UNIVERSITY OF CALIFORNIA, SAN DIEGO SCRIPPS INSTITUTION OF OCEANOGRAPHY

data report

PHYSICAL, CHEMICAL AND BIOLOGICAL DATA

CalCOFI Cruise 8602
5 – 20 February 1986

SIO Reference 86-9
5 May 1986

UNIVERSITY OF CALIFORNIA

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Approved for distribution:

W. A. Nierenberg, Director

CONTENTS

INTRODUCTION

The data in this report were collected during Cruise 8602* of the California Cooperative Oceanic Fisheries Investigations (CalCOFI) program aboard the RV *David Starr Jordan* of the National Marine Fisheries Service. The data were collected and processed by personnel of the Marine Life Research Group (MLRG), the Southwest Fisheries Center, National Marine Fisheries Service (NMFS), and the Physical and Chemical Oceanographic Data Facility (PACODF).

STANDARD PROCEDURES

Hydrographic Cast Data

The hydrographic casts consisted of 20 or fewer Nansen bottles lowered to a maximum sampling depth of 600 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 12 depths.

Paired protected reversing thermometers were used to determine temperatures which are recorded to hundredths of a degree Celsius. Sampling bottles used below a depth of 100 meters were equipped with unprotected thermometers for determination of the depth of sampling.

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

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

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

Chlorophyll was 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 audification with a Turner 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.

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-^, 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 10 uci of C as NaHCO . These were then incubated approximately from local apparent noon to civil twilight in seawater-cooled incubators with neutral-density screens which simulate the *in situ* light levels. At the end of the incubation, the samples were filtered onto HA milipore filters and placed in scintillation vials. One-half ml of 10% HCI 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 S.I.O. where the radioactivity was determined with a scintillation counter.

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

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

The reported hydrographic cast time is the Greenwich Mean Time (GMT) of the messenger release. Bottom depths, determined acoustically, have been corrected using British Admiralty Tables (Carter, 1980) and are reported in meters. Weather conditions have been coded using WMO code 4051.

Data tabulations are presented in the following forms:

Hydrographic Cast Data

Observed and interpolated standard depth data from hydrographic casts have been interspersed and are presented together sequentially by depth. Interpolated or extrapolated standard level data are noted by the footnote "ISL" printed after the depth. Density-related parameters have been calculated from the International Equation of State of Seawater 1980 (EOS80, UNESCO, 1981). Some of the differences between EOS80 and the older equations-of-state are discussed in the introduction to SIO Ref. 84-18. 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 and phaeophytin. The uptake values shown are the total for the incubation period. The times of local apparent noon (LAN), civil twilight, and the vertically integrated value of the mean uptake from the surface to the deepest sample depth (assuming that the shallowest measured value extends to the surface and that negative values are zero) are also shown for each experiment. The uptake data have been presented to two significant digits (values < 1.00) or one decimal (values > 1.00). The higher production values may not warrant all of the significant digits presented. Incubation time, LAN, and civil twilight are given in local Pacific Standard Time (PST); to convert to GMT, add eight hours to the PST time.

Secchi Disk Observations

Secchi disk observations were made on most daylight stations. The times are given in local PST (4-8) time. Weather codes and cloud observations are also presented.

Macrozooplankton Data

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

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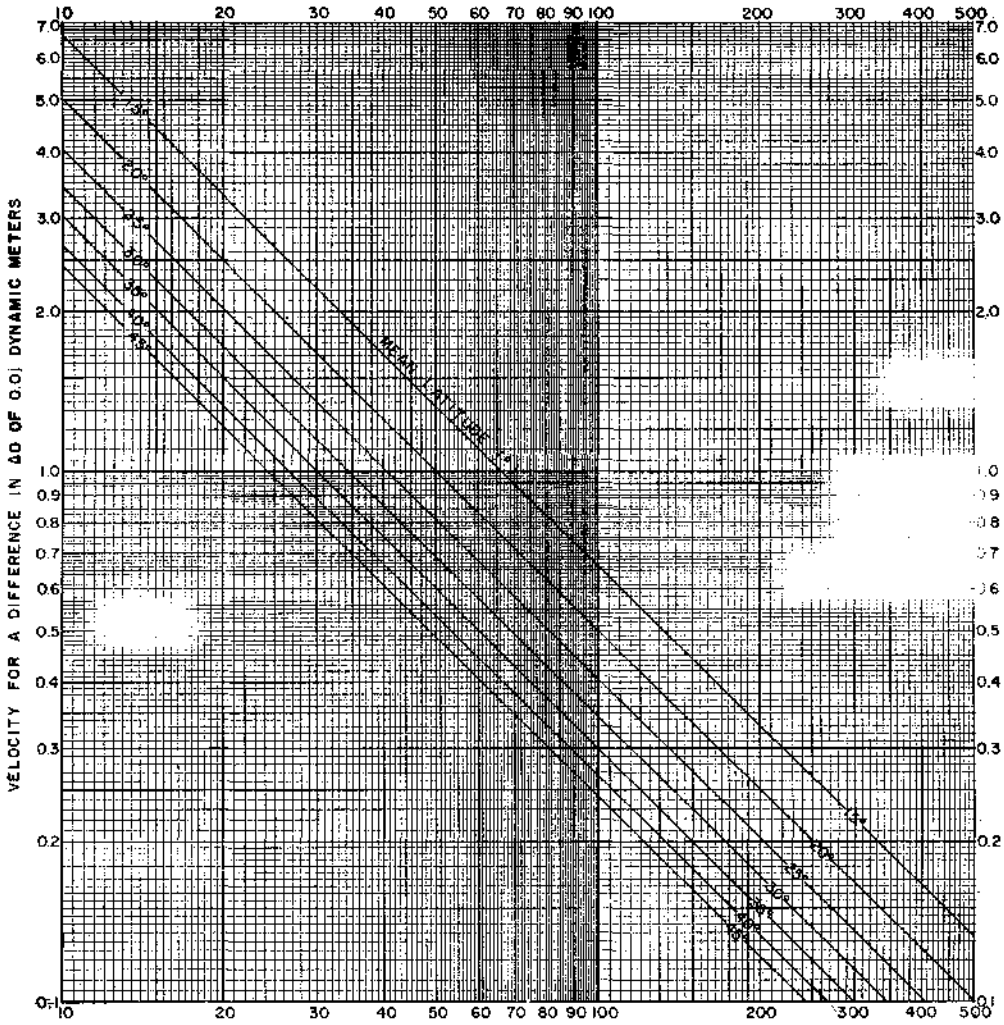


VELOCITY OF GEOSTROPHIC FLOW
(NAUTICAL MILES PER DAY)

cm/sec	0	1	2	3	4	5	6	7	8	9
0	KNOTS / NM/DAY	0.02 / 0.47	0.04 / 0.93	0.06 / 1.40	0.08 / 1.86	0.10 / 2.33	0.12 / 2.80	0.14 / 3.26	0.16 / 3.73	0.17 / 4.20
10	0.19 / 4.66	0.21 / 5.13	0.23 / 5.59	0.25 / 6.06	0.27 / 6.53	0.29 / 6.99	0.31 / 7.46	0.33 / 7.93	0.35 / 8.39	0.37 / 8.86
20	0.39 / 9.32	0.41 / 9.79	0.43 / 10.26	0.45 / 10.72	0.47 / 11.19	0.49 / 11.66	0.51 / 12.12	0.52 / 12.59	0.54 / 13.05	0.56 / 13.52
30	0.58 / 13.99	0.60 / 14.45	0.62 / 14.92	0.64 / 15.38	0.66 / 15.85	0.68 / 16.32	0.70 / 16.78	0.72 / 17.25	0.74 / 17.72	0.76 / 18.18
40	0.78 / 18.65	0.80 / 19.11	0.82 / 19.58	0.84 / 20.05	0.85 / 20.51	0.87 / 20.98	0.89 / 21.45	0.91 / 21.91	0.93 / 22.38	0.95 / 22.84
50	0.97 / 2331	0.99 / 23.78	1.01 / 24.24	1.03 / 24.71	1.05 / 25.17	1.07 / 25.64	1.09 / 26.11	1.11 / 26.57	1.13 / 27.04	1.15 / 27.51
60	1.17 / 27.98	1.18 / 28.44	1.20 / 28.90	1.22 / 29.37	1.24 / 29.84	1.26 / 30.30	1.28 / 30.77	1.30 / 31.24	1.32 / 31.70	1.34 / 32.17
70	1.36 / 32.63	1.38 / 33.10	1.40 / 33.57	1.42 / 34.03	1.44 / 34.50	1.46 / 34.96	1.48 / 35.43	1.50 / 35.90	1.52 / 36.36	1.53 / 36.83
80	1.55 / 37.30	1.57 / 37.76	1.59 / 38.23	1.61 / 38.69	1.63 / 39.16	1.65 / 39.63	1.67 / 40.09	1.69 / 40.56	1.71 / 41.03	1.73 / 41.49
90	1.75 / 41.96	1.77 / 42.42	1.79 / 42.89	1.81 / 43.36	1.83 / 43.82	1.85 / 44.29	1.86 / 44.76	1.88 / 45.22	1.90 / 45.69	1.92 / 46.15
100	1.94 / 46.62	1.96 / 47.09	1.98 / 47.55	2.00 / 48.02	2.02 / 48.48	2.04 / 48.95	2.06 / 49.42	2.08 / 49.88	2.10 / 50.35	2.12 / 50.82

CONVERSION TABLE
(CENTIMETERS / SECOND – KNOTS – NAUTICAL MILES / DAY)

1cm/sec = 0.019 kts = 0.466 NAUTICAL MILES / DAY
1kt = 24 NAUTICAL MILES / DAY = 51.48 cm/sec
1 NAUTICAL MILE / DAY = 0.042 kts = 2.14 cm/sec

FIGURES

Cruise 8602

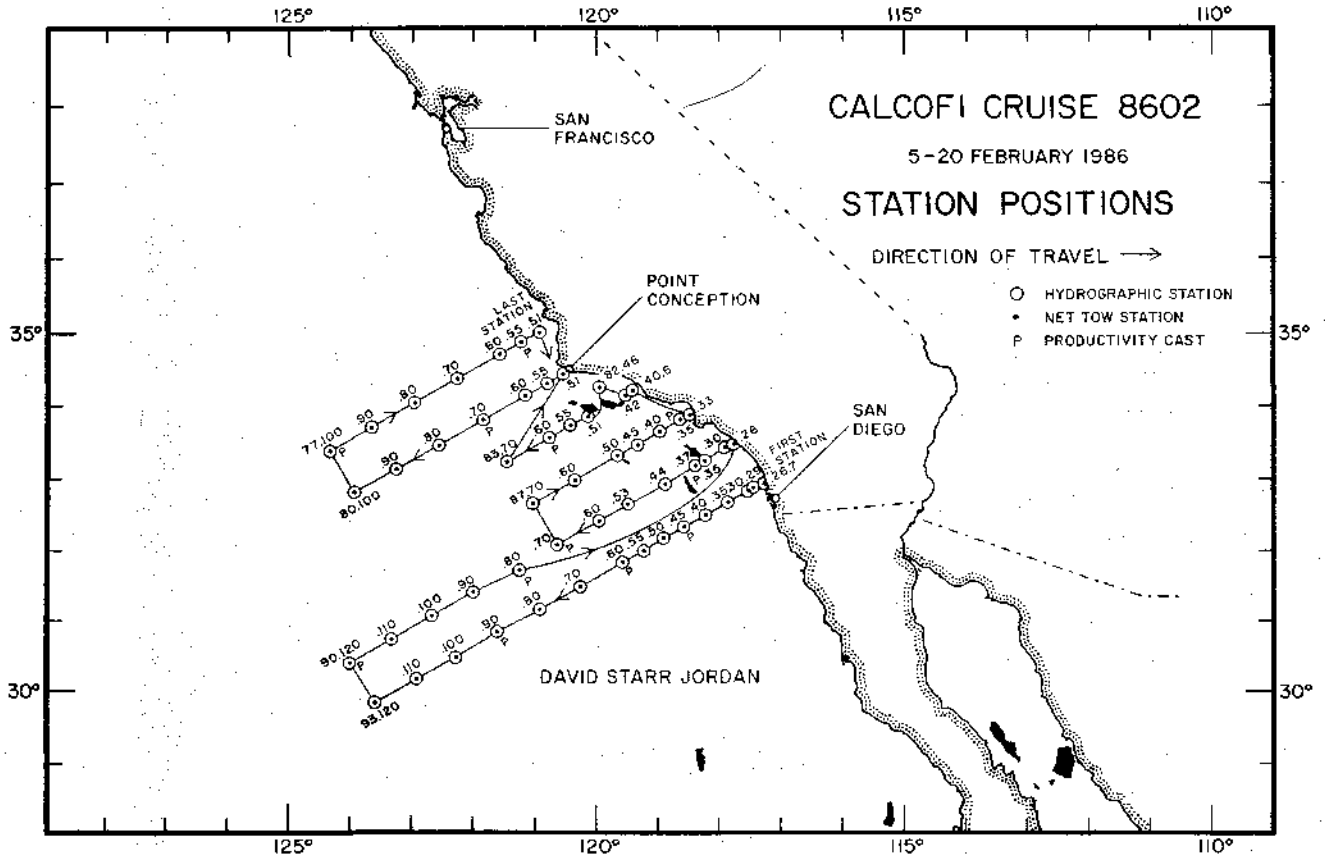
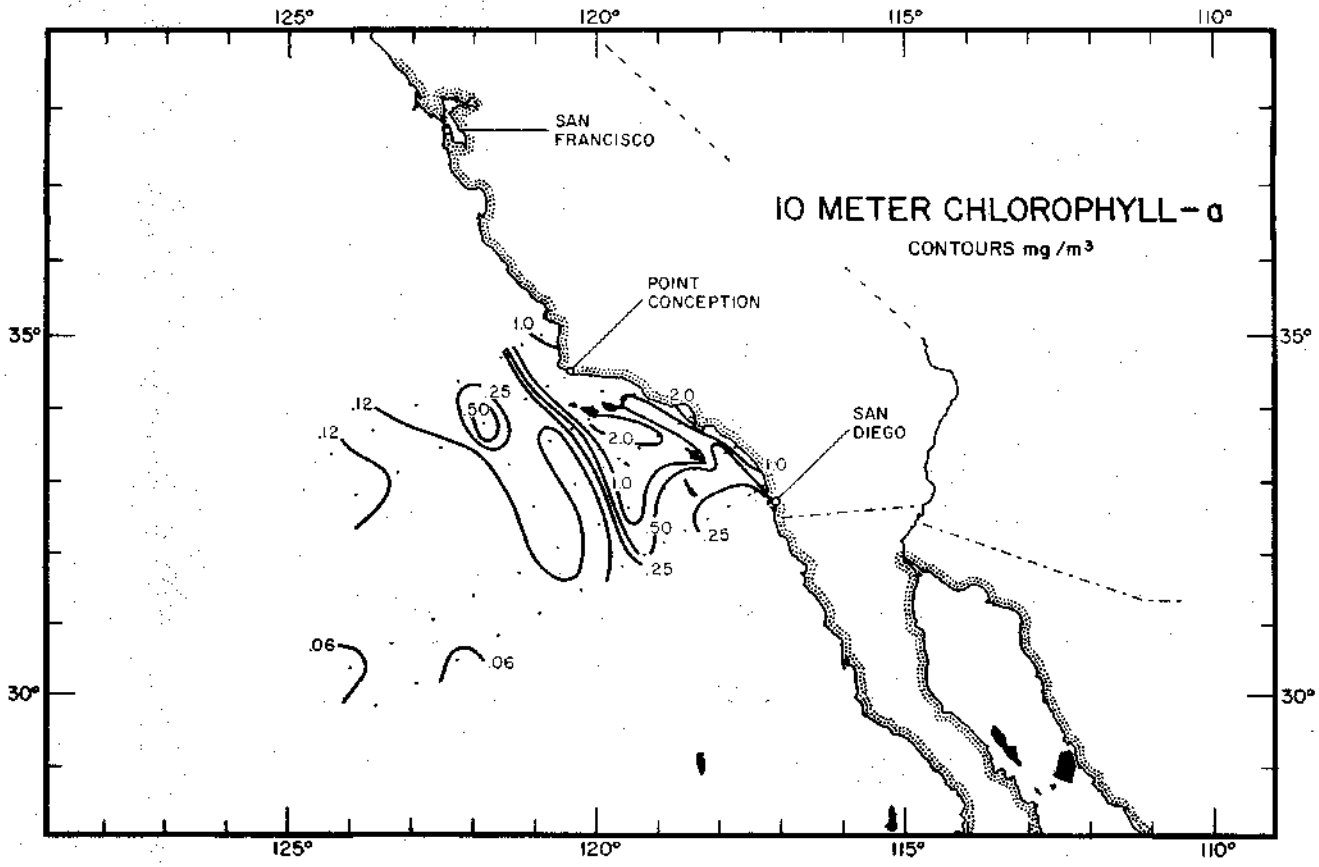


FIGURE 1



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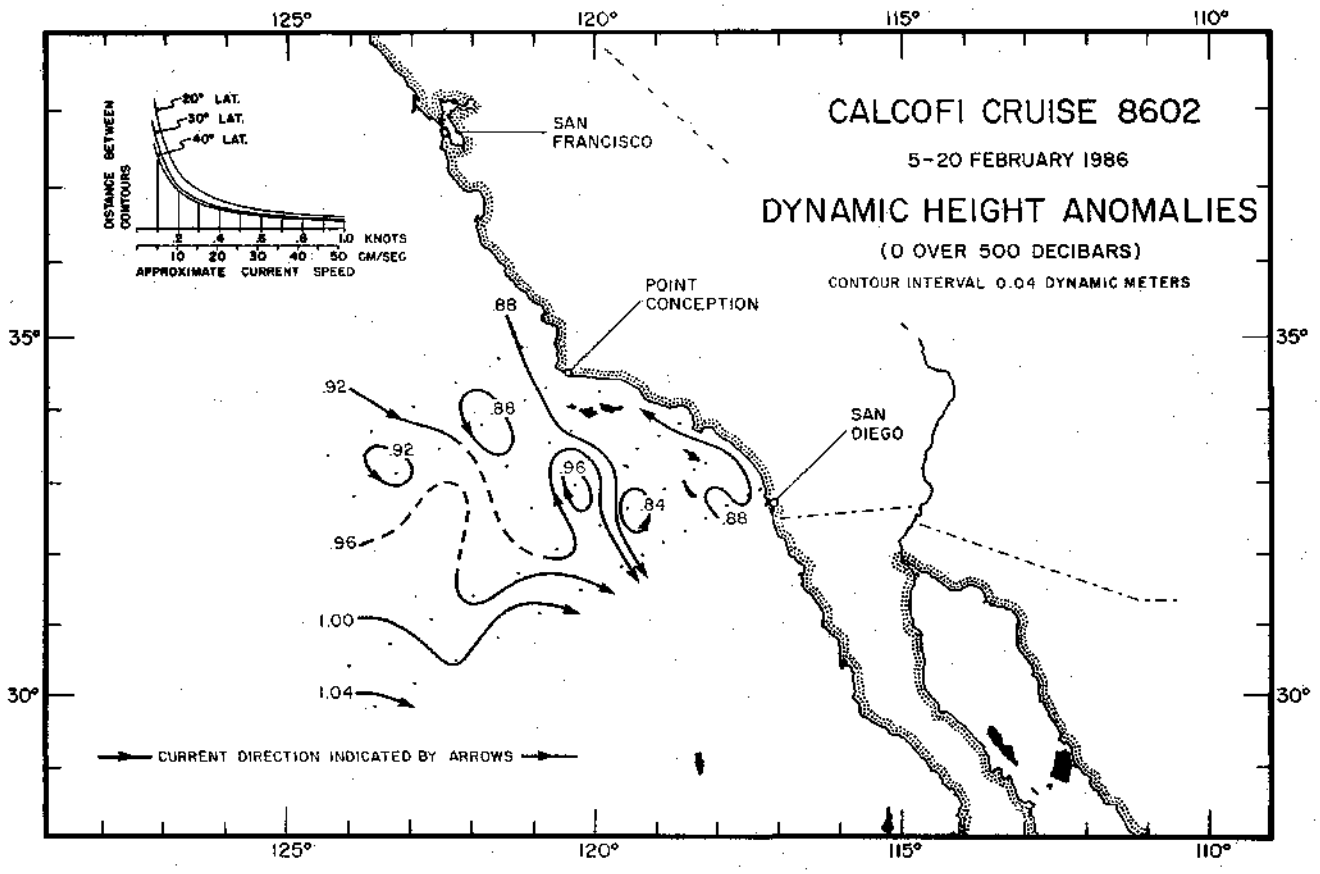

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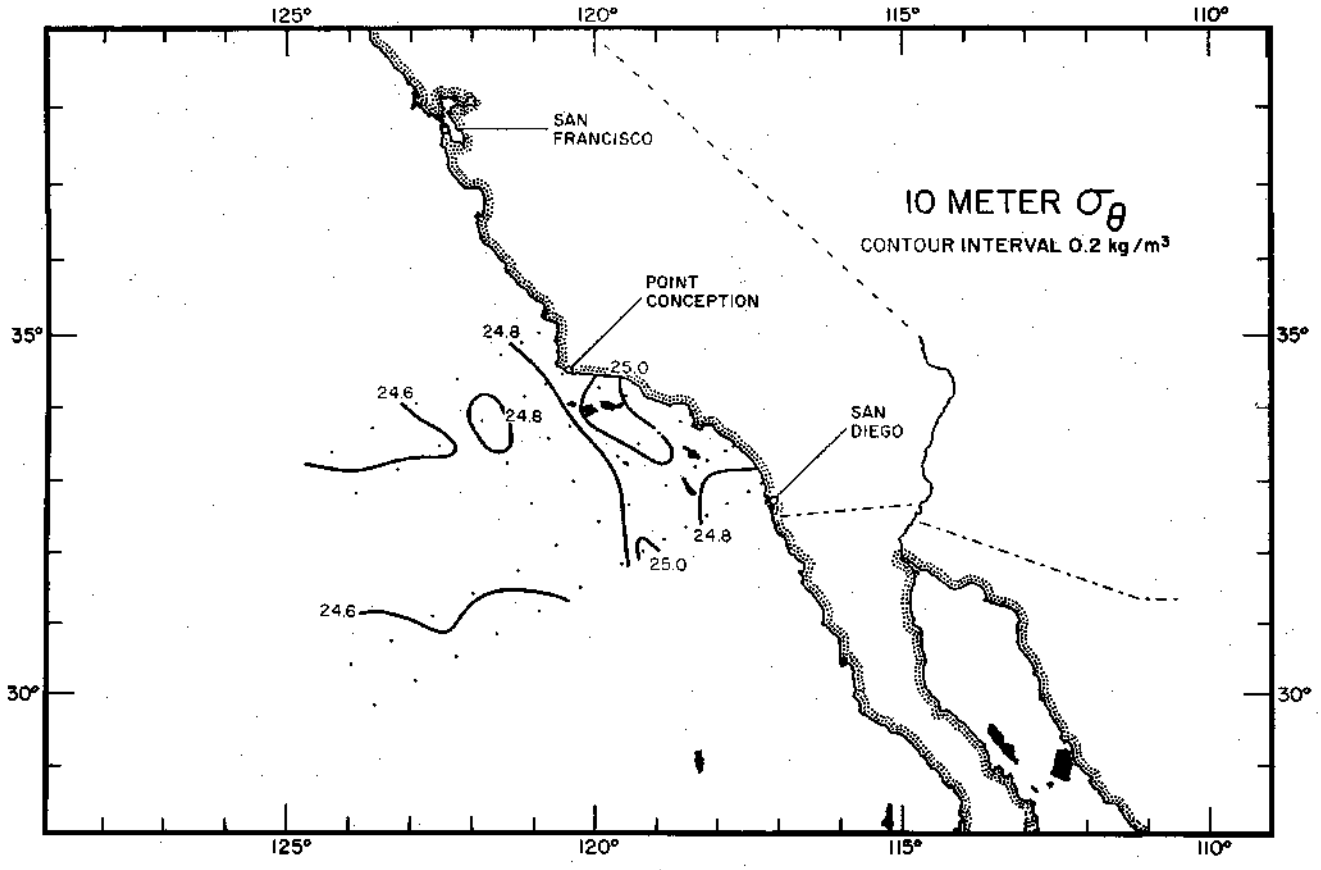

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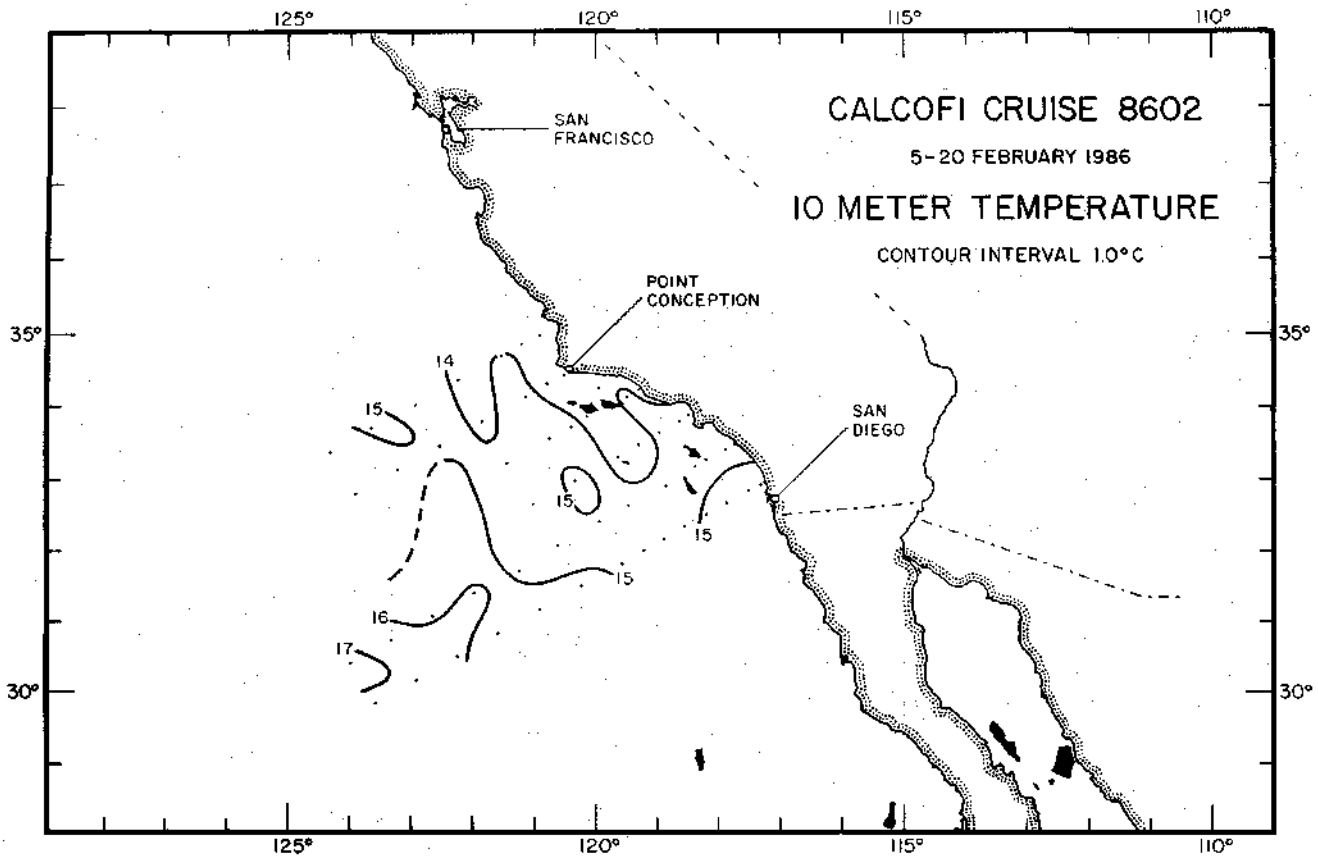

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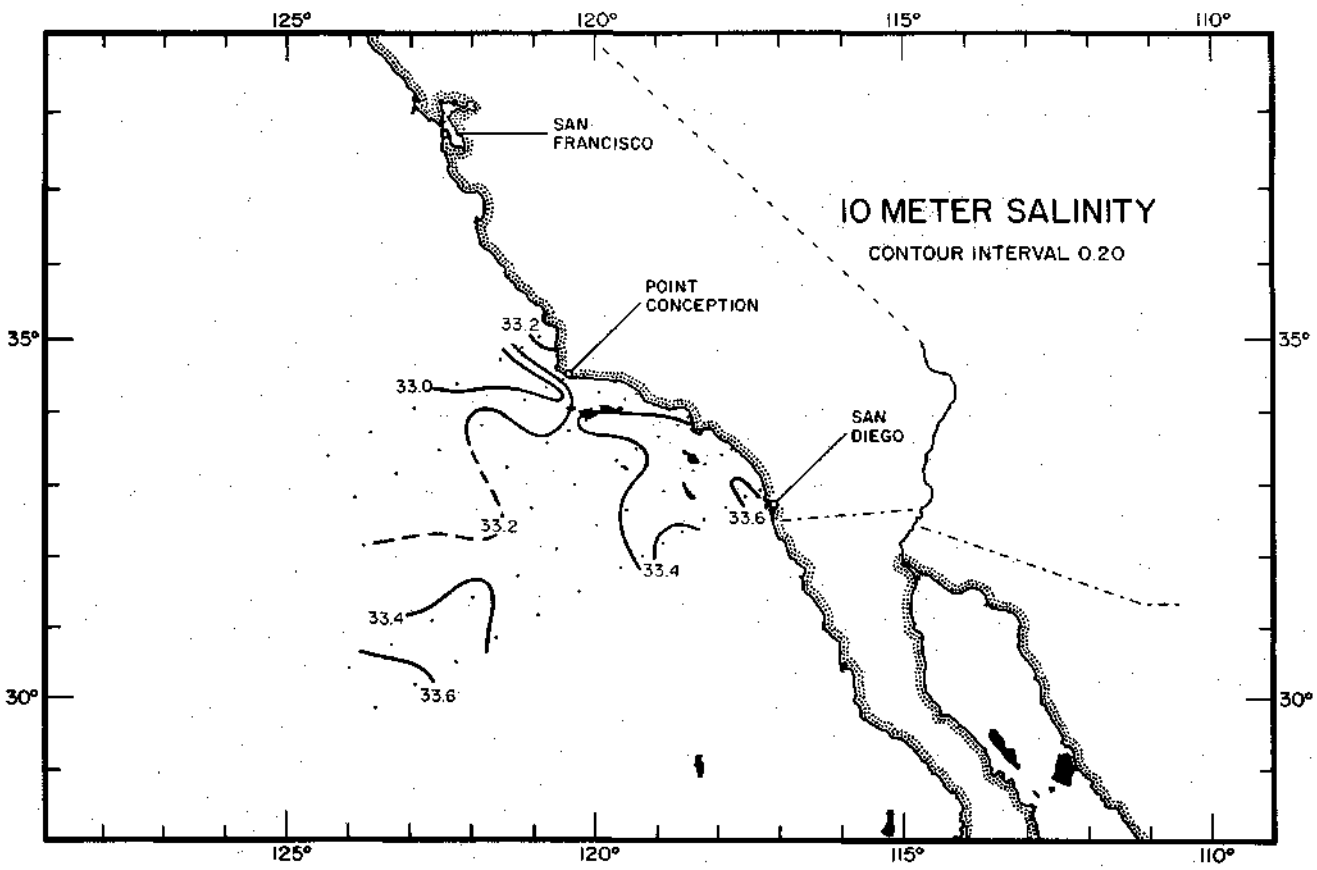

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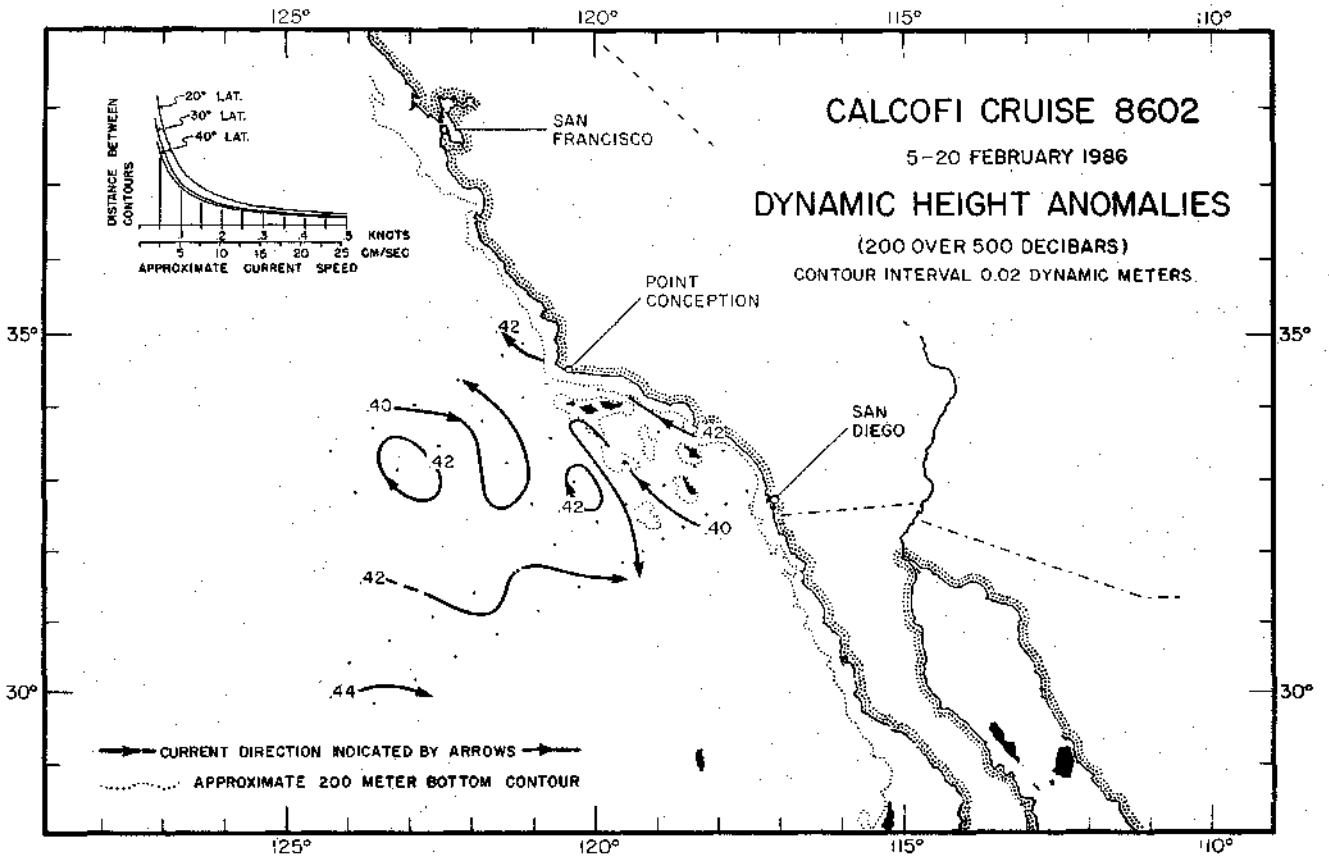

