UNIVERSITY OF CALIFORNIA, SAN DIEGO SCRIPPS INSTITUTION OF OCEANOGRAPHY

data report

CalCOFI Cruise 0907
14 July – 3 August 2009

CC Reference 10-03
15 September 2010

UNIVERSITY OF CALIFORNIA, SAN DIEGO

SCRIPPS INSTITUTION OF OCEANOGRAPHY

LA JOLLA, CALIFORNIA 92093-0227

PHYSICAL, CHEMICAL AND BIOLOGICAL DATA

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INTRODUCTION

The data presented in this report were collected during cruise 0907* of the California Cooperative Oceanic Fisheries Investigations (CalCOFI) program aboard the NOAA ship RV *McArthur II*. The CalCOFI program was organized in the late 1940's to study the causes of variations in population size of fishes of importance to the State of California. It is carried out by NOAA's National Marine Fisheries Service Southwest Fisheries Science Center, the California Department of Fish and Game, and the Integrative Oceanography Division (IOD) at Scripps Institution of Oceanography (SIO). IOD contributes to this program by investigations of the physical, chemical and biological structure of the California Current. Data from the cruises were collected and processed by personnel of the Integrative Oceanography Division and the Southwest Fisheries Science Center. SIO staff members from the Ocean Data Facility participate in the chemical analysis of nutrient samples at sea. CalCOFI data presented in this report and collected on previous cruises can be accessed at http://www.calcofi.org.

STANDARD PROCEDURES

CTD/Rosette Cast Data

A Sea-Bird Electronics, Inc., Conductivity-Temperature-Depth (CTD) instrument (Seabird 911, Serial number 1049) with a rosette was deployed at each station on these cruises. The rosette was equipped with 24 ten-liter plastic (PVC) bottles equipped with epoxy-coated springs and Viton O-rings. Each CTD/rosette cast usually sampled 20 depths to a maximum sampling depth of 525 meters, bottom depth permitting. Occasional stations have multiple bottles tripped at the same depth to provide more water for ancillary programs. The sample spacing was designed to sample depth intervals as close as 10 meters around the sharp upper thermocline features such as the chlorophyll, oxygen, nitrite maxima and the shallow salinity minimum. Salinity, oxygen and nutrients were determined at sea for all depths sampled. Chlorophyll-*a* and phaeopigments were determined at sea on samples from the top 200 meters, bottom depth permitting.

Pressures and temperatures assigned to the water sample data were derived from the CTD signals recorded just prior to the bottle trip. Pressures have been converted to depths by the Saunders (1981) pressure-to-depth conversion technique. CTD temperatures reported with the bottle data have been rounded to the nearest hundredth of a degree Celsius.

Salinity samples were collected from all rosette bottles and analyzed at sea using a Guildline model 8410 Portasal salinometer. Salinity samples were drawn into 200 ml Kimax high-alumina borosilicate bottles that were rinsed three times with sample prior to filling. The results were compared with the CTD salinity to verify that the rosette bottle did not mis-trip or leak. The salinometer was standardized before and after each group of samples with standardized seawater. Periodic checks on the conductivity of the standardized seawater were made by comparison with IAPSO Standard Seawater batch P150. Salinity values were calculated using the algorithms for the Practical Salinity Scale, 1978 (UNESCO, 1981a) and are reported to three decimal places, provided that accepted standards were met.

Dissolved oxygen analyses were performed with an Ocean Data Facility of Scripps Institution of Oceanography designed automated oxygen titrator using photometric end-point detection based on the absorption of 365nm wavelength ultra-violet light. A computer using PC software controlled the titration of the samples and the data logging. The method used a modified-Winkler titration following the technique of Carpenter (1965) with modifications by Culberson (1991), but with higher concentrations of thiosulfate solution (50 g/l). Standard KIO3 solutions prepared ashore were run at the beginning of each run. Reagent and sea water blanks were determined to account for presence of oxidizing or reducing materials.

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

Nutrient samples were analyzed at sea by the Scripps Ocean Data Facility for dissolved silicate, phosphate, nitrate, nitrite, and ammonium using procedures similar to those described in Gordon et al. (1993) and Koroleff (1969, 1970). Samples were collected in 45 ml high-density polypropylene screw-capped tubes which were acid washed and rinsed with sample three times prior to filling. Daily standardizations and drift corrections were accomplished by running freshly prepared mid-range standards at the beginning and end of each group of samples. Samples not analyzed immediately after collection were refrigerated and run the following day. In addition to daily standardizations, periodic full calibrations were performed with sets of six different concentration standards.

Samples for chlorophyll-*a* and phaeopigments were collected in calibrated 138 ml polyethylene bottles and filtered onto Whatman GF/F filters. The pigments were extracted in cold 90% acetone (Venrick and Hayward, 1984) for a minimum of 24 hours. Chlorophyll a and phaeopigment concentrations were determined from fluorescence readings before and after acidification with a Turner Designs Fluorometer Model 10-AU-005-CE (Yentsch and Menzel, 1963; Holm-Hansen *et al*., 1965).

Evaluation of the water sample data involved comparisons with the CTD data, adjacent stations and consideration of the variation of a property as a function of density or depth and the relationships with other properties (Klein, 1973). Precision estimates for routine analyses were made on CalCOFI cruise 9003 and are reported in SIO Ref. 91-4.

Primary Productivity Sampling

Primary productivity samples were taken each day shortly before local apparent noon (LAN). Primary production was estimated from ^{14}C uptake using a simulated *in situ* technique. Light penetration was estimated from the Secchi depth (assuming that the 1% light level is three times the Secchi depth). The depths with ambient light intensities corresponding to light levels simulated by the on-deck incubators were identified and sampled on the rosette up-cast. Occasionally an extra bottle or two were tripped in addition to the usual 20 levels sampled in the combined rosette-productivity cast in order to maintain the normal sampling depth resolution. Triplicate samples (two light and one dark control) were drawn from each productivity sample depth into 250 ml polycarbonate incubation bottles. Samples were inoculated with 43.19 µCi of ^{14}C as $NaHCO_3$ (200 µl of 216 µCi/ml stock) prepared in a 0.3 g/liter solution of sodium carbonate (Fitzwater *et al*., 1982). Samples were incubated from LAN to civil twilight in seawater-cooled incubators with neutral-density screens which simulate *in situ* light levels. At the end of the incubation, the samples were filtered onto Millipore HA filters and placed in scintillation vials. One half ml of 10% HCl 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 cocktail were added to each sample and the samples were returned to SIO where the radioactivity was determined with a scintillation counter. Salinity, oxygen, nutrients, chlorophyll-*a* and phaeopigments were determined from all rosette productivity bottles.

Macrozooplankton Net Tows

Macrozooplankton was sampled with a 71 cm mouth diameter paired net (bongo net) equipped with 0.505mm plankton mesh. Bottom depth permitting, the nets were towed obliquely from 210 meters 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).

Avifauna Observations (Farallon Institute of Advanced Ecosystem Research)

Sea birds were counted within a 300-meter wide strip off to one side of the ship. Counts were made while underway between stations during periods of daylight. These counts were summed over 20 nautical mile (nm) intervals, or the distance between consecutive stations, whichever was less. Included at the end of this report are individual maps of the most numerous bird species (individuals/nm).

Ancillary Programs

Several ancillary programs produced data on these cruises that are not presented in this report. These programs include:

1) *Underway Data*: Continuous near surface measurements of temperature and salinity recorded from seawater pumped through the ship's uncontaminated seawater system. Water was drawn from a depth of approximately 3 meters. The data were logged in one-minute averages using a Sea-Bird Electronics, Inc., SBE 45 MicroTSG Thermosalinograph.

2) *ADCP*: Continuous profiles of ocean currents and acoustic backscatter between 20 and 500 meters deep were measured along the shiptrack from a hull-mounted 150 kHz Acoustic Doppler Current Profiler (ADCP). The ADCP data were averaged over 3-minute intervals. Sixty 8-meter depth bins were recorded. (T. Chereskin, SIO)

3) *Underway pCO_2 System* : The Pacific Marine Environmental Laboratory's underway pCO_2 system measures the partial pressure of CO_2 in the air and surface water while the ship is underway. The pCO_2 values, along with temperature and salinity data from the shipboard TSG are used to calculate the flux of CO_2 at the air-sea interface. The system determines CO_2 content with a Licor infrared detector and is calibrated with 4 gas cylinders provided by the Earth System Research Laboratory.

4) *California Current Ecosystem Long Term Ecological Research Program*: The CCE-LTER program augments standard CalCOFI measurements to further characterize the lower trophic levels as well as the carbon system. These additional samples, taken at all CalCOFI stations, are for measurements of particulate organic carbon and nitrogen, dissolved organic carbon and nitrogen, taxon-specific phytoplankton pigments, flow-cytometric counts of bacteria and picoautotrophs, microscopic counts of nano- microplankton, determination of mesozooplankton size structure using a Laser Optical Plankton Counter, and mesozooplankton community structure. (M. Ohman, SIO)

5) *SCCOOS Nearshore Observations*: The objective of these observations is to extend CalCOFI time series to the nearshore. Nearshore observations consist of 9 stations at the ends and interspersed with current CalCOFI lines on the 20 m isobath with a standard set of CalCOFI observations. (R. Goericke, SIO)

6) *Inorganic Carbon System*: The CalCOFI group collected samples for the characterization of the inorganic carbon system at selected locations along the cruise track. Total inorganic carbon and alkalinity will be measured which will allow the calculation of pH and pCO2. The objectives of these measurements are first the long-term characterization of the inorganic carbon system and its response to changing ocean climate and second measurements of pH in the coastal zone in order to monitor the impact of 'corrosive' waters on benthic ecosystems in the Southern California Bight. (R. Goericke, SIO)

7) *Marine mammal observations*: During daylight transits, visual line-transect surveys were conducted by marine mammal observers focusing on cetaceans. Acoustic line-transect surveys were performed using a towed hydrophone array which consists of multiple hydrophone elements that sample sounds up to 100 kHz allowing for localization of calling animals. Acoustic monitoring also takes place on individual stations using sonobuoys. (J. Hildebrand, SIO)

8) *Lagrangian Drifter Buoys*: Surface Velocity Program (SVP) drifters, drogued at 15 meters depth, were deployed at 7 stations. The drifter observations of position and SST approximately every hour following the 15-meter currents supplement Eulerian current profiles. This will provide new insight into the connection between continental shelf flows and the larger scale California Current located further offshore. Drifter pairs were deployed at 6 of the 7 stations to assess the relative motion of drifter pairs which gives an understanding of energy as a function of spatial scale. Drifter tracks are displayed in near real-time on the web (http://www.icess.ucsb.edu/drifter/realtime-SVP/index.php). (C. Ohlmann, UCSB)

TABULATED DATA

CTD/Rosette Cast Data

The time reported is the Coordinated Universal Time (UTC) of the first rosette bottle trip on the up cast. The rosette bottles tripped on the up cast are reported as cast 2, where cast 1 is considered to be the down CTD profile. The sample number reported is the cast number followed by a two-digit rosette bottle number. Bottom depths, determined acoustically, have been corrected using British Admiralty Tables (Carter, 1980) and are reported in meters. Weather conditions have been coded using WMO code 4501. Secchi depths are reported for most daylight stations.

Data values from discreet sampled CTD rosette were interpolated and are reported for standard depths. Interpolated or extrapolated standard level data are noted by the footnote "ISL" printed after the depth. Multiple bottles tripped at the same depth to provide water for ancillary programs are not used in the calculation of standard depth data. Density-related parameters have been calculated from the International Equation of State of Seawater 1980 (UNESCO, 1981b). Computed values of potential temperature, sigma-theta, specific volume anomaly (SVA), and dynamic height or geopotential anomaly are included with both observed and interpolated standard depth levels.

On stations where primary productivity samples were drawn a footnote appears after each productivity depth sampled. The corresponding primary productivity data are reported in a separate section following the tabulated rosette cast data.

Primary Productivity Data

In addition to the normal hydrographic data that are reported in the rosette cast data section, the tabulated data include: the *in situ* light levels at which the samples were collected, the uptake from each of the replicate light bottles, uptake 1 and uptake 2 (which have been corrected for dark uptake by subtracting the dark value), the mean of the two uptake values and the dark uptake. The uptake values are totals for the incubation period. Also shown are the times of LAN, civil twilight, and the value of the mean uptake integrated from the surface to the deepest sample, assuming the shallowest value continues to the surface and that negative values (when dark uptake exceeds light uptake) are zero. The uptake data are reported to two significant digits (values <1.00) or one decimal (values >1.00). Incubation time, LAN, and civil twilight are given in local Pacific Standard Time (PST); to convert to UTC, add eight hours to the PST time. Incubation light intensities are listed in a footnote at the bottom of each page.

Macrozooplankton Data

Macrozooplankton biomass volumes are tabulated as total biomass volume ($cm^3/1000m^3$ strained) and as the total volume minus the volume of larger organisms under the heading "Small." Tow times are given in local PST (+8) time.

FOOTNOTES

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

D: CTD salinity value listed in place of normal shipboard salinity analysis.
ISL: After a depth value indicates that this is an interpolated or extrapolated standard level.
U: Uncertain value. Values which are not used in interpolation because they seem to be in error without apparent reason.

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FIGURES

Cruise 0907

1. CalCOFI Cruise 0907 track and station positions.

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

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

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

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

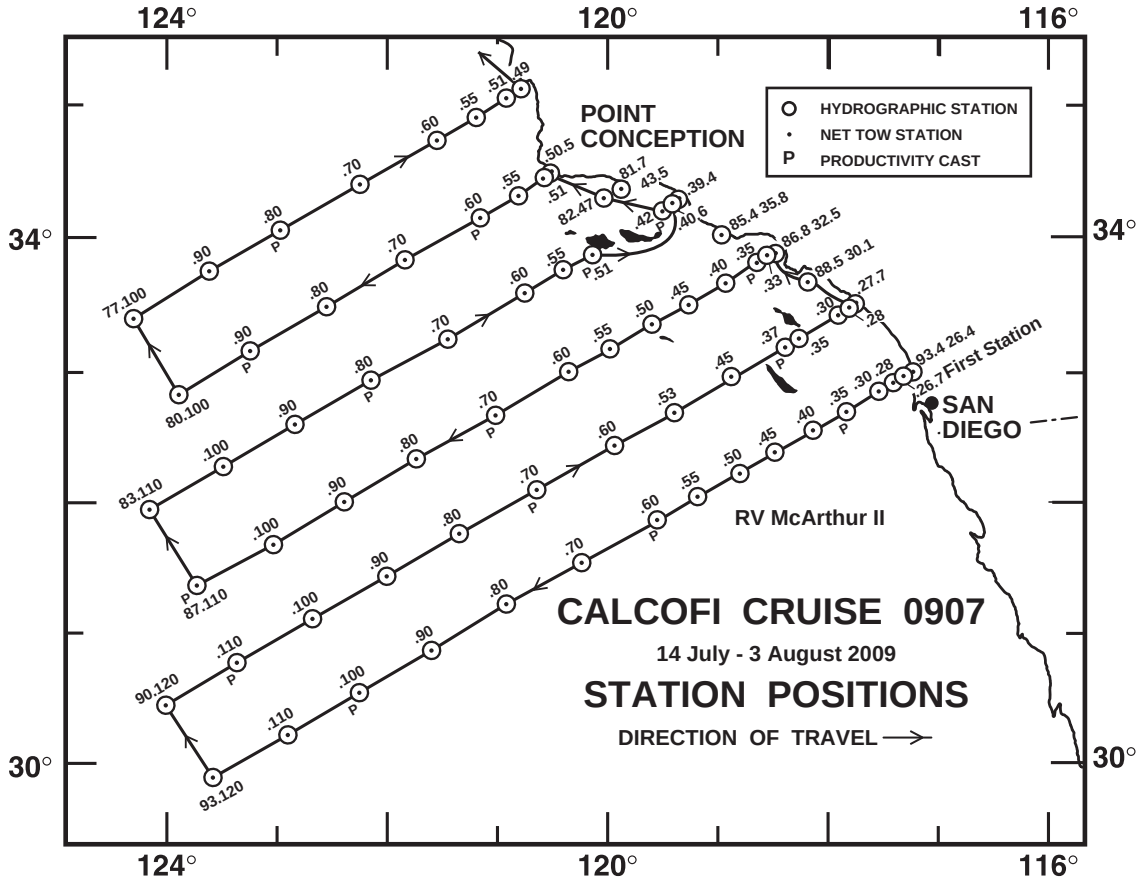

FIGURE 1

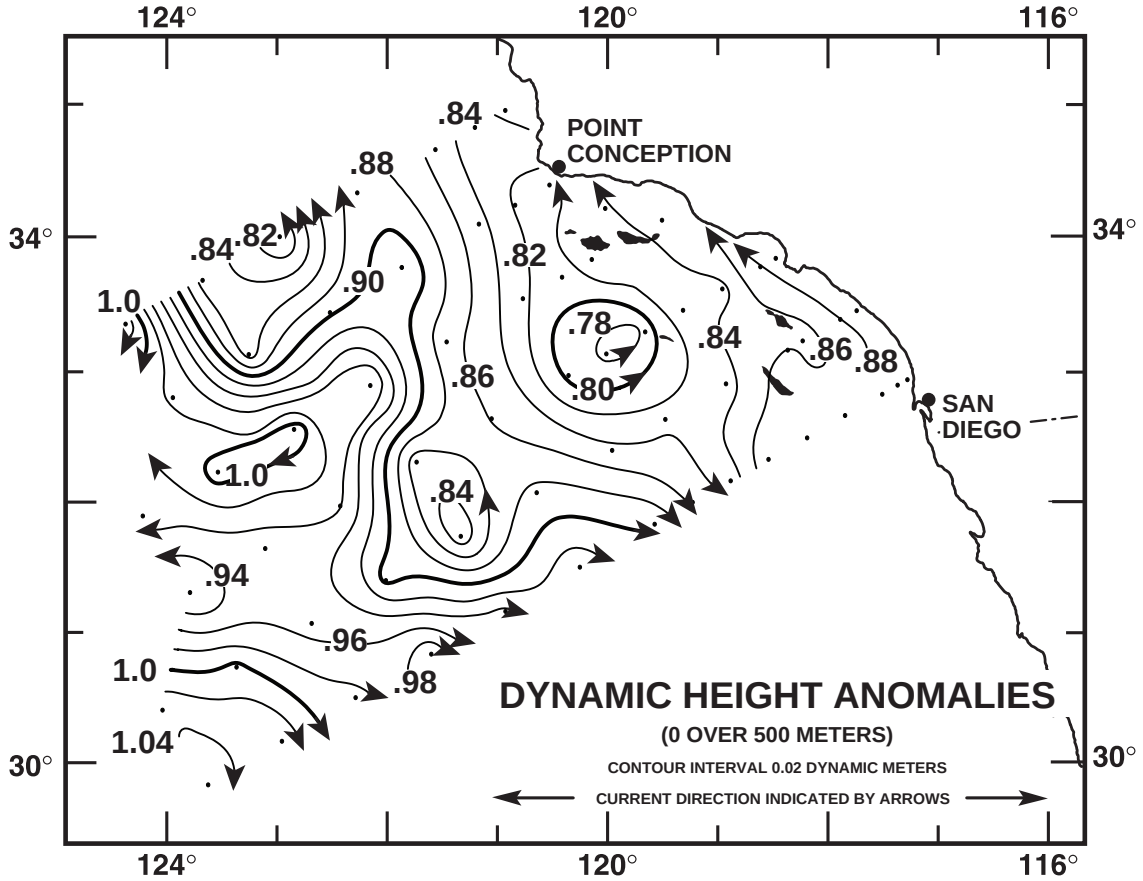

FIGURE 2

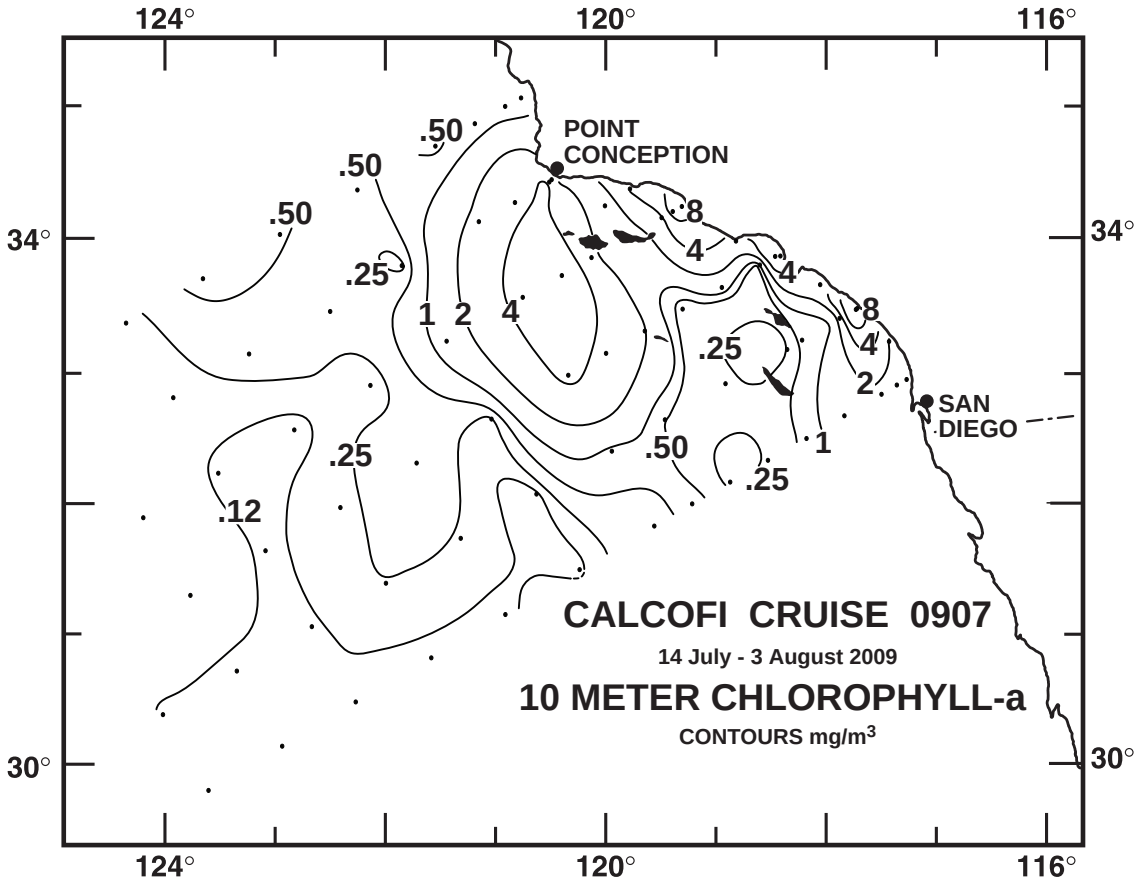

FIGURE 3A

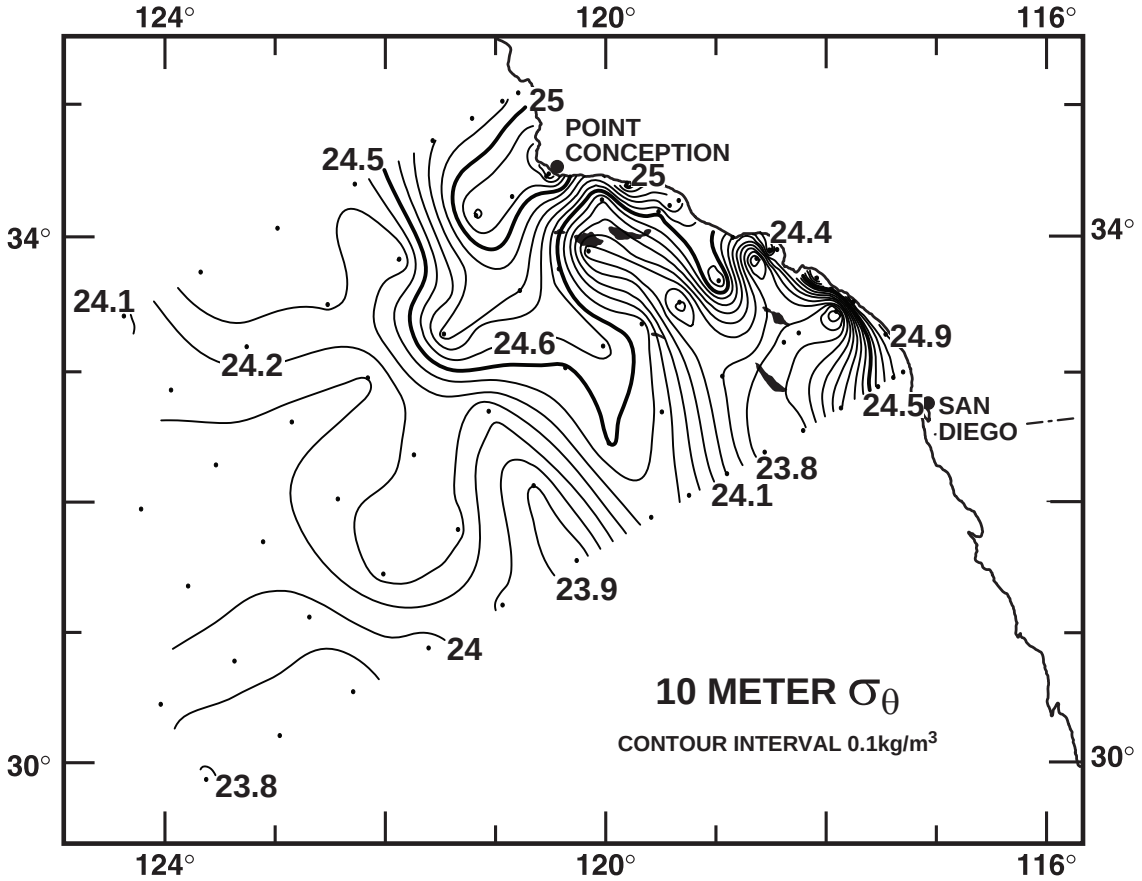

FIGURE 3B

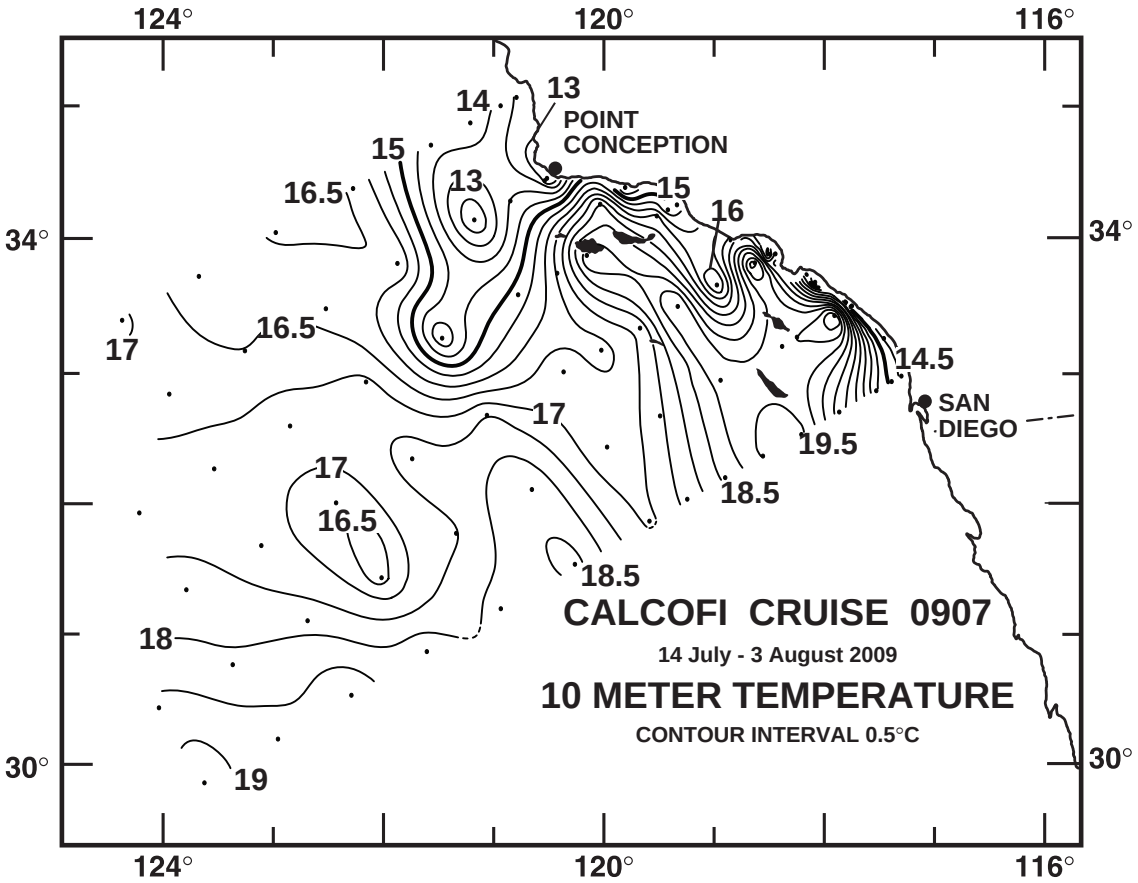

FIGURE 3C

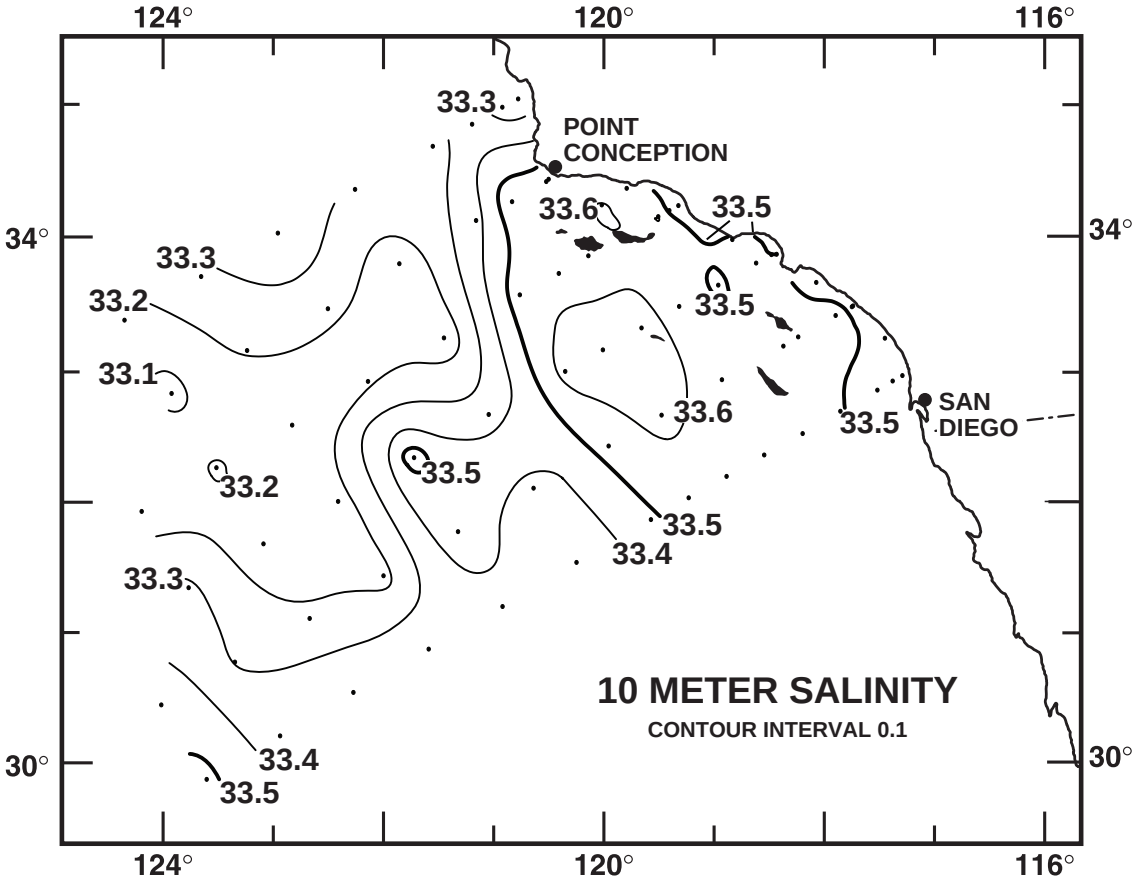

FIGURE 3D

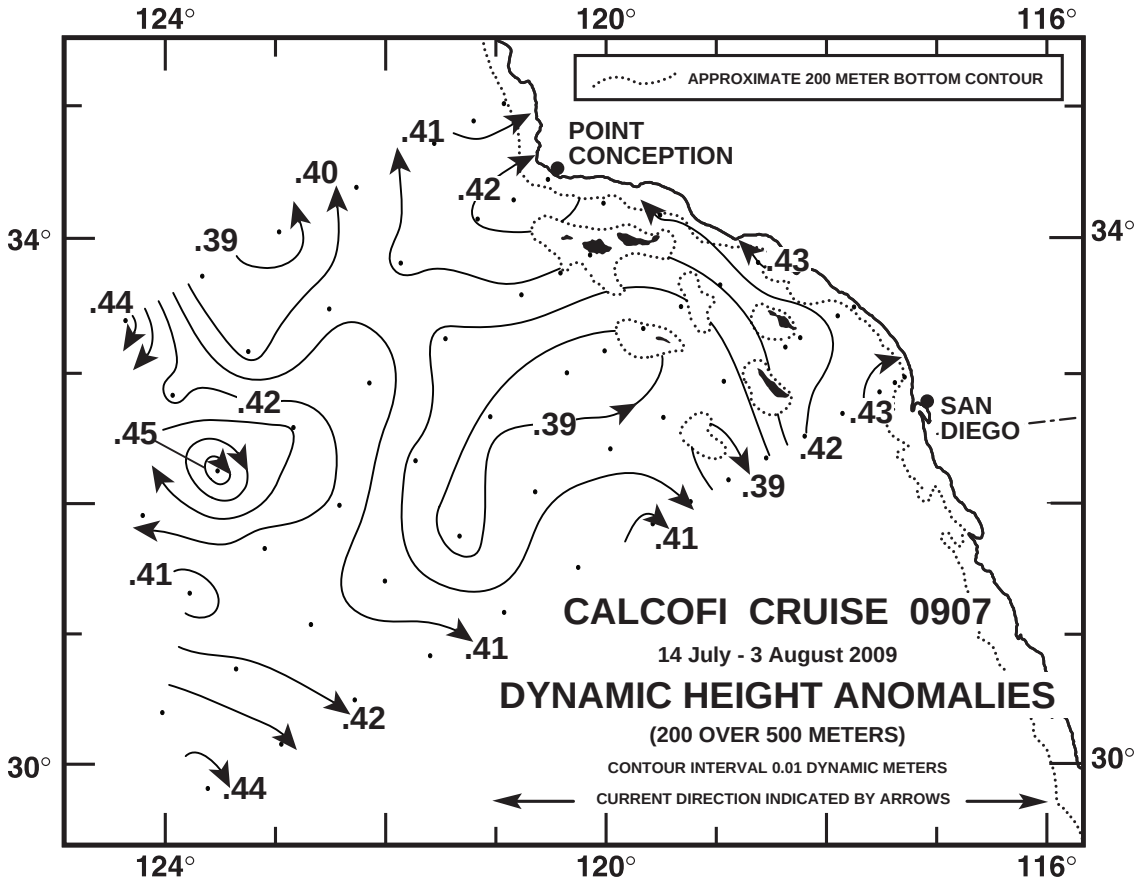

FIGURE 4A

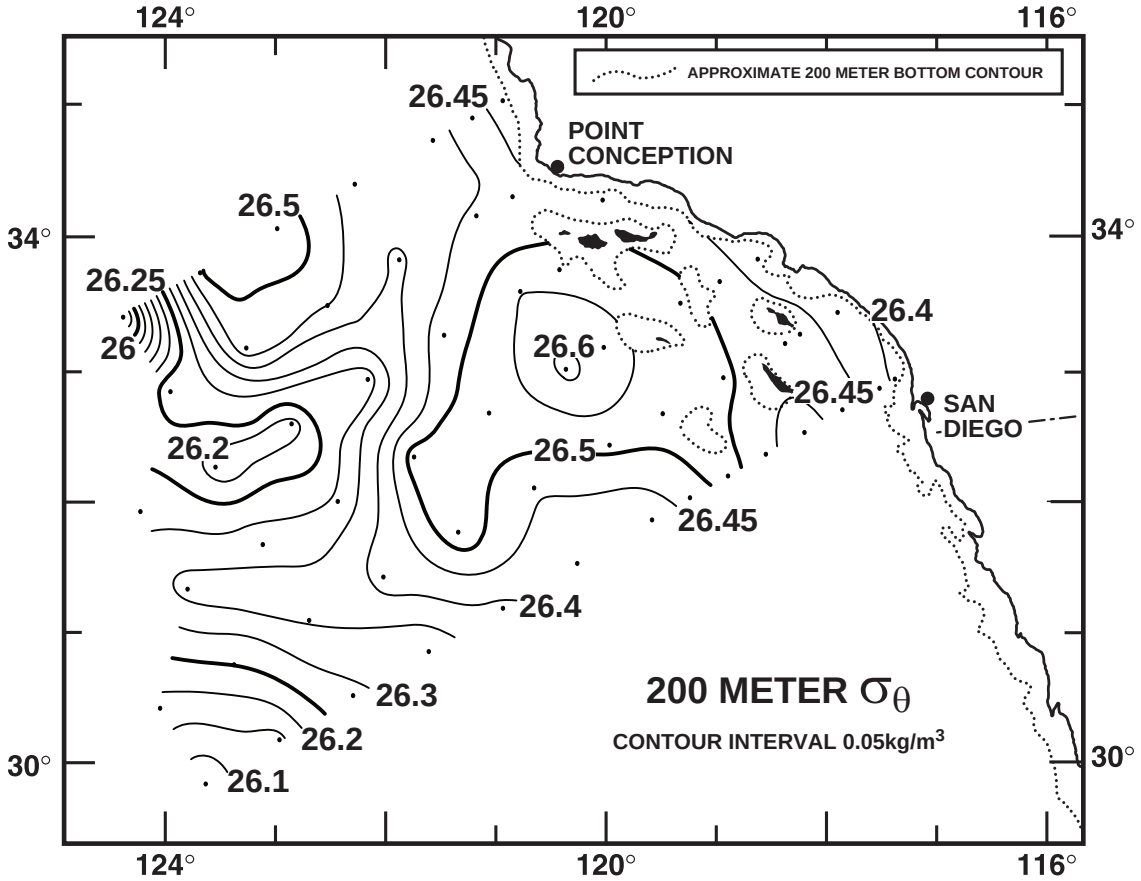

FIGURE 4B

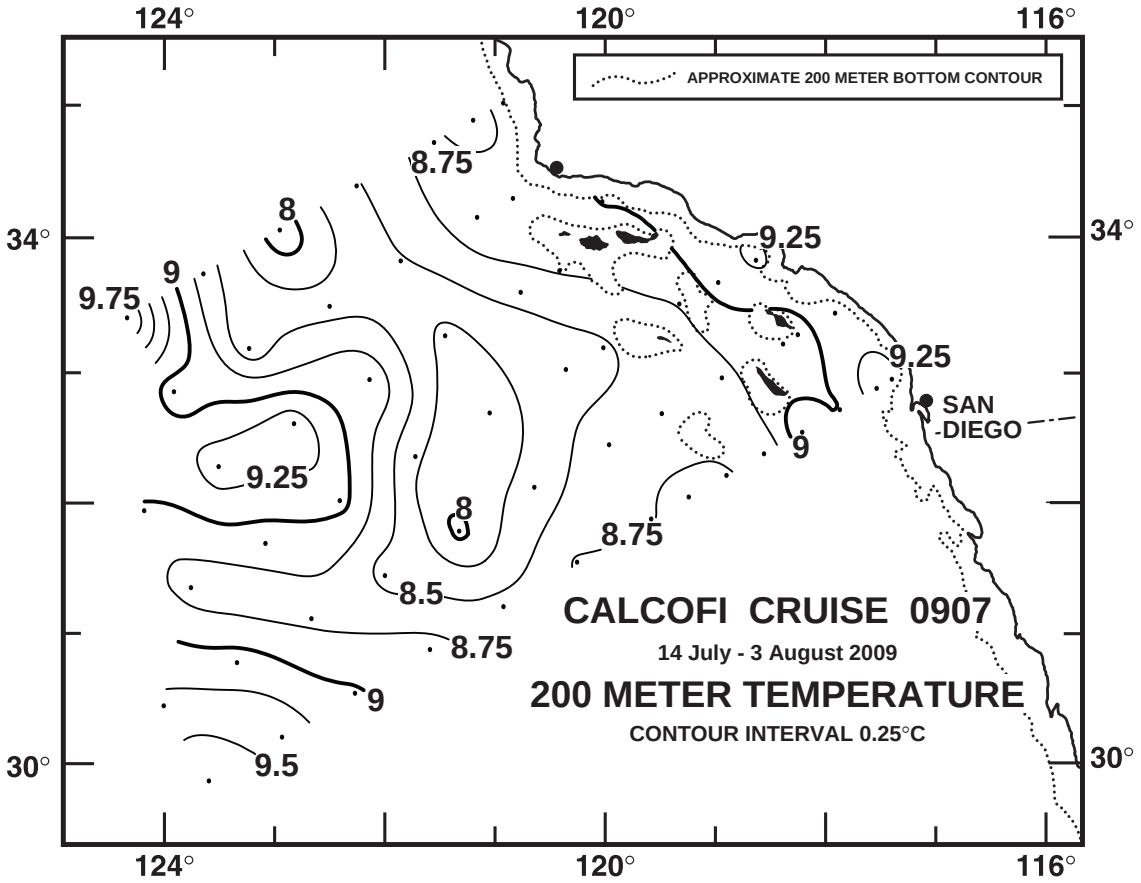

FIGURE 4C

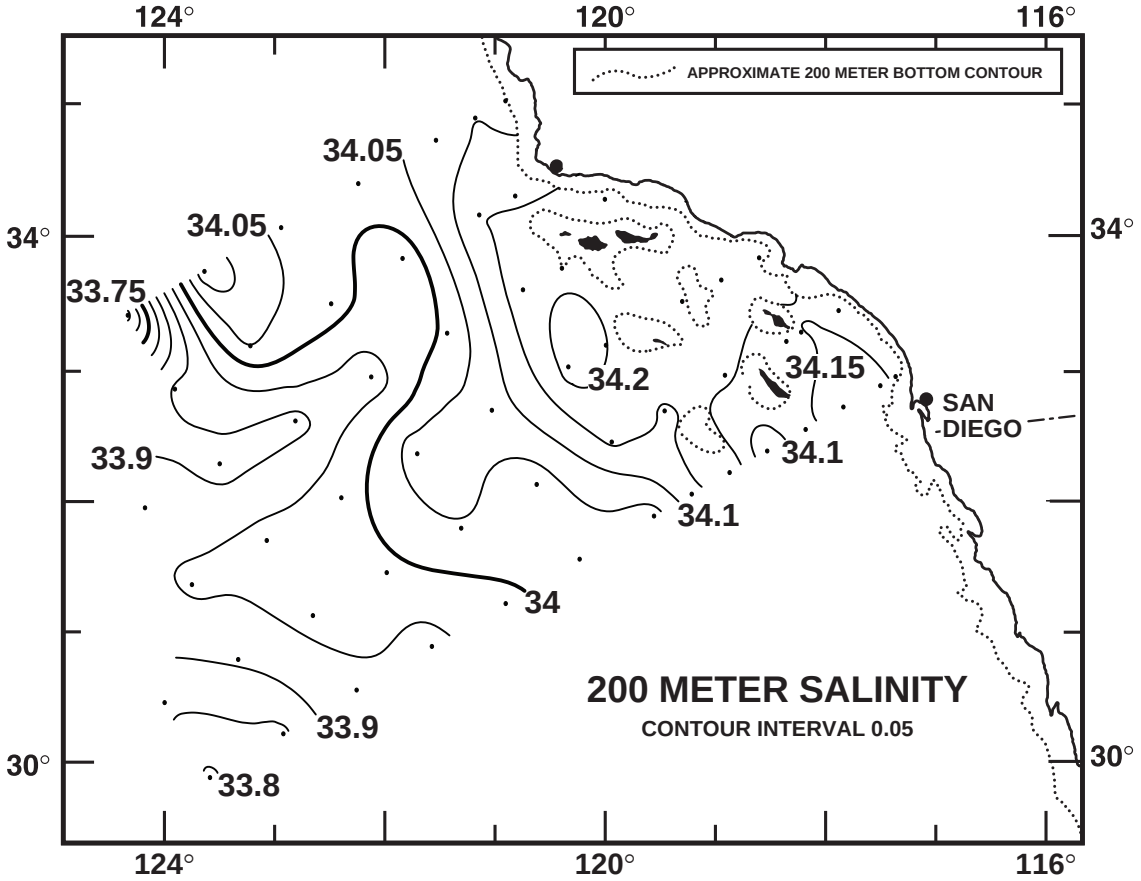

FIGURE 4D

CALCOFI CRUISE 0907

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POTENTIAL DENSITY (σ_θ) ALONG CALCOFI LINE 90

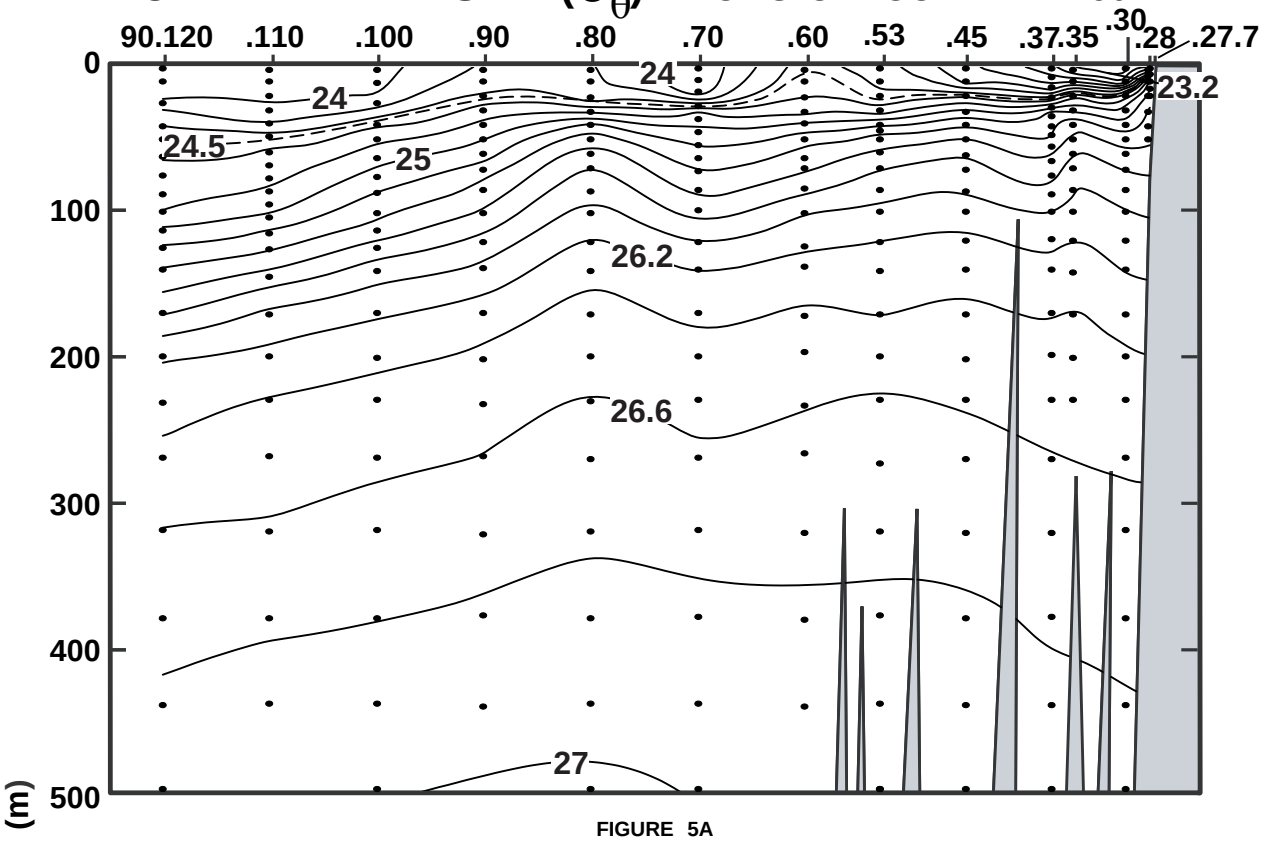

FIGURE 5A

TEMPERATURE (°C) ALONG CALCOFI LINE 90

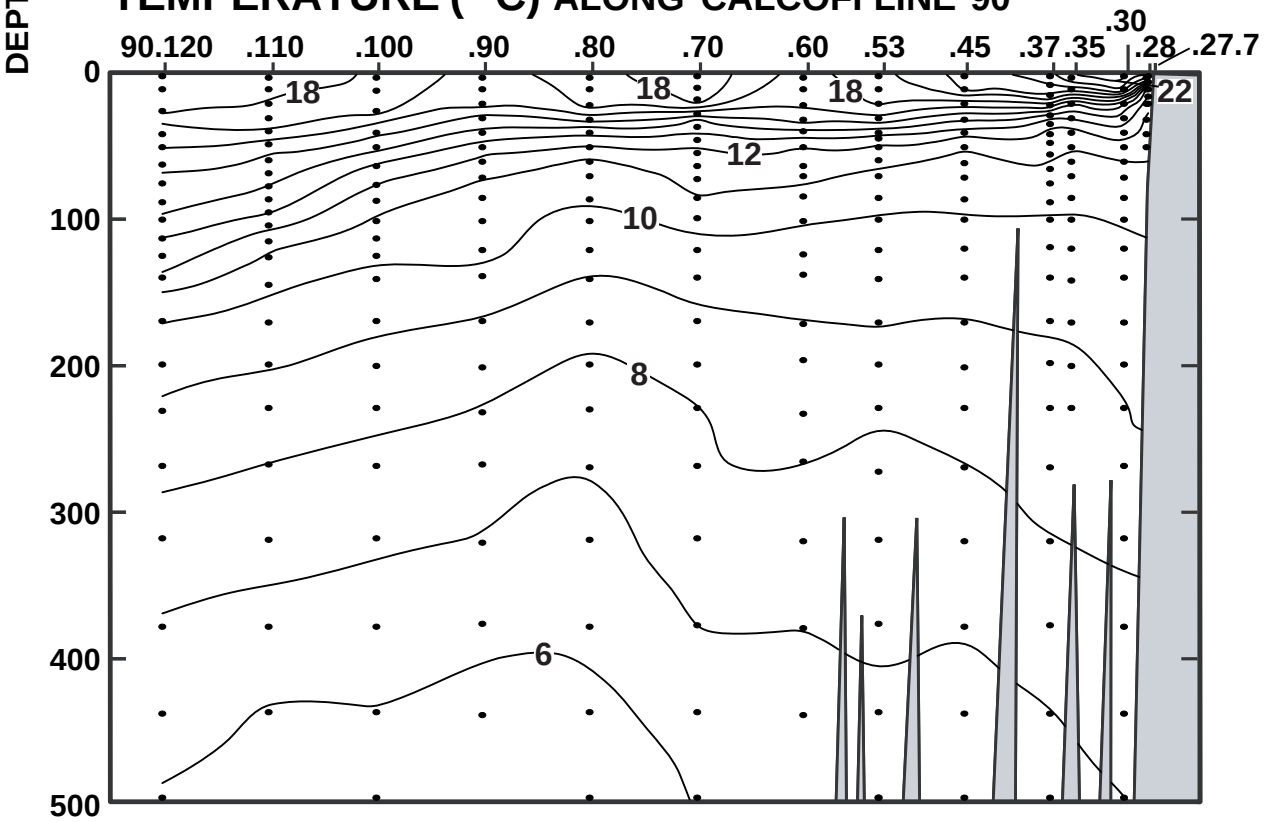

FIGURE 5B

CALCOFI CRUISE 0907

18 - 21 July 2009

SALINITY ALONG CALCOFI LINE 90

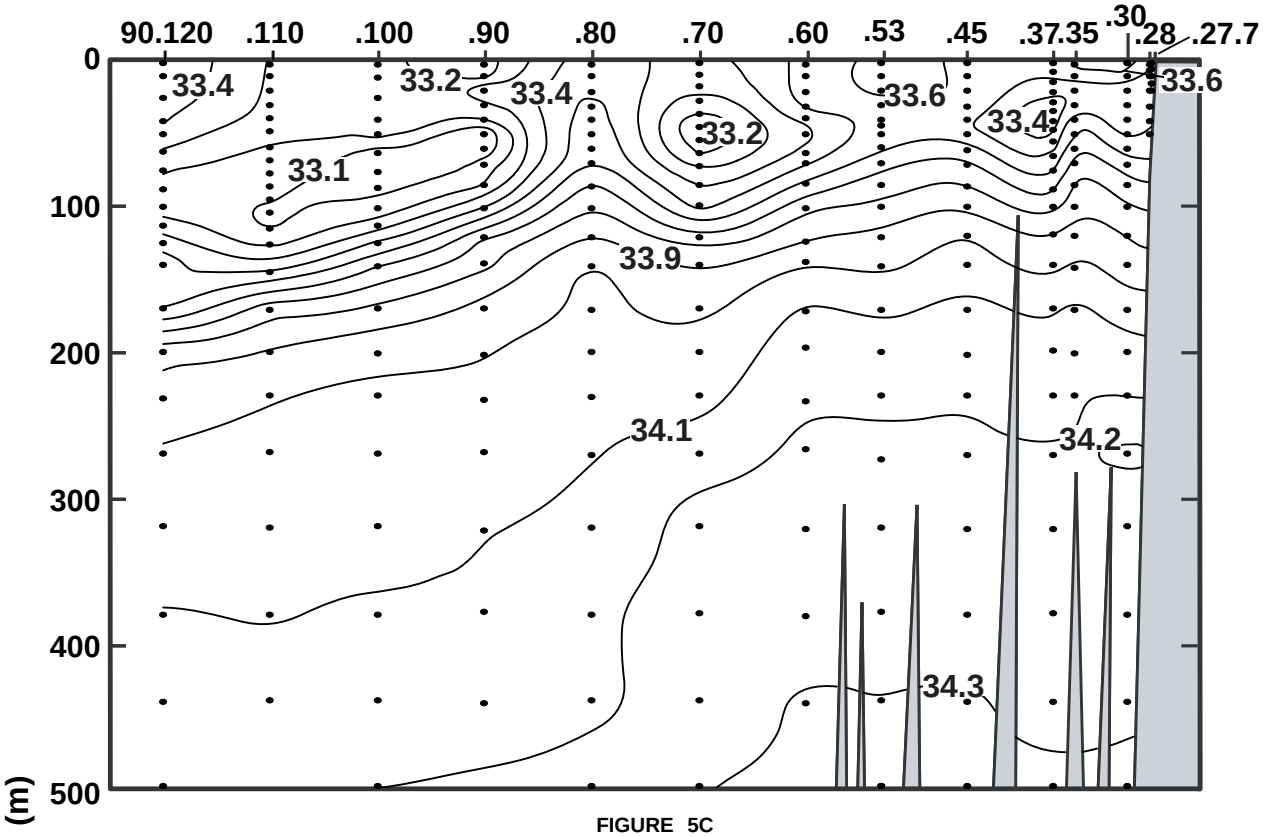

FIGURE 5C

SILICATE (μM/L) ALONG CALCOFI LINE 90

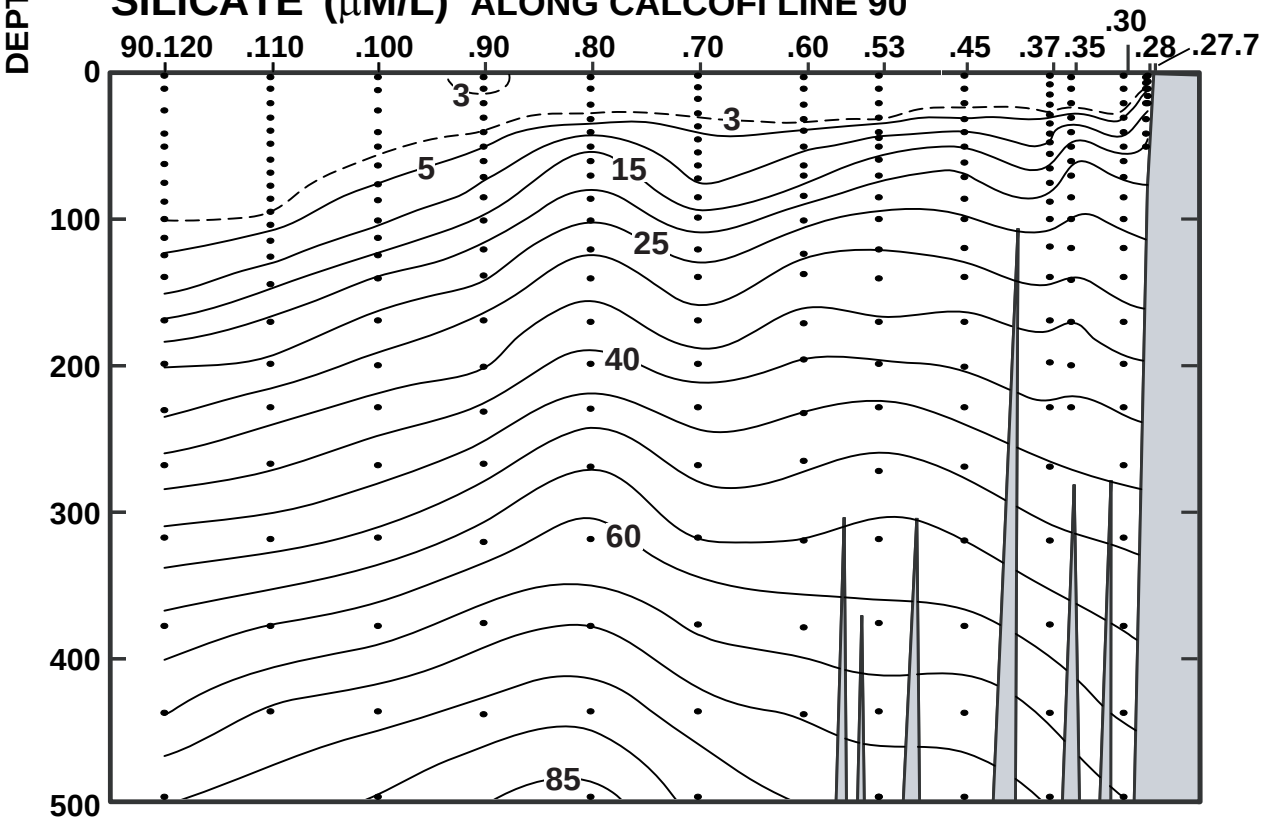

FIGURE 5D

CALCOFI CRUISE 0907

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NITRATE (μM/L) ALONG CALCOFI LINE 90

