UNIVERSITY OF CALIFORNIA, SAN DIEGO SCRIPPS INSTITUTION OF OCEANOGRAPHY

data report

PHYSICAL, CHEMICAL AND BIOLOGICAL DATA

CalCOFI Cruise 8605
9 – 22 May 1986

Cruise CW86
6 – 11 March 1986

SIO Reference 86-22
26 September 1986

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Approved for distribution:

Edward A. Frieman, Director

CONTENTS

INTRODUCTION

The data in this report were collected during Cruise 8605* of the California Cooperative Oceanic Fisheries Investigations (CalCOFI) program aboard RV *David Starr Jordan* of the National Marine Fisheries Service; and Cruise CW86 aboard RV *New Horizon.* The 8605 cruise was one of the quarterly CalCOFI survey cruises. The CW86 cruise was planned to compare estimates of water transparency derived from the secchi disk and the submarine photometer and to assess the effects of biases in estimates of light penetration on the primary productivity technique. 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). Additional data collected but not tabulated in this report include (1) light penetration measurements with a submarine photometer, and (2) photosynthesis — irradiance (P-I) curves.

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 acidification 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-a, and phaeopigments were determined for all depths sampled. Triplicate samples (two light and one dark control) were drawn from each depth into 250 ml polycarbonate incubation bottles which were innoculated with 10 uci of C as $NaHCO_3$. 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.

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

At the end of the incubation, the samples were filtered onto HA milipore filters and placed in scintillation vials. One-half ml of 10% HC1 was added to each sample. The sample was then allowed to sit, without a cap, at room temperature for 12 hours (after Lean and Burnison, 1979). Following this, 10 ml of scintillation fluor were added to each sample and the samples were returned to S.I.O. where the radioactivity was determined with a scintillation counter.

Macrozooplankton Net Tows

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

TABULATED DATA

Hydrographic Cast Data

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

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 (+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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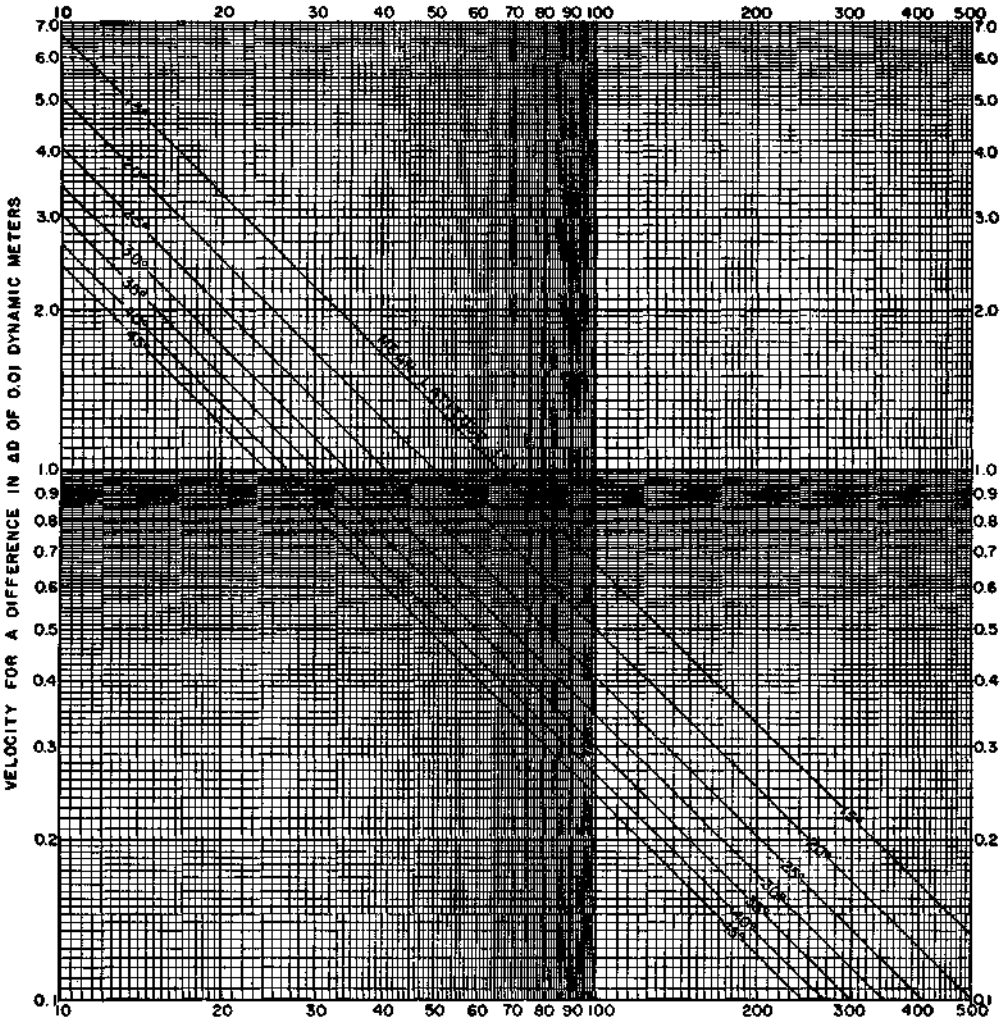


VELOCITY OF GEOSTROPHIC FLOW
(NAUTICAL MILES PER DAY)

cm/sec	0	1	2	3	4	5	6	7	8	9
0	KNOTS / N.M./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 / 23.31	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)

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

FIGURES

Cruise 8605

1. CalCOFI Cruise 8605, station positions.
2. Horizontal distribution of chlorophyll-a at 10 meters.
3. Horizontal distribution of dynamic height anomaly (0 over 500 m).
4. Horizontal distribution of sigma-theta at 10 meters.
5. Horizontal distribution of temperature at 10 meters.
6. Horizontal distribution of salinity at 10 meters.
7. Horizontal distribution of dynamic height anomaly (200 over 500 m).
8. Horizontal distribution of sigma-theta at 200 meters.
9. Horizontal distribution of temperature at 200 meters.
10. Horizontal distribution of salinity at 200 meters.

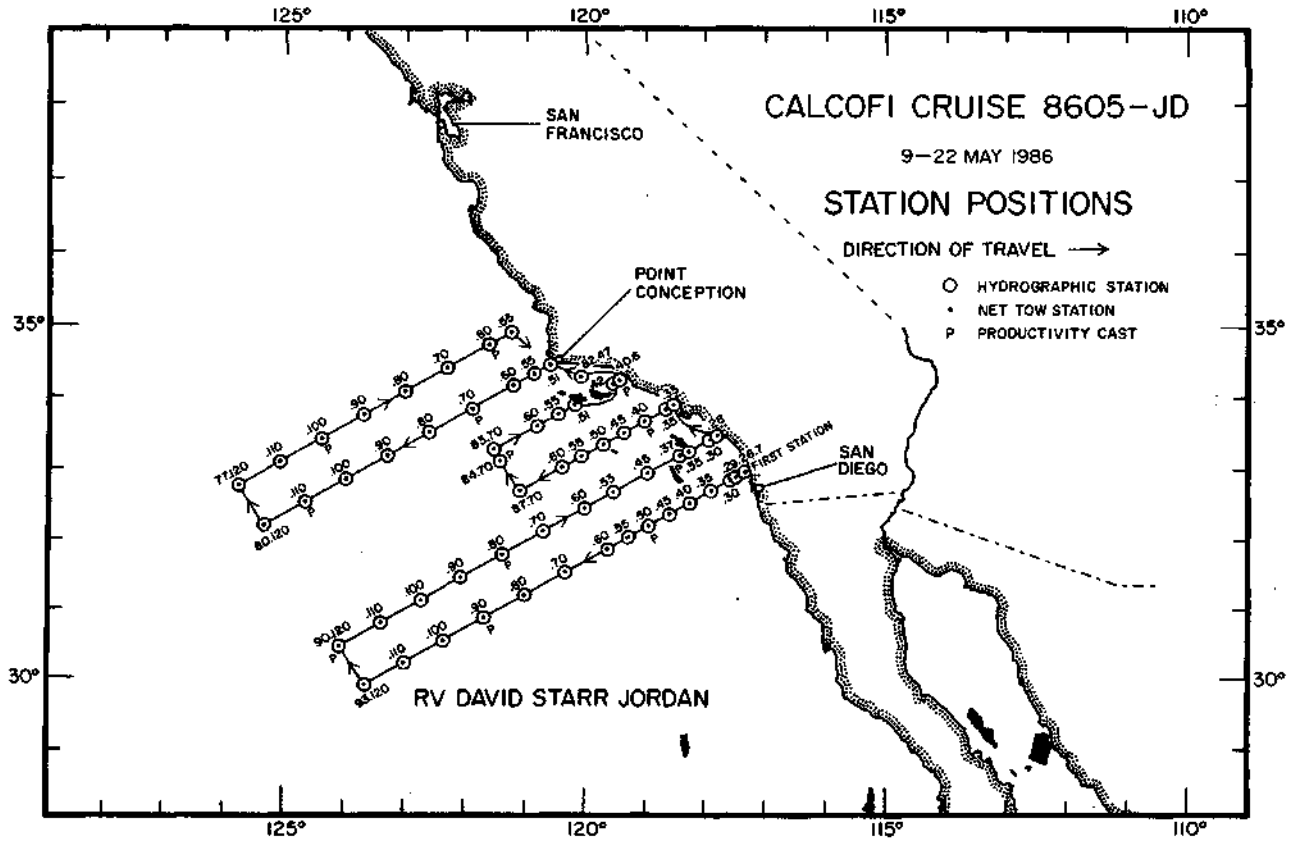


FIGURE 1

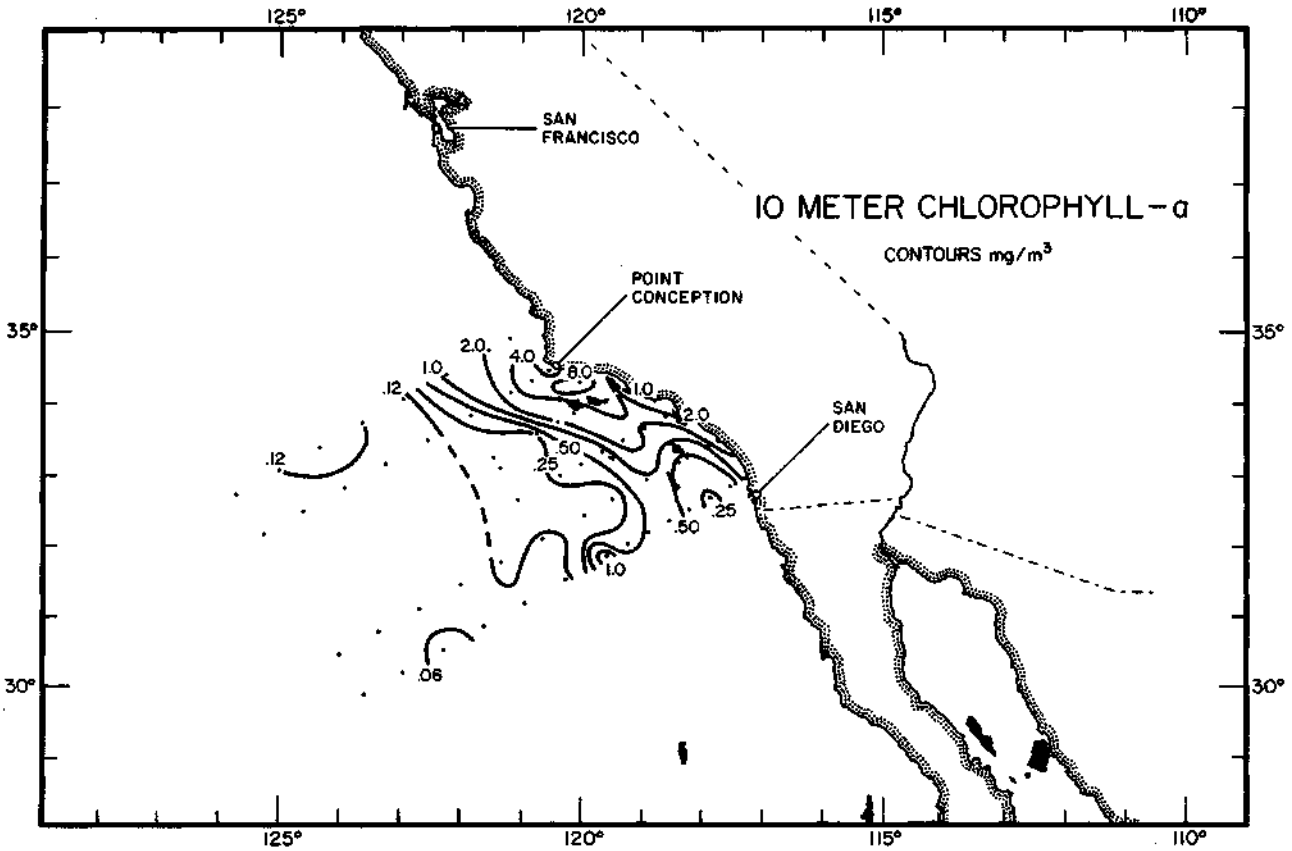


FIGURE 2

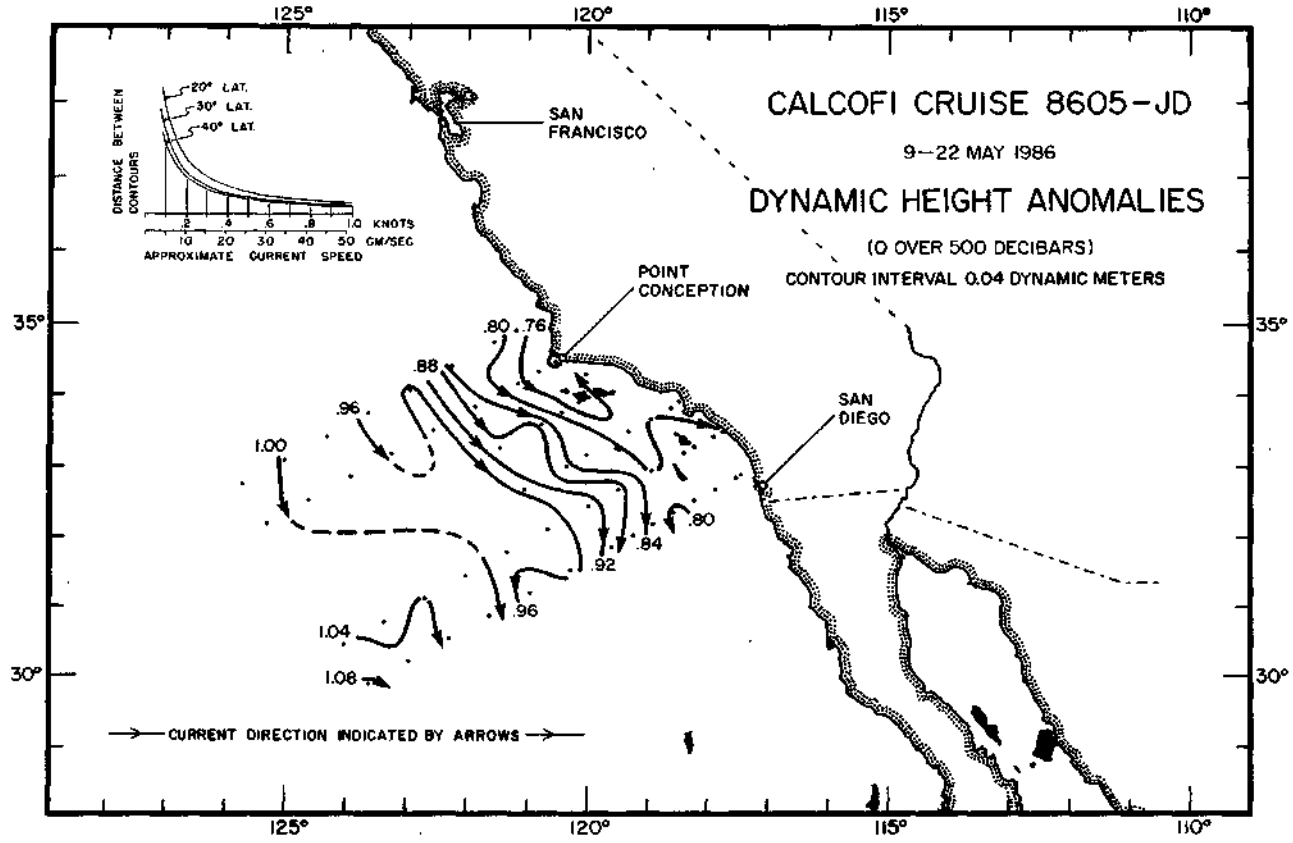
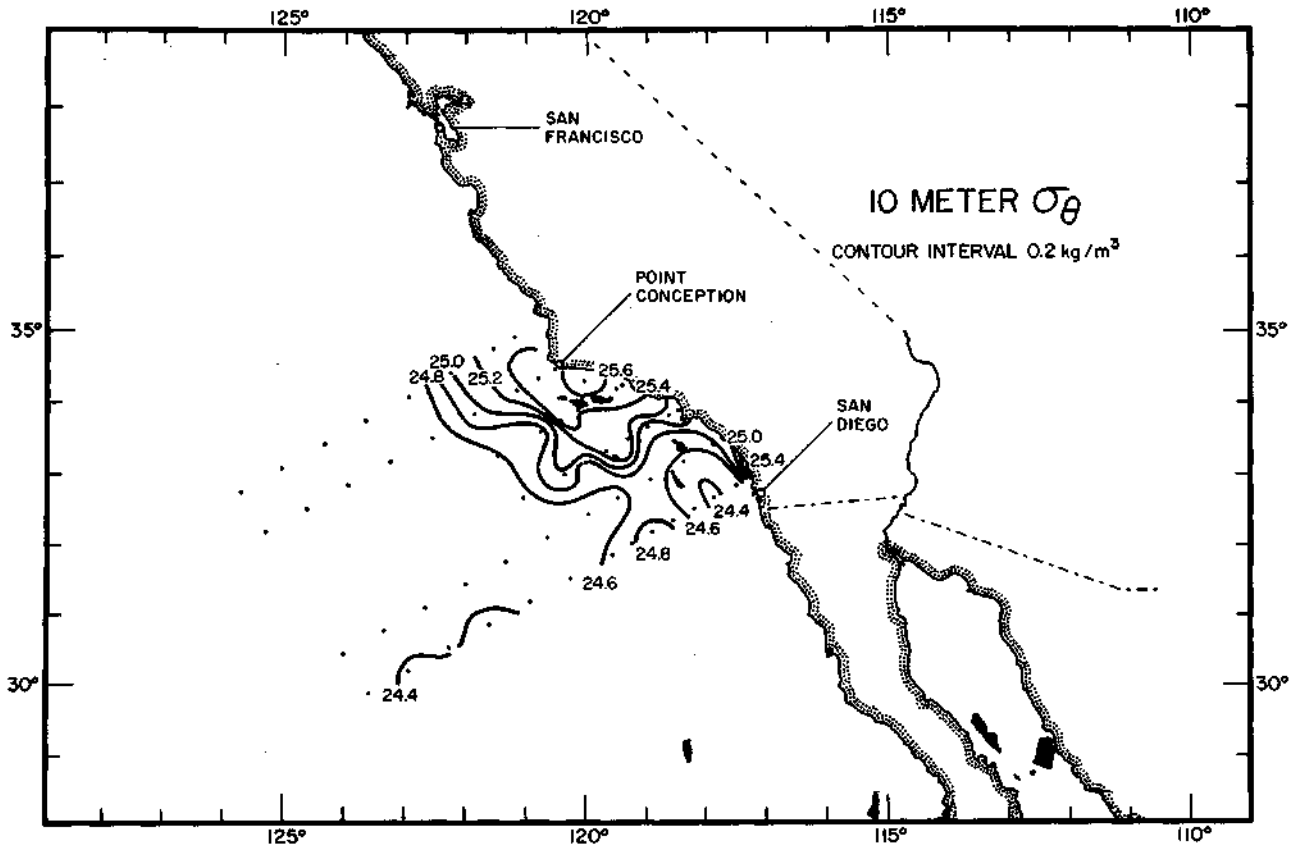


FIGURE 3



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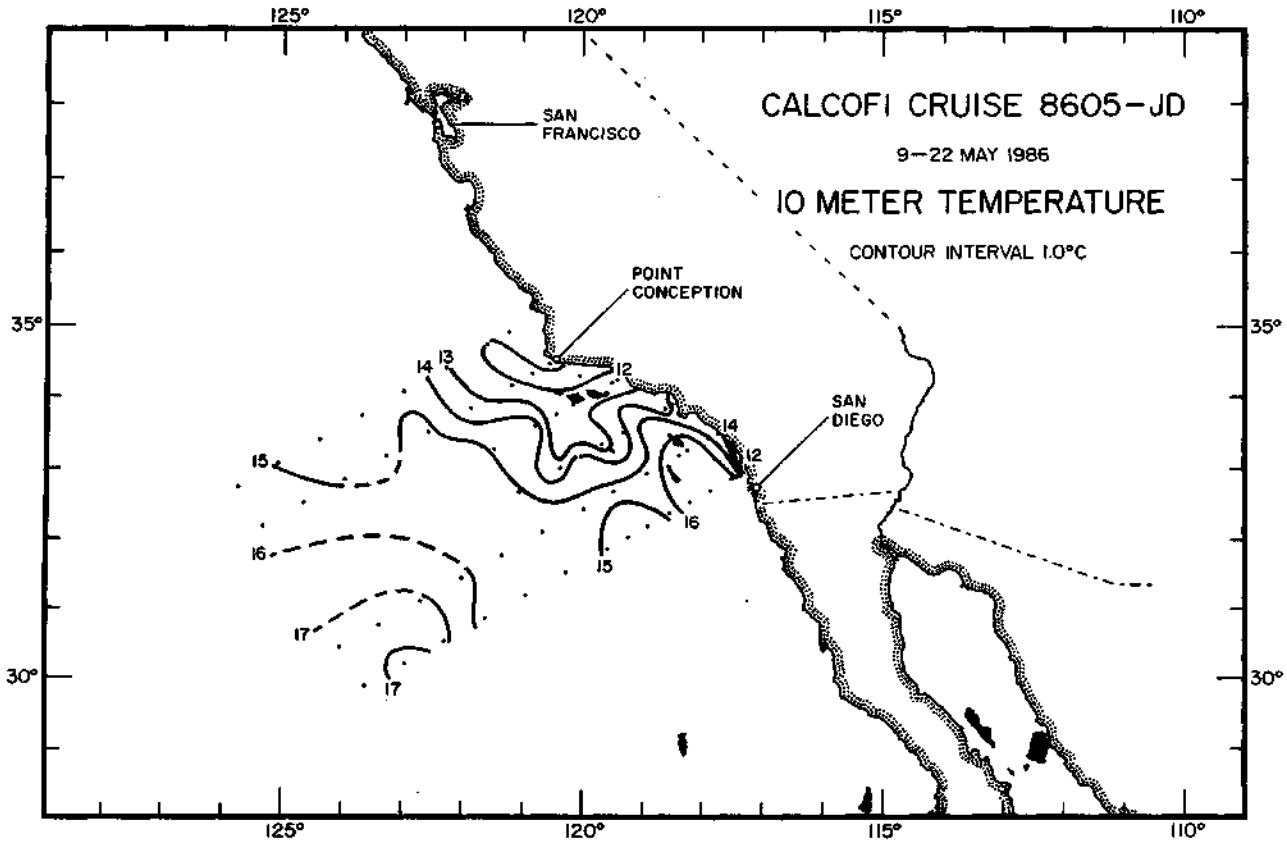

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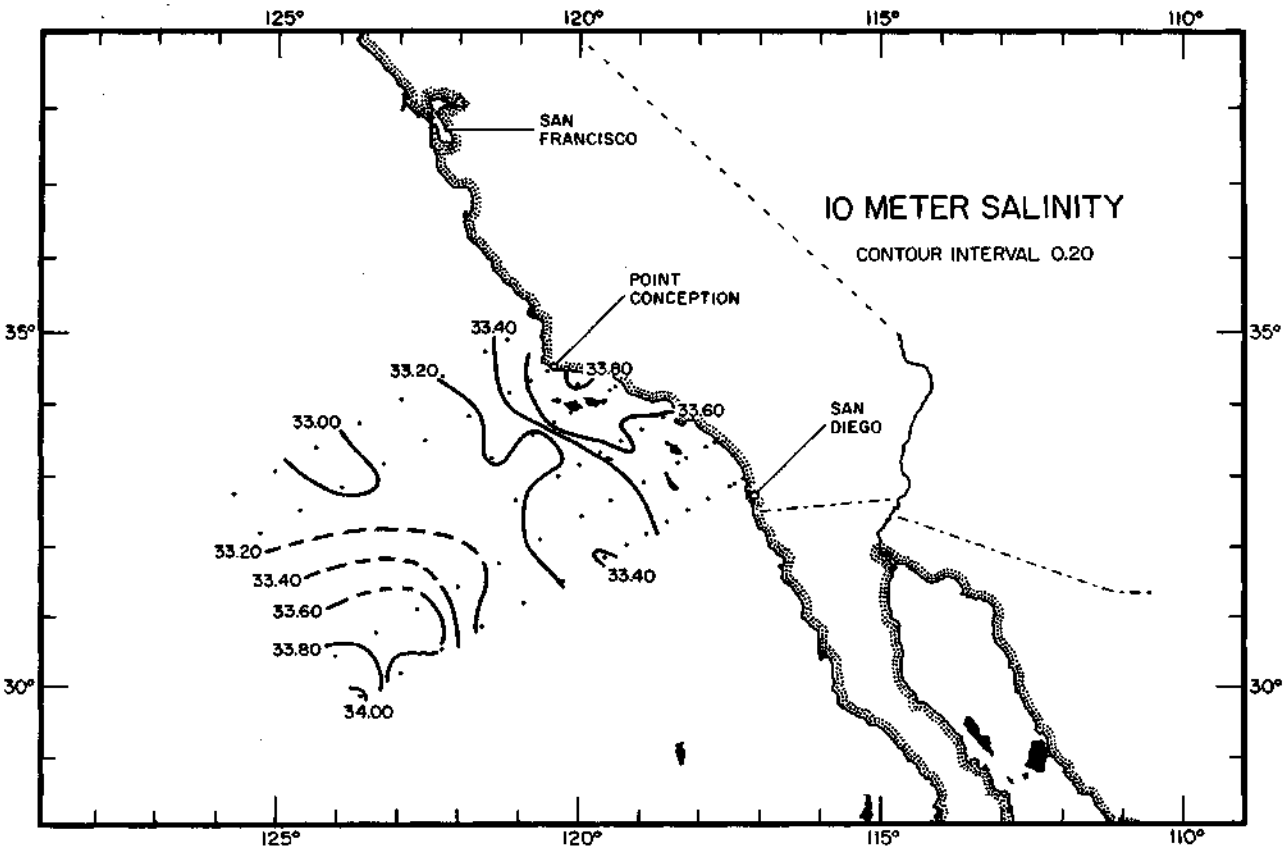


FIGURE 6

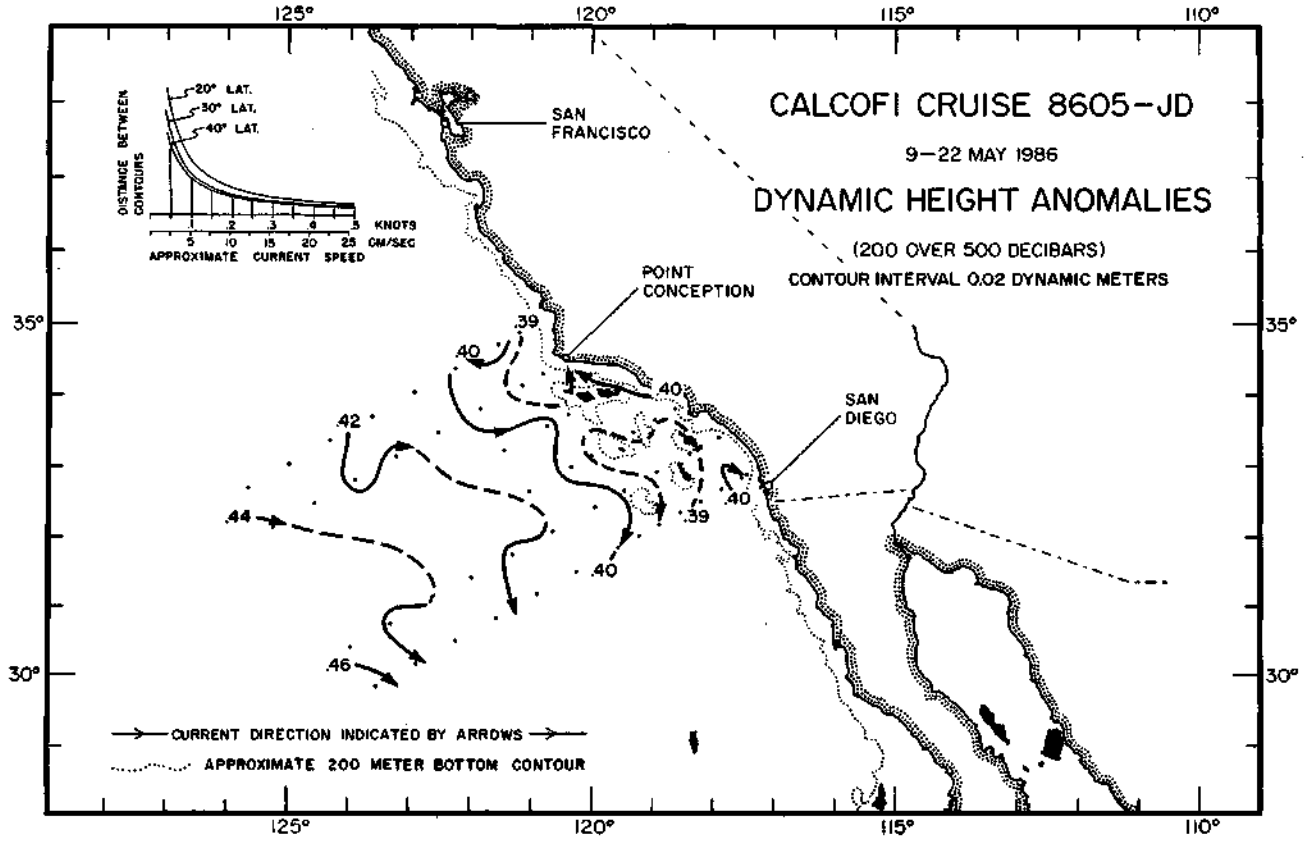


FIGURE 7

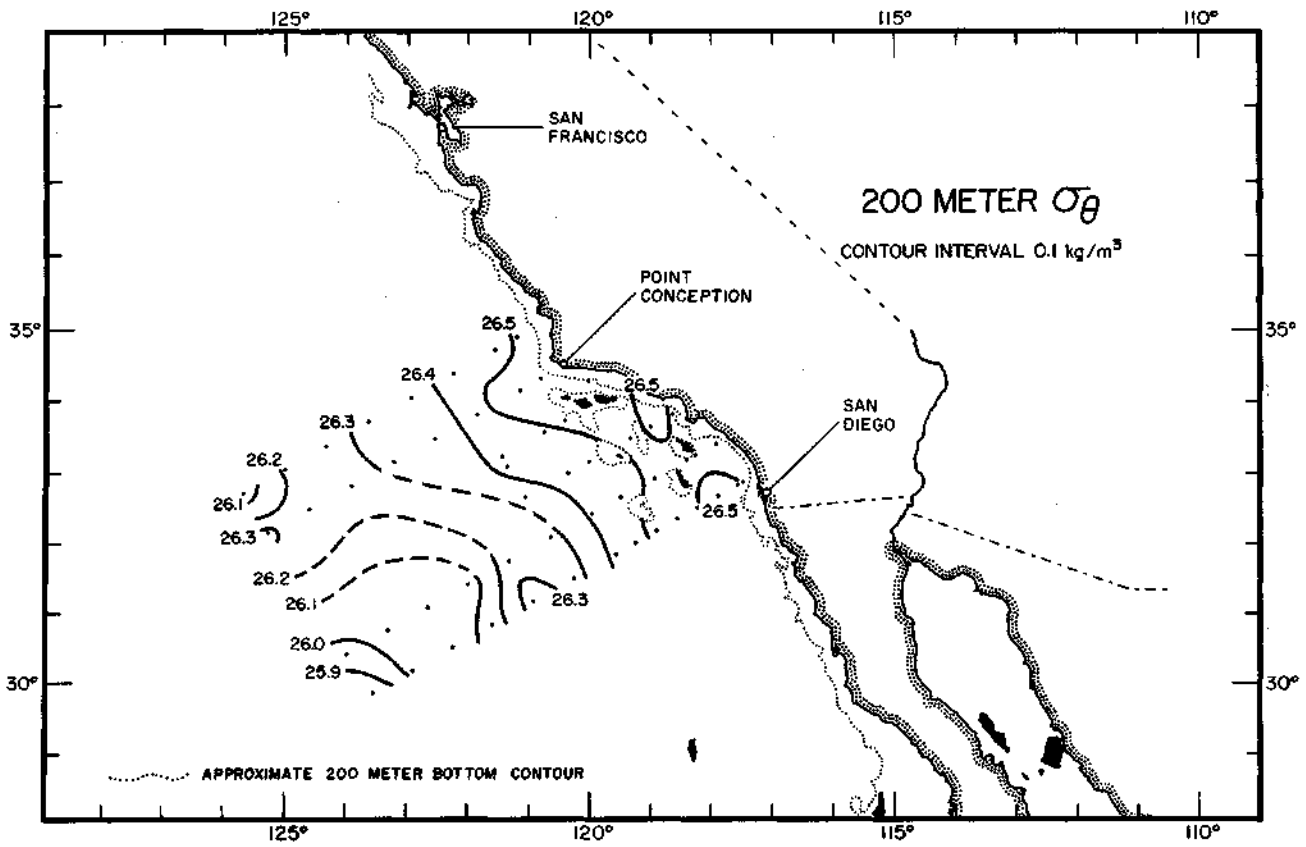


FIGURE 8

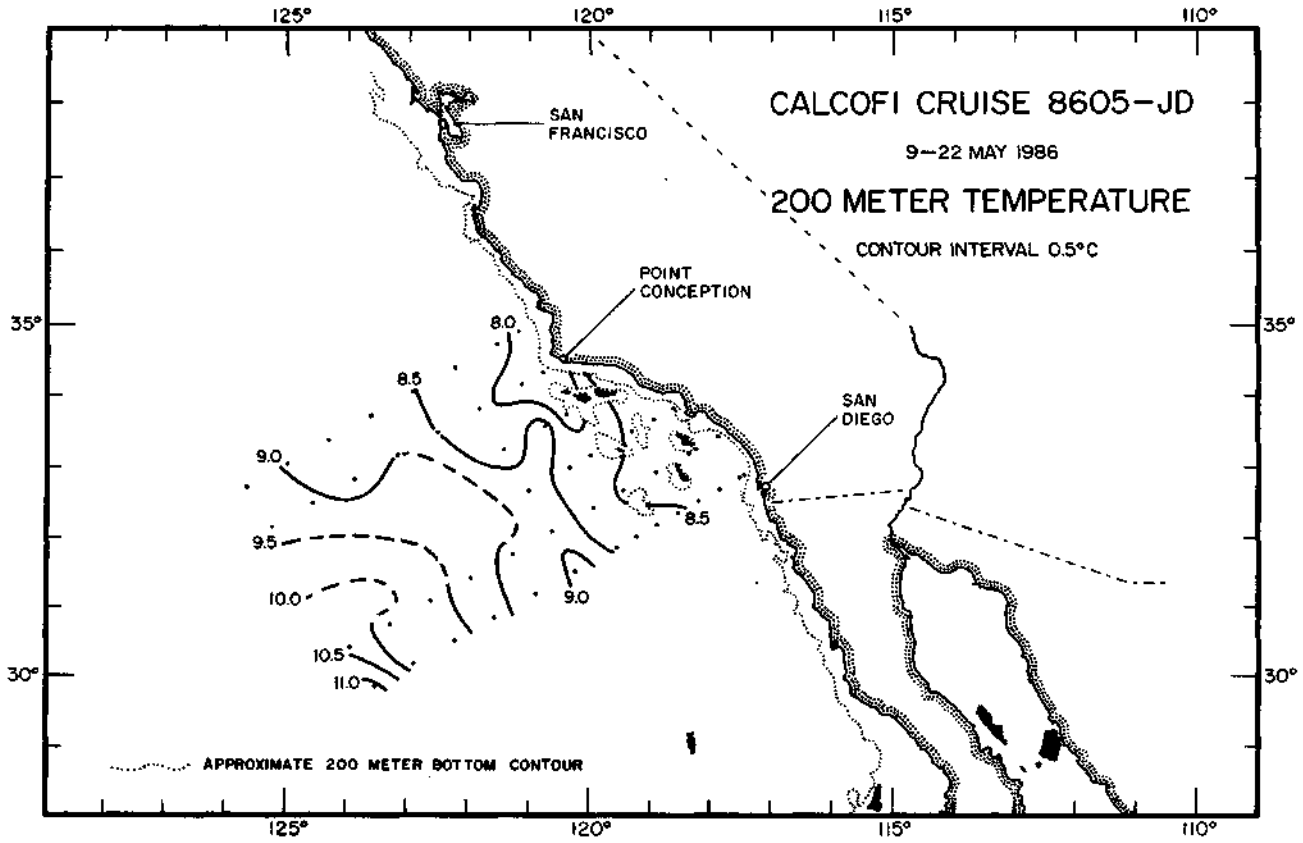


FIGURE 9

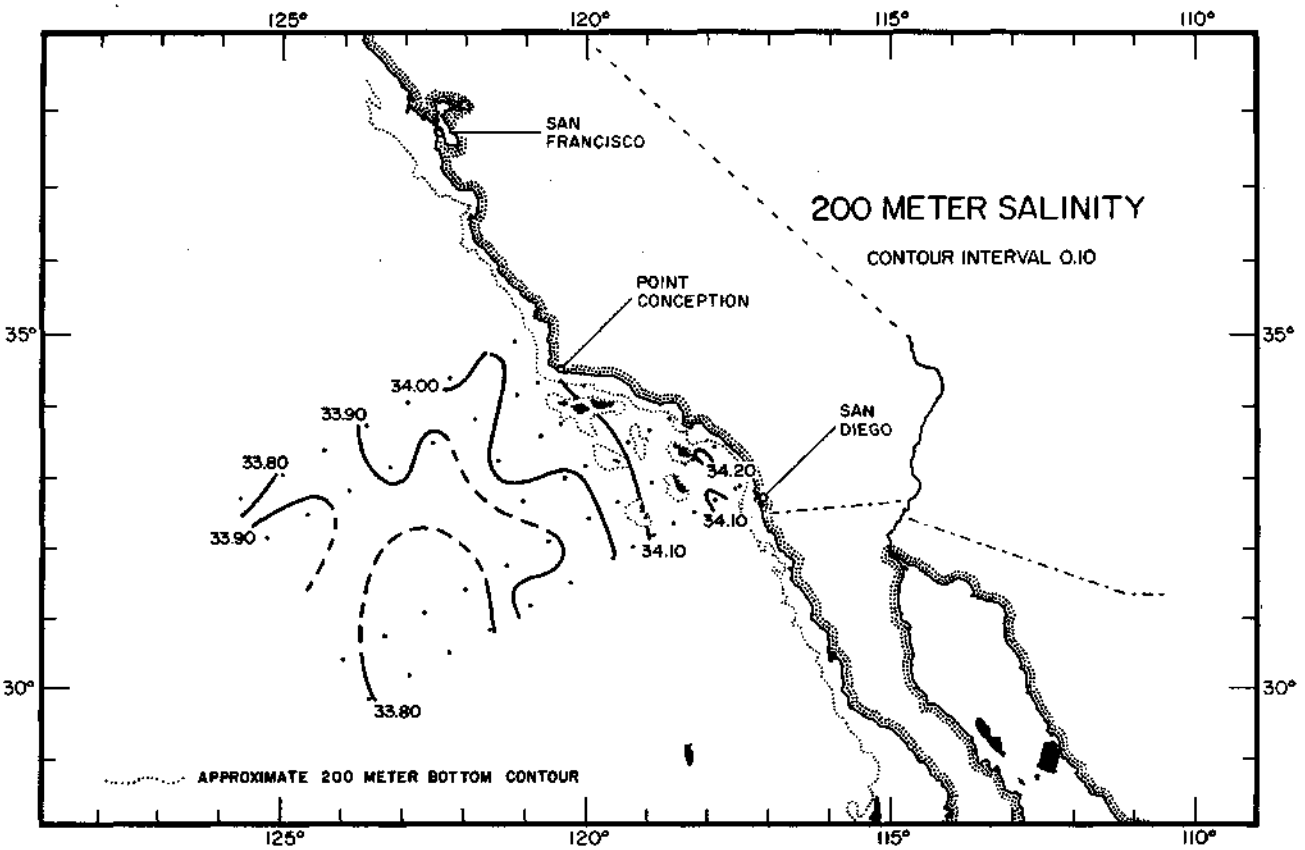


FIGURE 10

PERSONNEL

Cruise 8605

SHIP'S CAPTAIN

Roll, Milton, 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
Charter, Richard L.	Computer Specialist, NMFS
Cummings, Sherry L.	Staff Research Associate, SIO
Dotson, Ronald C.	Fishery Biologist, NMFS
Estrada-Garcia, Jaime	Fishery Biologist, INP
Gruber, Dennis W.	Marine Technician, SIO
Mead, Richard V.	Marine Technician, SIO

RV DAVID STARR JORDAN CALCOFI CRUISE 8605 STATION 77 55

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
34 53.6 N	121 11.9 W	21/05/86	2205 GMT	2485 M	330	30 KT	3 40 06 06	1	1017.5 MB	13.9 C	11.8 C	4/8	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	12.57	12.56	33.424	25.258	270.4	.000	6.53	108.1							0
1	1		12.57	12.56	33.424	25.258	270.2	.003	6.53	108.1	1.2	.63	3.4	.13	3.93	.75	1
	10	ISL	12.49	12.49	33.427	25.27 4	268.8	.027	6.50	107.5							10
1	11		12.48	12.48	33.427	25.277	268.7	.03 0	6.50	107.4	1.7	.67	3.7	.14	3.27	1.05	11
1	20		12.27	12.27	33.441	25.328	264.1	.053	6.28	103.4	3.1	.75	5.1	.15	7.05	3.01	20
1	30		11.04	11.03	33.564	25.652	233.5	.07 8	5.20	83.4	12.6	1.24	12.4	.21	.67	1.08	30
1	41		10.58	10.57	33.644	25.796	220.0	.103	4.75	75.5	16.5	1.43	15.5	.23	.76	1.14	41
1	50		10.08	10.08	33.723	25.942	206.3	.122	4.15	65.3	21.4	1.65	19.4	.23	.66	1.03	50
1	60		9.88	9.87	33.759	26.004	200.5	.142	3.81	59.7	24.0	1.75	21.1	.19	.61	1.16	60
1	71		9.65	9.64	33.830	26.098	191.9	.164	2.94	45.8	27.7	1.89	24.1	.07	.35	1.05	71
	75	ISL	9.54	9.53	33.865	26.145	187.5	.172	2.71	42.2							76
1	87		9.29	9.28	33.946	26.249	177.9	.193	2.35	36.4	33.0	2.12	26.8	.03	.12	.85	87
	100	ISL	9.22	9.21	33.974	26.282	175.0	.217	2.22	34.3							101
1	101		9.22	9.21	33.975	26.283	174.9	.219	2.22	34.3	34.3	2.17	27.4	.03	.12	.72	102
1	120		9.10	9.09	34.011	26.329	170.9	.252	2.09	32.2	36.0	2.22	28.1	.02	.08	.52	121
	125	ISL	9.08	9.07	34.021	26.341	169.8	.260	2.08	32.1							126
1	144		8.92	8.90	34.050	26.390	165.6	.292	2.04	31.3	37.7	2.27	28.6	.02	.06	.44	145
	150	ISL	8.81	8.79	34.042	26.401	164.6	.302	2.19	33.5							151
1	174		8.28	8.26	34.001	26.451	160.2	.341	2.83	42.8	36.6	2.09	27.7	.02			175
	200	ISL	7.86	7.84	34.004	26.516	154.3	.382	2.89	43.3							202
1	203		7.82	7.80	34.007	26.524	153.6	.386	2.90	43.4	39.4	2.12	28.5	.02			204
1	232		7.65	7.63	34.055	26.586	148.2	.429	2.31	34.5	44.8	2.31	30.9	.01			233
	250	ISL	7.55	7.52	34.093	26.631	144.1	.456	1.96	29.1							252
1	271		7.39	7.36	34.129	26.682	139.5	.486	1.62	24.0	52.3	2.60	33.4	.01			273
	300	ISL	6.99	6.96	34.127	26.737	134.6	.526	1.41	20.7							302
1	324		6.68	6.65	34.122	26.775	131.1	.557	1.30	19.0	61.1	2.75	36.2	.02			326
1	382		6.61	6.58	34.213	26.856	124.3	.632	.81	11.8	67.0	2.95	37.5	.02			3 85
	400	ISL	6.53	6.49	34.225	26.877	122.6	.654	.73	10.6							403
1	448		6.24	6.20	34.240	26.927	118.3	.712	.60	8.7	74.0	3.06	38.9	.03			451
	500	ISL	5.96	5.92	34.252	26.973	114.4	.772	.50	7.2							504
1	519		5.86	5.82	34.255	26.987	113.2	.7 94	.48	6.9	80.9	3.13	40.0	.03			523