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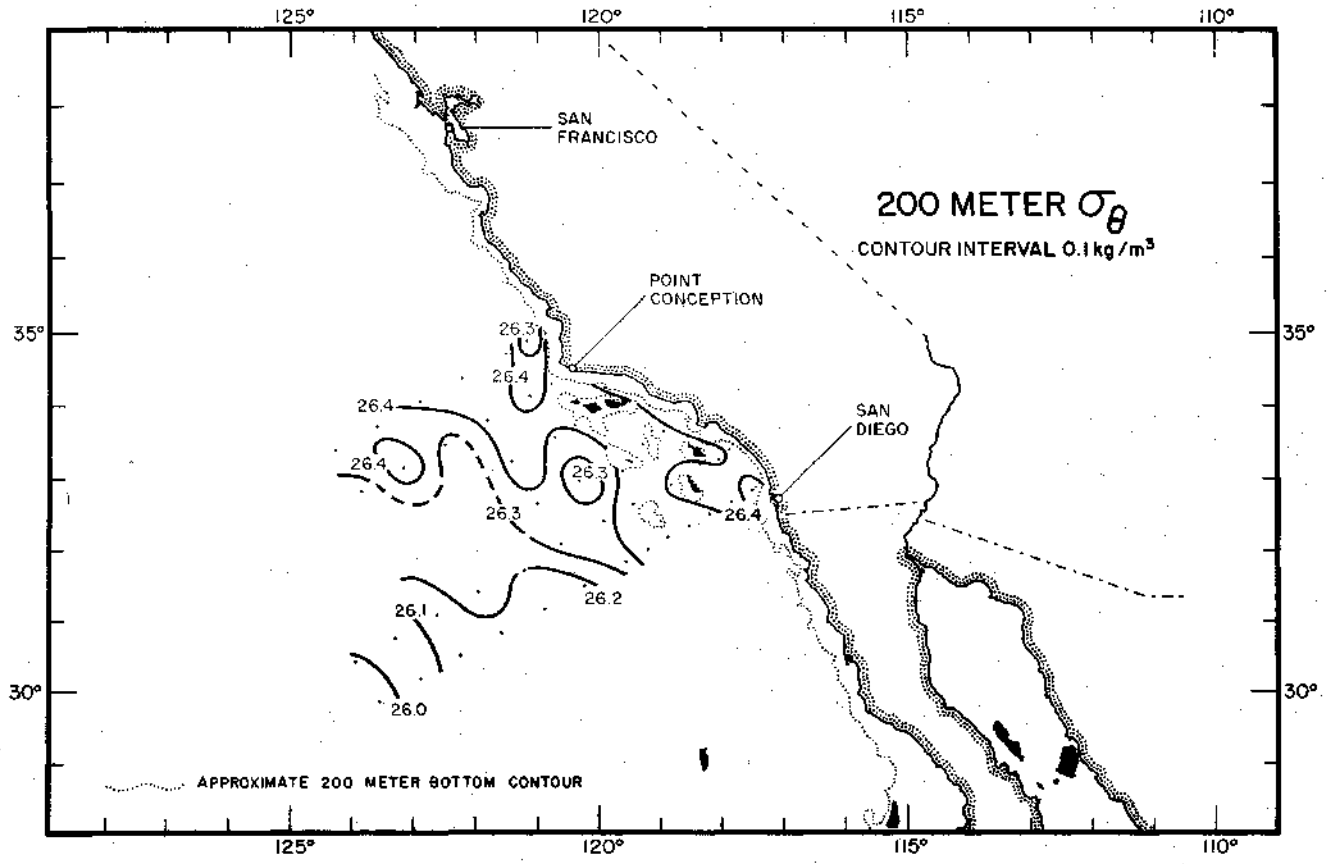

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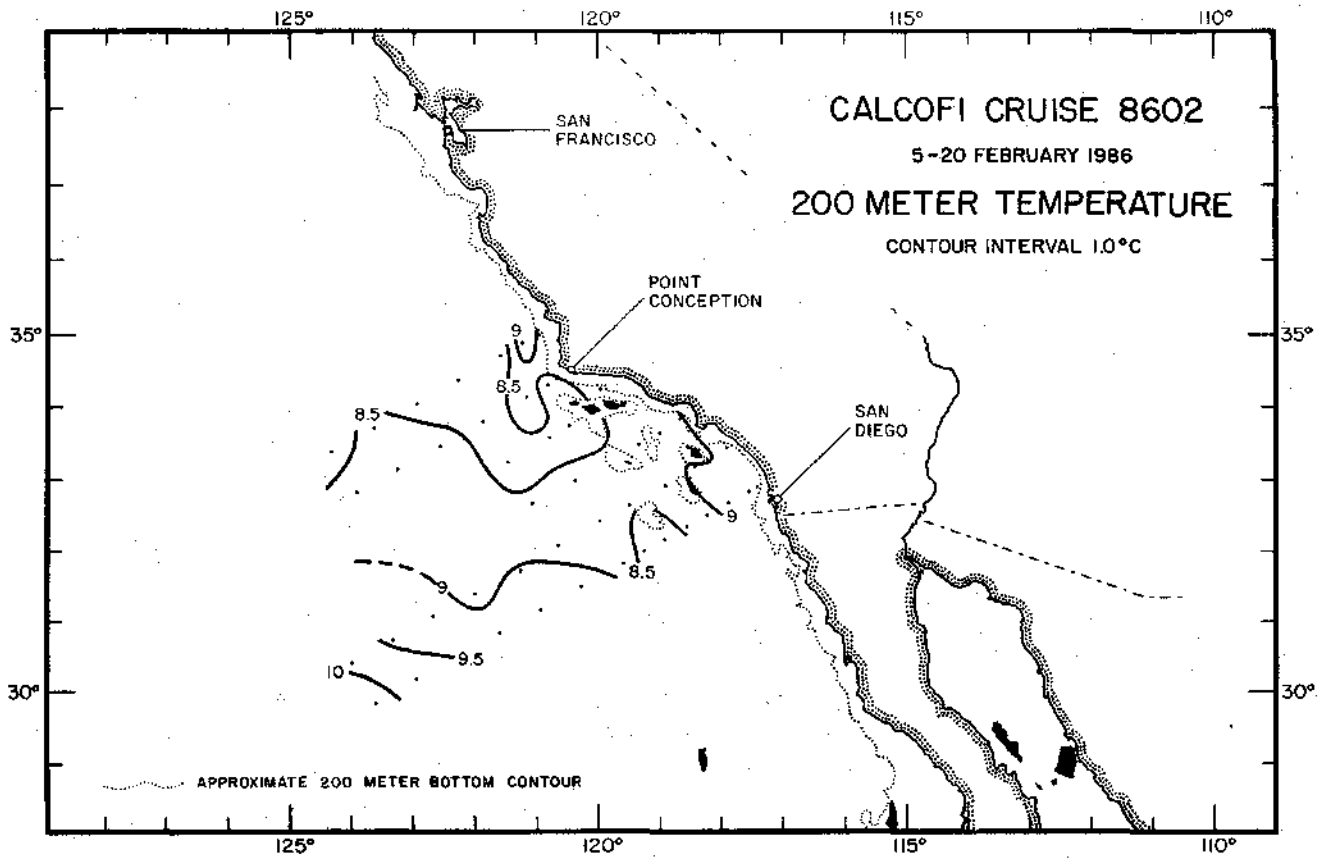

FIGURE 9

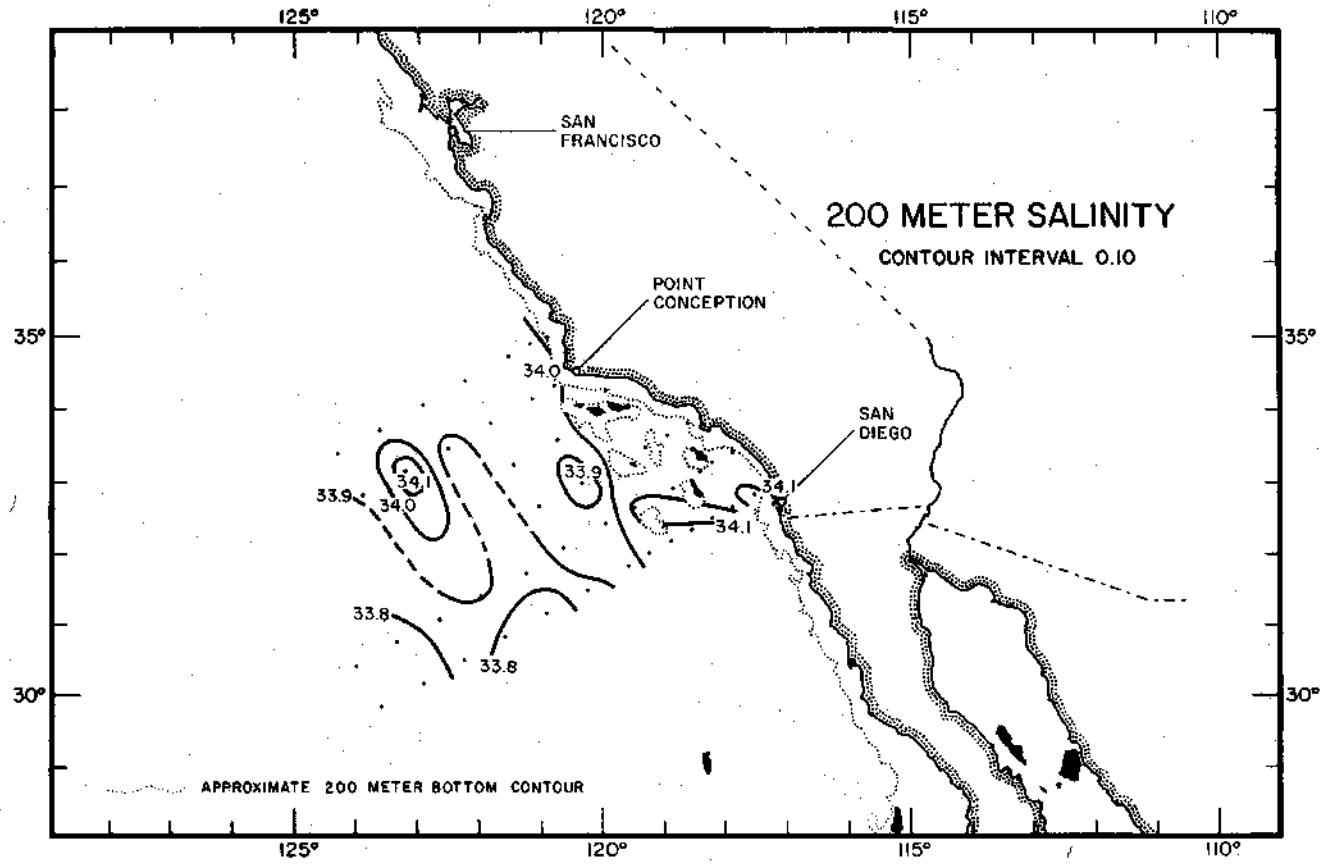

FIGURE 10

PERSONNEL

Cruise 8602

SHIP'S CAPTAIN

Milton Roll, RV *David Starr Jordan*

PERSONNEL PARTICIPATING IN THE COLLECTION OF DATA

Flerx, William C. (in charge)	Fishery Biologist, NMFS
Abramenkoff, Dimitry N.	Fishery Biologist, NMFS
Anderson, George C.	Staff Research Associate, SIO
Bryan, Walter R.	Marine Technician, SIO
Cummings, Sherry L.	Staff Research Associate, SIO
Dotson, Ronald C.	Fishery Biologist, NMFS
Masten, Douglas M.	Marine Technician, SIO
Meyer, Cindy H.	Computer Programmer, NMFS
Sweet, Paul R.	Staff Research Associate, SIO
Tsuji, Sachiko	U. C. Sea Grant Program, NMFS

LATITUDE LONGITUDE DAY/MO/YR MESSENGER

RV DAVID STARR JORDAN CALCOFI CRUISE 8602 STATION 77 60

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
34 43.1 N	121 32.7 W	19/02/86.	1421 GMT	9A0 M	220	15 KT	190 04 05	2	1013.3 MB	14.9 C	14.0 C	8/8	SC

CAST	DEPTH M		TEMP DEC C	POT TEMP DEC C	SALINITY	SIGMA THETA	SVA	DYN HT	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	14.05	14.05	32.974	24.612	331.7	.000	5.98	101.9							0
1	2		14.05	14.05	32.974	24.612	331.8	.007	5.98	101.9	2.4	.41	.0	.00	.20	.08	2
	10	ISL	14.05	14.05	32.972	24.611	332.1	.033	6.02	102.6							10
	12		14.05	14.05	32.972	24.611	332.2	.040	6.03	102.7	2.4	.40	.0	.00	.21	.08	12
	20	ISL	14.04	14.04	32.971	24.612	332.3	.066	6.02	102.6							20
1	27		14.04	14.03	32.971	24.614	3.32.3	.089	6.02	102.5	2.4	.41	.0	.00	.20	.08	27
	30	ISL	13.99	13.99	32.973	24.624	331.7	.100	6.02	102.4							30
1	44		13.66	13.65	32.981	24.699	324.6	.145	6.01	101.5	2.5	.44	.4	.04	.35	.15	44
	50	ISL	13.44	13.44	32.999	24.757	319.4	.165	6.00	100.9							50
1	58		13.07	13.06	33.043	24.865	309.1	.189	5.97	99.7	3.1	.50	1.2	.13	.29	.21	58
1	68		12.34	12.33	33.162	25.100	287.0	.219	5.87	96.6	3.3	.58	2.2	.11	.21	.18	68
	75	ISL	11.95	11.94	33.213	25.213	276.4	.239	5.79	94.5							76
1	80		11.76	11.75	33.236	25.267	271.3	.252	5.74	93.3	4.6	.71	4.5	.03	.12	.16	80
1	94		11.38	11.37	33.292	25.379	260.9	.289	5.59	90.2	7.7	.92	8.1	.02	.07	.09	94
	100	ISL	11.01	11.00	33.320	25.468	252.6	.306	5.32	85.2							101
1	109		10.42	10.41	33.371	25.611	239.1	.329	4.89	77.3	12.3	1.23	13.5	.01	.04	.07	II0
1	124		9.81	9.79	33.485	25.804	221.0	.363	4.54	70.8	15.8	1.42	16.7	.00	.02	.05	125
	125	ISL	9.79	9.78	33.490	25.811	220.3	.365	4.52	70.5							126
1	150		9.10	9.08	33.696	26.084	194.6	.417	3.80	58.4	23.2	1.71	21.9	.00	.01	.04	151
1	169		8.56	8.54	33.830	26.274	176.9	.452	3.45	52.5	29.0	1.88	24.8	.00	.00	.03	170
1	190		8.41	8.39	33.934	26.378	167.3	.488	3.42	51.9	31.2	1.90	24.9	.00			191
	200	ISL	8.20	8.18	33.946	26.419	163.6	.505	3.50	52.8							202
1	211		8.00	7.98	33.954	26.456	160.2	.522	3.58	53.8	33.2	1.89	25.2	.00			212
1	240		8.06	8.03	34.060	26.531	153.7	.567	2.38	35.8	40.5	2.25	29.2	.00			241
	250	ISL	7.94	7.91	34.074	26.560	151.1	.583	2.19	32.8							252
1	281		7.44	7.41	34.086	26.642	143.6	.629	1.91	28.4	48.4	2.47	32.2	.00			283
	300	ISL	7.20	7.17	34.088	26.677	140.4	.656	1.78	26.2							302
1	341		6.73	6.70	34.089	26.742	134.6	.712	1.53	22.3	57.9	2.66	35.1	.00			343
	400	ISL	6.19	6.15	34.118	26.837	126.0	.789	1.06	15.2							403
1	416		6.06	6.03	34.130	26.862	123.8	.809	.93	13.4	70.3	2.92	38.4	.00			419
1	494		5.67	5.63	34.201	26.968	114.4	.902	.54	7.7	80.2	3.10	40.2	.00			497
	500	ISL	5.64	5.59	34.206	26.976	113.7	.909	.52	7.4							504
1	572		5.34	5.29	34.262	27.057	106.6	.988	.35	4.9	89.1	3.19	41.4	.00			576

RV DAVID STARR JORDAN CALCOFI CRUISE 8602 STATION 77 70

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
34 23.3 N	122 14.8 W	19/02/86	0924 GMT	4018 M	260	14 KT		6	1011.8 MB	15.3 C	15.2 C		

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0	ISL	13.95	13.95	32.941	24.608	332.3	.000	6.04	102.6							0
1	3		13.95	13.95	32.941	24.608	332.2	.010	6.04	102.6	2.8	.41	.0	.00	.21	.10	3
	10	ISL	13.94	13.94	32.945	24.613	331.9	.033	6.06	102.9							10
1	13		13.93	13.93	32.947	24.615	331.8	.043	6.06	102.9	2.7	.41	.0	.00	.22	.08	13
	20	ISL	13.90	13.90	32.946	24.622	331.3	.066	6.06	102.8							20
1	29		13.85	13.85	32.945	24.631	330.7	.096	6.05	102.6	2.7	.41	.0	.00	.23	.08	29
	30	ISL	13.81	13.81	32.947	24.641	329.8	.099	6.05	102.5							30
1	44		13.21	13.21	32.970	24.780	316.9	.144	6.02	100.8	2.8	.46	.5	.05	.35	.19	44
	50	ISL	13.10	13.09	32.987	24.816	313.6	.164	6.01	100.4							50
1	60		12.78	12.77	33.029	24.912	304.7	.194	6.00	99.5	3.0	.52	1.2	.10	.28	.22	60
1	70		11.93	11.92	33.108	25.135	283.6	.223	5.91	96.4	3.9	.63	3.1	.08	.25	.23	70
	75	ISL	11.48	11.48	33.140	25.242	273.5	.238	5.76	93.1							76
1	79		11.24	11.23	33.164	25.306	267.5	.248	5.65	90.8	6.6	.84	6.7	.03	.12	.14	79
1	96		11.28	11.27	33.357	25.448	254.4	.292	5.21	83.9	9.8	1.05	10.4	.02	.08	.13	96
	100	ISL	11.08	11.06	33.363	25.490	250.5	.303	5.08	81.5							101
1	II0		10.44	10.43	33.386	25.619	238.4	.329	4.73	74.8	13.9	1.33	14.9	.02	.04	.15	111
1	125		9.59	9.57	33.608	25.936	208.4	.362	4.01	62.3	20.1	1.59	19.9	.00	.02	.05	126
	150	ISL	8.75	8.74	33.772	26.198	183.8	.410	4.12	63.0							151
1	151		8.72	8.71	33.776	26.206	183.1	.412	4.13	63.0	24.1	1.63	21.2	.00	.01	.04	152
1	172		8.36	8.34	33.883	26.346	170.1	.449	3.74	56.6	29.3	1.80	23.8	.00	.01	.02	173
1	192		8.28	8.27	33.960	26.418	163.6	.482	3.00	45.4	34.2	2.03	27.1	.00			193
	200	ISL	8.15	8.13	33.981	26.454	160.3	.495	2.91	43.9							202
1	213		7.92	7.90	34.007	26.510	155.1	.516	2.85	42.8	38.4	2.12	28.3	.00			214
1	243		7.59	7.56	34.032	26.577	149.1	.561	2.45	36.5	43.6	2.28	30.3	.00			244
	250	ISL	7.51	7.49	34.035	26.591	147.8	.572	2.37	35.3							252
1	283		7.16	7.13	34.049	26.652	142.5-	.620	2.06	30.4	49.9	2.44	32.4	.00			285
	300	ISL	6.97	6.94	34.059	26.686	139.4	.644	1.86	27.3							302
1	345		6.51	6.47	34.088	26.771	131.6	.705	1.36	19.8	61.6	2.75	36.2	.00			347
	400	ISL	6.13	6.09	34.120	26.846	125.1.	.775	1.02	14.7							403
1	421		6.01	5.97	34.132	26.871	122.9	.802	.93	13.4	71.1	2.96	38.8	.00			424
1	497		5.49	5.45	34.185	26.977	113.4	.891	.56	7.9	82.9	3.12	40.7	.00			500
	500	ISL	5.47	5.43	34.188	26.981	113.0	.895	.55	7.8							504
1	573		5.20	5.16	34.269	27.078	104.5	.974	.35	4.9	90.8	3.22	41.7	.00			577

RV DAVID STARR JORDAN CALCOFI CRUISE 8602 STATION 7 7 80

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
34 03.3 N	122 56.1 W	19/02/86	0438 GMT	4305 M	190	22 KT		A	1012.0 MB	15.0 C	15.0 C	7/8	ST

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	POA UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0	ISL	14.26	1A.26	33.068	2A.6A0	329.0	.000	5.95	101.8							0
1	1		14.26	14.26	33.068	2A.6A0	329.0	.003	5.95	101.8	2.3	.38	.0	.00	.15	.07	1
	10	ISL	14.26	14.26	33.068	2A.6A1	329.3	.033	5.99	102.5							10
1	11		14.26	14.26	33.068	2A.6A1	329.3	.036	5.99	102.5	2.3	.40	.0	.00	.17	.06	11
	20	ISL	14.25	14..25	33.066	2A.6A2	329.2	.066	5.99	102.5							20
1	27		14.23	14.22	33.065	2A.6A7	329.2	.089	5.99	102.4	2.3	.38	.0	.00	.18	.07	27
	30	ISL	14.20	14.20	33.062	2A.650	328.9	.099	5.99	102.4							30
1	A2		14.10	1A.10	33.053	2A.66A	327.9	.138	5.99	102.2	2.4	.39	.0.	.00	.22	.09	42
	50	ISL	13.81	13.80	33.091	24.753	319.7	.164	6.01	101.9							50
1	58		13.26	13.26	33.124	24.889	306.9	.188	6.03	101.1	3.2	.45	.5	.07	.40	.21	58
1	68		11.98	11.97	33.121	25.136	283.5	.218	5.87	95.8	5.1	.68	4.0	, .13	.23	.20	68
	75	ISL	11.64	11.63	33.196	25.257	272.2	.238	5.73	92.9							76
1	78		11.58	11.57	33.226	25.292	268.8	.2A5	5.67	91.8	6.5	.8A	6.8	.05	.15	.18	78
1	9A		10.86	10.85	33.311	25.A88	250.5	.286	5.2A	83.6	8.5	1.01	9.9	.02	.05	.08	9A
	100	ISL	10.59	10.58	33.379	25.588	241.1	.302	5.03	79.9							101
1	108		10.24	10.23	33.469	25.718	228.8	.322	4.78	75.3	12.7	1.20	13.8	.01	.03	.04	109
1	124		9.60	9.59	33.562	25.898	212.0	.357	4.50	69.9	16.6	1.A0	16.9	.00	.01	.03	125
	125	ISL	9.58	9.57	33.568	25.906	211.3	.359	4.47	69.4							126
1	149		9.00	8.98	33.779	26.166	186.9	.407	3.36	51.6	27.2	1.86	24.2	.00	.01	.03	150
	150	ISL	8.98	8.96	33.784	26.173	186.3	.408	3.36	51.5							151
1	170		8.52	8.51	33.883	26.321	172.4	.444	3.32	50.5	30.3	1.90	25.2	.00	.00	.02	171
1	190		8.20	8.19	33.927	26.AOA	164.9	.478	3.52	53.1	32.1	1.89	25.1	.00			191
	200	ISL	8.06	8.04	33.948	26.442	161.4	.494	3.50	52.6							202
1	211		7.90	7.88	33.966	26.480	157.9	.511	3.47	52.0	34.9	1.94	26.0	.00			212
1	242		7.30	7.28	33.974	26.572	149.4	.559	3.08	45.5	41.7	2.12	28.7	.00			243
	250	ISL	7.21	7.19	33.986	26.594	147.4	.571	2.91	43.0							252
1	282		6.96	6.94	34.035	26.667	140.8	.618	2.25	33.0	51.1	2.42	32.2	.00			284
	300	ISL	6.81	6.78	34.047	26.698	138.1	.642	2.02	29.5							302
1	344		6.39	6.36	34.061	26.765	132.2	.702	1.61	23.3	61.4	2.68	35.7	.00			346
	400	ISL	5.77	5.74	34.080	26.858	123.6	.774	1.20	17.1							403
1	421		5.57	5.54	34.091	26.891	120.5	.799	1.06	15.1	75.7	2.94	39.1	.00			424
1	498		5.38	5.34	34.183	26.988	112.1	.888	.54	7.6	84.9	3.12	40.9	.00			501
	500	ISL	5.37	5.33	34.187	26.992	111.9	.891	.53	7.5							504
1	575		5.11	5.07	34.283	27.099	102.3	.971	.30	4.2	93.9	3.24	41.9	.00			579

RV DAVID STARR JORDAN CALCOFI CRUISE 8602 STATION 77 90

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
33 43.1 N	123 37.9 W	18/02/86	2338 GMT	4305 M	190	18 KT	200 04 07	2	1013.3 MB	16.0 C	15.3 C	8/8	ST

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
1	0		15.22	15.22	33.130	24.483	344.0	.000	5.85	102.1	2.3	.37	.1	.00	.07	.03	0
1	10		15.13	15.13	33.119	24.494	343.2	.034	5.90	102.8	2.3	.37	.1	.00	.08	.03	10
	20	ISL	15.05	15.05	33.107	24.503	342.7	.069	5.89	102.5							20
1	26		15.00	15.00	33.106	24.514	341.9	.089	5.89	102.3	2.3	.39	.0	.00	.10	.04	26
	30	ISL	14.96	14.96	33.108	24.524	341.0	.103	5.89	102.3							30
1	41		14.86	14.85	33.154	24.582	335.8	.140	5.89	102.1	2.3	.40	.0	.00	.17	.06	41
	50	ISL	14.43	14.42	33.167	24.684	326.4	.170	5.95	102.3							50
1	56		14.09	14.08	33.184	24.768	318.4	.188	5.98	102.0	2.4	.40	.0	.00	.32	.22	56
1	67		13.47	13.46	33.279	24.968	299.6	.222	5.92	99.8	2.8	.48	.7	.19	.31	.25	67
	75	ISL	13.24	13.23	33.333	25.057	291.4	.2A7	5.82	97.6							76
1	78		13.18	13.17	33.345	25.077	289.5	.255	5.78	96.9	3.4	.55	2.2	.12	.21	.20	78
1	93		12.88	12.86	33.371	25.159	282.2	.297	5.64	94.0	3.7	.64	3.6	.02	.14	.15	93
	100	ISL	12.36	12.35	33.339	25.234	275.1	.318	5.53	91.1							101
1	109		11.67	11.66	33.326	25.353	263.8	.341	5.30	86.0	6.5	.85	7.2	.01	.08	.10	109
1	123		10.73	10.72	33.495	25.654	235.4	.378	4.47	71.2	13.1	1.29	14.7	.00	.03	.05	124
	125	ISL	10.66	10.64	33.506	25.676	233.3	.382	A.A2	70.3							126
1	149		9.87	9.85	33.652	25.925	210.0	.436	3.84	60.1	19.3	1.60	19.9	.00	.01	.03	150
	150	ISL	9.86	9.84	33.658	25.931	209.5	.437	3.81	59.6							151
1	170		9.62	9.60	33.808	26.088	194.9	.478	3.14	48.9	24.9	1.86	23.5	.00	.01	.03	171
1	190		9.16	9.14	33.925	26.255	179.4	.515	2.79	43.0	30.0	2.03	25.8	.00			191
	200	ISL	8.99	8.97	33.961	26.310	174.3	.533	2.67	41.1							201
1	211		8.82	8.80	33.990	26.359	169.8	.551	2.58	39.5	33.2	2.12	27.2	.00			212
1	242		8.30	8.28	34.049	26.486	158.1	.602	2.41	36.5	38.3	2.22	28.9	.00			243
	250	ISL	8.22	8.19	34.065	26.511	155.8	.615	2.31	34.9							252
1	283		7.91	7.89	34.117	26.597	148.1	.666	1.86	27.9	45.5	2.45	31.4	.00			285
	300	ISL	7.65	7.62	34.116	26.636	144.3	.690	1.72	25.7							302
1	344		6.93	6.90	34.114	26.735	135.4	.751	1.44	21.1	57.2	2.70	35.1	.00			346
	400	ISL	6.42	6.38	34.138	26.823	127.5	.825	1.06	15.3							403
1	421		6.28	6.25	34.149	26.849	125.3	.852	.93	13.4	67.9	2.93	38.0	.00			424
1	498		5.89	5.84	34.185	26.929	118.4	.945	.67	9.6	76.1	3.06	39.9	.00			501
	500	ISL	5.87	5.83	34.187	26.932	118.2	.948	.66	9.5							504
1	574		5.45	5.40	34.252	27.035	108.8	1.032	.41	5.8	85.6	3.19	41.3	.00			578

RV DAVID STARR JORDANN — CALCOFI CRUISE 8602 — STATION 77 100

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
33 23.5 N	124 19.2 W	18/02/86	1839 GMT	4688 M	170	15 KT	220 06 08	2	1017.1 MB	.15.5 C	15.5 C	8/8	ST

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
10	ISL	14.51	14.51	33.025	24.555	337.4	.000	5.91	101.6							0
I	i	14.51	14.51	33.025	24.555	337.2	.003	5.91	101.6	2.2	.39	.0	.00	.13	.05	1
	10 ISL	14.44	14.44	33.025	24.571	335.9	.034	5.96	102.3							10
1	11	14.43	14.43	33.025	24.572	335.9	.037	5.96	102.3	2.2	.39	.0	.00	.13	.05	11
	20.ISL	14.44	14.44	33.025	24.570	336.4	.067	5.95	102.3							20
1	27	14.45	14.45	33.025	24.569	336.6	.090	5.95	102.2	2.1	.39	.0	.00	.13	.05	27
	30 ISL	14.43	14.42	33.022	24.571	336.4	.101	5.95	102.2							30
1	42	14.23	14.23	33.022	24.612	332.9	.141	5.96	101.9	2.1	.39	.0	.00	.22	.10	42
	50 ISL	14.06	14.05	33.048	24.669	325.1	.167	5.97	101.6							50
1	58	13.63	13.62	33.072	24.776	317.7	.192	5.97	100.8	2.6	.44	.4	.04	.33	.23	58
1	67	12.52	12.52	33.231	25.118	285.3	.219	5.93	98.0	2.9	.53	1.6	.05	.22	.27	67
	75 ISL	12.45	12.44	33.324	25.204	277.4	.243	5.86	96.7							76
1	78	12.43	12.42	33.326	25.210	276.8	.250	5.83	96.2	2.9	.52	1.8	.04	.14	.25	78
1	94	11.15	11.14	33.208	25.356	263.1	.293	5.54	88.9	6.6	.89	7.6	.01	.09	.13	94
	100 ISL	10.96	10.95	33.234	25.411	258.0	.310	5.40	86.3							101
1	109	10.76	10.75	33.302	25.498	249.9	.331	5.15	82.0	9.5	1.08	11.1	.00	.05	.08	109
1	124	9.94	9.93	33.459	25.761	225.1	.369	4.39	68.7	17.2	1.51	18.2	.00	.02	.05	125
	125 ISL	9.92	9.91	33.465	25.769	224.3	.370	4.36	68.2							126
1	149	9.30	9.29	33.703	26.057	197.3	.422	3.52	54.4	24.0	1.81	23.4	.00	.00	.03	150
	150 ISL	9.28	9.27	33.707	26.063	196.7	.423	3.53	54.5							151
1	170	8.83	8.82	33.803	26.210	183.1	.461	3.70	56.6	26.2	1.77	23.4	.00	.00	.02	171
1	191	8.50	8.48	33.897	26.336	171.4	.498	4.37	66.4	25.1	1.58	21.1	.00			192
	200 ISL	8.32	8.30	33.925	26.386	166.8	.513	4.28	64.8							201
1	211	8.11	8.09	33.952	26.438	16.1.9	.531	4.05	61.0	30.2	1.73	23.4	.00			212
1	242	7.76	7.74	33.992	26.521	154.5	.580	3.60	53.8	36.1	1.90	25.8	.00			243
	250 ISL	7.66	7.64	33.997	26.539	152.9	.593	3.45	51.5							252
1	282	7.30	7.28	34.009	26.600	147.4	.641	2.85	42.2	43.5	2.19 ,	29.7	.00			284
	300 ISL	7.14	7.11	34.022	26.633	144.5	.667	2.53	37.2							302
1	344	6.75	6.72	34.056	26.713	137.3	.729	1,82	26.6	55.4	2.57	34.5	.00			346
	400 ISL	6.16	6.12	34.084	26.814	128.2	.803	1.27	18.3							403
1	420	5.95	5.92	34.094	26.847	125.0	.829	1.13	16.2	69.4	2.88	38.4	.00			423
1	497	5.49	5.45	34.161	26.957	115.2	.921	.65	9.2	81.1	3.09	40.7	.00			500
	500 ISL	5.47	5.43	34.163	26.962	114.8	.925	.64	9.0							504
1	573	4.99	4.95	34.201	27.048	106.9	1.006	.48	6.7	92.2	3.18	42.0	.00			577

RV DAVID STARR JORDAN — CALCOFI CRUISE 8602 — 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 31.6 W	17/02/86	0828 GMT	79 M	150	12 KT			1020.8 MB	14.2 C	14.0 C		

