M	310	10 KT			1027.9 MB	14.1 C	12.0 C	

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	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	33.292	24.786	315.1	0.000	5.91	101.5	2.6	0.38	0.3	0.03	0.34	0.11	0
1	1	14.39	14.39	33.292	24.787	315.1	0.003	5.91	101.5	2.6	0.38	0.3	0.03	0.34	0.11	1
	10 ISL	14.36	14.36	33.290	24.792	314.9	0.032	5.90	101.3	2.6	0.38	0.3	0.03	0.34	0.11	10
1	15	14.35	14.35	33.289	24.793	314.9	0.047	5.90	101.3	2.6	0.38	0.3	0.03	0.35	0.12	15
	20 ISL	14.26	14.26	33.279	24.804	314.0	0.063	5.91	101.3	2.6	0.39	0.3	0.03	0.36	0.12	20
1	30	14.07	14.07	33.257	24.828	312.0	0.094	5.92	101.0	2.7	0.40	0.4	0.04	0.38	0.14	30
1	41	13.93	13.92	33.242	24.845	310.7	0.129	5.92	100.7	2.9	0.42	0.7	0.08	0.43	0.18	41
	50 ISL	13.87	13.86	33.241	24.857	309.8	0.156	5.91	100.4	2.8	0.43	0.7	0.09	0.41	0.21	50
1	51	13.87	13.86	33.241	24.857	309.8	0.160	5.91	100.4	2.8	0.43	0.7	0.09	0.41	0.21	51
1	61	13.86	13.85	33.249	24.865	309.3	0.190	5.90	100.2	2.8	0.43	0.8	0.09	0.43	0.18	61
1	72	13.81	13.80	33.259	24.884	307.8	0.224	5.88	99.8	3.0	0.44	0.9	0.10	0.41	0.19	73
	75 ISL	13.80	13.79	33.268	24.893	307.1	0.234	5.87	99.6	3.0	0.45	0.9	0.10	0.38	0.19	76
1	82	13.78	13.77	33.288	24.913	305.4	0.255	5.86	99.4	3.0	0.46	1.0	0.11	0.29	0.17	83
1	97	11.53	11.52	33.441	25.468	252.5	0.297	4.60	74.5	10.9	1.04	11.8	0.02	0.06	0.09	98
	100 ISL	11.28	11,27	33.467	25.534	246.3	0.304	4.47	72.0	12.1	1.11	13.0	0.02	0.05	0.08	101
1	112	10.65	10.64	33.557	25.717	229.2	0.333	4.08	64.9	16.0	1.31	16.5	0.01	0.03	0.06	113
	125 ISL	10.27	10.26	33.656	25.860	215.8	0.362	3.61	56.9	20.0	1.53	19.8	0.01	0.02	0.07	126
1	126	10.25	10.24	33.663	25.868	215.0	0.364	3.58	56.4	20.3	1.54	20.0	0.01	0.02	0.07	127
	150 ISL	9.41	9.39	33.810	26.124	191.1	0.413	3.26	50.5	25.9	1.73	23.3	0.01	0.01	0.03	151
1	152	9.35	9.33	33.821	26.142	189.3	0.417	3.25	50.3	26.3	1.74	23.5	0.01	0.01	0.03	153
1	177	9.08	9.06	33.943	26.281	176.6	0.462	3.02	46.5	29.7	1.84	24.9	0.01	0.00	0.02	178
	200 ISL	8.74	8.72	34.015	26.391	166.5	0.502	2.82	43.1	33.3	1.96	26.4	0.01	0.00	0.03	202
1	206	8.65	8.63	34.029	26.416	164.2	0.512	2.76	42.1	34.3	1.99	26.8	0.01	0.00	0.03	208
1	235	8.29	8.27	34.087	26.517	155.0	0.558	2.32	35.1	39.7	2.16	29.1	0.01			237
	250 ISL	8.05	8.02	34.095	26.560	151.1	0.581	2.20	33.1	42.6	2.22	30.0	0.01			252
1	273	7.72	7.69	34.103	26.615	146.2	0.615	2.03	30.3	46.8	2.31	31.3	0.01			275
	300 ISL	7.57	7.54	34.142	26.667	141.6	0.654	1.65	24.5	50.7	2.45	32.6	0.01			302
1	327	7.48	7.45	34.184	26.714	137.6	0.692	1.26	18.7	54.4	2.59	33.9	0.01			330
1	386	6.93	6.89	34.231	26.828	127.3	0.770	0.77	11.3	64.0	2.81	36.6	0.00			389
	400 ISL	6.83	6.79	34.243	26.851	125.3	0.787	0.68	9.9	65.9	2.85	37.1	0.00			403
1	449	6.51	6.47	34.280	26.923	118.9	0.847	0.45	6.5	71.7	2.97	38.4	0.00			453
	500 ISL	6.24	6.20	34.296	26.972	114.8	0.907	0.36	5.2	76.2	3.03	39.4	0.00			504
1	518	6.15	6.10	34.302	26.988	113.4	0.927	0.33	4.8	77.8	3.05	39.7	0.00			522

RV DAVID STARR JORDAN CALCOFI CRUISE 8801 STATION 93 7 0

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
31 30.9 N	120 14.9 W	21/01/88	1330 UTC	4000 M	310	14 KT			1026.2 MB	12.7 C	11.6 C		

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	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		14.00	14.00	33.205	24.801	313.7	0.000	5.91	100.7	2.9	0.41	0.5	0.07	0.37	0.14	0
	10	ISL	13.96	13.96	33.202	24.807	313.4	0.031	5.92	100.8	3.0	0.41	0.5	0.07	0.36	0.14	10
1	14		13.95	13.95	33.201	24.809	313.4	0.044	5.93	100.9	3.0	0.41	0.5	0.07	0.36	0.14	14
	20	ISL	13.95	13.95	33.201	24.809	313.5	0.063	5.93	100.9	3.0	0.41	0.5	0.07	0.36	0.14	20
	30	ISL	13.96	13.96	33.201	24.807	314.0	0.094	5.92	100.8	3.1	0.41	0.5	0.07	0.36	0.15	30
1	35		13.96	13.96	33.201	24.807	314.1	0.110	5.92	100.8	3.1	0.41	0.5	0.07	0.36	0.15	35
	50	ISL	13.95	13.94	33.204	24.812	314.1	0.157	5.90	100.4	3.1	0.42	0.6	0.08	0,35	0.16	50
1	54		13.94	13.93	33.204	24.814	314.0	0.169	5.90	100.4	3.1	0.42	0.6	0.08	0.35	0.16	54
1	69		13.90	13.89	33.202	24.821	313.7	0.217	5.91	100.5	2.7	0.42	0.6	0.08	0.40	0.16	70
	75	ISL	13.90	13.89	33.207	24.825	313.5	0.235	5.90	100.3	2.9	0.42	0.7	0.09	0.36	0.15	76
1	77		13.90	13.89	33.209	24.827	313.4	0.242	5.89	100.1	2.9	0.42	0.7	0.09	0.33	0.15	78
1	87		12.94	12.93	33.275	25.07 2	290.3	0.272	5.44	90.7	5.1	0.62	4.3	0.07	0.10	0.12	88
1	96		11.97	11.96	33.325	25.297	268.9	0.297	5.06	82.7	7.6	0.83	8.0	0.03	0.08	0.09	97
	100	ISL	11.73	11.72	33.348	25.359	263.0	0.308	4.95	80.5	8.5	0.90	9.2	0.03	0.07	0.09	101
1	107		11.43	11.42	33.395	25.451	254.4	0.326	4.74	76.6	10.3	1.01	11.1	0.03	0.06	0.09	108
1	121		10.81	10.80	33.554	25.686	232.3	0.360	4.01	64.0	15.8	1.34	16.6	0.01	0.03	0.08	122
	125	ISL	10.59	10.58	33.585	25.7 49	226.4	0.369	3.99	63.4	16.8	1.39	17.5	0.01	0.03	0.07	126
1	137		9.96	9.94	33.662	25.917	210.5	0.395	3.93	61.6	19.0	1.46	19.0	0.01	0.02	0.04	138
	150	ISL	9.59	9.57	33.740	26.040	199.1	0.422	3.92	60.9	20.7	1.50	19.9	0.01	0.01	0.03	151
1	157		9.44	9.42	33.782	26.097	193.7	0.436	3.92	60.7	21.6	1.51	20.3	0.01	0.01	0.03	158
1	177		8.81	8.79	33.918	26.304	174.3	0.472	3.88	59.3	26.0	1.59	22.1	0.01	0.00	0.02	178
	200	ISL	8.44	8.42	33.975	26.406	164.9	0.511	3.93	59.6	29.2	1.62	22.8	0.01	0.00	0.02	202
1	202		8.41	8.39	33.977	26.412	164.3	0.515	3.93	59.6	29.5	1.63	22.9	0.01	0.00	0.02	204
1	231		7.88	7.86	34.013	26.520	154.4	0.561	3.14	47.0	38.0	1.94	27.3	0.00			233
	250	ISL	7.50	7.48	34.019	26.580	148.9	0.590	2.86	42.4	42.5	2.07	29.2	0.00			252
1	272		7.12	7.09	34.023	26.636	143.7	0.622	2.60	38.3	47.1	2.19	30.9	0.00			274
	300	ISL	6.89	6.86	34.048	26.688	139.1	0.661	2.13	31.2	52.1	2.36	33.0	0.00			302
1	328		6.75	6.72	34.077	26.730	135.5	0.700	1.67	24.4	56.6	2.52	34.9	0.00			331
1	386		6.28	6.25	34.128	26.833	126.3	0.776	1.05	15.2	66.4	2.76	37.9	0.00			389
	400	ISL	6.19	6.15	34.140	26.854	124.4	0.793	0.94	13.5	68.4	2.81	38.4	0.00			403
1	449		5.89	5.85	34.185	26.927	117.8	0.853	0.63	9.0	75.3	2.94	39.9	0.00			453
	500	ISL	5.63	5.59	34.251	27.012	110.3	0.911	0.41	5.8	83.1	3.05	41.0	0.00			504
1	515		5.55	5.51	34.271	27.038	107.9	0.927	0.34	4.8	85.4	3.08	41.3	0.00			519

RV DAVID STARR JORDAN CALCOFI CRUISE 8801 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	21/01/88	2011 UTC	3924 M	320	20 KT	330 05 05	1	1025.9 MB	14.5 C	13.1 C	4/8	CS

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	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	14.58	14.58	33.201	24.676	3 25.6	0.000	5.87	101.2	2.4	0.37	0.1	0.02	0.27	0.12	0
1	3		14.58	14.58	33.201	24.676	3 25.7	0.010	5.87	101.2	2.4	0.37	0.1	0.02	0.27	0.12	3
	10	ISL	14.57	14.57	33.200	24.678	325.7	0.033	5.87	101.2	2.4	0.37	0.1	0.02	0.27	0.11	10
1	17		14.56	14.56	33.199	24.679	3 25.8	0.055	5.88	101.3	2.4	0.37	0.1	0.02	0.28	0.10	17
	20	ISL	14.56	14.56	33.199	24.679	325.9	0.065	5.88	101.3	2.4	0.37	0.1	0.02	0.28	0.10	20
	30	ISL	14.55	14.55	33.199	24.682	3 25.9	0.098	5.88	101.3	2.4	0.37	0.1	0.02	0.28	0.11	30
1	36		14.55	14.54	33.200	24.683	326.0	0.117	5.88	101.3	2.4	0.37	0.1	0.02	0.28	0.11	36
	50	ISL	14.56	14.55	33.201	24.682	326.5	0.163	5.87	101.1	2.4	0.36	0.1	0.02	0.29	0.12	50
1	56		14.56	14.55	33.201	24.682	3 26.7	0.183	5.87	101.1	2.4	0.36	0.1	0.02	0.29	0.12	56
1	72		14.55	14.54	33.200	24.684	327.0	0.235	5.90	101.6	2.4	0.36	0.1	0.02	0.30	0.13	73
	75	ISL	14.55	14.54	33.200	24.684	327.0	0.245	5.89	101.4	2.4	0.36	0.1	0.02	0.29	0.13	76
1	79		14.56	14.55	33.200	24.682	327.3	0.258	5.87	101.1	2.4	0.36	0.1	0.02	0.28	0.12	80
1	90		14.55	14.54	33.204	24.688	3 27.1	0.294	5.87	101.1	2.4	0.36	0.1	0.02	0.28	0.13	91
1	99		14.53	14.52	33.198	24.688	327.4	0.323	5.86	100.9	2.4	0.37	0.1	0.02	0.28	0.13	100
	100	ISL	14.53	14.52	33.198	24.688	327.4	0.326	5.86	100.9	2.4	0.37	0.1	0.02	0.28	0.13	101
1	109		14.49	14.47	33.199	24.697	326.8	0.356	5.88	101.1	2.4	0.37	0.1	0.02	0.24	0.12	II0
1	123		12.84	12.82	33.361	25.159	282.9	0.399	5.33	88.7	5.3	0.63	4.8	0.03	0.12	0.16	124
	125	ISL	12.76	12.74	33.376	25.186	280.4	0.404	5.29	87.9	5.5	0.65	5.1	0.03	0.11	0.15	126
1	137		12.42	12.40	33.448	25.308	269.0	0.437	5.11	84.3	6.9	0.73	6.9	0.02	0.08	0.10	138
	150	ISL	11.43	11.41	33.537	25.563	244.9	0.471	4.83	78.1	10.1	0.93	10.5	0.01	0.05	0.06	151
1	158		10.79	10.77	33.590	25.719	230.1	0.490	4.67	74.5	12.2	1.05	12.7	0.01	0.04	0.05	159
1	178		10.07	10.05	33.648	25.888	214.2	0.534	4.44	69.7	15.4	1.21	15.3	0.01	0.02	0.04	179
	200	ISL	9.61	9.59	33.805	26.088	195.5	0.579	4.35	67.7	19.0	1.31	17.7	0.00	0.01	0.02	202
1	202		9.58	9.56	33.820	26.105	194.0	0.583	4.35	67.6	19.3	1.32	17.9	0.00	0.01	0.02	204
1	230		9.03	9.01	33.908	26.263	179.4	0.635	4.18	64.2	23.9	1.46	20.3	0.00			232
	250	ISL	8.57	8.54	33.951	26.368	169.5	0.670	4.00	60.8	28.2	1.58	22.4	0.01			252
1	269		8.14	8.11	33.982	26.458	161.1	0.702	3.76	56.6	32.8	1.71	24.6	0.01			27 1
	300	ISL	7.54	7.51	34.012	26.569	150.8	0.750	3.09	45.9	41.4	1.99	28.5	0.01			302
1	324		7.14	7.11	34.026	26.637	144.5	0.785	2.53	37.2	48.1	2.21	31.3	0.00			3 27
1	382		6.41	6.38	34.057	26.760	133.2	0.866	1.65	23.9	61.2	2.56	36.1	0.00			385
	400	ISL	6.26	6.22	34.071	26.790	130.5	0.890	1.45	20.9	64.3	2.64	37.1	0.00			403
1	448		5.98	5.94	34.121	26.866	123.7	0.951	1.02	14.6	71.4	2.82	39.0	0.00			452
	500	ISL	5.76	5.72	34.198	26.954	115.8	1.013	0.61	8.7	78.7	2.98	40.4	0.00			504
1	518		5.69	5.65	34.225	26.984	113.2	1.034	0.47	6.7	81.2	3.04	40.9	0.00			522

P.V DAVID STARR JORDAN CALCOFI CRUISE 8801 STATION 93 90

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
30 50.9 N	121 35.4 W	22/01/88	0417 UTC	4209 M	3 20	23 KT			1023.9 MB	14.0 C	12.8 C		

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	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	15.48	15.48	33.426	24.654	327.7	0.000	5.77	101.4	2.3	0.32	0.0	0.00	0.22	0.08	0
1	1		15.48	15.48	33.426	24.654	327.7	0.003	5.77	101.4	2.3	0.32	0.0	0.00	0.22	0.08	1
	10	ISL	15.49	15.49	33.425	24.652	328.2	0.033	5.78	101.6	2.4	0.32	0.0	0.00	0.22	0.07	10
1	16		15.50	15.50	33.424	24.649	328.7	0.053	5.78	101.6	2.5	0.32	0.0	0.00	0.22	0.07	16
	20	ISL	15.50	15.50	33.424	24.649	328.8	0.066	5.78	101.6	2.5	0.32	0.0	0.00	0.22	0.07	20
	30	ISL	15.49	15.49	33.423	24.651	328.9	0.099	5.77	101.4	2.5	0.32	0.0	0.00	0.21	0.07	30
1	36		15.49	15.48	33.423	24.651	329.1	0.118	5.77	101.4	2.5	0.32	0.0	0.00	0.21	0.07	36
	50	ISL	15.51	15.50	33.421	24.646	330.1	0.164	5.77	101.4	2.6	0.32	0.0	0.00	0.22	0.08	50
1	55		15.51	15.50	33.421	24.646	330.2	0.181	5.77	101.4	2.6	0.32	0.0	0.00	0.22	0.08	55
1	70		15.49	15.48	33.422	24.651	330.1	0.230	5.78	101.6	2.3	0.31	0.0	0.00	0.22	0.08	71
	75	ISL	15.50	15.49	33.422	24.649	330.5	0.247	5.78	101.6	2.4	0.32	0.0	0.00	0.22	0.07	76
1	79		15.51	15.50	33.422	24.647	330.8	0.260	5.78	101.6	2.5	0.32	0.0	0.00	0.22	0.07	80
1	89		15.49	15.48	33.423	24.653	330.6	0.293	5.77	101.4	2.1	0.32	0.0	0.00	0.22	0.07	90
1	98		15.51	15.49	33.423	24.649	331.3	0.323	5.76	101.2	2.1	0.32	0.0	0.00	0.21	0.07	99
	100	ISL	15.51	15.49	33.423	24.649	331.3	0.330	5.76	101.2	2.1	0.32	0.0	0.00	0.21	0.07	101
1	108		15.51	15.49	33.423	24.649	331.6	0.356	5.76	101.2	2.1	0.32	0.0	0.00	0.22	0.07	109
1	123		14.18	14.16	33.617	25.085	290.2	0.403	5.44	93.2	3.6	0.43	2.1	0.07	0.16	0.20	124
	125	ISL	14.04	14.02	33.632	25.126	286.4	0.409	5.41	92.4	3.8	0.45	2.4	0.07	0.15	0.19	126
1	138		13.15	13.13	33.676	25.342	266.0	0.445	5.20	87.3	5.1	0.57	5.0	0.02	0.09	0.12	139
	150	ISL	12.15	12.13	33.625	25.497	251.3	0.476	5.03	82.6	7.1	0.74	7.7	0.01	0.06	0.10	151
1	157		11.58	11.56	33.597	25.582	243.3	0.493	4.93	80.0	8.5	0.85	9.4	0.01	0.05	0.09	158
1	177		10.44	10.42	33.690	25.858	217.2	0.539	4.58	72.5	13.7	1.11	14.1	0.00	0.02	0.04	178
	200	ISL	9.45	9.43	33.844	26.145	190.1	0.586	4.19	65.0	20.3	1.39	19.0	0.00	0.01	0.03	202
1	201		9.42	9.40	33.851	26.155	189.2	0.588	4.17	64.6	20.6	1.40	19.2	0.00	0.01	0.03	203
1	230		8.77	8.75	33.956	26.341	171.8	0.640	3.86	59.0	27.0	1.60	22.5	0.00			232
	250	ISL	8.38	8.35	33.991	26.429	163.7	0.674	3.64	55.1	31.0	1.72	24.4	0.00			252
1	269		8.04	8.01	34.006	26.492	157.9	0.704	3.44	51.7	34.7	1.83	25.9	0.00			271
	300	ISL	7.51	7.48	34.008	26.570	150.7	0.752	3.19	47.4	40.3	1.97	28.1	0.00			302
1	324		7.16	7.13	34.006	26.618	146.3	0.788	2.95	43.4	44.7	2.08	29.8	0.00			327
1	383		6.60	6.57	34.054	26.732	136.0	0.871	1.84	26.7	57.6	2.49	35.1	0.00			386
	400	ISL	6.44	6.40	34.065	26.762	133.3	0.894	1.63	23.6	60.6	2.57	36.1	0.00			403
1	449		6.03	5.99	34.101	26.844	125.9	0.957	1.18	16.9	68.6	2.76	38.3	0.00			453
	500	ISL	5.74	5.70	34.155	26.923	118.8	1.020	0.79	11.3	76.7	2.92	40.1	0.00			504
1	520		5.62	5.58	34.177	26.955	115.9	1.043	0.64	9.1	79.9	2.98	40.8	0.00			524

RV DAVID STARR JORDAN CALCOFI CRUISE 8801 STATION 93 100

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
30 30.9 N	122 15.5 W	22/01/88	1245 UTC	4137 M	030	20 KT			1024.9 MB	14.3 C	12.9 C		

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	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		15.36	15.36	33.413	24.671	326.1	0.000	5.77	101.1	2.2	0.33	0.2	0.00	0.21	0.07	0
	10	ISL	15.37	15.37	33.412	24.668	326.7	0.033	5.78	101.3	2.2	0.33	0.2	0.00	0.20	0.07	10
1	16		15.38	15.38	33.412	24.666	327.1	0.052	5.78	101.4	2.2	0.33	0.2	0.00	0.20	0.07	16
	20	ISL	15.39	15.39	33.412	24.664	327.4	0.065	5.78	101.4	2.1	0.33	0.2	0.00	0.20	0.06	20
	30	ISL	15.40	15.40	33.411	24.661	327.9	0.098	5.77	101.2	2.0	0.33	0.2	0.01	0.21	0.05	30
1	36		15.41	15.40	33.410	24.659	328.4	0.118	5.77	101.2	1.9	0.33	0.2	0.01	0.22	0.05	36
	50	ISL	15.42	15.41	33.410	24.657	329.0	0.164	5.78	101.4	1.9	0.33	0.2	0.00	0.21	0.07	50
1	56		15.42	15.41	33.410	24.657	329.1	0.184	5.78	101.4	1.9	0.33	0.2	0.00	0.20	0.08	56
1	71		15.43	15.42	33.409	24.655	329.9	0.233	5.78	101.4	1.9	0.33	0.2	0.00	0.21	0.06	72
	75	ISL	15.43	15.42	33.409	24.655	330.0	0.246	5.77	101.3	1.9	0.33	0.2	0.00	0.21	0.06	76
1	81		15.43	15.42	33.408	24.654	330.2	0.266	5.76	101.1	2.0	0.33	0.2	0.00	0.21	0.07	82
1	91		15.41	15.40	33.409	24.660	330.0	0.299	5.77	101.2	2.0	0.33	0.2	0.00	0.21	0.08	92
1	100		15.42	15.40	33.433	24.676	328.7	0.329	5.77	101.2	2.0	0.33	0.2	0.02	0.21	0.08	101
1	111		14.45	14.43	33.633	25.041	294.2	0.363	5.48	94.4	3.1	0.41	1.8	0.09	0.14	0.15	112
	125	ISL	13.23	13.21	33.583	25.25 4	274.1	0.403	5.25	88.2	5.1	0.60	4.9	0.03	0.08	0.11	126
1	126		13.16	13.14	33.575	25.261	273.3	0.405	5.24	87.9	5.2	0.61	5.1	0.02	0.08	0.10	127
1	141		12.64	12.62	33.624	25.402	260.3	0.445	5.09	84.5	6.3	0.67	6.6	0.01	0.06	0.08	142
	150	ISL	12.24	12.22	33.618	25.475	253.5	0.469	5.00	82.3	7.3	0.75	7.9	0.00	0.05	0.07	151
1	161		11.69	11.67	33.611	25.573	244.3	0.496	4.87	79.2	9.0	0.87	9.9	0.00	0.04	0.05	162
1	182		10.45	10.43	33.693	25.859	217.2	0.544	4.58	72.5	13.6	1.12	14.4	0.00	0.02	0.04	183
	200	ISL	9.57	9.55	33.828	26.112	193.2	0.581	4.22	65.6	19.9	1.38	18.7	0.00	0.01	0.03	202
1	206		9.33	9.31	33.873	26.187	186.2	0.593	4.12	63.7	21.9	1.45	20.0	0.00	0.00	0.02	208
1	235		8.68	8.66	33.962	26.360	170.1	0.644	4.06	61.9	26.6	1.57	22.0	0.00			237
	250	ISL	8.41	8.38	33.986	26.420	164.5	0.669	3.87	58.6	29.7	1.66	23.5	0.00			252
1	274		8.03	8.00	34.010	26.496	157.5	0.708	3.46	52.0	35.0	1.82	26.0	0.00			276
	300	ISL	7.65	7.62	34.032	26.569	150.9	0.748	2.98	44.4	40.9	2.02	28.7	0.00			302
1	329		7.28	7.25	34.052	26.638	144.6	0.791	2.44	36.0	47.3	2.23	31.5	0.00			332
1	387		6.71	6.67	34.098	26.753	134.2	0.872	1.59	23.2	58.3	2.56	35.7	0.00			390
	400	ISL	6.60	6.56	34.109	26.776	132.1	0.889	1.43	20.8	60.5	2.62	36.5	0.00			403
1	450		6.21	6.17	34.160	26.867	123.9	0.953	0.92	13.3	68.9	2.82	38.9	0.00			454
	500	ISL	5.84	5.80	34.228	26.968	114.6	1.013	0.60	8.6	77.7	2.98	40.6	0.00			504
1	518		5.71	5.67	34.253	27.004	111.3	1.033	0.48	6.8	80.8	3.04	41.2	0.00			522

RV DAVID STARR JORDAN CALCOFI CRUISE 8801 STATION 93 110

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	22/01/88	1837 UTC	3928 M	050	18 KT	010 05 07	0	1027.2 MB	16.9 C	14.7 C	0/8	

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	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	16.35	16.35	33.721	24.685	324.7	0.000	5.65	101.2	2.1	0.27	0.1	0.00	0.15	0.06	0
	10 ISL	16.33	16.33	33.720	24.689	324.7	0.032	5.64	100.9	2.2	0.27	0.1	0.00	0.13	0.05	10
1	15	16.32	16.32	33.720	24.692	324.6	0.049	5.64	100.9	2.3	0.27	0.1	0.00	0.12	0.05	15
	20 ISL	16.32	16.32	33.720	24.692	324.8	0.065	5.64	100.9	2.3	0.27	0.1	0.00	0.12	0.05	20
	30 ISL	16.33	16.33	33.720	24.690	325.3	0.097	5.64	100.9	2.4	0.26	0.1	0.00	0.12	0.05	30
1	35	16.33	16.32	33.720	24.690	325.4	0.114	5.64	100.9	2.4	0.26	0.1	0.00	0.12	0.05	35
	50 ISL	16.35	16.34	33.720	24.686	326.3	0.163	5.65	101.1	2.5	0.26	0.1	0.00	0.12	0.05	50
1	55	16.35	16.34	33.720	24.686	326.5	0.179	5.65	101.1	2.5	0.26	0.1	0.00	0.12	0.05	55
1	71	16.33	16.32	33.724	24.694	326.2	0.231	5.66	101.3	2.5	0.26	0.1	0.00	0.13	0.05	72
	75 ISL	16.34	16.33	33.722	24.691	326.7	0.244	5.66	101.3	2.4	0.26	0.1	0.00	0.12	0.05	76
1	78	16.35	16.34	33.720	24.687	327.1	0.254	5.66	101.3	2.4	0.26	0.1	0.00	0.12	0.05	79
1	89	16.33	16.32	33.720	24.692	327.0	0.290	5.64	100.9	2.5	0.26	0.1	0.00	0.12	0.05	90
1	97	16.34	16.32	33.720	24.690	327.5	0.316	5.67	101.5	2.6	0.26	0.1	0.00	0.12	0.05	98
	100 ISL	16.31	16.29	33.721	24.698	326.8	0.326	5.66	101.2	2.6	0.26	0.1	0.00	0.12	0.05	101
1	108	16.22	16.20	33.723	24.720	324.9	0.352	5.64	100.7	2.7	0.26	0.1	0.01	0.13	0.06	109
1	124	14.89	14.87	33.791	25.069	292.0	0.401	5.46	95.0	3.5	0.35	1.4	0.05	0.16	0.19	125
	125 ISL	14.82	14.80	33.795	25.087	290.3	0.404	5.44	94.5	3.6	0.36	1.5	0.05	0.15	0.19	126
1	138	13.95	13.93	33.810	25.283	271.9	0.441	5.24	89.5	4.7	0.46	3.6	0.02	0.07	0.10	139
	150 ISL	12.83	12.81	33.734	25.450	256.0	0.472	5.09	84.9	6.4	0.62	6.2	0.01	0.05	0.07	151
1	158	12.09	12.07	33.683	25.554	246.2	0.493	4.99	81.9	7.8	0.74	8.1	0.01	0.04	0.06	159
1	178	10.94	10.92	33.695	25.774	225.3	0.540	4.70	75.2	11.8	1.00	12.5	0.01	0.02	0.04	179
	200 ISL	9.79	9.77	33.793	26.049	199.3	0.586	4.45	69.5	16.4	1.26	17.0	0.01	0.01	0.02	202
1	201	9.75	9.73	33.798	26.059	198.3	0.588	4.44	69.3	16.6	1.27	17.2	0.01	0.01	0.02	203
1	231	9.06	9.03	33.907	26.257	179.9	0.645	4.09	62.9	23.7	1.49	20.8	0.01			233
	250 ISL	8.66	8.63	33.955	26.358	170.6	0.678	3.88	59.1	27.8	1.61	22.8	0.01			252
1	272	8.23	8.20	33.995	26.455	161.6	0.715	3.59	54.2	32.6	1.75	25.0	0.00			274
	300 ISL	7.75	7.72	34.026	26.550	152.7	0.759	3.04	45.4	39.6	1.98	28.2	0.00			302
1	325	7.39	7.36	34.042	26.615	146.8	0.796	2.54	37.6	45.7	2.18	30.8	0.00			328
1	383	6.75	6.71	34.073	26.727	136.6	0.879	1.78	26.0	56.5	2.49	34.9	0.00			386
	400 ISL	6.57	6.53	34.087	26.763	133.4	0.902	1.56	22.7	59.8	2.58	36.0	0.00			403
1	446	6.15	6.11	34.129	26.851	125.3	0.961	1.04	15.0	68.4	2.78	38.5	0.01			450
	500 ISL	5.81	5.77	34.177	26.932	118.0	1.027	0.72	10.3	76.2	2.93	40.2	0.00			504
1	514	5.72	5.68	34.190	26.953	116.1	1.043	0.64	9.1	78.2	2.97	40.7	0.00			518

RV DAVID STARR JORDAN CALCOFI CRUISE 8801 STATION 93 120

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
29 50.9 N	123 35.2 W	23/01/88	0147 UTC	4271 M	040	17 KT	020 05 06	0	1027.0 MB	16.9 C	14.0 C	0/8	

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	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	16.00	16.00	33.574	24.652	327.9	0.000	5.71	101.5	2.1	0.28	0.1	0.00	0.12	0.04	0
1	1	16.00	16.00	33.574	24.652	327.9	0.003	5.71	101.5	2.1	0.28	0.1	0.00	0.12	0.04	1
	10 ISL	16.00	16.00	33.571	24.650	328.4	0.033	5.72	101.6	2.2	0.28	0.1	0.00	0.12	0.04	10
1	16	16.00	16.00	33.570	24.649	328.7	0.053	5.72	101.6	2.3	0.28	0.1	0.00	0.12	0.04	16
	20 ISL	15.97	15.97	33.566	24.653	328.4	0.066	5.72	101.6	2.3	0.28	0.1	0.00	0.11	0.04	20
	30 ISL	15.90	15.90	33.561	24.665	327.6	0.098	5.73	101.6	2.3	0.29	0.1	0.00	0.10	0.04	30
1	36	15.86	15.85	33.560	24.674	327.0	0.118	5.73	101.5	2.3	0.29	0.1	0.00	0.10	0.04	36
	50 ISL	15.92	15.91	33.584	24.679	326.9	0.164	5.75	102.0	2.2	0.28	0.1	0.00	0.12	0.05	50
1	55	15.95	15.94	33.594	24.681	327.0	0.180	5.76	102.2	2.2	0.28	0.1	0.00	0.13	0.05	55
1	70	16.03	16.02	33.616	24.680	327.5	0.229	5.68	101.0	2.3	0.28	0.1	0.00	0.15	0.06	71
	75 ISL	16.64	16.63	33.846	24.717	324.2	0.246	5.59	100.7	2.3	0.25	0.1	0.00	0.18	0.08	76
1	79	17.10	17.09	34.023	24.745	321.8	0.259	5.53	100.6	2.3	0.23	0.1	0.00	0.20	0.09	80
1	88	17.10	17.09	34.039	24.758	320.9	0.287	5.53	100.6	2.2	0.23	0.1	0.00	0.20	0.07	89
1	99	17.03	17.01	34.027	24.765	320.5	0.323	5.53	100.5	1.9	0.23	0.1	0.00	0.18	0.07	100
	100 ISL	17.05	17.03	34.035	24.767	320.4	0.326	5.53	100.5	1.9	0.23	0.1	0.00	0.17	0.07	101
1	108	17.19	17.17	34.082	24.770	320.4	0.352	5.51	100.4	2.0	0.22	0.1	0.00	0.13	0.06	109
1	123	16.44	16.42	34.104	24.963	302.4	0.398	5.32	95.6	2.7	0.28	0.9	0.06	0.10	0.13	124
	125 ISL	16.30	16.28	34.103	24.995	299.4	0.404	5.29	94.8	2.8	0.29	1.1	0.06	0.10	0.13	126
1	138	15.23	15.21	34.048	25.193	280.8	0.442	5.13	90.0	3.8	0.38	2.5	0.02	0.08	0.11	139
	150 ISL	13.88	13.86	33.876	25.349	266.0	0.475	5.07	86.5	5.1	0.51	4.5	0.01	0.06	0.07	151
1	159	12.89	12.87	33.751	25.452	256.1	0.498	5.03	84.0	6.4	0.63	6.3	0.01	0.04	0.05	160
1	179	11.55	11.53	33.680	25.652	237.1	0.548	4.81	78.0	9.9	0.89	10.5	0.00	0.02	0.04	180
	200 ISL	10.29	10.27	33.722	25.909	212.8	0.595	4.47	70.5	15.2	1.19	15.5	0.00	0.01	0.02	202
1	203	10.14	10.12	33.734	25.944	209.5	0.601	4.42	69.5	16.0	1.23	16.2	0.00	0.01	0.02	205
1	233	9.23	9.20	33.855	26.189	186.5	0.661	4.06	62.6	23.0	1.51	20.8	0.00			235
	250 ISL	8.85	8.82	33.916	26.297	176.4	0.691	3.88	59.4	26.6	1.61	22.5	0.00			252
1	274	8.43	8.40	33.982	26.414	165.5	0.732	3.64	55.2	31.1	1.72	24.4	0.00			276
	300 ISL	8.08	8.05	34.011	26.490	158.7	0.775	3.38	50.8	35.1	1.84	26.2	0.00			302
1	328	7.76	7.73	34.019	26.544	153.8	0.818	3.09	46.1	39.3	1.98	28.1	0.00			331
1	387	6.94	6.90	34.036	26.673	142.0	0.906	2.34	34.3	51.3	2.31	32.6	0.00			390
	400 ISL	6.76	6.72	34.042	26.702	139.3	0.924	2.14	31.2	54.2	2.39	33.7	0.00			403
1	451	6.15	6.11	34.079	26.811	129.1	0.992	1.37	19.7	65.7	2.70	37.6	0.00			455
	500 ISL	5.75	5.71	34.133	26.904	120.6	1.053	0.87	12.4	75.3	2.90	40.0	0.00			504
1	517	5.61	5.57	34.152	26.936	117.6	1.074	0.70	9.9	78.6	2.97	40.8	0.00			521

PRIMARY PRODUCTIVITY CASTS

RV DAVID STARR JORDAN — CALCOFI CRUISE 8801 — 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	1/ 2/88	1935 UTC	7 M	1217 - 1800 PST	1218 PST	1800 PST	1234.8 MG C/M2

DEPTH M	TEMP DEG C	SALINITY PSS 78	SIGMA THETA	DISS O2 ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL UG/L	PHAEO UG/L	LIGHT PCT	UPTAKE (MG C/M3) 1	2	MEAN	DARK
0	11.89	33.520	25.461	6.17	100.8	8.7	0.71	4.9	0.22	8.13	1.67	99.	54.2	53.6	53.9	0.29
5	11.79	33.520	25.480	6.11	99.6	8.7	0.73	5.1	0.22	7.97	1.83	30.	101.6	104.4	103.0	0.30
11	11.78	33.520	25.482	5.95	96.9	8.8	0.75	5.7	0.22	7.80	1.50	11.	74.8	83.2	79.0	0.23
15	11.77	33.518	25.482	5.93	96.6	8.9	0.76	5.9	0.22	7.86	1.52	4.0	19.4	22.3	20.9	0.22
19	11.74	33.524	25.493	5.85	95.2	9.3	0.77	6.3	0.23	6.88	1.58	1.9	9.6	9.6	9.6	0.16
26	11.69	33.553	25.525	5.36	87.2	11.5	0.94	8.8	0.25	4.14	0.90	0.40	0.49	0.72	0.60	0.13

RV DAVID STARR JORDAN — CALCOFI CRUISE 8801 — STATION 77 90

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	SECCHI DEPTH	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
33 43.3 N	123 38.0 W	31/ 1/88	2013 UTC	17 M	1230 - 1808 PST	1227 PST	1808 PST	244.4 MG C/M2

DEPTH M	TEMP DEG C	SALINITY PSS 78	SIGMA THETA	DISS O2 ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL UG/L	PHAEO UG/L	LIGHT PCT	UPTAKE (MG C/M3) 1	2	MEAN	DARK
1	13.90	33.165	24.791	5.98	101.6	2.2	0.40	0.4	0.03	0.42	0.19	99.	6.5	5.4	6.0	0.10
14	13.89	33.163	24.792	5.98	101.6	2.2	0.40	0.4	0.03	0.42	0.21	30.	7.7	7.7	7.7	0.12
26	13.90	33.164	24.791	5.98	101.6	2.2	0.40	0.3	0.03	0.43	0.17	11.	6.6	6.7	6.6	0.11
37	13.90	33.163	24.790	5.98	101.6	2.2	0.39	0.3	0.03	0.43	0.18	4.0	1.8	1.9	1.8	0.11
45	13.88	33.163	24.794	5.90	100.2	2.2	0.39	0.3	0.03	0.47	0.19	1.9	0.78	0.76	0.77	0.07
62	13.89	33.160	24.791	5.97	101.4	2.2	0.41	0.4	0.04	0.41	0.20	0.40	0.05	0.07	0.06	0.07

RV DAVID STARR JORDAN — CALCOFI CRUISE 8801 — STATION 80 55

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	SECCHI DEPTH	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
34 19.1 N	120 48.1 W	30/ 1/88	1903 UTC	6 M	1214 - 1800 PST	1216 PST	1801 PST	588.2 MG C/M2

DEPTH M	TEMP DEG C	SALINITY PSS 78	SIGMA THETA	DISS O2 ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL UG/L	PHAEO UG/L	LIGHT PCT	UPTAKE (MG C/M3) 1	2	MEAN	DARK
0	12.57	33.330	25.184	6.62	109.6	3.7	0.48	1.4	0.13	4.32	1.54	99.	31.7	24.7	28.2	0.25
4	12.53	33.327	25.190	6.66	110.1	3.5	0.48	1.4	0.12	4.32	1.50	30.	56.8	58.6	57.7	0.27
8	12.53	33.326	25.189	6.68	110.4	3.5	0.49	1.5	0.13	4.18	1.66	11.	50.2	49.4	49.8	0.26
13	12.52	33.325	25.190	6.61	109.3	3.3	0.48	1.6	0.13	4.30	1.60	4.0	13.4	11.1	12.2	0.21
15	12.50	33.329	25.197	6.60	109.1	3.5	0.50	1.6	0.14	4.33	1.64	1.9	6.8	7.7	7.3	0.18
22	12.57	33.323	25.179	6.53	108.1	3.6	0.50	1.8	0.15	4.01	1.41	0.40	0.36	0.42	0.39	0.18

RV DAVID STARR JORDAN — CALCOFI CRUISE 8801 — STATION 83 55

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	SECCHI DEPTH	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
33 44.7 N	120 24.6 W	29/ 1/88	1930 UTC	10 M	1213 - 1754 PST	1215 PST	1754 PST	533.4 MG C/M2

DEPTH M	TEMP DEG C	SALINITY PSS 78	SIGMA THETA	DISS O2 ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL UG/L	PHAEO UG/L	LIGHT PCT	UPTAKE (MG C/M3) 1	2	MEAN	DARK
0	13.15	33.448	25.161	6.26	104.9	6.5	0.59	2.7	0.07	1.43	0.30	99.	20.6	28.2	24.4	0.19
7	13.10	33.447	25.171	6.26	104.8	6.4	0.56	2.7	0.08	1.51	0.25	30.	38.4	37.6	38.0	0.21
14	12.86	33.445	25.217	6.13	102.1	7.0		3.8	0.11	1.03	0.32	11.	20.1	21.2	20.6	0.15
21	12.71	33.456	25.255	5.83	96.8	7.2	0.68	4.6	0.16	0.76	0.40	4.0	3.7	4.2	3.9	0.10
25	12.65	33.453	25.265	5.90	97.9	7.2	0.69	4.7	0.15	0.76	0.38	1.9	2.0	2.2	2.1	0.09
36	12.13	33.490	25.393	5.41	88.8	9.9	0.90	8.4	0.34	0.27	0.28	0.40	0.10	0.10	0.10	0.06

RV DAVID STARR JORDAN — CALCOFI CRUISE 8801 — STATION 83 100

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	SECCHI DEPTH	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
32 14.7 N	123 29.5 W	28/ 1/88	1916 UTC	21 M	1224 - 1806 PST	1227 PST	1807 PST 3	46.7 MG C/M2

DEPTH M	TEMP DEG C	SALINITY PSS 78	SIGMA THETA	DISS O2 ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL UG/L	PHAEO UG/L	LIGHT PCT	UPTAKE (MG C/M3) 1	2	MEAN	DARK
0	13.98	33.142	24.756	6.06	103.2	2.7	0.39	0.3	0.02	0.41	0.13	99.	8.1	8.6	8.3	0.10
17	13.72	33.147	24.814	6.08	102.9	2.8	0.40	0.4	0.03	0.52	0.24	30.	8.2	8.9	8.5	0.08
31	13.61	33.151	24.840	6.08	102.7	2.9	0.41	0.6	0.03	0.52	0.26	11.	6.9	7.5	7.2	0.08
44	13.59	33.153	24.846	6.09	102.8	3.0	0.41	0.6	0.03	0.53	0.27	4.0	2.8	2.6	2.7	0.07
56	13.51	33.155	24.864	5.94	100.1	3.1	0.44	1.0	0.09	0.33	0.22	1.9	0.75	0.78	0.76	0.07
76	13.55	33.158	24.859	6.05	102.1	3.1	0.43	0.9	0.07	0.58	0.33	0.40	0.15	0.11	0.13	0.06

PRIMARY PRODUCTIVITY CASTS

RV DAVID STARR JORDAN — CALCOFI CRUISE 8801 — STATION 87 50

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	SECCHI DEPTH	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
33 19.A N	119 39.8 W	26/ 1/88	2007 UTC	13 M	1227 - 1753 PST	1211 PST	1752 PST	621.8 MG C/M2

DEPTH M	TEMP DEG C	SALINITY PSS 78	SIGMA THETA	DISS O2 ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL UG/L	PHAEO UG/L	LIGHT PCT	UPTAKE (MG C/M3) 1	2	MEAN	DARK
1	13.25	33.460	25.151	6.15	103.3	5.4	0.50	2.1	0.08	1.26	0.35	99.	23.2	24.7	24.0	0.15
11	13.11	33.456	25.176	6.15	103.0	5.4	0.49	2.0	0.08	1.36	0.38	30.	29.6	28.5	29.0	0.19
20	13.09	33.457	25.181	6.07	101.6	5.5	0.51	2.3	0.09	1.09	0.37	11.	19.3	19.2	19.2	0.13
28	12.71	33.479	25.273	5.68	94.4	7.0	0.62	4.8	0.18	0.57	0.32	4.0	3.7	3.7	3.7	0.08
35	12.36	33.502	25.359	5.42	89.4	8.7	0.77	6.8	0.20	0.41	0.27	1.9	1.2	1.1	1.1	0.07
48	11.66	33.581	25.552	4.84	78.7	13.1	1.08	11.8	0.21	0.17	0.18	0.40	0.05	0.05	0.05	0.07

RV DAVID STARR JORDAN — CALCOFI CRUISE 8801 — STATION 87 90

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	SECCHI DEPTH	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
31 59.4 N	122 23.6 W	27/ 1/88	1959 UTC	15 M	1222 - 1807 PST	1223 PST	1807 PST	480.0 MG C/M2