RV DAVID STARR JORDAN CALCOFI CRUISE 8605 STATION 77 60

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
34 43.2 N	121 33.0 W	21/05/86	1802 GMT	945 M	340	26 KT	350 06 06	1	1018.7 MB	13.6 C	11.0 C	5/8	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	11.96	11.96	33.378	25.337	262.8	.000	6.04	98.7							0
1	2		11.96	11.96	33.378	25.337	262.7	.005	6.04	98.7	6.0	.86	7.3	.16	2.08	.63	2
	10	ISL	11.95	11.94	33.381	25.343	262.4	.026	6.03	98.6							10
1	12		11.94	11.94	33.382	25.344	262.3	.031	6.03	98.5	6.0	.88	7.3	.16	2.14	.63	12
	20	ISL	11.44	11.44	33.447	25.488	248.9	.052	5.61	90.8							20
1	22		11.31	11.31	33.464	25.524	245.5	.057	5.51	88.9	9.8	1.11	10.9	.21	1.47	1.10	22
	30	ISL	11.13	11.12	33.492	25.580	240.4	.076	5.38	86.4							30
1	33		11.10	11.10	33.496	25.588	239.6	.083	5.36	86.1	11.1	1.18	12.0	.21	1.41	1.55	33
1	43		10.98	10.97	33.508	25.619	236.9	.107	5.25	84.1	12.0	1.23	12.8	.23	1.00	.85	43
	50	ISL	10.85	10.85	33.538	25.665	232.7	.124	5.16	82.4							50
1	53		10.79	10.79	33.552	25.686	230.7	.130	5.11	81.5	12.9	1.29	13.7	.20	1.90	1.41	53
1	62		10.53	10.52	33.604	25.774	222.6	.150	4.87	77.3	15.6	1.42	15.6	.21	1.15	1.35	62
1	73		10.42	10.41	33.637	25.818	218.6	.175	4.82	76.3	16.6	1.46	16.2	.21	1.35	1.14	73
	75	ISL	10.35	10.34	33.640	25.832	217.4	.180	4.72	74.6							76
1	89		9.95	9.94	33.661	25.917	209.5	.209	4.11	64.4	20.6	1.63	19.6	.18	.32	.80	89
	100	ISL	9.83	9.81	33.722	25.986	203.2	.232	3.95	61.8							101
1	103		9.79	9.78	33.743	26.008	201.2	.23 9	3.91	61.1	23.1	1.75	21.0	.21	.57	.99	104
1	122		9.26	9.25	33.823	26.158	187.3	.276	3.05	47.1	27.7	1.93	24.9	.13	.26	.85	123
	125	ISL	9.22	9.20	33.832	26.172	185.9	.281	3.03	46.7							126
1	148		8.95	8.93	33.904	26.271	177.0	.323	2.81	43.1	31.2	2.02	26.4	.08	.15	.76	149
	150	ISL	8.93	8.92	33.909	26.277	176.4	.326	2.80	42.9							151
1	177		8.68	8.67	33.971	26.365	168.5	.373	2.68	40.9	33.9	2.09	27.4	.08			178
	200	ISL	8.37	8.35	33.999	26.436	162.1	.411	2.66	40.3							202
1	207		8.27	8.25	34.005	26.455	160.3	.422	2.65	40.1	36.8	2.15	28.3	.04			208
1	237		7.92	7.90	34.038	26.533	153.3	.468	2.43	36.5	41.5	2.25	29.9	.03			23 8
	250	ISL	7.75	7.73	34.049	26.567	150.3	.489	2.32	34.6							252
1	275		7.45	7.42	34.067	26.625	145.0	.526	2.08	30.9	47.8	2.42	32.1	.02			277
	300	ISL	7.23	7.21	34.093	26.676	140.6	.561	1.80	26.6							302
1	329		7.05	7.02	34.123	26.725	136.2	.601	1.47	21.6	55.8	2.67	34.8	.02			331
1	387		6.81	6.78	34.182	26.805	129.4	.679	.97	14.2	62.9	2.86	36.5	.05			3 90
	400	ISL	6.73	6.69	34.194	26.826	127.6	.6 95	.89	13.0							403
1	451		6.35	6.31	34.236	26.910	120.1	.758	.64	9.3	72.0	3.03	38.5	.03			454
	500	ISL	5.96	5.91	34.272	26.989	112.9	.815	.49	7.1							504
1	519		5.79	5.75	34.284	27.019	110.1	.837	.46	6.6	83.1	3.16	40.2	.02			523

RV DAVID STARR JORDAN CALCOFI CRUISE 8605 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 15.0 W	21/05/86	1036 GMT	4066 M	320	20 KT			1016.5 MB	13.5 C	12.5 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	13.17	13.17	33.227	24.986	296.2	.000	6.19	103.7							0
1	1	13.17	13.17	33.227	24.986	296.2	.003	6.19	103.7	2.1	.57	2.4	.09	1.03	.30	1
	10 ISL	13.16	13.15	33.228	24.991	295.9	.030	6.20	103.9							10
1	16	13.14	13.14	33.230	24.995	295.8	.047	6.21	104.0	2.1	.57	2.4	.09	1.03	.31	16
	20 ISL	13.05	13.05	33.249	25.027	292.7	.059	6.26	104.7							20
1	30	12.71	12.71	33.298	25.133	282.9	.088	6.32	104.9	1.4	.63	3.4	.12	1.63	.41	30
1	43	12.02	12.02	33.315	25.278	269.4	.123	5.95	97.3	4.0	.79	5.5	.15	1.29	.68	43
	50 ISL	11.91	11.90	33.352	25.328	264.8	.142	5.81	94.8							50
1	52	11.89	11.88	33.363	25.341	263.7	.147	5.78	94.3	5.0	.85	6.3	.20	.93	.81	52
1	61	11.59	11.58	33.426	25.445	253.9	.170	5.61	91.0	6.5	.97	7.8	.19	.62	.64	61
1	73	11.15	11.14	33.502	25.585	240.8	.200	4.96	79.7	11.2	1.21	11.4	.25	.35	.47	73
	75 ISL	11.07	11.06	33.540	25.629	236.7	.205	4.88	78.3							76
1	81	10.89	10.88	33.628	25.729	227.3	.218	4.70	75.2	14.8	1.37	13.4	.26	.18	.37	81
1	96	10.53	10.52	33.694	25.844	216.7	.252	4.04	64.1	19.9	1.54	17.2	.29	.12	.35	96
	100 ISL	10.28	10.27	33.697	25.890	212.4	.261	3.86	61.0							101
1	110	9.72	9.71	33.711	25.994	202.6	.283	3.47	54.1	24.0	1.72	21.9	.05	.08	.30	111
	125 ISL	9.52	9.51	33.817	26.110	191.9	.312	2.94	45.7							126
1	126	9.52	9.51	33.827	26.119	191.1	.314	2.90	45.1	28.1	1.91	24.3	.03	.07	.33	127
1	149	9.12	9.10	33.907	26.246	179.3	.356	2.76	42.5	31.3	2.02	25.8	.03	.05	.31	150
	150 ISL	9.11	9.09	33.910	26.251	178.9	.358	2.75	42.4							151
1	174	8.76	8.74	33.985	26.365	168.5	.400	2.54	38.8	35.1	2.12	27.3	.04			175
	200 ISL	8.32	8.30	34.011	26.451	160.6	.442	2.61	39.5							202
1	203	8.27	8.25	34.011	26.460	159.8	.447	2.62	39.6	37.8	2.15	28.2	.04			204
1	232	7.60	7.58	34.024	26.570	149.7	.491	2.57	38.3	43.4	2.24	30.0	.03			233
	250 ISL	7.36	7.33	34.037	26.614	145.6	.519	2.36	35.0							252
1	270	7.18	7.15	34.054	26.653	142.2	.548	2.07	30.5	50.3	2.45	32.5	.02			272
	300 ISL	6.95	6.93	34.084	26.707	137.4	.589	1.68	24.7							302
1	323	6.80	6.77	34.105	26.745	134.1	.620	1.41	20.6	59.0	2.70	35.4	.02			325
1	382	6.38	6.35	34.140	26.829	126.7	.6 97	1.00	14.5	66.8	2.89	37.6	.01			384
	400 ISL	6.27	6.23	34.156	26.857	124.3	.720	.89	12.8							403
1	447	6.00	5.96	34.198	26.924	118.2	.777	.64	9.2	75.5	3.06	39.4	.01			450
	500 ISL	5.72	5.68	34.248	26.998	111.7	.838	.45	6.4							504
1	518	5.64	5.59	34.265	27.022	109.5	.858	.40	5.7	84.3	3.17	40.8	.01			522

RV DAVID STARR JORDAN CALCOFI CRUISE 8605 STATION 77 80

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
34 03.5 N	122 56.5 W	21/05/86	0536 GMT	4114 M	340	17 KT			1016.6 MB	14.8 C	13.0 C		

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0 ISL	14.89	14.88	33.011	24.465	345.8	.000	5.92	102.6							0
1	2	14.89	14.88	33.011	24.465	3 45.8	.007	5.92	102.6	2.8	.39	.1	.00	.12	.02	2
	10 ISL	14.89	14.89	33.012	24.465	346.1	.035	5.95	103.1							10
1	16	14.89	14.89	33.012	24.465	3 46.2	.055	5.96	103.3	2.8	.39	.1	.00	.11	.02	16
	20 ISL	14.86	14.86	33.013	24.472	345.7	.06 9	5.96	103.2							20
	30 ISL	14.78	14.78	33.015	24.490	344.2	.104	5.94	102.7							30
1	31	14.77	14.77	33.015	24.493	344.0	.107	5.94	102.7	2.7	.39	.1	.00	.10	.03	31
1	42	14.73	14.73	33.014	24.500	343.6	.144	5.93	102.4	2.8	.39	.1	.00	.12	.03	42
1	50	14.68	14.68	33.011	24.509	343.0	.172	6.02	103.9	2.8	.39	.1	.00	.12	.03	50
1	60	14.55	14.54	33.013	24.541	3 40.2	.206	6.07	104.4	2.7	.39	.1	.00	.14	.05	60
1	70	14.49	14.48	33.012	24.552	339.5	.240	5.96	102.4	2.7	.39	.1	.00	.16	.09	70
	75 ISL	14.34	14.33	33.016	24.587	336.6	.257	5.98	102.4							76
1	81	14.01	14.00	33.020	24.658	329.6	.276	5.99	101.9	2.7	.40	.1	.00	.27	.15	81
1	96	11.99	11.98	33.166	25.170	281.0	.322	5.72	93.4	4.5	.65	4.0	.08	.38	.44	96
	100 ISL	11.69	11.68	33.225	25.272	271.4	.334	5.59	90.8							101
1	110	11.25	11.23	33.333	25.436	255.9	.359	5.31	85.4	6.9	.84	7.8	.03	.15	.28	110
1	125	10.54	10.53	33.398	25.611	239.4	.399	4.93	78.1	10.8	1.10	12.1	.01	.09	.15	126
1	150	9.49	9.48	33.608	25.952	207.3	.454	4.01	62.2	20.5	1.60	20.3	.00	.02	.03	151
1	173	8.97	8.95	33.767	26.160	187.9	.499	3.54	54.3	26.3	1.80	23.8	.00			174
	200 ISL	8.51	8.49	33.912	26.345	170.7	.547	2.94	44.7							202
1	204	8.46	8.43	33.928	26.367	168.7	.554	2.87	43.6	34.1	2.05	27.6	.00			205
1	234	8.03	8.01	33.993	26.483	158.1	.603	2.69	40.5	38.4	2.14	28.9	.00			235
	250 ISL	7.77	7.75	34.009	26.533	153.5	.628	2.61	39.1							252
1	273	7.42	7.39	34.020	26.593	148.0	.663	2.47	36.6	45.2	2.29	30.9	.00			275
	300 ISL	7.13	7.11	34.036	26.646	143.3	.702	2.14	31.5							302
1	327	6.88	6.85	34.048	26.690	139.3	.7 40	1.80	26.4	54.5	2.52	34.1	.00			329
1	387	6.16	6.13	34.050	26.786	130.5	.821	1.55	22.3	64.3	2.73	36.9	.00			389
	400 ISL	6.03	6.00	34.053	26.805	128.8	.838	1.46	21.0							403
1	451	5.63	5.59	3 4.078	26.875	122.6	.902	1.09	15.5	74.6	2.91	39.4	.00			454
	500 ISL	5.36	5.32	34.129	26.948	115.9	.961	.75	10.6							504
1	520	5.28	5.23	34.159	26.981	112.9	.984	.61	8.6	85.7	3.09	41.3	.00			524

RV DAVID STARR JORDAN CALCOFI CRUISE 8605 STATION 77 90

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
33 43.A N	123 38.0 W	20/05/86	2318 GMT	4305 M	310	13 KT	320 03 05	1	1016.6 MB	16.7 C	14.6 C	1/8	ST

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0	ISL	14.99	14.99	33.056	24.477	3 45.1	.000	5.94	103.2							0
1	1		14.99	14.99	33.056	24.477	344.6	.003	5.94	103.2	3.3	.41	.1	.00	.11	.02	1
	10	ISL	14.82	14.81	33.052	24.511	341.6	.03 4	5.97	103.3							10
1	16		14.74	14.74	33.052	24.528	340.2	.055	5.98	103.3	3.2	.41	.1	.00	.13	.02	16
	20	ISL	14.73	14.73	33.053	24.530	340.2	.068	5.98	103.3							20
	30	ISL	14.72	14.72	33.054	24.534	340.0	.102	5.97	103.2							30
1	36		14.71	14.71	33.055	24.537	340.0	.122	5.97	103.1	3.4	.41	.1	.00	.14	.03	36
	50	ISL	14.60	14.60	33.053	24.558	338.3	.170	5.98	103.1							50
1	56		14.56	14.55	33.052	24.567	337.6	.190	5.99	103.1	3.3	.40	.1	.00	.24	.06	56
1	71		13.61	13.61				.239	6.02	101.6	2.9	.40	.1	.00	.36	.30	71
	75	ISL	13.56	13.55	33.049	24.772	317.5	.253	6.07	102.3							76
1	81		13.37	13.36	33.048	24.810	315.1	.270	6.13	103.0	3.1	.44	.3	.04	.55	.50	81
1	91		11.98	11.97	33.161	25.167	281.1	.300	5.69	92.9	4.4	.67	4.0	.10	.32	.37	91
	100	ISL	11.50	11.49	33.253	25.328	266.0	.326	5.54	89.5							101
1	101		11.49	11.47	33.258	25.334	265.4	.327	5.53	89.4	5.9	.76	6.1	.04	.17	.36	101
1	II0		11.28	11.27	33.356	25.448	254.8	.351	5.39	86.8	6.7	.83	7.3	.03	.14	.23	II0
1	124		10.33	10.31	33.440	25.682	232.7	.387	4.84	76.4	12.0	1.15	13.1	.01	.06	.13	125
	125	ISL	10.30	10.29	33.443	25.689	232.0	.388	4.82	76.0							126
1	139		9.77	9.75	33.541	25.854	216.5	.420	4.34	67.7	17.4	1.44	17.8	.01	.03	.04	140
	150	ISL	9.33	9.32	33.630	25.995	203.2	.443	4.13	63.9							151
1	159		9.02	9.00	33.709	26.107	192.7	.461	3.93	60.3	23.8	1.67	22.0	.01	.01	.02	160
1	179		8.82	8.80	33.854	26.253	179.2	.498	3.04	46.5	30.5	1.98	26.3	.00			180
	200	ISL	8.53	8.50	33.915	26.346	170.7	.535	2.94	44.7							201
1	204		8.47	8.44	33.921	26.360	169.4	.541	2.92	44.3	33.7	2.05	27.4	.00			205
1	234		7.99	7.96	33.981	26.47 9	158.4	.590	2.92	43.9	37.7	2.09	28.3	.00			235
	250	ISL	7.70	7.67	33.991	26.529	153.8	.615	2.92	43.6							252
1	273		7.31	7.28	33.995	26.588	148.4	.651	2.93	43.3	43.5	2.17	29.5	.00			275
	300	ISL	7.00	6.97	34.011	26.644	143.4	.6 90	2.56	37.6							302
1	327		6.74	6.71	34.030	26.6 94	138.8	.728	2.08	30.4	54.5	2.49	33.7	.00			329
1	387		6.16	6.12	34.079	26.809	128.4	.807	1.28	18.4	66.5	2.81	37.7	.00			389
	400	ISL	6.08	6.04	34.090	26.82 9	126.7	.824	1.17	16.8							403
1	451		5.81	5.77	34.132	26.896	120.8	.888	.87	12.4	74.6	2.98	39.6	.00			454
	500	ISL	5.50	5.45	34.171	26.965	114.5	.945	.62	8.8							504
1	520		5.35	5.31	34.187	26.995	111.8	.968	.53	7.5	85.4	3.14	41.4	.00			524

RV DAVID STARR JORDAN CALCOFI CRUISE 8605 STATION 77 100

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
33 23.2 N	124 19.5 W	20/05/86	1621 GMT	4305 M	340	12 KT	350 04 05	2	1017.5 MB	15.2 C	13.0 C	8/8	ST

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0	ISL	14.62	14.62	32.926	24.456	3 46.7	.000	5.97	102.8							0
1	2		14.62	14.62	32.926	24.456	3 46.6	.007	5.97	102.8	3.6	.36	.2	.00	.19	.04	2
	10	ISL	14.60	14.60	32.928	24.462	346.3	.035	5.99	103.2							10
1	16		14.59	14.59	32.932	24.467	3 46.0	.055	6.00	103.3	3.4	.35	.2	.00	.17	.05	16
	20	ISL	14.60	14.59	32.931	24.465	346.3	.06 9	6.00	103.3							20
	30	ISL	14.61	14.61	32.929	24.461	347.0	.104	5.99	103.2							30
1	36		14.62	14.61	32.927	24.458	347.4	.124	5.98	103.0	3.3	.35	.2	.00	.19	.05	36
	50	ISL	14.72	14.71	33.056	24.536	3 40.4	.173	5.97	103.0							50
1	56		14.76	14.75	33.125	24.581	336.3	.192	5.96	103.1	2.6	.35	.2	.00	.24	.08	56
1	70		14.16	14.15	33.107	24.695	325.8	.23 9	5.95	101.6	2.4	.37	.2	.00	.21	.12	70
	75	ISL	14.16	14.15	33.138	24.717	323.9	.256	6.02	102.8							76
1	80		14.17	14.16	33.168	24.739	321.9	.271	6.06	103.6	2.3	.38	.2	.00	.24	.16	80
1	91		14.41	14.40	33.370	24.846	312.1	.306	5.86	100.8	2.1	.35	.2	.00	.25	.26	91
	100	ISL	13.96	13.94	33.376	24.945	302.7	.334	5.82	99.2							101
1	101		13.91	13.90	33.376	24.955	302.0	.336	5.82	99.1	2.5	.41	.3	.03	.25	.29	101
1	II0		12.92	12.90	33.323	25.114	286.8	.362	5.75	95.8	3.6	.53	2.1	.12	.20	.26	II0
1	123		12.37	12.36	33.427	25.300	269.4	.401	5.52	91.0	4.5	.64	4.0	.12	.17	.19	124
	125	ISL	12.29	12.28	33.434	25.321	267.5	.405	5.49	90.4							126
1	137		11.55	11.53	33.468	25.487	251.7	.43 8	5.24	84.9	6.8	.82	7.6	.04	.12	.16	138
	150	ISL	10.64	10.62	33.505	25.679	233.6	.468	4.99	79.3							151
1	157		10.14	10.12	33.536	25.789	223.2	.485	4.81	75.6	12.9	1.21	14.1	.01	.03	.05	158
1	177		9.29	9.27	33.677	26.03 9	199.6	.527	4.00	61.8	21.4	1.60	20.6	.00			178
	200	ISL	8.74	8.72	33.829	26.245	180.4	.570	3.64	55.5							201
1	203		8.70	8.68	33.845	26.265	178.5	.576	3.62	55.2	28.0	1.79	23.9	.00			204
1	232		8.37	8.34	33.923	26.377	168.3	.625	3.57	54.1	31.1	1.83	24.8	.00			233
	250	ISL	8.04	8.02	33.960	26.455	161.1	.655	3.47	52.2							252
1	271		7.65	7.63	33.991	26.536	153.5	.688	3.29	49.1	38.7	1.99	27.5	.00			272
	300	ISL	7.22	7.19	34.007	26.611	146.7	.732	2.87	42.3							302
1	324		6.90	6.87	34.009	26.656	142.5	.767	2.48	36.3	50.6	2.33	32.0	.00			326
1	385		6.19	6.15	34.030	26.767	132.3	.850	1.74	25.1	62.4	2.65	36.2	.00			3 87
	400	ISL	6.06	6.02	34.039	26.791	130.2	.870	1.58	22.6							403
1	449		5.73	5.69	34.076	26.861	123.9	.933	1.12	16.0	73.0	2.88	39.2	.00			452
	500	ISL	5.45	5.41	34.129	26.937	117.1	.994	.76	10.7							504
1	519		5.37	5.33	34.153	26.966	114.5	1.015	.65	9.2	84.1	3.08	41.2	.00			522

RV DAVID STARR JORDAN CALCOFI CRUISE 8605 STATION 77 IIO

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT TYPE
33 03.4 N	125 00.6 W	20/05/86	1052 GMT	4880 M	340	13 KT			1016.5 MB	15.1 C	13.0 C	

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0 ISL	14.90	14.90	33.012	24.462	346.1	.000	5.92	102.6							0
1	2	14.90	14.90	33.012	24.462	3 46.0	.007	5.92	102.6	3.1	.36	.2	.00	.12	.02	2
	10 ISL	14.89	14.89	33.012	24.465	346.0	.035	5.94	102.9							10
1	17	14.88	14.87	33.012	24.468	3 46.0	.059	5.95	103.1	3.1	.36	.1	.00	.12	.02	17
	20 ISL	14.88	14.87	33.014	24.470	345.9	.069	5.95	103.1							20
	30 ISL	14.86	14.86	33.023	24.479	3 45.2	.104	5.96	103.2							30
1	37	14.85	14.85	33.034	24.490	344.4	.127	5.96	103.2	3.0	.36	.1	.00	.15	.03	37
	50 ISL	14.80	14.80	33.055	24.518	3 42.2	.173	5.97	103.4							50
1	56	14.78	14.77	33.073	24.537	340.5	.192	5.98	103.4	2.8	.36	.1	.00	.16	.04	56
1	69	15.46	15.45	33.357	24.608	334.2	.236	5.82	102.2	2.3	.32	.1	.00	.14	.05	69
	75 ISL	15.31	15.29	33.415	24.687	326.9	.25 7	5.88	103.0							76
1	81	14.99	14.97	33.43 9	24.775	318.6	.275	5.94	103.4	2.3	.31	.1	.00	.16	.08	81
1	91	14.24	14.23	33.470	24.958	301.4	.306	5.84	100.1	2.7	.36	.1	.00	.20	.23	91
1	100	13.65	13.63	33.500	25.105	287.6	.332	5.73	97.1	3.6	.40	.6	.05	.34	.31	100
1	II0	12.93	12.91	33.477	25.231	275.7	.360	5.62	93.8	4.1	.51	2.3	.12	.28	.25	II0
1	124	12.03	12.01	33.480	25.407	259.2	.400	5.35	87.6	6.1	.70	5.8	.04	.18	.24	125
	125 ISL	12.00	11.98	33.481	25.413	258.7	.402	5.34	87.4							126
1	139	11.24	11.23	33.490	25.560	244.9	.43 8	5.04	81.1	9.0	.91	9.3	.02	.11	.15	140
	150 ISL	10.55	10.53	33.519	25.705	231.1	.463	4.75	75.3							151
1	158	10.05	10.03	33.558	25.822	220.1	.482	4.51	70.8	15.8	1.31	16.1	.00	.11	.16	159
1	179	9.34	9.32	33.709	26.056	198.0	.525	4.02	62.2	21.9	1.55	20.3	.00			180
	200 ISL	8.90	8.88	33.806	26.203	184.4	.565	3.73	57.2							201
1	203	8.85	8.83	33.817	26.219	182.8	.571	3.71	56.8	26.7	1.73	23.1	.00			204
1	233	8.34	8.31	33.937	26.392	166.8	.623	3.88	58.7	30.0	1.72	23.6	.00		'	234
	250 ISL	8.06	8.04	33.964	26.455	161.1	.651	3.79	57.1							252
1	272	7.75	7.72	33.977	26.512	155.9	.685	3.56	53.2	36.4	1.89	26.1	.00			273
	300 ISL	7.38	7.35	33.994	26.577	149.9	.729	3.10	45.9							302
1	325	7.10	7.07	34.004	26.625	145.6	.766	2.65	39.0	47.8	2.25	30.9	.00			327
1	385	6.55	6.51	34.032	26.722	136.9	.850	1.91	27.8	58.2	2.54	34.9	.00			387
	400 ISL	6.41	6.37	34.045	26.751	134.4	.871	1.71	24.8							403
1	447	5.99	5.95	34.087	26.837	126.4	.932	1.15	16.5	69.7	2.84	38.5	.00			450
	500 ISL	5.62	5.58	34.137	26.924	118.6	.997	.74	10.5							504
1	516	5.53	5.48	34.153	26.947	116.4	1.015	.66	9.4	81.2	3.06	40.8	.00			519

RV DAVID STARR JORDAN CALCOFI CRUISE 8605 STATION 77 120

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT TYPE
32 43.3 N	125 41.9 W	20/05/86	0525 GMT	4400 M	320	16 KT			1017.0 MB	15.0 C	13.7 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	15.69	15.69	33.187	24.424	349.5	.000	5.82	102.6							0
1	2	15.69	15.69	33.187	24.424	349.7	.007	5.82	102.6	2.2	.36	.2	.00	.07	.01	2
	10 ISL	15.69	15.69	33.188	24.425	350.0	.035	5.84	102.9							10
1	17	15.69	15.69	33.188	24.425	350.1	.05 9	5.85	103.1	2.1	.36	.2	.00	.07	.00	17
	20 ISL	15.68	15.68	33.188	24.427	350.1	.07 0	5.85	103.1							20
	30 ISL	15.66	15.65	33.189	24.434	349.8	.105	5.86	103.2							30
1	37	15.64	15.63	33.189	24.439	349.4	.129	5.86	103.2	2.1	.35	.2	.00	.07	.01	37
	50 ISL	15.62	15.62	33.206	24.455	3 48.2	.175	5.85	103.1							50
1	57	15.62	15.61	33.215	24.464	3 47.6	.198	5.85	103.0	2.0	.35	.2	.00	.09	.02	57
1	72	15.57	15.56	33.421	24.632	332.1	.249	5.84	102.8	1.9	.31	.2	.00	.10	.03	72
	75 ISL.	15.54	15.53	33.421	24.640	331.0	.260	5.87	103.4							76
1	82	15.43	15.42	33.422	24.666	329.1	.282	5.93	104.1	1.7	.31	.2	.00	.11	.04	82
1	92	15.14	15.12	33.428	24.734	322.9	.315	5.86	102.3	1.7	.30	.2	.00	.13	.05	92
	100 ISL	15.09	15.08	33.508	24.806	316.4	.341	5.83	101.8							101
1	103	15.07	15.05	33.535	24.832	313.9	.349	5.83	101.7	1.9	.31	.1	.00	.16	.10	103
1	112	14.65	14.63	33.577	24.955	302.4	.377	5.83	100.9	2.6	.32	.1	.00	.18	.17	112
1	125	14.08	14.06	33.646	25.129	286.2	.418	5.68	97.2	3.4	.37	.5	.06	.33	.31	126
1	140	12.44	12.42	33.478	25.328	267.2	.45 9	5.49	90.7	5.1	.58	4.0	.05	.21	.27	141
	150 ISL	11.81	11.79	33.480	25.448	257.2	.484	5.31	86.5							151
1	159	11.34	11.33	33.481	25.535	247.7	.508	5.10	82.3	8.5	.88	9.0	.02	.09	.15	160
1	180	10.18	10.16	33.576	25.814	221.3	.557	4.57	71.9	14.6	1.25	15.0	.01			181
	200 ISL	9.39	9.37	33.709	26.049	199.2	.599	4.04	62.5							201
1	205	9.23	9.21	33.743	26.101	194.3	.608	3.93	60.6	22.9	1.56	20.9	.01			206
1	235	8.65	8.63	33.912	26.325	173.3	.663	3.83	58.4	28.2	1.69	23.0	.00			236
	250 ISL	8.37	8.34	33.953	26.400	166.4	.689	3.74	56.7							252
1	275	7.92	7.90	33.982	26.490	158.1	.729	3.54	53.1	35.4	1.89	25.7	.00			276
	300 ISL	7.47	7.44	33.993	26.564	151.2	.768	3.19	47.3							302
1	328	7.02	6.99	33.993	26.628	145.4	.810	2.76	40.5	48.1	2.21	30.7	.00			330
1	388	6.31	6.28	34.008	26.734	135.6	.894	2.09	30.2	59.5	2.52	34.7	.00			390
	400 ISL	6.17	6.14	34.013	26.755	133.7	.910	1.94	28.0							403
1	452	5.67	5.63	34.044	26.844	125.5	.97 8	1.34	19.1	72.4	2.74	38.5	.00			455
	500 ISL	5.39	5.35	34.101	26.922	118.5	1.036	.88	12.5							504
1	522	5.33	5.29	34.134	26.956	115.4	1.061	.70	9.9	84.1	3.06	41.1	.00			525

RV DAVID STARR JORDAN CALCOFI CRUISE 8605 STATION 80 51

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
34 27.1 N	120 31.8 W	18/05/86	0246 GMT	81 M	310	22 KT	300 04 05	1	1014.8 MB	13.9 C	13.0 C	3/8	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	13.63	13.63	33.742	25.292	270.5	.000	7.54	127.9							0
1	1		13.63	13.63	33.742	25.292	267.1	.003	7.54	127.9	1.7	.32	.3	.05	2.65	.77	1
	10	ISL	12.37	12.37	33.753	25.552	242.5	.026	7.42	122.7							10
1	12		12.18	12.18	33.758	25.591	238.8	.030	7.40	121.8	2.6	.48	1.6	.08	2.30	.43	12
	20	ISL	11.73	11.73	33.774	25.689	229.8	.049	6.14	100.1							20
1	22		11.68	11.68	33.777	25.700	228.7	.054	5.84	95.1	8.0	1.03	8.1	.17	2.00	.80	22
	30	ISL	11.60	11.59	33.780	25.718	227.2	.07 2	5.58	90.8							30
1	32		11.58	11.58	33.781	25.722	226.9	.076	5.57	90.5	9.0	1.13	9.1	.19	2.24	.86	32
1	42		11.50	11.49	33.781	25.738	225.6	.098	4.97	80.6	10.4	1.26	10.6	.21	1.91	.70	42
	50	ISL	11.05	11.04	33.803	25.836	216.5	.116	4.15	66.7							50
1	52		10.91	10.91	33.810	25.866	213.6	.120	3.94	63.1	18.1	1.67	16.5	.28	.94	.78	52

RV DAVID STARR JORDAN CALCOFI CRUISE 8605 STATION 80 55

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
34 19.2 N	120 48.3 W	18/05/86	0634 GMT	845 M	330	18 KT			1015.3 MB	13.0 C	12.1 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	FO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0	ISL	12.20	12.20	33.609	25.472	252.3	.000	6.83	112.4							0
1	2		12.20	12.20	33.609	25.472	249.9	.005	6.83	112.4	2.5	.70	5.1	.18	5.44	.71	2
	10	ISL	11.71	11.71	33.609	25.564	241.6	.025	6.62	107.8							10
1	12	P	11.62	11.62	33.609	25.581	239.8	.029	6.54	106.3	3.6	.79	6.4	.17	5.16	.99	12
1	20	P	11.34	11.34	33.629	25.647	233.7	.048	6.07	98.1	6.1	.92	7.9	.18	5.16	1.29	20
1	30	P	10.89	10.89	33.653	25.748	224.4	.07 1	5.71	91.4	9.6	1.07	9.1	.19	4.64	1.46	30
1	38	P	10.57	10.57	33.675	25.821	217.6	.089	5.11	81.2	14.2	1.29	12.4	.20	4.45	1.70	38
1	47	P	9.90	9.90	33.691	25.948	205.6	.107	4.34	68.0	19.2	1.56	17.0	.21	2.38	1.72	47
	50	ISL	9.66	9.65	33.691	25.988	201.9	.114	4.07	63.5							50
1	57	P	9.24	9.24	33.696	26.060	195.2	.127	3.63	56.0	24.0	1.74	22.0	.08	.28	.63	57
1	71	P	8.96	8.95	33.771	26.164	185.6	.154	3.41	52.3	27.1	1.85	24.0	.02	.11	.53	71
	75	ISL	8.92	8.91	33.789	26.185	183.7	.162	3.35	51.3							76
1	84	P	8.86	8.85	33.818	26.216	180.8	.178	3.26	49.9	29.0	1.90	25.0	.02	.12	.49	84
	100	ISL	8.70	8.69	33.848	26.265	176.5	.207	3.26	49.8							101
1	103	P	8.67	8.66	33.854	26.275	175.6	.213	3.26	49.7	30.1	1.92	25.4	.02	.06	.21	104
	125	ISL	8.36	8.35	33.929	26.381	165.9	.250	3.27	49.5							126
1	126	P	8.34	8.33	33.933	26.387	165.3	.252	3.27	49.5	32.8	1.94	26.0	.02	.04	.11	127
	150	ISL	8.04	8.03	33.981	26.470	157.9	.290	3.17	47.7							151
1	156	P	7.98	7.97	33.989	26.485	156.4	.300	3.11	46.7	36.8	2.03	27.3	.01			157
1	184	P	7.81	7.79	34.028	26.541	151.6	.343	2.58	38.6	41.7	2.21	29.4	.02			185
	200	ISL	7.63	7.61	34.046	26.581	148.0	.367	2.34	34.9							202
1	214	P	7.50	7.48	34.064	26.615	144.9	.387	2.14	31.8	47.7	2.39	31.7	.01			215
	250	ISL	7.45	7.42	34.147	26.688	138.7	.43 8	1.51	22.4							252
1	254	P	7.44	7.42	34.156	26.696	138.0	.444	1.44	21.4	53.8	2.64	33.6	.01			256
	300	ISL	7.12	7.09	34.200	26.777	130.9	.506	1.03	15.2							302
1	309	P	7.04	7.01	34.205	26.791	129.7	.517	.98	14.4	61.3	2.84	35.6	.00			311
1	370	P	6.81	6.77	34.242	26.853	124.6	.596	.76	11.1	67.0	2.95	36.9	.00			373
	400	ISL	6.58	6.55	34.245	26.885	121.8	.632	.67	9.7							403
1	435	P	6.30	6.26	34.247	26.925	118.3	.674	.57	8.2	74.6	3.05	38.6	.00			438
	500	ISL	5.87	5.83	34.283	27.008	110.9	.749	.42	5.9							504
1	502	P	5.86	5.81	34.285	27.011	110.6	.751	.41	5.9	83.4	3.15	39.8	.04			506

RV DAVID STARR JORDAN CALCOFI CRUISE 8605 STATION 80 60

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
34 09.3 N	121 09.2 W	18/05/86	1008 GMT	2227 M	340	19 KT			1014.2 MB	12.5 C	12.0 C		

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0	ISL	12.65	12.65	33.492	25.294	266.8	.000	6.43	106.7							0
1	1		12.65	12.65	33.492	25.294	266.8	.003	6.43	106.7	1.6	.68	4.5	.17	2.77	.64	1
1	10		12.36	12.36	33.511	25.365	260.4	.026	6.54	107.9	1.6	.72	4.8	.18	3.69	.98	10
1	20		11.47	11.46	33.588	25.593	238.9	.051	5.74	92.9	7.6	1.02	9.0	.20	4.07	1.43	20
1	30		11.17	11.17	33.668	25.708	228.1	.074	4.91	79.1	13.6	1.33	12.2	.23	.76	1.05	30
1	41		10.87	10.87	33.696	25.784	221.1	.099	4.14	66.2	18.4	1.52	15.6	.29	.29	.75	41
1	50		10.58	10.57	33.722	25.857	214.5	.118	3.85	61.2	20.4	1.60	18.0	.31	.22	.63	50
1	60		10.17	10.16	33.777	25.970	203.8	.13 9	3.30	52.0	24.0	1.74	21.1	.37	.21	.74	60
1	70		9.88	9.88	33.797	26.034	198.0	.159	3.18	49.8	25.2	1.79	22.2	.34	.18	.52	70
	75	ISL	9.72	9.71	33.792	26.058	195.9	.170	3.20	49.9							76
1	85		9.38	9.37	33.787	26.109	191.1	.188	3.27	50.6	26.0	1.82	23.4	.16	.11	.37	85
1	98		8.73	8.72	33.845	26.25 9	177.1	.214	3.30	50.4	29.0	1.87	24.9	.06	.08	.38	99
	100	ISL	8.68	8.67	33.852	26.271	175.9	.217	3.30	50.3							101
1	119		8.34	8.33	33.928	26.3 83	165.6	.250	3.26	49.4	32.2	1.93	26.1	.03	.03	.16	120
	125	ISL	8.27	8.25	33.940	26.404	163.7	.25 9	3.25	49.1							126
1	144		8.07	8.05	33.969	26.456	159.0	.290	3.21	48.3	35.0	1.98	26.8	.02	.03	.13	145
	150	ISL	8.02	8.00	33.980	26.473	157.6	.299	3.12	46.9							151
1	173		7.82	7.81	34.011	26.526	152.9	.335	2.72	40.7	39.8	2.16	29.0	.01			174
	200	ISL	7.56	7.54	34.017	26.570	149.0	.376	2.55	37.9							202
1	203		7.53	7.51	34.018	26.574	148.7	.380	2.54	37.8	43.8	2.24	30.2	.02			204
1	233		7.34	7.32	34.020	26.603	146.4	.424	2.43	36.0	45.8	2.29	31.1	.02			234
	250	ISL	7.20	7.17	34.021	26.624	144.6	.449	2.37	35.0							252
1	271		6.99	6.97	34.027	26.657	141.7	.47 9	2.23	32.8	50.5	2.40	32.5	.01			273
	300	ISL	6.66	6.64	34.064	26.731	134.9	.519	1.71	24.9							302
1	326		6.38	6.35	34.101	26.798	128.8	.553	1.22	17.7	64.3	2.79	37.2	.01			328
1	384		5.99	5.96	34.134	26.874	122.1	.627	.86	12.3	72.4	2.95	39.1	.01			387
	400	ISL	5.96	5.92	34.152	26.893	120.5	.646	.77	11.1							403
1	449		5.87	5.84	34.210	26.949	115.8	.703	.54	7.7	78.0	3.08	39.9	.00			452
	500	ISL	5.66	5.62	34.250	27.007	110.8	.761	.40	5.6							504
1	517		5.57	5.53	34.259	27.026	109.1	.7 80	.37	5.3	85.2	3.17	41.1	.00			521

RV DAVID STARR JORDAN CALCOFI CRUISE 8605 STATION 80 70

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
33 49.0 N	121 50.4 W	18/05/86	1649 GMT	3733 M	340	19 KT	330 06 06	2	1015.1 MB	13.3 C	12.6 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	13.34	13,34	33.173	24.910	303.4	.000	6.07	102.0							0
1	2		13.34	13.34	33.173	24.910	303.4	.006	6.07	102.0	2.5	.51	1.3	.05	.31	.14	2
	10	ISL	13.33	13.33	33.173	24.912	303.4	.03 0	6.07	102.0							10
1	17		13.32	13.32	33.173	24.915	303.4	.051	6.07	102.0	2.6	.51	1.5	.06	.25	.18	17
	20	ISL	13.30	13.30	33.167	24.914	303.1	.061	6.07	101.8							20
	30	ISL	13.15	13.15	33.152	24.933	301.9	.091	6.04	101.0							30
1	32		13.11	13.10	33.145	24.936	301.7	.097	6.03	100.8	2.7	.54	1.7	.07	.35	.22	32
1	42		12.76	12.75	33.163	25.019	294.1	.126	5.98	99.3	3.0	.60	2.4	.08	.33	.23	42
	50	ISL	13.02	13.01	33.308	25.082	288.3	.150	6.04	100.9							50
1	52		13.09	13.08	33.335	25.088	287.8	.155	6.06	101.4	2.4	.61	2.5	.10	.37	.16	52
1	61		13.11	13.10				.181	6.08	101.7	2.5	.62	2.6	.10	.37	.19	61
1	73		10.81	10.80	33.145	25.366	261.5	.214	5.44	86.6	7.0	.92	8.2	.07	.29	.21	73
	75	ISL	10.75	10.74	33.179	25.403	258.1	.220	5.36	85.2							76
1	81		10.61	10.60	33.233	25.471	251.8	.235	5.18	82.1	8.6	1.02	10.3	.05	.12	.16	81
1	96		10.26	10.25	33.373	25.640	236.0	.271	4.74	74.7	12.4	1.24	14.2	.03	.11	.17	96
	100	ISL	10.11	10.10	33.431	25.711	229.3	.282	4.60	72.2							101
1	II0		9.73	9.72	33.564	25.878	213.6	.305	4.27	66.6	17.2	1.45	18.1	.02	.04	.05	111
1	125		9.28	9.27	33.686	26.047	197.8	.335	3.91	60.4	21.7	1.61	21.0	.01	.03	.10	126
	150	ISL	8.83	8.81	33.855	26.252	178.7	.382	3.62	55.5							151
1	151		8.81	8.80	33.862	26.259	178.0	.384	3.62	55.4	27.1	1.76	23.5	.01	.00	.02	152
1	175		8.51	8.49	33.918	26.350	169.8	.425	3.67	55.8	28.9	1.77	23.9	.01			176
	200	ISL	8.03	8.01	33.971	26.465	159.2	.466	3.45	51.9							201
1	205		7.94	7.92	33.979	26.485	157.3	.47 4	3.40	51.0	35.0	1.90	26.2	.00			206
1	234		7.57	7.55	33.993	26.549	151.6	.519	3.27	48.7	39.3	1.98	27.4	.00			235
	250	ISL	7.35	7.33	34.005	26.589	147.9	.543	2.94	43.6							252
1	273		7.04	7.01	34.022	26.647	142.6	.577	2.40	35.3	49.4	2.32	31.9	.00			275
	300	ISL	6.66	6.63	34.033	26.707	137.2	.614	2.01	29.3							302
1	328		6.30	6.28	34.044	26.762	132.1	.652	1.69	24.4	61.6	2.61	35.9	.00			330
1	387		5.89	5.86	34.092	26.853	123.9	.727	1.07	15.3	70.8	2.85	38.7	.01			389
	400	ISL	5.81	5.77	34.103	26.872	122.3	.7 43	.98	13.9							403
1	449		5.54	5.50	34.144	26.93 8	116.5	.802	.72	10.2	80.0	2.99	40.4	.00			452
	500	ISL	5.32	5.28	34.201	27.010	110.1	.860	.51	7.3							504
1	517		5.25	5.21	34.223	27.035	107.8	.879	.46	6.5	89.2	3.12	41.7	.00			521

RV DAVID STARR JORDAN CALCOEI CRUISE 8605 . STATION 80 80

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
33 29.1 N	122 32.0 W	19/05/86	0009 GMT	3924 M	3 40	16 KT	3 40 06 06	1	1014.8 MB	15.1 C	14.0 C	3/8	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	15.18	15.18	33.055	24.435	348.7	.000	5.87	102.3							0
1	1		15.18	15.18	33.055	24.435	348.7	.003	5.87	102.3	2.7	.38	.1	.00	.11	.03	1
	10	ISL	15.14	15.14	33.056	24.445	347.9	.035	5.90	102.8							10
1	16		15.11	15.11	33.057	24.451	347.5	.055	5.92	103.1	2.7	.38	.1	.00	.11	.03	16
	20	ISL	15.09	15.09	33.057	24.456	347.2	.070	5.93	103.2							20
	30	ISL	15.05	15.04	33.056	24.465	346.6	.104	5.95	103.4							30
1	31		15.05	15.04	33.056	24.466	346.6	.107	5.95	103.5	2.6	.38	.0	.00	.09	.03	31
1	40		15.02	15.02	33.054	24.469	346.5	.138	5.91	102.7	2.6	.38	.0	.00	.07	.02	40
1	50		15.00	14.99	33.050	24.472	346.5	.173	5.88	102.1	2.6	.38	.0	.00	.12	.03	50
1	61		14.98	14.97	33.048	24.474	3 46.7	.211	5.90	102.4	2.6	.38	.0	.00	.09	.02	61
1	70		14.98	14.96	33.049	24.477	346.7	.242	5.91	102.6	2.6	.37	.0	.00	.13	.04	70
	75	ISL	14.59	14.57	33.036	24.550	339.8	.260	5.95	102.5							76
1	80		14.13	14.12	33.031	24.643	331.1	.276	5.99	102.2	2.5	.39	.0	.00	.18	.09	80
1	96		12.59	12.58	33.127	25.025	294.9	.326	5.93	98.1	3.3	.51	1.3	.06	.42	.33	96
	100	ISL	12.18	12.17	33.148	25.119	285.9	.338	5.84	95.7							101
1	II0		11.40	11.38	33.195	25.302	268.7	.365	5.58	90.0	5.5	.73	5.5	.09	.28	.24	II0
1	124		10.60	10.59	33.287	25.515	248.6	.403	5.13	81.4	9.4	1.01	10.5	.02	.14	.22	125
	125	ISL	10.58	10.56	33.292	25.523	247.8	.405	5.11	81.0							126
1	149		9.71	9.70	33.527	25.853	216.8	.461	4.27	66.5	18.0	1.49	18.4	.01	.09	.07	150
	150	ISL	9.69	9.68	33.533	25.861	216.0	.463	4.25	66.2							151
1	174		9.07	9.05	33.739	26.123	191.5	.512	3.69	56.7	24.6	1.71	22.6	.01			175
	200	ISL	8.50	8.48	33.883	26.325	172.7	.559	3.52	53.4							201
1	203		8.44	8.42	33.896	26.344	170.9	.564	3.51	53.3	30.6	1.84	25.0	.01			204
1	232		7.97	7.95	33.999	26.496	156.8	.611	3.26	49.0	36.4	1.96	26.6	.01			233
	250	ISL	7.65	7.63	34.002	26.545	151.7	.639	3.05	45.5							252
1	271		7.30	7.28	34.005	26.597	147.5	.672	2.76	40.8	44.6	2.19	29.9	.00			273
	300	ISL	7.00	6.97	34.026	26.656	142.2	.713	2.31	33.9							302
1	325		6.80	6.77	34.051	26.703	138.0	.7 48	1.91	27.9	55.3	2.51	34.0	.00			327
1	384		6.44	6.40	34.120	26.806	128.9	.826	1.16	16.8	65.0	2.81	37.2	.00			386
	400	ISL	6.34	6.30	34.135	26.830	126.8	.847	1.03	14.9							403
1	448		6.06	6.02	34.171	26.896	121.0	.907	.76	10.9	73.6	2.95	39.0	.00			451
	500	ISL	5.75	5.71	34.209	26.964	114.9	.968	.55	7.9							504
1	519		5.64	5.60	34.222	26.988	112.8	.989	.50	7.1	82.5	3.10	40.6	.00			522