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0 ISL	13.65	13.64	33.085	24.781	322.6	.000	6.05	102.3							0
1	2	13.65	13.64	33.085	24.781	315.7	.006	6.05	102.3	4.1	.71	1.4	.12	1.03	.37	2
	10 ISL	13.37	13.37	33.285	24.991	295.9	.031	6.03	101.5							10
1	12	13.33	13.33	33.314	25.022	293.0	.037	6.03	101.4	2.8	.49	1.1	.09	1.20	.37	12
	20 ISL	13.29	13.29	33.324	25.038	291.7	.060	6.01	101.0							20
1	23	13.28	13.27	33.328	25.0.44	291.2	.069	6.00	100.8	2.7	.49	1.1	.08	1.05	.53	23
	30 ISL	13.21	13.21	33.335	25.062	289.7	.089	5.94	99.7							30
1	33	13.19	13.19	33.338	25.069	289.1	.097	5.92	99.3	2.8	.54	1.2	.09	1.18	.61	33
1	44	13.18	13.17	33.346	25.078	288.6	.129	5.90	98.9	3.3	.55	1.5	.11	1.03	.61	44
	50 ISL	13.09	13.08	33.379	25.122	284.5	.147	5.78	96.7							50
1	54	13.00	12.99	33.410	25.164	280.7	.157	5.67	94.7	4.3	.67	2.9	.19	.80	.71	54

RV DAVID STARR JORDAN — CALCOFI CRUISE 8602 — STATION 80 55

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
34 19.3 N	120 47.7 W	17/02/86	1106 GMT	849 M	170	13 KT			1020.2 MB	13.8 C	13.8 C		

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0 ISL	13.64	13.64	32.964	24.688	324.3	.000	6.12	103.4							0
1	3	13.64	13.64	32.964	24.688	324.6	.010	6.12	103.4	3.2	.45	.4	.03	.87	.39	3
	10 ISL	13.48	13.48	32.968	24.723	322.3	.032	6.15	103.5							10
1	13	13.42	13.42	32.969	24.737	320.2	.042	6.16	103.6	3.2	.45	.4	.03	1.25	.51	13
	20 ISL	13.33	13.33	33.069	24.833	311.3	.064	6.11	102.6							20
1	29	13.11	13.10	33.218	24.993	296.2	.091	5.93	99.2	4.3	.54	2.3	.10	.99	.55	29
	30 ISL	13.03	13.03	33.229	25.016	294.1	.094	5.89	98.3							30
1	44	12.02	12.01	33.337	25.296	267.7	.133	5.26	86.0	7.3	.86	7.5	.23	.25	.22	44
	50 ISL	11.62	11.61	33.392	25.413	256.8	.149	4.96	80.5							50
1	59	11.15	11.15	33.452	25.545	244.4	.171	4.63	74.4	11.2	1.16	12.6	.10	.12	.14	59
1	70	10.78	10.77	33.466	25.622	237.2	.198	4.55	72.5	12.4	1.25	14.1	.09	.08	.12	70
	75 ISL	10.60	10.59	33.496	25.677	232.0	.210	4.38	69.6							76
1	79	10.49	10.48	33.521	25.716	228.4	.218	4.26	67.5	14.5	1.37	16.4	.05	.05	.11	79
1	95	10.20	10.19	33.609	25.835	217.5	.254	3.93	61.9	17.6	1,53	18.7	.02	.04	.08	95
	100 ISL	10.03	10.02	33.639	25.886	212.7	.266	3.80	59.7							101
1	109	9.74	9.72	33.695	25.979	204.0	.285	3.58	55.9	21.4	1.69	21.5	.01	.02	.08	110
1	' 125	9.33	9.32	33.805	26.132	189.8	.317	3.21	49.7	25.4	1.87	23.8	.12	.02	.05	126
1	150	8.49	8.48	33.858	26.305	173.5	.362	3.28	49.8	29.1	1.94	25.3	.05	.01	.04	151
1	170	8.48	8.46	33.903	26.344	170.3	.396	3.17	48.1	30.5	1.95	26.0	.04	.00	.04	171
1	190	8.41	8.39	33.961	26.399	165.4	.429	2.92	44.3	33.4	2.04	27.2	.04			191
	200 ISL	8.36	8.34	33.990	26.431	162.6	.446	2.76	41.8							202
1	210	8.29	8.26	34.014	26.460	159.9	.462	2.61	39.5	36.9	2.16	28.4	.02			211
1	240	7.99	7.96	34.042	26.527	154.0	.508	2.42	36.4	40.6	2.25	29.6	.01			241
	250 ISL	7.91	7.88	34.065	26.557	151.3	.524	2.23	33.5.							252
1	278	7.70	7.67	34.130	26.639	143.9	.566	1.68	25.1	48.5	2.52	32.3	.00			280
	300 ISL	7.48	7.45	34.151	26.687	139.6	.597	1.44	21.5							302
1	338	7.11	7.08	34.170	26.755	133.6	.649	1.18	17.4	57.5	2.75	35.2	.00			340
	400 ISL	6.72	6.69	34.209	26.838	126.4	.729	.81	11.8							403
1	411	6.67	6.63	34.215	26.850	125.4	.744	.76	11.1	65.7	2.93	37.4	.00			414
1	486	6.35	6.31	34.257	26.926	119.0	.834	.53	7.7	71.9	3.05	38.9	.00			489
	500 ISL	6.27	6.23	34.262	26.941	117.8	.851	.50	7.2							504
1	560	5.88	5.84	34.273	26.999	112.6	.921	.41	5.9	79.6	3.14	40.3	.00			564

RV DAVID STARR JORDAN CALCOFI CRUISE 8602 STATION 80 60

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
34 09.0 N	121 08.8 W	17/02/86	1446 GMT	2227 M	170	16 KT	240 06 09	2	1019.8 MB	14.2 C	14.0 C	8/8	ST

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA .	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0	ISL	14.36	14.36	33.087	24.634	329.6	.000	5.94	101.9							0
1	1		14.36	14.36	33.087	24.634	329.6	.003	5.94	101.9	2.5	.39	.1	.00	.15	.06	1
1	10		14.34	14.34	33.086	24.638	329.6	.033	6.00	102.9	2.5	.38	.1	.00	.14	.06	10
	20	ISL	14.24	14.24	33.078	24.653	328.4	.066	5.99	102.4							20
1	26		14.17	14.17	33.073	24.665	327.5	.085	5.98	102.2	2.5	.39	.1	.00	.16	.07	26
	30	ISL	14.15	14.14	33.072	24.669	327.1	.099	5.98	102.1							30
1	41		14.06	14.06	33.071	24.685	325.9	.134	5.98	101.9	2,4	.39	.1	.00	.20	.10 '	41
	50	ISL	13.89	13.88	33.060	24.714	323.4	.164	5.98	101.5							50
1	57		13.75	13.75	33.052	24.735	321.6	.186	5.98	101.3	2.6	.42	.3	.02	.31	.16	57
1	67		12.91	12.90	33.061	24.911	304.9	.217	5.96	99.2	2.9	.51	1.4	.07	.28	.20	67
	75	ISL	11.60	11.59	33.182	25.254	272.4	.241	5.69	92.2					.		76
1	77		11.35	11.34	33.212	25.323	265.8	.245	5.63	90.7	5.2	.76	5.7	.02	.09	.12	77
1	94		11.03	11.02	33.403	25.529	246.6	.288	5.14	82.3	7.9	.94	9.4	.02	.04	.06	94
	100	ISL	10.95	10.94	33.442	25.574	242.5	.304	5.08	81.2							101
1	108		10.77	10.76	33.484	25.638	236.6	.325	4.95	78.9	9.8	1.04	11.2	.02	.03	.05	109
1	124		9.95	9.93	33.585	25.859	215.8	.360	4.16	65.2	17.4	1.47	18.1	.01	.01	.03	125
	125	ISL	9.92	9.91	33.589	25.866	215.1	.362	4.14	64.8							126
1	150		9.22	9.20	33.753	26.110	192.3.	.413	3.54	54.6	23.9	1.76	22.7	.00	.00	.02	151
1	170		9.03	9.01	33.876	26.237	180.6	.450	3.07	47.2	28.5	1.91	25.1	.00	.00	.03	171
1	191		8.80	8.78	33.954	26.335	171.7	.487	2.86	43.8	31.7	2.03	26.1	.00			192
	200	ISL	8.72	8.70	33.974	26.363	169.2	.502	2.81	42.9							202
1	211		8.62	8.60	33.992	26.392	166.5	.521	2.75	41.9	33.6	2.08	27.0	.00			212
1	242		8.21	8.18	34.041	26.494	157.3	.570	2.53	38.2	38.0	2.18	28.8	.00			243
	250	ISL	8.10	8.08	34.049	26.515	155.4	.584	2.47	37.3							252
1	282		7.76	7.73	34.076	26.588	148.9	.633	2.21	33.0	43.7	2.35	30.7	.00			284
	300	ISL	7.66	7.63	34.100	26.622	146.0	.659	1.98	29.6							302
1	344		7.45	7.41	34.159	26.698	139.3	.721	1.40	20.8	52.6	2.65	33.8	.00			346
	400	ISL	6.95	6.91	34.211	26.809	129.3	.797	.89	13.0							403
1	420		6.76	6.72	34.226	26.848	125.8	.823	.75	11.0	65.5	2.92	37.0	.00			423
1	497		6.14	6.09	34.270	26.964	115.4	.915	.45	6.5	76.6	3.07	39.4	.00			500
	500	ISL	6.11	6.07	34.272	26.969	115.0	.919	.44	6.3							504
1	572		5.63	5.58	34.306	27.057	107.0	.998	.32	4.6	85.7	3.19	40.9	.00			576

RV DAVID STARR JORDAN CALCOFI CRUISE 8602 STATION 80 70

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
33 48.9 N	121 50.5 W	17/02/86	2019 GMT	3686 M	170	15 KT	190 06 08	4	1020.0 MB	14.8 C	14.6 C		

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NU2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0	ISL	14.10	14.10	33.160	24.746	326.5	.000	6.06	103.4							0
1	2		14.10	14.lu	33.160	24.746	319.0	.006	6.06	103.4	2.6	.41	.4	.02	.58	.19	2
	10	ISL	13.3y	13.39	33.287	24.990	296.0	.031	6.08	102.3							10
1	12		13.27	13.27	33.311	25.032	292.1	.037	6,08	102.1	3.4	.53	1.4	.07	.95	.33	12
	20	ISL	13.19	13.19	33,33/	25.068	288.8	.060	6.05	101.5							20
1	28		13,11	13.10	33.362	25.104	285.6	.083	6.00	100.5	4.0	.54	2.2	.10	.74	.39	28
	30	ISL	13.10	13.09	33,367	25.HU	285.1	.089	5.99	100.3							30
1	43		12.99	12.98	33.393	25.153	281.4	.125	5.8»	98.4	4.4	.60	3.1	.13	.58	.36	43
	50	ISL	12.90	12.90	33.419	25.189	278.1	.145	5,81	96.9							5U
1	59		12.61	12.60	33.434	25.259	271.7	.169	5.61	93.0	5.6	.71	4.9	. 1 /	.25	.26	59
1	69		11.78	11.77	33.398	25.389	259.5	.196	5.14	83.7	7.6	.91	8.3	.10	.lb	.22	69
	75	ISL	11.57	11.56	33.477	25.489	250.2	.212	4.75	77.0							7b
1	79		11.50	11.49	33.529	25.542	245.2	.221	4.54	73.5	11.8	1.16	12.5	.15	.21	.34	79
1	94		11.10	11.09	33.583	25.656	234.6	.257	4.21	67.6	14.7	1.32	15.0	.06	.16	.29	94
	100	ISL	10.92	10.91	33.613	25.712	229.4	.272	4.05	64.9							101
1	109		10.58	10.57	33.661	25.809	220.3	.293	3.82	60,7	18.0	1.50	18.1	.02	.08	.20	HU
1	124		9.76	9.75	33.754	26.021	200.3	.324	3.47	54.2	23.0	1.72	22.0	.01	.03	.lb	125
	125	ISL	9.74	9.73	33.758	26.028	199.7	.325	3.46	54.0							126
1	150		9.18	9.16	33.863	26.202	183.6	.374	3.13	48.3	28.1	1.90	24.8	.00	.01	.08	151
1	169		8.83	8.81	33.923	26.305	174.1	.407	3.04	46.5	31.0	1.95	26.0	.00	.01	.10	1/0
1	19u		8.43	8.41	33.977	26.410	164.4	.443	2.96	44.9	34.2	2.03	27.1	.00			191
	2U0	ISL	8.26	8.24	33.994	26.448	160.9	.459	2.93	44.3							201
1	210		8.11	8.08	34.004	26.479	158.0	.475	2.89	43.5	37.3	2.08	28.1	.00			211
1	240		7.73	7.7U	34.026	26.553	151.4	.521	2.64	39.4	41.7	2.22	29.9	.02			241
	250	ISL	7.56	7.53	34.036	26.585	148.4	.536	2.47	36.8							252
1	280		7.10	7.08	34.069	26.675	140.2	.580	1.94	28.6	52.1	2.50	33.3	.00			282
	300	ISL	6.94	6.91	34.088	26.712	136.9	.60/	1.68	24.7							302
1	341		6.72	6.69	34.124	26.771	131.8	.662	1.27	18.5	60.7	2.74	36.5	.00			343
	400	ISL	6.40	6.36	34.174	26.854	124.7	.738	.87	12.7							403
1	41/		6.32	6.28	34.189	26.876	122.7	.760	.79	11.4	69.8	2.96	38.6	.00			420
1	495		6.06	6.02	34.280	26.981	113.6	,851	.45	6.5	78.1	3.12	39.9	.00			498
	5UU	ISL	6.04	6.00	34.284	26.988	113.1	.857	.44	6.4							504
1	574		5.62	5.57	34.320	2/.069	105.9	.938	.35	5.0	87.2	3.20	41.3	.00			578

RV DAVID STARR JORDAN CALCOFI CRUISE 8602 STATION 80 80

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEKD	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMI'	SYPE
33 2b.6 N	122 31.9 W	18/02/86	0222 GMT	3924 M	180	18 KT	220 10 09	2	1017.2 MB	16.0 C	15.3 C	8/8	ST

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN KT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0 ISL	14.97	14.97	33.105	24.520	340.5	.000	5.85	101.6							0
1	2	14.97	14.97	33.105	24.520	340.6	.007	5.85	101.6	2.2	.38	.2	.00	.09	.03	2
	10 ISL	14.96	14.96	33.104	24.520	340.7	.034	5.90	102.5							10
1	12	14.96	14.96	33.104	24.521	340.8	.041	5.91	102.6	2.2	.38	.2	.00	.09	.03	12
	20 ISL	14.94	14.94	33.100	24.522	340.9	.068	5.90	102.5							20
1	28	14.92	14.91	33.096	24.524	341.0	.095	5.90	102.3	2.1	.37	.2	.00	.10	.03	28
	30 ISL	14.89	14.88	33.091	24.527	340.7	.102	5.90	102.3							30
1	44	14.64	14.64	33.067	24.561	337.9	.149	5.90	101.8	2.1	.39	.2	.00	.13	.05	44
	50 ISL	14.56	14.55	33.081	24.589	335.4	.1/0	5.91	101.7							50
1	60	14.43	14.43	33.103	24.633	331.4	.202	5.92	101.7	2.2	.39	.2	.00	.22	.13	60
1	70	12.99	12.98	33.141	24.957	300.7	.234	6.03	100.6	2.8	.47	.8	.08	=.33	.22	70
	75 ISL	12.75	12.74	33.136	25.001	298.0	.250	6.02	99.9							7b
1	80	12.67	12.66	33.132	25.014	295.5	.264	6.01	99.5	3.0	.52	1.3	.10	.26	.25	80
1	96	12.21	12.20	33.256	25.199	278.3	.309	5.82	95.5	3.0	.53	2.1	.03	.17	.22	96
	100 ISL	12.06	12.05	33.263	25.233	275.2	.321	5.77	94.5							101
1	112	11.52	11.51	33.297	25.359	263.3	.352	5.55	89.8	4.7	.68	4.9	.01	.07	.09	112
	125 ISL	10.45	10.43	33.478	25.691	231.9	.386	4.93	78.0							126
1	126	10.33	10.32	33.499	25.727	228.5	.389	4.86	76.7	11.7	1.11	12.8	.00	.02	.03	127
	150 ISL	9.59	9.58	33.628	25.951	207.5	.441	4.31	66.9							151
1	152	9.56	9.55	33.634	25.961	206.5	.445	4.27	66.3	18.1	1.45	18.4	.00	.01	.02	153
1	172	9.07	9.06	33.755	26.135	190.3	.485	3.82	58.7	24.0	1.67	21.7	.00	.00	.02	173
1	193	8.91	8.89	33.875	26.255	179.3	.523	3.35	51.4	28.0	1.84	24.4	.00			194
	200 ISL	8.7b	8.74	33.894	26.294	175.7	.536	3.37	51.6							201
1	213	8.46	8.44	33.917	26.357	169.8	.558	3.48	52.8	30.1	1.85	24.9	.00			214
1	244	8.12	8.09	33.984	26.462	160.2	.609	3.32	50.0	34.2	1.94	26.3	.00			245
	250 ISL	8.04	8.01	33.993	26.482	158.5	.619	3.23	48.6							252
1	284	7.59	7.56	34.026	26.573	150.2	.672	2.65	39.5	42.8	2.20	30.0	.00			286
	300 ISL	7.42	7.39	34.045	26.613	146.6	.695	2.37	35.1							302
1	345	6.96	6.93	34.093	26.714	137.4	.759	1.64	24.1	55.8	2.60	34.7	.00			347
	400 ISL	6.37	6.33	34.115	26.810	128.7	.832	1.14	16.5							403
1	421	6.18	6.14	34.123	26.842	125.8	.859	1.01	14.6	68.8	2.88	38.3	.00			424
1	499	5.91	5.87	34.214	26.948	116.5	.953	.53	7.6	77.7	3.07	40.1	.00			502
	500 ISL	5.91	5.86	34.216	26.951	116.4	.955	.52	7.5							504
1	576	5.47	5.42	34.274	27.050	107.5	1.040	.36	5.1	87.0	3.19	41.6	.00			580

RV DAVID STARR JORDAN CALCOFI CRUISE 8602 STATION 80 90

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
33 09.1 N	123 13.4 W	18/02/86	0739 GMT	4305 M	220	16 KT			1018.0 MB	15.6 C	15.5 C		

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0 ISL	14.53	14.53	33.107	24.615	331.4	.000	5.92	101.9							0
1	1	14.53	14.53	33.107	24.615	331.5	.003	5.92	101.9	2.5	.39	.2	.00	.11	.05	1
	10 ISL	14.52	14.52	33.106	24.616	331.7	.033	5.97	102.7							10
1	11	14.52	14.52	33.106	24.616	331.7	.036	5.97	102.7	2.5	.39	.2	.00	.11	.04	11
	20 ISL	14.51	14.51	33.107	24.618	331.7	.066	5.96	102.6							20
1	27	14.51	14.51	33.108	24.620	331.7	.089	5.96	102.5	2.4	.39	.2	.00	.12	.05	27
	30 ISL	14.47	14.47	33.111	24.630	330.9	.099	5.96	102.4							30
1	42	14.34	14.33	33.123	24.668	327.5	.138	5.94	101.8	2.5	.38	.2	.00	.19	.10	42
	50 ISL	13.66	13.65	33.190	24.861	309.4	.164	5.92	100.2							50
1	58	12.98	12.98	33.259	25.050	291.6	.188	5.91	98.6	3.0	.49	1.1	.14	.37	.33	58
1	68	12.62	12.62	33.291	25.145	282.8	.216	5.69	94.2	4.0	.61	3.1	.03	.19	.24	68
	75 ISL	12.45	12.44	33.302	25.188	278.9	.237	5.59	92.3							76
1	78	12.37	12.36	33.307	25.207	277.1	.244	5.55	91.4	4.7	.69	4.5	.02	.15	.18	78
1	93	11.26	11.24	33.390	25.479	251.5	.284	5.10	82.1	8.0	.93	9.1	.01	.06	.08	93
	100 ISL	10.94	10.93	33.584	25.686	231.9	.302	4.58	73.3							101
1	108	10.62	10.61	33.798	25.909	210.8	.320	3.89	61.9	16.7	1.46	17.4	.00	.07	.09	109
1	123	9.81	9.80	33.851	26.089	193.9	.351	2.84	44.4	26.5	1.90	24.2	.00	.02	.05	124
	125 ISL	9.77	9.75	33.858	26.103	192.6	.354	2.81	44.0							126
1	149	9.37	9.36	33.968	26.253	178.8	.399	2.41	37.4	31.4	2.08	26.6	.00	.00	.03	150
	150 ISL	9.36	9.34	33.971	26.258	178,3	.400	2.40	37.2							151
1	169	9.09	9.07	34.046	26.360	168.9	.433	2.14	33.0	34.6	2.21	28.2	.00	.01	.03	170
1	190	9.01	8.99	34.085	26.403	165.3	.468	1.98	30.5	36.3	2.29	28.8	.00			191
	200 ISL	8.95	8.92	3 4.103	26.427	163.1	.485	1.91	29.4							201
1	210	8.88	8.86	34.118	26.451	161.1	.500	1.85	28.4	38.4	2.34	29.5	.00			211
1	241	8.74	8.72	34.161	26.506	156.4	.549	1.63	24.9	39.5	2.44	30.3	.00			242
	250 ISL	8.69	8.66	34.170	26.522	155.1	.564	1.58	24.1							252
1	281	8.49	8.46	34.195	26.573	150.8	.612	1.43	21.8	43.5	2.54	31.3	.00			283
	300 ISL	8.38	8.35	34.205	26.598	148.7	.640	1.35	20.5							302
1	343	8.11	8.08	34.221	26.651	144.3	.703	1.18	17.8	48.7	2.65	32.7	.00			345
	400 ISL	7.73	7.69	34.234	26.718	138.7	.783	.99	14.8							403
1	413	7.59	7.55	34.236	26.740	136.8	.810	.93	13.9	55.6	2.78	34.6	.00			422
1	496	6.99	6.94	34.245	26.832	128.8	.911	.69	10.1	63.8	2.94	36.6	.00			499
	500 ISL	6.96	6.91	34.245	26.837	128.3	.917	.68	10.0							504
1	573	6.39	6.34	34.255	26.921	120.9	1.008	.52	7.5	73.0	3.04	38.9	.00			577

RV DAVID STARR JORDAN CALCOFI CRUISE 8602 STATION 80 100

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
32 49.1 N	123 54.4 W	18/02/86	1306 GMT	4114 M	210	13 KT		6	1016.9 MB	16.0 C	15.8 C		

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0	ISL	14.30	14.30	33.154	24.699	323.5	.000	5.97	102.3							0
1	1		14.30	14.30	33.154	24.699	323.4	.003	5.97	102.3	2.4	.39	.2	.00	.16	.06	1
	10	ISL	14.25	14.25	33.151	24.708	322.8	.032	6.02	103.0							10
1	11		14.24	14.24	33.151	24.709	322.8	.035	6.02	103.0	2.4	.39	.2	.00	.16	.06	11
	20	ISL	14.22	14.22	33.146	24.709	323.0	.065	6.01	102.8							20
1	28		14.21	14.21	33.144	24.711	323.1	.090	6.00	102.6	2.4	.40	.2	.00	.16	.07	28
	30	ISL	14.18	14.17	33.138	24.713	323.0	.097	6.00	102.6							30
1	43		13.97	13.96	33.110	24.735	321.2	.138	6.02	102.4	2.4	.40	.1	.00	.20	.08	43
	50	ISL	13.94	13.93	33.125	24.754	319.6	.161	6.02	102.4							50
1	60		13.84	13.84	33.134	24.780	317.4	.192	6.02	102.2	2.4	.40	.1	.00	.34	.14	60
1	70		13.56	13.55	33.191	24.882	308.0	.223	5.98	100.9	2.6	.44	.5	.09	.28	.19	70
	75	ISL	13.27	13.26	33.206	24.952	301.4	.240	5.95	99.9							76
1	80		13.01	13.00	33.220	25.016	295.4	.253	5.92	98.8	3.1	.50	1.2	.20	.20	.15	80
1	96		12.41	12.40	33.321	25.211	277.2	.299	5.65	93.2	4.3	.65	3.8	.12	.11	.12	96
	100	ISL	12.21	12.19	33.340	25.264	272.2	.311	5.49	90.2							101
1	110		11.75	11.74	33.381	25.381	261.2	.337	5.12	83.3	7.3	.92	8.6	.03	.08	.11	110
	125	ISL	11.00	10.98	33.474	25.591	241.5	.375	4.62	74.0							126
1	126		10.93	10.91	33.484	25.611	239.6	.379	4.58	73.2	12.1	1.20	13.7	.01	.05	.07	127
	150	ISL	9.88	9.86	33.682	25.946	208.0	.432	3.91	61.1							151
1	152		9.78	9.77	33.702	25.978	205.0	.436	3.84	60.0	20.3	1.58	20.1	.01	.01	.03	153
1	171		9.03	9.01	33.853	26.219	182.3	.473	3.22	49.5	27.7	1.86	24.7	.00	.00	.03	172
1	192		8.96	8.94	33.888	26.257	179.1	.511	3.08	47.3	29.7	1.92	25.2	.00			193
	200	ISL	8.89	8.87	33.906	26.282	176.9	.525	3.05	46.7							201
1	213		8.74	8.72	33.936	26.330	172.6	.547	3.00	45.8	31.2	1.98	26.1	.00			214
1	243		8.32	8.29	34.003	26.447	161.8	.597	2.77	41.9	36.5	2.10	27.7	.00			244
	250	ISL	8.17	8.15	34.017	26.480	158.7	.609	2.67	40.3							252
1	283		7.52	7.49	34.067	26.616	146.1	.660	2.18	32.4	46.0	2.37	31.5	.00			285
	300	ISL	7.33	7.30	34.081	26.653	142.7	.684	1.98	29.3							302
1	344		6.99	6.95	34.105	26.720	136.9	.745	1.51	22.2	55.3	2.64	34.9	.00			346
	400	ISL	6.55	6.51	34.159	26.823	127.7	.819	.98	14.2							403
1	419		6.39	6.36	34.176	26.856	124.6	.844	.83	12.0	67.4	2.94	38.3	.00			422
1	497		5.71	5.66	34.197	26.960	115.2	.937	.56	8.0	79.7	3.08	40.7	.00			500
	500	ISL	5.68	5.64	34.199	26.965	114.8	.940	.55	7.8							504
1	574		5.27	5.22	34.260	27.063	105.9	1.022	.35	4.9	91.5	3.21	41.9	.00			578

RV DAVID STARR JORDAN CALCOFI CRUISE 8602 STATION 82 46

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
34 16.1 N	119 56.3 W	16/02/86	0642 GMT	550 M	190	08 KT			1015.9 MB	15.0 C	13.9 C		

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0	ISL	13.53	13.53	33.387	25.038	291.3	.000	5.94	100.3							0
1	1		13.53	13.53	33.387	25.038	291.2	.003	5.94	100.3	4.0	.53	2.2	.09	1.53	.44	1
	10	ISL	13.49	13.49	33.387	25.045	290.7	.029	6.02	101.6							10
1	11		13.49	13.49	33.387	25.046	290.7	.032	6.03	101.8	4.0	.54	2.3	.09	1.57	.49	11
	20	ISL	13.38	13.37	33.395	25.076	288.1	.058	5.94	100.1							20
1	22		13.35	13.35	33.398	25.083	287.5	.064	5.91	99.5	4.6	.58	2.6	.09	1.34	.40	22
	30	ISL	13.27	13.27	33.411	25.110	285.2	.087	5.76	96.8							30
1	32		13.26	13.25	33.414	25.115	284.7	.092	5.73	96.3	4.7	.59	3.1	.10	1.22	.35	32
1	43		13.21	13.21	33.412	25.123	284.3	.123	5.74	96.3	4.7	.60	3.1	.11	.39	.18	43
	50	ISL	12.50	12.49	33.481	25.316	266.1	.143	4.96	82.1							50
1	53		12.20	12.19	33.511	25.397	258.3	.150	4.64	76.3	10.7	1.06	9.7	.31	.29	.36	53
1	63		11.66	11.65	33.554	25.532	245.7	.175	4.19	68.1	13.7	1.25	13.0	.08	.16	.30	63
1	73		11.23	11.22	33.591	25.640	235.6	.199	4.09	65.9	14.6	1.33	14.9	.03	.09	.16	73
	75	ISL	11.13	11.12	33.604	25.667	233.1	.205	4.03	64.8							76
1	89		10.73	10.72	33.679	25.798	221.0	.235	3.67	58.5	18.6	1.54	18.0	.02	.05	.13	89
	100	ISL	10.57	10.56	33.712	25.851	216.2	.260	3.56	56.5							101
1	103		10.53	10.52	33.720	25.865	214.9	.268	3.53	56.1	19.7	1.60	19.1	.02	.03	.14	104
1	124		10.09	10.08	33.815	26.014	201.1	.311	3.12	49.1	23.7	1.80	21.9	.01	.02	.11	125
	125	ISL	10.07	10.06	33.818	26.020	200.6	.313	3.11	48.8							126
1	150		9.51	9.50	33.937	26.206	183.3	.361	2.59	40.3	29.7	2.03	25.4	.02	.02	.16	151
1	181		9.09	9.08	34.019	26.338	171.3	.416	2.27	35.0	34.5	2.19	27.5	.01			182
	200	ISL	8.90	8.87	34.048	26.393	166.4	.448	2.20	33.8							202
1	212		8.80	8.77	34.063	26.421	163.9	.467	2.13	32.6	37.2	2.27	28.7	.00			213
1	243		8.61	8.58	34.121	26.496	157.3	.517	1.50	22.9	43.5	2.49	30.7	.00			244
	250	ISL	8.52	8.50	34.129	26.515	155.6	.528	1.43	21.8							252
1	283		8.11	8.08	34.149	26.594	148.6	.579	1.27	19.2	49.7	2.63	32.5	.00			285
	300	ISL	7.95	7.92	34.158	26.625	145.8	.604	1.15	17.3							302
1	345		7.53	7.49	34.174	26.699	139.3	.667	.84	12.5	60.4	2.87	34.4	.00			347
	400	ISL	6.92	6.88	34.196	26.802	130.0	.742	.52	7.7							403
1	422		6.69	6.66	34.204	26.839	126.7	.770	.40	5.8	76.2	3.13	35.7	.00			425
1	468		6.37	6.33	34.216	26.891	122.0	.828	.13	1.9	91.3	3.31	32.5	.00			471
	500	ISL	6.33	6.28	34.218	26.899	121.8	.867	.09	1.3							504
1	514		6.31	6.26	34.218	26.901	121.7	.884	.07	1.0	99.8	3.54	24.7	.02			518

RV DAVID STARR JORDAN CALCOFI CRUISE 8602 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	16/02/86	0211 GMT	36 M	270	10 KT	260 03 11	1	1013.2 MB	15.0 C	14.0 C	2/8	SC

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0	ISL	14.21	14.21	33.340	24.861	309.4	.000	5.91	101.2							0
1	1		14.21	14.21	33.340	24.861	308.0	.003	5.91	101.2	3.1	.43	1.2	.06	.88	.27	1
	10	ISL	13.84	13.84	33.366	24.958	299.1	.030	5.97	101.5							10
1	11		13.82	13.81	33.367	24.964	298.5	.033	5.97	101.4	3.3	.47	1.2	.08	1.36	.45	11
	20	ISL	13.71	13.71	33.379	24.995	295.8	.060	.5.93	100.6							20
1	22		13.71	13.70	33.379	24.997	295.8	.066	5.92	100.4	3.9	.48	1.6	.10	1.34	.42	22
	30	ISL	13.63	13.63	33.366	25.001	295.6	.090	5.86	99.3							30
1	32		13.62	13.61	33.362	25.001	295.5	.095	5.85	99.0	4.0	.56	1.7	.11	1.28	.59	32

RV DAVID STARR JORDAN CALCOFI CRUISE 8602 STATION 83 42

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
34 10.6 N	119 30.5 W	16/02/86	0331 GMT	176 M	250	08 KT			1014.2 MB	15.0 C	14.1 C		

CAST	DEPTH M		TEMP DEC O	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	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	14.19	14.19	33.337	24.862	308.1	.000	5.93	101.5							0
1	1		14.19	14.19	33.337	24.862	307.9	.003	5.93	101.5	3.1	.43	1.2	.05	.81	.32	1
	10	ISL	14.09	14.09	33.351	24.896	305.0	.031	5.95	101.6							10
1	11		14.07	14.07	33.353	24.900	304.6	.034	5.95	101.6	3.3	.46	1.3	.07	.83	.29	11
	20	ISL	13.88	13.88	33.370	24.954	299.8	.061	5.96	101.4							20
1	22		13.81	13.81	33.375	24.971	298.1	..06/	5.96	101.3	3.7	.48	1.5	.09	.99	.48	22
	30	ISL	13.28	13.28	33.412	25.109	285.2	.090	5.77	97.0							30
1	32		13.15	13.15	33.422	25.142	282.1	.095	5.71	95.7	5.2	.64	3.6	.24	1.45	.62	32
1	43		12.68	12.67	33.453	25.260	271.2	.126	5.35	88,8	7.2	.82	6.2	.35	1.32	.84	43
	50	ISL	12.22	12.22	33.513	25.394	258.6	.145	4.85	79.8							50
1	53		12.06	12.05	33.535	25.443	253.9	.152	4.67	76.5	11.1	1.10	10.9	.21	.35	.28	53
1	64		11.71	11.70	33.5 66	25.532	245.8	.17 9	4.47	7 2.7	12.4	1.20	12.7	.14	.24	.30	64
1	74		11.38	11.37	33.593	25.613	238.2	.203	4.21	68.0	14.1	1.29	14.3	.07	.14	.20	74
	75	ISL	11.31	11.31	33.603	25.633	236.4	.207	4.16	67.1							76
1	89		10.69	10.68	33.700	25.821	218./	.237	3.66	58.3	19.1	1.55	18.5	.02	.09	.12	89
	100	ISL	10.47	10.46	33.742	25.892	212.3	.262	3.47	55.0							101
1	103		10.44	10.42	,33.751	25.905	211.1	.269	3.43	54.4	21.2	1.68	20.0	.05	.06	.14	104
1	123		10.18	10.17	33.796	25.984	203.9	.311	3.17	50.0	23.4	1.77	21.8	.04	.03	.11	124
	125	ISL	10.15	10.14	33.802	25.994	203.1	.314	3.14	49.5							126
1	147		9.65	9.64	33.912	26.164	187.3	.357	2.72	42.4	29.0	1.99	24.9	.05	.03	.13	148

RV DAVID STARR JORDAN CALCOFI CRUISE 8602 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 08.4 W	16/02/86	1100 GMT	101 M	250	08 KT			1017.9 MB	14.8 C	14.2 C		