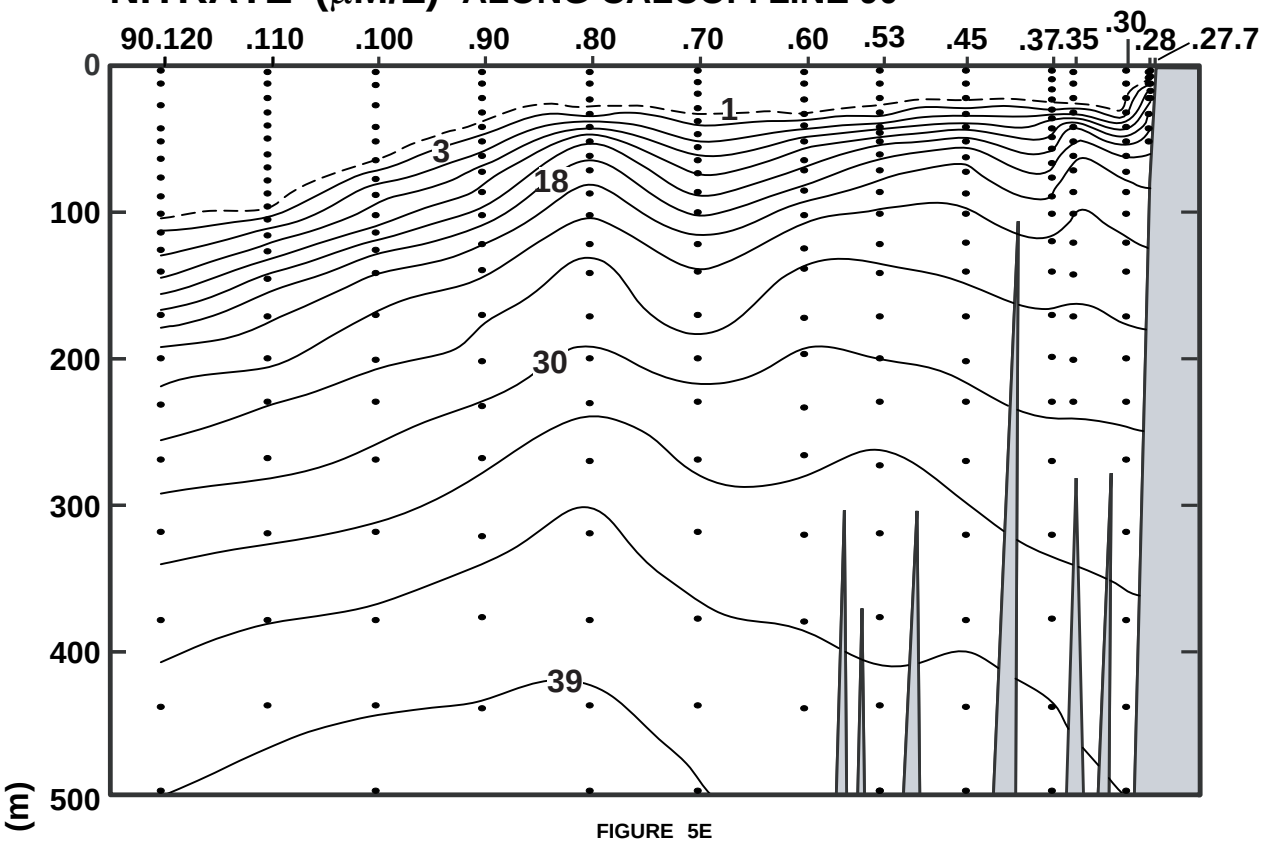

FIGURE 5E

PHOSPHATE (μM/L) ALONG CALCOFI LINE 90

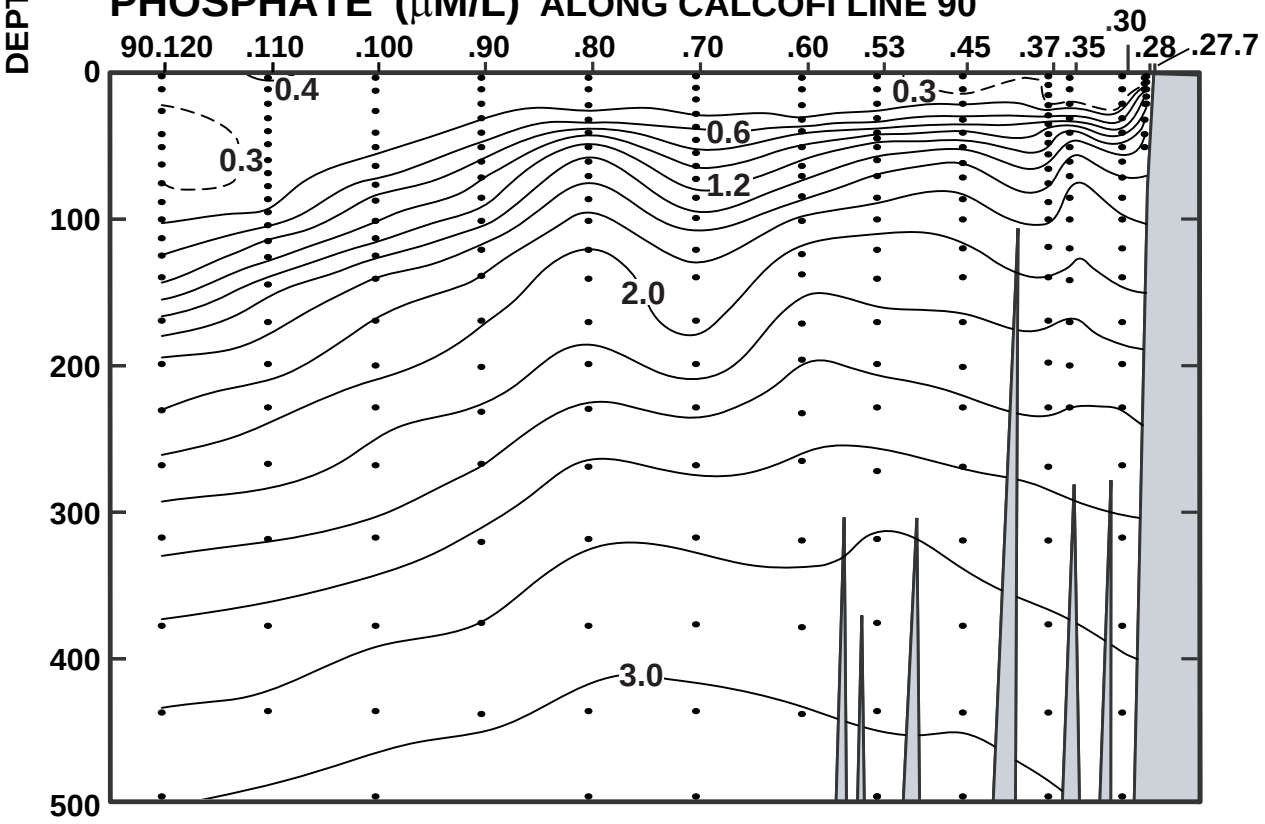

FIGURE 5F

CALCOFI CRUISE 0907

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

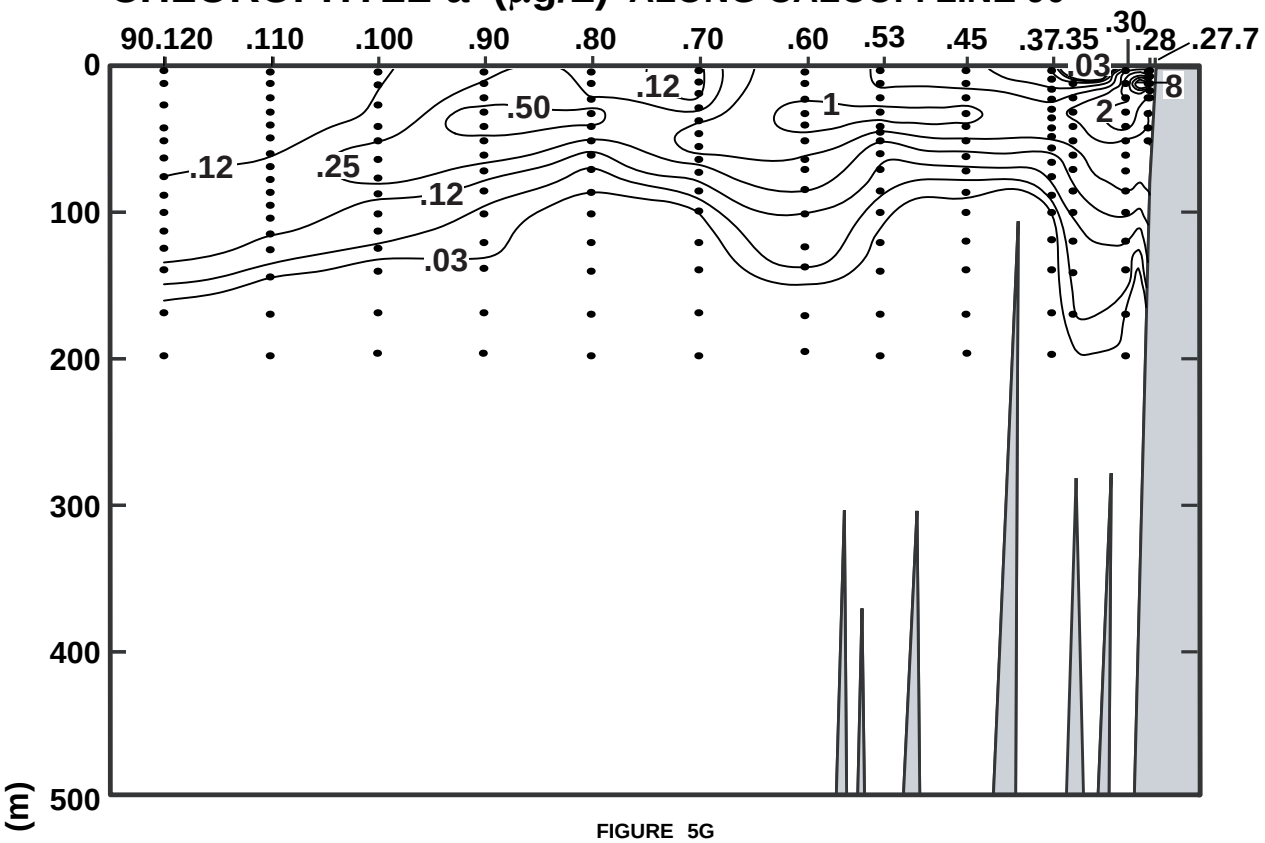

FIGURE 5G

OXYGEN SATURATION (%) ALONG CALCOFI LINE 90

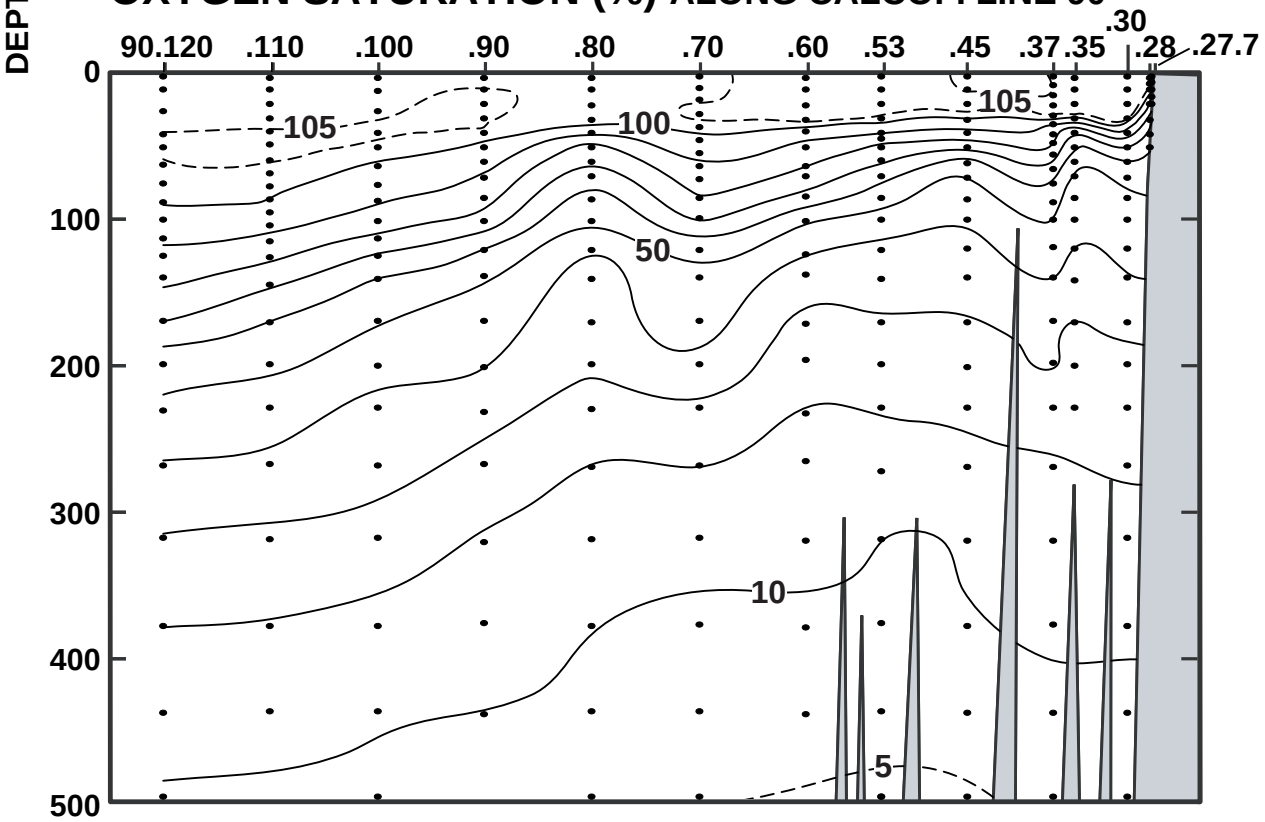

FIGURE 5H

CALCOFI CRUISE 0907

18 - 21 July 2009

OXYGEN (mL/L) ALONG CALCOFI LINE 90

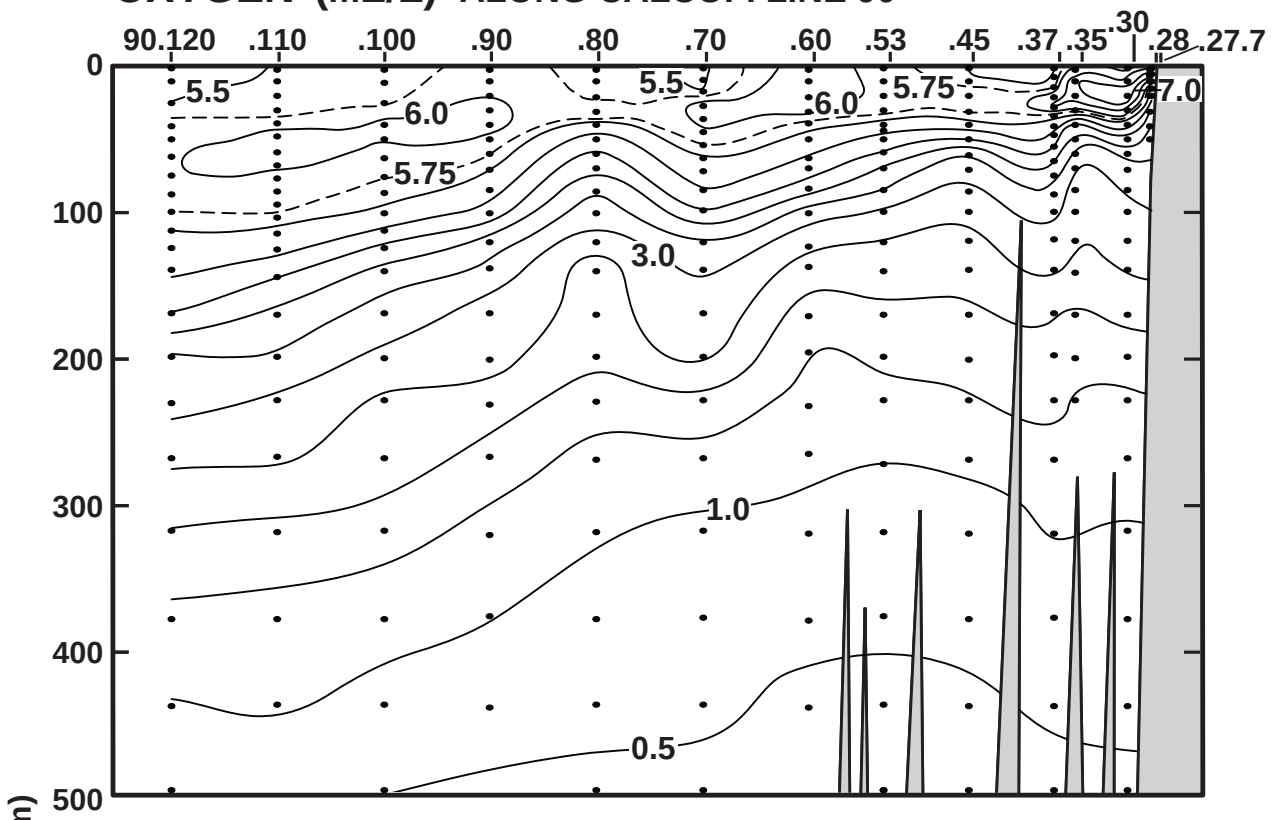

FIGURE 5I

NITRITE (μM/L) ALONG CALCOFI LINE 90

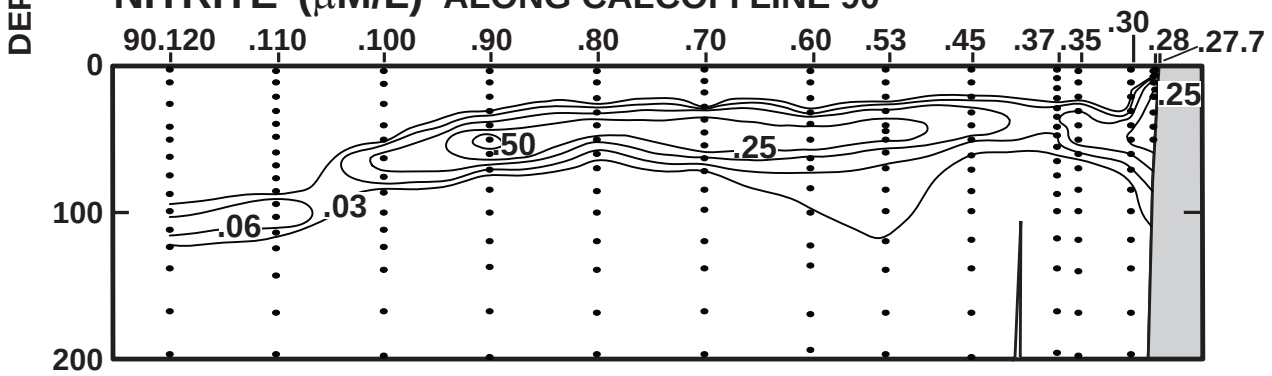

FIGURE 5J

PHAEOPIGMENTS (μg/L) ALONG CALCOFI LINE 90

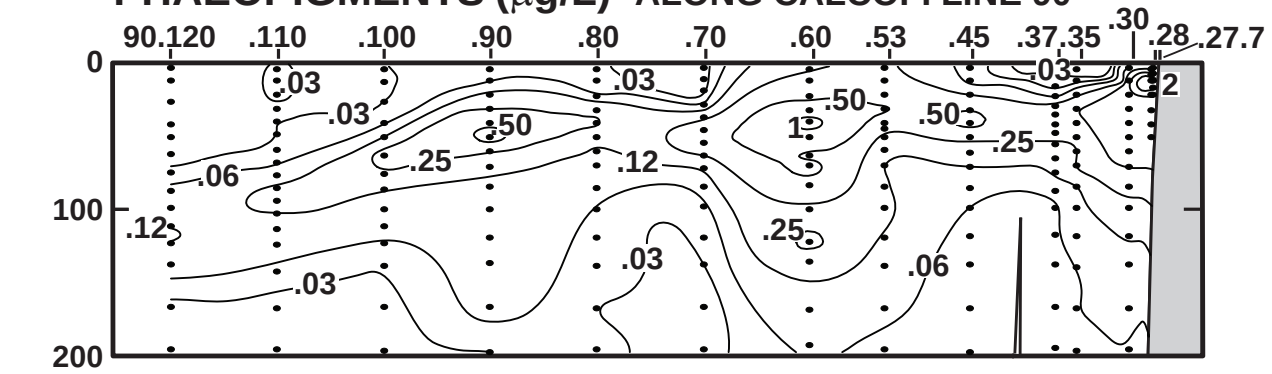

FIGURE 5K

PERSONNEL

CalCOFI Cruise 0907

SHIP'S CAPTAIN

Greg Hubner, RV *McArthur II*

PERSONNEL PARTICIPATING IN THE COLLECTION OF DATA

		Participating (Legs)
Griffith, David A. (Chief Scientist)	Fishery Biologist, NMFS	1,2
Blum, Marguerite R.	Oceanographer, MBARI	2
Dovel, Shonna L.	Staff Research Associate, SIO	1,2
Faber, David N.	Staff Research Associate, SIO	1,2
Force, Michael	Bird Observer, Farallon Institute	1,2
Havron, Andrea	Marine Mammal Observer, MPL	1
Hays, Amy E.	Fishery Biologist, NMFS	1,2
Manion, Sue	Fishery Biologist, NMFS	1,2
Merkin, Karlina	Staff Research Associate, MPL	1
Overcash, Brian J.	Staff Research Associate, SIO	1,2
Perez, Elena M.	Volunteer	1,2
Roadman, Megan J.	Staff Research Associate, SIO	1,2
Rodgers-Wolgast, Jennifer L.	Staff Research Associate, SIO	1,2
Schuller, Daniel G.	Staff Research Associate, SIO	1,2
Uyehara-Perryman, David A.	Contractor, MBARI	2
Wilkinson, James A.	Programmer Analyst, SIO	1,2
Wolgast, David M.	Staff Research Associate, SIO	1,2

Leg 1: San Diego to Avila, California, 14-30 July, 2009
Leg 2: Dana Point to San Francisco, California, 30 July-4 August, 2009

RV MCARTHUR II CALCOFI CRUISE 0907 STATION 60.0 53.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
37 50.9 N	123 5.9 W	03/08/09	1721 UTC	90 m	040 02 kn	290 01 07	2	1017.2 mb	15.1 C	14.1 C		8/8	SC

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	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	12.80	12.80	33.603	25.351	261.4	0.000	6.42	107.0	20.6	1.32	14.5	0.19	0.03	2.22	0.90	0	
1	12.80	12.80	33.603	25.351	261.4	0.003	6.42	107.0	20.6	1.32	14.5	0.19	0.03	2.22	0.90	1	215
5	11.34	11.34	33.628	25.646	233.4	0.013	6.18	99.8	22.2	1.45	16.5	0.19	0.01	2.69	1.33	5	213
10	10.66	10.66	33.661	25.794	219.5	0.024	5.82	92.7	24.0	1.59	19.1	0.17	0.00	3.45	1.66	10	211
20	10.15	10.15	33.686	25.901	209.5	0.045	4.88	76.8	25.9	1.86	22.6	0.31	0.39	1.50	0.68	20	209
30	9.95	9.95	33.688	25.937	206.3	0.066	4.64	72.7	26.4	1.90	23.4	0.32	0.33	1.02	0.43	30	207
40	10.07	10.07	33.803	26.007	199.9	0.086	4.63	72.8	28.9	2.04	23.9	0.30	1.42	0.65	0.36	40	205
50 ISL	9.69 D	9.68	33.826 D	26.088	192.4	0.106	3.99	62.2	30.7	2.17	26.3	0.29	0.97	0.38	0.30	50	
61	9.44	9.43	33.836	26.137	187.9	0.127	3.15	48.9	32.8	2.29	29.1	0.28	0.48	0.18	0.24	61	203
75 ISL	9.16 D	9.15	33.849 D	26.193	182.9	0.153	2.73	42.1	36.8	2.36	29.5	0.24	0.13	0.11	0.49	75	
80	9.17	9.16	33.849	26.192	183.1	0.162	2.58	39.8	38.2	2.38	29.7	0.22	0.00	0.08	0.58	80	201

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS;PRIMARY T; PRIMARY CORRECTED S;

RV MCARTHUR II CALCOFI CRUISE 0907 STATION 60.0 60.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
37 36.7 N	123 36.6 W	03/08/09	1126 UTC	3286 m	340 08 kn			1015.8 mb	16.2 C	15.0 C			

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	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	15.87	15.87	33.024	24.258	365.4	0.000	5.82	102.9	2.0	0.43	0.5	0.01	0.02	0.24	0.07	0	
2	15.87	15.87	33.024	24.258	365.5	0.007	5.82	102.9	2.0	0.43	0.5	0.01	0.02	0.24	0.07	2	223
10	15.65	15.65	33.041	24.321	359.8	0.036	5.88	103.5	1.9	0.38	0.1	0.00	0.01	0.26	0.09	10	221
20	15.08	15.08	33.037	24.443	348.4	0.072	6.01	104.6	2.1	0.39	0.1	0.01	0.01	0.44	0.20	20	219
30	13.64	13.64	32.994	24.713	323.0	0.105	6.12	103.4	3.2	0.57	2.4	0.12	0.08	0.55	0.29	30	217
40	12.44	12.43	32.983	24.941	301.4	0.137	6.05	99.6	4.2	0.68	3.8	0.24	0.12	0.61	0.39	40	215
50 ISL	11.24 D	11.23	32.986 D	25.166	280.1	0.166	5.81	93.3	6.1	0.84	6.7	0.15	0.07	0.49	0.33	50	
60	10.83	10.82	33.053	25.291	268.4	0.193	5.56	88.5	8.3	1.01	9.9	0.05	0.00	0.33	0.25	60	213
75 ISL	10.98 D	10.97	33.259 D	25.426	256.0	0.232	5.49	87.8	11.4	1.22	13.1	0.23	0.04	0.30	0.33	75	
80	10.73	10.72	33.283	25.488	250.1	0.245	5.47	87.0	12.4	1.28	14.0	0.29	0.06	0.30	0.36	80	211
100 ISL	10.20 D	10.19	33.375 D	25.652	235.0	0.294	4.97	78.2	17.0	1.46	17.5	0.10	0.00	0.10	0.16	101	
101	10.18	10.17	33.383	25.661	234.0	0.296	4.94	77.7	17.2	1.47	17.7	0.09	0.00	0.09	0.15	102	209
125 ISL	9.77 D	9.76	33.621 D	25.916	210.3	0.349	3.97	61.9	22.8	1.75	22.3	0.05	0.00	0.06	0.13	126	
150	9.37	9.35	33.800	26.122	191.2	0.399	3.03	46.9	28.3	2.01	26.4	0.00	0.00	0.03	0.11	151	207
200	8.34	8.32	33.902	26.364	168.9	0.489	2.60	39.4	36.3	2.22	30.2	0.00	0.00	0.01	0.07	201	205
250 CSL	7.86	7.84	34.031	26.537	153.1	0.570										252	200
300 CSL	7.38	7.35	34.048	26.620	145.9	0.645										302	200
400 CSL	6.37	6.33	34.086	26.788	130.8	0.783										403	200
500 CSL	5.68	5.64	34.140	26.918	119.2	0.908										504	200
516	5.73	5.69	34.172	26.938	117.6	0.927	0.60	8.6	77.7	3.03	40.3	0.00	0.00			520	203
600 CSL	5.48	5.43	34.244	27.026	110.1	1.023										605	200
700 CSL	5.08	5.02	34.312	27.127	101.1	1.128										705	200
800 CSL	4.83	4.77	34.360	27.195	95.5	1.226										807	200
900 CSL	4.43	4.36	34.385	27.259	89.7	1.319										908	200
1000 CSL	4.08	4.00	34.419	27.324	83.9	1.406										1009	200
1026	3.98	3.90	34.433	27.345	81.9	1.427	0.30	4.1	121.2	3.30	44.2	0.00	0.00			1035	201

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS;PRIMARY T; PRIMARY CORRECTED S;

RV MCARTHUR II CALCOFI CRUISE 0907 STATION 60.0 65.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
37 27.1 N	123 58.2 W	03/08/09	0825 UTC	3735 m	140 03 kn			1015.9 mb	17.0 C	15.4 C			

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	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	16.41	16.41	33.036	24.145	376.2	0.000	5.85	104.5	2.1	0.38	0.1	0.00	0.00	0.29	0.09	0	
2	16.41	16.41	33.036	24.145	376.3	0.008	5.85	104.5	2.1	0.38	0.1	0.00	0.00	0.29 A	0.09 A	2	223
10	15.61	15.61	33.026	24.318	360.0	0.037	5.97	105.0	2.2	0.40	0.3	0.02	0.03	0.44	0.14	10	221
20	14.12	14.12	33.052	24.658	327.9	0.071	6.22	106.1	3.9	0.58	2.8	0.10	0.03	0.84	0.28	20	219
30	13.64	13.64	33.102	24.796	315.0	0.104	6.28	106.1	4.9	0.67	4.3	0.14	0.04	0.91	0.38	30	217
40	13.30	13.29	33.316	25.031	293.0	0.134	6.35	106.7	5.9	0.80	6.3	0.17	0.23	1.38	0.62	40	215
50 ISL	13.00 D	12.99	33.416 D	25.168	280.2	0.163	6.11	102.1	7.3	0.94	8.1	0.27	0.56	1.18	0.56	50	
61	12.03	12.02	33.375	25.324	265.5	0.193	5.73	93.8	9.4	1.10	10.1	0.39	0.82	0.73	0.40	61	213
75 ISL	11.26 D	11.25	33.397 D	25.483	250.6	0.229	5.39	86.8	12.8	1.30	13.4	0.46	0.58	0.56	0.39	75	
80	11.35	11.34	33.459	25.515	247.7	0.241	5.28	85.2	14.1	1.37	14.6	0.49	0.44	0.51	0.39	80	211
100 ISL	10.04 D	10.03	33.423 D	25.716	228.8	0.289	4.78	74.9	18.4	1.56	18.6	0.22	0.08	0.15	0.20	101	
101	10.03	10.02	33.425	25.719	228.5	0.291	4.75	74.5	18.6	1.57	18.8	0.20	0.07	0.13	0.19	102	209
125 ISL	9.66 D	9.65	33.669 D	25.972	205.0	0.343	3.91	60.9	25.2	1.84	23.8	0.11	0.04	0.07	0.13	126	
150 ISL	8.60 D	8.58	33.816 D	26.256	178.2	0.391	3.08	46.9	31.6	2.09	28.0	0.01	0.01	0.01	0.07	151	
151	8.68	8.66	33.819	26.246	179.2	0.393	3.05	46.5	31.8	2.10	28.2	0.01	0.01	0.01	0.07	152	207
200 ISL	8.24 D	8.22	33.977 D	26.438	161.8	0.476	2.29	34.6	37.7	2.27	30.8	0.00	0.00	0.01	0.06	201	
203	8.19	8.17	33.981	26.449	160.8	0.481	2.26	34.1	37.9	2.27	30.8	0.00	0.00	0.01	0.06	204	205
250 CSL	7.58	7.56	34.031	26.578	149.1	0.554										252	200
300 CSL	7.36	7.33	34.109	26.671	141.0	0.627										302	200
400 CSL	6.11	6.07	34.102	26.834	126.2	0.760										403	200
500 CSL	6.02	5.98	34.250	26.963	115.3	0.881										504	200
515	5.98	5.93	34.257	26.974	114.5	0.898	0.38	5.5	79.0	3.13	40.2	0.00	0.00			519	203
600 CSL	5.33	5.28	34.251	27.049	107.7	0.993										605	200
700 CSL	4.99	4.93	34.320	27.144	99.4	1.096										706	200
800 CSL	4.60	4.54	34.368	27.226	92.1	1.192										807	200
900 CSL	4.30	4.23	34.414	27.296	86.0	1.281										908	200
1000 CSL	3.94	3.86	34.450	27.363	79.9	1.364										1009	200
1027	3.84	3.76	34.459	27.380	78.3	1.385	0.40	5.5	123.8	3.30	44.6	0.00	0.00			1036	201

A) SECOND FLUOROMETER READING NOT RECORDED, CHLOROPHYLL AND PHAEOPIGMENT
CALCULATED WITH ASSUMED ACID RATIO INTERPOLATED FROM ADJACENT LEVELS.
D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS;PRIMARY T; PRIMARY CORRECTED S;

RV MCARTHUR II CALCOFI CRUISE 0907 STATION 60.0 70.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
37 17.0 N	124 19.8 W	03/08/09	0434 UTC	3987 m	150 09 kn			1015.6 mb	16.9 C	15.6 C			

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	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	16.88	16.88	32.963	23.980	391.9	0.000	5.77	104.0	2.0	0.51	1.3	0.02	0.08	0.30	0.09	0	
2	16.88	16.88	32.963	23.980	392.0	0.008	5.77	104.0	2.0	0.51	1.3	0.02	0.08	0.30	0.09	2	223
10	16.10	16.10	33.132	24.290	362.7	0.038	5.88	104.5	1.6	0.64	3.6	0.07	0.09	0.39	0.10	10	221
20	15.79	15.79	33.157	24.379	354.5	0.074	5.92	104.5	1.5	0.64	3.8	0.07	0.07	0.44	0.14	20	219
30	15.01	15.01	33.069	24.483	344.9	0.109	6.03	104.8	1.6	0.63	3.3	0.07	0.15	0.55	0.19	30	217
40	13.38	13.37	32.904	24.696	324.8	0.142	6.34	106.4	2.2	0.61	2.6	0.09	0.19	0.57	0.28	40	215
50 ISL	11.83 D	11.82	32.762 D	24.885	307.0	0.174	6.22	101.0	3.6	0.70	3.2	0.20	0.48	0.48	0.25	50	
60	11.42	11.41	32.797	24.987	297.4	0.204	6.09	98.0	5.4	0.83	4.8	0.29	0.70	0.34	0.22	60	213
75 ISL	9.80 D	9.79	32.704 D	25.194	277.8	0.247	5.83	90.5	8.5	0.98	8.2	0.13	0.23	0.18	0.13	75	
80	9.40	9.39	32.742	25.289	268.8	0.261	5.72	88.0	9.7	1.04	9.6	0.06	0.04	0.14	0.10	80	211
100	8.76	8.75	32.996	25.588	240.7	0.312	5.06	76.9	16.3	1.38	15.6	0.03	0.00	0.04	0.07	100	209
125 ISL	8.98 D	8.97	33.495 D	25.945	207.3	0.368	4.32	66.2	22.1	1.63	20.5	0.02	0.00	0.02	0.04	126	
150	8.60	8.58	33.704	26.168	186.5	0.417	3.64	55.4	27.0	1.81	23.8	0.01	0.00	0.01	0.03	151	207
200 ISL	7.92 D	7.90	33.986 D	26.492	156.5	0.503	2.34	35.1	39.0	2.20	29.5	0.00	0.00	0.00	0.03	201	
201	7.92	7.90	33.992	26.497	156.1	0.504	2.32	34.8	39.2	2.21	29.6	0.00	0.00	0.00	0.03	202	205
250 CSL	7.25	7.23	34.009	26.607	146.2	0.579										252	200
300 CSL	6.69	6.66	34.029	26.700	137.9	0.650										302	200
400 CSL	6.04	6.01	34.121	26.858	123.9	0.780										403	200
500 CSL	5.48	5.44	34.187	26.979	113.2	0.899										504	200
516	5.42	5.38	34.198	26.995	111.8	0.917	0.46	6.5	84.0	3.09	40.3	0.00	0.00			520	203
600 CSL	5.13	5.08	34.267	27.085	104.0	1.008										605	200
700 CSL	4.71	4.65	34.332	27.185	95.1	1.107										705	200
800 CSL	4.31	4.25	34.372	27.261	88.3	1.199										807	200
900 CSL	4.10	4.03	34.425	27.326	82.8	1.284										908	200
1000 CSL	3.89	3.81	34.457	27.373	78.8	1.365										1009	200
1027	3.81	3.73	34.469	27.391	77.2	1.386	0.45	6.1	124.3	3.23	43.5	0.00	0.00			1036	201

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS;PRIMARY T; PRIMARY CORRECTED S;

RV MCARTHUR II CALCOFI CRUISE 0907 STATION 60.0 75.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
37 7.2 N	124 41.3 W	03/08/09	0126 UTC	4155 m	110 09 kn	330 01 10	2	1015.5 mb	17.7 C	15.3 C		7/8	SC

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	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	15.93	15.93	32.886	24.139	376.8	0.000	5.97	105.6	1.8	0.51	1.2	0.03	0.05	0.30	0.08	0	
1	15.93	15.93	32.886	24.139	376.8	0.004	5.97	105.6	1.8	0.51	1.2	0.03	0.05	0.30	0.08	1	223
10	15.55	15.55	33.040	24.342	357.7	0.037	6.00	105.4	1.8	0.59	2.7	0.06	0.07	0.28	0.10	10	221
20	14.90	14.90	32.917	24.389	353.5	0.072	6.15	106.5	1.7	0.53	1.7	0.04	0.06	0.41	0.13	20	219
30	13.31	13.31	32.801	24.630	330.8	0.107	6.37	106.7	2.4	0.54	1.3	0.05	0.11	0.46	0.23	30	217
40	12.26	12.25	32.750	24.795	315.3	0.139	6.27	102.7	4.0	0.64	2.2	0.15	0.46	0.46	0.27	40	215
50 ISL	10.66 D	10.65	32.697 D	25.043	291.7	0.169	6.14	97.1	5.8	0.77	4.5	0.14	0.31	0.33	0.21	50	
60	9.96	9.95	32.713	25.175	279.4	0.198	5.96	92.9	7.9	0.93	7.5	0.11	0.06	0.19	0.14	60	213
75 ISL	10.03 D	10.02	33.090 D	25.458	252.8	0.238	5.62	87.9	11.8	1.23	12.3	0.27	0.25	0.18	0.16	75	
81	10.04	10.03	33.157	25.508	248.1	0.253	5.44	85.2	13.6	1.35	14.2	0.32	0.33	0.17	0.17	81	211
100	8.67	8.66	33.252	25.803	220.3	0.297	4.64	70.5	21.0	1.61	19.5	0.09	0.00	0.05	0.12	101	209
125 ISL	8.85 D	8.84	33.576 D	26.029	199.3	0.350	3.64	55.6	27.3	1.90	24.5	0.05	0.00	0.03	0.09	126	
150 ISL	8.95 D	8.93	33.852 D	26.230	180.8	0.397	2.91	44.6	31.5	2.10	27.6	0.00	0.00	0.00	0.05	151	
151	8.95	8.93	33.856	26.233	180.5	0.399	2.89	44.3	31.6	2.11	27.7	0.00	0.00	0.00	0.05	152	207
200 ISL	7.64 D	7.62	33.904 D	26.469	158.6	0.482	2.91	43.4	37.4	2.10	28.4	0.00	0.00			201	
205	7.63	7.61	33.909	26.474	158.2	0.490	2.91	43.3	37.9	2.10	28.5	0.00	0.00			206	205
250 CSL	7.38	7.36	34.030	26.605	146.4	0.559										252	200
300 CSL	6.76	6.73	34.042	26.701	137.8	0.630										302	200
400 CSL	5.86	5.83	34.080	26.848	124.7	0.761										403	200
500 CSL	5.21	5.17	34.157	26.987	112.1	0.879										504	200
518	5.14	5.10	34.173	27.008	110.2	0.899	0.51	7.2	88.3	3.12	41.4	0.00	0.00			522	203
600 CSL	4.87	4.82	34.253	27.103	101.9	0.986										605	200
700 CSL	4.54	4.49	34.312	27.188	94.6	1.084										705	200
800 CSL	4.44	4.38	34.388	27.260	88.7	1.176										807	200
900 CSL	4.16	4.09	34.424	27.319	83.6	1.262										908	200
1000 CSL	3.83	3.75	34.458	27.380	78.0	1.343										1009	200
1026	3.76	3.68	34.467	27.394	76.7	1.363	0.42	5.7	126.1	3.28	43.7	0.00	0.00			1035	201

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS;PRIMARY T; PRIMARY CORRECTED S;

RV MCARTHUR II CALCOFI CRUISE 0907 STATION 60.0 80.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
36 57.0 N	125 2.9 W	02/08/09	2119 UTC	4291 m	160 11 kn	320 02 10	1	1016.7 mb	19.0 C	18.0 C	16m	6/8	AS

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	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	16.78	16.78	32.946	23.991	390.9	0.000	5.83	104.9	1.6	0.53	1.8	0.03	0.08	0.30	0.07	0	
1	16.78	16.78	32.946	23.991	391.0	0.004	5.83	104.9	1.6	0.53	1.8	0.03	0.08	0.30	0.07	1	223
10	15.52	15.52	32.973	24.297	362.0	0.038	5.97	104.7	1.3	0.53	2.0	0.04	0.07			10	221
20	15.66	15.66	33.215	24.453	347.5	0.073	5.93	104.5	1.1	0.66	4.4	0.08	0.11	0.32	0.12	20	219
30	15.09	15.09	33.166	24.541	339.4	0.108	5.99	104.3	1.4	0.68	4.5	0.09	0.21	0.34 A	0.13 A	30	217
40	11.87	11.86	32.894	24.979	297.7	0.139	6.39	103.9	3.9	0.80	5.4	0.21	0.22	0.45	0.18	40	215
50 ISL	10.85 D	10.84	32.903 D	25.171	279.6	0.168	6.24	99.3	6.3	0.99	8.2	0.31	0.68	0.63	0.29	50	
60	11.32	11.31	33.270	25.373	260.7	0.195	5.84	94.1	9.1	1.20	11.6	0.38	1.08	0.75	0.39	60	213
75 ISL	10.35 D	10.34	33.358 D	25.613	238.2	0.233	5.31	83.8	14.5	1.44	15.9	0.40	0.64	0.61	0.43	75	
80	10.18	10.17	33.359	25.642	235.4	0.245	5.12	80.5	16.5	1.51	17.3	0.41	0.41	0.51	0.44	80	211
100	9.19	9.18	33.503	25.918	209.5	0.289	4.32	66.5	24.0	1.77	22.7	0.01	0.00	0.04	0.09	101	209
125 ISL	9.01 D	9.00	33.772 D	26.157	187.2	0.339	3.46	53.1	30.1	2.03	26.9	0.00	0.00	0.03	0.10	126	
150	8.78	8.76	33.902	26.296	174.6	0.384	2.77	42.4	34.3	2.22	29.3	0.00	0.00	0.02	0.11	151	207
200 ISL	8.00 D	7.98	33.994 D	26.487	157.1	0.467	2.01	30.2	40.9	2.32	31.7	0.00	0.00	0.00	0.09	201	
201	8.02	8.00	33.997	26.486	157.2	0.468	2.00	30.1	41.0	2.32	31.7	0.00	0.00	0.00	0.09	202	205
250 CSL	7.29	7.27	34.033	26.620	145.0	0.542										252	200
300 CSL	6.86	6.83	34.079	26.716	136.4	0.613										302	200
400 CSL	6.05	6.02	34.121	26.856	124.0	0.743										403	200
500 CSL	5.41	5.37	34.177	26.980	113.0	0.862										504	200
517	5.34	5.30	34.190	26.999	111.4	0.881	0.46	6.5	85.8	3.09	41.0	0.00	0.00			521	203
600 CSL	5.19	5.14	34.272	27.082	104.4	0.970										605	200
700 CSL	4.79	4.73	34.333	27.177	96.0	1.070										706	200
800 CSL	4.38	4.32	34.384	27.263	88.3	1.162										807	200
900 CSL	4.09	4.02	34.425	27.327	82.7	1.248										908	200
1000 CSL	3.73	3.66	34.458	27.390	76.9	1.328										1009	200
1027	3.67	3.59	34.468	27.404	75.6	1.348	0.44	6.0	128.4	3.23	43.8	0.00	0.00			1036	201

A) SECOND FLUOROMETER READING NOT RECORDED, CHLOROPHYLL AND PHAEOPIGMENT
CALCULATED WITH ASSUMED ACID RATIO INTERPOLATED FROM ADJACENT LEVELS.
D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS;PRIMARY T; PRIMARY CORRECTED S;

RV MCARTHUR II CALCOFI CRUISE 0907 STATION 60.0 85.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
36 47.4 N	125 24.6 W	02/08/09	1802 UTC	3002 m	160 13 kn	300 01 07	1	1016.4 mb	17.6 C	16.3 C		7/8	ST

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	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	16.08	16.08	32.798	24.037	386.5	0.000	6.04	107.1	2.1	0.48	1.0	0.04	0.06	0.44	0.11	0	
1	16.08	16.08	32.798	24.037	386.5	0.004	6.04	107.1	2.1	0.48	1.0	0.04	0.06	0.44	0.11	1	223
10	14.66	14.66	32.828	24.372	354.9	0.037	6.22	107.2	2.1	0.49	1.1	0.04	0.05	0.46	0.12	10	221
20	12.96	12.96	32.721	24.637	329.9	0.071	6.49	107.9	2.6	0.49	0.9	0.05	0.04	0.59	0.22	20	219
30	12.02	12.02	32.701	24.802	314.4	0.104	6.43	104.8	4.2	0.63	2.6	0.14	0.08	0.99	0.29	30	217
41	11.21	11.21	32.734	24.975	298.1	0.137	6.28	100.6	6.1	0.76	4.4	0.27	0.21	0.85	0.48	41	215
50 ISL	10.30 D	10.29	32.702 D	25.109	285.5	0.164	6.19	97.2	6.5	0.81	5.3	0.22	0.15	0.54	0.35	50	
60	9.58	9.57	32.657	25.193	277.6	0.192	6.05	93.4	7.3	0.88	6.8	0.11	0.04	0.18	0.14	60	213
75 ISL	8.83 D	8.82	32.797 D	25.421	256.1	0.232	5.60	85.1	12.0	1.15	11.7	0.05	0.02	0.05	0.18	75	
81	8.77	8.76	32.904	25.514	247.3	0.247	5.38	81.7	14.5	1.28	14.1	0.03	0.01	0.00	0.19	81	211
100	9.49	9.48	33.493	25.862	214.9	0.291	4.60	71.3	22.8	1.73	22.0	0.00	0.00	0.06	0.11	101	209
125 ISL	8.64 D	8.63	33.670 D	26.135	189.2	0.341	3.62	55.1	28.9	1.99	26.6	0.00	0.00	0.04	0.11	126	
150	8.60	8.58	33.876	26.303	173.8	0.387	2.81	42.8	32.7	2.09	28.3	0.00	0.00	0.01	0.10	151	207
200 ISL	8.01 D	7.99	34.000 D	26.490	156.8	0.469	1.94	29.2	40.8	2.36	31.8	0.00	0.00	0.00	0.09	201	
201	8.01	7.99	34.005	26.494	156.4	0.471	1.93	29.0	41.0	2.36	31.9	0.00	0.00	0.00	0.09	202	205
250 CSL	7.43	7.41	34.044	26.609	146.1	0.545										252	200
300 CSL	6.92	6.89	34.075	26.705	137.5	0.616										302	200
400 CSL	6.01	5.98	34.108	26.851	124.5	0.747										403	200
500 CSL	5.48	5.44	34.188	26.980	113.1	0.866										504	200
517	5.34	5.30	34.199	27.006	110.7	0.885	0.45	6.4	86.0	3.12	41.2	0.00	0.00			521	203
600 CSL	5.01	4.96	34.250	27.085	103.8	0.974										605	200
700 CSL	4.57	4.52	34.303	27.177	95.6	1.073										705	200
800 CSL	4.22	4.16	34.359	27.260	88.2	1.165										807	200
900 CSL	4.01	3.94	34.413	27.325	82.6	1.251										908	200
1000 CSL	3.67	3.60	34.435	27.378	77.8	1.331										1009	200
1027	3.62	3.54	34.445	27.391	76.7	1.352	0.34	4.6	130.4	3.27	44.3	0.00	0.00			1036	201

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS;PRIMARY T; PRIMARY CORRECTED S;

RV MCARTHUR II CALCOFI CRUISE 0907 STATION 60.0 90.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
36 36.9 N	125 46.1 W	02/08/09	1346 UTC	4505 m	130 06 kn	120 01 06	2	1015.5 mb	18.2 C	16.9 C	23m	8/8	ST

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	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	17.22	17.22	32.820	23.791	410.0	0.000	5.66	102.6	1.7	0.39	0.1	0.00	0.03	0.14	0.04	0	
1	17.22	17.22	32.820	23.791	410.0	0.004	5.66	102.6	1.7	0.39	0.1	0.00	0.03	0.14	0.04	1	223
10	16.65	16.65	32.777	23.891	400.7	0.041	5.73	102.7	1.4	0.39	0.0	0.00	0.03	0.14	0.05	10	221
20	16.00	16.00	32.748	24.018	389.0	0.080	5.84	103.3	1.2	0.39	0.0	0.00	0.05	0.19	0.07	20	219
30	15.73	15.73	32.729	24.064	384.9	0.119	5.88	103.4	1.0	0.37	0.0	0.00	0.04	0.25	0.11	30	217
40	14.43	14.42	32.796	24.397	353.4	0.156	6.18	105.9	1.5	0.41	0.2	0.00	0.08	0.48	0.26	40	215
50 ISL	12.84 D	12.83	32.873 D	24.779	317.1	0.189	6.13	101.7	2.6	0.50	0.9	0.19	0.23	0.41	0.23	50	
60	11.97	11.96	32.885	24.954	300.6	0.220	6.07	98.9	3.9	0.62	2.2	0.35	0.34	0.25	0.21	60	213
75 ISL	10.85 D	10.84	32.878 D	25.152	282.0	0.264	5.82	92.6	5.6	0.78	5.4	0.13	0.11	0.17	0.18	75	
80	10.76	10.75	32.888	25.176	279.8	0.278	5.72	90.8	6.2	0.83	6.6	0.03	0.02	0.15	0.17	80	211
100	9.70	9.69	33.003	25.445	254.5	0.331	5.41	84.0	10.1	1.07	11.0	0.01	0.02	0.06	0.09	100	209
125 ISL	8.98 D	8.97	33.349 D	25.831	218.2	0.390	4.65	71.2	18.1	1.45	17.6	0.00	0.01	0.04	0.06	126	
150	8.53	8.51	33.559	26.065	196.3	0.442	3.78	57.3	26.7	1.82	23.7	0.00	0.00	0.01	0.04	151	207
200 ISL	8.03 D	8.01	33.927 D	26.430	162.5	0.532	2.46	37.0	37.5	2.19	29.6	0.00	0.00	0.00	0.05	201	
201	8.03	8.01	33.928	26.431	162.4	0.533	2.44	36.7	37.7	2.20	29.7	0.00	0.00	0.00	0.05	202	205
250 CSL	7.45	7.43	33.990	26.564	150.4	0.610										251	200
300 CSL	6.97	6.94	34.045	26.675	140.5	0.683										302	200
400 CSL	6.22	6.18	34.108	26.825	127.2	0.817										403	200
500 CSL	4.94	4.90	34.087	26.963	114.0	0.937										504	200
516	4.88	4.84	34.104	26.983	112.2	0.955	0.78	10.9	88.1	3.02	40.9	0.00	0.00			520	203
600 CSL	5.07	5.02	34.283	27.104	102.1	1.045										604	200
700 CSL	4.44	4.39	34.311	27.198	93.5	1.143										705	200
800 CSL	4.28	4.22	34.382	27.272	87.2	1.233										806	200
900 CSL	3.90	3.83	34.414	27.337	81.3	1.318										908	200
1000 CSL	3.66	3.59	34.455	27.395	76.2	1.396										1009	200
1026	3.66	3.58	34.468	27.405	75.5	1.416	0.44	6.0	128.7	3.26	43.8	0.00	0.00			1035	201

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS;PRIMARY T; PRIMARY CORRECTED S;

RV MCARTHUR II CALCOFI CRUISE 0907 STATION 66.7 55.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
36 37.5 N	122 25.1 W	31/07/09	1809 UTC	2493 m	350 11 kn	350 01 06	2	1016.6 mb	14.9 C	14.2 C	11m	8/8	ST

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	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	13.50	13.50	33.372	25.032	291.7	0.000	6.21	104.8	4.3	0.82	6.8	0.21	0.07	1.02	0.33	0	
1	13.50	13.50	33.372	25.032	291.7	0.003	6.21	104.8	4.3	0.82	6.8	0.21	0.07	1.02	0.33	1	222
5	13.50	13.50	33.377	25.036	291.4	0.015	6.21	104.8	4.0	0.82	6.8	0.21	0.06	0.98	0.33	5	221
9	13.42	13.42	33.378	25.053	289.9	0.026	6.24	105.2	4.0	0.82	6.9	0.21	0.06	1.00	0.33	9	220
10 ISL	13.31 D	13.31	33.384 D	25.080	287.4	0.029	6.24	104.9	4.0	0.82	7.0	0.21	0.06	1.00	0.33	10	
20	12.97	12.97	33.397	25.158	280.2	0.057	6.22	103.9	5.0	0.88	7.8	0.23	0.08	1.30	0.31	20	219
30	12.24	12.24	33.451	25.342	263.0	0.085	6.30	103.6	6.4	0.98	8.6	0.22	0.32	2.24 A	0.95 A	30	218
40	11.68	11.67	33.552	25.526	245.7	0.110	5.68	92.4	12.1	1.27	12.7	0.26	0.63	1.55	0.83	40	217
50 ISL	11.03 D	11.02	33.655 D	25.724	227.1	0.134	4.86	78.0	17.2	1.52	16.9	0.26	0.44	0.91	0.71	50	
60	10.68	10.67	33.713	25.832	217.1	0.156	4.07	64.8	21.4	1.72	20.5	0.26	0.11	0.42	0.59	60	216
75 ISL	10.05 D	10.04	33.792 D	26.002	201.1	0.187	3.36	52.8	25.4	1.90	23.8	0.09	0.03	0.15	0.35	75	
80	9.85	9.84	33.781	26.027	198.8	0.197	3.19	49.9	26.3	1.94	24.5	0.03	0.00	0.12	0.29	80	215
100	9.53	9.52	33.886	26.163	186.3	0.236	2.56	39.8	29.6	2.10	26.7	0.01	0.00	0.02	0.29	101	214
125	9.24	9.23	33.970	26.276	176.1	0.281	2.14	33.1	32.9	2.19	28.2	0.01	0.00	0.02	0.26	126	212
150 ISL	9.07 D	9.05	34.043 D	26.360	168.5	0.324	1.76	27.1	35.7	2.30	29.4	0.00	0.01	0.01	0.23	151	
151	9.06	9.04	34.045	26.364	168.2	0.326	1.75	27.0	35.8	2.30	29.4	0.00	0.01	0.01	0.23	152	211
200	8.61	8.59	34.164	26.528	153.5	0.405	1.14	17.4	43.1	2.55	31.8	0.00	0.00	0.00	0.16	201	210
250 ISL	8.35 D	8.32	34.202 D	26.599	147.6	0.480	0.94	14.3	46.9	2.66	32.9	0.00	0.00			252	
251	8.35	8.32	34.202	26.599	147.7	0.481	0.94	14.3	47.0	2.66	32.9	0.00	0.00			253	209
300	8.01	7.98	34.218	26.663	142.3	0.552	0.77	11.6	52.1	2.75	34.0	0.02	0.00			302	208
350	7.49	7.46	34.230	26.749	134.7	0.622	0.66	9.8	58.7	2.86	35.1	0.05	0.00			352	207
399	6.47	6.43	34.118	26.800	129.7	0.687	1.01	14.7	64.8	2.84	37.3	0.00	0.00			402	206
400 ISL	6.52 D	6.48	34.123 D	26.797	130.0	0.688	1.01	14.7	64.9	2.84	37.3	0.00	0.00			403	
451	6.35	6.31	34.188	26.872	123.6	0.752	0.69	10.0	70.0	2.96	37.9	0.00	0.00			454	205
500 ISL	5.90 D	5.86	34.180 D	26.923	119.0	0.812	0.62	8.9	76.2	3.04	39.3	0.00	0.00			504	
501	5.90	5.86	34.181	26.924	118.9	0.813	0.62	8.9	76.3	3.04	39.3	0.00	0.00			505	204
600 ISL	5.56 D	5.51	34.278 D	27.043	108.6	0.926	0.31	4.4	86.7	3.19	40.5	0.00	0.00			605	
601	5.56	5.51	34.278	27.043	108.6	0.927	0.31	4.4	86.8	3.19	40.5	0.00	0.00			606	203
700 ISL	5.11 D	5.05	34.331 D	27.139	100.1	1.030	0.26	3.7	97.0	3.26	42.1	0.00	0.00			706	
751	4.79	4.73	34.345	27.187	95.6	1.080	0.23	3.2	101.9	3.27	42.8	0.00	0.00			757	202
800 CSL	4.66	4.60	34.361	27.214	93.4	1.126										807	200
900 CSL	4.34	4.27	34.410	27.289	86.8	1.216										908	200
1000 CSL	4.01	3.93	34.432	27.341	82.1	1.301										1009	200
1026	3.94	3.86	34.443	27.357	80.7	1.322	0.37	5.1	122.0	3.28	43.9	0.00	0.00			1035	201

A) SECOND FLUOROMETER READING NOT RECORDED, CHLOROPHYLL AND PHAEOPIGMENT
CALCULATED WITH ASSUMED ACID RATIO INTERPOLATED FROM ADJACENT LEVELS.
D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS;PRIMARY T; PRIMARY CORRECTED S;

RV MCARTHUR II CALCOFI CRUISE 0907 STATION 66.7 57.5

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
36 32.1 N	122 35.7 W	31/07/09	2126 UTC	3133 m	330 13 kn	330 03 07	2	1016.2 mb	16.0 C	15.1 C		8/8	ST

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	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 CSL	14.75	14.75	33.338	24.745	319.0	0.000										0	200
10 CSL	14.40	14.40	33.338	24.820	312.2	0.032										10	200
20 CSL	12.49	12.49	33.463	25.303	266.5	0.060										20	200
30 CSL	11.23	11.23	33.439	25.520	246.0	0.086										30	200
50 CSL	10.43	10.42	33.560	25.756	224.0	0.133										50	200
75 CSL	9.93	9.92	33.721	25.967	204.5	0.187										75	200
100 CSL	9.22	9.21	33.777	26.128	189.6	0.236										101	200
125 CSL	9.00	8.99	33.881	26.244	179.0	0.282										126	200
150 CSL	8.83	8.81	33.993	26.359	168.6	0.325										151	200
200 CSL	7.87	7.85	33.988	26.501	155.7	0.407										201	200
250 CSL	7.49	7.47	34.037	26.595	147.4	0.482										252	200
300 CSL	7.07	7.04	34.078	26.687	139.4	0.554										302	200
400 CSL	5.97	5.94	34.079	26.833	126.1	0.687										403	200
500 CSL	5.66	5.62	34.182	26.954	115.8	0.808										504	200
600 CSL	5.24	5.19	34.260	27.067	105.9	0.919										605	200
700 CSL	4.90	4.84	34.333	27.164	97.4	1.020										706	200
800 CSL	4.58	4.52	34.383	27.240	90.8	1.114										807	200
900 CSL	4.25	4.18	34.418	27.304	85.1	1.202										908	200
1000 CSL	3.91	3.83	34.450	27.366	79.6	1.284										1009	200
1025	3.85	3.77	34.459	27.379	78.4	1.304										1034	201

RV MCARTHUR II CALCOFI CRUISE 0907 STATION 66.7 60.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
36 26.9 N	122 46.3 W	31/07/09	2323 UTC	2932 m	340 16 kn	300 02 06	2	1015.0 mb	16.1 C	15.1 C		8/8	SC

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	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	14.58	14.58	33.318	24.766	317.0	0.000	6.48	111.8	1.5	0.47	2.3	0.08	0.14	1.32	0.11	0	
2	14.58	14.58	33.318	24.766	317.1	0.006	6.48	111.8	1.5	0.47	2.3	0.08	0.14	1.32	0.11	2	221
5	14.56	14.56	33.311	24.765	317.3	0.016	6.50	112.1	1.4	0.49	2.3	0.07	0.10	1.09	0.33	5	220
10	14.25	14.25	33.343	24.856	308.8	0.032	6.63	113.6	1.4	0.44	2.3	0.06	0.10	1.50	0.49	10	219
20	12.60	12.60	33.315	25.167	279.4	0.061	6.52	108.0	3.6	0.78	6.7	0.18	0.12	3.49	1.30	20	218
30	11.81	11.81	33.165	25.201	276.4	0.089	6.07	98.8	5.8	0.90	8.4	0.22	0.19	2.15	0.90	30	217
40	10.55	10.55	33.088	25.367	260.7	0.116	5.44	86.1	10.3	1.08	11.2	0.05	0.07	0.30	0.25	40	216
50 ISL	10.34 D	10.33	33.171 D	25.468	251.3	0.141	5.19	81.8	12.9	1.21	13.3	0.04	0.06	0.23	0.22	50	
60	9.99	9.98	33.225	25.569	241.9	0.166	5.04	78.8	14.7	1.31	15.0	0.03	0.05	0.16	0.19	60	215
75 ISL	9.65 D	9.64	33.374 D	25.742	225.7	0.201	4.52	70.2	18.1	1.47	17.9	0.01	0.05	0.06	0.10	75	
80	9.61	9.60	33.446	25.805	219.9	0.212	4.34	67.4	19.2	1.52	18.8	0.00	0.05	0.03	0.07	80	214
100	9.32	9.31	33.637	26.002	201.5	0.254	3.86	59.6	22.6	1.64	21.2	0.00	0.05	0.01	0.05	101	213
125 ISL	8.94 D	8.93	33.853 D	26.232	180.1	0.302	2.96	45.4	29.6	1.98	25.9	0.01	0.03	0.01	0.05	126	
126	8.93	8.92	33.856	26.236	179.8	0.304	2.93	44.9	29.9	1.99	26.1	0.01	0.03	0.01	0.05	127	212
150	8.52	8.50	33.933	26.360	168.4	0.345	2.90	44.1	32.4	2.01	26.8	0.02	0.06	0.01	0.05	151	211
200 ISL	8.08 D	8.06	34.004 D	26.483	157.5	0.427	2.21	33.3	39.0	2.25	30.0	0.00	0.00	0.00	0.05	201	
201	8.08	8.06	34.005	26.484	157.4	0.429	2.19	33.0	39.2	2.26	30.1	0.00	0.00	0.00	0.05	202	210
250	7.45	7.43	34.042	26.605	146.5	0.503	1.78	26.4	47.3	2.44	32.7	0.00	0.00			252	209
300	7.36	7.33	34.135	26.692	139.1	0.574	1.10	16.3	54.1	2.69	34.9	0.00	0.00			302	208
350	6.73	6.70	34.144	26.786	130.6	0.642	0.94	13.7	62.3	2.81	36.6	0.00	0.00			352	207
400 ISL	6.37 D	6.33	34.169 D	26.853	124.6	0.706	0.74	10.7	68.6	2.95	37.9	0.00	0.00			403	
401	6.36	6.32	34.169	26.855	124.5	0.707	0.74	10.7	68.7	2.95	37.9	0.00	0.00			404	206
451	5.81	5.77	34.166	26.922	118.3	0.768	0.66	9.4	76.8	3.02	39.3	0.00	0.00			454	205
500 ISL	5.65 D	5.61	34.219 D	26.984	112.9	0.824	0.45	6.4	82.0	3.11	40.1	0.00	0.00			504	
501	5.63	5.59	34.218	26.986	112.7	0.825	0.45	6.4	82.1	3.11	40.1	0.00	0.00			505	204
600 ISL	5.19 D	5.14	34.281 D	27.089	103.7	0.932	0.28	3.9	92.2	3.24	41.5	0.00	0.00			605	
602	5.19	5.14	34.280	27.088	103.8	0.935	0.28	3.9	92.4	3.24	41.5	0.00	0.00			607	203
700 ISL	4.67 D	4.61	34.313 D	27.174	96.0	1.032	0.23	3.2	102.7	3.25	42.7	0.00	0.00			706	
754	4.47	4.41	34.335	27.214	92.5	1.083	0.20	2.8	108.0	3.26	43.3	0.00	0.00			760	202
800 CSL	4.33	4.27	34.361	27.250	89.4	1.125										807	200
900 CSL	4.10	4.03	34.419	27.321	83.3	1.212										908	200
1000 CSL	3.89	3.81	34.452	27.369	79.2	1.293										1009	200
1023	3.80	3.72	34.458	27.383	77.9	1.311	0.40	5.4	124.6	3.27	43.9	0.00	0.00			1032	201

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS;PRIMARY T; PRIMARY CORRECTED S;

RV MCARTHUR II CALCOFI CRUISE 0907 STATION 66.7 62.5

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
36 21.8 N	122 57.0 W	01/08/09	0249 UTC	3464 m									