RV DAVID STARR JORDAN CALCOFI CRUISE 8605 STATION 80 90

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
33 09.2 N	123 13.5 W	19/05/86	0544 GMT	4209 M	340	22 KT			1016.1 MB	14.0 C	13.0 C		

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0	ISL	14.92	14.92	33.025	24.468	345.5	.000	5.96	103.4							0
1	2		14.92	14.92	33.025	24.468	345.5	.007	5.96	103.4	2.7	.38	.0	.00	.10	.02	2
	10	ISL	14.90	14.90	33.023	24.470	3 45.5	.035	5.95	103.1							10
1	17		14.88	14.88	33.019	24.472	3 45.5	.059	5.94	102.9	2.8	.38	.0	.00	.09	.03	17
	20	ISL	14.87	14.86	33.018	24.475	345.4	.06 9	5.94	102.8							20
	30	ISL	14.81	14.80	33.017	24.487	344.6	.104	5.92	102.5							30
1	38		14.75	14.75	33.016	24.498	343.7	.13 1	5.92	102.3	2.7	.38	.0	.00	.12	.04	38
	50	ISL	14.67	14.66	33.025	24.524	341.6	.172	5.94	102.4							50
1	58		14.61	14.60	33.031	24.540	340.3	.199	5.95	102.5	2.7	.38	.0	.00	.20	.08	58
1	73		13.18	13.17	33.061	24.859	310.2	.247	6.05	101.2	2.9	.47	.7	.04	.51	.28	73
	75	ISL	12.80	12.79	33.060	24.932	303.8	.254	5.99	99.4							76
1	82		11.82	11.81	33.059	25.118	285.5	.274	5.77	93.8	5.0	.69	4.1	.17	.36	.31	82
1	92		11.42	11.41	33.239	25.332	265.4	.301	5.46	88.1	6.2	.79	6.4	.13	.22	.33	92
	100	ISL	11.34	11.33	33.330	25.416	257.6	.323	5.21	84.0							101
1	103		11.33	11.32	33.352	25.436	255.8	.330	5.13	82.7	7.7	.91	8.7	.04	.16	.33	103
1	112		11.09	11.08	33.446	25.552	244.9	.352	4.77	76.5	10.2	1.07	11.7	.03	.13	.34	112
	125	ISL	10.43	10.41	33.577	25.771	224.2	.384	4.20	66.4							126
1	127		10.30	10.28	33.600	25.812	220.4	.389	4.09	64.6	16.5	1.42	17.4	.01	.05	.10	128
1	140		9.74	9.73	33.720	25.998	202.8	.417	3.53	55.1	22.3	1.68	21.4	.00	.02	.05	141
	150	ISL	9.57	9.55	33.775	26.071	196.1	.436	3.27	50.9							151
1	161		9.46	9.44	33.823	26.126	191.0	.458	3.07	47.6	26.6	1.87	24.0	.01	.02	.05	162
1	181		9.18	9.16	33.925	26.251	179.6	.494	2.77	42.7	30.1	2.00	25.7	.01			182
	200	ISL	9.00	8.98	33.976	26.320	173.4	.528	2.60	40.0							201
1	206		8.95	8.93	33.987	26.336	171.9	.53 8	2.56	39.3	32.8	2.10	27.0	.00			207
1	235		8.67	8.64	34.051	26.43 2	163.3	.586	2.32	35.4	36.3	2.21	28.4	.00			236
	250	ISL	8.46	8.44	34.076	26.483	158.6	.611	2.16	32.8							252
1	274		8.14	8.12	34.108	26.556	152.0	.649	1.90	28.7	43.2	2.41	30.8	.00			276
	300	ISL	7.94	7.91	34.131	26.605	147.6	.687	1.71	25.7							302
1	328		7.74	7.70	34.149	26.649	143.9	.728	1.53	22.9	48.9	2.57	32.7	.00			330
1	388		7.10	7.07	34.175	26.760	133.9	.811	1.11	16.4	58.1	2.77	35.4	.00			3 90
	400	ISL	6.98	6.94	34.179	26.780	132.2	.827	1.05	15.4							403
1	453		6.50	6.46	34.196	26.858	125.1	.896	.81	11.8	66.8	2.94	37.7	.00			456
	500	ISL	6.15	6.10	34.231	26.933	118.3	.953	.59	8.6							504
1	524		5.99	5.94	34.257	26.973	114.7	.981	.48	6.9	77.3	3.10	39.9	.00			528

RV DAVID STARR JORDAN CALCOFI CRUISE 8605 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 54.7 W	19/05/86	1109 GMT	4114 M	350	20 KT			1015.2 MB	14.5 C	13.3 C		

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
1	0		14.98	14.98	32.989	24.427	349.4	.000	5.89	102.2	2.6	.39	.1	.00	.08	.02	0
	10	ISL	14.97	14.97	32.993	24.433	349.1	.035	5.90	102.4							10
1	15		14.97	14.96	32.998	24.438	3 48.7	.052	5.91	102.6	2.6	.39	.1	.00	.07	.02	15
	20	ISL	14.89	14.89	32.988	24.446	348.1	.07 0	5.92	102.6							20
	30	ISL	14.73	14.73	32.965	24.463	3 46.8	.105	5.94	102.6							30
1	34		14.66	14.65	32.954	24.470	346.2	.118	5.95	102.6	2.7	.38	.1	.00	.11	.02	34
	50	ISL	14.50	14.49	32.936	24.491	344.7	.174	5.96	102.4							50
1	55		14.46	14.46	32.934	24.497	344.3	.190	5.96	102.3	2.8	.39	.1	.00	.16	.05	55
1	70		14.37	14.36	33.115	24.657	329.5	.240	5.96	102.2	2.3	.36	.1	.00	.17	.06	70
	75	ISL	14.14	14.12	33.119	24.708	324.7	.258	5.96	101.7							76
1	81		13.80	13.79	33.133	24.789	317.1	.276	5.95	100.9	2.3	.38	.1	.00	.32	.27	81
1	90		13.15	13.13	33.279	25.034	293.9	.303	5.83	97.6	2.7	.46	.8	.07	.33	.41	90
	100	ISL	12.70	12.68	33.338	25.168	281.4	.333	5.74	95.2							101
1	102		12.64	12.62	33.340	25.181	280.2	.338	5.72	94.8	3.0	.51	1.9	.16	.23	.34	102
1	II0		12.21	12.20	33.369	25.286	270.4	.359	5.58	91.7	3.8	.59	3.6	.08	.16	.29	II0
1	125		11.57	11.55	33.381	25.416	258.3	.402	5.34	86.5	5.9	.75	6.7	.03	.11	.22	126
1	145		10.63	10.61	33.451	25.638	237.3	.451	4.87	77.4	10.4	1.06	12.0	.01	.06	.11	146
	150	ISL	10.41	10.40	33.481	25.699	231.6	.462	4.77	75.4							151
1	160		9.96	9.94	33.556	25.834	218.9	.485	4.53	71.0	15.1	1.29	15.9	.01	.03	.04	161
1	179		9.26	9.24	33.706	26.066	197.0	.524	3.90	60.2	22.3	1.61	21.1	.01			180
	200	ISL	8.71	8.69	33.834	26.255	179.4	.563	3.63	55.5							201
1	205		8.60	8.58	33.859	26.291	176.0	.572	3.61	55.0	28.4	1.79	24.1	.00			206
1	234		8.05	8.02	33.966	26.45 9	160.4	.621	3.46	52.0	34.1	1.87	25.9	.00			235
	250	ISL	7.78	7.76	33.986	26.513	155.4	.646	3.30	49.3							252
1	273		7.45	7.43	33.992	26.565	150.6	.681	3.02	44.8	41.5	2.09	28.8	.00			274
	300	ISL	7.10	7.07	34.005	26.626	145.1	.721	2.62	38.6							302
1	327		6.79	6.76	34.019	26.679	140.3	.760	2.21	32.3	53.1	2.40	33.1	.01			329
1	385		6.27	6.24	34.068	26.786	130.6	.838	1.45	20.9	63.7	2.72	36.9	.00			387
	400	ISL	6.14	6.11	34.078	26.810	128.4	.858	1.32	18.9							403
1	449		5.80	5.76	34.112	26.881	122.1	.919	.97	13.9	73.8	2.92	39.4	.00			452
	500	ISL	5.56	5.52	34.165	26.952	115.8	.980	.64	9.1							504
1	517		5.51	5.47	34.186	26.975	113.8	.999	.54	7.7	82.7	3.09	41.0	.00			520

RV DAVID STARR JORDAN — CALCOFI CRUISE 8605 — STATION 80 110

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
32 28.9 N	124 35.3 W	19/05/86	1636 GMT	4114 M	010	14 KT	360 05 08	1	1016.7 MB	15.7 C	13.8 C	2/8	CU

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0 ISL	15.57	15.57	33.175	24.441	348.3	.000	5.82	102.4							0
1	2	15.57	15.57	33.175	24.441	3 48.1	.007	5.82	102.4	2.4	.36	.2	.00	.06	.01	2
	10 ISL	15.53	15.53	33.174	24.449	347.6	.035	5.83	102.4							10
1	17	15.51	15.51	33.174	24.454	347.3	.059	5.83	102.4	2.4	.36	.2	.00	.06	.01	17
	20 ISL	15.51	15.51	33.174	24.454	347.4	.070	5.83	102.4							20
	30 ISL	15.52	15.51	33.174	24.453	347.8	.104	5.84	102.5							30
1	38	15.52	15.51	33.174	24.453	348.0	.132	5.84	102.6	2.3	.36	.2	.00	.06	.01	38
	50 ISL	15.47	15.47	33.172	24.462	347.6	.174	5.85	102.6							50
1	58	15.43	15.42	33.170	24.470	347.0	.201	5.85	102.6	2.3	.36	.2	.00	.11	.02	58
1	73	15.34	15.32	33.169	24.490	345.5	.253	5.84	102.2	2.4	.36	.2	.00	.16	.04	73
	75 ISL	14.91	14.90	33.177	24.590	336.1	.260	5.90	102.4							76
1	83	13.39	13.38	33.222	24.941	302.7	.285	6.05	101.8	3.2	.43	.2	.00	.22	.12	83
1	93	12.56	12.54	33.261	25.136	284.2	.314	5.79	95.7	3.9	.53	1.7	.10	.38	.36	93
	100 ISL	12.24	12.23	33.296	25.223	276.1	.335	5.59	91.8							101
1	103	12.15	12.14	33.309	25.251	273.5	.342	5.51	90.4	5.1	.69	4.3	.16	.35	.35	103
1	114	11.47	11.45	33.379	25.432	256.4	.371	5.06	81.8	8.0	.90	8.8	.04	.23	.32	114
	125 ISL	10.74	10.73	33.487	25.646	236.1	.399	4.48	71.4							126
1	127	10.60	10.59	33.511	25.689	232.2	.405	4.37	69.4	13.7	1.27	15.0	.01	.11	.13	128
1	142	10.12	10.10	33.609	25.849	217.2	.43 8	3.99	62.7	17.8	1.48	18.5	.00	.05	.07	143
	150 ISL	9.89	9.87	33.662	25.930	209.6	.455	3.80	59.5							151
1	161	9.58	9.57	33.740	26.041	199.2	.478	3.54	55.1	23.1	1.71	22.1	.00	.01	.04	162
i	181	9.25	9.23	33.858	26.188	185.6	.516	3.09	47.7	27.7	1.88	24.6	.01			182
	200 ISL	9.12	9.10	33.968	26.294	175.9	.550	2.54	39.1							201
1	206	9.10	9.08	33.998	26.322	173.3	.560	2.38	36.7	32.8	2.13	27.6	.00			207
1	235	8.80	8.77	34.071	26.427	163.9	.609	2.11	32.3	37.0	2.25	29.1	.00			236
	250 ISL	8.66	8.63	34.098	26.470	160.0	.634	1.99	30.4							252
1	273	8.45	8.42	34.130	26.528	154.8	.671	1.83	27.8	41.4	2.39	30.6	.00			275
	300 ISL	8.20	8.16	34.155	26.586	149.7	.711	1.66	25.1							302
1	327	7.92	7.88	34.167	26.637	145.1	.751	1.51	22.7	48.2	2.56	32.6	.00			329
1	386	7.21	7.17	34.152	26.727	137.1	.834	1.27	18.8	56.2	2.72	35.0	.00			3 88
	400 ISL	7.08	7.05	34.157	26.749	135.1	.853	1.18	17.4							403
1	449	6.70	6.66	34.185	26.823	128.6	.918	.88	12.8	64.9	2.90	37.2	.00			45 2
	500 ISL	6.31	6.27	34.209	26.894	122.2	.982	.67	9.7							504
1	520	6.16	6.12	34.218	26.920	119.8	1.005	.62	8.9	74.5	3.05	39.3	.00			523

RV DAVID STARR JORDAN — CALCOFI CRUISE 8605 — STATION 80 120

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
32 09.3 N	125 16.3 W	19/05/86	2352 GMT	3924 M	350	16 KT	340 04 06	1	1017.3 MB	17.3 C	14.9 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	15.78	15.78	33.188	24.404	351.7	.000	5.85	103.3							0
1	2	15.78	15.78	33.188	24.404	351.6	.007	5.85	103.3	2.3	.37	.2	.00	.06	.01	2
	10 ISL	15.75	15.74	33.188	24.412	351.1	.035	5.85	103.2							10
1	17	15.72	15.71	33.188	24.419	350.6	.059	5.85	103.2	2.3	.37	.2	.00	.06	.01	17
	20 ISL	15.70	15.70	33.189	24.423	350.5	.07 0	5.86	103.3							20
	30 ISL	15.66	15.66	33.191	24.435	349.8	.105	5.88	103.6							30
1	37	15.64	15.63	33.193	24.441	349.2	.129	5.89	103.7	2.2	.36	.2	.00	.07	.01	37
	50 ISL	15.63	15.62	33.233	24.474	346.4	.175	5.86	103.3							50
1	56	15.63	15.62	33.250	24.488	345.3	.195	5.85	103.0	2.2	.35	.2	.00	.09	.02	56
1	71	15.58	15.57	33.253	24.501	344.5	.246	5.84	102.7	2.2	.35	.2	.00	.13	.02	71
	75 ISL	15.49	15.48	33.255	24.522	342.6	.261	5.85	102.8							76
1	82	15.35	15.34	33.257	24.556	339.6	.284	5.89	103.1	2.0	.35	.2	.00	.17	.04	82
1	91	13.59	13.58	33.248	24.921	304.9	.313	5.99	101.2	2.9	.44	.2	.00	.33	.19	91
	100 ISL	13.25	13.23	33.267	25.005	297.1	.341	5.96	100.0							101
1	101	13.24	13.23	33.267	25.006	297.0	.3 43	5.96	100.0	3.1	.46	.3	.01	.47	.31	101
1	111	12.42	12.40	33.295	25.189	279.6	.371	5.64	93.0	4.4	.61	3.0	.12	.44	.32	111
1	125	11.09	11.07	33.452	25.558	244.7	.410	4.76	76.4	10.5	1.08	11.4	.04	.19	.23	126
1	139	10.49	10.47	33.611	25.787	223.1	.443	3.86	61.2	17.4	1.49	18.0	.02	.12	.18	140
	150 ISL	10.20	10.18	33.678	25.890	213.5	.466	3.58	56.4							151
1	160	9.95	9.93	33.735	25.976	205.4	.488	3.39	53.1	22.4	1.72	21.8	.00	.04	.06	161
1	178	9.40	9.38	33.906	26.200	184.4	.523	2.69	41.7	29.0	2.00	25.7	.00			17 9
	200 ISL	9.23	9.20	34.000	26.303	175.0	.562	2.30	35.5							201
1	204	9.22	9.20	34.009	26.311	174.4	.569	2.26	34.9	32.7	2.17	27.6	.00			205
1	232	9.00	8.97	34.060	26.386	167.7	.616	2.06	31.7	35.6	2.25	28.6	.00			233
	250 ISL	8.85	8.82	34.092	26.436	163.3	.647	1.94	29.8							252
1	272	8.67	8.64	34.127	26.491	158.4	.681	1.81	27.6	39.5	2.37	30.0	.00			273
	300 ISL	8.45	8.42	34.162	26.552	153.1	.725	1.60	24.4							302
1	325	8.25	8.22	34.182	26.599	148.9	.763	1.43	21.6	45.7	2.56	31.9	.00			327
1	385	7.62	7.58	34.194	26.702	139.8	.849	1.14	17.0	53.3	2.72	34.1	.00			3 87
	400 ISL	7.49	7.45	34.196	26.722	138.0	.871	1.09	16.2							403
1	449	7.10	7.06	34.202	26.782	132.8	.937	.93	13.7	60.3	2.85	36.0	.00			452
	500 ISL	6.65	6.61	34.211	26.851	126.7	1.003	.75	10.9							504
1	521	6.46	6.41	34.214	26.87 9	124.1	1.029	.67	9.7	69.9	3.00	38.1	.00			524

RV DAVID STARR JORDAN — CALCOFI CRUISE 8605 — STATION 82 47

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
34 17.1 N	120 02.0 W	17/05/86	2248 GMT	592 M	290	07 KT	260 03 07	4	1016.4 MB	14.2 C	13.6 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	12.66	12.66	33.831	25.555	248.7	.000	8.94	148.7							0
1	2		12.66	12.66	33.831	25.555	242.1	.005	8.94	148.7	1.2	.22	.1	.01	15.26	4.75	2
	10	ISL	11.50	11.50	33.819	25.766	222.1	.023	6.58	106.9							10
1	12		11.30	11.30	33.818	25.801	218.9	.028	6.18	99.9	8.5	.80	6.8	.14	13.01	3.07	12
	20	ISL	11.10	11.10	33.798	25.822	217.1	.045	5.46	87.8							20
1	27		10.93	10.93	33.782	25.840	215.6	.060	5.22	83.7	12.9	1.16	11.1	.18	8.90	3.35	27
	30	ISL	10.76	10.76	33.775	25.865	213.2	.067	4.88	78.0							30
1	42		10.13	10.12	33.766	25.968	203.7	.091	3.74	58.9	23.2	1.71	20.0	.23	.48	1.75	42
	50	ISL	9.97	9.96	33.784	26.010	199.9	.108	3.47	54.4							50
1	57		9.89	9.88	33.808	26.042	197.0	.121	3.37	52.8	25.4	1.79	21.7	.22	.44	1.07	57
1	73		9.54	9.53	33.883	26.158	186.2	.152	2.93	45.6	29.9	1.95	24.3	.28	.41	1.24	73
	75	ISL	9.49	9.48	33.890	26.172	184.9	.156	2.89	45.0							76
1	87		9.29	9.28	33.918	26.227	179.9	.177	2.77	42.9	30.6	1.98	25.4	.15	.23	1.00	87
1	100		9.16	9.14	33.953	26.276	175.6	.202	2.61	40.3	32.2	2.03	26.1	.10	.14	.69	101
1	116		9.08	9.07	33.990	26.317	171.9	.230	2.45	37.7	34.3	2.12	26.9	.12	.11	.76	117
	125	ISL	8.98	8.96	34.009	26.349	169.1	.244	2.36	36.2							126
1	146		8.75	8.73	34.059	26.424	162.3	.279	2.11	32.3	38.5	2.25	28.7	.09	.04	.43	147
	150	ISL	8.74	8.73	34.072	26.435	161.4	.286	2.05	31.4							151
1	175		8.72	8.70	34.140	26.492	156.5	.325	1.71	26.2	41.6	2.39	29.8	.01	.03	.40	176
	200	ISL	8.54	8.52	34.158	26.53 4	152.9	.364	1.57	24.0							202
1	204		8.51	8.49	34.159	26.540	152.4	.370	1.56	23.7	44.7	2.47	30.8	.01	.02	.30	205
1	242		8.16	8.13	34.165	26.599	147.4	.428	1.31	19.8	50.2	2.59	32.2	.01			244
	250	ISL	8.08	8.06	34.165	26.610	146.4	.43 9	1.27	19.1							252
1	297		7.62	7.59	34.165	26.678	140.5	.506	1.02	15.2	57.4	2.75	33.8	.01			299
	300	ISL	7.59	7.56	34.166	26.683	140.1	.511	1.00	14.9							302
1	375		6.94	6.90	34.196	26.799	129.9	.612	.55	8.1	70.1	2.97	35.6	.03			378
	400	ISL	6.74	6.70	34.203	26.832	127.1	.644	.46	6.7							403
1	453		6.41	6.37	34.213	26.884	122.6	.710	.29	4.2	86.8	3.20	33.4	.01			456
	500	ISL	6.28	6.23	34.216	26.904	121.3	.767	.12	1.8							504
1	502		6.28	6.23	34.216	26.904	121.2	.770	.12	1.7	105.8	3.47	24.1	.00			506
1	528		6.29	6.24	34.224	26.909	121.2	.802	.16	2.3	101.0	3.44	27.1	.01			532
1	549		6.29	6.24	34.229	26.913	121.1	.827	.16	2.3	99.5	3.42	28.9	.03			553
1	570		6.30	6.25	34.231	26.914	121.4	.852	.19	2.7	99.1	3.39	29.1	.10			574

RV DAVID STARR JORDAN — CALCOFI CRUISE 8605 . — STATION 83 40.6

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
34 13.6 N	119 24.6 W	17/05/86	1734 GMT	36 M	00		260 01 07	4	1017.5 MB	14.8 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	13.86	13.86	33.706	25.216	279.0	.000	6.41	109.2							0
1	1		13.86	13.86	33.706	25.216	274.2	.003	6.41	109.2	3.8	.64	2.7	.06	.36	.14	1
	10	ISL	12.27	12.27	33.713	25.539	243.7	.026	5.24	86.5							10
1	11		12.17	12.17	33.715	25.559	241.9	.028	5.17	85.1	9.0	1.07	7.8	.13	.62	.16	11
	20	ISL	11.97	11.96	33.725	25.606	237.6	.050	4.95	81.1							20
1	21		11.94	11.94	33.726	25.611	237.2	.052	4.94	80.9	10.7	1.18	9.3	.16	.58	.13	21
	30	ISL	11.51	11.51	33.750	25.711	227.9	.073	4.38	71.0							30
1	31		11.46	11.45	33.753	25.723	226.8	.07 5	4.31	69.9	7.9	1.21	11.2	.19	4.26	1.07	31

RV DAVID STARR JORDAN — CALCOFI CRUISE 8605 — STATION 83 42

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
34 11.5 N	119 29.5 W	17/05/86	1459 GMT	122 M	120	07 KT	250 03 06	4	1016.4 MB	13.0 C	13.0 C	8/8	ST

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0	ISL	13.23	13.22	33.747	25.378	259.9	.000	7.62	128.2							0
1	1		13.23	13.22	33.747	25.378	258.8	.003	7.62	128.2	1.1	.27	.2	.01	4.92	1.11	1
	10	ISL	12.76	12.76	33.742	25.467	250.6	.026	7.28	121.2							10
1	11		12.71	12.71	33.740	25.475	249.9	.028	7.24	120.5	2.0	.44	.8	.03	4.40	1.40	11
	20	ISL	12.32	12.32	33.715	25.531	244.8	.050	5.41	89.2							20
1	21		12.28	12.28	33.713	25.536	244.3	.052	5.22	86.1	8.5	1.02	7.3	.12	.96	1.51	21
	30	ISL	11.83	11.83	33.719	25.627	235.9	.07 4	4.66	76.1							30
1	31		11.79	11.78	33.721	25.637	235.0	.07 6	4.64	75.7	12.0	1.23	10.6	.15	.28	.32	31
1	41		11.20	11.20	33.753	25.769	222.6	.099	4.19	67.5	12.9	1.38	13.8	.16	.30	.51	41
	50	ISL	10.87	10.87	33.748	25.825	217.5	.119	3.67	58.7							50
1	51		10.85	10.84	33.747	25.828	217.2	.121	3.63	58.1	16.8	1.55	17.2	.15	.26	.76	51
1	61		10.50	10.50	33.770	25.907	209.9	.142	3.25	51.6	20.2	1.66	19.9	.12	.27	1.14	61
1	72		10.19	10.18	33.825	26.004	200.9	.165	3.00	47.3	23.2	1.78	21.9	.10	.18	.59	72
	75	ISL	10.13	10.12	33.843	26.029	198.6	.171	2.91	45.9							76
1	87		9.96	9.95	33.897	26.099	192.2	.194	2.66	41.8	26.4	1.91	23.7	.20	.33	.56	87
	100	ISL	9.80	9.79	33.943	26.163	186.4	.219	2.54	39.8							101
1	101		9.78	9.77	33.947	26.168	185.9	.222	2.54	39.7	28.2	1.99	24.5	.14	.35	.74	102

RV DAVID STARR JORDAN CALCOFI CRUISE 8605 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 08.1 W	17/05/86	0952 GMT	101 M	030	06 KT			1014.1 MB	13.1 C	12.5 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	13.59	13.59	33.661	25.238	273.0	.000	6.34	107.4							0
1	1		13.59	13.59	33.661	25.238	272.1	.003	6.34	107.4	3.2	.50	2.1	.07	2.27	.53	1
	10	ISL	12.81	12.81	33.670	25.401	256.9	.027	5.66	94.3							10
1	12		12.56	12.56	33.676	25.454	251.9	.031	5.42	89.9	7.5	.88	6.8	.13	2.14	.70	12
	20	ISL	11.21	11.20	33.729	25.750	224.0	.051	4.03	64.9							20
1	22		10.90	10.90	33.745	25.816	217.7	.055	3.71	59.4	18.2	1.53	17.3	.13	1.36	1.11	22
	30	ISL	10.32	10.32	33.779	25.945	205.6	.072	3.11	49.1							30
1	32		10.26	10.25	33.785	25.960	204.2	.076	3.04	48.0	22.7	1.75	21.7	.07	.47	.80	32
1	42		10.08	10.08	33.848	26.039	196.9	.096	2.89	45.5	24.7	1.83	22.6	.08	.54	.92	42
	50	ISL	9.98	9.98	33.877	26.07 9	193.3	.112	2.79	43.8							50
1	52		9.97	9.96	33.881	26.085	192.7	.115	2.77	43.5	26.3	1.90	23.3	.09	.54	1.18	52
1	62		9.88	9.87	33.898	26.113	190.3	.134	2.72	42.6	27.3	1.92	23.8	.09	.45	1.13	62
	75	ISL	9.77	9.76	33.922	26.151	187.1	.159	2.65	41.4							76
1	77		9.76	9.75	33.924	26.154	186.7	.162	2.64	41.3	28.4	1.97	24.3	.09	.43	.94	77

RV DAVID STARR JORDAN CALCOFI CRUISE 8605 STATION 83 55

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
33 44.8 N	120 24.9 W	17/05/86	0640 GMT	1037 M	330	23 KT			1014.5 MB	12.0 C	11.9 C		

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0	ISL	12.30	12.30	33.640	25.477	249.4	.000	6.07	100.1							0
1	1		12.30	12.30	33.640	25.477	249.4	.002	6.07	100.1	6.3	.84	6.3	.15	2.05	.61	1
	10	ISL	12.31	12.30	33.643	25.478	249.6	.025	6.06	100.0							10
1	16		12.31	12.31	33.645	25.47 9	249.7	.040	6.06	99.9	6.2	.83	6.3	.15	1.96	.57	16
	20	ISL	12.25	12.24	33.653	25.498	247.9	.050	6.05	99.6							20
	30	ISL	12.00	12.00	33.678	25.563	241.9	.074	5.94	97.4							30
1	31		11.97	11.97	33.680	25.570	241.3	.076	5.93	97.1	6.4	.89	6.6	.14	3.79	1.95	31
1	42		11.62	11.61	33.702	25.654	233.6	.102	5.63	91.5	9.1	1.01	9.5	.17	5.06	1.21	42
	50	ISL	10.72	10.71	33.612	25.747	225.0	.121	4.42	70.4							50
1	51		10.64	10.63	33.604	25.754	224.2	.123	4.31	68.6	17.0	1.42	15.8	.28	.66	1.03	51
1	61		10.46	10.46	33.619	25.797	220.4	.145	4.13	65.4	18.3	1.48	17.1	.29	.37	.82	61
1	71		10.52	10.51	33.760	25.897	211.1	.166	3.93	62.4	20.4	1.60	17.7	.20	.35	.89	71
	75	ISL	10.13	10.12	33.775	25.976	203.6	.176	3.66	57.6							76
1	81		9.57	9.56	33.785	26.076	194.1	.187	3.30	51.3	24.9	1.76	22.7	.15	.24	.77	81
1	96		9.27	9.26	33.878	26.198	182.9	.217	2.99	46.2	28.1	1.88	24.4	.08	.23	.55	97
	100	ISL	9.28	9.27	33.904	26.218	181.1	.223	2.88	44.6							101
1	111		9.30	9.29	33.965	26.262	177.1	.243	2.57	39.8	31.1	2.03	25.8	.07	.23	.60	112
	125	ISL	9.31	9.30	33.992	26.282	175.6	.267	2.44	37.7							126
1	126		9.31	9.30	33.994	26.283	175.4	.270	2.43	37.6	32.1	2.07	26.3	.07	.19	.60	127
1	150		9.04	9.03	34.054	26.374	167.3	.311	2.28	35.1	34.9	2.16	27.5	.03	.16	.34	151
1	175		8.31	8.29	33.989	26.437	161.5	.351	2.84	43.0	35.6	2.04	27.4	.02			176
	200	ISL	7.99	7.97	34.055	26.535	152.5	.391	2.32	34.9							201
1	205		7.97	7.95	34.071	26.552	151.0	.398	2.18	32.8	43.0	2.29	30.2	.01			206
1	235		7.89	7.86	34.099	26.587	148.2	.442	1.94	29.1	45.4	2.37	31.6	.01			236
	250	ISL	7.81	7.78	34.128	26.622	145.1	.465	1.71	25.6							252
1	273		7.66	7.63	34.172	26.678	140.2	.498	1.36	20.3	51.9	2.59	33.2	.00			275
	300	ISL	7.47	7.44	34.193	26.722	136.3	.535	1.16	17.2							302
1	327		7.26	7.23	34.202	26.759	133.1	.571	1.03	15.2	58.2	2.74	35.0	.00			329
1	386		6.81	6.77	34.224	26.839	126.2	.649	.78	11.4	65.4	2.88	36.9	.00			389
	400	ISL	6.70	6.67	34.231	26.859	124.4	.666	.73	10.6							403
1	450		6.33	6.29	34.260	26.931	118.0	.726	.56	8.1	74.2	3.00	38.5	.00			453
	500	ISL	5.97	5.92	34.283	26.996	112.2	.784	.44	6.3							504
1	518		5.84	5.79	34.289	27.017	110.3	.804	.41	5.9	82.6	3.09	40.2	.00			522

RV DAVID STARR JORDAN CALCOFI CRUISE 8605 STATION 83 60

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
33 34.6 N	120 45.2 W	17/05/86	0255 GMT	1463 M	330	18 KT	320 06 06	1	1014.2 MB	14.0 C	12.9 C	2/8	ST

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
1	0	14.40	14.40	33.115	24.647	328.3	.000	6.04	103.7	2.5	.39	.0	.00	.26	.10	0
	10 ISL	14.40	14.39	33.114	24.648	328.5	.033	6.04	103.7							10
1	16	14.39	14.39	33.114	24.649	328.6	.052	6.04	103.7	2.5	.40	.0	.00	.25	.11	16
	20 ISL	14.36	14.36	33.114	24.655	328.2	.066	6.08	104.3							20
	30 ISL	14.29	14.29	33.114	24.671	327.0	.098	6.14	105.1							30
1	31	14.29	14.28	33.114	24.672	326.9	.101	6.14	105.2	2.5	.40	.0	.00	.27	.13	31
1	41	14.25	14.24	33.122	24.686	325.8	.134	6.01	102.9	2.5	.40	.1	.00	.30	.15	41
1	50	14.14	14.14	33.135	24.719	323.0	.163	6.01	102.6	2.8	.41	.2	.00	.35	.19	50
1	61	12.52	12.51	33.288	25.163	280.8	.196	5.69	94.0	5.4	.69	3.8	.27	.27	.24	61
1	70	11.93	11.92	33.382	25.348	263.5	.220	5.29	86.4	8.3	.89	7.5	.30	.20	.36	70
	75 ISL	11.63	11.62	33.376	25.398	258.7	.23 4	5.18	84.0							76
1	80	11.36	11.35	33.366	25.440	254.8	.246	5.08	82.0	10.3	.99	9.6	.31	.13	.18	80
1	95	10.18	10.17	33.504	25.755	225.0	.282	4.35	68.5	17.6	1.40	16.8	.15	.06	.16	95
	100 ISL	9.98	9.97	33.547	25.823	218.7	.294	4.17	65.4							101
1	109	9.74	9.72	33.637	25.934	208.3	.314	3.84	59.9	21.9	1.59	20.2	.05	.04	.14	II0
1	123	9.23	9.21	33.859	26.191	184.1	.341	3.02	46.6	29.0	1.88	24.6	.00	.02	.10	124
	125 ISL	9.21	9.20	33.866	26.199	183.3	.344	2.96	45.8							126
1	149	9.00	8.98	33.973	26.317	172.6	.388	2.51	38.6	34.0	2.08	26.9	.00	.01	.09	150
	150 ISL	8.99	8.98	33.975	26.320	172.4	.389	2.50	38.4							151
1	174	8.80	8.79	34.027	26.390	166.1	.430	2.29	35.1	36.8	2.17	28.0	.00			175
	200 ISL	8.60	8.58	34.083	26.467	159.3	.472	2.11	32.1							201
1	203	8.58	8.56	34.088	26.47 4	158.7	.476	2.09	31.8	40.0	2.29	29.3	.00			204
1	234	8.48	8.45	34.114	26.510	155.8	.525	1.90	28.9	41.9	2.35	29.8	.00			235
	250 ISL	8.37	8.35	34.135	26.543	152.9	.550	1.77	26.8							252
1	273	8.19	8.16	34.165	26.595	148.3	.585	1.56	23.6	45.6	2.49	31.3	.00			275
	300 ISL	7.95	7.92	34.189	26.649	143.6	.624	1.34	20.1							302
1	328	7.70	7.66	34.208	26.701	138.9	.664	1.13	16.9	53.7	2.68	33.6	.00			330
1	387	7.15	7.12	34.236	26.801	130.1	.7 42	.83	12.2	61.7	2.85	35.7	.00			3 89
	400 ISL	6.98	6.94	34.239	26.827	127.7	.760	.77	11.2							403
1	450	6.35	6.31	34.250	26.920	119.1	.821	.57	8.3	72.7	3.01	38.5	.00			453
	500 ISL	5.90	5.86	34.277	26.999	111.8	.879	.48	6.9							504
1	518	5.78	5.73	34.290	27.025	109.5	.900	.47	6.7	82.7	3.14	40.4	.00			522

RV DAVID STARR JORDAN CALCOFI CRUISE 8605 STATION 83 70

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
33 14.7 N	121 26.8 W	16/05/86	2140 GMT	3764 M	330	24 KT	340 08 07	1	1016.9 MB	15.1 C	13.9 C	3/8	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	15.02	15.02	33.221	24.598	333.1	.000	5.92	103.0							0
1	2	15.02	15.02	33.221	24.598	333.1	.007	5.92	103.0	2.5	.38	.0	.00	.21	.05	2
	10 ISL	14.98	14.98	33.214	24.599	333.2	.033	5.97	103.7							10
1	17	14.96	14.96	33.208	24.601	333.3	.056	5.98	103.9	2.5	.38	.0	.00	.22	.06	17
	20 ISL	14.95	14.95	33.208	24.603	333.2	.067	5.97	103.8							20
	30 ISL	14.91	14.91	33.208	24.611	332.8	.100	5.94	103.1							30
1	32	14.91	14.90	33.208	24.612	332.7	.106	5.93	102.9	2.5	.38	.0	.00	.22	.06	32
1	41	14.87	14.87	33.207	24.620	332.2	.136	5.91	102.5	2.5	.38	.0	.00	.23	.08	41
	50 ISL	13.85	13.84	33.261	24.876	308.0	.165	5.97	101.4							50
1	52	13.59	13.58	33.275	24.940	301.9	.171	5.98	101.1	3.6	.49	1.3	.10	1.08	.34	52
1	62	12.26	12.25	33.323	25.240	273.5	.199	5.43	89.3	6.7	.80	5.8	.69	.58	.54	62
1	72	11.74	11.73	33.379	25.381	260.3	.226	5.04	82.0	9.1	.96	9.2	.30	.33	.37	72
	75 ISL	11.62	11.61	33.394	25.414	257.2	.235	4.96	80.5							76
1	82	11.40	11.39	33.428	25.481	251.0	.251	4.79	77.4	10.7	1.08	11.5	.05	.25	.32	82
1	97	10.79	10.78	33.568	25.701	230.4	.287	4.10	65.4	16.3	1.38	16.4	.02	.11	.19	97
	100 ISL	10.63	10.62	33.598	25.751	225.6	.295	3.97	63.1							101
1	111	10.15	10.14	33.679	25.897	211.9	.320	3.63	57.1	20.9	1.59	20.0	.01	.04	.15	112
	125 ISL	9.81	9.80	33.731	25.995	202.8	.348	3.49	54.5							126
1	126	9.79	9.77	33.736	26.003	202.1	.351	3.48	54.4	23.0	1.68	21.6	.01	.02	.11	127
1	150	9.33	9.31	33.833	26.155	188.1	.398	3.17	49.0	27.3	1.84	24.0	.01	.01	.09	151
1	175	8.75	8.73	33.935	26.327	172.0	.442	2.97	45.4	31.9	1.97	26.1	.00			176
	200 ISL	8.45	8.43	34.005	26.428	162.9	.484	2.67	40.6							201
1	204	8.42	8.40	34.013	26.43 9	161.9	.490	2.62	39.8	36.5	2.11	27.9	.00			205
1	234	8.18	8.16	34.070	26.520	154.7	.538	2.12	32.0	42.1	2.31	30.0	.00			235
	250 ISL	8.05	8.02	34.085	26.552	151.8	.563	2.03	30.6							252
1	272	7.81	7.79	34.095	26.595	148.1	.596	1.99	29.8	45.9	2.40	31.2	.00			274
	300 ISL	7.35	7.32	34.088	26.655	142.5	.636	1.84	27.3							302
1	326	6.90	6.87	34.081	26.713	137.2	.673	1.66	24.3	56.0	2.58	34.5	.00			328
1	385	6.28	6.25	34.119	26.825	126.9	.750	1.10	15.9	67.2	2.84	37.6	.00			387
	400 ISL	6.19	6.15	34.132	26.848	125.0	.769	1.00	14.4							403
1	448	5.97	5.93	34.176	26.911	119.5	.828	.75	10.8	75.2	2.99	39.3	.00			451
	500 ISL	5.73	5.69	34.227	26.980	113.4	.889	.51	7.3							50*
1	518	5.65	5.61	34.246	27.005	111.2	.909	.44	6.3	83.3	3.13	40.7	.00			522

RV DAVID STARR JORDAN CALCOFI CRUISE 8605 STATION 84 70

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
33 05.1 N	121 21.3 W	16/05/86	1925 GMT										

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	2	A	14.95	14.95	33.184	24.584	334.4	.007	5.92	102.8	2.5	.38	.0	.00	.18	.05	2
1	16	A	14.95	14.95	33.183	24.583	335.0	.053	5.93	103.0	2.5	.38	.0	.00	.19	.04	16
1	20	A	14.91	14.91	33.182	24.591	334.3	.067	5.92	102.7	2.4	.38	.0	.00	.18	.05	20
1	30	A	14.89	14.88	33.181	24.596	334.1	.100	5.93	102.9	2.3	.39	.0	.00	.19	.06	30
1	49	A	12.62	12.62	33.215	25.086	287.9	.159	5.82	96.4	4.7	.60	2.8	.28	.72	.52	49
2	71		11.93	11.92	33.363	25.334	264.8	.219	5.19	84.7	7.6	.88	7.7	.25	.38	.40	71
1	76	A	11.04	11.03	33.422	25.542	245.0	.23 2	4.64	74.4	12.4	1.17	12.9	.05	.20	.25	76
2	81		11.07	11.06	33.409	25.526	246.6	.244	4.73	75.9	12.1	1.16	12.5	.06	.20	.30	81
2	95		10.58	10.56	33.555	25.727	227.7	.277	4.13	65.6	16.5	1.38	16.5	.01	.07	.14	95
2	109		10.22	10.20	33.639	25.855	215.9	.310	3.85	60.7	19.2	1.53	18.9	.01	.03	.10	II0
2	124		9.60	9.58	33.757	26.051	197.5	.341	3.57	55.5	23.4	1.69	21.7	.00	.01	.09	125
2	149		9.18	9.16	33.870	26.208	183.0	.388	3.07	47.4	28.7	1.89	24.6	.00	.01	.09	150
2	173		8.85	8.83	33.967	26.337	171.2	.431	2.65	40.6	33.5	2.06	26.8	.00			174
2	202		8.42	8.40	34.011	26.438	162.0	.47 9	2.56	38.8	36.9	2.15	28.3	.00			203

A. PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE DEPTHS.

RV DAVID STARR JORDAN CALCOFI CRUISE 8605 STATION 87 33

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
33 53.4 N	118 29.4 W	15/05/86	1114 GMT	59 M	270	08 KT			1011.5 MB	14.5 C	13.2 C		

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0	ISL	14.35	14.35	33.608	25.038	291.6	.000	6.90	118.7							0
1	1		14.35	14.35	33.608	25.038	291.2	.003	6.90	118.7	1.5	.27	.1	.00	1.24	.42	1
	10	ISL	14.15	14.15	33.600	25.074	288.0	.029	6.83	117.0							10
1	11		14.13	14.13	33.599	25.078	287.6	.03 2	6.82	116.8	2.0	.30	.2	.01	1.90	.46	11
	20	ISL	12.43	12.43	33.574	25.400	257.4	.056	5.07	83.8							20
1	21		12.25	12.24	33.572	25.43 4	254.0	.05 9	4.87	80.2	9.4	1.02	8.7	.23	1.62	.70	21
	30	ISL	11.26	11.26	33.615	25.651	233.6	.081	3.73	60.1							30
1	31		11.20	11.20	33.619	25.665	232.3	.083	3.65	58.8	15.8	1.58	16.0	.28	.76	.68	31
1	41		10.94	10.94	33.602	25.699	229.3	.105	3.08 .	49.3	19.5	2.05	17.8	.34	1.08	.77	41
	50	ISL	10.66	10.66	33.736	25.852	214.9	.126	2.70	42.9							50
1	51		10.64	10.63	33.753	25.870	213.2	.127	2.67	42.5	19.5	2.09	19.3	.34	3.12	1.31	51

RV DAVID STARR JORDAN CALCOFI CRUISE 8605 STATION 87 35

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
33 49.4 N	118 37.7 W	15/05/86	1306 GMT	670 M	290	08 KT	290 02 06	2	1011.5 MB	13.8 C	12.9 C	8/8	ST

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
1	0		13.88	13.88	33.630	25.155	280.1	.000	6.73	114.7	1.7	.34	.6	.03	1.73	.42	0
	10	ISL	13.60	13.60	33.602	25.190	276.9	.028	6.24	105.6							10
1	11		13.55	13.54	33.592	25.194	276.6	.030	6.19	104.7	3.5	.48	1.4	.08	2.81	.78	11
	20	ISL	12.79	12.79	33.619	25.366	260.5	.055	5.78	96.3							20
1	21		12.69	12.69	33.623	25.388	258.4	.057	5.72	95.1	4.2	.66	4.3	.13	1.63	.65	21
	30	ISL	11.49	11.49	33.636	25.626	236.0	.080	4.39	71.2							30
1	31		11.38	11.38	33.637	25.646	234.1	.082	4.27	69.0	12.5	1.24	13.4	.17	.85	.62	31
1	41		10.81	10.80	33.655	25.763	223.2	.104	3.78	60.4	16.6	1.45	17.1	.10	.66	.59	41
	50	ISL	10.68	10.67	33.689	25.813	218.6	.125	3.60	57.3							50
1	52		10.67	10.67	33.695	25.819	218.1	.128	3.58	57.0	18.8	1.56	18.8	.06	.52	.56	52
1	62		10.50	10.49	33.715	25.865	213.9	.150	3.47	55.1	19.8	1.60	19.4	.05	.39	.46	62
1	72		10.24	10.23	33.765	25.948	206.2	.171	3.25	51.3	21.6	1.68	20.8	.03	.34	.33	72
	75	ISL	10.17	10.17	33.780	25.971	204.1	.17 8	3.22	50.8							76
1	87		9.97	9.96	33.825	26.041	197.7	.201	3.16	49.6	24.1	1.77	22.2	.02	.33	.31	87
1	100		9.75	9.74	33.872	26.115	190.9	.228	2.98	46.6	26.0	1.85	23.3	.01	.21	.20	101
1	120		9.65	9.64	33.984	26.219	181.4	.265	2.61	40.7	29.0	1.99	25.0	.01	.44	.71	121
	125	ISL	9.58	9.57	34.001	26.244	179.2	.273	2.56	40.0							126
1	145		9.27	9.26	3 4.057	26.339	170.5	.309	2.40	37.1	32.9	2.11	26.7	.01	.36	.51	146
	150	ISL	9.25	9.23	34.073	26.356	169.1	.317	2.33	36.0							151
1	174		9.13	9.11	34.135	26.424	163.1	.357	1.99	30.7	36.1	2.27	28.0	.01			175
	200	ISL	8.80	8.78	34.148	26.487	157.5	.398	1.91	29.3							201
1	204		8.75	8.73	34.150	26.496	156.7	.404	1.90	29.1	39.4	2.33	29.1	.00			205
1	233		8.57	8.55	34.228	26.585	148.7	.448	1.37	20.9	44.3	2.52	30.8	.00			23 4
	250	ISL	8.42	8.39	34.224	26.606	146.5	.47 4	1.35	20.5							252
1	271		8.20	8.17	34.220	26.636	144.4	.505	1.32	20.0	47.6	2.58	31.8	.00			273
	300	ISL	7.86	7.83	34.233	26.696	139.1	.546	1.13	16.9							302
1	325		7.57	7.54	34.247	26.750	134.1	.580	.93	13.9	56.2	2.78	34.3	.00			327
1	384		6.98	6.94	34.260	26.844	125.9	.657	.67	9.8	64.2	2.93	36.5	.00			387
	400	ISL	6.85	6.81	34.266	26.867	123.8	.677	.61	8.9							403
1	449		6.48	6.43	34.289	26.935	117.8	.736	.44	6.4	72.7	3.07	38.2	.00			45 2
	500	ISL	6.15	6.10	34.317	27.000	112.0	.7 94	.33	4.7							504
1	519		6.04	5.99	34.329	27.024	110.0	.816	.30	4.3	82.1	3.17	39.1	.00			523