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0	ISL	13.99	13.99	33.362	24.925	304.2	.000	5.98	102.0							0
1	2		13.99	13.99	33.362	24.925	302.0	.006	5.98	102.0	3.6	.59	1.4	.06	1.36	.40	2
	10	ISL	13.75	13.75	33.410	25.012	294.0	.030	5.87	99.6							10
1	12		13.68	13.68	33.417	25.030	292.2	.036	5.84	99.0	3.5	.52	1.7	.05	2.00	.50	12
	20	ISL	13.41	13.41	33.430.	25.096	286.2	.059	5.71	96.2							20
1	23		13.32	13.31	33.432	25.117	284.3	.067	5.66	95.2	4.5	.59	3.1	.07	1.97	.72	23
	30	ISL	13.14	1.3.13	33.442	25.161	280.3	.087	5.54	92.9							30
1	33		13.07	13.06	33.447	25.178	278.7	.095	5.49	91.9	5.6	.68	4.4	.09	1.76	.55	33
	50	ISL	12.49	12.48	33.481	25.319	265.8	.142	5.09	84.1							50
1	54		12.34	12.33	33.492	25.355	262.4	.152	4.98	82.1	9.4	.93	8.6	.10	.99	.43	54
	75	ISL	11.37	11.36	33.602	25.623	237.3	.205	4.26	68.9							76
1	80		11.12	11.11	33.635	25.693	230.8	.216	4.08	65.6	16.7	1.38	15.1	.12	.43	1.02	80

RV DAVID STARR JORDAN CALCOFI CRUISE 8602 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 24.9 W	16/02/86	1320 GMT	1052 M	230	08 KT			1016.8 MB	14.8 C	14.3 C		

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0	ISL	14.38	14.38	33.239	24.748	318.7	.000	5.93	101.8							0
1	2		14.38	14.38	33.239	24.748	318.8	.006	5.93	101.8	2.5	.38	.2	.02	.27	.09	2
	10	ISL	14.38	14.38	33.237	24.747	319.2	.032	5.95	102.2							10
1	11		14.38	14.38	33.236	24.746	319.2	.035	5.95	102.2	2.5	.38	.2	.02	.26	.10	11
	20	ISL	14.27	14.27	33.250	24.779	316.4	.064	5.95	102.0							20
1	27		14.14	14.13	33.269	24.823	312.5	.085	5.95	101.7	2.7	.41	.4	.05	.41	.16	27
	30	ISL	14.10	14.09	33.280	24.840	310.9	.095	5.94	101.5							30
1	43		13.68	13.68	33.328	24.963	299.5	.134	5.84	98.9	3.5	.50	1.5	.13	.44	.22	43
	50	ISL	13.07	13.07	33.348	25.100	286.6	.155	5.69	95.2							50
1	58		12.34	12.33	33.369	25.261	271.4	.177	5.47	90.1	5.4	.72	5.2	.12	.28	.26	58
1	68		11.57	11.56	33.390	25.421	256.4	.203	5.13	83.1	8.0	.92	8.5	.05	.13	.21	68
	75	ISL	11.10	11.09	33.427	25.535	245.7	.221	4.85	77.8							76
1	80		10.83	10.82	33.460	25.608	238.7	.233	4.66	74.4	11.9	1.17	13.3	.02	.06	.09	80
1	94		10.12	10.11	33.610	25.849	216.1	.264	4.06	63.8	17.4	1.47	18.1	.00	.02	.04	94
	100	ISL	9.87	9.86	33.669	25.936	207.9	.278	3.86	60.4							101
1	109		9.59	9.58	33.741	26.040	198.2	.297	3.63	56.5	23.0	1.67	21.4	.00	.02	.10	110
	125	ISL	9.25	9.23	33.822	26.159	187.2	.327	3.31	51.2							126
1	126		9.22	9.21	33.827	26.167	186.4	.330	3.29	50.8	27.0	1.82	23.7	.00	.01	.10	127
	150	ISL	8.87	8.86	33.911	26.289	175.3	.372	3.05	46.7							151
1	152		8.86	8.84	33.919	26.297	174.5	.376	3.02	46.3	30.9	1.94	25.7	.00	.01	.09	153
1	171		8.93	8.91	34.019	26.364	168.5	.409	2.47	37.9	34.2	2.11	27.0	.00	.00	.03	172
1	191		8.48	8.46	34.027	26.442	161.4	.441	2.59	39.4	36.7	2.12	27.7	.00			192
	200	ISL	8.32	8.30	34.032	26.469	158.9	.456	2.59	39.2							201
1	212		8.15	8.13	34.039	26.500	156.1	.475	2.58	38.9	38.7	2.16	28.7	.00			213
1	241		7.85	7.83	34.071	26.570	149.9	.519	2.26	33.9	43.5	2.29	30.2	.00			242
	250	ISL	7.82	7.79	34.088	26.588	148.3	.533	2.12	31.7							252
1	278		7.74	7.71	34.138	26.639	144.0	.574	1.69	25.3	48.3	2.50	32.0	.00			280
	300	ISL	7.52	7.49	34.158	26.687	139.7	.605	1.47	21.9						,	302
1	332		7.17	7.14	34.181	26.754	133.6	.648	1.22	18.0	55.6	2.67	34.4	.00			334
	400	ISL	6.88	6.85	34.240	26.842	126.2	.737	.80	11.7							403
1	401		6.88	6.84	34.241	26.843	126.1	.739	.79	11.6	63.3	2.88	36.2	.00			404
1	468		5.97	5.93	34.232	26.955	115.6	.819	.55	7.9	75.6	3.02	39.6	.00			471
	500	ISL	5.75	5.70	34.247	26.995	112.0	.856	.47	6.7							504
1	534		5.66	5.62	34.275	27.028	109.3	.894	.40	5.7	82.8	3.12	40.8	.00			538

RV DAVID STARR JORDAN CALCOFI CRUISE 8602 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 45.1 W	1.6/02/86	1641 GMT	1296 M	200	09 KT	270 10 11	2	1019.2 MB	15.6 C	14.8 C	8/8	CS

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0	ISL	14.66	14.66	33.196	24.655	327.7	.000	5.88	101.5							0
1	2		14.66	14.66	33.196	24.655	327.7	.007	5.88	101.5	2.4	.37	.2	.00	.12	.05	2
	10	ISL	14.66	14.65	33.196	24.656	327.8	.033	5.95	102.7							10
1	11		14.66	14.65	33.196	24.656	327.8	.036	5.95	102.7	2.4	.37	.2	.00	.12	.05	11
	20	ISL	14.66	14.65	33.196	24.656	328.1	.066	5.94	102.5							20
1	28		14.66	14.65	33.196	24.656	328.3	.091	5.93	102.4	2.3	.37	.2	.00	.12	.06	28
	30	ISL	14.05	14.64	33.198	24.661	328.0	.098	5.93	102.4							30
1	44		14.56	14.55	33.208	24.688	325.8	.144	5.94	102.4	2.4	.37	.2	.00	.17	.08	44
	50	ISL	14.17	14.17	33.225	24.782	317.0	.163	5.97	102.1							50
1	60		13.52	13.52	33.279	24.957	300.5	.194	6.02	101.6	2.9	.42	.3	.07	.45	.38	60
1	70		13.21	13.20	33.379	25.098	287.3	.223	5.85	98.1	4.0	.53	1.9	.12	.58	.52	70
	75	ISL	12.95	12.94	33.396	25.164	.281.2	.238	5.69	95.0							76
1	81		12.60	12.59	33.400	25.235	274.6	.254	5.49	90.9	5.4	.72	5.3	.05	.25	.33	81
1	96		11.40	11.39	33.404	25.463,	253.0	.293	4.87	78.6	9.9	1.06	11.0	.01	.09	.15	96
	100	ISL	11.14	11.13	33.436	25.535	246.2	.304	4.67	75.0							101
1	111		10.61	10.60	33.531	25.703	230.5	.331	4.26	67.7	14.9	1.37	16.3	.00	.03	.07	112
	125	ISL	10.18	10.16	33.587	25.821	219.4	.362	4.23	66.6							126
1	126		10.14	10.13	33.593	25.833	218.4	.365	4.23	66.5	16.6	1.42	17.3	.00	.02	.04	127
	150	ISL	9.31	9.29	33.802	26.133	190.1	.413	3.48	53.8							151
1	152		9.24	9.22	33.822	26.160	187.6	.417	3.40	52.5	25.8	1.78	23.4	.00	.00	.02	153
1	172		8.89	8.87	33.894	26.273	177.2	.453	3.18	48.7	29.5	1.90	25.0	.00	.00	.03	173
1	193		8.53	8.51	33.948	26.372	168.1	.489	3.08	46.8	32.5	1.98	26.5	.00			194
	200	ISL	8.45	8.43	33.967	26.398	165.7	.501	3.01	45.7							201
1	213		8.32	8.30	33.997	26.442	161.8	.522	2.89	43.8	35.5	2.05	27.5	.00			214
1	243		7.84	7.82	34.018	26.530	153.7	.569	2.83	42.4	39.7	2.13	28.8	.00			244
	250	ISL	7.75	7.72	34.024	26.548	152.0	.580	2.75	41.1							252
1	283		7.39	7.36	34.053	26.623	145.3	.630	2.27	33.6	46.9	2.35	31.6	,00			285
	300	ISL	7.23	7.20	34.065	26.656	142.5	.654	2.06	30.4							302
1	343		6.86	6.83	34.100	26.733	135.6	.714	1.55	22.7	57.2	2.65	35.3	.00			345
	400	ISL	6.53	6.49	34.180	26.841	126.0	.788	.95	13.8							403
1	418		6.44	6.40	34.204	26.873	123.1	.811	.80	11.6	69.4	2.95	38.2	.00			421
1	495		5.91	5.87	34.241	26.969	114.5	.902	.54	7.7	78.2	3.08	40.1	.00			498
	500	ISL	5.88	5.84	34.245	26.977	113.9	.908	.53	7.5							504
1	571		5.54	5.49	34.306	27.067	105.9	.986	.37	5.3	86.3	3.19	41.5	.00			575

RV DAVID STARR JORDAN CALCOFI CRUISE 8602 STATION 83 70

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	HIND	SPEED	HAVES	WEATHER	BAROMETER	DRY	HET	CLOUD AMT	TYPE
33 14.7 N	121 26.4 W	16/02/86	2317 GMT	3863 M	200	12 KT	270 07 09	1	1019.5 MB	15.9 C	15.2 C	7/8	SC

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0	ISL	14.77	14.77	33.267	24.687	326.3	.000	5.92	102.5							0
1	3		14.77	14.77	33.267	24.687	324.7	.010	5.92	102.5	1.4	.36	.2	.00	.14	.05	3
	10	ISL	14.61	14.61	33.265	24.720	321.8	.032	5.97	103.0							10
1	13		14.56	14.56	33.264	24.730	320.9	.042	5.98	103.1	1.4	.36	.2	.00	.13	.06	13
	20	ISL	14.51	14.51	33.265	24.741	320.0	.064	5.97	102.8							20
1	28		14.49	14.48	33.267	24.748	319.6	.090	5.96	102.6	1.3	.36	.2	.00	.18	.07	28
	30	ISL	14.47	14.47	33.267	24.751	319.4	.096	5.96	102.6							30
1	43		14.39	14.38	33.269	24.770	317.9	.137	5.97	102.6	1.3	.37	.1	.00	.21	.09	43
	50	ISL	14.35	14.34	33.274	24.782	317.0	.160	5.97	102.5							50
1	59		14.31	14.30	33.279	24.796	315.9	.188	5.97	102.4	4.0	.37	.1	.01	.27	.15	59
1	68		13.07	13.06	33.356	25.108	286.4	.215	5.77	96.5	5.0	.54	2.2	.12	.44	.41	68
	75	ISL	12.60	12.59	33.354	25.198	277.8	.235	5.64	93.3							76
1	80		12.40	12.39	33.345	25.230	275.0	.248	5.53	91.2	6.0	.67	4.9	.02	.19	.24	80
1	94		11.56	11.55	33.405	25.435	255.7	.285	4.96	80.4	9.9	.99	10.1	.00	.09	.14	94
	100	ISL	11.15	11.14	33.463	25.554	244.5	.301	4.77	76.7							101
1	108		10.64	10.63	33.548	25.711	229.6	.321	4.51	71.7	14.1	1.23	14.5	.00	.03	.05	109
1	124		9.90	9.88	33.680	25.942	208.0	.356	3.75	58.7	21.2	1.60	20.4	.00	.01	.03	125
	125	ISL	9.87	9.86	33.684	25.949"	207.2	.357	3.73	58.4							126
1	149		8.99	8.97	33.852	26.224	181.4	.404	3.37	51.8	28.1	1.81	24.1	.00	.0.0	.02	150
	150	ISL	8.97	8.96	33.855	26.229	180.9	.406	3.36	51.6							151
1	170		8.74	8.73	33.912	26.310	173.6	.441	3.21	49.0	30.7	1.90	25.4	.00	.00	.02	171
1	190		8.48	8.46	33,947	26.379	167.4	.475	3.24	49.2	32.8	1.94	26.0	.00			191
	200	ISL	8.17	8.15	33.973	26.446	161.1	.492	3.14	47.3							201
1	211		7.84	7.81	33.999	26,515	154.5	.509	3.00	44,9	38.8	2.07	28.2	.00			212
1	242		7.59	7.56	34.012	26.562	150.5	.556	2.76	41.1	42.7	2.16	29.6	.00			243
	250	ISL	7.49	7.47	34.017	26.579	149.0	.568	2.66	39.5							252
1	283		7.11	7.08	34.039	26.651	142.4	.617	2.22	32.7	50.5	2.38	32.4	.00			285
	300	ISL	6.96	6.93	34.051	26.681	139.9	.640	2.02	29.7							302
1	345		6.62	6.59	34.085	26.754	133.4	.702	1.53	22.3	59.8	2.67	36.1	.00			347
	400	ISL	6.20	6.16	34.144	26.856	124.2	.773	.96	13.9							403
1	424		6.02	5.98	34.171	26.900	120,2	.802	.76	10.9	73.6	2.98	39.5	.00			427
1	500		5.57	5.53	34.244	27.014	110.0	.889	.45	6.4	83.8	3.13	41.2	.00			503
1	576		5.31	5.26	34.322	27.107	101.9	.970	.32	4.5	91.9	3.22	42.2	.00			580

RV DAVID STARR JORDAN CALCOFI CRUISE 8602 STATION 87 33

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
33 53.3 N	118 29.4 W	15/02/86	2047 GMT	60M	210	12 KT	23004 08	1	1012.8 MB	16.6C	15.5C	4/8	SC

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	EO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
1	0		14.24	14.24	33.240	24.779	315.8	.000	6.19	106.0	3.0	.44	.3	.03	3.71	.71	0
	10	ISL	14.06	14.06	33.307	24.868	307.6	.031	6.05	103.3							10
	20	ISL	13.94	13.94	33.348	24.923	302.7	.062	5.97	101.6							20
1	21		13.94	13.94	33.350	24.927	302.4	.064	5.96	101.5	4.0	.53	1.2	.09	3.00	.49	21
	30	ISL	13.90	13.90	33.360	24.942	301.1	.092	5.93	100.9							30
1	31		13.90	13.89	33.361	24.943	301.1	.094	5.93	100.9	4.1	.56	1.2	.10	2.61	.58	31
1	41		13.88	13.88	33.365	24.950	300.7	.124	5.93	100.9	4.2	.57	1.2	.11	2.32	.56	41
	50	ISL	13.80	13.79	33.385	24.983	297.8	.152	5.87	99.7							50
1	52		13.77	13.77	33.391	24.993	296.9	,157	5.85	99.3	4.2	.56	1.3	.10	1.97	.54	52

RV DAVID STARR JORDAN CALCOFI CRUISE 8602 STATION 8 7 3 5

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AKT	TYPE
33 49.4 N	118 37.4 W	15/02/86	1849 GMT	642 M	210	13 KT	200 04 08	2	1013.2 MB	16.5 C	15.6 C	8/8	SC

CAST	DEPTH M	TEMP DEC C	POT TKMP DKG C	SALINITY	SIGMA THETA	SVA	DYN HT	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	1.4.54	14.54	33.403	24.841	310.1	.000	5.97	103.0							0
1	1	14.'.4	14.54	33.403	24.841.	310.0	.003	5.97	103.0	1.4	.34	.2	.00	.69	.25	1
10	ISL 14.49		14.49	33.404	24.8,52	309.1	.031	5.99	103.2							10
1	11	14.49	14.48	33.405	24.854	309.0	.034	5.99	103.2	1.3	.34	.2	.00	.71	.23	11
	20 ISL	14.44	14.44	33.442	24.893	305.6	.062	5.94	102.3							20
1	27	.1.4.40	14.40	3.3.510	24.953	300.0	.083	5.91	101.7	2.1	.36	.4	.01	1.09	.55	27
	30 ISL	14.11 14.10▪▪		33.498	25.006	295.1	.092	5.78	98.8							30
1	43	12.76	12.76	33.448	25.240	273.1	.128	5.16	85.8	6.1	.78	6.0	.12	.35	.37	43
	50 ISL	12.35	12.34	33.454	25.325	265.1	.148	4.98	82.1							50
1	58	12.01	12.01	3.3.480	25.408	257.4	.168	4.79	78.4	8.8	.97	9.5	.04	.26	.24	58
1	69	11.54	11.53	33.550	25.551	244.1	.195	4.34	70.4	12.0	1.20	12.9	.06	.36	.15	69
	75 ISL	11.33	11.32	33.587	25.619	237.8	.210	4.19	67.7							76
1	79	11.22	11.2.1	33.605	25.652	234.6	.219	4.13	66.5	14.0	1.32	14.9	.02	.16	.12	79
1	95	10.90	10.89	33.655	25.749	225.8	.256	3.90	62.4	16.1	1.42	16.7	.00	.07	.08	95
	100 ISL	10.70	10.69	33.681	25.804	220.6	.268	3.79	60.4							101
1	109	10.35	10.34	33.732	25.904	211.3	.288	3.59	56.8	19.9	1.59	19.6	.00	.04	.04	II0
1	125	10.07	10.05	33.828	26.028	199.8	.321	3.24	51.0	23.5	1.75	21.7	.00	.02	.05	126
1	150	9.73	9.71	33.959	26.188	185.1	.369	2.76	43.1	28.3	1.95	24.5	.00	.01	.03	151
1	171	9.53	9.51	33.975	26.233	181.2	.407	2.71	42.2	29.4	2.00	25.4	.00	.01	.02	172
1	191	9.14	9.12	34.012	26.325	172.7	.442	2.66	41.0	32.0	2.06	26.4	.00			192
	200 ISL	9.00	8.98	34.029	26.361	169.5	.458	2.61	40.2							201
1	212	8.85	8.83	34.051	26.403	165.7	.477	2.53	38,8	34.7	2.14	27.4	.00			213
1	242	8.60	8.58	34.115	26.492	157.7	.526	2.18	33.2	38.9	2.28	29.0	.00			243
	250 ISL	8.55	8.52	34.125	26.507	156.4	.539	2.11	32.1							252
1	282	8.37	8.34	34.147	26.553	152.5	.589	1.86	28.2	42.6	2.42	30.5	.00			284
	300 ISL	8.25	8.22	34.159	26.581	150.2	.615	1.74	26.3							302
1	343	7.94	7.90	34.188	26.651	144.2	.679	1.45	21.8	49.2	2.61,	32.6	.00			345
	400 ISL	7.49	7.45	34.226	26.746	135.8	.758	1.02	15.2							403
1	419	7.33	7.29	34.239	26.779	132.9	.784	.88	13.0	59.4	2*85	35.5	.00			422
1	497	6.71	6.67	34.299	26.912	120.9	.883	.46	6.7	70.5	3.05	38.0	.00			500
	500 ISL	6.69	6.64	34.301	26.917	120.5	.887	.45	6.6							504
1	574	6.28	6.23	34.325	26.990	114.2	.973	.33	4.8	77.8	3.16	39.1	.01			578

RV DAVID STARR JORDAN CALCOFI CRUISE 8602 STATION 87 40

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
33 39.4 N	118 58.5 W	15/02/86	1458 GMT	773 M	210	12 KT	240 06 08	2	1012.1 MB	15.2 C	14.6 C	8/8	SC

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0 ISL	14.11	14.11	33.436	24.956	299.0	.000	6.00	102.6							0
1	2	14.11	14.11	33.436	24.956	299.0	.006	6.00	102.6	1.2	.37	.3	.00	2.20	.46	2
	10 ISL	14.11	14.11	33.435	24.956	299.2	.030	6.06	103.6							10
1	11	14.11	14.11	33.435	24.956	299.3	.033	6.06	103.6	1.0	.36	.3	.00	2.08	.63	11
	20 ISL	14.11	14.11	33.435	24.955	299.6	.060	6.03	103.1							20
1	27	14.12	14.11	33.435	24.955	299.9	.080	6.01	102.8	1.0	.36	.3	.00	2.16	.55	27
	30 ISL	14.08	14.08	33.442	24.968	298.7	.090	5.98	102.3							30
1	44	13.91	13.90	33.473	25.028	293.4	.131	5.87	100.0	2.1	.42	.9	.02	1.99	.65	44
	50 ISL	13.27	13.27	33.481	25.164	280.6	.148	5.49	92.3							50
1	58	12.36	12.36	33.504	25.360	262.0	.169	4.95	81.7	8.2	.90	8.4	.11	.50	.42	58
1	69	11.45	11.44	33.566	25.580	241.3	.197	4.38	70.9	12.4	1.19	13.1	.05	.19	.26	69
	75 ISL	11.25	11.24	33.587	25.633	236.3	.212	4.25	68.6							76
1	79	11.18	11.17	33.597	25.653	234.5	.221	4.21	67.7	13.7	1.28	14.5	.02	.13	.19	79
1	96	10.72	10.71	33.668	25.790	221.8	.259	3.87	61.7	16.6	1.45	17.2	.01	.05	.11	96
	100 ISL	10.60	10.59	33.689	25.828	218.4	.269	3.78	60.1							101
1	109	10.36	10.35	33.736	25.906	211.0	.289	3.59	56.8	19.4	1.58	19.5	.00	.03	.10	II0
1	125	9.98	9.96	33.816	26.034	199.2	.322	3.26	51.2	23.2	1.76	21.8	.00	.01	.05	126
1	150	9.71	9.70	33.880	26.129	190.7	.370	2.94	45.9	27.1	1.89	23.7	.00	.02	.05	151
1	171	9.28	9.26	33.973	26.273	177.3	.409	2.57	39.8	31.4	2.06	26.0	.00	.01	.04	172
1	192	8.96	8.94	34.043	26.379	167.6	.445	2.40	36.9	34.5	2.15	27.4	.00			193
	200 ISL	8.86	8.84	34.066	26.413	164.5	.458	2.32	35.5							201
1	212	8.73	8.71	34.096	26.457	160.5	.477	2.19	33.5	37.6	2.27	28.7	.00			213
1	244	8.46	8.43	34.149	26.541	153.0	.527	1.83	27.8	41.3	2.41	30.2	.00			245
	250 ISL	8.41	8.38	34.158	26.555	151.7	.537	1.76	26.7							252
1	282	8.15	8.12	34.197	26.625	145.6	.585	1.41	21.3	46.8	2.59	32.0	.00			284
	300 ISL	7.98	7.95	34.217	26.666	142.0	.610	1.23	18.5							302
1	344	7.57	7.54	34.256	26.757	133.9	.671	.85	12.7	56.5	2.83	34.8	.00			346
	400 ISL	7.20	7.16	34.281	26.830	127*6	.744	.62	9.1							403
1	420	7.08	7.04	34.286	26.852	125.8	.770	.57	8.4	64.3	2.98	36.5	.00			423
1	497	6.49	6.45	34.307	26.948	117.3	.863	.40	5.8	74.3	3.08	38.3	.00			500
	500 ISL	6.47	6.42	34.308	26.951	117.0	.867	.39	5.7							504
1	574	5.94	5.89	34.337	27.043	108.8	.950	.32	4.6	84.7	3.19	39.8	.00			578

RV DAVID STARR JORDAN CALCOFI CRUISE 8602 STATION 87 45

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMI	TYPE
33 29.2 N	119 19.1 W	15/02/86	1127 GMT	1677 M	180	12 KT		4	1010.2 MB	14.5 C	14.5 C		

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0	ISL	13.19	13.19	33.384	25.104	284.7	.000	6.00	100.6							0
1	3		13.19	13.19	33.384	25.104	284.9	.009	6.00	100.6	2.8	.50	1.7	.06	1.37	.56	3
	10	ISL	13.19	13.19	33.383	25.103	285.3	.029	6.02	101.0							10
1	13		13.19	13.19	33.382	25.103	285.4	.037	6.03	101.1	2.8	.53	1.8	.06	1.41	.63	13
	20	ISL	13.18	13.17	33.382	25.105	285.3	.057	6.03	101.0							20
1	29		13.16	13.16	33.382	25.109	285.2	.082	6.02	100.9	3.0	.53	1.9	.06	1.63	.52	29
	30	ISL	13.16	13.16	33.382	25.109	285.2	.086	6.02	100.9							30
1	44		13.17	13.16	33.383	25.109	285.6	.125	6.01	100.8	3.0	.53	2.0	.06	1.61	.55	44
	50	ISL	13.12	13.11	33.398	25.131	283.7	.143	5.89	98.6							50
1	60		13.04	13.03	33.422	25.165	280.7	.170	5.70	95.3	4.3	.61	3.5	.08	1.24	.49	60
1	70		11.61	11.61	33.541	25.530	246.1	.196	4.48	72.7	11.4	1.15	12.2	.06	.17	.22	70
	75	ISL	11.57	11.56	33.547	25.542	245.0	.209	4.46	72.3							76
1	80		11.54	11.53	33.552	25.553	244.1	.221	4.44	72.0	11.7	1.18	12.6	.05	.17	.30	80
1	96		10.88	10.87	33.639	25.739	226.7	.258	3.95	63.2	15.8	1.41	16.5	.02	.08	.13	96
	100	ISL	10.68	10.67	33.657	25.789	222.0	.268	3.86	61.5							101
1	110	V	10.24	10.22	33.708	25.906	211.1	.291	3.65	57.6	19.6	1.59	19.5	.01	.03	.09	111
	125	ISL	9.86	9.84	33.836	26.070	195.8	.320	3.12	48.8							126
1	126		9.83	9.82	33.848	26.084	194.5	.323	3.07	48.0	24.9	1.83	22.8	.00	.01	.04	127
	150	ISL	9.41	9.39	33.962	26.243	179.8	.367	2.66	41.2							151
1	152		9.38	9.36	33.968	26.253	178.9	.371	2.64	40.9	29.7	2.03	25.6	.00	.00	.03	153
1	172		9.10	9.09	34.012	26.331	171.8	.406	2.50	38.5	32.6	2.12	26.6	.00	.00	.03	173
1	193		8.81	8.79	34.064	26.419	163.7	.441	2.27	34.8	36.2	2.21	28.2	.00			194
	200	ISL	8.69	8.67	34.079	26.448	161.1	.452	2.18	33.3							201
1	213		8.51	8.49	34.102	26.496	156.8	.473	2.03	30.9	39.7	2.34	29.6	.00			214
1	244		8.32	8.29	34.137	26.552	151.9	.520	1.79	27.1	42.9	2.43	30.6	.00			245
	250	ISL	8.28	8.25	34.145	26.566	150.7	.530	1.73	26.2							252
1	285		8.03	8.01	34.187	26.635	144.7	.582	1.42	21.4	47.7	2.59	32.2	.00			287
	300	ISL	7.95	7.92	34.201	26.659	142.6	.603	1.30	19.6							302
1	347		7.66	7.63	34.239	26.731	136.5	.669	.98	14.6	54.4	2.77	34.0	.00			349
	400	ISL	7.25	7.21	34.271	26.816	129.0	.739	.70	10.3							403
1	423		7.05	7.01	34.283	26.853	125,7	.769	.60	8.8	64.0	2.98	36.7	.00			426
	500	ISL	6.43	6.39	34.311	26.958	116.3	.862	.38	5.5							504
1	501		6.43	6.38	34.311	26.959	116.3	.862	.38	5.5	74.6	3.12	38.7	.00			504
1	577		6.02	5.97	34.330	27.027	110.5	.949	.30	4.3	81.7	3.18	39.6	.00			581

RV DAVID STARR JORDAN CALCOFI CRUISE 8602 STATION 87 50

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
33 19.7 N	119 38.7 W	15/02/86	0837 GMT	79 M	140	14 KT		6	1009.6 MB	14.2 C	14.0 C		

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0	ISL	13.74	13.73	33.259	24.897	304.7	.000	6.06	102.7							0
1	2		13.74	13.73	33.259	24.897	304.6	.006	6.06	102.7	1.7	.38	.4	.00	1.17	.42	2
	10	ISL	13.71	13.71	33.262	24.905	304.1	.030	6.06	102.7							10
1	12		13.71	13.71	33.264	24.907	303.9	.036	6.06	102.7	1.6	.38	.3	.00	1.21	.44	12
	20	ISL	13.70	13.70	33.283	24.923	302.7	.061	6.07	102.8							20
1	23		13.70	13.70	33.289	24.927	302.3	.070	6.07	102.8	1.6	.38	.3	.00	1.24	.49	23
	30	ISL	13.36	13.35	33.356	25.050	290.9	.091	6.01	101.1							30
1	33		13.16	13.15	33.389	25.115	284.8	.099	5.98	100.2	2.7	.49	1.8	.04	1.08	.58	33
	50	ISL	11.45	11.45	33.564	25.577	241.1	.144	4.71	76.3							50
1	54		10.95	10.95	33.607	25.701	229.4	.153	4.25	68.1	15.5	1.32	15.0	.08	.17	.31	54

RV DAVID STARR JORDAN CALCOFI CRUISE 8602 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 20.8 W	15/02/86	0318 GMT	738 M	190	14 KT	220 08	6	1010.0 MB	15.2 C	14.7 C		

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0	ISL	15.00	15.00	33.259	24.632	329.6	.000	5.82	101.2							0
1	3		15.00	15.00	33.259	24.632	329.9	.010	5.82	101.2	2.1	.36	.3	.00	.12	.05	3
	10	ISL	15.02	15.01	33.260	24.628	330.4	.033	5.86	102.0							10
1	13		15.02	15.02	33.261	24.628	330.6	.043	5.87	102.1	2.1	.37	.3	.00	.12	.06	13
	20	ISL	15.02	15.02	33.262	24.629	330.7	.066	5.86	101.9							20
1	23		15.02	15.02	33.263	24.630	330.7	.076	5.85	101.8	2.0	.38	.2	.00	.12	.05	23
	30	ISL	15.01	15.01	33.264	24.634	330.6	.099	5.84	101.6							30
1	34		15.01	15.00	33.265	24.635	330.5	.112	5.84	101.6	2.1	.37	.2	.00	.13	.05	34
1	44		15.02	15.01	33.266	24.634	331.0	.145	5.85	101.8	2.0	.36	.2	.00	.12	.05	44
	50	ISL	15.02	15.01	33.267	24.635	331.0	.165	5.85	101.8							50
1	55		15.01	15.00	33.268	24.637	331.0	.181	5.85	101.8	1.9	.36	.2	.00	.13	.06	55
1	64		14.94	14.94	33.277	24.659	329.2	.211	5.86	101.8	1.9	.36	.2	.00	.16	.08	64
1	74		14.67	14.66	33.298	24.733	322.4	.243	5.88	101.6	2.2	.39	.3	.01	.23	.14	74
	75	ISL	14.61	14.60	33.301	24.750	320.8	.247	5.89	101.6							76
1	90		13.59	13.58	33.335	24.987	298.5	.293	5.95	100,6	2.9	.48	.8	.08	.27	.26	90
	100	ISL	12.69	12.67	33.339	25.171	281.1	.323	5.70	94.5							101
1	105		12.29	12.28	33.345	25.252	273.4	.335	5.54	91.1	4.7	.67	4.4	.03	.12	.17	105
1	124		11.00	10.98	33.473	25.591	241.6	.387	4.80	76.9	10.1	1.07	11.8	.01	.04	.08	125
	125	ISL	10.97	10.95	33.476	25.598	240.9	.388	4.79	76.6							126
1	150	.	10.02	10.00	33.614	25.870	215.3	.446	4.25	66.7	17.0	1.42	17.5	.00	.03	.12	151
1	181		9.17	9.15	33.823	26.173	186,9	.507	3.32	51.2	26.3	1.81	23.8	.00			182
	200	ISL	8.82	8.80	33.884	26.276	177.4	.542	3.16	48.3							201
1	212		8.65	8.63	33.912	26.324	173.0	.563	3.11	47.4	30.7	1.94	26.0	.00			213
1	240		8.32	8.29	34.002	26.447	161.8	.609	2.77	41.9	36.1	2.10	27.9	.00			241
	250	ISL	8.23	8.21	34.021	26.474	159.3	.626	2.68	40.5							252
1	280		7.99	7.96	34.053	26.536	153.9	.674	2.45	36.8	40.6	2.24	29.4	.00			282
	300	ISL	7.73	7.70	34.061	26.580	149.9	.703	2.28	34.0							302
1	339		7.19	7.16	34.076	26.670	141.7	.760	1.88	27.7	50.9	2.50	33.1	.00			341
	400	ISL	6.63	6.59	34.174	26.824	127.6	.842	1.04	15.1							403
1	412		6.53	6.50	34.195	26.853	125.0	.858	.88	12.8	66.7	2.89	37.4	.00			415
1	485		6.03	5.99	34.227	26.944	117.0	.945	.58	8.3	75.0	3.04	39.3	.00			488
	500	ISL	5.92	5.88	34.239	26.967	114.9	.963	.52	7.5							504
1	556		5.52	5.47	34.302	27.067	105.7	1.025	.34	4.8	86.8	3.20	41.3	.00			560

RV DAVID STARR JORDAN CALCOFI CRUISE 8602 STATION 87 70

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
32 40.0 N	121 01.9 W	14/02/86	2152 GMT	3781 M	160	28 KT	190 08 07	2	1008.1 MB	15.9 C	14.8 C	8/8	NS