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	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 CSL	15.57	15.57	33.007	24.312	360.3	0.000										0	200
10 CSL	15.21	15.21	33.013	24.396	352.6	0.036										10	200
20 CSL	13.58	13.58	33.012	24.738	320.2	0.069										20	200
30 CSL	12.65	12.65	32.950	24.875	307.5	0.101										30	200
50 CSL	10.95	10.94	32.974	25.208	276.1	0.159										50	200
75 CSL	9.95	9.94	33.205	25.561	243.0	0.224										75	200
100 CSL	9.60	9.59	33.532	25.874	213.7	0.281										101	200
125 CSL	9.33	9.32	33.855	26.171	186.0	0.331										126	200
150 CSL	9.02	9.00	33.947	26.293	174.9	0.376										151	200
200 CSL	8.31	8.29	34.004	26.449	160.9	0.460										201	200
250 CSL	8.07	8.04	34.108	26.567	150.5	0.538										252	200
300 CSL	6.94	6.91	34.049	26.682	139.7	0.610										302	200
400 CSL	6.25	6.21	34.139	26.845	125.3	0.743										403	200
500 CSL	5.81	5.77	34.218	26.964	115.0	0.863										504	200
600 CSL	5.17	5.12	34.266	27.079	104.6	0.973										604	200
700 CSL	4.88	4.82	34.339	27.172	96.7	1.073										705	200
800 CSL	4.52	4.46	34.398	27.259	88.9	1.166										806	200
900 CSL	4.19	4.12	34.427	27.318	83.7	1.253										908	200
1000 CSL	3.92	3.84	34.455	27.369	79.3	1.334										1009	200
1027	3.84	3.76	34.463	27.383	78.0	1.355										1036	201

RV MCARTHUR II CALCOFI CRUISE 0907 STATION 66.7 65.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
36 17.0 N	123 8.2 W	01/08/09	0448 UTC	3256 m	340 17 kn			1015.3 mb	15.4 C	14.7 C			

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	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	15.93	15.93	33.026	24.246	366.6	0.000	5.87	103.9	2.0	0.37	0.1	0.00	0.40	0.29	0.09	0	
1	15.93	15.93	33.026	24.246	366.6	0.004	5.87	103.9	2.0	0.37	0.1	0.00	0.40	0.29	0.09	1	223
10	15.93	15.93	33.023	24.244	367.1	0.037	5.87	103.9	1.8	0.36	0.0	0.00	0.07	0.30	0.10	10	221
20	15.85	15.85	33.032	24.270	365.0	0.073	5.88	103.9	1.8	0.37	0.2	0.01	0.08	0.29	0.10	20	219
30 ISL	13.70 D	13.70	32.980 D	24.690	325.2	0.108	6.15	104.0	2.9	0.50	1.5	0.09	0.10	0.67	0.31	30	
31	13.63	13.63	32.986	24.708	323.4	0.111	6.17	104.2	3.0	0.51	1.7	0.10	0.10	0.71	0.33	31	217
41	12.93	12.92	32.983	24.846	310.5	0.143	6.10	101.5	3.8	0.60	2.8	0.18	0.16	0.60	0.38	41	215
50 ISL	11.82 D	11.81	32.948 D	25.031	293.0	0.170	6.03	98.0	4.2	0.66	3.6	0.27	0.14	0.50	0.37	50	
60	11.67	11.66	32.946	25.057	290.8	0.199	5.89	95.4	5.4	0.76	5.2	0.32	0.12	0.39	0.36	60	213
75 ISL	10.33 D	10.32	33.144 D	25.449	253.7	0.240	5.43	85.5	11.0	1.12	11.6	0.11	0.04	0.16	0.19	75	
80	10.10	10.09	33.148	25.491	249.7	0.252	5.26	82.4	13.0	1.24	13.9	0.03	0.02	0.10	0.13	80	211
100	9.69	9.68	33.314	25.689	231.3	0.301	4.78	74.3	17.6	1.48	17.9	0.00	0.03	0.05	0.10	100	209
125 ISL	9.57 D	9.56	33.582 D	25.919	210.0	0.356	4.10	63.7	22.6	1.72	21.8	0.00	0.03	0.04	0.09	126	
150 ISL	9.10 D	9.08	33.744 D	26.122	191.1	0.406	3.54	54.5	26.7	1.87	24.4	0.00	0.03	0.03	0.08	151	
151	9.10	9.08	33.751	26.127	190.6	0.408	3.52	54.2	26.8	1.87	24.5	0.00	0.03	0.03	0.08	152	207
200 ISL	8.34 D	8.32	33.926 D	26.383	167.1	0.495	3.39	51.3	31.0	1.85	25.2	0.00	0.00	0.01	0.04	201	
202	8.32	8.30	33.921	26.382	167.2	0.499	3.38	51.1	31.1	1.85	25.2	0.00	0.00	0.01	0.04	203	205
250 CSL	7.65	7.63	33.995	26.539	152.8	0.576										251	200
300 CSL	7.00	6.97	34.020	26.651	142.7	0.649										302	200
400 CSL	6.60	6.56	34.183	26.834	126.6	0.784										403	200
500 CSL	5.89	5.85	34.217	26.953	116.1	0.906										504	200
516	5.76	5.72	34.223	26.974	114.2	0.924	0.44	6.3	80.3	3.09	40.3	0.00	0.00			520	203
600 CSL	5.11	5.06	34.251	27.075	105.0	1.016										604	200
700 CSL	4.70	4.64	34.310	27.168	96.6	1.117										705	200
800 CSL	4.57	4.51	34.398	27.254	89.5	1.210										806	200
900 CSL	4.19	4.12	34.428	27.319	83.7	1.296										908	200
1000 CSL	3.88	3.80	34.463	27.379	78.2	1.377										1009	200
1027	3.82	3.74	34.469	27.390	77.3	1.398	0.46	6.3	124.8	3.26	43.7	0.00	0.00			1036	201

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS;PRIMARY T; PRIMARY CORRECTED S;

RV MCARTHUR II — CALCOFI CRUISE 0907 — STATION 66.7 67.5

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT TYPE
36 12.3 N	123 18.8 W	01/08/09	0700 UTC	3446 m	340 13 kn			1015.6 mb	16.0 C	14.7 C		

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	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 CSL	16.17	16.17	33.033	24.197	371.2	0.000										0	200
10 CSL	16.16	16.16	33.029	24.197	371.6	0.037										10	200
20 CSL	15.80	15.80	33.002	24.258	366.1	0.074										20	200
30 CSL	15.06	15.06	33.016	24.432	349.8	0.110										30	200
50 CSL	11.15	11.14	32.828	25.059	290.3	0.174										50	200
75 CSL	9.65	9.64	32.972	25.428	255.6	0.242										75	200
100 CSL	9.61	9.60	33.310	25.699	230.3	0.303										100	200
125 CSL	9.38	9.37	33.598	25.962	205.8	0.357										126	200
150 CSL	8.92	8.90	33.741	26.148	188.6	0.407										151	200
200 CSL	8.31	8.29	33.947	26.404	165.1	0.495										201	200
250 CSL	7.68	7.66	34.022	26.556	151.2	0.574										251	200
300 CSL	6.99	6.96	34.021	26.653	142.5	0.648										302	200
400 CSL	6.10	6.06	34.106	26.838	125.8	0.782										403	200
500 CSL	5.79	5.75	34.225	26.972	114.2	0.902										504	200
600 CSL	5.41	5.36	34.296	27.075	105.4	1.011										604	200
700 CSL	5.01	4.95	34.341	27.158	98.1	1.113										705	200
800 CSL	4.60	4.54	34.390	27.244	90.5	1.208										806	200
900 CSL	4.22	4.15	34.414	27.304	85.1	1.295										908	200
1000 CSL	3.93	3.85	34.454	27.367	79.5	1.378										1009	200
1025	3.87	3.79	34.462	27.380	78.4	1.397										1034	201

RV MCARTHUR II — CALCOFI CRUISE 0907 — STATION 66.7 70.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT TYPE
36 7.1 N	123 29.3 W	01/08/09	0850 UTC	3564 m	330 15 kn			1015.6 mb	15.9 C	14.2 C		

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	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	16.00	16.00	33.020	24.226	368.5	0.000	5.80	102.8	1.6	0.41	0.2	0.01	0.03	0.23	0.08	0	
2	16.00	16.00	33.020	24.226	368.6	0.007	5.80	102.8	1.6	0.41	0.2	0.01	0.03	0.23	0.08	2	221
5	15.99	15.99	33.021	24.229	368.4	0.018	5.80	102.8	1.5	0.39	0.1	0.00	0.01	0.22	0.08	5	220
10	15.97	15.97	33.017	24.231	368.4	0.037	5.82	103.1	1.3	0.39	0.1	0.00	0.03	0.21	0.08	10	219
20	15.43	15.43	32.994	24.333	358.9	0.073	5.91	103.5	1.4	0.39	0.1	0.00	0.06	0.28	0.13	20	218
30	14.86	14.86	33.001	24.463	346.8	0.108	6.03	104.4	1.4	0.42	0.3	0.02	0.13	0.33	0.18	30	217
40	12.94	12.93	32.887	24.770	317.7	0.142	6.32	105.1	2.8	0.47	0.7	0.06	0.23	0.38	0.25	40	216
50 ISL	11.35 D	11.34	32.797 D	25.000	296.0	0.172	6.14	98.7	4.7	0.65	3.4	0.14	0.15	0.35	0.24	50	
60	10.82	10.81	32.851	25.136	283.2	0.201	5.81	92.3	6.5	0.85	6.6	0.19	0.02	0.29	0.23	60	215
75 ISL	10.61 D	10.60	32.984 D	25.276	270.2	0.243	5.60	88.7	7.5	0.96	8.7	0.08	0.01	0.19	0.17	75	
80	10.48	10.47	33.003	25.314	266.7	0.256	5.53	87.3	7.9	0.99	9.4	0.03	0.01	0.15	0.15	80	214
99	9.82	9.81	33.154	25.543	245.2	0.305	5.06	78.8	13.2	1.28	14.2	0.01	0.01	0.05	0.06	99	213
100 ISL	9.80 D	9.79	33.180 D	25.567	242.9	0.307	5.03	78.3	13.5	1.30	14.5	0.01	0.01	0.05	0.06	100	
125	9.95	9.94	33.599	25.869	214.8	0.365	4.35	68.1	21.7	1.72	21.5	0.01	0.01	0.01	0.05	126	212
150 ISL	8.89 D	8.87	33.656 D	26.086	194.5	0.416	3.69	56.5	26.2	1.86	24.0	0.00	0.00	0.01	0.04	151	
151	8.89	8.87	33.656	26.086	194.5	0.418	3.66	56.0	26.3	1.86	24.1	0.00	0.00	0.01	0.04	152	211
199	8.56	8.54	33.933	26.355	169.8	0.505	2.53	38.5	34.6	2.19	29.0	0.00	0.00	0.01	0.05	200	210
200 ISL	8.54 D	8.52	33.934 D	26.359	169.5	0.507	2.52	38.3	34.7	2.19	29.0	0.00	0.00			201	
250	7.90	7.87	34.012	26.517	155.1	0.588	2.13	31.9	40.5	2.29	30.9	0.00	0.00			251	209
300	7.06	7.03	34.035	26.655	142.4	0.662	1.75	25.7	51.2	2.52	34.0	0.00	0.00			302	208
351	6.33	6.30	34.030	26.748	133.8	0.733	1.53	22.1	60.3	2.66	36.2	0.00	0.00			353	207
400	5.86	5.83	34.058	26.830	126.3	0.796	1.20	17.2	68.8	2.83	38.4	0.00	0.00			403	206
450	5.64	5.60	34.117	26.904	119.8	0.858	0.84	12.0	75.6	2.96	39.5	0.00	0.00			453	205
500 ISL	5.41 D	5.37	34.149 D	26.958	115.1	0.917	0.64	9.1	81.4	3.05	40.4	0.00	0.00			504	
515	5.37	5.33	34.158	26.970	114.1	0.934	0.60	8.5	83.1	3.07	40.6	0.00	0.00			519	204
600	4.99	4.94	34.232	27.073	104.9	1.027	0.32	4.5	94.1	3.21	42.0	0.00	0.00			604	203
700 ISL	4.61 D	4.55	34.310 D	27.178	95.6	1.127	0.25	3.5	103.8	3.28	43.0	0.00	0.00			705	
751	4.48	4.42	34.334	27.212	92.7	1.175	0.21	2.9	107.9	3.29	43.4	0.00	0.00			757	202
800 CSL	4.34	4.28	34.356	27.245	89.9	1.220										806	200
900 CSL	4.08	4.01	34.414	27.319	83.4	1.307										907	200
1000 CSL	3.79	3.72	34.453	27.380	77.9	1.387										1009	200
1023	3.73	3.65	34.460	27.392	76.9	1.405	0.46	6.3	125.7	3.27	44.1	0.00	0.00			1032	201

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS;PRIMARY T; PRIMARY CORRECTED S;

RV MCARTHUR II — CALCOFI CRUISE 0907 — STATION 66.7 72.5

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT TYPE
36 2.3 N	123 40.1 W	01/08/09	1158 UTC	3734 m	340 14 kn			1015.2 mb	16.1 C	14.1 C		

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	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 CSL	16.16	16.16	33.014	24.185	372.4	0.000										0	200
10 CSL	16.17	16.17	33.009	24.179	373.3	0.037										10	200
20 CSL	16.17	16.17	33.015	24.184	373.1	0.075										20	200
30 CSL	15.42	15.42	32.994	24.336	358.9	0.111										30	200
50 CSL	12.26	12.25	32.866	24.885	307.0	0.178										50	200
75 CSL	11.25	11.24	32.908	25.104	286.6	0.252										75	200
100 CSL	10.51	10.50	33.254	25.504	249.0	0.319										100	200
125 CSL	9.97	9.96	33.580	25.851	216.5	0.377										126	200
150 CSL	9.48	9.46	33.831	26.129	190.6	0.428										151	200
200 CSL	8.48	8.46	34.003	26.422	163.5	0.517										201	200
250 CSL	7.96	7.93	34.057	26.543	152.6	0.596										251	200
300 CSL	7.10	7.07	34.050	26.661	141.8	0.669										302	200
400 CSL	5.82	5.79	34.061	26.838	125.6	0.803										403	200
500 CSL	5.37	5.33	34.158	26.969	113.9	0.923										503	200
600 CSL	4.98	4.93	34.231	27.073	104.8	1.032										604	200
700 CSL	4.55	4.50	34.302	27.178	95.4	1.132										705	200
800 CSL	4.31	4.25	34.364	27.254	88.9	1.224										806	200
900 CSL	4.02	3.95	34.406	27.319	83.3	1.310										907	200
1000 CSL	3.72	3.65	34.452	27.386	77.2	1.391										1009	200
1027	3.68	3.60	34.464	27.400	76.0	1.411										1036	201

RV MCARTHUR II CALCOFI CRUISE 0907 STATION 66.7 75.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
35 57.5 N	123 50.9 W	01/08/09	1350 UTC	3877 m	350 10 kn	350 01 06	2	1015.6 mb	16.4 C	14.7 C		8/8	SC

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	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	15.98	15.98	32.974	24.195	371.4	0.000	5.78	102.4	1.9	0.41	0.1	0.00	0.05	0.23	0.08	0	
2	15.98	15.98	32.974	24.195	371.5	0.007	5.78	102.3	1.9	0.41	0.1	0.00	0.05	0.23	0.08	2	223
10	15.98	15.98	32.978	24.198	371.4	0.037	5.80	102.7	1.6	0.38	0.1	0.00	0.04	0.23	0.07	10	221
20	15.62	15.62	33.083	24.360	356.3	0.074	5.89	103.6	1.6	0.40	0.4	0.02	0.12	0.35	0.14	20	219
30	15.13	15.13	33.204	24.561	337.5	0.108	5.96	103.9	1.9	0.46	1.3	0.07	0.19	0.45	0.18	30	217
40	14.86	14.85	33.227	24.638	330.5	0.142	5.94	103.0	2.4	0.53	2.0	0.10	0.30	0.49	0.24	40	215
50 ISL	13.37 D	13.36	33.069 D	24.826	312.7	0.174	5.93	99.6	3.7	0.64	3.0	0.30	0.31	0.43	0.22	50	
60	11.20	11.19	32.847	25.065	289.9	0.204	5.92	94.9	5.7	0.78	4.7	0.46	0.33	0.32	0.21	60	213
75 ISL	10.69 D	10.68	33.030 D	25.298	268.1	0.246	5.57	88.4	9.7	1.04	9.9	0.18	0.09	0.17	0.14	75	
80	9.71	9.70	32.996	25.437	254.8	0.259	5.41	84.0	11.2	1.13	11.8	0.06	0.01	0.12	0.11	80	211
100 ISL	10.05 D	10.04	33.417 D	25.710	229.4	0.307	4.70	73.7	17.0	1.47	17.5	0.01	0.00	0.05	0.06	100	
101	10.03	10.02	33.379	25.684	231.9	0.310	4.66	73.0	17.3	1.49	17.7	0.01	0.00	0.05	0.06	101	209
125 ISL	9.85 D	9.84	33.795 D	26.039	198.7	0.361	3.72	58.2	23.7	1.81	22.8	0.01	0.01	0.03	0.06	126	
150	9.28	9.26	33.895	26.211	182.7	0.409	2.81	43.4	29.4	2.06	26.5	0.00	0.03	0.01	0.07	151	207
200 ISL	8.88 D	8.86	34.092 D	26.430	162.9	0.495	1.57	24.1	37.8	2.36	30.1	0.00	0.00	0.01	0.07	201	
201	8.89	8.87	34.095	26.431	162.8	0.497	1.55	23.8	37.9	2.36	30.1	0.00	0.00	0.01	0.07	202	205
250 CSL	7.93	7.90	34.044	26.537	153.2	0.574										251	200
300 CSL	7.66	7.63	34.130	26.645	143.7	0.649										302	200
400 CSL	5.91	5.88	34.048	26.816	127.7	0.784										403	200
500 CSL	5.41	5.37	34.156	26.963	114.6	0.905										504	200
516	5.30	5.26	34.168	26.986	112.5	0.924	0.52	7.3	84.7	3.09	41.0	0.00	0.00			520	203
600 CSL	4.86	4.81	34.221	27.079	104.1	1.015										604	200
700 CSL	4.61	4.55	34.300	27.170	96.3	1.115										705	200
800 CSL	4.30	4.24	34.367	27.258	88.6	1.207										806	200
900 CSL	4.00	3.93	34.403	27.318	83.2	1.293										907	200
1000 CSL	3.80	3.73	34.454	27.380	78.0	1.374										1009	200
1027	3.72	3.64	34.456	27.390	77.1	1.395	0.43	5.8	126.3	3.25	44.1	0.00	0.00			1036	201

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS;PRIMARY T; PRIMARY CORRECTED S;

RV MCARTHUR II CALCOFI CRUISE 0907 STATION 66.7 77.5

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
35 52.4 N	124 1.4 W	01/08/09	1612 UTC	1301 m	330 08 kn	330 01 06	2	1016.7 mb	16.2 C	14.9 C		8/8	SC

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	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 CSL	15.89	15.89	33.071	24.290	362.4	0.000										0	200
10 CSL	15.81	15.81	33.071	24.308	361.0	0.036										10	200
20 CSL	15.12	15.12	33.184	24.548	338.5	0.071										20	200
30 CSL	14.91	14.91	33.226	24.626	331.3	0.105										30	200
50 CSL	13.65	13.64	33.240	24.901	305.6	0.168										50	200
75 CSL	11.01	11.00	33.424	25.549	244.3	0.237										75	200
100 CSL	9.98	9.97	33.571	25.842	216.9	0.295										100	200
125 CSL	9.67	9.66	33.817	26.086	194.2	0.346										126	200
150 CSL	9.26	9.24	33.881	26.203	183.5	0.393										151	200
200 CSL	8.20	8.18	33.958	26.429	162.6	0.480										201	200
250 CSL	7.62	7.60	34.020	26.563	150.5	0.558										252	200
300 CSL	7.08	7.05	34.059	26.671	140.9	0.631										302	200
400 CSL	6.11	6.07	34.113	26.842	125.4	0.764										403	200
500 CSL	5.45	5.41	34.184	26.981	113.0	0.883										504	200
600 CSL	5.03	4.98	34.265	27.095	102.9	0.991										604	200
700 CSL	4.59	4.54	34.327	27.194	94.0	1.090										705	200
800 CSL	4.23	4.17	34.374	27.271	87.2	1.180										806	200
900 CSL	3.96	3.89	34.423	27.338	81.3	1.265										908	200
1000 CSL	3.75	3.68	34.463	27.392	76.7	1.344										1009	200
1026	3.69	3.61	34.469	27.403	75.8	1.363										1035	201

RV MCARTHUR II CALCOFI CRUISE 0907 STATION 66.7 80.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
35 47.3 N	124 12.0 W	01/08/09	1806 UTC	3950 m	340 04 kn	320 01 07	1	1017.3 mb	17.1 C	16.1 C	22m	6/8	ST

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	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	16.47	16.47	33.057	24.147	376.0	0.000	5.77	103.2	1.6	0.40	0.2	0.01	0.05	0.20	0.07	0	
1	16.47	16.47	33.057	24.147	376.0	0.004	5.77	103.2	1.6	0.40	0.2	0.01	0.05	0.20	0.07	1	221
6	16.45	16.45	33.058	24.153	375.7	0.023	5.76	103.0	1.6	0.39	0.2	0.00	0.04	0.22	0.08	6	220
10	16.22	16.22	33.063	24.209	370.4	0.037	5.77	102.7	1.5	0.38	0.2	0.00	0.02	0.24	0.09	10	219
20	16.20	16.20	33.060	24.212	370.5	0.075	5.77	102.7	1.5	0.38	0.2	0.00	0.04	0.26	0.09	20	218
30	16.16	16.16	33.187	24.319	360.6	0.111	5.81	103.4	1.7	0.49	1.9	0.05	0.09	0.29	0.17	30	217
40	14.59	14.58	33.067	24.572	336.7	0.146	6.05	104.2	0.6	0.46	0.8	0.05	0.34	0.45	0.26	40	216
50 ISL	12.95 D	12.94	33.063 D	24.904	305.2	0.178	5.90	98.3	3.4	0.70	4.3	0.19	0.31	0.38	0.22	50	
60	10.85	10.84	33.025	25.266	270.8	0.207	5.75	91.5	8.0	1.04	9.6	0.31	0.29	0.24 A	0.19 A	60	215
75 ISL	9.60 D	9.59	33.230 D	25.638	235.6	0.245	5.16	80.0	15.2	1.41	16.4	0.12	0.07	0.14	0.14	75	
80	9.42	9.41	33.310	25.730	227.0	0.256	4.92	76.0	17.8	1.53	18.6	0.04	0.00	0.11	0.12	80	214
100	9.18	9.17	33.689	26.065	195.5	0.299	3.83	59.0	28.1	1.96	25.7	0.01	0.00	0.04	0.09	100	213
125	8.77	8.76	33.853	26.259	177.6	0.345	2.94	44.9	32.7	2.13	28.3	0.00	0.02	0.01	0.07	126	212
150 ISL	8.52 D	8.50	33.929 D	26.357	168.6	0.389	2.55	38.8	35.5	2.20	29.6	0.00	0.01	0.01	0.08	151	
151	8.52	8.50	33.933	26.360	168.4	0.390	2.54	38.6	35.6	2.20	29.6	0.00	0.01	0.01	0.08	152	211
200	7.89	7.87	34.019	26.523	153.6	0.469	1.94	29.1	42.0	2.35	31.7	0.00	0.00	0.01	0.06	201	210
250 ISL	7.65 D	7.63	34.100 D	26.622	145.0	0.544	1.20	17.9	49.4	2.61	34.4	0.00	0.00			252	
251	7.66	7.64	34.102	26.622	145.0	0.545	1.19	17.8	49.6	2.62	34.5	0.00	0.00			253	209
300	7.15	7.12	34.120	26.709	137.3	0.614	1.06	15.6	56.2	2.73	36.0	0.00	0.00			302	208
350	6.65	6.62	34.136	26.790	130.1	0.681	0.90	13.1	63.1	2.85	37.4	0.00	0.00			352	207
400	6.24	6.20	34.161	26.864	123.5	0.745	0.70	10.1	70.3	2.97	38.7	0.00	0.00			403	206
451	6.01	5.97	34.201	26.925	118.2	0.806	0.53	7.6	76.3	3.04	39.5	0.00	0.00			454	205
500	5.80	5.76	34.242	26.984	113.1	0.863	0.38	5.4	82.0	3.13	40.0	0.00	0.00			504	204
600	5.01	4.96	34.273	27.103	102.1	0.971	0.26	3.6	96.3	3.21	42.0	0.00	0.00			604	203
700 ISL	4.61 D	4.55	34.336 D	27.199	93.6	1.068	0.23	3.2	106.4	3.26	43.1	0.00	0.00			705	
752	4.43	4.37	34.372	27.248	89.3	1.116	0.21	2.9	110.6	3.27	43.4	0.00	0.00			758	202
800 CSL	4.29	4.23	34.390	27.277	86.8	1.158										806	200
900 CSL	3.92	3.85	34.418	27.338	81.2	1.242										908	200
1000 CSL	3.66	3.59	34.460	27.398	75.9	1.321										1009	200
1023	3.62	3.54	34.469	27.410	74.9	1.338	0.50	6.8	129.3	3.23	44.0	0.00	0.00			1032	201

A) SECOND FLUOROMETER READING NOT RECORDED, CHLOROPHYLL AND PHAEOPIGMENT
CALCULATED WITH ASSUMED ACID RATIO INTERPOLATED FROM ADJACENT LEVELS.
D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS;PRIMARY T; PRIMARY CORRECTED S;

RV MCARTHUR II CALCOFI CRUISE 0907 STATION 66.7 82.5

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
35 42.0 N	124 22.7 W	01/08/09	2110 UTC	4074 m	020 03 kn	320 01 09	1	1017.4 mb	18.5 C	16.5 C		6/8	SC

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	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 CSL	16.72	16.72	33.179	24.183	372.6	0.000										0	200
10 CSL	16.42	16.42	33.176	24.251	366.5	0.037										10	200
20 CSL	16.35	16.35	33.171	24.263	365.6	0.074										20	200
30 CSL	15.81	15.81	33.112	24.340	358.5	0.110										30	200
50 CSL	12.39	12.38	33.203	25.121	284.5	0.174										50	200
75 CSL	9.42	9.41	33.677	26.017	199.6	0.235										75	200
100 CSL	8.83	8.82	33.846	26.243	178.6	0.282										101	200
125 CSL	8.44	8.43	33.940	26.378	166.2	0.325										126	200
150 CSL	8.19	8.17	33.981	26.448	159.9	0.366										151	200
200 CSL	7.58	7.56	34.040	26.584	147.7	0.443										201	200
250 CSL	7.19	7.17	34.098	26.686	138.8	0.514										252	200
300 CSL	6.70	6.67	34.118	26.769	131.4	0.582										302	200
400 CSL	6.05	6.02	34.166	26.892	120.7	0.708										403	200
500 CSL	5.54	5.50	34.221	26.999	111.4	0.824										504	200
600 CSL	5.06	5.01	34.301	27.120	100.6	0.930										604	200
700 CSL	4.47	4.42	34.330	27.209	92.4	1.026										705	200
800 CSL	4.21	4.15	34.380	27.278	86.5	1.116										806	200
900 CSL	3.89	3.82	34.420	27.343	80.7	1.199										908	200
1000 CSL	3.69	3.62	34.468	27.402	75.6	1.278										1009	200
1028	3.61	3.53	34.476	27.416	74.3	1.299										1037	201

RV MCARTHUR II CALCOFI CRUISE 0907 STATION 66.7 85.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
35 37.3 N	124 33.0 W	01/08/09	2255 UTC	4196 m	130 02 kn	350 01 09	1	1016.7 mb	20.0 C	17.4 C	14m	7/8	SC

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	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	16.61	16.61	33.178	24.208	370.2	0.000	5.82	104.5	2.1	0.49	1.7	0.05	0.11	0.26	0.07	0	
1	16.61	16.61	33.178	24.208	370.2	0.004	5.82	104.5	2.1	0.49	1.7	0.05	0.11	0.26	0.07	1	212
9	16.49	16.49	33.182	24.239	367.5	0.033	5.83	104.4	2.0	0.48	1.7	0.05	0.10	0.41	0.11	9	211
10 ISL	16.47 D	16.47	33.172 D	24.236	367.9	0.037	5.83	104.4	2.0	0.48	1.7	0.05	0.10	0.42	0.12	10	
20	16.36	16.36	33.187	24.273	364.6	0.074	5.86	104.7	1.9	0.46	1.6	0.04	0.08	0.47	0.17	20	210
30	16.19	16.19	33.177	24.305	362.0	0.110	5.80	103.3	1.7	0.48	1.8	0.04	0.15	0.52	0.22	30	209
40	16.00	15.99	33.191	24.359	357.1	0.146	5.76	102.2	1.9	0.53	2.3	0.05	0.29	0.44	0.25	40	208
50 ISL	13.03 D	13.02	33.301 D	25.073	289.2	0.178	5.64	94.2	5.0	0.91	7.6	0.32	0.77	0.32	0.25	50	
60	10.93	10.92	33.547	25.658	233.5	0.204	5.52	88.3	10.8	1.40	14.8	0.55	1.10	0.20	0.26	60	207
75 ISL	9.48 D	9.47	33.761 D	26.073	194.4	0.236	4.13	64.1	25.3	1.93	24.6	0.18	0.32	0.12	0.19	75	
80	9.25	9.24	33.791	26.133	188.7	0.246	3.65	56.4	29.8	2.06	27.2	0.02	0.01	0.11	0.16	80	206
100 ISL	8.80 D	8.79	33.860 D	26.259	177.1	0.282	3.10	47.4	33.7	2.16	28.7	0.01	0.02	0.05	0.11	101	
101	8.82	8.81	33.856	26.253	177.7	0.284	3.09	47.3	33.9	2.16	28.8	0.01	0.02	0.05	0.11	102	205
125 ISL	8.43 D	8.42	33.937 D	26.377	166.3	0.326	2.64	40.1	36.9	2.23	30.0	0.00	0.01	0.03	0.10	126	
150	8.19	8.17	33.971	26.440	160.7	0.366	2.31	34.9	39.2	2.27	30.8	0.00	0.00	0.01	0.09	151	204
200 ISL	7.67 D	7.65	34.021 D	26.556	150.4	0.444	1.87	27.9	44.5	2.37	32.3	0.00	0.00	0.01	0.08	201	
201	7.67	7.65	34.021	26.556	150.4	0.446	1.86	27.7	44.6	2.37	32.3	0.00	0.00	0.01	0.08	202	203
250 CSL	7.22	7.20	34.064	26.655	141.7	0.517										252	200
300 CSL	6.82	6.79	34.110	26.746	133.6	0.586										302	200
400 CSL	6.04	6.01	34.167	26.894	120.5	0.713										403	200
500 CSL	5.44	5.40	34.215	27.006	110.6	0.829										504	200
516	5.39	5.35	34.224	27.020	109.5	0.846	0.38	5.4	87.0	3.14	41.2	0.00	0.00			520	202
600 CSL	5.05	5.00	34.297	27.118	100.8	0.935										604	200
700 CSL	4.43	4.38	34.317	27.203	92.9	1.031										705	200
800 CSL	4.12	4.06	34.373	27.281	86.0	1.121										806	200
900 CSL	3.81	3.74	34.419	27.350	79.8	1.204										908	200
1000 CSL	3.65	3.58	34.469	27.407	75.1	1.281										1009	200
1026	3.61	3.53	34.475	27.416	74.4	1.301	0.48	6.5	130.1	3.23	44.3	0.00	0.00			1035	201

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS;PRIMARY T; PRIMARY CORRECTED S;

RV MCARTHUR II CALCOFI CRUISE 0907 STATION 66.7 87.5

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
35 32.3 N	124 43.6 W	02/08/09	0106 UTC	4341 m	140 03 kn	360 02 07	1	1016.3 mb	14.8 C	12.8 C		7/8	ST

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	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 CSL	16.65	16.65	33.083	24.126	378.0	0.000										0	200
10 CSL	16.36	16.36	33.069	24.182	373.0	0.038										10	200
20 CSL	15.84	15.84	33.040	24.278	364.2	0.074										20	200
30 CSL	14.79	14.79	33.096	24.551	338.4	0.110										30	200
50 CSL	10.98	10.97	33.028	25.245	272.6	0.171										50	200
75 CSL	9.54	9.53	33.474	25.838	216.6	0.232										75	200
100 CSL	9.38	9.37	33.721	26.058	196.2	0.283										101	200
125 CSL	8.92	8.91	33.847	26.230	180.3	0.330										126	200
150 CSL	8.56	8.54	33.922	26.345	169.8	0.374										151	200
200 CSL	8.06	8.04	34.037	26.512	154.7	0.455										201	200
250 CSL	7.55	7.53	34.077	26.618	145.3	0.530										252	200
300 CSL	6.86	6.83	34.060	26.701	137.8	0.601										302	200
400 CSL	6.17	6.13	34.145	26.860	123.8	0.732										403	200
500 CSL	5.39	5.35	34.185	26.989	112.2	0.850										504	200
600 CSL	5.00	4.95	34.273	27.105	102.0	0.957										604	200
700 CSL	4.55	4.50	34.318	27.191	94.2	1.055										705	200
800 CSL	4.15	4.09	34.355	27.264	87.7	1.146										806	200
900 CSL	3.99	3.92	34.432	27.342	81.0	1.230										908	200
1000 CSL	3.70	3.63	34.463	27.397	76.1	1.309										1009	200
1026	3.63	3.55	34.468	27.408	75.1	1.329										1035	201

RV MCARTHUR II CALCOFI CRUISE 0907 STATION 66.7 90.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
35 27.2 N	124 54.2 W	02/08/09	0257 UTC	4393 m	130 07 kn	340 02 08	1	1015.9 mb	18.0 C	16.9 C		7/8	ST

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	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	16.72	16.72	33.052	24.086	381.9	0.000	5.85	105.2	1.6	0.36	0.1	0.00	0.07	0.23	0.07	0	
2	16.72	16.72	33.052	24.086	381.9	0.008	5.85	105.2	1.6	0.36	0.1	0.00	0.07	0.23	0.07	2	221
5	16.33	16.33	33.051	24.175	373.5	0.019	5.91	105.4	1.6	0.35	0.0	0.00	0.06	0.26	0.08	5	220
10	15.78	15.78	33.044	24.294	362.3	0.037	5.96	105.2	1.5	0.35	0.0	0.00	0.06	0.25	0.09	10	219
20	15.54	15.54	33.054	24.355	356.8	0.073	6.00	105.4	1.5	0.33	0.0	0.00	0.07	0.50	0.17	20	218
30	15.04	15.04	33.036	24.451	347.9	0.109	6.03	104.8	1.6	0.39	0.3	0.01	0.07	0.67	0.29	30	217
40	13.22	13.21	33.016	24.814	313.5	0.142	6.05	101.3	3.2	0.63	2.9	0.17	0.44	0.50	0.34	40	216
50 ISL	12.51 D	12.50	33.001 D	24.942	301.6	0.172	5.99	98.8	4.1	0.74	4.3	0.30	0.35	0.37	0.33	50	
59	11.80	11.79	33.003	25.078	288.8	0.199	5.90	95.9	5.0	0.80	5.5	0.37	0.27	0.29	0.32	59	215
75 ISL	11.21 D	11.20	33.147 D	25.297	268.2	0.244	5.70	91.5	7.9	1.00	9.6	0.31	0.09	0.21	0.25	75	
80	10.99	10.98	33.155	25.343	264.0	0.257	5.60	89.5	9.2	1.08	11.1	0.29	0.05	0.19	0.23	80	214
100	10.43	10.42	33.417	25.645	235.6	0.307	4.80	75.9	16.8	1.49	18.0	0.01	0.05	0.07	0.28	100	213
125	9.98	9.97	33.627	25.886	213.2	0.363	4.04	63.3	22.4	1.77	22.5	0.00	0.05	0.05	0.14	126	212
150 ISL	9.06 D	9.04	33.747 D	26.130	190.3	0.413	3.48	53.5	25.9	1.82	24.0	0.00	0.04	0.01	0.07	151	
151	9.05	9.03	33.747	26.132	190.2	0.415	3.46	53.2	26.0	1.82	24.0	0.00	0.04	0.01	0.07	152	211
200 ISL	8.35 D	8.33	33.941 D	26.393	166.1	0.503	2.56	38.8	35.5	2.16	29.1	0.00	0.04	0.00	0.07	201	
201	8.34	8.32	33.942	26.395	165.9	0.504	2.54	38.5	35.7	2.17	29.2	0.00	0.04	0.00	0.07	202	210
250	7.66	7.64	34.009	26.549	151.9	0.582	1.90	28.3	44.1	2.40	32.5	0.00	0.00			251	209
300	7.12	7.09	34.046	26.655	142.4	0.656	1.53	22.5	51.5	2.57	34.7	0.00	0.00			302	208
350	6.67	6.64	34.094	26.754	133.5	0.725	1.13	16.5	60.2	2.77	36.9	0.00	0.00			352	207
400 ISL	6.22 D	6.18	34.130 D	26.842	125.6	0.789	0.83	12.0	69.1	2.93	38.6	0.00	0.00			403	
401	6.22	6.18	34.133	26.844	125.3	0.791	0.82	11.8	69.3	2.93	38.6	0.00	0.00			404	206
451	6.12	6.08	34.189	26.902	120.6	0.852	0.58	8.4	74.0	3.04	39.2	0.00	0.00			454	205
500 ISL	5.51 D	5.47	34.170 D	26.962	114.8	0.910	0.57	8.1	81.9	3.08	40.5	0.00	0.00			503	
501	5.51	5.47	34.172	26.964	114.6	0.911	0.57	8.1	82.1	3.08	40.5	0.00	0.00			504	204
600 ISL	4.98 D	4.93	34.246 D	27.085	103.7	1.019	0.29	4.1	95.2	3.23	42.3	0.00	0.00			604	
601	4.98	4.93	34.248	27.087	103.6	1.020	0.29	4.1	95.3	3.23	42.3	0.00	0.00			605	203
700 ISL	4.58 D	4.53	34.302 D	27.175	95.8	1.119	0.22	3.1	104.1	3.29	43.2	0.00	0.00			705	
751	4.53	4.47	34.354	27.222	91.8	1.167	0.19	2.6	107.8	3.30	43.4	0.00	0.00			757	202
800 CSL	4.36	4.30	34.381	27.263	88.3	1.211										806	200
900 CSL	4.05	3.98	34.423	27.329	82.4	1.296										907	200
1000 CSL	3.75	3.68	34.460	27.390	76.9	1.376										1009	200
1026	3.70	3.62	34.464	27.398	76.3	1.396	0.43	5.8	127.5	3.30	44.0	0.00	0.00			1035	201

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS;PRIMARY T; PRIMARY CORRECTED S;

RV MCARTHUR II CALCOFI CRUISE 0907 STATION 66.9 52.3

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
36 40.4 N	122 12.0 W	31/07/09	1606 UTC	1159 m	350 12 kn	350 01 06	2	1015.8 mb	14.4 C	13.9 C		8/8	ST

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	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 CSL	13.01	13.01	33.431	25.176	278.0	0.000										0	200
10 CSL	12.98	12.98	33.435	25.185	277.4	0.028										10	200
20 CSL	12.26	12.26	33.516	25.388	258.3	0.055										20	200
30 CSL	11.12	11.12	33.668	25.718	227.2	0.079										30	200
50 CSL	10.06	10.05	33.732	25.953	205.2	0.122										50	200
75 CSL	9.75	9.74	33.845	26.094	192.4	0.172										75	200
100 CSL	9.71	9.70	33.890	26.136	188.9	0.219										101	200
125 CSL	9.59	9.58	33.943	26.198	183.6	0.266										126	200
150 CSL	9.45	9.43	33.968	26.241	180.0	0.311										151	200
200 CSL	9.17	9.15	34.032	26.337	171.8	0.399										201	200
250 CSL	8.78	8.75	34.110	26.460	161.0	0.483										252	200
300 CSL	8.50	8.47	34.141	26.529	155.3	0.562										302	200
400 CSL	7.41	7.37	34.201	26.738	136.5	0.708										403	200
500 CSL	6.20	6.16	34.216	26.914	120.2	0.836										504	200
600 CSL	5.59	5.54	34.245	27.013	111.4	0.952										605	200
700 CSL	5.08	5.02	34.328	27.140	100.0	1.057										705	200
800 CSL	4.71	4.65	34.372	27.218	93.2	1.154										807	200
900 CSL	4.36	4.29	34.417	27.292	86.5	1.244										908	200
1000 CSL	4.06	3.98	34.445	27.347	81.7	1.328										1009	200
1027	4.01	3.93	34.439	27.347	81.8	1.350										1036	201

RV MCARTHUR II CALCOFI CRUISE 0907 STATION 67.0 50.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT TYPE
36 43.8 N	122 0.7 W	31/07/09	1250 UTC	1121 m	330 11 kn			1014.1 mb	13.9 C	13.6 C	09m	

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	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	12.64	12.64	33.597	25.377	258.9	0.000	6.88	114.2	9.5	0.86	6.8	0.18	0.97	0.91	0.79	0	
2	12.64	12.64	33.597	25.377	258.9	0.005	6.88	114.2	9.5	0.86	6.8	0.18	0.97	0.91	0.79	2	221
5	12.65	12.65	33.598	25.376	259.1	0.013	6.88	114.3	9.8	0.87	7.1	0.19	0.89	1.00	0.92	5	220
10 ISL	12.06 D	12.06	33.594 D	25.487	248.7	0.026	6.59	108.1	12.2	1.02	9.5	0.23	0.60	1.09	1.05	10	
11	12.05	12.05	33.599	25.492	248.2	0.028	6.50	106.6	12.9	1.06	10.2	0.24	0.55	1.11	1.06	11	219
20	11.20	11.20	33.626	25.671	231.5	0.050	5.30	85.4	18.7	1.50	16.2	0.38	0.73	1.36	0.90	20	218
30	10.88	10.88	33.651	25.748	224.4	0.073	4.88	78.1	19.9	1.60	17.6	0.41	0.80	0.73	0.87	30	217
40	10.65	10.65	33.677	25.808	218.8	0.095	4.48	71.3	20.9	1.67	19.2	0.35	0.65	0.40	0.47	40	216
50 ISL	10.41 D	10.40	33.686 D	25.857	214.4	0.116	4.25	67.3	21.7	1.72	20.3	0.30	0.42	0.32	0.45	50	
60	10.31	10.30	33.695	25.882	212.3	0.138	4.00	63.2	22.9	1.78	21.5	0.24	0.19	0.24	0.44	60	215
75 ISL	9.91 D	9.90	33.776 D	26.013	200.1	0.169	3.15	49.4	26.8	1.96	24.5	0.08	0.03	0.11	0.46	75	
81	9.93	9.92	33.843	26.062	195.5	0.180	2.83	44.4	28.4	2.03	25.6	0.03	0.00	0.08	0.47	81	214
100	9.80	9.79	33.899	26.128	189.7	0.217	2.53	39.6	30.7	2.11	26.5	0.02	0.00	0.11	0.47	101	213
125	9.65	9.64	33.921	26.171	186.2	0.264	2.35	36.6	31.4	2.14	26.9	0.03	0.00	0.06	0.31	126	212
150	9.48	9.46	33.962	26.231	180.9	0.310	2.06	32.0	33.2	2.21	27.9	0.03	0.00	0.04	0.31	151	211
200	8.91	8.89	34.078	26.414	164.4	0.396	1.56	23.9	38.3	2.38	30.3	0.00	0.00	0.02	0.21	201	210
250 ISL	8.45 D	8.42	34.120 D	26.519	155.2	0.476	1.42	21.6	42.5	2.47	31.7	0.01	0.00			252	
251	8.45	8.42	34.122	26.521	155.1	0.478	1.42	21.6	42.6	2.47	31.7	0.01	0.00			253	209
300	7.99	7.96	34.200	26.652	143.3	0.551	0.90	13.5	51.1	2.71	34.2	0.01	0.00			302	208
350	7.56	7.53	34.211	26.724	137.1	0.621	0.76	11.3	56.6	2.81	35.2	0.05	0.00			352	207
400	7.32	7.28	34.208	26.756	134.7	0.689	0.77	11.4	59.4	2.84	35.7	0.02	0.00			403	206
450	6.52	6.48	34.214	26.870	124.0	0.754	0.60	8.7	70.0	2.99	37.7	0.00	0.00			453	205
500 ISL	6.16 D	6.12	34.228 D	26.928	118.8	0.814	0.53	7.6	77.1	3.05	38.6	0.00	0.00			504	
502	6.15	6.11	34.230	26.931	118.6	0.817	0.53	7.6	77.3	3.05	38.6	0.00	0.00			506	204
600 ISL	5.48 D	5.43	34.293 D	27.064	106.5	0.927	0.41	5.8	90.7	3.17	40.2	0.00	0.00			605	
604	5.48	5.43	34.300	27.070	106.0	0.931	0.41	5.8	91.2	3.17	40.3	0.00	0.00			609	203
700 ISL	4.85 D	4.79	34.364 D	27.195	94.4	1.027	0.35	4.9	101.6	3.23	41.5	0.00	0.00			706	
751	4.76	4.70	34.375	27.214	93.1	1.075	0.34	4.7	106.3	3.25	42.0	0.00	0.00			757	202
800 CSL	4.61	4.55	34.388	27.241	90.8	1.120										807	200
900 CSL	4.33	4.26	34.417	27.295	86.2	1.209										908	200
1000 CSL	4.10	4.02	34.440	27.338	82.6	1.293										1009	200
1026	4.03	3.95	34.446	27.351	81.5	1.314	0.44	6.0	122.4	3.27	43.1	0.00	0.00			1035	201

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS;PRIMARY T; PRIMARY CORRECTED S;

RV MCARTHUR II CALCOFI CRUISE 0907 STATION 67.1 47.7

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT TYPE
36 47.9 N	121 50.7 W	31/07/09	1045 UTC	197 m	040 03 kn			1014.3 mb	14.1 C	13.4 C		

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	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	13.59	13.59	33.542	25.146	280.9	0.000	9.22	156.1						7.09	4.25	0	
1	13.59	13.59	33.542	25.146	280.9	0.003	9.22	156.1						7.09	4.25	1	223
5	12.91	12.91	33.545	25.284	267.9	0.014	9.00	150.2						10.99	6.30	5	221
10	11.58	11.58	33.540	25.534	244.2	0.027	6.06	98.3						8.81	3.92	10	219
20	10.33	10.33	33.491	25.719	226.9	0.050	4.67	73.7						1.27	0.76	20	217
30 ISL	10.09 D	10.09	33.527 D	25.788	220.5	0.073	4.40	69.1						0.52	0.50	30	
31	10.10	10.10	33.526	25.785	220.8	0.075	4.39	69.0						0.44	0.47	31	215
40	10.31	10.31	33.691	25.878	212.1	0.094	3.83	60.5						0.37	0.40	40	213
50 ISL	10.39 D	10.38	33.731 D	25.896	210.7	0.115	3.74	59.2						0.39	0.42	50	
60	10.39	10.38	33.740	25.903	210.2	0.136	3.64	57.6						0.41	0.47	60	211
75 ISL	10.36 D	10.35	33.779 D	25.939	207.2	0.168	3.52	55.7						0.43	0.49	75	
80	10.36	10.35	33.772	25.934	207.8	0.178	3.49	55.2						0.44	0.49	80	209
100	10.27	10.26	33.771	25.949	206.8	0.220	3.47	54.8						0.34	0.45	101	207
125 ISL	10.23 D	10.22	33.772 D	25.957	206.6	0.271	3.43	54.1						0.30	0.43	126	
126	10.25	10.24	33.772	25.953	206.9	0.273	3.43	54.1						0.30	0.43	127	205
150 ISL	10.30 D	10.28	33.798 D	25.966	206.3	0.323	3.38	53.4						0.34	0.49	151	
151	10.30	10.28	33.796	25.964	206.5	0.325	3.38	53.4						0.34	0.49	152	203
190	9.69	9.67	33.829	26.093	194.9	0.403	2.80	43.7						0.20	0.63	191	201

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS;PRIMARY T; PRIMARY CORRECTED S;

RV MCARTHUR II CALCOFI CRUISE 0907 STATION 76.7 49.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
35 5.2 N	120 46.6 W	30/07/09	2006 UTC	70 m	300 11 kn	280 02 07	1	1014.7 mb	15.9 C	15.3 C	14m	3/8	ST

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	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	14.60	14.60	33.323	24.766	317.0	0.000	6.01	103.7	3.2	0.59	2.9	0.12	0.17	0.53	0.15	0	
1	14.60	14.60	33.323	24.766	317.1	0.003	6.01	103.7	3.2	0.59	2.9	0.12	0.17	0.53	0.15	1	209
5	14.24	14.24	33.293	24.819	312.1	0.016	5.98	102.4	3.8	0.64	3.5	0.15	0.22	0.54	0.22	5	208
10	13.43	13.43	33.237	24.942	300.5	0.031	5.99	100.9	5.0	0.72	4.6	0.18	0.21	0.63	0.20	10	206
10	13.47	13.47	33.251	24.945	300.3	0.031										10	207
20	11.89	11.89	33.144	25.169	279.1	0.060	5.65	92.1	7.1	0.90	7.6	0.15	0.08	0.58	0.26	20	205
30	11.07	11.07	33.187	25.353	261.9	0.087	5.28	84.6	9.1	1.06	10.3	0.07	0.03	0.29	0.18	30	204
40	10.88	10.88	33.303	25.477	250.3	0.113	5.17	82.5	11.5	1.21	12.9	0.04	0.00	0.28	0.15	40	203
50	10.49	10.48	33.383	25.607	238.1	0.137	4.76	75.4	15.5	1.42	15.9	0.07	0.00	0.31	0.24	50	202
60	10.51	10.50	33.584	25.761	223.8	0.160	3.82	60.6	20.6	1.66	19.1	0.21	0.00	0.32	0.40	60	201

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS;PRIMARY T; PRIMARY CORRECTED S;

RV MCARTHUR II CALCOFI CRUISE 0907 STATION 76.7 51.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
35 1.4 N	120 55.2 W	30/07/09	1514 UTC	246 m	020 07 kn	350 02 05	2	1014.7 mb	14.9 C	14.6 C	13m	8/8	ST

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	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	14.21	14.21	33.269	24.807	313.2	0.000	6.01	102.9	4.0	0.59	2.9	0.12	0.09	0.87	0.11	0	
1	14.21	14.21	33.269	24.807	313.2	0.003	6.01	102.9	4.0	0.59	2.9	0.12	0.09	0.87	0.11	1	216
10	13.84	13.84	33.248	24.867	307.7	0.031	6.03	102.4	4.1	0.61	3.3	0.13	0.12	0.76	0.23	10	214
10	13.81	13.81	33.245	24.871	307.3	0.031										10	215
20	13.32	13.32	33.210	24.944	300.7	0.061	6.06	101.8	4.5	0.67	4.2	0.15	0.22	0.69	0.26	20	213
30 ISL	13.10 D	13.10	33.188 D	24.971	298.3	0.091	6.00	100.3	4.8	0.69	4.4	0.17	0.25	0.67	0.23	30	
31	13.05	13.05	33.186	24.979	297.6	0.094	5.99	100.0	4.8	0.69	4.4	0.17	0.25	0.67	0.23	31	212
40	11.56	11.56	33.105	25.201	276.6	0.120	5.48	88.6	6.7	0.89	7.4	0.10	0.07	0.38	0.24	40	211
50	10.79	10.78	33.222	25.430	255.0	0.147	4.95	78.8	10.2	1.12	11.6	0.04	0.09	0.12	0.15	50	210
60	10.53	10.52	33.318	25.550	243.8	0.172	4.73	74.9	12.2	1.24	13.5	0.03	0.05	0.07	0.09	60	209
71	10.24	10.23	33.400	25.664	233.2	0.198	4.62	72.7	14.6	1.35	15.6	0.02	0.01	0.03	0.07	71	208
75 ISL	10.00 D	9.99	33.515 D	25.794	220.8	0.207	4.59	71.9	16.3	1.44	17.0	0.02	0.03	0.03	0.06	75	
85	9.93	9.92	33.544	25.829	217.8	0.229	4.32	67.6	20.6	1.68	20.5	0.02	0.08	0.02	0.05	85	207
100	10.23	10.22	33.771	25.956	206.1	0.261	3.07	48.4	23.8	1.85	22.8	0.01	0.00	0.05	0.11	101	206
120	9.81	9.80	33.871	26.105	192.3	0.301	2.67	41.8	27.1	2.00	24.8	0.01	0.00	0.03	0.08	121	205
125 ISL	9.84 D	9.83	33.905 D	26.127	190.4	0.310	2.54	39.8	28.1	2.04	25.2	0.01	0.00	0.03	0.08	126	
140	9.58	9.56	33.977	26.226	181.2	0.338	2.21	34.4	30.7	2.15	26.3	0.01	0.00	0.02	0.08	141	204
150 ISL	9.44 D	9.42	33.985 D	26.255	178.6	0.356	2.18	33.8	31.3	2.17	26.7	0.02	0.00	0.02	0.09	151	
171	9.23	9.21	34.013	26.312	173.6	0.393	2.12	32.8	32.5	2.19	27.5	0.05	0.01	0.01	0.14	172	203
200	8.90	8.88	34.065	26.406	165.2	0.442	1.75	26.9	37.3	2.35	29.1	0.05	0.63	0.01	0.28	201	202
230	8.76	8.74	34.087	26.445	162.0	0.491	1.66	25.4	38.8	2.40	29.7	0.04	0.25			231	201

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS;PRIMARY T; PRIMARY CORRECTED S;

RV MCARTHUR II CALCOFI CRUISE 0907 STATION 76.7 55.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
34 53.5 N	121 11.6 W	30/07/09	1124 UTC	563 m	350 11 kn			1012.5 mb	15.1 C	14.1 C			

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	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	14.60	14.60	33.356	24.791	314.6	0.000	6.01	103.8	3.5	0.57	2.5	0.11	0.16	0.64	0.17	0	
1	14.60	14.60	33.356	24.791	314.6	0.003	6.01	103.8	3.5	0.57	2.5	0.11	0.16	0.64	0.17	1	221
10	14.40	14.40	33.348	24.828	311.4	0.031	6.00	103.2	3.4	0.58	2.6	0.11	0.22	0.59	0.23	10	219
10	14.40	14.40	33.347	24.827	311.5	0.031										10	220
20	14.19	14.19	33.343	24.869	307.9	0.062	5.94	101.7	3.6	0.61	3.2	0.14	0.20	0.84	0.18	20	218
30	13.01	13.01	33.351	25.115	284.6	0.092	5.67	94.7	6.8	0.88	7.3	0.27	0.33	0.74	0.20	30	217
40	10.52	10.52	33.351	25.577	240.8	0.118	5.00	79.2	15.2	1.38	15.9	0.11	0.05	0.29	0.16	40	216
50	10.39	10.38	33.583	25.781	221.7	0.141	4.23	66.9	19.6	1.64	20.0	0.04	0.02	0.13	0.14	50	215
60	10.33	10.32	33.644	25.839	216.4	0.163	3.91	61.8	21.0	1.71	21.2	0.05	0.02	0.11	0.16	60	214
71	10.17	10.16	33.665	25.883	212.4	0.187	3.80	59.8	22.0	1.75	21.9	0.01	0.01	0.05	0.13	71	213
75 ISL	10.08 D	10.07	33.687 D	25.915	209.4	0.195	3.68	57.8	22.5	1.78	22.3	0.01	0.01	0.05	0.12	75	
85	10.06	10.05	33.738	25.958	205.5	0.216	3.34	52.5	23.8	1.85	23.2	0.01	0.02	0.05	0.11	85	212
100 ISL	9.88 D	9.87	33.802 D	26.039	198.2	0.246	3.00	47.0	25.7	1.93	24.2	0.01	0.02	0.03	0.11	101	
101	9.89	9.88	33.803	26.038	198.3	0.248	2.99	46.8	25.8	1.93	24.3	0.01	0.02	0.03	0.11	102	211
120	9.63	9.62	33.824	26.098	192.9	0.285	3.08	48.0	26.9	1.97	24.9	0.01	0.02	0.02	0.12	121	210
125 ISL	9.50 D	9.49	33.831 D	26.125	190.4	0.295	3.03	47.1	27.6	1.98	25.2	0.01	0.01	0.02	0.12	126	
140	9.06	9.04	33.906	26.255	178.3	0.323	2.82	43.4	30.2	2.03	26.3	0.01	0.00	0.01	0.10	141	209
150 ISL	8.83 D	8.81	33.946 D	26.322	172.0	0.340	2.76	42.3	31.5	2.04	26.7	0.01	0.00	0.01	0.09	151	
171	8.54	8.52	34.002	26.412	163.9	0.375	2.56	39.0	34.3	2.10	27.5	0.01	0.01	0.01	0.07	172	208
200 ISL	8.51 D	8.49	34.101 D	26.494	156.6	0.422	1.69	25.7	39.8	2.35	30.3	0.00	0.01	0.00	0.07	201	
201	8.53	8.51	34.105	26.494	156.6	0.423	1.66	25.3	40.0	2.36	30.4	0.00	0.01	0.00	0.07	202	207
231	8.11	8.09	34.100	26.554	151.3	0.470	1.60	24.1	43.4	2.44	31.6	0.00	0.01			232	206
250 ISL	8.17 D	8.14	34.178 D	26.607	146.7	0.498	1.29	19.5	45.7	2.53	32.2	0.00	0.00			252	
271	8.23	8.20	34.219	26.630	145.0	0.529	0.93	14.1	48.2	2.64	32.7	0.00	0.00			273	205
300 ISL	7.94 D	7.91	34.237 D	26.688	139.9	0.570	0.84	12.6	51.4	2.73	33.5	0.00	0.01			302	
320	7.77	7.74	34.233	26.710	138.0	0.598	0.77	11.5	53.6	2.77	34.0	0.00	0.01			322	204
381	7.18	7.14	34.237	26.798	130.3	0.680	0.63	9.3	61.4	2.88	35.5	0.00	0.00			384	203
400 ISL	7.01 D	6.97	34.248 D	26.830	127.4	0.704	0.58	8.5	63.8	2.91	35.9	0.01	0.00			403	
440	6.79	6.75	34.261	26.871	124.0	0.754	0.49	7.2	68.6	2.97	36.7	0.02	0.01			443	202
500 ISL	6.29 D	6.24	34.271 D	26.945	117.3	0.827	0.38	5.5	75.1	3.07	38.2	0.02	0.00			504	
515	6.22	6.17	34.288	26.968	115.4	0.844	0.35	5.1	76.7	3.10	38.6	0.02	0.00			519	201

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS;PRIMARY T; PRIMARY CORRECTED S;

RV MCARTHUR II CALCOFI CRUISE 0907 STATION 76.7 60.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
34 43.3 N	121 32.9 W	30/07/09	0710 UTC	940 m	340 11 kn			1013.3 mb	15.6 C	14.8 C			

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	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	14.30	14.30	33.242	24.767	317.0	0.000	6.07	104.1	3.8	0.69	4.4	0.17	0.15	0.34	0.08	0	
1	14.30	14.30	33.242	24.767	317.0	0.003	6.07	104.1	3.8	0.69	4.4	0.17	0.15	0.34	0.08	1	220
10	14.22	14.22	33.248	24.789	315.2	0.032	6.07	103.9	3.8	0.86	4.3	0.16	0.21	0.35	0.08	10	219
20	13.43	13.43	33.289	24.983	297.0	0.062	6.08	102.4	4.2	0.76	5.1	0.19	0.25	0.49	0.16	20	218
30	12.94	12.94	33.343	25.123	283.9	0.091	6.02	100.4	5.2	0.85	6.5	0.23	0.31	0.64	0.21	30	217
40	12.64	12.63	33.380	25.210	275.8	0.119	5.90	97.8	6.2	0.93	7.5	0.25	0.50	0.62	0.22	40	216
49	12.36	12.35	33.395	25.276	269.8	0.144	5.75	94.8	7.7	1.02	8.8	0.28	0.59	0.51	0.26	49	215
50 ISL	12.30 D	12.29	33.408 D	25.298	267.7	0.146	5.68	93.5	8.3	1.05	9.4	0.26	0.54	0.48	0.25	50	
60	10.10	10.09	33.238	25.561	242.7	0.172	5.00	78.4	14.4	1.34	15.1	0.04	0.00	0.15	0.12	60	214
70	9.93	9.92	33.335	25.665	233.0	0.196	4.74	74.1	16.1	1.44	16.6	0.03	0.01	0.08	0.09	70	213
75 ISL	9.84 D	9.83	33.412 D	25.741	225.9	0.207	4.63	72.3	17.4	1.50	17.7	0.03	0.01	0.06	0.08	75	
85	9.87	9.86	33.537	25.833	217.3	0.229	4.31	67.4	20.2	1.64	20.1	0.02	0.00	0.04	0.07	85	212
100	9.94	9.93	33.755	25.992	202.6	0.261	3.31	51.9	24.3	1.87	23.3	0.01	0.01	0.04	0.10	101	211
120	9.66	9.65	33.864	26.124	190.4	0.300	2.69	41.9	27.7	2.01	25.5	0.00	0.00	0.02	0.09	121	210
125 ISL	9.60 D	9.59	33.931 D	26.187	184.6	0.310	2.52	39.3	28.7	2.06	26.0	0.00	0.00	0.02	0.09	126	
140	9.44	9.42	33.974	26.247	179.2	0.337	2.13	33.1	31.3	2.19	27.3	0.00	0.00	0.02	0.09	141	209
150 ISL	9.26 D	9.24	33.966 D	26.270	177.2	0.355	2.20	34.0	31.8	2.18	27.4	0.00	0.00	0.02	0.08	151	
170	8.95	8.93	33.972	26.324	172.3	0.390	2.43	37.3	32.4	2.14	27.5	0.00	0.00	0.01	0.07	171	208
200	8.81	8.79	34.069	26.423	163.5	0.440	1.85	28.3	36.4	2.30	29.2	0.00	0.00	0.01	0.08	201	207
230	8.05	8.03	34.040	26.516	154.9	0.488	2.10	31.6	40.5	2.30	30.3	0.01	0.00			231	206
250 ISL	7.78 D	7.76	34.056 D	26.569	150.1	0.518	1.98	29.6	43.8	2.37	31.3	0.01	0.00			252	
270	7.58	7.55	34.067	26.606	146.8	0.548	1.73	25.8	47.0	2.47	32.3	0.00	0.00			272	205
300 ISL	7.35 D	7.32	34.096 D	26.662	141.9	0.591	1.24	18.4	50.8	2.64	33.3	0.00	0.00			302	
322	7.68	7.65	34.207	26.703	138.7	0.622	0.90	13.4	53.2	2.75	33.8	0.00	0.00			324	204
380	7.20	7.16	34.211	26.775	132.5	0.701	0.75	11.1	59.5	2.86	35.3	0.00	0.00			383	203
400 ISL	6.90 D	6.86	34.202 D	26.809	129.3	0.727	0.74	10.9	61.5	2.89	35.9	0.00	0.00			403	
440	6.66	6.62	34.191	26.833	127.4	0.778	0.70	10.2	65.8	2.94	36.9	0.00	0.00			443	202
500 ISL	6.35 D	6.30	34.290 D	26.953	116.7	0.852	0.42	6.1	74.3	3.07	38.1	0.00	0.00			504	
516	6.28	6.23	34.293	26.964	115.8	0.870	0.34	4.9	76.6	3.11	38.4	0.00	0.00			520	201