RV DAVID STARR JORDAN CALCOFI CRUISE 8605 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	15/05/86	1641 GMT	681 M	250	06 KT	280 02 06	2	1013.3 MB	15.0 C	13.4 C	8/8	ST

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0	ISL	15.30	15.30	33.568	24.803	313.6	.000	6.38	111.9							0
1	1		15.30	15.30	33.568	24.803	313.6	.003	6.38	111.9	2.4	.34	.1	.00	1.81	.21	1
	10	ISL	15.09	15.09	33.564	24.846	309.7	.031	6.34	110.8							10
1	11		15.05	15.05	33.564	24.854	309.0	.03 4	6.34	110.6	2.3	.36	.3	.01	1.81	.83	11
	20	ISL	14.54	14.54	33.561	24.963	298.9	.062	6.06	104.5							20
1	21		14.47	14.46	33.560	24.978	297.5	.064	6.01	103.6	4.9	.50	1.6	.05	1.64	1.08	21
	30	ISL	13.29	13.29	33.573	25.231	273.6	.090	5.27	88.7							30
1	33		12.90	12.89	33.583	25.317	265.5	.098	5.01	83.6	10.9	.91	8.0	.19	.71	.67	33
1	41		12.14	12.13	33.611	25.486	249.6	.118	4.43	72.8	13.6	1.13	11.7	.22	.65	1.08	41
	50	ISL	11.40	11.39	33.654	25.657	233.5	.141	4.07	65.9							50
1	52		11.28	11.28	33.663	25.686	230.8	.145	4.02	64.9	16.5	1.38	15.8	.19	.39	.70	52
1	62		10.79	10.78	33.716	25.815	218.7	.167	3.60	57.5	19.2	1.54	18.3	.15	.29	.49	62
1	72		10.14	10.13	33.777	25.976	203.5	.188	3.26	51.3	22.8	1.71	21.3	.04	.12	.24	72
	75	ISL	10.00	9.99	33.807	26.022	199.3	.195	3.16	49.6							76
1	87		9.74	9.73	33.899	26.139	188.4	.217	2.86	44.7	27.4	1.90	23.9	.02	.09	.25	87
	100	ISL	9.63	9.62	33.943	26.191	183.7	.242	2.67	41.6							101
1	101		9.62	9.61	33.946	26.194	183.4	.245	2.65	41.3	29.3	1.98	24.8	.02	.05	.19	102
1	122		9.36	9.35	34.010	26.288	174.9	.282	2.43	37.7	32.4	2.10	26.3	.02	.05	.24	123
	125	ISL	9.33	9.32	34.017	26.298	174.0	.287	2.40	37.3							126
1	146		9.14	9.12	34.069	26.370	167.6	.323	2.21	34.1	35.2	2.19	27.4	.03	.07	.20	147
	150	ISL	9.12	9.10	34.077	26.380	166.7	.330	2.17	33.5							151
1	176		8.96	8.94	34.123	26.441	161.4	.372	1.94	29.8	37.9	2.31	28.5	.02			177
	200	ISL	8.73	8.71	34.145	26.495	156.6	.410	1.79	27.4							201
1	205		8.68	8.66	34.149	26.505	155.7	.418	1.76	26.9	41.3	2.40	29.7	.03			206
1	234		8.61	8.58	34.204	26.561	151.1	.462	1.50	22.9	43.5	2.49	30.5	.02			235
	250	ISL	8.36	8.34	34.222	26.613	146.3	.486	1.33	20.2							252
1	272		7.96	7.93	34.238	26.686	139.6	.518	1.12	16.8	51.2	2.69	32.8	.01			274
	300	ISL	7.57	7.55	34.237	26.742	134.4	.556	.96	14.4							302
1	326		7.28	7.25	34.237	26.784	130.8	.591	.86	12.7	59.7	2.84	35.2	.01			328
1	386		6.82	6.79	34.273	26.876	122.7	.667	.60	8.8	68.2	2.99	36.9	.01			3 89
	400	ISL	6.73	6.69	34.278	26.892	121.3	.684	.56	8.1							403
1	450		6.40	6.36	34.297	26.951	116.2	.7 43	.42	6.1	74.6	3.09	38.4	.00			453
	500	ISL	6.08	6.03	34.323	27.013	110.7	.800	.32	4.6							504
1	521		5.94	5.90	34.335	27.040	108.3	.823	.29	4.2	84.5	3.20	39.2	.00			525

RV DAVID STARR JORDAN CALCOFI CRUISE 8605 STATION 87 45

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
33 29.3 N	119 19.1 W	15/05/86	2100 GMT	1668 M	320	20 KT	2 90 04 06	1	1013.0 MB	15.5 C	13.2 C	5/8	ST

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0	ISL	14.07	14.07	33.615	25.102	287.6	.000	6.42	109.8							0
1	2		14.07	14.07	33.615	25.102	285.1	.006	6.42	109.8	3.3	.39	1.6	.07	2.81	.95	2
	10	ISL	13.47	13.47	33.618	25.229	273.2	.028	6.43	108.6							10
1	11		13.38	13.38	33.618	25.247	271.6	.031	6.43	108.4	3.0	.42	1.7	.06	2.66	1.34	11
	20	ISL	12.42	12.41	33.612	25.433	254.2	.054	5.92	97.9							20
1	21		12.32	12.32	33.611	25.451	252.5	.057	5.84	96.3	4.0	.76	4.1	.09	1.39	1.08	21
	30	ISL	11.65	11.65	33.648	25.605	237.9	.07 9	4.59	74.6							30
1	31		11.60	11.60	33.653	25.619	236.7	.081	4.47	72.6	12.5	1.29	12.1	.20	.66	1.10	31
1	41		11.05	11.04	33.698	25.755	223.9	.104	3.77	60.5	17.1	1.54	16.8	.19	.40	.92	41
	50	ISL	10.80	10.79	33.712	25.810	219.0	.124	3.67	58.6							50
1	52		10.77	10.76	33.713	25.816	218.4	.128	3.65	58.3	18.9	1.60	18.3	.19	.42	.91	52
1	61		10.53	10.53	33.724	25.866	213.8	.147	3.50	55.6	20.3	1.65	19.3	.19	.42	.91	61
1	72		10.03	10.02	33.821	26.029	198.5	.170	3.10	48.7	24.2	1.81	22.4	.11	.26	.92	72
	75	ISL	9.96	9.95	33.844	26.058	195.9	.177	3.01	47.3							76
1	87		9.86	9.85	33.904	26.122	190.1	.199	2.80	43.9	26.4	1.91	23.9	.07	.16	.65	87
1	100		9.71	9.70	33.951	26.184	184.4	.225	2.68	41.9	27.9	1.98	24.8	.07	.12	.53	101
1	120		9.37	9.35	34.053	26.320	171.8	.260	2.35	36.4	32.0	2.14	26.8	.04	.08	.35	121
	125	ISL	9.31	9.29	34.061	26.336	170.3	.268	2.32	35.9							126
1	146		9.10	9.08	34.083	26.388	165.9	.304	2.20	33.9	34.7	2.21	27.7	.03	.09	.35	147
	150	ISL	9.07	9.06	34.093	26.399	164.9	.310	2.16	33.3							151
1	176		8.94	8.92	34.154	26.46 9	158.8	.352	1.90	29.2	38.1	2.33	28.9	.02			177
	200	ISL	8.72	8.70	34.158	26.506	155.5	.390	1.77	27.1							201
1	204		8.68	8.66	34.159	26.513	155.0	.3 96	1.75	26.7	40.5	2.40	29.8	.02			205
1	234		8.31	8.28	34.187	26.593	147.8	.441	1.50	22.7	45.2	2.51	31.2	.02			235
	250	ISL	8.18	8.16	34.203	26.625	145.0	.465	1.39	20.9							252
1	273		8.01	7.99	34.222	26.665	141.6	.499	1.24	18.7	49.1	2.65	32.6	.01			275
	300	ISL	7.69	7.66	34.227	26.718	136.9	.53 6	1.09	16.3							302
1	326		7.36	7.33	34.232	26.768	132.4	.571	.95	14.1	57.5	2.81	35.0	.00			328
1	386		6.91	6.87	34.276	26.866	123.7	.648	.60	8.8	65.7	2.97	36.8	.00			389
	400	ISL	6.81	6.77	34.284	26.887	121.9	.665	.55	8.1							403
1	450		6.44	6.40	34.308	26.954	115.9	.724	.44	6.4	74.0	3.08	38.2	.00			453
	500	ISL	6.14	6.10	34.326	27.008	111.4	.781	.36	5.2							504
1	520		6.04	5.99	34.330	27.024	109.9	.804	.34	4.9	82.0	3.16	39.1	.00			524

RV DAVID STARR JORDAN CALCOFI CRUISE 8605 STATION 87 50

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
33 19.3 N	119 39.6 W	16/05/86	0030 GMT	81 M	310	23 KT	320 10 07	0	1012.3 MB	13.2 C	11.8 C	0/8	

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	12.58	12.58	33.43 9	25.266	269.5	.000	6.01	99.6							0
1	1		12.58	12.58	33.439	25.266	269.5	.003	6.01	99.6	4.7	.74	4.4	.16	.77	.46	1
	10	ISL	12.58	12.58	33.448	25.274	269.0	.027	6.00	99.4							10
1	11		12.58	12.58	33.449	25.275	268.9	.029	6.00	99.4	5.0	.75	4.4	.16	.69	.56	11
	20	ISL	12.55	12.54	33.524	25.339	263.0	.054	6.00	99.4							20
1	21		12.54	12.54	33.532	25.347	262.3	.056	6.00	99.4	4.9	.78	4.3	.17	.43	.91	21
	30	ISL	12.44	12.44	33.569	25.395	258.0	.080	6.05	100.1							30
1	31		12.43	12.43	33.573	25.401	257.5	.082	6.06	100.2	4.9	.77	4.2	.15	.48	1.01	31
1	41		11.93	11.93	33.570	25.493	249.0	.107	5.50	89.9	8.1	.96	7.2	.20	.52	1.21	41
	50	ISL	11.20	11.20	33.570	25.627	236.5	.129	4.73	76.2							50
1	51		11.13	11.13	33.568	25.638	235.3	.131	4.66	74.9	13.6	1.25	12.7	.23	.38	1.11	51

RV DAVID STARR JORDAN CALCOFI CRUISE 8605 STATION 87 55

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
33 09.5 N	120 00.5 W	16/05/86	0353 GMT	123 4 M	320	26 KT	320 10 05	0	1013.1 MB	13.8 C	11.0 C	0/8	

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	14.40	14.40	33.218	24.727	320.8	.000	5.98	102.7							0
1	1		14.40	14.40	33.218	24.727	320.8	.003	5.98	102.7	2.6	.44	.3	.02	.33	.12	1
	10	ISL	14.39	14.39	33.218	24.729	320.9	.03 2	6.01	103.3							10
1	12		14.39	14.39	33.218	24.729	320.9	.038	6.02	103.4	2.7	.43	.3	.01	.36	.11	12
	20	ISL	14.37	14.37	33.218	24.734	320.7	.064	6.04	103.8							20
1	22		14.36	14.36	33.218	24.736	320.6	.07 0	6.05	103.9	2.7	.43	.3	.02	.34	.11	22
	30	ISL	12.86	12.85	33.291	25.098	286.2	.095	5.82	96.9							30
1	31		12.68	12.68	33.302	25.141	282.2	.097	5.79	96.0	4.5	.69	3.4	.20	.38	.18	31
1	42		12.08	12.08	33.385	25.321	265.3	.127	5.66	92.7	6.2	.84	5.0	.17	.40	.36	42
	50	ISL	11.46	11.46	33.387	25.438	254.3	.149	5.21	84.3							50
1	52		11.34	11.33	33.388	25.461	252.2	.153	5.11	82.4	8.1	.94	8.8	.08	.30	.36	52
1	62		10.99	10.98	33.444	25.568	242.2	.178	4.83	77.3	10.7	1.09	11.6	.07	.22	.29	62
1	72		10.74	10.73	33.483	25.642	235.3	.201	4.59	73.1	12.5	1.20	13.6	.05	.20	.26	72
	75	ISL	10.69	10.68	33.496	25.661	233.6	.209	4.51.	71.7							76
1	87		10.41	10.40	33.563	25.762	224.2	.236	4.17	66.0	16.0	1.41	16.8	.05	.14	.19	87
1	100		9.64	9.63	33.737	26.028	199.1	.265	3.57	55.6	22.8	1.69	21.6	.02	.04	.13	101
1	121		9.29	9.27	33.810	26.143	188.6	.306	3.39	52.4	25.6	1.78	23.3	.02	.03	.06	122
	125	ISL	9.23	9.21	33.821	26.161	186.9	.312	3.38	52.1							126
1	145		8.87	8.86	33.880	26.264	177.5	.349	3.29	50.4	29.0	1.88	24.7	.02	.04	.07	146
	150	ISL	8.79	8.77	33.898	26.291	175.0	.358	3.25	49.7							151
1	175		8.38	8.36	33.979	26.419	163.2	.400	2.99	45.3	34.4	2.02	26.9	.01			176
	200	ISL	8.06	8.04	34.011	26.492	156.6	.440	2.75	41.3							201
1	205		8.00	7.98	34.014	26.504	155.6	.448	2.70	40.6	39.0	2.16	28.6	.01			206
1	235		7.50	7.48	34.038	26.594	147.2	.493	2.40	35.7	45.3	2.32	30.9	.00			236
	250	ISL	7.29	7.27	34.048	26.631	143.9	.515	2.22	32.8							252
1	273		7.02	7.00	34.059	26.678	139.7	.548	1.93	28.4	53.1	2.51	33.4	.00			275
	300	ISL	6.74	6.71	34.070	26.726	135.4	.585	1.65	24.0							302
1	328		6.50	6.47	34.088	26.772	131.4	.622	1.37	19.9	62.1	2.74	36.3	.00			330
1	386		6.31	6.28	34.173	26.864	123.4	.6 97	.84	12.1	69.7	2.95	38.2	.00			389
	400	ISL	6.27	6.23	34.195	26.887	121.4	.713	.75	10.8							403
1	450		6.07	6.03	34.260	26.965	114.5	.772	.49	7.0	77.4	3.10	39.5	.00			453
	500	ISL	5.72	5.67	34.260	27.009	109.7	.828	.42	5.9							504
1	518		5.55	5.51	34.267	27.034	108.3	.848	.39	5.5	85.9	3.17	41.0	.00			522

RV DAVID STARR JORDAN CALCOFI CRUISE 8605 STATION 87 60

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
32 59.4 N	120 21.0 W	16/05/86	0724 GMT	7 42 M	310	21 KT			1014.9 MB	12.9 C	12.0 C		

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0	ISL	13.23	13.23	33.257	24.997	295.0	.000	6.09	102.2							0
1	2		13.23	13.23	33.257	24.997	295.1	.006	6.09	102.2	2.7	.55	1.8	.07	.31	.13	2
	10	ISL	13.24	13.23	33.254	24.995	295.5	.030	6.07	101.9							10
1	13		13.24	13.23	33.254	24.995	295.7	.03 8	6.07	101.8	2.6	.58	1.9	.08	.27	.14	13
	20	ISL	13.06	13.06	33.283	25.052	290.4	.059	6.07	101.5							20
1	22		13.01	13.00	33.292	25.070	288.7	.064	6.07	101.4	2.7	.61	2.4	.08	.28	.11	22
	30	ISL	12.81	12.81	33.319	25.129	283.3	.088	6.03	100.3							30
1	32		12.78	12.77	33.323	25.139	282.4	.093	6.02	100.1	2.9	.66	3.0	.10	.37	.16	32
1	41		12.69	12.68	33.324	25.158	280.8	.118	5.96	98.9	3.1	.68	3.2	.11	.26	.18	41
	50	ISL	12.51	12.51	33.369	25.227	274.5	.144	5.86	96.8							50
1	51		12.50	12.50	33.374	25.232	274.0	.146	5.85	96.7	4.0	.73	3.6	.13	.19	.27	51
1	62		12.60	12.60	33.444	25.267	271.0	.175	5.88	97.4	3.5	.73	3.0	.10	.16	.37	62
1	73		11.14	11.13	33.340	25.461	252.7	.204	5.17	83.0	9.1	1.04	9.1	.17	.14	.33	73
	75	ISL	10.97	10.97	33.345	25.493	250.5	.210	5.07	81.1							76
1	87		10.46	10.45	33.368	25.601	239.5	.238	4.66	73.7	13.4	1.22	13.8	.20	.12	.30	87
	100	ISL	9.89	9.88	33.602	25.881	213.1	.26 9	4.06	63.6							101
1	103		9.79	9.78	33.652	25.937	207.9	.27 4	3.95	61.7	19.2	1.52	19.3	.03	.05	.15	103
1	121		9.17	9.15	33.840	26.186	184.5	.311	3.21	49.5	27.1	1.85	24.2	.01	.02	.09	122
	125	ISL	9.10	9.09	33.855	26.208	182.5	.318	3.19	49.2							126
1	146		8.88	8.86	33.895	26.275	176.5	.356	3.09	47.3	29.8	1.90	25.5	.01	.02	.07	147
	150	ISL	8.83	8.81	33.904	26.290	175.2	.362	3.08	47.1							151
1	176		8.52	8.50	33.958	26.381	166.9	.407	3.01	45.8	32.8	1.97	26.5	.00			177
	200	ISL	8.29	8.27	33.988	26.43 9	161.8	.446	2.91	44.0							201
1	207		8.22	8.20	33.995	26.455	160.3	.457	2.86	43.2	36.1	2.05	27.6	.00			208
1	236		7.81	7.78	34.040	26.552	151.4	.502	2.50	37.4	41.8	2.20	29.6	.00			237
	250	ISL	7.54	7.51	34.045	26.595	147.5	.524	2.34	34.8							252
1	274		7.10	7.08	34.048	26.659	141.6	.559	2.07	30.5	49.9	2.40	32.7	.00			276
	300	ISL	6.85	6.82	34.064	26.707	137.4	.595	1.75	25.6							302
1	330		6.64	6.61	34.088	26.754	133.2	.635	1.39	20.3	59.8	2.69	36.0	.00			332
1	388		6.18	6.15	34.138	26.853	124.3	.709	.91	13.1	69.6	2.89	38.3	.00			3 90
	400	ISL	6.07	6.03	34.145	26.873	122.4	.725	.84	12.1							403
1	451		5.66	5.62	34.176	26.948	115.6	.7 85	.62	8.8	79.6	3.03	40.3	.00			454
	500	ISL	5.47	5.43	34.227	27.012	110.1	.841	.44	6.3							504
1	520		5.44	5.40	34.253	27.036	108.0	.863	.38	5.4	86.9	3.14	41.4	.00			524

RV DAVID STARR JORDAN CALCOFI CRUISE 8605 STATION 87 70

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
32 39.5 N	121 02.1 W	16/05/86	1308 GMT	3733 M	330	23 KT	340 09 08	2	1015.5 MB	13.7 C	12.5 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
	0	ISL	15.05	15.05	33.174	24.554	337.2	.000	5.88	102.3							0
1	2		15.05	15.05	33.174	24.554	337.3	.007	5.88	102.3	2.7	.37	.0	.00	.21	.05	2
	10	ISL	15.06	15.06	33.173	24.552	337.7	.03 4	5.89	102.5							10
1	12		15.06	15.06	33.173	24.552	337.8	.040	5.89	102.5	2.7	.37	.0	.00	.20	.06	12
1	20		15.08	15.07	33.173	24.549	338.3	.067	5.88	102.4	2.7	.37	.0	.00	.20	.05	20
1	30		15.05	15.05	33.172	24.553	338.2	.101	5.90	102.7	2.7	.37	.0	.00	.20	.05	30
1	40		15.05	15.05	33.172	24.553	338.5	.135	5.90	102.7	2.6	.37	.0	.00	.21	.05	40
1	49		15.07	15.06	33.172	24.551	339.0	.165	5.89	102.5	2.7	.37	.0	.00	.21	.06	49
	50	ISL	14.91	14.90	33.170	24.583	336.0	.169	5.91	102.5							50
1	60		13.50	13.49	33.166	24.874	308.4	.201	6.03	101.6	3.4	.44	.3	.08	.72	.40	60
1	70		13.07	13.06	33.184	24.975	299.0	.231	5.95	99.4	3.8	.50	1.1	.23	.52	.44	70
	75	ISL	12.89	12.88	33.218	25.036	293.3	.246	5.85	97.4							76
1	84		12.64	12.63	33.281	25.134	284.2	.271	5.65	93.6	5.0	.69	3.6	.37	.36	.48	84
1	99		12.21	12.19	33.337	25.261	272.4	.313	5.32	87.4	6.1	.77	6.2	.12	.21	.33	99
	100	ISL	12.16	12.15	33.342	25.275	271.2	.317	5.28	86.7							101
1	119		11.38	11.36	33.429	25.488	251.3	.368	4.76	76.8	10.6	1.07	11.3	.02	.11	.22	120
	125	ISL	11.09	11.07	33.466	25.569	243.6	.381	4.59	73.6							126
1	142		10.19	10.18	33.600	25.829	219.1	.421	4.07	64.1	17.4	1.43	17.6	.01	.04	.08	143
	150	ISL	9.88	9.86	33.662	25.931	209.5	.43 8	3.87	60.5							151
1	172		9.16	9.14	33.821	26.173	186.8	.482	3.42	52.7	26.1	1.77	23.2	.01			173
1	200		8.59	8.57	33.934	26.352	170.2	.53 1	3.21	48.9	31.3	1.89	25.3	.01			201
1	231		8.04	8.02	34.016	26.498	156.6	.582	2.71	40.8	38.7	2.11	28.3	.00			232
	250	ISL	7.84	7.82	34.032	26.541	152.8	.611	2.56	38.3							252
1	270		7.68	7.66	34.039	26.570	150.3	.643	2.42	36.1	43.7	2.25	30.1	.00			272
	300	ISL	7.44	7.41	34.074	26.633	144.8	.686	2.03	30.1							302
1	324		7.20	7.17	34.098	26.685	140.1	.720	1.70	25.1	53.2	2.54	33.5	.00			326
1	384		6.33	6.30	34.093	26.798	129.5	.801	1.25	18.1	64.9	2.76	36.9	.00			3 86
	400	ISL	6.16	6.12	34.105	26.830	126.6	.822	1.10	15.9							403
1	446		5.78	5.74	34.152	26.915	118.9	.878	.72	10.3	77.1	3.01	39.7	.00			449
	500	ISL	5.51	5.47	34.212	26.996	111.7	.940	.48	6.8							504
1	515		5.47	5.43	34.229	27.014	110.1	.956	.45	6.4	86.0	3.14	40.9	.00			518

RV DAVID STARR JORDAN CALCOFI CRUISE 8605 STATION 90 28

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
33 29.0 N	117 46.2 W	15/05/86	0542 GMT	68 M	330	09 KT			1016.0 MB	15.6 C	14.1 C		

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0	ISL	16.69	16.69	33.564	24.485	347.5	.000	6.62	119.3							0
1	1		16.69	16.69	33.564	24.485	343.8	.003	6.62	119.3	5.7	.32	.0	.00	1.62	.46	1
	10	ISL	14.81	14.81	33.553	24.898	304.7	.033	5.85	101.5							10
1	11		14.57	14.57	33.551	24.948	300.0	.036	5.72	98.8	9.2	.57	.9	.06	3.69	.98	11
	20	ISL	11.85	11.85	33.560	25.499	247.8	.060	4.01	65.4							20
1	21		11.62	11.62	33.564	25.546	243.4	.063	3.85	62.5	15.1	1.48	13.9	.33	.80	.51	21
	30	ISL	11.14	11.14	33.585	25.649	233.7	.084	3.67	59.0							30
1	31		11.10	11.10	33.588	25.660	232.8	.086	3.65	58.6	17.1	1.71	16.8	.24	.31	.32	31
1	41		10.79	10.79	33.667	25.776	221.9	.109	3.33	53.2	19.7	1.79	18.9	.20	.20	.27	41
	50	ISL	10.49	10.48	33.760	25.902	210.2	.129	3.19	50.7							50
1	51		10.46	10.45	33.768	25.913	209.2	.130	3.19	50.6	22.3	1.72	20.7	.15	.19	.27	51

RV DAVID STARR JORDAN CALCOFI CRUISE 8605 STATION 90 30

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
33 25.1 N	117 54.5 W	15/05/86	0146 GMT	620 M	230	04 KT	330 01 05	1	1012.1 MB	16.2 C	14.0 C	4/8	ST

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
1	0		16.39	16.39	33.536	24.534	339.1	.000	6.80	121.8	1.9	.24	.2	.00	.64	.15	0
1	10		15.58	15.58	33.539	24.720	321.7	.033	7.45	131.3	1.5	.21	.1	.00	1.14	.27	10
1	20		14.83	14.83	33.558	24.898	305.1	.064	8.16	141.7	1.0	.21	.1	.00	2.99	.77	20
1	30		13.05	13.04	33.553	25.264	270.5	.093	5.85	97.9	5.0	.69	2.6	.13	3.08	1.24	30
1	40		11.97	11.96	33.576	25.491	249.0	.119	3.85	63.0	12.0	1.33	13.3	.33	2.50	2.34	40
1	50		11.01	11.00	33.617	25.699	229.5	.142	3.88	62.2	15.8	1.39	16.5	.11	.52	1.57	50
1	60		10.64	10.64	33.645	25.785	221.5	.165	3.79	60.3	17.5	1.45	17.8	.06	.41	1.11	60
1	71		10.27	10.26	33.739	25.923	208.6	.188	3.43	54.2	20.8	1.63	20.3	.04	.26	.74	71
	75	ISL	10.20	10.19	33.755	25.948	206.4	.197	3.39	53.4							76
1	85		10.08	10.07	33.776	25.984	203.0	.217	3.35	52.7	22.4	1.68	21.2	.03	.22	.62	85
1	98		9.76	9.75	33.836	26.085	193.7	.245	3.14	49.1	25.0	1.80	22.7	.02	.14	.53	99
	100	ISL	9.73	9.72	33.843	26.096	192.8	.247	3.12	48.7							101
1	118		9.47	9.45	33.929	26.207	182.6	.282	2.87	44.6	28.6	1.93	24.7	.01	.09	.29	119
	125	ISL	9.45	9.44	33.966	26.23 9	179.7	.294	2.74	. 42.5							126
1	142		9.41	9.40	34.054	26.314	172.9	.324	2.40	37.3	32.2	2.10	26.4	.01	.07	.21	143
	150	ISL	9.32	9.30	34.080	26.349	169.7	.338	2.30	35.6							151
1	171		9.00	8.98	34.128	26.43 9	161.5	.373	2.07	31.9	37.0	2.26	28.2	.01			172
1	200		8.53	8.51	34.166	26.542	152.1	.418	1.77	27.0	41.8	2.40	29.9	.00			201
1	229		8.23	8.21	34.190	26.607	146.4	.461	1.56	23.6	45.7	2.51	31.2	.00			230
	250	ISL	8.11	8.08	34.210	26.642	143.5	.492	1.37	20.7							252
1	265		8.04	8.01	34.225	26.664	141.6	.514	1.24	18.7	49.3	2.63	32.5	.00			267
	300	ISL	7.84	7.81	34.256	26.718	137.0	.562	.98	14.8							302
1	319		7.71	7.68	34.268	26.747	134.5	.588	.87	13.0	55.6	2.80	34.1	.00			321
1	378		7.10	7.07	34.269	26.834	126.8	.664	.66	9.7	63.3	2.92	36.2	.00			3 80
	400	ISL	6.92	6.89	34.271	26.861	124.5	.6 92	.61	8.9							403
1	444		6.62	6.58	34.281	26.910	120.2	.7 46	.52	7.6	70.6	3.04	37.8	.00			447
	500	ISL	6.27	6.22	34.309	26.978	114.3	.812	.38	5.4							504
1	516		6.18	6.13	34.319	26.998	112.5	.830	.33	4.8	78.7	3.14	39.3	.00			520

RV DAVID STARR JORDAN CALCOFI CRUISE 8605 STATION 90 35

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
33 15.1 N	118 15.1 W	14/05/86	2220 GMT	440 M	310	04 KT		2	1013.5 MB	17.9 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	17.16	17.16	33.519	24.341	359.7	.000	5.92	107.6							0
1	1		17.16	17.16	33.519	24.341	357.6	.004	5.92	107.6	2.9	.29	.0	.00	.25	.05	1
	10	ISL	16.52	16.51	33.512	24.487	343.9	.035	5.96	106.9							10
1	11		16.47	16.47	33.512	24.496	3 43.1	.038	5.96	106.9	2.7	.30	.0	.00	.43	.09	11
	20	ISL	16.32	16.32	33.500	24.522	340.9	.069	6.01	107.4							20
1	21		16.31	16.31	33.499	24.525	340.7	.072	6.01	107.5	3.1	.30	.0	.00	.48	.14	21
	30	ISL	12.96	12.96	33.502	25.242	272.6	.100	5.46	91.3							30
1	31		12.62	12.62	33.511	25.315	265.6	.103	5.39	89.4	8.1	.74	4.2	.15	1.44	.49	31
1	41		11.77	11.76	33.555	25.511	247.1	.128	4.48	73.0	11.2	1.12	10.9	.34	1.05	.54	41
	50	ISL	11.33	11.33	33.606	25.632	235.9	.150	4.13	66.6							50
1	51		11.31	11.30	33.610	25.640	235.2	.152	4.11	66.3	13.8	1.30	14.9	.15	.95	.47	51
1	61		11.05	11.04	33.648	25.716	228.1	.175	3.87	62.1	15.7	1.41	16.5	.07	.49	.37	61
1	70		10.78	10.77	33.705	25.808	219.5	.195	3.56	56.8	17.8	1.53	18.4	.03	.22	.23	70
	75	ISL	10.62	10.61	33.740	25.864	214.4	.207	3.44	54.8							76
1	85		10.31	10.30	33.800	25.965	205.0	.227	3.29	52.0	22.6	1.71	21.0	.01	.08	.13	85
1	100		9.73	9.72	33.890	26.133	189.3	.258	3.06	47.8	26.2	1.86	23.6	.00	.02	.11	101
1	119		9.45	9.43	33.991	26.259	177.6	.293	2.64	41.0	29.9	2.01	25.5	.00	.01	.08	120
	125	ISL	9.37	9.36	34.010	26.286	175.2	.303	2.58	40.0							126
1	143		9.16	9.14	34.060	26.360	168.5	.334	2.42	37.4	33.5	2.13	26.9	.00	.01	.05	144
	150	ISL	9.10	9.08	34.087	26.390	165.7	.345	2.30	35.4							151
1	173		8.92	8.91	34.168	26.482	157.5	.383	1.87	28.7	39.5	2.35	29.0	.00			174
	200	ISL	8.68	8.66	34.203	26.548	151.6	.424	1.62	24.8							201
1	202		8.66	8.64	34.204	26.552	151.3	.427	1.61	24.6	42.9	2.46	30.2	.00			203
1	237		8.39	8.36	34.226	26.612	146.2	.47 9	1.38	21.0	46.2	2.58	31.3	.00			23 8
	250	ISL	8.32	8.30	34.226	26.621	145.4	.498	1.34	20.4							252
1	286		8.09	8.06	34.225	26.656	142.7	.551	1.24	18.7	49.8	2.65	32.3	.00			288
	300	ISL	7.90	7.87	3 4.231	26.690	139.7	.570	1.13	17.0							302
1	341		7.31	7.28	34.252	26.791	130.4	.625	.81	12.0	61.0	2.87	35.3	.00			3 43
	400	ISL	6.90	6.86	34.252	26.849	124.7	.701	.67	9.8							403
1	407		6.88	6.84	34.263	26.861	124.5	.710	.65	9.5	66.9	2.96	36.9	.00			410

RV DAVID STARR JORDAN — CALCOFI CRUISE 8605 — STATION 90 37

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
33 11.1 N	118 23.3 W	14/05/86	1953 GMT	1204 M	290	07 KT	280 02 10	2	1014.5 MB	16.8 C	14.0 C	8/8	ST

CAST	DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SIO3	PO4	NO3	NO2	CHL-A	PHAEO	PRESS
	M	DEG C	DEG C		THETA			ML/L	PCT	UM/L	UM/L	UM/L	UM/L	UG/L	UG/L	D.BAR
	0 ISL	17.06	17.06	33.522	24.367	356.0	.000	6.07	110.2							0
1	1	17.06	17.06	33.522	24.367	355.1	.004	6.07	110.2	.8	.20	.0	.00	.32	.05	1
	10 ISL	16.67	16.67	33.515	24.453	347.2	.035	6.08	109.5							10
1	11	16.63	16.63	33.515	24.462	346.3	.03 8	6.08	109.4	1.0	.22	.0	.00	.34	.07	11
	20 ISL	15.04	15.04	33.474	24.789	315.5	.068	6.52	113.6							20
1	21	14.86	14.85	33.471	24.826	312.0	.07 1	6.55	113.7	.5	.25	.0	.00	.91	.22	21
1	30	13.67	13.66	33.468	25.073	288.6	.098	6.23	105.6	1.5	.39	.2	.02	4.83	1.27	30
1	40	12.03	12.02	33.507	25.427	255.2	.125	4.81	78.8	9.6	.94	8.6	.30	1.36	.68	40
	50 ISL	11.33	11.32	33.601	25.629	236.2	.150	4.06	65.6							50
1	52	11.27	11.26	33.618	25.653	233.9	.154	3.98	64.2	14.5	1.34	15.6	.09	.58	.55	52
1	62	10.84	10.84	33.707	25.798	220.3	.177	3.58	57.2	17.9	1.50	18.3	.03	.24	.39	62
1	71	10.62	10.61	33.749	25.870	213.6	.196	3.38	53.8	19.6	1.61	19.5	.02	.13	.17	71
	75 ISL	10.50	10.49	33.776	25.912	209.7	.206	3.30	52.4							76
1	85	10.24	10.23	33.838	26.006	201.0	.225	3.13	49.4	23.2	1.74	21.8	.01	.06	.15	85
1	99	9.87	9.86	33.911	26.125	189.9	.254	2.87	45.0	26.3	1.87	23.6	.01	.02	.09	100
	100 ISL	9.86	9.85	33.914	26.130	189.5	.255	2.87	44.9							101
1	119	9.27	9.25	33.97 9	26.279	175.7	.291	2.79	43.2	30.2	1.99	25.6	.01	.01	.06	120
	125 ISL	9.15	9.14	33.995	26.309	17 2.9	.301	2.76	42.5							126
1	145	8.91	8.90	34.048	26.389	165.6	.335	2.57	39.5	33.8	2.09	27.0	.01	.01	.06	146
	150 ISL	8.91	8.89	34.066	26.405	164.3	.343	2.49	38.3							151
1	174	8.88	8.86	34.136	26.464	159.2	.382	2.08	31.9	37.2	2.26	28.5	.01			175
	200 ISL	8.86	8.83	34.191	26.511	155.2	.422	1.72	26.4							201
1	204	8.85	8.83	34.199	26.518	154.6	.428	1.68	25.8	40.3	2.41	29.5	.01			205
1	233	8.48	8.45	34.221	26.594	147.8	.472	1.47	22.4	44.3	2.53	30.9	.01			23 4
	250 ISL	8.24	8.21	34.228	26.636	144.0	.497	1.35	20.4							252
1	271	7.95	7.92	34.232	26.683	139.8	.527	1.21	18.2	50.2	2.61	32.7	.00			273
	300 ISL	7.61	7.58	34.231	26.732	135.5	.567	1.07	16.0							302
1	325	7.34	7.31	34.231	26.770	132.1	.600	.96	14.2	57.4	2.81	34.8	.00			327
1	384	6.77	6.74	34.271	26.881	122.2	.676	.58	8.5	67.0	2.98	37.2	.00			387
	400 ISL	6.66	6.63	34.279	26.902	120.4	.6 95	.53	7.7							403
1	449	6.36	6.32	34.302	26.960	115.3	.753	.43	6.2	74.2	3.08	38.6	.00			452
	500 ISL	6.05	6.00	34.328	27.021	109.9	.810	.33	4.7							504
1	517	5.94	5.90	34.337	27.042	108.1	.829	.30	4.3	82.1	3.18	39.9	.00			521

RV DAVID STARR JORDAN — CALCOFI CRUISE 8605 — STATION 90 45

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
32 55.3 N	118 55.8 W	14/05/86	1501 GMT	1575 M	160	03 KT	290 02 05	2	1013.9 MB	13.1 C	11.9 C	8/8	ST

CAST	DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SIO3	PO4	NO3	NO2	CHL-A	PHAEO	PRESS
	M	DEG C	DEG C		THETA			ML/L	PCT	UM/L	UM/L	UM/L	UM/L	UG/L	UG/L	D.BAR
	0 ISL	15.82	15.82	33.524	24.655	327.8	.000	6.29	111.4							0
1	1	15.82	15.82	33.524	24.655	327.7	.003	6.29	111.4	.3	.18	.0	.00	1.01	.20	1
	10 ISL	15.77	15.77	33.523	24.665	327.0	.033	6.31	111.6							10
1	11	15.77	15.76	33.523	24.666	326.9	.036	6.31	111.6	.4	.18	.0	.00	.93	.25	11
	20 ISL	15.24	15.23	33.518	24.779	316.4	.065	6.12	107.1							20
1	21	15.18	15.18	33.517	24.791	315.4	.068	6.10	106.7	.8	.26	.1	.00	2.11	.51	21
	30 ISL.	13.01	13.01	33.537	25.259	270.9	.094	4.98	83.3							30
1	31	12.78	12.77	33.543	25.310	266.1	.097	4.86	80.9	9.4	.90	8.2	.35	1.09	.61	31
1	40	11.13	11.13	33.593	25.657	233.2	.119	4.07	65.4	15.6	1.32	15.4	.36	.34	.42	40
1	50	10.86	10.85	33.619	25.727	226.8	.142	3.92	62.7	17.0	1.42	16.9	.21	.28	.54	50
1	61	10.26	10.25	33.699	25.894	211.1	.166	3.54	55.9	20.6	1.60	19.9	.03	.11	.30	61
1	69	10.09	10.08	33.727	25.945	206.5	.183	3.43	53.9	21.9	1.67	20.9	.02	.11	.28	69
	75 ISL	9.95	9.94	33.768	26.001	201.2	.196	3.30	51.8							76
1	85	9.74	9.73	33.832	26.085	193.4	.214	3.11	48.6	25.4	1.81	23.0	.01	.02	.16	85
1	99	9.51	9.50	33.881	26.161	186.5	.243	2.95	45.9	27.5	1.89	24.1	.01	.01	.12	100
	100 ISL	9.51	9.50	33.884	26.164	186.2	.244	2.94	45.7							101
1	118	9.40	9.38	33.963	26.245	178.9	.277	2.65	41.1	30.1	2.02	25.4	.01	.02	.09	119
	125 ISL	9.32	9.30	33.982	26.273	176.4	.289	2.58	40.0							126
1	142	9.11	9.09	34.029	26.344	170.0	.319	2.43	37.5	33.6	2.13	27.0	.01	.01	.08	143
	150 ISL	9.05	9.04	34.060	26.376	167.0	.332	2.32	35.8							151
1	171	8.92	8.90	34.131	26.454	160.0	.366	2.04	31.3	37.5	2.27	28.5	.00			172
	200 ISL	8.60	8.58	34.156	26.524	153.9	.412	1.81	27.5							201
1	201	8.59	8.57	34.156	26.525	153.7	.413	1.80	27.4	41.4	2.39	29.8	.00			202
1	230	8.28	8.25	34.190	26.600	147.1	.456	1.52	23.0	45.7	2.52	31.3	.00			231
	250 ISL	8.07	8.05	34.197	26.636	143.9	.486	1.41	21.3							252
1	268	7.89	7.86	34.200	26.666	141.3	.512	1.33	20.0	50.1	2.62	32.7	.00			270
	300 ISL	7.58	7.55	34.224	26.730	135.6	.556	1.08	16.1							302
1	320	7.39	7.36	34.240	26.770	132.1	.583	.92	13.7	58.4	2.82	34.8	.00			322
1	380	6.91	6.88	34.266	26.858	124.4	.659	.64	9.4	66.4	2.96	36.7	.00			3 82
	400 ISL	6.76	6.72	34.276	26.887	121.9	.684	.57	8.3							403
1	443	6.45	6.41	34.296	26.945	116.8	.736	.45	6.5	73.7	3.07	38.2	.00			446
	500 ISL	6.09	6.04	34.322	27.011	110.9	.801	.35	5.1							504
1	512	6.02	5.97	34.327	27.025	109.8	.814	.34	4.9	81.4	3.16	39.6	.00			516

RV DAVID STARR JORDAN CALCOFI CRUISE 8605 STATION 90 53

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
32 39.1 N	119 28.9 W	14/05/86	1027 GMT	1343 M	310	18 KT			1014.0 MB	13.9 C	12.5 C		

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0	ISL	15.30	15.30	33.221	24.536	338.9	.000	5.85	102.4							0
1	1		15.30	15.30	33.221	24.536	339.0	.003	5.85	102.4	2.4	.36	.0	.00	.13	.02	1
	10	ISL	15.30	15.30	33.216	24.533	339.5	.034	5.88	102.8							10
1	11		15.30	15.30	33.216	24.533	339.6	.037	5.88	102.9	2.4	.37	.0	.00	.13	.02	11
	20	ISL	15.33	15.32	33.222	24.532	339.9	.068	5.88	102.9							20
1	21		15.33	15.32	33.223	24.533	339.9	.071	5.88	102.9	2.4	.37	.0	.00	.12	.02	21
1	30		15.30	15.29	33.221	24.538	339.7	.101	5.92	103.6	2.2	.36	.0	.00	.13	.03	30
1	41		15.20	15.20	33.234	24.569	337.0	.13 9	5.86	102.3	2.3	.37	.0	.00	.17	.04	41
1	50		14.72	14.71	33.241	24.680	326.7	.168	5.98	103.4	2.5	.39	.0	.00	.31	.13	50
1	60		13.52	13.51	33.273	24.954	300.8	.200	5.93	100.1	2.8	.55	1.3	.06	.48	.17	60
1	71		12.65	12.64	33.312	25.156	281.7	.231	5.61	93.0	4.6	.65	3.7	.13	.38	.33	71
	75	ISL	12.20	12.19	33.338	25.263	271.6	.243	5.41	88.8							76
1	87		11.04	11.03	33.441	25.557	243.8	.273	4.77	76.5	10.7	1.08	11.9	.09	.20	.29	87
	100	ISL	10.28	10.27	33.602	25.815	219.4	.304	4.03	63.5							101
1	102		10.22	10.20	33.620	25.841	217.1	.308	3.95	62.3	17.9	1.48	18.3	.03	.09	.16	102
1	120		9.57	9.56	33.768	26.064	196.2	.347	3.47	54.0	24.1	1.71	22.0	.02	.05	.11	121
	125	ISL	9.48	9.46	33.792	26.098	193.0	.356	3.39	52.6							126
1	146		9.17	9.15	33.881	26.218	182.0	.395	3.07	47.3	28.8	1.90	24.6	.03	.04	.18	147
	150	ISL	9.12	9.10	33.898	26.23 9	180.0	.402	3.00	46.3							151
1	175		8.81	8.79	33.994	26.364	168.6	.446	2.58	39.5	34.4	2.10	27.1	.02			176
	200	ISL	8.56	8.54	34.050	26.446	161.2	.487	2.33	35.4							201
1	206		8.50	8.48	34.061	26.464	159.6	.496	2.27	34.5	38.6	2.23	28.8	.02			207
1	235		8.20	8.18	34.135	26.568	150.1	.541	1.82	27.5	43.8	2.42	30.8	.01			236
	250	ISL	8.07	8.04	34.151	26.601	147.3	.564	1.69	25.4							252
1	273		7.85	7.83	34.160	26.640	143.9	.598	1.54	23.1	49.0	2.56	32.3	.00			275
	300	ISL	7.50	7.47	34.167	26.697	138.8	.635	1.36	20.2							302
1	327		7.15	7.12	34.174	26.752	133.7	.672	1.18	17.4	57.8	2.73	34.9	.00			329
1	384		6.74	6.71	34.208	26.835	126.5	.7 46	.85	12.4	64.9	2.88	36.8	.00			3 86
	400	ISL	6.64	6.60	34.220	26.858	124.4	.766	.76	11.1							403
1	448		6.36	6.32	34.257	26.924	118.6	.825	.54	7.8	72.6	3.04	38.5	.00			451
	500	ISL	6.11	6.06	34.296	26.989	113.1	.885	.38	5.5							504
1	518		6.03	5.98	34.309	27.009	111.3	.906	.34	4.9	80.1	3.14	39.7	.00			522

RV DAVID STARR JORDAN CALCOFI CRUISE 8605 STATION 90 60

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
32 25.1 N	119 57.8 W	14/05/86	0608 GMT	843 M	310	18 KT			1015.8 MB	13.9 C	12.3 C		