DEPTH M	TEMP DEG C	SALINITY PSS 78	SIGMA THETA	DISS O2 ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL UG/L	PHAEO UG/L	LIGHT PCT	UPTAKE (MG C/M3) 1	2	MEAN	DARK
1	13.99	33.210	24.807	6.14	104.6	2.9	0.42	0.7	0.07	0.69	0.20	99.	10.9	12.4	11.6	0.11
13	13.24	33.263	25.001	6.17	103.5	3.6	0.46	1.2	0.09	0.91	0.38	30.	20.8	21.3	21.0	0.16
23	12.99	33.254	25.044	6.00	100.1	3.9	0.54	2.2	0.22	0.76	0.35	11.	11.7	10.8	11.2	0.11
32	12.98	33.265	25.054	5.92	98.8	4.0	0.55	2.5	0.28	0.60	0.32	4.0	4.6	4.4	4.5	0.08
40	12.97	33.279	25.067	5.91	98.6	4.1	0.55	2.7	0.30	0.52	0.32	1.9	2.1	1.8	1.9	0.08
55	12.99	33.324	25.099	5.79	96.7	4.6	0.62	3.6	0.41	0.24	0.22	0.40	0.22	0.12	0.17	0.07

RV DAVID STARR JORDAN — CALCOFI CRUISE 8801 — STATION 90 60

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	SECCHI DEPTH	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
32 25.1 N	119 57.6 W	24/ 1/88	1842 UTC	15 M	1200 - 1748 PST	1212 PST	1748 PST	335.8 MG C/M2

DEPTH M	TEMP DEG C	SALINITY PSS 78	SIGMA THETA	DISS O2 ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL UG/L	PHAEO UG/L	LIGHT PCT	UPTAKE (MG C/M3) 1	2	MEAN	DARK
0	14.00	33.363	24.923	5.96	101.6	3.4	0.43	1.5	0.05	0.71	0.22	99.	3.9	5.6	4.7	0.08
12	13.87	33.362	24.949	5.95	101.2	3.5	0.44	1.5	0.05	0.71	0.23	30.	13.6	'13.0	13.3	0.12
21	13.84	33.356	24.951	5.92	100.6	3.6	0.45	1.6	0.05	0.72	0.28	11.	11.1	10.8	11.0	0.09
31	13.81	33.356	24.958	5.90	100.2	3.6	0.46	1.6	0.05	0.73	0.26	4.0	4.3	4.1	4.2	0.07
39	13.79	33.353	24.960	5.89	100.0	3.6	0.46	1.7	0.05	0.72	0.23	1.9	2.0	2.2	2.1	0.08
54	13.88	33.355	24.943	5.82	99.0	3.6	0.47	1.9	0.07	0.52	0.26	0.40	0.18	0.23	0.20	0.05

RV DAVID STARR JORDAN — CALCOFI CRUISE 8801 — STATION 90 100

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	SECCHI DEPTH	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
31 5.1 N	122 39.7 W	23/ 1/88	1934 UTC	33 M	1223 - 1800 PST	1223 PST	1759 PST	99.1 MG C/M2

DEPTH M	TEMP DEG C	SALINITY PSS 78	SIGMA THETA	DISS O2 ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL UG/L	PHAEO UG/L	LIGHT PCT	UPTAKE (MG C/M3) 1	2	MEAN	DARK
0	15.86	33.514	24.637	5.74	101.7	2.6	0.31	0.2	0.00	0.13	0.05	99.	0.20	0.19	0.19	0.06
26	15.71	33.494	24.656	5.74	101.4	2.7	0.31	0.2	0.00	0.15	0.05	30.	1.5	1.4	1.5	0.08
48	15.71	33.494	24.657	5.75	101.5	2.7	0.31	0.2	0.00	0.15	0.05	11.	1.5	1.7	1.6	0.08
69	15.90	33.561	24.667	5.70	101.1	2.5	0.30	0.2	0.00	0.16	0.06	4.0	0.79	0.83	0.81	0.04
86	15.91	33.563	24.667	5.71	101.2	2.4	0.30	0.2	0.00	0.18	0.06	1.9	0.30	0.43	0.36	0.06
120	15.11	33.767	25.002	5.44	95.1	3.5	0.37	1.5	0.09	0.15	0.14	0.40	0.11	0.10	0.10	0.03

RV DAVID STARR JORDAN — CALCOFI CRUISE 8801 — STATION 93 45

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	SECCHI DEPTH	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
32 20.8 N	118 33.4 W	20/ 1/88	1919 UTC	25 M	1203 - 1745 PST	1205 PST	1744 PST	435.2 MG C/M2

DEPTH M	TEMP DEG C	SALINITY PSS 78	SIGMA THETA	DISS O2 ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL UG/L	PHAEO UG/L	LIGHT PCT	UPTAKE (MG C/M3) 1	2	MEAN	DARK
0	14.31	33.414	24.898	5.79	99.4	3.4	0.47	1.8	0.05	0.46	0.15	99.	4.8	4.9	4.9	0.03
20	14.06	33.406	24.944	5.74	98.0	3.9	0.47	1.8	0.05	0.60	0.19	30.	9.5	9.3	9.4	0.05
37	14.08	33.406	24.941	5.74	98.1	4.1	0.47	1.8	0.05	0.61	0.17	11.	7.9	8.3	8.1	0.03
51	14.07	33.406	24.943	5.72	97.7	4.3	0.47	1.8	0.05	0.59	0.19	4.0	3.5	3.7	3.6	0.23
64	14.05	33.407	24.948	5.78	98.7	4.0	0.47	1.8	0.05	0.59	0.16	1.9	1.9	1.9	1.9	0.10
88	11.54	33.578	25.573	4.19	67.9	14.1	1.20	14.0	0.11	0.14	0.13	0.40	0.44	0.06	0.25	0.03

PRIMARY PRODUCTIVITY CASTS

RV DAVID STARR JORDAN — CALCOFI CRUISE 8801 — 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 U	21/ 1/88	1942 UTC	23 M	1213 - 1757 PST	1215 PST	1757 PST	132.8 MG C/M2

DEPTH M	TEMP DEG C	SALINITY PSS 78	SIGMA THETA	DISS O2 ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL UG/L	PHAEO UG/L	LIGHT PCT	UPTAKE (MG C/M3) 1	2	MEAN	DARK
1	14.59	33.205	24.677	5.89	101.6	2.4	0.37	0.1	0.02	0.26	0.12	99.	1.5	1.3	1.4	0.02
19	14.55	33.203	24.685	5.87	101.1	2.4	0.37	0.1	0.02	0.28	0.12	30.	2.8	3.0	2.9	0.03
35	14.54	33.205	24.689	5.96	102.6	2.4	0.37	0.1	0.03	0.28	0.12	11.	2.9	2.9	2.9	0.03
48	14.55	33.203	24.685	5.88	101.3	2.4	0.37	0.1	0.02	0.28	0.11	4.0	1.3	1.3	1.3	0.04
59	14.54	33.205	24.690	5.91	101.8	2.4	0.37	0.1	0.02	0.28	0.13	1.9	0.58	0.63	0.61	0.05
83	14.61	33.208	24.678	5.89	101.6	2.4	0.38	0.1	0.03	0.28	0.12	0.40	0.13	0.07	0.10	0.02

RV DAVID STARR JORDAN — CALCOFI CRUISE 8801 — STATION 93 IIO

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	SECCHI DEPTH	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
30 10.8 N	122 55.4 W	22/ 1/88	1939 UTC	30 M	1223 - 1806 PST	1223 PST	1805 PST	75.0 MG C/M2

DEPTH M	TEMP DEG C	SALINITY PSS 78	SIGMA THETA	DISS O2 ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL UG/L	PHAEO UG/L	LIGHT PCT	UPTAKE (MG C/M3) 1	2	MEAN	DARK
1	16.33	33.719	24.688	5.65	101.1	3.1	0.27	0.2	0.00			99.	0.15	0.17	0.16	0.04
26	16.33	33.719	24.689	5.64	100.9	3.2	0.27	0.2	0.00	0.13	0.05	30.	1.2	1.2	1.2	0.03
46	16.32	33.718	24.691	5.66	101.3	3.0	0.27	0.2	0.00	0.13	0.05	11.	1.4	1.4	1.4	0.04
66	16.32	33.717	24.691	5.64	100.9	2.7	0.27	0.2	0.00	0.13	0.05	4.0	0.64	0.74	0.69	0.04
78	16.33	33.724	24.695	5.65	101.1	2.6	0.27	0.2	0.00	0.13	0.05	1.9	0.26	0.30	0.28	0.03
IIO	16.38	33.720	24.681	5.64	101.0	2.4	0.27	0.2	0.00	0.13	0.05	0.40	0.05	0.03	0.04	0.02

Secchi Disk Observations

CalCOFI Cruise 8801

Line	Sta.	Day	Mo	Local Time (+8:PST)	Secchi Depth (m)	Forel Water Color	Weather	Clouds Type/Amt
77	49	1 2		1430	5	5	1	c c 4/8
77	51	1	2	1105	7	5	1	c c 4/8
77	55	1	2	0720	10	4	1	c c 5/8
77	90	31	1	1203	17	3	2	S T 8/8
80	55	30	]	1053	6	5	1	c u 3/8
80	60	30	1	1300	7	4	1	c u 3/8
83	51	29	1	1500	12	4	1	c c 6/8
83	55	29	1[	1120	10	4	1	s c 4/8
83	60	29	1	1500	11	5	1	s c 4/8
83	90	28	1	1516	18	4	1	s c 8/8
83	100	28	1	1106	21	3	1	s c 8/8
87	50	26	1	1149	13	4	1	S T 6/8
87	55	26	]I	1403	14	4	1	c c 6/8
87	90	27	]L	1149	15	4	1	A C 6/8
87	100	27	](	1603	24	3	1	C I 3/8
90	28	25	1L	0747	10	4	1	C S 3/8
90	53	24	1I	1435	15	4	1	C I 3/8
90	60	24	1I	1032	15	4	1	C I 3/8
90	90	23	1L	1618	29	2	0	- 0
90	100	23	1L	1124	33	2	-	- -
93	26.7	19	1L	1455	2	4	0	- 0
93	45	20	1L	1109	25	2	1	C S 1/8
93	50	20	I	1448	18	3	1	C S 1/8
93	80	21	L	1129	23	2	1	C S 4/8
93	IIO	22	I	1130	30	2	0	- 0

MACROZOOPLANKTON BIOMASS
Net Mesh Size: 0.505 mm

Line	Sta.	Position		Date Mo/Day	Time(UTC) Start	Time(UTC) End	Water Volume Strained (m)	Max. Tow Depth (m)	Volume per 1000 m Strained Total (cm)	Volume per 1000 m Strained Small (cm)
77	49	35 05.3N	120 46.6W	2/1	2235	2242	124	57	57	57
77	51	35 01.3N	120 55.1W	2/1	2030	2052	425	211	202	40
77	55	34 53.3N	121 12.0W	2/1	1706	1728	418	215	60	60
77	60	34 43.3N	121 33.0W	2/1	1309	1331	402	215	124	124
77	70	34 23.3N	122 14.7W	2/1	0749	0811	437	209	41	41
77	80	34 03.3N	122 56.6W	2/1	0225	0247	420	214	50	50
77	90	33 43.3N	123 38.0W	1/31	2113	2135	441	214	14	14
80	51	34 27.0N	120 31.4W	1/30	1517	1525	144	70	285	285
80	55	34 19.1N	120 48.1W	1/30	1818	1840	426	212	61	61
80	60	34 09.0N	121 09.0W	1/30	2241	2303	423	213	59	59
80	70	33 49.2N	121 50.6W	1/31	0435	0457	436	214	76	76
80	80	33 29.0N	122 32.0W	1/31	1031	1053	472	212	25	25
80	90	33 09.1N	123 13.3W	1/31	1529	1551	441	214	18	18
82	47	34 16.9N	120 02.3 W	1/30	1159	1221	396	214	63	63
83	40.6	34 13.5N	119 24.7W	1/30	0714	0718	63	28	16	16
83	42	34 10.7N	119 30.5W	1/30	0535	0545	183	92	65	65
83	51	33 52.6N	120 08.1W	1/30	0005	0015	172	87	58	58
83	55	33 44.7N	120 24.6W	1/29	2040	2102	437	212	53	53
83	60	33 34.7N	120 45.4W	1/29	1632	1654	424	210	59	59
83	70	33 14.6N	121 26.6W	1/29	1053	1115	434	211	157	157
83	80	32 54.6N	122 07.7W	1/29	0535	0557	430	210	58	58
83	90	32 34.7N	122 48.8W	1/29	0011	0033	426	214	21	21
83	100	32 14.7N	123 29.5W	1/28	1752	1814	407	214	25	25
83	110	31 54.8N	124 10.4W	1/28	1236	1258	401	212	27	27
87	33	33 53.4N	118 29.4W	1/26	0220	0226	101	50	39	39
87	35	33 49.4N	118 37.7W	1/26	0459	0521	401	217	37	37
87	39.5	33 40.4N	118 56.5W	1/26	0830	0852	402	209	132	132
87	45	33 29.5N	119 19.4W	1/26	1248	1310	407	212	74	61
87	50	33 19.4N	119 39.8W	1/26	1600	1607	136	70	132	59
87	55	33 09.4N	120 00.2W	1/26	2308	2330	416	210	60	60
87	60	32 59.4N	120 20.9W	1/27	0249	0311	402	213	62	62
87	70	32 39.4N	121 02.0W	1/27	0818	0840	425	210	54	42
87	80	32 19.4N	121 42.9W	1/27	1348	1410	425	211	64	64
87	90	31 59.4N	122 23.6W	1/27	1923	1945	446	209	58	58
87	100	31 39.4N	123 04.2W	1/28	0127	0149	426	210	28	16
87	110	31 19.4N	123 44.5W	1/28	0704	0726	449	208	71	54
90	28	33 29.0N	117 46.1W	1/25	1653	1709	303	156	23	23
90	30	33 25.1N	117 54.5W	1/25	1435	1457	402	209	47	47
90	35	33 15.1N	118 15.2W	1/25	1108	1130	402	209	62	62
90	37	33 11.1N	118 23.2W	1/25	0841	0903	419	208	67	67
90	45	32 55.1N	118 55.9W	1/25	0408	0430	420	209	59	59
90	53	32 39.3N	119 28.6W	1/24	2340	0002	417	212	57	57
90	60	32 25. 1N	119 57.6W	1/24	1923	1945	422	211	40	40
90	70	32 05.1N	120 38.5W	1/24	1327	1349	415	216	53	53
90	80	31 45.1N	121 19.0W	1/24	0657	0719	423	216	28	28
90	90	31 24.9N	121 59.1W	1/24	0130	0152	464	211	6	6
90	100	31 05.1N	122 39.7W	1/23	1944	2006	434	212	9	9
90	110	30 45. 1N	123 19.9W	1/23	1403	1425	448	214	20	20
90	120	30 25.0N	123 59.8W	1/23	0818	0840	431	212	9	9
93	26.7	32 57.2N	117 18.3W	1/20	0013	0021	161	78	25	25
93	28	32 54.8N	117 23.7W	1/20	0215	0237	416	213	34	34
93	30	32 50.7N	117 31.9W	1/20	0538	0560	413	212	41	41
93	35	32 40.4N	117 51.3W	1/20	0926	0948	429	212	37	37
93	40	32 30.5N	118 12.9W	1/20	1525	1546	414	213	7	7
93	45	32 20.8N	118 33.4W	1/20	2007	2029	432	211	21	21
93	50	32 10.7N	118 53.8W	1/21	0010	0032	408	209	17	17
93	55	32 00.7N	119 14.0W	1/21	0415	0436	402	210	35	35
93	60	31 50.9N	119 34.4W	1/21	0826	0848	422	209	55	55
93	70	31 30.9N	120 14.9W	1/21	1434	1456	410	216	37	37
93	80	31 10.8N	120 55.1W	1/21	2135	2157	437	208	7	7
93	90	30 50.9N	121 35.4W	1/22	0759	0821	458	203	9	9
93	100	30 30.9N	122 15.5W	1/22	1333	1355	439	208	14	14
93	110	30 10.8N	122 55.4W	1/22	2045	2107	446	214	2	2
93	120	29 50.9N	123 35.2W	1/23	0228	0250	432	210	5	5

FIGURES

Cruise 8805

1. CalCOFI Cruise 8805 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.

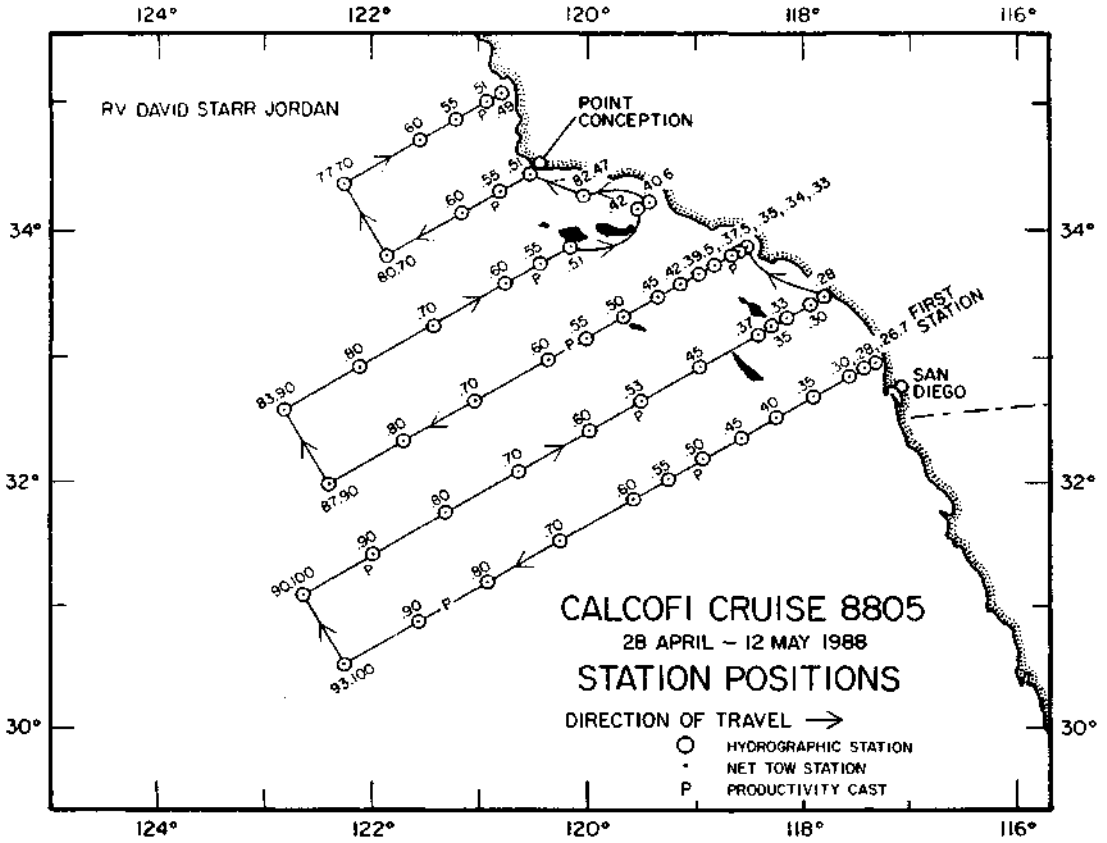

FIGURE 1

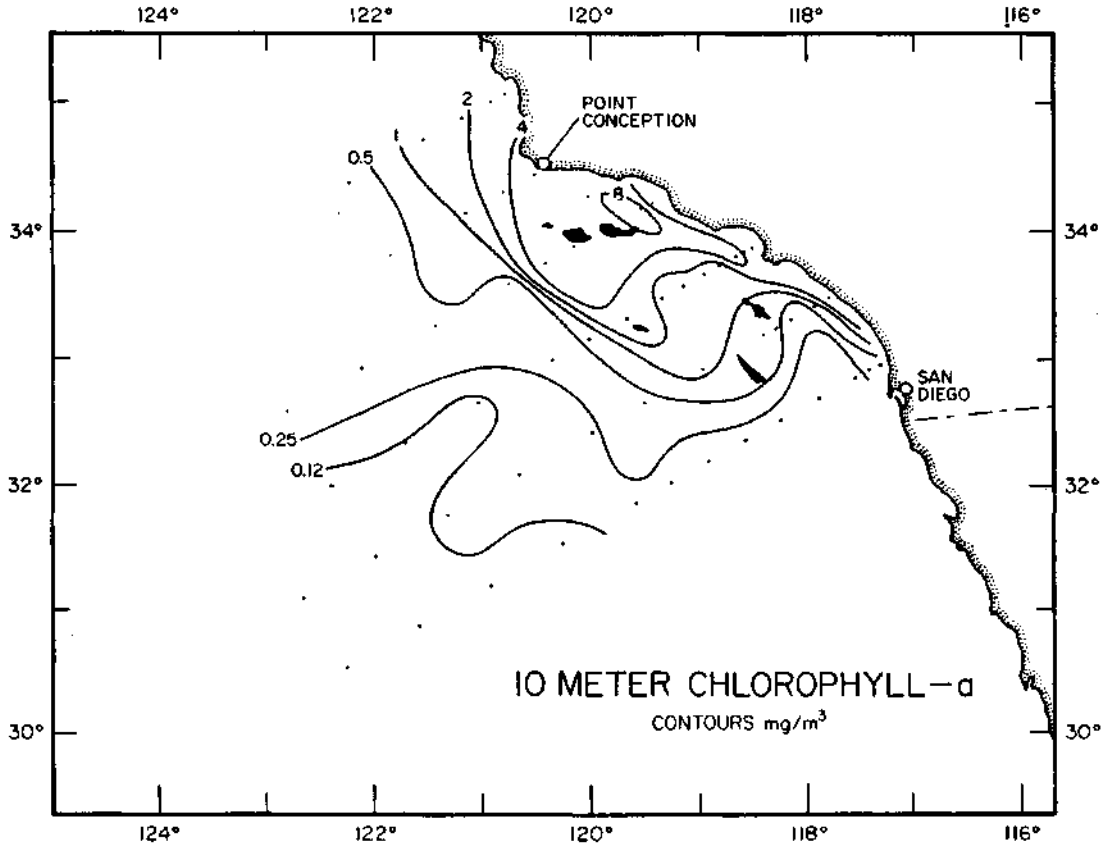

FIGURE 2

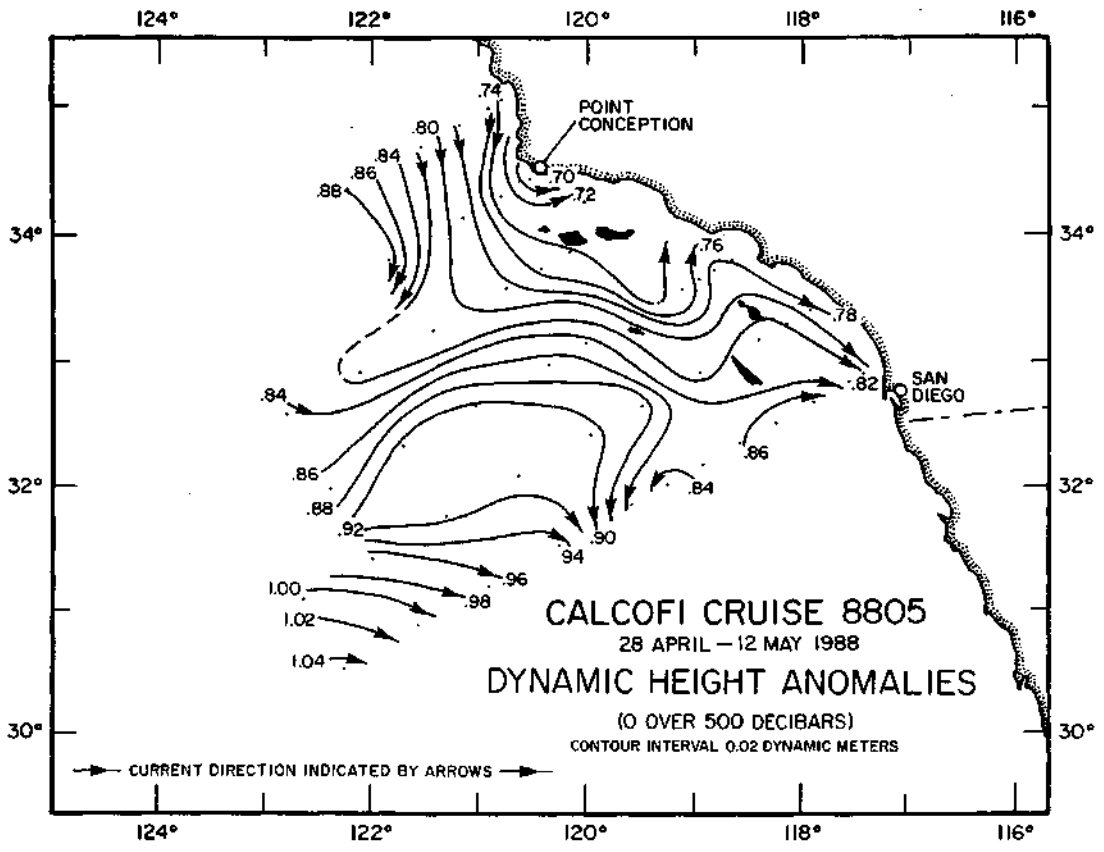

FIGURE 3

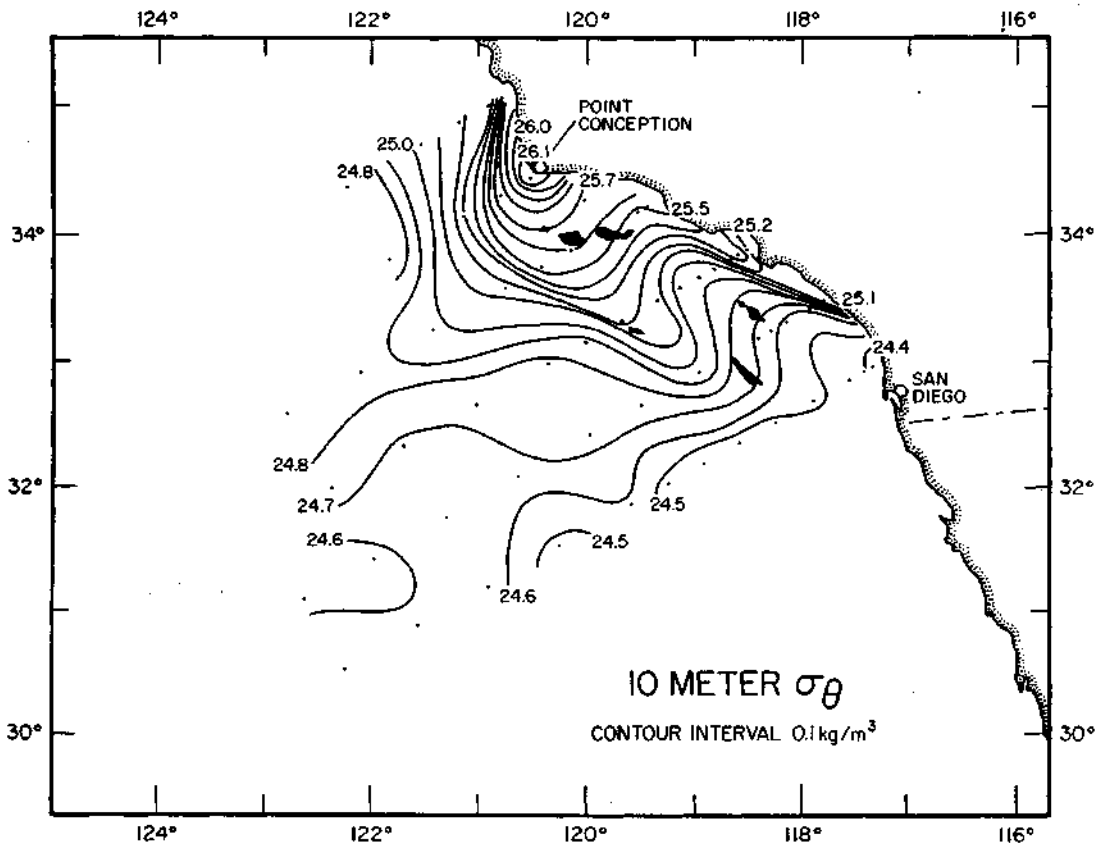

FIGURE 4

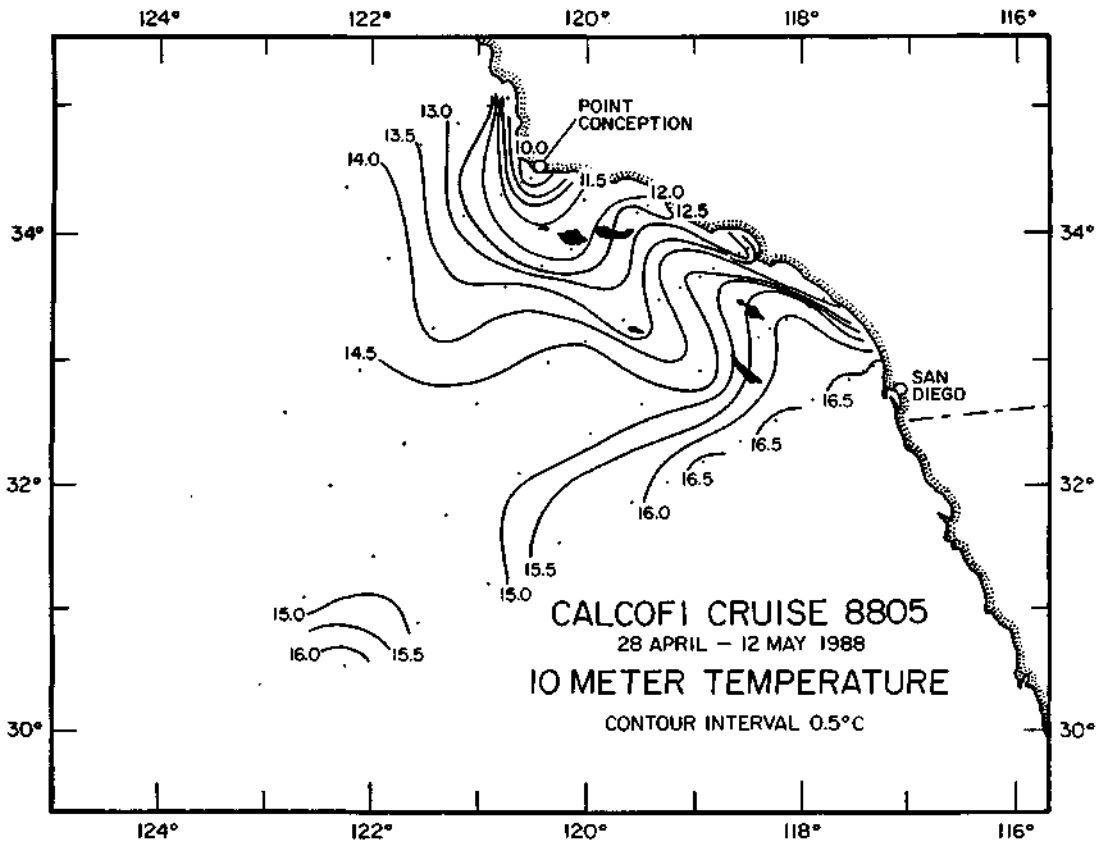

FIGURE 5

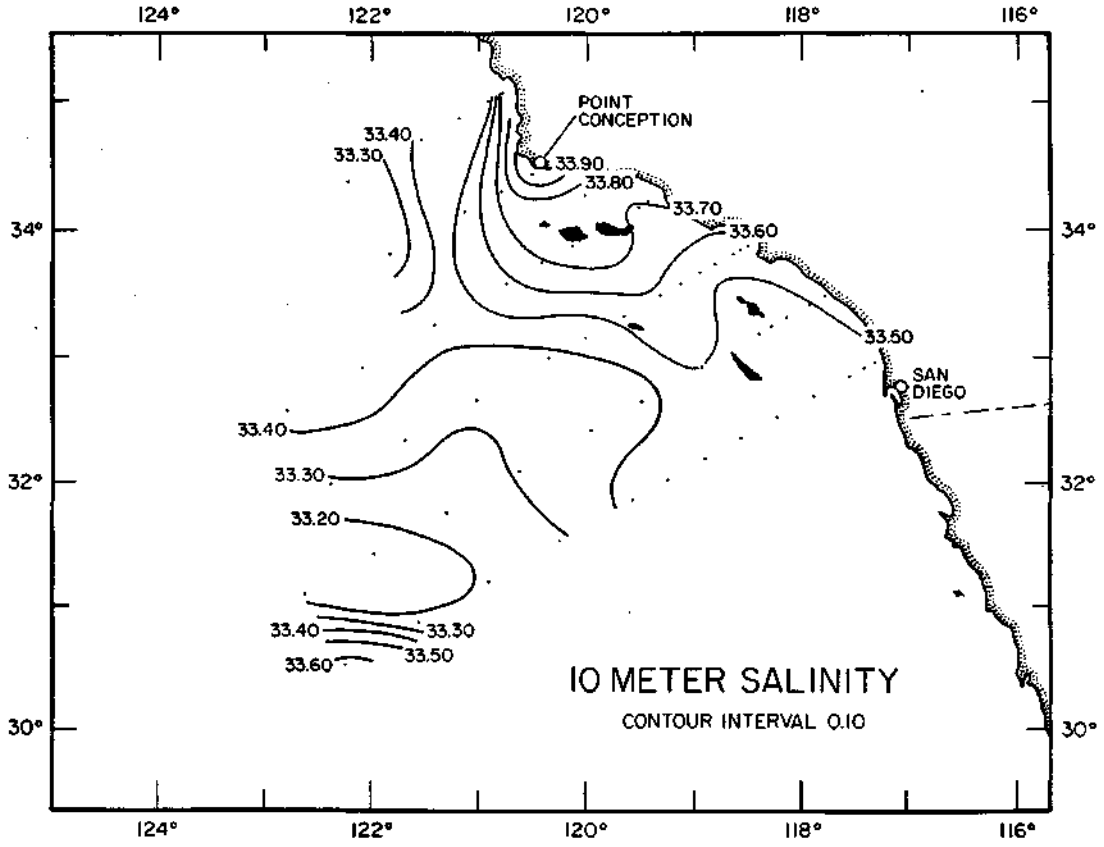

FIGURE 6

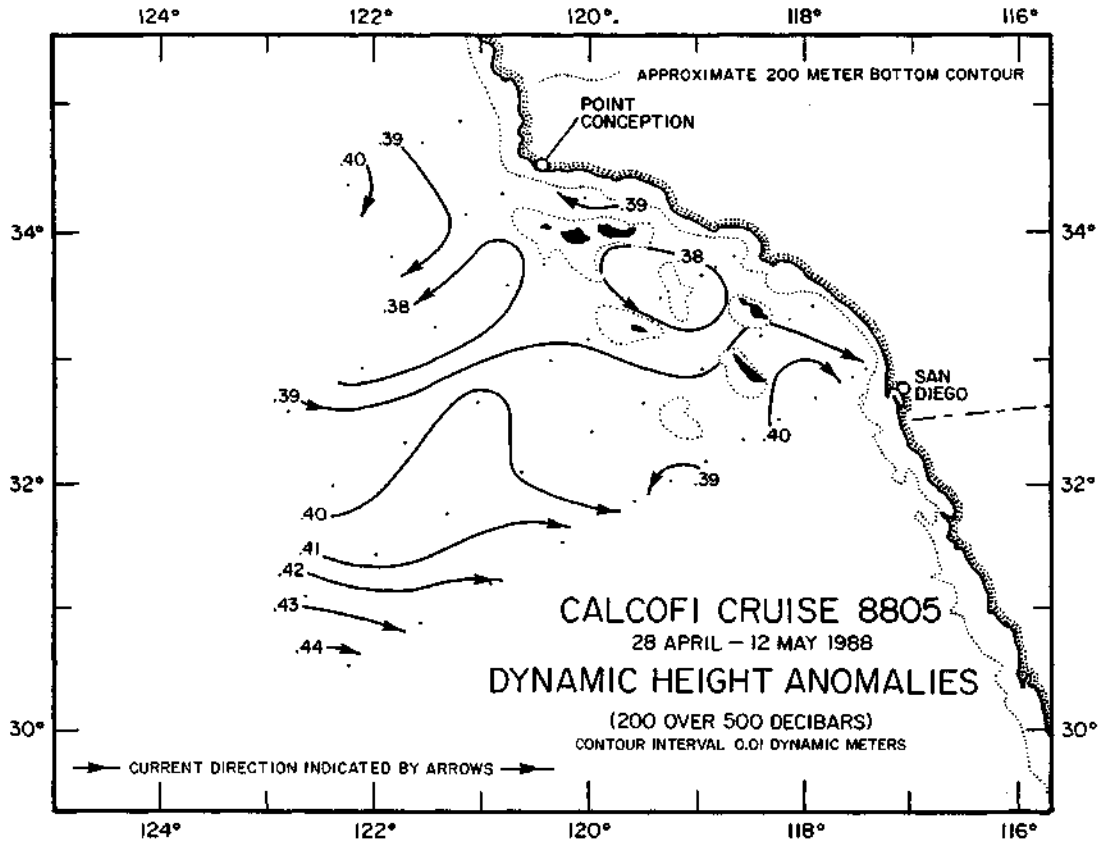

FIGURE 7

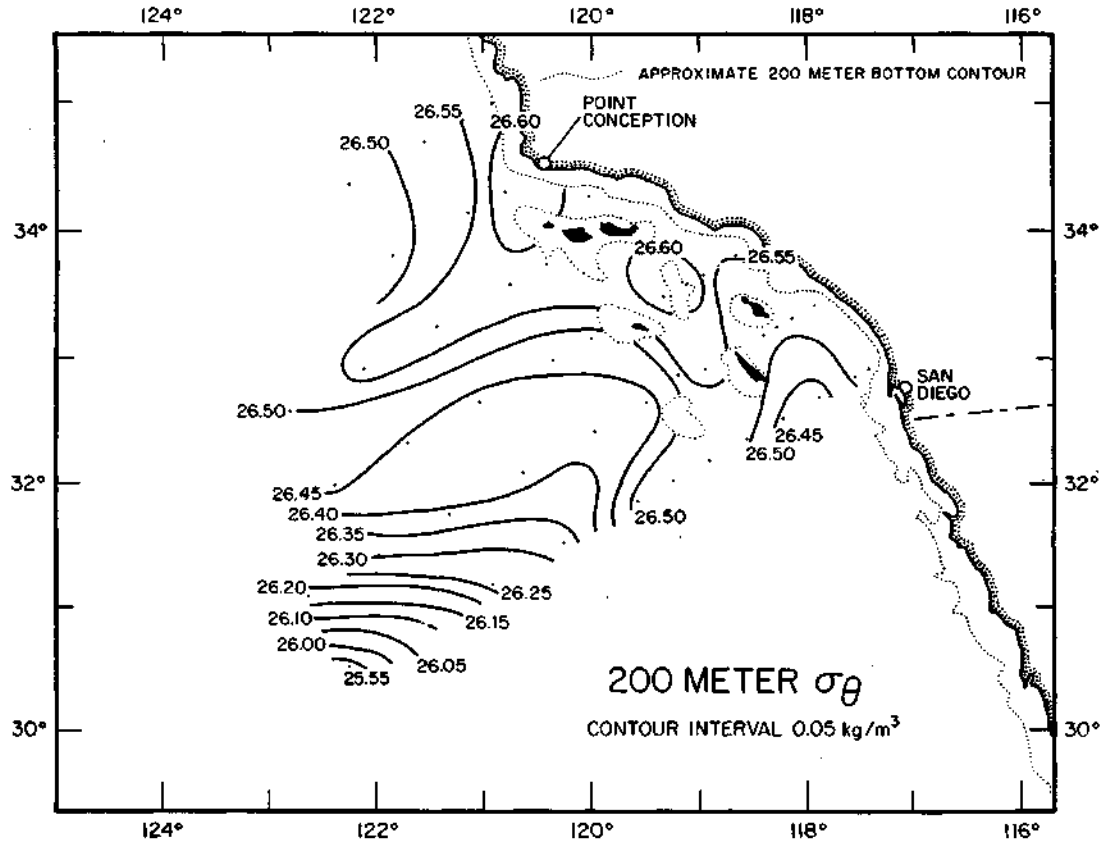

FIGURE 8

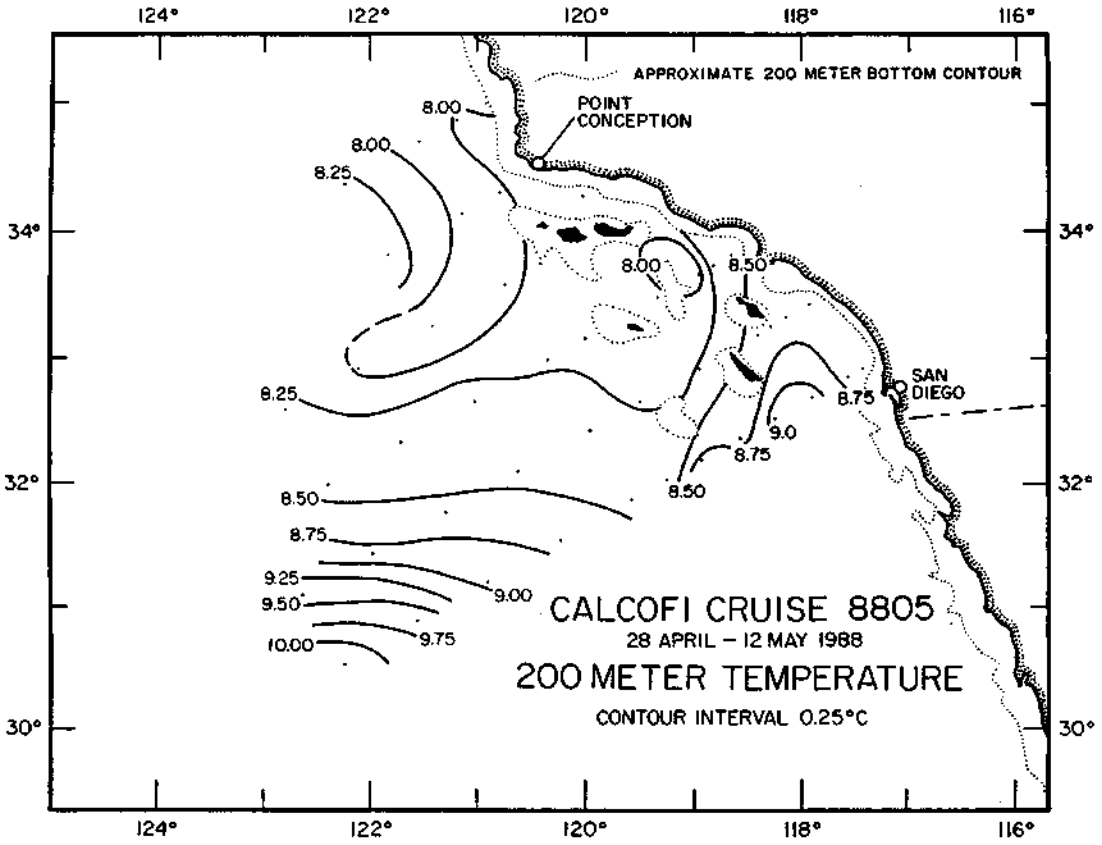

FIGURE 9

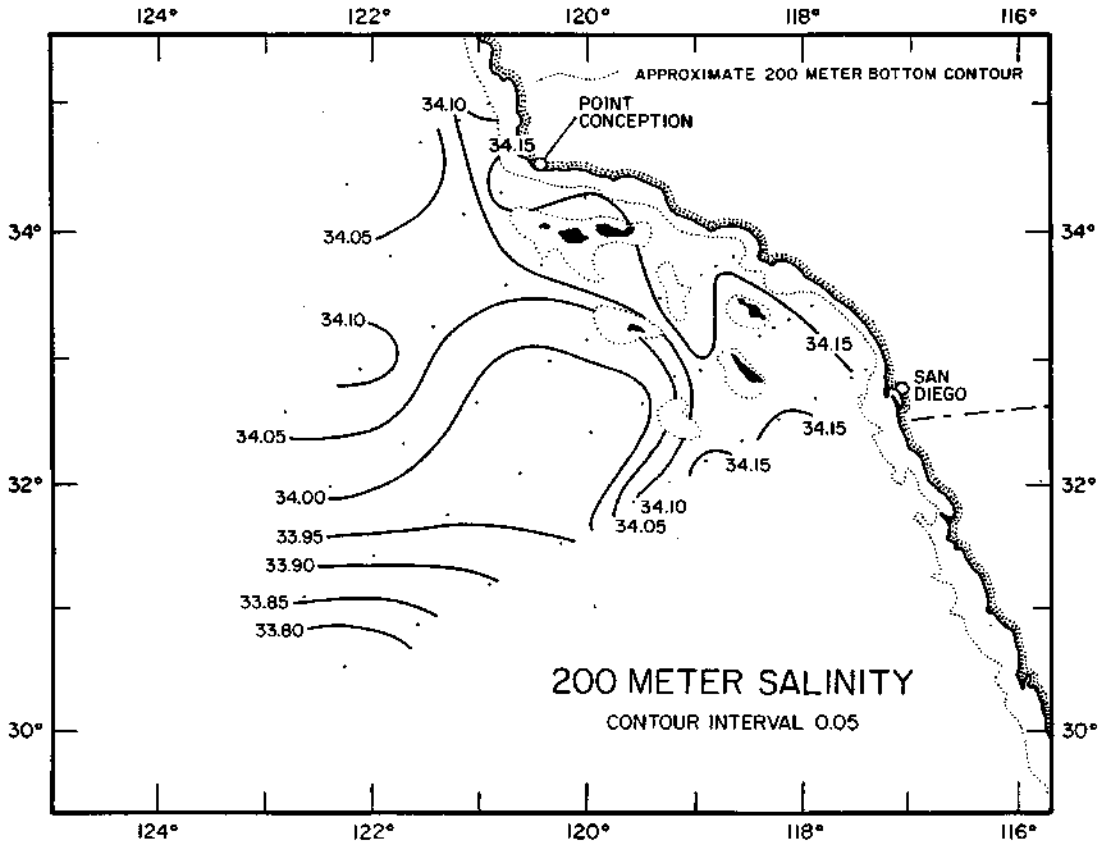

FIGURE 10

PERSONNEL

Calcofi Cruise 8805

SHIPS' CAPTAINS

Thomas L. Meyer, RV *David Starr Jordan*

PERSONNEL PARTICIPATING IN THE COLLECTION OF DATA

Flerx, William C. (in charge)	Fishery Biologist, NMFS
Acosta, Nora I.	Student, CICESE
Anderson, George C.	Staff Research Associate, SIO
Bryan, Walter R.	Marine Technician, SIO
Costello, James P.	Staff Research Associate, SIO
Dodson, Holly E.	Graduate Student, UCSB
Dotson, Ronald C.	Fishery Biologist, NMFS
Goodson, Julie L.	Student, UCSB
Gripp, Sherry L.	Staff Research Associate, SIO
Hernandez, Marina E.	Student, CICESE
Taveras, Susan M.	Fishery Biological Technician, NMFS
Veit, Richard R.	Graduate Student, UCI