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS;PRIMARY T; PRIMARY CORRECTED S;

RV MCARTHUR II CALCOFI CRUISE 0907 STATION 76.7 70.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
34 23.4 N	122 15.0 W	30/07/09	0057 UTC	4019 m	310 13 kn	300 02 08	5	1013.1 mb	17.0 C	16.0 C	10m	8/8	ST

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	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	16.49	16.49	33.298	24.328	358.8	0.000	5.81	104.1	0.3	0.40	0.1	0.00	0.09	0.55	0.04	0	
1	16.49	16.49	33.298	24.328	358.8	0.004	5.81	104.1	0.3	0.40	0.1	0.00	0.09	0.55	0.04	1	220
10 ISL	16.45 D	16.45	33.295 D	24.335	358.4	0.036	5.83	104.4	0.3	0.37	0.0	0.00	0.03	0.45	0.17	10	
11	16.46	16.46	33.296	24.334	358.6	0.039	5.83	104.4	0.3	0.37	0.0	0.00	0.02	0.44	0.19	11	219
20	16.34	16.34	33.297	24.362	356.1	0.072	5.83	104.2	0.3	0.35	0.0	0.00	0.01	0.47	0.13	20	218
30 ISL	15.42 D	15.42	33.194 D	24.490	344.3	0.107	5.94	104.1	0.8	0.39	0.1	0.01	0.05	1.07	0.55	30	
31	15.51	15.51	33.207	24.480	345.2	0.110	5.96	104.7	0.8	0.39	0.1	0.01	0.05	1.12	0.59	31	217
40	12.04	12.03	32.874	24.932	302.2	0.139	6.13	100.0	4.1	0.61	2.2	0.32	0.27	0.74	0.34	40	216
50	11.36	11.35	32.930	25.101	286.3	0.169	5.83	93.8	5.7	0.80	5.7	0.29	0.05	0.42	0.25	50	215
60	11.12	11.11	32.998	25.197	277.4	0.197	5.69	91.1	7.7	0.95	8.5	0.11	0.03	0.24	0.15	60	214
71	10.86	10.85	33.114	25.334	264.6	0.227	5.56	88.6	9.1	1.04	10.2	0.07	0.01	0.14	0.12	71	213
75 ISL	10.69 D	10.68	33.139 D	25.383	260.0	0.237	5.49	87.2	10.1	1.09	11.1	0.05	0.01	0.11	0.11	75	
86	10.43	10.42	33.256	25.520	247.3	0.265	5.22	82.5	13.3	1.25	13.8	0.01	0.01	0.06	0.07	86	212
100	10.23	10.22	33.454	25.708	229.6	0.298	4.72	74.3	17.2	1.49	17.8	0.01	0.01	0.03	0.06	100	211
120	9.69	9.68	33.722	26.008	201.4	0.342	3.86	60.2	24.6	1.85	23.5	0.01	0.01	0.01	0.07	121	210
125 ISL	9.64 D	9.63	33.790 D	26.070	195.7	0.351	3.70	57.6	25.6	1.90	24.2	0.01	0.01	0.01	0.07	126	
140	9.40	9.38	33.842	26.150	188.3	0.380	3.29	51.0	27.7	1.99	25.5	0.00	0.00	0.01	0.05	141	209
150 ISL	9.11 D	9.09	33.874 D	26.222	181.7	0.399	3.00	46.2	29.6	2.04	26.5	0.00	0.00	0.01	0.05	151	
169	8.82	8.80	33.953	26.330	171.7	0.432	2.50	38.3	33.2	2.12	28.1	0.00	0.00	0.00	0.06	170	208
200	8.47	8.45	34.027	26.442	161.5	0.484	2.04	31.0	37.3	2.26	29.9	0.00	0.00	0.01	0.06	201	207
230	8.15	8.13	34.041	26.502	156.3	0.532	2.07	31.2	39.7	2.28	30.0	0.00	0.00			231	206
250 ISL	7.64 D	7.62	34.026 D	26.565	150.4	0.562	2.21	32.9	43.4	2.29	30.6	0.00	0.00			251	
270	7.07	7.04	34.003	26.627	144.5	0.592	2.29	33.7	47.7	2.33	31.5	0.00	0.00			272	205
300 ISL	6.81 D	6.78	34.038 D	26.691	138.8	0.634	1.92	28.1	52.7	2.47	33.3	0.00	0.00			302	
321	6.70	6.67	34.046	26.712	137.0	0.663	1.58	23.0	56.1	2.59	34.7	0.00	0.00			323	204
380	6.15	6.12	34.092	26.821	127.2	0.741	1.07	15.4	66.3	2.82	37.6	0.00	0.00			382	203
400 ISL	6.35 D	6.31	34.168 D	26.855	124.4	0.766	0.88	12.7	68.6	2.89	38.0	0.00	0.00			403	
440	6.16	6.12	34.201	26.906	120.0	0.815	0.56	8.1	72.5	3.00	38.5	0.00	0.00			443	202
500 ISL	5.84 D	5.80	34.233 D	26.972	114.3	0.886	0.41	5.9	78.7	3.09	39.6	0.00	0.00			503	
516	5.80	5.76	34.250	26.991	112.7	0.904	0.37	5.3	80.3	3.11	39.9	0.00	0.00			520	201

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS;PRIMARY T; PRIMARY CORRECTED S;

RV MCARTHUR II CALCOFI CRUISE 0907 STATION 76.7 80.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
34 3.2 N	122 56.8 W	29/07/09	1853 UTC	4236 m	330 14 kn	340 03 06	2	1015.1 mb	17.1 C	15.9 C	14m	8/8	ST

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	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	16.56	16.56	33.410	24.398	352.1	0.000	5.78	103.8	1.6	0.37	0.3	0.02	0.08	0.54	0.15	0	
2 A	16.56	16.56	33.410	24.398	352.2	0.007	5.78	103.8	1.6	0.37	0.3	0.02	0.08	0.54	0.15	2	221
10 A	16.54	16.54	33.414	24.406	351.7	0.035	5.79	103.9	1.6	0.35	0.2	0.01	0.07	0.52	0.16	10	220
19 A	16.38	16.38	33.437	24.461	346.8	0.067	5.82	104.2	1.6	0.41	0.8	0.04	0.22	0.60	0.18	19	219
20 ISL	16.46 D	16.46	33.423 D	24.431	349.6	0.070	5.83	104.5	1.8	0.44	1.2	0.08	0.27	0.60	0.19	20	
29 A	13.16	13.16	33.568	25.253	271.5	0.098	5.96	100.0	3.2	0.88	7.1	0.40	0.58	0.56	0.29	29	218
30 ISL	12.28 D	12.28	33.597 D	25.448	253.0	0.101	5.76	94.9	4.3	0.96	8.3	0.39	0.53	0.55	0.30	30	
39 A	11.56	11.56	33.659	25.631	235.7	0.123	4.11	66.7	15.0	1.58	18.0	0.16	0.03	0.38	0.35	39	217
46	10.93	10.92	33.620	25.715	227.9	0.139	4.32	69.2	18.3	1.64	19.9	0.04	0.04	0.19	0.19	46	216
50 ISL	10.16 D	10.15	33.550 D	25.794	220.3	0.148	4.33	68.1	19.5	1.66	20.5	0.03	0.03	0.12	0.13	50	
53 A	10.00	9.99	33.537	25.811	218.8	0.154	4.33	67.9	20.1	1.68	20.8	0.02	0.02	0.09	0.10	53	215
62	9.76	9.75	33.564	25.872	213.1	0.174	4.23	66.0	21.7	1.72	21.5	0.01	0.02	0.04	0.08	62	214
70	9.87	9.86	33.662	25.931	207.8	0.191	3.92	61.3	23.3	1.81	22.5	0.01	0.01	0.04	0.10	70	213
75 ISL	9.76 D	9.75	33.704 D	25.982	203.0	0.201	3.70	57.8	24.3	1.85	23.2	0.01	0.01	0.03	0.09	75	
85	9.54	9.53	33.768	26.068	195.0	0.221	3.33	51.8	26.3	1.91	24.5	0.00	0.00	0.01	0.08	85	212
100	9.12	9.11	33.844	26.196	183.1	0.249	3.09	47.6	28.8	1.99	25.9	0.00	0.00	0.01	0.05	101	211
120	8.87	8.86	33.918	26.294	174.2	0.285	2.67	40.9	32.0	2.10	27.6	0.00	0.01	0.01	0.06	121	210
125 ISL	8.87 D	8.86	33.953 D	26.321	171.7	0.294	2.55	39.1	32.8	2.13	28.1	0.00	0.01	0.01	0.06	126	
140	8.70	8.69	33.989	26.376	166.7	0.319	2.23	34.1	35.2	2.22	29.3	0.00	0.01	0.01	0.05	141	209
150 ISL	8.58 D	8.56	34.004 D	26.407	164.0	0.336	2.09	31.8	36.3	2.26	29.9	0.00	0.01	0.01	0.05	151	
170	8.45	8.43	34.033	26.450	160.2	0.368	1.93	29.3	38.5	2.33	30.7	0.00	0.00	0.00	0.04	171	208
200 ISL	7.78 D	7.76	34.037 D	26.553	150.7	0.415	1.86	27.8	43.0	2.39	31.7	0.00	0.00	0.00	0.04	201	
201	7.84	7.82	34.048	26.553	150.8	0.416	1.86	27.9	43.2	2.39	31.7	0.00	0.00	0.00	0.04	202	207
229	7.59	7.57	34.086	26.619	144.9	0.457	1.40	20.9	48.2	2.58	34.0	0.00	0.00			230	206
250 ISL	7.35 D	7.33	34.098 D	26.663	141.0	0.488	1.25	18.5	51.9	2.65	35.0	0.00	0.00			252	
270	7.08	7.05	34.104	26.706	137.1	0.515	1.18	17.4	55.3	2.70	35.6	0.00	0.00			272	205
300 ISL	6.68 D	6.65	34.110 D	26.765	131.7	0.556	0.99	14.4	60.5	2.80	36.8	0.00	0.00			302	
321	6.59	6.56	34.136	26.798	128.9	0.583	0.88	12.8	64.1	2.87	37.5	0.00	0.00			323	204
384	5.79	5.76	34.115	26.884	121.0	0.662	0.84	12.0	74.1	2.96	39.2	0.00	0.00			387	203
400 ISL	5.81 D	5.78	34.147 D	26.907	119.0	0.681	0.76	10.9	75.7	2.99	39.4	0.00	0.00			403	
441	5.78	5.74	34.206	26.958	114.8	0.729	0.52	7.4	79.2	3.07	39.9	0.00	0.00			444	202
500 ISL	5.56 D	5.52	34.261 D	27.028	108.7	0.795	0.33	4.7	85.7	3.16	41.0	0.00	0.00			504	
516	5.47	5.43	34.280	27.054	106.3	0.812	0.28	4.0	87.5	3.19	41.3	0.00	0.00			520	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.
D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS;PRIMARY T; PRIMARY CORRECTED S;

RV MCARTHUR II CALCOFI CRUISE 0907 STATION 76.7 90.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
33 43.1 N	123 38.4 W	29/07/09	1219 UTC	4058 m	320 17 kn			1013.2 mb	16.4 C	15.1 C			

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	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	16.37	16.37	33.294	24.352	356.5	0.000	5.81	103.9	2.0	0.34	0.2	0.01	0.06	0.62	0.13	0	
1	16.37	16.37	33.294	24.352	356.5	0.004	5.81	103.9	2.0	0.34	0.2	0.01	0.06	0.62	0.13	1	220
2	16.37	16.37	33.291 D	24.350	356.7	0.007										2	221
10	16.07	16.07	33.281	24.411	351.2	0.035	5.85	104.0	1.6	0.37	0.5	0.02	0.14	0.59	0.08	10	219
20	14.98	14.98	33.182	24.576	335.7	0.070	6.01	104.4	1.3	0.46	1.3	0.07	0.29	0.58	0.16	20	218
30	14.82	14.82	33.236	24.653	328.7	0.103	6.01	104.1	1.2	0.49	2.3	0.11	0.32	0.74	0.21	30	217
40	14.45	14.44	33.245	24.739	320.8	0.135	6.01	103.4	1.5	0.53	3.0	0.14	0.54	0.92	0.29	40	216
50	12.35	12.34	33.256	25.170	279.8	0.166	5.77	95.0	7.4	0.95	7.7	0.33	1.05	0.61	0.22	50	215
61	11.26	11.25	33.245	25.364	261.5	0.195	5.31	85.4	10.8	1.14	11.9	0.32	0.06	0.25	0.16	61	214
70	11.74	11.73	33.490	25.467	252.1	0.218	5.47	89.0	11.3	1.19	12.0	0.54	0.72	0.35	0.21	70	213
75 ISL	11.25 D	11.24	33.630 D	25.666	233.2	0.231	5.17	83.3	13.1	1.31	14.2	0.44	0.58	0.33	0.20	75	
86	10.78	10.77	33.663	25.776	223.0	0.256	4.26	68.0	18.4	1.63	20.1	0.09	0.00	0.20	0.14	86	212
100	9.66	9.65	33.731	26.020	199.9	0.285	3.56	55.5	25.2	1.89	24.3	0.02	0.00	0.05	0.08	100	211
120	9.54	9.53	33.886	26.161	186.9	0.324	2.89	44.9	28.0	2.06	26.5	0.00	0.00	0.02	0.07	121	210
125 ISL	9.35 D	9.34	33.895 D	26.199	183.3	0.333	2.84	44.0	28.7	2.06	26.7	0.00	0.00	0.02	0.07	126	
141	8.93	8.91	33.914	26.281	175.8	0.362	2.78	42.7	30.8	2.05	27.1	0.00	0.00	0.02	0.06	142	209
150 ISL	8.83 D	8.81	33.942 D	26.319	172.3	0.378	2.68	41.0	32.0	2.08	27.7	0.00	0.00	0.02	0.06	151	
171	8.54	8.52	33.990	26.402	164.8	0.413	2.30	35.0	35.0	2.19	29.4	0.00	0.00	0.01	0.05	172	208
199	8.70	8.68	34.131	26.488	157.2	0.458	1.42	21.7	40.5	2.44	31.1	0.01	0.00	0.01	0.06	200	207
200 ISL	8.64 D	8.62	34.136 D	26.502	156.0	0.460	1.43	21.8	40.7	2.44	31.1	0.01	0.00			201	
231	7.83	7.81	34.078	26.578	148.9	0.507	1.63	24.4	45.3	2.46	32.5	0.00	0.00			232	206
250 ISL	7.64 D	7.62	34.080 D	26.608	146.4	0.535	1.59	23.7	48.3	2.50	33.3	0.00	0.00			251	
271	7.27	7.24	34.085	26.664	141.1	0.565	1.47	21.7	51.6	2.56	34.1	0.00	0.00			273	205
300 ISL	6.93 D	6.90	34.096 D	26.720	136.1	0.605	1.31	19.2	55.9	2.65	35.2	0.00	0.00			302	
320	6.74	6.71	34.102	26.751	133.4	0.632	1.20	17.5	58.9	2.71	36.0	0.00	0.00			322	204
381	6.05	6.02	34.097	26.837	125.6	0.711	1.02	14.7	68.4	2.84	38.1	0.00	0.00			383	203
400 ISL	5.91 D	5.88	34.113 D	26.868	122.8	0.735	0.92	13.2	71.4	2.89	38.7	0.00	0.00			403	
443	5.63	5.59	34.149	26.931	117.2	0.786	0.69	9.8	77.8	3.00	39.9	0.00	0.00			446	202
500 ISL	5.27 D	5.23	34.183 D	27.001	110.9	0.851	0.53	7.5	84.8	3.06	41.0	0.00	0.00			503	
516	5.24	5.20	34.189	27.010	110.2	0.869	0.48	6.8	86.8	3.08	41.3	0.00	0.00			520	201

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS;PRIMARY T; PRIMARY CORRECTED S;

RV MCARTHUR II CALCOFI CRUISE 0907 STATION 76.7 100.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT TYPE
33 22.9 N	124 19.9 W	29/07/09	0537 UTC	4548 m	330 23 kn			1014.8 mb	17.2 C	16.1 C		

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	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	17.12	17.12	33.162	24.077	382.7	0.000	5.62	101.9	1.7	0.36	0.1	0.00	0.00	0.12	0.03	0	
3	17.12	17.12	33.162	24.077	382.8	0.011	5.62	101.9	1.7	0.36	0.1	0.00	0.00	0.12	0.03	3	220
10 ISL	17.13 D	17.13	33.162 D	24.075	383.2	0.038	5.61	101.7	1.6	0.34	0.1	0.00	0.00	0.12	0.02	10	
11	17.13	17.13	33.164	24.076	383.1	0.042	5.61	101.7	1.6	0.34	0.1	0.00	0.00	0.12	0.02	11	219
20 ISL	17.13 D	17.13	33.161 D	24.074	383.6	0.077	5.61	101.7	1.4	0.34	0.0	0.00	0.00	0.13	0.02	20	
25	17.13	17.13	33.161	24.075	383.8	0.096	5.61	101.7	1.3	0.34	0.0	0.00	0.00	0.13	0.02	25	218
30 ISL	17.12 D	17.12	33.161 D	24.077	383.7	0.115	5.61	101.7	1.5	0.34	0.0	0.00	0.00	0.13	0.03	30	
40	17.09	17.08	33.164	24.087	383.1	0.153	5.61	101.6	1.8	0.33	0.0	0.00	0.00	0.14	0.04	40	217
50 ISL	16.64 D	16.63	33.198 D	24.218	370.9	0.191	5.65	101.5	1.8	0.34	0.0	0.00	0.05	0.19	0.05	50	
51	16.91	16.90	33.176	24.139	378.5	0.195	5.65	102.0	1.8	0.34	0.0	0.00	0.05	0.20	0.05	51	216
61	14.73	14.72	33.276	24.704	324.8	0.230	6.02	104.1	2.0	0.32	0.0	0.00	0.05	0.29	0.16	61	215
75 ISL	13.82 D	13.81	33.193 D	24.831	313.0	0.275	6.00	101.8	2.4	0.36	0.0	0.00	0.03	0.69	0.37	75	
77	13.77	13.76	33.191	24.840	312.2	0.281	6.00	101.7	2.5	0.36	0.0	0.00	0.03	0.72	0.40	77	214
85	12.55	12.54	33.100	25.012	295.8	0.305	5.81	96.0	4.2	0.61	3.2	0.33	0.03	0.45	0.47	85	213
99	11.51	11.50	33.129	25.230	275.3	0.345	5.67	91.6	7.7	0.96	9.2	0.00	0.03	0.18	0.14	99	212
100 ISL	11.46 D	11.45	33.142 D	25.249	273.5	0.348	5.67	91.5	8.1	0.98	9.5	0.00	0.03	0.17	0.13	100	
114	11.31	11.30	33.289	25.391	260.3	0.385	5.67	91.3	13.0	1.17	13.1	0.00	0.00	0.06	0.06	114	211
125 ISL	11.14 D	11.12	33.365 D	25.481	252.0	0.413	5.63	90.4	15.3	1.28	15.0	0.00	0.00	0.02	0.04	126	
126	11.13	11.11	33.367	25.484	251.7	0.416	5.62	90.2	15.5	1.29	15.1	0.00	0.00	0.02	0.04	127	210
139	10.96	10.94	33.392	25.534	247.2	0.448	5.54	88.6	16.6	1.35	16.0	0.00	0.00	0.01	0.03	140	209
150 ISL	10.68 D	10.66	33.453 D	25.631	238.2	0.475	5.44	86.5	18.0	1.42	17.2	0.00	0.00	0.01	0.03	151	
173	10.41	10.39	33.529	25.738	228.5	0.529	5.16	81.6	21.0	1.58	19.8	0.00	0.00	0.01	0.05	174	208
200 ISL	10.07 D	10.05	33.626 D	25.872	216.3	0.589	4.81	75.5	23.5	1.72	21.8	0.00	0.00	0.00	0.04	201	
202	10.09	10.07	33.627	25.869	216.5	0.593	4.77	74.9	23.7	1.73	22.0	0.00	0.00	0.00	0.04	203	207
230	9.32	9.29	33.810	26.140	191.2	0.650	3.46	53.5	28.3	1.98	26.0	0.00	0.00			231	206
250 ISL	8.74 D	8.71	33.926 D	26.322	174.0	0.687	2.73	41.7	32.9	2.12	28.4	0.00	0.00			251	
267	8.27	8.24	33.993	26.447	162.2	0.715	2.25	34.0	37.1	2.23	30.1	0.00	0.00			268	205
300 ISL	7.72 D	7.69	34.073 D	26.591	148.8	0.767	1.68	25.1	43.7	2.42	32.5	0.00	0.00			302	
320	7.64	7.61	34.076	26.606	147.8	0.796	1.49	22.2	47.4	2.51	33.6	0.00	0.00			322	204
383	6.90	6.86	34.111	26.737	135.8	0.886	1.17	17.1	58.1	2.72	35.8	0.00	0.00			385	203
400 ISL	6.77 D	6.73	34.119 D	26.761	133.7	0.908	1.04	15.2	60.0	2.78	36.2	0.00	0.00			402	
442	6.76	6.72	34.183	26.814	129.4	0.964	0.73	10.7	64.3	2.90	37.1	0.00	0.00			445	202
500 ISL	6.30 D	6.25	34.226 D	26.909	120.8	1.036	0.50	7.2	72.7	3.02	38.5	0.00	0.00			503	
518	6.20	6.15	34.240	26.933	118.7	1.058	0.43	6.2	75.3	3.06	39.0	0.00	0.00			521	201

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS;PRIMARY T; PRIMARY CORRECTED S;

RV MCARTHUR II CALCOFI CRUISE 0907 STATION 80.0 50.5

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT TYPE
34 28.1 N	120 30.1 W	27/07/09	1126 UTC	37 m	290 04 kn			1013.6 mb	15.8 C	14.7 C		

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	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	13.88	13.88	33.578	25.114	283.9	0.000	5.43	92.5	7.4	0.81	6.3	0.20	0.19	4.05	0.96	0	
2	13.88	13.88	33.578	25.114	284.0	0.006	5.43	92.5	7.4	0.81	6.3	0.20	0.19	4.05	0.96	2	206
5	12.45	12.45	33.562	25.387	258.1	0.014	4.36	72.1	12.8	1.23	12.3	0.34	0.41	2.47	0.97	5	205
10	11.90	11.90	33.563	25.493	248.2	0.026	3.89	63.6	14.8	1.37	14.4	0.38	0.43	1.73	1.00	10	203
20	11.52	11.52	33.559	25.560	242.0	0.051	3.57	57.9	17.1	1.54	16.9	0.40	0.34	0.90	0.79	20	202
30	11.32	11.32	33.576	25.610	237.5	0.075	3.38	54.6	18.5	1.60	18.3	0.35	0.19	0.49	0.75	30	201

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS;PRIMARY T; PRIMARY CORRECTED S;

RV MCARTHUR II CALCOFI CRUISE 0907 STATION 80.0 51.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT TYPE
34 27.0 N	120 31.4 W	27/07/09	1211 UTC	76 m	310 08 kn			1013.8 mb	14.8 C	13.9 C		

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	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	13.38	13.38	33.543	25.189	276.8	0.000	5.14	86.6	8.3	0.92	7.4	0.26	0.25	4.56	1.18	0	
1	13.38	13.38	33.543	25.189	276.8	0.003	5.14	86.6	8.3	0.92	7.4	0.26	0.25	4.56	1.18	1	208
5	13.46	13.46	33.549	25.177	278.0	0.014	5.20	87.8	8.1	0.90	7.2	0.25	0.23	4.07	1.54	5	207
10	13.29	13.29	33.540	25.205	275.5	0.028	5.14	86.5	8.2	0.91	7.4	0.27	0.27	4.46	1.52	10	206
20	12.25	12.25	33.530	25.401	257.1	0.054	4.29	70.6	12.2	1.24	11.6	0.41	0.69	2.88	1.58	20	205
30 ISL	11.88 D	11.88	33.533 D	25.474	250.5	0.080	3.92	64.0	14.0	1.40	13.4	0.45	0.92	2.10	1.40	30	
31	11.94	11.94	33.526	25.457	252.1	0.082	3.90	63.8	14.1	1.41	13.5	0.45	0.94	2.03	1.36	31	204
41	11.43	11.42	33.535	25.559	242.6	0.107	3.88	62.8	15.2	1.41	16.2	0.26	0.10	0.74	0.68	41	203
50	10.89	10.88	33.612	25.716	227.9	0.128	3.35	53.6	19.2	1.63	19.8	0.12	0.00	0.23	0.40	50	202
65	10.82	10.81	33.633	25.745	225.4	0.162	3.25	51.9	20.2	1.67	20.5	0.12	0.00	0.22	0.42	65	201

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS;PRIMARY T; PRIMARY CORRECTED S;

RV MCARTHUR II CALCOFI CRUISE 0907 STATION 80.0 55.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
34 17.7 N	120 49.9 W	27/07/09	1601 UTC	795 m	340 15 kn	340 03 07	4	1014.8 mb	13.9 C	13.0 C			

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	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	14.04	14.04	33.580	25.082	286.9	0.000	5.58	95.4	7.2	0.81	5.9	0.17	0.09	3.57	0.83	0	
2	14.04	14.04	33.580	25.082	287.0	0.006	5.58	95.4	7.2	0.81	5.9	0.17	0.09	3.57	0.83	2	222
10	14.03	14.03	33.579	25.084	287.1	0.029	5.59	95.5	6.9	0.78	5.9	0.17	0.08	3.56	0.99	10	220
10	14.03	14.03	33.579	25.084	287.1	0.029										10	221
15	13.77	13.77	33.578	25.137	282.2	0.043	5.34	90.8	8.1	0.87	7.3	0.19	0.11	3.35	0.74	15	219
20	11.39	11.39	33.590	25.608	237.4	0.056	3.80	61.4	16.9	1.52	17.4	0.26	0.13	0.75	0.45	20	218
30	10.97	10.97	33.615	25.703	228.6	0.079	3.37	54.0	19.1	1.66	20.2	0.20	0.02	0.33	0.35	30	217
40	10.54	10.54	33.702	25.847	215.1	0.101	3.05	48.4	21.8	1.76	21.9	0.06	0.01	0.13	0.28	40	216
50	10.28	10.27	33.719	25.906	209.8	0.123	3.19	50.4	23.7	1.84	22.8	0.04	0.00	0.08	0.25	50	215
59	10.03	10.02	33.811	26.020	199.1	0.141	2.73	42.9	26.4	1.95	24.2	0.02	0.00	0.06	0.22	59	214
70	9.99	9.98	33.836	26.047	196.8	0.163	2.61	41.0	27.0	1.97	24.6	0.02	0.00	0.06	0.22	70	213
75 ISL	9.88 D	9.87	33.865 D	26.088	193.0	0.173	2.53	39.6	27.9	2.00	25.0	0.04	0.00	0.05	0.24	75	
86	9.77	9.76	33.886	26.123	189.9	0.194	2.37	37.0	29.7	2.06	25.8	0.09	0.00	0.04	0.28	86	212
100 ISL	9.73 D	9.72	33.900 D	26.141	188.5	0.220	2.33	36.4	29.9	2.08	25.9	0.07	0.00	0.05	0.27	101	
101	9.73	9.72	33.900	26.141	188.5	0.222	2.33	36.4	29.9	2.08	25.9	0.07	0.00	0.05	0.27	102	211
121	9.39	9.38	33.922	26.214	181.9	0.259	2.68	41.5	30.8	2.09	26.7	0.01	0.00	0.03	0.20	122	210
125 ISL	9.44 D	9.43	34.004 D	26.270	176.7	0.266	2.57	39.9	31.3	2.10	26.9	0.01	0.00	0.03	0.19	126	
141	9.28	9.26	34.050	26.332	171.1	0.294	2.03	31.4	33.5	2.17	27.5	0.00	0.00	0.02	0.16	142	209
150 ISL	9.26 D	9.24	34.056 D	26.340	170.5	0.309	1.91	29.5	34.2	2.20	27.8	0.00	0.00	0.02	0.14	151	
171	9.16	9.14	34.093	26.386	166.6	0.345	1.77	27.3	35.6	2.27	28.6	0.00	0.00	0.01	0.12	172	208
200 ISL	9.00 D	8.98	34.141 D	26.449	161.1	0.392	1.54	23.7	38.1	2.35	29.5	0.00	0.00	0.02	0.17	201	
201	9.03	9.01	34.137	26.441	161.9	0.394	1.53	23.6	38.2	2.35	29.5	0.00	0.00	0.02	0.17	202	207
231	8.88	8.86	34.195	26.511	155.8	0.442	1.24	19.0	41.5	2.48	30.4	0.00	0.00			232	206
250 ISL	8.63 D	8.60	34.197 D	26.552	152.2	0.471	1.12	17.1	43.2	2.53	30.9	0.00	0.00			252	
271	8.62	8.59	34.227	26.577	150.2	0.503	1.04	15.9	45.0	2.57	31.4	0.00	0.00			273	205
300 ISL	8.42 D	8.39	34.250 D	26.627	146.0	0.546	0.99	15.0	47.7	2.62	32.0	0.00	0.00			302	
322	8.14	8.11	34.234	26.657	143.4	0.577	0.96	14.5	49.8	2.66	32.5	0.00	0.00			324	204
381	7.80	7.76	34.259	26.727	137.5	0.660	0.74	11.1	54.7	2.76	33.7	0.00	0.00			384	203
400 ISL	7.59 D	7.55	34.254 D	26.754	135.2	0.686	0.70	10.4	56.1	2.78	34.1	0.00	0.00			403	
438	7.43	7.39	34.266	26.787	132.6	0.737	0.63	9.4	59.3	2.82	35.0	0.00	0.00			441	202
500 ISL	6.86 D	6.81	34.277 D	26.875	124.6	0.817	0.49	7.2	67.1	2.96	37.0	0.00	0.00			504	
516	6.71	6.66	34.277	26.895	122.8	0.837	0.46	6.7	69.1	2.99	37.5	0.00	0.00			520	201

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS;PRIMARY T; PRIMARY CORRECTED S;

RV MCARTHUR II CALCOFI CRUISE 0907 STATION 80.0 60.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
34 9.0 N	121 9.4 W	27/07/09	1957 UTC	2181 m	340 15 kn	300 04 06	2	1014.9 mb	14.1 C	14.9 C	13m	8/8	ST

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	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	12.51	12.51	33.323	25.190	276.7	0.000	5.99	99.0	7.2	0.86	7.1	0.21	0.16	1.91	0.60	0	
1 A	12.51	12.51	33.323	25.190	276.7	0.003	5.99	99.0	7.2	0.86	7.1	0.21	0.16	1.91	0.60	1	221
9 A	12.44	12.44	33.346	25.222	273.9	0.025	5.99	98.9	7.2	0.88	7.4	0.21	0.15	2.25	0.73	9	220
10 ISL	12.39 D	12.39	33.357 D	25.240	272.2	0.028	5.98	98.6	7.3	0.89	7.5	0.21	0.15	2.33	0.87	10	
18 A	12.27	12.27	33.376	25.278	268.8	0.049	5.89	96.9	8.0	0.93	8.2	0.21	0.13	3.01	1.75	18	219
20 ISL	12.23 D	12.23	33.376 D	25.285	268.1	0.055	5.87	96.5	8.1	0.94	8.3	0.21	0.13	3.09	1.60	20	
27 A	12.12	12.12	33.374	25.305	266.4	0.073	5.77	94.6	8.7	0.96	8.9	0.20	0.13	3.39	0.84	27	218
30 ISL	11.79 D	11.79	33.327 D	25.330	264.1	0.081	5.71	92.9	9.0	0.98	9.3	0.17	0.11	3.20	0.74	30	
36 A	11.62	11.62	33.301	25.342	263.1	0.097	5.60	90.8	9.7	1.03	10.1	0.14	0.09	2.27	0.59	36	217
42	11.10	11.09	33.362	25.484	249.7	0.112	4.82	77.3	13.3	1.31	14.1	0.19	0.16	0.52	0.25	42	216
50 A	11.33	11.32	33.608	25.634	235.7	0.132	3.50	56.5	17.7	1.59	18.3	0.38	0.10	0.28	0.17	50	215
60	11.24	11.23	33.624	25.663	233.2	0.155	3.36	54.1	18.5	1.64	19.2	0.30	0.02	0.22	0.27	60	214
70	11.01	11.00	33.643	25.719	228.0	0.178	3.21	51.5	19.7	1.69	20.3	0.06	0.02	0.14	0.27	70	213
75 ISL	10.89 D	10.88	33.657 D	25.751	225.1	0.190	3.16	50.6	20.3	1.71	20.8	0.05	0.03	0.13	0.26	75	
85	10.67	10.66	33.689	25.815	219.2	0.212	3.09	49.2	21.4	1.76	21.5	0.02	0.04	0.12	0.25	85	212
100	10.55	10.54	33.718	25.859	215.4	0.244	2.94	46.7	21.9	1.81	22.1	0.02	0.01	0.09	0.24	101	211
120	10.17	10.16	33.821 D	26.005	201.9	0.286										121	210
125 ISL	9.97 D	9.96	33.857 D	26.067	196.0	0.296	2.47	38.8	27.1	1.99	24.9	0.02	0.01	0.04	0.19	126	
142	9.48	9.46	33.984	26.248	179.1	0.328	2.13	33.1	31.3	2.13	26.9	0.02	0.01	0.02	0.15	143	209
150 ISL	9.34 D	9.32	34.029 D	26.306	173.7	0.342	2.04	31.6	32.4	2.17	27.4	0.01	0.01	0.02	0.14	151	
169	9.21	9.19	34.075	26.364	168.7	0.375	1.85	28.6	34.5	2.25	28.3	0.00	0.00	0.02	0.12	170	208
200	8.99	8.97	34.148	26.456	160.4	0.426	1.47	22.6	38.4	2.39	29.8	0.00	0.00	0.02	0.13	201	207
230	8.73	8.71	34.226	26.559	151.2	0.472	1.06	16.2	43.2	2.56	31.3	0.00	0.00			231	206
250 ISL	8.65 D	8.62	34.238 D	26.581	149.5	0.502	0.95	14.5	44.9	2.61	31.6	0.00	0.00			252	
271	8.54	8.51	34.259	26.615	146.6	0.534	0.91	13.9	46.2	2.64	31.8	0.00	0.00			273	205
300 ISL	8.35 D	8.32	34.271 D	26.654	143.4	0.576	0.83	12.6	48.3	2.68	32.2	0.00	0.00			302	
320	8.26	8.23	34.274	26.670	142.2	0.604	0.78	11.8	49.8	2.71	32.6	0.00	0.00			322	204
380	7.77	7.73	34.276	26.745	135.8	0.688	0.64	9.6	55.1	2.80	34.1	0.00	0.00			383	203
400 ISL	7.68 D	7.64	34.277 D	26.759	134.7	0.715	0.63	9.4	56.3	2.82	34.4	0.00	0.00			403	
441	7.50	7.46	34.279	26.787	132.7	0.769	0.62	9.2	58.5	2.87	34.9	0.00	0.00			444	202
500 ISL	7.21 D	7.16	34.287 D	26.835	128.8	0.847	0.51	7.5	62.4	2.92	35.9	0.00	0.00			503	
519	7.12	7.07	34.286	26.847	127.9	0.871	0.47	6.9	63.7	2.94	36.2	0.00	0.00			523	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.
D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS;PRIMARY T; PRIMARY CORRECTED S;

RV MCARTHUR II CALCOFI CRUISE 0907 STATION 80.0 70.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
33 49.0 N	121 51.0 W	28/07/09	0208 UTC	3581 m	350 17 kn	340 06 08	2	1013.9 mb	16.0 C	15.0 C		8/8	ST

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	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	16.53	16.53	33.129	24.189	372.0	0.000	5.73	102.7	2.5	0.36	0.1	0.00	0.05	0.18	0.06	0	
2	16.53	16.53	33.129	24.189	372.1	0.007	5.73	102.7	2.5	0.36	0.1	0.00	0.05	0.18	0.06	2	220
10 ISL	16.53 D	16.53	33.129 D	24.189	372.3	0.037	5.75	103.0	2.4	0.34	0.1	0.00	0.03	0.18	0.05	10	
12	16.53	16.53	33.130	24.190	372.3	0.045	5.75	103.0	2.4	0.34	0.1	0.00	0.02	0.18	0.05	12	219
19	16.53	16.53	33.129	24.190	372.6	0.071	5.72	102.5	2.2	0.34	0.1	0.00	0.04	0.20	0.08	19	218
20 ISL	16.49 D	16.49	33.133 D	24.202	371.4	0.074	5.72	102.4	2.2	0.34	0.1	0.00	0.04	0.21	0.08	20	
30	16.05	16.05	33.135	24.304	362.0	0.111	5.86	104.0	2.1	0.35	0.0	0.00	0.05	0.27	0.10	30	217
40	12.99	12.98	32.948	24.807	314.2	0.145	6.27	104.4	2.9	0.49	1.1	0.12	0.16	0.75	0.28	40	216
50 ISL	12.16 D	12.15	32.935 D	24.957	300.1	0.176	6.02	98.5	3.8	0.57	2.2	0.39	0.10	0.59	0.30	50	
52	12.15	12.14	32.942	24.965	299.4	0.182	5.94	97.2	4.1	0.60	2.4	0.42	0.09	0.56	0.30	52	215
59	11.58	11.57	32.988	25.106	286.1	0.202	5.85	94.6	6.1	0.81	6.1	0.29	0.14	0.39	0.24	59	214
73	11.24	11.23	33.064	25.227	274.8	0.241	5.69	91.4	7.0	0.87	7.6	0.21	0.03	0.24	0.17	73	213
75 ISL	10.96 D	10.95	33.099 D	25.305	267.5	0.247	5.67	90.5	7.5	0.90	8.2	0.21	0.03	0.22	0.16	75	
84	10.95	10.94	33.154	25.349	263.5	0.271	5.55	88.6	10.0	1.05	10.8	0.21	0.02	0.12	0.10	84	212
100	10.51	10.50	33.269	25.516	247.9	0.312	5.14	81.3	13.0	1.22	13.8	0.03	0.04	0.05	0.07	100	211
125	9.98	9.97	33.579	25.849	216.8	0.370	4.05	63.5	18.2	1.49	18.7	0.01	0.01	0.01	0.03	126	210
140	9.69	9.67	33.737	26.021	200.7	0.401	3.72	58.0	20.8	1.58	20.5	0.00	0.01	0.01	0.03	141	209
150 ISL	9.33 D	9.31	33.814 D	26.140	189.5	0.421	3.54	54.8	22.9	1.67	21.9	0.00	0.01	0.01	0.03	151	
170	8.98	8.96	33.879	26.247	179.7	0.457	3.27	50.2	27.1	1.83	24.3	0.00	0.00	0.00	0.03	171	208
200 ISL	8.49 D	8.47	33.964 D	26.390	166.5	0.509	3.04	46.2	31.4	1.93	26.1	0.00	0.00	0.00	0.02	201	
201	8.50	8.48	33.961	26.386	166.9	0.511	3.03	46.0	31.5	1.93	26.1	0.00	0.00	0.00	0.02	202	207
232	8.19	8.17	33.995	26.460	160.3	0.562	2.50	37.7	36.9	2.13	28.8	0.00	0.00			233	206
250 ISL	7.76 D	7.74	33.982 D	26.513	155.3	0.590	2.38	35.6	39.7	2.19	29.6	0.00	0.00			251	
271	7.64	7.61	34.021	26.562	151.1	0.622	2.27	33.8	43.1	2.25	30.4	0.00	0.00			273	205
300 ISL	7.24 D	7.21	34.054 D	26.645	143.5	0.665	1.84	27.2	49.1	2.43	32.6	0.00	0.00			302	
321	7.05	7.02	34.070	26.684	140.0	0.695	1.51	22.2	53.5	2.57	34.2	0.00	0.00			323	204
381	6.51	6.48	34.116	26.793	130.1	0.776	1.03	15.0	63.2	2.80	36.8	0.00	0.00			383	203
400 ISL	6.29 D	6.25	34.126 D	26.830	126.8	0.800	0.92	13.3	66.2	2.85	37.4	0.00	0.00			403	
442	5.99	5.95	34.152	26.889	121.5	0.852	0.73	10.5	72.8	2.95	38.5	0.00	0.00			445	202
500 ISL	5.54 D	5.50	34.183 D	26.969	114.2	0.921	0.58	8.2	81.2	3.05	40.0	0.00	0.00			503	
518	5.37	5.33	34.178	26.986	112.7	0.941	0.53	7.5	83.8	3.08	40.5	0.00	0.00			522	201

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS;PRIMARY T; PRIMARY CORRECTED S;

RV MCARTHUR II CALCOFI CRUISE 0907 STATION 80.0 80.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
33 28.2 N	122 29.7 W	28/07/09	0816 UTC	3994 m	350 17 kn			1014.5 mb	16.3 C	15.2 C			

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	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	16.27	16.27	33.212	24.312	360.3	0.000	5.80	103.4	2.5	0.39	0.1	0.01	0.07	0.38	0.08	0	
2	16.27	16.27	33.212	24.312	360.3	0.007	5.80	103.4	2.5	0.39	0.1	0.01	0.07	0.38	0.08	2	220
2	16.27	16.27	33.215	24.315	360.1	0.007										2	221
10	16.27	16.27	33.212	24.313	360.6	0.036	5.79	103.3	2.2	0.38	0.1	0.01	0.06	0.35	0.08	10	219
20	16.27	16.27	33.211	24.312	360.9	0.072	5.80	103.4	2.0	0.37	0.1	0.01	0.06	0.35	0.08	20	218
30	16.25	16.25	33.211	24.317	360.8	0.108	5.81	103.6	2.0	0.37	0.1	0.00	0.05	0.38	0.09	30	217
40	12.48	12.47	32.854	24.833	311.6	0.142	6.32	104.1	3.6	0.53	1.0	0.10	0.19	0.55	0.24	40	216
50 ISL	11.50 D	11.49	32.869 D	25.028	293.3	0.172	5.98	96.5	5.4	0.72	4.0	0.47	0.11	0.43	0.33	50	
51	11.51	11.50	32.867	25.025	293.6	0.175	5.93	95.7	5.6	0.74	4.4	0.50	0.10	0.41	0.33	51	215
61	10.96	10.95	32.922	25.167	280.3	0.204	5.73	91.4	7.3	0.91	7.6	0.21	0.06	0.28	0.22	61	214
68	10.81	10.80	33.045	25.289	268.8	0.223	5.53	88.0	9.2	1.04	10.0	0.16	0.03	0.21	0.18	68	213
75 ISL	10.64 D	10.63	33.175 D	25.420	256.5	0.241	5.38	85.3	10.5	1.10	11.4	0.09	0.02	0.13	0.13	75	
85	10.48	10.47	33.265	25.518	247.4	0.266	5.14	81.3	12.1	1.17	12.9	0.01	0.01	0.04	0.06	85	212
100	10.10	10.09	33.420	25.704	230.0	0.302	4.54	71.3	15.0	1.35	16.0	0.01	0.00	0.02	0.03	100	211
121	9.44	9.43	33.608	25.960	206.0	0.348	4.20	65.1	19.4	1.51	19.0	0.00	0.00	0.01	0.02	122	210
125 ISL	9.39 D	9.38	33.627 D	25.983	203.8	0.356	4.14	64.1	20.3	1.54	19.6	0.00	0.00	0.01	0.02	126	
139	9.06	9.05	33.765	26.144	188.8	0.384	3.89	59.8	23.6	1.67	21.6	0.00	0.00	0.01	0.02	140	209
150 ISL	8.95 D	8.93	33.845 D	26.224	181.4	0.404	3.59	55.1	26.3	1.78	23.3	0.00	0.00	0.01	0.02	151	
172	8.66	8.64	33.934	26.340	170.8	0.443	2.87	43.8	31.7	2.02	26.7	0.00	0.00	0.01	0.03	173	208
199	8.46	8.44	34.025	26.442	161.5	0.488	1.98	30.1	37.9	2.28	30.1	0.00	0.00	0.00	0.04	200	207
200 ISL	8.39 D	8.37	34.028 D	26.455	160.3	0.489	1.97	29.9	38.0	2.28	30.2	0.00	0.00			201	
229	8.12	8.10	34.050	26.514	155.2	0.535	1.82	27.4	41.5	2.37	31.3	0.00	0.00			230	206
250 ISL	7.76 D	7.74	34.047 D	26.564	150.5	0.567	1.61	24.1	44.6	2.46	32.3	0.00	0.00			251	
269	7.77	7.74	34.096	26.602	147.3	0.595	1.42	21.2	47.5	2.54	33.2	0.00	0.00			271	205
300 ISL	7.25 D	7.22	34.085 D	26.668	141.3	0.640	1.30	19.2	52.1	2.63	34.5	0.00	0.00			302	
322	7.12	7.09	34.100	26.698	138.7	0.671	1.24	18.3	55.2	2.68	35.3	0.00	0.00			324	204
381	6.75	6.71	34.146	26.785	131.1	0.751	0.91	13.3	62.0	2.85	36.5	0.00	0.00			383	203
400 ISL	6.65 D	6.61	34.160 D	26.810	129.0	0.775	0.83	12.1	64.4	2.89	36.9	0.00	0.00			403	
441	6.27	6.23	34.176	26.872	123.3	0.827	0.68	9.8	70.3	2.96	38.0	0.00	0.00			444	202
500 ISL	5.40 D	5.36	34.156 D	26.964	114.5	0.897	0.56	7.9	81.2	3.07	39.9	0.00	0.00			503	
514	5.38	5.34	34.175	26.982	113.0	0.913	0.53	7.5	83.8	3.10	40.3	0.00	0.00			518	201

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS;PRIMARY T; PRIMARY CORRECTED S;

RV MCARTHUR II CALCOFI CRUISE 0907 STATION 80.0 90.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
33 8.9 N	123 13.5 W	28/07/09	1641 UTC	4225 m	350 17 kn	350 06 06	2	1015.4 mb	16.3 C	15.4 C	15m	8/8	ST

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	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	16.50	16.50	33.208	24.256	365.6	0.000	5.71	102.3	3.1	0.38	0.1	0.00	0.07	0.30	0.08	0	
2 A	16.50	16.50	33.208	24.257	365.7	0.007	5.71	102.3	3.1	0.38	0.1	0.00	0.07	0.30	0.08	2	221
10 ISL	16.49 D	16.49	33.205 D	24.257	365.9	0.037	5.73	102.6	3.2	0.37	0.0	0.00	0.07	0.31	0.08	10	
11 A	16.49	16.49	33.206	24.258	365.8	0.040	5.73	102.6	3.2	0.37	0.0	0.00	0.07	0.31	0.08	11	220
20 ISL	16.48 D	16.48	33.204 D	24.259	366.0	0.073	5.73	102.6	3.1	0.36	0.0	0.00	0.09	0.33	0.08	20	
21 A	16.48	16.48	33.208	24.262	365.8	0.077	5.73	102.6	3.1	0.36	0.0	0.00	0.09	0.34	0.08	21	219
30 ISL	16.26 D	16.26	33.229 D	24.329	359.7	0.109	5.75	102.5	3.0	0.39	0.1	0.00	0.19	0.43	0.11	30	
31 A	16.27	16.27	33.230	24.327	359.8	0.113	5.75	102.6	3.0	0.39	0.1	0.00	0.21	0.44	0.12	31	218
41 A	13.38	13.37	33.287	24.992	296.7	0.146	6.27	105.5	5.4	0.68	3.8	0.16	0.46	0.49	0.21	41	217
48	11.96	11.95	33.334	25.305	267.0	0.166	5.62	91.8	10.3	1.06	9.7	0.49	0.38	0.43	0.26	48	216
50 ISL	12.25 D	12.24	33.574 D	25.436	254.6	0.171	5.22	85.9	11.5	1.17	11.4	0.46	0.29	0.39	0.25	50	
56 A	12.06	12.05	33.668	25.545	244.3	0.186	4.10	67.3	14.7	1.43	15.9	0.35	0.03	0.26	0.23	56	215
63	11.68	11.67	33.693	25.636	235.9	0.203	3.79	61.7	17.4	1.56	18.3	0.11	0.03	0.19	0.16	63	214
71	11.18	11.17	33.716	25.745	225.6	0.221	3.44	55.4	20.1	1.69	20.6	0.06	0.01	0.12	0.16	71	213
75 ISL	10.87 D	10.86	33.722 D	25.806	219.9	0.230	3.61	57.7	20.6	1.72	21.1	0.05	0.01	0.09	0.14	75	
85	10.09	10.08	33.674	25.903	210.7	0.252	4.12	64.8	21.6	1.77	21.9	0.03	0.01	0.04	0.09	85	212
99	9.67	9.66	33.753	26.036	198.4	0.280	3.68	57.3	25.2	1.88	23.9	0.02	0.00	0.02	0.08	99	211
100 ISL	9.62 D	9.61	33.770 D	26.057	196.4	0.282	3.65	56.8	25.5	1.89	24.0	0.02	0.00	0.02	0.08	100	
120	9.15	9.14	33.877	26.217	181.5	0.320	3.03	46.7	30.1	2.04	26.5	0.00	0.00	0.01	0.07	121	210
125 ISL	9.04 D	9.03	33.894 D	26.248	178.6	0.329	2.92	44.9	30.8	2.06	26.8	0.00	0.00	0.01	0.07	126	
139	8.89	8.88	33.932	26.302	173.8	0.354	2.66	40.8	32.5	2.10	27.6	0.00	0.00	0.01	0.07	140	209
150 ISL	8.85 D	8.83	33.997 D	26.359	168.6	0.372	2.42	37.1	34.2	2.17	28.5	0.00	0.00	0.01	0.07	151	
171	8.55	8.53	34.024	26.427	162.4	0.407	2.03	30.9	37.3	2.30	30.1	0.00	0.00	0.01	0.06	172	208
200	8.31	8.29	34.054	26.488	157.1	0.454	1.88	28.5	39.9	2.35	30.7	0.00	0.00	0.01	0.06	201	207
232	8.39	8.37	34.162	26.561	150.9	0.503	1.18	17.9	44.4	2.57	32.1	0.00	0.00			233	206
250 ISL	8.21 D	8.18	34.178 D	26.601	147.3	0.530	1.03	15.6	46.9	2.65	32.7	0.00	0.00			251	
271	7.99	7.96	34.195	26.647	143.2	0.560	0.97	14.6	49.8	2.71	33.3	0.00	0.00			273	205
300 ISL	7.60 D	7.57	34.199 D	26.708	137.8	0.601	0.87	13.0	54.3	2.79	34.3	0.00	0.00			302	
322	7.33	7.30	34.202	26.749	134.1	0.631	0.83	12.3	57.8	2.84	35.1	0.00	0.00			324	204
381	6.40	6.37	34.149	26.833	126.2	0.708	0.91	13.2	66.2	2.91	37.2	0.00	0.00			383	203
400 ISL	6.22 D	6.18	34.150 D	26.858	124.1	0.731	0.86	12.4	68.9	2.95	37.8	0.00	0.00			403	
442	5.91	5.87	34.164	26.908	119.6	0.783	0.68	9.7	74.9	3.04	39.0	0.00	0.00			445	202
500 ISL	5.67 D	5.63	34.245 D	27.003	111.2	0.849	0.44	6.3	83.3	3.16	40.4	0.00	0.00			503	
517	5.47	5.43	34.238	27.021	109.4	0.868	0.37	5.2	85.8	3.19	40.8	0.00	0.00			521	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.
D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS;PRIMARY T; PRIMARY CORRECTED S;

RV MCARTHUR II CALCOFI CRUISE 0907 STATION 80.0 100.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
32 49.0 N	123 54.4 W	28/07/09	2228 UTC	4107 m	330 12 kn	350 06 07	2	1014.7 mb	18.0 C	17.0 C	21m	8/8	ST

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	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	16.60	16.60	33.058	24.118	378.8	0.000	5.73	102.8	2.3	0.33	0.1	0.00	0.05	0.16	0.04	0	
2	16.60	16.60	33.058	24.118	378.8	0.008	5.73	102.8	2.3	0.33	0.1	0.00	0.05	0.16	0.04	2	220
10	16.54	16.54	33.059	24.133	377.7	0.038	5.74	102.8	2.2	0.32	0.1	0.00	0.02	0.16	0.04	10	219
20	16.44	16.44	33.046	24.146	376.7	0.076	5.76	103.0	2.3	0.33	0.0	0.00	0.02	0.20	0.05	20	218
30	15.93	15.93	33.114	24.315	361.0	0.112	5.89	104.3	2.3	0.33	0.1	0.00	0.04	0.44	0.11	30	217
40	15.63	15.62	33.117	24.385	354.6	0.148	5.98	105.2	2.2	0.34	0.1	0.01	0.08	0.52	0.14	40	216
50 ISL	14.15 D	14.14	33.018 D	24.627	331.7	0.183	6.18	105.5	2.5	0.33	0.0	0.00	0.01	0.42	0.25	50	
51	14.20	14.19	33.024	24.621	332.3	0.186	6.20	105.9	2.5	0.33	0.0	0.00	0.00	0.41	0.26	51	215
61	13.36	13.35	32.988	24.765	318.8	0.218	6.27	105.3	2.8	0.36	0.1	0.01	0.06	0.52	0.42	61	214
70	13.22	13.21	33.080	24.865	309.5	0.247	5.96	99.8	3.4	0.43	0.7	0.20	0.15	0.45	0.47	70	213
75 ISL	12.70 D	12.69	33.026 D	24.925	303.8	0.262	5.87	97.2	3.8	0.49	1.6	0.21	0.11	0.39	0.43	75	
85	12.14	12.13	32.990	25.005	296.4	0.292	5.76	94.2	4.7	0.63	3.8	0.24	0.00	0.27	0.30	85	212
100	11.29	11.28	33.021	25.186	279.5	0.335	5.65	90.8	7.1	0.82	7.4	0.02	0.00	0.12	0.14	100	211
121	10.47	10.46	33.118	25.406	258.8	0.392	5.41	85.5	9.1	0.96	9.8	0.01	0.02	0.06	0.09	122	210
125 ISL	10.45 D	10.44	33.164 D	25.445	255.2	0.402	5.33	84.2	10.1	1.02	10.8	0.01	0.02	0.05	0.08	126	
140	10.24	10.22	33.352	25.628	238.1	0.439	4.93	77.6	14.6	1.27	15.0	0.00	0.01	0.02	0.05	141	209
150 ISL	9.96 D	9.94	33.544 D	25.825	219.5	0.462	4.54	71.1	17.7	1.42	17.6	0.00	0.01	0.01	0.04	151	
170	9.36	9.34	33.727	26.067	196.8	0.504	3.72	57.6	23.7	1.69	22.3	0.00	0.00	0.00	0.03	171	208
200	8.81	8.79	33.911	26.299	175.2	0.559	2.83	43.3	31.0	2.01	27.0	0.00	0.00	0.00	0.03	201	207
230	8.38	8.36	33.977	26.417	164.4	0.610	2.63	39.9	34.4	2.06	28.0	0.00	0.00			231	206
250 ISL	8.15 D	8.12	34.038 D	26.500	156.8	0.642	2.36	35.6	38.2	2.17	29.4	0.00	0.00			251	
270	7.82	7.79	34.038	26.549	152.4	0.673	2.03	30.4	42.5	2.30	31.1	0.00	0.00			271	205
300 ISL	7.34 D	7.31	34.078 D	26.649	143.1	0.718	1.53	22.7	49.0	2.50	33.2	0.00	0.00			302	
321	7.30	7.27	34.116	26.685	140.0	0.747	1.22	18.1	53.3	2.63	34.5	0.00	0.00			323	204
380	6.68	6.65	34.134	26.785	131.1	0.827	0.93	13.6	62.2	2.81	36.7	0.00	0.00			382	203
400 ISL	6.43 D	6.39	34.135 D	26.819	127.9	0.853	0.86	12.5	64.8	2.85	37.2	0.00	0.00			402	
441	6.24	6.20	34.169	26.871	123.5	0.905	0.72	10.4	69.9	2.92	38.0	0.00	0.00			444	202
500 ISL	5.81 D	5.77	34.210 D	26.958	115.6	0.975	0.49	7.0	77.3	3.04	39.3	0.00	0.00			503	
516	5.82	5.78	34.228	26.971	114.6	0.994	0.43	6.1	79.3	3.07	39.6	0.00	0.00			519	201

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS;PRIMARY T; PRIMARY CORRECTED S;

RV MCARTHUR II CALCOFI CRUISE 0907 STATION 81.7 43.5

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
34 23.9 N	119 47.8 W	27/07/09	0337 UTC	37 m	270 07 kn	220 01 06	1	1014.0 mb	17.1 C	15.9 C		4/8	CS

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	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	18.03	18.03	33.605	24.198	371.2	0.000	6.57	121.5	0.7	0.25	0.1	0.01	0.00	1.35	0.35	0	
2	18.03	18.03	33.605	24.198	371.3	0.007	6.57	121.5	0.7	0.25	0.1	0.01	0.00	1.35	0.35	2	206
5	16.04	16.04	33.577	24.645	328.7	0.018	6.70	119.2	1.2	0.30	0.0	0.01	0.04	2.01	0.40	5	205
10	13.73	13.73	33.516	25.097	285.8	0.033	5.23	88.8	8.1	0.72	2.8	0.22	0.91	4.24	1.26	10	204
15	13.34	13.34	33.513	25.174	278.6	0.047	4.65	78.3	9.5	0.92	5.8	0.36	1.98	4.87	0.38	15	203
20 ISL	13.16 D	13.16	33.518 D	25.214	274.9	0.061	4.46	74.8	11.0	1.07	6.2	0.36	2.57	3.41	0.65	20	
21	13.14	13.14	33.518	25.218	274.6	0.064	4.45	74.6	11.3	1.09	6.3	0.36	2.62	3.04	0.76	21	202
30	12.76	12.76	33.500	25.280	269.0	0.088	4.53	75.4	11.5	1.12	8.0	0.36	1.71	1.93	0.75	30	201

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS;PRIMARY T; PRIMARY CORRECTED S;

RV MCARTHUR II CALCOFI CRUISE 0907 STATION 81.8 46.9

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
34 16.2 N	120 1.3 W	27/07/09	0603 UTC	577 m	250 11 kn			1014.2 mb	15.4 C	14.4 C			