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0	ISL	15.29	15.29	33.246	24.558	337.1	.000	5.88	102.9							0
1	1		15.29	15.29	33.246	24.558	337.0	.003	5.88	102.9	2.5	.37	.1	.00	.15	.03	1
	10	ISL	15.23	15.23	33.246	24.572	335.9	.03 4	5.89	102.8							10
1	17		15.20	15.19	33.246	24.578	335.5	.057	5.89	102.8	2.5	.37	.1	.00	.15	.04	17
	20	ISL	15.19	15.19	33.245	24.579	335.5	.067	5.90	102.9							20
	30	ISL	15.18	15.18	33.245	24.582	335.5	.101	5.92	103.3							30
1	32		15.18	15.17	33.245	24.582	335.6	.107	5.92	103.3	2.5	.37	.1	.00	.17	.06	32
1	43		14.82	14.81	33.269	24.679	326.6	.143	6.01	104.1	2.3	.37	.1	.00	.39	.18	43
	50	ISL	14.68	14.67	33.273	24.713	323.6	.167	5.96	102.9							50
1	52		14.64	14.63	33.275	24.722	322.7	.172	5.94	102.6	2.5	.39	.2	.01	.51	.20	52
1	63		14.24	14.23	33.324	24.845	311.3	.207	5.99	102.6	2.6	.43	.4	.04	.49	.21	63
1	72		14.10	14.09	33.374	24.914	305.1	.235	5.98	102.2	3.0	.46	.8	.05	.39	.20	72
	75	ISL	14.04	14.03	33.371	24.923	303.9	.245	5.96	101.7							76
1	83		13.78	13.77	33.364	24.971	299.9	.268	5.92	100.5	3.5	.49	1.0	.06	.39	.23	83
1	98		12.33	12.31	33.310	25.218	276.5	.311	5.53	91.0	5.1	.68	4.3	.20	.28	.48	98
	100	ISL	12.15	12.14	33.316	25.257	272.9	.318	5.45	89.4							101
1	113		11.33	11.32	33.388	25.464	253.4	.353	4.99	80.5	8.8	.98	9.7	.08	.17	.34	114
	125	ISL	10.79	10.77	33.480	25.633	237.5	.381	4.54	72.5							126
1	127		10.69	10.67	33.501	25.667	234.2	.387	4.46	71.0	13.2	1.24	14.5	.03	.12	.21	128
	150	ISL	9.75	9.74	33.665	25.954	207.2	.437	4.16	64.8							151
1	152		9.67	9.65	33.681	25.981	204.8	.442	4.14	64.5	19.0	1.47	18.8	.01	.04	.07	153
1	177		8.90	8.88	33.843	26.232	181.2	.490	3.67	56.2	26.2	1.72	23.0	.01			178
	200	ISL	8.49	8.47	33.986	26.407	164.8	.529	2.85	43.3							201
1	206		8.42	8.39	34.016	26.442	161.6	.539	2.64	40.1	36.4	2.11	28.0	.01			207
1	235		8.13	8.10	34.077	26.534	153.3	.584	2.24	33.8	41.8	2.30	29.9	.00			236
	250	ISL	7.98	7.95	34.091	26.567	150.5	.607	2.13	32.0							252
1	273		7.77	7.75	34.103	26.607	146.9	.642	1.98	29.6	46.3	2.42	31.4	.00			275
	300	ISL	7.60	7.57	34.134	26.656	142.7	.681	1.70	25.3							302
1	326		7.45	7.42	34.164	26.702	138.6	.717	1.41	20.9	53.2	2.65	33.7	.00			328
1	386		7.00	6.96	34.209	26.801	129.9	.7 97	.92	13.5	61.7	2.86	36.1	.00			388
	400	ISL	6.90	6.87	34.219	26.822	128.1	.816	.83	12.2							403
1	449		6.59	6.55	34.247	26.887	122.4	.877	.61	8.9	68.9	3.00	37.9	.00			452
	500	ISL	6.20	6.16	34.265	26.952	116.6	.938	.47	6.8							504
1	521		6.03	5.99	34.268	26.977	114.4	.962	.44	6.3	78.3	3.12	39.9	.00			524

RV DAVID STARR JORDAN CALCOFI CRUISE 8605 STATION 90 70

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
32 05.2 N	120 38.5 W	14/05/86	0020 GMT	3924 M	320	17 KT	320 05 05	2	1015.6 MB	15.0 C	12.1 C	8/8	ST

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0 ISL	15.91	15.91	33.262	24.432	348.9	.000	5.88	104.2							0
1	1	15.91	15.91	33.262	24.432	348.9	.003	5.88	104.2	2.1	.35	.0	.00	.09	.01	1
	10 ISL	15.91	15.91	33.261	24.432	349.2	.035	5.82	103.1							10
1	17	15.91	15.90	33.258	24.431	349.5	.059	5.80	102.7	2.1	.35	.0	.00	.09	.01	17
	20 ISL	15.91	15.91	33.257	24.429	349.8	.07 0	5.80	102.8							20
	30 ISL	15.92	15.92	33.255	24.425	350.5	.105	5.81	102.9							30
1	31	15.92	15.92	33.255	24.425	350.6	.108	5.81	102.9	2.0	.35	.0	.00	.09	.01	31
1	42	15.88	15.87	33.255	24.436	349.9	.146	5.82	103.0	2.0	.35	.0	.00	.10	.02	42
	50 ISL	15.92	15.91	33.272	24.440	349.7	.175	5.81	102.8							50
1	52	15.93	15.92	33.276	24.441	349.7	.181	5.80	102.8	2.0	.35	.0	.00	.12	.02	52
1	61	15.94	15.94	33.286	24.445	349.5	.212	5.76	102.1	1.9	.35	.0	.00	.14	.02	61
1	71	15.71	15.70	33.256	24.474	347.1	.247	5.83	102.8	2.0	.36	.0	.00	.16	.04	71
	75 ISL	15.05	15.04	33.206	24.581	336.9	.262	5.96	103.7							76
1	81	14.04	14.03	33.155	24.756	320.4	.280	6.11	104.1	2.5	.39	.0	.00	.19	.09	81
1	96	12.58	12.56	33.244	25.119	285.9	.326	5.80	95.9	3.3	.53	1.7	.10	.32	.31	96
	100 ISL	12.30	12.29	33.273	25.195	278.8	.338	5.67	93.2							101
1	111	11.79	11.78	33.334	25.338	265.4	.367	5.36	87.2	5.9	.76	6.3	.05	.23	.26	111
1	124	11.24	11.23	33.390	25.481	251.9	.403	5.10	82.1	8.1	.91	9.1	.03	.14	.19	125
	125 ISL	11.22	11.20	33.394	25.490	251.2	.404	5.08	81.7							126
1	149	10.09	10.07	33.605	25.851	217.1	.461	4.16	65.4	17.2	1.41	17.6	.01	.03	.06	150
	150 ISL	10.07	10.05	33.609	25.858	216.4	.463	4.15	65.1							151
1	173	9.52	9.50	33.741	26.052	198.3	.511	3.84	59.6	21.9	1.57	20.4	.00			174
	200 ISL	8.89	8.87	33.881	26.262	178.7	.561	3.51	53.8							201
1	203	8.83	8.81	33.894	26.282	176.8	.567	3.48	53.3	28.4	1.77	23.9	.00			204
1	233	8.35	8.32	33.968	26.415	164.6	.617	3.22	48.8	33.2	1.92	26.0	.00			23 4
	250 ISL	8.04	8.01	33.993	26.481	158.6	.645	3.08	46.3							252
1	272	7.68	7.65	34.014	26.551	152.1	.679	2.87	42.8	41.0	2.11	28.6	.00			273
	300 ISL	7.33	7.30	34.038	26.620	145.9	.721	2.44	36.1							302
1	326	7.06	7.03	34.055	26.671	141.3	.759	2.02	29.7	52.3	2.44	33.0	.00			328
1	386	6.41	6.38	34.094	26.7 88	130.6	.840	1.34	19.4	63.6	2.73	36.6	.00			3 88
	400 ISL	6.28	6.25	34.105	26.814	128.3	.858	1.21	17.4							403
1	450	5.89	5.85	34.148	26.898	120.6	.921	.82	11.7	74.9	2.95	39.2	.00			453
	500 ISL	5.61	5.57	34.200	26.975	113.8	.97 9	.56	8.0							504
1	520	5.53	5.48	34.222	27.002	111.4	1.001	.49	7.0	84.9	3.12	40.9	.00			523

RV DAVID STARR JORDAN CALCOFI CRUISE 8605 STATION 90 80

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
31 45.1 N	121 18.7 W	13/05/86	1818 GMT	3543 M	310	17 KT	300 06 06	2	1018.0 MB	15.0 C	13.3 C	8/8	ST

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0 ISL	15.49	15.49	33.178	24.461	346.1	.000	5.84	102.5							0
1	1	15.49	15.49	33.178	24.461	346.1	.003	5.84	102.5	2.3	.36	.0	.00	.14	.01	1
	10 ISL	15.49	15.49	33.177	24.461	346.5	.035	5.92	103.9							10
1	17	15.50	15.49	33.177	24.460	346.7	.059	5.94	104.3	2.4	.37	.0	.00	.14	.02	17
	20 ISL	15.50	15.49	33.177	24.459	3 46.9	.069	5.92	104.0							20
	30 ISL	15.50	15.50	33.177	24.458	347.3	.104	5.87	103.1							30
1	32	15.51	15.50	33.177	24.458	347.4	.111	5.86	102.9	2.3	.37	.0	.00	.15	.02	32
1	42	15.48	15.48	33.176	24.463	347.2	.145	5.90	103.6	2.3	.36	.0	.00	.16	.02	42
	50 ISL	15.49	15.48	33.175	24.461	347.6	.173	5.85	102.8							50
1	51 .	15.49	15.48	33.175	24.461	347.7	.176	5.85	102.7	2.3	.36	.0	.00	.16	.02	51
1	62	15.46	15.45	33.172	24.465	347.6	.214	5.93	104.0	2.3	.36	.0	.00	.19	.03	62
1	72	15.38	15.37	33.162	24.476	346.9	.249	5.87	102.8	2.4	.37	.0	.00	.25	.05	72
	75 ISL	15.00	14.99	33.164	24.560	339.0	.260	5.91	102.7							76
1	83	13.94	13.93	33.178	24.795	316.6	.285	6.01	102.2	2.6	.40	.0	.00	.33	.24	83
1	97	12.67	12.66	33.202	25.069	290.8	.328	5.91	97.9	2.8	.49	.8	.08	.36	.30	97
	100 ISL	12.50	12.49	33.214	25.109	287.0	.337	5.87	96.9							101
1	112	12.07	12.05	33.265	25.233	275.4	.370	5.65	92.5	3.8	.60	3.3	.14	.21	.30	112
1	124	11.39	11.38	33.337	25.413	258.5	.404	5.27	85.0	6.3	.81	7.3	.05	.12	.25	125
	125 ISL	11.37	11.35	33.341	25.421	257.8	.406	5.25	84.7							126
1	150	10.29	10.27	33.544	25.770	224.9	.467	4.39	69.2	14.7	1.32	16.0	.02	.04	.07	151
1	175	9.49	9.47	33.737	26.054	198.2	.519	3.71	57.6	22.2	1.62	21.1	.01			176
	200 ISL	8.92	8.90	33.876	26.255	179.4	.566	3.31	50.7							201
1	204	8.84	8.82	33.893	26.281	177.1	.573	3.28	50.2	28.6	1.84	24.7	.00			205
1	234	8.22	8.20	33.961	26.429	163.4	.624	3.58	54.1	31.4	1.82	24.8	.00			235
	250 ISL	8.04	8.01	33.987	26.477	159.0	.650	3.39	51.0							252
1	273	7.81	7.79	34.012	26.530	154.3	.686	2.96	44.3	38.8	2.05	28.0	.00			274
	300 ISL	7.36	7.33	34.028	26.607	147.1	.727	2.53	37.5							302
1	327	6.91	6.88	34.043	26.681	140.2	.766	2.11	30.9	52.4	2.43	33.0	.00			329
1	386	6.35	6.31	34.102	26.803	129.1	.845	1.22	17.7	64.9	2.77	37.2	.00			3 88
	400 ISL	6.20	6.17	34.114	26.831	126.6	.863	1.08	15.5							403
1	450	5.78	5.74	34.156	26.918	118.6	.925	.72	10.3	76.9	2.98	39.8	.00			453
	500 ISL	5.54	5.50	34.202	26.985	112.7	.982	.51	7.3							504
1	521	5.49	5.44	34.222	27.007	110.9	1.005	.47	6.7	85.2	3.10	41.0	.00			524

RV DAVID STARR JORDAN CALCOFI CRUISE 8605 STATION 90 90

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
31 25.2 N	121 59.3 W	13/05/86	1243 GMT	3738 M	340	16 KT			1017.5 MB	14.3 C	12.0 C		

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0	ISL	16.19	16.19	33.325	24.418	350.2	.000	5.76	102.6							0
1	1		16.19	16.19	33.325	24.418	350.2	.003	5.76	102.6	1.8	.33	.0	.00	.08	.01	1
	10	ISL	16.19	16.19	33.327	24.419	350.5	.035	5.75	102.5							10
1	17		16.19	16.19	33.328	24.419	350.6	.05 9	5.75	102.5	1.8	.33	.0	.00	.08	.01	17
	20	ISL	16.19	16.19	33.328	24.420	350.7	.070	5.75	102.5							20
	30	ISL	16.19	16.19	33.328	24.420	351.0	.105	5.75	102.5							30
1	31		16.19	16.19	33.328	24.420	351.0	.108	5.75	102.5	1.8	.33	.0	.00	.08	.01	31
1	41		16.18	16.17	33.327	24.423	351.1	.143	5.73	102.1	1.8	.33	.0	.00	.08	.01	41
	50	ISL	16.18	16.17	33.327	24.422	351.4	.175	5.75	102.4							50
1	51		16.18	16.17	33.327	24.422	351.4	.178	5.75	102.4	1.8	.32	.0	.00	.07	.02	51
1	61		16.00	15.99	33.287	24.433	350.7	.213	5.80	102.9	1.7	.32	.0	.00	.08	.02	61
1	72		15.77	15.76	33.295	24.491	345.5	.251	5.81	102.6	1.7	.32	.0	.00	.09	.02	72
	75	ISL	15.71	15.69	33.290	24.502	344.6	.263	5.82	102.6							76
1	82		15.51	15.50	33.278	24.536	341.5	.286	5.84	102.6	1.7	.32	.0	.00	.11	.04	82
1	97		14.57	14.56	33.297	24.755	320.9	.335	5.90	101.7	1.9	.35	.0	.00	.14	.07	97
	100	ISL	14.22	14.20	33.298	24.830	314.0	.346	5.90	100.9							101
1	111		13.15	13.14	33.300	25.049	293.1	.378	5.88	98.5	2.3	.42	.1	.03	.22	.21	111
1	125		12.47	12.45	33.343	25.217	277.3	.420	5.66	93.5	3.0	.53	2.3	.07	.24	.17	126
	150	ISL	11.42	11.40	33.414	25.46 9	253.8	.485	5.18	83.7							151
1	151		11.36	11.34	33.419	25.483	252.4	.489	5.15	83.1	7.4	.87	8.4	.02	.12	.12	152
1	176		10.08	10.05	33.565	25.823	220.4	.548	4.32	67.8	15.8	1.35	16.8	.01			177
	200	ISL	9.26	9.24	33.729	26.085	195.7	.597	4.08	62.9							201
1	204		9.16	9.14	33.757	26.124	192.1	.605	4.05	62.4	21.9	1.54	20.5	.00			205
1	235		8.60	8.58	33.932	26.348	171.1	.661	3.42	52.1	29.8	1.81	24.6	.00			236
	250	ISL	8.34	8.31	33.966	26.415	165.0	.686	3.40	51.5							252
1	275		7.95	7.92	33.987	26.490	158.1	.726	3.37	50.6	35.2	1.92	26.3	.00			276
	300	ISL	7.64	7.61	34.012	26.555	152.2	.766	2.95	43.9							302
1	328		7.33	7.30	34.034	26.616	146.7	.808	2.36	34.9	46.7	2.31	31.2	.00			330
1	388		6.63	6.60	34.079	26.748	134.6	.891	1.49	21.7	59.0	2.65	35.5	.00			3 90
	400	ISL	6.49	6.46	34.090	26.775	132.2	.908	1.35	19.6							403
1	451		5.99	5.95	34.134	26.875	122.9	.973	.88	12.6	71.8	2.93	38.8	.00			454
	500	ISL	5.65	5.61	34.177	26.951	116.1	1.031	.62	8.8							504
1	520		5.56	5.52	34.194	26.976	113.9	1.054	.56	8.0	81.7	3.08	40.7	.00			523

RV DAVID STARR JORDAN CALCOFI CRUISE 8605 STATION 90 100

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
31 05.2 N	122 39.6 W	13/05/86	0703 GMT	4309 M	330	12 KT			1019.2 MB	15.2 C	12.2 C		

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
1	0		17.10	17.10	33.664	24.466	345.7	.000	5.64	102.5	2.0	.38	.1	.00	.07	.01	0
	10	ISL	17.11	17.11	33.664	24.464	346.1	.035	5.65	102.7							10
1	16		17.11	17.11	33.664	24.464	346.4	.055	5.65	102.7	1.9	.43	.1	.00	.07	.01	16
	20	ISL	17.12	17.11	33.663	24.463	346.6	.06 9	5.65	102.7							20
1	30		17.12	17.12	33.662	24.461	347.1	.104	5.64	102.6	1.9	.34	.0	.00	.07	.01	30
1	41		17.11	17.10	33.662	24.465	347.1	.142	5.65	102.7	1.9	.29	.0	.00	.07	.01	41
	50	ISL	17.12	17.11	33.662	24.463	347.7	.173	5.64	102.5							50
1	51		17.12	17.11	33.662	24.462	347.7	.176	5.64	102.5	2.0	.31	.0	.00	.06	.01	51
1	61		17.15	17.14	33.663	24.455	348.8	.211	5.67	103.2	2.0	.30	.0	.00	.07	.02	61
1	70		17.14	17.13	33.664	24.460	348.6	.242	5.64	102.6	1.8	.30	.0	.00	.07	.01	70
	75	ISL	17.19	17.17	33.681	24.462	348.5	.260	5.63	102.4							76
1	81		17.23	17.22	33.699	24.465	348.5	.280	5.61	102.2	1.7	.29	.0	.00	.08	.02	81
1	96		15.65	15.63	33.576	24.736	322.9	.330	5.80	102.4	1.9	.33	.0	.00	.17	.07	96
	100	ISL	15.08	15.06	33.531	24.826	314.4	.344	5.80	101.2							101
1	II0		13.95	13.93	33.462	25.014	296.6	.374	5.81	99.0	2.7	.39	.2	.02	.34	.29	II0
1	124		13.05	13.04	33.497	25.222	277.0	.416	5.50	92.0	3.8	.55	3.0	.07	.24	.28	125
	125	ISL	13.04	13.02	33.500	25.227	276.6	.418	5.49	91.9							126
1	149		12.49	12.47	33.624	25.43 2	257.7	.483	5.16	85.4	5.8	.73	6.1	.02	.11	.19	150
	150	ISL	12.45	12.43	33.624	25.43 8	257.0	.485	5.15	85.1							151
1	174		10.97	10.95	33.621	25.711	231.2	.544	4.66	74.6	11.3	1.07	12.4	.01			175
	200	ISL	9.77	9.75	33.740	26.011	203.0	.600	4.05	63.2							201
1	204		9.62	9.60	33.764	26.054	198.9	.608	3.96	61.6	20.7	1.50	19.6	.00			205
1	234		8.88	8.85	33.907	26.285	177.2	.664	3.61	55.3	27.4	1.72	23.1	.00			235
	250	ISL	8.59	8.56	33.958	26.371	169.3	.6 92	3.38	51.5							252
1	273		8.25	8.22	34.007	26.462	160.9	.729	3.06	46.2	35.5	1.98	26.7	.00			274
	300	ISL	7.81	7.78	34.033	26.546	153.2	.772	2.72	40.7							302
1	327		7.41	7.38	34.042	26.611	147.2	.813	2.39	35.4	46.1	2.28	30.9	.00			329
1	385		6.66	6.63	34.072	26.738	135.5	.894	1.65	24.0	58.5	2.60	35.1	.00			387
	400	ISL	6.50	6.46	34.082	26.768	132.8	.915	1.48	21.5							403
1	449		6.06	6.02	34.117	26.853	125.1	.978	1.01	14.5	70.5	2.87	38.4	.00			452
	500	ISL	5.72	5.68	34.166	26.934	117.7	1.040	.68	9.7							504
1	517		5.63	5.59	34.184	26.959	115.5	1.059	.60	8.5	80.8	3.05	40.4	.00			520

RV DAVID STARR JORDAN CALCOFI CRUISE 8605 STATION 90 110

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
30 45.2 N	123 19.8 W	13/05/86	0124 GMT	3927 M	350	16 KT	340 06 07	2	1020.0 MB	16.8 C	13.1 C	8/8	ST

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
1	0		17.18	17.18	33.759	24.521	340.4	.000	5.62	102.4	2.2	.29	.0	.00	.06	.01	0
	10	ISL	17.18	17.18	33.759	24.520	340.8	.03 4	5.63	102.5							10
1	16		17.19	17.18	33.760	24.520	341.1	.054	5.63	102.6	2.2	.30	.0	.00	.06	.01	16
	20	ISL	17.19	17.18	33.760	24.521	341.1	.068	5.63	102.6							20
	30	ISL	17.18	17.18	33.760	24.522	341.3	.102	5.64	102.7							30
1	36		17.18	17.17	33.760	24.523	341.4	.122	5.64	102.7	2.1	.29	.0	.00	.08	.01	36
	50	ISL	17.17	17.17	33.760	24.525	341.8	.171	5.67	103.3							50
1	57		17.17	17.16	33.761	24.526	341.9	.194	5.68	103.4	2.0	.29	.0	.00	.06	.01	57
1	72		17.12	17.11	33.754	24.533	341.7	.245	5.63	102.4	1.9	.29	.0	.00	.08	.02	72
	75	ISL	16.64	16.62	33.719	24.620	333.4	.256	5.69	102.5							76
1	81		15.73	15.71	33.657	24.780	318.3	.274	5.80	102.6	2.1	.32	.0	.00	.13	.05	81
1	91		14.89	14.87	33.582	24.907	306.3	.306	5.82	101.2	2.4	.34	.0	.00	.16	.10	91
	100	ISL	13.75	13.74	33.461	25.053	292.6	.334	5.78	98.1							101
1	101		13.68	13.67	33.454	25.062	291.7	.335	5.78	98.0	2.7	.43	.3	.03	.26	.20	101
1	111		13.03	13.01	33.439	25.182	280.4	.364	5.61	93.8	3.5	.52	2.1	.09	.21	.26	111
1	125		12.77	12.76	33.571	25.334	266.3	.405	5.29	88.0	5.2	.65	4.9	.05	.13	.20	126
1	139		13.12	13.10	33.851	25.483	252.7	.441	5.07	85.1	5.7	.64	5.5	.03	.10	.17	140
	150	ISL	12.55	12.53	33.798	25.554	246.1	.467	4.95	82.1							151
1	159		11.84	11.82	33.707	25.620	239.8	.490	4.86	79.4	8.9	.91	9.6	.02	.06	.09	160
1	179		10.79	10.77	33.800	25.883	215.0	.535	4.68	74.8	12.5	1.06	12.7	.01			180
	200	ISL	9.78	9.75	33.780	26.041	200.1	.578	4.14	64.7							201
1	203		9.65	9.62	33.776	26.060	198.3	.584	4.06	63.2	20.2	1.46	19.0	.00			204
1	232		8.79	8.77	33.920	26.309	174.9	.638	3.67	56.1	27.3	1.72	22.9	.00			233
	250	ISL	8.36	8.33	33.967	26.413	165.2	.669	3.44	52.1							252
1	271		7.96	7.94	33.998	26.496	157.5	.702	3.17	47.6	36.2	1.98	26.8	.00			272
	300	ISL	7.63	7.60	34.029	26.570	150.8	.7 47	2.70	40.3							302
1	324		7.42	7.39	34.043	26.610	147.2	.7 83	2.33	34.6	45.8	2.31	31.0	.00			326
1	383		6.73	6.70	34.065	26.724	136.9	.867	1.73	25.3	56.4	2.57	34.5	.00			385
	400	ISL	6.58	6.54	34.077	26.754	134.1	.890	1.55	22.5							403
1	446		6.21	6.17	34.117	26.834	127.0	.950	1.09	15.7	67.1	2.83	37.5	.00			449
	500	ISL	5.80	5.76	34.163	26.922	119.0	1.016	.72	10.3							504
1	517		5.69	5.64	34.178	26.948	116.6	1.036	.64	9.1	79.1	3.05	40.0	.00			520

RV DAVID STARR JORDAN CALCOFI CRUISE 8605 STATION 90 120

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
30 25.1 N	124 00.1 W	12/05/86	1902 GMT	3927 M	350	19 KT	010 06 07	1	1021.8 MB	16.5 C	13.5 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	17.43	17.43	33.838	24.522	340.3	.000	5.60	102.6							0
1	2		17.43	17.43	33.838	24.522	340.4	.007	5.60	102.6	1.6	.26	.0	.00	.07	.01	2
	10	ISL	17.43	17.42	33.838	24.523	340.6	.03 4	5.60	102.5							10
1	16		17.43	17.42	33.839	24.524	340.7	.054	5.60	102.5	1.5	.26	.0	.00	.07	.02	16
	20	ISL	17.43	17.43	33.841	24.523	340.8	.068	5.60	102.6							20
	30	ISL	17.45	17.45	33.847	24.524	341.1	.102	5.60	102.6							30
1	36		17.47	17.46	33.852	24.525	341.2	.122	5.60	102.6	1.4	.26	.0	.00	.07	.02	36
	50	ISL	17.47	17.46	33.862	24.531	341.2	.170	5.59	102.4							50
1	56		17.48	17.47	33.865	24.533	341.1	.190	5.58	102.3	1.4	.26	.0	.00	.08	.02	56
1	72		17.50	17.49	33.868	24.530	342.0	.245	5.58	102.3	1.4	.26	.0	.00	.08	.01	72
	75	ISL	17.51	17.49	33.868	24.529	342.2	.256	5.59	102.5							76
1	81		17.51	17.50	33.871	24.529	342.4	.275	5.60	102.7	1.4	.25	.0	.00	.09	.02	81
1	92		17.52	17.51	33.882	24.537	342.0	.313	5.57	102.2	1.4	.25	.0	.00	.11	.02	92
1	100		16.34	16.32	33.832	24.776	319.3	.339	5.68	101.8	1.7	.27	.0	.00	.16	.07	100
1	110		14.74	14.73	33.671	25.008	297.4	.370	5.72	99.2	2.2	.34	.2	.02	.22	.16	110
1	124		14.67	14.65	33.820	25.139	285.3	.413	5.49	95.1	2.6	.36	.7	.10	.20	.19	125
	125	ISL	14.66	14.64	33.824	25.143	284.9	.415	5.48	95.0							126
1	139		14.16	14.14	33.866	25.282	272.1	.455	5.31	91.1	3.4	.45	2.7	.06	.15	.19	140
	150	ISL	13.21	13.19	33.783	25.413	259.7	.483	5.15	86.5							151
1	159		12.30	12.28	33.707	25.53 2	248.3	.507	5.00	82.5	6.9	.76	7.6	.02	.09	.10	160
1	179		11.17	11.14	33.719	25.753	227.5	.554	4.77	76.8	10.6	.99	11.7	.01			180
	200	ISL	10.32	10.29	33.809	25.972	206.8	.599	4.55	71.9							201
1	202		10.25	10.23	33.819	25.992	205.0	.603	4.53	71.5	14.9	1.16	14.9	.00			203
1	232		9.43	9.40	33.891	26.186	186.9	.662	4.24	65.8	20.8	1.40	18.8	.00			233
	250	ISL	8.93	8.90	33.931	26.297	176.5	.695	3.97	60.9							252
1	271		8.43	8.40	33.970	26.405	166.4	.730	3.65	55.4	30.5	1.73	23.9	.00			272
	300	ISL	8.01	7.98	33.995	26.488	158.8	.778	3.33	50.0							302
1	324		7.73	7.70	34.005	26.536	154.5	.816	3.04	45.4	39.5	2.01	27.9	.00			326
1	382		6.84	6.81	34.055	26.701	139.1	.900	1.89	27.7	54.6	2.46	33.9	.00			384
	400	ISL	6.64	6.61	34.072	26.7 40	135.5	.925	1.62	23.6							403
1	446		6.25	6.21	34.112	26.825	127.9	.986	1.10	15.9	67.2	2.78	37.8	.00			449
	500	ISL	5.90	5.86	34.162	26.908	120.4	1.053	.72	10.4							504
1	517		5.82	5.78	34.177	26.930	118.4	1.073	.66	9.4	77.5	2.99	39.9	.00			520

RV DAVID STARR JORDAN CALCOFI CRUISE 8605 STATION 93 26.7

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
32 57.4 N	117 18.3 W	09/05/86	2329 GMT	72 M	300	06 KT	260 02 06	0	1012.3 MB	20.1 C	17.9 C	0/8	

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	14.40	14.40	33.525	24.965	307.1	.000	5.92	101.9							0
1	1		14.40	14.40	33.525	24.965	298.2	.003	5.92	101.9	8.5	.56	.3	.04	2.50	.48	1
	10	ISL	11.66	11.65	33.595	25.563	241.5	.027	4.19	68.2							10
1	11		11.49	11.49	33.603	25.599	238.0	.030	4.09	66.3	13.5	1.30	10.0	.36	1.30	.44	11
	20	ISL	11.27	11.27	33.632	25.663	232.2	.051	3.90	62.9							20
1	21		11.25	11.24	33.635	25.669	231.6	.053	3.88	62.6	15.4	1.42	12.6	.14	.67	.33	21
	30	ISL	10.95	10.95	33.681	25.759	223.3	.07 4	3.56	57.1							30
1	31		10.92	10.92	33.687	25.769	222.4	.07 6	3.53	56.5	18.0	1.54	15.3	.08	.38	.27	31
1	41		10.51	10.51	33.781	25.914	208.8	.098	3.15	50.0	22.0	1.72	18.8	.08	.13	.18	41
	50	ISL	10.46	10.46	33.798	25.936	207.0	.117	2.93	46.5							50
1	51		10.46	10.45	33.799	25.937	206.8	.118	2.92	46.3	23.3	1.79	19.9	.11	.09	.19	51

RV DAVID STARR JORDAN CALCOFI CRUISE 8605 STATION 93 29

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
32 52.8 N	117 27.8 W	10/05/86	0138 GMT	668 M	320	08 KT	280 02 10	0	1011.5 MB	19.5 C	16.8 C	0/8	

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	17.69	17.69	33.531	24.223	371.4	.000	5.91	108.6							0
1	1		17.69	17.69	33.531	24.223	368.9	.004	5.91	108.6	3.2	.25	.0	.00	.30	.04	1
	10	ISL	16.03	16.03	33.503	24.590	334.1	.035	6.17	109.8							10
1	11		15.78	15.78	33.496	24.642	329.2	.03 9	6.20	109.7	3.8	.27	.0	.00	.52	.10	11
1	20		12.69	12.69	33.439	25.246	271.9	.065	5.80	96.3	4.8	.59	2.2	.15	2.48	.70	20
	30	ISL	11.82	11.82	33.552	25.500	245.6	.092	4.43	72.3							30
1	32		11.66	11.65	33.573	25.546	243.6	.096	4.19	68.1	12.5	1.20	13.1	.15	.68	.47	32
1	41		11.36	11.35	33.614	25.633	235.6	.118	3.99	64.5	14.4	1.33	15.1	.07	.49	.45	41
	50	ISL	11.05	11.04	33.665	25.729	226.6	.139	3.66	58.7							50
1	52		10.98	10.98	33.674	25.748	224.9	.143	3.61	57.9	17.6	1.50	17.8	.02	.35	.35	52
1	62		10.59	10.58	33.711	25.846	215.7	.165	3.79	60.3	19.3	1.56	18.8	.02	.11	.18	62
1	71		10.27	10.27	33.797	25.968	204.3	.183	3.25	51.3	22.3	1.68	20.8	.01	.07	.10	71
	75	ISL	10.18	10.17	33.831	26.010	200.4	.192	3.15	49.7							76
1	86		10.03	10.02	33.897	26.088	193.2	.213	3.03	47.6	25.8	1.85	22.8	.01	.03	.08	86
1	100		9.88	9.87	33.954	26.158	186.9	.241	2.67	41.9	27.8	1.95	23.9	.01	.02	.08	101
1	120		9.53	9.52	33.984	26.240	179.5	.278	2.63	40.9	29.8	1.99	25.0	.01	.01	.11	121
	125	ISL	9.49	9.47	33.995	26.255	178.1	.286	2.60	40.4							126
1	145		9.32	9.30	34.039	26.318	172.5	.322	2.45	37.9	32.0	2.07	26.0	.01	.01	.05	146
	150	ISL	9.24	9.22	34.047	26.336	170.9	.330	2.43	37.6							151
1	174		8.84	8.82	34.079	26.425	162.8	.370	2.33	35.7	36.3	2.17	27.6	.00			175
	200	ISL	8.55	8.53	34.122	26.505	155.6	.411	2.07	31.5							201
1	203		8.52	8.50	34.126	26.513	154.9	.416	2.04	31.0	40.3	2.29	29.0	.00			204
1	231		8.19	8.17	34.155	26.585	148.5	.458	1.80	27.2	44.3	2.42	30.4	.00			232
	250	ISL	8.21	8.19	34.198	26.616	145.9	.486	1.51	22.9							252
1	269		8.26	8.23	34.241	26.643	143.8	.514	1.23	18.6	48.1	2.59	31.5	.00			271
	300	ISL	7.99	7.96	34.260	26.699	138.9	.558	1.02	15.3							302
1	323		7.70	7.67	34.260	26.7 41	135.1	.589	.95	14.2	55.5	2.75	33.6	.00			325
1	381		7.06	7.03	34.259	26.831	127.0	.664	.92	13.6	63.4	2.90	35.9	.00			3 83
	400	ISL	6.95	6.91	34.267	26.854	125.1	.689	.80	11.7							403
1	445		6.74	6.70	34.290	26.901	121.3	.7 45	.50	7.3	69.2	3.03	37.0	.00			448
	500	ISL	6.39	6.35	34.308	26.961	116.0	.810	.42	6.1							504
1	517		6.27	6.22	34.311	26.980	114.3	.830	.40	5.8	76.5	3.09	38.7	.00			521

RV DAVID STARR JORDAN CALCOFI CRUISE 8605 STATION 93 30

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
32 50.4 N	117 32.0 W	10/05/86	0359 GMT	888 M	340	02 KT			1011.8 MB	18.9 C	16.0 C		

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
1	0		17.72	17.72	33.520	24.207	370.3	.000	5.90	108.5	2.3	.26	.0	.00	.21	.04	0
1	10		16.26	16.26	33.503	24.538	339.1	.035	6.10	109.0	3.0	.27	.0	.00	.36	.08	10
1	20		13.19	13.19	33.424	25.135	282.4	.066	6.28	105.4	3.1	.44	.5	.06	1.57	.34	20
1	30		12.18	12.18	33.514	25.403	257.3	.093	4.74	77.9	9.0	.98	9.3	.28	2.03	.92	30
1	39		11.73	11.72	33.568	25.529	245.4	.116	4.21	68.5	12.3	1.18	13.0	.11	.78	.45	39
1	50		11.39	11.38	33.612	25.627	236.3	.142	3.90	63.0	14.6	1.35	15.4	.05	.60	.49	50
1	60		10.77	10.76	33.678	25.790	221.1	.165	3.59	57.3	18.0	1.50	18.2	.01	.18	.22	60
1	69		10.38	10.37	33.705	25.878	212.8	.184	3.58	56.7	19.8	1.57	19.3	.01	.10	.19	69
	75	ISL	10.19	10.19	33.738	25.935	207.5	.197	3.47	54.7							76
1	84		10.01	10.00	33.797	26.012	200.4	.215	3.25	51.0	23.0	1.71	21.4	.00	.04	.11	84
1	97		9.77	9.76	33.906	26.138	188.7	.240	2.91	45.5	26.7	1.86	23.5	.00	.02	.06	97
	100	ISL	9.71	9.69	33.910	26.152	187.4	.247	2.86	44.6							101
1	118		9.42	9.40	33.913	26.202	182.9	.281	2.63	40.8	30.4	2.00	25.3	.00	.01	.05	119
	125	ISL	9.39	9.37	33.963	26.247	178.9	.293	2.47	38.3							126
1	143		9.32	9.30	34.105	26.369	167.6	.324	2.08	32.2	34.6	2.19	27.2	.00	.01	.06	144
	150	ISL	9.22	9.20	34.117	26.3 94	165.4	.336	2.09	32.3							151
1	173		8.91	8.89	34.119	26.446	160.8	.373	2.11	32.4	37.0	2.21	28.0	.01			17 4
	200	ISL	8.88	8.86	34.168	26.489	157.3	.416	1.82	27.9							201
1	203		8.88	8.86	34.173	26.493	157.0	.420	1.78	27.3	39.5	2.37	28.9	.01			204
1	232		8.82	8.79	34.227	26.546	152.5	.465	1.46	22.4	42.4	2.47	29.9	.00			233
	250	ISL	8.70	8.68	34.243	26.577	149.9	.493	1.34	20.4							252
1	271		8.53	8.50	34.253	26.611	147.0	.525	1.23	18.7	46.0	2.58	31.0	.01			273
	300	ISL	8.29	8.26	34.265	26.658	143.0	.566	1.08	16.3							302
1	326		8.03	8.00	34.268	26.700	139.3	.603	.96	14.5	51.9	2.72	32.7	.00			328
1	386		7.29	7.25	34.249	26.7 92	131.0	.683	.78	11.5	59.6	2.84	35.1	.00			3 88
	400	ISL	7.13	7.09	34.250	26.816	128.9	.702	.72	10.7							403
1	449		6.67	6.63	34.269	26.894	121.9	.763	.53	7.7	68.7	3.01	37.3	.00			452
	500	ISL	6.29	6.24	34.301	26.970	115.1	.824	.39	5.6							504
1	517		6.18	6.13	34.314	26.994	112.9	.844	.35	5.1	77.3	3.13	39.0	.00			521

RV DAVID STARR JORDAN CALCOFI CRUISE 8605 STATION 93 35

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
32 40.5 N	117 52.4 W	10/05/86	07 45 GMT	666 M	230	07 KT			1013.1 MB	17.2 C	15.6 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	17.30	17.30	33.509	24.299	363.3	.000	5.79	105.6							0
1	2		17.30	17.30	33.509	24.299	361.6	.007	5.79	105.6	2.4	.27	.0	.00	.19	.04	2
	10	ISL	16.94	16.94	33.494	24.375	354.6	.036	5.83	105.6							10
1	11		16.89	16.89	33.493	24.384	353.8	.03 9	5.84	105.6	2.2	.28	.0	.00	.22	.04	11
	20	ISL	14.60	14.60	33.423	24.844	310.3	.069	6.09	105.2							20
1	21		14.34	14.34	33.419	24.895	305.4	.072	6.11	105.0	3.1	.38	.3	.02	.72	.19	21
	30	ISL	13.02	13.01	33.412	25.161	280.4	.099	5.82	97.2							30
1	31		12.92	12.91	33.411	25.180	278.5	.101	5.76	96.1	4.8	.59	3.4	.11	.72	.29	31
1	41		11.76	11.76	33.498	25.469	251.3	.128	4.70	76.5	9.7	1.03	10.4	.28	.86	.44	41
	50	ISL	11.20	11.19	33.594	25.646	234.5	.150	4.07	65.5							50
1	52		11.12	11.11	33.610	25.674	231.9	.154	3.99	64.1	15.0	1.34	15.6	.07	.36	.30	52
1	62		10.52	10.51	33.643	25.806	219.5	.176	3.91	62.0	17.2	1.41	17.4	.03	.15	.22	62
1	72		10.11	10.10	33.685	25.908	210.0	.198	3.76	59.2	19.5	1.54	19.4	.02	.08	.17	72
	75	ISL	9.99	9.98	33.704	25.943	206.7	.205	3.70	58.1							76
1	86		9.68	9.67	33.767	26.044	197.2	.226	3.52	54.9	23.0	1.68	21.5	.01	.03	.10	86
1	100		9.46	9.45	33.826	26.127	189.8	.253	3.33	51.7	25.3	1.76	22.7	.01	.01	.08	100
1	120		9.52	9.51	33.990	26.245	179.0	.292	2.62	40.8	29.9	2.00	25.1	.01	.01	.09	121
	125	ISL	9.50	9.48	34.004	26.260	177.6	.300	2.58	40.1							126
1	145		9.35	9.34	34.042	26.314	172.9	.335	2.49	38.6	31.8	2.09	26.0	.01	.01	.06	146
	150	ISL	9.34	9.32	34.061	26.332	171.3	.343	2.39	37.0							151
1	175		9.26	9.24	34.161	26.423	163.1	.385	1.95	30.2							176
	200	ISL	8.55	8.53	34.096	26.484	157.6	.425	2.26	34.5							201
1	203		8.48	8.45	34.088	26.490	157.1	.430	2.30	35.0	38.3	2.25	28.4	.01			204
1	234		8.46	8.43	34.182	26.567	150.4	.477	1.69	25.7	42.8	2.44	30.0	.01			235
	250	ISL	8.37	8.35	34.224	26.612	146.4	.501	1.43	21.7							252
1	273		8.20	8.18	34.267	26.672	141.0	.535	1.14	17.2	48.8	2.66	32.0	.00			275
	300	ISL	7.97	7.94	34.265	26.706	137.6	.572	1.00	15.0							302
1	328		7.69	7.66	34.263	26.745	134.8	.610	.92	13.7	54.6	2.79	33.7	.00			330
1	386		7.07	7.04	34.274	26.842	126.1	.685	.63	9.3	63.0	2.92	36.1	.00			388
	400	ISL	6.96	6.93	34.281	26.863	124.4	.703	.58	8.5							403
1	450		6.64	6.59	34.305	26.927	118.8	.764	.43	6.3	70.7	3.02	37.7	.00			453
	500	ISL	6.29	6.25	34.324	26.987	113.5	.822	.33	4.8							504
1	518		6.17	6.12	34.330	27.008	111.6	.843	.31	4.5	78.4	3.14	39.3	.00			522

RV DAVID STARR JORDAN CALCOFI CRUISE 8605 . STATION 93 40

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
32 30.7 N	118 12.9 W	10/05/86	1128 GMT	1682 M	250	08 KT			1013.0 MB	16.0 C	15.0 C		

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
1	0		16.81	16.81	33.508	24.416	350.4	.000	5.83	105.3	3.0	.31	.1	.00	.26	.06	0
	10	ISL	16.47	16.47	33.505	24.491	343.5	.035	5.85	104.9							10
1	11		16.42	16.42	33.503	24.501	342.7	.03 8	5.85	104.8	2.9	.30	.1	.00	.33	.10	11
	20	ISL	15.96	15.95	33.483	24.593	334.3	.069	5.93	105.3							20
1	22		15.75	15.75	33.476	24.634	330.3	.075	5.95	105.2	2.7	.30	.0	.00	.80	.27	22
	30	ISL	13.75	13.74	33.470	25.059	290.5	.100	5.52	93.7							30
1	32		13.25	13.24	33.469	25.159	280.5	.105	5.38	90.4	6.7	.69	5.1	.20	1.33	.50	32
1	41		11.90	11.90	33.512	25.453	252.7	.129	4.65	76.0	11.2	1.05	10.4	.73	.79	.53	41
	50	ISL	11.07	11.06	33.528	25.619	237.1	.152	4.29	68.8							50
1	51		11.02	11.01	33.529	25.628	236.2	.154	4.27	68.5	13.8	1.27	14.5	.07	.38	.37	51
1	62		10.75	10.74	33.579	25.715	228.2	.179	4.09	65.2	15.5	1.36	16.0	.04	.23	.31	62
1	72		10.45	10.44	33.642	25.816	218.8	.201	3.86	61.2	17.7	1.47	17.7	.03	.11	.20	72
	75	ISL	10.34	10.33	33.669	25.857	214.9	.208	3.76	59.4							76
1	88		9.94	9.93	33.770	26.004	201.2	.235	3.39	53.1	22.3	1.69	21.2	.02	.06	.14	88
	100	ISL	9.69	9.68	33.835	26.096	192.7	.259	3.19	49.8							101
1	102		9.66	9.65	33.848	26.111	191.3	.264	3.15	49.1	25.0	1.79	22.7	.01	.02	.07	103
1	121		9.67	9.66	34.003	26.231	180.4	.299	2.53	39.5	29.3	2.01	24.9	.01	.01	.06	122
	125	ISL	9.64	9.62	34.019	26.249	178.7	.305	2.48	38.7							126
1	147		9.36	9.35	34.081	26.3 43	170.2	.344	2.30	35.7	32.6	2.14	26.6	.00	.01	.08	148
	150	ISL	9.35	9.33	34.089	26.352	169.4	.349	2.26	35.1							151
1	176		9.13	9.11	34.144	26.430	162.5	.392	1.96	30.3	36.3	2.27	28.0	.00			177
	200	ISL	8.65	8.63	34.148	26.510	155.1	.430	1.91	29.1							201
1	206		8.53	8.51	34.149	26.529	153.5	.43 9	1.90	28.9	40.8	2.35	29.4	.00			207
1	235		8.35	8.33	34.181	26.582	148.9	.483	1.64	24.9	43.7	2.46	30.4	.01			236
	250	ISL	8.16	8.14	34.190	26.618	145.7	.505	1.51	22.8							252
1	273		7.86	7.84	34.204	26.673	140.7	.53 9	1.31	19.7	50.0	2.62	32.4	.00			275
	300	ISL	7.69	7.66	34.238	26.726	136.2	.576	1.04	15.5							302
1	327		7.54	7.50	34.267	26.771	132.2	.612	.80	11.9	57.1	2.83	34.3	.00			329
1	385		6.94	6.90	34.261	26.850	125.2	.686	.62	9.1	64.8	2.96	36.2	.00			387
	400	ISL	6.82	6.78	34.267	26.872	123.4	.705	.57	8.4							403
1	449		6.48	6.44	34.292	26.937	117.6	.764	.44	6.4	72.1	3.06	38.1	.00			452
	500	ISL	6.14	6.09	34.319	27.003	111.8	.823	.33	4.7							504
1	518		6.02	5.97	34.328	27.025	109.7	.843	.29	4.2	80.3	3.17	39.4	.00			522

RV DAVID STARR JORDAN CALCOFI CRUISE 8605 STATION 93 45

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
32 21.0 N	118 33.3 W	10/05/86	1513 GMT	1372 M	280 14 KT	290 03 05	1	1014.0 MB	15.0 C	14.1 C	6/8	CU