RV DAVID STARR JORDAN CALCOFI CRUISE 8805 STATION 77 49

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT TYPE
35 5.0 N	120 46.9 W	11/05/88	2227 UTC	81 M	310	16 KT	290 03 05					

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	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		11.64	11.64	33.737	25.676	230.5	0.000	5.92	96.3	18.9	1.07	15.4	0.28	3.85	0.36	0
1	9		10.71	10.71	33.744	25.849	214.2	0.020	5.29	84.3	20.5	1.21	17.6	0.28	3.47	0.72	9
	10	ISL	10.64	10.64	33.745	25.863	212.9	0.022	5.19	82.6	20.7	1.23	17.9	0.28	3.27	0.71	10
1	20		10.17	10.17	33.758	25.954	204.5	0.043	4.31	67.9	22.6	1.39	20.9	0.23	1.39	0.65	20
1	29		10.07	10.07	33.770	25.981	202.1	0.061	4.03	63.3	23.7	1.47	22.1	0.18	1.26	0.51	29
	30	ISL	10.05	10.05	33.771	25.985	201.8	0.063	4.00	62.8	23.8	1.48	22.2	0.17	1.24	0.50	30
1	39		9.77	9.77	33.788	26.045	196.2	0.081	3.66	57.1	25.0	1.54	23.2	0.14	0.97	0.42	39
1	49		9.41	9.40	33.847	26.151	186.4	0.100	3.22	49.9	28.7	1.65	25.0	0.15	0.46	0.38	49
	50	ISL	9.37	9.36	33.853	26.162	185.3	0.102	3.18	49.2	29.1	1.66	25.2	0.15	0.42	0.37	50
1	59		9.06	9.05	33.905	26.253	176.9	0.119	2.90	44.6	32.2	1.74	26.3	0.14	0.18	0.34	59
1	75		8.95	8.94	33.936	26.294	173.2	0.147	2.76	42.3	35.0	1.83	26.9	0.17	0.21	0.45	76

RV DAVID STARR JORDAN CALCOFI CRUISE 8805 STATION 77 51

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT TYPE
35 1.2 N	120 55.2 W	11/05/88	2013 UTC	250 M	310	16 KT	290 03 05	0	1018.3 MB	16.6 C	14.5 C	0/8

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	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	13.18	13.18	33.467	25.170	278.6	0.000	6.52	109.4	2.1	0.51	4.4	0.24	3.13	0.21	0
1	1		13.18	13.18	33.467	25.170	278.6	0.003	6.52	109.4	2.1	0.51	4.4	0.24	3.13	0.21	1
	10	ISL	12.87	12.87	33.472	25.236	272.6	0.028	6.36	106.0	3.0	0.55	5.1	0.28	3.02	0.36	10
1	12		12.76	12.76	33.477	25.261	270.2	0.033	6.33	105.3	3.2	0.56	5.2	0.29	3.00	0.39	12
	20	ISL	12.30	12.30	33.517	25.382	259.0	0.054	5.90	97.2	6.4	0.68	7.8	0.37	1.94	0.33	20
1	22		12.16	12.16	33.529	25.418	255.6	0.059	5.76	94.6	7.4	0.72	8.7	0.39	1.63	0.32	22
	30	ISL	11.37	11.37	33.571	25.597	238.7	0.079	5.14	83.0	11.9	0.93	13.3	0.39	0.76	0.46	30
1	32		11.19	11.19	33.582	25.639	234.8	0.084	5.00	80.5	12.9	0.98	14.3	0.39	0.60	0.49	32
1	42		10.92	10.91	33.620	25.717	227.6	0.107	4.85	77.6	14.9	1.11	16.0	0.40	0.49	0.44	42
	50	ISL	10.39	10.38	33.643	25.827	217.2	0.125	4.28	67.7	17.7	1.24	18.8	0.29	0.37	0.46	50
1	52		10.26	10.25	33.650	25.855	214.6	0.129	4.14	65.3	18.4	1.27	19.5	0.26	0.35	0.47	52
1	61		10.09	10.08	33.709	25.930	207.6	0.148	4.00	62.9	20.7	1.40	20.9	0.27	0.42	0.52	61
1	72		9.82	9.81	33.781	26.032	198.2	0.170	3.65	57.0	24.0	1.54	23.1	0.21	0.46	0.55	73
	75	ISL	9.73	9.72	33.791	26.055	196.1	0.176	3.48	54.3	24.6	1.57	23.6	0.18	0.39	0.49	76
1	87		9.35	9.34	33.822	26.142	188.0	0.199	2.88	44.6	26.5	1.67	25.1	0.05	0.07	0.22	88
	100	ISL	9.02	9.01	33.879	26.239	179.0	0.223	2.93	45.0	28.6	1.71	25.9	0.04	0.04	0.18	101
1	107		8.88	8.87	33.910	26.286	174.7	0.236	2.95	45.2	29.7	1.72	26.2	0.03	0.02	0.16	108
1	125		8.73	8.72	33.967	26.354	168.5	0.266	2.79	42.6	32.2	1.81	26.9	0.03	0.01	0.15	126
1	146		8.35	8.33	34.000	26.438	160.8	0.301	2.91	44.1	34.3	1.84	27.4	0.03	0.01	0.12	147
	150	ISL	8.30	8.28	34.008	26.452	159.5	0.307	2.85	43.1	35.1	1.86	27.7	0.03	0.01	0.12	151
1	175		8.10	8.08	34.061	26.525	153.1	0.347	2.32	34.9	40.5	2.04	30.0	0.03	0.01	0.10	176
	200	ISL	7.94	7.92	34.093	26.573	148.8	0.384	2.03	30.5	44.1	2.18	31.3	0.04	0.01	0.12	202
1	205		7.91	7.89	34.099	26.583	148.1	0.392	1.97	29.5	44.8	2.21	31.5	0.04	0.01	0.12	207

RV DAVID STARR JORDAN CALCOFI CRUISE 8805 STATION 77 55

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT TYPE
34 53.1 N	121 11.9 W	11/05/88	1655 UTC	562 M	310	15 KT	290 03 05	0	1019.0 MB	16.2 C	14.9 C	0/8

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	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	12.97	12.97	33.430	25.183	277.3	0.000	6.24	104.2	4.4	0.66	5.1	0.25	1.58	0.14	0
1	2		12.97	12.97	33.430	25.183	277.4	0.006	6.24	104.2	4.4	0.66	5.1	0.25	1.58	0.14	2
	10	ISL	12.92	12.92	33.432	25.195	276.5	0.028	6.25	104.3	4.5	0.66	5.2	0.25	1.57	0.19	10
1	11		12.91	12.91	33.432	25.197	276.3	0.030	6.25	104.2	4.5	0.66	5.2	0.25	1.57	0.20	11
	20	ISL	12.31	12.31	33.484	25.354	261.6	0.055	6.18	101.8	5.3	0.80	6.4	0.27	2.25	0.22	20
1	21		12.23	12.23	33.492	25.376	259.6	0.057	6.17	101.5	5.4		6.6	0.27	2.30	0.22	21
	30	ISL	11.72	11.72	33.565	25.528	245.2	0.080	5.55	90.3	10.1		10.8	0.40	1.26	0.48	30
1	31		11.67	11.67	33.572	25.543	243.9	0.082	5.47	88.9	10.7		11.3	0.42	1.11	0.50	31
1	40		11.13	11.13	33.582	25.650	234.0	0.104	4.92	79.1	13.6	1.25	14.7	0.45	0.39	0.37	40
1	49		10.53	10.52	33.588	25.760	223.6	0.125	4.34	68.8	16.1	1.40	17.3	0.26	0.19	0.36	49
	50	ISL	10.48	10.47	33.596	25.775	222.2	0.127	4.27	67.6	16.5	1.42	17.7	0.23	0.18	0.35	50
1	60		10.09	10.08	33.686	25.912	209.3	0.148	3.70	58.1	20.5	1.62	21.3	0.02	0.10	0.22	60
1	68		9.94	9.93	33.708	25.955	205.4	0.165	3.56	55.8	21.9	1.68	22.0	0.02	0.08	0.22	69
	75	ISL	9.81	9.80	33.748	26.008	200.5	0.179	3.37	52.7	23.5	1.73	22.7	0.02	0.07	0.20	76
1	83		9.67	9.66	33.791	26.065	195.3	0.195	3.18	49.5	25.2	1.77	23.4	6.02	0.06	0.17	84
1	97		9.43	9.42	33.805	26.115	190.7	0.222	3.15	48.8	26.1	1.80	24.2	0.01	0.06	0.19	98
	100	ISL	9.36	9.35	33.813	26.133	189.1	0.228	3.13	48.4	26.4	1.81	24.5	0.01	0.05	0.19	101
1	116		9.02	9.01	33.870	26.232	179.9	0.257	3.01	46.2	28.7	1.89	26.0	0.01	0.02	0.16	117
	125	ISL	8.96	8.95	33.909	26.273	176.3	0.273	2.90	44.5	30.3	1.94	26.5	0.01	0.03	0.17	126
1	140		8.91	8.90	33.970	26.328	171.3	0.299	2.70	41.4	33.0	2.01	27.2	0.01	0.04	0.19	141
	150	ISL	8.79	8.77	33.993	26.365	167.9	0.316	2.64	40.4	34.2	2.04	27.7	0.01	0.03	0.18	151
1	170		8.50	8.48	34.029	26.439	161.3	0.349	2.49	37.8	36.8	2.12	28.8	0.01	0.01	0.17	171
1	199		8.17	8.15	34.104	26.548	151.3	0.395	1.99	30.0	42.7	2.32	30.9	0.01	0.02	0.12	201
	200	ISL	8.16	8.14	34.105	26.550	151.1	0.396	1.98	29.9	42.9	2.32	31.0	0.01			202
1	228		7.82	7.80	34.122	26.614	145.4	0.438	1.79	26.8	47.3	2.43	32.5	0.01			230
	250	ISL	7.60	7.58	34.138	26.659	141.5	0.469	1.60	23.8	50.8	2.52	33.6	0.01			252
1	268		7.43	7.40	34.153	26.695	138.2	0.494	1.43	21.2	53.7	2.59	34.4	0.01			270
	300	ISL	7.16	7.13	34.182	26.756	132.8	0.538	1.16	17.1	58.7	2.72	35.8	0.00			303
1	322		6.97	6.94	34.200	26.7 97	129.2	0.566	0.99	14.5	62.2	2.80	36.8	0.00			3 25
1	382		6.37	6.34	34.234	26.905	119.5	0.641	0.64	9.3	72.9	2.98	39.2	0.01			3 85
	400	ISL	6.25	6.21	34.234	26.920	118.2	0.663	0.60	8.7	74.5	3.00	39.7	0.01			403
1	448		5.97	5.93	34.236	26.958	115.0	0.718	0.54	7.7	78.9	3.04	40.5	0.02			452
	500	ISL	5.66	5.62	34.277	27.029	108.7	0.777	0.37	5.3	88.3	3.15	40.9	0.20			504
1	518		5.55	5.51	34.292	27.054	106.4	0.796	0.31	4.4	91.6	3.19	41.0	0.26			523

RV DAVID STARR JORDAN CALCOFI CRUISE 8805 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	11/05/88	1318 UTC	927 M	300	18 KT	300 03 04	0	1018.8 MB	14.8 C	13.7 C	0/8	

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	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	13.62	13.62	33.421	25.046	290.4	0.000	6.16	104.3	3.3		3.1	0.17	1.09	0.01	0
1	9	13.55	13.55	33.426	25.064	288.9	0.026	6.18	104.4	3.4		3.2	0.18	1.42	0.00	9
	10 ISL	13.49	13.49	33.429	25.079	287.5	0.029	6.17	104.1	3.6		3.3	0.19	1.36	0.00	10
1	19	12.98	12.98	33.458	25.203	275.9	0.054	6.10	101.9	5.4		4.7	0.25	0.72	0.05	19
	20 ISL	12.97	12.97	33.459	25.206	275.7	0.057	6.10	101.9	5.5		4.8	0.25	0.72	0.06	20
1	29	12.90	12.90	33.467	25.227	274.0	0.082	6.07	101.2	5.9		5.2	0.26	0.70	0.20	29
	30 ISL	12.88	12.88	33.468	25.231	273.5	0.085	6.07	101.2	5.9		5.3	0.26	0.73	0.23	30
1	40	12.67	12.66	33.473	25.277	269.5	0.112	5.98	99.2	5.7		6.0	0.26	0.99	0.43	40
1	50	12.50	12.49	33.480	25.315	266.1	0.138	5.68	93.9	6.7		7.3	0.34	0.85	0.26	50
1	60	11.82	11.81	33.515	25.472	251.4	0.164	5.16	84.1	8.1		10.4	0.63	0.67	0.18	60
1	70	11.12	11.11	33.572	25.644	235.2	0.189	4.56	73.2	12.0		15.0	0.69	0.33	0.23	71
	75 ISL	10.77	10.76	33.591	25.721	227.9	0.200	4.32	68.9	14.0		16.9	0.53	0.24	0.21	76
1	85	10.20	10.19	33.626	25.847	216.1	0.222	3.94	62.0	17.7		19.7	0.17	0.15	0.15	86
1	99	9.91	9.90	33.686	25.943	207.2	0.252	3.52	55.1	20.9		21.7	0.06	0.08	0.18	100
	100 ISL	9.89	9.88	33.693	25.952	206.4	0.254	3.49	54.6	21.2		21.9	0.06	0.08	0.18	101
1	119	9.41	9.40	33.835	26.143	188.6	0.292	3.03	46.9	26.5		24.5	0.02	0.11	0.19	120
	125 ISL	9.27	9.26	33.873	26.195	183.7	0.303	2.93	45.3	28.1		25.2	0.02	0.09	0.18	126
1	145	8.84	8.82	33.966	26.336	170.6	0.338	2.78	42.5	32.3		26.9	0.01	0.02	0.15	146
	150 ISL	8.72	8.70	33.976	26.363	168.1	0.347	2.85	43.5	32.8		26.9	0.01	0.02	0.14	151
1	175	8.18	8.16	34.002	26.466	158.7	0.388	3.15	47.5	35.0		27.1	0.02	0.01	0.08	176
	200 ISL	7.80	7.78	34.032	26.546	151.4	0.426	2.78	41.6	40.2		29.3	0.01	0.02	0.09	202
1	204	7.75	7.73	34.036	26.557	150.4	0.432	2.69	40.2	41.1		29.7	0.01	0.02	0.09	206
1	233	7.45	7.43	34.054	26.614	145.3	0.475	2.30	34.1	46.7		31.8	0.01			235
	250 ISL	7.20	7.18	34.055	26.650	142.1	0.500	2.17	32.0	49.9		32.8	0.01			252
1	273	6.87	6.84	34.056	26.696	137.9	0.532	2.02	29.6	54.1		34.0	0.01			275
	300 ISL	6.60	6.57	34.068	26.742	133.8	0.569	1.73	25.1	58.9		35.7	0.01			302
1	327	6.40	6.37	34.087	26.784	130.1	0.604	1.43	20.7	63.4		37.2	0.00			330
1	383	6.09	6.06	34.138	26.865	123.0	0.675	0.99	14.2	71.3		39.3	0.00			386
	400 ISL	6.10	6.06	34.171	26.890	120.9	0.696	0.85	12.2	73.0		39.5	0.00			403
1	449	6.13	6.09	34.262	26.958	115.2	0.754	0.51	7.3	77.4		40.0	0.00			453
	500 ISL	5.86	5.82	34.282	27.009	110.9	0.811	0.42	6.0	82.0		41.1	0.00			504
1	514	5.79	5.75	34.288	27.022	109.7	0.827	0.39	5.6	83.3		41.4	0.00			519

RV DAVID STARR JORDAN CALCOFI CRUISE 8805 STATION 77 70

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
34 23.2 N	122 14.8 W	11/05/88	0742 UTC	4018 M	300	12 KT			1019.2 MB	14.7 C	13.9 C		

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	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	14.30	14.30	33.223	24.752	318.3	0.000	6.19	106.1	2.8		0.5	0.04	0.29	0.05	0
1	1	14.30	14.30	33.223	24.752	318.4	0.003	6.19	106.1	2.8		0.5	0.04	0.29	0.05	1
	10 ISL	14.27	14.27	33.216	24.754	318.5	0.032	6.19	106.0	2.9		0.5	0.04	0.31	0.05	10
1	11	14.27	14.27	33.215	24.753	318.6	0.035	6.19	106.0	2.9		0.5	0.04	0.31	0.05	11
1	20	14.13	14.13	33.191	24.764	317.8	0.064	6.20	105.9	3.0		0.4	0.02	0.26	0.12	20
	30 ISL	13.58	13.58	33.194	24.879	307.1	0.095	6.25	105.5	2.9		0.4	0.04	0.34	0.09	30
1	31	13.52	13.52	33.194	24.891	305.9	0.098	6.25	105.4	2.9		0.4	0.04	0.35	0.08	31
1	40	13.29	13.28	33.169	24.919	303.6	0.125	6.22	104.4	2.8		0.5	0.05	0.39	0.09	40
	50 ISL	13.26	13.25	33.176	24.930	302.7	0.156	6.19	103.8	2.7		0.7	0.06	0.41	0.13	50
1	51	13.26	13.25	33.178	24.932	302.6	0.159	6.19	103.8	2.7		0.7	0.06	0.41	0.13	51
1	60	13.19	13.18	33.230	24.986	297.7	0.186	6.05	101.4	2.6		1.5	0.28	0.64	0.26	60
1	70	12.32	12.31	33.323	25.229	274.8	0.214	5.40	88.9	5.3		6.6	0.10	0.43	0.23	71
	75 ISL	12.13	12.12	33.349	25.285	269.6	0.228	5.23	85.7	6.4		8.0	0.08	0.38	0.24	76
1	84	11.81	11.80	33.386	25.374	261.3	0.252	4.98	81.1	8.7		10.2	0.04	0.31	0.26	85
1	99	10.52	10.51	33.489	25.686	231.7	0.289	4.30	68.1	14.8		16.3	0.01	0.11	0.15	100
	100 ISL	10.46	10.45	33.494	25.700	230.4	0.291	4.27	67.6	15.1		16.6	0.01	0.11	0.15	101
1	120	9.70	9.69	33.609	25.918	209.9	0.335	3.88	60.4	19.9		20.4	0.01	0.05	0.09	121
	125 ISL	9.56	9.55	33.657	25.97 9	204.3	0.346	3.77	58.5	21.3		21.3	0.01	0.04	0.08	126
1	145	9.14	9.12	33.844	26.193	184.2	0.384	3.43	52.8	26.3		24.0	0.01	0.02	0.06	146
	150 ISL	9.05	9.03	33.871	26.229	181.0	0.394	3.44	52.9	27.0		24.2	0.01	0.02	0.06	151
1	175	8.65	8.63	33.957	26.359	168.9	0.437	3.46	52.7	30.0		25.0	0.02	0.01	0.05	176
	200 ISL	8.28	8.26	34.000	26.450	160.7	0.478	3.14	47.5	34.5		27.1	0.01	0.02	0.06	202
1	203	8.24	8.22	34.003	26.458	159.9	0.483	3.09	46.7	35.1		27.4	0.01	0.02	0.06	205
1	233	7.80	7.78	34.026	26.542	152.4	0.530	2.81	42.0	40.8		29.5	0.01			235
	250 ISL	7.63	7.61	34.041	26.578	149.1	0.556	2.55	38.0	43.7		30.8	0.01			252
1	273	7.44	7.41	34.059	26.620	145.5	0.590	2.20	32.6	47.5		32.5	0.01			275
	300 ISL	7.16	7.13	34.067	26.666	141.4	0.628	1.96	28.9	51.8		34.0	0.01			302
1	326	6.89	6.86	34.075	26.709	137.5	0.665	1.76	25.8	56.2		35.3	0.00			329
1	384	6.32	6.29	34.132	26.830	126.5	0.741	1.03	14.9	68.1		38.8	0.00			387
	400 ISL	6.20	6.16	34.144	26.855	124.2	0.761	0.92	13.3	70.4		39.4	0.00			403
1	449	5.88	5.84	34.174	26.920	118.5	0.821	0.69	9.9	76.6		40.9	0.00			453
	500 ISL	5.53	5.49	34.198	26.982	113.0	0.880	0.53	7.5	83.5		42.1	0.00			504
1	518	5.41	5.37	34.207	27.004	111.0	0.900	0.48	6.8	85.9		42.5	0.00			523

RV DAVID STARR JORDAN CALCOFI CRUISE 8805 STATION 80 51

LATITUDE	LONGITUDE	DAY/MO/TR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT TYPE
34 27.0 N	120 31.4 W	10/05/88	1422 UTC	76 M	280	17 KT	280 02 04	0	1019.2 MB	11.5 C	11.4 C	0/8

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	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	9.89	9.89	33.925	26.131	187.2	0.000	4.26	66.8	27.5	1.51	22.5	0.21	4.75	0.75	0
1	1	9.89	9.89	33.925	26.131	187.2	0.002	4.26	66.8	27.5	1.51	22.5	0.21	4.75	0.75	1
	10 ISL	9.87	9.87	33.929	26.138	186.8	0.019	4.28	67.0	27.2	1.58	22.3	0.21	4.89	0.91	10
1	11	9.87	9.87	33.929	26.138	186.8	0.021	4.28	67.0	27.2	1.59	22.3	0.21	4.90	0.92	11
	20 ISL	9.80	9.80	33.946	26.163	184.6	0.037	3.91	61.2	28.3	1.70	23.3	0.21	4.00	0.55	20
1	21	9.79	9.79	33.948	26.167	184.3	0.039	3.86	60.4	28.5	1.71	23.4	0.21	3.88	0.50	21
	30 ISL	9.73	9.73	33.963	26.188	182.4	0.056	3.66	57.2	29.5	1.80	24.1	0.20	3.12	0.53	30
1	31	9.72	9.72	33.964	26.191	182.2	0.057	3.64	56.8	29.6	1.81	24.2	0.20	3.05	0.53	31
1	41	9.65	9.65	33.972	26.209	180.7	0.076	3.45	53.8	30.7	1.84	24.6	0.20	2.71	0.64	41
	50 ISL	9.61	9.60	33.976	26.219	180.0	0.092	3.33	51.9	31.1	1.87	25.0	0.19			50
1	51	9.60	9.59	33.976	26.220	179.8	0.094	3.32	51.7	31.1	1.87	25.0	0.19	2.35 U	0.61 U	51
1	60	9.09	9.08	34.015	26.334	169.2	0.109	2.45	37.7	34.8	2.05	27.4	0.16	1.04 U	0.94 U	60
1	70	8.94	8.93	34.033	26.372	165.8	0.126	2.23	34.2	36.5	2.13	28.2	0.15			71

RV DAVID STARR JORDAN CALCOFI CRUISE 8805 STATION 80 55

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT TYPE
34 19.1 N	120 48.0 W	10/05/88	1703 UTC	764 M	310	17 KT	3 20 03 04	0	1020.5 MB	15.1 C	12.9 C	0/8

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	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	11.68	11.68	33.746	25.676	230.5	0.000	5.85	95.2	16.9		14.0	0.24	4.05	1.03	0
1	10	11.53	11.53	33.747	25.704	228.0	0.023	5.83	94.6	17.0		13.9	0.24	3.56	0.91	10
1	19	11.42	11.42	33.759	25.734	225.4	0.043	5.67	91.8	16.8		14.3	0.23	1.70	1.09	19
	20 ISL	11.33	11.33	33.763	25.754	223.6	0.046	5.56	89.8	17.1		14.7	0.23	1.61	1.08	20
1	30	10.40	10.40	33.809	25.955	204.6	0.067	4.33	68.6	20.8		19.4	0.28	1.07	1.00	30
1	39	10.14	10.14	33.822	26.010	199.6	0.085	3.87	60.9	23.0		20.9	0.28	0.45	0.58	39
1	50	9.85	9.84	33.858	26.087	192.5	0.107	3.25	50.9	24.7		23.2	0.23	0.28	0.44	50
1	60	9.50	9.49	33.893	26.172	184.6	0.126	3.03	47.1	26.5		24.5	0.21	0.11	0.39	60
1	70	9.29	9.28	33.924	26.231	179.2	0.144	2.77	42.8	27.2		25.5	0.16	0.03	0.24	71
	75 ISL	9.15	9.14	33.938	26.264	176.1	0.153	2.76	42.5	27.7		25.9	0.11	0.03	0.25	76
1	84	8.90	8.89	33.958	26.320	171.0	0.168	2.74	42.0	28.5		26.4	0.04	0.02	0.27	85
1	99	8.71	8.70	33.981	26.368	166.7	0.194	2.82	43.0	29.2		26.3	0.04			100
	100 ISL	8.69	8.68	33.983	26.372	166.3	0.195	2.81	42.9	29.4		26.4	0.04	0.02	0.24	101
1	119	8.43	8.42	34.022	26.443	159.9	0.226	2.60	39.4	33.2		27.9	0.02	0.03	0.17	120
	125 ISL	8.39	8.38	34.030	26.456	158.8	0.236	2.56	38.8	33.9		28.1	0.02	0.03	0.16	126
1	144	8.29	8.28	34.055	26.491	155.8	0.266	2.40	36.3	36.3		28.7	0.02	0.02	0.14	145
	150 ISL	8.25	8.23	34.068	26.507	154.3	0.275	2.29	34.6	37.6		29.2	0.02	0.02	0.14	151
1	174	8.09	8.07	34.122	26.574	148.4	0.311	1.84	27.7	42.7		31.1	0.02	0.01	0.14	175
	200 ISL	7.94	7.92	34.157	26.624	144.1	0.349	1.58	23.7	45.5		32.3	0.01	0.02	0.11	202
1	204	7.92	7.90	34.161	26.630	143.6	0.355	1.55	23.3	45.8		32.4	0.01	0.02	0.10	206
1	233	7.75	7.73	34.178	26.669	140.4	0.396	1.38	20.6	48.5		33.5	0.01			235
	250 ISL	7.66	7.64	34.186	26.688	138.8	0.420	1.31	19.5	50.0		33.9	0.01			252
1	272	7.54	7.51	34.195	26.713	136.7	0.450	1.22	18.1	52.1		34.4	0.01			274
	300 ISL	7.32	7.29	34.211	26.757	132.9	0.488	1.05	15.5	55.4		35.3	0.00			302
1	326	7.10	7.07	34.226	26.800	129.2	0.522	0.90	13.2	58.7		36.1	0.00			329
1	385	6.71	6.67	34.257	26.878	122.4	0.596	0.68	9.9	65.8		37.9	0.00			388
	400 ISL	6.61	6.57	34.260	26.894	121.0	0.615	0.64	9.3	67.5		38.3	0.00			403
1	448	6.25	6.21	34.265	26.945	116.6	0.672	0.52	7.5	73.0		39.6	0.00			452
	500 ISL	5.82	5.78	34.279	27.011	110.6	0.731	0.40	5.7	80.0		41.0	0.00		'	504
1	515	5.70	5.66	34.284	27.030	108.9	0.747	0.37	5.3	82.0		41.4	0.00			520

RV DAVID STARR JORDAN CALCOFI CRUISE 8805 STATION 80 60

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT TYPE
34 8.6 N	121 9.2 W	10/05/88	2047 UTC	2227 M	310	15 KT	320 03 05	0	1020.0 MB	16.8 C	14.7 C	0/8

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	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	13.04	13.04	33.523	25.242	271.8	0.000	6.03	100.9	5.8	0.75	6.9	0.26	0.90	0.20	0
1	10	12.84	12.84	33.526	25.284	268.0	0.027	6.03	100.5	6.1	0.77	7.0	0.27	1.02	0.24	10
	20 ISL	12.51	12.51	33.547	25.364	260.6	0.053	5.89	97.5	7.0	0.83	7.8	0.26	1.41	0.45	20
1	21	12.48	12.48	33.549	25.372	259.9	0.056	5.87	97.1	7.1		7.9	0.26	1.44	0.47	21
1	30	12.42	12.42	33.552	25.386	258.8	0.079	5.77	95.3	7.5		8.5	0.29	1.33	0.58	30
1	40	11.79	11.78	33.573	25.522	246.1	0.105	5.37	87.5	10.2	1.02	11.4	0.40	0.95	0.49	40
1	50	11.46	11.45	33.628	25.626	236.5	0.129	5.20	84.2	12.7	1.14	13.1	0.35	1.13	0.71	50
1	60	10.80	10.79	33.666	25.774	222.5	0.152	4.73	75.5	16.6	1.35	16.9	0.38	0.79	0.74	60
1	69	10.45	10.44	33.718	25.876	213.0	0.171	4.41	69.9	20.0	1.49	18.9	0.30	0.73	0.86	70
	75 ISL	10.42	10.41	33.727	25.888	212.0	0.184	4.37	69.2	20.6	1.51	19.2	0.30	0.74	0.81	76
1	84	10.34	10.33	33.734	25.908	210.3	0.203	4.32	68.3	21.1	1.52	19.6	0.28	0.75	0.67	85
1	98	9.51	9.50	33.797	26.096	192.6	0.231	3.19	49.5	25.2	1.73	23.6	0.07	0.16	0.50	99
	100 ISL	9.46	9.45	33.805	26.111	191.3	0.235	3.18	49.3	25.5	1.74	23.9	0.07	0.15	0.48	101
1	118	9.21	9.20	33.872	26.204	182.7	0.269	3.04	46.9	27.8	1.81	25.1	0.03	0.06	0.33	119
	125 ISL	9.11	9.10	33.896	26.239	179.6	0.281	2.99	46.0	28.8	1.84	25.5	0.03	0.05	0.33	126
1	143	8.85	8.83	33.952	26.324	171.8	0.313	2.86	43.8	31.6	1.91	26.6	0.02	0.04	0.35	144
	150 ISL	8.71	8.69	33.974	26.363	168.1	0.325	2.78	42.4	33.1	1.95	27.1	0.02	0.03	0.30	151
1	173	8.28	8.26	34.036	26.478	157.5	0.362	2.52	38.1	38.1	2.08	28.9	0.02	0.01	0.11	174
	200 ISL	7.99	7.97	34.068	26.547	151.4	0.404	2.31	34.7	42.4	2.18	30.3	0.01	0.01	0.10	202
1	202	7.97	7.95	34.070	26.551	151.0	0.407	2.29	34.4	42.7	2.19	30.4	0.01	0.01	0.10	204
1	231	7.73	7.71	34.115	26.622	144.7	0.450	1.86	27.8	48.2	2.36	32.2	0.01			233
	250 ISL	7.63	7.61	34.147	26.662	141.3	0.477	1.60	23.8	51.2	2.46	33.2	0.01			252
1	270	7.53	7.50	34.174	26.698	138.1	0.505	1.36	20.2	54.0	2.55	34.1	0.01			272
	300 ISL	7.30	7.27	34.181	26.736	134.9	0.546	1.18	17.4	57.1	2.57	35.1	0.01			302
1	324	7.11	7.08	34.183	26.765	132.5	0.578	1.08	15.9	59.4	2.58	35.7	0.01			327
1	381	6.77	6.73	34.245	26.860	124.0	0.651	0.72	10.5	67.2	2.84	37.4	0.00			384
	400 ISL	6.64	6.60	34.254	26.885	121.9	0.675	0.65	9.5	69.5	2.88	38.0	0.00			403
1	446	6.32	6.28	34.265	26.936	117.4	0.730	0.53	7.7	74.7	2.95	39.3	0.00			450
	500 ISL	5.95	5.91	34.282	26.997	112.0	0.792	0.42	6.0	81.0	3.01	40.5	0.00			504
1	514	5.86	5.82	34.286	27.012	110.8	0.807	0.39	5.6	82.6	3.03	40.8	0.00			519

RV DAVID STARR JORDAN — CALCOFI CRUISE 8805 — STATION 80 7 0

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT TYPE
33 49.1 N	121 50.5 W	11/05/88	0157 UTC	3733 M	310	14 KT	3 20 03 05	0	1018.1 MB	15.2 C	13.9 C	0/8

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	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	33.273	24.787	315.1	0.000	6.18	106.0	3.3		0.6	0.06	0.37	0.03	0
1	1		14.32	14.32	33.273	24.787	315.1	0.003	6.18	106.0	3.3		0.6	0.06	0.37	0.03	1
1	10		14.31	14.31	33.275	24.791	315.0	0.032	6.20	106.3	3.2		0.6	0.06	0.38	0.04	10
1	20		14.15	14.15	33.279	24.827	311.8	0.063	6.20	106.0	2.8		0.6	0.06	0.38	0.05	20
1	30		13.57	13.57	33.315	24.975	298.0	0.093	6.29	106.3	2.5		0.7	0.08	0.39	0.09	30
1	40		13.39	13.38	33.346	25.036	292.5	0.123	6.29	105.9	2.2		1.2	0.10	0.60	0.16	40
1	50		13.31	13.30	33.334	25.043	292.1	0.152	6.17	103.7	2.2		1.6	0.14	0.66	0.32	50
1	60		13.21	13.20	33.333	25.062	290.5	0.181	6.11	102.5	2.2		2.1	0.19	0.73	0.37	60
1	69		13.05	13.04	33.358	25.114	285.8	0.207	6.02	100.6	2.9		2.9	0.27	0.46	0.28	70
	75	ISL	13.01	13.00	33.392	25.148	282.7	0.224	5.98	99.9	3.9		3.7	0.28	0.35	0.23	76
1	83		12.92	12.91	33.436	25.200	277.9	0.247	5.90	98.4	5.1		4.9	0.30	0.26	0.17	84
1	98		12.33	12.32	33.452	25.327	266.1	0.287	5.54	91.3	5.6		7.5	0.61	0.23	0.15	99
	100	ISL	12.17	12.16	33.466	25.369	262.2	0.293	5.37	88.2	6.7		8.7	0.57	0.22	0.15	101
1	118		10.65	10.64	33.635	25.777	223.5	0.336	3.72	59.2	18.0		19.7	0.02	0.08	0.16	119
	125	ISL	10.26	10.25	33.694	25.891	212.8	0.352	3.44	54.3	20.7		21.8	0.02	0.05	0.15	126
1	143		9.56	9.54	33.828	26.113	192.0	0.388	3.08	47.9	25.8		24.7	0.01	0.01	0.13	144
	150	ISL	9.37	9.35	33.873	26.179	185.8	0.401	2.95	45.7	27.7		25.7	0.01	0.01	0.12	151
1	172		8.92	8.90	33.984	26.339	171.0	0.441	2.64	40.5	33.1		28.0	0.01	0.01	0.11	173
	200	ISL	8.42	8.40	34.061	26.477	158.2	0.487	2.32	35.2	38.7		30.1	0.01	0.01	0.10	202
1	202		8.39	8.37	34.064	26.484	157.6	0.490	2.30	34.9	39.1		30.2	0.01	0.01	0.10	204
1	231		7.95	7.93	34.101	26.579	148.9	0.534	2.04	30.6	44.2		31.9	0.01			233
	250	ISL	7.81	7.79	34.128	26.621	145.2	0.562	1.80	26.9	47.1		32.8	0.01			252
1	270		7.71	7.68	34.152	26.655	142.3	0.591	1.56	23.3	49.9		33.7	0.00			272
	300	ISL	7.45	7.42	34.158	26.697	138.7	0.633	1.40	20.8	53.3		34.7	0.00			302
1	325		7.22	7.19	34.156	26.728	136.0	0.667	1.32	19.5	56.2		35.4	0.00			328
1	383		6.70	6.66	34.181	26.819	127.9	0.744	0.95	13.8	65.0		37.8	0.00			386
	400	ISL	6.57	6.53	34.193	26.846	125.5	0.766	0.85	12.4	67.4		38.3	0.00			403
1	446		6.28	6.24	34.231	26.915	119.4	0.822	0.62	9.0	73.2		39.5	0.00			450
	500	ISL	6.11	6.07	34.290	26.984	113.5	0.885	0.43	6.2	78.3		40.2	0.00			504
1	514		6.06	6.01	34.306	27.003	111.9	0.901	0.38	5.5	79.6		40.4	0.00			518

RV DAVID STARR JORDAN — CALCOFI CRUISE 8805 — STATION 82 47

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT TYPE
34 16.5 N	120 1.2 W	10/05/88	1013 UTC	5 90 M	250	05 KT			1019.9 MB	13.6 C	12.8 C	

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	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	11.96	11.96	33.771	25.643	233.6	0.000	6.08	99.6	12.0		10.0	0.23	7.98	0.87	0
	10	ISL	11.82	11.82	33.776	25.673	231.0	0.023	5.94	97.0	12.8		10.7	0.22	7.93	0.85	10
1	11		11.81	11.81	33.777	25.676	230.8	0.026	5.93	96.8	12.9		10.8	0.22	7.92	0.85	11
	20	ISL	11.27	11.27	33.792	25.787	220.4	0.046	5.08	82.0	16.3		14.7	0.20	6.36	1.33	20
1	26		10.81	10.81	33.813	25.886	211.1	0.059	4.37	69.8	19.1		17.9	0.18	4.90	1.59	26
	30	ISL	10.49	10.49	33.839	25.963	203.9	0.067	3.91	62.1	21.0		19.9	0.17*	3.73	1.44	30
1	41		9.72	9.72	33.917	26.154	185.9	0.089	2.86	44.6	25.4		24.3	0.12	1.00	0.81	41
	50	ISL	9.46	9.45	33.960	26.231	178.8	0.105	2.66	41.3	27.0		25.6	0.06	0.74	0.56	50
1	56		9.39	9.38	33.979	26.257	176.4	0.116	2.53	39.2	27.7		25.9	0.03	0.56	0.46	56
1	70		9.28	9.27	33.997	26.290	173.6	0.140	2.41	37.3	29.4		26.4	0.01	0.10	0.30	71
	75	ISL	9.25	9.24	34.008	26.303	172.5	0.149	2.38	36.8	29.7		26.6	0.01	0.08	0.30	76
1	83		9.20	9.19	34.027	26.326	170.4	0.162	2.32	35.8	30.4		27.0	0.01	0.06	0.32	84
1	99		8.96	8.95	34.053	26.385	165.1	0.189	2.16	33.2	33.2		28.0	0.01	0.05	0.22	100
	100	ISL	8.95	8.94	34.054	26.387	164.9	0.191	2.15	33.0	33.3		28.1	0.01	0.05	0.22	101
1	113		8.85	8.84	34.067	26.413	162.7	0.212	2.03	31.1	34.5		28.8	0.01	0.03	0.23	114
	125	ISL	8.74	8.73	34.082	26.443	160.1	0.232	1.93	29.5	35.8		29.4	0.01	0.03	0.22	126
1	140		8.60	8.59	34.101	26.480	156.9	0.255	1.82	27.7	37.4		30.0	0.00	0.02	0.21	141
	150	ISL	8.54	8.52	34.110	26.496	155.5	0.271	1.76	26.8	38.4		30.3	0.00	0.03	0.20	151
1	170		8.42	8.40	34.125	26.526	153.0	0.302	1.64	24.9	40.5		30.9	0.00	0.06	0.19	171
1	199		8.14	8.12	34.147	26.586	147.7	0.345	1.42	21.4	44.3		32.1	0.00	0.08	0.17	201
	200	ISL	8.13	8.11	34.147	26.588	147.6	0.347	1.41	21.3	44.4		32.1	0.00	0.08	0.17	202
1	239		7.83	7.81	34.165	26.647	142.6	0.404	1.24	18.6	47.9		33.1	0.00	0.02	0.11	241
	250	ISL	7.75	7.73	34.170	26.663	141.2	0.419	1.19	17.8	49.0		33.4	0.00	0.02	0.11	252
1	289		7.46	7.43	34.188	26.719	136.4	0.473	0.98	14.5	54.1		34.3	0.01	0.02	0.13	291
	300	ISL	7.37	7.34	34.193	26.736	134.9	0.488	0.91	13.5	56.2		34.6	0.01			302
1	340		7.04	7.01	34.213	26.798	129.5	0.541	0.65	9.6	64.3		35.3	0.00			343
1	389		6.69	6.65	34.235	26.863	123.8	0.603	0.41	6.0	73.2		34.8	0.00			392
	400	ISL	6.64	6.60	34.237	26.872	123.1	0.617	0.39	5.7	74.8		34.6	0.00			403
1	428		6.54	6.50	34.242	26.889	121.8	0.651	0.35	5.1	78.5		34.0	0.00			432
1	467		6.45	6.41	34.249	26.907	120.7	0.698	0.28	4.1	84.1		32.5	0.00			471
1	497		6.41	6.36	34.252	26.915	120.3	0.734	0.14	2.0	90.8		29.2	0.00			501
	500	ISL	6.40	6.35	34.253	26.917	120.1	0.738	0.17	2.5	89.7		29.7	0.00			504
1	515		6.37	6.32	34.257	26.924	119.6	0.756	0.31	4.5	83.9		32.9	0.00			520
1	534		6.31	6.26	34.260	26.935	118.9	0.779	0.35	5.1	82.6		34.4	0.04			539
1	553		6.28	6.23	34.261	26.940	118.6	0.801	0.33	4.8	83.1		34.6	0.05			558
1	568		6.24	6.19	34.260	26.944	118.4	0.819	0.36	5.2	83.2		35.1	0.09			573

A) SANTA BARBARA BASIN STATION.