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	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	17.76	17.76	33.613	24.269	364.4	0.000	6.26	115.2	0.1	0.22	0.1	0.01	0.03	0.99	0.36	0	
2 A	17.76	17.76	33.613	24.270	364.4	0.007	6.26	115.2	0.1	0.22	0.1	0.01	0.03	0.99	0.36	2	224
10	17.76	17.76	33.612	24.269	364.7	0.036	6.21	114.3	0.1	0.21	0.0	0.00	0.02	1.10	0.38	10	223
20 ISL	14.82 D	14.82	33.523 D	24.874	307.4	0.070	6.26	108.7	1.0	0.40	0.7	0.05	0.26	1.74	0.67	20	
21	14.75	14.75	33.533	24.896	305.3	0.073	6.27	108.7	1.1	0.44	0.8	0.05	0.31	1.76	0.69	21	222
30	13.27	13.27	33.516	25.191	277.4	0.099	4.96	83.4	8.2	0.96	7.4	0.26	1.08	0.41	0.37	30	221
40	12.27	12.26	33.499	25.374	260.2	0.126	4.50	74.1	11.6	1.18	11.7	0.27	0.34	0.28	0.39	40	220
50	11.94	11.93	33.533	25.463	252.0	0.152	4.23	69.2	13.5	1.28	13.8	0.25	0.17	0.22	0.40	50	219
60	11.39	11.38	33.586	25.606	238.6	0.176	3.80	61.4	16.5	1.45	17.0	0.21	0.06	0.18	0.30	60	218
70	10.70	10.69	33.689	25.810	219.4	0.199	3.24	51.6	20.6	1.68	20.6	0.08	0.03	0.14	0.31	70	217
75 ISL	10.21 D	10.20	33.788 D	25.972	204.0	0.210	3.01	47.5	22.5	1.78	22.1	0.04	0.02	0.12	0.28	75	
85	9.87	9.86	33.877	26.099	192.1	0.230	2.60	40.7	26.3	1.94	24.6	0.01	0.01	0.09	0.22	85	216
100	9.55	9.54	34.017	26.262	177.0	0.257	2.07	32.2	31.7	2.14	26.7	0.01	0.03	0.06	0.17	101	215
121	9.34	9.33	34.098	26.360	168.1	0.294	1.75	27.1	34.9	2.27	27.9	0.05	0.00	0.04	0.18	122	214
125 ISL	9.33 D	9.32	34.102 D	26.365	167.7	0.300	1.70	26.3	35.4	2.29	28.1	0.05	0.00	0.04	0.18	126	
140	9.23	9.21	34.129	26.402	164.4	0.325	1.53	23.7	36.9	2.35	28.8	0.03	0.02	0.04	0.16	141	213
150 ISL	9.20 D	9.18	34.146 D	26.420	162.9	0.342	1.50	23.2	37.3	2.36	28.8	0.04	0.02	0.04	0.16	151	
170	9.17	9.15	34.153	26.431	162.3	0.374	1.43	22.1	37.9	2.39	29.0	0.06	0.02	0.03	0.15	171	212
200 ISL	9.01 D	8.99	34.186 D	26.483	157.9	0.422	1.00	15.4	40.7	2.53	31.0	0.00	0.00	0.02	0.17	201	
201	9.02	9.00	34.184	26.480	158.3	0.424	0.99	15.2	40.8	2.53	31.1	0.00	0.00	0.02	0.17	202	211
231	8.88	8.86	34.202	26.516	155.3	0.471	0.81	12.4	43.1	2.60	31.9	0.00	0.00			232	210
250 ISL	8.69 D	8.66	34.216 D	26.557	151.7	0.500	0.74	11.3	45.1	2.65	32.4	0.00	0.00			252	
270	8.53	8.50	34.216	26.583	149.6	0.530	0.68	10.4	47.7	2.71	33.0	0.00	0.00			272	209
300 ISL	8.22 D	8.19	34.216 D	26.630	145.5	0.574	0.58	8.8	52.6	2.78	33.8	0.00	0.00			302	
321	7.93	7.90	34.216	26.674	141.6	0.604	0.51	7.7	56.3	2.83	34.3	0.00	0.00			323	208
380	7.37	7.33	34.229	26.765	133.5	0.686	0.35	5.2	65.6	2.97	35.1	0.00	0.00			383	207
400 ISL	7.20 D	7.16	34.233 D	26.792	131.1	0.712	0.27	4.0	70.6	3.04	34.6	0.00	0.00			403	
441	6.84	6.80	34.244	26.851	126.0	0.765	0.12	1.8	81.0	3.16	33.1	0.00	0.00			444	206
481	6.64	6.60	34.253	26.885	123.1	0.815	0.04	0.6	88.3	3.23	31.7	0.00	0.00			484	205
500 ISL	6.58 D	6.53	34.256 D	26.896	122.4	0.838	0.03	0.4	93.8	3.29	29.8	0.00	0.00			504	
517	6.56	6.51	34.255	26.898	122.4	0.859	0.02	0.3	99.2	3.35	27.7	0.00	0.00			521	204
544	6.53	6.48	34.257	26.904	122.2	0.892	0.00	0.0	107.6	3.46	24.3	0.00	0.12			548	203
568	6.53	6.48	34.257	26.904	122.5	0.921	0.00	0.0	111.0	3.51	22.9	0.00	0.29			572	202
572	6.53	6.48	34.257	26.904	122.6	0.926	0.00	0.0	111.3	3.53	22.8	0.00	0.29			576	201

A) SANTA BARBARA BASIN STATION.
D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS;PRIMARY T; PRIMARY CORRECTED S;

RV MCARTHUR II CALCOFI CRUISE 0907 STATION 83.3 39.4

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
34 15.9 N	119 19.8 W	27/07/09	0015 UTC	18 m	280 14 kn	280 01 08	1	1013.8 mb	18.5 C	17.2 C		4/8	AS

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	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	17.45	17.45	33.492	24.251	366.1	0.000	6.99	127.8	2.7	0.28	0.0	0.03	0.05	3.32	0.95	0	
1	17.45	17.45	33.492	24.251	366.1	0.004	6.99	127.8	2.7	0.28	0.0	0.03	0.05	3.32	0.95	1	205
5	17.35	17.35	33.489	24.273	364.2	0.018	7.00	127.7	2.9	0.21	0.0	0.03	0.04	4.07	1.10	5	204
10	15.35	15.35	33.472	24.719	321.9	0.035	6.56	115.1	2.4	0.28	0.3	0.07	0.07	9.08	2.20	10	202
10	15.39	15.39	33.474	24.711	322.6	0.035										10	203
15	14.32	14.32	33.454	24.927	302.2	0.051	5.52	94.8	7.0	0.77	4.4	0.34	1.30	4.77	2.56	15	201

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS;PRIMARY T; PRIMARY CORRECTED S;

RV MCARTHUR II CALCOFI CRUISE 0907 STATION 83.3 40.6

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
34 13.6 N	119 24.7 W	26/07/09	2217 UTC	34 m	280 12 kn	260 01 08	2	1014.5 mb	17.2 C	16.8 C	07m	8/8	ST

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	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	17.41	17.41	33.531	24.291	362.3	0.000	6.81	124.4	0.4	0.19	0.1	0.00	0.00	2.44	0.42	0	
1	17.41	17.41	33.531	24.291	362.4	0.004	6.81	124.4	0.4	0.19	0.1	0.00	0.00	2.44	0.42	1	207
5	16.65	16.65	33.517	24.459	346.4	0.018	7.14	128.5	0.7	0.17	0.0	0.00	0.00	4.63	1.02	5	206
10	15.03	15.03	33.479	24.794	314.7	0.034	7.08	123.4	1.3	0.24	0.0	0.01	0.04	10.19	1.85	10	204
10	15.25	15.25	33.486	24.751	318.7	0.034										10	205
15	13.62	13.62	33.461	25.077	287.9	0.049	5.45	92.3	7.3	0.73	5.8	0.35	0.41	4.36	2.41	15	203
20	13.08	13.08	33.459	25.184	277.8	0.064	4.98	83.4	9.2	0.95	7.7	0.39	0.97	3.24	1.67	20	202
25	12.93	12.93	33.463	25.217	274.7	0.077	4.71	78.6	11.0	1.10	8.4	0.43	1.66	2.27	1.01	25	201

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS;PRIMARY T; PRIMARY CORRECTED S;

RV MCARTHUR II CALCOFI CRUISE 0907 STATION 83.3 42.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
34 10.8 N	119 30.7 W	26/07/09	2006 UTC	129 m	300 07 kn	300 01 10	2	1015.7 mb	16.8 C	16.0 C	09m	8/8	ST

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	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	17.81	17.81	33.577	24.230	368.1	0.000	6.44	118.6	0.5	0.25	0.1	0.00	0.00	1.37	0.34	0	
1 A	17.81	17.81	33.577	24.230	368.2	0.004	6.44	118.6	0.5	0.25	0.1	0.00	0.00	1.37	0.34	1	214
6 A	17.03	17.03	33.624	24.453	347.1	0.022	6.38	115.8	0.1	0.27	0.0	0.00	0.01	1.75	0.45	6	213
10 ISL	16.74 D	16.74	33.607 D	24.508	342.0	0.035	6.32	114.0	0.4	0.30	0.1	0.01	0.02	3.00	0.71	10	
12 A	16.33	16.33	33.591	24.590	334.2	0.042	6.29	112.6	0.6	0.32	0.1	0.01	0.02	3.54	0.85	12	211
12	16.32	16.32	33.598	24.598	333.5	0.042										12	212
19 A	14.16	14.16	33.489	24.987	296.5	0.064	5.60	95.9	6.0	0.67	4.9	0.15	0.13	2.40	1.14	19	210
20 ISL	13.74 D	13.74	33.479 D	25.067	289.0	0.067	5.56	94.4	6.3	0.69	5.2	0.17	0.14	2.29	1.13	20	
25 A	13.43	13.43	33.463	25.118	284.3	0.081	5.36	90.4	7.3	0.78	6.4	0.22	0.18	1.78	0.99	25	209
30 ISL	12.56 D	12.56	33.467 D	25.293	267.7	0.095	4.93	81.6	9.4	0.97	9.4	0.20	0.10	1.17	0.74	30	
34 A	11.81	11.81	33.440	25.414	256.2	0.106	4.57	74.5	11.2	1.12	12.0	0.19	0.02	0.78	0.56	34	208
42	11.35	11.34	33.476	25.527	245.6	0.126	4.20	67.8	13.7	1.29	14.9	0.09	0.00	0.65	0.57	42	207
50 ISL	10.97 D	10.96	33.559 D	25.660	233.1	0.145	3.77	60.4	16.4	1.46	17.7	0.04	0.00	0.46	0.49	50	
51	10.96	10.95	33.559	25.662	233.0	0.147	3.72	59.6	16.7	1.48	18.0	0.04	0.00	0.44	0.48	51	206
60	10.79	10.78	33.591	25.717	227.9	0.168	3.55	56.6	18.1	1.56	19.1	0.07	0.00	0.29	0.44	60	205
70	10.45	10.44	33.698	25.860	214.5	0.190	3.10	49.1	21.4	1.76	21.8	0.02	0.00	0.17	0.23	70	204
75 ISL	10.34 D	10.33	33.726 D	25.901	210.8	0.201	2.99	47.3	22.2	1.80	22.4	0.02	0.00	0.17	0.22	75	
85	10.27	10.26	33.773	25.950	206.3	0.222	2.86	45.2	23.1	1.83	23.0	0.01	0.00	0.16	0.20	85	203
100	10.10	10.09	33.831	26.025	199.6	0.252	2.69	42.3	24.6	1.90	23.7	0.02	0.00	0.12	0.17	101	202
116	9.94	9.93	33.873	26.085	194.2	0.284	2.58	40.5	25.9	1.94	24.3	0.05	0.00	0.08	0.26	117	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.
D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS;PRIMARY T; PRIMARY CORRECTED S;

RV MCARTHUR II CALCOFI CRUISE 0907 STATION 83.3 51.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
33 52.7 N	120 8.6 W	22/07/09	1828 UTC	102 m	320 18 kn	300 04 05	1	1012.6 mb	16.1 C	14.9 C	10m	1/8	ST

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	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	20.00	20.00	33.594	23.691	419.5	0.000	6.37	122.3	1.1	0.13	0.1	0.00	0.02	1.33	0.23	0	
1 A	20.00	20.00	33.594	23.691	419.6	0.004	6.37	122.3	1.1	0.13	0.1	0.00	0.02	1.33	0.23	1	213
7 A	19.89	19.89	33.590	23.717	417.3	0.029	6.42	123.0	1.1	0.11	0.0	0.00	0.00	1.43	0.23	7	212
10	18.99	18.99	33.556	23.922	397.8	0.042	6.67	125.6	1.5	0.17	0.0	0.00	0.00	2.23	0.32	10	211
14 A	17.02	17.02	33.563	24.408	351.6	0.057	6.88	124.8	2.3	0.21	0.2	0.02	0.04	4.39	0.86	14	210
20 ISL	16.74 D	16.74	33.587 D	24.493	343.8	0.077	6.25	112.8	4.1	0.34	1.7	0.05	0.05	4.44	1.22	20	
21 A	16.76	16.76	33.590	24.490	344.0	0.081	6.11	110.3	4.4	0.37	2.0	0.06	0.05	4.45	1.23	21	209
28 A	15.95	15.95	33.595	24.680	326.1	0.104	5.73	101.8	6.8	0.54	4.4	0.11	0.09	3.05	0.88	28	208
30 ISL	15.62 D	15.62	33.596 D	24.755	319.0	0.111	5.67	100.1	7.3	0.58	4.8	0.13	0.09	2.88	0.88	30	
37 A	14.80	14.79	33.589	24.929	302.6	0.132	5.28	91.6	9.8	0.78	7.4	0.19	0.11	2.36	0.90	37	207
45	12.16	12.15	33.571	25.451	253.1	0.155	4.11	67.5	16.2	1.31	15.6	0.29	0.05	1.07	0.52	45	206
50 ISL	11.21 D	11.20	33.589 D	25.641	235.0	0.167	3.56	57.3	19.3	1.53	19.2	0.23	0.01	0.63	0.37	50	
51	11.12	11.11	33.611	25.674	231.9	0.169	3.48	55.9	19.8	1.56	19.7	0.22	0.00	0.58	0.35	51	205
60	11.17	11.16	33.632	25.682	231.4	0.190	3.49	56.2	20.1	1.56	19.4	0.22	0.02	0.57	0.38	60	204
70	10.62	10.61	33.767	25.885	212.3	0.212	3.05	48.5	24.5	1.75	21.3	0.13	0.03	0.22	0.39	70	203
75 ISL	10.19 D	10.18	33.858 D	26.030	198.5	0.223	2.88	45.4	26.2	1.81	22.2	0.10	0.02	0.15	0.36	75	
85	9.97	9.96	33.908	26.106	191.5	0.242	2.54	39.9	29.5	1.94	24.1	0.07	0.00	0.10	0.31	85	202
91	9.65	9.64	33.982	26.218	181.0	0.253	2.27	35.4	32.0	2.06	25.6	0.05	0.00	0.05	0.21	91	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.
D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS;PRIMARY T; PRIMARY CORRECTED S;

RV MCARTHUR II CALCOFI CRUISE 0907 STATION 83.3 55.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
33 44.5 N	120 24.6 W	22/07/09	2053 UTC	945 m	340 23 kn	310 06 07	2	1012.5 mb	16.7 C	15.1 C	07m	7/8	ST

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	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	16.67	16.67	33.581	24.504	342.0	0.000	6.42	115.7	0.6	0.22	0.1	0.01	0.07	6.07	1.64	0	
2	16.67	16.67	33.581	24.504	342.1	0.007	6.42	115.7	0.6	0.22	0.1	0.01	0.07	6.07	1.64	2	221
9	16.51	16.51	33.578	24.539	339.0	0.031										9	220
10	16.56	16.56	33.577	24.526	340.2	0.034	6.38	114.7	0.5	0.23	0.1	0.01	0.05	6.46	1.63	10	219
20	12.32	12.32	33.398	25.285	268.1	0.064	5.46	89.9	9.0	1.01	9.2	0.37	0.54	0.70	0.43	20	218
30	10.81	10.81	33.557	25.687	230.1	0.089	4.52	72.1	16.0	1.48	17.8	0.02	0.05	0.10	0.16	30	217
41	10.63	10.63	33.595	25.748	224.5	0.114	4.34	69.0	17.2	1.53	18.7	0.02	0.03	0.08	0.20	41	216
50	10.27	10.26	33.645	25.849	215.1	0.134	3.94	62.2	19.4	1.64	20.4	0.01	0.05	0.06	0.12	50	215
60	10.01	10.00	33.701	25.938	206.9	0.155	3.60	56.5	21.4	1.73	21.8	0.01	0.04	0.05	0.14	60	214
70	9.80	9.79	33.777	26.032	198.1	0.176	3.22	50.3	23.9	1.83	23.4	0.01	0.02	0.00	0.13	70	213
75 ISL	9.76 D	9.75	33.807 D	26.062	195.4	0.185	3.04	47.5	25.1	1.88	24.1	0.01	0.02	0.01	0.11	75	
85	9.65	9.64	33.884	26.141	188.1	0.205	2.73	42.6	27.0	1.96	25.1	0.01	0.03	0.02	0.08	85	212
100	9.51	9.50	33.935	26.204	182.4	0.232	2.52	39.2	28.7	2.01	25.8	0.00	0.04	0.01	0.06	101	211
119	9.33	9.32	34.019	26.299	173.7	0.266	2.15	33.3	31.9	2.13	27.1	0.00	0.01	0.01	0.09	120	210
125 ISL	9.21 D	9.20	34.062 D	26.353	168.8	0.276	2.02	31.2	33.1	2.17	27.5	0.00	0.01	0.01	0.09	126	
141	9.09	9.07	34.127	26.423	162.4	0.303	1.72	26.5	36.1	2.28	28.5	0.01	0.01	0.01	0.09	142	209
150 ISL	9.06 D	9.04	34.133 D	26.432	161.7	0.318	1.65	25.4	36.9	2.31	28.8	0.01	0.02	0.01	0.09	151	
171	8.96	8.94	34.160	26.470	158.5	0.351	1.55	23.8	38.1	2.36	29.3	0.01	0.03	0.01	0.08	172	208
200	8.77	8.75	34.197	26.529	153.4	0.396	1.34	20.5	40.9	2.45	30.4	0.00	0.00	0.00	0.08	201	207
231	8.58	8.56	34.232	26.587	148.5	0.443	1.17	17.8	43.9	2.55	31.1	0.00	0.00			232	206
250 ISL	8.56 D	8.53	34.255 D	26.608	146.9	0.471	1.03	15.7	44.8	2.59	31.5	0.00	0.00			252	
270	8.53	8.50	34.259	26.616	146.5	0.501	0.91	13.9	45.7	2.63	31.9	0.00	0.00			272	205
300 ISL	8.19 D	8.16	34.245 D	26.657	142.9	0.544	0.87	13.2	48.0	2.67	32.4	0.00	0.00			302	
320	8.12	8.09	34.262	26.682	141.0	0.572	0.85	12.8	49.8	2.69	32.8	0.00	0.00			322	204
382	7.50	7.46	34.256	26.768	133.4	0.657	0.73	10.9	56.4	2.79	34.6	0.00	0.00			385	203
400 ISL	7.33 D	7.29	34.250 D	26.788	131.8	0.681	0.69	10.2	58.7	2.82	35.2	0.00	0.00			403	
441	6.88	6.84	34.252	26.852	125.9	0.734	0.59	8.7	64.2	2.91	36.5	0.00	0.00			444	202
500 ISL	6.38 D	6.33	34.311 D	26.965	115.6	0.805	0.37	5.4	72.5	3.04	38.0	0.00	0.00			504	
519	6.30	6.25	34.318	26.982	114.2	0.827	0.30	4.3	75.2	3.08	38.5	0.00	0.00			523	201

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS;PRIMARY T; PRIMARY CORRECTED S;

RV MCARTHUR II CALCOFI CRUISE 0907 STATION 83.3 60.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
33 34.6 N	120 45.7 W	26/07/09	0851 UTC	1485 m	340 22 kn			1015.3 mb	14.0 C	13.1 C			

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	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	15.26	15.26	33.561	24.807	313.2	0.000	6.03	105.6	0.3	0.34	0.1	0.01	0.06	4.71	2.07	0	
1	15.26	15.26	33.561	24.807	313.2	0.003	6.03	105.6	0.3	0.34	0.1	0.01	0.06	4.71	2.07	1	221
10	15.25	15.25	33.560	24.808	313.3	0.031	6.03	105.6	0.4	0.34	0.1	0.01	0.07	4.96	1.88	10	219
10	15.25	15.25	33.561	24.809	313.2	0.031										10	220
20	15.19	15.19	33.555	24.818	312.7	0.063	6.00	104.9	0.5	0.33	0.1	0.01	0.06	4.93	1.92	20	218
30	14.21	14.21	33.482	24.972	298.3	0.093	5.66	97.0	3.8	0.61	3.4	0.14	0.21	3.49	1.42	30	217
41	11.97	11.96	33.431	25.378	259.9	0.124	5.10	83.4	9.8	1.11	11.5	0.19	0.10	0.78	0.48	41	216
50	11.08	11.07	33.526	25.615	237.4	0.146	4.51	72.4	14.5	1.39	16.5	0.09	0.02	0.29	0.29	50	215
60	10.81	10.80	33.577	25.703	229.3	0.170	4.25	67.8	16.7	1.49	18.0	0.06	0.02	0.34	0.40	60	214
71	10.33	10.32	33.657	25.849	215.6	0.194	3.72	58.8	20.0	1.66	20.6	0.03	0.01	0.12	0.23	71	213
75 ISL	10.21 D	10.20	33.694 D	25.898	211.0	0.203	3.47	54.7	21.4	1.73	21.6	0.03	0.01	0.10	0.22	75	
87	10.05	10.04	33.844	26.043	197.5	0.227	2.77	43.6	25.3	1.91	24.0	0.02	0.03	0.06	0.21	87	212
98	9.76	9.75	33.931	26.160	186.6	0.248	2.43	38.0	28.2	2.01	25.3	0.04	0.04	0.03	0.13	99	211
100 ISL	9.65 D	9.64	33.972 D	26.210	181.9	0.252	2.39	37.3	28.6	2.02	25.5	0.04	0.04	0.03	0.13	101	
122	9.39	9.38	34.047	26.312	172.7	0.291	2.05	31.8	32.4	2.13	27.1	0.00	0.00	0.01	0.08	123	210
125 ISL	9.35 D	9.34	34.060 D	26.328	171.1	0.296	2.02	31.3	32.8	2.15	27.2	0.00	0.00	0.01	0.08	126	
139	9.23	9.21	34.091	26.372	167.2	0.320	1.89	29.2	34.3	2.22	27.8	0.00	0.00	0.01	0.07	140	209
150 ISL	9.08 D	9.06	34.135 D	26.431	161.9	0.338	1.82	28.1	35.5	2.26	28.3	0.00	0.00	0.01	0.07	151	
172	8.87	8.85	34.145	26.472	158.3	0.373	1.67	25.6	38.2	2.33	29.3	0.00	0.00	0.00	0.06	173	208
200 ISL	8.57 D	8.55	34.183 D	26.549	151.4	0.416	1.37	20.9	42.1	2.45	30.6	0.00	0.00	0.00	0.04	201	
201	8.58	8.56	34.181	26.546	151.8	0.418	1.36	20.7	42.2	2.45	30.6	0.00	0.00	0.00	0.04	202	207
230	8.51	8.49	34.233	26.598	147.4	0.461	1.11	16.9	44.8	2.56	31.3	0.00	0.00			231	206
250 ISL	8.45 D	8.42	34.234 D	26.609	146.8	0.491	1.06	16.1	45.7	2.59	31.6	0.00	0.02			252	
270	8.36	8.33	34.237	26.625	145.5	0.520	1.04	15.8	46.6	2.60	31.8	0.00	0.04			272	205
300 ISL	8.20 D	8.17	34.253 D	26.662	142.5	0.563	0.94	14.2	49.3	2.67	32.5	0.00	0.02			302	
324	7.98	7.95	34.266	26.706	138.7	0.597	0.84	12.6	51.8	2.73	33.1	0.00	0.00			326	204
386	7.55	7.51	34.275	26.776	132.8	0.681	0.62	9.2	57.5	2.83	34.4	0.00	0.00			389	203
400 ISL	7.32 D	7.28	34.284 D	26.816	129.1	0.699	0.58	8.6	59.6	2.86	34.9	0.00	0.00			403	
442	6.94	6.90	34.285	26.870	124.3	0.753	0.47	6.9	65.7	2.93	36.4	0.00	0.00			445	202
500 ISL	6.63 D	6.58	34.291 D	26.917	120.4	0.824	0.40	5.8	69.8	3.01	37.4	0.00	0.00			503	
521	6.51	6.46	34.302	26.942	118.3	0.849	0.37	5.4	71.3	3.04	37.7	0.00	0.00			525	201

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS;PRIMARY T; PRIMARY CORRECTED S;

RV MCARTHUR II CALCOFI CRUISE 0907 STATION 83.3 70.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
33 14.7 N	121 26.8 W	26/07/09	0132 UTC	3795 m	340 18 kn	320 06 08	2	1015.0 mb	16.3 C	15.1 C	10m	8/8	ST

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	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	15.86	15.86	33.462	24.597	333.1	0.000	5.94	105.2	0.9	0.36	0.2	0.03	0.05	0.92	0.34	0	
2	15.86	15.86	33.462	24.597	333.2	0.007	5.94	105.2	0.9	0.36	0.2	0.03	0.05	0.92	0.34	2	221
10	13.44	13.44	33.132	24.859	308.5	0.032	6.20	104.4	2.9	0.53	1.6	0.14	0.10	1.43	0.36	10	219
10	13.44	13.44	33.132	24.859	308.5	0.032										10	220
20 ISL	13.09 D	13.09	33.114 D	24.915	303.4	0.063	6.12	102.3	3.2	0.58	2.4	0.20	0.13	1.60	0.47	20	
21	13.03	13.03	33.130	24.940	301.1	0.066	6.11	102.0	3.2	0.59	2.4	0.21	0.13	1.62	0.47	21	218
30	12.18	12.18	32.967	24.978	297.6	0.093	5.96	97.6	4.0	0.61	2.5	0.35	0.13	0.59	0.29	30	217
41	11.85	11.84	32.961	25.035	292.4	0.125	5.85	95.1	4.5	0.68	3.6	0.33	0.05	0.53	0.34	41	216
50 ISL	11.42 D	11.41	32.946 D	25.103	286.2	0.151	5.77	93.0	5.5	0.77	5.6	0.17	0.03	0.39	0.28	50	
51	11.42	11.41	32.947	25.104	286.1	0.154	5.76	92.8	5.7	0.78	5.9	0.15	0.03	0.37	0.27	51	215
60	11.04	11.03	32.998	25.211	276.0	0.180	5.68	90.8	7.5	0.92	8.6	0.03	0.02	0.22	0.14	60	214
70	10.84	10.83	33.056	25.292	268.5	0.207	5.60	89.1	9.2	1.02	10.4	0.01	0.02	0.17	0.11	70	213
75 ISL	11.17 D	11.16	33.205 D	25.350	263.3	0.220	5.46	87.6	10.3	1.09	11.6	0.02	0.03	0.13	0.09	75	
85	10.58	10.57	33.280	25.512	247.9	0.246	5.16	81.8	12.3	1.20	13.6	0.03	0.05	0.05	0.05	85	212
100	10.37	10.36	33.321	25.581	241.7	0.282	4.92	77.6	13.0	1.24	14.1	0.01	0.02	0.07	0.07	100	211
121	9.72	9.71	33.673	25.965	205.6	0.329	3.92	61.1	21.2	1.66	21.2	0.00	0.00	0.01	0.03	122	210
125 ISL	9.62 D	9.61	33.704 D	26.006	201.8	0.337	3.79	59.0	22.2	1.69	21.7	0.00	0.00	0.01	0.03	126	
141	9.18	9.16	33.846	26.189	184.6	0.368	3.40	52.4	25.2	1.74	22.9	0.00	0.00	0.00	0.02	142	209
150 ISL	8.87 D	8.85	33.915 D	26.292	174.9	0.385	3.29	50.4	26.7	1.78	23.6	0.00	0.00	0.00	0.02	151	
170	8.65	8.63	33.951	26.355	169.3	0.419	3.08	47.0	30.3	1.90	25.5	0.00	0.00	0.00	0.02	171	208
200 ISL	8.16 D	8.14	34.006 D	26.473	158.5	0.468	2.36	35.6	37.2	2.17	29.4	0.00	0.00	0.00	0.03	201	
202	8.16	8.14	34.006	26.473	158.5	0.471	2.31	34.8	37.7	2.19	29.6	0.00	0.00	0.00	0.03	203	207
229	7.96	7.94	34.053	26.540	152.6	0.513	1.84	27.6	42.4	2.34	31.4	0.00	0.00			230	206
250 ISL	7.66 D	7.64	34.061 D	26.590	148.1	0.545	1.67	24.9	45.5	2.41	32.4	0.00	0.00			251	
271	7.43	7.40	34.067	26.628	144.7	0.576	1.58	23.4	48.7	2.47	33.3	0.00	0.00			273	205
300 ISL	7.03 D	7.00	34.084 D	26.697	138.4	0.617	1.47	21.6	54.2	2.55	34.6	0.00	0.00			302	
319	6.66	6.63	34.068	26.735	134.8	0.643	1.39	20.3	57.8	2.60	35.4	0.00	0.00			321	204
381	6.27	6.24	34.132	26.837	125.8	0.723	0.91	13.1	66.4	2.81	37.4	0.00	0.00			383	203
400 ISL	6.14 D	6.10	34.144 D	26.863	123.5	0.747	0.79	11.4	69.0	2.85	37.9	0.00	0.00			403	
440	5.95	5.91	34.185	26.920	118.5	0.796	0.58	8.3	74.3	2.93	38.8	0.00	0.00			443	202
500 ISL	5.70 D	5.66	34.236 D	26.992	112.3	0.865	0.42	6.0	80.5	3.04	39.9	0.00	0.00			503	
514	5.63	5.59	34.239	27.003	111.3	0.880	0.38	5.4	82.0	3.07	40.2	0.00	0.00			518	201

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS;PRIMARY T; PRIMARY CORRECTED S;

RV MCARTHUR II CALCOFI CRUISE 0907 STATION 83.3 80.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
32 54.6 N	122 8.0 W	25/07/09	1904 UTC	4175 m	340 19 kn	340 05 06	2	1017.5 mb	17.2 C	15.2 C	21m	8/8	SC

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	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	17.11	17.11	33.173	24.088	381.7	0.000	5.62	101.9	2.4	0.33	0.1	0.00	0.01	0.14	0.04	0	
1 A	17.11	17.11	33.173	24.088	381.7	0.004	5.62	101.9	2.4	0.33	0.1	0.00	0.01	0.14	0.04	1	223
9	17.11	17.11	33.172	24.087	382.0	0.034										9	222
10 A	17.11	17.11	33.173	24.088	382.0	0.038	5.63	102.1	2.6	0.34	0.0	0.00	0.02	0.13	0.03	10	221
15 A	17.11	17.11	33.172	24.087	382.2	0.057	5.63	102.1	2.5	0.34	0.0	0.00	0.02	0.14	0.03	15	220
20 ISL	17.09 D	17.09	33.173 D	24.093	381.9	0.076	5.66	102.6	2.5	0.33	0.0	0.00	0.02	0.14	0.03	20	
29 A	17.08	17.08	33.176	24.098	381.7	0.111	5.70	103.3	2.5	0.32	0.0	0.00	0.01	0.14	0.04	29	219
30 ISL	17.08 D	17.08	33.175 D	24.097	381.8	0.115	5.72	103.6	2.5	0.32	0.0	0.00	0.01	0.15	0.04	30	
44 A	15.79	15.78	33.150	24.375	355.7	0.166	6.02	106.3	2.7	0.34	0.0	0.00	0.02	0.29	0.05	44	218
50	15.09	15.08	33.175	24.548	339.3	0.187	6.08	105.9	1.8	0.33	0.0	0.00	0.01	0.29	0.12	50	217
58 A	14.76	14.75	33.240	24.670	328.0	0.214	6.03	104.3	2.1	0.31	0.0	0.00	0.01	0.37	0.05	58	216
67	14.13	14.12	33.189	24.764	319.2	0.243	5.96	101.8	2.4	0.34	0.0	0.00	0.00	0.46	0.16	67	215
75 ISL	13.40 D	13.39	33.108 D	24.850	311.1	0.268	5.89	99.0	2.5	0.39	0.3	0.13	0.01	0.48	0.36	75	
79 A	13.33	13.32	33.113	24.868	309.4	0.280	5.84	98.1	2.6	0.44	0.4	0.18	0.01	0.49	0.41	79	214
86	12.63	12.62	33.084	24.984	298.5	0.302	5.69	94.1	4.0	0.60	3.0	0.10	0.00	0.34	0.26	86	213
95	12.22	12.21	33.114	25.086	289.0	0.328	5.69	93.3	5.6	0.78	6.1	0.05	0.00	0.20	0.15	95	212
100 ISL	12.02 D	12.01	33.165 D	25.163	281.7	0.342	5.65	92.3	6.2	0.83	7.1	0.03	0.00	0.15	0.12	100	
109	11.68	11.67	33.170	25.231	275.5	0.368	5.51	89.4	7.5	0.92	8.8	0.01	0.00	0.09	0.08	109	211
125	10.66	10.65	33.350	25.554	244.9	0.409	5.00	79.4	13.1	1.26	14.4	0.00	0.00	0.02	0.04	126	210
145	10.12	10.10	33.525	25.783	223.5	0.456	4.50	70.7	18.3	1.52	18.9	0.00	0.00	0.01	0.04	146	209
150 ISL	10.01 D	9.99	33.569 D	25.836	218.5	0.467	4.32	67.7	19.4	1.57	19.8	0.00	0.00	0.01	0.04	151	
171	9.52	9.50	33.717	26.033	200.1	0.511	3.56	55.3	23.5	1.73	22.7	0.00	0.00	0.01	0.04	172	208
199	9.11	9.09	33.885	26.231	181.7	0.564	3.02	46.5	28.0	1.88	25.2	0.00	0.00	0.00	0.04	200	207
200 ISL	9.00 D	8.98	33.912 D	26.270	178.1	0.566	2.99	45.9	28.2	1.89	25.3	0.00	0.00			201	
231	8.67	8.65	34.042	26.424	164.0	0.619	2.22	33.9	35.7	2.16	28.5	0.00	0.00			232	206
250 ISL	8.56 D	8.53	34.129 D	26.509	156.2	0.650	1.84	28.0	39.7	2.29	29.9	0.00	0.00			251	
271	8.28	8.25	34.141	26.562	151.5	0.682	1.52	23.0	43.7	2.41	31.2	0.00	0.00			272	205
300 ISL	7.93 D	7.90	34.156 D	26.626	145.7	0.725	1.29	19.4	48.0	2.52	32.6	0.00	0.00			302	
320	7.68	7.65	34.149	26.657	142.9	0.754	1.21	18.1	50.8	2.57	33.4	0.00	0.00			322	204
380	6.68	6.65	34.118	26.772	132.2	0.837	1.08	15.8	61.4	2.73	36.4	0.00	0.00			382	203
400 ISL	6.63 D	6.59	34.166 D	26.817	128.3	0.863	0.94	13.7	63.4	2.78	36.9	0.00	0.00			402	
441	6.61	6.57	34.216	26.860	124.9	0.914	0.63	9.2	66.9	2.89	37.5	0.00	0.00			444	202
500 ISL	6.24 D	6.20	34.268 D	26.949	116.9	0.986	0.45	6.5	73.4	3.00	38.9	0.00	0.00			503	
515	6.13	6.08	34.262	26.959	116.1	1.003	0.40	5.8	75.1	3.03	39.2	0.00	0.00			518	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.
D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS;PRIMARY T; PRIMARY CORRECTED S;

RV MCARTHUR II CALCOFI CRUISE 0907 STATION 83.3 90.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT TYPE
32 34.4 N	122 49.1 W	25/07/09	1227 UTC	4241 m	340 18 kn			1017.0 mb	16.3 C	14.9 C		

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	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	17.35	17.35	33.200	24.051	385.1	0.000	5.61	102.2	2.4	0.35	0.1	0.00	0.02	0.12	0.03	0	
2	17.35	17.35	33.200	24.052	385.2	0.008	5.61	102.2	2.4	0.35	0.1	0.00	0.02	0.12	0.03	2	221
10	17.35	17.35	33.200	24.052	385.4	0.039	5.61	102.2	2.3	0.33	0.1	0.00	0.03	0.11	0.03	10	219
10	17.35	17.35	33.203	24.054	385.2	0.039										10	220
20 ISL	17.35 D	17.35	33.200 D	24.052	385.7	0.077	5.61	102.2	2.3	0.33	0.0	0.00	0.02	0.11	0.03	20	
25	17.36	17.36	33.200	24.050	386.1	0.096	5.61	102.2	2.3	0.33	0.0	0.00	0.02	0.11	0.03	25	218
30 ISL	17.25 D	17.25	33.203 D	24.079	383.6	0.116	5.80	105.4	2.6	0.33	0.0	0.00	0.03	0.14	0.04	30	
41	15.22	15.21	33.177	24.521	341.6	0.156	6.16	107.6	2.9	0.34	0.0	0.00	0.04	0.24	0.07	41	217
50	14.84	14.83	33.206	24.626	331.9	0.186	6.11	105.9	2.4	0.34	0.0	0.00	0.04	0.37	0.10	50	216
63	14.10	14.09	33.188	24.769	318.6	0.228	6.04	103.1	2.4	0.36	0.0	0.00	0.02	0.65	0.24	63	215
75 ISL	13.55 D	13.54	33.138 D	24.843	311.8	0.266	5.94	100.2	2.7	0.42	0.4	0.14	0.03	0.56	0.35	75	
77	13.53	13.52	33.136	24.846	311.6	0.272	5.92	99.8	2.8	0.43	0.5	0.16	0.03	0.54	0.36	77	214
88	12.81	12.80	33.113	24.972	299.8	0.306	5.73	95.2	4.3	0.65	4.0	0.14	0.01	0.39	0.27	88	213
100	12.57	12.56	33.117	25.021	295.3	0.341	5.72	94.5	4.8	0.70	5.1	0.03	0.00	0.28	0.19	100	212
112	11.84	11.83	33.079	25.130	285.1	0.376	5.65	91.9	6.3	0.81	7.0	0.02	0.01	0.17	0.14	112	211
125	11.13	11.11	33.154	25.318	267.4	0.412	5.36	85.9	7.7	0.90	8.9	0.01	0.00	0.10	0.08	126	210
142	10.60	10.58	33.298	25.524	248.1	0.456	5.07	80.4	11.7	1.16	13.1	0.00	0.02	0.03	0.05	143	209
150 ISL	10.34 D	10.32	33.420 D	25.664	234.9	0.475	4.81	75.9	13.8	1.27	15.1	0.00	0.02	0.02	0.05	151	
170	10.08	10.06	33.579	25.833	219.3	0.521	4.04	63.4	19.2	1.55	19.7	0.00	0.00	0.01	0.04	171	208
199	9.53	9.51	33.859	26.143	190.3	0.580	2.89	44.9	27.6	1.94	25.4	0.00	0.00	0.01	0.05	200	207
200 ISL	9.44 D	9.42	33.878 D	26.173	187.5	0.582	2.88	44.7	27.7	1.94	25.5	0.00	0.00			201	
230	8.85	8.83	33.954	26.327	173.2	0.636	2.69	41.2	31.2	1.99	26.9	0.00	0.00			231	206
250 ISL	8.51 D	8.48	34.018 D	26.430	163.7	0.670	2.45	37.3	34.8	2.09	28.4	0.00	0.00			251	
269	8.24	8.21	34.039	26.488	158.4	0.700	2.18	32.9	38.6	2.21	29.8	0.00	0.00			270	205
300 ISL	7.90 D	7.87	34.088 D	26.577	150.3	0.748	1.78	26.7	43.8	2.37	31.7	0.00	0.00			302	
322	7.78	7.75	34.117	26.618	146.8	0.781	1.50	22.4	47.3	2.47	32.8	0.00	0.00			324	204
382	7.49	7.45	34.234	26.752	134.9	0.865	0.79	11.7	56.1	2.76	34.8	0.00	0.00			384	203
400 ISL	7.02 D	6.98	34.215 D	26.803	130.0	0.889	0.70	10.3	59.6	2.82	35.6	0.00	0.00			402	
443	6.60	6.56	34.224	26.867	124.2	0.944	0.59	8.6	67.6	2.92	37.5	0.00	0.00			446	202
500 ISL	6.21 D	6.17	34.254 D	26.942	117.5	1.013	0.44	6.4	74.1	3.02	38.8	0.00	0.00			503	
515	6.13	6.08	34.264	26.961	115.9	1.030	0.40	5.8	75.8	3.05	39.1	0.00	0.00			518	201

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS;PRIMARY T; PRIMARY CORRECTED S;

RV MCARTHUR II CALCOFI CRUISE 0907 STATION 83.3 100.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT TYPE
32 14.7 N	123 30.1 W	25/07/09	0612 UTC	4304 m	340 20 kn			1018.3 mb	16.4 C	15.0 C		

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	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	17.47	17.47	33.217	24.036	386.6	0.000	5.60	102.3	2.5	0.34	0.1	0.00	0.03	0.11	0.01	0	
2	17.47	17.47	33.217	24.036	386.7	0.008	5.60	102.3	2.5	0.34	0.1	0.00	0.03	0.11	0.01	2	221
10	17.46	17.46	33.214	24.036	386.9	0.039	5.61	102.4	2.4	0.32	0.1	0.00	0.02	0.10	0.01	10	219
10	17.46	17.46	33.215	24.037	386.8	0.039										10	220
20 ISL	17.46 D	17.46	33.213 D	24.036	387.3	0.077	5.60	102.2	2.3	0.32	0.0	0.00	0.02	0.11	0.01	20	
25	17.46	17.46	33.219	24.041	387.0	0.097	5.60	102.2	2.3	0.32	0.0	0.00	0.02	0.12	0.01	25	218
30 ISL	15.78 D	15.78	33.170 D	24.392	353.7	0.115	5.86	103.5	2.3	0.32	0.0	0.00	0.02	0.17	0.02	30	
40	14.74	14.73	33.131	24.589	335.1	0.150	6.33	109.4	2.2	0.34	0.0	0.00	0.03	0.29	0.05	40	217
50	13.98	13.97	33.115	24.737	321.2	0.183	6.26	106.5	2.6	0.37	0.0	0.00	0.03	0.40	0.17	50	216
62	13.54	13.53	33.112	24.825	313.1	0.221	6.11	103.0	3.1	0.43	0.1	0.06	0.03	0.70	0.49	62	215
75 ISL	13.08 D	13.07	33.103 D	24.910	305.3	0.261	5.81	97.0	4.0	0.60	2.6	0.46	0.02	0.50	0.38	75	
76	13.06	13.05	33.104	24.915	304.9	0.264	5.79	96.7	4.1	0.61	2.9	0.48	0.02	0.47	0.37	76	214
87	12.54	12.53	33.131	25.038	293.4	0.297	5.69	94.0	5.3	0.72	5.8	0.00	0.02	0.12	0.09	87	213
100	11.90	11.89	33.203	25.215	276.8	0.334	5.58	91.0	6.9	0.87	8.5	0.00	0.02	0.03	0.05	100	212
112	11.17	11.16	33.245	25.382	261.1	0.366	5.31	85.2	9.9	1.04	11.3	0.00	0.01	0.02	0.04	112	211
125 ISL	10.61 D	10.60	33.429 D	25.624	238.2	0.399	4.90	77.8	14.4	1.29	15.3	0.00	0.01	0.01	0.04	126	
126	10.62	10.61	33.422	25.617	238.9	0.401	4.87	77.3	14.8	1.31	15.6	0.00	0.01	0.01	0.04	127	210
142	10.24	10.22	33.586	25.810	220.8	0.438	4.47	70.5	19.1	1.54	19.4	0.00	0.02	0.01	0.03	143	209
150 ISL	10.07 D	10.05	33.710 D	25.936	209.0	0.455	4.34	68.2	21.8	1.66	21.3	0.00	0.02	0.01	0.03	151	
169	9.70	9.68	33.806	26.073	196.3	0.493	4.12	64.3	27.4	1.90	24.9	0.00	0.00	0.00	0.03	170	208
199	9.46	9.44	33.872	26.165	188.2	0.551	3.76	58.4	29.8	2.02	26.7	0.00	0.01	0.00	0.03	200	207
200 ISL	9.45 D	9.43	33.875 D	26.169	187.8	0.553	3.75	58.2	29.9	2.02	26.7	0.00	0.01			201	
235	9.21	9.18	33.936	26.256	180.2	0.617	3.30	50.9	33.0	2.12	28.1	0.00	0.00			236	206
250 ISL	9.11 D	9.08	33.957 D	26.289	177.4	0.644	3.08	47.4	33.9	2.15	28.5	0.00	0.00			251	
275	8.92	8.89	33.986	26.342	172.7	0.688	2.71	41.6	35.5	2.19	29.1	0.00	0.00			277	205
300 ISL	8.61 D	8.58	34.006 D	26.406	166.9	0.730	2.39	36.4	37.7	2.21	29.6	0.00	0.00			302	
327	8.19	8.16	34.047	26.502	158.1	0.774	2.04	30.8	40.9	2.26	30.3	0.00	0.00			329	204
379	7.66	7.62	34.152	26.663	143.4	0.853	1.23	18.4	50.6	2.57	33.2	0.00	0.00			381	203
400 ISL	7.36 D	7.32	34.170 D	26.720	138.1	0.882	0.97	14.4	54.3	2.68	34.1	0.00	0.00			402	
446	7.15	7.11	34.264	26.824	128.9	0.944	0.58	8.6	61.6	2.86	35.8	0.00	0.00			449	202
500 ISL	6.48 D	6.43	34.230 D	26.888	122.9	1.012	0.52	7.6	68.5	2.93	37.7	0.00	0.00			503	
513	6.41	6.36	34.232	26.899	122.0	1.028	0.51	7.4	70.1	2.95	38.2	0.00	0.00			516	201

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS;PRIMARY T; PRIMARY CORRECTED S;

RV MCARTHUR II CALCOFI CRUISE 0907 STATION 83.3 110.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
31 54.5 N	124 10.6 W	24/07/09	2332 UTC	4087 m	200 18 kn	350 05 05	2	1017.5 mb	18.0 C	16.0 C	20m	8/8	ST

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	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	17.21	17.21	33.134	24.034	386.8	0.000	5.62	102.1	2.9	0.35	0.1	0.00	0.01	0.11	0.03	0	
1	17.21	17.21	33.134	24.034	386.8	0.004	5.62	102.1	2.9	0.35	0.1	0.00	0.01	0.11	0.03	1	221
10	17.21	17.21	33.133	24.034	387.2	0.039	5.62	102.0	2.8	0.34	0.1	0.00	0.00	0.13	0.02	10	219
10	17.21	17.21	33.133	24.034	387.2	0.039										10	220
20	17.13	17.13	33.137	24.056	385.4	0.077	5.64	102.2	2.8	0.33	0.0	0.00	0.02	0.12	0.04	20	218
30 ISL	15.35 D	15.35	33.208 D	24.516	341.8	0.114	6.17	108.0	3.2	0.37	0.2	0.03	0.02	0.48	0.16	30	
31	15.34	15.34	33.208	24.518	341.6	0.117	6.22	108.9	3.2	0.37	0.2	0.03	0.02	0.52	0.17	31	217
40	15.15	15.14	33.214	24.565	337.4	0.148	6.14	107.1	2.9	0.40	0.6	0.05	0.04	0.74	0.19	40	216
50	14.91	14.90	33.209	24.613	333.1	0.181	6.10	105.9	2.7	0.42	0.7	0.05	0.08	0.72	0.26	50	215
61	14.29	14.28	33.189	24.730	322.3	0.217	6.06	103.8	2.2	0.36	0.1	0.01	0.05	0.73	0.31	61	214
70	13.37	13.36	33.120	24.866	309.5	0.246	5.97	100.3	3.3	0.45	0.8	0.21	0.07	0.49	0.32	70	213
75 ISL	12.90 D	12.89	33.105 D	24.947	301.8	0.261	5.89	98.0	3.7	0.52	2.0	0.18	0.05	0.43	0.29	75	
86	12.47	12.46	33.112	25.036	293.5	0.294	5.69	93.8	4.9	0.69	5.1	0.11	0.00	0.35	0.21	86	212
100	11.29	11.28	33.106	25.252	273.2	0.333	5.45	87.6	7.8	0.89	8.6	0.02	0.01	0.15	0.14	100	211
120	10.33	10.32	33.351	25.611	239.2	0.385	4.80	75.7	12.9	1.19	14.0	0.00	0.01	0.03	0.06	121	210
125 ISL	10.10 D	10.09	33.380 D	25.673	233.5	0.396	4.65	73.0	14.0	1.25	15.1	0.00	0.01	0.03	0.06	126	
141	9.98	9.96	33.567 D	25.839	218.0	0.433										142	209
150 ISL	9.80 D	9.78	33.658 D	25.941	208.5	0.452	3.97	62.0	19.5	1.53	19.8	0.00	0.00	0.01	0.05	151	
170	9.49	9.47	33.748	26.063	197.3	0.492	3.47	53.8	23.6	1.71	22.7	0.00	0.00	0.00	0.04	171	208
200	8.98	8.96	33.920	26.279	177.2	0.548	2.75	42.2	30.0	1.98	26.5	0.00	0.00	0.01	0.03	201	207
231	8.73	8.71	34.015	26.393	166.9	0.602	2.13	32.5	34.9	2.17	28.9	0.00	0.00			232	206
250 ISL	8.40 D	8.37	34.034 D	26.459	160.8	0.633	1.99	30.2	37.4	2.23	29.7	0.00	0.00			251	
271	8.22	8.19	34.062	26.509	156.4	0.666	1.92	29.0	40.4	2.28	30.5	0.00	0.00			272	205
300 ISL	7.57 D	7.54	34.069 D	26.610	147.0	0.710	1.81	26.9	46.1	2.38	32.3	0.00	0.00			302	
322	7.14	7.11	34.043	26.650	143.2	0.742	1.72	25.3	50.7	2.46	33.8	0.00	0.00			324	204
382	6.51	6.48	34.077	26.762	133.1	0.825	1.25	18.2	60.8	2.69	36.5	0.00	0.00			384	203
400 ISL	6.33 D	6.29	34.085 D	26.792	130.3	0.849	1.12	16.2	63.9	2.75	37.2	0.00	0.00			402	
440	6.06	6.02	34.134	26.866	123.7	0.900	0.84	12.1	70.4	2.87	38.4	0.00	0.00			443	202
500 ISL	5.81 D	5.77	34.210 D	26.958	115.6	0.971	0.49	7.0	77.7	3.01	39.7	0.00	0.00			503	
514	5.77	5.73	34.230	26.979	113.8	0.987	0.41	5.9	79.4	3.04	40.0	0.00	0.00			517	201

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS;PRIMARY T; PRIMARY CORRECTED S;

RV MCARTHUR II CALCOFI CRUISE 0907 STATION 85.4 35.8

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
34 0.2 N	118 50.6 W	21/07/09	2231 UTC	62 m	290 10 kn	280 01 06	0	1012.0 mb	20.2 C	19.0 C			

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	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	18.21	18.21	33.517	24.086	381.8	0.000	6.94	128.8	1.0	0.20	0.0	0.02	0.10			0	
2	18.21	18.21	33.517	24.086	381.9	0.008	6.94	128.8	1.0	0.20	0.0	0.02	0.10			2	209
5	17.82	17.82	33.511	24.177	373.3	0.019	7.05	129.8	0.7	0.17	0.0	0.00	0.09	2.37	0.26	5	208
10	17.08	17.08	33.505	24.350	357.1	0.037	7.29	132.3	1.1	0.21	0.0	0.00	0.10	3.31	0.28	10	206
10	17.08	17.08	33.507	24.351	356.9	0.037										10	207
15	15.86	15.86	33.493	24.622	331.3	0.054	6.77	120.0	3.5	0.29	0.0	0.00	0.11	4.88	0.99	15	205
20	14.67	14.67	33.490	24.880	306.7	0.070	6.07	105.0	6.9	0.47	0.9	0.12	0.26	3.45	1.07	20	204
30 ISL	12.21 D	12.21	33.476 D	25.367	260.6	0.099	4.36	71.7	13.6	1.22	11.1	0.55	2.40	0.72	0.58	30	
31	12.18	12.18	33.475	25.372	260.2	0.101	4.21	69.2	14.2	1.29	12.2	0.59	2.63	0.52	0.52	31	203
40	11.65	11.64	33.495	25.487	249.4	0.124	3.73	60.6	16.8	1.51	16.2	0.68	2.85	0.23	0.59	40	202
50	11.50	11.49	33.509	25.526	246.0	0.149	3.56	57.7	17.8	1.57	17.5	0.66	2.48	0.20	0.49	50	201

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS;PRIMARY T; PRIMARY CORRECTED S;

RV MCARTHUR II CALCOFI CRUISE 0907 STATION 86.7 33.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
33 53.2 N	118 29.4 W	21/07/09	1548 UTC	58 m	300 02 kn	320 01 05	4	1012.7 mb	19.0 C	18.9 C	09m	8/8	ST

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	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	19.26	19.26	33.529	23.832	406.0	0.000	6.91	130.8	0.5	0.10	0.0	0.00	0.03	1.67	0.31	0	
1 A	19.26	19.26	33.529	23.832	406.1	0.004	6.91	130.8	0.5	0.10	0.0	0.00	0.03	1.67	0.31	1	209
5	18.56	18.56	33.522	24.004	389.9	0.020	7.11	132.8	0.3	0.09	0.0	0.00	0.01	2.59	0.53	5	208
10	15.61	15.61	33.489	24.674	326.1	0.038	7.36	129.8	1.9	0.21	0.0	0.01	0.02	8.21	0.57	10	206
10	15.63	15.63	33.491	24.671	326.4	0.038										10	207
15	14.09	14.09	33.478	24.994	295.8	0.053	5.75	98.3	8.1	0.59	3.3	0.21	0.58	4.50	1.29	15	205
20	13.56	13.56	33.470	25.097	286.1	0.068	5.37	90.8	9.8	0.77	5.1	0.29	1.45	2.38	0.82	20	204
30	11.98	11.98	33.486	25.418	255.7	0.095	3.92	64.1	15.4	1.38	14.5	0.65	2.58	0.60	0.50	30	203
40	11.56	11.55	33.517	25.521	246.2	0.120	3.63	58.9	16.7	1.49	17.5	0.60	1.36	0.69	0.58	40	202
50	11.12	11.11	33.567	25.640	235.1	0.144	3.50	56.2	19.3	1.61	18.9	0.51	0.38	1.30	0.75	50	201

A) UNUSUAL PROFILES AND ODD NO3/PO4 RATIOS MAY BE DUE TO THE
PROXIMITY OF THIS STATION TO THE HYPERION WASTE-WATER OUTFALL.
D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS;PRIMARY T; PRIMARY CORRECTED S;

RV MCARTHUR II CALCOFI CRUISE 0907 STATION 86.7 35.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
33 49.3 N	118 37.7 W	21/07/09	1837 UTC	645 m	250 04 kn	300 01 06	1	1013.8 mb	22.7 C	20.1 C	20m	7/8	ST

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	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	21.37	21.37	33.604	23.332	453.8	0.000	6.04D	118.9 D	0.0	0.13	0.1	0.00	0.00	0.16	0.06	0	
1 A	21.37	21.37	33.604	23.333	453.8	0.005	6.04D	118.9 D	0.0	0.13	0.1	0.00	0.00	0.16	0.06	1	224
7	21.06	21.06	33.592	23.408	446.8	0.032	6.04	118.2	0.0	0.14	0.1	0.00	0.02	0.19	0.05	7	223
10	20.73	20.73	33.591	23.496	438.5	0.045	6.41	124.7	0.0	0.12	0.1	0.00	0.00	0.25	0.04	10	222
14 A	18.57	18.57	33.551	24.024	388.3	0.061	6.86	128.2	0.0	0.13	0.0	0.00	0.01	0.56	0.16	14	221
20 ISL	15.49 D	15.49	33.488 D	24.700	323.9	0.083	7.07	124.4	0.7	0.26	0.0	0.00	0.02	2.40	0.61	20	
21	15.19	15.19	33.483	24.763	318.0	0.086	7.11	124.3	0.8	0.30	0.0	0.00	0.03	2.68	0.68	21	220
28 A	13.35	13.35	33.417	25.098	286.2	0.107	5.97	100.5	5.5	0.63	3.5	0.10	0.12	1.93	0.55	28	219
30 ISL	12.74 D	12.74	33.433 D	25.232	273.5	0.113	5.68	94.4	6.4	0.72	4.9	0.15	0.15	1.86	0.52	30	
34	12.53	12.53	33.425	25.266	270.3	0.124	5.18	85.7	8.0	0.89	7.9	0.24	0.18	1.75	0.50	34	218
41 A	11.81	11.80	33.460	25.430	254.9	0.142	4.58	74.6	11.3	1.15	12.2	0.32	0.03	1.15	0.59	41	217
48	11.33	11.32	33.479	25.533	245.2	0.159	4.22	68.1	13.6	1.29	15.1	0.16	0.04	0.91	0.54	48	216
50 ISL	11.10 D	11.09	33.495 D	25.587	240.1	0.164	4.14	66.5	14.2	1.33	15.7	0.13	0.03	0.94	0.55	50	
55 A	11.02	11.01	33.524	25.624	236.7	0.176	4.00	64.1	15.4	1.40	16.9	0.07	0.01	1.04	0.56	55	215
65	10.68	10.67	33.549	25.704	229.3	0.200	3.98	63.3	17.1	1.47	18.3	0.04	0.01	0.68	0.49	65	214
75 A	10.32	10.31	33.642	25.839	216.7	0.222	3.57	56.4	19.8	1.61	20.4	0.02	0.00	0.39	0.24	75	213
88	10.18	10.17	33.703	25.911	210.1	0.250	3.38	53.3	21.3	1.69	21.4	0.01	0.02	0.29	0.35	88	212
100 ISL	10.09 D	10.08	33.812 D	26.011	200.8	0.274	2.94	46.3	23.6	1.80	22.8	0.02	0.04	0.32	0.29	100	
101	10.09	10.08	33.813	26.012	200.8	0.276	2.90	45.6	23.8	1.81	22.9	0.02	0.04	0.32	0.28	102	211
121	9.87	9.86	33.902	26.119	191.0	0.315	2.64	41.4	26.3	1.90	24.1	0.01	0.00	0.28	0.23	122	210
125 ISL	9.80 D	9.79	33.930 D	26.153	187.9	0.323	2.57	40.2	26.9	1.93	24.4	0.01	0.00	0.27	0.22	126	
141	9.66	9.64	33.996	26.228	181.1	0.352	2.30	35.9	29.5	2.04	25.6	0.00	0.00	0.22	0.16	142	209
150 ISL	9.57 D	9.55	34.050 D	26.285	175.8	0.369	2.16	33.6	30.9	2.10	26.1	0.00	0.00	0.16	0.13	151	
171	9.50	9.48	34.126	26.356	169.5	0.405	1.86	28.9	33.8	2.21	27.1	0.00	0.00	0.05	0.08	172	208
200	9.30	9.28	34.179	26.431	163.0	0.453	1.58	24.5	36.2	2.30	28.0	0.00	0.00	0.07	0.10	201	207
230	9.14	9.11	34.203	26.476	159.3	0.501	1.57	24.2	38.1	2.37	28.6	0.00	0.00			231	206
250 ISL	8.94 D	8.91	34.235 D	26.533	154.1	0.533	1.40	21.5	40.0	2.42	29.2	0.00	0.00			251	
272	8.81	8.78	34.238	26.556	152.3	0.566	1.20	18.4	42.2	2.47	29.9	0.00	0.00			274	205
300 ISL	8.58 D	8.55	34.246 D	26.599	148.7	0.609	1.12	17.1	44.8	2.53	30.7	0.00	0.00			302	
322	8.37	8.34	34.249	26.634	145.7	0.641	1.09	16.5	46.8	2.58	31.3	0.00	0.00			324	204
380	8.01	7.97	34.265	26.701	140.1	0.724	0.89	13.4	51.2	2.67	32.4	0.00	0.00			382	203
400 ISL	7.79 D	7.75	34.272 D	26.739	136.7	0.752	0.82	12.3	53.0	2.72	32.8	0.00	0.00			403	
440	7.61	7.57	34.300	26.788	132.7	0.805	0.69	10.3	56.9	2.82	33.8	0.00	0.00			443	202
500 ISL	7.08 D	7.03	34.313 D	26.873	125.1	0.883	0.48	7.1	63.9	2.94	35.6	0.00	0.00			503	
517	6.94	6.89	34.313	26.893	123.3	0.904	0.42	6.2	65.9	2.97	36.1	0.00	0.00			521	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.
D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS;PRIMARY T; PRIMARY CORRECTED S;

RV MCARTHUR II CALCOFI CRUISE 0907 STATION 86.7 40.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
33 39.1 N	118 58.2 W	22/07/09	0145 UTC	686 m	260 09 kn	280 01 08	0	1010.7 mb	20.2 C	19.0 C	09m		

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	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	21.66	21.66	33.613	23.260	460.7	0.000	6.02	119.2	0.0	0.16	0.0	0.00	0.07	0.73	0.14	0	
2	21.66	21.66	33.613	23.260	460.8	0.009	6.02	119.2	0.0	0.16	0.0	0.00	0.07	0.73	0.14	2	224
10	15.24	15.24	33.483	24.751	318.7	0.040	6.54	114.5	3.5	0.38	0.2	0.03	0.09	1.18	0.29	10	223
20	13.12	13.12	33.512	25.218	274.6	0.070	5.59	93.7	7.5	0.83	6.4	0.24	0.14	1.06	0.17	20	222
30	12.07	12.07	33.516 D	25.425	255.1	0.097	4.58	75.1	12.2	1.17	12.0	0.44	0.11	0.70	0.34	30	221
40	11.65	11.64	33.537	25.520	246.3	0.122	4.18	67.9	14.0	1.32	14.9	0.33	0.07	0.46	0.30	40	220
50	11.26	11.25	33.566	25.614	237.6	0.146	3.76	60.6	16.2	1.47	17.7	0.08	0.05	0.28	0.28	50	219
60	10.87	10.86	33.628	25.732	226.6	0.169	3.46	55.3	18.4	1.60	19.5	0.03	0.04	0.19	0.21	60	218
70	10.49	10.48	33.730	25.878	212.8	0.191	3.05	48.4	21.5	1.75	21.7	0.01	0.04	0.10	0.15	70	217
75 ISL	10.41 D	10.40	33.760 D	25.916	209.4	0.202	2.94	46.6	22.3	1.79	22.3	0.00	0.04	0.07	0.14	75	
86	10.23	10.22	33.810	25.986	203.0	0.224	2.78	43.9	23.7	1.86	23.2	0.00	0.03	0.04	0.12	86	216
100	9.94	9.93	33.892	26.099	192.5	0.252	2.56	40.2	26.1	1.94	24.3	0.00	0.03	0.01	0.13	101	215
120	9.68	9.67	33.989	26.219	181.5	0.289	2.23	34.8	29.6	2.07	25.6	0.01	0.02	0.01	0.07	121	214
125 ISL	9.63 D	9.62	34.007 D	26.241	179.5	0.298	2.18	34.0	30.2	2.09	25.9	0.01	0.02	0.01	0.07	126	
141	9.45	9.43	34.055	26.308	173.4	0.327	2.06	32.0	31.9	2.14	26.7	0.00	0.03	0.00	0.06	142	213
150 ISL	9.35 D	9.33	34.076 D	26.341	170.4	0.342	1.97	30.5	33.1	2.18	27.2	0.00	0.03	0.00	0.06	151	
171	9.16	9.14	34.113	26.401	165.1	0.377	1.76	27.2	35.8	2.26	28.2	0.01	0.03	0.00	0.07	172	212
200	9.14	9.12	34.201	26.474	158.8	0.424	1.48	22.9	38.0	2.35	28.6	0.01	0.02	0.00	0.05	201	211
231	8.81	8.79	34.222	26.543	152.8	0.473	1.22	18.7	41.5	2.44	30.0	0.00	0.02			232	210
250 ISL	8.74 D	8.71	34.242 D	26.570	150.6	0.501	1.14	17.4	43.0	2.49	30.6	0.00	0.03			252	
272	8.54	8.51	34.243	26.602	147.8	0.534	1.09	16.6	44.7	2.54	31.1	0.00	0.04			274	209
300 ISL	8.31 D	8.28	34.248 D	26.642	144.5	0.575	1.01	15.3	47.6	2.60	31.9	0.00	0.03			302	
321	8.02	7.99	34.257	26.693	139.9	0.605	0.93	14.0	50.1	2.65	32.5	0.00	0.02			323	208
381	7.49	7.45	34.300	26.804	130.0	0.686	0.54	8.0	58.8	2.86	34.6	0.00	0.03			383	207
400 ISL	7.34 D	7.30	34.299 D	26.825	128.2	0.710	0.49	7.3	60.8	2.91	35.2	0.00	0.03			403	
442	7.03	6.99	34.309	26.876	123.8	0.763	0.43	6.3	64.7	2.97	36.2	0.00	0.04			445	206
482	6.79	6.74	34.308	26.909	121.1	0.812	0.39	5.7	68.1	2.99	37.0	0.00	0.00			485	205
500 ISL	6.69 D	6.64	34.314 D	26.927	119.5	0.834	0.35	5.1	70.2	3.02	37.4	0.00	0.00			503	
515	6.57	6.52	34.317	26.945	117.9	0.852	0.31	4.5	72.2	3.05	37.8	0.00	0.00			519	204
553	6.24	6.19	34.333	27.001	112.8	0.896	0.25	3.6	78.0	3.09	38.6	0.00	0.00			557	203
600 ISL	6.01 D	5.96	34.343 D	27.039	109.6	0.948	0.19	2.7	84.8	3.13	38.7	0.00	0.00			604	
689	5.65	5.59	34.370	27.106	104.0	1.043	0.14	2.0	91.5	3.22	38.8	0.00	0.00			694	202
691	5.64	5.58	34.369 D	27.106	104.0	1.045	0.14	2.0	91.5	3.21	38.9	0.00	0.00			696	201