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
1	0	15.57	15.57	33.508	24.698	323.5	.000	6.00	105.7	2.8	.31	.0	.00	.65	.17	0
	10 ISL	15.23	15.23	33.507	24.772	316.6	.03 2	6.10	106.8							10
1	11	15.16	15.16	33.507	24.787	315.4	.035	6.11	106.8	2.8	.31	.0	.00	.84	.25	11
	20 ISL	14.25	14.25	33.459	24.946	300.5	.063	5.60	96.1							20
1	21	14.11	14.10	33.453	24.971	298.2	.066	5.53	94.6	5.6	.57	3.0	.17	1.44	.51	21
	30 ISL	11.78	11.77	33.437	25.418	256.1	.091	4.83	78.6							30
1	31	11.57	11.57	33.435	25.455	252.2	.093	4.77	77.3	10.1	1.03	10.5	.26	.42	.32	31
1	41	11.18	11.17	33.476	25.559	242.6	.118	4.57	73.5	12.0	1.14	12.5	.12	.35	.28	41
	50 ISL	10.82	10.81	33.563	25.690	230.3	.139	4.23	67.6							50
1	52	10.74	10.73	33.583	25.720	227.5	.143	4.16	66.3	16.0	1.36	16.1	.06	.14	.19	52
1	61	10.11	10.11	33.678	25.902	210.3	.163	3.78	59.5	19.6	1.54	19.1	.03	.04	.07	61
1	70	9.96	9.95	33.735	25.972	203.9	.181	3.53	55.4	21.9	1.63	20.4	.02	.04	.13	70
	75 ISL	9.89	9.88	33.765	26.009	200.5	.192	3.41	53.3							76
1	85	9.72	9.71	33.817	26.07 8	194.1	.211	3.21	50.1	25.2	1.79	22.5	.02	.02	.13	85
1	99	9.23	9.22	33.895	26.218	181.0	.23 9	2.95	45.6	29.2	1.93	24.6	.01	.01	.10	100
	100 ISL	9.22	9.21	33.897	26.221	180.8	.240	2.95	45.5							101
1	118	9.06	9.04	33.930	26.274	176.1	.273	2.83	43.6	30.9	1.99	25.4	.01	.01	.08	119
	125 ISL	8.98	8.96	33.947	26.300	173.7	.284	2.78	42.7							126
1	144	8.75	8.73	34.006	26.382	166.3	.317	2.58	39.5	34.5	2.11	27.1	.01	.00	.10	145
	150 ISL	8.70	8.68	34.027	26.406	164.0	.327	2.48	37.9							151
1	174	8.52	8.50	34.107	26.497	155.9	.365	2.09	31.8	39.5	2.30	29.0	.00			175
	200 ISL	8.36	8.34	34.139	26.547	151.6	.405	1.88	28.4							201
1	204	8.33	8.31	34.141	26.553	151.1	.411	1.85	28.0	42.3	2.40	30.0	.00			205
1	234	7.95	7.93	34.164	26.628	144.3	.455	1.56	23.4	47.3	2.54	31.7	.00			235
	250 ISL	7.82	7.80	34.177	26.658	141.7	.47 8	1.43	21.5							252
1	273	7.68	7.65	3 4.195	26.694	138.7	.511	1.27	19.0	52.0	2.67	32.9	.00			275
	300 ISL	7.50	7.47	34.213	26.734	135.3	.548	1.08	16.1							302
1	329	7.31	7.28	34.232	26.776	131.6	.586	.89	13.2	58.7	2.75	34.9	.00			331
1	388	6.90	6.86	34.270	26.863	124.0	.662	.59	8.7	66.1	2.98	36.6	.00			3 91
	400 ISL	6.81	6.77	34.273	26.878	122.8	.676	.56	8.2							403
1	451	6.43	6.39	34.281	26.935	117.8	.738	.47	6.8	72.7	3.06	38.2	.00			454
	500 ISL	6.10	6.05	34.299	26.992	112.7	.7 94	.38	5.4							504
1	519	5.98	5.93	34.308	27.014	110.7	.816	.34	4.9	80.6	3.14	39.7	.00			523

RV DAVID STARR JORDAN CALCOFI CRUISE 8605 STATION 93 50

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
32 10.7 N	118 53.7 W	10/05/86	1858 GMT	1502 M	300 15 KT	300 04 07	1	1014.9 MB	15.7 C	13.8 C	7/8	CU

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
1	0	15.29	15.29	33.596	24.828	311.2	.000	6.07	106.4	2.0	.35	.1	.02	.55	.11	0
1	10	14.04	14.04	33.354	24.908	303.8	.031	6.25	106.7	1.3	.37	.0	.01	.74	.21	10
	20 ISL	14.00	14.00	33.344	24.909	304.0	.061	6.19	105.6							20
1	21	14.00	13.99	33.343	24.909	304.1	.064	6.19	105.5	1.4	.42	.1	.02	1.09	.44	21
	30 ISL	13.93	13.92	33.347	24.927	302.5	.091	6.09	103.7							30
1	31	13.91	13.91	33.347	24.930	302.4	.094	6.08	103.5	2.2	.47	.4	.04	1.26	.67	31
1	41	13.57	13.56	33.358	25.010	295.0	.124	5.82	98.4	3.6	.56	1.8	.11	1.08	.53	41
	50 ISL	12.63	12.62	33.416	25.241	273.2	.150	5.25	87.0							50
1	52	12.41	12.40	33.433	25.296	268.0	.155	5.11	84.3	8.6	.90	7.6	.37	.54	.46	52
1	62	11.32	11.31	33.547	25.589	240.2	.180	4.28	69.1	13.8	1.24	13.9	.17	.19	.25	62
1	72	11.00	10.99	33.567	25.662	233.5	.204	4.14	66.3	14.9	1.32	15.3	.08	.21	.29	72
	75 ISL	10.87	10.86	33.575	25.692	230.7	.211	4.10	65.5							76
1	87	10.41	10.40	33.625	25.810	219.7	.237	3.89	61.6	17.6	1.48	17.8	.03	.11	.22	87
	100 ISL	9.97	9.96	33.741	25.976	204.2	.266	3.48	54.6							101
1	102	9.93	9.92	33.755	25.994	202.4	.26 9	3.43	53.8	22.4	1.66	20.8	.02	.05	.17	102
1	121	9.35	9.34	33.900	26.203	182.9	.307	2.88	44.6	28.8	1.92	24.4	.01	.01	.11	122
	125 ISL	9.28	9.27	33.914	26.225	180.9	.314	2.84	43.9							126
1	146	8.96	8.94	33.971	26.322	172.0	.351	2.70	41.5	33.4	2.04	26.2	.01	.02	.11	147
	150 ISL	8.89	8.87	33.982	26.341	170.3	.358	2.66	40.7							151
1	175	8.49	8.47	34.052	26.458	159.5	.399	2.34	35.6	37.8	2.21	28.2	.01			176
	200 ISL	8.21	8.19	34.107	26.544	151.8	.43 8	2.04	30.9							201
1	206	8.16	8.14	34.117	26.560	150.4	.447	1.98	29.9	42.9	2.36	30.0	.01			207
1	234	7.98	7.96	34.146	26.610	146.1	.488	1.73	26.0	46.2	2.47	31.2	.01			235
	250 ISL	7.85	7.83	34.158	26.638	143.6	.512	1.60	24.0							252
1	272	7.67	7.65	34.174	26.677	140.2	.543	1.42	21.2	51.5	2.60	32.6	.01			274
	300 ISL	7.49	7.46	34.201	26.725	136.1	.581	1.17	17.3							302
1	326	7.31	7.28	34.226	26.771	132.1	.616	.94	13.9	58.4	2.82	34.5	.00			328
1	385	6.79	6.76	34.271	26.878	122.5	.691	.60	8.8	67.8	2.99	36.7	.00			387
	400 ISL	6.67	6.64	34.278	26.900	120.6	.710	.54	7.9							403
1	449	6.34	6.30	34.298	26.959	115.4	.767	.42	6.1	75.4	3.09	38.4	.01			452
	500 ISL	6.07	6.03	34.322	27.014	110.6	.825	.33	4.7							504
1	520	5.98	5.94	34.333	27.034	109.0	.847	.30	4.3	82.4	3.17	39.4	.00			524

RV DAVID STARR JORDAN — CALCOFI CRUISE 8605 — STATION 93 55

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
32 00.7 N	119 14.0 W	10/05/86	2254 GMT	1636 M	330	16 KT	320 04 06	1	1013.9 MB	16.1 C	14.8 C	2/8	SC

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
1	0		14.91	14.91	33.305	24.687	324.6	.000	6.02	104.5	2.4	.38	.0	.00	.24	.06	0
	10	ISL	14.70	14.70	33.310	24.734	320.0	.03 2	6.07	104.9							10
1	11		14.66	14.66	33.310	24.743	319.6	.035	6.07	104.9	2.4	.39	.1	.02	.44	.09	11
1	19		14.24	14.23	33.333	24.852	309.5	.060	6.18	105.9	2.0	.39	.2	.02	.81	.27	19
	20	ISL	14.23	14.22	33.340	24.859	308.8	.064	6.18	105.8							20
1	30		14.13	14.13	33.367	24.899	305.3	.094	6.16	105.3	1.6	.43	.3	.03	1.42	.56	30
1	41		14.03	14.02	33.382	24.933	302.4	.127	6.06	103.4	2.2	.44	.5	.05	1.59	.73	41
	50	ISL	13.68	13.67	33.357	24.986	297.6	.155	5.86	99.3							50
1	51		13.63	13.62	33.354	24.993	296.8	.157	5.84	98.8	4.0	.55	1.7	.12	.89	.64	51
1	61		12.47	12.46	33.345	25.217	275.8	.186	5.43	89.7	6.0	.75	4.9	.22	.51	.48	61
1	70		11.60	11.60	33.439	25.453	253.4	.209	4.75	77.1	10.4	1.05	10.8	.16	.24	.29	70
	75	ISL	11.34	11.33	33.484	25.536	245.6	.223	4.53	73.0							76
1	85		11.03	11.02	33.554	25.646	235.3	.246	4.25	68.2	14.4	1.28	14.7	.03	.15	.27	85
1	100		10.43	10.42	33.663	25.836	217.5	.279	3.76	59.6	18.9	1.50	18.1	.01	.14	.43	100
1	119		9.76	9.74	33.780	26.043	198.2	.321	3.38	52.8	23.6	1.71	21.7	.00	.04	.11	120
	125	ISL	9.64	9.63	33.802	26.07 9	194.9	.332	3.32	51.7							126
1	145		9.31	9.30	33.864	26.181	185.4	.370	3.14	48.6	27.5	1.85	23.8	.00	.01	.06	146
	150	ISL	9.22	9.20	33.881	26.210	182.8	.379	3.10	47.8							151
1	174		8.74	8.72	33.959	26.347	170.2	.421	2.88	44.0	32.4	1.99	26.1	.00			175
	200	ISL	8.35	8.33	34.016	26.452	160.6	.464	2.69	40.7							201
1	202		8.32	8.30	34.019	26.458	160.0	.467	2.67	40.4	36.7	2.11	27.6	.00			203
1	233		7.92	7.90	34.072	26.561	150.6	.515	2.27	34.1	42.6	2.27	29.7	.00			234
	250	ISL	7.71	7.69	34.092	26.607	146.5	.541	2.05	30.6							252
1	272		7.46	7.44	34.111	26.658	142.0	.573	1.78	26.4	49.7	2.48	32.2	.00			274
	300	ISL	7.19	7.16	34.131	26.712	137.0	.612	1.49	22.0							302
1	326		6.97	6.94	34.149	26.757	133.1	.647	1.26	18.5	58.3	2.70	34.8	.00			328
1	384		6.68	6.64	34.194	26.833	126.6	.722	.88	12.8	64.5	2.87	36.5	.00			386
	400	ISL	6.56	6.53	34.200	26.853	124.9	.7 42	.81	11.7							403
1	449		6.25	6.21	34.221	26.910	119.9	.802	.63	9.1	71.9	2.99	38.1	.00			452
	500	ISL	6.10	6.05	34.266	26.967	115.2	.862	.45	6.5							504
1	519		6.08	6.03	34.288	26.987	113.5	.884	.39	5.6	78.2	3.10	39.2	.00			523

RV DAVID STARR JORDAN — CALCOFI CRUISE 8605 — STATION 93 60

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
31 50.6 N	119 34.4 W	11/05/86	0248 GMT	1859 M	330	14 KT	320 07 05	1	1013.9 MB	14.8 C	12.7 C	7/8	CU

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	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	33.425	24.763	317.3	.000	6.27	109.1							0
1	1		14.98	14.98	33.425	24.763	317.4	.003	6.27	109.1	1.1	.36	.0	.00	1.24	.27	1
	10	ISL	14.98	14.97	33.420	24.760	317.9	.03 2	6.25	108.8							10
1	11		14.98	14.97	33.419	24.760	318.0	.035	6.25	108.8	1.1	.35	.0	.00	1.20	.24	11
1	20		14.31	14.30	33.340	24.842	310.4	.063	6.16	105.7	1.9	.40	.3	.02	1.42	.30	20
	30	ISL	14.26	14.26	33.340	24.852	309.8	.094	6.13	105.1							30
1	31		14.26	14.25	33.340	24.853	309.7	.097	6.13	105.1	2.0	.41	.3	.03	1.17	.27	31
1	41		14.20	14.20	33.341	24.865	308.8	.128	6.09	104.3	2.1	.41	.4	.03	.93	.42	41
	50	ISL	13.97	13.97	33.426	24.979	298.3	.156	6.04	102.9							50
1	51		13.96	13.95	33.434	24.989	297.4	.158	6.03	102.8	2.9	.48	1.1	.07	.84	.56	51
1	60		13.93	13.93	33.442	24.999	296.5	.184	5.97	101.7	3.1	.49	1.2	.07	.78	.73	60
1	71		12.70	12.69	33.366	25.189	278.7	.216	5.53	91.8	5.8	.70	4.7	.16	.47	.50	71
	75	ISL	12.25	12.24	33.379	25.286	269.5	.228	5.27	86.7							76
1	85		11.44	11.43	33.440	25.483	250.8	.253	4.76	77.0	10.2	1.04	10.8	.17	.19	.29	85
1	100		10.99	10.97	33.487	25.603	239.8	.289	4.55	72.9	12.1	1.17	13.1	.07	.11	.24	100
1	120		10.41	10.40	33.686	25.858	215.8	.337	3.69	58.4	19.2	1.51	18.6	.02	.07	.19	121
	125	ISL	10.28	10.27	33.717	25.905	211.5	.347	3.59	56.7							126
1	144		9.74	9.73	33.816	26.073	195.8	.386	3.31	51.7	24.1	1.73	22.1	.01	.02	.09	145
	150	ISL	9.60	9.59	33.837	26.113	192.1	.397	3.23	50.2							151
1	173		9.06	9.05	33.908	26.256	178.9	.440	2.97	45.7	29.7	1.92	25.1	.01			174
	200	ISL	8.41	8.39	33.999	26.430	162.7	.486	2.90	44.0							201
1	204		8.32	8.30	34.010	26.451	160.7	.492	2.89	43.8	35.6	2.03	27.1	.00			205
1	233		7.95	7.93	34.036	26.528	153.8	.53 8	2.64	39.6	40.1	2.15	28.7	.00			23 4
	250	ISL	7.84	7.81	34.066	26.568	150.2	.564	2.37	35.5							252
1	272		7.72	7.69	34.108	26.619	145.7	.597	1.98	29.6	46.7	2.40	31.2	.00			274
	300	ISL	7.45	7.42	34.144	26.686	139.7	.636	1.56	23.2							302
1	326		7.18	7.15	34.173	26.746	134.3	.672	1.22	18.0	56.9	2.70	34.5	.00			328
1	384		6.80	6.76	34.236	26.849	125.1	.7 47	.71	10.4	65.3	2.91	36.7	.00			386
	400	ISL	6.72	6.68	34.250	26.872	123.2	.767	.63	9.2							403
1	448		6.45	6.41	3 4.27 8	26.93 0	118.2	.825	.47	6.8	71.8	3.04	38.1	.00			451
	500	ISL	6.03	5.99	34.296	26.998	112.1	.885	.35	5.1							504
1	516		5.88	5.84	34.298	27.019	110.2	.902	.33	4.7							519

RV DAVID STARR JORDAN CALCOFI CRUISE 8605 STATION 93 7 0

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
31 30.5 N	120 15.3 W	11/05/86	0813 GMT	4018 M	330	14 KT			1015.5 MB	14.2 C	12.1 C		

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0	ISL	15.64	15.64	33.202	24.446	347.6	.000	5.87	103.4							0
1	1		15.64	15.64	33.202	24.446	347.6	.003	5.87	103.4	2.4	.36	.0	.00	.13	.02	1
	10	ISL	15.65	15.65	33.202	24.445	348.0	.035	5.85	103.1							10
1	11		15.65	15.65	33.202	24.445	348.0	.038	5.85	103.1	2.5	.37	.0	.00	.12	.02	11
	20	ISL	15.65	15.65	33.201	24.444	348.4	.07 0	5.87	103.4							20
1	21		15.65	15.65	33.201	24.444	348.4	.073	5.87	103.4	2.4	.37	.0	.00	.12	.02	21
	30	ISL	15.62	15.62	33.203	24.452	347.9	.104	5.87	103.3							30
1	32		15.62	15.61	33.203	24.453	347.8	.111	5.87	103.3	2.4	.36	.0	.00	.13	.03	32
1	41		15.48	15.47	33.226	24.502	343.5	.142	5.92	103.9	2.4	.37	.0	.00	.15	.03	41
	50	ISL	15.19	15.18	33.239	24.576	336.7	.173	5.95	103.9							50
1	52		15.12	15.12	33.240	24.591	335.3	.179	5.96	103.9	2.4	.36	.0	.00	.19	.06	52
1	62		14.90	14.89	33.258	24.654	329.6	.212	6.02	104.5	2.4	.36	.0	.00	.22	.06	62
1	73		14.61	14.60	33.270	24.724	323.2	.248	6.06	104.6	2.6	.37	.0	.00	.29	.13	73
	75	ISL	14.46	14.45	33.267	24.755	320.3	.255	6.04	103.8							76
1	88		13.32	13.30	33.264	24.988	298.3	.294	5.91	99.3	3.4	.48	.9	.08	.42	.23	88
	100	ISL	12.04	12.02	33.317	25.27 9	270.8	.330	5.40	88.3							101
1	102		11.89	11.88	33.326	25.313	267.6	.334	5.33	86.9	6.2	.79	6.2	.22	.26	.24	102
1	121		11.32	11.31	33.399	25.474	252.6	.386	4.97	80.1	8.8	.99	9.9	.09	.17	.23	122
	125	ISL	11.18	11.16	33.420	25.517	248.6	.394	4.88	78.5							126
1	147		10.28	10.26	33.581	25.800	221.9	.447	4.25	67.0	15.8	1.37	16.7	.03	.10	.10	148
	150	ISL	10.20	10.18	33.602	25.830	219.1	.453	4.17	65.6							151
1	175		9.57	9.55	33.784	26.07 9	195.9	.505	3.42	53.2	24.0	1.74	22.0	.02			176
	200	ISL	9.10	9.07	33.928	26.267	178.4	.552	2.91	44.8							201
1	206		8.99	8.97	33.953	26.304	175.0	.562	2.84	43.6	30.9	1.97	25.6	.01			207
1	235		8.37	8.35	33.994	26.432	163.1	.611	3.01	45.6	34.2	1.98	26.5	.01			236
	250	ISL	8.17	8.14	34.015	26.480	158.7	.635	2.86	43.2							252
1	274		7.91	7.89	34.045	26.541	153.3	.672	2.51	37.7	40.8	2.20	29.1	.01			275
	300	ISL	7.63	7.60	34.076	26.607	147.3	.712	2.16	32.2							302
1	325		7.36	7.33	34.101	26.665	142.0	.7 48	1.84	27.3	50.1	2.47	32.5	.00			327
1	385		6.68	6.65	34.145	26.793	130.4	.829	1.25	18.2	61.9	2.77	36.1	.01			387
	400	ISL	6.57	6.54	34.153	26.814	128.5	.849	1.12	16.3							403
1	447		6.29	6.25	34.177	26.871	123.6	.909	.79	11.4	69.9	2.92	38.0	.00			450
	500	ISL	5.95	5.91	34.218	26.947	116.8	.972	.54	7.8							504
1	517		5.84	5.80	3 4.234	26.973	114.4	.991	.49	7.0	79.0	3.07	39.7	.00			520

RV DAVID STARR JORDAN CALCOFI CRUISE 8605' STATION 93 80

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
31 10.8 N	120 55.6 W	11/05/86	1348 GMT	3827 M	3 40	18 KT	340 06 05	1	1016.2 MB	13.7 C	11.0 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	15.64	15.64	33.199	24.444	347.7	.000	5.83	102.7							0
1	1		15.64	15.64	33.199	24.444	347.8	.003	5.83	102.7	2.4	.37	.0	.00	.10	.02	1
	10	ISL	15.64	15.64	33.189	24.436	348.8	.035	5.84	102.8							10
1	16		15.64	15.64	33.185	24.434	349.2	.056	5.84	102.8	2.5	.38	.0	.00	.10	.02	16
	20	ISL	15.64	15.64	33.185	24.434	349.3	.07 0	5.84	102.9							20
	30	ISL	15.64	15.63	33.185	24.435	349.6	.105	5.85	103.0							30
1	31		15.64	15.63	33.185	24.435	349.6	.108	5.85	103.0	2.4	.37	.0	.00	.11	.02	31
1	42		15.53	15.52	33.196	24.468	346.7	.146	5.84	102.6	2.4	.38	.0	.00	.16	.03	42
	50	ISL	15.28	15.27	33.184	24.513	342.7	.174	5.89	102.9							50
1	52		15.20	15.20	33.180	24.527	341.4	.180	5.90	103.0	2.6	.38	.0	.00	.18	.04	52
1	63		14.52	14.51	33.171	24.667	328.3	.217	5.99	103.1	2.7	.40	.0	.00	.20	.07	63
1	72		13.33	13.33	33.184	24.922	304.1	.245	6.06	101.8	2.9	.43	.0	.00	.25	.13	72
	75	ISL	13.11	13.10	33.206	24.985	298.2	.255	6.01	100.6							76
1	82		12.77	12.76	33.260	25.094	288.0	.275	5.84	97.0	3.5	.51	1.3	.05	.39	.42	82
1	97		11.79	11.78	33.361	25.359	263.1	.316	5.22	85.0	6.9	.83	7.2	.04	.26	.33	97
	100	ISL	11.68	11.67	33.377	25.392	260.0	.325	5.15	83.6							101
1	112		11.41	11.39	33.423	25.478	252.0	.354	4.96	80.1	8.9	.96	9.7	.03	.18	.24	112
	125	ISL	10.97	10.95	33.477	25.599	240.8	.387	4.67	74.7							126
1	126		10.92	10.90	33.484	25.613	239.4	.391	4.63	74.0	11.6	1.17	13.0	.04	.13	.18	127
	150	ISL	9.98	9.97	33.668	25.918	210.7	.444	3.87	60.8							151
1	151		9.93	9.91	33.680	25.936	209.0	.447	3.83	60.0	20.1	1.54	19.5	.01	.03	.06	152
1	175		9.12	9.10	33.868	26.217	182.6	.493	3.21	49.4	27.9	1.84	24.1	.01			176
	200	ISL	8.78	8.76	33.977	26.356	169.8	.537	2.80	42.8							201
1	204		8.75	8.72	33.988	26.369	168.6	.544	2.75	42.0	33.2	2.04	26.6	.00			205
1	233		8.35	8.33	34.037	26.469	159.6	.591	2.50	37.9	37.9	2.18	28.3	.01			23 4
	250	ISL	8.16	8.14	34.072	26.525	154.5	.618	2.27	34.2							252
1	272		7.94	7.91	34.111	26.589	148.7	.651	1.95	29.3	44.7	2.40	30.8	.00			273
	300	ISL	7.60	7.57	34.144	26.665	141.8	.6 92	1.58	23.6							302
1	325		7.31	7.28	34.164	26.722	136.6	.727	1.30	19.2	55.1	2.68	33.9	.00			327
1	384		6.82	6.78	34.199	26.818	128.1	.805	.87	12.7	63.3	2.87	36.4	.01			386
	400	ISL	6.71	6.67	34.210	26.841	126.1	.825	.79	11.5							403
1	449		6.41	6.37	34.240	26.905	120.6	.886	.59	8.6	70.9	3.02	38.0	.00			452
	500	ISL	6.04	5.99	34.266	26.974	114.4	.946	.43	6.2							504
1	521		5.87	5.83	34.274	27.001	111.9	.969	.38	5.4	80.5	3.13	39.9	.00			524

RV DAVID STARR JORDAN CALCOFI CRUISE 8605 STATION 93 90

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
30 50.5 N	121 35.8 W	11/05/86	2004 GMT	4094 M	330	16 KT	350 06 07	1	1019.1 MB	16.0 C	12.2 C	3/8	SC

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0	ISL	15.88	15.87	33.165	24.366	355.3	.000	5.80	102.6							0
1	2		15.88	15.87	33.165	24.366	355.3	.007	5.80	102.6	2.1	.37	.0	.00	.07	.01	2
	10	ISL	15.85	15.85	33.165	24.371	355.1	.036	5.81	102.7							10
1	16		15.83	15.83	33.165	24.375	354.7	.057	5.81	102.7	2.2	.39	.0	.00	.07	.01	16
	20	ISL	15.89	15.89	33.190	24.381	354.3	.07 1	5.81	102.8							20
	30	ISL	16.05	16.05	33.255	24.396	353.3	.106	5.81	103.2							30
1	32		16.08	16.08	33.268	24.399	353.0	.113	5.81	103.3	1.9	.35	.0	.00	.08	.01	32
1	41		16.12	16.11	33.293	24.410	352.2	.145	5.83	103.7	1.9	.34	.0	.00	.09	.01	41
	50	ISL	16.12	16.12	33.295	24.411	352.5	.177	5.81	103.4							50
1	52		16.12	16.12	33.295	24.411	352.5	.183	5.81	103.4	1.8	.34	.0	.00	.09	.01	52
1	62		16.02	16.01	33.281	24.424	351.6	.218	5.88	104.4	1.8	.34	.0	.00	.11	.03	62
1	72		15.94	15.93	33.298	24.456	348.9	.253	5.82	103.2	1.8	.34	.0	.00	.11	.03	72
	75	ISL	15.65	15.64	33.284	24.510	343.8	.265	5.85	103.0							76
1	82		14.90	14.89	33.255	24.651	330.4	.287	5.92	102.7	1.9	.35	.0	.00	.13	.05	82
1	97		13.49	13.47	33.274	24.962	301.1	.334	5.98	100.8	2.2	.41	.0	.00	.21	.16	97
	100	ISL	13.28	13.27	33.285	25.012	296.3	.344	5.94	99.8							101
1	112		12.79	12.77	33.328	25.143	284.2	.378	5.76	95.7	3.1	.51	1.6	.07	.31	.26	112
	125	ISL	12.47	12.45	33.356	25.227	276.4	.416	5.57	92.0							126
1	126		12.43	12.42	33.360	25.237	275.5	.420	5.55	91.6	3.9	.61	3.6	.06	.23	.25	127
	150	ISL	11.40	11.38	33.476	25.522	248.8	.481	5.03	81.3							151
1	151		11.32	11.30	33.483	25.540	247.0	.485	5.00	80.6	8.6	.94	10.0	.02	.12	.12	152
1	175		10.02	10.00	33.598	25.857	217.1	.540	4.51	70.8	15.0	1.27	15.6	.00			176
	200	ISL	9.16	9.14	33.799	26.157	188.9	.590	3.87	59.7							201
1	204		9.05	9.03	33.831	26.198	184.9	.598	3.77	58.0	24.8	1.66	21.9	.00			205
1	234		8.46	8.43	33.955	26.388	167.3	.650	3.22	48.9	32.1	1.91	25.7	.00			235
	250	ISL	8.19	8.16	33.982	26.451	161.5	.677	3.17	47.8							252
1	273		7.84	7.81	33.999	26.515	155.6	.713	3.13	46.9	37.7	2.01	27.3	.00			274
	300	ISL	7.47	7.44	34.024	26.588	149.0	.754	2.68	39.8							302
1	326		7.16	7.13	34.045	26.649	143.4	.7 93	2.16	31.8	49.9	2.42	32.2	.00			328
1	384		6.57	6.53	34.095	26.769	132.5	.872	1.41	20.5	61.0	2.72	35.8	.00			386
	400	ISL	6.42	6.38	34.104	26.7 96	130.1	.894	1.27	18.4							403
1	448		6.02	5.98	34.131	26.869	123.4	.955	.94	13.5	71.4	2.93	38.4	.00			451
	500	ISL	5.67	5.63	34.177	26.948	116.3	1.017	.66	9.4							504
1	519		5.57	5.53	34.196	26.976	113.8	1.038	.58	8.2	81.8	3.09	40.4	.00			522

RV DAVID STARR JORDAN CALCOFI CRUISE 8605 STATION 93 100

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
30 31.0 N	122 15.8 W	12/05/86	0141 GMT	4118 M	350	17 KT	330 06 05	1	1018.6 MB	16.0 C	12.3 C	7/8	SC

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0	ISL	17.11	17.11	33.611	24.423	349.6	.000	5.65	102.7							0
1	1		17.11	17.11	33.611	24.423	349.8	.003	5.65	102.7	1.9	.29	.0	.00	.05	.01	1
	10	ISL	17.11	17.11	33.600	24.414	350.9	.035	5.67	103.0							10
1	17		17.12	17.11	33.600	24.414	351.2	.059	5.67	103.1	2.0	.29	.0	.00	.05	.01	17
	20	ISL	17.12	17.11	33.603	24.417	351.0	.07 0	5.67	103.0							20
	30	ISL	17.11	17.10	33.613	24.427	350.4	.105	5.66	102.9							30
1	32		17.10	17.10	33.615	24.429	350.2	.112	5.66	102.9	2.0	.30	.0	.00	.05	.01	32
1	42		17.08	17.08	33.612	24.432	350.3	.147	5.67	103.0	2.0	.29	.0	.00	.05	.01	42
	50	ISL	17.09	17.09	33.614	24.431	350.6	.175	5.66	102.9							50
1	53		17.10	17.09	33.615	24.431	350.7	.185	5.66	102.8	1.9	.29	.0	.00	.06	.01	53
1	61		17.17	17.16	33.647	24.440	350.2	.213	5.65	102.8	1.9	.29	.0	.00	.07	.01	61
1	72		17.26	17.25	33.696	24.455	349.2	.251	5.68	103.6	2.0	.27	.0	.00	.08	.02	72
	75	ISL	17.26	17.25	33.708	24.465	348.3	.263	5.67	103.5							76
1	82		17.26	17.25	33.755	24.501	345.0	.286	5.67	103.4	2.0	.26	.0	.00	.10	.03	82
1	97		16.59	16.57	33.786	24.683	328.2	.336	5.79	104.2	2.1	.27	.0	.00	.13	.06	97
	100	ISL	16.17	16.16	33.752	24.752	321.6	.347	5.79	103.4							101
1	111		14.91	14.90	33.677	24.975	300.5	.3 80	5.80	100.9	2.7	.32	.0	.00	.24	.19	111
1	125		14.49	14.47	33.843	25.195	280.0	.423	5.51	95.2	3.1	.37	.9	.05	.26	.28	126
1	150		12.90	12.88	33.802	25.490	252.2	.490	5.06	84.5	6.6	.69	6.6	.01	.10	.15	151
1	175		11.27	11.24	33.709	25.727	229.9	.549	4.68	75.5	11.2	1.00	11.5	.00			176
	200	ISL	9.82	9.79	33.764	26.021	201.9	.603	3.91	61.1							201
1	205		9.57	9.55	33.788	26.082	196.2	.613	3.74	58.2	22.5	1.58	20.6	.00			206
1	234		8.70	8.68	33.956	26.352	170.9	.666	3.15	48.1	31.5	1.89	25.1	.00			235
	250	ISL	8.39	8.36	33.997	26.432	163.4	.6 93	2.94	44.5							252
1	274		8.05	8.02	34.025	26.505	156.7	.731	2.66	40.0	38.6	2.13	28.4	.00			275
	300	ISL	7.75	7.72	34.063	26.580	150.0	.771	2.26	33.7							302
1	328		7.49	7.46	34.100	26.646	144.0	.813	1.81	26.9	49.3	2.48	32.4	.00			330
1	387		7.07	7.03	34.180	26.769	133.0	.894	1.00	14.7	59.1	2.78	35.4	.00			389
	400	ISL	6.98	6.94	34.191	26.790	131.2	.911	.91	13.3							403
1	450		6.66	6.62	34.223	26.858	125.2	.976	.68	9.9	66.7	2.94	37.2	.00			453
	500	ISL	6.38	6.33	34.257	26.923	119.5	1.037	.49	7.1							504
1	519		6.27	6.23	34.269	26.946	117.5	1.059	.43	6.2	74.4	3.08	38.8	.00			522

RV DAVID STARR JORDAN CALCOFI CRUISE 8605 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 55.5 W	12/05/86	0727 GMT	3547 M	330	17 KT			1020.9 MB	15.7 C	11.8 C		

CAST	DEPTH		TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SIO3	PO4	NO3	NO2	CHL-A	PHAEO	PRESS
	M		DEG C	DEG C		THETA			ML/L	PCT	UM/L	UM/L	UM/L	UM/L	UG/L	UG/L	D.BAR
1	0		16.90	16.90	33.493	24.383	353.6	.000	5.69	102.9	1.9	.33	.0	.00	.08	.00	0
	10	ISL	16.90	16.90	33.493	24.382	354.0	.035	5.69	102.9							10
1	15		16.90	16.90	33.493	24.382	354.2	.053	5.69	102.9	1.8	.34	.0	.00	.07	.01	15
	20	ISL	16.91	16.90	33.492	24.381	354.4	.07 1	5.69	103.0							20
	30	ISL	16.91	16.90	33.492	24.381	354.8	.106	5.70	103.1							30
1	35		16.91	16.91	33.492	24.380	355.0	.124	5.70	103.1	1.8	.35	.0	.00	.07	.01	35
	50	ISL	16.91	16.91	33.497	24.384	355.1	.177	5.71	103.3							50
1	54		16.92	16.91	33.498	24.385	355.2	.191	5.71	103.3	1.9	.32	.0	.00	.08	.02	54
1	70		17.20	17.19	33.668	24.448	349.8	.247	5.66	103.1	1.9	.31	.0	.00	.08	.02	70
	75	ISL	17.19	17.18	33.671	24.453	349.4	.265	5.65	102.9							76
1	79		17.19	17.17	33.678	24.460	348.8	.278	5.65	102.9	1.8	.30	.0	.00	.10	.03	79
1	89		16.94	16.93	33.700	24.535	342.0	.313	5.70	103.3	1.8	.28	.0	.00	.11	.03	89
1	99		16.12	16.10	33.723	24.744	322.4	.346	5.74	102.3	2.2	.31	.0	.00	.15	.07	99
	100	ISL	16.01	16.00	33.726	24.770	319.9	.350	5.74	102.1							101
1	109		15.43	15.41	33.739	24.910	306.7	.377	5.74	101.0	2.4	.31	.0	.00	.20	.17	109
1	125		14.56	14.54	33.683	25.055	293.2	.425	5.69	98.3	2.7	.36	.3	.03	.26	.29	125
1	138		13.50	13.48	33.631	25.237	276.1	.464	5.45	92.1	4.0	.54	2.8	.09	.20	.31	139
	150	ISL	12.86	12.84	33.653	25.381	262.6	.496	5.20	86.8							151
1	158		12.41	12.39	33.669	25.483	253.0	.517	5.00	82.6	7.1	.78	7.4	.03	.10	.16	159
1	178		10.81	10.78	33.601	25.725	230.0	.565	4.45	71.0	13.4	1.21	14.2	.01			179
	200	ISL	9.64	9.62	33.737	26.030	201.0	.612	3.82	59.5							201
1	203		9.52	9.50	33.763	26.07 0	197.3	.618	3.74	58.1	22.6	1.62	21.0	.01			204
1	233		8.85	8.83	33.896	26.281	177.6	.674	3.27	50.1	29.1	1.84	24.7	.01			23 4
	250	ISL	8.52	8.50	33.947	26.372	169.1	.704	3.12	47.4							252
1	271		8.18	8.15	33.991	26.45 9	161.1	.738	2.97	44.8	35.8	2.01	27.2	.00			272
	300	ISL	7.78	7.75	34.025	26.545	153.2	.7 84	2.67	39.9							302
1	324		7.51	7.48	34.042	26.598	148.5	.821	2.39	35.5	45.5	2.26	30.7	.00			326
1	385		6.91	6.88	34.093	26.722	137.3	.907	1.61	23.6	56.1	2.59	34.5	.00			3 87
	400	ISL	6.76	6.73	34.110	26.755	134.3	.928	1.42	20.7							403
1	449		6.32	6.28	34.161	26.854	125.2	.992	.89	12.9	68.8	2.87	37.9	.00			45 2
	500	ISL	5.94	5.89	34.196	26.931	118.3	1.053	.63	9.0							504
1	521		5.81	5.76	34.206	26.955	116.1	1.078	.60	8.6	78.7	3.04	39.9	.00			524

RV DAVID STARR JORDAN CALCOFI CRUISE 8605 STATION 93 120

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
29 50.7 N	123 34.1 W	12/05/86	1257 GMT	4118 M	010	12 KT			1020.1 MB	14.7 C	11.5 C		

CAST	DEPTH		TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SIO3	PO4	NO3	NO2	CHL-A	PHAEO	PRESS
	M		DEG C	DEG C		THETA			ML/L	PCT	UM/L	UM/L	UM/L	UM/L	UG/L	UG/L	D.BAR
1	0		17.96	17.96	34.026	24.537	338.9	.000	5.53	102.4	2.0	.26	.0	.00	.08	.01	0
	10	ISL	17.96	17.96	34.026	24.538	339.2	.03 4	5.51	102.1							10
1	16		17.96	17.95	34.025	24.538	339.4	.054	5.51	102.0	2.0	.25	.0	.00	.08	.01	16
	20	ISL	17.96	17.96	34.025	24.537	339.6	.068	5.52	102.2							20
	30	ISL	17.97	17.97	34.025	. 24.535	3 40.1	.102	5.53	102.5							30
1	36		17.98	17.97	34.026	24.534	340.4	.122	5.54	102.6	2.0	.25	.0	.00	.07	.02	36
	50	ISL	17.98	17.97	34.027	24.535	3 40.9	.170	5.51	102.1							50
1	56		17.98	17.97	34.027	24.535	341.1	.190	5.50	101.9	1.9	.25	.0	.00	.07	.01	56
1	70		17.98	17.97	34.029	24.537	341.3	.237	5.51	102.1	1.9	.24	.0	.00	.07	.01	70
	75	ISL	17.99	17.98	34.029	24.535	3 41.7	.255	5.50	102.0							76
1	81		17.99	17.98	34.028	24.533	342.1	.275	5.50	101.9	1.9	.24	.0	.00	.07	.01	81
1	91		17.99	17.97	34.027	24.535	342.3	.309	5.52	102.3	1.8	.24	.0	.00	.07	.01	91
	100	ISL	17.98	17.96	34.028	24.538	342.3	.341	5.52	102.2							101
1	101		17.98	17.96	34.028	24.538	342.3	.3 43	5.52	102.3	1.8	.24	.0	.00	.08	.02	101
1	111		16.71	16.69	33.914	24.754	321.9	.376	5.62	101.5	2.0	.27	.0	.00	.16	.10	111
	125	ISL	15.13	15.11	33.774	25.002	298.4	.421	5.65	98.8							126
1	126		15.09	15.07	33.771	25.010	297.7	.422	5.65	98.7	2.5	.32	.0	.00	.16	.19	126
1	140		14.44	14.42	33.846	25.209	279.1	.465	5.40	93.2	3.3	.41	1.6	.08	.18	.22	141
	150	ISL	14.13	14.10	33.901	25.316	269.1	.491	5.21	89.4							151
1	158		13.84	13.82	33.932	25.400	261.3	.514	5.07	86.4	5.1	.57	4.6	.02	.12	.12	159
1	179		12.72	12.69	33.882	25.588	243.7	.566	4.96	82.6	6.5	.70	7.0	.01			180
	200	ISL	11.18	11.16	33.804	25.816	222.0	.615	4.68	75.4							201
1	203		10.96	10.94	33.796	25.850	218.8	.622	4.63	74.2	12.0	1.04	12.4	.01			204
1	233		9.84	9.81	33.831	26.071	198.0	.684	4.25	66.5	18.5	1.35	17.5	.00			234
	250	ISL	9.33	9.30	33.879	26.193	186.5	.717	4.02	62.2							252
1	272		8.78	8.76	33.942	26.329	173.8	.756	3.75	57.3	27.2	1.68	22.6	.00			273
	300	ISL	8.24	8.21	33.983	26.445	163.0	.803	3.52	53.2							302
1	324		7.86	7.83	34.004	26.517	156.4	.842	3.29	49.3	37.0	1.95	26.6	.00			326
1	384		7.05	7.01	34.045	26.665	142.7	.931	2.15	31.6	50.5	2.40	32.4	.00			386
	400	ISL	6.83	6.79	34.057	26.705	139.0	.954	1.89	27.6							403
1	447		6.23	6.19	34.094	26.813	129.0	1.017	1.27	18.3	65.1	2.78	37.1	.00			450
	500	ISL	5.74	5.70	34.128	26.902	120.7	1.083	.87	12.5							504
1	517		5.62	5.58	34.138	26.924	118.7	1.103	.81	11.5	77.4	3.00	39.7	.00			520

D. S. JORDAN — CALCOFI CRUISE 8605 — STATION 77 60

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER	SECCHI DEPTH	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
34 43.0 N	121 33.2 W	05/21/86	1927 GMT	10 M	1209 - 1934 PST	1203 PST	1930 PST	854.4 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 (MG C/M3) 1	2	MEAN	DARK
1	11.97	33.384	25.341	6.02	98.4	6.4	0.88	7.4	0.16	1.96	0.66	96	12.5	9.3	10.9	0.20
8	11.95	33.386	25.347	6.01	98.2	6.5	0.89	7.6	0.16	1.96	0.81	35	55.2	55.4	55.3	0.25
10	11.90	33.388	25.357	5.99	97.8	6.4	0.89	7.6	0.16	1.97	0.75	26	50.2	47.2	48.7	0.24
14	11.79	33.406	25.391	5.89	95.9	7.6	0.95	8.3	0.17	2.03	0.83	13	38.2	34.3	36.3	0.26
23	11.17	33.478	25.561	5.39	86.7	11.2	1.16	11.8	0.22	1.24	1.23	3.4	15.5	14.2	14.9	0.13
35	11.04	33.495	25.598	5.28	84.7	12.1	1.23	12.0	0.22	1.02	0.93	0.56	2.8	3.2	3.0	0.11

D. S. JORDAN — CALCOFI CRUISE 8605 — STATION 77 100

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER	SECCHI DEPTH	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
33 23.0 N	124 19.2 W	05/20/86	1851 GMT	24 M	1211 - 1942 PST	1231 PST	1940 PST	185.4 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 (MG C/M3) 1	2	MEAN	DARK
1	14.75	32.977	24.467	5.93	102.5	3.2	0.38	0.2	0.00	0.18	0.04	96	1.0	0.75	0.88	0.10
16	14.74	32.986	24.478	5.95	102.8	3.1	0.37	0.2	0.00	0.17	0.04	35	3.7	3.7	3.7	0.11
22	14.72	32.985	24.481	5.95	102.7	3.0	0.37	0.2	0.00	0.18	0.04	26	3.7	3.5	3.6	0.10
32	14.70	32.985	24.486	5.95	102.7	3.0	0.37	0.2	0.00	0.19	0.04	13	3.3	3.4	3.4	0.13
53	14.66	33.049	24.544	5.94	102.5	3.0	0.38	0.2	0.00	0.25	0.07	3.4	2.0	1.8	1.9	0.06
83	14.00	33.087	24.713	5.98	101.8	2.7	0.39	0.2	0.00	0.25	0.17	0.56	0.54	0.69	0.61	0.04

D. S. JORDAN — CALCOFI CRUISE 8605 — STATION 80 70

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER	SECCHI DEPTH	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
33 49.3 N	121 48.4 W	05/18/86	1901 GMT	18 M	1202 - 1936 PST	1205 PST	1932 PST	463.2 MG C/M2

DEPTH M	TEMP DEG C	SALINITY	SIGMA THETA	DISS O2 ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL UG/L	PHAEO UG/L	LIGHT %	UPTAKE (MG C/M3) 1	2	MEAN	DARK
1	13.30			6.06		2.7	0.55	1.7	0.07	0.41	0.15	96	6.1	6.3	6.2	0.19
13	13.28	33.206	24.948	6.06	101.7	2.7	0.55	1.6	0.07	0.40	0.17	35	18.4	18.0	18.2	0.22
17	13.27	33.205	24.949	6.06	101.7	2.7	0.55	1.7	0.07	0.38	0.13	26	16.5	15.1	15.8	0.15
25	13.17	33.252	25.007	6.06	101.5	2.7	0.56	2.1	0.08	0.37	0.15	13	7.6	9.3	8.4	0.15
41	13.20	33.310	25.046	6.07	101.8	2.7	0.60	2.2	0.09	0.32	0.15	3.4	3.4	4.6	4.0	0.14
62	12.40	33.344	25.229	5.90	97.3	3.6	0.75	4.2	0.14	0.21	0.16	0.56	0.33	0.55	0.44	0.11

D. S. JORDAN — CALCOFI CRUISE 8605 — STATION 80 110

LATITUDE	"LONGITUDE	MO/DAY/YR	MESSENGER	SECCHI DEPTH	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
32 29.0 N	124 36.0 W	05/19/86	1917 GMT	29 M	1209 - 1947 PST	1214 PST	1944 PST	103.7 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 (MG C/M3) 1	2	MEAN	DARK
2	15.61	33.176	24.433	5.82	102.4	2.5	0.36	0.2	0.00	0.06	0.01	96	0.65	0.76	0.71	0.08
21	15.55	33.177	24.448	5.81	102.1	2.5	0.36	0.2	0.00	0.07	0.01	35	1.6	1.6	1.6	0.10
26	15.54	33.177	24.450	5.81	102.1	2.4	0.36	0.2	0.00	0.07	0.01	26	1.5	1.5	1.5	0.10
40	15.52	33.182	24.458	5.81	102.1	2.4	0.36	0.1	0.00	0.07	0.01	13	1.2	1.3	1.3	0.11
65	15.46	33.172	24.466	5.83	102.3	2.5	0.36	0.1	0.00	0.12	0.02	3.4	0.91	1.0	0.98	0.11
100	12.51	33.285	25.164	5.73	94.7	4.0	0.56	2.0	0.11	0.43	0.30	0.56	0.36	0.47	0.42	0.07