RV DAVID STARR JORDAN — CALCOFI CRUISE 8805 — 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	10/05/88	0553 UTC	36 M	250	10 KT			1017.3 MB	13.0 C	12.3 C	

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	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	12.46	12.46	33.735	25.519	245.4	0.000	6.34	104.9	10.5	0.79	8.0	0.25	3.34	1.07	0
1	1		12.46	12.46	33.735	25.519	245.4	0.002	6.34	104.9	10.5	0.79	8.0	0.25	3.34	1.07	1
1	4		12.34	12.34	33.736	25.543	243.2	0.010	6.20	102.4	11.2	0.86	8.6	0.25	3.49	1.36	4
	10	ISL	12.07	12.07	33.729	25.590	238.9	0.024	5.95	97.7	11.6	0.85	9.7	0.24	3.79	1.60	10
1	14		11.78	11.78	33.731	25.646	233.7	0.034	5.78	94.3	11.9	0.85	10.4	0.23	4.17	1.69	14
	20	ISL	10.96	10.96	33.774	25.829	216.4	0.047	4.24	68.0	16.7	1.16	16.4	0.20	5.42	2.03	20
1	23		10.55	10.55	33.799	25.921	207.7	0.054	3.47	55.1	19.1	1.31	19.4	0.18	6.04	2.20	23

RV DAVID STARR JORDAN | CALCOFI CRUISE 8805 | 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 30.6 W	10/05/88	0342 UTC	109 M	250	15 KT			1017.1 MB	13.6 C	12.3 C		

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	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	12.67	12.67	33.699	25.451	251.9	0.000	6.87	114.2	9.3	0.68	4.9	0.26	7.92	1.05	0
1	1		12.67	12.67	33.699	25.451	251.9	0.003	6.87	114.2	9.3	0.68	4.9	0.26	7.92	1.05	1
	10	ISL	12.65	12.65	33.698	25.454	251.8	0.025	6.87	114.1	9.1	0.68	4.9	0.26	8.49	1.37	10
1	11		12.65	12.65	33.698	25.454	251.9	0.028	6.87	114.1	9.1	0.68	4.9	0.26	8.51	1.40	11
	20	ISL	11.90	11.90	33.742	25.632	235.2	0.050	6.27	102.5	11.9	0.89	9.2	0.20	6.79	2.96	20
1	21		11.79	11.79	33.748	25.657	232.8	0.052	6.16	100.5	12.4	0.92	9.9	0.19	6.47	3.11	21
	30	ISL	10.91	10.91	33.785	25.847	215.0	0.072	4.71	75.4	20.1	1.31	18.2	0.22	2.33	2.51	30
1	31		10.83	10.83	33.789	25.864	213.3	0.074	4.56	72.9	20.9	1.35	19.0	0.23	1.91	2.39	31
1	40		10.59	10.59	33.812	25.924	207.8	0.093	4.24	67.4	22.6	1.50	20.9	0.25	1.38	1.82	40
1	49		9.97	9.96	33.858	26.067	194.4	0.111	2.94	46.1	25.1	1.67	23.4	0.02	0.58	1.25	49
	50	ISL	9.94	9.93	33.861	26.074	193.7	0.113	2.93	45.9	25.2	1.68	23.5	0.02	0.57	1.22	50
1	59		9.78	9.77	33.888	26.122	189.4	0.130	2.86	44.7	25.8	1.72	24.0	0.01	0.49	1.01	59
1	69		9.60	9.59	33.930	26.185	183.6	0.149	2.74	42.7	27.5	1.77	24.9	0.02			70
	75	ISL	9.50	9.49	33.960	26.225	179.9	0.160	2.62	40.7	28.7	1.82	25.5	0.01	0.31	0.73	76
1	84		9.35	9.34	34.001	26.281	174.7	0.176	2.47	38.3	30.4	1.89	26.4	0.00	0.24	0.59	85
	100	ISL	9.01	9.00	34.044	26.370	166.6	0.203	2.44	37.5	32.2	1.94	27.2	0.01	0.30	0.33	101
1	101		8.99	8.98	34.047	26.375	166.1	0.205	2.44	37.5	32.3	1.94	27.2	0.01	0.30	0.31	102

RV DAVID STARR JORDAN | CALCOFI CRUISE 8805 | STATION 83 51

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
33 52.8 N	120 8.2 W	09/05/88	2139 UTC	115 M	290	25 KT	290 04 06	1	1018.4 MB	15.6 C	12.7 C	1/8	CI

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	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		12.07	12.07	33.711	25.575	240.0	0.000	6.04	99.1	10.4		7.7	0.20	6.74	2.71	0
1	9		12.02	12.02	33.712	25.586	239.3	0.022	5.97	97.9	10.4		8.0	0.21	7.17	2,55	9
	10	ISL	11.97	11.97	33.714	25.597	238.2	0.024	5.93	97.1	10.6		8.2	0.21	7.08	2.46	10
1	19		11.40	11.40	33.747	25.728	226.0	0.045	5.36	86.7	13.5		11.3	0.18	6.31	1.60	19
	20	ISL	11.35	11.35	33.751	25.741	224.8	0.047	5.27	85.2	14.1		11.8	0.18	6.01	1.58	20
1	29		10.89	10.89	33.787	25.852	214.5	0.067	4.37	69.9	19.7		17.0	0.17	3.08	1.45	29
	30	ISL	10.81	10.81	33.792	25.870	212.7	0.069	4.27	68.2	20.2		17.5	0.17	2.82	1.39	30
1	40		10.00	10.00	33.849	26.054	195.4	0.089	3.35	52.6	24.4		21.8	0.12	0.93	0.72	40
1	50		9.45	9.44	33.924	26.204	181.3	0.108	2.86	44.4	28.9		24.9	0.08	0.26	0.49	50
1	59		9.00	8.99	33.994	26.332	169.4	0.124	2.49	38.3	33.5		26.9	0.06	0.09	0.31	59
1	75		8.57	8.56	34.060	26.451	158.3	0.150	2.16	32.9	38.5		29.1	0.03	0.03	0.20	76

RV DAVID STARR JORDAN | CALCOFI CRUISE 8805 | STATION 83 55

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
33 44.6 N	120 24.7 W	09/05/88	1813 UTC	969 M	320	17 KT	320 04 05	I	1020.8 MB	15.0 C	13.0 C	1/8	CI

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	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	12.48	12.48	33.691	25.481	249.0	0.000	6.69	110.7	11.2	0.81	7.2	0.25	9.70	1.96	0
1	1		12.48	12.48	33.691	25.481	249.0	0.002	6.69	110.7	11.2	0.81	7.2	0.25	9.70	1.96	1
	10	ISL	12.35	12.35	33.698	25.512	246.3	0.025	6.52	107.6	11.8	0.86	8.2	0.25	7.86	1.63	10
1	12		12.29	12.29	33.691	25.518	245.8	0.030	6.48	106.8	12.1	0.88	8.6	0.25	7.17	1.61	12
	20	ISL	11.90	11.90	33.702	25.601	238.1	0.049	5.93	97.0	14.0	1.04	11.3	0.24	4.24	2.75	20
1	22		11.78	11.78	33.706	25.626	235.7	0.054	5.74	93.6	14.6		12.1	0.24	3.51	2.97	22
	30	ISL	11.27	11.27	33.718	25.730	226.1	0.072	4.75	76.6	17.3	1.25	15.8	0.28	1.63	1.86	30
1	31		11.20	11.20	33.720	25.744	224.8	0.075	4.62	74.4	17.6		16.3	0.28	1.46	1.67	31
1	42		10.53	10.53	33.741	25.879	212.1	0.099	3.79	60.2	19.8	1.54	19.4	0.15	0.56	0.88	42
	50	ISL	10.11	10.10	33.772	25.976	203.1	0.115	3.39	53.3	21.9	1.67	21.3	0.08	0.22	0.50	50
1	52		10.03	10.02	33.779	25.995	201.3	0.119	3.33	52.3	22.3	1.69	21.7	0.07	0.17	0.45	52
1	62		9.94	9.93	33.788	26.017	199.4	0.139	3.27	51.2	22.5	1.71	22.0	0.06	0.14 A	0.54 A	62
1	71		9.56	9.55	33.866	26.141	187.7	0.157	2.98	46.3	26.1	1.83	23.8	0.05	0.09	0.58	72
	75	ISL	9.46	9.45	33.895	26.181	184.1	0.164	2.87	44.5	27.3	1.88	24.5	0.05	0.08	0.53	76
1	84		9.30	9.29	33.946	26.247	178.0	0.180	2.68	41.4	29.4	1.97	25.6	0.04	0.06	0.41	85
1	99		9.14	9.13	33.981	26.300	173.2	0.207	2.57	39.6	31.1	2.02	26.3	0.03	0.06	0.44	100
	100	ISL	9.12	9.11	33.983	26.305	172.8	0.208	2.56	39.4	31.2	2.02	26.4	0.03	0.06	0.43	101
1	120		8.84	8.83	34.032	26.388	165.2	0.242	2.42	37.1	33.9	2.11	27.6	0.02	0.03	0.30	121
	125	ISL	8.81	8.80	34.042	26.400	164.1	0.250	2.36	36.1	34.6	2.14	27.9	0.02	0.03	0.30	126
1	145		8.70	8.68	34.076	26.444	160.3	0.283	2.10	32.1	37.4	2.23	29.1	0.04	0.02	0.30	146
	150	ISL	8.66	8.64	34.082	26.455	159.4	0.291	2.07	31.6	37.9	2.24	29.3	0.04	0.02	0.29	151
1	175		8.43	8.41	34.103	26.508	154.8	0.330	1.95	29.6	40.4	2.31	30.2	0.06	0.02	0.21	176
	200	ISL	8.24	8.22	34.124	26.553	150.9	0.368	1.72	26.0	43.2	2.41	31.1	0.12	0.01	0.20	202
1	204		8.21	8.19	34.128	26.561	150.2	0.374	1.68	25.4	43.6	2.43	31.2	0.13	0.01	0.20	206
1	234		8.01	7.99	34.162	26.618	145.3	0.419	1.47	22.1	46.7	2.53	32.5	0.10			236
	250	ISL	7.81	7.79	34.167	26.651	142.3	0.442	1.42	21.2	48.3	2.56	33.1	0.07			252
1	274		7.49	7.46	34.170	26.700	137.9	0.475	1.36	20.2	51.2	2.61	34.0	0.02			276
	300	ISL	7.22	7.19	34.190	26.755	133.1	0.511	1.16	17.1	55.7	2.70	35.2	0.02			302
1	328		6.98	6.95	34.212	26.805	128.5	0.547	0.94	13.8	60.7	2.80	36.4	0.02			331
1	387		6.59	6.55	34.222	26.866	123.4	0.622	0.77	11.2	67.1	2.90	38.0	0.01			390
	400	ISL	6.52	6.48	34.232	26.884	121.9	0.638	0.71	10.3	68.8	2.93	38.4	0.01			403
1	450		6.26	6.22	34.275	26.952	116.0	0.697	0.48	6.9	75.4	3.04	39.7	0.00			454
	500	ISL	5.98	5.94	34.308	27.014	110.5	0.754	0.37	5.3	80.2	3.10	40.7	0.00			504
1	515		5.89	5.85	34.318	27.033	108.8	0.770	0.34	4.9	81.7	3.12	41.0	0.00			519

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

RV DAVID STARR JORDAN CALCOFI CRUISE 8805 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 45.4 W	09/05/88	1429 UTC	1584 M	310	19 KT	310 05 07	1	1021.1 MB	14.7 C	13.3 C	2/8	CU

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	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	13.84	13.84	33.576	25.121	283.3	0.000	6.02	102.4	4.9		3.5	0.16	0.45	0.25	0
1	1	13.84	13.84	33.576	25.121	283.3	0.003	6.02	102.4	4.9		3.5	0.16	0.45	0.25	1
	10 ISL	13.83	13.83	33.577	25.124	283.3	0.028	6.00	102.1	4.8		3.5	0.15	0.39	0.17	10
1	11	13.83	13.83	33.577	25.124	283.3	0.031	6.00	102.1	4.8		3.5	0.15	0.38	0.16	11
1	20	13.84	13.84	33.578	25.123	283.7	0.057	6.02	102.4	4.6		3.5	0.15	0.40	0.23	20
	30 ISL	13.70	13.70	33.575	25.149	281.4	0.085	5.89	99.9	4.9		4.1	0.18	0.35	0.21	30
1	32	13.67	13.67	33.575	25.156	280.9	0.091	5.84	99.0	5.0		4.2	0.19	0.34	0.20	32
1	42	12.94	12.93	33.587	25.312	266.2	0.118	5.39	90.0	6.8		7.3	0.27	0.38	0.39	42
	50 ISL	12.10	12.09	33.600	25.485	249.9	0.139	4.64	76.1	9.8		11.8	0.28	0.41	0.35	50
1	52	11.85	11.84	33.608	25.538	244.9	0.143	4.42	72.1	10.8		13.1	0.28	0.42	0.32	52
1	62	10.20	10.19	33.723	25.923	208.4	0.166	3.41	53.7	18.5		20.7	0.05	0.13	0.23	62
1	72	9.70	9.69	33.785	26.055	196.0	0.186	3.18	49.6	21.8		22.9	0.04	0.04	0.14	73
	75 ISL	9.62	9.61	33.797	26.078	193.9	0.192	3.14	48.9	22.3		23.3	0.04	0.04	0.14	76
1	86	9.41	9.40	33.831	26.139	188.3	0.213	3.07	47.6	23.7		24.2	0.03	0.02	0.15	87
	100 ISL	9.07	9.06	33.889	26.239	179.0	0.239	3.00	46.1	26.4		25.3	0.03	0.02	0.16	101
1	101	9.05	9.04	33.893	26.245	178.4	0.241	2.99	46.0	26.6		25.4	0.03	0.02	0.16	102
1	121	8.79	8.78	33.954	26.334	170.3	0.276	2.82	43.1	30.0		26.7	0.04	0.01	0.24	122
	125 ISL	8.75	8.74	33.961	26.346	169.2	0.282	2.80	42.8	30.5		26.9	0.04	0.01	0.23	126
1	146	8.54	8.52	33.991	26.403	164.3	0.317	2.70	41.0	32.7		27.6	0.04	0.01	0.15	147
	150 ISL	8.49	8.47	33.998	26.416	163.1	0.324	2.67	40.5	33.2		27.8	0.04	0.01	0.15	151
1	176	8.12	8.10	34.046	26.510	154.5	0.365	2.44	36.8	37.5		29.3	0.04	0.00	0.19	177
	200 ISL	7.78	7.76	34.084	26.590	147.2	0.401	2.12	31.7	42.7		31.2	0.04	0.01	0.17	202
1	205	7.72	7.70	34.090	26.604	146.0	0.409	2.06	30.7	43.8		31.6	0.04	0.01	0.16	207
1	236	7.46	7.44	34.106	26.654	141.7	0.453	1.86	27.6	47.9		33.0	0.03			238
	250 ISL	7.37	7.35	34.126	26.682	139.1	0.473	1.66	24.6	50.0		33.7	0.02			252
1	273	7.24	7.21	34.161	26.728	135.1	0.505	1.33	19.6	53.5		34.9	0.01			275
	300 ISL	7.05	7.02	34.180	26.770	131.5	0.541	1.11	16.3	57.4		36.0	0.01			302
1	329	6.85	6.82	34.195	26.809	128.1	0.578	0.96	14.0	61.2		37.0	0.01			332
1	387	6.62	6.58	34.246	26.881	122.0	0.651	0.67	9.8	66.8		38.5	0.00			3 90
	400 ISL	6.53	6.49	34.253	26.899	120.5	0.667	0.62	9.0	68.7		38.9	0.00			403
1	450	6.14	6.10	34.279	26.970	114.1	0.725	0.46	6.6	76.1		40.5	0.00			454
	500 ISL	5.86	5.82	34.315	27.035	108.4	0.781	0.35	5.0	82.0		41.3	0.00			504
1	518	5.76	5.72	34.328	27.057	106.4	0.800	0.31	4.4	84.1		41.6	0.00			523

RV DAVID STARR JORDAN CALCOFI CRUISE 8805 STATION 83 7 O

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
33 14.6 N	121 26.4 W	09/05/88	0859 UTC	3733 M	300	17 KT			1021.2 MB	14.8 C	12.8 C		

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	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	13.97	13.97	33.444	24.992	295.5	0.000	5.98	102.0	3.0		2.0	0.22	0.44	0.10	0
1	1	13.97	13.97	33.444	24.992	295.6	0.003	5.98	102.0	3.0		2.0	0.22	0.44	0.10	1
	10 ISL	13.96	13.96	33.444	24.994	295.6	0.030	6.01	102.4	2.9		2.2	0.22	0.43	0.11	10
1	11	13.96	13.96	33.445	24.995	295.5	0.033	6.01	102.4	2.9		2.2	0.22	0.43	0.11	11
	20 ISL	13.92	13.92	33.446	25.004	294.9	0.059	6.00	102.2	2.9		2.4	0.23	0.41	0.11	20
1	21	13.91	13.91	33.445	25.005	294.8	0.062	6.00	102.2	2.9		2.5	0.23	0.41	0.11	21
	30 ISL	13.73	13.73	33.454	25.050	290.9	0.088	6.00	101.8	3.6		3.6	0.26	0.34	0.14	30
1	31	13.70	13.70	33.456	25.057	290.2	0.091	6.00	101.7	3.7		3.7	0.26	0.34	0.15	31
1	41	13.18	13.17	33.483	25.184	278.4	0.120	5.94	99.6	5.1		5.0	0.28	0.46	0.22	41
	50 ISL	12.93	12.92	33.530	25.270	270.4	0.144	5.77	96.3	7.1		6.6	0.29	0.57	0.25	50
1	51	12.91	12.90	33.534	25.277	269.8	0.147	5.74	95.8	7.3		6.8	0.29	0.58	0.25	51
1	61	12.53	12.52	33.514	25.336	264.4	0.174	5.38	89.0	8.1		8.2	0.29	0.54	0.31	61
1	71	11.56	11.55	33.567	25.560	243.2	0.199	4.50	73.0	12.6		13.6	0.21	0.32	0.28	72
	75 ISL	11.10	11.09	33.597	25.667	233.1	0.209	4.18	67.1	14.7		15.9	0.16	0.32	0.26	76
1	85	10.09	10.08	33.681	25.909	210.2	0.231	3.54	55.6	19.6		20.6	0.06	0.33	0.22	86
	100 ISL	9.58	9.57	33.788	26.078	194.4	0.261	3.24	50.4	23.8		23.0	0.02	0.05	0.25	101
1	101	9.57	9.56	33.794	26.084	193.8	0.263	3.23	50.2	24.0		23.1	0.02	0.03	0.25	102
1	119	9.07	9.06	33.887	26.23 8	179.5	0.297	2.99	46.0	28.1		25.5	0.01	0.02	0.21	120
	125 ISL	8.95	8.94	33.909	26.274	176.1	0.307	2.96	45.4	29.1		26.0	0.01	0.02	0.19	126
1	144	8.64	8.62	33.966	26.367	167.6	0.340	2.88	43.9	32.0		27.0	0.01	0.01	0.13	145
	150 ISL	8.56	8.54	33.984	26.394	165.2	0.350	2.82	42.9	33.0		27.4	0.01	0.01	0.12	151
1	174	8.26	8.24	34.042	26.486	156.8	0.389	2.55	38.5	37.3		29.0	0.01	0.00	0.09	175
	200 ISL	7.83	7.81	34.072	26.573	148.8	0.428	2.28	34.1	42.5		30.7	0.00	0.00	0.07	202
1	204	7.76	7.74	34.074	26.585	147.8	0.434	2.24	33.5	43.3		31.0	0.00	0.00	0.07	206
1	232	7.24	7.22	34.070	26.656	141.2	0.475	2.04	30.1	49.0		32.8	0.00			234
	250 ISL	7.18	7.16	34.105	26.692	138.1	0.^00	1.75	25.8	52.1		33.9	0.00			252
1	272	7.10	7.07	34.139	26.731	134.8	0.530	1.39	20.5	55.5		35.1	0.01			274
	300 ISL	6.91	6.88	34.158	26.772	131.2	0.567	1.18	17.3	58.8		36.3	0.01			302
1	326	6.72	6.69	34.168	26.806	128.3	0.601	1.05	15.3	61.7		37.2	0.00			329
1	384	6.36	6.33	34.215	26.891	120.9	0.673	0.68	9.8	69.7		39.1	0.00			3 87
	400 ISL	6.28	6.24	34.228	26.912	119.0	0.692	0.61	8.8	71.5		39.5	0.00			403
1	448	6.05	6.01	34.261	26.968	114.2	0.748	0.46	6.6	76.6		40.4	0.00			45 2
	500 ISL	5.77	5.73	34.285	27.022	109.5	0.807	0.38	5.4	82.4		41.3	0.00			504
1	514	5.70	5.66	34.291	27.035	108.3	0.822	0.36	5.1	84.0		41.5	0.00			518

PV DAVIL STARR JORDAN | CALCOFI CRUISE 8805 | 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 7.0 W	09/05/88	0331 UTC	4209 M	320	10 KT	310 05 08	1	1020.3 MB	1A.6 C	12.0 C	1/8	ST

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	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	14.86	14.86	33.490	24.839	310.1	0.000	6.03	104.7	1.7		0.8	0.07	0.39	0.04	0
1	1		14.86	14.86	33.490	24.839	310.1	0.003	6.03	104.7	1.7		0.8	0.07	0.39	0.04	1
	10	ISL	14.76	14.76	33.489	24.860	308.4	0.031	6.04	104.7	1.3		0.8	0.07	0.37	0.05	10
1	11		14.75	14.75	33.489	24.862	308.2	0.034	6.04	104.6	1.2		0.8	0.07	0.37	0.05	11
1	20		14.31	14.31	33.482	24.951	300.0	0.061	6.01	103.2	1.2		0.8	0.09	0.39	0.07	20
	30	ISL	14.20	14.20	33.485	24.976	297.9	0.091	6.05	103.6	1.0		0.8	0.09	0.64	0.13	30
1	31		14.19	14.19	33.483	24.977	297.9	0.094	6.05	103.6	1.0		0.8	0.09	0.67	0.14	31
1	40		14.12	14.11	33.487	24.995	296.4	0.121	6.02	103.0	0.9		1.1	0.10	0.81	0.16	40
1	50		13.11	13.10	33.493	25.206	276.5	0.150	5.39	90.3	4.2		6.3	0.80	0.75	0.38	50
1	60		11.44	11.43	33.554	25.572	241.8	0.176	4.51	72.9	10.0		13.9	0.20	0.37	0.24	60
1	70		10.79	10.78	33.614	25.735	226.4	0.199	3.89	62.1	15.2		18.2	0.02	0.22	0.17	71
	75	ISL	10.53	10.52	33.654	25.812	219.2	0.210	3.67	58.2	17.2		19.8	0.02	0.18	0.10	76
1	85		10.07	10.06	33.740	25.958	205.5	0.231	3.33	52.3	20.7		22.2	0.01	0.13	0.01	86
1	100		9.47	9.46	33.857	26.150	187.5	0.261	2.97	46.1	25.8		24.9	0.00	0.02	0.14	101
1	120		9.09	9.08	33.941	26.277	175.8	0.297	2.77	42.6	29.9		26.6	0.00	0.01	0.15	121
	125	ISL	9.01	9.00	33.957	26.302	173.5	0.306	2.72	41.8	30.7		26.9	0.00	0.01	0.15	126
1	145		8.72	8.70	34.011	26.390	165.5	0.340	2.54	38.8	34.0		28.2	0.02	0.01	0.13	146
	150	ISL	8.62	8.60	34.023	26.416	163.1	0.348	2.50	38.1	35.0		28.5	0.02	0.01	0.13	151
1	174		8.18	8.16	34.074	26.523	153.3	0.386	2.27	34.2	39.7		30.2	0.00	0.01	0.11	175
	200	ISL	7.95	7.93	34.126	26.598	146.5	0.425	1.83	27.5	44.3		31.9	0.00	0.00	0.08	202
1	204		7.93	7.91	34.133	26.606	145.8	0.431	1.76	26.4	44.9		32.1	0.00	0.00	0.07	206
1	233		7.79	7.77	34.167	26.654	141.7	0.473	1.48	22.1	48.7		33.2	0.00			235
	250	ISL	7.61	7.59	34.169	26.682	139.3	0.496	1.40	20.9	50.7		33.9	0.00			252
1	273		7.34	7.31	34.168	26.720	136.0	0.528	1.31	19.4	53.5		34.9	0.00			275
	300	ISL	7.06	7.03	34.181	26.770	131.6	0.564	1.12	16.5	57.9		36.1	0.00			302
1	326		6.82	6.79	34.198	26.816	127.4	0.598	0.93	13.6	62.4		37.2	0.00			329
1	386		6.38	6.35	34.231	26.901	119.9	0.672	0.64	9.3	70.7		39.1	0.00			389
	400	ISL	6.25	6.21	34.232	26.919	118.4	0.689	0.60	8.7	72.6		39.5	0.00			403
1	449		5.84	5.80	34.240	26.977	113.1	0.745	0.48	6.9	78.9		40.7	0.00			453
	500	ISL	5.64	5.60	34.279	27.033	108.3	0.802	0.39	5.5	84.2		41.4	0.00			504
1	515		5.58	5.54	34.291	27.050	106.8	0.818	0.36	5.1	85.7		41.6	0.00			519

RV DAVID STARR JORDAN | CALCOFI CRUISE 8805 | STATION 83 90

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
32 34.5 N	122 48.8 W	08/05/88	2158 UTC	3733 M	320	10 KT	310 05 08	1	1022.0 MB	17.8 C	13.5 C	1/8	CU

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	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	33.484	24.774	316.3	0.000	6.00	104.8	2.9		0.5	0.07	0.31	0.06	0
1	9		14.54	14.54	33.479	24.899	304.6	0.028	6.03	104.0	2.5		0.5	0.08	0.32	0.06	9
	10	ISL	14.53	14.53	33.479	24.901	304.4	0.031	6.03	104.0	2.5		0.5	0.08	0.32	0.06	10
1	19		14.48	14.48	33.477	24.911	303.8	0.058	6.05	104.2	2.2		0.5	0.08	0.40	0.09	19
	20	ISL	14.48	14.48	33.477	24.911	303.8	0.061	6.05	104.2	2.2		0.5	0.08	0.41	0.09	20
1	30		14.42	14.42	33.478	24.925	302.8	0.092	6.05	104.1	2.2		0.5	0.08	0.58	0.13	30
1	40		14.28	14.27	33.470	24.948	300.8	0.122	6.09	104.5	2.2		0.7	0.10	0.87	0.29	40
1	50		14.25	14.24	33.472	24.956	300.4	0.152	5.92	101.5	2.2		1.1	0.16	0.66	0.24	50
1	60		13.02	13.01	33.472	25.208	276.6	0.181	5.50	91.9	4.2		4.9	0.51	0.42	0.27	60
1	70		11.72	11.71	33.472	25.457	253.0	0.207	4.69	76.3	9.6		12.0	0.03	0.24	0.21	71
	75	ISL	11.13	11.12	33.550	25.625	237.1	0.220	4.18	67.1	13.8		15.6	0.03	0.16	0.18	76
1	84		10.31	10.30	33.709	25.893	211.7	0.240	3.40	53.7	20.7		20.8	0.02	0.06	0.13	85
1	99		9.88	9.87	33.767	26.012	200.7	0.271	3.18	49.8	23.1		22.8	0.02	0.03	0.14	100
	100	ISL	9.85	9.84	33.771	26.020	199.9	0.273	3.17	49.6	23.3		22.9	0.02	0.03	0.14	101
1	120		9.23	9.22	33.857	26.189	184.2	0.311	3.10	47.8	26.8		24.8	0.01	0.01	0.09	121
	125	ISL	9.14	9.13	33.878	26.220	181.3	0.320	3.05	47.0	27.7		25.2	0.01	0.01	0.08	126
1	144		8.90	8.88	33.948	26.313	172.8	0.354	2.83	43.4	31.0		26.5	0.01	0.01	0.07	145
	150	ISL	8.82	8.80	33.965	26.339	170.5	0.364	2.78	42.5	31.9		26.9	0.01	0.01	0.07	151
1	174		8.52	8.50	34.018	26.427	162.5	0.404	2.58	39.2	35.5		28.3	0.00	0.00	0.06	175
	200	ISL	8.29	8.27	34.065	26.500	156.0	0.446	2.31	34.9	39.1		29.7	0.00	0.00	0.04	202
1	205		8.25	8.23	34.072	26.511	155.0	0.453	2.26	34.1	39.8		29.9	0.00	0.00	0.04	207
1	233		7.98	7.96	34.098	26.572	149.6	0.496	2.05	30.8	43.5		31.2	0.00			235
	250	ISL	7.84	7.82	34.114	26.606	146.7	0.521	1.88	28.1	45.9		32.1	0.00			252
1	273		7.66	7.63	34.135	26.648	142.9	0.554	1.64	24.4	49.2		33.2	0.00			275
	300	ISL	7.46	7.43	34.158	26.695	138.8	0.592	1.39	20.6	53.0		34.4	0.00			302
1	328		7.24	7.21	34.180	26.744	134.5	0.631	1.16	17.1	57.0		35.5	0.00			331
1	386		6.71	6.67	34.212	26.843	125.7	0.706	0.79	11.5	66.2		38.0	0.00			389
	400	ISL	6.57	6.53	34.218	26.866	123.6	0.724	0.72	10.5	68.6		38.6	0.00			403
1	449		6.12	6.08	34.239	26.941	116.8	0.783	0.53	7.6	76.4		40.4	0.00			453
	500	ISL	5.82	5.78	34.262	26.998	111.9	0.841	0.42	6.0	82.0		41.3	0.00			504
1	514		5.74	5.70	34.269	27.013	110.5	0.856	0.39	5.6	83.5		41.6	0.00			518

RV DAVID STARR JORDAN CALCOFI CRUISE 8805 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	06/05/88	1702 UTC	53 M	270	12 KT	250 03 05	1	1021.8 MB	13.8 C	11.3 C	2/8	CU

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	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	13.90	13.90	33.555	25.092	286.0	0.000	6.00	102.2	7.6	0.62	2.9	0.08	3.73	0.74	0
1	1		13.90	13.90	33.555	25.092	286.0	0.003	6.00	102.2	7.6	0.62	2.9	0.08	3.73	0.74	1
1	10		13.85	13.85	33.552	25.100	285.5	0.029	6.00	102.1	7.6	0.59	2.9	0.08	3.85	0.87	10
1	20		13.07	13.07	33.580	25.280	268.6	0.056	5.47	91.6	10.3	0.75	7.0	0.11	4.05	0.82	20
	30	ISL	11.00	11.00	33.722	25.781	221.1	0.081	3.56	57.1	18.8	1.31	18.5	0.09	0.76	0.33	30
1	31		10.80	10.80	33.737	25.829	216.7	0.083	3.38	54.0	19.7	1.38	19.6	0.09	0.42	0.28	31
1	40		10.28	10.28	33.709	25.898	210.3	0.102	3.13	49.4	25.1	1.92	21.7	0.09	0.19	0.21	40
	50	ISL	10.35	10.34	33.792	25.950	205.5	0.123	3.14	49.7	23.6	1.67	21.4	0.11	0.17	0.26	50
1	51		10.36	10.35	33.800	25.955	205.1	0.125	3.14	49.7	23.4	1.64	21.4	0.11	0.17	0.26	51

RV DAVID STARR JORDAN CALCOFI CRUISE 8805 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	06/05/88	1819 UTC	73 M	270	12 KT	250 03 05	1	1022.1 MB	14.0 C	11.6 C	2/8	CU

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	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	12.86	12.86	33.599	25.336	262.8	0.000	5.25	87.6	11.5	0.81	8.8	0.11	2.32	0.39	0
1	10	12.70	12.70	33.611	25.377	259.2	0.026	5.15	85.6	11.9	0.86	9.4	0.11	2.18	0.36	10
1	20	12.56	12.56	33.616	25.408	256.4	0.052	5.08	84.2	12.4	0.88	9.8	0.11	2.27	0.42	20
1	30	12.54	12.54	33.621	25.416	255.9	0.078	5.01	83.0	12.5	0.89	10.0	0.10	2.50	0.40	30
1	40	10.77	10.77	33.767	25.858	214.2	0.101	3.29	52.5	20.2	1.37	20.1	0.06	0.44	0.39	40
1	50	10.37	10.36	33.828	25.975	203.2	0.122	3.14	49.7	23.0	1.50	21.7	0.05	0.24	0.37	50
1	60	10.09	10.08	33.850	26.040	197.2	0.142	3.08	48.5	24.9	1.56	22.5	0.06	0.17	0.22	60
1	71	9.76	9.75	33.916	26.147	187.2	0.163	2.76	43.1	28.7	1.71	24.2	0.09	0.18	0.34	72

RV DAVID STARR JORDAN CALCOFI CRUISE 8805 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	06/05/88	1933 UTC	669 M	270	18 KT	250 03 06	1	1022.2 MB	14.0 C	11.1 C	2/8	CU

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	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	13.21	13.21	33.562	25.238	272.1	0.000	5.63	94.6	7.6	0.54	5.8	0.11	4.05	0.48	0
1	1		13.21	13.21	33.562	25.238	272.2	0.003	5.63	94.6	7.6	0.54	5.8	0.11	4.05	0.48	1
	10	ISL	13.08	13.08	33.561	25.263	270.0	0.027	5.65	94.6	7.7	0.58	5.8	0.10	4.88	0.65	10
1	11		13.06	13.06	33.562	25.268	269.5	0.030	5.65	94.6	7.7	0.59	5.8	0.10	4.97	0.68	11
1	20		12.89	12.89	33.581	25.317	265.2	0.054	5.59	93.3	7.6	0.57	6.3	0.10	7.71	0.87	20
1	30		12.82	12.82	33.605	25.349	262.3	0.080	5.73	95.5	7.3	0.57	5.8	0.12	9.70	0.82	30
1	40		12.24	12.23	33.582	25.444	253.6	0.106	4.84	79.7	10.8	0.74	10.7	0.08	3.20	0.57	40
	50	ISL	11.54	11.53	33.593	25.584	240.5	0.131	4.29	69.6	13.9	0.92	14.6	0.04	0.63	0.33	50
1	51		11.46	11.45	33.597	25.601	238.8	0.133	4.24	68.6	14.2	0.94	15.0	0.04	0.53	0.31	51
1	61		10.58	10.57	33.696	25.836	216.7	0.156	3.65	58.0	19.1	1.16	19.3	0.03	0.16	0.18	61
1	72		10.23	10.22	33.821	25.994	201.8	0.179	3.20	50.5	22.5	1.34	21.9	0.02	0.07	0.13	73
	75	ISL	10.09	10.08	33.854	26.044	197.2	0.185	3.07	48.3	24.0	1.40	22.7	0.02	0.06	0.12	76
1	85		9.68	9.67	33.947	26.185	183.9	0.204	2.70	42.1	28.5	1.56	25.0	0.01	0.03	0.10	86
1	99		9.53	9.52	34.014	26.262	176.8	0.229	2.49	38.7	30.7	1.67	26.2	0.00	0.02	0.08	100
	100	ISL	9.52	9.51	34.017	26.267	176.5	0.231	2.48	38.6	30.8	1.68	26.3	0.00	0.02	0.08	101
1	121		9.33	9.32	34.060	26.332	170.7	0.267	2.35	36.4	33.2	1.79	27.3	0.00	0.02	0.07	122
	125	ISL	9.26	9.25	34.066	26.348	169.3	0.274	2.33	36.0	33.7	1.80	27.5	0.00	0.02	0.07	126
1	145		8.94	8.92	34.095	26.422	162.6	0.307	2.22	34.1	36.4	1.86	28.5	0.00	0.02	0.08	146
	150	ISL	8.91	8.89	34.106	26.435	161.4	0.316	2.16	33.1	37.0	1.88	28.7	0.00	0.02	0.08	151
1	176		8.76	8.74	34.153	26.496	156.1	0.357	1.85	28.3	40.2	2.01	30.0	0.00	0.03	0.08	177
	200	ISL	8.45	8.43	34.162	26.551	151.2	0.394	1.73	26.3	43.4	2.08	31.1	0.00	0.01	0.06	202
1	205		8.38	8.36	34.163	26.563	150.2	0.401	1.71	25.9	44.1	2.09	31.3	0.00	0.01	0.05	207
1	233		8.12	8.10	34.190	26.624	144.8	0.443	1.45	21.9	47.8	2.21	32.5	0.00			235
	250	ISL	7.96	7.93	34.203	26.658	141.8	0.467	1.31	19.7	50.0	2.27	33.2	0.00			252
1	274		7.75	7.72	34.218	26.701	138.1	0.500	1.14	17.0	53.2	2.34	34.1	0.00			276
	300	ISL	7.55	7.52	34.231	26.740	134.7	0.536	0.98	14.6	56.6	2.41	35.0	0.00			302
1	328		7.33	7.30	34.244	26.782	131.1	0.573	0.83	12.3	60.4	2.48	35.9	0.00			331
1	386		6.82	6.78	34.284	26.884	121.9	0.646	0.57	8.3	68.7	2.63	37.7	0.00			389
	400	ISL	6.72	6.68	34.289	26.902	120.4	0.663	0.53	7.7	70.5	2.65	38.1	0.00			403
1	449		6.39	6.35	34.305	26.959	115.4	0.721	0.41	5.9	76.1	2.71	39.2	0.00			453
	500	ISL	6.10	6.06	34.326	27.013	110.7	0.779	0.33	4.7	81.4	2.80	39.7	0.00			504
1	516		6.01	5.96	34.332	27.029	109.3	0.796	0.31	4.4	83.1	2.83	39.9	0.00			521

RV DAVID STARR JORDAN CALCOFI CRUISE 8805 STATION 87 37.5 ,

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
33 44.3 N	118 47.9 W	06/05/88	2301 UTC	926 M	270	20 KT	270 06 05	1	1020.2 MB	16.0 C	12.9 C	1/8	CU

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	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	14.51	14.51	33.524	24.940	300.5	0.000	6.04	104.2	5.7	0.57	1.7	0.09	1.46	0.32	0
1	1	A	14.51	14.51	33.524	24.940	300.5	0.003	6.04	104.2	5.7	0.57	1.7	0.09	1.46	0.32	1
	10	ISL	14.48	14.48	33.525	24.948	300.0	0.030	6.04	104.1	5.6	0.54	1.7	0.09	1.47	0.29	10
1	11		14.48	14.48	33.525	24.948	300.1	0.033	6.04	104.1	5.6	0.53	1.7	0.09	1.47	0.29	11
	20	ISL	14.37	14.37	33.521	24.968	298.4	0.060	6.06	104.2	5.7	0.50	1.7	0.09	1.67	0.36	20
1	21		14.35	14.35	33.521	24.972	298.0	0.063	6.06	104.2	5.7	0.50	1.7	0.09	1.69	0.37	21
	30	ISL	13.98	13.98	33.522	25.051	290.8	0.089	5.72	97.6	6.5	0.53	3.4	0.10	1.57	0.45	30
1	31		13.94	13.94	33.522	25.059	290.0	0.092	5.68	96.8	6.6	0.53	3.6	0.10	1.56	0.45	31
1	40		11.63	11.62	33.601	25.573	241.2	0.116	4.11	66.8	14.2	0.93	14.6	0.06	0.56	0.34	40
	50	ISL	11.39	11.38	33.622	25.634	235.7	0.140	3.96	64.0	15.2	1.06	15.7	0.05	0.35	0.28	50
1	51		11.37	11.36	33.624	25.639	235.2	0.142	3.94	63.7	15.3	1.07	15.8	0.05	0.33	0.27	51
1	61		10.96	10.95	33.706	25.777	222.3	0.165	3.58	57.4	18.3	1.23	18.3	0.04	0.17	0.20	61
1	70		10.68	10.67	33.771	25.877	213.0	0.185	3.32	52.9	20.8	1.34	20.1	0.03	0.09	0.15	71
	75	ISL	10.49	10.48	33.804	25.936	207.5	0.195	3.21	50.9	22.1	1.40	21.0	0.03	0.07	0.12	76
1	84		10.16	10.15	33.862	26.038	197.9	0.214	3.04	47.9	24.5	1.49	22.6	0.02	0.04	0.08	85
	100	ISL	9.68	9.67	33.979	26.211	181.8	0.244	2.68	41.8	29.1	1.66	25.1	0.01	0.01	0.06	101
1	105		9.56	9.55	34.011	26.255	177.7	0.253	2.58	40.1	30.4	1.71	25.7	0.01	0.01	0.06	106
	125	ISL	9.23	9.22	34.066	26.353	168.8	0.288	2.39	36.9	33.9	1.83	27.1	0.01	0.01	0.05	126
1	129		9.18	9.17	34.070	26.364	167.8	0.294	2.37	36.6	34.4	1.84	27.3	0.01	0.01	0.05	130
	150	ISL	8.91	8.89	34.076	26.412	163.6	0.329	2.35	36.0	36.3	1.88	27.9	0.01	0.00	0.05	151
1	159		8.81	8.79	34.078	26.429	162.1	0.344	2.34	35.8	37.1	1.89	28.2	0.01	0.00	0.05	160
1	189		8.53	8.51	34.144	26.525	153.5	0.391	1.89	28.8	42.1	2.06	30.2	0.01	0.00	0.05	191
	200	ISL	8.40	8.38	34.151	26.550	151.3	0.408	1.82	27.6	43.6	2.09	30.7	0.01	0.00	0.05	202
1	222		8.14	8.12	34.158	26.595	147.3	0.441	1.70	25.6	46.4	2.16	31.7	0.01	0.01	0.04	224
	250	ISL	7.86	7.83	34.184	26.658	141.8	0.481	1.42	21.3	50.8	2.30	33.1	0.01			252
1	263		7.75	7.72	34.197	26.684	139.5	0.500	1.28	19.1	52.8	2.37	33.7	0.01			265
	300	ISL	7.53	7.50	34.226	26.739	134.8	0.550	1.00	14.9	57.4	2.47	35.0	0.01			302
1	308		7.48	7.45	34.232	26.751	133.7	0.561	0.95	14.1	58.3	2.49	35.2	0.01			311
1	368		6.99	6.96	34.270	26.850	125.0	0.639	0.65	9.5	66.8	2.65	37.1	0.00			371
	400	ISL	6.78	6.74	34.286	26.892	121.4	0.678	0.55	8.0	70.8	2.71	37.8	0.00			403
1	433		6.56	6.52	34.301	26.933	117.8	0.718	0.46	6.7	74.9	2.76	38.5	0.00			437
	500	ISL	6.01	5.97	34.339	27.035	108.6	0.793	0.28	4.0	84.8	2.89	39.8	0.00			504
1	502		5.99	5.95	34.340	27.038	108.3	0.796	0.28	4.0	85.1	2.89	39.8	0.00			506
1	580		5.59	5.54	34.366	27.109	102.2	0.878	0.21	3.0	94.3	2.96	39.9	0.00			585
	600	ISL	5.51	5.46	34.372	27.123	101.0	0.898	0.20	2.8	96.1	2.98	39.9	0.00			605
1	656		5.34	5.28	34.385	27.155	98.5	0.954	0.18	2.5	100.6	3.02	39.5	0.00			662
	700	ISL	5.27	5.21	34.392	27.169	97.6	0.997	0.17	2.4	103.7	3.02	39.0	0.00			706
1	724		5.24	5.18	34.394	27.174	97.3	1.020	0.17	2.4	105.3	3.02	38.5	0.00			731
1	786		5.16	5.09	34.400	27.189	96.6	1.080	0.14	2.0	109.7	3.06	35.7	0.00			7 93
	800	ISL	5.14	5.07	34.402	27.193	96.3	1.094	0.15	2.1	109.9	3.05	35.9	0.00			808
1	845		5.07	5.00	34.408	27.206	95.5	1.137	0.18	2.5	110.4	3.01	37.4	0.00			853
1	887		4.98	4.91	34.415	27.222	94.3	1.177	0.22	3.1	110.4	2.99	39.1	0.02			895

A) SANTA MONICA BASIN STATION.