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS;PRIMARY T; PRIMARY CORRECTED S;

RV MCARTHUR II CALCOFI CRUISE 0907 STATION 86.7 45.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
33 29.3 N	119 19.4 W	22/07/09	0628 UTC	1622 m	270 10 kn			1011.4 mb	18.2 C	16.9 C			

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	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	19.82	19.82	33.554	23.707	418.0	0.000	5.46	104.5	2.1	0.28	0.1	0.00	0.01	0.22	0.05	0	
1	19.82	19.82	33.554	23.707	418.0	0.004	5.46	104.5	2.1	0.28	0.1	0.00	0.01	0.22	0.05	1	221
10	19.81	19.81	33.555	23.711	418.0	0.042	5.48	104.8	2.1	0.27	0.0	0.00	0.02	0.22	0.05	10	219
10	19.81	19.81	33.555	23.711	418.0	0.042										10	220
19	19.04	19.04	33.589	23.935	396.9	0.078	5.67	106.9	3.0	0.25	0.0	0.00	0.01	0.35	0.11	19	218
20 ISL	18.70 D	18.70	33.623 D	24.047	386.3	0.082	5.75	107.7	3.1	0.26	0.1	0.00	0.01	0.46	0.15	20	
30	15.15	15.15	33.533	24.810	313.8	0.117	6.22	108.7	4.7	0.47	1.3	0.06	0.02	1.50	0.63	30	217
40	13.20	13.19	33.545	25.228	274.2	0.147	5.30	89.0	9.1	0.90	7.9	0.17	0.07	1.49	0.94	40	216
50	11.49	11.48	33.594	25.594	239.5	0.172	4.00	64.8	16.1	1.43	16.7	0.05	0.01	0.34	0.30	50	215
60	10.89	10.88	33.634	25.733	226.4	0.196	3.64	58.2	18.5	1.59	19.3	0.02	0.02	0.17	0.17	60	214
70	10.45	10.44	33.700	25.862	214.4	0.218	3.30	52.3	20.9	1.71	21.1	0.01	0.01	0.06	0.08	70	213
75 ISL	10.31 D	10.30	33.746 D	25.922	208.8	0.228	3.13	49.5	22.3	1.77	22.0	0.01	0.01	0.05	0.07	75	
85	9.93	9.92	33.846	26.065	195.4	0.249	2.83	44.4	24.9	1.88	23.6	0.00	0.01	0.02	0.06	85	212
100	9.70	9.69	33.924	26.164	186.2	0.277	2.61	40.7	27.4	1.95	24.6	0.00	0.00	0.01	0.05	100	211
120	9.47	9.46	34.012	26.271	176.5	0.314	2.27	35.3	31.0	2.09	26.1	0.00	0.00	0.01	0.06	121	210
125 ISL	9.38 D	9.37	34.038 D	26.306	173.2	0.322	2.22	34.4	31.7	2.10	26.3	0.00	0.00	0.01	0.06	126	
140	9.27	9.25	34.084	26.360	168.4	0.348	2.06	31.9	33.7	2.15	27.0	0.00	0.00	0.00	0.05	141	209
150 ISL	9.12 D	9.10	34.096 D	26.394	165.4	0.365	1.84	28.4	35.5	2.24	28.1	0.00	0.00	0.00	0.05	151	
170	8.92	8.90	34.153	26.471	158.4	0.397	1.42	21.8	39.0	2.41	30.3	0.00	0.00	0.00	0.06	171	208
199	8.77	8.75	34.181	26.517	154.6	0.442	1.24	19.0	41.5	2.48	31.1	0.00	0.00	0.00	0.06	200	207
200 ISL	8.75 D	8.73	34.188 D	26.525	153.8	0.444	1.24	19.0	41.6	2.48	31.1	0.00	0.00			201	
230	8.44	8.42	34.218	26.597	147.4	0.489	1.09	16.6	45.5	2.59	31.8	0.00	0.00			231	206
250 ISL	8.24 D	8.21	34.247 D	26.651	142.7	0.518	0.95	14.4	47.9	2.66	32.4	0.00	0.00			251	
272	8.11	8.08	34.268	26.687	139.6	0.549	0.80	12.1	50.4	2.73	33.1	0.00	0.00			274	205
300 ISL	7.81 D	7.78	34.278 D	26.740	134.9	0.588	0.68	10.2	53.7	2.79	33.8	0.00	0.00			302	
320	7.71	7.68	34.284	26.759	133.4	0.614	0.62	9.3	55.9	2.83	34.3	0.00	0.00			322	204
385	7.28	7.24	34.292	26.828	127.7	0.699	0.49	7.3	61.4	2.94	35.6	0.00	0.00			388	203
400 ISL	7.14 D	7.10	34.298 D	26.852	125.5	0.718	0.46	6.8	62.8	2.96	35.9	0.00	0.00			403	
442	6.91	6.87	34.296	26.882	123.1	0.770	0.40	5.9	66.7	3.01	36.8	0.00	0.00			445	202
500 ISL	6.57 D	6.52	34.316 D	26.944	117.8	0.840	0.33	4.8	71.7	3.07	37.6	0.00	0.00			503	
522	6.48	6.43	34.316	26.957	116.8	0.866	0.30	4.4	73.6	3.09	37.9	0.00	0.00			526	201

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS;PRIMARY T; PRIMARY CORRECTED S;

RV MCARTHUR II CALCOFI CRUISE 0907 STATION 86.7 50.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
33 19.3 N	119 39.8 W	22/07/09	1034 UTC	79 m	310 14 kn			1010.7 mb	17.1 C	15.9 C			

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	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	17.06	17.06	33.640	24.457	346.4	0.000	5.91	107.3	1.5	0.35	0.4	0.04	0.04	2.04	0.42	0	
2	17.06	17.06	33.640	24.458	346.5	0.007	5.91	107.3	1.5	0.35	0.4	0.04	0.04	2.04	0.42	2	210
5	17.05	17.05	33.650	24.468	345.6	0.017	5.96	108.2	1.3	0.33	0.3	0.04	0.07	2.05	0.27	5	209
10	17.04	17.04	33.641	24.463	346.2	0.035	5.94	107.8	1.2	0.32	0.3	0.03	0.06	2.10	0.30	10	207
10	17.04	17.04	33.641	24.463	346.2	0.035										10	208
20	12.21	12.21	33.660	25.510	246.8	0.064	4.14	68.1	14.8	1.35	14.7	0.26	0.23	0.76	0.54	20	206
30	11.32	11.32	33.698	25.705	228.4	0.088	3.80	61.4	18.0	1.50	17.4	0.20	0.15	0.53	0.25	30	205
40	10.34	10.34	33.776	25.939	206.3	0.110	3.15	49.8	23.8	1.81	22.3	0.08	0.04	0.15	0.18	40	204
50	9.88	9.87	33.862	26.085	192.7	0.130	2.73	42.8	27.4	1.96	24.5	0.04	0.03	0.06	0.23	50	203
60	9.63	9.62	33.940	26.188	183.1	0.149	2.37	36.9	30.6	2.08	26.0	0.03	0.03	0.05	0.16	60	202
70	9.60	9.59	33.948	26.199	182.3	0.167	2.32	36.1	31.0	2.09	26.3	0.03	0.05	0.03	0.18	70	201

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS;PRIMARY T; PRIMARY CORRECTED S;

RV MCARTHUR II CALCOFI CRUISE 0907 STATION 86.7 55.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
33 9.2 N	120 0.7 W	23/07/09	0322 UTC	1198 m	320 21 kn	320 06 07	1	1010.6 mb	15.5 C	14.4 C		6/8	SC

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	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	16.24	16.24	33.622	24.634	329.6	0.000	6.01	107.4	0.9	0.32	0.1	0.02	0.03	2.23	0.36	0	
2	16.24	16.24	33.622	24.634	329.7	0.007	6.01	107.4	0.9	0.32	0.1	0.02	0.03	2.23	0.36	2	221
9	16.24	16.24	33.628	24.639	329.4	0.030	6.00	107.2	0.7	0.32	0.1	0.02	0.04	2.30	0.08	9	219
10	16.24	16.24	33.622	24.634	329.9	0.033										10	220
19	13.53	13.53	33.616	25.216	274.8	0.060	4.87	82.4	9.1	0.96	8.6	0.29	0.40	1.48	0.01	19	218
20 ISL	13.02 D	13.02	33.641 D	25.337	263.2	0.063	4.75	79.5	10.1	1.02	9.6	0.29	0.37	1.35	0.04	20	
29	11.57	11.57	33.668	25.636	235.0	0.085	3.88	63.0	17.3	1.47	17.2	0.18	0.03	0.31	0.35	29	217
30 ISL	11.57 D	11.57	33.666 D	25.635	235.2	0.088	3.83	62.2	17.6	1.49	17.6	0.17	0.03	0.31	0.35	30	
39	10.94	10.94	33.708	25.781	221.4	0.108	3.53	56.6	19.7	1.62	19.6	0.08	0.02	0.26	0.38	39	216
50	10.36	10.35	33.790	25.947	205.8	0.132	2.94	46.5	23.7	1.82	22.7	0.04	0.02	0.11	0.21	50	215
61	10.09	10.08	33.842	26.034	197.8	0.154	2.73	43.0	26.0	1.91	24.1	0.03	0.01	0.10	0.15	61	214
69	9.84	9.83	33.874	26.101	191.6	0.169	2.59	40.5	27.6	1.98	25.2	0.04	0.03	0.05	0.16	69	213
75 ISL	9.64 D	9.63	33.880 D	26.139	188.1	0.181	2.55	39.7	28.5	2.01	25.7	0.04	0.03	0.04	0.17	75	
87	9.45	9.44	33.913	26.197	182.8	0.203	2.49	38.7	29.9	2.05	26.4	0.05	0.01	0.03	0.19	87	212
100 ISL	9.31 D	9.30	33.957 D	26.254	177.7	0.227	2.31	35.8	31.6	2.10	27.1	0.06	0.01	0.02	0.17	101	
102	9.30	9.29	33.967	26.263	176.8	0.230	2.28	35.3	31.8	2.11	27.2	0.06	0.01	0.02	0.16	103	211
119	9.22	9.21	34.018	26.316	172.1	0.260	2.05	31.7	33.8	2.18	28.0	0.03	0.00	0.01	0.13	120	210
125 ISL	9.18 D	9.17	34.033 D	26.335	170.5	0.270	1.95	30.1	34.5	2.21	28.3	0.02	0.00	0.01	0.12	126	
143	9.08	9.06	34.093	26.398	164.8	0.300	1.68	25.9	36.7	2.30	29.0	0.01	0.00	0.02	0.09	144	209
150 ISL	9.05 D	9.03	34.115 D	26.420	162.9	0.312	1.63	25.1	37.3	2.32	29.2	0.01	0.01	0.02	0.08	151	
175	8.77	8.75	34.158	26.498	155.9	0.351	1.50	23.0	40.0	2.38	29.9	0.01	0.02	0.00	0.07	176	208
197	8.47	8.45	34.202	26.580	148.5	0.385	1.25	19.0	44.0	2.49	31.2	0.01	0.00	0.00	0.07	198	207
200 ISL	8.45 D	8.43	34.202 D	26.583	148.2	0.389	1.23	18.7	44.3	2.50	31.3	0.01	0.00			201	
231	8.20	8.18	34.212	26.629	144.3	0.435	1.10	16.6	47.4	2.58	32.3	0.00	0.00			232	206
250 ISL	7.96 D	7.93	34.229 D	26.678	139.9	0.462	1.00	15.0	50.4	2.64	33.0	0.00	0.00			252	
266	7.76	7.73	34.231	26.709	137.1	0.484	0.91	13.6	53.1	2.69	33.5	0.00	0.00			268	205
300 ISL	7.40 D	7.37	34.248 D	26.775	131.3	0.530	0.68	10.1	58.1	2.81	34.6	0.00	0.00			302	
319	7.35	7.32	34.260	26.792	130.0	0.554	0.57	8.5	60.6	2.87	35.2	0.00	0.00			321	204
382	6.87	6.83	34.296	26.887	121.7	0.634	0.42	6.2	67.8	2.96	36.7	0.00	0.00			385	203
400 ISL	6.77 D	6.73	34.296 D	26.901	120.6	0.655	0.40	5.9	69.0	2.98	37.0	0.00	0.00			403	
440	6.59	6.55	34.297	26.926	118.6	0.703	0.37	5.4	71.2	3.01	37.4	0.00	0.00			443	202
500 ISL	6.43 D	6.38	34.304 D	26.953	116.8	0.774	0.33	4.8	74.2	3.05	38.0	0.00	0.00			504	
524	6.34	6.29	34.314	26.973	115.2	0.802	0.32	4.6	75.4	3.07	38.3	0.00	0.00			528	201

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS;PRIMARY T; PRIMARY CORRECTED S;

RV MCARTHUR II CALCOFI CRUISE 0907 STATION 86.7 60.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
32 59.2 N	120 21.1 W	23/07/09	0749 UTC	747 m	330 25 kn			1012.3 mb	15.3 C	14.8 C			

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	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	16.94	16.94	33.634	24.481	344.2	0.000	6.01	108.9	0.4	0.27	0.1	0.01	0.04	4.55	1.13	0	
1	16.94	16.94	33.634	24.481	344.2	0.003	6.01	108.9	0.4	0.27	0.1	0.01	0.04	4.55	1.13	1	221
9	16.94	16.94	33.634	24.481	344.5	0.031										9	220
10	16.94	16.94	33.637	24.484	344.3	0.034	6.01	108.9	0.4	0.27	0.1	0.00	0.05	4.57	1.02	10	219
20	16.93	16.93	33.633	24.483	344.6	0.069	6.02	109.0	0.3	0.26	0.0	0.00	0.04	4.88	0.95	20	218
30	12.82	12.82	33.662	25.393	258.1	0.099	4.43	73.9	12.7	1.18	12.3	0.37	0.47	1.00	0.69	30	217
39	11.56	11.56	33.698	25.661	232.8	0.121	3.80	61.7						0.45	0.37	39	216
50 ISL	10.67 D	10.66	33.761 D	25.871	213.1	0.146	3.38	53.9	21.7	1.69	21.1	0.14	0.07	0.47	0.43	50	
51	10.73	10.72	33.757	25.857	214.5	0.148	3.36	53.6	21.8	1.72	21.2	0.13	0.03	0.47	0.43	51	215
63	10.41	10.40	33.788	25.937	207.1	0.173	3.11	49.3	23.9	1.81	22.6	0.06	0.01	0.25	0.61	63	214
68	10.24	10.23	33.820	25.992	202.0	0.183	2.93	46.3	25.2	1.86	23.4	0.05	0.01	0.18	0.44	68	213
75 ISL	10.01 D	10.00	33.866 D	26.067	195.0	0.197	2.67	42.0	26.9	1.95	24.6	0.04	0.02	0.13	0.41	75	
83	9.74	9.73	33.931	26.163	186.0	0.212	2.41	37.7	28.7	2.04	25.7	0.03	0.03	0.10	0.37	83	212
100 ISL	9.46 D	9.45	34.008 D	26.269	176.2	0.243	2.21	34.3	31.2	2.10	26.6	0.01	0.01	0.08	0.15	101	
101	9.48	9.47	34.011	26.268	176.3	0.245	2.20	34.2	31.3	2.10	26.6	0.01	0.01	0.08	0.14	102	211
121	9.27	9.26	34.064	26.344	169.5	0.280	2.00	31.0	33.6	2.17	27.6	0.01	0.02	0.02	0.13	122	210
125 ISL	9.27 D	9.26	34.064 D	26.344	169.6	0.286	1.94	30.0	34.2	2.20	27.9	0.01	0.02	0.02	0.14	126	
140	9.11	9.09	34.087	26.388	165.7	0.311	1.73	26.7	36.2	2.29	29.0	0.00	0.01	0.04	0.16	141	209
150 ISL	9.08 D	9.06	34.098 D	26.402	164.6	0.328	1.67	25.7	36.9	2.32	29.2	0.00	0.01	0.03	0.13	151	
167	8.90	8.88	34.136	26.461	159.3	0.356	1.57	24.1	38.5	2.37	29.6	0.00	0.00	0.01	0.07	168	208
200 ISL	8.35 D	8.33	34.226 D	26.617	145.0	0.406	1.06	16.1	46.6	2.59	32.0	0.00	0.00	0.01	0.06	201	
201	8.36	8.34	34.226	26.615	145.1	0.407	1.04	15.8	46.9	2.60	32.1	0.00	0.00	0.01	0.06	202	207
230	8.17	8.15	34.246	26.660	141.4	0.449	0.90	13.6	49.8	2.67	32.9	0.00	0.00			231	206
250 ISL	7.98 D	7.95	34.256 D	26.697	138.2	0.477	0.84	12.6	51.4	2.71	33.2	0.00	0.00			252	
272	7.91	7.88	34.260	26.710	137.2	0.507	0.79	11.9	53.2	2.75	33.6	0.00	0.00			274	205
300 ISL	7.59 D	7.56	34.271 D	26.766	132.3	0.545	0.69	10.3	56.3	2.80	34.3	0.00	0.00			302	
319	7.51	7.48	34.279	26.784	130.9	0.570	0.62	9.2	58.6	2.84	34.8	0.00	0.00			321	204
382	6.97	6.93	34.288	26.867	123.6	0.650	0.48	7.1	65.4	2.96	36.4	0.00	0.00			385	203
400 ISL	6.88 D	6.84	34.295 D	26.885	122.1	0.672	0.45	6.6	67.1	2.98	36.8	0.00	0.00			403	
441	6.61	6.57	34.301	26.927	118.6	0.721	0.38	5.5	70.7	3.03	37.5	0.00	0.00			444	202
500 ISL	6.37 D	6.32	34.316 D	26.971	115.1	0.790	0.31	4.5	74.5	3.08	38.3	0.00	0.00			504	
517	6.27	6.22	34.319	26.986	113.7	0.810	0.29	4.2	75.6	3.09	38.5	0.00	0.00			521	201

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS;PRIMARY T; PRIMARY CORRECTED S;

RV MCARTHUR II CALCOFI CRUISE 0907 STATION 86.7 70.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
32 39.3 N	121 2.6 W	23/07/09	1554 UTC	3711 m	340 23 kn	350 06 06	2	1013.8 mb	16.0 C	15.0 C	16m	8/8	SC

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	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	17.56	17.56	33.349	24.115	379.0	0.000	5.60	102.5	3.1	0.36	0.1	0.00	0.01	0.16	0.04	0	
2 A	17.56	17.56	33.349	24.115	379.1	0.008	5.60	102.5	3.1	0.36	0.1	0.00	0.01	0.16	0.04	2	221
10 ISL	17.56 D	17.56	33.342 D	24.110	379.8	0.038	5.60	102.5	3.2	0.35	0.0	0.00	0.00	0.16	0.05	10	
11 A	17.56	17.56	33.344	24.112	379.7	0.042	5.60	102.5	3.2	0.35	0.0	0.00	0.00	0.16	0.05	11	219
11	17.56	17.56	33.344	24.112	379.7	0.042										11	220
20 ISL	17.56 D	17.56	33.342 D	24.111	380.2	0.076	5.60	102.5	3.0	0.35	0.0	0.00	0.00	0.17	0.04	20	
23 A	17.56	17.56	33.352	24.119	379.5	0.087	5.60	102.5	3.0	0.35	0.0	0.00	0.00	0.17	0.04	23	218
30 ISL	17.05 D	17.05	33.362 D	24.248	367.4	0.113	5.75	104.2	3.5	0.36	0.1	0.01	0.00	0.29	0.07	30	
33 A	16.93	16.92	33.363	24.277	364.8	0.124	5.82	105.2	3.7	0.37	0.2	0.01	0.00	0.36	0.09	33	217
45 A	16.03	16.02	33.497	24.587	335.5	0.166	5.99	106.5	4.1	0.45	1.0	0.05	0.05	0.75	0.20	45	216
50 ISL	14.34 D	14.33	33.555 D	25.002	296.1	0.182	5.85	100.6	6.4	0.66	3.3	0.25	0.49	0.72	0.29	50	
52	14.10	14.09	33.535	25.036	292.8	0.188	5.77	98.7	7.4	0.75	4.4	0.32	0.63	0.71	0.31	52	215
61 A	11.86	11.85	33.346	25.333	264.6	0.213	5.29	86.2	11.1	1.06	10.7	0.30	0.00	0.28	0.18	61	214
70	11.28	11.27	33.475	25.540	245.1	0.236	4.75	76.5	14.8	1.31	15.3	0.02	0.00	0.13	0.13	70	213
75 ISL	11.00 D	10.99	33.580 D	25.672	232.6	0.248	4.56	73.1	16.7	1.40	16.9	0.02	0.00	0.08	0.10	75	
87	10.05	10.04	33.575	25.833	217.4	0.275	4.10	64.4	21.4	1.59	19.7	0.01	0.00	0.02	0.06	87	212
100 ISL	10.04 D	10.03	33.787 D	26.000	201.9	0.302	3.24	50.9	26.7	1.86	23.2	0.00	0.00	0.02	0.07	100	
101	10.04	10.03	33.787	26.000	201.9	0.304	3.18	50.0	27.1	1.88	23.5	0.00	0.00	0.02	0.07	101	211
120	9.27	9.26	33.908	26.222	181.0	0.341	2.61	40.4	31.8	2.06	26.5	0.00	0.00	0.01	0.05	121	210
125 ISL	9.21 D	9.20	33.941 D	26.258	177.8	0.350	2.60	40.2	32.6	2.07	26.8	0.00	0.00	0.01	0.05	126	
140	8.89	8.88	33.983 D	26.342	170.0	0.376										141	209
150 ISL	8.58 D	8.56	34.005 D	26.407	163.9	0.393	2.55	38.8	36.3	2.11	28.0	0.00	0.00	0.00	0.04	151	
169	8.31	8.29	34.011	26.454	159.8	0.423	2.52	38.1	38.7	2.12	28.4	0.00	0.00	0.00	0.04	170	208
200	8.07	8.05	34.088	26.550	151.1	0.471	1.79	27.0	44.9	2.38	31.2	0.00	0.00	0.00	0.04	201	207
229	8.13	8.11	34.178	26.613	145.8	0.515	1.32	19.9	48.2	2.53	32.0	0.00	0.00			230	206
250 ISL	7.86 D	7.83	34.178 D	26.653	142.2	0.545	1.14	17.1	50.7	2.61	32.7	0.00	0.00			251	
269	7.80	7.77	34.203	26.682	139.8	0.572	1.05	15.7	53.1	2.67	33.4	0.00	0.00			271	205
300 ISL	7.47 D	7.44	34.224 D	26.746	134.1	0.614	0.96	14.3	57.9	2.74	34.9	0.00	0.00			302	
322	6.98	6.95	34.174	26.775	131.3	0.643	0.91	13.4	61.2	2.79	35.9	0.00	0.00			324	204
382	6.85	6.81	34.264	26.865	123.7	0.720	0.53	7.8	66.7	2.96	36.7	0.00	0.00			384	203
400 ISL	6.42 D	6.38	34.217 D	26.885	121.7	0.742	0.48	7.0	68.4	2.99	37.1	0.00	0.00			403	
441	6.49	6.45	34.288	26.932	117.9	0.791	0.40	5.8	72.3	3.03	38.0	0.00	0.00			444	202
500 ISL	6.21 D	6.17	34.322 D	26.996	112.5	0.859	0.30	4.3	77.8	3.10	38.9	0.00	0.00			503	
520	6.09	6.04	34.327	27.016	110.8	0.881	0.27	3.9	79.6	3.13	39.2	0.00	0.00			524	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.
D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS;PRIMARY T; PRIMARY CORRECTED S;

RV MCARTHUR II CALCOFI CRUISE 0907 STATION 86.7 80.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
32 19.3 N	121 43.0 W	23/07/09	2141 UTC	4007 m	350 20 kn	320 06 06	2	1014.6 mb	17.3 C	16.0 C	10m	8/8	ST

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	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	17.77	17.77	33.533	24.206	370.4	0.000	5.72	105.2	1.8	0.35	0.1	0.00	0.01	0.46	0.12	0	
2	17.77	17.77	33.533	24.206	370.5	0.007	5.72	105.2	1.8	0.35	0.1	0.00	0.01	0.46	0.12	2	221
10	17.78	17.78	33.534	24.204	370.9	0.037	5.63	103.6	1.7	0.35	0.0	0.00	0.01	0.45	0.12	10	219
10	17.77	17.77	33.535	24.208	370.6	0.037										10	220
20	17.75	17.75	33.538	24.215	370.2	0.074	5.64	103.7	1.6	0.35	0.0	0.00	0.01	0.47	0.10	20	218
30 ISL	14.81 D	14.81	33.487 D	24.848	310.1	0.108	5.99	103.9	3.1	0.55	1.9	0.12	0.13	0.98	0.41	30	
31	14.72	14.72	33.505	24.882	307.0	0.111	6.02	104.3	3.3	0.57	2.2	0.14	0.16	1.03	0.44	31	217
40	13.74	13.73	33.482	25.070	289.3	0.138	5.85	99.3	4.3	0.74	4.1	0.29	0.60	1.09	0.34	40	216
50	12.74	12.73	33.453	25.248	272.5	0.166	5.48	91.1	7.2	0.98	7.1	0.46	1.17	0.38	0.39	50	215
60	11.47	11.46	33.498	25.523	246.5	0.192	4.68	75.7	13.4	1.35	15.3	0.04	0.00	0.16	0.26	60	214
70	10.96	10.95	33.649	25.733	226.7	0.216	4.08	65.4	17.9	1.59	19.2	0.02	0.00	0.08	0.18	70	213
75 ISL	10.50 D	10.49	33.685 D	25.842	216.4	0.227	3.91	62.0	19.7	1.67	20.6	0.02	0.00	0.06	0.15	75	
84	10.08	10.07	33.723	25.943	206.9	0.246	3.67	57.7	22.3	1.79	22.5	0.01	0.00	0.04	0.11	84	212
100 ISL	9.65 D	9.64	33.822 D	26.093	193.0	0.278	3.10	48.3	26.0	1.92	24.6	0.00	0.00	0.00	0.13	100	
101	9.65	9.64	33.822	26.093	193.0	0.280	3.07	47.8	26.2	1.93	24.7	0.00	0.00	0.00	0.13	101	211
120	9.34	9.33	33.903	26.207	182.5	0.315	2.67	41.3	29.2	2.02	26.2	0.00	0.00			121	210
125 ISL	9.23 D	9.22	33.940 D	26.254	178.2	0.324	2.62	40.5	29.8	2.03	26.4	0.00	0.00	0.01	0.12	126	
140	8.98	8.96	33.978	26.324	171.8	0.351	2.51	38.6	31.6	2.07	27.0	0.01	0.00	0.02	0.11	141	209
150 ISL	8.74 D	8.72	33.990 D	26.371	167.4	0.368	2.45	37.4	33.0	2.11	27.6	0.01	0.00	0.02	0.10	151	
170	8.47	8.45	34.020	26.436	161.5	0.401	2.29	34.8	36.2	2.20	29.0	0.00	0.00	0.01	0.09	171	208
200	8.25	8.23	34.092	26.527	153.4	0.448	1.82	27.5	41.1	2.36	30.9	0.00	0.00	0.00	0.05	201	207
231	8.21	8.19	34.176	26.599	147.2	0.494	1.30	19.7	45.3	2.54	32.2	0.00	0.00			232	206
250 ISL	8.07 D	8.04	34.196 D	26.636	143.9	0.522	1.17	17.6	47.9	2.60	32.9	0.00	0.00			251	
270	7.80	7.77	34.187	26.669	141.0	0.551	1.10	16.5	50.4	2.64	33.6	0.00	0.00			272	205
300 ISL	7.63 D	7.60	34.206 D	26.709	137.7	0.592	0.91	13.6	52.8	2.72	34.1	0.00	0.00			302	
322	7.65	7.62	34.236	26.730	136.1	0.622	0.79	11.8	54.5	2.78	34.4	0.00	0.00			324	204
381	7.01	6.97	34.227	26.814	128.7	0.701	0.68	10.0	62.0	2.90	36.4	0.00	0.00			383	203
400 ISL	6.95 D	6.91	34.258 D	26.847	125.8	0.725	0.60	8.8	64.4	2.94	36.8	0.00	0.00			403	
440	6.66	6.62	34.282	26.905	120.7	0.774	0.42	6.1	69.0	3.01	37.6	0.00	0.00			443	202
500 ISL	6.36 D	6.31	34.303 D	26.962	115.9	0.845	0.32	4.6	73.8	3.09	38.5	0.00	0.00			503	
518	6.26	6.21	34.313	26.983	114.1	0.866	0.29	4.2	75.2	3.11	38.8	0.00	0.00			522	201

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS;PRIMARY T; PRIMARY CORRECTED S;

RV MCARTHUR II CALCOFI CRUISE 0907 STATION 86.7 90.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
31 59.1 N	122 24.2 W	24/07/09	0329 UTC	4186 m	350 20 kn	350 06 07	2	1014.2 mb	16.8 C	15.1 C		8/8	ST

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	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	16.65	16.65	33.153	24.180	372.9	0.000	5.76	103.5	2.9	0.36	0.1	0.00	0.06	0.19	0.06	0	
2	16.65	16.65	33.153	24.180	373.0	0.007	5.76	103.5	2.9	0.36	0.1	0.00	0.06	0.19	0.06	2	221
10 ISL	16.64 D	16.64	33.153 D	24.182	373.0	0.037	5.75	103.3	2.7	0.34	0.1	0.00	0.04	0.20	0.07	10	
11	16.64	16.64	33.159	24.187	372.6	0.041	5.75	103.3	2.7	0.34	0.1	0.00	0.04	0.20	0.07	11	219
11	16.65	16.65	33.154	24.181	373.2	0.041										11	220
20 ISL	16.58 D	16.58	33.155 D	24.198	371.8	0.075	5.78	103.7	2.6	0.34	0.0	0.00	0.04	0.25	0.06	20	
25	16.48	16.48	33.160	24.225	369.4	0.093	5.79	103.7	2.6	0.34	0.0	0.00	0.04	0.28	0.06	25	218
30 ISL	16.33 D	16.33	33.162 D	24.261	366.1	0.111	5.95	106.2	2.5	0.35	0.0	0.00	0.04	0.29	0.07	30	
40	14.69	14.68	33.156	24.619	332.2	0.146	6.26	108.1	2.3	0.36	0.0	0.00	0.04	0.33	0.10	40	217
48	14.06	14.05	33.142	24.741	320.8	0.173	6.28	107.1	2.5	0.37	0.0	0.00	0.06	0.43	0.20	48	216
50 ISL	13.73 D	13.72	33.119 D	24.791	316.0	0.179	6.24	105.7	2.6	0.39	0.1	0.08	0.08	0.44	0.21	50	
63	13.24	13.23	33.149	24.914	304.7	0.219	5.93	99.4	3.5	0.55	1.9	0.47	0.14	0.52	0.28	63	215
75	12.40	12.39	33.110	25.048	292.1	0.255	5.74	94.5	5.1	0.73	5.6	0.08	0.03	0.32	0.20	75	214
86	11.94	11.93	33.111	25.136	283.9	0.287	5.64	92.0	5.9	0.78	6.9	0.01	0.04	0.17	0.14	86	213
100 ISL	11.48 D	11.47	33.150 D	25.251	273.2	0.326	5.52	89.1	7.3	0.90	8.7	0.01	0.03	0.08	0.07	100	
101	11.47	11.46	33.151	25.254	273.0	0.328	5.51	89.0	7.4	0.91	8.9	0.01	0.03	0.08	0.07	101	212
114	11.12	11.11	33.262	25.404	259.0	0.363	5.34	85.6	9.8	1.08	11.8	0.00	0.02	0.03	0.05	114	211
125 ISL	10.65 D	10.64	33.370 D	25.571	243.3	0.391	4.96	78.8	12.5	1.22	14.2	0.00	0.02	0.01	0.04	126	
127	10.64	10.62	33.372	25.574	243.0	0.396	4.88	77.5	13.0	1.25	14.6	0.00	0.02	0.01	0.04	128	210
140	10.29	10.27	33.481	25.720	229.4	0.426	4.52	71.3	16.3	1.40	17.3	0.00	0.02	0.01	0.04	141	209
150 ISL	10.05 D	10.03	33.603 D	25.856	216.6	0.449	4.17	65.5	18.8	1.52	19.3	0.00	0.01	0.01	0.04	151	
175	9.48	9.46	33.787	26.095	194.4	0.500	3.26	50.6	24.6	1.79	23.6	0.00	0.00	0.00	0.04	176	208
200 ISL	9.11 D	9.09	33.984 D	26.309	174.4	0.546	2.53	39.0	30.1	2.01	26.7	0.00	0.00	0.00	0.03	201	
204	9.07	9.05	33.987	26.318	173.7	0.553	2.45	37.7	30.9	2.03	27.0	0.00	0.00	0.00	0.03	205	207
235	8.39	8.37	33.985	26.422	164.1	0.605	2.68	40.6	34.1	2.01	27.5	0.00	0.00			236	206
250 ISL	8.14 D	8.11	34.007 D	26.477	159.0	0.630	2.41	36.3	37.3	2.11	28.8	0.00	0.00			251	
270	7.99	7.96	34.064	26.545	152.9	0.661	1.92	28.9	42.0	2.28	30.7	0.00	0.00			271	205
300 ISL	7.65 D	7.62	34.117 D	26.636	144.6	0.705	1.47	21.9	47.6	2.46	32.7	0.00	0.00			302	
318	7.54	7.51	34.132	26.664	142.2	0.731	1.27	18.9	50.6	2.55	33.7	0.00	0.00			320	204
376	7.07	7.03	34.177	26.766	133.1	0.811	0.90	13.3	58.3	2.73	35.5	0.00	0.00			378	203
400 ISL	6.81 D	6.77	34.199 D	26.819	128.3	0.842	0.79	11.6	61.9	2.79	36.3	0.00	0.00			402	
446	6.38	6.34	34.208	26.883	122.5	0.900	0.61	8.8	68.7	2.91	37.8	0.00	0.00			449	202
500 ISL	6.01 D	5.97	34.260 D	26.972	114.5	0.964	0.40	5.7	75.3	3.04	39.2	0.00	0.00			503	
510	5.99	5.95	34.271	26.984	113.5	0.975	0.36	5.2	76.5	3.06	39.4	0.00	0.00			513	201

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS;PRIMARY T; PRIMARY CORRECTED S;

RV MCARTHUR II CALCOFI CRUISE 0907 STATION 86.7 100.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
31 39.5 N	123 4.6 W	24/07/09	0928 UTC	3949 m	350 21 kn			1016.1 mb	16.1 C	14.9 C			

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	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	17.10	17.10	33.124	24.052	385.1	0.000	5.65	102.4	2.5	0.35	0.1	0.00	0.00	0.12	0.02	0	
1	17.10	17.10	33.124	24.052	385.1	0.004	5.65	102.4	2.5	0.35	0.1	0.00	0.00	0.12	0.02	1	221
10	17.09	17.09	33.117	24.050	385.6	0.039	5.65	102.3	2.3	0.33	0.1	0.00	0.00	0.11	0.02	10	219
10	17.09	17.09	33.123	24.054	385.2	0.039										10	220
20 ISL	17.09 D	17.09	33.116 D	24.049	386.0	0.077	5.65	102.3	2.4	0.32	0.0	0.00	0.01	0.12	0.02	20	
25	17.09	17.09	33.117	24.050	386.1	0.096	5.65	102.3	2.4	0.32	0.0	0.00	0.01	0.12	0.02	25	218
30 ISL	16.06 D	16.06	33.182 D	24.338	358.8	0.115	5.72	101.6	2.4	0.33	0.0	0.00	0.01	0.15	0.04	30	
41	14.97	14.96	33.295 D	24.666	327.8	0.153										41	217
49	14.50	14.49	33.263	24.742	320.7	0.179	5.93	102.1	2.3	0.35	0.0	0.00	0.01	0.26	0.13	49	216
50 ISL	14.30 D	14.29	33.258 D	24.781	317.1	0.182	5.92	101.5	2.3	0.35	0.1	0.00	0.01	0.30	0.16	50	
62	13.67	13.66	33.183	24.854	310.5	0.220	5.79	97.9	2.7	0.45	0.7	0.08	0.01	0.71	0.44	62	215
75 ISL	13.21 D	13.20	33.286 D	25.026	294.3	0.259	5.90	98.9	4.0	0.69	3.9	0.26	0.50	0.45	0.29	75	
76	13.14	13.13	33.274	25.031	293.9	0.262	5.90	98.8	4.2	0.71	4.3	0.26	0.52	0.41	0.27	76	214
86	11.35	11.34	33.098	25.234	274.5	0.290	5.61	90.3	7.9	0.94	9.2	0.02	0.00	0.13	0.13	86	213
100	10.84	10.83	33.209	25.412	257.9	0.327	5.36	85.4	11.4	1.14	12.5	0.01	0.00	0.05	0.06	100	212
110	10.59	10.58	33.285	25.515	248.2	0.353	4.95	78.5	12.1	1.20	13.5	0.01	0.00	0.05	0.07	110	211
125 ISL	9.91 D	9.90	33.488 D	25.789	222.4	0.388	4.54	71.0	15.9	1.39	16.7	0.01	0.00	0.03	0.06	126	
126	9.89	9.88	33.488 D	25.793	222.1	0.390										127	210
139	9.78	9.76	33.583	25.885	213.5	0.419	4.22	65.8	20.2	1.58	20.0	0.00	0.00	0.01	0.04	140	209
150 ISL	9.57 D	9.55	33.713 D	26.022	200.8	0.441	3.85	59.8	22.5	1.68	21.7	0.00	0.00	0.01	0.04	151	
171	9.31	9.29	33.823	26.150	188.9	0.482	3.17	49.0	26.3	1.84	24.3	0.00	0.00	0.01	0.04	172	208
200 ISL	8.83 D	8.81	33.971 D	26.343	171.1	0.535	2.59	39.7	31.8	2.05	27.2	0.00	0.00	0.00	0.04	201	
202	8.84	8.82	33.970	26.341	171.4	0.538	2.56	39.2	32.2	2.06	27.4	0.00	0.00	0.00	0.04	203	207
230	8.31	8.29	34.032	26.471	159.3	0.584	2.20	33.3	37.8	2.21	29.5	0.00	0.00			231	206
250 ISL	8.09 D	8.06	34.072 D	26.536	153.4	0.616	1.94	29.2	41.4	2.31	30.8	0.00	0.00			251	
270	7.88	7.85	34.082	26.575	150.0	0.646	1.71	25.6	44.7	2.40	31.9	0.00	0.00			271	205
300 ISL	7.50 D	7.47	34.120 D	26.660	142.2	0.690	1.47	21.9	49.3	2.52	33.1	0.00	0.00			302	
320	7.41	7.38	34.131	26.682	140.4	0.718	1.32	19.6	52.2	2.60	33.8	0.00	0.00			322	204
379	7.06	7.02	34.217	26.799	130.1	0.798	0.75	11.0	60.2	2.82	35.8	0.00	0.04			381	203
400 ISL	6.72 D	6.68	34.191 D	26.825	127.7	0.825	0.72	10.5	63.6	2.86	36.6	0.00	0.03			402	
442	6.14	6.10	34.178	26.891	121.5	0.877	0.67	9.7	70.8	2.93	38.3	0.00	0.00			445	202
500 ISL	5.60 D	5.56	34.227 D	26.997	111.7	0.945	0.45	6.4	80.3	3.06	40.0	0.00	0.00			503	
520	5.51	5.47	34.245	27.022	109.4	0.967	0.38	5.4	83.6	3.10	40.6	0.00	0.00			523	201

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS;PRIMARY T; PRIMARY CORRECTED S;

RV MCARTHUR II CALCOFI CRUISE 0907 STATION 86.7 110.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
31 19.2 N	123 45.2 W	24/07/09	1641 UTC	3868 m	010 19 kn	350 07 08	2	1017.9 mb	15.6 C	17.0 C	16M	8/8	ST

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	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	17.75	17.75	33.323	24.050	385.3	0.000	5.61	103.1	2.3	0.34	0.1	0.00	0.03	0.17	0.04	0	
1 A	17.75	17.75	33.323	24.050	385.3	0.004	5.61	103.1	2.3	0.34	0.1	0.00	0.03	0.17	0.04	1	221
10 ISL	17.75 D	17.75	33.322 D	24.049	385.7	0.039	5.63	103.4	2.3	0.33	0.0	0.00	0.02	0.18	0.03	10	
11 A	17.75	17.75	33.324	24.051	385.6	0.042	5.63	103.4	2.3	0.33	0.0	0.00	0.02	0.18	0.03	11	219
11	17.75	17.75	33.323	24.050	385.6	0.042										11	220
20 ISL	17.75 D	17.75	33.322 D	24.050	386.0	0.077	5.62	103.2	2.3	0.32	0.0	0.00	0.03	0.18	0.04	20	
23 A	17.74	17.74	33.323	24.053	385.8	0.089	5.62	103.2	2.3	0.32	0.0	0.00	0.03	0.18	0.04	23	218
30 ISL	17.59 D	17.58	33.338 D	24.101	381.5	0.116	5.62	102.9	2.3	0.32	0.0	0.00	0.02	0.18	0.04	30	
34 A	17.35	17.34	33.323	24.147	377.2	0.131	5.62	102.4	2.3	0.32	0.0	0.00	0.02	0.18	0.04	34	217
45 A	14.74	14.73	33.355	24.762	318.8	0.169	6.49	112.3	2.1	0.41	0.5	0.05	0.06	1.07	0.33	45	216
50 ISL	12.80 D	12.79	33.196 D	25.037	292.6	0.184	6.10	101.4	4.5	0.65	3.7	0.34	0.23	0.87	0.37	50	
52	12.57	12.56	33.195	25.081	288.4	0.190	5.90	97.6	5.5	0.75	5.2	0.43	0.27	0.74	0.38	52	215
59 A	11.68	11.67	33.154	25.217	275.5	0.210	5.65	91.6	7.5	0.92	8.7	0.23	0.01	0.31	0.18	59	214
71	11.10	11.09	33.252	25.399	258.5	0.242	5.23	83.8	9.6	1.09	11.7	0.02	0.01	0.16	0.13	71	213
75 ISL	11.04 D	11.03	33.293 D	25.441	254.5	0.252	5.13	82.1	10.2	1.13	12.5	0.02	0.01	0.13	0.11	75	
86	10.80	10.79	33.366	25.541	245.3	0.280	4.90	78.1	12.0	1.24	14.4	0.01	0.01	0.08	0.07	86	212
99	10.54	10.53	33.466	25.664	233.8	0.311	4.63	73.4	14.8	1.41	16.7	0.00	0.02	0.04	0.05	99	211
100 ISL	10.46 D	10.45	33.475 D	25.685	231.8	0.313	4.60	72.8	15.0	1.42	16.9	0.00	0.02	0.04	0.05	100	
120	9.90	9.89	33.590	25.870	214.6	0.358	3.98	62.3	19.8	1.58	20.1	0.00	0.00	0.02	0.04	121	210
125 ISL	9.70 D	9.69	33.630 D	25.935	208.5	0.368	3.87	60.3	20.7	1.61	20.7	0.00	0.00	0.02	0.04	126	
140	9.35	9.33	33.730 D	26.071	195.9	0.399										141	209
150 ISL	9.18 D	9.16	33.791 D	26.146	188.9	0.418	3.42	52.7	24.9	1.75	23.3	0.00	0.00	0.01	0.03	151	
168	9.03	9.01	33.850	26.216	182.5	0.451	3.21	49.3	27.2	1.83	24.5	0.00	0.00	0.01	0.03	169	208
200 ISL	8.60 D	8.58	33.959 D	26.369	168.5	0.507	2.92	44.5	31.1	1.94	26.2	0.00	0.00	0.00	0.02	201	
202	8.59	8.57	33.962	26.373	168.2	0.511	2.90	44.2	31.4	1.95	26.3	0.00	0.00	0.00	0.02	203	207
230	8.10	8.08	33.992	26.471	159.2	0.557	2.60	39.2	36.7	2.10	28.6	0.00	0.00			231	206
250 ISL	7.72 D	7.70	34.016 D	26.546	152.2	0.588	2.31	34.5	41.0	2.22	30.3	0.00	0.00			251	
271	7.45	7.42	34.034	26.599	147.4	0.619	1.98	29.4	45.9	2.35	32.0	0.00	0.00			273	205
300 ISL	6.94 D	6.91	34.059 D	26.690	139.0	0.661	1.58	23.2	53.0	2.53	34.2	0.00	0.00			302	
318	6.80	6.77	34.073	26.720	136.3	0.686	1.36	19.9	57.1	2.63	35.4	0.00	0.00			320	204
381	6.41	6.38	34.141	26.826	127.0	0.769	0.91	13.2	65.2	2.83	37.1	0.00	0.00			383	203
400 ISL	6.19 D	6.15	34.141 D	26.854	124.3	0.792	0.84	12.1	68.4	2.88	37.8	0.00	0.00			402	
441	5.74	5.70	34.143	26.913	119.0	0.842	0.73	10.4	75.5	2.96	39.2	0.00	0.00			444	202
500 ISL	5.45 D	5.41	34.212 D	27.003	110.9	0.910	0.49	6.9	83.3	3.06	40.5	0.00	0.00			503	
520	5.31	5.27	34.224	27.029	108.5	0.932	0.41	5.8	86.0	3.10	40.9	0.00	0.00			523	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.
D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS;PRIMARY T; PRIMARY CORRECTED S;

RV MCARTHUR II CALCOFI CRUISE 0907 STATION 86.8 32.5

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
33 53.4 N	118 26.6 W	21/07/09	1504 UTC	23 m	350 02 kn	350 01 05	4	1013.0 mb	19.7 C	19.0 C		8/8	ST

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	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	20.71	20.71	33.560	23.477	439.9	0.000	6.72	130.7	0.1	0.07	0.0	0.00	0.04	1.28	0.26	0	
1	20.71	20.71	33.560	23.477	439.9	0.004	6.72	130.7	0.1	0.07	0.0	0.00	0.04	1.28	0.26	1	204
5	19.96	19.96	33.550	23.668	421.9	0.022	7.10	136.2	0.0	0.07	0.0	0.00	0.02	2.23	0.45	5	203
10 ISL	17.91 D	17.91	33.502 D	24.148	376.2	0.042	7.37	135.9	0.8	0.17	0.0	0.00	0.02	5.34	0.63	10	
11	17.64	17.64	33.510	24.220	369.5	0.045	7.42	136.2	0.9	0.21	0.0	0.00	0.02	5.76	0.70	11	202
15	14.68	14.68	33.471	24.864	308.2	0.059	6.39	110.6	6.4	0.42	0.5	0.07	0.07	3.96	1.42	15	201

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS;PRIMARY T; PRIMARY CORRECTED S;

RV MCARTHUR II CALCOFI CRUISE 0907 STATION 88.5 30.1

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
33 40.4 N	118 5.1 W	21/07/09	1028 UTC	18 m	280 03 kn			1012.5 mb	20.0 C	18.9 C			

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	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	18.42	18.42	33.455	23.987	391.3	0.000	6.90	128.5	1.0	0.27	0.0	0.01	0.02	1.68	0.38	0	
1	18.42	18.42	33.455	23.987	391.3	0.004	6.90	128.5	1.0	0.27	0.0	0.01	0.02	1.68	0.38	1	204
5	16.53	16.53	33.459	24.442	348.0	0.019	7.26	130.3	1.0	0.31	0.0	0.01	0.03	2.86	0.53	5	203
10	14.02	14.02	33.409	24.955	299.4	0.035	6.69	114.2	4.6	0.38	0.0	0.01	0.03	3.18	1.00	10	202
15	13.54	13.54	33.411	25.055	290.0	0.050	6.09	102.9	6.4	0.55	0.8	0.06	0.05	4.14	1.23	15	201

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS;PRIMARY T; PRIMARY CORRECTED S;

RV MCARTHUR II CALCOFI CRUISE 0907 STATION 90.0 27.7

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
33 29.5 N	117 45.2 W	21/07/09	0742 UTC	30 m	130 05 kn			1012.6 mb	22.0 C	20.6 C			

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	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	20.85	20.85	33.533	23.419	445.5	0.000	6.41	125.0	0.0	0.13	0.1	0.01	0.02	1.04	0.33	0	
1	20.85	20.85	33.533	23.419	445.5	0.004	6.41	125.0	0.0	0.13	0.1	0.01	0.02	1.04	0.33	1	205
5	18.44	18.44	33.497	24.014	388.9	0.021	7.24	134.9	0.0	0.18	0.0	0.01	0.01	2.79	0.93	5	204
10	13.22	13.22	33.399	25.110	284.6	0.038	5.75	96.5	5.6	0.63	3.6	0.20	0.03	4.34	1.93	10	203
15	12.84	12.84	33.397	25.184	277.7	0.052	5.43	90.4	7.0	0.84	6.6	0.27	0.25	2.70	1.48	15	202
20	12.45	12.45	33.397	25.260	270.6	0.066	5.20	85.9	7.9	0.97	8.0	0.30	0.40	2.29	1.23	20	201

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS;PRIMARY T; PRIMARY CORRECTED S;

RV MCARTHUR II CALCOFI CRUISE 0907 STATION 90.0 28.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
33 29.1 N	117 45.8 W	21/07/09	0614 UTC	54 m	160 05 kn			1012.8 mb	21.2 C	19.9 C			

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	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	20.15	20.15	33.548	23.617	426.6	0.000	6.41	123.4	0.3	0.16	0.1	0.01	0.00	0.73	0.25	0	
2	20.15	20.15	33.548	23.617	426.7	0.009	6.41	123.4	0.3	0.16	0.1	0.01	0.00	0.73	0.25	2	208
6	17.32	17.32	33.484	24.276	363.9	0.024	7.50	136.8	0.2	0.24	0.1	0.02	0.03	3.48	0.78	6	207
10	15.02	15.02	33.459	24.781	315.9	0.038	7.74	134.8	0.4	0.30	0.0	0.05	0.12	19.90	5.98	10	206
20	12.38	12.38	33.413	25.286	268.1	0.067	5.17	85.3	8.3	0.91	8.2	0.28	0.20	1.75	0.85	20	205
30 ISL	11.77 D	11.77	33.455 D	25.434	254.3	0.093	4.43	72.1	12.1	1.19	12.4	0.43	0.28	0.97	0.75	30	
31	11.77	11.77	33.454	25.433	254.4	0.096	4.41	71.8	12.3	1.21	12.7	0.44	0.29	0.89	0.74	31	204
41	11.55	11.54	33.489	25.501	248.1	0.121	3.99	64.7	14.5	1.40	14.8	0.44	0.34	0.86	0.72	41	203
50	11.39	11.38	33.520	25.554	243.2	0.143	3.77	60.9	15.6	1.48	16.5	0.42	0.10	0.48	0.53	50	202
50	11.38	11.37	33.517	25.554	243.3	0.143	3.77	60.9	15.5	1.47	16.4	0.46	0.08	0.43	0.62	50	201

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS;PRIMARY T; PRIMARY CORRECTED S;

RV MCARTHUR II CALCOFI CRUISE 0907 STATION 90.0 30.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
33 25.1 N	117 54.6 W	21/07/09	0310 UTC	601 m	270 06 kn	240 21 08	1	1011.9 mb	21.0 C	19.9 C		2/8	ST

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	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	22.33	22.33	33.626	23.083	477.5	0.000	5.70	114.2	0.0	0.13	0.1	0.00	0.00	0.48	0.26	0	
1	22.33	22.33	33.626	23.083	477.6	0.005	5.70	114.2	0.0	0.13	0.1	0.00	0.00	0.48	0.26	1	221
10	21.05	21.05	33.584	23.405	447.2	0.046	6.49	127.0	0.0	0.12	0.1	0.00	0.02	1.10	0.27	10	220
20	15.22	15.22	33.420	24.708	323.2	0.085	7.79	136.2	0.1	0.22	0.1	0.00	0.04	1.91	0.86	20	219
30	13.74	13.74	33.422	25.023	293.4	0.116	6.39	108.4	4.1	0.46	0.5	0.02	0.05	2.78	0.92	30	218
40	12.56	12.55	33.424	25.260	271.1	0.144	5.37	88.9	7.4	0.84	6.9	0.18	0.13	2.46	1.07	40	217
50	11.57	11.56	33.482	25.492	249.2	0.170	4.40	71.4	12.6	1.23	13.7	0.29	0.06	0.85	0.57	50	216
60	10.99	10.98	33.555	25.654	234.0	0.194	3.76	60.2	16.4	1.46	17.7	0.10	0.02	0.85	0.72	60	215
71	10.67	10.66	33.646	25.781	222.1	0.219	3.33	53.0	19.5	1.60	20.1	0.05	0.01	0.78	0.51	71	214
75 ISL	10.46 D	10.45	33.677 D	25.842	216.4	0.228	3.24	51.4	20.3	1.64	20.7	0.04	0.01	0.71	0.45	75	
85	10.36	10.35	33.733	25.903	210.8	0.249	3.10	49.0	21.8	1.72	21.7	0.02	0.01	0.52	0.33	85	213
100	10.10	10.09	33.809	26.007	201.2	0.280	2.92	46.0	23.6	1.81	22.9	0.02	0.01	0.30	0.19	100	212
120	9.82	9.81	33.896	26.123	190.6	0.319	2.69	42.1	26.4	1.92	24.2	0.01	0.02	0.13	0.13	121	211
125 ISL	9.79 D	9.78	33.908 D	26.137	189.4	0.329	2.66	41.6	26.8	1.93	24.4	0.01	0.02	0.12	0.12	126	
140	9.66	9.64	33.949	26.191	184.5	0.357	2.55	39.8	27.8	1.97	24.9	0.01	0.02	0.10	0.09	141	210
150 ISL	9.56 D	9.54	33.980 D	26.232	180.9	0.375	2.43	37.8	28.9	2.01	25.4	0.01	0.01	0.08	0.09	151	
171	9.39	9.37	34.055	26.319	173.0	0.412	2.14	33.2	31.6	2.11	26.6	0.00	0.00	0.04	0.08	172	209
200	9.15	9.13	34.135	26.421	163.9	0.461	1.75	27.0	35.8	2.26	28.3	0.00	0.00	0.02	0.06	201	208
230	8.98	8.96	34.197	26.497	157.2	0.509	1.42	21.8	39.4	2.40	29.4	0.00	0.00			231	207
250 ISL	8.99 D	8.96	34.252 D	26.539	153.7	0.541	1.43	22.0	41.3	2.42	30.1	0.00	0.00			251	
270	8.42	8.39	34.177	26.569	150.9	0.571	1.46	22.2	43.2	2.44	30.7	0.00	0.00			272	206
300 ISL	8.33 D	8.30	34.243 D	26.635	145.2	0.615	1.15	17.4	46.9	2.58	31.5	0.00	0.00			302	
320	8.20	8.17	34.267	26.673	141.8	0.644	0.92	13.9	49.3	2.68	32.0	0.00	0.00			322	205
381	7.70	7.66	34.279	26.757	134.6	0.728	0.73	10.9	54.8	2.77	33.5	0.00	0.00			383	204
400 ISL	7.62 D	7.58	34.285 D	26.774	133.3	0.754	0.68	10.1	56.0	2.80	33.9	0.00	0.00			403	
441	7.39	7.35	34.290	26.811	130.3	0.808	0.58	8.6	58.8	2.86	34.6	0.00	0.00			444	203
500 ISL	7.00 D	6.95	34.319 D	26.889	123.5	0.883	0.42	6.2	64.7	2.95	35.9	0.00	0.00			503	
516	6.93	6.88	34.320	26.900	122.7	0.902	0.38	5.6	66.3	2.98	36.3	0.00	0.00			520	202

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS;PRIMARY T; PRIMARY CORRECTED S;

RV MCARTHUR II CALCOFI CRUISE 0907 STATION 90.0 35.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
33 15.2 N	118 14.9 W	20/07/09	2236 UTC	288 m	280 11 kn	270 01 07	1	1012.7 mb	21.8 C	19.9 C	14m	1/8	ST

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	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	21.81	21.81	33.619	23.223	464.2	0.000	6.07	120.5	0.0	0.12	0.1	0.00	0.03			0	
2	21.81	21.81	33.619	23.223	464.3	0.009	6.07	120.5	0.0	0.12	0.1	0.00	0.03			2	217
10	19.52	19.52	33.553	23.785	411.0	0.044	7.11	135.3	0.0	0.12	0.1	0.00	0.00			10	215
10	19.68	19.68	33.561	23.749	414.3	0.044										10	216
20	14.69	14.69	33.398	24.805	313.9	0.081	6.80	117.6	2.5	0.35	0.0	0.00	0.01			20	214
30	13.17	13.17	33.431	25.145	281.8	0.110	5.82	97.6	6.5	0.69	4.7	0.14	0.08	1.11	0.49	30	213
40	11.58	11.57	33.571	25.559	242.6	0.137	4.23	68.7	14.7	1.36	16.1	0.14	0.01	0.60	0.39	40	212
50	11.10	11.09	33.616	25.682	231.1	0.160	3.61	58.0	17.4	1.53	18.6	0.19	0.04	0.62	0.27	50	211
60	10.68	10.67	33.686	25.811	219.1	0.183	3.19	50.8	20.3	1.69	21.2	0.03	0.00	0.36	0.24	60	210
70	10.44	10.43	33.741	25.896	211.2	0.204	3.00	47.5	21.8	1.76	22.2	0.02	0.00	0.32	0.27	70	209
75 ISL	10.28 D	10.27	33.756 D	25.935	207.6	0.215	2.90	45.8	22.6	1.80	22.8	0.02	0.00	0.29	0.22	75	
85	10.17	10.16	33.829	26.011	200.5	0.235	2.73	43.0	24.2	1.87	23.7	0.01	0.00	0.22	0.11	85	208
100	9.92	9.91	33.888	26.099	192.4	0.265	2.60	40.8	26.1	1.92	24.3	0.01	0.00	0.15	0.10	101	207
120	9.65	9.64	33.956	26.198	183.5	0.302	2.51	39.1	28.2	1.98	25.0	0.03	0.00	0.10	0.09	121	206
125 ISL	9.56 D	9.55	33.982 D	26.233	180.2	0.311	2.47	38.5	28.6	2.00	25.2	0.02	0.00	0.09	0.08	126	
142	9.47	9.45	34.022	26.279	176.2	0.342	2.29	35.6	30.4	2.06	26.0	0.00	0.00	0.07	0.06	143	205
150 ISL	9.40 D	9.38	34.056 D	26.318	172.7	0.356	2.17	33.7	31.8	2.11	26.5	0.00	0.00	0.07	0.06	151	
171	9.06	9.04	34.121	26.424	163.0	0.391	1.89	29.1	35.5	2.23	27.9	0.00	0.00	0.07	0.06	172	204
200 ISL	8.87 D	8.85	34.150 D	26.477	158.4	0.438	1.75	26.9	38.1	2.30	28.8	0.01	0.00	0.03	0.05	201	
201	8.87	8.85	34.148	26.475	158.6	0.439	1.75	26.9	38.2	2.30	28.8	0.01	0.00	0.03	0.05	202	203
230	8.72	8.70	34.194	26.535	153.4	0.484	1.39	21.3	41.4	2.41	29.8	0.02	0.00			231	202
250 ISL	8.52 D	8.49	34.224 D	26.590	148.5	0.515										251	
277	8.35	8.32	34.221 D	26.614	146.7	0.554										279	201

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS;PRIMARY T; PRIMARY CORRECTED S;