D. S. JORDAN — CALCOFI CRUISE 8605 — STATION 83 40.6

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER	SECCHI	DEPTH	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
34 14.0 N	119 24.8 W	05/17/86	1851 GMT	22	M	1150 - 1927 PST	1154 PST	1927 PST	455.7 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 (MG C/M3) 1	2	MEAN	DARK
2	13.48	33.710	25.298	6.39	108.0	4.2	0.66	3.1	0.07	0.69	0.19	96	14.2	18.5	16.4	0.22
16	11.99	33.717	25.595	4.77	78.2	10.8	1.19	9.7	0.15	0.43	0.12	35	16.3	13.3	14.8	0.08
20	11.83	33.729	25.635	4.76	77.8	11.9	1.26	10.2	0.17	0.63	0.19	26	17.4	18.0	17.7	0.09
30	11.59	33.742	25.690	4.53	73.6	12.6	1.35	11.6	0.18	0.92	0.41	13	10.2	10.2	10.2	0.10

D. S. JORDAN — CALCOFI CRUISE 8605 — STATION 84 70

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER	SECCHI	DEPTH	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
33 05.1 N	121 21.3 W	05/16/86	1925 GMT	22	M	1207 - 1926 PST	1201 PST	1926 PST	254.8 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 (MG C/M3) 1	2	MEAN	DARK
2	14.95	33.184	24.584	5.92	102.8	2.5	0.38	0.0	0.00	0.18	0.05	96	0.82	0.60	0.71	0.16
16	14.95	33.183	24.583	5.93	103.0	2.5	0.38	0.0	0.00	0.19	0.04	35	4.1	4.1	4.1	0.14
20	14.91	33.182	24.591	5.92	102.7	2.4	0.38	0.0	0.00	0.18	0.05	26	3.7	4.4	4.0	0.15
30	14.89	33.181	24.596	5.93	102.9	2.3	0.39	0.0	0.00	0.19	0.06	13	3.9	3.8	3.8	0.15
49	12.62	33.215	25.086	5.82	96.4	4.7	0.60	2.8	0.28	0.72	0.52	3.4	5.0	5.5	5.3	0.12
76	11.04	33.422	25.542	4.64	74.4	12.4	1.17	12.9	0.05	0.20	0.25	0.56	0.49	0.46	0.48	0.06

D. S. JORDAN — CALCOFI CRUISE 8605 — STATION 87 40

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER	SECCHI	DEPTH	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
33 39.4 N	118 58.5 W	05/15/86	1813 GMT	9	M	1145 - 1922 PST	1152 PST	1919 PST	7 46.0 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 (MG C/M3) 1	2	MEAN	DARK
1	15.45	33.565	24.769	6.42	112.9	1.7	0.32	0.1	0.00	1.50	0.50	96	7.6	9.0	8.3	0.30
7	15.24	33.563	24.813	6.41	112.2	1.7	0.32	0.1	0.00	1.64	0.58	35	41.3	42.7	42.0	0.38
9	15.20	33.562	24.820	6.42	112.3	1.7	0.32	0.1	0.00	1.77	0.89	26	39.3	39.1	39.2	0.42
13	14.90	33.556	24.881	6.28	109.2	2.1	0.36	0.2	0.00	2.05	1.00	13	32.7	53.9	43.3	0.32
21	14.29	33.556	25.011	5.88	101.0	5.3	0.53	2.0	0.06	1.38	1.22	3.4	18.0	17.3	17.6	0.18
31	12.44	33.591	25.413	4.61	76.2	12.0	1.04	10.3	0.22	0.65	1.08	0.56	1.9	1.7	1.8	0.08

D. S. JORDAN — CALCOFI CRUISE 8605 — STATION 90 37

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER	SECCHI	DEPTH	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
33 11.1 N	118 23.2 W	05/14/86	1926 GMT	15	M	1156 - 1911 PST	1150 PST	1910 PST	833.6 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 (MG C/M3) 1	2	MEAN	DARK
1	16.69	33.511	24.445	6.05	109.0	1.4	0.23	0.0	0.00	0.35	0.06	96	7.8	7.7	7.8	0.18
11	16.65	33.510	24.453	6.06	109.1	1.2	0.22	0.0	0.00	0.36	0.06	35	11.4	11.2	11.3	0.22
14	15.94	33.487	24.598	6.13	108.8	1.2	0.24	0.0	0.00	0.38	0.08	26	8.0	11.3	9.7	0.22
21	14.75	33.465	24.845	6.55	113.5	0.7	0.25	0.0	0.00	1.04	0.23	13	24.1	18.0	21.1	0.27
34	13.12	33.479	25.193	5.63	94.3	5.1	0.60	2.6	0.12	3.41	1.09	3.4	30.0	27.7	28.8	0.25
52	11.18	33.632	25.679	3.78	60.8	15.4	1.37	16.3	0.06	0.44	0.37	0.56	0.68	0.62	0.65	0.05

D. S. JORDAN — CALCOFI CRUISE 8605 — STATION 90 80

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER	SECCHI DEPTH	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
31 45.2 N	121 19.2 W	05/13/86	1914 GMT	21 M	1157 - 1920 PST	1201 PST	1918 PST	81.0 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 (MG C/M3) 1	2	MEAN	DARK
2	15.43	33.146	24.451	5.87	102.9	2.2	0.38	0.0	0.00	0.14	0.02	96	1.1	1.2	1.1	0.10
15	15.44	33.145	24.447	5.88	103.1	2.3	0.38	0.0	0.00	0.14	0.03	35	2.1	1.6	1.9	0.12
19	15.42	33.144	24.452	5.87	102.9	2.4	0.38	0.0	0.00	0.14	0.02	26	2.0	1.5	1.8	0.09
29	15.41	33.143	24.453	5.88	103.0	2.3	0.38	0.0	0.00	0.15	0.03	13	1.7	1.4	1.5	0.10
47	15.46	33.164	24.459	5.86	102.8	2.4	0.36	0.0	0.00	0.18	0.04	3.4	0.87	0.93	0.90	0.10
72	15.35	33.163	24.484	5.88	102.9	2.3	0.38	0.0	0.00	0.27	0.07	0.56	0.19	0.21	0.20	0.04

D. S. JORDAN — CALCOFI CRUISE 8605 — STATION 90 120

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER	SECCHI DEPTH	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
30 25.0 N	124 00.1 W	05/12/86	1936 GMT	30 M	1212 - 1924 PST	1212 PST	1924 PST	62.2 MG C/M2

DEPTH M	TEMP DEG C	SALINITY	SIGMA THETA	DISS O2 ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL UG/L	PHAEO UG/L	LIGHT %	UPTAKE (MG C/M3) 1	2	MEAN	DARK
2	17.45	33.835	24.514	5.59	102.4	1.5	0.27	0.1	0.00	0.07	0.01	96	0.42	0.31	0.36	0.07
22	17.47	33.845	24.519	5.59	102.4	1.5	0.26	0.1	0.00	0.08	0.02	35	1.1	1.0	1.1	0.07
27	17.45	33.845	24.522	5.58	102.2	1.5	0.26	0.1	0.00	0.06	0.02	26	1.1	0.70	0.90	0.08
41	17.49	33.862	24.528	5.59	102.5	1.5	0.26	0.1	0.00	0.07	0.02	13	0.79	0.88	0.83	0.08
67	17.51	33.869	24.527	5.59	102.5	1.5	0.26	0.1	0.00	0.08	0.02	3.4	0.49	0.47	0.48	0.08
103	15.52	33.731	24.884	5.74	101.1	1.8	0.31	0.1	0.00	0.17	0.12	0.56	0.24	0.21	0.23	0.04

D. S. JORDAN — CALCOFI CRUISE 8605 — STATION 93 50

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER	SECCHI DEPTH	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
32 10.7 N	118 53.8 W	05/10/86	1928 GMT	14 M	1203 - 1910 PST	1152 PST	1910 PST	749.3 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 (MG C/M3) 1	2	MEAN	DARK
1	15.51	33.495	24.700	6.03	106.1	2.2	0.34	0.2	0.05	0.55	0.06	96	9.7	11.0	10.4	0.13
11	14.12	33.348	24.887	6.28	107.4	1.1	0.36	0.0	0.01	0.86	0.17	35	21.5	19.8	20.6	0.23
13	14.08	33.348	24.895	6.27	107.1	1.1	0.37	0.0	0.01	0.97	0.25	26	20.7	20.5	20.6	0.19
20	14.02	33.347	24.908	6.23	106.3	1.2	0.37	0.0	0.02	1.08	0.29	13	22.4	23.8	23.1	0.22
32	13.90	33.348	24.934	6.02	102.4	2.3	0.44	0.6	0.05	1.64	0.60	3.4	16.1	18.4	17.2	0.19
48	12.70	33.387	25.205	5.31	88.1	7.0	0.79	5.6	0.30	0.71	0.43	0.56	1.3	1.3	1.3	0.06

D. S. JORDAN — CALCOFI CRUISE 8605 — STATION 93 90

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER	SECCHI DEPTH	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
30 50.8 N	121 35.4 W	05/11/86	1937 GMT	35 M	1206 - 1925 PST	1202 PST	1926 PST	87.5 MG C/M2

DEPTH M	TEMP DEG C	SALINITY	SIGMA THETA	DISS O2 ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL UG/L	PHAEO UG/L	LIGHT %	UPTAKE (MG C/M3) 1	2	MEAN	DARK
2	15.89	33.163	24.361	5.80	102.6	2.7	0.37	0.2	0.00	0.07	0.01	96	0.39	0.27	0.33	0.08
25	15.83	33.165	24.375	5.80	102.5	2.3	0.38	0.0	0.00	0.08	0.01	35	1.4	1.0	1.2	0.12
32	16.06	33.251	24.392	5.78	102.7	2.2	0.35	0.0	0.00	0.09	0.01	26	1.0	1.1	1.1	0.13
48	16.13	33.293	24.407	5.77	102.7	2.0	0.34	0.0	0.00	0.11	0.01	13	0.81	1.0	0.91	0.14
79	15.54	33.306	24.551	5.83	102.5	2.0	0.34	0.0	0.00	0.13	0.04	3.4	0.72	0.57	0.64	0.11
120	12.65	33.336	25.177	5.66	93.8	3.6	0.55	2.4	0.08	0.29	0.26	0.56	0.40	0.38	0.39	0.04

Secchi Disk Observations

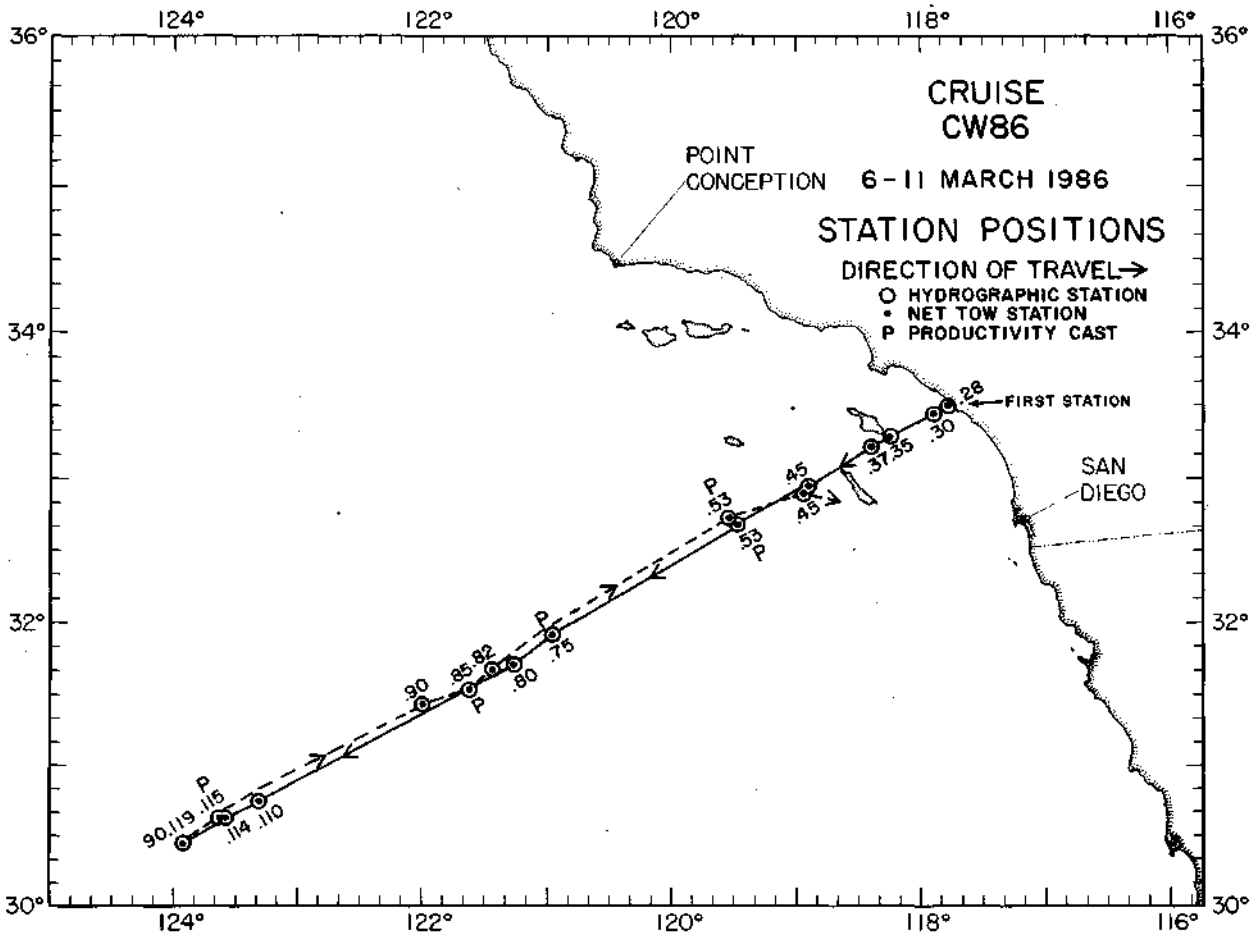
CalCOFI Cruise 8605

Line	Sta.	Day	Mo	Local Time (+8: PST)	Secchi Depth (m)	Weather	Clouds Type/Amt
77	55	21	5	1340	7	1	CS 4/8
77	60	21	5	1110	10	1	CS 5/8
77	90	20	5	1454	25	1	ST 1/8
77	100	20	5	1035	24	2	ST 8/8
80	51	17	5	1830	8	1	ST 3/8
80	70	18	5	1045	18	2	ST 8/8
80	80	18	5	1540	37	1	ST 3/8
80	110	19	5	1106	29	1	CU 2/8
80	120	19	5	1525	36	1	SC 7/8
82	47	17	5	1410	3	4	ST 8/8
83	40.6	17	5	1035	22	4	ST 8/8
83	42	17	5	0708	8	4	ST 8/8
83	60	16	5	1629	19	1	ST 2/8
83	70	16	5	1318	14	1	ST 3/8
84	70	16	5	1110	22	1	ST 3/8
87	35	15	5	0620	11	2	ST 8/8
87	40	15	5	0955	9	2	ST 8/8
87	45	15	5	1235	7	1	ST 5/8
87	50	15	5	1415	13	0	- 0
87	70	16	5	0650	18	2	ST 8/8
90	30	14	5	1715	11	1	ST 4/8
90	35	14	5	1359	19	2	ST 8/8
90	37	14	5	1115	15	2	ST 8/8
90	70	13	5	1550	24	2	ST 8/8
90	80	13	5	1100	21	2	ST 8/8
90	90	13	5	0600	28	.	- 0
90	110	12	5	1650	30	2	ST 8/8
90	120	12	5	1125	30	1	SC 7/8
93	26	9	5	1434	5	-	- -
93	26.7	9	5	1515	7	0	- 0
93	29	9	5	1705	11	0	- 0
93	45	10	5	0735	12	1	CU 6/8
93	50	10	5	1110	14	1	CU 7/8
93	55	10	5	1428	17	1	SC 2/8
93	60	10	5	1818	11	1	CU 7/8
93	80	11	5	0515	26	1	SC 5/8
93	90	11	5	1119	35	1	SC 3/8
93	100	11	5	1705	31	1	SC 7/8
93	120	12	5	0615	34	-	- -

CalCOFI Cruise 8605

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 Total (cm)	Volume per 1000 m Strained Small (cm)
77	55	34 53.3N	121 11.9W	5/21	2220	2242	392	215	525	525
77	60	34 43.3N	121 32.9W	5/21	1820	1842	412	223	301	301
77	70	34 23.3N	122 14.9W	5/21	1115	1137	425	196	497	497
77	80	34 03.3N	122 56.5W	5/21	0608	0630	410	217	61	61
77	90	33 43.3N	123 38.0W	5/21	0100	0122	422	210	36	36
77	100	33 23.3N	124 19.4W	5/20	1655	1717	395	213	89	89
77	110	33 03.4N	125 00.5W	5/20	1135	1157	415	210	48	48
77	120	32 43.3N	125 41.6W	5/20	0557	0619	415	214	58	58
80	51	34 27.0N	120 31.4W	5/18	0315	0322	130	65	425	425
80	55	34 19.0N	120 48.2W	5/18	0715	0737	400	207	470	470
80	60	34 09.0N	121 09.0W	5/18	1045	1107	400	212	463	463
80	70	33 49.0N	121 50.6W	5/18	1725	1747	382	214	196	196
80	80	33 29.0N	122 32.0W	5/19	0045	0108	423	227	33	33
80	90	33 09.0N	123 13.3W	5/19	0618	0640	411	220	95	95
80	100	32 49.0N	123 54.4W	5/19	1155	1217	417	213	36	36
80	110	32 29.0N	124 35.3W	5/19	1710	1732	420	212	36	36
80	120	32 09.0N	125 16.1W	5/20	0031	0053	409	209	49	49
82	47	34 17.0N	120 02.1W	5/17	2326	2348	393	209	417	417
83	40.6	34 13.5N	119 24.7W	5/17	1800	1804	57	27	647	647
83	42	34 10.7N	119 30.5W	5/17	1535	1546	164	96	610	610
83	51	33 52.7N	120 08.0W	5/17	1020	1030	183	92	252	252
83	55	33 44.7N	120 24.7W	5/17	0715	0737	422	207	211	211
83	60	33 34.7N	120 45.4W	5/17	0329	0351	402	213	154	154
83	70	33 14.7N	121 26.6W	5/16	2155	2217	438	212	91	91
87	33	33 53.4N	118 29.4W	5/15	1145	1152	110	57	1002	1002
87	35	33 49.4N	118 37.7W	5/15	1350	1412	382	208	259	259
87	40	33 39.3N	118 58.5W	5/15	1715	1737	396	212	235	235
87	45	33 29.4N	119 19.1W	5/15	2133	2155	411	214	197	197
87	50	33 19.4N	119 39.8W	5/16	0055	0103	138	65	348	348
87	55	33 09.4N	120 00.4W	5/16	0412	0435	419	223	167	167
87	60	32 59.3N	120 21.0W	5/16	0753	0815	427	211	237	237
87	70	32 39.5N	121 02.0W	5/16	1355	1417	442	212	45	45
90	28	33 29.1N	117 46.1W	5/15	0606	0616	167	83	539	539
90	30	33 25.1N	117 54.4W	5/15	0223	0245	375	206	278	278
90	35	33 15.1N	118 15.0W	5/14	2251	2313	397	208	116	116
90	37	33 11.2N	118 23.1W	5/14	2025	2047	397	210	128	128
90	45	32 55.2N	118 56.0W	5/14	1556	1618	407	211	111	111
90	53	32 39.0N	119 28.9W	5/14	1105	1127	404	205	109	109
90	60	32 25.1N	119 57.7W	5/14	0641	0703	417	216	163	163
90	70	32 05.1N	120 38.3W	5/14	0110	0132	399	209	55	55
90	80	31 45.1N	121 19.1W	5/13	1925	1947	414	213	36	36
90	90	31 25.1N	121 59.4W	5/13	1330	1352	412	208	27	27
90	100	31 05.1N	122 39.4W	5/13	0748	0810	426	214	33	33
90	110	30 45.1N	123 19.9W	5/13	0203	0225	407	210	32	32
90	120	30 25.1N	123 59.9W	5/12	2000	2022	434	209	21	21
93	26.7	32 57.4N	117 18.3W	5/9	2357	0006	149	77	302	302
93	29	32 52.8N	117 27.8W	5/10	0226	0248	402	203	119	119
93	30	32 50.8N	117 31.9W	5/10	0440	0502	387	214	163	163
93	35	32 40.8N	117 52.4W	5/10	0831	0853	391	210	171	171
93	40	32 30.8N	118 12.9W	5/10	1215	1237	391	210	123	123
93	45	32 20.8N	118 33.3W	5/10	1600	1622	377	214	130	130
93	50	32 10.8N	118 53.6W	5/10	1949	2011	378	212	132	132
93	55	32 00.8N	119 14.0W	5/10	2334	2356	391	208	141	141
93	60	31 50.8N	119 34.2W	5/11	0327	0349	393	220	130	130
93	70	31 30.8N	120 14.9W	5/11	0855	0917	418	203	134	134
93	80	31 10.7N	120 55.3W	5/11	1425	1447	398	214	45	45
93	90	30 50.8N	121 35.4W	5/11	2039	2101	416	211	31	31
93	100	30 30.9N	122 15.4W	5/12	0229	0251	426	209	21	21
93	110	30 10.8N	122 55.7W	5/12	0810	0832	435	217	30	30
93	120	29 50.4N	123 33.4W	5/12	1340	1402	417	207	24	24


CRUISE
CW86
6-11 MARCH 1986
STATION POSITIONS
DIRECTION OF TRAVEL→
O HYDROGRAPHIC STATION
• NET TOW STATION
P PRODUCTIVITY CAST
POINT
CONCEPTION
SAN
DIEGO
FIRST STATION
124°
122°
120°
118°
116°
36°
34°
32°
30°

PERSONNEL

Cruise CW86

SHIP'S CAPTAIN

Munsch, Phillip L., RV *New Horizon*

PERSONNEL PARTICIPATING IN THE COLLECTION OF DATA

Hayward, Thomas L. (Chief Scientist)	Asst. Research Oceanographer, SIO
Boaz, John T.	Marine Techinician, SIO
Bryan, Walter R.	Marine Technician, SIO
Cummings, Sherry L.	Staff Research Associate, SIO
Hester, Arthur W.	Staff Research Associate, SIO
Hood, Raleigh R.	Graduate Student, SIO
Plummer, Kenneth M.	Staff Research Associate, SIO
Sweet, Paul R.	Staff Research Associate, SIO
Venrick, Elizabeth L.	Assoc. Research Oceanographer, SIO

RV NEW HORIZON CRUISE CW86 STATION 90 28

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
33 28.5 N	117 47.2 W	06/03/86	2259 GMT	426 M	190	04 KT	250 02 04	2	1020.8 MB	16.0 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
1	0	15.62	15.62	33.290	24.520	340.5	.000	6.38	112.4	1.9	.28	.0		1.13	.51	0
1	10	14.99	14.99	33.336	24.692	324.4	.033	5.93	103.2	2.8	.40	.0		1.41	.75	10
	20 ISL	13.93	13.93	33.408	24.972	298.0	.064	5.35	91.1							20
1	26	13.33	13.32	33.449	25.127	283.3	.081	5.05	85.0	6.5	.81	2.0		.43	.36	26
	30 ISL	13.09	13.08	33.460	25.184	278.1	.093	4.94	82.8							30
1	36	12.80	12.80	33.469	25.248	272.2	.109	4.83	80.4	8.0	.93	4.8		.28	.29	36
1	46	12.25	12.25	33.504	25.381	259.7	.136	4.62	76.0	9.5	1.03	7.6		.20	.27	46
	50 ISL	12.10	12.09	33.519	25.422	255.9	.146	4.53	74.3							50
1	63	11.72	11.71	33.564	25.529	246.0	.178	4.26	69.3	12.5	1.21	11.2		.18	.24	63
	75 ISL	11.30	11.29	33.618	25.647	235.0	.208	3.99	64.4							76
1	78	11.21	11.20	33.631	25.674	232.5	.214	3.93	63.3	15.7	1.35	14.4		.12	.18	78
	100 ISL	10.35	10.34	33.786	25.947	207.0	.263	3.29	52.1							101
1	102	10.25	10.24	33.807	25.981	203.8	.268	3.21	50.7	23.0	1.71	21.2		.06	.06	103

RV NEW HORIZON CRUISE CW86 STATION 90 30

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
33 24.8 N	117 53.7 w	07/03/86	0128 GMT	620 M	210	06 KT	260 02 04	2	1019.5 MB	15.0 C	13.5 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
1	0	15.42	15.42	33.308	24.577	335.1	.000	6.25	109.7	.9	.27	.0		.64	.25	0
1	10	15.34	15.34	33.305	24.593	333.9	.033	6.27	109.8	.9	.28	.0		.79	.31	10
	20 ISL	14.82	14.82	33.356	24.745	319.7	.066	6.09	105.7							20
1	21	14.75	14.75	33.363	24.766	317.7	.069	6.06	104.9	1.4	.32	.0		.92	.41	21
	30 ISL	13.66	13.66	33.435	25.049	291.0	.097	5.41	91.6							30
1	32	13.43	13.43	33.448	25.106	285.6	.102	5.27	88.9	4.8	.66	1.4		.64	.50	32
1	42	12.69	12.68	33.458	25.261	271.0	.130	4.96	82.4	6.8	.85	5.0		.34	.38	42
	50 ISL	12.08	12.07	33.528	25.433	254.9	.151	4.40	72.2							50
1	52	11.97	11.96	33.543	25.465	251.8	.156	4.29	70.2	11.6	1.21	11.2		.18	.23	52
1	64	11.73	11.72	33.564	25.527	246.3	.185	4.21	68.5	12.3	1.23	12.2		.16	.24	64
1	73	11.36	11.35	33.619	25.638	235.8	.207	4.04	65.3	14.6	1.32	14.2		.14	.20	73
	75 ISL	11.30	11.29	33.628	25.656	234.2	.213	4.00	64.5							76
1	90	11.02	11.01	33.673	25.742	226.3	.246	3.73'	59.8	17.0	1.46	16.5		.11	.14	90
	100 ISL	10.79	10.78	33.724	25.822	219.0	.269	3.56	56.9							101
1	103	10.72	10.70	33.742	25.849	216.4	.277	3.51	56.0	19.1	1.56	18.4		.13	.10	104
1	124	10.17	10.15	33.842	26.022	200.4	.320	3.15	49.7	23.4	1.76	22.1		.03	.05	125
	125 ISL	10.16	10.14	33.845	26.026	200.0	.322	3.14	49.5							126
1	149	9.78	9.77	33.959	26.178	186.0	.368	2.78	43.5	27.7	1.94	25.2		.02	.04	150
	150 ISL	9.77	9.76	33.962	26.183	185.6	.370	2.77	43.3							**151**
1	181	9.41	9.39	34.062	26.322	173.0	.426	2.39	37.1	32.5	2.13	27.8				**182**
	200 ISL	9.30	9.28	34.129	26.392	166.6	.458	2.15	33.3							**201**
1	211	9.26	9.24	34.167	26.427	163.5	.476	2.00	31.0	36.9	2.28	29.5				**212**
1	242	9.26	9.24	34.260	26.501	157.2	.525	1.49	23.1	39.3	2.53	31.0				**243**
	250 ISL	9.11	9.09	34.255	26.521	155.4	.538	1.50	23.1							**252**
1	281	8.44	8.41	34.212	26.593	148.8	.586	1.53	23.3	44.3	2.51	32.5				**283**
	300 ISL	8.24	8.21	34.218	26.629	145.7	.613	1.43	21.6							**302**
1	342	7.93	7.90	34.247	26.698	139.7	.673	1.13	17.0	52.1	2.70	35.1				**344**
	400 ISL	7.31	7.27	34.234	26.778	132.6	.752	.94	13.9							**403**
1	418	7.12	7.08	34.230	26.801	130.5	.776	.89	13.1	61.0	2.87	38.1				**421**
1	496	6.65	6.60	34.287	26.911	120.9	.873	.50	7.3	70.8	3.06	40.5				**499**
	500 ISL	6.62	6.57	34.290	26.917	120.4	.879	.48	7.1							**504**
1	575	6.15	6.10	34.335	27.014	111.8	.966	.30	4.3	80.6	3.20	41.8				**579**

RV NEW HORIZON CRUISE CW86 STATION 90 35

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
33 15.1 N	118 15.3 W	07/03/86	0506 GMT	435 M	230	04 KT			1019.0 MB	15.2 C	13.8 C		

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0 ISL	15.97	15.97	33.432	24.549	338.1	.000	5.93	105.3							0
1	1	15.97	15.97	33.432	24.549	337.8	.003	5.93	105.3	1.5	.31	.0	.00	.34	.07	1
1	10	15.84	15.84	33.455	24.597	333.4	.033	5.92	104.8	1.6	.32	.0	.00	.28	.07	10
	20 ISL	15.59	15.59	33.462	24.657	327.5	.067	5.97	105.2							20
	30 ISL	15.00	14.99	33.468	24.794	315.3	.099	6.02	104.8							30
1	31	14.93	14.92	33.469	24.809	313.9	.102	6.02	104.7	1.7	.33	.0	.00	.48	.19	31
1	46	12.89	12.88	33.470	25.232	273.9	.145	5.30	88.4	5.5	.72	4.2	.32	.73	.72	46
	50 ISL	12.62	12.61	33.481	25.294	268.2	.157	5.13	85.0							50
1	62	12.14	12.13	33.521	25.417	256.7	.188	4.69	77.0	9.5	.99	9.2	.15	.42	.51	62
	75 ISL	11.53	11.53	33.583	25.578	241.7	.221	4.25	68.9							76
1	77	11.46	11.45	33.592	25.598	239.8	.225	4.20	68.0	13.2	1.23	13.5	.02	.14	.27	77
1	93	10.82	10.81	33.682	25.783	222.4	.261	3.83	61.2	17.2	1.43	17.0	.01	.06	.16	93
	100 ISL	10.57	10.56	33.730	25.865	214.8	.278	3.63	57.7							101
1	113	10.22	10.20	33.817	25.994	202.8	.306	3.28	51.8	22.6	1.70	20.8	.00	.01	.08	**114**
	125 ISL	10.06	10.04	33.886	26.075	195.3	.329	3.04	47.8							126
1	138	9.93	9.91	33.957	26.152	188.3	.354	2.80	43.9	26.9	1.92	23.7	.00	.01	.04	139
	150 ISL	9.75	9.73	34.007	26.222	181.9	.376	2.61	40.8							151
1	169	9.47	9.45	34.074	26.320	172.9	.410	2.34	36.4	32.2	2.14	26.4	.00	.00	.03	170
	200 ISL	9.23	9.21	34.159	26.426	163.5	.462	1.98	30.6							201
1	205	9.20	9.18	34.167	26.438	162.4	.470	1.94	30.0	36.6	2.31	28.4	.00	.00	.03	206
1	242	8.79	8.77	34.174	26.509	156.2	.528	1.86	28.5	39.8	2.38	29.5	.00	.00	.03	243
	250 ISL	8.66	8.63	34.177	26.532	154.1	.541	1.80	27.6							252
1	282	8.14	8.11	34.190	26.621	146.0	.590	1.55	23.4	47.0	2.55	31.8	.01			284
	300 ISL	7.94	7.90	34.197	26.657	142.7	.615	1.42	21.4							**302**
1	329	7.65	7.62	34.207	26.707	138.4	.656	1.23	18.4	53.5	2.71	33.9	.00			**331**
1	369	7.31	7.28	34.218	26.764	133.4	.710	1.00	14.8	58.5	2.83	35.4	.00			**371**

RV NEW HORIZON CRUISE CW86 STATION 90 37

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
33 11.0 N	118 22.9 W	07/03/86	0733 GMT	1174 M	280	05 KT			1019.2 MB	14.6 C	13.3 C		

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0	ISL	15.85	15.85	33.461	24.599	333.7	.000	5.88	104.2							0
1	2		15.85	15.85	33.461	24.599	333.0	.007	5.88	104.2	2.1	.32	.0	.00	.26	.14	2
	10	ISL	15.76	15.76	33.472	24.627	330.6	.033	5.93	104.9							10
1	12		15.74	15.74	33.473	24.634	330.1	.040	5.94	105.0	2.2	.32	.0	.00	.24	.06	12
	20	ISL	15.63	15.63	33.470	24.656	328.2	.066	5.95	104.9							20
1	23		15.59	15.59	33.469	24.664	327.5	.07 6	5.95	104.9	2.2	.33	.0	.00	.28	.09	23
	30	ISL	14.61	14.60	33.466	24.876	307.7	.098	5.97	103.2							30
1	33		14.14	14.14	33.465	24.973	298.3	.107	5.98	102.3	3.0	.40	.0	.03	.82	.42	33
1	44		12.94	12.93	33.474	25.225	274.5	.138	5.34	89.1	5.9	.72	3.8	.32	.66	.42	44
	50	ISL	12.50	12.50	33.484	25.317	265.9	.155	5.01	82.9							50
1	54		12.30	12.29	33.493	25.364	261.5	.165	4.83	79.6	8.8	.94	8.1	.19	.45	.49	54
1	64		11.63	11.83	33.545	25.492	249.5	.190	4.49	73.3	11.4	1.11	11.1	.05	.20	.28	64
1	75		11.37	11.36	33.601	25.622	237.4	.217	4.15	67.1	14.2	1.27	13.9	.02	.14	.28	75
1	90		10.86	10.85	33.682	25.776	223.1	.251	3.77	60.3	17.8	1.47	17.2	.02	.07	.16	90
	100	ISL	10.45	10.44	33.765	25.914	210.2	.27 4	3.46	54.8							101
1	105		10.24	10.23	33.807	25.982	203.8	.285	3.31	52.3	22.9	1.70	20.9	.01	.02	.07	106
1	125		9.81	9.79	33.876	26.109	192.1	.325	3.11	48.7	26.3	1.82	22.9	.01	.01	.05	126
	150	ISL	9.48	9.46	33.949	26.220	181.9	.371	2.91	45.2							151
1	151		9.47	9.45	33.952	26.225	181.5	.373	2.90	45.0	29.4	1.94	24.8	.01	.00	.03	152
1	182		9.02	9.00	34.050	26.374	167.9	.427	2.53	38.9	34.6	2.13	27.3	.00			**183**
	200	ISL	8.84	8.81	34.085	26.431	162.7	.456	2.37	36.3							**201**
1	213		8.75	8.73	34.112	26.466	159.7	.477	2.23	34.1	38.6	2.25	28.9	.00			**214**
1	243		8.79	8.77	34.217	26.542	153.1	.524	1.62	24.8	42.7	2.48	30.5	.00			**244**
	250	ISL	8.73	8.71	34.230	26.562	151.3	.535	1.52	23.3							**252**
1	283		8.31	8.28	34.254	26.647	143.7	.584	1.22	18.5	48.8	2.66	32.5	.00			**285**
	300	ISL	8.04	8.01	34.249	26.683	140.4	.608	1.14	17.2							**302**
1	345		7.35	7.32	34.225	26.764	133.1	.669	1.01	15.0	58.6	2.81	35.6	.00			**347**
	400	ISL	6.95	6.91	34.243	26.835	126.9	.7 41	.78	11.4							**403**
1	422		6.84	6.80	34.256	26.860	124.8	.769	.68	10.0	66.6	2.99	37.8	.00			**425**
1	500		6.35	6.31	34.303	26.963	115.8	.862	.40	5.8	74.8	3.13	39.7	.00			**503**
1	578		5.91	5.86	34.341	27.050	108.1	.949	.28	4.0	83.0	3.23	41.3	.00			**582**

RV NEW HORIZON CRUISE CW86 STATION 90 45

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
32 54.5 N	118 55.6 W	07/03/86	1250 GMT	1690 M	310	12 KT			1019.0 MB	14.3 C	12.8 C		

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0	ISL	15.26	15.26	33.448	24.719	321.5	.000	5.92	103.6							0
1	1		15.26	15.26	33.448	24.719	321.6	.003	5.92	103.6	1.4	.33	.0	.00	.20	.06	1
1	10		15.25	15.25	33.446	24.719	321.8	.032	5.95	104.1	1.4	.33	.0	.00	.19	.07	10
	20	ISL	14.77	14.77	33.440	24.820	312.5	.064	6.08	105.5							20
1	22		14.65	14.65	33.439	24.846	310.1	.07 0	6.11	105.6	1.4	.33	.0	.00	.23	.09	22
	30	ISL	14.23	14.23	33.447	24.940	301.3	.095	6.13	105.1							30
1	33		14.05	14.04	33.449	24.980	297.6	.103	6.14	104.9	1.8	.36	.0	.00	.44	.25	33
1	43		13.05	13.04	33.433	25.171	279.7	.132	5.52	92.3	5.2	.63	3.4	.29	.50	.49	43
	50	ISL	12.16	12.16	33.455	25.360	261.8	.151	5.01	82.2							50
1	53		11.86	11.85	33.470	25.43 0	255.2	.158	4.82	78.6	9.6	1.00	9.7	.12	.24	.39	53
1	64		11.33	11.32	33.559	25.596	239.6	.186	4.32	69.7	13.1	1.22	13.6	.03	.17	.23	64
1	74		11.12	11.11	33.611	25.674	232.4	.209	4.09	65.7	15.1	1.32	15.1	.02	.12	.23	74
	75	ISL	11.09	11.08	33.617	25.685	231.4	.212	4.06	65.3							76
1	90		10.69	10.68	33.678	25.803	220.5	.245	3.80	60.5	18.1	1.48	17.6	.01	.05	.12	90
	100	ISL	10.40	10.39	33.720	25.886	212.8	.26 8	3.63	57.4							101
1	105		10.25	10.24	33.745	25.931	208.6	.27 9	3.54	55.9	21.3	1.62	19.8	.01	.02	.06	106
1	125		9.72	9.70	33.880	26.128	190.2	.319	3.26	50.9	26.8	1.85	23.1	.00	.01	.04	126
	150	ISL	9.28	9.27	33.947	26.251	178.9	.364	3.10	47.9							151
1	151		9.26	9.25	33.949	26.256	178.5	.366	3.09	47.8	30.3	1.98	25.2	.00	.00	.04	152
1	182		8.79	8.77	34.044	26.406	164.7	.419	2.69	41.2	35.6	2.15	27.5	.00			183
	200	ISL	8.65	8.63	34.083	26.459	160.0	.449	2.38	36.4							201
1	213		8.56	8.54	34.105	26.490	157.3	.46 9	2.17	33.1	39.3	2.30	29.1	.00			**214**
1	244		8.18	8.15	34.148	26.582	149.0	.516	1.81	27.3	44.5	2.46	30.8	.00			**245**
	250	ISL	8.13	8.10	34.158	26.598	147.6	.526	1.73	26.0							**252**
1	284		7.89	7.86	34.204	26.670	141.2	.575	1.31	19.7	50.6	2.66	32.8	.00			**286**
	300	ISL	7.76	7.73	34.217	26.699	138.7	.597	1.18	17.7							**302**
1	346		7.41	7.38	34.242	26.769	132.6	.659	.92	13.7	58.1	2.85	35.0	.00			**348**
	400	ISL	7.10	7.06	34.261	26.829	127.6	.730	.70	10.3							**403**
1	422		6.97	6.93	34.268	26.853	125.6	.758	.63	9.3	65.8	2.99	36.9	.00			**425**
1	500		6.35	6.31	34.304	26.963	115.7	.851	.41	5.9	75.6	3.15	39.1	.00			**503**
1	578		5.93	5.87	34.338	27.045	108.6	.93 9	.29	4.2	84.1	3.23	40.7	.00			**582**

RV NEW HORIZON CRUISE CW86 STATION 90 45

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
32 53.9 N	118 55.3 W	11/03/86	23 Al GMT	1690 M	290	20 KT	280 12 10	1	1019.1 MB	14.9 C	12.8 C	2/8	CU

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0	ISL	14.96	14.96	33.425	24.767	316.9	.000	5.98	104.0							0
1	2		14.96	14.96	33.425	24.767	317.0	.006	5.98	104.0	1.5	.33	.0	.00	.31	.08	2
	10	ISL	14.96	14.96	33.421	24.764	317.5	.03 2	6.01	104.5							10
1	12		14.96	14.96	33.421	24.764	317.5	.038	6.01	104.6	1.5	.33	.0	.00	.28	.13	12
	20	ISL	14.96	14.95	33.420	24.765	317.8	.063	5.99	104.2							20
1	23		14.95	14.95	33.420	24.765	317.8	.073	5.98	104.0	1.5	.33	.0	.00	.27	.11	23
	30	ISL	14.94	14.94	33.419	24.767	317.9	.095	5.97	103.9							30
1	33		14.94	14.93	33.418	24.768	317.9	.104	5.97	103.8	1.5	.33	.0	.00	.30	.13	33
1	43		14.35	14.34	33.432	24.905	305.1	.135	5.99	102.9	2.3	.39	.5	.04	.67	.26	43
	50	ISL	13.17	13.16	33.424	25.141	283.1	.156	5.57	93.5							50
1	53		12.71	12.71	33.421	25.228	274.5	.164	5.38	89.4	5.9	.73	5.0	.36	.63	.58	53
1	63		12.08	12.07	33.458	25.378	260.4	.191	4.91	80.5	8.8	.96	9.0	.16	.38	.44	63
1	73		11.65	11.64	33.504	25.495	249.5	.216	4.62	75.1	10.9	1.10	11.5	.06	.23	.37	73
	75	ISL	11.57	11.56	33.516	25.519	247.2	.222	4.56	73.9							76
1	88		11.09	11.08	33.589	25.663	233.9	.252	4.19	67.3	14.4	1.30	15.0	.02	.12	.20	88
	100	ISL	10.43	10.42	33.690	25.858	215.5	.280	3.76	59.5							101
1	103		10.30	10.29	33.711	25.897	211.8	.286	3.67	58.0	20.0	1.58	19.5	.01	.03	.08	103
1	121		9.75	9.74	33.829	26.082	194.6	.324	3.23	50.5	25.2	1.79	22.5	.00	.01	.05	122
	125	ISL	9.69	9.67	33.849	26.108	192.1	.331	3.17	49.4							126
1	147		9.36	9.34	33.948	26.240	180.0	.372	2.87	44.5	29.7	1.96	25.0	.00	.01	.03	148
	150	ISL	9.33	9.31	33.956	26.251	179.0	.377	2.85	44.1							151
1	177		8.97	8.95	34.013	26.354	169.7	.424	2.63	40.4	33.3	2.09	26.7	.00			178
	200	ISL	8.60	8.58	34.077	26.462	159.7	.462	2.32	35.4							201
1	207		8.50	8.48	34.095	26.491	157.1	.473	2.23	33.9	39.7	2.29	29.4	.00			**208**
1	236		8.30	8.27	34.125	26.546	152.3	.518	1.99	30.1	42.3	2.38	30.2	.00			**237**
	250	ISL	8.19	8.16	34.142	26.576	149.7	.53 9	1.83	27.7							**252**
1	276		7.99	7.96	34.174	26.631	144.9	.578	1.54	23.2	47.6	2.56	32.2	.00			**278**
	300	ISL	7.83	7.80	34.199	26.675	141.0	.612	1.31	19.7							**302**
1	336		7.58	7.55	34.229	26.735	135.8	.662	1.03	15.4	55.8	2.80	34.7	.00			**338**
	400	ISL	7.11	7.07	34.260	26.826	127.9	.7 46	.72	10.6							**403**
1	409		7.04	7.01	34.264	26.838	126.8	.758	.69	10.2	64.2	2.97	36.8	.00			**412**
1	487		6.61	6.57	34.300	26.926	119.3	.853	.43	6.3	71.7	3.10	38.6	.00			**490**
	500	ISL	6.52	6.47	34.307	26.944	117.8	.869	.40	5.8							**504**
1	565		5.95	5.90	34.334	27.040	109.0	.942	.31	4.4	82.6	3.22	40.5	.00			**569**

RV NEW HORIZON CRUISE CW86 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 28.8 W	07/03/86	1804 GMT	1316 M	310	16 KT	330 06 06	5	1021.0 MB	14.5 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
1	0		14.31	14.31	33.357	24.854	308.7	.000	6.06	104.0	2.3	.36	.0	.00	.54	.26	0
1	10		14.30	14.30	33.359	24.858	308.6	.031	6.12	105.0	2.3	.36	.0	.00	.54	.23	10
	20	ISL	14.30	14.30	33.356	. 24.855	309.2	.062	6.09	104.4							20
1	21		14.30	14.30	33.356	24.855	309.2	.065	6.08	104.3	2.3	.36	.0	.00	.53	.29	21
	30	ISL	14.26	14.26	33.357	24.865	308.5	.093	6.06	103.9							30
1	31		14.26	14.25	33.358	24.866	308.4	.095	6.06	103.9	2.3	.36	.0	.00	.58	.30	31
1	42		13.17	13.16	33.425	25.141	282.4	.128	5.48	91.9	4.8	.64	3.6	.29	.44	.38	42
	50	ISL	12.67	12.67	33.460	25.266	270.8	.150	5.16	85.7							50
1	52		12.58	12.58	33.466	25.288	268.7	.155	5.10	84.5	7.4	.84	7.0	.26	.26	.35	52
1	64		11.88	11.87	33.508	25.455	253.0	.186	4.71	76.9	10.5	1.05	10.6	.12	.17	.31	64
1	73		11.50	11.50	33.529	25.541	245.1	.209	4.54	73.5	12.0	1.14	12.2	.07	.14	.24	73
	75	ISL	11.39	11.38	33.534	25.565	242.8	.214	4.50	72.8							76
1	89		10.75	10.74	33.586	25.721	228.2	.246	4.21	67.1	15.7	1.34	15.7	.03	.06	.18	89
	100	ISL	10.33	10.31	33.689	25.875	213.8	.271	3.72	58.7							**101**
1	104		10.17	10.15	33.731	25.936	208.1	.281	3.53	55.6	22.1	1.63	20.1	.02	.04	.15	**105**
1	125		9.25	9.23	33.829	26.165	186.6	.322	3.34	51.6	27.2	1.82	23.6	.01	.01	.09	126
1	150		8.84	8.83	33.913	26.294	174.7	.367	3.05	46.7	31.4	1.96	25.8	.01	.00	.06	151
1	181		8.59	8.57	34.001	26.403	164.9	.419	2.71	41.3	35.8	2.10	27.5	.00			182
	200	ISL	8.40	8.38	34.037	26.461	159.8	.450	2.56	38.8							201
1	212		8.27	8.25	34.055	26.495	156.7	.46 9	2.46	37.2	40.2	2.22	29.0	.00			**213**
1	243		7.91	7.89	34.102	26.586	148.5	.516	2.07	31.1	45.9	2.39	30.9	.00			**244**
	250	ISL	7.83	7.80	34.105	26.601	147.1	.527	2.02	30.2							**252**
1	282		7.48	7.46	34.117	26.660	142.0	.573	1.81	26.9	51.2	2.52	32.6	.00			**284**
	300	ISL	7.34	7.31	34.137	26.697	138.6	.598	1.60	23.7							**302**
1	343		7.01	6.98	34.189	26.783	130.9	.656	1.10	16.2	61.4	2.80	35.8	.00			**345**
	400	ISL	6.52	6.48	34.210	26.866	123.5	.729	.80	11.6							**403**
1	419		6.37	6.34	34.214	26.889	121.5	.752	.74	10.7	71.1	2.98	38.5	.00			**422**
1	497		6.10	6.06	34.273	26.971	114.7	.844	.50	7.2	77.3	3.11	39.8	.00			**500**
	500	ISL	6.09	6.05	34.276	26.975	114.3	.848	.49	7.1							**504**
1	574		5.78	5.73	34.329	27.057	107.3	.929	.33	4.7	83.9	3.21	40.9	.00			**578**