RV DAVID STARR JORDAN CALCOFI CRUISE 8805 , STATION 87 3 9.5

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
33 40.4 N	118 56.3 W	07/05/88	0112 UTC	921 M	270	23 KT	270 08 06	1	1019.1 MB	14.0 C	12.3 C	1/8	CU

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	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	14.65	14.65	33.519	24.906	303.7	0.000	6.01	103.9	4.6	0.39	1.3	0.04	1.74	0.36	0
1	1A		14.65	14.65	33.519	24.907	303.7	0.003	6.01	103.9	4.6	0.39	1.3	0.04	1.74	0.36	1
1	10		14.61	14.61	33.516	24.913	303.3	0.030	5.99	103.5	4.5	0.36	1.4	0.04	1.99	0.40	10
1	20		14.57	14.57	33.516	24.922	302.8	0.061	6.01	103.8	4.5	0.34	1.4	0.04	1.87	0.39	20
1	30		13.95	13.95	33.540	25.071	288.9	0.090	5.64	96.2	6.1	0.38	3.9	0.10	1.63	0.61	30
1	40		11.49	11.48	33.620	25.614	237.4	0.117	4.19	67.9	14.4	0.78	15.0	0.11	0.75	0.25	40
1	50		10.65	10.64	33.678	25.809	218.9	0.139	3.66	58.2	18.9	1.04	19.0	0.03	0.35	0.19	50
1	61		10.12	10.11	33.734	25.945	206.3	0.163	3.41	53.6	22.0	1.22	21.3	0.02	0.15	0.14	61
1	70		9.70	9.69	33.813	26.077	193.9	0.181	3.19	49.7	25.0	1.38	23.4	0.02	0.04	0.11	71
	75	ISL	9.58	9.57	33.837	26.116	190.3	0.190	3.11	48.4	26.0	1.44	24.0	0.02	0.04	0.11	76
1	85		9.42	9.41	33.868	26.166	185.7	0.209	2.99	46.3	27.4	1.51	24.8	0.02	0.03	0.10	86
	100	ISL	9.14	9.13	33.918	26.251	177.9	0.236	2.80	43.1	30.1	1.59	26.0	0.02	0.02	0.09	101
1	106		9.03	9.02	33.936	26.282	175.0	0.247	2.75	42.3	31.1	1.61	26.4	0.02	0.01	0.09	107
	125	ISL	8.67	8.66	33.975	26.370	167.0	0.280	2.77	42.2	33.3	1.67	27.2	0.02	0.01	0.08	126
1	131		8.57	8.56	33.988	26.395	164.7	0.289	2.78	42.3	34.0	1.69	27.5	0.02	0.01	0.07	132
	150	ISL	8.37	8.35	34.061	26.484	156.6	0.320	2.41	36.5	38.1	1.83	29.0	0.02	0.00	0.05	151
1	161		8.29	8.27	34.102	26.528	152.6	0.337	2.15	32.5	40.6	1.92	29.9	0.02	0.00	0.04	162
1	191		8.06	8.04	34.147	26.598	146.4	0.382	1.78	26.8	45.6	2.08	31.7	0.02	0.00	0.04	193
	200	ISL	7.99	7.97	34.159	26.618	144.7	0.395	1.67	25.1	47.0	2.13	32.2	0.02	0.00	0.04	202
1	225		7.79	7.77	34.187	26.670	140.1	0.431	1.39	20.8	50.7	2.26	33.4	0.01	0.00	0.03	227
	250	ISL	7.63	7.61	34.210	26.711	136.6	0.465	1.18	17.6	54.0	2.35	34.4	0.01			252
1	265		7.55	7.52	34.221	26.732	134.8	0.485	1.08	16.1	55.6	2.40	34.9	0.01			267
	300	ISL	7.45	7.42	34.236	26.758	132.9	0.532	0.95	14.1	57.9	2.49	35.4	0.01			302
1	310		7.42	7.39	34.239	26.765	132.4	0.546	0.92	13.6	58.5	2.51	35.5	0.01			313
1	369		6.99	6.96	34.269	26.849	125.1	0.622	0.67	9.8	66.0	2.63	37.2	0.01			372
	400	ISL	6.71	6.67	34.289	26.903	120.2	0.660	0.54	7.9	70.9	2.70	38.1	0.01			403
1	434		6.43	6.39	34.311	26.958	115.3	0.700	0.43	6.2	76.1	2.78	38.9	0.01			43 8
	500	ISL	6.09	6.05	34.331	27.018	110.2	0.774	0.35	5.0	83.1	2.87	39.5	0.01			504
1	502		6.08	6.04	34.332	27.020	110.1	0.776	0.35	5.0	83.3	2.87	39.5	0.01			506
1	581		5.53	5.48	34.372	27.121	101.0	0.860	0.23	3.3	95.6	2.94	40.3	0.00			5 86
	600	ISL	5.45	5.40	34.377	27.135	99.8	0.879	0.21	3.0	97.4	2.96	40.1	0.00			605
1	655		5.30	5.25	34.388	27.161	97.8	0.933	0.18	2.5	101.6	3.02	39.4	0.00			661
	700	ISL	5.20	5.14	34.397	27.181	96.3	0.977	0.14	2.0	105.6	3.08	37.5	0.00			706
1	722		5.17	5.11	34.400	27.187	96.0	0.998	0.13	1.8	107.7	3.11	36.4	0.00			729
1	784		5.15	5.08	34.402	27.191	96.3	1.057	0.12	1.7	114.0	3.15	33.0	0.00			791
	800	ISL	5.14	5.07	34.403	27.193	96.3	1.073	0.13	1.8	113.3	3.14	33.6	0.00			808
1	843		5.08	5.01	34.407	27.204	95.7	1.114	0.18	2.5	110.5	3.09	36.4	0.01			851
1	886		4.99	4.92	34.414	27.220	94.5	1.155	0.21	2.9	110.2	3.06	38.9	0.02			894

A) SANTA MONICA BASIN STATION.

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RV DAVID STARR JORDAN CALCOFI CRUISE 8805 STATION 87 42

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT TYPE
33 35.4 N	119 6.8 W	07/05/88	0416 UTC	264 M	270	26 KT			1018.6 MB	13.2 C	10.7 C	

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	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	14.45	14.45	33.541	24.966	298.0	0.000	6.07	104.6	6.5	0.52	1.7	0.04	1.71	0.38	0
1	9	14.44	14.44	33.542	24.969	298.0	0.027	6.04	104.0	6.5	0.49	1.8	0.05	1.67	0.36	9
	10 ISL	14.43	14.43	33.543	24.972	297.7	0.030	6.04	104.0	6.5	0.49	1.8	0.05	1.67	0.36	10
1	20	14.37	14.37	33.548	24.989	296.4	0.060	6.02	103.5	6.7	0.47	2.0	0.05	1.68	0.38	20
1	30	11.82	11.82	33.691	25.608	237.7	0.086	4.40	71.8	17.2	0.93	14.4	0.17	1.17	0.34	30
1	38	10.10	10.10	33.774	25.97 9	202.5	0.104	3.31	52.1	25.2	1.35	22.2	0.04	0.34	0.15	38
1	49	9.55	9.54	33.867	26.144	187.1	0.125	2.96	46.0	29.5	1.56	24.6	0.04	0.11	0.13	49
	50 ISL	9.51	9.50	33.874	26.156	186.0	0.127	2.93	45.5	29.9	1.58	24.8	0.04	0.10	0.13	50
1	59	9.24	9.23	33.921	26.236	178.5	0.144	2.75	42.5	32.5	1.69	26.2	0.03	0.05	0.10	59
1	69	9.14	9.13	33.948	26.274	175.1	0.161	2.67	41.1	33.8	1.75	26.8	0.03	0.05	0.10	70
	75 ISL	9.06	9.05	33.972	26.305	172.2	0.172	2.62	40.3	34.6	1.78	27.1	0.03	0.05	0.10	76
1	83	8.97	8.96	34.000	26.341	168.9	0.185	2.55	39.2	35.6	1.81	27.4	0.03	0.04	0.10	84
	100 ISL	8.90	8.89	34.002	26.354	168.0	0.214	2.48	38.0	36.8	1.82	27.9	0.03	0.06	0.10	101
1	103	8.88	8.87	34.002	26.358	167.8	0.219	2.46	37.7	37.1	1.83	28.0	0.03	0.06	0.10	104
1	124	8.48	8.47	34.089	26.488	155.7	0.253	2.01	30.5	42.9	2.01	30.3	0.04	0.05	0.08	125
	125 ISL	8.47	8.46	34.090	26.491	155.5	0.254	2.00	30.4	43.0	2.01	30.3	0.04	0.05	0.08	126
1	143	8.40	8.39	34.101	26.510	154.0	0.282	1.95	29.6	44.0	2.06	30.7	0.04	0.03	0.08	144
	150 ISL	8.32	8.30	34.114	26.533	152.0	0.293	1.86	28.2	45.2	2.09	31.1	0.05	0.03	0.08	151
1	174	8.06	8.04	34.159	26.607	145.2	0.329	1.53	23.0	49.3	2.21	32.6	0.07	0.05	0.08	175
	200 ISL	7.98	7.96	34.169	26.627	143.8	0.366	1.47	22.1	49.7	2.27	32.9	0.07	0.04	0.07	202
1	205	7.97	7.95	34.171	26.630	143.6	0.373	1.46	21.9	49.8	2.28	33.0	0.07	0.04	0.07	207

RV DAVID STARR JORDAN CALCOFI CRUISE 8805 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	07/05/88	0631 UTC	1696 M	270	26 KT			1018.8 MB	12.7 C	11.2 C	

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	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	13.61	13.61	33.595	25.182	277.4	0.000	5.80	98.2	8.9	0.75	4.9	0.09	1.86	0.27	0
1	10	13.59	13.59	33.597	25.188	277.1	0.028	5.79	98.0	9.0	0.70	5.0	0.09	1.73	0.21	10
	20 ISL	13.51	13.51	33.603	25.210	275.4	0.055	5.72	96.7	9.4	0.68	5.5	0.09	1.78	0.26	20
1	21	13.50	13.50	33.604	25.212	275.1	0.058	5.71	96.5	9.4	0.68	5.5	0.09	1.79	0.27	21
	30 ISL	11.10	11.10	33.706	25.751	224.0	0.081	3.98	64.0	18.6	1.09	17.0	0.08	0.77	0.26	30
1	31	10.82	10.82	33.722	25.813	218.1	0.083	3.79	60.5	19.7	1.14	18.3	0.08	0.65	0.26	31
1	39	10.22	10.22	33.757	25.945	205.7	0.100	3.45	54.4	22.7	1.33	20.9	0.03	0.29	0.18	39
	50 ISL	10.03	10.02	33.778	25.994	201.3	0.122	3.36	52.8	24.0	1.42	21.8	0.02	0.23	0.17	50
1	51	10.03	10.02	33.779	25.995	201.3	0.124	3.35	52.6	24.0	1.42	21.8	0.02	0.22	0.17	51
1	60	9.80	9.79	33.802	26.052	196.1	0.142	3.25	50.8	25.1	1.49	22.7	0.02	0.14	0.14	60
1	71	9.60	9.59	33.832	26.108	190.9	0.163	3.14	48.9	26.5	1.56	23.6	0.02.	0.07	0.11	72
	75 ISL	9.48	9.47	33.854	26.145	187.5	0.171	3.07	47.6	27.5	1.59	24.1	0.02	0.05	0.10	76
1	85	9.18	9.17	33.918	26.244	178.2	0.189	2.88	44.4	30.4	1.66	25.6	0.01	0.03	0.08	86
1	99	8.88	8.87	33.994	26.351	168.3	0.213	2.59	39.7	34.5	1.75	27.2	0.01	0.01	0.08	100
	100 ISL	8.87	8.86	33.997	26.355	167.9	0.215	2.58	39.5	34.7	1.76	27.3	0.01	0.01	0.08	101
1	119	8.66	8.65	34.043	26.424	161.7	0.246	2.34	35.7	37.7	1.87	28.7	0.01	0.03	0.09	120
	125 ISL	8.60	8.59	34.061	26.448	159.6	0.256	2.24	34.1	38.9	1.90	29.2	0.01	0.03	0.08	126
1	144	8.43	8.42	34.112	26.514	153.6	0.286	1.93	29.3	42.4	1.98	30.5	0.01	0.01	0.06	145
	150 ISL	8.38	8.36	34.121	26.529	152.3	0.295	1.88	28.5	43.1	2.00	30.7	0.01	0.01	0.06	151
1	175	8.20	8.18	34.145	26.575	148.3	0.333	1.72	26.0	45.5	2.09	31.5	0.01	0.02	0.05	176
	200 ISL	8.02	8.00	34.174	26.625	144.0	0.369	1.48	22.3	48.4	2.19	32.6	0.02	0.01	0.05	202
1	204	7.99	7.97	34.179	26.634	143.2	0.375	1.44	21.6	49.0	2.21	32.8	0.02	0.01	0.05	206
1	233	7.69	7.67	34.214	26.706	136.8	0.415	1.10	16.4	54.5	2.35	34.5	0.04			235
	250 ISL	7.58	7.56	34.226	26.731	134.7	0.439	1.01	15.0	56.7	2.39	35.1	0.03			252
1	272	7.46	7.43	34.236	26.756	132.6	0.468	0.93	13.8	59.1	2.43	35.6	0.02			274
	300 ISL	7.28	7.25	34.252	26.795	129.3	0.505	0.81	12.0	62.1	2.49	36.2	0.01			302
1	327	7.09	7.06	34.267	26.833	126.0	0.539	0.70	10.3	65.2	2.55	36.8	0.01			330
1	386	6.59	6.55	34.300	26.928	117.6	0.611	0.49	7.1	74.0	2.65	38.5	0.02			389
	400 ISL	6.52	6.48	34.305	26.941	116.5	0.627	0.47	6.8	75.5	2.67	38.7	0.02			403
1	450	6.30	6.26	34.320	26.982	113.1	0.685	0.41	5.9	80.3	2.72	39.2	0.02			454
	500 ISL	5.96	5.92	34.341	27.043	107.8	0.740	0.31	4.4	85.3	2.80	39.9	0.01			504
1	517	5.85	5.81	34.349	27.063	106.0	0.758	0.27	3.9	87.0	2	40.1	0.00			522

RV DAVID STARR JORDAN CALCOFI CRUISE 8805 STATION 87 50

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT TYPE
33 19.3 N	119 39.4 W	07/05/88	1021 UTC	79 M	290	20 KT			1019.5 MB	13.2 C	12.1 C	

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 7 8	SIGMA THETA	SVA	DYN HT	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	13.47	13.47	33.581	25.200	275.7	0.000	6.20	104.7	7.0	0.65	3.2	0.09	4.26	0.93	0
1	1	13.47	13.47	33.581	25.200	275.8	0.003	6.20	104.7	7.0	0.65	3.2	0.09	4.26	0.93	1
	10 ISL	13.42	13.42	33.581	25.211	275.0	0.028	6.17	104.1	7.4	0.63	3.8	0.10	3.69	0.98	10
1	11	13.41	13.41	33.581	25.213	274.8	0.030	6.17	104.1	7.4	0.63	3.9	0.10	3.58	0.98	11
1	20	13.21	13.21	33.585	25.256	270.9	0.055	6.14	103.1	9.4	0.69	5.7	0.14	2.30	0.75	20
	30 ISL	13.14	13.14	33.585	25.270	269.8	0.082	5.89	98.8	10.1	0.72	6.4	0.15	1.85	0.64	30
1	31	13.13	13.13	33.585	25.272	269.7	0.085	5.86	98.3	10.1	0.72	6.5	0.15	1.84	0.64	31
1	41	12.93	12.92	33.590	25.316	265.8	0.111	5.63	94.0	11.3	0.76	7.7	0.16	1.57	0.67	41
	50 ISL	12.33	12.32	33.614	25.452	253.1	0.135	5.10	84.1	13.8	0.90	10.9	0.17	1.01	0.54	50
1	51	12.25	12.24	33.618	25.470	251.4	0.137	5.03	82.8	14.2	0.92	11.3	0.17	0.94	0.52	51
1	67	10.71	10.70	33.723	25.83 4	217.0	0.175	3.87	61.7	21.8	1.27	18.5	0.14	0.29	0.27	68

PV DAVID STARR JORDAN CALCOFI CRUISE 8805 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	07/05/88	1346 UTC	1223 M	280	18 KT	300 02 03	1	1020.9 MB	14.5 C	12.6 C	7/8	CU

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	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	33.400	24.847	309.4	0.000	5.95	102.5	3.0		0.4	0.03	0.54	0.13	0
1	1		14.50	14.50	33.400	24.847	309.4	0.003	5.95	102.5	3.0		0.4	0.03	0.54	0.13	1
1	10		14.47	14.47	33.403	24.856	308.8	0.031	5.99	103.1	3.1		0.5	0.04	0.56	0.14	10
	20	ISL	14.42	14.42	33.409	24.871	307.6	0.062	5.97	102.7	3.1		0.6	0.04	0.56	0.21	20
1	21		14.41	14.41	33.410	24.874	307.4	0.065	5.97	102.7	3.1		0.6	0.04	0.56	0.22	21
	30	ISL	14.37	14.37	33.420	24.891	306.0	0.092	6.00	103.1	3.3		0.9	0.06	0.52	0.15	30
1	31		14.37	14.37	33.421	24.891	306.0	0.095	6.00	103.1	3.3		0.9	0.06	0.52	0.14	31
1	41		14.34	14.33	33.424	24.900	305.4	0.126	5.95	102.2	3.2		1.0	0.06	0.53	0.18	41
1	50		14.22	14.21	33.429	24.930	302.9	0.153	5.94	101.8	3.5		1.2	0.07	0.53	0.19	50
1	60		13.78	13.77	33.474	25.056	291.2	0.183	5.82	98.8	4.7		2.9	0.18	0.55	0.22	60
1	72		12.44	12.43	33.460	25.312	267.0	0.217	5.19	85.7	8.1		8.3	0.15	0.35	0.37	73
	75	ISL	12.09	12.08	33.472	25.388	259.8	0.225	4.96	81.3	9.5		10.1	0.12	0.30	0.34	76
1	86		11.01	11.00	33.542	25.641	235.8	0.252	4.18	67.0	14.4		16.0	0.02	0.14	0.16	87
	100	ISL	10.40	10.39	33.627	25.814	219.6	0.284	3.79	59.9	18.1		19.1	0.02	0.06	0.08	101
1	101		10.37	10.36	33.633	25.824	218.7	0.286	3.78	59.7	18.3		19.2	0.02	0.06	0.08	102
1	121		9.76	9.75	33.742	26.012	201.1	0.328	3.45	53.8	22.3		22.1	0.02	0.01	0.06	122
	125	ISL	9.61	9.60	33.772	26.061	196.5	0.336	3.39	52.7	23.5		22.7	0.02	0.01	0.06	126
1	146		8.89	8.87	33.918	26.291	175.0	0.375	3.16	48.4	29.6		25.5	0.02	0.01	0.04	147
	150	ISL	8.82	8.80	33.931	26.312	173.0	0.382	3.13	47.9	30.3		25.8	0.02	0.01	0.04	151
1	177		8.48	8.46	33.976	26.400	165.0	0.427	2.97	45.1	33.7		27.0	0.01	0.01	0.04	178
	200	ISL	8.21	8.19	34.012	26.470	158.8	0.465	2.91	43.9	36.6		27.8	0.01	0.01	0.06	202
1	205		8.14	8.12	34.018	26.485	157.4	0.473	2.89	43.5	37.4		28.0	0.01	0.01	0.06	207
1	236		7.38	7.36	34.034	26.608	145.9	0.520	2.56	37.9	45.6		30.8	0.01			238
	250	ISL	7.25	7.23	34.039	26.631	144.0	0.540	2.47	36.5	47.6		31.5	0.01			252
1	275		7.12	7.09	34.048	26.656	141.9	0.576	2.31	34.0	50.5		32.5	0.01			277
	300	ISL	6.86	6.83	34.061	26.702	137.7	0.610	2.01	29.4	55.2		34.1	0.01			302
1	329		6.57	6.54	34.088	26.763	132.3	0.650	1.59	23.1	61.2		36.0	0.00			332
1	387		6.27	6.24	34.198	26.889	121.0	0.723	0.76	11.0	72.0		39.2	0.00			390
	400	ISL	6.21	6.17	34.216	26.911	119.0	0.739	0.67	9.7	73.8		39.5	0.00			403
1	451		6.00	5.96	34.271	26.982	112.9	0.798	0.49	7.0	79.5		40.3	0.00			455
	500	ISL	5.75	5.71	34.300	27.036	108.1	0.852	0.37	5.3	83.8		41.2	0.00			504
1	519		5.65	5.61	34.312	27.058	106.2	0.872	0.33	4.7	85.5		41.6	0.00			524

RV DAVID STARR JORDAN CALCOFI CRUISE 8805 STATION 87 60

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
32 59.2 N	120 20.9 W	07/05/88	2227 UTC	7 42 M	280	15 KT	310 04 06	1	1019.9 MB	16.5 C	14.4 C	5/8	CU

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	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	14.94	14.94	33.400	24.752	318.3	0.000	5.96	103.6	2.8	0.34	0.0	0.00	0.31	0.09	0
1	1		14.94	14.94	33.400	24.752	318.4	0.003	5.96	103.6	2.8	0.34	0.0	0.00	0.31	0.09	1
	10	ISL	14.89	14.89	33.398	24.762	317.7	0.032	5.97	103.7	2.9	0.35	0.0	0.00	0.32	0.10	10
1	12		14.87	14.87	33.397	24.766	317.4	0.038	5.97	103.6	2.9	0.35	0.0	0.00	0.33	0.10	12
	20	ISL	14.84	14.84	33.395	24.771	317.2	0.064	5.97	103.6	2.8	0.35	0.0	0.00	0.35	0.11	20
1	21		14.84	14.84	33.395	24.771	317.2	0.067	5.97	103.6	2.8		0.0	0.00	0.35	0.11	21
	30	ISL	14.82	14.82	33.393	24.774	317.2	0.095	5.97	103.5	2.6	0.34	0.0	0.00	0.40	0.13	30
1	31		14.82	14.82	33.393	24.774	317.2	0.098	5.97	103.5	2.6		0.0	0.00	0.41	0.13	31
1	42		14.81	14.80	33.399	24.781	316.9	0.133	5.95	103.1	2.4	0.34	0.0	0.00	0.46	0.13	42
	50	ISL	14.59	14.58	33.396	24.826	312.8	0.158	5.89	101.6	2.7	0.39	0.4	0.04	0.58	0.17	50
1	52		14.53	14.52	33.395	24.838	311.7	0.165	5.88	101.4	2.8	0.40	0.5	0.05	0.61	0.20	52
1	62		12.48	12.47	33.383	25.244	273.1	0.194	5.33	88.1	6.0	0.77	6.6	0.26	0.58	0.48	62
1	72		11.84	11.83	33.447	25.415	257.0	0.220	4.91	80.0	9.4	1.01	10.7	0.09	0.43	0.43	73
	75	ISL	11.64	11.63	33.467	25.468	252.1	0.228	4.76	77.3	10.5	1.08	11.9	0.06	0.36	0.37	76
1	85		11.00	10.99	33.539	25.640	235.8	0.253	4.26	68.2	14.3	1.28	15.5	0.02	0.15	0.17	86
1	99		10.18	10.17	33.657	25.875	213.7	0.284	3.73	58.7	18.8	1.51	19.5	0.01	0.06	0.08	100
	100	ISL	10.15	10.14	33.661	25.883	212.9	0.286	3.72	58.5	19.0	1.51	19.6	0.01	0.06	0.08	101
1	120		9.87	9.86	33.714	25.97 2	204.9	0.328	3.57	55.8	21.0	1.58	21.1	0.01	0.03	0.07	121
	125	ISL	9.75	9.74	33.738	26.011	201.3	0.338	3.53	55.1	21.8	1.61	21.6	0.01	0.02	0.07	126
1	145		9.25	9.23	33.839	26.172	186.3	0.377	3.39	52.3	25.4	1.71	23.4	0.01	0.01	0.05	146
	150	ISL	9.15	9.13	33.861	26.205	183.2	0.386	3.36	51.7	26.2	1.73	23.8	0.01	0.01	0.05	151
1	175		8.66	8.64	33.950	26.352	169.6	0.430	3.30	50.3	30.1	1.82	25.2	0.01	0.02	0.05	176
	200	ISL	8.12	8.10	33.996	26.471	158.6	0.471	3.36	50.6	34.3	1.85	26.1	0.01	0.03	0.04	202
1	204		8.04	8.02	34.000	26.486	157.3	0.478	3.37	50.6	35.0	1.85	26.2	0.01	0.03	0.04	206
1	233		7.71	7.69	34.011	26.543	152.2	0.522	3.21	47.9	39.1	1.95	27.6	0.01			235
	250	ISL	7.49	7.47	34.021	26.583	148.6	0.548	2.96	43.9	42.8	2.06	29.1	0.01			252
1	272		7.21	7.18	34.035	26.633	144.0	0.580	2.57	37.9	48.0	2.22	31.3	0.01			27 4
	300	ISL	6.89	6.86	34.048	26.688	139.1	0.620	2.17	31.8	53.5	2.37	33.3	0.01			302
1	327		6.61	6.58	34.061	26.736	134.8	0.657	1.82	26.5	58.5	2.50	35.0	0.00			330
1	385		6.14	6.11	34.105	26.832	126.2	0.732	1.20	17.3	69.0	2.75	38.1	0.00			388
	400	ISL	6.06	6.03	34.129	26.861	123.6	0.751	1.04	14.9	71.6	2.82	38.8	0.00			403
1	448		5.84	5.80	34.202	26.947	115.9	0.809	0.62	8.9	78.9	2.99	40.5	0.00			452
	500	ISL	5.60	5.56	34.232	27.001	111.3	0.868	0.49	7.0	84.7	3.06	41.5	0.00			504
1	514		5.54	5.50	34.240	27.014	110.1	0.883	0.45	6.4	86.3	3.08	41.8	0.00			518

RV DAVID STARR JORDAN CALCOFI CRUISE 8805 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	08/05/88	0420 UTC	3924 M	300	13 KT			1019.8 MB	14.5 C	12.5 C	

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	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	14.82	14.82	33.310	24.709	322.5	0.000	5.97	103.5	3.3		0.0	0.00	0.11	0.03	0
1	2	14.82	14.82	33.310	24.709	322.5	0.006	5.97	103.5	3.3		0.0	0.00	0.11	0.03	2
	10 ISL	14.81	14.81	33.310	24.711	322.6	0.032	5.98	103.6	3.2		0.0	0.00	0.11	0.02	10
1	17	14.81	14.81	33.309	24.711	322.8	0.055	5.98	103.6	3.1		0.0	0.00	0.11	0.02	17
	20 ISL	14.79	14.79	33.309	24.715	322.5	0.065	5.96	103.2	3.1		0.0	0.00	0.11	0.02	20
	30 ISL	14.71	14.71	33.309	24.733	321.1	0.097	5.92	102.4	2.9		0.0	0.00	0.13	0.03	30
1	31	14.70	14.70	33.309	24.735	320.9	0.100	5.92	102.3	2.9		0.0	0.00	0.13	0.03	31
1	41	14.70	14.69	33.309	24.735	321.2	0.132	5.97	103.2	2.7		0.0	0.00	0.14	0.03	41
	50 ISL	14.66	14.65	33.305	24.741	320.9	0.161	5.98	103.3	2.6		0.0	0.00	0.18	0.05	50
1	51	14.65	14.64	33.305	24.743	320.8	0.164	5.98	103.3	2.6		0.0	0.00	0.19	0.05	51
1	61	13.85	13.84	33.312	24.916	304.5	0.195	6.03	102.5	2.5		0.4	0.11	0.37	0.11	61
1	71	13.32	13.31	33.339	25.045	292.4	0.225	5.86	98.5	3.2		2.0	0.24	0.36	0.14	72
	75 ISL	13.07	13.06	33.355	25.107	286.6	0.237	5.70	95.3	3.9		3.3	0.21	0.35	0.16	76
1	79	12.81	12.80	33.373	25.173	280.4	0.248	5.52	91.8	4.6		4.6	0.17	0.34	0.18	80
1	95	12.00	11.99	33.444	25.384	260.7	0.291	5.04	82.4	7.4		8.4	0.06	0.28	0.22	96
	100 ISL	11.63	11.62	33.469	25.47 2	252.3	0.304	4.85	78.7	9.1		10.4	0.04	0.21	0.18	101
1	II0	10.89	10.88	33.531	25.654	235.1	0.329	4.47	71.4	12.9		14.4	0.01	0.07	0.10	111
1	124	10.10	10.09	33.654	25.887	213.2	0.360	4.05	63.6	17.3		18.2	0.01	0.02	0.05	125
	125 ISL	10.06	10.05	33.663	25.901	211.8	0.362	4.01	63.0	17.7		18.5	0.01	0.02	0.05	126
1	148	9.36	9.34	33.826	26.144	189.0	0.408	3.31	51.2	25.0		23.6	0.00	0.01	0.04	149
	150 ISL	9.32	9.30	33.835	26.158	187.8	0.412	3.28	50.7	25.4		23.8	0.00	0.01	0.04	151
1	174	8.88	8.86	33.916	26.292	175.5	0.456	3.09	47.3	29.7		25.7	0.00	0.01	0.05	175
	200 ISL	8.42	8.40	33.991	26.422	163.4	0.500	2.85	43.2	34.4		27.7	0.00	0.00	0.05	202
1	203	8.37	8.35	33.998	26.435	162.2	0.505	2.83	42.9	34.9		27.9	0.00	0.00	0.05	205
1	233	8.07	8.05	34.030	26.505	156.0	0.552	2.67	40.2	38.9		28.9	0.00			235
	250 ISL	7.83	7.81	34.038	26.547	152.2	0.578	2.60	38.9	41.6		29.7	0.00			252
1	273	7.48	7.45	34.044	26.603	147.1	0.613	2.47	36.6	45.7		31.1	0.00			275
	300 ISL	7.08	7.05	34.052	26.665	141.4	0.652	2.19	32.2	51.4		33.0	0.00			302
1	327	6.72	6.69	34.064	26.724	136.0	0.689	1.85	27.0	57.4		35.0	0.00			330
1	385	6.19	6.16	34.120	26.838	125.7	0.765	1.13	16.3	69.5		38.6	0.00			388
	400 ISL	6.10	6.06	34.136	26.862	123.5	0.784	1.00	14.4	71.6		39.1	0.00			403
1	449	5.87	5.83	34.186	26.931	117.5	0.843	0.67	9.6	77.4		40.4	0.00			453
	500 ISL	5.61	5.57	34.222	26.991	112.2	0.902	0.51	7.2	83.4		41.4	0.00			504
1	515	5.53	5.49	34.233	27.010	110.5	0.918	0.46	6.5	85.2		41.7	0.00			519

RV DAVID STARR JORDAN CALCOFI CRUISE 8805 STATION 87 80

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT TYPE
32 19.8 N	121 43.0 W	08/05/88	1000 UTC	4221 M	290	12 KT			1021.9 MB	14.8 C	13.2 C	

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	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	33.330	24.688	324.5	0.000	5.94	103.3	2.1		0.0	0.00	0.11	0.03	0
1	1	14.99	14.99	33.330	24.688	324.5	0.003	5.94	103.3	2.1		0.0	0.00	0.11	0.03	1
	10 ISL	14.97	14.97	33.330	24.692	324.4	0.032	5.94	103.3	2.0		0.0	0.00	0.12	0.03	10
1	16	14.96	14.96	33.330	24.695	324.3	0.052	5.95	103.4	2.0		0.0	0.00	0.12	0.03	16
	20 ISL	14.96	14.96	33.330	24.695	324.4	0.065	5.95	103.4	2.0		0.0	0.00	0.12	0.03	20
	30 ISL	14.96	14.96	33.329	24.694	324.8	0.097	5.96	103.6	2.0		0.0	0.00	0.12	0.03	30
1	31	14.96	14.96	33.329	24.694	324.8	0.101	5.96	103.6	2.0		0.0	0.00	0.12	0.03	31
1	41	14.88	14.87	33.322	24.707	323.9	0.133	5.97	103.6	1.9		0.0	0.00	0.13	0.04	41
	50 ISL	14.82	14.81	33.318	24.717	3 23.2	0.162	5.96	103.3	1.8		0.0	0.00	0.17	0.04	50
1	51	14.81	14.80	33.317	24.718	3 23.1	0.165	5.96	103.3	1.8		0.0	0.00	0.17	0.04	51
1	61	14.74	14.73	33.301	24.721	323.1	0.198	5.99	103.6	1.8		0.0	0.00	0.20	0.07	61
1	71	13.90	13.89	33.220	24.835	312.5	0.229	6.08	103.4	1.7		0.1	0.03	0.66	0.20	72
	75 ISL	13.44	13.43	33.217	24.927	303.8	0.242	6.03	101.5	1.8		1.0	0.03	0.71	0.30	76
1	80	12.88	12.87	33.230	25.048	292.3	0.257	5.92	98.5	2.0		2.5	0.03	0.77	0.41	81
1	95	11.89	11.88	33.317	25.305	268.1	0.299	5.26	85.8	6.0		7.5	0.04	0.24	0.18	96
	100 ISL	11.54	11.53	33.354	25.399	259.2	0.312	5.03	81.4	7.8		9.4	0.03	0.16	0.13	101
1	II0	10.89	10.88	33.450	25.591	241.1	0.337	4.52	72.2	11.9		13.6	0.02	0.08	0.08	111
1	124	10.16	10.15	33.653	25.876	214.2	0.369	3.71	58.4	18.8		19.7	0.01	0.02	0.06	125
	125 ISL	10.12	10.11	33.662	25.890	212.9	0.371	3.68	57.9	19.1		20.0	0.01	0.02	0.06	126
1	150	9.38	9.36	33.806	26.125	190.9	0.421	3.25	50.3	24.7		23.7	0.00	0.01	0.04	151
1	175	8.89	8.87	33.938	26.307	174.0	0.467	2.99	45.8	30.2		25.8	0.01	0.00	0.03	176
	200 ISL	8.43	8.41	34.027	26.448	160.9	0.509	2.62	39.7	36.4		28.3	0.00	0.00	0.03	202
1	205	8.35	8.33	34.039	26.470	158.9	0.517	2.55	38.6	37.5		28.7	0.00	0.00	0.03	207
1	233	7.96	7.94	34.059	26.544	152.2	0.560	2.42	36.3	41.2		30.0	0.00			235
	250 ISL	7.72	7.70	34.060	26.580	149.0	0.586	2.35	35.1	43.7		30.8	0.00			252
1	272	7.42	7.39	34.059	26.623	145.2	0.618	2.22	32.9	47.3		31.9	0.00			274
	300 ISL	7.07	7.04	34.069	26.680	140.0	0.658	1.94	28.5	52.5		33.7	0.00			302
1	328	6.76	6.73	34.086	26.736	135.0	0.697	1.62	23.6	57.8		35.5	0.00			331
1	385	6.32	6.29	34.139	26.836	126.0	0.771	1.04	15.0	67.6		38.4	0.00			388
	400 ISL	6.25	6.21	34.150	26.854	124.5	0.790	0.94	13.6	69.3		38.8	0.00			403
1	448	6.03	5.99	34.182	26.908	119.9	0.849	0.71	10.2	74.6		39.9	0.00			452
	500 ISL	5.56	5.52	34.219	26.995	111.8	0.909	0.51	7.2	83.8		41.6	0.00			504
1	516	5.41	5.37	34.231	27.023	109.2	0.926	0.45	6.4	86.6		42.1	0.00			520

RV DAVID STARR JORDAN — CALCOFI CRUISE 8805 — STATION 87 90

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
31 59.A N	122 23.7 W	08/05/88	1535 UTC	3829 M	270	11 KT	330 04 05	1	1023.1 MB	15.6 C	12.9 C	7/8	SC

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 7 8	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	POA UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
1	0	1A.7A	1A.7A	33.29A	2A.71A	322.0	0.000	5.99	103.6	2.2		0.0	0.00	0.12	0.0A	0
	10 ISL	1A.73	1A.73	33.29A	2A.716	322.1	0.032	5.99	103.6	2.1		0.0	0.00	0.11	0.04	10
1	15	1A.72	14.72	33.29A	24.719	322.0	0.048	5.99	103.6	2.1		0.0	0.00	0.10	0.04	15
	20 ISL	14.58	14.58	33.306	24.758	318.4	0.064	6.02	103.8	2.1		0.0	0.00	0.15	0.05	20
1	30	14.33	14.33	33.353	24.847	310.2	0.096	6.06	104.0	2.0		0.1	0.03	0.26	0.09	30
1	40	14.33	14.32	33.430	24.907	304.8	0.126	6.01	103.2	2.0		0.4	0.09	0.34	0.14	40
1	50	14.30	14.29	33.448	24.927	303.1	0.157	5.98	102.6	1.9		0.7	0.09	0.35	0.18	50
1	60	13.57	13.56	33.375	25.022	294.3	0.187	5.81	98.2	2.3		2.3	0.48	0.41	0.29	60
1	70	12.45	12.44	33.344	25.220	275.7	0.215	5.33	88.0	5.5		6.8	0.10	0.32	0.20	71
	75 ISL	12.17	12.16	33.394	25.312	267.0	0.229	5.25	86.2	6.0		8.0	0.40	0.29	0.19	76
1	80	11.92	11.91	33.454	25.406	258.1	0.242	5.15	84.1	6.8		9.2	0.71	0.26	0.19	81
1	95	10.46	10.45	33.524	25.723	228.1	0.278	4.14	65.5	15.9		17.0	0.03	0.05	0.07	96
	100 ISL	10.15	10.14	33.573	25.815	219.5	0.290	3.92	61.6	17.9		18.8	0.02	0.04	0.06	101
1	109	9.77	9.76	33.669	25.954	206.4	0.309	3.62	56.5	20.8		21.1	0.01	0.02	0.05	II0
1	123	9.62	9.61	33.785	26.069	195.7	0.337	3.26	50.7	24.2		23.0	0.01	0.01	0.08	124
	125 ISL	9.57	9.56	33.795	26.085	194.2	0.341	3.27	50.8	24.4		23.1	0.01	0.01	0.08	126
1	150	8.85	8.83	33.890	26.275	176.5	0.387	3.41	52.2	27.8		24.2	0.01	0.01	0.03	151
1	174	8.45	8.43	34.002	26.425	162.6	0.428	2.76	41.9	35.2		27.6	0.01	0.00	0.03	175
	200 ISL	8.34	8.32	34.023	26.459	159.9	0.470	2.67	40.4	36.9		28.1	0.01	0.00	0.03	202
1	204	8.32	8.30	34.021	26.461	159.8	0.476	2.66	40.2	37.1		28.2	0.01	0.00	0.03	206
1	234	7.70	7.68	34.046	26.572	149.5	0.523	2.45	36.5	43.8		30.3	0.00			236
	250 ISL	7.44	7.42	34.052	26.614	145.6	0.546	2.31	34.2	47.1		31.4	0.00			252
1	273	7.14	7.11	34.057	26.661	141.4	0.579	2.09	30.8	51.4		32.8	0.01			275
	300 ISL	6.87	6.84	34.066	26.705	137.5	0.617	1.83	26.8	55.9		34.3	0.01			302
1	329	6.63	6.60	34.080	26.748	133.7	0.656	1.55	22.5	60.5		35.7	0.01			332
1	387	6.19	6.16	34.137	26.851	124.5	0.731	0.95	13.7	70.5		38.5	0.01			3 90
	400 ISL	6.11	6.07	34.151	26.873	122.6	0.747	0.85	12.2	72.6		39.0	0.01			403
1	449	5.84	5.80	34.200	26.945	116.1	0.806	0.57	8.1	80.1		40.6	0.01			453
	500 ISL	5.54	5.50	34.242	27.016	109.8	0.863	0.41	5.8	87.1		41.8	0.00			504
1	515	5.45	5.41	34.255	27.037	107.9	0.879	0.36	5.1	89.2		42.1	0.00			519

RV DAVID STARR JORDAN — CALCOFI CRUISE 8805 — 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	05/05/88	1849 UTC	77 M	240	10 KT	230 03 07	1	1018.2 MB	14.9 C	11.6 C	3/8	CU

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	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	13.87	13.87	33.557	25.100	285.3	0.000	5.88	100.1	9.5	0.68	4.0	0.09	3.68	0.72	0
1	1	13.87	13.87	33.557	25.100	285.3	0.003	5.88	100.1	9.5	0.68	4.0	0.09	3.68	0.72	1
	10 ISL	13.66	13.66	33.560	25.146	281.2	0.028	5.75	97.5	10.0	0.69	4.7	0.10	3.50	0.70	10
1	11	13.62	13.62	33.562	25.155	280.3	0.031	5.74	97.2	10.1	0.69	4.8	0.10	3.49	0.70	11
1	20	13.11	13.11	33.593	25.282	268.5	0.056	5.20	87.2	12.2	0.85	8.6	0.14	4.07	0.67	20
1	30	12.72	12.72	33.606	25.370	260.4	0.082	4.84	80.5	13.9	1.00	11.4	0.18	3.61	0.62	30
1	40	11.84	11.83	33.628	25.555	243.0	0.107	4.16	67.9	16.7	1.22	15.8	0.27	3.08	0.37	40
	50 ISL	10.66	10.65	33.733	25.851	215.0	0.130	3.33	53.0	21.6	1.49	20.8	0.15	0.67	0.26	50
1	51	10.55	10.54	33.749	25.882	212.0	0.132	3.25	51.6	22.2	1.52	21.3	0.13	0.44	0.26	51
1	61	9.99	9.98	33.945	26.131	188.5	0.153	2.61	41.0	28.5	1.81	24.5	0.09	0.21	0.28	61

RV DAVID STARR JORDAN — CALCOFI CRUISE 8805 — 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 54.3 W	05/05/88	1555 UTC	611 M	240	17 KT	240 03 09	1	1016.3 MB	15.0 C	12.4 C	7/8	SC

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	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	15.64	15.64	33.482	24.662	3 26.9	0.000	6.03	106.3	2.9	0.44	0.1	0.00	0.52	0.23	0
1	1	15.64	15.64	33.482	24.662	327.0	0.003	6.03	106.3	2.9	0.44	0.1	0.00	0.52	0.23	1
	10 ISL	15.62	15.62	33.480	24.665	327.0	0.033	6.06	106.8	2.9	0.41	0.1	0.00	0.52	0.22	10
1	12	15.61	15.61	33.479	24.667	326.9	0.039	6.07	107.0	2.9	0.40	0.1	0.00	0.52	0.22	12
	20 ISL	15.25	15.25	33.487	24.753	318.9	0.065	6.02	105.3	3.1	0.37	0.1	0.01	0.77	0.43	20
1	21	15.21	15.21	33.475	24.752	319.0	0.068	6.01	105.1	3.1	0.37	0.1	0.01	0.80	0.46	21
	30 ISL	13.49	13.49	33.481	25.120	284.2	0.095	5.26	88.8	6.3	0.56	5.4	0.27	0.90	0.51	30
1	31	13.28	13.28	33.485	25.165	279.9	0.098	5.16	86.7	6.8	0.59	6.1	0.29	0.91 A	0.51 A	31
1	41	12.11	12.10	33.542	25.438	254.2	0.125	4.40	72.2	11.4	0.87	12.3	0.14	0.49	0.67	41
1	50	11.30	11.29	33.636	25.661	233.1	0.147	3.84	62.0	15.8	1.10	16.3	0.03	0.18	0.23	50
1	61	10.93	10.92	33.666	25.751	224.8	0.172	3.64	58.3	17.8	1.24	18.0	0.02	0.13	0.17	61
1	70	10.68	10.67	33.724	25.840	216.5	0.192	3.43	54.6	19.8	1.34	19.5	0.02	0.08	0.16	71
	75 ISL	10.44	10.43	33.788	25.932	207.8	0.202	3.20	50.7	22.0	1.44	20.9	0.02	0.05	0.14	76
1	84	10.00	9.99	33.913	26.105	191.5	0.220	2.77	43.5	26.2	1.61	23.6	0.03	0.02	0.11	85
1	98	9.66	9.65	34.028	26.252	177.8	0.246	2.41	37.6	30.4	1.76	25.9	0.01	0.01	0.09	99
	100 ISL	9.62	9.61	34.035	26.264	176.7	0.250	2.40	37.4	30.7	1.77	26.1	0.01	0.01	0.09	101
1	119	9.29	9.28	34.066	26.343	169.6	0.283	2.34	36.2	33.1	1.87	27.1	0.02	0.01	0.07	120
	125 ISL	9.18	9.17	34.084	26.375	166.7	0.293	2.26	34.9	34.3	1.91	27.6	0.02	0.01	0.07	126
1	142	8.92	8.90	34.134	26.455	159.3	0.321	1.99	30.5	37.7	2.01	29.1	0.00	0.00	0.06	143
	150 ISL	8.88	8.86	34.149	26.474	157.7	0.333	1.89	29.0	38.7	2.05	29.5	0.00	0.00	0.06	151
1	172	8.82	8.80	34.176	26.505	155.2	0.368	1.70	26.0	40.6	2.13	30.0	0.00	0.00	0.05	173
	200 ISL	8.65	8.63	34.184	26.538	152.6	0.411	1.61	24.6	42.7	2.16	30.4	0.00	0.00	0.05	202
1	201	8.64	8.62	34.184	26.539	152.4	0.412	1.61	24.6	42.8	2.16	30.4	0.00	0.00	0.05	203
1	230	8.44	8.42	34.191	26.576	149.4	0.456	1.52	23.1	45.1	2.24	31.3	0.01			232
	250 ISL	8.16	8.13	34.196	26.623	145.3	0.486	1.40	21.1	48.0	2.31	32.2	0.01			252
1	270	7.84	7.81	34.204	26.677	140.3	0.514	1.25	18.7	51.6	2.38	33.2	0.00			272
	300 ISL	7.43	7.40	34.224	26.752	133.5	0.555	0.99	14.7	57.5	2.49	34.8	0.00			302
1	323	7.16	7.13	34.241	26.803	128.8	0.585	0.80	11.8	61.8	2.57	35.9	0.00			326
1	382	6.72	6.68	34.268	26.885	121.7	0.659	0.59	8.6	68.2	2.71	37.6	0.00			385
	400 ISL	6.60	6.56	34.277	26.908	119.6	0.681	0.54	7.9	70.3	2.74	38.0	0.00			403
1	444	6.33	6.29	34.298	26.961	115.1	0.733	0.43	6.2	75.5	2.81	39.0	0.00			448
	500 ISL	6.04	6.00	34.321	27.017	110.3	0.796	0.34	4.9	81.3	2.88	39.9	0.00			504
1	514	5.97	5.92	34.327	27.031	109.1	0.811	0.32	4.6	82.7	2.90	40.1	0.00			518