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0 ISL	14.37	14.37	33.280	24.781	315.7	.000	5.96	102.4							0
1	2	14.37	14.37	33.280	24.781	315.7	.006	5.96	102.4	2.6	.40	.3	.00	.21	.07	2
	10 ISL	14.37	14.37	33.280	24.782	315.8	.032	5.98	102.7							10
1	12	14.37	14.37	33.280	24.782	315.9	.038	5.98	102.7	2.6	.40	.3	.00	.22	.08	12
	20 ISL	14.38	14.37	33.280	24.781	316.2	.063	5.97	102.6							20
1	28	14.38	14.37	33.280	24.781	316.5	.088	5.96	102.4	2.5	. 4 0	. 3	.00	.22	.09	28
	30 ISL	14.38	14.37	33.282	24.782	316.4	.095	5.96	102.4							30
1	43	14.34	14.34	33.283	24.791	315.9	.135	5.95	102.1	2.5	.40	.2	.00	.24	.10	43
	50 ISL	14.27	14.27	33.290	24.811	314.2	.158	5.95	101.9							50
1	59	14.19	14.18	33.298	24.835	312.2	.185	5.94	101.6	2.6	.41	.3	.01	.38	.18	59
1	69	13.16	13.15	33.353	25.089	288.2	.215	5.81	97.3	3.5	.54	2.0	.09	.55	.51	69
	75 ISL	12.87	12.86	33.374	25.162	281.3	.233	5.66	94.3							76
1	79	12.74	12.73	33.382	25.194	278.4	.243	5.56	92.4	4.6	.67	4.5	.03	.33	.31	79
1	95	11.66	11.65	33.392	25.406	258.5	.286	5.01	81.4	8.5	.98	9.6	.01	.11	.17	95
	100 ISL	11.38	11.36	33.413	25.475	252.0	.300	4.83	78.0							101
1	109	10.94	10.92	33.469	25.597	240.5	.323	4.52	72.3	12.5	1.25	14.1	.00	.06	.09	IIO
1	124	10.32	10.30	33.607	25.813	220.2	.358	4.00	63.2	17.6	1.50	18.3	.00	.02	.05	125
	125 ISL	10.30	10.28	33.612	25.821	219.5	.359	3.98	62.8							126
1	150	9.58	9.56	33.783	26.075	195.7	.411	3.34	51.9	24.3	1.78	22.6	.00	.00	.04	151
1	170	9.17	9.15	33.855	26.198	184.3	.449	3.16	48.7	28.0	1.90	24.4	.00	.00	.02	171
1	191	8.79	8.77	33.955	26.337	171.4	.486	2.79	42.7	32.4	2.05	26.8	.00			192
	200 ISL	8.69	8.67	33.981	26.373	168.2	.502	2.70	41.2							201
1	211	8.57	8.55	34.001	26.407	165.1	.520	2.64	40.2	35.3	2.13	27.8	.00			212
1	242	8.05	8.02	34.006	26.490	157.6	.569	2.84	42.7	37.7	2.12	28.1	.00			243
	250 ISL	7.88	7.86	34.009	26.517	155.1	.582	2.80	41.9							252
1	282	7.29	7.26	34.030	26.619	145.6	.631	2.45	36.2	46.6	2.33	31.3	.00			284
	300 ISL	7.09	7.06	34.049	26.662	141.8	.656	2.18	32.1							302
1	343	6.71	6.68	34.094	26.749	133.9	.716	1.52	22.2	58.8	2.68	35.5	.00			345
	400 ISL	6.14	6.10	34.127	26.850	124.7	.789	1.01	14.6							403
1	419	5.96	5.93	34.137	26.880	122.0	.813	.90	12.9	72.2	2.96	39.0	.00			422
1	496	5.52	5.48	34.200	26.985	112.6	.903	.57	8.1	82.5	3.11	41.1	.00			499
	500 ISL	5.50	5.46	34.204	26.991	112.1	.908	.56	7.9							504
1	573	5.22	5.17	34.269	27.076	104.6	.987	.36	5.1	91.3	3.21	42.1	.00			577

RV DAVID STARR JORDAN CALCOFI CRUISE 8602 STATION 90 28

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
33 29.2 N	117 46.4 W	13/02/86	1026 GMT	69 M	100	11 KT		6	1019.3 MB	12.7 C	11.8 C		

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0 ISL	14.58	14.58	33.479	24.890	305.4	.000	6.23	107.6							0
1	3	14.58	14.58	33.479	24.890	305.4	.009	6.23	107.6	1.8	.31	.1	.00	1.14	.30	3
	10 ISL	14.58	14.58	33.480	24.892	305.3	.031	6.24	107.8							10
1	14	14.58	14.57	33.482	24.894	305.3	.043	6.25	107.9	1.8	.30	.1	.00	1.18	.32	14
	20 ISL	14.42	14.42	33.470	24.918	303.1	.061	6.27	108.0							20
1	24	14.32	14.32	33.463	24.934	301.8	.073	6.29	108.0	1.6	.31	.0	.00	3.08	.57	24
	30 ISL	13.59	13.58	33.418	25.051	290.8	.091	5.55	93.8							30
1	34	13.07	13.06	33.396	25.139	282.5	.102	5.02	84.0	7.7	1.14	5.8	.28	.63	.30	34
1	45	12.13	12.13	33.439	25.353	262.3	.132	4.42	72.5	11.4	1.41	10.5	.32	.18	.22	45
	50 ISL	11.90	11.90	33.456	25.410	257.0	.145	4.16	67.9							50
1	65	10.85	10.84					3.50	55.9	21.2		16.3	.60			65

RV DAVID STARR JORDAN CALCOFI CRUISE 8602 STATION 90 30

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
33 25.3 N	117 54.1 W	13/02/86	1227 GMT	626 M	130	22 KT			1017.5 MB	13.1 C	12.4 C		

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0 ISL	14.61	14.61	33.496	24.897	304.6	.000	5.95	102.8							0
1	1	14.61	14.61	33.496	24.897	304.6	.003	5.95	102.8	2.2	.47	.1	.00	.46	.17	1
1	10	14.62	14.62	33.499	24.898	304.8	.030	6.02	104.1	2.2	.47	.1	.00	.47	.15	10
	20 ISL	14.62	14.62	33.505	24.902	304.7	.061	6.00	103.7							20
1	25	14.62	14.62	33.507	24.904	304.6	.076	5.99	103.5	2.1	.46	.1	.00	.53	.22	25
	30 ISL	14.43	14.43	33.493	24.934	302.0	.091	5.90	101.6							30
1	40	13.84	13.84	33.465	25.036	292.5	.121	5.61	95.4	4.0	.65	1.8	.26	1.28	.60	40
	50 ISL	12.89	12.89	33.474	25.234	274.6	.149	5.10	85.0							50
1	55	12.48	12.47	33.478	25.318	265.9	.162	4.86	80.3	8.5	1.04	8.1	.12	.39	.33	55
1	63	12.13	12.12	33.530	25.425	255.9	.183	4.62	75.8	9.9	1.14	10.0	.06	.22	.29	63
1	73	11.74	11.73	33.587	25.542	245.0	.208	4.33	70.5	12.6	1.27	12.5	.05	.14	.27	73
	75 ISL	11.65	11.64	33.596	25.567	242.7	.214	4.28	69.6							76
1	89	11.11	11.10	33.649	25.706	229.7	.246	4.01	64.5	15.1	1.45	15.5	.03	.06	.12	89
	100 ISL	10.71	10.70	33.718	25.831	218.1	.271	3.65	58.1							101
1	102	10.63	10.61	33.733	25.858	215.5	.277	3.57	56.8	19.2	1.66	18.5	.03	.03	.08	103
1	116	10.18	10.17	33.807	25.992	203.1	.306	3.32	52.3	22.6	1.80	20.9	.02	.01	.10	117
	125 ISL	10.01	9.99	33.854	26.059	196.9	.323	3.16	49.7							126
1	142	9.77	9.76	33.934	26.161	187.5	.356	2.89	45.2	27.1	2.00	23.9	.01	.00	.04	143
	150 ISL	9.71	9.69	33.955	26.189	185.0	.371	2.81	43.9							151
1	162	9.58	9.56	33.980	26.229	181.4	.393	2.72	42.4	28.9	2.07	24.9	.01	.00	.03	163
1	181	9.17	9.15	34.014	26.323	172.8	.426	2.66	41.1	31.6	2.14	26.1	.01			182
	200 ISL	9.05	9.03	34.080	26.393	166.5	.458	2.41	37.1							201
1	202	9.05	9.03	34.087	26.399	165.9	.462	2.38	36.6	34.6	2.25	27.3	.01			203
1	232	8.81	8.78	34.168	26.501	156.8	.510	1.90	29.1	39.3	2.43	29.0	.01			233
	250 ISL	8.54	8.51	34.181	26.553	152.0	.538	1.73	26.4							252
1	272	8.18	8.15	34.181	26.608	147.1	.571	1.60	24.2	46.2	2.59	31.2	.01			274
	300 ISL	7.84	7.81	34.175	26.655	143.0	.611	1.49	22.4							302
1	335	7.49	7.46	34.170	26.701	138.9	.661	1.37	20.4	53.2	2.73	33.8	.01			337
	400 ISL	7.07	7.03	34.216	26.798	130.5	.748	.92	13.6							403
1	412	7.01	6.97	34.229	26.816	128.9	.764	.83	12.2	63.8	2.96	36.3	.00			415
1	490	6.60	6.56	34.305	26.932	118.9	.860	.40	5.8	71.8	3.16	38.2	.00			493
	500 ISL	6.54	6.49	34.312	26.945	117.6	.87 2	.38	5.5							504
1	567	6.04	5.99	34.337	27.030	110.0	.949	.26	3.7	82.6	3.27	39.6	.00			571

RV DAVID STARR JORDAN CALCOFI CRUISE 8602 STATION 90 35

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
33 15.6 N	118 14.5 W	13/02/86	1609 GMT	389 M	150	20 KT	150 05 07	6	1017.2 MB	14.0 C	13.9 C	8/8	NS

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0	ISL	14.47	14.47	33.442	24.885	305.9	.000	6.02	103.7							0
1	2		14.47	14.47	33.442	24.885	305.7	.006	6.02	103.7	2.2	.36	.2	.01	.94	.25	2
	10	ISL	14.46	14.46	33.450	24.894	305.1	.031	6.03	103.8							10
1	17		14.45	14.45	33.457	24.902	304.6	.052	6.03	103.8	2.1	.36	.2	.01	.95	.26	17
	20	ISL	14.41	14.41	33.457	24.909	303.9	.061	6.01	103.4							20
	30	ISL	14.14	14.14	33.457	24.967	298.7	.091	5.86	100.3							30
1	32		14.06	14.06	33.457	24.983	297.3	.097	5.82	99.4	3.1	.46	.8	.11	1.37	.36	32
	50	ISL	12.58	12.57	33.452	25.279	269.8	.148	5.05	83.6							50
1	52		12.42	12.41	33.451	25.309	266.7	.153	4.96	81.9	7.3	.88	7.7	.05	.27	.31	52
	75	ISL	11.24	11.23	33.608	25.650	234.7	.211	4.12	66.4							76
1	77		11.18	11.17	33.621	25.671	232.8	.215	4.07	65.5	14.6	1.30	15.0	.01	.08	.17	77
	100	ISL	10.50	10.49	33.750	25.893	212.2	.267	3.51	55.8							101
1	106		10.35	10.34	33.779	25.941	207.7	.281	3.40	53.8	21.1	1.62	20.1	.01	.02	.06	107
	125	ISL	9.87	9.85	33.853	26.081	194.7	.318	3.17	49.6							126
1	142		9.49	9.47	33.911	26.190	184.6	.351	3.01	46.8	27.8	1.88	24.1	.01	.00	.03	143
	150	ISL	9.37	9.35	33.938	26.230	180.9	.365	2.93	45.4							151
1	178		9.06	9.04	34.024	26.347	170.3	.414	2.64	40.7	32.6	2.06	26.5	.01	.01	.06	179
	200	ISL	8.87	8.85	34.077	26.419	164.0	.451	2.38	36.6							201
1	218		8.73	8.71	34.107	26.465	159.8	.479	2.20	33.6	37.9	2.24	28.4	.01	.00	.04	219
	250	ISL	8.43	8.40	34.129	26.530	154.1	.530	2.03	30.8							252
1	263		8.31	8.28	34.133	26.552	152.3	.551	1.97	29.8	42.8	2.34	30.2	.01	.00	.03	265
	300	ISL	8.06	8.03	34.153	26.605	147.8	.605	1.75	26.3							302
1	304		8.03	8.00	34.155	26.610	147.4	.612	1.72	25.9	46.4	2.46	31.5	.01	.00	.03	306

RV DAVID STARR JORDAN CALCOFI CRUISE 8602 STATION 90 37

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
33 11.5 N	118 23.4 W	13/02/86	1904 GMT	1208 M	160	15 KT	160 05 05	5	1019.4 MB	14.3 C	14.2 C	8/8	NS

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/I,	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	33.484	24.833	310.7	.000	5.95	103.4							0
1	1		14.86	14.86	33.484	24.833	310.7	.003	5.95	103.4	2.1	.33	.0	.00	.47	.18	1
	10	ISL	14.84	14.84	33.484	24.839	310.4	.031	5.98	103.8							10
1	11		14.84	14.84	33.484	24.839	310.4	.034	5.98	103.8	2.0	.33	.0	.00	.48	.16	11
	20	ISL	14.83	14.83	33.487	24.843	310.3	.062	5.97	103.7							20
1	27		14.83	14.83	33.489	24.846	310.3	.083	5.97	103.6	1.9	.36	.0	.00	.48	.20	27
	30	ISL	14.56	14.55	33.477	24.895	305.7	.093	5.87	101.4							30
1	43		13.20	13.19	33.450	25.155	281.2	.131	5.34	89.6	5.3	.70	4.2	.19	.46	.26	43
	50	ISL	12.58	12.58	33.478	25.297	267.8	.150	5.04	83.4							50
1	58		12.06	12.06				.170	4.72	77.4	9.1	1.00	9.5	.03	.19	.23	58
1	69		11.64	11.63	33.573	25.551	244.1	.198	4.33	70.4	12.0	1.18	12.6	.01	.12	.16	69
	75	ISL	11.48	11.47	33.596	25.598	239.8	.213	4.21	68.1							76
1	79		11.40	11.39	33.608	25.622	237.6	.222	4.15	67.1	13.8	1.28	14.1	.00	.08	.16	79
1	95		11.03	11.02	33.666	25.734	227.2	.259	3.86	61.9	16.2	1.42	16.0	.00	.04	.11	95
	100	ISL	10.86	10.85	33.695	25.787	222.3	.271	3.73	59.6							101
1	109		10.60	10.59	33.746	25.873	214.3	.292	3.51	55.8	19.5	1.59	18.8	.00	.02	.07	II0
1	125		10.36	10.35	33.802	25.958	206.5	.325	3.32	52.5	22.3	1.69	20.5	.00	.01	.07	126
	150	ISL	9.82	9.80	33.959	26.173	186.5	.374	2.76	43.1							151
1	151		9.79	9.77	33.966	26.183	185.6	.376	2.73	42.7	28.3	1.96	24.2	.00	.01	.04	152
1	171		9.56	9.54	34.012	26.258	178.9	.412	2.59	40.3	30.6	2.04	25.3	.00	.00	.04	172
1	192		9.22	9.20	34.067	26.356	169.8	.448	2.41	37.3	33.6	2.17	26.7	.00			193
	200	ISL	9.12	9.10	34.083	26.384	167.3	.462	2.35	36.2							201
1	213		8.96	8.94	34.102	26.425	163.6	.483	2.25	34.6	36.2	2.23	27.5	.00			214
1	244		8.34	8.31	34.129	26.543	152.7	.532	2.02	30.6	42.0	2.39	29.7	.00			245
	250	ISL	8.25	8.23	34.134	26.560	151.2	.542	1.97	29.8							252
1	284		7.91	7.88	34.154	26.627	145.3	.593	1.68	25.2	47.5	2.54	31.6	.00			286
	300	ISL	7.78	7.75	34.166	26.656	142.7	,615	1.54	23.0							302
1	346		7.44	7.41	34.204	26.735	135.9	.679	1.14	16.9	56.0	2.76	34.1	.00			348
	400	ISL	7.10	7.06	34.244	26.815	129.0	.751	.80	11.8							403
1	422		6.97	6.93	34.259	26.845	126.3	.779	.69	10.1	64.8	2.98	36.4	.00			425
1	499		6.48	6.43	34.315	26.956	116.6	.872	.38	5.5	74.2	3.14	38.2	.00			502
	500	ISL	6.47	6.42	34.316	26.958	116.4	.874	.38	5.5							504
1	575		5.86	5.81	34.344	27.058	107.3	.957	.28	4.0	84.7	3.23	39.6	.00			579

RV DAVID STARR JORDAN CALCOFI CRUISE 8602 STATION 90 44

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
32 55.1 N	118 52./ W	13/02/86	2357 GMT	1631 M	160	13 KT	190 05 08	5	1016.5 MB	14.7 C	14.7 C	8/8	ST

CAST	DEPTH M	TEMP DEG C	LOT TEMP DEC C	SALINITY	SIGMA THETA	SVA	DYN HT	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	14.59	14.59	33.483	24.892	305.1	.000	5.94	102.6	2.3	.37	.3	.00	.35	.14	0
	10 ISL	14.56	14.56	33.488	24.901	304.5	.030	5.98	103.2							10
1	11	14.56	14.56	33.488	24.902	304.5	.033	5.98	103.2	2.3	.37	.3	.00	.38	.14	11
	20 ISL	14.55	14.55	33.489	24.904	304.5	.061	5.9/	103.1							20
1	22	14.55	, 14.55	33.489	24.905	304.5	.067	5.97	103.0	2.2	.37	.3	.00	.37	.19	22
	30 ISL	14.53	14.53	33.488	24.909	304.4	.091	5.96	102.9							30
1	32	14.53	14.52	33.488	24.910	304.3	' .097	5.96	102.8	2.2	.37	.2	.00	.44	.18	32
1	44	14.50	14.49	33.489	24.917	303.9	.133	5.87	101.2	2.5	.41	.7	.03	.45	.24	44
	50 ISL	13.35	13.34	33.459	25.131	283.7	.152	5.43	91.5							50
1	53	12.81	12.80	33.451	25.233	274.0	.159	5.23	87.1	6.2	.77	5.6	.12	.54	.38	53
1	64	12.19	12.18	33.474	25.371	261.1	.189	4.93	81.0	8.4	.95	8.8	.05	.35	.34	64
1	74	11.78	11.77.	33.498	25.466	252.4	.214	4.69	76.4	9.9	1.06	10.8	.02	.25	.29	74
	75 ISL	11.74	11.73	33.502	25.477	251.2	.217	4.66	75.8							76
1	89	11.27	11.26	33.567	25.615	238.5	.251	4.31	69.5	12.8	1.26	14.1	.01	.10	.21	89
	100 ISL	10.75	10.74	33.638	25.761	224.7	.277	3.98	63.5							101
1	106	10.47	10.46	33.680	25.844	217.0	.292	3.80	60.2	18.5	1.51	18.5	.01	.03	.08	107
1	124	10.00	9.99	33.780	26.002	202.3	.329	3.40	53.4	22.3	1.69	21.2	.00	.01	.05	125
	125 ISL	9.99	9.97	33.784	26.007	201.8	.330	3.39	53.2							126
1	150	9.45	9.44	33.913	26.198	184.1	.379	2.97	46.1	27.9	1.90	24.3	.00	.01	.03	151
1	181	9.08	9.06	33.990	26.318	1/3.2	.434	2.74	42.2	31.6	2.04	26.1	.00			182
	200 ISL	8.85	8.83	34.030	26.386	167.0	.466	2.60	39.8							201
1	213	8.70	8.68	34.053	26.427	163.3	.487	2.49	38.0	35.6	2.15	27.6	.00			214
1	243	8.46	8.44.	34.099	26.501	156.8	.535	2.20	33.4	39.6	2.27	29.0	.00			244
	250 ISL	8.39	8.37	34.108	26.519	155.2	.547	2.12	32.2							252
1	285	8.06	8.03	34.152	'26.604	147.6	.600	1.72	25.9	45.6	2.48	31.3	.00			287
	300 ISL	7.95	7.92	34.174	26.63/	144.6	.622	1.53	23.1							302
1	346	7.62	7.59	34.237	26.735	136.0	.686	1.01	15.1	54.7	2.77	34.1	.00			348
	400 ISL	7.16	7.12	34.271	26.829	127.7	.757	.66	9.8							403
1	423	6.95	6.91	34.280	26.865	124.5	.787	.57	8.4	65.4	2.99	36.9	.00			426
	500 ISL	6.29	6.25	34.317	26.982	113.9	.878	.35	5.1							504
1	502	6.28	6.23	34.318	26.984	113.7	.880	.35	5.1	76.3	3.13	39.2	.00			505
1	579	5.84	5.79	34.308	27.032	109.7	.966	.28	4.0	84.0	3.22	40.5	.00			583

RV DAVID STARR JORDAN CALCOFI CRUISE 8602 STATION 90 53

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
32 39.0 N	119 28.9 W	14/02/86	0526 GMT	1343 M	170	14 KT			1017.2 MB	15.0 C	14.8 C		

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0 ISL	14.36	14.36	33.468	24.929	301.7	.000	6.07	104.3							0
1	1	14.36	14.36	33.468	24.929	301.5	.003	6.07	104.3	1.4	.34	.2	.00	1.16	.34	1
	10 ISL	14.26	14.25	33.465	24.949	299.9	.030	6.12	105.1							10
1	11	14.25	14.24	33.465	24.951	299.8	.033	6.13	105.1	1.3	.34	.2	.00	1.17	.31	11
	20 ISL	14.19	14.18	33.469	24.967	298.5	.060	6.05	103.7							20
1	27	14.11	14.11	33.473	24.985	297.0	.080	5.97	102.1	2.3	.39	.5	.03	.73	.30	27
	30 ISL	14.08	14.08	33.473	24.992	296.4	.090	5.95	101.7							30
1	43	13.68	13.68	33.472	25.073	289.0	.127	5.87	99.5	2.9	.43	1.1	.03	.53	.30	43
	50 ISL	13.08	13.07	33.476	25.198	277.9	.148	5.47	91.6							50
1	58	12.36	12.35	33.480	25.342	263.8	.169	4.98	82.1	8.1	.91	8.3	.15	.33	.29	58
1	69	11.61	11.60	33.546	25.534	245.6	.196	4.54	73.7	11.5	1.14	12.1	.08	.29	.31	69
	75 ISL	11.17	11.16	33.586	25.645	235.2	.212	4.28	68.9							76
1	79	10.94	10.93	33.610	25.706	229.4	.220	4.14	66.3	15.3	1.35	15.7	.03	.14	.21	79
1	95	10.20	10.19	33.726	25.926	208.8	.255	3.60	56.8	20.4	1.60	19.8	.01	.03	.08	95
	100 ISL	9.96	9.95	33.780	26.008	201.1	.266	3.41	53.5							101
1	109	9.62	9.61	33.862	26.129	189.8	.285	3.14	48.9	25.9	1.83	23.2	.01	.01	.05	II0
1	125	9.41	9.40	33.912	26.203	183.1	.314	2.99	46.4	27.9	1.92	24.2	.00	.01	.05	126
	150 ISL	9.08	9.06	33.997	26.323	172.1	.358	2.64	40.7							151
1	151	9.06	9.05	34.001	26.329	171.5	.360	2.62	40.3	32.3	2.07	26.3	.00	.01	.04	152
1	171	8.75	8.73	34.063	26.428	162.5	.393	2.32	35.5	36.5	2.22	27.9	.01	.01	.03	172
1	192	8.58	8.56	34.098	26.481	157.8	.427	2.17	33.1	38.7	2.29	28.9	.00			193
	200 ISL	8.53	8.51	34.108	26.497	156.4	.439	2.11	32.1							201
1	213	8.45	8.42	34.119	26.519	154.5	.459	2.02	30.7	40.3	2.36	29.7	.00			214
1	244	8.22	8.20	34.130	26.561	151.0	.506	1.86	28.1	43.3	2.44	30.5	.00			245
	250 ISL	8.16	8.13	34.133	26.574	149.9	.516	1.82	27.5							252
1	284	7.77	7.74	34.153	26.647	143.4	.566	1.59	23.8	48.4	2.56	32.4	.01			286
	300 ISL	7.64	7.61	34.172	26.681	140.4	.588	1.43	21.3							302
1	346	7.26	7.23	34.219	26.772	132.2	.651	.97	14.4	58.4	2.82	34.9	.00			348
	400 ISL	6.60	6.57	34.224	26.866	123.6	.720	.71	10.3							403
1	422	6.35	6.31	34.224	26.900	120.6	.747	.64	9.3	70.0	3.04	38.4	.00			425
1	499	5.98	5.94	34.279	26.990	112.7	.836	.39	5.6	78.3	3.15	40.0	.00			502
	500 ISL	5.98	5.93	34.280	26.993	112.6	.838	.39	5.6							504
1	574	5.64	5.59	34.330	27.074	105.5	.919	.28	4.0	86.0	3.24	41.1	.00			578

RV DAVID STARR JORDAN CALCOFI CRUISE 8602 STATION 90 60

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
32 25.0 N	119 57.2 W	14/02/86	0958 GMT	2402 M	150	16 KT			1015.1 MB	15.1 C	14.8 C		

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0	ISL	14.98	14.98	33.259	24.635	329.5	.000	5.86	101.9							0
1	1		14.98	14.98	33.259	24.635	329.5	.003	5.86	101.9	2.1	.37	.3	.00	.09	.04	1
	10	ISL	14.97	14.97	33.257	24.636	329.7	.033	5.86	101.9							10
1	11		14.97	14.97	33.257	24.636	329.7	.036	5.86	101.9	2.1	.37	.3	.00	.10	.04	11
	20	ISL	14.93	14.93	33.260	24.647	329.0	.066	5.87	102.0							20
1	27		14.91	14.90	33.263	24.655	328.4	.089	5.88	102.1	2.1	.37	.2	.00	.12	.07	27
	30	ISL	14.67	14.67	33.268	24.709	323.4	.099	5.91	102.1							' 3 0
1	43		13.68	13.68	33.305	24.945	301.3	.139	6.02	102.0	2.8	.42	.3	.01	.45	.17	43
	50	ISL	13.53	13.52	33.330	24.996	296.5	.160	5.99	101.2							50
1	58		13.44	13.43	33.350	25.030	293.6	.183	5.96	100.5	2.9	.45	.8	.05	.36	.18	58
1	69		13.10	13.09	33.350	25.098	287.3	.215	5.83	97.6	3.1	.51	1.8	.08	.23	.16	69
	75	ISL	12.83	12.82	33.344	25.146	282.8	.233	5.76	95.8							76
1	79		12.67	12.65	33.340	25.176	280.1	.243	5.71	94.7	4.0	.60	3.1	.10	.17	.15	79
1	95		12.01	12.00	33.340	25.301	268.5	.287	5.46	89.3	5.2	.73	5.4	.04	.12	.15	95
	100	ISL	11.75	11.73	33.377	25.379	261.2	.301	5.25	85.4							101
1	109		11.30	11.29	33.453	25.520	248.0	.3 25	4.86	78.3	9.6	1.05	10.8	.01	.08	.16	II0
1	125		10.77	10.76	33.538	25.681	232.9	.364	4.43	70.6	13.2	1.28	14.6	.01	.04	.08	126
1	150		9.74	9.72	33.728	26.006	202.3	.418	3.61	56.3	22.0	1.68	21.3	.01	.01	.04	151
1	171		9.13	9.11	33.846	26.197	184.5	.458	3.19	49.1	27.5	1.87	24.5	.01	.01	.03	172
1	191		8.75	8.73	33.932	26.325	172.5	.494	2.97	45.4	31.6	2.00	26.4	.00			192
	200	ISL	8.64	8.62	33.955	26.360	169.4	.509	2.91	44.4							201
1	212		8.52	8.49	33.976	26.396	166.2	.529	2.85	43.3	33.6	2.05	27.2	.00			213
1	242		8.07	8.04	34.021	26.499	156.7	.577	2.69	40.5	38.4	2.15	28.5	.00			243
	250	ISL	7.98	7.96	34.033	26.521	154.7	.590	2.60	39.0							252
1	282		7.70	7.68	34.072	26.593	148.4	.639	2.20	32.9	44.6	2.36	31.0	.00			284
	300	ISL	7.51	7.48	34.076	26.624	145.6	.665	2.07	30.8							302
1	343		7.03	7.00	34.077	26.692	139.6	.726	1.80	26.5	53.2	2.55	33.8	.00			345
	400	ISL	6.56	6.52	34.121	26.792	130.6	.803	1.22	17.7							403
1	419		6.43	6.39	34.142	26.825	127.6	.828	1.02	14.8	64.8	2.87	37.6	.00			422
1	495		6.07	6.02	34.229	26.941	.117.5	.921	.53	7.6	74.6	3.08	39.6	.00			498
	500	ISL	6.04	6.00	34.234	26.948	116.8	.927	.51	7.3							504
1	572		5.63	5.58	34.274	27.032	109.4	1.008	.36	5.1	83.0	3.18	41.0	.00			576

RV DAVID STARR JORDAN CALCOFI CRUISE 8602 STATION 90 70

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER.	BAROMETER	DRY	WET	CLOUD AMT	TYPE
32 05.1 N	120 38.2 W	14/02/86	1549 GMT	4018 M	190	22 KT	200 08 05	2	1015.0 MB	15.5 C	14.8 C	8/8	NS

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0	ISL	14.41	14.41	33.301	24.790	314.8	.000	5.94	102.1							0
1	1		14.41	14.41	33.301	24.790	314.9	.003	5.94	102.1	2.5	.38	.2	.00	.17	.07	1
	10	ISL	14.41	14.41	33.301	24.790	315.0	.031	5.96	102.4							10
1	11				33.301			.034	5.96	102.5	2.5	.39	.2	.00	.16	.07	11
	20	ISL	14.41	14.40	33.301	24.791	315.4	.063	5.97	102.5							20
1	27		14.41	14.40	33.301	24.791	315.5	.085	5.97	102.6	2.5	.38	.2	.00	.17	.07	27
	30	ISL	14.40	14.39	33.300	24.792	315.3	.095	5.97	102.6							30
1	43		14.32	14.31	33.295	24.805	314.6	.135	5.96	102.3	2.5	.39	.2	.00	.22	.09	43
	50	ISL	14.26	14.25	33.297	24.821	312.4	.157	5.96	102.0							50
1	59		14.07	14.07	33.300	24.861	309.7	.185	5.95	101.6	2.6	.41	.3	.03	.35	.19	59
1	70		13.56	13.55	33.337	24.994	297.3	.218	5.90	99.7	2.9	.47	.8	.17	.45	.30	70
	75	ISL	13.29	13.28	33.355	25.063	290.9	.233	5.82	97.8							76
1	80		13.05	13.04	33.364	25.119	285.6	.247	5.74	96.0	3.5	.56	2.4	.14	.32	.27	80
1	96		12.17	12.16	33.311	25.249	273.6	.291	5.55	91.1	4.6	.69	4.8	.02	.12	.19	96
	100	ISL	11.94	11.92	33.337	25.313	267.5	.303	5.33	87.0							101
1	II0		11.36	11.34	33.434	25.495	250.3	.331	4.74	76.5	10.5	1.10	12.0	.01	.06	.09	111
	125	ISL	10.37	10.35	33.586	25.788	222.6	.365	4.16	65.7							126
1	126		10.28	10.26	33.601	25.815	220.0	.368	4.11	64.8	16.5	1.46	17.8	.00	.03	.05	127
	150	ISL	9.66	9.65	33.760	26.043	198.8	.417	3.45	53.8							151
1	152		9.64	9.62	33.771	26.056	197.6	.422	3.40	52.9	23.4	1.77	22.6	.00	.00	.04	153
1	172		9.26	9.24	33.881	26.203	183.9	.460	3.00	46.4	28.0	1.92	24.9	.00	.00	.03	173
1	193		8.83	8.81	33.942	26.320	173.1	.497	2.90	44.4	31.3	2.00	26.4	.00			194
	200	ISL	8.71	8.68	33.957	26.351	170.3	.509	2.89	44.1							201
1	213		8.49	8.47	33.980	26.403	165.5	.531	2.86	43.5	33.8	2.05	27.3	.00			214
1	244		8.02	7.99	34.031	26.514	155.3	.580	2.66	40.0	39.0	2.18	28.8	.00			245
	250	ISL	7.93	7.91	34.041	26.535	153.4	.590	2.56	38.5							252
1	283		7.50	7.47	34.083	26.631	144.6	.640	2.01	29.9	47.7	2.44	32.1	.00			285
	300	ISL	7.25	7.22	34.091	26.672	140.9	.663	1.82	26.8							302
1	344		6.61	6.58	34.096	26.763	132.5	.723	1.43	20.8	59.8	2.72	36.2	.00			346
	400	ISL	5.96	5.92	34.104	26.855	124.1	.795	1.07	15.4							403
1	420		5.78	5.74	34.111	26,883	121.6	.820	.97	13.8	73.2	2.94	39.5	.00			423
1	498		5.47	5.43	34.190	26.982	112.8	.911	.59	8.4	83.1	3.11	41.3	.00			501
	500	ISL	5.47	5.43	34.193	26.986	112.6	.913	.58	8.2							504
1	577		5.29	5.24	34.289	27.083	104.1	.997	.35	4.9	90.5	3.22	42.3	.00			581

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RV DAVID STARR JORDAN — CALCOFI CRUISE 8602 — STATION 90 80

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
31 44.0 N	121 15.2 W	10/02/86	1911 GMT	3543 M	130	03 KT	320 02 08	1	1019.8 MB	13.6 C	9.8 C	4/8	SC