RV NEW HORIZON CRUISE CW86 STATION 90 53

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
32 39.2 N	119 28.9 W	11/03/86	1644 GMT	1309 M	300	18 KT	280 12 10	1	1018.9 MB	14.8 C	13.2 C	2/8	CU

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
1	0		14.26	14.26	33.359	24.866	307.5	.000	5.99	102.7	2.9	.35	.1	.02	.49	.27	0
1	10		14.26	14.26	33.358	24.866	3 07.9	.031	6.02	103.2	2.8	.35	.1	.02	.52	.26	10
	20	ISL	14.27	14.26	33.358	24.864	308.3	.062	6.02	103.2							20
1	21		14.27	14.26	33.358	24.864	308.4	.064	6.02	103.2	2.8	.35	.1	.02	.48	.24	21
	30	ISL	13.51	13.50	33.404	25.057	290.2	.092	5.75	97.1							30
1	31		13.41	13.40	33.410	25.081	287.9	.094	5.71	96.2	4.4	.54	2.3	.20	.73	.35	31
1	42		12.12	12.11	33.490	25.396	258.2	.124	4.89	80.2	9.8	.95	9.0	.29	.27	.29	42
	50	ISL	11.38	11.37	33.538	25.571	241.7	.144	4.48	72.3							50
1	53		11.17	11.16	33.551	25.619	237.1	.151	4.38	70.4	13.9	1.22	13.9	.07	.11	.17	53
1	63		10.54	10.53	33.585	25.757	224.2	.174	4.22	67.0	16.2	1.36	16.3	.04	.05	.11	63
1	73		10.32	10.31	33.632	25.831	217.4	.196	4.02	63.5	18.2	1.44	18.0	.03	.03	.10	73
	75	ISL	10.30	10.30	33.634	25.836	216.9	.201	4.01	63.3							76
1	90		10.20	10.19	33.663	25.876	213.5	.232	3.87	61.0	19.5	1.52	18.9	.02	.03	.10	90
	100	ISL	10.01	9.99	33.745	25.973	204.4	.254	3.50	54.9							101
1	103		9.93	9.92	33.773	26.008	201.1	.261	3.37	52.8	24.1	1.72	21.6	.02	.02	.10	104
1	124		9.50	9.49	33.833	26.126	190.4	.302	3.23	50.2	27.2	1.84	23.5	.01	.01	.07	125
	125	ISL	9.49	9.47	33.835	26.131	189.9	.303	3.22	50.1							126
1	150		8.82	8.80	33.923	26.306	173.6	.349	3.01	46.1	31.9	1.98	26.1	.01	.00	.05	151
1	182		8.48	8.46	33.983	26.406	164.7	.403	2.85	43.3	35.3	2.07	27.5	.01			183
	200	ISL	8.23	8.21	34.025	26.47 8	158.1	.432	2.63	39.8							201
1	212		8.07	8.04	34.051	26.522	153.9	.450	2.47	37.2	41.5	2.24	29.4	.01			**213**
1	242		7.76	7.74	34.086	26.595	147.5	.495	2.12	31.7	46.4	2.40	31.3	.01			**243**
	250	ISL	7.69	7.67	34.092	26.610	146.2	.508	2.04	30.5							**252**
1	282		7.42	7.39	34.110	26.663	141.6	.554	1.79	26.6	51.3	2.54	33.1	.00			**284**
	300	ISL	7.25	7.22	34.116	26.6 92	139.0	.579	1.66	24.5							**302**
1	343		6.85	6.82	34.134	26.761	132.9	.637	1.34	19.6	59.9	2.76	35.9	.00			**345**
	400	ISL	6.51	6.47	34.192	26.853	124.8	.711	.86	12.6							**403**
1	419		6.41	6.38	34.214	26.884	122.1	.735	.72	10.4	70.6	3.02	38.7	.00			**422**
1	497		5.94	5.89	34.296	27.010	110.8	.825	.41	5.9	80.7	3.19	40.6	.00			**500**
	500	ISL	5.92	5.88	34.298	27.014	110.4	.828	.40	5.7							**504**
1	575		5.66	5.62	34.347	27.085	104.5	.909	.28	4.0	87.7	3.27	41.5	.00			**579**

RV NEW HORIZON CRUISE CW86 STATION 90 75

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
31 53.9 N	120 58.2 W	08/03/86	1919 GMT	4070 M	220	14 KT	250 08 12	2	1017.3 MB	16.5 C	15.0 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	14.77	14.77	33.150	24.596	333.2	.000	5.95	102.9							0
1	1		14.77	14.77	33.150	24.596	333.3	.003	5.95	102.9	2.6	.36	.0	.00	.12	.05	1
	10	ISL	14.77	14.77	33.149	24.596	333.5	.033	6.00	103.8							10
1	11		14.77	14.77	33.149	24.597	333.5	.037	6.00	103.8	2.7	.37	.0	.00	.13	.04	11
	20	ISL	14.75	14.75	33.149	24.601	333.4	.067	5.98	103.5							20
1	27		14.74	14.73	33.149	24.604	333.3	.090	5.97	103.2	2.7	.37	.0	.00	.14	.05	27
	30	ISL	14.61	14.61	33.160	24.639	330.1	.100	5.98	103.2							30
1	42		14.09	14.08	33.207	24.785	316.4	.138	6.05	103.3	2.6	.38	.0	.00	.26	.13	42
	50	ISL	13.97	13.96	33.214	24.815	313.8	.164	6.08	103.4							50
1	58		13.81	13.80	33.235	24.865	309.3	.188	6.10	103.5	2.7	.39	.0	.00	.38	.23	58
1	68		13.22	13.21	33.340	25.065	290.4	.218	5.88	98.7	3.3	.49	1.4	.20	.44	.40	68
	75	ISL	12.69	12.68	33.328	25.160	281.5	.23 9	5.68	94.3							76
1	78		12.50	12.49	33.317	25.189	278.8	.246	5.61	92.7	4.5	.63	3.9	.09	.25	.33	78
1	94		11.72	11.71	33.337	25.352	263.6	.289	5.25	85.3	7.3	.85	7.8	.03	.16	.20	94
	100	ISL	11.38	11.37	33.396	25.460	253.4	.306	4.93	79.5							101
1	109		10.96	10.95	33.485	25.606	239.7	.327	4.49	71.9	12.7	1.22	14.1	.01	.07	.10	109
1	124		10.35	10.34	33.592	25.7 96	221.9	.364	4.06	64.2	17.4	1.44	17.8	.01	.03	.06	125
	125	ISL	10.33	10.32	33.596	25.802	221.3	.365	4.05	63.9							126
1	150		9.57	9.56	33.743	26.045	198.6	.418	3.50	54.4	24.2	1.73	22.3	.01	.01	.04	151
1	171		9.26	9.25	33.834	26.167	187.4	.458	3.23	49.9	27.7	1.86	24.1	.01	.00	.05	172
1	191		8.74	8.72	33.917	26.315	173.5	.494	3.26	49.8	30.9	1.88	25.3	.01			**192**
	200	ISL	8.57	8.55	33.942	26.360	169.4	.510	3.30	50.3							**201**
1	213		8.37	8.35	33.966	26.409	164.8	.531	3.33	50.5	33.1	1.91	25.8	.00			**214**
1	243		7.90	7.88	34.009	26.514	155.3	.579	2.95	44.2	39.0	2.11	28.5	.00			**2*4**
	250	ISL	7.77	7.74	34.016	26.53 9	152.9	.590	2.83	42.3							**252**
1	283		7.21	7.19	34.045	26.641	143.5	.640	2.24	33.1	49.1	2.41	32.3	.00			**285**
	300	ISL	7.04	7.02	34.064	26.679	140.0	.663	1.98	29.1							**302**
1	345		6.71	6.68	34.111	26.762	132.7	.724	1.39	20.3	61.3	2.74	36.3	.00			**347**
	400	ISL	6.27	6.23	34.143	26.846	125.2	.7 95	.97	14.0							**403**
1	421		6.11	6.08	34.155	26.876	122.6	.822	.86	12.4	72.3	2.99	39.3	.00			**424**
1	499		5.74	5.69	34.239	26.990	112.5	.913	.48	6.9	82.0	3.16	41.0	.00			**502**
	500	ISL	5.73	5.69	34.240	26.991	112.3	.914	.48	6.8							**504**
1	576		5.30	5.25	34.285	27.080	104.5	.997	.34	4.8	91.7	3.27	42.5	.00			**580**

RV NEW HORIZON CRUISE CW86 STATION 90 80

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
31 42.1 N	121 17.3 W	09/03/86	0005 GMT	3858 M	320	16 KT	250 06 08	1	1014.8 MB	16.2 C	15.9 C	1/8	ST

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0 ISL	15.26	15.26	33.180	24.513	341.3	.000	5.89	102.9							0
1	1	15.26	15.26	33.180	24.513	341.2	.003	5.89	102.9	2.5	.37	.0	.00	.07	.02	1
	10 ISL	15.16	15.15	33.173	24.531	339.8	.03 4	5.93	103.5							10
1	11	15.14	15.13	33.171	24.534	339.5	.037	5.94	103.5	2.5	.37	.0	.00	.08	.01	11
	20 ISL	14.79	14.79	33.135	24.581	335.3	.068	6.00	103.9							20
1	27	14.54	14.54	33.112	24.616	332.1	.091	6.04	104.0	2.6	.38	.0	.00	.13	.04	27
	30 ISL	14.54	14.54	33.121	24.623	331.6	.101	6.03	103.9							30
1	43	14.55	14.54	33.149	24.645	329.8	.144	5.99	103.2	2.6	.38	.0	.00	.16	.05	43
	50 ISL	14.52	14.52	33.173	24.668	327.9	.167	5.99	103.2							50
1	58	14.50	14.49	33.210	24.702	324.9	.192	6.00	103.3	2.6	.38	.0	.00	.21	.10	58
1	69	14.29	14.28	33.238	24.768	318.8	.228	6.01	103.0	2.6	.38	.0	.00	.26	.19	69
	75 ISL	13.47	13.45	33.262	24.957	300.9	.247	5.95	100.2							76
1	79	12.91	12.90	33.273	25.075	289.7	.258	5.90	98.3	3.0	.48	1.1	.10	.29	.25	79
1	94	11.57	11.56	33.170	25.251	273.1	.300	5.74	92.9	4.8	.69	4.5	.05	.23	.17	94
	100 ISL	11.34	11.33	33.212	25.325	266.2	.317	5.59	90.1							101
1	110	11.15	11.13	33.315	25.440	255.5	.342	5.29	84.9	7.3	.88	8.2	.02	.08	.12	110
1	124	10.71	10.70	33.481	25.647	236.1	.379	4.61	73.4	12.7	1.20	13.7	.01	.04	.06	125
	125 ISL	10.69	10.67	33.485	25.654	235.4	.3 80	4.59	73.1							126
1	150	9.70	9.68	33.645	25.947	207.8	.436	3.99	62.2	19.8	1.54	19.5	.01	.01	.03	151
1	170	9.30	9.28	33.832	26.160	188.0	.476	3.27	50.6	26.8	1.81	23.7	.00	.01	.04	171
1	190	8.84	8.82	33.930	26.309	174.2	.512	3.02	46.2	31.0	1.94	25.9	.00			191
	200 ISL	8.69	8.67	33.960	26.357	169.7	.529	2.96	45.2							201
1	211	8.54	8.51	33.984	26.399	165.9	.547	2.92	44.4	34.1	2.03	26.9	.00			212
1	243	8.01	7.99	34.016	26.503	156.3	.598	2.81	42.2	38.5	2.12	28.5	.00			**244**
	250 ISL	7.90	7.88	34.025	26.527	154.2	.610	2.71	40.6							**252**
1	282	7.45	7.43	34.064	26.622	145.4	.658	2.17	32.2	47.1	2.38	31.8	.00			**284**
	300 ISL	7.20	7.17	34.079	26.670	141.1	.683	1.91	28.2							**302**
1	344	6.65	6.62	34.111	26.771	131.9	.7 43	1.35	19.7	60.8	2.73	36.5	.00			**346**
	400 ISL	6.30	6.27	34.148	26.845	125.4	.815	.91	13.2							**403**
1	420	6.21	6.18	34.161	26.867	123.4	.841	.80	11.5	70.5	2.95	38.9	.00			**423**
1	499	5.64	5.60	34.227	26.991	112.2	.933	.48	6.8	82.4	3.14	41.1	.00			**502**
	500 ISL	5.63	5.59	34.228	26.993	112.0	.93 4	.48	6.8							**504**
1	575	5.20	5.16	34.278	27.085	103.8	1.015	.34	4.8	92.3	3.24	42.7	.00			**579**

RV NEW HORIZON CRUISE CW86 STATION 90 82

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
31 38.9 N	121 22.8 W	11/03/86	0033 GMT		300	26 KT	280 10 08	1	1012.1 MB	16.0 C	14.0 C	7/8	SC

CAST	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0 ISL	15.36	15.36	33.166	24.480	344.3	.000	5.86	102.6							0
1	2	15.36	15.36	33.166	24.480	344.3	.007	5.86	102.6	2.5	.37	.1	.00	.07	.02	2
	10 ISL	15.35	15.35	33.164	24.481	344.5	.034	5.88	102.9							10
1	13	15.35	15.35	33.164	. 24.482	344.5	.045	5.88	102.9	2.4	.37	.1	.00	.07	.02	13
	20 ISL	15.35	15.35	33.163	24.481	344.8	.069	5.88	103.0							20
1	28	15.35	15.34	33.162	24.481	345.1	.096	5.89	103.1	2.4	.37	.1	.00	.07 A	.02A	28
	30 ISL	15.24	15.23	33.155	24.500	343.4	.103	5.91	103.2							30
1	42	14.57	14.57	33.131	24.625	331.7	.143	6.01	103.5	2.4	.38	.1	.00	.12	.05	42
	50 ISL	14.39	14.38	33.159	24.686	326.2	.170	6.02	103.3							50
1	58	14.25	14.24	33.198	24.746	320.6	.195	6.02	103.1	2.6	.38	.1	.00	.21	.15	58
1	73	13.63	13.62	33.269	24.928	303.6	.242	6.02	101.8	3.0	.43	.1	.03	.51	.44	73
	75 ISL	13.56	13.55	33.277	24.949	301.7	.249	6.00	101.3							76
1	85	13.19	13.18	33.313	25.052	292.2	.278	5.83	97.7	3.5	.53	1.6	.15	.39	.43	85
1	99	12.15	12.14	33.381	25.307	268.1	.317	5.37	88.1	5.8	.75	6.0	.02	.09	.19	**99**
	100 ISL	12.07	12.06	33.384	25.324	266.5	.320	5.33	87.2							**101**
1	120	11.08	11.06	33.435	25.546	245.6	.373	4.77	76.5	10.8	1.12	12.1	.01	.05	.08	**121**
	125 ISL	10.82	10.81	33.471	25.620	238.8	.384	4.69	74.8							**126**
1	140	10.04	10.03	33.610	25.863	215.8	.419	4.38	68.8	16.2	1.35	16.5	.00	.01	.02	**141**
	150 ISL	9.72	9.70	33.687	25.977	205.1	.43 9	4.02	62.7							**151**
1	160	9.47	9.45	33.758	26.07 4	196.0	.459	3.65	56.6	23.4	1.68	21.7	.00	.00	.02	161
1	181	9.13	9.11	33.857	26.205	183.9	.499	3.28	50.5	27.5	1.84	24.3	.00	.00	.00	182
	200 ISL	8.76	8.74	33.944	26.333	172.0	.533	3.08	47.0							201
1	203	8.70	8.68	33.955	26.350	170.4	.538	3.06	46.7	31.9	1.97	26.1	.00			204
1	223	8.43	8.41	33.972	26.406	165.4	.571	3.15	47.8	33.1	1.97	26.3	.00			**224**
	250 ISL	8.00	7.98	34.005	26.496	157.1	.615	2.98	44.7							**252**
1	259	7.86	7.84	34.015	26.525	154.5	.628	2.88	43.2	39.6	2.13	28.4	.00			260
	300 ISL	7.25	7.22	34.036	26.630	144.9	.6 90	2.41	35.6							302
1	310	7.10	7.07	34.040	26.653	142.8	.705	2.27	33.4	50.0	2.40	32.5	.00			312
1	367	6.45	6.42	34.092	26.782	130.9	.7 82	1.40	20.3	62.6	2.75	37.0	.00			369
	400 ISL	6.17	6.13	34.117	26.838	125.8	.825	1.08	15.6							**403**
1	454	5.80	5.76	34.156	26.916	118.9	.891	.75	10.7	76.6	3.04	40.4	.00			**457**
	500 ISL	5.55	5.51	34.199	26.981	113.2	.945	.55	7.8							**504**
1	541	5.36	5.32	34.237	27.033	108.5	.990	.43	6.1	87.9	3.21	42.2	.00			545
	600 ISL	5.14	5.09	34.281	27.095	103.1	1.052	.31	4.4							605
1	629	5.06	5.00	34.299	27.119	101.0	1.082	.28	3.9	95.9	3.27	43.1	.00			633

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

RV NEW HORIZON CRUISE CW86 STATION 90 85

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
31 30.5 N	121 38.1 W	10/03/86	2106 GMT		250	30 KT	260 10 08	1	1011.8 MB	18.0 C	15.1 C	7/8	SC

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
1	0		16.03	16.03	33.241	24.388	353.1	.000	5.77	102.A	2.2	.35	.0	.00	.05	.01	0
1	10		16.04	16.04	33.240	24.386	353.5	.035	5.79	102.8	2.2	.35	.0	.00	.04	.01	10
	20	ISL	16.04	16.04	33.240	24.387	353.9	.071	5.78	102.6							20
1	25		16.04	16.04	33.240	24.386	354.0	.088	5.77	102.5	2.2	.35	.0	.00	.05	.01	25
	30	ISL	16.03	16.02	33.240	24.389	353.9	.106	5.77	102.5							30
1	41		15.97	15.96	33.23 9	24.402	353.0	.144	5.78	102.5	2.2	.35	.0	.00	.05	.01	41
	50	ISL	15.90	15.89	33.239	24.419	351.5	.177	5.79	102.5							50
1	56		15.83	15.82	33.239	24.436	350.3	.197	5.80	102.5	2.3	.36	.0	.00	.07	.02	56
1	71		15.49	15.48	33.200	24.481	346.3	.249	5.86	102.9	2.2	.36	.0	.00	.10	.04	71
	75	ISL	15.46	15.45	33.230	24.509	3 43.8	.264	5.84	102.5							76
1	81		15.43	15.42	33.302	24.572	338.1	.283	5.82	102.1	2.2	.36	.0	.00	.13	.10	81
1	96		13.79	13.78	33.341	24.951	302.1	.331	6.00	101.9	2.4	.41	.1	.02	.24	.27	96
	100	ISL	13.46	13.45	33.327	25.008	296.8	.344	5.99	100.9							101
1	116		12.60	12.58	33.278	25.142	284.3	.389	5.80	96.0	3.3	.54	1.9	.06	.20	.28	116
	125	ISL	12.23	12.21	33.304	25.232	275.9	.416	5.61	92.2							126
1	135		11.88	11.86	33.363	25.344	265.4	.444	5.35	87.2	5.7	.78	6.3	.02	.10	.15	136
	150	ISL	11.28	11.26	33.489	25.552	245.9	.481	4.89	78.8							151
1	155		11.07	11.05	33.539	25.630	238.5	.494	4.73	75.9	11.0	1.09	12.1	.01	.04	.06	156
1	175		10.36	10.34	33.685	25.868	216.1	.53 9	4.34	68.6	16.0	1.30	15.9	.01	.02	.03	176
1	195		9.55	9.53	33.788	26.084	195.8	.580	3.84	59.7	22.4	1.58	20.5	.00			196
	200	ISL	9.38	9.35	33.818	26.136	190.9	.590	3.66	56.7							201
1	214		8.94	8.91	33.898	26.270	178.4	.616	3.20	49.1	29.9	1.89	25.1	.00			215
1	249		8.24	8.22	33.995	26.452	161.4	.675	2.97	44.9	36.0	2.05	27.5	.00			250
	250	ISL	8.22	8.20	33.996	26.456	161.0	.677	2.96	44.8							252
1	297		7.57	7.54	34.030	26.580	149.8	.750	2.60	38.7	43.5	2.24	30.2	.00			299
	300	ISL	7.54	7.51	34.033	26.586	149.2	.754	2.56	38.1							302
1	351		6.99	6.96	34.077	26.6 97	139.1	.828	1.83	26.9	54.1	2.55	34.1	.00			353
	400	ISL	6.49	6.46	34.115	26.7 95	130.2	.894	1.28	18.6							403
1	434		6.19	6.15	34.141	26.855	124.8	.93 8	.98	14.1	69.6	2.92	38.7	.00			437
	500	ISL	5.81	5.76	34.190	26.942	117.1	1.017	.62	8.8							504
1	519		5.73	5.68	34.205	26.964	115.1	1.039	.55	7.8	80.4	3.11	40.9	.00			522
	600	ISL	5.49	5.44	34.305	27.073	105.6	1.128	.32	4.5							605
1	605		5.48	5.43	34.313	27.080	105.0	1.133	.31	4.4	89.8	3.25	42.0	.00			609

RV NEW HORIZON CRUISE CW86 STATION 90 90

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
31 24.2 N	122 00.6 W	10/03/86	1537 GMT	4156 M	280	16 KT	280 08 08	1	1010.0 MB	16.5 C	15.8 C	6/8	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	16.45	16.45	33.502	24.493	3 43.0	.000	5.67	101.7							0
1	1		16.45	16.45	33.502	24.493	3 43.1	.003	5.67	101.7	1.9	.34	.1	.00	.05	.01	1
	10	ISL	16.46	16.46	33.501	24.492	3 43.5	.034	5.70	102.1							10
1	12		16.46	16.46	33.501	24.491	343.6	.041	5.70	102.2	1.9	.34	.1	.00	.05	.02	12
	20	ISL	16.46	16.45	33.500	24.492	343.9	.069	5.71	102.3							20
1	27		16.45	16.45	33.500	24.492	344.0	.092	5.71	102.4	1.9	.34	.1	.00	.05	.01	27
	30	ISL	16.45	16.45	33.500	24.493	344.1	.103	5.71	102.3							30
1	42		16.44	16.43	33.498	24.496	344.1	.144	5.70	102.2	1.9	.33	.1	.00	.06	.02	42
	50	ISL	16.51	16.50	33.542	24.512	342.9	.172	5.70	102.4							50
1	58		16.53	16.53	33.578	24.535	341.0	.198	5.71	102.6	1.8	.33	.0	.00	.08	.03	58
1	68		16.34	16.33	33.563	24.569	338.0	.23 2	5.71	102.2	1.8	.32	.0	.00	.10	.05	68
	75	ISL	15.92	15.90	33.47 9	24.600	335.2	.257	5.74	101.8							76
1	78		15.71	15.69	33.444	24.621	333.4	.266	5.76	101.7	1.8	.35	.0	.00	.14	.11	78
1	94		13.93	13.92	33.341	24.922	304.8	.317	5.91	100.6	2.4	.44	.2	.05	.25	.21	94
	100	ISL	13.32	13.31	33.292	25.009	296.6	.336	5.85	98.3							101
1	109		12.70	12.68	33.269	25.115	286.7	.361	5.77	95.7	3.0	.54	1.8	.06	.23	.22	109
1	124		12.45	12.44	33.485	25.330	266.6	.405	5.26	86.9	5.4	.70	5.5	.02	.10	.16	125
	125	ISL	12.43	12.41	33.490	25.338	265.8	.406	5.25	86.6							126
1	150		11.07	11.05	33.654	25.719	230.0	.469	4.60	73.9	11.7	1.09	12.4	.01	.03	.06	151
1	170		10.09	10.07	33.721	25.941	209.0	.513	4.00	62.9	18.6	1.45	18.2	.00	.01	.03	171
1	191		9.31	9.29	33.846	26.168	187.6	.554	3.42	52.9	26.0	1.76	23.0	.00			192
	200	ISL	9.06	9.04	33.880	26.235	181.4	.570	3.27	50.2							201
1	212		8.80	8.78	33.915	26.303	175.0	.592	3.12	47.7	30.7	1.92	25.5	.00			213
1	243		8.47	8.45	33.975	26.402	166.2	.644	2.94	44.7	34.3	2.02	26.9	.00			244
	250	ISL	8.35	8.33	33.990	26.43 2	163.4	.656	2.85	43.2							252
1	283		7.81	7.78	34.059	26.568	150.8	.709	2.36	35.3	43.2	2.29	30.3	.00			285
	300	ISL	7.64	7.61	34.092	26.617	146.3	.733	2.06	30.8							302
1	345		7.31	7.28	34.165	26.723	136.9	.7 97	1.31	19.4	55.6	2.70	34.9	.00			347
	400	ISL	6.87	6.83	34.217	26.825	127.7	.870	.82	12.0							403
1	422		6.70	6.66	34.232	26.861	124.6	.898	.70	10.2	67.3	2.98	38.1	.00			425
1	500		6.20	6.16	34.284	26.967	115.3	.991	.43	6.2	76.3	3.14	39.8	.00			503
1	578		5.79	5.74	34.320	27.048	108.1	1.078	.33	4.7	85.1	3.23	41.2	.00			582

RV NEW HORIZON CRUISE CW86 STATION 90 110

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
30 45.0 N	123 19.1 W	09/03/86	1522 GMT	3990 M	180	02 KT	290 06 08	1	1019.8 MB	15.6 C	13.9 C	5/8	CU

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS D.BAR
	0	ISL	16.38	16.38	33.325	24.375	354.3	.000	5.73	102.5							0
1	1		16.38	16.38	33.325	24.375	354.3	.004	5.73	102.5	2.5	.34	.0	.00	.05	.02	1
	10	ISL	16.38	16.38	33.324	24.374	354.8	.035	5.76	103.0							10
1	11		16.38	16.38	33.324	24.374	354.8	.03 9	5.76	103.0	2.4	.34	.0	.01	.05	.02	11
	20	ISL	16.35	16.34	33.321	24.380	354.5	.071	5.78	103.2							20
1	27		16.29	16.28	33.310	24.384	354.3	.095	5.78	103.2	2.4	.34	.0	.00	.05	.02	27
	30	ISL	16.24	16.24	33.310	24.395	353.4	.106	5.78	103.0							30
1	43		16.05	16.04	33.309	24.439	349.6	.151	5.76	102.3	2.4	.34	.0	.01	.06	.03	43
	50	ISL	16.01	16.00	33.307	24.446	349.1	.176	5.76	102.3							50
1	59		15.92	15.91	33.296	24.458	348.3	.207	5.77	102.2	2.3	.34	.0	.00	.08	.04	59
1	69		15.61	15.60	33.263	24.502	344.3	.242	5.80	102.1	2.3	.34	.0	.00	.10	.06	69
	75	ISL	15.06	15.05	33.280	24.636	331.7	.263	5.88	102.4							76
1	80		14.58	14.57	33.298	24.754	320.6	.278	5.94	102.4	2.5	.37	.0	.00	.14	.13	80
1	95		13.28	13.27	33.280	25.007	296.6	.324	5.92	99.4	2.8	.48	.6	.09	.24	.22	95
	100	ISL	13.04	13.02	33.288	25.063	291.5	.3 40	5.86	98.0							101
1	112		12.63	12.61	33.313	25.162	282.3	.373	5.70	94.4	3.6	.56	2.6	.05	.20	.20	112
	125	ISL	11.99	11.98	33.348	25.311	268.3	.410	5.49	89.7							126
1	126		11.92	11.90	33.353	25.329	266.7	.414	5.46	89.1	5.3	.69	5.2	.02	.10	.15	127
	150	ISL	10.86	10.84	33.506	25.640	237.4	.473	4.71	75.2							151
1	151		10.80	10.78	33.516	25.659	235.6	.477	4.66	74.3	12.8	1.17	13.6	.01	.03	.05	152
1	172		9.85	9.83	33.698	25.964	206.8	.523	4.00	62.5	20.5	1.51	19.4	.02	.01A	.02A	173
1	193		9.49	9.47	33.773	26.083	195.9	.565	3.73	57.9	23.9	1.64	21.4	.00			194
	200	ISL	9.27	9.25	33.818	26.154	189.2	.578	3.64	56.2							201
1	214		8.82	8.80	33.907	26.294	176.0	.604	3.47	53.1	29.9	1.79	24.4	.00			215
1	244		8.41	8.38	33.968	26.406	165.8	.654	3.36	51.0	34.0	1.91	25.7	.00			245
	250	ISL	8.33	8.30	33.976	26.425	164.0	.665	3.33	50.4							252
1	285		7.86	7.83	34.010	26.521	155.3	.721	3.07	46.0	39.6	2.05	27.9	.00			287
	300	ISL	7.69	7.66	34.024	26.558	152.0	.744	2.85	42.5							302
1	346		7.15	7.12	34.064	26.665	142.2	.811	2.06	30.4	52.2	2.46	33.1	.00			348
	400	ISL	6.53	6.49	34.110	26.786	131.1	.885	1.34	19.4							403
1	423		6.27	6.23	34.129	26.835	126.6	.915	1.09	15.7	68.5	2.87	38.2	.00			426
1	500		5.62	5.58	34.184	26.960	115.2	1.008	.64	9.1	80.9	3.10	41.0	.00			503
1	576		5.28	5.24	34.255	27.057	106.5	1.092	.38	5.4	89.6	3.23	42.2	.00			580

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

RV NEW HORIZON CRUISE CW86 STATION 90 114

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
30 36.5 N	123 36.6 W	09/03/86	2140 GMT	4156 M	180	14 KT	280 06 08	1	1019.8 MB	16.9 C	15.0 C	3/8	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
1	0		16.47	16.47	33.301	24.336	358.0	.000	5.74	102.8	1.8	.34	.1	.00	.05	.01	0
	10	ISL	16.47	16.47	33.301	24.336	358.4	.036	5.75	103.0							10
1	11		16.47	16.47	33.301	24.336	358.4	.03 9	5.75	103.0	1.8	.34	.1	.00	.05	.01	11
	20	ISL	16.39	16.39	33.297	24.351	357.2	.07 2	5.76	103.0							20
1	25		16.33	16.33	33.296	24.364	356.2	.089	5.76	102.9	1.8	.34	.0	.00	.05	.01	25
	30	ISL	16.26	16.26	33.297	24.381	354.7	.107	5.76	102.7							30
1	40		16.15	16.14	33.308	24.415	351.8	.142	5.75	102.4	1.8	.34	.0	.00	.05	.01	40
	50	ISL	16.14	16.13	33.336	24.440	349.8	.178	5.75	102.3							50
1	55		16.13	16.12	33.344	24.447	349.2	.194	5.75	102.3	1.8	.33	.0	.00	.06	.02	55
1	65		16.10	16.09	33.343	24.453	348.9	.229	5.75	102.3	1.8	.33	.0	.00	.07	.02	65
1	75		15.94	15.93	33.323	24.475	3 47.1	.264	5.78	102.5	1.8	.34	.0	.00	.10	.04	75
1	89		14.52	14.51	33.208	24.697	326.3	.311	5.97	102.8	2.1	.39	.0	.00	.13	.10	89
	100	ISL	13.79	13.77	33.214	24.854	311.5	.347	6.02	102.0							101
1	104		13.62	13.61	33.227	24.899	307.3	.358	6.03	101.9	2.3	.41	.0	.04	.22	.19	104
1	118		13.19	13.17	33.301	25.044	293.8	.400	5.89	98.7	2.5	.46	.7	.09	.18	.20	118
	125	ISL	12.85	12.83	33.324	25.128	285.9	.422	5.79	96.4							126
1	141		11.99	11.97	33.372	25.331	266.9	.467	5.46	89.3	4.9	.68	5.1	.02	.09	.14	142
	150	ISL	11.52	11.50	33.409	25.447	255.9	.489	5.17	83.8							151
1	160		10.96	10.94	33.473	25.597	241.7	.515	4.79	76.6	10.9	1.10	12.2	.01	.03	.08	161
1	179		10.05	10.03	33.680	25.917	211.5	.558	4.10	64.4	18.0	1.43	18.1	.01			180
1	198		9.64	9.62	33.742	26.03 4	200.7	.597	3.85	59.9	21.1	1.56	20.3	.00			199
	200	ISL	9.58	9.56	33.754	26.053	198.9	.601	3.81	59.2							201
1	227		8.76	8.74	33.927	26.319	173.8	.651	3.21	49.1	30.1	1.89	25.3	.00			228
	250	ISL	8.28	8.25	33.988	26.441	162.5	.6 90	3.06	46.3							252
1	264		8.05	8.03	34.004	26.488	158.2	.711	3.01	45.3	37.0	2.04	27.6	.00			265
	300	ISL	7.53	7.50	34.041	26.593	148.5	.767	2.53	37.6							302
1	321		7.27	7.24	34.052	26.639	144.3	.7 98	2.20	32.5	48.9	2.39	32.4	.00			323
1	393		6.37	6.33	34.086	26.788	130.6	.897	1.40	20.3	63.5	2.75	37.1	.00			3 95
	400	ISL	6.30	6.27	34.091	26.801	129.5	.906	1.34	19.3							403
1	469		5.83	5.79	34.144	26.902	120.4	.992	.84	12.0	74.6	2.99	39.9	.00			472
	500	ISL	5.65	5.61	34.172	26.947	116.5	1.029	.68	9.7							504
1	548		5.42	5.38	34.219	27.012	110.6	1.084	.50	7.1	85.8	3.16	41.8	.00			552

RV NEW HORIZON CRUISE CW86 STATION 90 119

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND	SPEED	WAVES	WEATHER	BAROMETER	DRY	WET	CLOUD AMT	TYPE
30 26.5 N	123 55.6 W	10/03/86	0152 GMT	4191 M	200	17 KT	290 07 11	1	1015.6 MB	17.5 C	16.2 C	7/8	ST

CAST	DEPTH M		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ML/L	OXY PCT	SIO3 UM/L	PO4 UM/L	NO3 UM/L	NO2 UM/L	CHL-A UG/L	PHAEO UG/L	PRESS **D.BAR**
	0	ISL	16.68	16.68	33.381	24.348	356.9	.000	5.75	103.5							0
1	2		16.68	16.68	33.381	24.348	356.9	.007	5.75	103.5	1.9	.33	.0	.00	.04	.02	2
	10	ISL	16.67	16.67	33.379	24.349	357.1	.036	5.72	103.0							10
1	12		16.67	16.66	33.379	24.350	357.1	.043	5.72	102.9	1.9	.33	.0	.00	.04	.01	12
	20	ISL	16.54	16.54	33.375	24.377	355.5	.071	5.73	102.8							20
1	28		16.46	16.46	33.372	24.393	353.5	.099	5.74	102.9	1.8	.33	.0	.00	.05	.01	28
	30	ISL	16.52	16.52	33.395	24.396	353.3	.107	5.73	102.9							30
1	44		16.85	16.85	33.522	24.417	351.7	.156	5.69	102.8	1.7	.31	.0	.00	.05	.02	44
	50	ISL	16.66	16.65	33.484	24.433	350.5	.177	5.71	102.7							50
1	59		16.30	16.29	33.408	24.458	348.3	.208	5.74	102.5	1.7	.33	.0	.00	.08	.03	59
1	70		16.08	16.07	33.387	24.493	345.3	.246	5.76	102.4	1.7	.33	.0	.00	.08	.05	70
	75	ISL	15.97	15.96	33.410	24.535	341.4	.264	5.77	102.4							76
1	80		15.88	15.86	33.456	24.592	336.2	.280	5.79	102.6	1.9	.33	.0	.00	.11	.06	80
1	96		13.44	13.43	33.241	24.946	302.5	.331	6.01	101.2	2.2	.43	.1	.05	.22	.19	96
	100	ISL	13.21	13.19	33.249	25.000	298.3	.344	5.99	100.4							**101**
1	111		12.89	12.88	33.270	25.078	290.4	.375	5.86	97.6	2.6	.49	1.1	.10	.20	.23	**111**
	125	ISL	12.10	12.09	33.327	25.274	271.9	.416	5.55	90.9							**126**
1	126		12.02	12.00	33.334	25.295	269.8	.420	6.26U	102.4U	4.8	.70	5.2	.02	.13	.17	**127**
	150	ISL	10.88	10.87	33.463	25.603	240.9	.480	4.90	78.3							151
1	152		10.80	10.78	33.478	25.630	238.4	.485	4.84	77.2	10.6	1.06	11.9	.00	.02	.05	153
1	173		10.44	10.42	33.623	25.805	222.1	.533	4.43	70.2	14.8	1.27	15.5	.00	.02	.04	**174**
1	195		9.73	9.71	33.724	26.004	203.4	.580	3.91	61.0	20.6	1.53	19.7	.00			**196**
	200	ISL	9.58	9.56	33.753	26.052	199.0	.590	3.81	59.2							201
1	214		9.18	9.16	33.834	26.180	186.9	.617	3.54	54.6	26.0	1.73	22.8	.00			**215**
1	246		8.47	8.44	33.966	26.396	166.9	.673	3.13	47.5	33.3	1.96	26.4	.00			**247**
	250	ISL	8.39	8.36	33.974	26.414	165.1	.680	3.09	46.9							**252**
1	287		7.81	7.78	34.017	26.535	154.0	.738	2.80	41.9	40.3	2.13	28.9	.00			**288**
	300	ISL	7.64	7.61	34.028	26.568	151.1	.759	2.64	39.4							**302**
1	348		7.14	7.10	34.059	26.664	142.4	.829	2.03	29.9	51.6	2.45	33.2	.00			**350**
	400	ISL	6.56	6.52	34.101	26.775	132.2	.901	1.36	19.8							**403**
1	424		6.32	6.28	34.124	26.825	127.6	.932	1.08	15.6	66.5	2.86	38.1	.00			**427**
	500	ISL	5.88	5.83	34.207	26.948	116.7	1.025	.56	8.0							**504**
1	502		5.87	5.82	34.208	26.949	116.5	1.027	.55	7.9	78.3	3.10	40.7	.00			**505**
1	576		5.39	5.34	34.267	27.055	106.9	1.110	.33	4.7	88.9	3.22	42.3	.00			**580**

RV NEW HORIZON CRUISE CW86 STATION 90 53

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER	SECCHI	DEPTH	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
32 39.2 N	119 29.0 W	03/07/86	18A6 GMT	16	M	1209 - 1819 PST	1209 PST	1819 PST	351.1 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	14.36	33.362	24.847	6.06	104.1	1.9	0.34	0.0	0.00	0.50	0.25	96	7.8	9.4	8.6	0.35
11	14.38	33.362	24.844	6.10	104.8	1.9	0.34	0.0	0.00	0.49	0.28	34	12.3	11.0	11.7	0.42
15	14.33	33.357	24.850	6.09	104.6	1.8	0.34	0.0	0.00	0.52	0.21	24	7.5	9.1	8.3	0.19
23	14.30	33.354	24.854	6.09	104.5	1.8	0.34	0.0	0.00	0.53	0.31	12	7.9	6.7	7.3	0.18
39	14.24	33.361	24.873	6.05	103.7	1.8	0.35	0.0	0.01	0.62	0.28	2.6	3.1	3.0	3.0	0.17
71	11.50	33.524	25.538	4.56	73.8	11.7	1.12	11.8	0.07	0.13	0.28	0.13	0.30	0.38	0.34	0.16

RV NEW HORIZON CRUISE CW86 STATION 90 53

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER	SECCHI	DEPTH	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
32 40.2 N	119 30.3 W	03/11/86	1858 GMT	16	M	1208 - 1825 PST	1208 PST	1826 PST	336.2 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	14.31	33.360	24.856	6.02	103.3	3.0	0.35	0.2	0.01	0.55	0.19	96	2.6	3.2	2.9	0.18
11	14.31	33.358	24.854	6.03	103.5	2.9	0.34	0.2	0.01	0.52	0.22	34	10.1	10.5	10.3	0.19
15	14.31	33.359	24.856	6.03	103.5	2.9	0.34	0.2	0.01	0.59	0.24	24	7.6	8.5	8.1	0.16
23	14.28	33.359	24.863	6.02	103.2	2.8	0.33	0.2	0.01	0.55	0.21	12	9.9	8.0	9.0	0.19
39	12.71	33.447	25.248	5.46	90.7	6.8	0.73	5.4	0.39	0.42	0.29	2.6	4.3	2.9	3.6	0.40
71	10.72	33.598	25.736	4.10	65.3	16.5	1.37	16.5	0.04	0.07	0.12	0.13	0*	0*	0	0.28

* DARK UPTAKE EXCEEDED LIGHT UPTAKE.

RV NEW HORIZON CRUISE CW86 STATION 90 75

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER	SECCHI	DEPTH	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
31 54.1 N	120 58.4 W	03/08/86	1841 GMT	20	M	1216 - 1832 PST	1215 PST	1834 PST	162.7 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	14.77			5.95		2.9	0.37	0.0	0.00	0.15	0.03	96	1.9	2.0	1.9	0.16
14	14.77	33.152	24.598	5.95	102.9	2.7	0.37	0.1	0.00	0.14	0.04	34	2.2	2.2	2.2	0.18
20	14.73	33.151	24.606	5.96	103.0	2.8	0.37	0.1	0.00	0.14	0.04	24	2.2	2.0	2.1	0.19
29	14.67	33.151	24.619	5.98	103.3	2.8	0.37	0.0	0.00	0.16	0.06	12	2.2	2.0	2.1	0.14
49	13.85			6.08		2.8	0.39	0.0	0.00	0.34	0.22	2.6	2.6	2.3	2.5	0.14
90	11.82	33.354	25.347	5.24	85.4	7.0	0.84	7.5	0.03	0.18	0.22	0.13	0.23	0.27	0.25	0.14

RV NEW HORIZON CRUISE CW86 STATION 90 85

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER	SECCHI	DEPTH	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
31 31.7 N	121 39.7 W	03/10/86	1917 GMT	22	M	1202 - 1830 PST	1216 PST	1834 PST	49.6 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
2	16.04	33.249	24.394	5.74	101.9	2.3	0.36	0.0	0.00	0.05	0.01	96	0.37	0.36	0.37	0.17
16	16.04	33.248	24.392	5.76	102.3	2.3	0.36	0.0	0.00	0.05	0.00	34	0.50	0.55	0.52	0.15
22	16.01			5.76		2.1	0.36	0.0	0.00	0.05	0.01	24	0.49	0.37	0.43	0.15
32	16.01	33.254	24.405	5.76	102.2	2.1	0.36	0.0	0.00	0.05	0.01	12	0.42	0.42	0.42	0.19
55	15.48	33.168	24.457	5.85	102.7	2.2	0.36	0.0	0.00	0.09	0.02	2.6	0.73	0.58	0.66	0.19
99	13.26			5.86		2.9	0.45	0.7	0.07	0.24	0.29	0.13	0.31	0.47	0.39	0.12

RV NEW HORIZON CRUISE CW86 STATION 90 115

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER	SECCHI	DEPTH	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
30 35.8 N	123 38.6 W	03/09/86	1940 GMT	41	M	1235 - 1847 PST	1235 PST	1848 PST	87.0 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	16.44	33.299	24.341	5.74	102.8	2.1	0.35	0.1	0.00	0.05	0.01	96	0.37	0.21	0.29	0.15
30	16.18			5.76		2.1	0.35	0.1	0.00	0.05	0.01	34	0.38	0.45	0.41	0.16
39	16.10	33.315	24.432			2.0	0.36	0.1	0.00	0.05	0.02	24	0.39	0.48	0.44	0.18
58	16.02	33.324	24.457	5.78	102.6	2.0	0.35	0.1	0.00	0.08	0.02	12	0.36	0.25	0.30	0.16
100	13.51			6.00		2.7	0.44	0.2	0.06	0.21	0.18	2.6	0.82	1.10	0.96	0.13
181	9.92	33.673	25.932	4.07	63.7	18.8	1.46	18.6	0.01	0.01	0.05	0.13	0.00	0.01	0.01	0.10

CRUISE CW86

Secchi Disk Observations

Line	Sta.	Day	Mo	Local Time (+8: PST)	Secchi Depth (m)	Weather	Clouds Type/Amt	
90	28	6	3	1415	10	2	ST	8/8
90	30	6	3	1633	18	2	ST	8/8
90	45	11	3	1430	15	1	CU	2/8
90	53	7	3	1040	16	5	ST	8/8
90	53	11	3	1050	16	1	CU	2/8
90	75	8	3	1035	20	2	ST	8/8
90	80	8	3	1530	33	1	ST	1/8
90	82	10	3	1515	24	1	SC	7/8
90	85	10	3	1110	22	1	SC	7/8
90	90	10	3	0705	34	1	NS	6/8
90	II0	9	3	0640	49	1	CU	5/8
90	115	9	3	1130	41	1	NS	3/8
90	119	9	3	1745	31	1	ST	7/8

MACROZOOPLANKTON BIOMASS
Net Mesh Size: 0.505 mm

Line	Sta.	Position		Date Mo/Day	Time (GMT) Start	End	Water Volume Strained (m)	Max. Tow Depth (m)	Volume per 1000 m Strained Total (cm)	Small (cm)
90	28	33 28.6N	117 47.7W	3/6	2325	2346	388	201	122	122
90	30	33 24.4N	117 53.8W	3/7	0210	0231	403	185	108	95
90	35	33 15.2N	118 15.5W	3/7	0532	0553	416	172	96	96
90	37	33 11.1N	118 22.9W	3/7	0812	0833	404	201	73	73
90	45	32 54.6N	118 56.0W	3/7	1324	1346	394	193	89	89
90	53	32 39.2N	119 29.4W	3/7	1857	1918	419	212	60	60

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