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

RV DAVID STARR JORDAN CALCOFI CRUISK 8805 STATION 90 33

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
33 19.0 N	118 6.7 W	05/05/88	1329 UTC	762 M	230	17 KT	240 04 09	1	1014.9 MB	14.1 C	11.0 C	5/8	CU

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	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	16.03	16.03	33.485	24.577	335.1	0.000	5^92	105.2	2.6	0.29	0.0	0.00	0.28	0.08	0
1	10	16.02	16.02	33.485	24.579	335.1	0.034	5.92	105.2	2.3	0.28	0.0	0.00	0.29	0.09	10
1	19	15.88	15.88	33.480	24.607	332.8	0.064	5.98	105.9	2.5	0.26	0.0	0.00	0.34	0.14	19
	20 ISL	15.72	15.72	33.478	24.642	329.5	0.067	5.96	105.3	2.6	0.27	0.2	0.01	0.47	0.17	20
1	29	13.94	13 94	33.481	25.027	293.0	0.095	5.76	98.2	4.9	0.34	1.8	0.10	1.46	0.43	29
	30 ISL	13.74	13.74	33.484	25.071	288.9	0.098	5.64	95.7	5.5	0.38	2.7	0.10	1.41	0.43	30
1	40	12.07	12.06	33.546	25.448	253.1	0.125	4.39	72.0	11.7	0.80	12.0	0.08	0.54	0.46	40
1	50	11.57	11.56	33.622	25.601	238.9	0.150	3.96	64.3	14.4	0.99	15.1	0.03	0.26 A	0.29 A	50
1	59	11.25	11.24	33.643	25.676	231.9	0.171	3.83	61.7	15.9	1.10	16.2	0.02	0.16	0.24	59
1	75	10.70	10.69	33.793	25.891	211.8	0.206	3.23	51.5	21.2	1.36	20.5	0.01	0.03	0.12	76
1	89	10.38	10.37	33.813	25.963	205.3	0.235	3.20	50.6	23.0	1.46	21.5	0.01	0.02	0.08	90
	100 ISL	10.06	10.05	33.914	26.096	192.8	0.257	2.85	44.8	26.3	1.60	23.6	0.01	0.01	0.07	101
1	103	9.98	9.97	33.944	26.133	189.3	0.263	2.74	43.0	27.3	1.64	24.2	0.01	0.01	0.07	104
1	124	9.67	9.66	34.023	26.247	178.9	0.302	2.49	38.8	30.4	1.80	25.8	0.01	0.01	0.07	125
	125 ISL	9.65	9.64	34.025	26.252	178.5	0.303	2.49	38.8	30.5	1.80	25.8	0.01	0.01	0.07	126
1	144	9.27	9.25	34.046	26.331	171.3	0.337	2.46	38.0	32.7	1.88	26.6	0.01	0.00	0.07	145
	150 ISL	9.19	9.17	34.057	26.352	169.3	0.347	2.42	37.4	33.8	1.91	26.9	0.01	0.00	0.07	151
1	174	8.92	8.90	34.102	26.431	162.3	0.387	2.18	33.4	38.2	2.02	28.4	0.01	0.00	0.07	175
	200 ISL	8.62	8.60	34.141	26.509	155.3	0.428	1.91	29.1	41.4	2.15	30.0	0.00	0.00	0.10	202
1	204	8.57	8.55	34.146	26.521	154.2	0.434	1.87	28.5	41.8	2.17	30.2	0.00	0.00	0.11	206
1	233	8.26	8.24	34.179	26.594	147.7	0.478	1.60	24.2	45.7	2.31	31.6	0.01			235
	250 ISL	8.09	8.06	34.190	26.628	144.7	0.503	1.45	21.8	48.2	2.36	32.4	0.01			252
1	273	7.85	7.82	34.201	26.673	140.8	0.536	1.27	19.0	51.7	2.43	33.4	0.01			275
	300 ISL	7.55	7.52	34.213	26.726	136.0	0.573	1.08	16.1	55.8	2.54	34.7	0.01			302
1	323	7.31	7.28	34.223	26.768	132.2	0.604	0.94	13.9	59.3	2.64	35.7	0.01			326
1	376	6.90	6.86	34.256	26.851	124.9	0.672	0.66	9.7	66.5	2.79	37.2	0.00			379
	400 ISL	6.68	6.64	34.272	26.894	121.1	0.701	0.55	8.0	70.5	2.86	37.9	0.00			403
1	435	6.36	6.32	34.295	26.954	115.6	0.743	0.41	5.9	76.2	2.94	38.8	0.00			43 9
1	499	5.91	5.87	34.331	27.041	107.9	0.814	0.30	4.3	83.9	3.00	40.4	0.00			503
	500 ISL	5.90	5.86	34.331	27.042	107.8	0.816	0.30	4.3	84.0	3.00	40.4	0.00			504
1	562	5.61	5.56	34.353	27.096	103.2	0.881	0.26	3.7	88.4	3.07	41.4	0.00			567
	600 ISL	5.43	5.38	34.370	27.131	100.1	0.920	0.26	3.7	92.0	3.08	41.7	0.00			605
1	621	5.34	5.29	34.379	27.149	98.5	0.940	0.26	3.7	94.0	3.08	41.8	0.00			627
1	671	5.16	5.10	34.394	27.183	95.7	0.989	0.26	3.7	98.2	3.11	42.6	0.00			677
	700 ISL	5.04	4.98	34.404	27.205	93.8	1.016	0.27	3.8	100.3	3.12	42.8	0.00			7 06
1	709	5.00	4.94	34.407	27.212	93.2	1.025	0.27	3.8	101.0	3.13	42.9	0.00			715
1	742	4.86	4.80	34.418	27.237	91.0	1.055	0.29	4.0	103.8	3.17	43.2	0.00			7 49

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

RV DAVID STARR JORDAN CALCOFI CRUISE 8805 .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 16.0 W	05/05/88	1043 UTC	247 M	250	18 KT			1014.5 MB	12.9 C	10.6 C		

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	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	15.72	15.72	33.472	24.636	329.4	0.000	6.02	106.3	2.8	0.39	0.0	0.00	0.61	0.19	0
1	10	15.73	15.73	33.472	24.634	329.9	0.033	6.02	106.3	2.7	0.36	0.0	0.00	0.61	0.17	10
1	20	15.71	15.71	33.472	24.639	329.8	0.066	6.03	106.5	2.6	0.32	0.0	0.00	0.67	0.26	20
1	30	14.77	14.77	33.494	24.862	308.8	0.098	6.02	104.3	3.3	0.34	0.3	0.03	2.11	0.53	30
1	40	12.69	12.68	33.513	25.304	266.9	0.127	4.86	80.7	8.3	0.68	8.8	0.16	0.96	0.44	40
1	50	12.11	12.10	33.553	25.446	253.6	0.153	4.37	71.7	10.7	0.86	12.0	0.14	0.61	0.47	50
1	60	11.32	11.31	33.661	25.677	231.8	0.177	3.71	59.9	15.6	1.15	16.9	0.05	0.18	0.32	60
1	69	10.79	10.78	33.736	25.831	217.4	0.197	3.44	54.9	19.0	1.32	19.6	0.04	0.09	0.15	70
	75 ISL	10.62	10.61	33.766	25.884	212.4	0.210	3.34	53.1	20.4	1.38	20.4	0.03	0.06	0.14	76
1	84	10.50	10.49	33.796	25.928	208.4	0.229	3.23	51.3	21.7	1.43	21.0	0.03	0.04	0.12	85
	100 ISL	10.36	10.35	33.850	25.995	202.4	0.262	3.06	48.4	23.2	1.52	21.9	0.03	0.02	0.09	101
1	103	10.33	10.32	33.860	26.008	201.2	0.268	3.03	47.9	23.5	1.54	22.1	0.03	0.02	0.09	104
1	123	9.91	9.90	33.946	26.147	188.4	0.307	2.77	43.4	27.5	1.68	24.6	0.02	0.01	0.07	124
	125 ISL	9.86	9.85	33.956	26.163	186.9	0.311	2.74	42.9	28.0	1.70	24.8	0.02	0.01	0.07	126
1	144	9.41	9.39	34.040	26.303	173.9	0.345	2.45	38.0	32.6	1.83	26.1	0.01	0.00	0.08	145
	150 ISL	9.35	9.33	34.056	26.326	171.9	0.355	2.38	36.9	33.4	1.86	26.5	0.01	0.00	0.08	151
1	174	9.16	9.14	34.099	26.390	166.2	0.396	2.13	32.9	36.3	1.97	28.2	0.01	0.00	0.07	175
	200 ISL	8.67	8.65	34.144	26.503	155.8	0.438	1.84	28.1	41.2	2.12	30.0	0.02	0.00	0.06	202
1	205	8.58	8.56	34.153	26.524	153.9	0.445	1.79	27.3	42.1	2.15	30.4	0.02	0.00	0.06	207

RV DAVID STARR JORDAN CALCOFI CRUISE 8805 STATION 90 37

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
33 11.1 N	118 23.2 W	05/05/88	0758 UTC	120A M	270	15 KT			1013.9 MB	12.9 C	10.5 C		

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	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	15.54	15.54	33.485	24.686	324.6	0.000	6.03	106.1	3.6	0.41	0.0	0.00	0.80	0.15	0
1	2		15.54	15.54	33.485	24.687	324.7	0.006	6.03	106.1	3.6	0.41	0.0	0.00	0.80	0.15	2
	10	ISL	15.52	15.52	33.486	24.692	324.4	0.032	6.04	106.3	3.5	0.39	0.0	0.00	0.83	0.14	10
1	17		15.51	15.51	33.486	24.694	324.4	0.055	6.05	106.4	3.4	0.37	0.0	0.00	0.86	0.14	17
	20	ISL	15.10	15.10	33.492	24.789	315.4	0.065	5.89	102.8	4.3	0.42	1.3	0.02	1.00	0.24	20
	30	ISL	13.70	13.70	33.529	25.114	284.8	0.095	5.29	89.7	7.5	0.60	5.7	0.09	1.33	0.55	30
1	31		13.56	13.56	33.534	25.146	281.7	0.098	5.23	88.5	7.8	0.62	6.2	0.10	1.35	0.58	31
1	42		13.22	13.21	33.557	25.233	273.8	0.128	4.94	83.0	9.4	0.68	8.1	0.13	0.94	0.47	42
	50	ISL	12.18	12.17	33.579	25.453	252.9	0.149	4.44	73.0	12.5	0.93	12.1	0.10	0.46	0.29	50
1	52		11.90	11.89	33.590	25.515	247.1	0.154	4.31	70.4	13.4	1.00	13.2	0.09	0.35	0.25	52
1	62		11.19	11.18	33.678	25.714	228.4	0.178	3.82	61.5	17.3	1.23	16.8	0.06	0.18	0.17	62
1	71		10.78	10.77	33.737	25.833	217.2	0.198	3.47	55.4	19.9	1.34	19.3	0.03	0.09	0.14	72
	75	ISL	10.77	10.76	33.742	25.83 9	216.7	0.207	3.45	55.1	20.0	1.38	19.3	0.03	0.09	0.14	76
1	79		10.75	10.74	33.747	25.846	216.1	0.215	3.43	54.7	20.0	1.41	19.2	0.03	0.09	0.14	80
1	95		10.41	10.40	33.812	25.957	206.0	0.249	3.19	50.5	22.6	1.49	21.1	0.02	0.04	0.08	96
	100	ISL	10.23	10.22	33.847	26.015	200.5	0.259	3.09	48.8	24.1	1.55	22.1	0.02	0.03	0.07	101
1	109		9.90	9.89	33.909	26.119	190.7	0.277	2.92	45.8	26.7	1.65	23.8	0.01	0.01	0.05	II0
1	125		9.62	9.61	33.969	26.213	182.1	0.307	2.77	43.1	29.0	1.76	24.9	0.00	0.01	0.05	126
1	149		9.33	9.31	34.074	26.343	170.2	0.349	2.36	36.5	33.8	1.91	26.9	0.01	0.00	0.05	150
	150	ISL	9.31	9.29	34.077	26.349	169.7	0.351	2.35	36.4	34.0	1.92	27.0	0.01	0.00	0.05	151
1	174		8.88	8.86	34.122	26.453	160.2	0.390	2.10	32.2	38.7	2.08	28.8	0.00	0.01	0.06	175
	200	ISL	8.60	8.58	34.140	26.511	155.1	0.431	1.95	29.7	41.4	2.14	29.9	0.00	0.01	0.07	202
1	204		8.56	8.54	34.142	26.519	154.4	0.437	1.92	29.2	41.8	2.15	30.0	0.00	0.01	0.07	206
1	232		8.20	8.18	34.184	26.607	146.4	0.480	1.51	22.8	47.1	2.32	31.7	0.00			234
	250	ISL	8.06	8.03	34.197	26.638	143.7	0.506	1.37	20.6	49.1	2.38	32.4	0.00			252
1	271		7.93	7.90	34.206	26.665	141.5	0.536	1.26	18.9	51.2	2.44	33.1	0.00			273
	300	ISL	7.65	7.62	34.223	26.720	136.7	0.576	1.05	15.7	55.6	2.55	34.3	0.00			302
1	326		7.38	7.35	34.239	26.771	132.1	0.611	0.87	12.9	59.6	2.65	35.4	0.00			329
1	382		6.94	6.90	34.265	26.853	124.9	0.683	0.65	9.5	66.3	2.78	37.0	0.00			3 85
	400	ISL	6.84	6.80	34.271	26.872	123.3	0.705	0.60	8.8	68.0	2.81	37.4	0.00			403
1	445		6.59	6.55	34.286	26.917	119.5	0.760	0.48	7.0	72.4	2.87	38.4	0.00			449
	500	ISL	6.18	6.14	34.314	26.993	112.7	0.824	0.35	5.0	79.7	2.93	39.8	0.00			504
1	511		6.10	6.05	34.320	27.009	111.3	0.836	0.32	4.6	81.2	2.94	40.1	0.00			515

RV DAVID STARR JORDAN CALCOFI CRUISE 8805 STATION 90 45

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
32 55.0 N	118 56.2 W	05/05/88	0245 UTC	1731 M	280	24 KT	290 10 07	1	1013.1 MB	12.8 C	11.2 C	5/8	CS

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	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	14.20	14.20	33.502	24.989	295.9	0.000	5.96	102.1	6.8	0.50	2.9	0.13	1.04	0.31	0
1	2		14.20	14.20	33.502	24.989	295.9	0.006	5.96	102.1	6.8	0.50	2.9	0.13	1.04	0.31	2
	10	ISL	14.19	14.19	33.500	24.990	296.1	0.030	5.95	101.9	6.7	0.49	2.8	0.12	1.03	0.30	10
1	16		14.19	14.19	33.499	24.989	296.3	0.047	5.95	101.9	6.7	0.49	2.8	0.12	1.03	0.28	16
	20	ISL	13.95	13.95	33.516	25.052	290.4	0.059	5.85	99.7	7.7	0.54	4.0	0.13	1.00	0.28	20
	30	ISL	13.35	13.35	33.565	25.213	275.3	0.087	5.57	93.8	10.0	0.68	7.0	0.14	0.88	0.25	30
1	31		13.29	13.29	33.570	25.229	273.8	0.090	5.54	93.2	10.2	0.69	7.3	0.14	0.87	0.25	31
1	40		13.20	13.19	33.584	25.258	271.3	0.115	5.41	90.8	10.3	0.72	7.8	0.14	0.72	0.20	40
1	50		12.99	12.98	33.563	25.284	269.1	0.142	5.30	88.6	10.4	0.72	8.3	0.20	0.66	0.23	50
1	60		12.81	12.80	33.562	25.319	266.1	0.168	5.17	86.1	10.8	0.78	8.9	0.20	0.57	0.25	60
1	71		11.94	11.93	33.567	25.490	250.0	0.197	4.57	74.7	13.5	0.97	13.0	0.16	0.46	0.28	72
	75	ISL	11.58	11.57	33.583	25.569	242.5	0.207	4.32	70.1	14.9	1.06	14.7	0.15	0.35	0.25	76
1	79		11.23	11.22	33.604	25.649	234.9	0.216	4.09	65.9	16.4	1.16	16.3	0.13	0.23	0.22	80
1	94		10.11	10.10	33.685	25.909	210.4	0.250	3.64	57.2	21.0	1.40	20.4	0.01	0.04	0.10	95
	100	ISL	9.79	9.78	33.736	26.002	201.6	0.262	3.47	54.2	23.1	1.48	21.9	0.01	0.03	0.09	101
1	108		9.47	9.46	33.803	26.107	191.7	0.278	3.28	50.9	25.8	1.58	23.7	0.01	0.02	0.08	109
1	124		9.12	9.11	33.883	26.227	180.6	0.308	3.09	47.6	29.2	1.71	25.5	0.01	0.01	0.08	125
	125	ISL	9.09	9.08	33.886	26.234	180.0	0.309	3.09	47.5	29.4	1.71	25.6	0.01	0.01	0.08	126
1	149		8.49	8.47	33.968	26.392	165.3	0.351	3.10	47.1	33.7	1.79	27.1	0.02	0.01	0.05	150
	150	ISL	8.49	8.47	33.976	26.399	164.7	0.352	3.05	46.3	34.0	1.80	27.2	0.02	0.01	0.05	151
1	173		8.62	8.60	34.140	26.508	154.9	0.389	1.93	29.4	40.6	2.14	30.0	0.01	0.00	0.04	174
	200	ISL	8.25	8.23	34.149	26.572	149.2	0.430	1.81	27.4	44.3	2.24	31.9	0.01	0.00	0.04	202
1	203		8.20	8.18	34.145	26.576	148.8	0.435	1.80	27.2	44.6	2.24	32.0	0.01	0.00	0.04	205
1	232		7.99	7.97	34.166	26.624	144.7	0.477	1.57	23.6	47.8	2.37	33.1	0.01			23 4
	250	ISL	7.87	7.84	34.180	26.653	142.2	0.503	1.42	21.3	49.9	2.44	33.6	0.01			252
1	273		7.70	7.67	34.195	26.690	139.0	0.535	1.24	18.5	52.7	2.51	34.2	0.01			275
	300	ISL	7.44	7.41	34.199	26.731	135.5	0.572	1.13	16.8	56.3	2.55	34.7	0.01			302
1	328		7.17	7.14	34.205	26.774	131.7	0.610	1.04	15.3	60.1	2.60	35.4	0.01			331
1	386		6.86	6.82	34.271	26.869	123.4	0.684	0.65	9.5	67.6	2.81	38.3	0.00			389
	400	ISL	6.80	6.76	34.278	26.883	122.3	0.701	0.60	8.8	68.9	2.84	38.6	0.00			403
1	452		6.55	6.51	34.291	26.927	118.7	0.764	0.48	7.0	73.2	2.91	39.4	0.00			456
	500	ISL	6.26	6.22	34.310	26.980	114.0	0.820	0.39	5.6	78.3	2.99	40.0	0.00			504
1	521		6.13	6.08	34.319	27.004	111.9	0.843	0.35	5.0	80.5	3.02	40.3	0.00			526

RV DAVID STARR JORDAN CALCOFI CRUISE 8805 STATION 90 70

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
32 5.0 N	120 38.4 W	04/05/88	0523 UTC	3924 M	330	25 KT			1014.5 MB	14.1 C	12.8 C		

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	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	33.321	24.687	324.5	0.000	5.95	103.4	2.7	0.42	0.0	0.00	0.14	0.03	0
1	1		14.96	14.96	33.321	24.687	324.6	0.003	5.95	103.4	2.7	0.42	0.0	0.00	0.14	0.03	1
	10	ISL	14.97	14.97	33.320	24.685	3 25.1	0.032	5.95	103.4	2.7	0.37	0.0	0.00	0.13	0.03	10
1	11		14.97	14.97	33.320	24.685	3 25.1	0.036	5.95	103.4	2.7	0.36'	0.0	0.00	0.13	0.03	11
	20	ISL	14.97	14.97	33.321	24.686	325.3	0.065	5.95	103.4	2.7	0.35	0.0	0.00	0.13	0.03	20
1	21		14.97	14.97	33.321	24.686	325.3	0.068	5.95	103.4	2.7	0.35	0.0	0.00	0.13	0.03	21
	30	ISL	14.97	14.97	33.321	24.686	3 25.6	0.098	5.94	103.3	2.6	0.33	0.0	0.00	0.14	0.04	30
1	32		14.97	14.97	33.321	24.686	3 25.6	0.104	5.94	103.3	2.6	0.32	0.0	0.00	0.14	0.04	32
1	42		14.94	14.93	33.321	24.693	325.3	0.137	5.97	103.7	2.4	0.31	0.0	0.00	0.14	0.04	42
	50	ISL	14.81	14.80	33.314	24.716	323.3	0.163	5.97	103.4	2.4	0.29	0.0	0.00	0.20	0.07	50
1	52		14.77	14.76	33.312	24.723	322.7	0.169	5.97	103.4	2.4	0.29	0.0	0.00	0.22	0.08	52
1	62		14.69	14.68	33.309	24.738	321.5	0.201	5.96	103.0	2.2	0.28	0.0	0.00	0.24	0.13	62
1	71		13.99	13.98	33.408	24.962	300.5	0.229	5.75	98.0	2.8	0.33	1.3	0.21	0.31	0.23	72
	75	ISL	13.83	13.82	33.457	25.033	293.8	0.241	5.62	95.5	3.3	0.37	2.2	0.19	0.31	0.24	76
1	86		13.43	13.42	33.550	25.187	279.4	0.273	5.31	89.6	4.8	0.47	4.6	0.12	0.25	0.28	87
1	100		12.37	12.36	33.510	25.365	262.7	0.311	5.15	84.9	6.3	0.54	6.5	0.06	0.19	0.23	101
1	120		11.10	11.09	33.518	25.607	239.9	0.361	4.65	74.6	11.3	0.98	12.5	0.02	0.07	0.11	121
	125	ISL	10.79	10.77	33.554	25.690	232.0	0.373	4.42	70.5	13.4	1.08	14.4	0.02	0.05	0.09	126
1	146		9.69	9.67	33.740	26.023	200.6	0.418	3.49	54.4	22.5	1.40	21.5	0.01	0.01	0.05	147
	150	ISL	9.55	9.53	33.766	26.066	196.5	0.426	3.41	53.0	23.7	1.44	22.2	0.01	0.01	0.05	151
1	176		8.91	8.89	33.899	26.274	177.2	0.475	3.13	48.0	29.6	1.62	25.2	0.00	0.00	0.09	177
	200	ISL	8.45	8.43	33.984	26.412	164.4	0.516	2.88	43.7	34.5	1.80	27.1	0.00	0.00	0.05	202
1	204		8.38	8.36	33.994	26.430	162.7	0.522	2.84	43.0	35.2	1.83	27.4	0.00	0.00	0.04	206
1	234		7.92	7.90	34.034	26.531	153.5	0.570	2.67	40.0	40.2	1.95	29.1	0.00			236
	250	ISL	7.71	7.69	34.046	26.571	149.9	0.594	2.55	38.0	43.0	2.04	30.0	0.00			252
1	273		7.43	7.40	34.057	26.620	145.5	0.628	2.34	34.7	47.0	2.16	31.4	0.00			275
	300	ISL	7.12	7.09	34.065	26.670	141.0	0.666	2.08	30.6	51.5	2.26	33.1	0.00			302
1	325		6.86	6.83	34.076	26.714	137.0	0.701	1.80	26.3	55.8	2.36	34.6	0.00			328
1	384		6.40	6.37	34.142	26.828	126.8	0.779	1.01	14.6	67.2	2.69	37.5	0.00			387
	400	ISL	6.27	6.23	34.160	26.859	124.0	0.799	0.87	12.6	70.1	2.76	38.3	0.00			403
1	447		5.89	5.85	34.206	26.944	116.2	0.856	0.58	8.3	78.0	2.92	40.4	0.00			451
	500	ISL	5.56	5.52	34.241	27.013	110.1	0.916	0.42	6.0	85.3	3.04	41.3	0.00			504
1	514		5.47	5.43	34.251	27.031	108.4	0.931	0.38	5.4	87.2	3.07	41.6	0.00			518

RV DAVID STARR JORDAN CALCOFI CRUISE 8805 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 18.7 W	03/05/88	2326 UTC	3733 M	330	23 KT	330 10 07	1	1016.1 MB	16.1 C	14.5 C	1/8	CI

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	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	14.77	14.77	33.236	24.663	326.9	0.000	6.02	104.2	2.4	0.36	0.0	0.00	0.17	0.04	0
1	2		14.77	14.77	33.236	24.663	3 26.9	0.007	6.02	104.2	2.4	0.36	0.0	0.00	0.17	0.04	2
	10	ISL	14.75	14.75	33.237	24.668	326.7	0.033	6.01	104.0	2.4	0.36	0.0	0.00	0.17	0.04	10
1	17		14.74	14.74	33.237	24.670	326.7	0.056	6.00	103.8	2.4	0.35	0.0	0.00	0.17	0.04	17
	20	ISL	14.73	14.73	33.239	24.674	326.4	0.065	6.00	103.8	2.4	0.35	0.0	0.00	0.18	0.04	20
	30	ISL	14.66	14.66	33.237	24.688	3 25.4	0.098	6.01	103.8	2.3	0.34	0.0	0.00	0.20	0.05	30
1	33		14.63	14.63	33.234	24.692	3 25.1	0.108	6.01	103.7	2.3	0.34	0.0	0.00	0.21	0.05	33
1	42		14.50	14.49	33.255	24.736	321.1	0.137	6.04	104.0	2.3	0.33	0.0	0.00	0.29	0.08	42
	50	ISL	14.18	14.17	33.257	24.805	314.7	0.162	6.08	104.0	2.4	0.33	0.0	0.01	0.47	0.22	50
1	52		14.08	14.07	33.257	24.826	312.8	0.168	6.09	103.9	2.4	0.33	0.0	0.01	0.53	0.26	52
1	62		13.49	13.48	33.261	24.950	301.2	0.199	6.06	102.2	2.9	0.35	0.5	0.16	0.85	0.48	62
1	73		13.27	13.26	33.316	25.037	293.2	0.232	5.71	95.9	3.3	0.43	2.7	0.37	0.53	0.46	74
	75	ISL	13.17	13.16	33.319	25.060	291.1	0.238	5.67	95.0	3.6	0.45	3.2	0.31	0.46	0.40	76
1	82		12.79	12.78	33.337	25.149	282.8	0.258	5.52	91.8	4.8	0.53	4.8	0.06	0.23	0.19	83
1	97		12.22	12.21	33.489	25.377	261.4	0.299	5.05	83.0	7.4	0.65	8.0	0.05	0.15	0.16	98
	100	ISL	12.08	12.07	33.511	25.421	257.3	0.306	4.99	81.8	7.9	0.67	8.5	0.05	0.13	0.14	101
1	113		11.36	11.35	33.572	25.602	240.2	0.339	4.74	76.5	10.5	0.80	11.2	0.04	0.05	0.07	114
	125	ISL	10.50	10.49	33.580	25.761	225.2	0.367	4.48	71.0	14.1	1.00	14.7	0.02	0.03	0.04	126
1	128		10.29	10.28	33.582	25.799	221.7	0.373	4.41	69.6	15.0	1.05	15.6	0.02	0.03	0.04	129
	150	ISL	9.49	9.47	33.690	26.017	201.2	0.420	3.98	61.7	20.4	1.30	20.0	0.02	0.01	0.03	151
1	153		9.43	9.41	33.710	26.042	198.8	0.426	3.92	60.7	21.2	1.33	20.5	0.02	0.01	0.03	154
1	177		9.00	8.98	33.899	26.259	178.6	0.471	3.21	49.3	29.2	1.65	25.1	0.01	0.01	0.03	178
	200	ISL	8.56	8.54	33.968	26.382	167.2	0.511	3.00	45.6	33.3	1.79	26.7	0.01	0.00	0.04	202
1	208		8.40	8.38	33.978	26.415	164.2	0.524	2.97	45.0	34.4	1.82	27.0	0.01	0.00	0.04	210
1	237		7.84	7.82	34.026	26.536	153.0	0.570	2.75	41.1	40.6	1.92	29.2	0.01			239
	250	ISL	7.74	7.72	34.044	26.565	150.5	0.590	2.55	38.1	42.9	2.00	30.1	0.01			252
1	277		7.59	7.56	34.074	26.610	146.5	0.630	2.11	31.4	47.3	2.17	31.9	0.00			279
	300	ISL	7.31	7.28	34.086	26.660	142.1	0.663	1.85	27.3	51.6	2.29	33.4	0.00			302
1	333		6.88	6.85	34.097	26.728	135.8	0.709	1.55	22.7	57.9	2.44	35.4	0.00			336
1	392		6.32	6.29	34.132	26.831	126.6	0.786	1.02	14.7	67.8	2.65	38.0	0.00			395
	400	ISL	6.26	6.22	34.139	26.844	125.4	0.797	0.96	13.8	69.0	2.67	38.3	0.00			403
1	456		5.92	5.88	34.192	26.929	117.8	0.865	0.63	9.0	77.3	2.81	40.2	0.00			460
	500	ISL	5.66	5.62	34.234	26.995	111.9	0.915	0.46	6.5	83.3	2.93	41.2	0.00			504
1	521		5.54	5.50	34.254	27.026	109.1	0.938	0.38	5.4	86.1	2.99	41.7	0.00			525

PV DAVID STARR JORDAN CALCOFI CRUISE 8805 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 29.1 W	04/05/88	2057 UTC	1347 M	310	24 KT	320 10 07	1	1015.5 MB	16.0 C	12.2 C	6/8	CC

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	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	14.74	14.74	33.351	24.758	317.8	0.000	6.01	104.0	2.1	0.46	0.0	0.00	0.41	0.11	0
1	1		14.74	14.74	33.351	24.758	317.9	0.003	6.01	104.0	2.1	0.46	0.0	0.00	0.41	0.11	1
	10	ISL	14.72	14.72	33.351	24.762	317.7	0.032	5.99	103.6	1.9	0.43	0.0	0.00	0.42	0.10	10
1	16		14.71	14.71	33.351	24.765	317.7	0.051	5.97	103.3	1.8	0.41	0.0	0.00	0.42	0.10	16
	20	ISL	14.71	14.71	33.351	24.765	317.8	0.064	5.97	103.3	1.8	0.41	0.0	0.00	0.42	0.10	20
	30	ISL	14.71	14.71	33.350	24.764	318.1	0.095	5.99	103.6	1.8	0.39	0.0	0.00	0.42	0.12	30
1	32		14.71	14.71	33.350	24.764	318.2	0.102	5.99	103.6	1.8	0.39	0.0	0.00	0.42	0.12	32
1	40		14.70	14.69	33.349	24.766	318.2	0.127	5.98	103.4	1.8	0.36	0.0	0.00	0.48	0.13	40
1	49		14.49	14.48	33.346	24.809	314.4	0.156	5.93	102.1	2.1	0.35	0.4	0.03	0.51	0.14	49
	50	ISL	14.46	14.45	33.345	24.814	313.9	0.159	5.93	102.0	2.1	0.35	0.4	0.03	0.51	0.14	50
1	60		14.16	14.15	33.331	24.867	309.2	0.190	5.88	100.6	2.3	0.36	0.9	0.07	0.54	0.20	60
1	70		13.77	13.76	33.298	24.922	304.2	0.221	5.84	99.1	2.5	0.37	1.5	0.13	0.57	0.26	71
	75	ISL	13.08	13.07	33.326	25.083	288.9	0.235	5.57	93.1	4.2	0.47	4.2	0.10	0.50	0.27	76
1	80		12.34	12.33	33.373	25.264	271.7	0.249	5.24	86.3	6.4	0.59	7.3	0.06	0.41	0.28	81
1	95		11.31	11.30	33.490	25.547	245.0	0.288	4.53	73.0	11.7	0.84	12.9	0.03	0.12	0.12	96
	100	ISL	10.96	10.95	33.535	25.644	235.8	0.300	4.30	68.8	13.8	0.94	14.9	0.02	0.08	0.09	101
1	109		10.45	10.44	33.603	25.787	222.4	0.321	3.96	62.7	17.0	1.10	17.8	0.02	0.04	0.06	II0
1	123		10.19	10.18	33.629	25.852	216.4	0.352	3.81	60.0	18.4	1.22	18.9	0.02	0.03	0.06	124
	125	ISL	10.13	10.12	33.640	25.87 1	214.7	0.356	3.78	59.4	18.8	1.24	19.2	0.02	0.03	0.06	126
1	149		9.42	9.40	33.795	26.110	192.3	0.405	3.43	53.1	24.3	1.44	22.8	0.01	0.01	0.04	150
	150	ISL	9.40	9.38	33.800	26.117	191.6	0.407	3.42	53.0	24.5	1.45	22.9	0.01	0.01	0.04	151
1	174		8.85	8.83	33.911	26.292	175.4	0.451	3.32	50.8	29.1	1.57	24.5	0.02	0.00	0.03	175
	200	ISL	8.22	8.20	33.976	26.440	161.6	0.494	3.36	50.7	33.7	1.63	25.8	0.01	0.00	0.02	202
1	204		8.13	8.11	33.982	26.458	159.9	0.501	3.37	50.7	34.4	1.64	26.0	0.01	0.00	0.02	206
1	232		7.78	7.76	34.002	26.526	153.8	0.545	2.98	44.5	39.2	1.79	28.0	0.01			234
	250	ISL	7.50	7.48	34.019	26.580	148.9	0.572	2.66	39.5	43.8	1.92	30.0	0.01			252
1	271		7.20	7.17	34.042	26.640	143.3	0.603	2.28	33.6	49.3	2.08	32.3	0.01			273
	300	ISL	6.98	6.95	34.081	26.702	137.9	0.644	1.83	26.8	54.9	2.26	34.2	0.01			302
1	326		6.84	6.81	34.114	26.747	133.9	0.679	1.48	21.6	59.2	2.39	35.4	0.01			329
1	385		6.40	6.37	34.163	26.845	125.3	0.755	0.96	13.9	68.8	2.60	38.4	0.00			388
	400	ISL	6.31	6.27	34.173	26.864	123.5	0.774	0.87	12.6	70.6	2.65	38.8	0.00			403
1	448		6.10	6.06	34.205	26.917	119.0	0.832	0.66	9.5	75.2	2.77	39.7	0.00			452
	500	ISL	6.04	6.00	34.253	26.963	115.4	0.893	0.51	7.3	78.5	2.84	40.4	0.00			504
1	517		6.02	5.97	34.268	26.978	114.2	0.913	0.46	6.6	79.6	2.86	40.6	0.00			521

RV DAVID STARR JORDAN CALCOFI CRUISE 8805 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	04/05/88	1318 UTC	909 M	320	26 KT	3 40 10 07	1	1014.2 MB	13.6 C	12.8 C	7/8	CC

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	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	14.91	14.91	33.351	24.721	321.3	0.000	5.96	103.5	2.1	0.43	0.0	0.00	0.22	0.07	0
1	1		14.91	14.91	33.351	24.721	321.3	0.003	5.96	103.5	2.1	0.43	0.0	0.00	0.22	0.07	1
	10	ISL	14.91	14.91	33.352	24.722	321.5	0.032	5.97	103.7	2.2	0.40	0.0	0.00	0.22	0.08	10
1	11		14.91	14.91	33.352	24.722	321.5	0.035	5.97	103.7	2.2	0.40	0.0	0.00	0.22	0.08	11
	20	ISL	14.91	14.91	33.352	24.723	321.8	0.064	5.97	103.7	' 2.1	0.36	0.0	0.00	0.23	0.08	20
1	21		14.91	14.91	33.352	24.723	321.8	0.068	5.97	103.7	2.1	0.36	0.0	0.00	0.23	0.08	21
1	30		14.93	14.93	33.352	24.719	322.5	0.097	5.99	104.1	2.2	0.35	0.0	0.00	0.22	0.07	30
1	40		14.93	14.92	33.352	24.719	322.7	0.129	5.96	103.5	2.1	0.32	0.0	0.00	0.23	0.07	40
	50	ISL	14.89	14.88	33.354	24.729	322.0	0.161	5.96	103.5	1.8	0.31	0.0	0.00	0.26	0.08	50
1	51		14.89	14.88	33.354	24.729	322.1	0.164	5.96	103.5	1.8	0.31	0.0	0.00	0.26	0.08	51
1	60		14.38	14.37	33.387	24.864	309.5	0.193	5.82	100.0	2.7	0.38	1.7	0.18	0.42	0.26	60
1	70		13.67	13.66	33.472	25.077	289.4	0.223	5.78	97.9	2.2	0.41	2.1	0.71	0.52	0.37	71
	75	ISL	13.48	13.47	33.474	25.117	285.7	0.237	5.70	96.2	2.6	0.44	2.9	0.66	0.45	0.34	76
1	84		13.13	13.12	33.454	25.172	280.6	0.262	5.46	91.5	4.2	0.51	5.0	0.58	0.27	0.25	85
	100	ISL	11.78	11.77	33.471	25.446	254.9	0.305	4.81	78.3	9.2	0.76	10.9	0.06	0.13	0.17	101
1	101		11.69	11.68	33.475	25.466	253.0	0.308	4.76	77.4	9.6	0.78	11.3	0.03	0.12	0.17	102
1	120		10.54	10.53	33.620	25.785	222.8	0.353	4.02	63.8	16.4	1.10	17.6	0.01	0.03	0.08	121
	125	ISL	10.30	10.29	33.658	25.856	216.1	0.364	3.88	61.2	18.0	1.17	18.8	0.01	0.03	0.08	126
1	145		9.52	9.50	33.793	26.092	194.0	0.405	3.51	54.5	23.3	1.40	22.1	0.01	0.01	0.07	146
	150	ISL	9.39	9.37	33.816	26.131	190.3	0.415	3.50	54.2	24.4	1.44	22.6	0.01	0.01	0.08	151
1	175		8.88	8.86	33.904	26.282	176.4	0.460	3.43	52.5	28.7	1.56	24.5	0.01	0.00	0.12	176
	200	ISL	8.42	8.40	33.969	26.404	165.1	0.503	3.31	50.2	32.2	1.63	25.7	0.01	0.00	0.05	202
1	205		8.34	8.32	33.979	26.425	163.2	0.511	3.28	49.6	32.9	1.65	25.9	0.01	0.00	0.04	207
1	234		7.88	7.86	34.019	26.525	154.0	0.557	2.95	44.2	38.9	1.83	28.1	0.01			236
	250	ISL	7.65	7.63	34.027	26.565	150.4	0.582	2.80	41.7	41.7	1.91	29.2	0.01			252
1	275		7.35	7.32	34.041	26.619	145.6	0.619	2.52	37.3	46.0	2.03	30.8	0.01			277
	300	ISL	7.21	7.18	34.082	26.671	141.0	0.655	2.07	30.5	50.8	2.18	32.7	0.01			302
1	330		7.09	7.06	34.137	26.731	135.7	0.696	1.52	22.4	56.6	2.37	34.9	0.00			333
1	389		6.60	6.56	34.201	26.848	125.1	0.773	0.83	12.1	66.6	2.66	37.5	0.00			3 92
	400	ISL	6.49	6.45	34.208	26.869	123.3	0.787	0.75	10.9	68.5	2.70	38.0	0.00			403
1	451		6.02	5.98	34.245	26.959	115.1	0.847	0.50	7.2	77.1	2.87	40.0	0.00			455
	500	ISL	5.76	5.72	34.304	27.038	108.0	0.902	0.35	5.0	83.8	2.97	41.0	0.00			504
1	515		5.68	5.64	34.322	27.062	105.8	0.918	0.31	4.4	85.8	3.00	41.3	0.00			519

RV DAVID STARR JORDAN CALCOFI CRUISE 8805 STATION 90 90

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
31 24.9 N	121 59.5 W	03/05/88	1647 UTC	3889 M	330	25 KT	330 10 07	1	1018.3 MB	16.1 C	14.6 C	2/8	CU

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	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	14.90	14.90	33.180	24.591	333.7	0.000	5.96	103.4	1.9	0.29	0.0	0.00	0.07	0.01	0
1	1		14.90	14.90	33.180	24.592	333.7	0.003	5.96	103.4	1.9	0.29	0.0	0.00	0.07	0.01	1
	10	ISL	14.90	14.90	33.180	24.592	333.9	0.033	5.94	103.0	1.9	0.28	0.0	0.00	0.07	0.01	10
1	16		14.90	14.90	33.180	24.592	334.1	0.053	5.93	102.9	1.9	0.28	0.0	0.00	0.07	0.01	16
	20	ISL	14.89	14.89	33.180	24.594	334.0	0.067	5.94	103.0	1.9	0.28	0.0	0.00	0.07	0.01	20
	30	ISL	14.88	14.88	33.180	24.597	334.1	0.100	5.96	103.3	1.9	0.28	0.0	0.00	0.07	0.01	30
1	31		14.88	14.88	33.180	24.597	334.1	0.104	5.96	103.3	1.9	0.28	0.0	0.00	0.07	0.01	31
1	40		14.90	14.89	33.182	24.594	334.6	0.134	5.94	103.0	2.0	0.26	0.0	0.00	0.07	0.01	40
	50	ISL	14.89	14.88	33.183	24.598	334.6	0.167	5.94	103.0	2.0	0.25	0.0	0.00	0.07	0.01	50
1	52		14.89	14.88	33.184	24.598	334.6	0.174	5.94	103.0	2.0	0.25	0.0	0.00	0.07	0.01	52
1	61		14.87	14.86	33.183	24.602	334.5	0.204	5.94	103.0	1.9	0.24	0.0	0.00	0.08	0.02	61
1	72		14.48	14.47	33.250	24.737	321.9	0.240	5.99	103.1	1.9	0.24	0.0	0.00	0.11	0.06	73
	75	ISL	14.43	14.42	33.267	24.761	319.7	0.250	5.98	102.8	1.9	0.24	0.0	0.00	0.16	0.10	76
1	81		14.30	14.29	33.280	24.799	316.3	0.269	5.95	102.0	2.1	0.23	0.0	0.00	0.27	0.19	82
1	96		13.17	13.16	33.127	24.912	3 05.8	0.315	5.89	98.6	2.9	0.27	1.0	0.06	0.52	0.29	97
	100	ISL	13.05	13.04	33.136	24.943	302.9	0.327	5.84	97.5	3.1	0.29	1.5	0.06	0.50	0.28	101
1	II0		12.74	12.73	33.205	25.057	292.2	0.357	5.62	93.2	4.1	0.36	3.4	0.07	0.38	0.27	111
1	125		11.59	11.57	33.348	25.386	261.1	0.399	5.07	82.1	7.8	0.56	8.7	0.03	0.18	0.16	126
1	150		10.10	10.08	33.599	25.844	217.7	0.459	4.22	66.3	16.7	0.96	17.1	0.01	0.02	0.04	151
1	175		9.57	9.55	33.802	26.092	194.7	0.510	3.92	60.9	21.5	1.16	20.0	0.01	0.01	0.02	176
	200	ISL	8.78	8.76	33.918	26.309	174.3	0.556	3.34	51.0	29.9	1.47	24.7	0.01	0.00	0.02	202
1	204		8.65	8.63	33.931	26.340	171.4	0.563	3.27	49.8	31.2	1.51	25.4	0.01	0.00	0.02	206
1	233		8.09	8.07	33.998	26.477	158.6	0.611	3.48	52.4	34.7	1.51	25.9	0.01			235
	250	ISL	7.86	7.84	34.016	26.526	154.2	0.638	3.27	48.9	38.0	1.61	27.0	0.01			252
1	274		7.57	7.54	34.026	26.576	149.8	0.674	2.84	42.2	43.4	1.78	29.1	0.01			276
	300	ISL	7.14	7.11	34.023	26.634	144.4	0.712	2.60	38.3	48.7	1.91	31.1	0.01			302
1	328		6.69	6.66	34.022	26.695	138.8	0.752	2.33	33.9	54.8	2.06	33.4	0.00			331
1	386		6.06	6.03	34.085	26.827	126.7	0.829	1.26	18.1	70.0	2.52	38.3	0.00			389
	400	ISL	5.99	5.96	34.102	26.849	124.7	0.847	1.11	15.9	72.2	2.58	39.0	0.00			403
1	451		5.84	5.80	34.166	26.919	118.6	0.909	0.74	10.6	78.1	2.72	40.5	0.00			455
	500	ISL	5.66	5.62	34.232	26.993	112.1	0.965	0.52	7.4	84.0	2.79	41.0	0.00			504
1	519		5.59	5.55	34.257	27.022	109.5	0.986	0.44	6.2	86.3	2.82	41.2	0.00			523

RV DAVID STARR JORDAN CALCOFI CRUISE 8805 STATION 90 100

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
31 5.2 N	122 39.0 W	03/05/88	1031 UTC	4144 M	330	22 KT			1021.2 MB	13.8 C	12.2 C		