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	GHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0	ISL	14.79	14.79	33.214	24.641	329.6	.000	5.88	101.8							0
1	2		14.79	14.79	33.214	24.641	329.0	,007	5.88	101.8	2.4	.38	.1	.00	.09	.03	2
	10	ISL	14.69	14.69	33.215	24.663	327.1	.033	5.91	102.2							10
1	12		14.67	14.67	33.216	24.668	326.7	.039	5.92	102.3	2.4	.38	.1	.00	.09	.03	12
	20	ISL	14.64	14.64	33.220	24.678	326.1	.065	5.93	102.3							20
1	28		14.63	14.62	33.223	24.684	325.7	.091	5.93	102.3	2.5	.38	.1	.00	.10	.03	28
	30	ISL	14.61	14.61	33.224	24.688	325.4	.098	5.93	102.3							30
1	44		14,52	14.51	33.230	24.713	323.4	.143	5.94	102.3	2.5	.38	.1	.00	.13	.06	44
	50	ISL	14.13	14.12	33.227	24.794	315.9	.163	6.00	102.5							50
1	59		13.52	13.51	33.227	24.918	304.2	.190	6.08	102.6	2.8	.43	.2	.02	.41	.30	59
1	69		13.17	13.16	33.235	24.994	297.2	.220	6.07	101.7	2.7	.45	.3	.07	.33	.35	69
	75	ISL	13.03	13.02	33.242	25.029	294.1	.238	6.04	100.9							76
1	80		12.92	12.91	33.252	25.057	291.5	.252	6.02	100.3	2.8	.48	.8	.11	.33	.36	80
1	95		12.40	12.39	33.332	25.220	276.3	.294	5.68	93.7	3.8	.61	3.2	.02	.13	.23	95
	100	ISL	12.26	12.25	33.359	25.269	271.8	.309	5.59	91.9							101
1	II0		11.99	11.98	33.406	25.356	263.7	.335	5.43	88.8	4.9	.70	5.4	.02	.07	.12	II0
1	124		11.41	11.39	33.486	25.527	247.7	.373	5.05	81.6	8.6	.97	9.7	.01	.04	.06	125
	125	ISL	11.38	11.37	33.488	25.533	247.1	.374	5.04	81.3							126
1	150		10.41	10.39	33.595	25.788	223.2	.434	4.41	69.8	14.8	1.32	15.6	.00	.02	.03	151
1	170		9.67	9.65	33.710	26.003	203.0	.476	4.01	62.5	20.0	1.53	19.3	.00	.01	.02	171
1	190		9.31	9.29	33.787	26.122	192.0	.515	3.91	60.5	22.7	1.62	20.9	.00			191
	200	ISL	9.08	9.06	33.839	26.200	184.7	.534	3.77	58.0							201
1	210		8.85	8.83	33.889	26.275	177.6	.552	3.59	55.0	27.3	1.79	23.4	.00			211
1	240		8.38	8.36	33.983	26.422	164.2	.603	2.95	44.7	34.3	2.06	27.0	.00			241
	250	ISL	8.21	8.18	34.002	26.463	160.5	.620	2.84	42.8							252
1	279		7.74	7.72	34.037	26.559	151.5	.666	2.58	38.6	41.7	2.25	29.7	.00.			281
	300	ISL	7.52	7.49	34.065	26.614	146.6	.696	2.27	33.7							302
1	339		7.15	7.12	34.106	26.699	138.9	.752	1.66	24.5	53.7	2.62	33.9				341
	400	ISL	6.40	6.36	34.126	26.816	128.2	.833	1.12	16.2							403
1	415		6.22	6.18	34.129	26.842	125.8	.853	1.02	14.7	67.8	2.93	38.2	.00			418
1	494		5.68	5.64	34.187	26.955	115.6	.948	.61	8.7	80.1	3.12	40.6	.00			497
	500	ISL	5.64	5.60	34.191	26.963	114.9	.955	.59	8.4							504
1	574		5.15	5.11	34.219	27.044	107.6	1.037	.45	6.3	89.9	3.22	41.9	.00			578

RV DAVID STARR JORDAN — CALCOFI CRUISE 8602 — STATION 90 90

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
31 25.1 N	121 59.2 W	10/02/86	1128 GMT	3924 M	340	02 KT	330 03 07		1019.0 MB	13.7 C	9.6 C		

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0	ISL	16.17	16.17	33.566	24.606	332.2	.000	5.71	101.9							0
1	2		16.17	16.17	33.566	24.606	332.3	.007	5.71	101.9	2.1	.33	.0	.00	.07	.03	2
	10	ISL	16.19	16.19	33.565	24.603	332.9	.033	5.71	101.9							10
1	12		16.19	16.19	33.565	24.602	333.0	.040			1.9	.32	.0	.00	.07	.03	12
	20	ISL	16.19	16.19	33.565	24.602	333.3	.067	5.72	102.0							20
1	28		16.19	16.19	33.565	24.603	333.5	.093	5.72	102.1	1.9	.32	.0	.00	.07	.02	28
	30	ISL	16.19	16.18	33.565	24.603	333.5	.100	5.72	102.1							30
1	43		16.19	16.18	33.565	24.604	333.9	.143	5.73	102.2	1.8	.32	.0	.00	.07	.02	43
	50	ISL	16.19	16.18	33.565	24.604	334.2	.167	5.72	102.0							50
1	59		16.19	16.19	33.566	24.604	334.4	.196	5.71	101.9	1.8	.32	.0	.00	.07	.02	59
1	69		16.20	16.19	33.576	24.611	334.0	.229	5.75	102.6	1.8	.32	.0	.00	.08	.03	69
	75	ISL	15.67	15.66	33.630	24.771	319.0	.250	5.85	103.3							76
1	79		15.23	15.22	33.642	24.879	308.8	.261	5.90	103.3	2.3	.32	.0	.00	.15	.15	79
1	95		12.65	12.63	33.230	25.094	288.2	.309	5.89	97.6	2.7	.50	1.3	.04	.27	.32	95
	100	ISL	12.25	12.24	33.238	25.177	280.5	.324	5.73	94.2							101
1	II0		11.90	11.88	33.332	25.316	267.4	.350	5.38	87.8	5.5	.77	6.1	.01	.12	.18	II0
1	124		11.71	11.69	33.512	25.491	251.1	.389	4.85	78.9	8.7	.96	9.9	.00	.08	.13	125
	125	ISL	11.69	11.68	33.517	25.498	250.5	.390	4.83	78.5							126
1	150		10.82	10.80	33.719	25.814	220.9	.450	3.83	61.2	16.7	1.39	16.8	.00	.04	.06	151
1	171		9.92	9.90	33.820	26.047	199.0	.494	3.54	55.5	21.9	1.62	20.5	.00	.01	.03	172
1	191		9.20	9.18	33.887	26.219	182.8	.532	3.28	50.6	27.2	1.81	23.5				192
	200	ISL	8.92	8.90	33.918	26.287	176.4	.548	3.12	47.8							201
1	212		8.61	8.59	33.959	26.368	168.9	.568	2.89	44.0	33.1	2.00	26.6				213
1	243		8.09	8.07	34.045	26.514	155.4	.618	2.40	36.2	40.2	2.22	29.2	.00			244
	250	ISL	8.00	7.97	34.062	26.541	152.9	.630	2.26	34.0							252
1	283		7.63	7.60	34.123	26.644	143.6	.679	1.64	24.5	49.0	2.52	32.5	.00			285
	300	ISL	7.47	7.44	34.146	26.684	139.9	.703	1.41	21.0							302
1	345		7.10	7.07	34.193	26.773	131.9	.764	.96	14,1	59.3	2.79	35.6	.00			347
	400	ISL	6.72	6.68	34.240	26.863	124.0	.834	.63	9.2							403
1	421		6.59	6.55	34.254	26.892	121.5	.860	.55	8.0	69.4	2.99	37.8	.00			424
1	498		6.19	6.15	34.290	26.973	114.6	.951	.38	5.5	76.7	3.11	39.2	.00			501
	500	ISL	6.18	6.14	34.291	26.975	114.4	.953	.38	5.4							504
1	575		5.90	5.85	34.313	27.028	110.1	1.038	.30	4.3	82.5	3.15	40.1	.00			579

RV DAVID STARR JORDAN CALCOFI CRUISE 8602 STATION 90 100

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
31 05.3 N	122 39.7 W	10/02/86	0408 GMT	3924 M	040	04 KT			1018.7 MB	13.2 C	9.6 C		

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0	ISL	15.62	15.62	33.414	24.615	331.5	.000	5.78	101.9							0
1	1		15.62	15.62	33.414	24.615	331.5	.003	5.78	101.9	1.7	.35	.0	.00	.08	.03	1
	10	ISL	15.62	15.62	33.414	24.614	331.8	.033	5.83	102.7							10
1	11		15.62	15.62	33.414	24.614	331.9	.036	5.83	102.8	1.7	.35	.0	.00	.08	.03	11
	20	ISL	15.64	15.63	33.416	24.613	332.3	.066	5.82	102.6							20
1	27		15.65	15.64	33.417	24.612	332.6	.089	5.81	102.5	1.7	.35	.0	.00	.08	.03	27
	30	ISL	15.64	15.64	33.417	24.612	332.7	.100	5.80	102.3							30
1	43		15.64	15.63	33.417	24.613	333.0	.142	5.78	101.9	1.7	.35	.0	.00	.09	.03	43
	50	ISL	15.64	15.63	33.417	24.614	333.0	.166	5.78	101.9							50
1	58		15.63	15.62	33.417	24.617	333.1	.192	5.78	101.9	1.7	.35	.0	.00	.09	.05	58
1	69		.15.59	15.58	33.411	24.619	333.1	.229	5.79	102.0	1.7	.35	.0	.00	.10	.05	69
	75	ISL	15.06	15.05	33.357	24.696	325.9	.249	5.86	102.2							76
1	79		14.68	14.67	33.324	24.752	320.7	.261	5.91	102.2	2.1	.38	.0	.00	.19	.17	79
1	95		13.58	13.56	33.269	24.940	303.1	.311	5.94	100.3	2.5	.44	.3	.15	.27	.36	95
	100	ISL	13.24	13.22	33.268	25.007	297.3	.327	5.90	98.9							101
1	II0		12.68	12.67	33.266	25.116	286.6	.355	5.76	95.5	3.2	.57	2.2	.10	.20	.30	II0
1	125:		11.83	11.82	33.346	25.340	265.6	.399	5.39	87.8	5.6	.79	6.3	.01	.08	.17	126
	150	ISL	10.82	10.80	33.495	25.640	237.4	.461	4.69	74.8							151
1	151		10.77	10.75	33.504	25.655	236.0	.464	4.65	74.1	11.7	1.18	13.5	.00	.03	.06	152
1	171		9.99	9.97	33.642	25.896	213.2	.508	4.00	62.7	18.3	1.52	18.9	.00	.02	.04	172
1	192		9.40	9.37	33.796	26.116	192.7	.551	3.45	53.4	24.3	1.75	22.5	.00			193
	200	ISL	9.22	9.20	33.834	26.174	187.3	.566	3.35	51.7							201
1	212		8.98	8.95	33.879	26.248	180.4	.588	3.26	50.0	28.0	1.86	24.2	.00			213
1	243		8.35	8.32	33.982	26.427	163.7	.641	3.13	47.4	34.0	1.98	25.8	.00			244
	250	ISL	8.21	8.19	33.996	26.458	160.9	.652	3.05	46.1.							252
1	283		7.68	7.66	34.036	26.5.68	150.8	.7 05	2.61	38.9	42.3	2.21	29.2	.00			285
	300	ISL	7.49	7.46	34.052	26.609	147.1	.729	2.37	35.2							302
1	345		7.06	7.02	34.088	26.698	139.1	.794	1.74	25.6	53.4	2.56	33.6	.00			347
	400	ISL	6.58	6.55	34.141	26.803	129.6	.868	1.13	16.4							403
1	421		6.45	6.41	34.165	26.841	126.2	.895	.93	13.5	.66.1	2.90	37.4	.00			424
1	497		6.30	6.25	34.271	26.944	117.4	.987	.45	6.5	73.5	3.08	38.8	.00	\		500
	500	ISL	6.29	.6.24	34.274	26.949	117.1	.991	.44	6.4							504
1	572		5.84	5.79	34.314	27.037	109.2	1.072	.31	4.4	82.3	3.20	40.2	.00			576

RV DAVID STARR JORDAN CALCOFI CRUISE 8602 STATION 90 IIO

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	HIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
30 45.4 N	123 19.9 W	09/02/86	2213 GMT	4018 M	360	12 KT	320 05 07	1	1017.7 MB	15.8 C	10.9 C	7/8	SC

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0	ISL	16.51	16.51	33.544	24.512	341.3	.000	5.69	102.2							0
1	1		16.51	16.51	33.544	24.512	341.3	.003	5.69	102.2	2.0	.32	.0	.00	.08	.03	1
	10	ISL	16.50	16.50	33.544	24.515	341.3	.034	5.77	103.5							10
1	11		16.50	16.50	33.545	24.516	341.2	.037	5.77	103.6	1.9	.32	.0	.00	.08	.03	11
	20	ISL	16.50	16.50	33.548	24.518	341.4	.068	5.75	103.3							20
1	27		16.51	16.50	33.550	24.518	341.6	.092	5.72	102.7	1.9	.32	.0	.00	.08	.03	27
	30	ISL	16.51	16.50	33.550	24.518	341.6	.102	5.71	102.6							30
1	43		16.51	16.50	33.550	24.519	342.0	.146	5.70	102.3	1.9	.32	.0	.00	.08	.03	43
	50	ISL	16.50	16.50	33.549	24.519	342.2	.171	5.70	102.3							50
1	59		16.50	16.49	33.548	24.520	342.5	.201	5.70	102.3	1.9	.32	.0	.00	.08	.03	59
1	70		16.50	16.49	33.549	24.520	342.7	.238	5.70	102.3	1.9	.31	.0	.00	.08	.04	70
	75	ISL	16.42	16.41	33.559	24.546	340.5	.256	5.73	102.7							76
1	80		16.35	16.34	33.599	24.593	336.1	.272	5.77	103.3	2.0	.31	.0	.00	.11	.06	80
1	96		14.37	14.36	33.543	24.988	298.7	.323	5.89	101.3	2.3	.35	.2	.02	.18	.22	96
	100	ISL	14.09	14.07	33.519	25.029	294.9	.336	5.88	100.5							101
1	111		13.56	13.54	33.455	25.088	289.5	.367	5.79	97.9	2.8	.43	.8	.07	.17	.27	111
	125	ISL	12.64	12.62	33.384	25.217	277.5	.408	5.57	92.3							126
1	126		12.55	12.53	33.381	25.231	276.1	.412	5.54	91.6	3.9	.59	3.4	.02	.12	.25	127
	150	ISL	11.79	11.77	33.554	25.509	250.1	.474	5.01	81.6							151
1	152		11.72	11.70	33.577	25.540	247.2	.479	4.95	80.6	8.3	.88	9.0	.01	.04	.09	153
1	172		10.57	10.55	33.645	25.800	222.7	.526	4.50	71.5	13.5	1.21	14.2	.00	.02	.05	173
1	193		9.76	9.74	33.711	25.990	204.8	.571	4.00	62.4	19.7	1.51	19.0	.00			194
	200	ISL	9.49	9.47	33.758	26.071	197.1	.585	3.84	59.6							201
1	213		9.03	9.01	33.850	26.217	183.4	.609	3.60	55.3	26.0	1.73	22.7	.00			214
1	244		8.41	8.39	33.966	26.404	165.9	.663	3.46	52.5	31.9	1.86	24.9	.00			245
	250	ISL	8.29	8.26	33.978	26.432	163.4	.673	3.40	51.4							252
1	285		7.66	7.64	34.012	26.552	152.2	.728	2.94	43.8	40.7	2.11	28.2	.00			286
	300	ISL	7.41	7.39	34.024	26.596	148.2	.751	2.70	40.0							302
1	345		6.79	6.76	34.049	26.702	138.4	.816	2.01	29.4	54.5	2.50	33.6	.00			347
	400	ISL	6.22	6.19	34.087	26.808	128.8	.889	1.36	19.6							403
1	421		6.05	6.01	34.105	26.844	125.4	.916	1.15	16.5	69.4	2.85	38.1	.00			424
1	499		5.59	5.55	34.197	26.974	113.8	1.009	.59	8.4	81.2	3.10	40.5	.00			502
	500	ISL	5.59	5.55	34.198	26.975	113.7	1.010	.58	8.3							504
1	577		5.40	5.35	34.263	27.051	107.4	1.096	.39	5.5	87.8	3.18	41.3	.00			581

RV DAVID STARR JORDAN CALCOFI CRUISE 8602 STATION 90 120

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
30 25.4 N	124 00.0 W	09/02/86	1508 GMT	A210 M	360	15 KT	310 05 05	2	1016.1 MB	14.1 C	10.4 C	8/8	s'C

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0	ISL	17.25	17.25	33.766	24.510	341.5	.000	5.60	102.2							0
1	1		17.25	17.25	33.766	24.510	341.6	.003	5.60	102.2	2.0	.29	.1	.00	.06	.02	1
1	10		17.25	17.25	33.765	24.508	341.9	.034	5.64	102.9	2.0	.29	.1	.00	.06	.02	10
	20	ISL	17.26	17.26	33.765	24.506	342.5	.068	5.63	102.7							20
1	26		17.27	17.26	33.765	24.505	342.8	.089	5.62	102.5	2.0	.29	.1	.00	.06	.02	26
	30	ISL	17.27	17.26	.13.764	24.505	342.9	.103	5.61	102.4							30
1	43		17.27	17.26	33.764	24.505	343.4	.147	5.59	102.0	2.0	.29	.1	.00	.06	.02	43
	50	ISL	17.26	17.26	33.763	24.506	343.6	.171	5.59	102.1							50
1	58		17.26	17.25	33.763	24.506	343.8	.198	5.60	102.2	2.0	.29	.1	.00	.06	.02	58
1	7D		17.28	17.27	33.766	24.505	344.3	.239	5.63	102.7	2.0	.29	.1	.00	.06	.02	70
	75	ISL	17.20	17.19	33.812	24.559	339.4	.257	5.69	103.7							76
1	79		17.07	17.05	33.838	24.611	334.5	.270	5.74	104.4	2.0	.29	.1	.00	.10	.06	79
1	94		15.42	15.41	33.718	24.896	307.7	.318	5.87	103.2	2.3	' .30	.1	.00	.13	.17	94
	100	ISL	15.03	15.02	33.691	24.959	301.7	.337	5.84	101.9							101
1	110		14.64	14.62	33.674	25.031	295.1	.366	5.80	100.4	2.4	.34	.2	.04	.19	.31	110
1	125		14.10	14.08	33.719	25.182	281.2	.411	5.62	96.2	2.9	.41	1.2	.03	.12	.28	126
	150	ISL	12.47	12.45	33.673	25.474	253.6	.477	5.20	86.0							151
1	151		12.37	12.35	33.670	25.490	252.1	.480	5.17	85.4	6.8	.75	6.9	.01	.04	.08	152
1	171		11.44	11.42	33.695	25.684	233.9	.529	4.84	78.4	9.5	.94	10.3	.00	.03	.04	172
1	193		10.32	10.30	33.715	25.898	213.7	.578	4.43	70.0	15.2	1.24	15.3	.00			194
	200	ISL	9.94	9.91	33.755	25.995	204.5	.592	4.21	65.9							201
1	213		9.27	9.25	33.841	26.171	187.8	.618	3.78	58.4	24.3	1.62	21.4	.00			214
1	243		8.50	8.47	33.956	26.384	167.9	.671	3.28	49.8	32.1	1.89.	25.2	.00			244
	250	ISL	8.34	8.32	33.973	26.420	164.5	.683	3.17	48.0							252
1	286		7.72	7.69	34.025	26.553	152.1	.739	2.67	39.9	41.6	2.18	29.2	.00			287
	300	ISL	7.54	7.51	34.039	26.591	148.8	.761	2.47	36.7							302
1	346		7.02	6.99	34.065	26.683	140.3	.827	1.88	27.6	53.1	2.51	33.5	.00			348
	400	ISL	6.26	6.22	34.084	26.801	129.5	.900	1.35	19.4							403
1	422		5.96	5.92	34.093	26.846	125.2	.929	1.16	16.6	69.9	2.84	38.2	.00			425
1	499		5.42	5.38	34.164	26.968	114.1	1.020	.64	9.1	82.4	3.07	40.9	.00			502
	500	ISL	5.42	5.37	34.166	26.971	113.9	1.021	.63	9.0							504
1	575		5.14	5.09	34.257	27.076	104.6	1.103	.35	4.9	92.2	3.20	42.1	.00			579

RV DAVID STARR JORDAN CALCOFI CRUISE 8602 STATION 93 26.7

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
32 57.1 N	117 18.1 W	05/02/86	2254 GMT	64 M	200	11 KT	240 05 08	1	1018.7 MB	16.8 C	14.9 C	2/8	SC

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0	ISL	15.62	15.62	33.506	24.684	325.3	.000	5.95	105.0							0
1	1		15.62	15.62	33.506	24.684	324.9	.003	5.95	105.0	2.4	.36	.3	.03	.48	.24	1
	10	ISL	15.42	15.42	33.504	24.729	320.9	.032	5.98	105.0							10
1	11		15.40	15.39	33.504	24.733	320.5	.035	5.98	105.0	2.2	.36	.2	.01	.60	.33	11
	20	ISL	14.50	14.50	33.476	24.906	304.3	.064	5.75	99.2							20
1	22		14.25	14.25	33.469	24.953	299.9	.069	5.68	97.4	4.1	.55	1.5	.18	.38	.38	22
	30	ISL	13.13	13.13	33.440	25.160	280.4	.093	5.33	89.4							30
1	32		12.88	12.87	33.439	25.210	275.7	.098	5.24	87.3	6.1	.78	5.6	.15	.34	.37	32
	50	ISL	11.24	11.24	33.607	25.648	234.4	.144	4.15	66.9							50
1	54		11.05	11.04	33.671	25.734	226.3	.153	3.88	62.3	16.8	1.41	16.4	.08	.05	.24	54

RV DAVID STARR JORDAN CALCOFI CRUISE 8602 STATION 93 29

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
32 52.6 N	117 27.4 W	06/02/86	0115 GMT	659 M	240	11 KT	240 04 08	1	1017.7 MB	15.8 C	13.9 C	1/8	SC

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN	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	33.529	24.689	324.2	.000		103.7							0
1	2		15.68	15.68	33.529	24.689	324.4	.006	5 . (.47	103.7	2.1	.33	.2	.00	.14	.06	2
	10	ISL	15.69	15.69	33.527	24.686	325.0	.032	5.93	104.7							10
1	12		15.69	15.69	33.527	24.685	325.1	.039	5.93	104.8	2.1	.32	.3	.00	.13	.06	12
	20	ISL	15.59	15.59	33.525	24.706	323.4	.065	5.89	103.9							20
1	23		15.56	15.55	33.524	24.713	322.8	.074	5.88	103.6	2.1	.33	.2	.02	.14	.07	23
	30	ISL	14.62	14.62	33.472	24.877	307.4	.097	5.90	102.0							30
1	33		14.18	14.18	33.451	24.954	300.1	.105	5.91	101.2	3.2	.43	.5	.04	.52	.34	33
1	43		13.09	13.09	33.419	25.152	281.5	.134	5.48	91.7	5.0	.64	3.5	.13	.47	.40	43
	50	ISL	12.68	12.67	33.425	25.238	273.5	.154	5.27	87.5							50
1	54		12.52	12.51	33.437	25.279	269.6	.164	5.16	85.4	6.4	.81	6.5	.06	.41	.37	54
1	63		12.01	12.00	33.490	25.417	256.6	.188	4.76	77.9	9.2	1.00	9.8	.03	.20	.30	63
1	73		11.65	11.64	33.570	25.547	244.6	.213	4.36	70.9	12.3	1.17	12.7	.02	.12	.20	73
	75	ISL	11.55	11.54	33.578	25.570	242.4	.219	4.31	69.8							76
1	90		11.01	11.00	33.636	25.714	229.0	.253	4.00	64.1	15.5	1.37	16.0	.00	.05	.11	90
	100	ISL	10.74	10.73	33.740	25.842	217.1	.276	3.64	58.1							101
1	104		10.65	10.64	33.783	25.893	212.3	.286	3.49	55.6	20.6	1.62	19.4	.00	.02	.06	105
1	124		10.29	10.28	33.842	26.001	202.4	.327	3.13	49.5	23.5	1.73	21.4	.00	.01	.06	125
	125	ISL	10.28	10.27	33.845	26.005	202.0	.328	3.12	49.3							126
1	150		9.85	9.83	33.978	26.183	185.6	.377	2.68	42.0	27.9	1.95	24.1	.00	.00	.04	151
1	180		9.36	9.34	34.045	26.316	173.5	.431	2.43	37.7	32.3	2.08	26.1	.01			181
	200	ISL	9.09	9.07	34.052	26.365	169.2	.465	2.19	33.7							201
1	210		8.98	8.96	34.058	26.388	167.1	.482	2.07	31.8	37.2	2.25	28.0	.00			211
1	241		8.70	8.68	34.166	26.516	155.5	.531	1.86	28.4	40.3	2.37	29.2	.00			242
	250	ISL	8.64	8.61	34.167	26.527	154.1	.546	1.81	27.7							252
1	280		8.40	8.37	34.171	26.567	151.2	.592	1.68	25.5	43.4	2.44	30.3	.00			282
	300	ISL	8.12	8.09	34.171	26.610	147.4	.621	1.58	23.8							302
1	341		7.51	7.48	34.178	26.705	138.7	.680	1.33	19.8	53.1	2.63	33.3	.00			343
	400	ISL	7.08	7.04	34.225	26.802	130.1	.759	.88	12.9							403
1	417		6.99	6.95	34.241	26.828	127.9	.782	.75	11.0	62.5	2.88	36.1	.00			420
1	495		6.48	6.43	34.296	26.941	117.9	.877	.43	6.2	71.8	3.05	38.1	.00			498
	500	ISL	6.44	6.40	34.299	26.948	117.3	.883	.42	6.0							504
1	573		5.97	5.91	34.335	27.038	109.2	.966	.30	4.3	80.8	3.17	39.7	.00			577

RV DAVID STARR JORDAN CALCOFI CRUISE 8602 STATION 93 30

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUT' AMT	TYPE
32 50.8 N	117 31.9 W	06/02/86	0322 GMT	886 M	240	07 KT			1017.8 MB	14.9 C	13.1 C		

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A- UG/L	PHAEC UG/L	PRESS D.BAR
	0 ISL	15.71	15.71	33.533	24.686	324.7	.000	5.85	103.4							0
1	1	15.71	15.71	33.533	24.686	324.7	.003	5.85	103.4	1.8	.31	.0	.00	.22	.09	1
1	10	15.70	15.70	33.531	24.687	324.9	.032	5.88	103.9	1.8	.31	.0	.00	.21	.09	10
	20 ISL	15.58	15.57	33.525	24.710	323.0	.065	5.86	103.3							20
1	21	15.57	15.56	33.525	24.712	322.8	.068	5.86	103.3	1.8	.33	.0	.01	.21	.10	21
	30 ISL	14.83	14.82	33.480	24.839	311.0	.097	5.89	102.2							30
1	31	14.73	14.73	33.475	24.856	309.4	.099	5.89	102.0	3.0	.44	.6	.07	.87	.37	31
1	41	13.43	13.42	33.432	25.094	286.9	.129	5.65	95.3	3.8	.55	2.1	.16	.56	.44	41
	50 ISL	12.80	12.80	33.471	25.249	272.4	.155	4.8/	81.1							50
1	52	12.72	12.71	33.481	25.273	270.1	.159	4.73	78.6	8.5	.94	7.6	.66	.35	.32	52
1	62	12.17	12.16	33.505	25.399	258.4	.186	4.65	76.4	9.6	1.03	10.0	.09	.19	.30	62
1	72	11.86	11.85	33.551	25.493	249.7	.211	4.38	71.5	11.5	1.12	11.6	.04	.18	.24	72
	75 ISL	11.73	11.72	33.569	25.531	246.1	.219	4.29	69.8							76
1	87	11.25	11.24	33.639	25.673	232.9	.247	3.98	64.2	15.0	1.32	15.1	.01	.06	.13	87
	100 ISL	10.83	10.81	33.722	25.814	219.7	.277	3.74	59.8							101
1	103	10.76	10.74	33.739	25.839	217.3	.283	3.69	58.9	18.7	1.50	18.0	.01	.03	.10	103
1	121	10.36	10.34	33.902	26.036	199.0	.322	2.87	45.5	24.6	1.80	21.9	.00	.01	.05	122
	125 ISL	10.28	10.27	33.913	26.058	197.1	.329	2.86	45.3							126
1	148	9.84	9.82	33.947	26.160	187.7	.374	2.81	44.0	26.9	1.90	23.5	.00	.01	.05	149
	150 ISL	9.81	9.80	33.955	26.170	186.8	.377	2.79	43.6							151
1	177	9.46	9.44	34.074	26.323	172.8	.426	2.36	36.7	32.2	2.10	26.0	.00			178
	200 ISL	9.22	9.20	34.142	26.414	164.5	.465	2.07	32.1							201
1	209	9.15	9.13	34.162	26.443	162.0	.479	1.97	30.4	36.4	2.27	27.9	.00			210
1	238	8.94	8.92	34.221	26.521	155.0	.525	1.60	24.6	40.1	2.41	29.3	.00			239
	250 ISL	8.86	8.83	34.239	26.549	152.6	.544	1.47	22.6							252
1	278	8.60	8.57	34.259	26.606	147.6	.586	1.26	19.2	44.8	2.56	30.8	.00			280
	300 ISL	8.23	8.20	34.237	26.645	144.1	.618	1.25	18.8							302
1	338	7.57	7.54	34.192	26.707	138.5	.672	1.22	18.2	52.8	2.66	33.4	.00			340
	400 ISL	7.10	7.06	34.222	26.797	130.6	.755	.89	13.1							403
1	414	7.03	6.99	34.235	26.817	128.9	.774	.80	11.8	61.3	2.86	35.9	.00			417
1	489	6.47	6.43	34.277	26.926	119.2	.866	.46	6.7	70.9	3.02	38.0	.00			492
	500 ISL	6.41	6.36	34.284	26.941	118.0	.879	.43	6.2							504
1	565	6.13	6.07	34.325	27.010	112.0	.954	.32	4.6	78.2	3.12	39.4	.00			569

RV DAVID STARR JORDAN CALCOFI CRUISE 8602 - STATION 93 35

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
32 40.8 N	117 52.4 W	06/02/86	0704 GMT	617 M	310	15 KT			1018.3 MB	14.9 C	13.2 C		

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0 ISL	15.23	15.23	33.513	24.777	316.0	.000	5.92	103.6							0
1	1	15.23	15.23	33.513	24.777	316.1	.003	5.92	103.6	2.2	.32	.1	.00	.15	.06	1
	10 ISL	15.24	15.24	33.512	24.773	316.7	.032	5.89	103.2							10
1	11	15.24	15.24	33.512	24.773	316.7	.035	5.89	103.1	2.2	.33	.0	.00	.14	.09	11
	20 ISL	15.19	15.19	33.509	24.783	316.1	.063	5.95	104.1							20
1	22	15.18	15.17	33.508	24.785	316.0	.069	5.96	104.2	2.2	.33	.0	.00	.16	.09	22
	30 ISL	14.52	14.52	33.473	24.898	305.3	.094	5.89	101.5							30
1	32	14.33	14.33	33.465	24.933	302.1	.100	5.85	100.5	2.8	.40	.4	.05	.50	.31	32
1	43	13.26	13.25	33.440	25.135	283.1	.132	5.43	91.2	4.6	.61	3.2	.11	.53	.42	43
	50 ISL	12.94	12.93	33.441	25.199	277.5	.152	5.33	89.0							50
1	53	12.84	12.83	33.442	25.219	275.3	.160	5.29	88.1	5.6	.72	5.1	.09	.41	.40	53
1	63	12.21	12.20	33.518	25.401	258.3	.186	4.82	79.3	8.4	.93	8.9	.03	.19	.31	63
1	74	11.70	11.69	33.575	25.542	245.1	.214	4.45	72.4	10.7	1.10	11.8	.02	.11	.19	74
	75 ISL	11.65	11.64	33.583	25.557	243.7	.217	4.40	71.5							76
1	88	11.24	11.23	33.649	25.683	232.0	.247	4.01	64.6	14.5	1.29	14.8	.01	.06	.12	88
	100 ISL	10.98	10.97	33.685	25,758	225.1	.276	3.82	61.2							101
1	104	10.91	10.90	33.693	25.777	223.4	.283	3.78	60.5		1.44	17.0	.01	.04	.09	104
1	125	10.31	10.30	33.784	25.952	207.1	.331	3.39	53.6	21.3	1.63	20.0	.00	.02	.05	126
1	150	9.89	9.87	33.936	26.143	189.4	.380	2.86	44.8	26.4	1.87	23.2	.00	.01	.05	151
1	181	9.58	9.56	34.059	26.292	175.9	.436	2.44	38.0	30.8	2.06	25.5	.00			182
	200 ISL	9.30	9.28	34.090	26,361	169.6	.469	2.36	36.6							201
1	212	9.12	9.10	34.101	26.398	166.2	.489	2.33	35.9	34.5	2.14	26.9	.00			213
1	243	8.76	8.74	34.137	26.484	158.6	.539	2.07	31.7	38.5	2.26	28.4	.00			244
	250 ISL	8.66	8.64	34.144	26.505	156.6	.550	2.00	30.5							252
1	283	8.20	8.17	34.170	26.596	148.4	.601	1.68	25.4	45.0	2.44	30.6	.00			285
	300 ISL	8.01	7.98	34.181	26.634	145.0	.626	1.53	23.0							302
1	345	7.52	7.48	34.206	26.726	136.8	.689	1.14	17.0	54.8	2.70	33.5	.00			347
	400 ISL	6.94	6.90	34.245	26.837	126.7	.761	.72	10.6							403
1	422	6.74	6.70	34.261	26.878	123.1	.789	.59	8.6	66.9	2.96	36.9	.00			425
1	499	6.32	6.27	34.310	26.973	114.8	.880	.38	5.5	74.3	3.08	38.3	.00			502
	500 ISL	6.31	6.27	34.311	26.974	114.7	.882	.38	5.5							504
1	576	5.85	5.80	34.345	27.061	107.0	.966	.25	3.6	83.5	3.17	39.6	.01			580

RV DAVID STARR JORDAN CALCOFI CRUISE 8602 STATION 93 40

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
32 30.8 N	118 12.8 W	06/02/86	1132 GMT	1603 M	310	24 KT			1016.5 MB	13.7 C	12.0 C		