RV MCARTHUR II CALCOFI CRUISE 0907 STATION 90.0 37.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
33 10.9 N	118 22.9 W	20/07/09	1930 UTC	1166 m	270 07 kn	300 01 06	1	1014.9 mb	20.1 C	18.8 C	20m	6/8	ST

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	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	20.62	20.62	33.522	23.472	440.4	0.000	5.46	106.0	1.9	0.31	0.1	0.00	0.05	0.14	0.03	0	
1 A	20.62	20.62	33.522	23.472	440.4	0.004	5.46	106.0	1.9	0.31	0.1	0.00	0.05	0.14	0.03	1	224
7	19.88	19.88	33.516	23.663	422.5	0.030	5.49	105.1	2.0	0.29	0.1	0.00	0.05	0.16	0.03	7	223
10 ISL	19.43 D	19.43	33.505 D	23.771	412.2	0.043	5.52	104.8	1.9	0.29	0.1	0.00	0.04	0.20	0.04	10	
14 A	19.30	19.30	33.505	23.804	409.2	0.059	5.66	107.2	1.8	0.29	0.1	0.00	0.03	0.27	0.05	14	222
20 ISL	16.50 D	16.50	33.431 D	24.428	349.9	0.082	6.24	111.9	2.1	0.30	0.0	0.00	0.05	0.35	0.09	20	
21	16.49	16.49	33.444	24.441	348.7	0.086	6.34	113.7	2.1	0.30	0.0	0.00	0.06	0.37	0.10	21	221
28 A	13.93	13.93	33.361	24.937	301.6	0.108	6.64	113.1	3.3	0.50	1.9	0.07	0.11	0.78	0.26	28	220
30 ISL	12.57 D	12.57	33.352 D	25.202	276.4	0.114	6.23	103.1	4.7	0.65	4.3	0.09	0.09	0.89	0.33	30	
34	12.19	12.19	33.352	25.275	269.5	0.125	5.34	87.7	7.5	0.95	9.2	0.13	0.05	1.00	0.45	34	219
41 A	11.86	11.85	33.366	25.348	262.7	0.144	5.08	82.8	8.9	1.04	11.0	0.09	0.05	0.59	0.36	41	218
47	11.73	11.72	33.394	25.394	258.5	0.159	4.93	80.2	10.1	1.14	12.2	0.06	0.03	0.58	0.34	47	217
50 ISL	11.66 D	11.65	33.405 D	25.416	256.5	0.167	4.86	78.9	10.7	1.18	12.9	0.05	0.03	0.49	0.30	50	
55 A	11.36	11.35	33.431	25.491	249.4	0.180	4.70	75.8	12.0	1.25	14.1	0.04	0.04	0.31	0.23	55	216
65	10.86	10.85	33.515	25.646	234.8	0.204	4.18	66.8	15.5	1.43	17.0	0.03	0.02	0.17	0.14	65	215
75 A	10.72	10.71	33.580	25.721	227.9	0.227	3.77	60.1	17.4	1.53	18.6	0.02	0.01	0.13	0.13	75	214
88	10.33	10.32	33.680	25.867	214.3	0.256	3.41	53.9	20.5	1.67	20.8	0.02	0.02	0.07	0.08	88	213
100	9.92	9.91	33.755	25.996	202.3	0.281	3.22	50.5	23.0	1.77	22.4	0.01	0.03	0.02	0.05	100	212
119	9.57	9.56	33.895	26.163	186.7	0.318	2.86	44.5	26.6	1.88	24.1	0.01	0.03	0.01	0.05	120	211
125 ISL	9.55 D	9.54	33.915 D	26.182	185.0	0.329	2.79	43.4	27.3	1.91	24.4	0.01	0.02	0.01	0.05	126	
140	9.44	9.42	33.969	26.243	179.6	0.356	2.63	40.8	29.0	1.99	25.2	0.00	0.00	0.01	0.04	141	210
150 ISL	9.41 D	9.39	34.018 D	26.286	175.7	0.374	2.43	37.7	30.6	2.06	25.9	0.00	0.00	0.01	0.04	151	
170	9.18	9.16	34.085	26.376	167.5	0.408	2.07	32.0	33.6	2.17	27.1	0.00	0.00	0.00	0.04	171	209
199	8.80	8.78	34.099	26.448	161.1	0.456	2.06	31.5	36.3	2.21	27.9	0.01	0.00	0.00	0.03	200	208
200 ISL	8.80 D	8.78	34.104 D	26.452	160.8	0.457	2.05	31.4	36.4	2.21	27.9	0.01	0.00			201	
230	8.58	8.56	34.143	26.517	155.1	0.505	1.74	26.5	40.0	2.36	29.4	0.00	0.00			231	207
250 ISL	8.43 D	8.40	34.179 D	26.568	150.5	0.535	1.47	22.3	42.7	2.46	30.3	0.00	0.00			251	
271	8.36	8.33	34.217	26.609	147.1	0.567	1.22	18.5	45.5	2.56	31.1	0.01	0.00			273	206
300 ISL	8.16 D	8.13	34.238 D	26.656	143.0	0.609	1.09	16.5	48.7	2.64	31.9	0.01	0.00			302	
322	7.95	7.92	34.247	26.695	139.6	0.640	1.04	15.6	51.0	2.69	32.4	0.00	0.00			324	205
380	7.46	7.42	34.253	26.771	133.0	0.719	0.76	11.3	57.1	2.82	34.4	0.00	0.00			382	204
400 ISL	7.32 D	7.28	34.258 D	26.795	131.0	0.745	0.70	10.4	59.5	2.86	35.0	0.00	0.00			403	
441	6.96	6.92	34.271	26.856	125.6	0.798	0.59	8.7	64.4	2.94	36.1	0.00	0.00			444	203
500 ISL	6.69 D	6.64	34.303 D	26.918	120.4	0.870	0.42	6.1	69.4	3.02	37.0	0.00	0.00			503	
518	6.57	6.52	34.306	26.937	118.8	0.892	0.37	5.4	70.9	3.04	37.3	0.00	0.00			522	202
518	6.57	6.52	34.307	26.938	118.7	0.892	0.43	6.3	71.3	3.28	37.4	0.00	0.00			522	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.
D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS;PRIMARY T; PRIMARY CORRECTED S;

RV MCARTHUR II CALCOFI CRUISE 0907 STATION 90.0 45.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
32 55.4 N	118 56.2 W	20/07/09	1351 UTC	1695 m	220 02 kn	250 01 04	2	1012.9 mb	17.8 C	16.5 C		8/8	SC

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	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	19.16	19.16	33.580	23.897	399.9	0.000	5.50	103.9	2.9	0.29	0.1	0.00	0.05	0.33	0.09	0	
1	19.16	19.16	33.580	23.897	399.9	0.004	5.50	103.9	2.9	0.29	0.1	0.00	0.05	0.33	0.09	1	222
10	19.15	19.15	33.579	23.899	400.0	0.040	5.50	103.9	2.6	0.27	0.1	0.00	0.03	0.34	0.09	10	220
10	19.15	19.15	33.579	23.899	400.0	0.040										10	221
20	16.41	16.41	33.589	24.570	336.3	0.077	6.16	110.4	2.0	0.36	0.3	0.02	0.10	0.76	0.22	20	219
30 ISL	14.24 D	14.24	33.577 D	25.039	291.9	0.108	5.82	99.9	4.7	0.62	4.2	0.15	0.11	1.18	0.48	30	
31	14.16	14.16	33.579	25.057	290.2	0.111	5.79	99.2	5.1	0.66	4.8	0.17	0.11	1.20	0.51	31	218
40	12.35	12.34	33.509	25.366	261.0	0.136	5.23	86.2	10.5	1.06	10.9	0.29	0.06	0.94	0.61	40	217
50	11.10	11.09	33.527	25.612	237.7	0.161	4.57	73.4	15.4	1.37	16.5	0.05	0.02	0.37	0.27	50	216
61	10.73	10.72	33.664	25.785	221.6	0.186	3.39	54.0	19.2	1.63	20.4	0.03	0.02	0.20	0.19	61	215
71	10.48	10.47	33.713	25.867	214.0	0.208	3.14	49.8	20.3	1.72	21.6	0.01	0.01	0.09	0.12	71	214
75 ISL	10.36 D	10.35	33.757 D	25.922	208.8	0.216	3.06	48.4	21.0	1.75	22.0	0.01	0.01	0.07	0.10	75	
86	10.21	10.20	33.803	25.984	203.2	0.239	2.86	45.1	23.0	1.82	23.1	0.01	0.00	0.05	0.08	86	213
100	9.94	9.93	33.892	26.099	192.5	0.267	2.57	40.3	25.5	1.92	24.4	0.01	0.00	0.01	0.06	100	212
120	9.55	9.54	33.990	26.241	179.4	0.304	2.37	36.9	28.9	2.03	25.6	0.00	0.00	0.01	0.05	121	211
125 ISL	9.48 D	9.47	34.014 D	26.271	176.6	0.313	2.32	36.1	29.5	2.05	25.9	0.00	0.00	0.01	0.05	126	
140	9.37	9.35	34.035	26.306	173.6	0.339	2.18	33.8	31.3	2.09	26.6	0.00	0.00	0.00	0.05	141	210
150 ISL	9.21 D	9.19	34.078 D	26.366	168.1	0.356	2.08	32.1	32.9	2.13	27.1	0.00	0.00	0.00	0.05	151	
171	8.96	8.94	34.125	26.443	161.1	0.391	1.89	29.1	36.2	2.23	28.2	0.00	0.00	0.00	0.04	172	209
200 ISL	8.68 D	8.66	34.159 D	26.514	154.9	0.437	1.66	25.4	39.6	2.33	29.4	0.00	0.00	0.00	0.04	201	
202	8.68	8.66	34.161	26.515	154.8	0.440	1.65	25.2	39.8	2.34	29.5	0.00	0.00	0.00	0.04	203	208
230	8.43	8.41	34.189	26.576	149.4	0.482	1.43	21.7	43.2	2.43	30.5	0.01	0.00			231	207
250 ISL	8.17 D	8.14	34.208 D	26.630	144.5	0.512	1.29	19.5	46.0	2.51	31.3	0.01	0.00			251	
271	7.98	7.95	34.215	26.665	141.6	0.542	1.13	17.0	49.0	2.59	32.2	0.00	0.00			273	206
300 ISL	7.64 D	7.61	34.227 D	26.724	136.3	0.582	0.86	12.8	52.6	2.70	33.0	0.00	0.00			302	
322	7.71	7.68	34.286	26.761	133.3	0.612	0.69	10.3	55.1	2.77	33.6	0.00	0.00			324	205
381	7.07	7.03	34.263	26.834	126.8	0.688	0.64	9.4	61.7	2.85	35.5	0.00	0.00			383	204
400 ISL	6.93 D	6.89	34.274 D	26.862	124.4	0.712	0.56	8.2	64.0	2.90	36.0	0.00	0.00			403	
441	6.70	6.66	34.311	26.922	119.1	0.762	0.39	5.7	68.6	2.99	36.9	0.00	0.00			444	203
500 ISL	6.39 D	6.34	34.320 D	26.971	115.0	0.831	0.31	4.5	73.6	3.05	37.9	0.00	0.00			503	
516	6.31	6.26	34.329	26.989	113.5	0.849	0.29	4.2	75.0	3.06	38.2	0.00	0.00			520	202

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS;PRIMARY T; PRIMARY CORRECTED S;

RV MCARTHUR II CALCOFI CRUISE 0907 STATION 90.0 53.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
32 39.0 N	119 28.9 W	20/07/09	0834 UTC	1311 m	330 12 kn			1013.6 mb	16.3 C	15.1 C			

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	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	17.58	17.58	33.625	24.322	359.3	0.000	5.85	107.3	0.6	0.34	0.1	0.00	0.05	0.46	0.28	0	
1	17.58	17.58	33.625	24.322	359.4	0.004	5.85	107.3	0.6	0.34	0.1	0.00	0.05	0.46	0.28	1	222
10	17.40	17.40	33.625	24.366	355.5	0.036	5.89	107.7	0.4	0.30	0.1	0.00	0.06	0.44	0.29	10	221
20	17.08	17.08	33.624	24.441	348.7	0.071	5.95	108.1	0.2	0.31	0.1	0.00	0.03	0.62	0.37	20	220
30	15.81	15.81	33.548	24.676	326.6	0.105	5.86	103.8	2.3	0.48	1.5	0.09	0.24	1.25	0.53	30	219
40	13.29	13.28	33.505	25.179	278.9	0.135	5.43	91.3	8.2	0.93	7.5	0.46	0.86	0.71	0.38	40	218
44	12.65	12.64	33.537	25.330	264.5	0.146	5.03	83.5	11.0	1.14	11.1	0.54	0.54	0.44	0.31	44	217
50	11.79	11.78	33.547	25.502	248.3	0.161	4.75	77.4	13.4	1.30	14.9	0.19	0.02	0.24	0.20	50	216
59	11.25	11.24	33.574	25.622	237.0	0.183	4.49	72.4	15.5	1.44	17.0	0.07	0.01	0.14	0.15	59	215
70	10.74	10.73	33.668	25.786	221.6	0.208	3.93	62.7	19.6	1.62	20.1	0.05	0.00	0.11	0.12	70	214
75 ISL	10.57 D	10.56	33.704 D	25.844	216.2	0.219	3.77	59.9	20.6	1.67	20.8	0.05	0.01	0.10	0.12	75	
85	10.40	10.39	33.735	25.898	211.3	0.241	3.49	55.3	22.4	1.75	22.0	0.06	0.02	0.07	0.13	85	213
100	9.88	9.87	33.832	26.062	195.9	0.271	2.92	45.7	26.7	1.93	24.5	0.04	0.01	0.04	0.14	100	212
121	9.44	9.43	33.922	26.206	182.7	0.311	2.48	38.5	30.0	2.06	26.5	0.03	0.00	0.02	0.11	122	211
125 ISL	9.42 D	9.41	33.931 D	26.216	181.8	0.318	2.43	37.7	30.4	2.07	26.7	0.03	0.00	0.02	0.10	126	
141	9.28	9.26	33.974	26.273	176.7	0.347	2.28	35.3	31.6	2.12	27.1	0.01	0.01	0.01	0.08	142	210
150 ISL	9.18 D	9.16	34.024 D	26.328	171.6	0.363	2.17	33.5	32.6	2.15	27.5	0.01	0.01	0.01	0.08	151	
171	9.04	9.02	34.079	26.394	165.8	0.398	1.91	29.4	35.3	2.24	28.4	0.01	0.00	0.01	0.07	172	209
200	8.61	8.59	34.145	26.513	154.9	0.445	1.61	24.6	40.1	2.36	29.9	0.00	0.01	0.01	0.05	201	208
230	8.02	8.00	34.160	26.615	145.5	0.490	1.40	21.1	46.2	2.49	31.9	0.00	0.02			231	207
250 ISL	7.97 D	7.94	34.206 D	26.659	141.7	0.518	1.22	18.3	49.0	2.57	32.7	0.00	0.01			251	
274	7.77	7.74	34.212	26.693	138.8	0.552	0.99	14.8	51.7	2.66	33.4	0.00	0.00			276	206
300 ISL	7.63 D	7.60	34.246 D	26.740	134.7	0.588	0.79	11.8	54.7	2.76	34.0	0.00	0.00			302	
321	7.54	7.51	34.265	26.769	132.4	0.616	0.66	9.8	56.8	2.82	34.4	0.00	0.00			323	205
379	7.20	7.16	34.275	26.825	127.7	0.691	0.56	8.3	61.3	2.88	35.2	0.00	0.00			381	204
400 ISL	7.08 D	7.04	34.284 D	26.849	125.7	0.718	0.51	7.5	63.0	2.91	35.6	0.00	0.00			403	
440	6.88	6.84	34.300	26.890	122.3	0.767	0.41	6.0	66.5	2.96	36.3	0.00	0.00			443	203
500 ISL	6.41 D	6.36	34.321 D	26.969	115.2	0.838	0.33	4.8	72.8	3.06	37.6	0.00	0.00			503	
518	6.33	6.28	34.321	26.980	114.4	0.859	0.30	4.3	74.7	3.08	38.0	0.00	0.00			522	201
519	6.33	6.28	34.323	26.982	114.3	0.860	0.29	4.2	75.1	3.08	38.1	0.00	0.00			523	202

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS;PRIMARY T; PRIMARY CORRECTED S;

RV MCARTHUR II CALCOFI CRUISE 0907 STATION 90.0 60.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
32 24.7 N	119 57.6 W	20/07/09	0246 UTC	836 m	340 16 kn	320 03 06	2	1013.5 mb	16.8 C	15.8 C		8/8	ST

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	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	16.47	16.47	33.527	24.508	341.6	0.000	6.16	110.5	0.7	0.34	0.1	0.00	0.01	0.85	0.23	0	
2	16.47	16.47	33.527	24.508	341.7	0.007	6.16	110.5	0.7	0.34	0.1	0.00	0.01	0.85	0.23	2	220
10	16.48	16.48	33.534	24.512	341.6	0.034	6.15	110.4	0.5	0.33	0.1	0.00	0.01	0.81	0.31	10	219
20 ISL	16.23 D	16.23	33.553 D	24.584	335.0	0.068	6.15	109.8	0.5	0.32	0.1	0.00	0.01	0.93	0.43	20	
21	16.07	16.07	33.538	24.609	332.7	0.071	6.15	109.5	0.5	0.32	0.1	0.00	0.01	0.95	0.45	21	218
30 ISL	15.54 D	15.54	33.530 D	24.722	322.2	0.101	6.11	107.6	1.0	0.37	0.3	0.02	0.10	1.29	0.61	30	
31	15.58	15.58	33.527	24.711	323.3	0.104	6.10	107.5	1.1	0.37	0.3	0.02	0.11	1.32	0.65	31	217
39	13.73	13.72	33.427	25.029	293.1	0.129	5.63	95.5	5.5	0.76	4.7	0.26	0.96	1.27	1.25	39	216
50	11.94	11.93	33.375	25.340	263.7	0.159	5.25	85.8	9.4	1.08	10.7	0.41	0.32	0.70	0.77	50	215
63	11.43	11.42	33.434	25.481	250.6	0.193	4.97	80.3	11.9	1.25	14.2	0.07	0.00	0.46	0.43	63	214
70	11.26	11.25	33.482	25.549	244.2	0.210	4.74	76.4	13.1	1.35	15.5	0.06	0.00	0.43	0.59	70	213
75 ISL	11.02 D	11.01	33.542 D	25.639	235.8	0.222	4.58	73.4	14.5	1.42	16.6	0.05	0.00	0.38	0.55	75	
84	10.80	10.79	33.616	25.736	226.8	0.243	4.23	67.5	17.7	1.56	18.9	0.04	0.01	0.26	0.38	84	212
100 ISL	10.09 D	10.08	33.776 D	25.983	203.5	0.277	3.26	51.3	24.1	1.84	23.3	0.03	0.01	0.12	0.23	100	
101	10.06	10.05	33.782	25.993	202.5	0.279	3.20	50.3	24.5	1.86	23.5	0.03	0.01	0.11	0.22	101	211
124	9.59	9.58	33.907	26.170	186.2	0.324	2.52	39.2	29.5	2.05	26.0	0.01	0.01	0.12	0.28	125	210
125 ISL	9.59 D	9.58	33.911 D	26.173	185.9	0.326	2.50	38.9	29.7	2.06	26.1	0.01	0.01	0.12	0.27	126	
138	9.21	9.19	33.980	26.289	175.1	0.349	2.27	35.1	31.9	2.13	27.3	0.02	0.00	0.06	0.16	139	209
150 ISL	9.17 D	9.15	34.047 D	26.348	169.8	0.370	2.07	32.0	33.7	2.19	28.1	0.02	0.00	0.03	0.13	151	
172	8.98	8.96	34.111	26.428	162.5	0.407	1.74	26.8	36.8	2.30	29.1	0.00	0.00	0.01	0.07	173	208
197	8.74	8.72	34.155	26.501	156.0	0.446	1.48	22.6	40.2	2.40	30.3	0.00	0.00	0.01	0.07	198	207
200 ISL	8.68 D	8.66	34.159 D	26.514	154.9	0.451	1.46	22.3	40.6	2.41	30.5	0.00	0.00			201	
234	8.29	8.27	34.184	26.593	147.8	0.503	1.25	18.9	45.2	2.54	31.9	0.00	0.00			235	206
250 ISL	8.20 D	8.17	34.204 D	26.623	145.3	0.526	1.17	17.7	47.2	2.58	32.2	0.00	0.00			251	
267	8.00	7.97	34.215	26.662	141.8	0.550	1.10	16.6	49.2	2.61	32.5	0.00	0.00			269	205
300 ISL	7.73 D	7.70	34.219 D	26.705	138.1	0.597	0.99	14.8	52.7	2.67	33.5	0.00	0.00			302	
322	7.50	7.47	34.219	26.738	135.2	0.627	0.92	13.7	55.1	2.72	34.2	0.00	0.00			324	204
382	7.01	6.97	34.255	26.836	126.6	0.705	0.62	9.1	62.8	2.89	35.9	0.00	0.00			384	203
400 ISL	6.88 D	6.84	34.285 D	26.877	122.9	0.728	0.55	8.1	64.9	2.93	36.3	0.00	0.00			403	
442	6.61	6.57	34.305	26.930	118.3	0.778	0.37	5.4	69.9	3.02	37.3	0.00	0.00			445	202
500 ISL	6.21 D	6.17	34.319 D	26.994	112.7	0.845										503	
515	6.15	6.10	34.326 D	27.007	111.6	0.862										519	201

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS;PRIMARY T; PRIMARY CORRECTED S;

RV MCARTHUR II CALCOFI CRUISE 0907 STATION 90.0 70.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
32 5.2 N	120 38.3 W	19/07/09	2017 UTC	3813 m	310 14 kn	340 03 06	2	1014.5 mb	18.1 C	17.0 C	26m	8/8	ST

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	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	18.50	18.50	33.349	23.886	400.9	0.000	5.46D	101.8 D	2.3	0.35	0.1	0.00	0.04	0.09	0.02	0	
1 A	18.50	18.50	33.349	23.886	400.9	0.004	5.46D	101.8 D	2.3	0.35	0.1	0.00	0.04	0.09	0.02	1	221
9	18.48	18.48	33.351	23.893	400.6	0.036	5.48	102.1	2.0	0.33	0.1	0.00	0.02	0.09	0.02	9	220
10 ISL	18.48 D	18.48	33.347 D	23.890	400.9	0.040	5.48	102.1	2.0	0.33	0.1	0.00	0.02	0.09	0.02	10	
17 A	18.45	18.45	33.347	23.898	400.4	0.068	5.49	102.2	2.0	0.33	0.0	0.00	0.02	0.10	0.02	17	219
20 ISL	18.21 D	18.21	33.360 D	23.967	393.9	0.080	5.72	106.0	2.2	0.34	0.0	0.00	0.02	0.11	0.03	20	
27	15.67	15.67	33.208	24.445	348.4	0.106	6.23	109.8	2.5	0.35	0.0	0.00	0.02	0.19	0.06	27	218
30 ISL	13.94 D	13.94	33.270 D	24.864	308.5	0.116	6.20	105.5	3.0	0.42	0.7	0.12	0.03	0.28	0.10	30	
36 A	13.40	13.40	33.196	24.917	303.6	0.134	6.03	101.5	4.2	0.57	2.4	0.37	0.05	0.48	0.21	36	217
45	12.32	12.31	33.102	25.056	290.5	0.161	5.98	98.3	5.8	0.67	4.4	0.38	0.03	0.61	0.39	45	216
50 ISL	12.00 D	11.99	33.150 D	25.154	281.3	0.175	5.86	95.7	6.6	0.77	6.0	0.39	0.03	0.66	0.43	50	
54 A	11.86	11.85	33.154	25.184	278.6	0.186	5.74	93.5	7.2	0.85	7.3	0.39	0.03	0.70	0.47	54	215
63	11.36	11.35	33.196	25.308	266.9	0.211	5.45	87.8	8.4	0.98	9.9	0.09	0.01	0.31	0.23	63	214
72 A	11.22	11.21	33.291	25.408	257.7	0.235	5.24	84.2	9.4	1.11	11.9	0.01	0.02	0.16	0.13	72	213
75 ISL	11.16 D	11.15	33.343 D	25.459	252.9	0.242	5.18	83.2	9.9	1.14	12.5	0.01	0.02	0.13	0.11	75	
85	10.97	10.96	33.396	25.534	245.9	0.267	4.98	79.7	12.0	1.25	14.3	0.01	0.01	0.08	0.08	85	212
99 A	10.28	10.27	33.479	25.719	228.5	0.300	4.53	71.4	16.5	1.45	17.4	0.00	0.00	0.03	0.05	99	211
100 ISL	10.28 D	10.27	33.479 D	25.719	228.6	0.303	4.48	70.6	16.8	1.46	17.6	0.00	0.00	0.03	0.05	100	
121	9.75	9.74	33.721	25.998	202.5	0.348	3.48	54.3	22.9	1.73	22.0	0.00	0.00	0.01	0.04	122	210
125 ISL	9.61 D	9.60	33.803 D	26.085	194.3	0.356	3.36	52.3	23.8	1.76	22.5	0.00	0.00	0.01	0.04	126	
140	9.35	9.33	33.888	26.194	184.1	0.384	3.06	47.4	26.8	1.85	24.1	0.00	0.00	0.00	0.03	141	209
150 ISL	9.18 D	9.16	33.927 D	26.252	178.8	0.402	2.99	46.1	28.3	1.88	24.7	0.00	0.00	0.00	0.03	151	
170	8.78	8.76	33.974	26.353	169.6	0.437	2.93	44.8	31.0	1.92	25.7	0.00	0.00	0.00	0.02	171	208
200	8.33	8.31	34.017	26.456	160.2	0.487	2.62	39.7	36.2	2.08	27.8	0.00	0.00	0.00	0.02	201	207
230	7.98	7.96	34.071	26.551	151.6	0.534	1.89	28.4	42.7	2.35	31.1	0.00	0.00			231	206
250 ISL	7.92 D	7.89	34.105 D	26.587	148.5	0.564	1.58	23.7	45.5	2.47	32.0	0.00	0.00			251	
270	7.94	7.91	34.150	26.619	145.8	0.593	1.35	20.3	47.9	2.56	32.5	0.00	0.00			272	205
300 ISL	7.75 D	7.72	34.209 D	26.694	139.2	0.636	1.01	15.1	52.0	2.69	33.5	0.00	0.00			302	
320	7.63	7.60	34.239	26.735	135.6	0.663	0.82	12.2	54.8	2.77	34.1	0.00	0.00			322	204
380	7.02	6.98	34.258	26.837	126.5	0.742	0.56	8.2	64.0	2.94	36.2	0.00	0.00			382	203
400 ISL	6.81 D	6.77	34.269 D	26.874	123.1	0.767	0.58	8.5	66.5	2.97	36.7	0.00	0.00			403	
440	6.47	6.43	34.262	26.914	119.6	0.815	0.63	9.2	71.2	3.02	37.7	0.00	0.00			443	202
500 ISL	6.07 D	6.03	34.295 D	26.992	112.7	0.885	0.37	5.3	77.8	3.10	39.1	0.00	0.00			503	
515	6.01	5.96	34.302	27.006	111.6	0.902	0.31	4.5	79.5	3.12	39.4	0.00	0.00			518	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.
D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS;PRIMARY T; PRIMARY CORRECTED S;

RV MCARTHUR II CALCOFI CRUISE 0907 STATION 90.0 80.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
31 45.1 N	121 19.2 W	19/07/09	1346 UTC	3694 m	350 14 kn	350 03 05	2	1014.4 mb	17.0 C	16.0 C		8/8	SC

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	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	17.44	17.44	33.461	24.230	368.1	0.000	5.64	103.1	1.8	0.35	0.1	0.00	0.07	0.23	0.04	0	
2	17.44	17.44	33.461	24.230	368.2	0.007	5.64	103.1	1.8	0.35	0.1	0.00	0.07	0.23	0.04	2	220
10	17.44	17.44	33.462	24.231	368.4	0.037	5.63	102.9	1.7	0.33	0.0	0.00	0.08	0.23	0.05	10	219
20 ISL	17.43 D	17.43	33.459 D	24.232	368.6	0.074	5.66	103.4	1.7	0.33	0.0	0.00	0.08	0.24	0.05	20	
21	17.43	17.43	33.463	24.235	368.4	0.077	5.66	103.4	1.7	0.33	0.0	0.00	0.08	0.24	0.05	21	218
30 ISL	15.51 D	15.51	33.542 D	24.738	320.7	0.108	6.01	105.8	2.7	0.44	1.3	0.06	0.36	0.62	0.21	30	
31	15.42	15.42	33.547	24.762	318.4	0.112	6.03	106.0	2.8	0.47	1.4	0.07	0.39	0.66	0.23	31	217
40	12.90	12.89	33.501	25.253	271.8	0.138	5.52	92.1	8.8	0.95	8.5	0.44	0.56	0.45	0.26	40	216
50	11.99	11.98	33.616	25.518	246.8	0.164	4.60	75.3	14.6	1.33	15.4	0.12	0.03	0.19	0.18	50	215
60	10.78	10.77	33.547	25.685	231.0	0.188	4.47	71.3	16.7	1.46	17.7	0.03	0.02	0.09	0.10	60	214
70	10.25	10.24	33.564	25.790	221.2	0.211	4.20	66.2	18.4	1.56	19.4	0.02	0.04	0.05	0.10	70	213
75 ISL	10.32 D	10.31	33.647 D	25.843	216.3	0.221	3.97	62.7	19.5	1.62	20.3	0.02	0.04	0.04	0.09	75	
86	10.12	10.11	33.709	25.926	208.6	0.245	3.48	54.8	22.1	1.74	22.1	0.02	0.04	0.03	0.07	86	212
100 ISL	9.76 D	9.75	33.792 D	26.051	197.0	0.273	3.30	51.5	24.9	1.85	23.8	0.01	0.01	0.02	0.06	100	
101	9.75	9.74	33.795	26.055	196.6	0.275	3.29	51.4	25.1	1.86	23.9	0.01	0.01	0.02	0.06	101	211
121	9.26	9.25	33.905	26.222	181.1	0.313	2.68	41.4	29.6	2.02	26.3	0.00	0.01	0.01	0.05	122	210
125 ISL	9.18 D	9.17	33.918 D	26.245	179.0	0.320	2.57	39.7	30.5	2.05	26.7	0.00	0.01	0.01	0.05	126	
141	8.96	8.94	33.987	26.334	170.8	0.348	2.27	34.9	33.6	2.14	27.9	0.00	0.02	0.01	0.06	142	209
150 ISL	8.77 D	8.75	34.018 D	26.388	165.8	0.363	2.34	35.8	34.7	2.14	28.1	0.00	0.02	0.01	0.05	151	
171	8.17	8.15	34.005	26.470	158.2	0.397	2.56	38.6	37.2	2.13	28.4	0.00	0.01	0.00	0.03	172	208
200	7.91	7.89	34.047	26.542	151.8	0.442	2.03	30.5	42.5	2.31	31.0	0.00	0.02	0.00	0.04	201	207
231	7.58	7.56	34.073	26.611	145.7	0.488	1.74	25.9	47.7	2.44	32.5	0.00	0.00			232	206
250 ISL	7.31 D	7.29	34.083 D	26.657	141.5	0.516	1.53	22.6	51.3	2.53	33.7	0.00	0.00			251	
271	7.04	7.01	34.095	26.704	137.2	0.545	1.32	19.4	55.1	2.63	34.9	0.00	0.00			273	205
300 ISL	6.73 D	6.70	34.108 D	26.757	132.5	0.584	1.16	16.9	59.4	2.73	36.0	0.00	0.00			302	
321	6.57	6.54	34.114	26.783	130.3	0.612	1.07	15.6	62.3	2.79	36.6	0.00	0.00			323	204
381	6.24	6.21	34.175	26.875	122.2	0.687	0.70	10.1	70.2	2.94	38.0	0.00	0.00			383	203
400 ISL	6.05 D	6.02	34.173 D	26.897	120.2	0.710	0.66	9.5	73.1	2.97	38.5	0.00	0.00			403	
440	5.68	5.64	34.171	26.942	116.1	0.758	0.61	8.7	79.3	3.04	39.5	0.00	0.00			443	202
500 ISL	5.30 D	5.26	34.230 D	27.035	107.7	0.825	0.39	5.5	87.1	3.14	40.9	0.00	0.00			503	
515	5.32	5.28	34.247	27.046	106.9	0.841	0.34	4.8	89.1	3.17	41.2	0.00	0.00			519	201

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS;PRIMARY T; PRIMARY CORRECTED S;

RV MCARTHUR II CALCOFI CRUISE 0907 STATION 90.0 90.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
31 24.7 N	121 59.6 W	19/07/09	0708 UTC	3887 m	320 13 kn			1015.4 mb	17.2 C	16.0 C			

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	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	16.43	16.43	33.160	24.236	367.6	0.000	5.85	104.6	3.6	0.39	0.1	0.01	0.05	0.23	0.05	0	
2	16.43	16.43	33.160	24.236	367.6	0.007	5.85	104.6	3.6	0.39	0.1	0.01	0.05	0.23	0.05	2	220
10	16.42	16.42	33.162	24.240	367.5	0.037	5.85	104.6	3.4	0.36	0.1	0.00	0.04	0.25	0.05	10	219
20	16.42	16.42	33.405	24.427	350.0	0.073	5.99	107.3	1.9	0.33	0.1	0.00	0.04	0.40	0.14	20	218
30	14.52	14.52	33.238	24.718	322.5	0.106	6.09	104.9	2.5	0.36	0.2	0.02	0.04	0.58	0.23	30	217
40	13.86	13.85	33.221	24.843	310.8	0.138	6.22	105.7	2.9	0.46	1.2	0.13	0.20	0.94	0.44	40	216
50	12.28	12.27	33.027	25.006	295.5	0.168	5.87	96.4	5.1	0.68	4.4	0.64	0.12	0.23	0.64	50	215
60	11.84	11.83	33.041	25.100	286.7	0.197	5.79	94.2	6.2	0.78	6.5	0.35	0.05	0.40	0.25	60	214
71	11.15	11.14	33.136	25.300	267.9	0.228	5.51	88.4	9.6	1.00	10.4	0.02	0.02	0.15	0.13	71	213
75 ISL	10.82 D	10.81	33.175 D	25.388	259.5	0.238	5.45	86.8	10.2	1.03	11.1	0.02	0.01	0.13	0.12	75	
85	10.55	10.54	33.195	25.451	253.7	0.264	5.29	83.8	11.5	1.10	12.4	0.01	0.00	0.09	0.10	85	212
100 ISL	10.51 D	10.50	33.397 D	25.616	238.4	0.301	4.88	77.3	15.1	1.31	15.9	0.00	0.02	0.05	0.08	100	
101	10.48	10.47	33.406	25.628	237.3	0.303	4.84	76.6	15.4	1.33	16.2	0.00	0.02	0.05	0.08	101	211
121	10.35	10.34	33.681	25.865	215.2	0.349	3.76	59.4	21.4	1.66	21.0	0.00	0.01	0.04	0.10	122	210
125 ISL	10.16 D	10.15	33.730 D	25.936	208.5	0.357	3.66	57.6	22.1	1.70	21.6	0.00	0.01	0.04	0.09	126	
139	9.75	9.73	33.764	26.032	199.7	0.386	3.40	53.1	24.1	1.79	23.2	0.00	0.03	0.02	0.07	140	209
150 ISL	9.50 D	9.48	33.842 D	26.134	190.1	0.407	3.14	48.8	26.6	1.87	24.6	0.00	0.03	0.02	0.07	151	
170	8.92	8.90	33.928	26.295	175.1	0.444	2.77	42.5	31.0	1.99	26.7	0.00	0.01	0.01	0.08	171	208
200 ISL	8.38 D	8.36	33.993 D	26.429	162.7	0.494	2.74	41.5	34.4	2.01	27.4	0.00	0.00	0.01	0.03	201	
202	8.36	8.34	33.995	26.434	162.3	0.498	2.74	41.5	34.6	2.01	27.4	0.00	0.00	0.01	0.03	203	207
233	7.94	7.92	34.021	26.518	154.7	0.547	2.23	33.5	40.9	2.23	30.1	0.00	0.00			234	206
250 ISL	7.71 D	7.69	34.039 D	26.565	150.4	0.573	2.04	30.5	44.1	2.31	31.3	0.00	0.00			251	
269	7.45	7.42	34.038	26.602	147.1	0.601	1.86	27.6	47.5	2.39	32.4	0.00	0.00			271	205
300 ISL	7.14 D	7.11	34.069 D	26.670	141.0	0.646	1.50	22.1	53.1	2.54	34.0	0.00	0.00			302	
323	6.95	6.92	34.099	26.720	136.5	0.677	1.27	18.6	57.3	2.64	35.1	0.00	0.00			325	204
379	6.20	6.17	34.103	26.823	127.0	0.751	1.05	15.1	67.6	2.80	37.5	0.00	0.00			381	203
400 ISL	6.04 D	6.01	34.128 D	26.863	123.4	0.778	0.93	13.4	70.5	2.85	38.0	0.00	0.00			403	
442	5.82	5.78	34.168	26.923	118.1	0.828	0.69	9.9	76.2	2.96	39.1	0.00	0.00			445	202
500 ISL	5.52 D	5.48	34.254 D	27.028	108.7	0.894										503	
534	5.47	5.43	34.274 D	27.050	106.9	0.931										538	201

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS;PRIMARY T; PRIMARY CORRECTED S;

RV MCARTHUR II CALCOFI CRUISE 0907 STATION 90.0 100.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
31 5.0 N	122 39.6 W	19/07/09	0026 UTC	4010 m	320 16 kn	340 02 03	1	1015.5 mb	19.2 C	18.2 C	24m	5/8	CS

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	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	17.82	17.82	33.215	23.950	394.8	0.000	5.58	102.6	2.4	0.36	0.1	0.00	0.05	0.10	0.03	0	
2	17.82	17.82	33.215	23.950	394.9	0.008	5.58	102.6	2.4	0.36	0.1	0.00	0.05	0.10	0.03	2	220
10 ISL	17.81 D	17.81	33.214 D	23.952	394.9	0.039	5.58	102.6	2.3	0.33	0.1	0.00	0.04	0.11	0.02	10	
11	17.80	17.80	33.214	23.955	394.7	0.043	5.58	102.5	2.3	0.33	0.1	0.00	0.04	0.11	0.02	11	219
20 ISL	17.57 D	17.57	33.214 D	24.010	389.7	0.079	5.64	103.2	2.5	0.34	0.1	0.00	0.03	0.13	0.02	20	
25	17.35	17.35	33.201	24.053	385.8	0.098	5.67	103.3	2.6	0.34	0.1	0.00	0.02	0.14	0.03	25	218
30 ISL	16.59 D	16.59	33.229 D	24.253	366.9	0.117	5.84	104.8	2.5	0.32	0.1	0.00	0.02	0.14	0.04	30	
40	15.18	15.17	33.246	24.583	335.7	0.152	6.11	106.6	2.3	0.30	0.0	0.00	0.03	0.15	0.05	40	217
50	14.35	14.34	33.238	24.755	319.6	0.185	5.99	102.8	2.6	0.33	0.0	0.00	0.02	0.22	0.11	50	216
63	12.76	12.75	33.053	24.934	302.7	0.225	5.96	98.9	3.5	0.44	0.7	0.17	0.07	0.43	0.30	63	215
75 ISL	12.04 D	12.03	33.045 D	25.066	290.4	0.261	5.77	94.2	4.9	0.66	4.5	0.10	0.04	0.33	0.24	75	
76	12.01	12.00	33.045	25.072	289.9	0.264	5.75	93.9	5.0	0.68	4.9	0.09	0.04	0.32	0.23	76	214
87	11.41	11.40	33.075	25.206	277.3	0.295	5.63	90.7	7.2	0.87	8.3	0.01	0.02	0.13	0.12	87	213
100 ISL	10.84 D	10.83	33.143 D	25.360	262.7	0.330	5.42	86.3	9.1	0.97	10.1	0.00	0.03	0.09	0.09	100	
101	10.85	10.84	33.143	25.359	262.9	0.333	5.39	85.9	9.3	0.98	10.2	0.00	0.03	0.09	0.09	101	212
113	10.69	10.68	33.253	25.473	252.4	0.364	4.88	77.5	11.8	1.14	13.1	0.01	0.02	0.09	0.11	113	211
125	10.17	10.16	33.421	25.693	231.6	0.393	4.37	68.7	16.2	1.38	17.3	0.00	0.02	0.05	0.05	126	210
141	9.75	9.73	33.600	25.904	211.8	0.428	3.83	59.7	20.4	1.61	21.0	0.00	0.01	0.01	0.03	142	209
150 ISL	9.54 D	9.52	33.674 D	25.996	203.2	0.447	3.62	56.2	22.4	1.69	22.3	0.00	0.01	0.01	0.03	151	
170	9.19	9.17	33.821	26.168	187.2	0.486	3.29	50.7	26.3	1.81	24.2	0.00	0.01	0.00	0.02	171	208
200 ISL	8.68 D	8.66	33.965 D	26.361	169.3	0.539	2.88	43.9	31.5	1.94	26.4	0.00	0.02	0.00	0.02	201	
201	8.69	8.67	33.963	26.358	169.6	0.541	2.87	43.8	31.7	1.94	26.5	0.00	0.02	0.00	0.02	202	207
230	8.32	8.30	34.023	26.463	160.1	0.589	2.40	36.3	36.9	2.14	28.9	0.00	0.00			231	206
250 ISL	7.98 D	7.95	34.039 D	26.526	154.3	0.620	2.31	34.7	40.1	2.20	29.7	0.00	0.00			251	
270	7.77	7.74	34.050	26.566	150.8	0.651	2.26	33.8	43.1	2.24	30.3	0.00	0.00			271	205
300 ISL	7.38 D	7.35	34.056 D	26.627	145.3	0.695	1.97	29.2	47.9	2.37	32.1	0.00	0.00			302	
320	7.17	7.14	34.071	26.668	141.5	0.724	1.75	25.8	51.2	2.47	33.4	0.00	0.00			322	204
381	6.47	6.44	34.113	26.796	129.8	0.807	1.21	17.6	62.5	2.75	36.4	0.00	0.00			383	203
400 ISL	6.27 D	6.23	34.122 D	26.829	126.8	0.831	1.05	15.2	66.0	2.82	37.2	0.00	0.00			402	
440	5.98	5.94	34.154	26.892	121.2	0.881	0.75	10.8	72.9	2.94	38.8	0.00	0.00			443	202
500 ISL	5.46 D	5.42	34.198 D	26.991	112.1	0.951	0.51	7.2	80.2	3.07	40.2	0.00	0.00			503	
516	5.51	5.47	34.222	27.004	111.1	0.968	0.44	6.2	82.2	3.10	40.6	0.00	0.00			519	201

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS;PRIMARY T; PRIMARY CORRECTED S;

RV MCARTHUR II CALCOFI CRUISE 0907 STATION 90.0 110.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
30 44.8 N	123 20.1 W	18/07/09	1746 UTC	4003 m	300 14 kn	320 02 05	1	1017.9 mb	18.6 C	17.6 C	28m	6/8	ST

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	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	18.16	18.16	33.293	23.927	397.0	0.000	5.51	102.0	2.1	0.43	0.3	0.00	1.11	0.09	0.03	0	
2 A	18.16	18.16	33.293	23.927	397.1	0.008	5.51	102.0	2.1	0.43	0.3	0.00	1.11	0.09	0.03	2	223
10	18.09	18.09	33.292	23.944	395.7	0.040	5.52	102.0	1.9	0.34	0.1	0.00	0.47	0.08	0.03	10	222
20 A	17.94	17.94	33.289	23.979	392.8	0.079	5.53	101.9	1.9	0.33	0.1	0.00	0.32	0.08	0.04	20	221
30	17.86	17.85	33.281 D	23.992	391.8	0.118	5.54	101.9	1.9	0.33	0.1	0.00	0.28	0.09	0.02	30	220
39 A	16.95	16.94	33.287	24.214	370.9	0.153	5.85	105.8	2.0	0.31	0.0	0.00	0.00	0.09	0.03	39	219
48	15.50	15.49	33.217	24.491	344.8	0.185	6.17	108.4	1.9	0.32	0.1	0.00	0.44	0.09	0.03	48	218
50 ISL	15.23 D	15.22	33.200 D	24.537	340.4	0.192	6.15	107.4	1.9	0.32	0.1	0.00	0.41	0.09	0.03	50	
59 A	14.82	14.81	33.200	24.626	332.1	0.222	6.06	105.0	2.0	0.32	0.1	0.00	0.25	0.11	0.04	59	217
68	14.38	14.37	33.159 D	24.688	326.4	0.252	6.04	103.7	2.0	0.33	0.0	0.00	0.01	0.14	0.05	68	216
75 ISL	14.07 D	14.06	33.145 D	24.742	321.4	0.274	5.95	101.5	2.1	0.34	0.0	0.00	0.00	0.16	0.08	75	
77 A	14.06	14.05	33.149	24.748	321.0	0.281	5.92	100.9	2.2	0.34	0.0	0.00	0.00	0.17	0.09	77	215
86	13.57	13.56	33.137	24.839	312.5	0.309	5.92	99.9	2.4	0.35	0.0	0.00	0.00	0.17	0.13	86	214
95	13.15	13.14	33.107	24.900	306.8	0.337	5.90	98.7	2.8	0.40	0.5	0.10	0.02	0.17	0.16	95	213
100 ISL	12.62 D	12.61	33.091 D	24.992	298.1	0.352	5.77	95.4	3.4	0.48	2.0	0.11	0.02	0.20	0.14	100	
104 A	12.31	12.30	33.083	25.045	293.1	0.364	5.64	92.7	4.0	0.57	3.5	0.12	0.01	0.22	0.11	104	212
115	11.28	11.27	33.096	25.246	274.1	0.395	5.36	86.2	6.7	0.83	7.9	0.03	0.02	0.12	0.09	115	211
125 ISL	10.92 D	10.90	33.180 D	25.376	261.9	0.422	5.16	82.3	8.3	0.93	9.8	0.02	0.00	0.09	0.08	126	
126	10.97	10.95	33.178	25.365	262.9	0.425	5.14	82.1	8.5	0.94	10.0	0.02	0.00	0.09	0.08	127	210
145	10.18	10.16	33.408	25.682	233.1	0.472	4.53	71.2	14.6	1.32	16.1	0.01	0.77	0.03	0.05	146	209
150 ISL	10.00 D	9.98	33.486 D	25.773	224.5	0.483	4.37	68.5	16.0	1.38	17.2	0.01	0.68	0.02	0.04	151	
171	9.64	9.62	33.762	26.049	198.7	0.528	3.82	59.5	20.8	1.54	20.5	0.00	0.11	0.00	0.02	172	208
200	9.10	9.08	33.907	26.250	180.0	0.583	3.48	53.6	25.8	1.70	23.1	0.00	0.70	0.00	0.02	201	207
230	8.51	8.49	33.991	26.408	165.3	0.634	2.91	44.2	32.9	1.95	26.8	0.00	0.64			231	206
250 ISL	8.21 D	8.18	34.011 D	26.470	159.7	0.667	2.72	41.1	36.3	2.04	28.1	0.00	0.57			251	
269	7.99	7.96	34.022	26.511	156.0	0.697	2.58	38.8	39.2	2.11	29.0	0.00	0.48			270	205
300 ISL	7.71 D	7.68	34.053 D	26.577	150.2	0.744	2.15	32.1	44.3	2.27	31.1	0.00	0.19			302	
321	7.47	7.44	34.063	26.620	146.3	0.775	1.86	27.6	47.9	2.39	32.5	0.00	0.00			323	204
381	6.60	6.57	34.096	26.766	132.8	0.859	1.34	19.5	60.2	2.66	35.9	0.00	0.00			383	203
400 ISL	6.34 D	6.30	34.105 D	26.807	129.0	0.884	1.27	18.4	63.7	2.71	36.7	0.00	0.00			402	
440	5.94	5.90	34.114	26.865	123.6	0.935	1.12	16.0	71.0	2.83	38.3	0.00	0.00			443	202
500 ISL	5.48 D	5.44	34.148 D	26.949	116.0	1.006										503	
517	5.60	5.56	34.205 D	26.979	113.5	1.026										520	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.
D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS;PRIMARY T; PRIMARY CORRECTED S;

RV MCARTHUR II CALCOFI CRUISE 0907 STATION 90.0 120.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
30 25.0 N	124 0.0 W	18/07/09	1103 UTC	4208 m	350 12 kn			1017.3 mb	18.2 C	17.0 C			

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	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	18.72	18.72	33.486	23.936	396.2	0.000	5.44	101.9	2.1	0.33	0.1	0.00	0.04	0.08	0.00	0	
1	18.72	18.72	33.486	23.936	396.2	0.004	5.44	101.9	2.1	0.33	0.1	0.00	0.04	0.08	0.00	1	220
10	18.69	18.69	33.480	23.939	396.2	0.040	5.44	101.8	1.8	0.31	0.1	0.00	0.04	0.07	0.01	10	219
20 ISL	18.50 D	18.50	33.461 D	23.973	393.4	0.079	5.47	102.0	1.9	0.30	0.1	0.00	0.03	0.09	0.00	20	
25	18.34	18.34	33.463	24.014	389.6	0.099	5.49	102.1	2.0	0.30	0.1	0.00	0.02	0.10	0.00	25	218
30 ISL	17.26 D	17.26	33.427 D	24.248	367.4	0.118	5.62	102.3	2.0	0.29	0.1	0.00	0.02	0.09	0.01	30	
41	16.50	16.49	33.407	24.411	352.2	0.157	5.89	105.6	2.1	0.28	0.0	0.00	0.03	0.07	0.02	41	217
50	16.04	16.03	33.355	24.476	346.3	0.189	5.94	105.5	2.2	0.29	0.0	0.00	0.02	0.09	0.01	50	216
62	15.34	15.33	33.291	24.583	336.4	0.230	5.98	104.7	2.3	0.30	0.0	0.00	0.02	0.11	0.01	62	215
75	14.56	14.55	33.195	24.678	327.6	0.273	5.98	103.0	2.4	0.30	0.0	0.00	0.01	0.12	0.04	75	214
88	14.35	14.34	33.210	24.734	322.6	0.315	5.85	100.4	2.5	0.32	0.0	0.00	0.01	0.15	0.07	88	213
100	13.83	13.82	33.164	24.807	315.9	0.353	5.75	97.6	2.9	0.37	0.2	0.05	0.02	0.25	0.08	100	212
113	12.93	12.91	33.237	25.045	293.5	0.393	5.49	91.5	4.2	0.52	3.4	0.08	0.00	0.24	0.12	113	211
125	12.51	12.49	33.371	25.231	276.1	0.427	5.30	87.6	5.1	0.60	5.3	0.02	0.01	0.16	0.12	126	210
140	11.84	11.82	33.447	25.417	258.6	0.467	5.08	82.8	7.2	0.74	7.9	0.01	0.00	0.10	0.08	141	209
150 ISL	10.96 D	10.94	33.381 D	25.526	248.2	0.493	4.92	78.7	9.5	0.90	10.4	0.01	0.00	0.06	0.06	151	
170	10.03	10.01	33.502	25.781	224.2	0.540	4.49	70.4	15.3	1.25	15.9	0.00	0.00	0.01	0.02	171	208
200	9.32	9.30	33.860	26.178	186.9	0.601	3.43	53.1	24.7	1.66	22.7	0.00	0.00	0.00	0.02	201	207
232	8.86	8.84	33.947	26.320	173.9	0.659	3.16	48.4	29.1	1.80	24.8	0.00	0.00			233	206
250 ISL	8.63 D	8.60	33.975 D	26.378	168.6	0.690	2.90	44.2	32.5	1.91	26.4	0.00	0.00			251	
270	8.25	8.22	34.013	26.466	160.5	0.723	2.59	39.1	36.7	2.05	28.2	0.00	0.00			271	205
300 ISL	7.84 D	7.81	34.035 D	26.544	153.4	0.770	2.21	33.1	42.7	2.23	30.5	0.00	0.00			302	
320	7.55	7.52	34.059	26.605	147.8	0.800	1.98	29.5	46.5	2.34	31.8	0.00	0.00			322	204
381	6.91	6.87	34.104	26.730	136.4	0.887	1.37	20.1	56.7	2.62	34.9	0.00	0.00			383	203
400 ISL	6.68 D	6.64	34.114 D	26.769	132.8	0.912	1.23	17.9	59.3	2.69	35.6	0.00	0.00			402	
441	6.43	6.39	34.147	26.829	127.6	0.966	0.96	13.9	64.7	2.81	37.0	0.00	0.00			444	202
500 ISL	5.93 D	5.89	34.196 D	26.932	118.2	1.038	0.62	8.9	74.2	2.98	38.9	0.00	0.00			503	
516	5.85	5.81	34.213	26.955	116.1	1.057	0.53	7.6	76.8	3.02	39.4	0.00	0.00			519	201

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS;PRIMARY T; PRIMARY CORRECTED S;

RV MCARTHUR II CALCOFI CRUISE 0907 STATION 91.7 26.4

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
33 14.6 N	117 27.9 W	15/07/09	0854 UTC	17 m	330 04 kn			1012.9 mb	19.9 C	18.2 C			

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	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	18.38	18.38	33.531	24.055	384.8	0.000	6.82	127.0	1.6	0.27	0.0	0.01	0.03	1.35	0.29	0	
1	18.38	18.38	33.531	24.055	384.8	0.004	6.82	127.0	1.6	0.27	0.0	0.01	0.03	1.35	0.29	1	205
5	15.03	15.03	33.474	24.790	314.9	0.018	7.36	128.3	3.2	0.31	0.0	0.00	0.02	1.78	0.46	5	204
10	14.43	14.43	33.450	24.900	304.5	0.033	7.50	129.1	4.2	0.32	0.0	0.00	0.02	1.73	0.44	10	202
10	14.40	14.40	33.446	24.904	304.2	0.033										10	203
17	13.61	13.61	33.443	25.065	289.0	0.054	6.99	118.3	5.3	0.41	0.1	0.02	0.08	4.00	1.13	17	201

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS;PRIMARY T; PRIMARY CORRECTED S;

RV MCARTHUR II CALCOFI CRUISE 0907 STATION 93.3 26.7

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
32 57.3 N	117 18.4 W	15/07/09	1209 UTC	60 m	240 02 kn			1012.2 mb	20.4 C	18.4 C			

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	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	21.43	21.43	33.590	23.305	456.3	0.000	6.60	130.1	0.4	0.19	0.1	0.00	0.05	1.37	0.16	0	
1	21.43	21.43	33.590	23.306	456.4	0.005	6.60	130.1	0.4	0.19	0.1	0.00	0.05	1.37	0.16	1	208
6	18.17	18.17	33.525	24.102	380.5	0.025	7.54	139.8	0.4	0.23	0.2	0.00	0.59	1.97	0.27	6	207
10 ISL	14.39 D	14.39	33.417 D	24.883	306.2	0.039	7.41	127.4	0.7	0.34	0.1	0.00	0.26	1.58	0.31	10	
11	14.28	14.28	33.421	24.910	303.7	0.042	7.38	126.6	0.9	0.37	0.1	0.00	0.15	1.44	0.32	11	206
20 ISL	13.23 D	13.23	33.404 D	25.112	284.7	0.069	6.01	100.9	5.5	0.69	4.9	0.10	0.37	1.54	0.58	20	
21	13.06	13.06	33.403	25.145	281.5	0.072	5.83	97.5	6.1	0.73	5.6	0.12	0.39	1.55	0.61	21	204
30 ISL	12.26 D	12.26	33.427 D	25.320	265.1	0.096	5.07	83.4	9.8	0.98	9.5	0.24	0.34	1.39	0.69	30	
31	12.18	12.18	33.432	25.339	263.3	0.099	5.01	82.3	10.2	1.00	9.9	0.25	0.33	1.37	0.70	31	203
41	11.63	11.62	33.467	25.469	251.2	0.125	4.35	70.6	13.5	1.25	13.8	0.36	0.20	0.74	0.57	41	202
50 ISL	11.37 D	11.36	33.511 D	25.551	243.6	0.147	4.03	65.1	15.3	1.38	16.0	0.36	0.06	0.49	0.48	50	
51	11.35	11.34	33.508	25.552	243.5	0.149	3.99	64.4	15.5	1.39	16.2	0.36	0.04	0.46	0.47	51	201

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS;PRIMARY T; PRIMARY CORRECTED S;

RV MCARTHUR II CALCOFI CRUISE 0907 STATION 93.3 28.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
32 54.8 N	117 23.7 W	15/07/09	1151 UTC	640 m	350 03 kn			1012.2 mb	20.0 C	18.5 C			

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	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	20.78	20.78	33.581	23.475	440.2	0.000	6.44	125.4	0.1	0.18	0.0	0.00	0.01	1.09	0.44	0	
1	20.78	20.78	33.581	23.475	440.2	0.004	6.44	125.4	0.1	0.18	0.0	0.00	0.01	1.09	0.44	1	220
10 ISL	14.81 D	14.81	33.414 D	24.792	314.9	0.038	7.28	126.3	0.4	0.31	0.0	0.00	0.01	1.20	0.64	10	
11	14.45	14.45	33.408	24.864	308.1	0.041	7.36	126.7	0.4	0.34	0.0	0.00	0.01	1.22	0.66	11	219
20 ISL	12.81	12.81	33.384 D	25.180	272.5	0.068	6.12	101.2	6.2	0.62	3.8	0.05	0.11	1.26	0.60	20	
21	12.76	12.76	33.366	25.176	278.6	0.070	5.93	98.6	7.0	0.66	4.4	0.06	0.12	1.27	0.60	21	218
30 ISL	11.91 D	11.91	33.433 D	25.390	258.4	0.095	4.80	78.4	11.7	1.07	11.2	0.19	0.03	1.77	0.88	30	
31	11.87	11.87	33.441	25.404	257.1	0.097	4.69	76.5	12.1	1.12	12.0	0.20	0.02	1.80	0.90	31	217
41	11.29	11.28	33.504	25.560	242.5	0.122	3.98	64.2	15.5	1.40	16.6	0.08	0.00	0.64	0.52	41	216
50	11.12	11.11	33.537	25.616	237.3	0.144	3.73	59.9	17.0	1.50	18.1	0.03	0.01	0.35	0.36	50	215
60	10.91	10.90	33.585	25.692	230.4	0.167	3.51	56.2	18.7	1.57	19.4	0.03	0.02	0.20	0.25	60	214
71	10.63	10.62	33.630	25.776	222.6	0.192	3.41	54.2	20.0	1.64	20.4	0.03	0.01	0.12	0.19	71	213
75 ISL	10.53 D	10.52	33.653 D	25.811	219.3	0.201	3.40	54.0	20.4	1.65	20.6	0.03	0.01	0.10	0.17	75	
86	10.36	10.35	33.678	25.861	214.9	0.225	3.36	53.1	21.4	1.68	21.1	0.02	0.00	0.07	0.14	86	212
100 ISL	10.24 D	10.23	33.746 D	25.934	208.2	0.254	3.08	48.6	23.0	1.76	22.2	0.01	0.04	0.03	0.10	101	
101	10.24	10.23	33.744	25.933	208.3	0.256	3.05	48.1	23.1	1.77	22.3	0.01	0.04	0.03	0.10	102	211
121	9.97	9.96	33.860	26.070	195.7	0.297	2.59	40.7	26.5	1.93	24.5	0.02	0.03	0.04	0.11	122	210
125 ISL	9.89 D	9.88	33.899 D	26.114	191.6	0.305	2.56	40.1	27.1	1.94	24.7	0.02	0.03	0.03	0.10	126	
141	9.62	9.60	33.966	26.211	182.7	0.335	2.47	38.5	29.2	1.98	25.4	0.01	0.02	0.01	0.07	142	209
150 ISL	9.57 D	9.55	33.974 D	26.226	181.5	0.351	2.33	36.3	30.5	2.03	25.9	0.01	0.03	0.01	0.08	151	
171	9.46	9.44	34.080	26.327	172.3	0.388	2.00	31.1	33.3	2.15	27.1	0.00	0.08	0.01	0.11	172	208
200 ISL	9.29 D	9.27	34.128 D	26.393	166.6	0.437	1.78	27.6	35.5	2.25	28.0	0.01	0.12	0.02	0.07	201	
201	9.30	9.28	34.127	26.390	166.8	0.439	1.77	27.4	35.6	2.25	28.0	0.01	0.12	0.02	0.07	202	207
232	9.14	9.11	34.215	26.485	158.4	0.489	1.31	20.2	40.0	2.43	29.6	0.00	0.10			233	206
250 ISL	9.02 D	8.99	34.231 D	26.517	155.7	0.518	1.24	19.1	41.3	2.47	29.9	0.00	0.07			251	
272	8.89	8.86	34.238	26.544	153.6	0.552	1.20	18.4	42.6	2.50	30.2	0.00	0.03			274	205
300 ISL	8.69 D	8.66	34.257 D	26.590	149.6	0.594	1.00	15.3	45.9	2.60	31.1	0.01	0.04			302	
321	8.50	8.47	34.273	26.633	145.9	0.625	0.84	12.8	48.5	2.67	31.9	0.02	0.04			323	204
382	8.07	8.03	34.292	26.714	139.1	0.712	0.71	10.7	53.4	2.76	33.1	0.00	0.02			384	203
400 ISL	7.94 D	7.90	34.290 D	26.731	137.6	0.737	0.71	10.7	54.8	2.77	33.5	0.00	0.02			403	
441	7.52	7.48	34.265	26.773	134.0	0.792	0.72	10.7	58.5	2.80	34.6	0.00	0.03			444	202
500 ISL	7.13 D	7.08	34.317 D	26.870	125.5	0.869	0.43	6.3	66.0	2.96	36.1	0.03	0.02			503	
513	7.02	6.97	34.320	26.887	123.9	0.885	0.36	5.3	67.7	3.00	36.4	0.04	0.02			517	201

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS;PRIMARY T; PRIMARY CORRECTED S;