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	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		14.86	14.86	33.172	24.594	333.4	0.000	5.95	103.1	2.6	0.41	0.0	0.00	0.06	0.02	0
	10	ISL	14.87	14.87	33.172	24.592	333.9	0.033	5.96	103.3	2.5	0.40	0.0	0.00	0.07	0.02	10
1	16		14.87	14.87	33.172	24.592	334.1	0.053	5.96	103.3	2.4	0.39	0.0	0.00	0.07	0.02	16
	20	ISL	14.87	14.87	33.172	24.592	334.2	0.067	5.96	103.3	2.4	0.39	0.0	0.00	0.07	0.02	20
	30	ISL	14.87	14.87	33.173	24.594	334.4	0.100	5.96	103.3	2.4	0.37	0.0	0.00	0.07	0.02	30
1	31		14.87	14.87	33.173	24.594	334.4	0.104	5.96	103.3	2.4	0.37	0.0	0.00	0.07	0.02	31
1	41		14.88	14.87	33.175	24.593	334.7	0.137	5.98	103.7	2.4	0.34	0.0	0.00	0.07	0.02	41
1	50		14.87	14.86	33.175	24.596	334.8	0.167	5.97	103.5	2.3	0.31	0.0	0.00	0.07	0.02	50
1	60		14.82	14.81	33.176	24.608	333.9	0.201	5.96	103.2	2.3	0.31	0.0	0.00	0.07	0.02	60
1	69		13.90	13.89	33.130	24.766	319.0	0.230	6.10	103.6	1.9	0.31	0.0	0.00	0.14	0.08	70
	75	ISL	13.72	13.71	33.119	24.794	316.4	0.249	6.12	103.6	2.2	0.31	0.0	0.00	0.20	0.14	76
1	78		13.69	13.68	33.117	24.799	316.1	0.258	6.13	103.7	2.4	0.31	0.0	0.00	0.24	0.17	79
1	93		13.40	13.39	33.132	24.870	309.7	0.305	6.03	101.4	2.4	0.32	0.4	0.13	0.44	0.28	94
	100	ISL	13.21	13.20	33.143	24.916	305.4	0.327	6.02	100.8	2.4	0.34	0.5	0.26	0.36	0.23	101
1	109		12.97	12.96	33.165	24.981	299.5	0.354	5.98	99.7	2.3	0.37	1.0	0.41	0.22	0.15	II0
1	123		12.69	12.67	33.218	25.077	290.7	0.395	5.75	95.3	3.4	0.42	3.2	0.37	0.12	0.10	124
	125	ISL	12.58	12.56	33.221	25.101	288.4	0.401	5.69	94.1	3.8	0.44	3.8	0.34	0.11	0.09	126
1	147		11.21	11.19	33.324	25.437	256.7	0.461	4.94	79.4	9.7	0.74	10.6	0.03	0.04	0.05	148
	150	ISL	11.08	11.06	33.367	25.494	251.3	0.469	4.85	77.7	10.5	0.77	11.4	0.03	0.03	0.05	151
1	172		10.28	10.26	33.692	25.887	214.3	0.520	4.33	68.3	15.8	0.99	16.2	0.01	0.01	0.03	173
	200	ISL	9.37	9.35	33.861	26.171	187.6	0.576	4.03	62.4	22.2	1.22	20.3	0.01	0.00	0.02	202
1	203		9.29	9.27	33.870	26.191	185.7	0.582	4.02	62.1	22.8	1.24	20.6	0.01	0.00	0.02	205
1	231		8.70	8.68	33.957	26.353	170.7	0.632	4.03	61.5	27.1	1.37	22.2	0.01			233
	250	ISL	8.35	8.32	33.985	26.428	163.7	0.664	3.84	58.1	30.8	1.47	23.7	0.01			252
1	272		8.00	7.97	34.006	26.498	157.4	0.699	3.46	51.9	35.7	1.61	25.8	0.01			274
	300	ISL	7.64	7.61	34.049	26.584	149.4	0.742	2.70	40.2	43.4	1.89	29.3	0.00			302
1	326		7.33	7.30	34.082	26.654	143.0	0.780	2.00	29.6	50.5	2.15	32.5	0.00			329
1	384		6.60	6.56	34.098	26.767	132.7	0.860	1.47	21.4	61.7	2.44	36.3	0.00			387
	400	ISL	6.43	6.39	34.105	26.795	130.1	0.881	1.34	19.4	64.5	2.51	37.1	0.00			403
1	448		6.00	5.96	34.134	26.873	123.0	0.942	0.97	13.9	72.7	2.68	39.2	0.00			452
	500	ISL	5.60	5.56	34.176	26.956	115.4	1.004	0.66	9.4	81.1	2.83	40.9	0.00			504
1	516		5.48	5.44	34.189	26.981	113.2	1.022	0.57	8.1	83.7	2.88	41.4	0.00			520

RV DAVID STARR JORDAN CALCOFI CRUISE 8805 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	28/04/88	2223 UTC	70 M	270	06 KT	270 02 06	1	1016.3 MB	18.0 C	14.5 C	3/8	CU

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	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	33.406	24.113	379.2	0.000	6.02	110.5	2.9	0.36	0.0	0.01	0.55	0.04	0
1	1	17.75	17.75	33.406	24.113	379.3	0.004	6.02	110.5	2.9	0.36	0.0	0.01	0.55	0.04	1
1	10	16.64	16.64	33.413	24.382	354.0	0.037	6.06	108.9	2.6	0.32	0.0	0.01	0.44	0.09	10
	20 ISL	15.47	15.47	33.428	24.659	3 27.9	0.071	6.20	108.9	2.7	0.31	0.0	0.01	0.76	0.22	20
1	21	15.30	15.30	33.431	24.698	324.1	0.074	6.21	108.7	2.7	0.31	0.0	0.01	0.79	0.23	21
	30 ISL	12.42	12.42	33.523	25.363	261.0	0.100	4.39	72.5	11.7	1.08	11.5	0.77	0.77	0.36	30
1	31	12.11	12.11	33.540	25.436	254.1	0.103	4.17	68.4	12.8	1.17	12.9	0.84	0.77	0.37	31
1	40	11.37	11.37	33.633	25.646	234.3	0.125	3.68	59.5	16.6	1.43	16.8	0.23	0.30	0.24	40
	50 ISL	10.92	10.91	33.736	25.807	219.2	0.148	3.23	51.7	20.0	1.61	19.8	0.16	0.14	0.18	50
1	51	10.87	10	.746	25.824	217.6	0.150	3.18	50.9	20.3	1.63	20.1	0.15	0.12	0.17	51

RV DAVID STARR JORDAN CALCOFI CRUISE 8805 STATION 93 28

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
32 54.6 N	117 23.8 W	29/04/88	0020 UTC	632 M	260	09 KT	280 02 06	1	1011.0 MB	17.8 C	13.8 C	3/8	CU

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	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	17.23	17.23	33.424	24.252	366.0	0.000	5.91	107.4	1.6	0.42	0.1	0.00	0.30	0.04	0
1	9	16.38	16.38	33.425	24.451	3 47.3	0.032	6.04	108.0	1.6	0.37	0.1	0.00	0.31	0.06	9
	10 ISL	16.31	16.31	33.426	24.468	3 45.8	0.036	6.06	108.2	1.6	0.37	0.1	0.00	0.32	0.07	10
1	19	15.52	15.52	33.434	24.652	328.5	0.066	6.20	109.0	2.0	0.36	0.1	0.00	0.44	0.12	19
	20 ISL	15.37	15.37	33.434	24.685	325.3	0.069	6.20	108.7	2.0	0.37	0.1	0.00	0.59	0.17	20
1	30	13.74	13.74	33.452	25.046	291.2	0.100	6.23	105.7	4.2	0.45	0.4	0.03	1.82	0.57	30
1	40	12.24	12.23	33.521	25.396	258.1	0.127	4.46	73.4	11.4	1.03	11.9	0.65	0.81	0.39	40
1	50	11.39	11.38	33.583	25.603	238.6	0.152	4.14	66.9	14.9	1.20	15.0	0.06	0.23	0.22	50
1	59	10.91	10.90	33.759	25.827	217.5	0.173	4.07	65.2	19.9	1.50	19.4	0.03	0.05	0.11	59
1	68	10.63	10.62	33.839	25.939	207.1	0.192	3.06	48.7	22.5	1.66	21.1	0.02	0.02	0.07	69
	75 ISL	10.44	10.43	33.883	26.006	200.8	0.206	2.91	46.1	24.2	1.75	22.3	0.02	0.02	0.07	76
1	83	10.25	10.24	33.922	26.070	194.9	0.222	2.73	43.1	26.0	1.82	23.5	0.02	0.01	0.07	84
1	98	9.93	9.92	33.980	26.170	185.7	0.251	2.57	40.3	28.8	1.92	24.8	0.02	0.01	0.06	99
	100 ISL	9.91	9.90	33.987	26.178	184.9	0.254	2.55	40.0	29.1	1.93	25.0	0.02	0.01	0.06	101
1	118	9.71	9.70	34.044	26.257	177.8	0.287	2.41	37.6	31.7	2.02	26.1	0.01	0.01	0.05	119
	125 ISL	9.60	9.59	34.057	26.285	175.3	0.299	2.38	37.1	32.6	2.05	26.3	0.01	0.01	0.05	126
1	143	9.29	9.27	34.080	26.354	169.0	0.330	2.31	35.7	34.8	2.11	26.9	0.01	0.00	0.04	144
	150 ISL	9.19	9.17	34.088	26.377	167.0	0.342	2.28	35.2	35.6	2.13	27.3	0.01	0.00	0.04	151
1	173	8.93	8.91	34.118	26.442	161.2	0.380	2.14	32.8	38.5	2.18	28.8	0.01	0.00	0.05	174
	200 ISL	8.71	8.69	34.170	26.517	154.5	0.422	1.80	27.5	42.6	2.31	30.3	0.01	0.00	0.04	202
1	203	8.69	8.67	34.175	26.525	153.9	0.427	1.76	26.9	43.1	2.32	30.5	0.01	0.00	0.04	205
1	233	8.35	8.33	34.194	26.592	147.9	0.472	1.56	23.6	46.9	2.41	31.7	0.01			235
	250 ISL	8.09	8.06	34.195	26.632	144.3	0.497	1.46	22.0	50.0	2.47	32.3	0.01			252
1	272	7.77	7.74	34.195	26.680	140.0	0.528	1.32	19.7	54.0	2.56	33.0	0.01			274
	300 ISL	7.51	7.48	34.212	26.731	135.5	0.567	1.11	16.5	57.8	2.66	34.1	0.01			302
1	328	7.31	7.28	34.232	26.775	131.7	0.604	0.92	13.6	61.1	2.75	35.1	0.01			331
1	388	6.86	6.82	34.258	26.859	124.4	0.681	0.66	9.7	68.4	2.86	36.9	0.01			391
	400 ISL	6.77	6.73	34.264	26.876	122.9	0.696	0.61	8.9	70.0	2.89	37.4	0.01			403
1	451	6.40	6.36	34.293	26.948	116.5	0.757	0.44	6.4	76.9	3.01	39.3	0.00			455
	500 ISL	6.04	6.00	34.321	27.017	110.3	0.813	0.35	5.0	83.9	3.10	40.3	0.01			504
1	517	5.91	5.86	34.331	27.041	108.1	0.831	0.32	4.6	86.3	3.13	40.7	0.01			521

RV DAVID STARR JORDAN CALCOFI CRUISE 8805 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	29/04/88	0242 UTC	807 M	280	10 KT	270 02 06	1	1016.3 MB	16.6 C	13.0 C	1/8	ST

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	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	17.14	17.14	33.448	24.291	362.3	0.000	5.90	107.1	2.6	0.30	0.0	0.00	0.18	0.03	0
1	10	16.56	16.56	33.431	24.414	350.9	0.036	5.92	106.2	2.6	0.29	0.0	0.00	0.17	0.04	10
	20 ISL	15.25	15.25	33.431	24.709	3 23.0	0.069	6.24	109.2	3.1	0.31	0.0	0.00	0.27	0.07	20
1	21	15.08	15.08	33.432	24.747	319.4	0.073	6.27	109.3	3.1	0.31	0.0	0.00	0.28	0.07	21
1	30	13.37	13.37	33.460	25.128	283.5	0.100	6.12	103.1	5.7	0.45	0.5	0.04	1.84	0.64	30
1	40	12.86	12.85	33.501	25.261	271.0	0.127	4.94	82.3	8.2	0.79	7.6	0.29	1.25	0.50	40
1	50	12.30	12.29	33.563	25.418	256.3	0.154	4.32	71.2	11.7	1.06	12.2	0.08	0.53	0.30	50
1	60	11.94	11.93	33.622	25.532	245.7	0.179	3.97	64.9	13.9	1.20	14.4	0.06	0.39	0.24	60
1	71	11.28	11.27	33.717	25.728	227.2	0.205	3.51	56.6	17.8	1.43	17.9	0.03	0.12	0.13	72
	75 ISL	11.12	11.11	33.741	25.776	222.8	0.214	3.41	54.8	18.6	1.48	18.7	0.03	0.10	0.11	76
1	85	10.80	10.79	33.796	25.876	213.5	0.236	3.23	51.6	20.4	1.59	20.2	0.02	0.04	0.09	86
1	100	10.33	10.32	33.895	26.035	198.6	0.267	2.93	46.3	24.0	1.74	22.5	0.02	0.01	0.05	101
1	120	9.95	9.94	33.991	26.175	185.7	0.305	2.65	41.6	28.1	1.92	24.8	0.02			121
	125 ISL	9.83	9.82	34.003	26.205	182.9	0.314	2.62	41.0	28.9	1.95	25.2	0.02	0.00	0.04	126
1	145	9.38	9.36	34.037	26.306	173.7	0.350	2.52	39.1	31.8	2.03	26.5	0.01	0.00	0.04	146
	150 ISL	9.32	9.30	34.050	26.326	171.9	0.359	2.47	38.2	32.5	2.06	26.8	0.01	0.00	0.04	151
1	176	9.06	9.04	34.113	26.417	163.7	0.402	2.16	33.2	36.1	2.21	28.3	0.01	0.00	0.05	177
	200 ISL	8.66	8.64	34.142	26.503	155.8	0.441	1.95	29.8	40.4	2.32	29.7	0.02	0.00	0.03	202
1	206	8.56	8.54	34.147	26.523	154.1	0.450	1.90	28.9	41.5	2.35	30.0	0.02	0.00	0.03	208
1	235	8.24	8.22	34.178	26.596	147.5	0.494	1.60	24.2	46.3	2.52	31.7	0.01			237
	250 ISL	8.09	8.06	34.188	26.627	144.8	0.515	1.48	22.3	48.4	2.57	32.3	0.01			252
1	274	7.87	7.84	34.199	26.668	141.2	0.550	1.32	19.8	51.6	2.62	33.2	0.00			276
	300 ISL	7.61	7.58	34.210	26.715	137.1	0.586	1.16	17.3	55.1	2.70	34.2	0.00			302
1	330	7.33	7.30	34.223	26.766	132.6	0.626	0.98	14.5	59.1	2.79	35.3	0.00			333
1	388	6.97	6.93	34.264	26.848	125.5	0.701	0.65	9.5	66.2	2.98	37.3	0.00			391
	400 ISL	6.88	6.84	34.268	26.864	124.1	0.716	0.61	8.9	67.5	3.00	37.6	0.00			403
1	451	6.50	6.46	34.285	26.928	118.4	0.778	0.49	7.1	73.4	3.07	38.9	0.00			455
	500 ISL	6.13	6.09	34.313	26.999	112.1	0.835	0.37	5.3	80.0	3.19	40.1	0.01			504
1	517	6.00	5.95	34.323	27.024	109.9	0.853	0.33	4.7	82.3	3.23	40.5	0.01			521

RV DAVID STARR JORDAN CALCOFI CRUISE 8805 STATION 93 35

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT TYPE
32 40.7 N	117 52.1 W	29/04/88	0628 UTC	613 M	300	13 KT			1017.6 MB	16.0 C	13.4 C	

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	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	16.35	16.35	33.466	24.489	3 43.4	0.000	5.89	105.3	2.3	0.32	0.0	0.00	0.16	0.03	0
1	2	16.35	16.35	33.466	24.489	3 43.5	0.007	5.89	105.3	2.3	0.32	0.0	0.00	0.16	0.03	2
	10 ISL	16.27	16.27	33.463	24.505	342.2	0.034	5.91	105.5	2.4	0.31	0.0	0.00	0.17	0.04	10
1	12	16.24	16.24	33.462	24.512	341.7	0.041	5.92	105.6	2.4	0.30	0.0	0.00	0.17	0.04	12
1	20	16.07	16.07	33.458	24.547	338.5	0.068	5.96	106.0	2.4	0.29	0.0	0.00	0.19	0.05	20
1	30	15.24	15.24	33.452	24.728	321.6	0.101	6.12	107.0	2.8	0.29	0.0	0.00	0.37	0.09	30
1	40	13.31	13.30	33.452	25.134	283.1	0.132	5.51	92.7	5.1	0.53	3.7	0.16	1.12	0.39	40
1	50	12.75	12.74	33.507	25.288	268.7	0.159	4.86	80.8	9.7	0.75	8.0	0.26	0.79	0.45	50
1	58	12.35	12.34	33.547	25.396	258.6	0.180	4.49	74.0	11.1	0.92	11.0	0.12	0.46	0.32	58
1	68	11.80	11.79	33.603	25.544	244.7	0.205	4.11	67.0	13.5	1.10	14.2	0.04	0.23	0.17	69
	75 ISL	11.52	11.51	33.639	25.624	237.3	0.222	3.88	62.9	14.8	1.20	15.7	0.03	0.15	0.15	76
1	83	11.28	11.27	33.680	25.700	230.2	0.241	3.65	58.9	16.2	1.28	17.0	0.02	0.11	0.13	84
1	95	10.98	10.97	33.749	25.807	220.2	0.268	3.39	54.3	19.2	1.37	19.0	0.02	0.04	0.08	96
	100 ISL	10.81	10.80	33.791	25.870	214.3	0.279	3.24	51.8	20.7	1.44	20.0	0.02	0.03	0.08	101
1	116	10.28	10.27	33.924	26.067	196.0	0.312	2.77	43.8	25.5	1.69	23.1	0.01	0.01	0.06	117
	125 ISL	10.04	10.03	33.972	26.145	188.7	0.329	2.62	41.2	27.6	1.78	24.3	0.01	0.01	0.06	126
1	141	9.70	9.68	34.030	26.248	179.2	0.358	2.44	38.1	30.5	1.90	25.8	0.01	0.00	0.05	142
	150 ISL	9.60	9.58	34.048	26.279	176.4	0.374	2.38	37.1	31.7	1.94	26.1	0.01	0.00	0.05	151
1	170	9.42	9.40	34.078	26.332	171.8	0.409	2.25	34.9	33.9	2.00	26.6	0.01	0.01	0.04	171
1	198	9.07	9.05	34.142	26.439	162.0	0.456	1.97	30.3	37.6	2.12	28.3	0.01	0.00	0.05	200
	200 ISL	9.05	9.03	34.144	26.444	161.6	0.459	1.96	30.2	37.7	2.13	28.4	0.01			202
1	226	8.86	8.84	34.165	26.491	157.6	0.501	1.83	28.0	39.6	2.22	29.3	0.01			228
	250 ISL	8.57	8.54	34.183	26.550	152.3	0.538	1.67	25.4	43.5	2.30	30.6	0.01			252
1	267	8.34	8.31	34.194	26.594	148.4	0.564	1.55	23.5	46.5	2.35	31.5	0.01			269
	300 ISL	7.98	7.95	34.203	26.656	142.9	0.612	1.37	20.6	50.3	2.46	32.9	0.00			302
1	320	7.79	7.76	34.207	26.687	140.2	0.640	1.26	18.8	52.3	2.52	33.6	0.00			323
1	381	7.26	7.22	34.233	26.784	131.7	0.723	0.90	13.3	60.0	2.68	35.8	0.00			384
	400 ISL	7.07	7.03	34.244	26.819	128.5	0.748	0.79	11.6	63.0	2.74	36.5	0.00			403
1	445	6.63	6.59	34.273	26.902	121.0	0.804	0.55	8.0	70.2	2.88	38.2	0.00			449
	500 ISL	6.22	6.18	34.309	26.984	113.6	0.868	0.40	5.8	77.7	3.01	39.6	0.00			504
1	514	6.12	6.07	34.319	27.005	111.7	0.884	0.36	5.2	79.6	3.04	40.0	0.00			518

RV DAVID STARR JORDAN CALCOFI CRUISE 8805 STATION 93 40

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT TYPE
32 31.0 N	118 12.6 W	29/04/88	1020 UTC	1575 M	300	14 KT			1019.2 MB	15.8 C	13.8 C	

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	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	16.56	16.56	33.481	24.452	3 46.9	0.000	5.79	103.9	2.0	0.40	1.2	0.00	0.12	0.03	0
1	1	16.56	16.56	33.481	24.452	3 47.0	0.003	5.79	103.9	2.0	0.40	1.2	0.00	0.12	0.03	1
1	10	16.56	16.56	33.478	24.450	3 47.4	0.035	5.80	104.1	2.0	0.37	1.1	0.00	0.12	0.02	10
	20 ISL	16.51	16.51	33.470	24.456	3 47.2	0.069	5.83	104.5	1.9	0.42	1.1	0.00	0.11	0.03	20
1	21	16.50	16.50	33.469	24.458	3 47.1	0.073	5.83	104.5	1.9	0.43	1.1	0.00	0.11	0.03	21
	30 ISL	15.94	15.94	33.450	24.571	336.6	0.104	5.98	106.0	2.3	0.39	1.0	0.00	0.20	0.10	30
1	31	15.84	15.84	33.449	24.593	334.5	0.107	6.00	106.2	2.4	0.39	1.0	0.00	0.22	0.11	31
1	40	14.42	14.41	33.466	24.916	304.0	0.136	6.06	104.3	3.5	0.41	1.2	0.04	0.56	0.11	40
1	50	13.29	13.28	33.495	25.171	279.8	0.165	5.30	89.1	5.8	0.65	5.4	0.30	0.56	0.13	50
1	60	12.71	12.70	33.562	25.338	264.2	0.192	4.60	76.4	8.9	0.91	9.6	0.43	0.75	0.26	60
1	69	12.02	12.01	33.625	25.520	247.1	0.215	4.07	66.7	12.3	1.15	13.4	0.17	0.47	0.35	70
	75 ISL	11.74	11.73	33.658	25.598	239.8	0.230	3.85	62.7	13.9	1.25	15.0	0.13	0.36	0.37	76
1	84	11.40	11.39	33.701	25.694	230.8	0.251	3.63	58.7	15.8	1.37	16.7	0.06	0.25	0.39	85
1	99	10.70	10.69	33.779	25.880	213.3	0.284	3.32	52.9	19.5	1.59	19.6	0.02	0.13	0.20	100
	100 ISL	10.66	10.65	33.785	25.892	212.2	0.286	3.30	52.5	19.8	1.60	19.8	0.02	0.12	0.19	101
1	119	10.13	10.12	33.905	26.078	195.0	0.325	2.89	45.5	24.6	1.81	22.9	0.02	0.06	0.10	120
	125 ISL	10.04	10.03	33.937	26.118	191.2	0.337	2.78	43.7	25.7	1.86	23.6	0.02	0.05	0.10	126
1	144	9.82	9.80	34.016	26.217	182.2	0.372	2.52	39.4	28.5	1.98	25.0	0.01	0.02	0.09	145
	150 ISL	9.73	9.71	34.025	26.239	180.2	0.383	2.52	39.4	29.0	1.99	25.2	0.01	0.02	0.09	151
1	174	9.36	9.34	34.055	26.324	172.6	0.425	2.52	39.0	31.2	2.06	26.1	0.02	0.01	0.07	175
	200 ISL	9.07	9.05	34.151	26.446	161.4	0.469	2.00	30.8	36.9	2.28	28.7	0.01	0.01	0.04	202
1	205	9.02	9.00	34.169	26.468	159.4	0.477	1.89	29.1	38.1	2.32	29.2	0.01	0.01	0.04	207
1	234	8.62	8.60	34.201	26.556	151.5	0.522	1.64	25.0	42.5	2.45	30.8	0.01			236
	250 ISL	8.38	8.35	34.202	26.594	148.1	0.546	1.55	23.5	44.7	2.52	31.5	0.01			252
1	274	8.05	8.02	34.200	26.642	143.8	0.581	1.43	21.5	47.8	2.62	32.5	0.00			276
	300 ISL	7.83	7.80	34.214	26.686	139.9	0.618	1.26	18.9	51.0	2.70	33.5	0.00			302
1	329	7.62	7.59	34.231	26.731	136.1	0.658	1.07	15.9	54.5	2.79	34.6	0.00			332
1	386	7.06	7.02	34.243	26.819	128.2	0.733	0.77	11.3	62.2	2.99	37.0	0.00			389
	400 ISL	6.94	6.90	34.249	26.841	126.3	0.751	0.70	10.3	64.1	3.03	37.5	0.00			403
1	451	6.54	6.50	34.277	26.917	119.6	0.814	0.50	7.3	71.1	3.14	39.0	0.00			455
	500 ISL	6.16	6.12	34.314	26.996	112.4	0.870	0.36	5.2	78.9	3.22	40.2	0.00			504
1	516	6.04	5.99	34.326	27.021	110.2	0.888	0.32	4.6	81.4	3.25	40.6	0.00			520

RV DAVID STARR JORDAN CALCOFI CRUISE 8805 STATION 93 45

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
32 20.8 N	118 33.2 W	29/04/88	1352 UTC	1204 M	320	12 KT	320 02 06		1020.0 MB	15.6 C	13.6 C		

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	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		16.42	16.42	33.472	24.478	344.5	0.000	5.83	104.4	2.0	0.40	0.0	0.00	0.19	0.03	0
1	10		16.41	16.41	33.473	24.481	344.5	0.034	5.81	104.0	2.1	0.38	0.0	0.00	0.18	0.03	10
1	19		16.41	16.41	33.474	24.482	344.7	0.065	5.80	103.8	2.1	0.36	0.0	0.00	0.18	0.03	19
	20	ISL	16.40	16.40	33.474	24.484	344.5	0.069	5.82	104.2	2.1	0.36	0.0	0.00	0.19	0.03	20
1	30		15.80	15.80	33.463	24.613	332.6	0.103	6.01	106.3	2.2	0.36	0.0	0.00	0.34	0.07	30
1	39		14.31	14.30	33.453	24.929	302.7	0.131	6.08	104.4	3.0	0.39	0.0	0.01	0.62	0.19	39
1	50		13.21	13.20	33.493	25.186	278.4	0.163	5.20	87.3	6.2	0.63	5.0	0.27	0.74	0.49	50
1	~~10~~		12.36	12.35	33.530	25.381	260.1	0.190	4.55	75.0	9.8	0.86	10.1	0.26	0.42	0.42	60
1	59		11.86	11.85	33.626	25.550	244.1	0.213	3.97	64.8	12.9	1.10	13.9	0.11	0.22	0.34	70
	75	ISL	11.71	11.70	33.651	25.598	239.8	0.227	3.83	62.3	13.9	1.16	14.8	0.08	0.20	0.29	76
1	83		11.55	11.54	33.669	25.642	235.8	0.246	3.75	60.8	15.0	1.21	15.6	0.05	0.17	0.22	84
1	98		10.84	10.83	33.746	25.830	218.1	0.281	3.40	54.3	19.0	1.41	19.2	0.02	0.08	0.12	99
	100	ISL	10.75	10.74	33.755	25.853	216.0	0.285	3.38	53.9	19.4	1.43	19.5	0.02	0.07	0.11	101
1	119		10.05	10.04	33.831	26.033	199.1	0.324	3.23	50.8	23.1	1.56	22.0	0.02	0.04	0.07	120
	125	ISL	9.92	9.91	33.856	26.075	195.3	0.336	3.17	49.7	24.1	1.61	22.5	0.02	0.03	0.07	126
1	143		9.61	9.59	33.928	26.183	185.4	0.370	2.98	46.4	27.0	1.74	24.0	0.02	0.02	0.09	144
	150	ISL	9.46	9.44	33.956	26.230	181.0	0.383	2.93	45.5	28.5	1.78	24.7	0.02	0.02	0.08	151
1	174		8.97	8.95	34.052	26.384	166.7	0.425	2.67	41.0	34.0	1.93	27.0	0.01	0.01	0.04	175
	200	ISL	8.61	8.59	34.146	26.514	154.8	0.467	2.01	30.6	40.5	2.18	29.5	0.00	0.01	0.04	202
1	203		8.58	8.56	34.155	26.526	153.7	0.471	1.93	29.4	41.2	2.21	29.8	0.00	0.01	0.04	205
1	233		8.27	8.25	34.188	26.599	147.2	0.516	1.62	24.5	46.2	2.35	31.4	0.00			235
	250	ISL	8.10	8.07	34.205	26.639	143.7	0.541	1.43	21.5	48.8	2.43	32.3	0.00			252
1	271		7.90	7.87	34.224	26.683	139.7	0.571	1.21	18.1	51.7	2.52	33.3	0.00			273
	300	ISL	7.71	7.68	34.242	26.726	136.1	0.611	1.03	15.4	54.8	2.63	34.1	0.01			302
1	327		7.55	7.52	34.255	26.759	133.3	0.647	0.90	13.4	57.6	2.71	34.7	0.01			330
1	384		7.07	7.03	34.279	26.846	125.7	0.721	0.62	9.1	64.9	2.85	36.7	0.00			387
	400	ISL	6.90	6.86	34.281	26.871	123.4	0.741	0.57	8.4	67.3	2.89	37.2	0.01			403
1	448		6.42	6.38	34.287	26.941	117.2	0.799	0.45	6.5	74.5	2.98	38.5	0.03			452
	500	ISL	6.09	6.05	34.316	27.006	111.4	0.858	0.35	5.0	80.6	3.05	40.1	0.01			504
1	515		6.00	5.95	34.324	27.024	109.8	0.875	0.32	4.6	82.4	3.07	40.5	0.00			519

RV DAVID STARR JORDAN CALCOFI CRUISE 8805 STATION 93 50

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
32 10.9 N	118 53.6 W	29/04/88	17 27 UTC	1429 M	310	18 KT	310 03 07	1	1021.4 MB	18.0 C	15.3 C	1/8	CI

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	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	16.57	16.57	33.483	24.451	3 47.0	0.000	5.79	104.0	1.7	0.30	0.0	0.00	0.15	0.02	0
1	1		16.57	16.57	33.483	24.452	3 47.0	0.003	5.79	104.0	1.7	0.30	0.0	0.00	0.15	0.02	1
	10	ISL	16.52	16.52	33.483	24.463	3 46.2	0.035	5.79	103.9	1.6	0.30	0.0	0.00	0.15	0.03	10
1	11		16.51	16.51	33.483	24.466	3 46.0	0.038	5.79	103.8	1.6	0.30	0.0	0.00	0.15	0.03	11
	20	ISL	16.43	16.43	33.484	24.485	344.4	0.069	5.81	104.0	1.6	0.27	0.0	0.00	0.15	0.03	20
1	22		16.41	16.41	33.484	24.490	344.1	0.076	5.81	104.0	1.6	0.27	0.0	0.00	0.15	0.03	22
	30	ISL	16.01	16.01	33.467	24.568	336.8	0.103	5.91	105.0	1.6	0.28	0.0	0.00	0.22	0.04	30
1	31		15.92	15.92	33.464	24.586	335.1	0.107	5.93	105.1	1.6	0.28	0.0	0.00	0.23	0.04	31
1	42		13.79	13.78	33.425	25.015	294.5	0.141	6.06	102.9	3.4	0.35	0.8	0.05	0.40	0.08	42
	50	ISL	13.14	13.13	33.438	25.157	281.2	0.164	5.55	93.0	5.0	0.47	3.8	0.15	0.54	0.10	50
1	52		13.04	13.03	33.444	25.182	278.9	0.170	5.39	90.1	5.5	0.51	4.7	0.17	0.57	0.11	52
1	62		12.34	12.33	33.500	25.362	262.0	0.197	4.76	78.5	8.3	0.73	9.3	0.20	0.53	0.18	62
1	71		11.79	11.78	33.559	25.511	247.9	0.220	4.32	70.4	11.1	0.92	12.6	0.13	0.38	0.21	72
	75	ISL	11.47	11.46	33.598	25.601	239.4	0.230	4.11	66.5	12.9	1.02	14.2	0.10	0.31	0.20	76
1	85		10.71	10.70	33.698	25.815	219.2	0.253	3.69	58.8	17.1	1.24	17.9	0.05	0.16	0.14	86
1	100		10.17	10.16	33.772	25.967	205.1	0.284	3.49	55.0	20.3	1.38	20.6	0.03	0.07	0.10	101
1	121		9.80	9.79	33.867	26.104	192.5	0.326	3.17	49.5	24.2	1.56	22.9	0.02	0.03	0.07	122
	125	ISL	9.71	9.70	33.894	26.140	189.1	0.334	3.08	48.0	25.3	1.60	23.5	0.02	0.03	0.07	126
1	145		9.31	9.29	34.027	26.309	173.3	0.370	2.64	40.8	30.7	1.79	26.1	0.01	0.01	0.09	146
	150	ISL	9.24	9.22	34.048	26.337	170.8	0.379	2.56	39.6	31.7	1.83	26.5	0.01	0.01	0.08	151
1	176		8.96	8.94	34.123	26.441	161.4	0.422	2.19	33.6	36.1	1.99	28.2	0.01	0.01	0.05	177
	200	ISL	8.78	8.76	34.175	26.510	155.2	0.460	1.86	28.5	39.7	2.15	29.7	0.01	0.01	0.07	202
1	206		8.74	8.72	34.184	26.524	154.0	0.469	1.79	27.4	40.6	2.19	30.0	0.01	0.01	0.08	208
1	235		8.42	8.40	34.195	26.582	148.9	0.513	1.61	24.4	44.7	2.30	31.3	0.01			237
	250	ISL	8.24	8.21	34.195	26.610	146.5	0.535	1.53	23.1	46.6	2.34	31.9	0.01			252
1	274		7.96	7.93	34.194	26.651	142.9	0.570	1.40	21.0	49.5	2.41	32.8	0.00			276
	300	ISL	7.70	7.67	34.204	26.697	138.8	0.606	1.23	18.4	53.1	2.50	33.9	0.00			302
1	329		7.43	7.40	34.219	26.748	134.3	0.646	1.04	15.4	57.2	2.60	35.0	0.01			332
1	389		6.92	6.88	34.250	26.844	125.8	0.724	0.71	10.4	65.7	2.76	36.9	0.00			3 92
	400	ISL	6.85	6.81	34.256	26.859	124.6	0.738	0.66	9.7	67.0	2.79	37.1	0.00			403
1	453		6.51	6.47	34.284	26.927	118.7	0.802	0.48	7.0	73.2	2.93	38.3	0.00			457
	500	ISL	6.14	6.10	34.315	26.999	112.1	0.857	0.38	5.5	79.9	3.03	39.7	0.00			504
1	518		6.00	5.95	34.327	27.027	109.6	0.877	0.34	4.9	82.4	3.07	40.3	0.00			522

RV DAVID STARR JORDAN CALCOFI CRUISE 8805 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 14.2 W	29/04/88	2137 UTC	1506 M	300	20 KT	290 03 06	1	1020.3 MB	18.0 C	16.2 C	1/8	CI

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	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	16.27	16.27	33.445	24.491	3 43.2	0.000	5:84	104.2	2.0	0.30	0.0	0.00	0.13	0.02	0
1	2		16.27	16.27	33.445	24.491	3 43.3	0.007	5.84	104.2	2.0	0.30	0.0	0.00	0.13	0.02	2
	10	ISL	16.24	16.24	33.445	24.499	3 42.8	0.034	5.84	104.2	1.9	0.29	0.0	0.00	0.12	0.02	10
1	11		16.24	16.24	33.445	24.499	3 42.9	0.038	5.84	104.2	1.9	0.29	0.0	0.00	0.12	0.02	11
	20	ISL	15.56	15.56	33.424	24.636	330.1	0.068	5.94	104.5	1.8	0.29	0.0	0.00	0.18	0.04	20
1	22		15.35	15.35	33.419	24.678	326.1	0.075	5.98	104.8	1.8	0.29	0.0	0.00	0.20	0.04	22
	30	ISL	14.48	14.48	33.398	24.850	309.9	0.100	6.18	106.4	2.0	0.29	0.0	0.00	0.35	0.12	30
1	32		14.24	14.24	33.394	24.898	305.4	0.106	6.20	106.2	2.1	0.29	0.0	0.00	0.41	0.15	32
1	41		13.16	13.15	33.383	25.110	285.4	0.133	5.82	97.5	4.4	0.48	3.0	0.16	0.83	0.44	41
	50	ISL	12.50	12.49	33.398	25.252	272.1	0.158	5.29	87.4	7.0	0.69	7.0	0.09	0.82	0.43	50
1	51		12.44	12.43	33.402	25.266	270.7	0.161	5.23	86.3	7.3	0.71	7.5	0.08	0.82	0.43	51
1	61		11.83	11.82	33.476	25.439	254.5	0.187	4.70	76.6	11.0	0.92	11.3	0.03	0.32	0.25	61
1	71		11.17	11.16	33.561	25.627	236.9	0.211	4.23	68.0	14.9	1.13	14.9	0.02	0.15	0.15	72
	75	ISL	10.95	10.94	33.586	25.686	231.3	0.221	4.11	65.8	16.0	1.19	16.0	0.02	0.11	0.13	76
1	85		10.47	10.46	33.646	25.817	219.0	0.243	3.87	61.3	18.7	1.32	18.3	0.02	0.06	0.09	86
1	100		9.80	9.79	33.764	26.023	199.7	0.275	3.45	53.9	24.0	1.52	21.9	0.02	0.02	0.07	101
1	120		9.32	9.31	33.878	26.191	184.0	0.313	3.24	50.1	27.6	1.66	23.5	0.02	0.01	0.05	121
	125	ISL	9.25	9.24	33.907	26.225	180.9	0.322	3.16	48.8	28.5	1.70	24.0	0.02	0.01	0.05	126
1	146		9.03	9.01	34.009	26.340	170.3	0.359	2.80	43.0	32.2	1.86	26.3	0.02	0.00	0.04	147
	150	ISL	9.00	8.98	34.022	26.355	169.0	0.366	2.74	42.1	32.8	1.88	26.6	0.02	0.00	0.04	151
1	176		8.76	8.74	34.087	26.444	161.0	0.409	2.36	36.1	36.8	2.04	28.5	0.02	0.00	0.04	177
	200	ISL	8.34	8.32	34.134	26.546	151.6	0.446	1.96	29.7	42.5	2.22	30.4	0.02	0.00	0.03	202
1	206		8.24	8.22	34.143	26.568	149.6	0.455	1.87	28.3	43.9	2.26	30.8	0.02	0.00	0.03	208
1	234		8.01	7.99	34.168	26.623	144.9	0.497	1.64	24.7	47.6	2.36	32.2	0.02			236
	250	ISL	7.86	7.83	34.176	26.651	142.4	0.519	1.50	22.5	49.7	2.42	32.9	0.02			252
1	275		7.61	7.58	34.187	26.697	138.4	0.555	1.29	19.2	53.2	2.52	33.9	0.02			277
	300	ISL	7.36	7.33	34.209	26.750	133.6	0.589	1.06	15.7	57.5	2.63	35.3	0.02			302
1	330		7.09	7.06	34.236	26.809	128.3	0.628	0.83	12.2	62.5	2.74	36.8	0.02			333
1	388		6.74	6.70	34.264	26.879	122.3	0.701	0.65	9.5	68.7	2.86	38.1	0.00			391
	400	ISL	6.67	6.63	34.269	26.893	121.2	0.715	0.60	8.7	70.0	2.89	38.4	0.00			403
1	451		6.37	6.33	34.291	26.950	116.3	0.776	0.43	6.2	75.2	2.98	39.4	0.01			455
	500	ISL	6.09	6.05	34.315	27.006	111.4	0.831	0.36	5.2	80.2	3.02	39.9	0.00			504
1	517		5.99	5.94	34.323	27.025	109.7	0.850	0.33	4.7	81.9	3.04	40.1	0.00			521

RV DAVID STARR JORDAN CALCOFI CRUISE 8805 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	30/04/88	0120 UTC	2747 M	300	20 KT	300 03 06	1	1019.2 MB	16.8 C	15.6 C	6/8	CI

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	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	33.437	24.596	333.2	0.000	6.03	106.6	2.8	0.32	0.0	0.00	0.23	0.04	0
1	2		15.78	15.78	33.437	24.596	333.3	0.007	6.03	106.6	2.8	0.32	0.0	0.00	0.23	0.04	2
	10	ISL	15.77	15.77	33.435	24.597	333.4	0.033	6.03	106.6	2.9	0.31	0.0	0.00	0.23	0.04	10
1	13		15.77	15.77	33.434	24.596	333.6	0.043	6.03	106.6	3.0	0.31	0.0	0.00	0.23	0.04	13
	20	ISL	15.20	15.20	33.441	24.728	321.3	0.066	6.15	107.5	3.1	0.30	0.0	0.01	0.33	0.08	20
1	21		15.10	15.10	33.443	24.752	319.0	0.069	6.17	107.6	3.1	0.30	0.0	0.01	0.34	0.09	21
	30	ISL	14.45	14.45	33.468	24.911	304.2	0.098	6.18	106.4	3.2	0.34	0.1	0.03	1.05	0.33	30
1	32		14.30	14.30	33.471	24.945	301.0	0.104	6.18	106.1	3.2	0.35	0.1	0.03	1.16	0.38	32
1	40		13.50	13.49	33.447	25.092	287.2	0.127	5.65	95.4	4.3	0.48	3.2	0.43	0.60	0.31	40
	50	ISL	12.94	12.93	33.491	25.238	273.5	0.155	5.31	88.6	5.7	0.60	5.8	0.69	0.36	0.25	50
1	51		12.90	12.89	33.496	25.250	272.4	0.158	5.29	88.2	5.9	0.61	6.0	0.72	0.35	0.24	51
1	60		12.41	12.40	33.486	25.337	264.2	0.182	5.04	83.2	7.7	0.75	8.7	0.09	0.23	0.16	60
1	70		11.92	11.91	33.493	25.436	255.0	0.208	4.76	77.8	9.9	0.90	10.8	0.04	0.17	0.14	71
	75	ISL	11.67	11.66	33.510	25.496	249.5	0.221	4.60	74.7	11.4	0.96	12.1	0.04	0.14	0.13	76
1	82		11.30	11.29	33.543	25.589	240.7	0.238	4.37	70.5	13.5	1.03	14.1	0.03	0.10	0.12	83
1	99		10.37	10.36	33.629	25.821	218.9	0.277	3.95	62.4	17.6	1.23	18.2	0.03	0.05	0.06	100
	100	ISL	10.33	10.32	33.635	25.833	217.8	0.279	3.93	62.1	17.9	1.24	18.4	0.03	0.05	0.06	101
1	118		9.67	9.66	33.750	26.033	199.0	0.316	3.67	57.2	22.2	1.37	20.9	0.02	0.02	0.04	119
	125	ISL	9.47	9.46	33.789	26.097	193.1	0.330	3.58	55.5	23.6	1.43	21.9	0.02	0.02	0.04	126
1	142		9.07	9.05	33.874	26.228	180.9	0.362	3.40	52.3	26.7	1.58	23.9	0.01	0.01	0.03	143
	150	ISL	8.90	8.88	33.908	26.282	175.9	0.376	3.38	51.8	28.2	1.62	24.5	0.01	0.01	0.03	151
1	175		8.52	8.50	34.006	26.418	163.4	0.419	3.18	48.3	33.4	1.75	26.4	0.01	0.01	0.03	176
	200	ISL	8.42	8.40	34.100	26.507	155.3	0.459	2.31	35.0	39.5	1.99	29.3	0.01	0.00	0.03	202
1	205		8.40	8.38	34.115	26.522	154.0	0.466	2.13	32.3	40.7	2.04	29.9	0.01	0.00	0.03	207
1	234		8.07	8.05	34.145	26.596	147.4	0.510	1.78	26.8	46.1	2.34	32.1	0.01			236
	250	ISL	7.76	7.74	34.125	26.626	144.7	0.533	1.83	27.3	47.7	2.36	32.7	0.01			252
1	275		7.30	7.27	34.097	26.670	140.7	0.569	1.92	28.4	50.0	2.40	33.5	0.00			277
	300	ISL	7.23	7.20	34.153	26.724	136.0	0.604	1.52	22.4	54.6	2.53	34.9	0.00			302
1	329		7.14	7.11	34.213	26.784	130.7	0.642	0.97	14.3	60.0	2.70	36.5	0.00			332
1	389		6.83	6.79	34.243	26.851	125.1	0.719	0.68	9.9	65.7	2.88	37.6	0.00			392
	400	ISL	6.75	6.71	34.248	26.866	123.8	0.733	0.64	9.3	67.1	2.90	38.0	0.00			403
1	452		6.34	6.30	34.274	26.941	117.1	0.795	0.48	6.9	74.2	2.98	39.7	0.00			456
	500	ISL	5.99	5.95	34.302	27.008	111.1	0.850	0.36	5.2	80.3	3.09	39.9	0.00			504
1	516		5.87	5.83	34.312	27.031	109.0	0.868	0.32	4.6	82.3	3.13	40.0	0.00			520