CAST	DEPTH M		TEMP DEG C	POT TEMP DEC C	SALINITY	SIGMA THETA	SVA	DYN HT	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	15.32	15.32	33.513	24.757	318.0	.000	5.85	102.6							0
1	3		15.32	15.32	33.513	24.757	318.0	.010	5.85	102.6	1.7	.32	.1	.00	.18	.07	3
	10	ISL	15.32	15.32	33.513	24.757	318.3	.032	5.86	102.7							10
1	13		15.32	15.32	33.512	24.756	318.4	.041	5.86	102.7	1.7	.35	.1	.00	.17	.08	13
	20	ISL	15.33	15.33	33.511	24.753	319.0	.064	5.85	102.6							20
1	23		15.34	15.33	33.511	24.752	319.1	.073	5.85	102.6	1.8	.33	.1	.00	.17	.08	23
1	30		15.32	15.31	33.510	24.756	319.0	.095	5.87	102.9	1.8	.34	.1	.00	.17	.08	30
1	42		13.77	13.76	33.395	24.997	296.3	.132	5.91	100.3	2.5	.44	.9	.11	.60	.27	42
	50	ISL	12.66	12.66	33.344	25.178	279.2	.155	5.61	93.1							50
1	52		12.47	12.46	33.339	25.212	276.0	.160	5.54	91.5	4.4	.68	4.5	.07	.41	.27	52
1	62		12.24	12.23	33.379	25.288	269.0	.188	5.30	87.1	6.2	.78	6.4	.05	.32	.27	62
1	72		11.89	11.88	33.454	25.412	257.4	.214	4.90	80.0	8.3	.96	9.1	.04	.22	.26	72
	75	ISL	11.79	11.78.	33.483	25.453	253.6	.222	4.76	77.6							76
1	87		11.42	11.41	33.582	25.597	240.1	.251	4.31	69.7	12.3	1.20	13.0	.02	.10	.16	87
1	100		10.81	10.80	33.674	25.780	223.0	.281	3.88	62.0	16.1	1.42	16.5	.01	.04	.10	100
1	121		10.17	10.15	33.764	25.962	206.0	.328	3.50	55.1	20.9	1.61	19.9	.00	.02	.04	122
	125	ISL	10.05	10.04	33.787	25.999	202.6	.335	3.42	53.8							126
1	144		9.51	9.50	33.910	26.185	185.2	.372	3.01	46.8	26.3	1.85	23.3	.00	.00	.04	145
	150	ISL	9.41	9.39	33.934	26.221	181.9	.383	2.94	45.6							151
1	177		9.08	9.06	34.022	26.343	170.7	.431	2.66	41.0	31.8	2.03	25.8	.00			178
	200	ISL	8.90	8.88	34.106	26.437	162.2	.469	2.25	34.6							201
1	207		8.86	8.84	34.127	26.460	160.1	.480	2.13	32.7	37.5	2.24	27.8	.00			208
1	237		8.69	8.67	34.175	26.525	154.5	.527	1.81	27.7	40.1	2.36	28.9	.00			238
	250	ISL	8.61	8.59	34.195	26.553	152.1	.547	1.66	25.3							252
1	279		8.39	8.36	34.229	26.614	146.7	.591	1.36	20.7	45.6	2.54	30.7	.00			281
	300	ISL	8.13	8.10	34.229	26.654	142.9	.621	1.22	18.4							302
1	342		7.56	7.53	34.228	26.737	135.7	.679	1.01	15.0	54.8	2.74	33.6	.00			344
	400	ISL	7.03	7.00	34.242	26.822	128.2	.756	.78	11.4							403
1	421		6.88	6.84	34.250	26.850	125.8	.783	.70	10.3	64.5	2.92	36.3	.00			424
	500	ISL	6.35	6.31	34.295	26.957	116.4	.878	.40	5.7							504
1	502		6.34	6.30	34.296	26.958	116.2	.880	.39	5.6	74.0	3.07	38.4	.00			505
1	578		5.86	5.81	34.344	27.058	107.4	.966	.26	3.7	83.2	3.17	39.9	.00			582

RV DAVID STARR JORDAN CALCOFI CRUISE 8602 STATION 93 45

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
32 20.5 N	118 33.7 W	06/02/86	1521 GMT	1169 M	300	28 KT	300 07 06	1	1016.7 MB	12.8 C	11.2 C	5/8	SC

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0	ISL	14.19	14.19	33.391	24.905	303.8	.000	5.95	101.9							0
1	2		14.19	14.19	33.391	24.905	303.8	.006	5.95	101.9	2.5	.37	.3	.02	.48	.16	2
	10	ISL	14.19	14.19	33.391	24.905	304.1	.030	5.99	102.5							10
1	12		14.19	14.19	33.391	24.905	304.2	.036	5.99	102.6	2.6	.38	.3	.02	.47	.17	12
	20	ISL	14.18	14.18	33.391	24.907	304.2	.061	5.98	102.4							20
1	26		14.18	14.18	33.391	24.908	304.3	.079	5.97	102.2	2.6	.39	.3	.02	.45	.19	26
	30	ISL	14.00	14.00	33.389	24.944	300.7	.091	5.94	101.3							30
1	43				33.383			.129	5.85	98.1	3.2	.45	1.0	.08	.47	.22	43
	50	ISL	12.72	12.72	33.386	25.199	276.9	.149	5.57	92.4							50
1	57		12.33	12.32	33.388	25.277	269.9	.167	5.30	87.3	6.3	.78	6.2	.05	.34	.25	57
1	66		12.11	12.11	33.402	25.329	265.2	.191	5.16	84.6	7.0	.85	7.3	.04	.23	.30	66
	75	ISL	11.61	11.60	33.453	25.463	252.6	.215	4.84	78.6							76
1	77		11.51	11.50	33.465	25.490	250.1	.220	4.78	77.4	10.1	1.06	10.9	.02	.14	.20	77
1	91		10.91	10.90	33.549	25.664	233.8	.253	4.35	69.6	13.7	1.27	14.5	.01	.07	.13	91
	100	ISL	10.53	10.52	33.618	25.784	222.5	.275	4.04	64.1							101
1	104		10.37	10.36	33.649	25.837	217.5	.285	3.91	61.8	18.0	1.47	17.8	.00	.02	.08	105
1	120		9.93	9.91	33.718	25.966	205.5	.318	3.66	57.4	21.1	1.60	20.0	.00	.01	.06	121
	125	ISL	9.86	9.84	33.732	25.989	203.5	.328	3.60	56.4							126
1	143		9.60	9.58	33.800	26.085	194.6	.364	3.34	52.0	24.4	1.75	22.1	.00	.01	.05	144
	150	ISL	9.41	9.40	33.853	26.156	187.9	.377	3.17	49.2							151
1	163		9.09	9.07	33.949	26.284	176.1	.401	2.87	44.2	30.2	1.95	25.1	.00	.00	.03	164
1	180		9.co	8.98	33.988	26.329	172.1	.430	2.71	41.7	32.1	2.02	26.0	.00			181
1	199		8.58	8.56	34.021	26.421	163.5	.462	2.68	40.8	34.7	2.06	27.0	.00			200
	200	ISL	8.56	8.54	34.023	26.426	163.1	.464	2.67	40.7							201
1	226		8.23	8.21	34.087	26.526	154.0	.504	2.34	35.4	39.7	2.22	28.6	.00			227
	250	ISL	8.07	8.04	34.149	26.600	147.4	.541	1.87	28.2							252
1	264		7.98	7.96	34.182	26.638	143.9	.562	1.59	23.9	46.5	2.50	31.2	.00			266
	300	ISL	7.61	7.58	34.228	26.729	135.8	.612	1.15	17.2							302
1	320		7.38	7.35	34.241	26.772	131.9	.639	.98	14.5	56.0	2.75	34.2	.00			322
1	395		6.76	6.72	34.255	26.870	123.4	.735	.65	9.5	65.0	2.92	36.6	.00			398
	400	ISL	6.74	6.70	34.257	26.875	123.0	.741	.63	9.3							403
1	474		6.37	6.32	34.293	26.953	116.4	.829	.43	6.2	72.3	3.04	38.2	.00			477
	500	ISL	6.22	6.18	34.305	26.981	113.9	.859	.37	5.4							504
1	561		5.86	5.81	34.332	27.049	107.9	.927	.27	3.9	82.2	3.16	40.0	.00			565

RV DAVID STARR JORDAN CALCOFI CRUISE 8602 STATION 93 50

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	KIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
32 10.8 N	118 53.9 W	07/02/86	1254 GMT	1508 M	310	13 KT	300 05	05	1015.2 MB	13.0 C	9.7 C		

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/'L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0	ISL	14.03	14.03	33.353	24.910	303.3	.000	5.93	101.2							0
1	1		14.03	14.03	33.353	24.910	303.4	.003	5.93	101.2	2.7	.41	.7	.02	.45	.21	1
1	10		14.03	14.03	33.351	24.907	303.9	.030	6.00	102.4	2.9	.41	.7	.02	.44	.17	10
	20	ISL	14.04	14.04	33.351	24.906	304.3	.061	5.98	102.0							20
1	27		14.04	14.04	33.351	24.906	304.5	.082	5.94	101.4	2.9	.41	.7	.02	.45	.17	27
	30	ISL	14.04	14.03	33.351	24.906	304.5	.091	5.93	101.3							30
1	42		14.02	14.02	33.349	24.909	304.6	.127	5.91	100.8	3.0	.42	.8	.03	.44	.18	42
	50	ISL	13.18	13.17	33.388	25.112	285.5	.151	5.51	92.3							50
1	57		12.33	12.33	33.425	25.305	267.2	.170	5.14	84.7	6.9	.83	7.0	.10	.32	.35	57
1	68		11.34	11.33	33.433	25.496	249.2	.198	4.85	78.2	9.7	1.04	11.0	.03	.15	.22	68
	75	ISL	11.14	11.14	33.486	25.573	242.0	.216	4.60	73.9							76
1	78		11.12	11.11	33.509	25.596	239.9	.223	4.50	72.3	12.5	1.21	13.3	.01	.09	.15	78
1	95		10.74	10.73	33.632	25.759	224.8	.262	3.95	63.0	16.8	1.43	17.1	.01	.07	.19	95
	100	ISL	10.38	10.37	33.686	25.863	215.0	.274	3.73	59.0							101
1	109		9.76	9,75	33.778	26.040	198.2	.293	3.37	52.6	23.8	1.73	21.9	.00	.01	.05	II0
1	124		9.40	9.39	33.869	26.171	186.1	.322	3.08	47.7	27.4	1.86	23.9	.00	.01	.05	125
	125	ISL	9.38	9.37	33.870	26.175	185.7	.323	3.08	47.7							126
1	150		8.82	8.81	33.919	26.303	173.9	.369	3.12	47.8	30.4	1.90	25.2	.00	.00	.03	151
1	170		8.77	8.75	33.983	26.362	168.7	.403	2.77	42.4	33.2	2.03	26.4	.00	.00	.04	171
1	190		8.65	8.63	34.060	26.441	161.5	.435	2.38	36.3	36.6	2.17	28.0	.00			191
	200	ISL	8.38	8.36	34.056	26.479	158.1	.451	2.44	36.9							201
1	212		8.05	8.03	34.044	26.519	154.3	.47 0	2.52	37.9	40.3	2.19	28.9	.00			213
1	241		7.80	7.78	34.102	26.601	146.9	.513	2.01	30.1	45.6	2.37	30.9	.00			242
	250	ISL	7.74	7.71	34.109	26.617	145.6	.527	1.88	28.1							252
1	283		7.51	7.49	34.126	26.663	141.7	.575	1.49	22.2	51.3	2.58	32.9	.00			285
	300	ISL	7.40	7.37	34.146	26.695	138.9	.598	1.30	19.3							302
1	343		7.12	7.09	34.202	26.779	131.5	.656	.88	13.0	59.5	2.80	35.4	.00			345
	400	ISL	6.85	6.81	34.268	26.869	123.7	.729	.56	8.2							403
1	419		6.76	6.72	34.286	26.895	121.4	.753	.49	7.2	67.7	3.01	37.2	.00			422
1	495		6.21	6.16	34.311	26.988	113.2	.841	.32	4.6	76.6	3.10	39.1	.00			498
	500	ISL	6.17	6.12	34.313	26.994	112.6	.847	.31	4.5							504
1	572		5.65	5.60	34.355	27.093	103.7	.925	.26	3.7	86.6	3.20	40.4	.00			576

RV DAVID STARR JORDAN CALCOFI CRUISE 8602 STATION 93 55

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
32 00.8 N	119 13.9 W	07/02/86	1620 GMT	1575 M	320	10 KT	320 05	06 1	1016.4 MB	13.8 C	10.4 C	1/8	AS

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
1	0		14.07	14.07	33.481	25.000	294.8	.000	5.87	100.3	2.9	.47	1.3	.05	.49	.19	0
	10	ISL	14.05	14.04	33.481	25.005	294.6	.029	5.93	101.2							10
1	11		14.05	14.04	33.481	25.005	294.6	.032	5.93	101.3	3.1	.49	1.3	.05	.50	.21	11
	20	ISL	14.05	14.05	33.481	25.004	294.9	.059	5.92	101.2							20
1	27		14.06	14.05	33.481	25.003	295.3	.079	5.92	101.1	2.8	.45	1.3	.05	.48	.22	27
	30	ISL	14.06	14.05	33.481	25.003	295.3	.088	5.91	101.0							30
1	42		14.05	14.04	33.481	25.005	295.5	.123	5.88	100.4	2.9	.46	1.3	.05	.49	.19	42
	50	ISL	13.64	13.64	33.491	25.097	287.0	.147	5.65	95.7							50
1	59		13.21	13.20	33.503	25.194	278.0	.172	5.40	90.7	5.7	.70	4.9	.12	.40	.24	59
1	68		11.54	11.53	33.568	25.565	242.7	.195	4.44	72.0	12.2	1.20	12.9	.13	.26	.32	68
	75	ISL	11.08	11.08	33.599	25.671	232.7	.213	4.19	67.3							76
1	80		10.99	10.98	33.611	25.698	230.3	.223	4.14	66.4	15.2	1.38	15.9	.03	.15	.21	80
1	95		10.41	10.40	33.676	25.850	216.1	.257	3.79	60.0	18.5	1.55	18.6	.01	.07	.12	95
	100	ISL	10.20	10.19	33.707	25.910	210.4	.268	3.66	57.7							101
1	II0		9.84	9.83	33.766	26.018	200.4	.290	3.45	54.0	22.9	1.72	21.3	.00	.02	.07	111
1	125		9.47	9.46	33.822	26.123	190.6	.319	3.32	51.5	25.3	1.82	22.8	.00	.02	.08	126
	150	ISL	9.01	9.00	33.948	26.295	174.7	.364	2.84	43.7							151
1	151		9.00	8.98	33.953	26.302	174.1	.366	2.82	43.3	30.8	2.02	25.7	.00	.02	.07	152
1	170		8.75	8.73	33.993	26.373	167.6	.398	2.70	41.3	32.9	2.10	26.7	.00	.02	.05	171
1	191		8.52	8.50	34.045	26.449	160.7	.432	2.43	37,0	36.6	2.21	28.1	.00			192
	200	ISL	8.44	8.42	34.063	26.476	158.4	.447	2.33	35.4							201
1	212		8.34	8.32	34.084	26.507	155.6	.465	2.21	33.5	39.5	2.32	29.1	.00			213
1	242		8.01	7.99	34.119	26.584	148.6	.511	1.92	28.9	43.8	2.45	30.6	.00			243
	250	ISL	7.94	7.92	34.129	26.602	147.1	.523	1.84	27.6							252
1	283		7.70	7.67	34.163	26.665	141.6	.571	1.52	22.7	49.5	2.62	32.4	.00			285
	300	ISL	7.59	7.56	34.180	26.694	139.1	.595	1.36	20.3							302
1	344		7.30	7.26	34.219	26.767	132.7	.654	.99	14.7	56.8	2.84	34.8	.00			346
	400	ISL	6.79	6.75	34.250	26.863	124.2	.726	.66	9.7							403
1	420		6.60	6.56	34.260	26.895	121.2	.751	.58	8.5	67.7	3.04	37.4	.00			423
1	497		6.09	6.05	34.297	26.991	112.8	.841	.41	5.9	76.6	3.16	39.2	.00			500
	500	ISL	6.07	6.03	34.299	26.995	112.5	.844	.40	5.8							504
1	574		5.77	5.72	34.334	27.061	106.8	.925	.30	4.3	83.3	3.23	40.4	.00			578

RV DAVID STARR JORDAN CALCOFI CRUISE 8602 STATION 93 60

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	HAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMI	TYPE
31 50.4 N	119 34.6 W	07/02/86	2027 GMT	1761 M	290	09 KT	310 05 06	1	1016.2 MB	15.8 C	12.0 C	3/8	CU

CAST	DEPTH. M		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0	ISL	14.95	14.95	33.258	24.640	329.3	.000	5.88	102.2							0
1	2		14.95	1.4.95	33.258	24.640	329.1	.007	5.88	102.2	2.1	.38	.2	.00	.13	.05	2
	10	ISL	14.84	14.84	33.257	24.665	327.0	.033	5.93	102.8							10
1	12		14.80	14.80	33.257	24.672	326.3	.039	5.94	102.9	2.2	.38	.2	.00	.13	.07	12
	20	ISL	14.60	14,60	33.268	24.724	321.7	.065	5.95	102.7							20
1	28		14.42	J.4.4.7	33.279	24.771	317.5	.090	5.96	102.5	2.3	.38	.2	.00	.18	.11	28
	30	ISL	14.42	1.4,41.	33.280	24.772	317.4	.097	5.96	102.5							30
1	43		14.39	14.3a	33.281	24.780	317.0	.138	5.96	102.4	2.3	.38	.2	.00	.22	.11	43
	50	ISL	14.32	14.31	33.281	24.795	3 15.7	.161	5.96	102.2							50
1	58		14.21	14.20	33.285	24.820	313.6	.185	5.94	101.7	2.4	.39	.3	.04	.27	.16	58
1	69		14.05	14.04	33.306	24.872	308.9	.219	5.89	100.5	2.4	.43	.5	.12	.27	.20	69
	75	ISL	13.42	13.41	33.298	24.993	297.5	.238	5.82	98.1							76
1	79		13.02	13.01	33.294	25.071	290.1	.249	5.77	96.4	3.3	.55	2.1	.10	.20	.22	79
1	94		12.16	12.15	33.317	25.255	272.9	.291	5.42	88.9	5.1	.73	5.5	.02	.11	.18	94
	100	ISL	11.91	11.90	33.341	25.321	266.7	.308	5.30	86.4							101
1	110		11.56	11.55	33.388	25.422	257.3	.333	5.08	82.3	8.1	.94	9.2	.01	.06	.13	110
1	125		10.80	10.78	33.491	25.639	236.8	.372	4.48	71.4	13.1	1.25	14.8	.00	.03	.06	126
1	149		9.81	9.79	33.709	25.979	204.8	.425	3.81	59.5	20.5	1.57	20.4	.00	.01	.03	150
	150	ISL	9.78	9.76	,33.714	25.988	204.0	.427	3.79	59.2							151
1	170		9.14	9.13	33.839	26.189	185.1	.466	3.35	51.6	26.6	1.79	24.1	.00	.00	.02	171
1	190		8.75	8.73	33.925	26.320	173.1	.501	3.15	48.1	30.5	1.92	25.8	.00			191
	200	ISL	8.62	8.60	33.947	26.358	169.6	.519	3.10	47.2							201
1	211		8.50	8.48	33.963	26.387	167.0	.537	3.06	46.5	32.8	1.97	26.6	.00			212
1	241		8.23	8.21	33.998	26.4.57	160.8	.586	2.97	44.9	35.7	2.04	27.6	.00			242
	250	ISL	8.10	8.08	34.007	26.483	158.4	.601	2.90	43.7							252
1	280		7.64	7.61	34.035	26.573	150.2	.648	2.58	38.5	42.7	2.21	30.1	.00			282
	300	ISL	7.34	7,31	34.051	26.629	145.0	.676	2.26	33.5							302
1	341		6.78	6.75	34.090	26.736	135.1	.734	1.57	22.9	57.3	2.64	35.3	.00			343
	400	ISL	6.36	6.32	34.165	26.852	124.8	.811	.91	13.1							403
1	417		6.27	6.23	34.185	26.879	122.4	.832	.77	11.1	69.5	2.94	38.5	.00			420
1	494		5.79	5.75	34.244	26.987	112.8	.922	.47	6.7	78.6	3.11	40.5	.00			497
	500	ISL	5.76	5.72	34.250	26.995	112.1	.929	.45	6.4							504
1	570		5.52	5.47	34.307	27.071	105.6	1.005	.30	4.3	85.8	3.20	41.4	.00			574

RV DAVID STARR JORDAN CALCOFI CRUISE 8602 STATION 93 70

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
31 30.3 N	120 15.0 W	08/02/86	0248 GMT	3733 M	240	19 KT		5	1012.7 MB	13.8 C	13.8 C	8/8	ST

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN. ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0	ISL	15.32	15.32	33.383	24.656	327.5	.000	5.85	102.5							0
1	1		15.32	15.32	33.383	24.656	327.6	.003	5.85	102.5	2.0	.37	.2	.00	.12	.05	1
	10	ISL	15.34	15.34	33.388	24.656	327.8	.033	5.88	103.0							10
1	11		15.34	15.34	33.388	24.656	327.8	.036	5.88	103.1	2.1	.37	.2	.00	.11	.05	11
	20	ISL	15.35	15.34	33.408	24.671	326.7	.066	5.86	102.8							20
1	27		15.35	15.34	33.424	24.683	325.8	.088	5.84	102.4	2.2	.37	.2	.00	.11	.06	27
	30	ISL	15.35	15.34	33.423	24.683	325.9	.098	5.84	102.3							30
1	43		15.32	15.32	33.420	24.686	326.0	.140	5.83	102.2	2.2	.37	.2	.00	.12	.06	43
	50	ISL	15.31	15.30	33.417	24.688	326.1	.163	5.83	102.1							50
1	58		15.29	15.28	33.414	24.689	326.2	.189	5.83	102.1	2.1	.37	.2	.00	.13	.06	58
1	69		15.27	15.26	33.410	24.690	326.4	.224	5.85	102.4	2.1	.37	.2	.00	.14	.06	69
	75	ISL	15.19	15.17	33.401	24.702	325.4	.245	5.86	102.5							76
1	79		15.14	15.12	33.395	24.709	324.9	.257	5.87	102.4	2.1	.38	.2	.00	.16	.10	79
1	95		13.07	13.06	33,278	25.048	292.7	.306	5.82	97.3	3.1	.51	1.1	.14	.21	.25	95
	100	ISL	12.74	12.73	33.284	25.118	286.2	.322	5.71	94.8							101
1	110		12.38	12.37	33.326	25.220	276,6	.348	5.47	90.1	4.8	.69	4.5	.03	.15	.20	I10
1	125		11.85	11.84	33.459	25.424	257.6	.391	5.05	82.4	7.5	.93	8.5	.02	.08	.14	126
	150	ISL	10.60	10.58	33.592	25.753	226.6	.450	4.37	69.4							151
1	151		10.54	10.52	33.600	25.770	225.0	.453	4.32	68.6	14.9	1.34	15.6	.00	.03	.05	152
1	171		10.19	10.17	33.806	25,992	204.3	.496	3.26	51.4	22.3	1.74	21.0	.00	.01	.04	172
1	191		9.40	9.37	33.839	26.149	189.5	.535	3.43	53.1	25.1	1.75	22.4	.00			192
	200	ISL	9.35	9.33	33.886	26.193	185.5	.552	3.30	51.0							201
1	212		9.30	9.28	33.939	26.243	181.0	.574	3.06	47.3	28.2	1.89	24.2	.00			213
1	244		8.63	8.61	34.019	26.412	165.3	.629	2.84	43.3	34.0	2.05	26.6	.00			245
	250	ISL	8.48	8.46	34.024	26.439	162.8	.639	2.81	42.7							252
1	283		7.75	7.72	34.036	26.558	151.7	.692	2.63	39.3	41.8	2.21	29.3	.01			285
	300	ISL	7.53	7.50	34.046	26.597	148.2	,717	2.46	36.6							302
1	346		7.10	7.07	34.074	26.681	140.7	,783	1.91	28.1	52.3	2,51	33,1	.00			348
	400	ISL	6.59	6.56	34.126	26.791	130.8	.856	1.24	18.1							403
1	422		6.40	6.37	34.148	26.833	126.9	.885	1.00	14.5	66.1	2.87	37.7	.00			425
1	498		5.87	5.83	34.199	26.942	117.1	.977	.60	8.6	76.3	3.05	39.7	.00			501
	500	ISL	5.86	5.81	34,202	26.946	116.8	.980	.59	8.5							504
1	574		5.45	5.40	34.269	27.049	107.5	1.063	.36	5.1	86.3	3.20	41.3	.00			578

RV DAVID STARR JORDAN CALCOFI CRUISE 8602 STATION 9i ?O

LATITUDE	LONGITUDE	DA	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUI: AMI Xii'i
31 10.6 N	120 55.4 W		08/02/86 Kb	0829 GMT	3924 K	32.0	21 XT	31C 08 06	1	1011.5 MB	13.5 C	10.8 C	

CAST	DEPTH M		TEMP DEG C	POT TEMP DEC C	SALINITY	SIGMA TH'ETA	SVA	DYN HT	OXYGEN ML/L	OXY POT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	KO2 UM/L	CHL-A UG/L	PHAKO UG/L	PRESS D.BAR
	0	ISL	15.64	15.64	33.318	24.535	339.1	.000	5.77	101.7							0
1	1		15.64	15.64	33.318	24.535	339.1	.003	5.77	101.7	1.7	.36	.0	.00	.08	.04	1
	10	ISL	15.62	15.62	33.316	24.540	339.0	.034	5.78	101.9							10
1	13		15.61	15.61	33.316	24.540	339.0	.044			1.7	.36	.0	.00	.08	.03	13
	20	ISL	15.63	15.62	33.317	24.538	339.4	.068	5.79	102.1							20
1	29		15.65	15.65	33.318	24.534	340.0	.098	5.80	102.2	1.7	.36	.0	.00	.07	.03	29
	30	ISL	15.65	15.65	33.318	24.535	340.0	.102	5.80	102.2							30
1	44		15.65	15.64	33.326	24.541	339.8	.149	5.80	102.2	1.7	.37	.0	.00	.08	.03	44
	50	ISL	15.64	15.64	33.325	24.542	339.9	.170	5.79	102.1							50
1	60		15.63	15.62	33.324	24.544	340.1	.203	5.78	101.8	1.7	.35	.0	.00	.08	.04	60
1	70		15.64	15.63	33.310	24.531	341.6	.237	5.79	102.0	1.7	.37	.0	.00	.09	.04	70
	75	ISL	15.63	15.62	33.314	24.538	341.1	.255	5.78	101.9							76
1	80		15.61	15.60	33.318	24.544	340.7	.271	5.78	101.8	1.7	.37	.0	.00	.10	.05	80
1	93		14.02	14.00	33.255	24.839	312.8	.313	5.98	101.9	2.3	.43	.2	.06	.23	.26	93
	100	ISL	13.48	13.46	33.275	24.965	300.9	.336	5.92	99.8							101
1	110		13.02	13.01	33.305	25.080	290.1	.364	5.80	96.9	2.7	.51	1.4	.05	.21	.23	II0
1	121		12.60	12.58	33.277	25.141	284.5	.398	5.78	95.7	3.3	.56	2.3		.16	.25	122
	125	ISL	12.45	12.43	33.280	25.173	281.6	.408	5.72	94.4							126
1	150		11.25	11.23	33.403	25,491	251.7	.476	5.04	81.1	8.3	.96	9.6	.01	.05	.08	151
1	170		10.34	10.32	33.586	25.794	223.0	.523	4.42	69.8	14.5	1.33	15.5	.00	.02	.03	171
1	190		9.59	9.57	33.687	26.000	203.7	.565	3.96	61.6	20.4	1.57	20.0	.00			191
	200	ISL	9.27	9.25	33.764	26.111	193.2	.585	3.71	57.3							201
1	210		8.99	8.97	33.840	26.215	183.4	.604	3.48	53.4	26.6	1.79	23.5	.00			211
1	240		8.40	8.37	33.945	26.390	167.2	.656	3.19	48.4	32.3	1.95	26.1	.00			241
	250	ISL	8.22	8.20	33.970	26.436	162.9	.673	3.07	46.3							252
1	281		7.77	7.74	34.026	26.548	152.7	.721	2.66	39.8	40.9	2.18	29.1	.00			282
	300	ISL	7.54	7.51	34.049	26.599	148.0	.750	2.37	35.2							302
1	342		7.10	7.07	34.087	26.690	139.8	.811	1.74	25.6	52.8	2.55	33.7	.00			344
	400	ISL	6.50	6.47	34.151	26.822	127.7	.888	1.00	14.5							403
1	417		6.34	6.30	34.168	26.857	124.4	.911	.82	11.9	68.2	2.93	38.0	.00			420
1	495		5.73	5.68	34.217	26.974	114.0	1.003	.51	7.3	79.2	3.09	40.3	.00			498
	500	ISL	5.70	5.65	34.221	26.980	113.4	1.009	.49	7.0							504
1	575		5.40	5.35	34.287	27.069	105.5	1.091	.29	4.1	88.0	3.20	41.6	.00			579

RV DAVID STARR JORDAN CALCOFI CRUISE 8602 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 35.7 W	08/02/86	1622 GMT	4114 M	340	17 KT	300 08 06	1	1012.9 MB	13.5 C	10.5 C	4/8	SC

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0	ISL	15.72	15.72	33.381	24.566	336.1	.000	5.76	101.7							0
1	2		15.72	15.72	33.381	24.566	336.1	.007	5.76	101.7	1.6	.38	.0	.00	.08	.04	2
	10	ISL	15.72	15.72	33.380	24.566	336.4	.034	5.83	103.0							10
1	12		15.72	15.72	33.379	24.565	336.5	.040	5.84	103.1	1.6	.38	.0	.00	.08	.04	12
	20	ISL	15.73	15.73	33.379	24.563	337.0	.067	5.82	102.8							20
1	28		15.74	15.74	33.379	24.561	337.5	.094	5.80	102.5	1.6	.38	.0	.00	.08	.04	28
	30	ISL	15.74	15.74	33.379	24.561	337.6	.101	5.79	102.4							30
1	42		15.74	15.73	33.377	24.561	337.9	.141	5.77	101.9	1.6	.36	.0	.00	.08	.04	42
	50	ISL	15.74	15.73	33.377	24.562	338.1	.169	5.76	101.8							50
1	58		15.74	15.73	33.377	24.562	338.3	.195	5.76	101.7	1.6	.36	.0	.00	.08	.03	58
1	68		15.75	15.74	33.379	24.560	338.8	.229	5.76	101.8	1.5	.36	.0	.00	.08	.04	68
	75	ISL	15.75	15.73	33.378	24.561	339.0	.253	5.76	101.7							76
1	78		15.74	15.73	33.378	24.562	339.0	.262	5.76	101.7	1.5	.36	.0	.00	.08	.04	78
1	93		13.40	13.39	33.263	24.971	300.1	.310	5.97	100.5	2.3	.45	.3	.11	.20	.30	93
	100	ISL	12.99	12.97	33.267	25.056	292.2	.332	5.89	98.2							101
1	108		12.80	12.79	33.283	25.106	287.6	.3.54	5.76	95.7	3.1	.56	2.1	.06	.17	.28	108
1	122		12.31	12.29	33.314	25.225	276.5	.396	5.64	92.8	3.5	.63	3.5	.02	.13	.19	123
	125	ISL	12.22	12.20	33.318	25.246	274.5	.403	5.60	91.9							126
1	149		11.24	11.22	33.412	25.500	250.7	.46/	5.01	80.6	8.3	.98	9.8	.01	.05	.07	150
	150	ISL	11.21	11.19	33.418	25.510	249.8	.468	4.99	80.2							151
1	169		10.31	10.29	33.593	25.804	222.1	.514	4.36	68.8	14.7	1.32	15.7	.00	.02	.04	170
1	188		9.47	9.45	33.710	26.036	200.2	.554	3.93	60.9	21.0	1.59	20.5	.00			189
	200	ISL	9.17	9.15	33.786	26.145	190.0	.577	3.65	56.2							201
1	209		9.00	8.97	33.839	26.214	183.6	.594	3.46	53.1	26.2	1.79	23.6	.00			210
1	240		8.37	8.35	33.958	26.404	165.9	.647	3.15	47.7	32.8	1.96	26.2	.00			241
	250	ISL	8.21	8.19	33.974	26.440	162.6	.664	3.12	47.1							252
1	280		7.81	7.78	33.992	26.515	155.8	.711	3.01	45.0	38.0	2.05	27.7	.00			281
	300	ISL	7.51	7.48	34.010	26.572	150.5	.743	2.74	40.7							302
1	339		6.99	6.96	34.043	26.671	141.4	.800	2.12	\ 31.1	51.2	2.43	32.8	.00			341
	400	ISL	6.47	6.44	34.093	26.780	131.6	.883	1.39	20.2							403
1	415		6.38	6.34	34.104	26.801	129.7	.902	1.25	18.1	63.6	2.77	36.9	.00			417
1	491		5.89	5.85	34.151	26.901	120.9	.998	.80	11.5	73.9	2.97	39.3	.00			494
	500	ISL	5.84	5.79	34.158	26.913	119.8	1.008	.76	10.8							504
1	567		5.43	5.38	34.209	27.004	111.6	1.086	.51	7.2	84.0	3.11	41.1	.00			571

RV DAVID STARR JORDAN CALCOFI CRUISE 8602 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 15.7 W	08/02/86	2213 GMT	4209 M	330	17 KT	310 07 06	2	1014.2 MB	14.0 C	11.0 C	8/8	SC

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0	ISL	16.07	16.07	33.493	24.573	335.6	.000	5.73	102.0							0
1	2		16.07	16.07	33.493	24.573	335.4	.007	5.73	102.0	2.1	.36	.0	.00	.06	.03	2
1	10		16.04	16.04	33.492	24.581	335.0	.033	5.80	103.1	2.0	.36	.0	.00	.06	.03	10
	20	ISL	16.05	16.05	33.492	24.578	335.5	.067	5.77	102.7							20
1	28		16.06	16.06	33.492	24.576	336.0	.094	5.75	102.3	2.0	.33	.0	.00	.07	.02	28
	30	ISL	16.06	16.06	33.494	24.577	336.0	.101	5.75	102.3							30
1	43		16.08	16.07	33.504	24.582	336.0	.144	5.74	102.2	2.0	.33	.0	.00	.07	.02	43
	50	ISL	16.17	16.16	33.534	24.585	335.8	.168	5.^73	102.1							50
1	59		16.29	16.28	33.581	24.594	335.4	.197	5.71	102.1	2.0	.32	.0	.00	.08	.03	59
1	69		16.39	16.38	33.627	24.606	334.5	.231	5.70	102.1	1.9	.32	.0	.00	.11	.05	69
	75	ISL	15.50	15.49	33.455	24.675	328.1	.251	5.80	102.0							76
1	78		15.07	15.06	33.378	24.709	324.8	.260	5.85	102.0	2.0	.36	.0	.00	.16	.15	78
1	95		14.58	14.56	33.418	24.847	312.1	.314	5.86	101.1	2.5	.40	.0	.01	.24	.26	95
	100	ISL	13.74	13.72	33.349	24.969	300.5	.331	5.81	98.5							101
' 1	109		12.48	12.47	33.281	25.166	281.8	.355	5.65	93.3	3.8	.61	3.2	.05	.15	.29	109
1	125		12.75	12.74	33.547	25.320	267.7	.402	4.95	82.3	6.6	.83	6.9	.02	.12	.22	126
1	150		11.11	11.09	33.673	25.727	229.3	.464	4.28	68.8	13.0	1.21	13.9	.00	.03	.08	151
1	171		10.50	10.48	33.758	25.901	213.0	.510	3.75	59.5	18.6	1.48	18.2	.00	.02	.06	172
1	191		9.87	9.85	33.854	26.083	195.9	.551	3.36	52.6	23.7	1.72	21.6	.00			192
	200	ISL	9.50	9.48	33.867	26.154	189.3	.568	3.42	53.1							201
1	212		9.04	9.02	33.877	26.237	181.5	.590	3.54	54.4	26.9	1.76	23.0	.00			213
1	244		8.46	8.43	33.954	26.388	167.5	.645	3.30	50.1	32.2	1.91	25.3	.00			245
	250	ISL	8.36	8.33	33.966	26.413	165.2	.656	3.25	49.3							252
1	283		7.87	7.84	34.018	26.526	154.8	.709	2.94	44.1	39.1	2.08	28.0	.00			285
	300	ISL	7.67	7.64	34.040	26.572	150.7	.735	2.68	40.0							302
1	346		7.19	7.16	34.086	26.677	141.1	.802	1.90	28.0	51.8	2.51	32.8	.00			348
	400	ISL	6.62	6.58	34.133	26.792	130.6	.875	1.23	17.9							403
1	422		6.40	6.37	34.151	26.835	126.7	.904	1.01	14.6	66.4	2.86	37.3	.00			425
1	500		5.85	5.81	34.224	26.964	115.0	.997	.56	8.0	78.3	3.09	39.9	.00			503
1	577		5.55	5.50	34.286	27.050	107.6	1.084	.35	5.0	86.1	3.19	41.0	.00			581