RV DAVID STARR JORDAN CALCOFI CRUISE 8805 STATION 93 70

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
31 30.9 N	120 14.7 W	30/04/88	0656 UTC	3924 M	320	27 KT			1020.7 MB	15.5 C	13.4 C		

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	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	15.88	15.88	33.293	24.463	3 45.9	0.000	5.85	103.5	2.2	0.36	0.0	0.00	0.07	0.01	0
1	2		15.88	15.88	33.293	24.463	3 46.0	0.007	5.85	103.5	2.2	0.36	0.0	0.00	0.07	0.01	2
	10	ISL	15.88	15.88	33.290	24.461	3 46.4	0.035	5.86	103.7	2.1	0.35	0.0	0.00	0.07	0.01	10
1	11		15.88	15.88	33.290	24.461	3 46.4	0.038	5.86	103.7	2.1	0.35	0.0	0.00	0.07	0.01	11
1	20		15.23	15.23	33.287	24.603	333.2	0.069	5.95	104.0	1.9	0.33	0.0	0.00	0.09	0.02	20
	30	ISL	15.17	15.17	33.292	24.620	331.8	0.102	5.97	104.2	1.9	0.30	0.0	0.00	0.11	0.02	30
1	31		15.16	15.16	33.293	24.623	331.6	0.105	5.97	104.2	1.9	0.30	0.0	0.00	0.11	0.02	31
1	40		15.15	15.14	33.338	24.660	328.3	0.135	5.97	104.2	1.9	0.29	0.0	0.00	0.14	0.03	40
1	49		14.66	14.65	33.306	24.742	320.8	0.164	6.03	104.2	1.9	0.32	0.0	0.00	0.19	0.07	49
	50	ISL	14.60	14.59	33.302	24.751	319.9	0.167	6.03	104.0	1.9	0.32	0.0	0.00	0.22	0.10	50
1	60		13.99	13.98	33.248	24.838	311.9	0.199	6.03	102.7	2.2	0.31	0.0	0.02	0.51	0.34	60
1	68		13.64	13.63	33.193	24.867	309.3	0.224	6.07	102.6	2.3	0.30	0.2	0.08	0.59	0.35	69
	75	ISL	13.56	13.55	33.221	24.906	305.8	0.245	6.00	101.3	2.5	0.31	0.5	0.23	0.54	0.33	76
1	83		13.47	13.46	33.288	24.976	299.4	0.270	5.91	99.6	2.7	0.33	1.3	0.34	0.42	0.31	84
1	97		12.82	12.81	33.383	25.179	280.3	0.310	5.37	89.3	4.9	0.47	5.2	0.03	0.16	0.16	98
	100	ISL	12.59	12.58	33.404	25.240	274.5	0.318	5.25	86.9	5.7	0.52	6.3	0.03	0.13	0.14	101
1	115		11.41	11.40	33.513	25.547	245.5	0.357	4.68	75.6	10.5	0.77	11.6	0.02	0.06	0.06	116
	125	ISL	10.83	10.81	33.582	25.705	230.6	0.381	4.32	68.9	13.9	0.94	14.8	0.02	0.03	0.05	126
1	142		10.11	10.09	33.692	25.915	210.9	0.419	3.91	61.5	18.8	1.17	18.9	0.01	0.01	0.03	143
	150	ISL	9.90	9.88	33.744	25.991	203.7	0.435	3.93	61.5	19.8	1.19	19.1	0.01	0.01	0.03	151
1	172		9.44	9.42	33.863	26.161	188.0	0.478	4.10	63.6	21.9	1.23	19.6	0.01	0.00	0.02	173
	200	ISL	8.70	8.68	33.940	26.339	171.4	0.529	3.83	58.4	27.3	1.44	22.7	0.00	0.00	0.02	202
1	203		8.63	8.61	33.945	26.354	170.0	0.534	3.79	57.7	27.9	1.46	23.1	0.00	0.00	0.02	205
1	231		8.19	8.17	33.987	26.454	160.9	0.580	3.59	54.1	33.2	1.57	25.3	0.01			233
	250	ISL	7.86	7.84	34.000	26.513	155.4	0.610	3.32	49.7	37.4	1.68	27.0	0.01			252
1	271		7.53	7.50	34.010	26.569	150.3	0.642	2.95	43.8	42.2	1.81	29.0	0.01			273
	300	ISL	7.23	7.20	34.037	26.633	144.6	0.685	2.38	35.1	48.0	1.99	31.4	0.01			302
1	326		7.02	6.99	34.063	26.682	140.2	0.722	1.90	27.9							329
1	385		6.55	6.51	34.113	26.786	131.0	0.802	1.23	17.9	63.5	2.47	37.0	0.00			388
	400	ISL	6.42	6.38	34.124	26.811	128.6	0.822	1.10	15.9	66.1	2.54	37.8	0.00			403
1	450		5.99	5.95	34.160	26.895	121.0	0.884	0.74	10.6	74.5	2.72	39.9	0.00			454
	500	ISL	5.65	5.61	34.205	26.973	113.9	0.943	0.53	7.5	81.8	2.85	41.1	0.00			504
1	518		5.53	5.49	34.222	27.001	111.4	0.963	0.45	6.4	84.4	2.90	41.5	0.00			522

RV DAVID STARR JORDAN CALCOFI CRUISE 8805 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 55.1 W	02/05/88	1506 UTC	4018 M	3 40	22 KT	320 12 07	1	1023.0 MB	14.9 C	13.5 C	3/8	CI

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	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		14.66	14.66	33.201	24.659	327.2	0.000	6.03	104.1	2.4	0.38	0.0	0.00	0.11	0.02	0
1	9		14.64	14.64	33.202	24.664	327.0	0.029	5.97	103.0	2.1	0.35	0.0	0.00	0.10	0.02	9
	10	ISL	14.64	14.64	33.202	24.664	327.0	0.033	5.97	103.0	2.1	0.35	0.0	0.00	0.10	0.02	10
1	20		14.66	14.66	33.203	24.661	327.6	0.065	5.96	102.9	2.4	0.34	0.0	0.00	0.11	0.03	20
1	30		14.67	14.67	33.202	24.659	328.2	0.098	5.99	103.4	2.3	0.32	0.0	0.00	0.10	0.02	30
1	40		14.63	14.62	33.199	24.665	327.8	0.131	6.03	104.0	2.3	0.30	0.0	0.00	0.11	0.03	40
1	50		14.64	14.63	33.200	24.664	328.2	0.164	6.07	104.7	2.3	0.31	0.0	0.00	0.11	0.04	50
1	60		14.63	14.62	33.199	24.666	328.4	0.197	5.98	103.2	2.0	0.29	0.0	0.00	0.12	0.03	60
1	70		13.73	13.72	33.178	24.838	312.2	0.229	6.08	103.0	2.1	0.30	0.0	0.02	0.46	0.24	71
	75	ISL	13.67	13.66	33.203	24.869	309.3	0.244	6.06	102.5	2.1	0.31	0.1	0.07	0.41	0.22	76
1	85		13.56	13.55	33.208	24.896	307.0	0.275	5.95	100.4	2.1	0.34	0.3	0.19	0.31	0.17	86
1	100		13.28	13.27	33.251	24.986	298.8	0.320	5.73	96.2	3.2	0.40	2.2	0.31	0.18	0.12	101
1	121		12.62	12.60	33.510	25.317	267.8	0.380	5.16	85.5	6.7	0.57	6.7	0.03	0.13	0.13	122
	125	ISL	12.29	12.27	33.514	25.384	261.5	0.391	5.02	82.6	7.9	0.65	8.1	0.03	0.11	0.12	126
1	146		10.50	10.48	33.535	25.726	229.0	0.442	4.38	69.4	14.8	1.06	15.2	0.00	0.02	0.03	147
	150	ISL	10.31	10.29	33.575	25.790	223.0	0.451	4.35	68.6	15.7	1.09	15.9	0.00	0.02	0.03	151
1	176		9.53	9.51	33.837	26.126	191.4	0.505	4.20	65.2	20.7	1.23	19.3	0.01	0.00	0.02	177
	200	ISL	9.00	8.98	33.891	26.253	179.6	0.549	3.64	55.9	26.6	1.50	23.3	0.01	0.00	0.02	202
1	206		8.89	8.87	33.894	26.273	177.8	0.560	3.48	53.3	28.2	1.58	24.2	0.01	0.00	0.02	208
1	235		8.46	8.44	33.992	26.417	164.6	0.610	2.94	44.6	35.2	1.87	27.2	0.00			237
	250	ISL	8.19	8.16	34.010	26.472	159.5	0.634	2.88	43.4	37.7	1.92	28.1	0.00			252
1	276		7.73	7.70	34.022	26.550	152.4	0.675	2.82	42.1	41.8	1.98	29.4	0.00			278
	300	ISL	7.43	7.40	34.044	26.610	146.9	0.711	2.45	36.3	46.7	2.14	31.3	0.00			302
1	331		7.12	7.09	34.073	26.677	140.9	0.755	1.89	27.8	53.3	2.37	33.9	0.00			334
1	389		6.60	6.56	34.120	26.785	131.1	0.834	1.25	18.2	63.7	2.65	37.1	0.00			392
	400	ISL	6.44	6.40	34.119	26.805	129.3	0.848	1.18	17.1	66.0	2.69	37.8	0.00			403
1	454		5.75	5.71	34.123	26.896	120.7	0.916	0.92	13.1	76.7	2.86	40.5	0.00			458
	500	ISL	5.58	5.54	34.191	26.971	114.1	0.970	0.60	8.5	83.0	2.99	41.4	0.00			504
1	518		5.51	5.47	34.217	27.000	111.5	0.990	0.48	6.8	85.4	3.04	41.8	0.00			522

RV DAVID STARR JORDAN CALCOFI CRUISE 8805 STATION 93 90

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
30 51.5 N	121 35.3 W	02/05/88	2124 UTC	4114 M	310	20 KT	310 08 07	1	1022.1 MB	16.2 C	14.5 C	1/8	AC

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	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	14.95	14.95	33.205	24.600	332.8	0.000	5.97	103.7	2.4	0.41	0.0	0.00	0.09	0.02	0
	10 ISL	14.94	14.94	33.206	24.603	332.8	0.033	5.96	103.5	2.2	0.37	0.0	0.00	0.09	0.02	10
1	16	14.94	14.94	33.207	24.604	333.0	0.053	5.95	103.3	2.0	0.34	0.0	0.00	0.09	0.02	16
	20 ISL	14.92	14.92	33.207	24.609	332.6	0.067	5.95	103.3	2.0	0.34	0.0	0.00	0.09	0.02	20
	30 ISL	14.87	14.87	33.208	24.621	331.8	0.100	5.95	103.2	2.0	0.35	0.0	0.00	0.10	0.02	30
1	31	14.87	14.87	33.208	24.621	331.8	0.103	5.95	103.2	2.0	0.35	0.0	0.00	0.10	0.02	31
1	41	14.87	14.86	33.209	24.622	332.0	0.136	5.96	103.3	2.0	0.33	0.0	0.00	0.10	0.02	41
1	50	14.85	14.84	33.208	24.625	331.9	0.166	5.97	103.5	2.0	0.31	0.0	0.00	0.11	0.02	50
1	61	14.83	14.82	33.207	24.629	331.9	0.203	5.96	103.2	1.9	0.30	0.0	0.00	0.11	0.02	61
1	70	14.65	14.64	33.222	24.680	327.3	0.232	5.98	103.2	1.7	0.29	0.0	0.00	0.17	0.06	71
	75 ISL	14.25	14.24	33.200	24.747	321.0	0.249	6.05	103.6	1.7	0.28	0.0	0.00	0.21	0.10	76
1	80	13.85	13.84	33.177	24.813	314.9	0.264	6.11	103.7	1.7	0.28	0.0	0.00	0.26	0.14	81
1	95	13.69	13.68	33.190	24.856	311.1	0.311	6.05	102.4	1.6	0.29	0.0	0.04	0.52	0.25	96
	100 ISL	13.63	13.62	33.189	24.867	310.2	0.327	6.01	101.6	1.7	0.31	0.2	0.15	0.48	0.23	101
1	111	13.47	13.45	33.190	24.901	307.3	0.361	5.91	99.5	1.9	0.35	0.5	0.34	0.31	0.19	112
	125 ISL	13.13	13.11	33.220	24.992	298.8	0.403	5.81	97.2	3.0	0.37	2.5	0.08	0.12	0.08	126
1	127	13.06	13.04	33.227	25.012	297.1	0.409	5.79	96.7	3.2	0.38	2.9	0.03	0.10	0.07	128
	150 ISL	11.72	11.70	33.373	25.382	262.1	0.474	5.10	82.9	7.7	0.59	8.6	0.02	0.04	0.05	151
1	152	11.59	11.57	33.391	25.420	258.5	0.479	5.03	81.5	8.2	0.61	9.2	0.02	0.04	0.05	153
1	177	10.48	10.46	33.671	25.836	219.3	0.539	4.25	67.3	15.5	0.94	16.2	0.01	0.01	0.03	178
	200 ISL	9.68	9.66	33.835	26.100	194.5	0.586	4.17	65.0	20.1	1.08	18.9	0.00	0.00	0.02	202
1	209	9.41	9.39	33.878	26.178	187.1	0.603	4.14	64.1	21.8	1.13	19.6	0.00	0.00	0.02	211
1	238	8.68	8.65	33.962	26.360	170.2	0.655	3.60	54.9	29.5	1.43	23.9	0.00			240
	250 ISL	8.44	8.41	33.982	26.412	165.3	0.675	3.51	53.2	31.6	1.50	24.9	0.00			252
1	278	7.93	7.90	34.013	26.513	155.9	0.720	3.33	49.9	36.5	1.63	26.7	0.00			280
	300 ISL	7.55	7.52	34.029	26.581	149.6	0.754	2.94	43.7	42.3	1.79	29.0	0.00			302
1	332	7.04	7.01	34.047	26.667	141.7	0.800	2.30	33.8	51.3	2.04	32.5	0.00			335
1	391	6.33	6.30	34.091	26.797	129.8	0.880	1.43	20.7	65.4	2.42	37.3	0.00			394
	400 ISL	6.26	6.22	34.097	26.811	128.5	0.892	1.34	19.3	66.9	2.47	37.8	0.00			403
1	455	5.92	5.88	34.139	26.887	121.7	0.961	0.94	13.4	74.4	2.69	39.9	0.00			459
	500 ISL	5.70	5.66	34.198	26.962	115.1	1.014	0.65	9.3	80.9	2.80	41.1	0.00			504
1	520	5.60	5.56	34.224	26.995	112.1	1.037	0.52	7.4	83.8	2.85	41.7	0.00			524

RV DAVID STARR JORDAN CALCOFI CRUISE 8805 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	03/05/88	0332 UTC	0 M	340	22 KT	340 08 06	1	1021.4 MB	14.5 C	13.0 C	3/8	CU

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	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	16.18	16.18	33.608	24.637	329.3	0.000	5.79	103.3	2.5	0.26	0.0	0.00	0.08	0.01	0
1	1	16.18	16.18	33.608	24.637	329.3	0.003	5.79	103.3	2.5	0.26	0.0	0.00	0.08	0.01	1
	10 ISL	16.18	16.18	33.607	24.637	329.7	0.033	5.78	103.1	2.5	0.26	0.0	0.00	0.07	0.01	10
1	16	16.18	16.18	33.607	24.637	329.9	0.053	5.77	102.9	2.4	0.25	0.0	0.00	0.07	0.01	16
	20 ISL	16.18	16.18	33.607	24.637	330.0	0.066	5.77	102.9	2.4	0.25	0.0	0.00	0.07	0.01	20
	30 ISL	16.18	16.18	33.608	24.638	330.2	0.099	5.78	103.1	2.3	0.24	0.0	0.00	0.07	0.01	30
1	32	16.18	16.17	33.608	24.638	330.3	0.106	5.78	103.1	2.3	0.24	0.0	0.00	0.07	0.01	32
1	42	16.18	16.17	33.612	24.641	330.3	0.139	5.78	103.1	2.2	0.24	0.0	0.00	0.07	0.01	42
	50 ISL	16.14	16.13	33.617	24.655	329.2	0.165	5.80	103.3	2.1	0.23	0.0	0.00	0.07	0.01	50
1	52	16.13	16.12	33.618	24.658	329.0	0.172	5.80	103.3	2.1	0.23	0.0	0.00	0.07	0.01	52
1	62	16.13	16.12	33.623	24.662	328.9	0.204	5.78	103.0	2.0	0.22	0.0	0.00	0.07	0.02	62
1	71	16.12	16.11	33.627	24.668	328.7	0.234	5.78	103.0	2.0	0.21	0.0	0.00	0.07	0.02	72
	75 ISL	16.09	16.08	33.634	24.680	327.6	0.247	5.80	103.2	2.0	0.21	0.0	0.00	0.08	0.02	76
1	81	16.02	16.01	33.647	24.706	325.3	0.267	5.83	103.6	1.9	0.20	0.0	0.00	0.10	0.03	82
1	96	15.69	15.68	33.661	24.792	317.6	0.315	5.78	102.1	1.8	0.19	0.0	0.00	0.18	0.10	97
	100 ISL	15.62	15.60	33.673	24.817	315.4	0.328	5.75	101.4	1.8	0.19	0.0	0.01	0.21	0.15	101
1	111	15.41	15.39	33.706	24.889	308.8	0.362	5.66	99.5	2.0	0.20	0.3	0.04	0.27	0.28	112
	125 ISL	15.10	15.08	33.715	24.964	302.0	0.405	5.57	97.3	2.4	0.22	1.0	0.08	0.23	0.29	126
1	126	15.07	15.05	33.714	24.970	301.5	0.408	5.56	97.0	2.4	0.22	1.1	0.08	0.22	0.29	127
	150 ISL	13.13	13.11	33.660	25.334	267.1	0.476	5.08	85.2	5.4	0.45	6.1	0.03	0.14	0.16	151
1	151	13.04	13.02	33.658	25.350	265.6	0.479	5.06	84.7	5.6	0.46	6.3	0.03	0.14	0.15	152
1	176	11.57	11.55	33.664	25.636	238.6	0.542	4.75	77.1	9.4	0.70	10.8	0.01	0.06	0.08	177
	200 ISL	10.22	10.20	33.755	25.947	209.2	0.595	4.39	69.2	15.5	1.02	16.0	0.00	0.02	0.04	202
1	206	9.92	9.90	33.785	26.021	202.1	0.608	4.30	67.3	17.2	1.10	17.3	0.00	0.01	0.03	208
1	235	8.91	8.88	33.911	26.284	177.4	0.663	3.85	59.0	24.9	1.38	22.1	0.00			237
	250 ISL	8.62	8.59	33.948	26.358	170.5	0.689	3.77	57.4	27.5	1.45	23.3	0.00			252
1	275	8.27	8.24	33.984	26.440	163.0	0.731	3.67	55.4	31.4	1.54	24.6	0.00			277
	300 ISL	7.86	7.83	34.005	26.518	155.9	0.770	3.35	50.1	36.8	1.71	26.9	0.00			302
1	330	7.39	7.36	34.021	26.598	148.5	0.816	2.84	42.0	43.9	1.94	29.9	0.00			333
1	389	6.67	6.63	34.071	26.736	135.7	0.900	1.75	25.5	58.0	2.40	34.9	0.00			392
	400 ISL	6.56	6.52	34.081	26.759	133.7	0.915	1.60	23.2	60.4	2.47	35.7	0.00			403
1	452	6.11	6.07	34.132	26.858	124.6	0.982	1.03	14.8	70.4	2.74	38.6	0.00			456
	500 ISL	5.81	5.77	34.176	26.931	118.1	1.040	0.74	10.6	77.6	2.89	40.0	0.00			504
1	521	5.68	5.64	34.196	26.963	115.2	1.065	0.61	8.7	80.7	2.96	40.6	0.00			525

PV DAVID STARR JORDAN — CALCOFI CRUISE 8805 — STATION 77 51

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	SECCHI DEPTH	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
35 1.2 N	120 55.2 W	11/ 5/88	1957 UTC	11 M	1210 - 1925 PST	1204 PST	1923 PST	880.7 MG C/M2

DEPTH M	TEMP DEG C	SALINITY PSS 78	SIGMA THETA	DISS O2 ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL UG/L	PHAEO UG/L	LIGHT PCT	UPTAKE (MG C/M3) 1	2	MEAN	DARK
0	13.24	33.463	25.155	6.52	109.5	2.7	0.60	4.2	0.24	3.15	0.13	99.	41.3	42.2	41.7	0.32
7	12.89	33.471	25.231	6.49	108.2	3.0	0.60	4.6	0.27	3.18	0.20	35.	57.0	52.4	54.7	0.27
14	12.59	33.479	25.296	6.05	100.2	4.9	0.66	6.2	0.32	2.52	0.29	15.	33.6	36.7	35.2	0.18
20	12.20	33.527	25.408	5.79	95.2	7.5	0.82	8.6	0.38	1.19	0.36	5.0	9.9	8.9	9.4	0.16
30	11.46	33.570	25.580	5.23	84.6	11.6	0.99	12.7	0.39	0.98	0.45	1.5	3.7	4.2	4.0	0.10
43	11.03	33.618	25.695	4.85	77.8	15.0	1.15	16.0	0.40	0.51	0.42	0.25	0.25	0.33	0.29	0.08

RV DAVID STARR JORDAN — CALCOFI CRUISE 8805 — STATION 80 55

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	SECCHI DEPTH	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
34 19.1 N	120 48.0 W	10/ 5/88	1826 UTC	9 M	1156 - 1919 PST	1158 PST	1925 PST	2631.2 MG C/M2

DEPTH M	TEMP DEG C	SALINITY PSS 78	SIGMA THETA	DISS O2 ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL UG/L	PHAEO UG/L	LIGHT PCT	UPTAKE (MG C/M3) 1	2	MEAN	DARK
0	11.68	33.706	25.645	5.98	97.3	14.7	1.00	12.8	0.23	4.77	0.76	99.	145.5	134.4	140.0	0.35
6	11.66	33.708	25.650	6.00	97.6	14.6	1.01	12.9	0.23	4.75	0.99	35.	160.0	150.6	155.3	0.38
11	11.55	33.714	25.675	5.92	96.1	14.7	1.01	12.9	0.23	5.02	0.86	15.	155.6	159.2	157.4	0.40
18	11.28	33.749	25.752	5.62	90.7	17.5	1.08	14.7	0.22	4.61	0.78	5.0	53.0	42.5	47.7	0.21
25	10.32	33.822	25.979	4.29	67.8	22.2	1.35	19.8	0.26	1.91	1.18	1.5	8.6	9.4	9.0	0.25
35	10.14	33.837	26.021	3.77	59.4	24.2	1.48	21.7	0.27	0.80	0.50	0.25	0.53	0.35	0.44	0.09

RV DAVID STARR JORDAN — CALCOFI CRUISE 8805 — STATION 83 55

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	SECCHI DEPTH	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
33 44.6 N	120 24.7 W	9/ 5/88	1851 UTC	8 M	1159 - 1917 PST	1158 PST	1917 PST	2780.1 MG C/M2

DEPTH M	TEMP DEG C	SALINITY PSS 78	SIGMA THETA	DISS O2 ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL UG/L	PHAEO UG/L	LIGHT PCT	UPTAKE (MG C/M3) 1	2	MEAN	DARK
1	12.46	33.690	25.484	6.69	110.7	10.9		7.3	0.24	8.68	1.24	99.	107.6	105.3	106.5	0.94
5	12.48	33.689	25.480	6.74	111.6	10.8		7.1	0.24	8.51	1.33	35.	222.0	257.7	239.9	0.98
10	12.34	33.688	25.506	6.56	108.3	11.7		8.1	0.24	8.03	1.42	15.	186.0	187.6	186.8	0.91
16	11.96	33.692	25.582	6.14	100.5	12.7		10.1	0.23	5.12	1.65	5.0	45.1	42.3	43.7	0.62
23	11.51	33.701	25.672	5.32	86.3	15.5		13.6	0.25	2.44	1.95	1.5	8.2	9.0	8.6	0.57
32	10.58	33.732	25.863	3.80	60.4	19.6		19.4	0.14	0.57	0.77	0.25	0.12	0.24	0.18	0.45

RV DAVID STARR JORDAN — CALCOFI CRUISE 8805 — STATION 85 90

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	SECCHI DEPTH	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
32 16.1 N	122 36.8 W	8/ 5/88	1918 UTC	26 M	1210 - 1921 PST	1206 PST	1921 PST	509.5 MG C/M2

DEPTH M	TEMP DEG C	SALINITY PSS 78	SIGMA THETA	DISS O2 ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL UG/L	PHAEO UG/L	LIGHT PCT	UPTAKE (MG C/M3) 1	2	MEAN	DARK
1	14.63	33.472	24.874	5.96	103.0	3.0		1.0	0.08	0.19	0.04	99.	4.2	4.8	4.5	0.41
19	14.18	33.474	24.972	6.06	103.8	3.0		1.2	0.10	0.26	0.08	35.	9.7	11.6	10.6	0.43
33	14.10	33.470	24.986	6.02	102.9	3.0		1.2	0.12	0.51	0.18	15.	13.4	13.5	13.5	0.44
51	11.96	33.518	25.448	4.97	81.3	7.8		10.4	1.04	0.28	0.38	5.0	3.4	3.5	3.5	0.45
72	10.45	33.595	25.780	3.86	61.1	17.6		18.6	0.03	0.06	0.10	1.5	0.39	0.37	0.38	0.33
101	9.68	33.777	26.053	3.26	50.8	24.6		23.3	0.02	0.02	0.09	0.25	0.13	0.03	0.08	0.30
126	8.87	33.888	26.270	3.10	47.5	29.5		25.6	0.01	0.01	0.06					
145	8.72	33.933	26.329	2.97	45.3	31.6		26.4	0.01	0.00	0.05					
175	8.42	34.005	26.432	2.71	41.1	35.8		28.1	0.01	0.00	0.06					
205	8.04	34.027	26.507	2.67	40.1	39.1		29.0	0.01	0.00	0.05					

RV DAVID STARR JORDAN — CALCOFI CRUISE 8805 — 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/ 5/88	1912 UTC	9 M	1153 - 1916 PST	1151 PST	1911 PST	2307.9 MG C/M2

DEPTH M	TEMP DEG C	SALINITY PSS 78	SIGMA THETA	DISS O2 ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL UG/L	PHAEO UG/L	LIGHT PCT	UPTAKE (MG C/M3) 1	2	MEAN	DARK
2	13.24	33.562	25.232	5.59	93.9	8.0	0.70	6.0	0.11	3.88	0.54	99.	65.4	58.2	61.8	0.52
8	13.18	33.562	25.244	5.62	94.3	8.0	0.70	6.0	0.11	3.58	0.51	35.	82.2	75.5	78.8	0.58
14	13.00	33.569	25.285	5.68	95.0	7.8	0.68	5.8	0.10	5.40	0.70	15.	99.3	90.3	94.8	0.62
22	12.87	33.583	25.322	5.59	93.2	7.9	0.70	6.2	0.10	7.33	0.91	5.0	66.2	56.6	61.4	0.45
29	12.81	33.602	25.349	5.68	94.6	7.8	0.66	5.8	0.12	8.89	1.22	1.5	42.9	39.7	41.3	0.49
41	12.38	33.586	25.420	4.94	81.5	10.8	0.80	10.2	0.08	3.78	1.13	0.25	2.1	1.2	1.6	0.36

PRIMARY PRODUCTIVITY CASTS

RV DAVID STARR JORDAN — CALCOFI CRUISE 8805 — STATION 88 57

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	SECCHI DEPTH	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
32 48.8 N	119 58.3 W	7/ 5/88	1910 UTC	20 M	1201 - 1919 PST	1156 PST	1917 PST	164.7 MG C/M2

DEPTH M	TEMP DEG C	SALINITY PSS 78	SIGMA THETA	DISS O2 ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL UG/L	PHAEO UG/L	LIGHT PCT	UPTAKE (MG C/M3) 1	2	MEAN	DARK
0	14.93	33.329	24.700	5.94	103.2	3.1		0.0	0.00	0.20	0.04	99.	1.8	1.8	1.8	0.41
14	14.90	33.330	24.708	5.93	103.0	2.8		0.0	0.00	0.22	0.05	35.	3.7	3.4	3.5	0.43
25	14.86	33.331	24.717	5.95	103.2	2.5		0.0	0.00	0.21	0.06	15.	3.5	3.7	3.6	0.44
39	14.81	33.330	24.728	5.96	103.3	2.3		0.0	0.00	0.29	0.09	5.0	2.0	2.3	2.1	0.41
55	14.43	33.354	24.828	5.91	101.6	2.8		0.7	0.08	0.41	0.18	1.5	1.4	1.6	1.5	0.44
76	13.18	33.365	25.093	5.59	93.7	4.1		4.0	0.28	0.38	0.42	0.25	0.46	0.32	0.39	0.35
90	12.41	33.399	25.271	5.17	85.3	6.8		7.8	0.06	0.28	0.35					
105	11.26	33.514	25.575	4.57	73.6	11.6		12.9	0.04	0.16	0.19					
125	10.14	33.664	25.888	3.72	58.5	19.8		20.0	0.01	0.04	0.07					
145	9.35	33.822	26.143	3.22	49.8	26.1		24.0	0.01	0.01	0.05					
176	8.81	33.918	26.304	3.10	47.4	30.3		25.7	0.00	0.01	0.04					
205	8.23	33.991	26.450	3.22	48.6	34.5		26.6	0.01	0.01	0.06					

RV DAVID STARR JORDAN — CALCOFI CRUISE 8805 — STATION 90 28

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	SECCHI DEPTH	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
33 29.1 N	117 46.1 W	5/ 5/88	1906 UTC	8 M	1149 - 1905 PST	1148 PST	1905 PST	1768.1 MG C/M2

DEPTH M	TEMP DEG C	SALINITY PSS 78	SIGMA THETA	DISS O2 ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL UG/L	PHAEO UG/L	LIGHT PCT	UPTAKE (MG C/M3) 1	2	MEAN	DARK
0	13.83	33.551	25.103	5.89	100.2	8.7	0.60	3.9	0.09	3.78	0.56	99.	51.1	49.8	50.5	0.82
4	13.83	33.551	25.103	5.88	100.0	8.8	0.64	4.0	0.09	3.64	0.63	35.	121.0	125.7	123.3	0.82
10	13.65	33.558	25.146	5.75	97.5	9.6	0.71	4.8	0.10	3.34	0.58	15.	103.5	104.6	104.1	0.81
16	13.35	33.574	25.219	5.46	92.0	10.8	0.83	6.8	0.12	3.49	0.64	5.0	49.3	41.2	45.3	0.75
22	13.11	33.590	25.280	5.21	87.3	11.9	0.97	8.7	0.14	4.02	0.64	1.5	18.9	20.3	19.6	0.69
31	12.79	33.600	25.351	4.84	80.6	13.9	1.18	11.2	0.19	3.47	0.57	0.25	1.8	1.4	1.6	0.58

RV DAVID STARR JORDAN — CALCOFI CRUISE 8805 — STATION 90 53

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	SECCHI DEPTH	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
32 39.1 N	119 29.1 W	4/ 5/88	1942 UTC	16 M	1157 - 1907 PST	1155 PST	1907 PST	266.7 MG C/M2

DEPTH M	TEMP DEG C	SALINITY PSS 78	SIGMA THETA	DISS O2 ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL UG/L	PHAEO UG/L	LIGHT PCT	UPTAKE (MG C/M3) 1	2	MEAN	DARK
2	14.74	33.361	24.766	5.97	103.3	2.3	0.40	0.0	0.00	0.38	0.10	99.	3.2	3.7	3.4	0.46
14	14.74	33.361	24.766	5.97	103.3	2.3	0.39	0.0	0.00	0.39	0.10	35.	9.0	8.0	8.5	0.43
23	14.75	33.362	24.765	5.99	103.7	2.3	0.37	0.0	0.00	0.39	0.10	15.	7.7	8.3	8.0	0.44
34	14.73	33.362	24.769	5.98	103.5	2.3	0.35	0.0	0.00	0.40	0.10	5.0	3.7	3.9	3.8	0.42
46	14.59	33.357	24.796	5.96	102.8	2.6	0.34	0.1	0.02	0.46	0.15	1.5	1.6	1.7	1.6	0.37
65	13.55	33.301	24.969	5.83	98.4	3.1	0.39	1.8	0.14	0.59	0.26	0.25	0.19	0.17	0.18	0.40

RV DAVID STARR JORDAN — CALCOFI CRUISE 8805 — STATION 90 90

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	SECCHI DEPTH	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
31 24.9 N	121 59.5 W	3/ 5/88	1820 UTC	26 M	1207 - 1913 PST	1205 PST	1913 PST	73.5 MG C/M2

DEPTH M	TEMP DEG C	SALINITY PSS 78	SIGMA THETA	DISS O2 ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL UG/L	PHAEO UG/L	LIGHT PCT	UPTAKE (MG C/M3) 1	2	MEAN	DARK
1	14.94	33.176	24.580	5.97	103.6	2.2	0.39	0.0	0.00	0.07	0.01	99.	0.56	0.51	0.54	0.23
18	14.94	33.174	24.579	5.96	103.5	2.4	0.38	0.0	0.00	0.06	0.01	35.	1.4	1.2	1.3	0.26
32	14.94	33.174	24.579	5.95	103.3	2.3	0.37	0.0	0.00	0.06	0.01	15.	1.2	1.2	1.2	0.23
52	14.91	33.176	24.588	5.96	103.4	2.3	0.36	0.0	0.00	0.07	0.01	5.0	0.50	0.61	0.55	0.23
72	14.57	33.247	24.716	6.02	103.8	2.3	0.33	0.0	0.00	0.11	0.04	1.5	0.47	0.47	0.47	0.22
102	13.19	33.155	24.930	5.80	97.1	3.4	0.40	1.8	0.06	0.47	0.33	0.25	0.32	0.35	0.34	0.20

RV DAVID STARR JORDAN — CALCOFI CRUISE 8805 — STATION 93 50

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	SECCHI DEPTH	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
32 10.9 N	118 53.6 W	29/ 4/88	1902 UTC	26 M	1155 - 1903 PST	1153 PST	1903 PST	312.6 MG C/M2

DEPTH M	TEMP DEG C	SALINITY PSS 78	SIGMA THETA	DISS O2 ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL UG/L	PHAEO UG/L	LIGHT PCT	UPTAKE (MG C/M3) 1	2	MEAN	DARK
1	16.69	33.486	24.426	5.77	103.8	1.7	0.37	0.0	0.00	0.14	0.02	99.	3.1	2.7	2.9	0.46
20	16.57	33.490	24.458	5.79	104.0	1.8	0.35	0.0	0.00	0.14	0.02	35.	5.6	5.0	5.3	0.42
33	16.42	33.495	24.496	5.81	104.0	1.8	0.36	0.0	0.00	0.19	0.04	15.	5.7	5.6	5.6	0.42
53	13.59	33.434	25.063	5.95	100.6	4.4	0.44	1.5	0.09	0.39	0.08	5.0	3.7	3.9	3.8	0.39
74	11.39	33.581	25.602	4.15	67.1	13.3	1.05	14.4	0.11	0.26	0.18	1.5	1.1	1.2	1.1	0.36
103	10.53	33.758	25.894	3.49	55.4	20.0	1.44	20.0	0.03	0.08	0.10	0.25	-0.02	-0.03	-0.03	0.34

PRIMARY PRODUCTIVITY CASTS

RV DAVID STARR JORDAN — CALCOFI CRUISE 8805 — STATION 93 86

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	SECCHI DEPTH	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
30 59.4 N	121 19.4 W	2/ 5/88	1909 UTC	28 M	1205 - 1913 PST	1202 PST	1913 PST	143.1 MG C/M2

DEPTH	TEMP	SALINITY	SIGMA	DISS O2	OXY	SIO3	PO4	NO3	NO2	CHL	PHAEO	LIGHT	UPTAKE (MG C/M3)			
M	DEG C	PSS 78	THETA	ML/L	PCT	UM/L	UM/L	UM/L	UM/L	UG/L	UG/L	PCT	1	2	MEAN	DARK
1	15.07	33.272	24.625	5.93	103.3	2.4	0.44	0.0	0.00	0.10	0.02	99.	0.41	0.41	0.41	0.33
21	15.05	33.274	24.632	5.92	103.0	2.3	0.41	0.0	0.00	0.10	0.02	35.	1.8	1.7	1.7	0.34
36	15.05	33.276	24.634	5.93	103.2	2.3	0.38	0.0	0.00	0.10	0.02	15.	2.2	2.1	2.1	0.36
56	15.01	33.271	24.640	5.94	103.3	2.3	0.34	0.0	0.00	0.11	0.02	5.0	1.2	1.3	1.3	0.34
77	13.92	33.200	24.816	6.04	102.7	2.1	0.32	0.0	0.00	0.41	0.29	1.5	1.6	1.8	1.7	0.38
108	13.46	33.255	24.953	5.81	97.9	2.6	0.40	1.6	0.39	0.22	0.16	0.25	0.06	0.09	0.08	0.27
124	12.15	33.301	25.245	5.33	87.4	6.0	0.56	6.6	0.02	0.08	0.07					
145	10.67	33.403	25.594	4.68	74.4	11.7	0.87	13.2	0.01	0.02	0.04					
176	9.72	33.724	26.006	3.99	62.2	19.4	1.15	19.3	0.00	0.01	0.03					
208	9.04	33.873	26.233	3.58	55.0	25.8	1.41	23.1	0.00	0.00	0.02					

Secchi Disk Observations

CalCOFI Cruise 8805

Line	Sta.	Day	Mo	Local Time (+8:PST)	Secchi Depth (m)	Weather	Clouds Type	Clouds Amt
77	49	11	5	1405	9	-	-	-
77	51	11	5	1146	11	0	-	0
77	55	11	5	0914	17	0	-	0
77	60	11	5	0540	15	0	-	0
80	51	10	5	0640	7	0	-	0
80	55	10	5	1018	9	0	-	0
80	60	10	5	1230	14	0	-	0
83	51	9	5	1330	6	1	CI	1/8
83	55	9	5	1040	8	1	CI	1/8
83	60	9	5	0655	14	1	cu	2/8
83	90	8	5	1339	14	1	cu	1/8
85	90	8	5	1104	26	1	sc	2/8
87	33	6	5	0854	6	1	cu	2/8
87	34	6	5	1010	9	1	cu	2/8
87	35	6	5	1103	9	1	cu	2/8
87	37.5	6	5	1428	9	1	cu	1/8
87	39.5	6	5	1627	9	1	cu	1/8
87	55	7	5	0610	14	1	cu	7/8
87	60	7	5	1406	16	1	cu	5/8
87	90	8	5	0708	22	1	sc	7/8
88	57	7	5	1057	20	1	cu	7/8
90	28	5	5	1036	8	1	cu	3/8
90	30	5	5	0728	15	1	sc	7/8
90	30	5	5	0941	15	1	sc	7/8
90	33	5	5	0601	14	1	cu	5/8
90	53	4	5	1132	16	1	cc	6/8
90	80	3	5	1308	20	1	CI	1/8
90	90	3	5	1008	26	1	cu	2/8
93.4	26.5	28	4	1315	11	1	cu	3/8
93.4	26.7	28	4	1354	15	1	cu	3/8
93	28	28	4	1548	20	1	cu	3/8
93	50	29	4	1049	26	1	CI	1/8
93	55	29	4	1358	21	1	CI	1/8
93	60	29	4	1658	12	1	CI	6/8
93	86	2	5	1052	28	0	-	0
93	90	2	5	1345	23	1	AC	1/8

CalCOFI Cruise 8805

MACROZOOPLANKTON BIOMASS
Net Mesh Size: 0.505 mm

Line	Sta.	Position		Date Mo/Day	Time(UTC) Start	Time(UTC) End	Water Volume Strained (m)	Max. Tow Depth (m)	Volume per 1000 m Strained Total (cm)	Volume per 1000 m Strained Small (cm)
77	49	35 05.0N	120 46.9 W	5/11	2245	2253	157	77	146	146
77	51	35 01.2N	120 55.2W	5/11	2046	2108	380	211	124	124
77	55	34 53.1N	121 11.9W	5/11	1738	1800	371	219	127	127
77	60	34 43.3N	121 32.9 W	5/11	1403	1425	378	214	143	143
77	70	34 23.2N	122 14.8W	5/11	0829	0851	390	212	200	182
80	51	34 27.0N	120 31.4W	5/10	1457	1505	134	70	9687	358
80	55	34 19.1N	120 48.0W	5/10	1745	1807	401	218	334	334
80	60	34 08.6N	121 09.2W	5/10	2126	2148	395	214	207	207
80	70	33 49.1N	121 50.5 W	5/11	0247	0309	405	209	128	114
82	47	34 16.5N	120 01.2W	5/10	1108	1130	399	206	321	321
83	40.6	34 13.5N	119 24.7W	5/10	0629	0633	66	29	1939	1939
83	42	34 10.7N	119 30.6W	5/10	0437	0447	186	97	442	442
83	51	33 52.8N	120 08.2W	5/09	2211	2222	203	105	79	79
83	55	33 44.6N	120 24.7 W	5/09	1917	1939	394	212	137	137
83	60	33 34.7N	120 45.4W	5/09	1515	1537	394	213	147	147
83	70	33 14.6N	121 26.4W	5/09	0938	1000	406	207	207	207
83	80	32 54.7N	122 07.7W	5/09	0410	0432	416	212	221	221
83	90	32 34.5N	122 48.8W	5/08	2231	2253	411	208	268	268
87	33	33 53.4N	118 29.4W	5/06	1736	1742	108	50	222	222
87	35	33 49.4N	118 37.7W	5/06	2042	2104	388	210	131	131
87	39.5	33 40.4N	118 56.3 W	5/07	0217	0239	406	216	143	143
87	45	33 29.4N	119 19.1W	5/07	0726	0748	402	213	179	114
87	50	33 19.3N	119 39.4W	5/07	1055	1103	143	70	203	203
87	55	33 09.5N	120 00.4W	5/07	1428	1450	394	213	61	61
87	60	32 59.2N	120 20.9W	5/07	2313	2335	399	210	45	45
87	70	32 39.4N	121 02.0W	5/08	0513	0535	410	211	88	88
87	80	32 19.8N	121 43.0W	5/08	1037	1059	408	209	120	120
87	90	31 59.4N	122 23.7W	5/08	1617	1639	426	210	129	129
90	28	33 29.1N	117 46.1W	5/05	1933	1941	156	68	275	275
90	30	33 25.1N	117 54.3W	5/05	1700	1722	461	206	96	96
90	35	33 15.1N	118 16.0W	5/05	1123	1145	420	207	546	224
90	37	33 11.1N	118 23.2W	5/05	0848	0910	387	213	219	188
90	45	32 55.1N	118 56.2W	5/04	0336	0358	453	203	119	119
90	53	32 39.1N	119 29.1W	5/04	2145	2207	410	212	29	29
90	60	32 25. 1N	119 57.6W	5/04	1508	1530	413	218	29	29
90	70	32 05.0N	120 38.4W	5/04	0628	0650	429	215	40	40
90	80	31 45.0N	121 18.7W	5/04	0005	0027	429	215	23	23
90	90	31 24.9N	121 59.5W	5/03	1734	1756	426	207	5	5
90	100	31 05.2N	122 39.0W	5/03	1114	1136	418	211	43	43
93	26.7	32 57.3N	117 18.4W	4/28	2255	2307	244	110	304	304
93	28	32 54.6N	117 23.8W	4/29	0100	0122	417	213	84	84
93	30	32 50.8N	117 31.9W	4/29	0335	0357	415	211	41	41
93	35	32 40.7N	117 52.1W	4/29	0746	0808	407	207	42	42
93	40	32 31.0N	118 12.6W	4/29	1104	1126	393	209	51	51
93	45	32 20.8N	118 33.2W	4/29	1438	1500	390	215	95	64
93	50	32 10.9N	118 53.6W	4/29	1816	1838	390	211	82	82
93	55	32 00.5N	119 14.2W	4/29	2227	2249	508	196	14	14
93	60	31 50.9N	119 34.3W	4/29	0216	0238	412	217	49	49
93	70	31 30.9N	120 14.7W	4/30	0929	0951	412	218	36	36
93	80	31 10.7N	120 55.1W	5/02	1550	1613	457	216	20	20
93	90	30 51.5N	121 35.3W	5/02	2210	2232	440	212	14	14
93	100	30 30.8N	122 15.5W	5/03	0416	0438	440	214	14	14