RV DAVID STARR JORDAN CALCOFI CRUISE 8602 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	09/02/86	0347 GMT	3733 M	350	16 KT			1013.9 MB	14.4 C	11.3 C		

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0	ISL	16.85	16.85	33.663	24.525	340.0	.000	5.66	102.4							0
1	1		16.85	16.85	33.663	24.525	340.1	.003	5.66	102.4	2.0	.31	.0	.00	.07	.03	1
	10	ISL	16.86	16.85	33.660	24.521	340.7	.034	5.73	103.6							10
1	11		16.86	16.86	33.660	24.521	340.8	.037	5.73	103.7	2.0	.31	.0	.00	.07	.03	11
	20	ISL	16.87	16.87	33.660	24.518	341.4	.068	5.71	103.3							20
1	27		16.88	16.87	33.660	24.517	341.7	.092	5.67	102.6	2.0	.31	.0	.00	.07	.03	27
	30	ISL	16.88	16.87	33.660	24.517	341.8	.102	5.66	102.5							30
1	43		16.87	16.86	33.661	24.520	342.0	.146	5.65	102.2	2.0	.31	.0	.00	.07	.03	43
	50	ISL	16.85	16.85	33.661	24.524	341.9	.171	5.65	102.1							50
1	58		16.85	16.84	33.660	24.525	341.9	.197	5.64	102.0	2.0	.31	.0	.00	.07	.03	58
1	69		16.88	16.87	33.659	24.516	343.1	.235	5.66	102.4	2.0	.31	.0	.00	.07	.03	69
	75	ISL	16.88	16.87	33.659	24.517	343.3	.256	5.67	102.7							76
1	78		16.88	16.87	33.659	24.517	343.4	.266	5.68	102.8	2.0	.31	.0	.00	.07	.03	78
1	93		16.25	16.23	33.711	24.704	326.0	.316	5.76	103.0	2.1	.31	.0	.00	.15	.16	93
	100	ISL	14.91	14.89	33.503	24.842	312.8	.339	5.85	101.7							101
1	111		12.98	12.97	33.231	25.030	294.9	.371	5.93	98.9	2.5	.48	.8	.11	.18	.20	111
1	124		12.32	12.31	33.237	25.163	282.5	.411	5.76	94.8	3.3	.57	2.6	.02	.13	.27	125
	125	ISL	12.32	12.31	33.242	25.166	282.2	.413	5.75	94.6							126
1	150		12.18	12.16	33.520	25.410	259.6	.482	5.15	84.6	6.3	.78	6.8	.01	.05	.10	151
1	169		10.92	10.89	33.661	25.752	227.2	.528	4.60	73.6	12.2	1.11	12.9	.00	.02	.04	170
1	190		9.82	9.79	33.700	25.972	206.5	.573	4.03	63.0	19.3	1.48	18.9	.00			191
	200	ISL	9.52	9.50	33.751	26.061	198.1	.593	3.87	60.2							201
1	212		9.24	9.22	33.821	26.161	188.7	.616	3.73	57.6	24.2	1.65	21.7	.00			213
1	240		8.54	8.51	33.947	26.370	169.2	.666	3.38	51.4	31.0	1.86	24.9	.00			241
	250	ISL	8.35	8.32	33.974	26.420	164.5	.683	3.24	49.1							252
1	281		7.89	7.86	34.024	26.528	154.6	.731	2.81	42.1	39.2	2.11	28.3	.00			282
	300	ISL	7.64	7.61	34.042	26.579	149.9	.761	2.55	38.0							302
1	341		7.15	7.12	34.063	26.664	142.2	.821	2.04	30.1	50.9	2.44	32.6	.00			343
	400	ISL	6.51	6.47	34.090	26.773	132.3	.902	1.43	20.7							403
1	419		6.34	6.30	34.100	26.804	129.5	.926	1.26	18.2	64.2	2.77	36.9	.00			421
1	496		5.88	5.84	34.168	26.916	119.6	1.023	.72	10.3	74.9	3.01	39.4	.00			499
	500	ISL	5.86	5.81	34.172	26.922	119.0	1.028	.70	10.0							504
1	574		5.39	5.34	34.252	27.042	108.1	1.112	.37	5.2	86.4	3.17	41.3	.00			578

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD	A.MT	TYPE
29 50.8 N	123 35.3 W	09/02/86	0921 GMT	-2.10 K	330	is KT	3.10 0h	06	1015.6 MB	14./ C	10.8 C			

	CAST	DEPTH M	TEMP DEG C	POT TEMP DEG CC	SALINITY	SIGMA THETA	SVA	JJYN HT	OXYGEN ML/I.	OXY PCT	SI O3 UM/L	PO4 UM/L	KO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
				16.85	33.664	24.524	340.1	.000	5.63	101.9							0
	1			16.85	33.664	24.524	340.1	.003	5.63	101.9	1.9	.32	.1	.00	.07	.03	1
		10 ISL	16.86	16.86	33.662	24.523	340.6	.034	5.67	102.7							10
	1	11	Jo.8b	16.86	33.662	24.522	340.8	.044	5.68	102.8	1.9	.32	.1	.00	.07	.03	13
20	1ST16.87			16.86	33.662	24.520	341.2	.068	5.67	102.5							20
	1	29	16.87	16.87	33.661	24.518	341.6	.098	5.64	102.1	1.8	.33	.1	.00	.07	.03 .	29
		30 ISL	16.87	16.87	33.661	24.518	341.6	.102	5.64	102.1							30
	1	44	16.87	16.86	33.661	24.521	341.9	.150	5.65	102.2	1.8	.33	.1	.00	.07	.03	44
		50 ISL	16.86	16.86	33.660	24.521	342.0	.171	5.65	102.2							50
	1	60	16.86	16.85	33.659	24.522	342.3	.204	5.65	102.2	1.7	.33	.1	.00	.07	.03	60
	1	70	16.88	16.87	33.661	24.518	343.0	.238	5.64	102.1	1.6	.33	.1	.00	.07	.03	70
		75 ISL	16.88	16.86	33.662	24.521	342.9	.256	5.65	102.1							76
	1	80	16.87	16.86	33.663	24.523	342.9	.272	5.65	102.2	1.7	.33	.1	.00	.08	.03	80
	1	95	16.61	16.59	33.736	24.640	332.2	.323	5.74	103.4	2.0	.32	.1	.00	.15	.17	95
		100 ISL	15.74	15.72	33.602	24.736	323.0	.340	5.81	102.8							101
	1	111	13.96	13.95	33.367	24.937	303.9	.373	5.90	100.5	2.3	.45	.3	.10	.17	.22	111
	1	125	13.37	13.35	33.431	25.108	287.9	.415	5.73	96.5	2.7	.50	1.4	.07	.13	.23	125
		150 ISL	11.77	11.75	33.368	25.368	263.4	.485	5.26	85.6							151
	1	151	11.69	11.67	33.366	25.382	262.1	.489	5.23	85.0	6.4	.88	7.8	.01	.05	.11	152
	1	172	11.13	11.11	33.542	25.621	239.8	.541	4.74	76.1	10.4	1.10	11.9	.00	.02	.06	173
	1	192	10.49	10.47	33.741	25.889	214.6	.586	4.50	71.4	14.2	1.22	14.4	.00			193
		200 ISL	10.15	10.12	33.767	25.969	207.1	.603	4.34	68.3							201
	1	213	9.59	9.56	33.792	26.082	196.4	.629	4.06	63.2	20.3	1.49	19.0	.00			214
	1	244	8.79	8.77	33.922	26.311	174.9	.686	3.67	56.1	27.4	1.75	23.1	.00			245
		250 ISL	8.65	8.63	33.938	26.345	171.7	.697	3.61	55.0							252
	1	285	7.97	7.94	33.996	26.494	157.9	.754	3.24	48.7	36.1	1.97	26.6	.00			286
		300 ISL	7.72	7.69	34.010	26.542	153.5	.778	3.02	45.1							302
	1	345	7.10	7.07	34.035	26.649	143.7	.845	2.36	34.7	49.0	2.36	31.6	.00			347
		400 ISL	6.45	6.41	34.060	26.758	133.7	.921	1.70	24.6							403
	1	423	6.21	6.17	34.072	26.797	130.1	.951	1.46	21.1	63.9	2.73	36.7	.00			425
	1	499	5.53	5.49	34.133	26.931	117.7	1.045	.82	11.6	78.8	3.02	40.2	.00			502
		500 ISL	5.52	5.48	34.134	26.933	117.6	1.047	.81	11.5							504
	1	575	5.12	5.08	34.226	27.053	106.7	1.131	.43	6.0	89.9	3.17	42.1	.00			579

RV DAVID STARR JORDAN CALCOFI CRUISE 8602 STATION 77 55

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER	SECCHI DEPTH	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
34 52.9 N	121 12.3 W	02/19/86	1808 GMT	10 M	1225 - 1820 PST	1226 PST	1814 PST	289.4 MG C/M2

DEPTH M	TEMP DEG C	SALINITY	SIGMA THETA	DISS O2 ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL UG/L	PHAEO UG/L	LIGHT %	UPTAKE (MGC/M3) 1	2	MEAN	DARK
1	13.37	33.256	24.969	6.03	101.4	4.5	0.53	1.7	0.10	1.26	0.48	96	7.6	14.2	10.9	1.2
8	13.33	33.270	24.988	5.98	100.5	4.5	0.55	2.0	0.12	1.08	0.47	34	16.6	13.3	14.9	0.16
10	13.32	33.271	24.991	5.98	100.5	4.5	0.55	2.0	0.12	1.07	0.50	24	12.7	12.0	12.4	0.16
16	13.31	33.276	24.997	5.98	100.5	4.6	0.56	2.1	0.12	1.00	0.50	12	10.6	9.5	10.0	0.15
26	13.22	33.309	25.041	5.91	99.1	4.7	0.58	2.5	0.15	0.67	0.42	2.6	2.5	2.8	2.7	0.12
46	12.45	33.444	25.296	5.36	88.6	8.1	0.83	6.2	0.27	0.26	0.26	0.13	0.30	0.34	0.32	0.11

RV DAVID STARR JORDAN CALCOFI CRUISE 8602 STATION 77 100

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER	SECCHI DEPTH	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
33 23.4 N	124 19.4 W	02/18/86	1814 GMT	23 M	1229 - 1828 PST	1231 PST	1828 PST	77.4 MG C/M2

DEPTH M	TEMP DEG C	SALINITY	SIGMA THETA	DISS O2 ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL UG/L	PHAEO UG/L	LIGHT %	UPTAKE (MGC/M3) 1	2	MEAN	DARK
1	14.45	33.019	24.563	5.94	102.0	2.4	0.40	0.0	0.00	0.13	0.05	96	1.1	1.0.	1.0	0.13
17	14.43	33.020	24.568	5.95	102.2	2.3	0.39	0.0	0.00	0.14	0.05	34	0.58	1.2	0.87	0.13
22	14.39	33.022	24.579	5.95	102.1	2.3	0.39	0.0	0.00	0.15	0.06	24	1.3	1.4	1.3	0.14
33	14.25	33.021	24.609	5.96	101.9	2.3	0.39	0.0	0.00	0.22	0.09	12	1.6	1.4	1.5	0.10
57	12.56	33.197	25.084	5.92	97.9	3.1	0.53	1.5	0.05	0.26	0.26	2.6	0.70	0.56	0.63	0.09
104	10.01	33.434	25.730	4.47	70.0	16.5	1.47	17.2	0.00	0.02	0.06	0.13	0.01	0.01	0.01	0.09

RV DAVID STARR JORDAN CALCOFI CRUISE 8602 STATION 80 70

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER	SECCHI DEPTH	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
33 49.1 N	121 50.4 W	02/17/86	1952 GMT	14 M	1219 - 1821 PST	1221 PST	1821 PST	372.0 MG C/M2

DEPTH M	TEMP DEG C	SALINITY	SIGMA THETA	DISS O2 ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL UG/L	PHAEO UG/L	LIGHT %	UPTAKE (MGC/M3) 1	2	MEAN	DARK
0	14.23	33.106	24.677	6.02	103.0	2.5	0.40	0.2	0.00	0.44	0.15	96	5.8	7.2	6.5	0.14
10	13.75	33.250	24.888	6.07	102.9	3.0	0.45	0.7	0.04	0.69	0.24	34	18.4	12.9	15.7	0.31
15	13.27	33.314	25.034	6.06	101.8	3.4	0.51	1.3	0.07	0.93	0.36	24	15.3	16.0	15.7	0.18
20	13.18	33.362	25.090	6.01	100.8	3.6	0.53	2.0	0.09	0.81	0.38	12	10.8	7.2	9.0	0.15
34	13.02	33.378	25.133	5.85	97.8	4.3	0.59	2.9	0.14	0.47	0.34	2.6	2.6	2.4	2.5	0.12
64	11.64	33.397	25.413	5.06	82.1	8.3	0.94	9.0	0.07	0.17	0.22	0.13	0.17	0.20	0.18	0.10

RV DAVID STARR JORDAN CALCOFI CRUISE 8602 STATION 83 60

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER	SECCHI DEPTH	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
33 34.4 N	120 45.0 W	02/16/86	1810 GMT	24 M	1217 - 1818 PST	1218 PST	1816 PST	117.7 MG C/M2

DEPTH M	TEMP DEG C	SALINITY	SIGMA THETA	DISS O2 ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL UG/L	PHAEO UG/L	LIGHT %	UPTAKE (MGC/M3) 1	2	MEAN	DARK
1	14.65	33.201	24.661	5.91	102.0	2.3	0.38	0.2	0.00	0.11	0.05	96	0.35	0.29	0.32	0.11
18	14.50	33.218	24.706	5.93	102.1	2.4	0.38	0.2	0.00	0.15	0.07	34	1.6	0.96	1.3	0.14
23	14.45	33.232	24.728	5.95	102.3	2.2	0.38	0.2	0.00	0.20	0.10	24	0.93	1.3	1.1	0.13
34	14.46	33.234	24.728	5.96	102.5	2.2	0.38	0.2	0.00	0.20	0.11	12	1.8	1.8	1.8	0.13
59	13.14	33.365	25.101	5.78	96.8	3.8	0.55	2.1	0.12	0.50	0.48	2.6	1.8	1.3	1.6	0.09
107	10.56	33.531	25.712	4.35	69.0	14.5	1.32	15.9	0.00	0.03	0.06	0.13	0.04	0.03	0.03	0.08

RV DAVID STARR JORDAN CALCOFI CRUISE 8602 ::.'!A':iON b.- 3 :>

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER	SECCHI	DEPTH	INCUBATION TIME	LAN	CIVIL TWILIGHT	INT'LiGkATr.;: VALUE
33 49.4 N	118 37.7 W	02/15/86	1824 GMT	17	M	1207 - 1807 PST	1208 PST	1807 PET	260.3 MG C/M2

DEPTH M	TEMP DEG C	SALINITY	SIGMA THETA	DISS O2 ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL UG/L	PHAEO UG/L	LIGHT %	UPTAKE (MGC/M3) 1	2	MEAN	DARK
1	14.54	33.402	24.841	5.97	103.0	1.5	0.34	0.3	0.00	0.69	0.26	96	2.5	2.3	2.4	0.16
13	14.50	33.406	24.851	5.98	103.1	1.4	0.35	0.3	0.00	0.77	0.30	34	9.3	9.3	9.3	0.16
18	14.47	33.415	24.865	5.97	102.8	1.4	0.35	0.3	0.00	0.79	0.35	24	8.3	9.3	8.8	0.14
25	14.40	33.509	24.952	5.91	101.7	2.1	0.38	0.4	0.01	1.17	0.48	12	7.1	6.2	6.7	0.12
43	12.78	33.447	25.236	5.18	86.2	6.1	0.77	5.9	0.12	0.32	0.34	2.6	0.89	0.99	0.94	0.10
78	11.45	33.565	25.578	4.27	69.1	12.8	1.23	13.4	0.05	0.19	0.17	0.13	0.19	0.15	0.17	0.10

RV DAVID STARR JORDAN CALCOFI CRUISE 8602 STATION 90 37

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER	SECCHI	DEPTH	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
33 11.3 N	118 23.4 W	02/13/86	1839 GMT	16	M	1208 - 1806 PST	1208 PST	1805 PST	145.8 MG C/M2

DEPTH M	TEMP DEG C	SALINITY	SIGMA THETA	DISS O2 ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL UG/L	PHAEO UG/L	LIGHT %	UPTAKE (MGC/M3) 1	2	MEAN	DARK
1	14.84	33.485	24.840	5.96	103.5	2.1	0.33	0.0	0.00	0.44	0.16	96	3.7	4.6	4.1	0.13
12	14.86	33.481	24.833	5.96	103.5	2.0	0.33	0.0	0.00	0.43	0.18	34	4.7	4.8	4.7	0.14
16	14.83	33.482	24.839	5.96	103.5	2.0	0.35	0.0	0.00	0.45	0.17	24	3.5	3.8	3.6	0.15
24	14.83	33.487	24.844	5.97	103.6	1.9	0.35	0.0	0.00	0.49	0.19	12	3.1	3.1	3.1	0.13
40	13.91	33.458	25.016	5.57	94.9	3.7	0.55	2.1	0.20	0.72	0.32	2.6	0.95	1.1	1.0	0.12
72	11.48	33.599	25.600	4.18	67.7	13.3	1.24	13.7	0.00	0.09	0.13	0.13	0.08	0.06	0.07	0.09

RV DAVID STARR JORDAN CALCOFI CRUISE 8602 STATION 90 70

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER	SECCHI	DEPTH	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
32 04.9 N	120 37.0 W	02/14/86	1716 GMT	16	M	1216 - 1815 PST	1218 PST	1809 PST	44.3 MG C/M2

DEPTH M	TEMP DEG C	SALINITY	SIGMA THETA	DISS O2 ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL UG/L	PHAEO UG/L	LIGHT %	UPTAKE (MGC/M3) 1	2	MEAN	DARK
1	14.43	33.272	24.763	5.95	102.3	2.6	0.40	0.3	0.00	0.15	0.06	96	0.74	0.62	0.68	0.13
12	14.43	33.272	24.764	5.95	102.3	2.6	0.40	0.3	0.00	0.17	0.06	34	1.4	1.4	1.4	0.13
17	14.41	33.270	24.765	5.95	102.3	2.6	0.40	0.3	0.00	0.16	0.06	24	1.1	1.0	1.1	0.19
24	14.41	33.271	24.767	5.95	102.3	2.5	0.40	0.3	0.00	0.16	0.07	12	0.77	0.82	0.79	0.12
40	14.26	33.296	24.818	5.97	102.3	2.5	0.40	0.2	0.00	0.27	0.13	2.6	0.42	0.49	0.45	0.11
73	13.10	33.349	25.097	5.78	96.7	3.5	0.55	2.1	0.15	0.36	0.30	0.13	0.11	0.14	0.12	0.10

RV DAVID STARR JORDAN CALCOFI CRUISE 8602 STATION 90 80

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER	SECCHI	DEPTH	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
31 44.0 N	121 15.2 W	02/10/86	1836 GMT	35	M	1219 - 1810 PST	1219 PST	1807 PST	126.6 MG C/M2

DEPTH M	TEMP DEG C	SALINITY	SIGMA THETA	DISS O2 ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL UG/L	PHAEO UG/L	LIGHT %	UPTAKE (MGC/M3) 1	2	MEAN	DARK
1	14.77	33.214	24.646	5.89	101.9	2.9	0.38	0.1	0.00	0.08	0.03	96	0.25	0.29	0.27	0.12
26	14.60	33.223	24.690	5.91	101.9	2.8	0.39	0.1	0.00	0.09	0.04	34	1.4	1.2	1.3	0.12
34	14.57	33.226	24.699	5.92	102.0	2.8	0.39	0.1	0.00	0.10	0.05	24	0.83	1.2	1.0	0.12
50	14.36	33.240	24.754	5.97	102.5	2.8	0.40	0.1	0.00	0.16	0.07	12	1.2	1.2	1.2	0.11
86	12.84	33.259	25.079	5.96	99.1	3.1	0.48	1.2	0.09	0.33	0.29	2.6	1.2	1.1	1.1	0.09
156	10.22	33.618	25.839	4.30	67.8	16.0	1.35	16.3	0.01	0.02	0.03	0.13	0*>	0	0	0.09

*DARK UPTAKE EXCEEDED LIGHT UPTAKE.

RV DAVID STARR JORDAN CALCOFI CRUISE 8602 STATION 90 120

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER	SECCHI DEPTH	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
30 24.7 N	123 59.6 W	02/09/86	1726 GMT	36 M	1224 - 1820 PST	1228 PST	1818 PST	51.3 MG C/M2

DEPTH	TEMP	SALINITY	SIGMA	DISS O2	OXY	SIO3	PO4	NO3	NO2	CHL	PHAEO	LIGHT	UPTAKE (MGC/M3)			
M	DEG C		THETA	ML/L	PCT	UM/L	UM/L	UM/L	UM/L	UG/L	UG/L	%	1	2	MEAN	DARK
1	17.22	33.758	24.509	5.58	101.7	2.2	0.30	0.0	0.00	0.06	0.03	96	0.10	0.11	0.11	0.10
26	17.23	33.758	24.509	5.59	101.9	2.2	0.30	0.0	0.00	0.06	0.03	34	0.56	0.65	0.61	0,08
34	17.22	33.756	24.510	5.59	101.9	2.1	0.30	0.0	0.00	0.06	0.03	24	0.51	0.46	0.48	0.09
52	17.23	33.755	24.508	5.60	102.1	2.0	0.30	0.0	0.00	0.06	0.02	12	0.47	0.48	0.48	0.08
89	15.57	33.693	24.842	5.87	103.5	2.2	0.31	0.0	0.00	0.11	0.11	2.6	0.34	0.39	0.36	0.08
161	11.72	33.700	25.636	4.91	80.0	8.7	0.89	9.1	0.00	0.03	0.05	0.13	0.01	0.02	0.02	0.07

RV DAVID STARR JORDAN CALCOFI CRUISE 8602 STATION 93 45

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER	SECCHI DEPTH	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
32 20.5 N	118 33.7 W	02/06/86	1837 GMT	13 M	1206 - 1758 PST	1210 PST	1758 PST	141.0 MG C/M2

DEPTH	TEMP	SALINITY	SIGMA	DISS O2	OXY	SIO3	PO4	NO3	NO2	CHL	PHAEO	LIGHT	UPTAKE (MGC/M3)			
M	DEG C		THETA	ML/L	PCT	UM/L	UM/L	UM/L	UM/L	UG/L	UG/L	%	1	2	MEAN	DARK
1	14.19	33.391	24.905	5.96	102.1	2.7	0.39	0.2	0.02	0.51	0.17	96	0.56	0.51	0.53	0.13
10	14.20	33.393	24.905	5.97	102.2	2.8	0.39	0.2	0.02	0.49	0.21	34	4.4	4.6	4.5	0.13
13	14.19	33.389	24.904	5.97	102.2	2.8	0.38	0.2	0.02	0.48	0.19	24	4.5	4.3	4.4	0.13
19	14.19	33.389	24.904	5.97	102.2	2.8	0.38	0.2	0.02	0.50	0.19	12	3.5	3.9	3.7	0.14
33	14.17	33.387	24.907	5.97	102.2	2.8	0.38	0.3	0.02	0.47	0.21	2.6	2.2	2.6	2.4	0.10
59	12.79	33.411	25.206	5.42	90.2	5.4	0.69	4.8	0.12	0.39	0.30	0.13	0.46	0.49	0.48	0.10

RV DAVID STARR JORDAN CALCOFI CRUISE 8602 STATION 93 60

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER	SECCHI DEPTH	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
31 50.9 N	119 34.2 W	02/07/86	1953 GMT	33 M	1212 - 1807 PST	1212 PST	1807 PST	164.1 MG C/M2

DEPTH	TEMP	SALINITY	SIGMA	DISS O2	"OXY	SIO3	PO4	NO3	NO2	CHL	PHAEO	LIGHT	UPTAKE (MGC/M3)			
M	DEG C		THETA	ML/L	PCT	UM/L	UM/L	UM/L	UM/L	UG/L	UG/L	%	1	2	MEAN	DARK
0	14.99	33.258	24.632	5.89	102.4	2.2	0.38	0.2	0.00	0.13	0.06	96	0.75	0.69	0.72	0.12
24	14.50	33.274	24.750	5.94	102.3	2.4	0.43	0.2	0.00	0.18	0.09	34	2.8	2.1	2.4	0.12
32	14.41	33.280	24.774	5.95	102.3	2.5	0.39	0.2	0.00	0.19	0.11	24	1.9	1.9	1.9	0.12
49	14.38	33.280	24.780	5.96	102.4	2.5	0.39	0.1	0.02	0.22	0.11	12	2.6	2.5	2.5	0.11
81	12.90	33.293	25.094	5.74	95.6	3.5	0.58	2.3	0.09	0.17	0.25	2.6	0.69	0.59	0.64	0.08
147	9.91	33.695	25.951	3.87	60.6	19.7	1.53	19.7	0.04	0.01	0.04	0.13	0.02	0.02	0.02	0.07

RV DAVID STARR JORDAN CALCOFI CRUISE 8602 STATION 93 90

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER	SECCHI DEPTH	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
30 51.3 N	121 37.5 W	02/08/86	1753 GMT	28 M	1216 - 1817 PST	1222 PST	1817 PST	35.1 MG C/M2

DEPTH	TEMP	SALINITY	SIGMA	DISS O2	OXY	SIO3	PO4	NO3	NO2	CHL	PHAEO	LIGHT	UPTAKE (MGC/M3)			
M	DEG C		THETA	ML/L	PCT	UM/L	UM/L	UM/L	UM/L	UG/L	UG/L	%	1	2	MEAN	DARK
1	15.67	33.367	24.566	5.77	101.8	2.3	0.37	0.2	0.00	0.07	0.03	96	0.06	0.05	0.06	0.10
21	15.70	33.366	24.560	5.77	101.8	2.2	0.36	0.2	0.00	0.07	0.04	34	0.74	0.81	0.78	0.10
27	15.68	33.365	24.564	5.77	101.8	2.1	0.36	0.0	0.00	0.07	0.03	24	0.66	0.65	0.65	0.12*
40	15.70	33.366	24.561	5.78	102.0	2.1	0.36	0,0	0.00	0.07	0.03	12	0.48	0.53	0.51	0.19
70	15.71	33.366	24.560	5.77	101.8	2.1	0.36	0.0	0.00	0.07	0.04	2.6	0.13	0.16	0.15	0.11
125	12.07	33.345	25.294	5.47	89.6	5.0	0.71	5.1	0.01	0.09	0.15	0.13	0.04	0.02	0.03	0.12

* DARK VALUE UNCERTAIN, REPORTED VALUE BASED ON AVERAGE OF OTHER 5 DARK VALUES.

Secchi Disk Observations

CalCOFI Cruise 8602

Line	Sta.	Day	Mo	Local Time (+8: PST)	Secchi Depth (m)	Weather	Clouds Type	Clouds Amt
77	51	19	2	1245	7	2	SC	8/8
77	55	19	2	1000	10	2	SC	8/8
77	90	18	2	1510	23	2	ST	8/8
77	100	18	2	1000	23	2	ST	8/8
80	70	17	2	1145	14	4	-	-
83	60	16	2	1000	24	2	cs	8/8
83	70	16	2	1455	24	1	SC	7/8
87	33	15	2	1235	9	1	SC	4/8
87	35	15	2	1015	17	2	SC	8/8
87	70	14	2	1315	15	2	NS	8/8
90	35	13	2	0745	13	6	NS	8/8
90	37	13	2	1020	16	5	NS	8/8
90	45	13	2	1525	15	5	ST	8/8
90	70	14	2	0905	16	2	NS	8/8
90	80	10	2	1030	35	1	SC	4/8
90	110	9	2	1325	36	1	SC	7/8
90	120	9	2	0915	36	2	SC	8/8
93	26.4	5	2	1420	3	-	-	-
93	26.7	5	2	1440	7	1	SC	2/8
93	29	5	2	1650	20	1	SC	1/8
93	45	6	2	1030	13	1	SC	5/8
93	55	7	2	0755	21	1	AS	1/8
93	60	7	2	1140	33	1	cu	3/8
93	90	8	2	0935	28	1	SC	4/8
93	100	8	2	1345	24	2	SC	8/8

MACROZOOPLANKTON BIOMASS
Net Mesh Size: 0.505 mm

Line	Sta.	Position		Date Mo/Day	Time (GMT) Start	Time (GMT) End	Water Volume Strained (m)	Max. Tow Depth (m)	Volume per 1000 m Strained Total (cm)	Volume per 1000 m Strained Small (cm)
77	51	35 01.1N	120 55.1W	2/19	2130	2152	436	206	135	135
77	55	34 53.3N	121 11.9W	2/19	1829	1851	458	206	94	94
77	60	34 43.3N	121 32.9W	2/19	1454	1516	454	205	48	48
77	70	34 23.3N	122 14.8W	2/19	1002	1024	434	214	78	78
77	80	34 03.2N	122 56.5W	2/19	0518	0540	457	207	59	48
77	90	33 43.3N	123 38.0W	2/19	0017	0040	439	223	23	23
77	100	33 23.3N	124 19.4W	2/18	1912	1934	434	210	30	30
80	51	34 27.0N	12031.4W	2/17	0852	0900	149	71	281	281
80	55	34 19.0N	120 48.1W	2/17	1146	1209	447	204	127	127
80	60	34 09.0N	121 08.9W	2/17	1521	1543	426	212	19	19
80	70	33 49.1N	121 50.4W	2/17	2135	2156	421	211	178	142
80	80	33 28.8N	122 32.0W	2/18	0301	0323	447	210	29	29
80	90	33 09.0N	123 13.2W	2/18	0817	0839	431	212	37	37
80	100	32 49.0N	123 54.6W	2/18	1345	1407	431	208	58	58
82	46	34 16.2N	119 56.3W	2/16	0723	0745	430	204	149	149
83	40.6	34 13.5N	119 24.7W	2/16	0235	0238	51	20	311	311
83	42	34 10.7N	119 30.5W	2/16	0400	0418	342	166	129	129
83	55	33 44.6N	120 24.7W	2/16	1356	1418	447	208	49	49
83	60	33 34.7N	120 45.3W	2/16	1715	1737	439	209	23	23
83	70	33 14.7N	121 26.6W	2/17	0000	0022	425	211	28	28
87	33	33 53.3N	118 29.5W	2/15	2115	2121	111	49	117	117
87	35	33 49.4N	118 37.7W	2/15	1921	1943	428	213	42	42
87	40	33 39.4N	118 58.5W	2/15	1533	1555	419	209	55	55
87	45	33 29.4N	119 19.1W	2/15	1206	1228	428	211	131	131
87	50	33 19.4N	119 39.8W	2/15	0909	0917	155	68	174	174
87	60	32 59.3N	120 21.0W	2/15	0403	0425	465	206	45	34
90	28	33 29.1N	117 46.1W	2/13	1057	1105	148	70	95	95
90	30	33 25.1N	117 54.2W	2/13	1307	1329	426	206	56	56
90	35	33 15.2N	118 14.9W	2/13	1643	1705	432	209	25	25
90	37	33 11.1N	118 23.2W	2/13	1938	2000	418	211	24	24
90	45	32 55.1N	118 56.1W	2/14	0055	0118	433	234	23	23
90	53	32 39.1N	119 28.9W	2/14	0605	0627	419	212	96	96
90	60	32 25.1N	119 57.5W	2/14	1040	1103	467	206	158	101
90	70	32 05.1N	120 38.3W	2/14	1626	1648	445	212	18	18
90	90	31 25.1N	121 59.5W	2/10	1024	1046	417	210	60	60
90	100	31 05.1N	122 39.7W	2/10	0449	0511	425	222	47	47
90	110	30 45.1N	123 19.9W	2/9	2330	2352	411	209	19	19
90	120	30 25.1N	124 00.0W	2/9	1545	1607	418	214	19	19
93	26.7	32 57.3N	117 18.3W	2/5	2332	2339	129	57	77	77
93	29	32 52.8N	117 27.7W	2/6	0202	0224	425	210	54	54
93	30	32 50.8N	117 31.9W	2/6	0407	0429	417	214	48	48
93	35	32 40.9N	117 52.4W	2/6	0755	0819	464	210	41	41
93	40	32 30.8N	118 12.8W	2/6	1216	1238	491	197	26	26
93	45	32 20.7N	118 33.2W	2/6	1601	1625	487	243	29	29
93	50	32 11.0N	118 53.6W	2/7	1329	1351	432	213	42	42
93	55	32 00.9N	119 13.9W	2/7	1700	1722	404	216	37	37
93	60	31 50.9N	119 34.2W	2/7	2143	2205	403	214	62	62
93	70	31 30.5N	120 14.9W	2/8	0330	0352	442	211	36	36
93	90	30 50.8N	121 35.6W	2/8	1701	1723	449	214	13	13
93	100	30 30.8N	122 15.5W	2/8	2300	2322	442	211	16	16
93	110	30 10.8N	122 55.4W	2/9	0430	0452	430	217	37	37
93	120	29 50.8N	123 35.2W	2/9	1000	1023	435	212	28	28

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