RV MCARTHUR II CALCOFI CRUISE 0907 STATION 93.3 30.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
32 50.6 N	117 32.0 W	15/07/09	1458 UTC	852 m	290 03 kn	290 01 05	2	1014.3 mb	19.9 C	18.0 C		8/8	ST

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	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	20.78	20.78	33.582	23.475	440.1	0.000	6.45	125.6	0.2	0.19	0.1	0.00	0.02	1.42	0.39	0	
2	20.78	20.78	33.582	23.475	440.2	0.009	6.45	125.6	0.2	0.19	0.1	0.00	0.02	1.42	0.39	2	220
10 ISL	15.52 D	15.52	33.429 D	24.648	328.6	0.040	7.27	127.9	0.3	0.32	0.1	0.00	0.01	1.90	0.57	10	
11	15.20	15.20	33.410	24.704	323.3	0.043	7.38	129.0	0.3	0.35	0.1	0.00	0.01	1.98	0.61	11	219
20 ISL	13.89 D	13.89	33.379 D	24.959	299.3	0.071	6.90	117.4	3.8	0.59	2.7	0.17	0.09	2.53	0.96	20	
21	13.73	13.73	33.383	24.995	295.9	0.074	6.85	116.2						2.54	0.99	21	218
30 ISL	12.76 D	12.76	33.443 D	25.235	273.2	0.099	5.28	87.8	9.2	0.93	7.8	0.35	0.15	1.25	0.81	30	
31	12.67	12.67	33.448	25.257	271.1	0.102	5.09	84.5	9.8	0.97	8.4	0.37	0.15	1.08	0.77	31	217
41	11.63	11.62	33.500	25.495	248.7	0.128	4.07	66.1	14.2	1.35	15.0	0.33	0.01	0.45	0.45	41	216
50 ISL	11.06 D	11.05	33.531 D	25.622	236.7	0.150	3.88	62.3	16.1	1.47	17.4	0.18	0.01	0.26	0.25	50	
51	11.06	11.05	33.526	25.619	237.1	0.152	3.88	62.3	16.2	1.48	17.5	0.16	0.01	0.25	0.24	51	215
61	11.00	10.99	33.570	25.664	233.1	0.176	3.56	57.1	17.6	1.56	18.9	0.04	0.02	0.20	0.20	61	214
71	10.60	10.59	33.688	25.826	217.8	0.198	3.04	48.3	21.2	1.78	22.1	0.02	0.02	0.09	0.15	71	213
75 ISL	10.49 D	10.48	33.718 D	25.869	213.8	0.207	3.03	48.1	21.9	1.79	22.3	0.02	0.01	0.07	0.14	75	
86	10.19	10.18	33.768	25.960	205.4	0.230	3.00	47.3	23.1	1.82	22.9	0.01	0.00	0.04	0.11	86	212
100 ISL	9.91 D	9.90	33.857 D	26.077	194.6	0.258	2.87	45.0	25.0	1.87	23.7	0.01	0.02	0.02	0.10	101	
101	9.88	9.87	33.857	26.082	194.1	0.260	2.85	44.6	25.2	1.87	23.8	0.01	0.02	0.02	0.10	102	211
120	9.79	9.78	33.935	26.158	187.3	0.296	2.32	36.3	28.6	2.05	25.6	0.01	0.02	0.02	0.10	121	210
125 ISL	9.61 D	9.60	33.931 D	26.185	184.8	0.306	2.31	36.0	29.0	2.05	25.8	0.01	0.02	0.02	0.09	126	
141	9.63	9.61	34.006	26.241	179.9	0.335	2.29	35.7	30.1	2.05	26.0	0.00	0.00	0.01	0.06	142	209
150 ISL	9.58 D	9.56	34.042 D	26.277	176.6	0.351	2.19	34.1	31.2	2.09	26.4	0.00	0.00	0.01	0.06	151	
171	9.49	9.47	34.102	26.339	171.1	0.387	1.88	29.2	33.9	2.22	27.3	0.00	0.01	0.01	0.06	172	208
200 ISL	9.42 D	9.40	34.186 D	26.417	164.3	0.436	1.53	23.8	36.6	2.36	28.4	0.00	0.00	0.01	0.06	201	
201	9.42	9.40	34.191	26.421	164.0	0.438	1.52	23.6	36.7	2.36	28.4	0.00	0.00	0.01	0.06	202	207
231	9.35	9.32	34.232	26.465	160.4	0.486	1.31	20.3	38.9	2.45	29.0	0.00	0.06			232	206
250 ISL	9.26 D	9.23	34.257 D	26.499	157.5	0.516	1.20	18.6	40.1	2.49	29.3	0.00	0.06			251	
271	9.17	9.14	34.272	26.526	155.4	0.549	1.10	17.0	41.5	2.53	29.7	0.00	0.04			273	205
300 ISL	9.03 D	9.00	34.299 D	26.570	151.8	0.594	0.99	15.3	43.8	2.59	30.3	0.00	0.06			302	
322	8.79	8.76	34.299	26.608	148.4	0.627	0.92	14.1	45.7	2.64	30.8	0.00	0.07			324	204
381	8.15	8.11	34.292	26.702	140.2	0.712	0.74	11.2	51.8	2.76	32.8	0.00	0.05			383	203
400 ISL	8.06 D	8.02	34.320 D	26.737	137.2	0.738	0.68	10.3	54.0	2.80	33.4	0.00	0.03			403	
441	7.57	7.53	34.308	26.800	131.5	0.793	0.56	8.3	58.7	2.89	34.6	0.00	0.00			444	202
500 ISL	7.05 D	7.00	34.300 D	26.867	125.6	0.869	0.45	6.6	64.4	2.99	36.2	0.00	0.00			503	
513	6.99	6.94	34.308	26.882	124.4	0.886	0.43	6.3	65.6	3.01	36.6	0.00	0.00			517	201

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS;PRIMARY T; PRIMARY CORRECTED S;

RV MCARTHUR II CALCOFI CRUISE 0907 STATION 93.3 35.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
32 40.8 N	117 52.0 W	15/07/09	1839 UTC	629 m	310 07 kn	310 01 05	1	1015.8 mb	20.0 C	18.0 C	11m	1/8	AC

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	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	21.39	21.39	33.615	23.335	453.5	0.000	6.36	125.3	0.1	0.14	0.1	0.00	0.04	1.25	0.44	0	
2 A	21.39	21.39	33.615	23.335	453.5	0.009	6.36	125.3	0.1	0.14	0.1	0.00	0.04	1.25	0.44	2	221
9 A	20.47	20.47	33.568	23.548	433.5	0.040	6.58	127.4	0.1	0.15	0.1	0.01	0.04	1.67	0.46	9	220
10 ISL	17.74 D	17.74	33.509 D	24.195	371.8	0.044	6.71	123.4	0.2	0.16	0.1	0.01	0.04	1.83	0.44	10	
15 A	16.77	16.77	33.497	24.416	350.9	0.062	7.30	131.7	0.9	0.24	0.0	0.01	0.03	2.55	0.40	15	219
20 ISL	14.44 D	14.44	33.444 D	24.894	305.5	0.079	7.06	121.5	1.9	0.30	0.1	0.01	0.04	2.53	0.61	20	
23 A	14.35	14.35	33.440	24.910	304.0	0.088	6.91	118.7	2.9	0.38	0.1	0.01	0.04	2.51	0.71	23	218
30 A	12.69	12.69	33.443	25.249	271.9	0.108	5.40	89.7	7.3	0.89	7.6	0.24	0.09	0.88	0.35	30	217
42 A	11.34	11.33	33.494	25.543	244.1	0.139	4.18	67.5	14.2	1.33	15.6	0.21	0.03	0.61	0.37	42	216
50	11.07	11.06	33.524	25.615	237.4	0.158	4.15	66.6	15.4	1.42	17.1	0.05	0.02	0.45	0.38	50	215
61	10.74	10.73	33.612	25.743	225.6	0.184	3.59	57.2	18.3	1.58	19.6	0.03	0.01	0.25	0.22	61	214
70	10.38	10.37	33.759	25.920	208.9	0.203	2.79	44.2	23.3	1.86	23.6	0.18	0.01	0.13	0.14	70	213
75 ISL	10.32 D	10.31	33.773 D	25.941	206.9	0.214	2.84	44.9	23.4	1.85	23.5	0.16	0.01	0.10	0.12	75	
87	10.12	10.11	33.774	25.976	203.9	0.238	2.95	46.4	23.5	1.84	23.4	0.03	0.01	0.07	0.10	87	212
100 ISL	9.68 D	9.67	33.851 D	26.110	191.3	0.264	2.95	46.0	25.1	1.86	24.0	0.03	0.02	0.01	0.05	100	
101	9.68	9.67	33.855	26.114	191.1	0.266	2.95	46.0	25.3	1.86	24.1	0.03	0.02	0.01	0.05	102	211
122	9.57	9.56	33.967	26.220	181.4	0.305	2.55	39.7	28.7	1.99	25.5	0.02	0.02	0.01	0.05	123	210
125 ISL	9.61 D	9.60	33.993 D	26.234	180.2	0.310	2.46	38.3	29.2	2.02	25.7	0.02	0.02	0.01	0.05	126	
141	9.53	9.51	34.046	26.288	175.3	0.339	2.02	31.4	31.7	2.15	27.0	0.01	0.01	0.02	0.07	142	209
150 ISL	9.47 D	9.45	34.072 D	26.319	172.6	0.354	1.98	30.8	32.7	2.19	27.4	0.01	0.01	0.02	0.07	151	
173	9.23	9.21	34.121	26.396	165.6	0.393	1.86	28.8	34.9	2.25	28.2	0.01	0.02	0.01	0.06	174	208
200 ISL	8.98 D	8.96	34.179 D	26.482	158.0	0.437	1.60	24.6	38.3	2.36	29.3	0.00	0.00	0.00	0.04	201	
202	8.98	8.96	34.179	26.482	158.0	0.440	1.58	24.3	38.5	2.37	29.4	0.00	0.00	0.00	0.04	203	207
241	8.99	8.96	34.262	26.546	152.8	0.501	1.14	17.5	41.9	2.54	30.2	0.00	0.00			242	206
250 ISL	8.95 D	8.92	34.289 D	26.574	150.3	0.514	1.08	16.6	42.5	2.56	30.3	0.00	0.00			251	
271	8.94	8.91	34.295	26.581	150.1	0.546	1.00	15.4	43.6	2.60	30.5	0.00	0.00			273	205
300 ISL	8.91 D	8.88	34.297 D	26.587	150.0	0.589	0.99	15.2	44.3	2.62	30.7	0.00	0.00			302	
322	8.82	8.79	34.297	26.602	149.0	0.622	0.98	15.0	44.8	2.63	30.9	0.00	0.00			324	204
382	8.51	8.47	34.309	26.660	144.5	0.710	0.86	13.1	47.9	2.70	31.7	0.00	0.00			384	203
400 ISL	8.12 D	8.08	34.310 D	26.720	138.8	0.736	0.79	11.9	51.0	2.75	32.6	0.00	0.00			403	
441	7.50	7.46	34.303	26.806	130.9	0.791	0.61	9.1	58.6	2.88	34.9	0.00	0.00			444	202
500 ISL	6.95 D	6.90	34.319 D	26.896	122.8	0.866	0.46	6.8	64.6	2.99	36.5	0.00	0.00			503	
513	6.89	6.84	34.324	26.908	121.8	0.882	0.43	6.3	65.9	3.01	36.8	0.00	0.00			517	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.
D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS;PRIMARY T; PRIMARY CORRECTED S;

RV MCARTHUR II CALCOFI CRUISE 0907 STATION 93.3 40.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
32 30.5 N	118 12.5 W	15/07/09	2308 UTC	1679 m	280 10 kn	290 02 06	1	1015.5 mb	19.0 C	18.0 C	14m	4/8	SC

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	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	20.08	20.08	33.569	23.651	423.4	0.000	6.10	117.3	0.2	0.21	0.1	0.00	0.05	0.63	0.15	0	
2	20.08	20.08	33.569	23.651	423.4	0.008	6.10	117.3	0.2	0.21	0.1	0.00	0.05	0.63	0.15	2	221
10	19.68	19.68	33.577	23.762	413.2	0.042	6.08	116.0	0.2	0.18	0.1	0.00	0.02	0.60	0.20	10	219
11	19.67	19.67	33.560	23.751	414.2	0.046										11	220
20 ISL	15.61 D	15.61	33.360 D	24.575	335.8	0.080	6.49	114.3	2.1	0.30	0.1	0.00	0.06	0.52	0.14	20	
22	15.48	15.48	33.355	24.600	333.5	0.087	6.56	115.3	2.5	0.34	0.1	0.00	0.07	0.51	0.13	22	218
30 ISL	13.82 D	13.82	33.300 D	24.912	304.0	0.112	6.33	107.5	3.1	0.45	1.4	0.09	0.01	0.71	0.19	30	
31	13.86	13.86	33.300	24.904	304.8	0.115	6.30	107.1	3.2	0.47	1.6	0.10	0.00	0.74	0.20	31	217
41	12.06	12.05	33.336	25.287	268.5	0.144	5.17	84.6	7.8	0.99	10.0	0.08	0.00	0.85	0.35	41	216
50 ISL	11.33 D	11.32	33.358 D	25.439	254.2	0.167	4.83	77.9	10.3	1.12	12.5	0.03	0.00	0.37	0.19	50	
51	11.32	11.31	33.359	25.442	253.9	0.170	4.81	77.5	10.5	1.13	12.6	0.02	0.00	0.31	0.17	51	215
61	11.06	11.05	33.442	25.553	243.6	0.195	4.53	72.6	12.8	1.27	14.7	0.02	0.00	0.19	0.11	61	214
71	10.65	10.64	33.560	25.718	228.1	0.218	3.92	62.3	17.0	1.48	18.2	0.00	0.00	0.10	0.09	71	213
75 ISL	10.60 D	10.59	33.587 D	25.748	225.4	0.227	3.65	58.0	18.5	1.57	19.5	0.00	0.00	0.09	0.09	75	
85	10.44	10.43	33.714	25.875	213.5	0.249	3.11	49.3	21.5	1.76	21.9	0.00	0.00	0.08	0.09	85	212
100	10.03	10.02	33.791	26.005	201.4	0.280	3.05	47.9	23.6	1.78	22.6	0.00	0.00	0.03	0.05	100	211
121	9.73	9.72	33.920	26.156	187.4	0.321	2.62	40.9	27.5	1.94	24.5	0.00	0.00	0.01	0.04	122	210
125 ISL	9.68 D	9.67	33.938 D	26.179	185.4	0.329	2.57	40.1	27.9	1.96	24.7	0.00	0.00	0.01	0.04	126	
142	9.57	9.55	33.986	26.235	180.4	0.360	2.44	38.0	29.3	2.01	25.2	0.00	0.00	0.01	0.04	143	209
150 ISL	9.47 D	9.45	34.012 D	26.272	177.0	0.374	2.41	37.4	29.9	2.02	25.5	0.00	0.00	0.01	0.04	151	
171	9.32	9.30	34.050	26.326	172.3	0.411	2.29	35.5	31.8	2.07	26.4	0.00	0.00	0.01	0.03	172	208
200 ISL	9.21 D	9.19	34.145 D	26.419	164.1	0.459	1.80	27.8	35.6	2.26	27.9	0.00	0.00	0.01	0.06	201	
202	9.21	9.19	34.153	26.425	163.5	0.463	1.76	27.2	35.9	2.28	28.0	0.00	0.00	0.01	0.06	203	207
235	8.85	8.82	34.203	26.522	154.8	0.515	1.44	22.1	40.5	2.45	29.7	0.02	0.12			236	206
250 ISL	8.95 D	8.92	34.273 D	26.561	151.5	0.538	1.36	20.9	42.1	2.49	30.1	0.02	0.10			251	
275	8.52	8.49	34.237	26.601	148.0	0.576	1.24	18.9	44.6	2.54	30.7	0.01	0.03			277	205
300 ISL	8.40 D	8.37	34.269 D	26.644	144.3	0.612	1.08	16.4	47.3	2.61	31.5	0.00	0.02			302	
329	8.10	8.07	34.264	26.686	140.7	0.654	0.90	13.6	50.4	2.69	32.3	0.00	0.00			331	204
388	7.71	7.67	34.278	26.755	134.9	0.735	0.73	10.9	55.5	2.83	33.5	0.00	0.00			390	203
400 ISL	7.62 D	7.58	34.277 D	26.768	133.9	0.751	0.69	10.3	56.6	2.85	33.8	0.00	0.00			403	
444	7.32	7.28	34.296	26.826	128.9	0.809	0.54	8.0								447	202
500 ISL	6.93 D	6.88	34.318 D	26.898	122.6	0.879	0.41	6.0	66.0	2.98	36.2	0.00	0.00			503	
505	6.93	6.88	34.315	26.896	122.9	0.885	0.40	5.9	66.5	2.99	36.3	0.00	0.00			508	201

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS;PRIMARY T; PRIMARY CORRECTED S;

RV MCARTHUR II CALCOFI CRUISE 0907 STATION 93.3 45.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
32 20.6 N	118 33.3 W	16/07/09	0318 UTC	1316 m	320 10 kn	210 02 08	1	1015.7 mb	18.0 C	17.2 C		6/8	SC

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	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	19.68	19.68	33.511	23.711	417.6	0.000	5.49	104.7	1.4	0.31	0.1	0.00	0.00	0.21	0.04	0	
2	19.68	19.68	33.511	23.711	417.7	0.008	5.49	104.7	1.4	0.31	0.1	0.00	0.00	0.21	0.04	2	220
10 ISL	19.58 D	19.58	33.503 D	23.731	416.1	0.042	5.50	104.7	1.3	0.28	0.1	0.00	0.03	0.26	0.00	10	
11	19.55	19.55	33.510	23.744	414.9	0.046	5.50	104.7	1.3	0.28	0.1	0.00	0.03	0.27	0.00	11	219
20 ISL	16.97 D	16.97	33.388 D	24.286	363.4	0.081	5.98	108.2	2.5	0.32	0.0	0.00	0.01	0.35	0.03	20	
21	16.91	16.91	33.385	24.298	362.3	0.085	6.05	109.4	2.7	0.33	0.0	0.00	0.01	0.36	0.03	21	218
30 ISL	14.61 D	14.61	33.235 D	24.697	324.5	0.115	6.45	111.3	3.4	0.36	0.2	0.02	0.02	0.66	0.05	30	
31	14.58	14.58	33.237	24.705	323.8	0.119	6.48	111.7	3.5	0.37	0.2	0.02	0.02	0.69	0.05	31	217
41	13.39	13.38	33.203 D	24.925	303.0	0.150										41	216
50 ISL	12.86 D	12.85	33.249 D	25.066	289.8	0.177	6.08	101.2	5.3	0.67	4.3	0.29	0.19	0.65	0.30	50	
51	12.85	12.84	33.252	25.070	289.4	0.180	6.06	100.8	5.4	0.69	4.7	0.31	0.20	0.65	0.31	51	215
61	12.30	12.29	33.353	25.255	272.0	0.208	5.45	89.7	7.4	0.96	9.0	0.54	0.10	0.56	0.17	61	214
71	11.71	11.70	33.511	25.489	250.0	0.234	4.79	77.9	11.5	1.27	14.5	0.03	0.00	0.17	0.17	71	213
75 ISL	11.22 D	11.21	33.534 D	25.597	239.8	0.244	4.53	72.9	13.3	1.36	16.0	0.02	0.00	0.14	0.15	75	
87	10.70	10.69	33.589	25.732	227.1	0.272	3.88	61.8	17.9	1.56	19.0	0.00	0.01	0.05	0.07	87	212
100 ISL	10.11 D	10.10	33.672 D	25.899	211.5	0.300	3.58	56.3	20.3	1.64	20.7	0.00	0.01	0.02	0.04	100	
101	10.09	10.08	33.683	25.911	210.4	0.302	3.56	56.0	20.5	1.64	20.8	0.00	0.01	0.02	0.04	101	211
121	9.58	9.57	33.833	26.113	191.5	0.342	3.03	47.1	25.4	1.85	23.8	0.00	0.00	0.01	0.03	122	210
125 ISL	9.43 D	9.42	33.875 D	26.171	186.1	0.350	2.96	45.9	26.1	1.87	24.2	0.00	0.00	0.01	0.03	126	
141	9.31	9.29	33.918	26.224	181.3	0.379	2.77	42.9	28.6	1.95	25.3	0.00	0.00	0.00	0.03	142	209
150 ISL	9.16 D	9.14	33.976 D	26.294	174.9	0.395	2.69	41.5	30.1	1.99	25.8	0.00	0.00	0.00	0.03	151	
170	8.82	8.80	34.018	26.381	166.9	0.430	2.56	39.2	33.3	2.07	26.8	0.00	0.01	0.00	0.02	171	208
200 ISL	8.50 D	8.48	34.059 D	26.463	159.6	0.478	2.37	36.0	37.1	2.16	28.1	0.00	0.03	0.00	0.02	201	
201	8.50	8.48	34.059	26.463	159.6	0.480	2.36	35.9	37.2	2.16	28.1	0.00	0.03	0.00	0.02	202	207
231	8.43	8.41	34.145	26.542	152.7	0.527	1.72	26.1	42.0	2.39	30.1	0.00	0.00			232	206
250 ISL	7.95 D	7.92	34.131 D	26.603	147.0	0.555	1.59	23.9	45.5	2.47	31.3	0.00	0.00			251	
272	7.64	7.61	34.130	26.647	143.0	0.587	1.53	22.8	49.6	2.54	32.6	0.00	0.00			274	205
300 ISL	7.27 D	7.24	34.142 D	26.710	137.4	0.627	1.33	19.7	54.4	2.64	34.0	0.00	0.00			302	
325	7.06	7.03	34.152	26.747	134.1	0.661	1.12	16.5	58.0	2.73	35.0	0.00	0.00			327	204
384	7.15	7.11	34.290	26.844	126.0	0.737	0.55	8.1	62.9	2.95	35.7	0.00	0.00			386	203
400 ISL	7.12 D	7.08	34.315 D	26.868	124.0	0.757	0.47	6.9	64.5	2.99	35.9	0.00	0.00			403	
443	6.85	6.81	34.325	26.913	120.1	0.810	0.35	5.1	68.9	3.06	36.7	0.00	0.00			446	202
500 ISL	6.44 D	6.39	34.343 D	26.983	114.0	0.876	0.27	3.9	74.2	3.14	38.2	0.00	0.00			503	
517	6.38	6.33	34.350	26.996	112.9	0.896	0.25	3.6	75.8	3.16	38.6	0.00	0.00			521	201

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS;PRIMARY T; PRIMARY CORRECTED S;

RV MCARTHUR II CALCOFI CRUISE 0907 STATION 93.3 50.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT TYPE
32 10.7 N	118 53.7 W	16/07/09	0726 UTC	1465 m	330 09 kn			1016.9 mb	18.0 C	16.5 C		

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	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	18.67	18.67	33.530	23.982	391.8	0.000	5.57	104.3	2.3	0.28	0.1	0.00	0.01	0.19	0.06	0	
2	18.67	18.67	33.530	23.982	391.8	0.008	5.57	104.3	2.3	0.28	0.1	0.00	0.01	0.19	0.06	2	221
10	18.63	18.63	33.528	23.991	391.3	0.039	5.57	104.2	2.1	0.26	0.1	0.00	0.01	0.19	0.06	10	220
20	18.02	18.02	33.535	24.147	376.7	0.078	5.82	107.6	1.9	0.26	0.0	0.00	0.00	0.41	0.16	20	219
25	16.62	16.62	33.534	24.480	345.1	0.096	6.45	116.1	1.4	0.43	0.7	0.03	0.03	1.62	0.69	25	218
30	13.22	13.22	33.518	25.203	276.3	0.111	5.49	92.2	8.0	0.93	8.3	0.26	0.06	1.36	0.75	30	217
40	12.32	12.31	33.526	25.385	259.2	0.138	5.05	83.2	10.9	1.19	12.4	0.26	0.00	0.49	0.33	40	216
50	11.56	11.55	33.543	25.541	244.5	0.163	4.53	73.5	13.7	1.40	15.7	0.05	0.00	0.27	0.21	50	215
59	11.31	11.30	33.583	25.618	237.4	0.185	4.37	70.5	15.4	1.52	17.5	0.02	0.01	0.16	0.15	59	214
70	10.74	10.73	33.648	25.771	223.1	0.210	3.60	57.4	19.3	1.70	20.2	0.01	0.00	0.10	0.11	70	213
75 ISL	10.58 D	10.57	33.690 D	25.832	217.4	0.221	3.57	56.7	20.3	1.75	20.9	0.01	0.00	0.08	0.10	75	
84	10.43	10.42	33.711	25.874	213.5	0.241	3.51	55.6	21.5	1.81	21.7	0.00	0.00	0.05	0.09	84	212
100	10.19	10.18	33.773	25.964	205.3	0.274	3.17	50.0	24.0	1.90	23.0	0.00	0.00	0.02	0.07	100	211
121	9.66	9.65	33.950	26.192	184.1	0.315	2.57	40.1	28.6	2.05	25.3	0.00	0.00	0.01	0.04	122	210
125 ISL	9.55 D	9.54	33.974 D	26.229	180.7	0.322	2.47	38.4	29.5	2.08	25.7	0.00	0.00	0.01	0.04	126	
140	9.38	9.36	34.058	26.322	172.0	0.349	2.17	33.7	32.6	2.18	27.1	0.00	0.00	0.00	0.04	141	209
150 ISL	9.25 D	9.23	34.080 D	26.361	168.6	0.366	2.08	32.2	34.0	2.22	27.7	0.00	0.00	0.00	0.04	151	
169	9.01	8.99	34.110	26.423	163.0	0.397	1.95	30.0	36.4	2.29	28.6	0.00	0.00	0.00	0.04	170	208
200	8.80	8.78	34.195	26.523	154.0	0.446	1.48	22.7	41.2	2.47	30.2	0.00	0.00	0.00	0.03	201	207
229	8.26	8.24	34.218	26.625	144.7	0.490	1.02	15.4	47.7	2.68	32.7	0.00	0.00			230	206
250 ISL	8.04 D	8.01	34.241 D	26.676	140.2	0.520	0.87	13.1	51.2	2.76	33.5	0.00	0.00			251	
271	7.84	7.81	34.253	26.715	136.7	0.549	0.79	11.8	54.2	2.81	33.9	0.00	0.00			273	205
300 ISL	7.46 D	7.43	34.278 D	26.790	129.9	0.587	0.63	9.4	58.9	2.89	34.9	0.00	0.00			302	
322	7.26	7.23	34.291	26.829	126.5	0.616	0.53	7.8	62.3	2.95	35.7	0.00	0.00			324	204
381	6.84	6.80	34.304	26.897	120.6	0.688	0.39	5.7	69.2	3.03	36.9	0.00	0.00			383	203
400 ISL	6.77 D	6.73	34.309 D	26.911	119.6	0.711	0.37	5.4	70.1	3.05	37.1	0.00	0.00			403	
441	6.65	6.61	34.310	26.928	118.5	0.760	0.35	5.1	71.7	3.08	37.6	0.00	0.00			444	202
500 ISL	6.31 D	6.26	34.328 D	26.988	113.4	0.828	0.28	4.1	77.3	3.14	38.8	0.00	0.00			503	
513	6.25	6.20	34.329	26.997	112.7	0.843	0.26	3.8	78.5	3.15	39.1	0.00	0.00			517	201

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS;PRIMARY T; PRIMARY CORRECTED S;

RV MCARTHUR II CALCOFI CRUISE 0907 STATION 93.3 55.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT TYPE
32 0.8 N	119 14.2 W	16/07/09	1125 UTC	1585 m	320 09 kn			1016.2 mb	16.8 C	14.9 C		

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	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	17.84	17.84	33.592	24.234	367.7	0.000	5.82	107.3	0.0	0.27	0.1	0.00	0.00	0.57	0.14	0	
2	17.84	17.84	33.592	24.234	367.8	0.007	5.82	107.3	0.0	0.27	0.1	0.00	0.00	0.57	0.14	2	221
10 ISL	17.70 D	17.70	33.583 D	24.261	365.5	0.037	5.85	107.5	0.0	0.25	0.1	0.00	0.00	0.65	0.12	10	
11	17.69	17.69	33.599	24.276	364.1	0.040	5.86	107.7	0.0	0.25	0.1	0.00	0.00	0.67	0.12	11	219
11	17.70	17.70	33.587	24.265	365.2	0.040										11	220
20	16.76	16.76	33.584	24.486	344.4	0.072	5.91	106.7	0.1	0.31	0.1	0.00	0.00	0.80	0.22	20	218
30 ISL	15.80 D	15.80	33.581 D	24.703	324.0	0.106	5.85	103.6	1.7	0.45	1.7	0.08	0.18	1.03	0.29	30	
31	15.76	15.76	33.581	24.712	323.2	0.109	5.84	103.3	2.0	0.47	2.0	0.10	0.21	1.04	0.30	31	217
40	13.53	13.52	33.478	25.109	285.5	0.136	5.59	94.5	6.4	0.82	6.8	0.33	0.52	0.62	0.36	40	216
50	12.71	12.70	33.426	25.233	274.0	0.164	5.47	90.8	8.1	0.95	8.9	0.40	0.39	0.46	0.30	50	215
61	11.38	11.37	33.436	25.491	249.5	0.193	4.97	80.2	12.2	1.26	14.6	0.11	0.00	0.13	0.11	61	214
71	10.97	10.96	33.546	25.651	234.5	0.217	4.51	72.2	13.9	1.41	17.1	0.03	0.00	0.12	0.10	71	213
75 ISL	10.59 D	10.58	33.579 D	25.743	225.8	0.226	4.37	69.4	14.7	1.46	17.8	0.02	0.00	0.10	0.09	75	
86	10.41	10.40	33.612	25.800	220.6	0.251	4.03	63.8	17.3	1.56	19.5	0.00	0.00	0.05	0.06	86	212
100 ISL	9.87 D	9.86	33.723 D	25.979	203.9	0.281	3.57	55.9	20.8	1.66	21.3	0.00	0.00	0.02	0.04	100	
101	9.87	9.86	33.732	25.986	203.2	0.283	3.54	55.4	21.1	1.67	21.4	0.00	0.00	0.02	0.04	101	211
121	9.82	9.81	33.881	26.111	191.8	0.322	2.72	42.6	26.1	1.93	24.3	0.00	0.00	0.01	0.04	122	210
125 ISL	9.75 D	9.74	33.937 D	26.167	186.6	0.330	2.61	40.8	26.9	1.97	24.7	0.00	0.00	0.01	0.04	126	
140	9.57	9.55	33.994	26.241	179.8	0.357	2.33	36.3	29.3	2.07	25.8	0.00	0.00	0.00	0.03	141	209
150 ISL	9.38 D	9.36	34.012 D	26.286	175.6	0.375	2.26	35.0	30.7	2.11	26.4	0.00	0.00	0.00	0.03	151	
169	9.13	9.11	34.067	26.370	168.0	0.408	2.16	33.3	33.2	2.16	27.4	0.00	0.00	0.00	0.03	170	208
200	8.80	8.78	34.136	26.477	158.4	0.458	1.70	26.0	38.1	2.34	29.5	0.00	0.00	0.00	0.03	201	207
229	8.54	8.52	34.167	26.542	152.7	0.503	1.44	21.9	42.2	2.46	30.8	0.00	0.00			230	206
250 ISL	8.33 D	8.30	34.188 D	26.591	148.4	0.535	1.29	19.6	45.3	2.54	31.6	0.00	0.00			251	
272	8.00	7.97	34.196	26.647	143.3	0.567	1.16	17.5	48.4	2.61	32.3	0.00	0.00			274	205
300 ISL	7.76 D	7.73	34.207 D	26.691	139.5	0.607	1.01	15.1	51.5	2.69	33.1	0.00	0.00			302	
321	7.65	7.62	34.238	26.732	135.9	0.636	0.90	13.4	53.7	2.75	33.6	0.00	0.00			323	204
381	7.21	7.17	34.288	26.834	126.9	0.715	0.54	8.0	61.5	2.92	35.2	0.00	0.00			383	203
400 ISL	7.07 D	7.03	34.309 D	26.870	123.7	0.738	0.49	7.2	64.0	2.96	35.8	0.00	0.00			403	
441	6.67	6.63	34.295	26.914	119.8	0.788	0.43	6.3	68.9	3.02	36.9	0.00	0.00			444	202
500 ISL	6.46 D	6.41	34.336 D	26.975	114.8	0.857	0.28	4.1	72.7	3.10	37.8	0.00	0.00			503	
510	6.48	6.43	34.347	26.981	114.4	0.869	0.26	3.8	73.4	3.11	38.0	0.00	0.00			513	201

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS;PRIMARY T; PRIMARY CORRECTED S;

RV MCARTHUR II CALCOFI CRUISE 0907 STATION 93.3 60.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
31 50.7 N	119 34.7 W	16/07/09	1709 UTC	1857 m	340 08 kn	350 03 07	1	1018.2 mb	16.7 C	15.6 C	14m	7/8	ST

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	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	17.03	17.03	33.476	24.339	357.8	0.000	5.80	105.2	1.3	0.34	0.1	0.00	0.04	0.31	0.05	0	
1 A	17.03	17.03	33.476	24.339	357.8	0.004	5.80	105.2	1.3	0.34	0.1	0.00	0.04	0.31	0.05	1	221
10 A	16.91	16.91	33.479	24.370	355.1	0.036	5.81	105.1	1.3	0.34	0.1	0.00	0.04	0.32	0.05	10	220
19 A	16.36	16.36	33.430	24.460	346.8	0.067	5.99	107.2	1.1	0.34	0.1	0.00	0.04	0.50	0.16	19	219
20 ISL	16.08 D	16.08	33.423 D	24.518	341.3	0.071	6.01	106.9	1.1	0.34	0.2	0.00	0.05	0.55	0.18	20	
29 A	15.12	15.12	33.354	24.679	326.2	0.101	6.17	107.6	1.8	0.40	0.6	0.05	0.16	0.97	0.32	29	218
30 ISL	14.38 D	14.38	33.295 D	24.792	315.5	0.104	6.16	105.8	2.0	0.42	0.8	0.08	0.16	0.96	0.33	30	
40 A	13.13	13.12	33.177	24.957	300.0	0.135	6.04	101.0	4.3	0.62	3.4	0.33	0.15	0.85	0.41	40	217
46	12.66	12.65	33.151	25.029	293.2	0.153	5.98	99.0	4.9	0.66	4.2	0.38	0.13	0.76	0.41	46	216
50 ISL	12.26 D	12.25	33.151 D	25.106	286.0	0.164	5.89	96.7	5.5	0.72	5.4	0.38	0.11	0.65	0.37	50	
53 A	12.20	12.19	33.162	25.126	284.1	0.173	5.80	95.1	6.0	0.77	6.4	0.38	0.10	0.56	0.34	53	215
62	11.85	11.84	33.198	25.220	275.4	0.198	5.54	90.2	6.5	0.90	8.6	0.19	0.05	0.45	0.30	62	214
70	11.66	11.65	33.280	25.319	266.1	0.219	5.35	86.8	8.3	1.03	10.5	0.26	0.10	0.35	0.26	70	213
75 ISL	11.69 D	11.68	33.371 D	25.384	260.1	0.233	5.14	83.5	9.9	1.13	12.3	0.21	0.08	0.28	0.22	75	
85	11.31	11.30	33.520	25.570	242.6	0.258	4.68	75.5	13.2	1.34	15.9	0.05	0.02	0.16	0.14	85	212
100	10.73	10.72	33.617 D	25.749	225.9	0.293	4.11	65.5	17.1	1.55	19.2	0.01	0.01	0.07	0.07	100	211
120	10.01	10.00	33.718	25.952	206.9	0.336	3.40	53.4	22.3	1.74	22.3	0.00	0.00	0.02	0.05	121	210
125 ISL	9.91 D	9.90	33.728 D	25.977	204.6	0.346	3.33	52.2	23.0	1.76	22.7	0.00	0.00	0.02	0.05	126	
141	9.56	9.54	33.788	26.082	194.9	0.378	3.17	49.3	24.7	1.82	23.7	0.00	0.00	0.01	0.04	142	209
150 ISL	9.35 D	9.33	33.867 D	26.178	185.9	0.396	3.01	46.6	26.3	1.87	24.5	0.00	0.00	0.01	0.04	151	
170	9.17	9.15	33.935	26.260	178.4	0.432	2.65	40.9	29.9	2.00	26.1	0.00	0.00	0.01	0.04	171	208
200	8.74	8.72	34.027	26.401	165.6	0.484	2.33	35.6	33.6	2.12	27.9	0.00	0.00	0.00	0.03	201	207
230	8.63	8.61	34.129	26.498	156.9	0.532	1.75	26.7	39.7	2.34	29.7	0.01	0.05			231	206
250 ISL	8.59 D	8.56	34.163 D	26.531	154.1	0.563	1.57	23.9	41.3	2.40	30.4	0.01	0.03			251	
271	8.50	8.47	34.171	26.552	152.5	0.595	1.44	21.9	42.6	2.45	31.0	0.00	0.00			273	205
300 ISL	8.21 D	8.18	34.200 D	26.619	146.6	0.639	1.19	18.0	46.8	2.58	32.1	0.00	0.00			302	
321	7.95	7.92	34.228	26.680	141.0	0.669	1.02	15.3	50.3	2.67	32.9	0.00	0.00			323	204
382	7.26	7.22	34.242	26.791	131.1	0.752	0.74	10.9	58.8	2.84	35.3	0.00	0.00			384	203
400 ISL	7.07 D	7.03	34.245 D	26.820	128.4	0.775	0.67	9.9	61.8	2.89	36.1	0.00	0.00			403	
442	6.58	6.54	34.245	26.886	122.3	0.828	0.54	7.9	68.5	2.98	37.6	0.00	0.00			445	202
500 ISL	6.34 D	6.29	34.287 D	26.952	116.8	0.897	0.40	5.8	73.8	3.06	38.5	0.00	0.00			503	
512	6.30	6.25	34.288	26.958	116.4	0.911	0.37	5.4	74.9	3.08	38.7	0.00	0.00			515	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.
D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS;PRIMARY T; PRIMARY CORRECTED S;

RV MCARTHUR II CALCOFI CRUISE 0907 STATION 93.3 70.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
31 30.9 N	120 15.0 W	16/07/09	2238 UTC	3928 m	320 12 kn	330 03 07	1	1017.8 mb	19.1 C	17.1 C	26m	4/8	SC

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	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	19.11	19.11	33.328	23.717	417.0	0.000	5.48	103.3	2.5	0.35	0.1	0.00	0.02	0.08	0.03	0	
2	19.11	19.11	33.328	23.717	417.1	0.008	5.48	103.3	2.5	0.35	0.1	0.00	0.02	0.08	0.03	2	220
10 ISL	18.69 D	18.69	33.314 D	23.812	408.3	0.041	5.50	102.9	2.4	0.34	0.1	0.00	0.01	0.09	0.01	10	
11	18.69	18.69	33.315	23.813	408.3	0.045	5.50	102.9	2.4	0.34	0.1	0.00	0.01	0.09	0.01	11	219
20 ISL	18.55 D	18.55	33.311 D	23.845	405.5	0.082	5.69	106.1	2.5	0.33	0.1	0.00	0.01	0.12	0.02	20	
26	17.17	17.17	33.243	24.128	378.7	0.106	5.86	106.4	2.5	0.33	0.1	0.00	0.02	0.15	0.03	26	218
30 ISL	15.33 D	15.33	33.192 D	24.508	342.5	0.120	5.94	104.0	1.8	0.33	0.1	0.00	0.02	0.17	0.05	30	
41	14.13	14.12	33.159	24.740	320.7	0.156			0.7	0.35	0.0	0.00	0.03	0.22	0.09	41	217
50	13.67	13.66	33.129	24.811	314.1	0.185	6.34	107.2	3.0	0.38	0.1	0.00	0.04	0.28	0.09	50	216
63	12.41	12.40	33.127	25.059	290.8	0.224	5.77	95.0	4.8	0.68	5.0	0.27	0.05	0.37	0.25	63	215
75 ISL	11.89 D	11.88	33.195 D	25.210	276.6	0.258	5.51	89.8	6.7	0.88	8.8	0.05	0.02	0.35	0.21	75	
76	11.88	11.87	33.199	25.215	276.2	0.261	5.49	89.5	6.9	0.89	9.1	0.03	0.02	0.35	0.21	76	214
88	11.39	11.38	33.242	25.339	264.6	0.294	5.20	83.9	9.1	1.03	11.4	0.01	0.01	0.19	0.12	88	213
100 ISL	10.95 D	10.94	33.332 D	25.488	250.6	0.325	4.98	79.6	11.5	1.17	13.7	0.00	0.01	0.10	0.09	100	
101	10.99	10.98	33.322	25.473	252.1	0.327	4.97	79.5	11.7	1.18	13.9	0.00	0.01	0.09	0.09	101	212
112	10.90	10.89	33.495	25.624	238.0	0.354	4.90	78.3	13.6	1.35	16.5	0.00	0.01	0.04	0.05	112	211
125	10.16	10.15	33.540	25.788	222.6	0.384	4.12	64.8	18.3	1.51	19.4	0.00	0.00	0.03	0.04	126	210
141	9.86	9.84	33.727	25.984	204.2	0.418	3.67	57.4	21.1	1.59	21.2	0.00	0.02	0.02	0.04	142	209
150 ISL	9.60 D	9.58	33.774 D	26.064	196.7	0.436	3.31	51.5	23.9	1.71	23.1	0.00	0.02	0.01	0.04	151	
170	9.34	9.32	33.936	26.234	181.0	0.474	2.56	39.6	30.3	2.01	27.2	0.00	0.00	0.00	0.04	171	208
200 ISL	8.78 D	8.76	34.041 D	26.406	165.1	0.526	2.09	32.0	36.2	2.20	29.9	0.00	0.00	0.00	0.04	201	
201	8.78	8.76	34.039	26.404	165.3	0.527	2.08	31.8	36.4	2.20	29.9	0.00	0.00	0.00	0.04	202	207
231	8.56	8.54	34.129	26.509	155.9	0.576	1.62	24.7	41.1	2.37	31.6	0.00	0.00			232	206
250 ISL	8.39 D	8.36	34.163 D	26.562	151.1	0.605	1.44	21.9	44.2	2.46	32.5	0.00	0.00			251	
271	8.12	8.09	34.174	26.612	146.7	0.636	1.28	19.3	47.4	2.55	33.3	0.00	0.00			273	205
300 ISL	7.93 D	7.90	34.203 D	26.663	142.2	0.678	1.07	16.1	51.0	2.64	34.2	0.00	0.00			302	
321	7.79	7.76	34.216	26.694	139.6	0.708	0.94	14.1	53.4	2.69	34.8	0.00	0.00			323	204
380	7.24	7.20	34.247	26.798	130.4	0.787	0.67	9.9	61.4	2.86	36.7	0.00	0.00			382	203
400 ISL	7.05 D	7.01	34.254 D	26.830	127.5	0.813	0.60	8.8	63.7	2.90	37.2	0.00	0.00			402	
441	6.80	6.76	34.282	26.886	122.6	0.864	0.47	6.9	68.5	2.99	38.3	0.00	0.00			444	202
500 ISL	6.33 D	6.28	34.306 D	26.968	115.3	0.934										503	
516	6.20	6.15	34.314 D	26.991	113.2	0.953										519	201

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS;PRIMARY T; PRIMARY CORRECTED S;

RV MCARTHUR II CALCOFI CRUISE 0907 STATION 93.3 80.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT TYPE
31 10.5 N	120 55.1 W	17/07/09	0445 UTC	3814 m	310 09 kn			1018.9 mb	17.2 C	15.3 C		

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	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	18.24	18.24	33.288	23.904	399.2	0.000	5.52	102.3	2.1	0.37	0.1	0.00	0.07	0.08	0.02	0	
2	18.24	18.24	33.288	23.904	399.3	0.008	5.52	102.3	2.1	0.37	0.1	0.00	0.07	0.08	0.02	2	220
10	18.21	18.21	33.373	23.976	392.6	0.040	5.49	101.8	1.8	0.35	0.1	0.00	0.04	0.07	0.02	10	219
20 ISL	18.02 D	18.02	33.327 D	23.988	391.9	0.079	5.52	101.9	1.8	0.34	0.1	0.00	0.04	0.08	0.02	20	
26	17.89	17.89	33.290	23.992	391.7	0.102	5.54	102.0	1.8	0.34	0.1	0.00	0.04	0.09	0.02	26	218
30 ISL	17.67 D	17.66	33.255 D	24.018	389.3	0.118	5.64	103.4	1.5	0.33	0.1	0.00	0.03	0.09	0.03	30	
40	16.42	16.41	33.285	24.335	359.4	0.155	5.90	105.6	1.0	0.32	0.0	0.00	0.02	0.09	0.04	40	217
50	15.48	15.47	33.291	24.552	339.0	0.190	6.02	105.7	1.7	0.33	0.0	0.00	0.02	0.13	0.03	50	216
62	14.65	14.64	33.265	24.713	324.0	0.230	5.96	102.9	1.9	0.34	0.0	0.00	0.05	0.13	0.05	62	215
75	13.20	13.19	33.182	24.948	301.8	0.271	5.62	94.1	3.5	0.55	2.3	0.17	0.05	0.37	0.26	75	214
87	11.29	11.28	33.115	25.258	272.2	0.305	5.24	84.3	7.4	0.90	9.1	0.02	0.03	0.43	0.22	87	213
100 ISL	10.58 D	10.57	33.245 D	25.485	250.8	0.339	4.98	78.9	10.4	1.10	12.4	0.00	0.03	0.14	0.12	100	
101	10.57	10.56	33.247	25.489	250.5	0.342	4.96	78.6	10.6	1.11	12.6	0.00	0.03	0.11	0.11	101	212
113	10.34	10.33	33.415	25.659	234.6	0.371	4.67	73.7	14.7	1.34	16.3	0.00	0.01	0.04	0.05	113	211
125	9.84	9.83	33.532	25.835	218.0	0.398	4.20	65.6	17.6	1.47	18.7	0.00	0.00	0.01	0.04	126	210
142	9.64	9.62	33.722	26.017	201.1	0.434	3.57	55.6	21.6	1.67	21.8	0.00	0.01	0.01	0.03	143	209
150 ISL	9.60 D	9.58	33.847 D	26.121	191.3	0.449	3.43	53.4	23.1	1.72	22.6	0.00	0.01	0.01	0.03	151	
170	9.13	9.11	33.926	26.260	178.5	0.486	3.26	50.2	26.5	1.79	24.0	0.00	0.00	0.00	0.03	171	208
200 ISL	8.60 D	8.58	33.979 D	26.385	167.0	0.538	2.94	44.8	31.5	1.93	26.3	0.00	0.00	0.00	0.02	201	
201	8.60	8.58	33.980	26.386	167.0	0.540	2.93	44.6	31.7	1.94	26.4	0.00	0.00	0.00	0.02	202	207
232	8.11	8.09	34.008	26.482	158.2	0.590	2.62	39.5	37.1	2.10	28.6	0.00	0.00			233	206
250 ISL	7.82 D	7.80	34.035 D	26.546	152.3	0.618	2.29	34.3	41.2	2.24	30.3	0.00	0.00			251	
271	7.59	7.56	34.057	26.597	147.7	0.650	1.88	28.0	46.1	2.41	32.3	0.00	0.00			272	205
300 ISL	7.22 D	7.19	34.092 D	26.677	140.4	0.691	1.46	21.6	51.7	2.57	34.2	0.00	0.00			302	
322	7.10	7.07	34.111	26.709	137.6	0.722	1.23	18.1	55.4	2.67	35.3	0.00	0.00			324	204
382	6.47	6.44	34.129	26.809	128.7	0.802	1.04	15.1	64.2	2.84	37.0	0.00	0.00			384	203
400 ISL	6.36 D	6.32	34.162 D	26.849	125.0	0.825	0.91	13.2	67.0	2.90	37.6	0.00	0.00			402	
441	6.14	6.10	34.191	26.901	120.5	0.875	0.61	8.8	72.8	3.02	38.8	0.00	0.00			444	202
500 ISL	5.81 D	5.77	34.248 D	26.988	112.8	0.944	0.45	6.4	76.9	3.10	39.5	0.00	0.00			503	
517	5.70	5.66	34.248	27.001	111.6	0.963	0.41	5.8	78.1	3.12	39.7	0.00	0.00			520	201

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS;PRIMARY T; PRIMARY CORRECTED S;

RV MCARTHUR II CALCOFI CRUISE 0907 STATION 93.3 90.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT TYPE
30 50.8 N	121 35.1 W	17/07/09	1037 UTC	4079 m	020 12 kn			1017.1 mb	17.1 C	15.5 C		

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	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	18.45	18.45	33.400	23.937	396.0	0.000	5.47	101.9	2.3	0.35	0.1	0.00	0.00	0.07	0.02	0	
2	18.45	18.45	33.400	23.938	396.1	0.008	5.47	101.9	2.3	0.35	0.1	0.00	0.00	0.07	0.02	2	220
10	18.44	18.44	33.399	23.940	396.2	0.040	5.47	101.9	2.3	0.34	0.1	0.00	0.02	0.07	0.02	10	219
20 ISL	18.36 D	18.36	33.380 D	23.945	396.0	0.079	5.48	101.9	2.2	0.33	0.0	0.00	0.01	0.08	0.02	20	
26	18.34	18.34	33.377	23.948	395.9	0.103	5.48	101.8	2.2	0.32	0.0	0.00	0.01	0.08	0.02	26	218
30 ISL	17.26 D	17.26	33.298 D	24.149	376.8	0.118	5.63	102.4	2.0	0.32	0.0	0.00	0.01	0.08	0.02	30	
40	15.94	15.93	33.223	24.397	353.5	0.155	5.99	106.1	1.8	0.32	0.0	0.00	0.01	0.09	0.03	40	217
50 ISL	15.37 D	15.36	33.259 D	24.552	339.0	0.190	6.00	105.1	2.3	0.32	0.0	0.00	0.02	0.10	0.04	50	
51	15.37	15.36	33.261	24.553	338.9	0.193	6.00	105.1	2.3	0.32	0.0	0.00	0.02	0.10	0.04	51	216
63	14.64	14.63	33.214	24.675	327.5	0.233	5.99	103.4	2.2	0.32	0.0	0.00	0.01	0.13	0.05	63	215
75	14.08	14.07	33.189	24.774	318.4	0.272	5.94	101.3	2.2	0.34	0.0	0.00	0.00	0.15	0.09	75	214
87	13.28	13.27	33.169	24.922	304.6	0.309	5.70	95.6	3.0	0.46	1.3	0.17	0.02	0.23	0.12	87	213
100	12.06	12.05	33.091	25.098	287.9	0.348	5.57	91.0	4.8	0.66	5.0	0.06	0.01	0.26	0.12	100	212
112	11.36	11.35	33.106	25.239	274.6	0.381	5.33	85.8	7.2	0.85	8.1	0.03	0.00	0.22	0.11	112	211
125	10.82	10.81	33.157	25.375	261.9	0.416	5.20	82.8	8.8	0.96	9.9	0.01	0.00	0.15	0.09	126	210
140	10.66	10.64	33.315	25.527	247.8	0.454	4.89	77.7	11.2	1.09	12.3	0.00	0.00	0.09	0.06	141	209
150 ISL	10.22 D	10.20	33.449 D	25.707	230.8	0.478	4.64	73.0	13.7	1.22	14.6	0.00	0.00	0.05	0.04	151	
170	9.64	9.62	33.640	25.953	207.7	0.522	4.07	63.3	19.6	1.50	19.3	0.00	0.00	0.00	0.02	171	208
200 ISL	8.88 D	8.86	33.925 D	26.299	175.3	0.580	3.17	48.6	28.6	1.86	24.9	0.00	0.00	0.00	0.02	201	
201	8.89	8.87	33.928	26.300	175.2	0.581	3.14	48.1	28.9	1.87	25.0	0.00	0.00	0.00	0.02	202	207
231	8.59	8.57	33.999	26.403	165.9	0.633	2.65	40.4	33.5	2.06	27.4	0.00	0.00			232	206
250 ISL	8.35 D	8.32	34.038 D	26.470	159.8	0.664	2.29	34.7	37.1	2.19	29.1	0.00	0.00			251	
270	8.14	8.11	34.067	26.525	154.9	0.695	1.98	29.9	41.0	2.32	30.6	0.00	0.00			271	205
300 ISL	7.73 D	7.70	34.084 D	26.599	148.2	0.740	1.93	28.8	45.9	2.41	31.8	0.00	0.00			302	
321	7.30	7.27	34.066	26.646	143.7	0.771	1.90	28.1	49.3	2.45	32.4	0.00	0.00			323	204
380	6.50	6.47	34.092	26.775	131.8	0.852	1.37	19.9	61.6	2.72	35.9	0.00	0.00			382	203
400 ISL	6.43 D	6.39	34.124 D	26.810	128.8	0.878	1.22	17.7	65.2	2.79	36.8	0.00	0.00			402	
441	5.99	5.95	34.132	26.873	123.0	0.930	0.94	13.5	71.8	2.93	38.2	0.00	0.00			444	202
500 ISL	5.65 D	5.61	34.207 D	26.975	113.8	1.000	0.53	7.5	80.3	3.11	40.0	0.00	0.00			503	
515	5.64	5.60	34.230	26.995	112.1	1.017	0.43	6.1	82.4	3.15	40.4	0.00	0.00			518	201

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS;PRIMARY T; PRIMARY CORRECTED S;

RV MCARTHUR II CALCOFI CRUISE 0907 STATION 93.3 100.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
30 30.8 N	122 15.9 W	17/07/09	1802 UTC	4176 m	340 06 kn	350 02 06	1	1019.2 mb	18.8 C	16.5 C	27m	7/8	CU

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	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	19.13	19.13	33.394	23.762	412.7	0.000			1.6	0.36	0.1	0.00	0.09	0.09	0.02	0	
2 A	19.13	19.13	33.394	23.762	412.8	0.008			1.6	0.36	0.1	0.00	0.09	0.09	0.02	2	221
10	19.03	19.03	33.401	23.793	410.1	0.041	5.50	103.6	1.7	0.33	0.1	0.00	0.01	0.06	0.10	10	220
19 A	18.91	18.91	33.386	23.813	408.6	0.078	5.44	102.2	1.8	0.32	0.1	0.00	0.01	0.12	0.02	19	219
20 ISL	18.90 D	18.90	33.385 D	23.814	408.5	0.082	5.45	102.4	1.8	0.32	0.1	0.00	0.01	0.12	0.02	20	
28	18.53	18.53	33.347	23.878	402.6	0.115	5.53	103.1	2.0	0.31	0.0	0.00	0.04	0.12	0.03	28	218
30 ISL	17.93 D	17.92	33.339 D	24.020	389.2	0.122	5.67	104.5	2.0	0.31	0.0	0.00	0.04	0.12	0.03	30	
37 A	16.20	16.19	33.233	24.346	358.3	0.149	6.13	109.2	1.9	0.31	0.0	0.00	0.02	0.13	0.05	37	217
46	15.29	15.28	33.213	24.534	340.6	0.180	6.18	108.1	2.0	0.31	0.0	0.00	0.02	0.17	0.07	46	216
50 ISL	14.71 D	14.70	33.180 D	24.634	331.1	0.194	6.16	106.5	2.0	0.32	0.0	0.00	0.02	0.18	0.08	50	
56 A	14.52	14.51	33.176	24.671	327.7	0.213	6.14	105.7	1.9	0.34	0.0	0.00	0.02	0.19	0.09	56	215
65	13.79	13.78	33.157	24.809	314.8	0.242	5.95	100.9	1.9	0.40	0.2	0.09	0.05	0.25	0.14	65	214
74 A	13.21	13.20	33.136	24.910	305.3	0.270	5.79	97.0	2.8	0.51	1.8	0.71	0.03	0.29	0.15	74	213
75 ISL	13.00 D	12.99	33.133 D	24.949	301.6	0.273	5.77	96.2	2.9	0.53	2.1	0.69	0.03	0.29	0.15	75	
88	12.23	12.22	33.144	25.107	286.8	0.311	5.53	90.7	4.9	0.72	6.2	0.05	0.02	0.28	0.13	88	212
100 ISL	11.76 D	11.75	33.170 D	25.216	276.7	0.345	5.44	88.4	6.4	0.83	8.1	0.03	0.02	0.17	0.10	100	
102 A	11.68	11.67	33.175	25.234	275.0	0.351	5.42	87.9	6.7	0.85	8.4	0.03	0.02	0.15	0.09	102	211
120	10.99	10.98	33.236	25.407	258.8	0.399	5.04	80.6	9.9	1.07	12.0	0.01	0.01	0.06	0.07	120	210
125 ISL	10.61 D	10.60	33.294 D	25.519	248.2	0.411	4.86	77.1	11.5	1.15	13.5	0.01	0.01	0.04	0.06	126	
141	10.01	9.99	33.508	25.788	222.8	0.449	4.25	66.6	16.8	1.42	18.3	0.00	0.01	0.01	0.04	142	209
150 ISL	9.80 D	9.78	33.572 D	25.874	214.9	0.469	3.98	62.1	19.1	1.52	20.0	0.00	0.01	0.01	0.04	151	
171	9.47	9.45	33.731	26.052	198.3	0.512	3.46	53.7	23.8	1.70	22.9	0.00	0.00	0.00	0.03	172	208
199	9.05	9.03	33.921	26.269	178.2	0.565	2.85	43.8	29.4	1.90	26.0	0.00	0.00	0.00	0.03	200	207
200 ISL	9.04 D	9.02	33.937 D	26.283	176.8	0.567	2.83	43.5	29.5	1.91	26.1	0.00	0.00			201	
230	8.66	8.64	34.015	26.404	165.8	0.618	2.48	37.8	32.8	2.07	28.1	0.00	0.00			231	206
250 ISL	8.31 D	8.28	34.047 D	26.483	158.5	0.650	2.43	36.8	36.6	2.11	28.8	0.00	0.00			251	
270	7.93	7.90	34.041	26.535	153.7	0.682	2.37	35.6	40.9	2.16	29.6	0.00	0.00			271	205
300 ISL	7.54 D	7.51	34.063 D	26.609	147.0	0.727	1.87	27.8	47.1	2.35	32.0	0.00	0.00			302	
322	7.43	7.40	34.102	26.656	142.9	0.759	1.47	21.8	51.4	2.50	33.8	0.00	0.00			324	204
380	6.86	6.82	34.155	26.777	131.9	0.838	1.01	14.8	61.1	2.72	36.3	0.00	0.00			382	203
400 ISL	6.50 D	6.46	34.153 D	26.824	127.5	0.864	0.89	12.9	64.3	2.78	37.1	0.00	0.00			402	
442	6.26	6.22	34.183	26.879	122.7	0.917	0.69	10.0	70.7	2.90	38.5	0.00	0.00			445	202
500 ISL	5.82 D	5.78	34.222 D	26.966	114.8	0.986	0.50	7.1	78.8	3.02	40.2	0.00	0.00			503	
519	5.68	5.64	34.228	26.988	112.8	1.007	0.44	6.3	81.4	3.06	40.7	0.00	0.00			522	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.
D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS;PRIMARY T; PRIMARY CORRECTED S;

RV MCARTHUR II CALCOFI CRUISE 0907 STATION 93.3 110.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
30 10.7 N	122 55.6 W	17/07/09	2305 UTC	3548 m	340 12 kn	150 05 10	1	1018.2 mb	19.0 C	18.2 C	25m	7/8	AC

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	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	18.85	18.85	33.351	23.800	409.1	0.000	5.46	102.4	1.6	0.33	0.1	0.00	0.04	0.08	0.01	0	
2	18.85	18.85	33.351	23.800	409.2	0.008	5.46	102.4	1.6	0.33	0.1	0.00	0.04	0.08	0.01	2	220
10 ISL	18.75 D	18.75	33.350 D	23.825	407.1	0.041	5.48	102.6	1.6	0.33	0.1	0.00	0.03	0.08	0.02	10	
11	18.73	18.73	33.350	23.830	406.6	0.045	5.48	102.6	1.6	0.33	0.1	0.00	0.03	0.08	0.02	11	219
20 ISL	18.56 D	18.56	33.346 D	23.870	403.2	0.081	5.47	102.1	1.6	0.33	0.1	0.00	0.02	0.08	0.02	20	
25	18.55	18.55	33.345	23.872	403.2	0.102	5.46	101.9	1.6	0.33	0.1	0.00	0.02	0.08	0.02	25	218
30 ISL	18.35 D	18.34	33.339 D	23.917	399.0	0.122	5.60	104.1	1.6	0.32	0.1	0.00	0.02	0.09	0.02	30	
40	16.59	16.58	33.238	24.260	366.6	0.160	5.91	106.1	1.7	0.31	0.0	0.00	0.03	0.11	0.03	40	217
50 ISL	15.95 D	15.94	33.309 D	24.461	347.7	0.196	6.01	106.6	1.6	0.30	0.0	0.00	0.02	0.11	0.02	50	
51	15.93	15.92	33.293	24.453	348.5	0.199	6.01	106.5	1.6	0.30	0.0	0.00	0.02	0.11	0.02	51	216
62	14.94	14.93	33.194	24.596	335.1	0.237	6.08	105.6	1.5	0.31	0.0	0.00	0.03	0.13	0.05	62	215
75 ISL	14.44 D	14.43	33.208 D	24.714	324.2	0.279	6.00	103.1	1.6	0.34	0.0	0.00	0.04	0.17	0.07	75	
76	14.41	14.40	33.205	24.718	323.9	0.283	5.99	102.9	1.6	0.34	0.0	0.00	0.04	0.17	0.07	76	214
87	14.23	14.22	33.218	24.766	319.6	0.318	5.89	100.8	1.8	0.33	0.1	0.01	0.04	0.20	0.09	87	213
100	13.62	13.61	33.201	24.879	309.1	0.359	5.72	96.7	2.5	0.42	1.1	0.27	0.04	0.22	0.13	100	212
111	12.87	12.86	33.173	25.007	297.1	0.392	5.60	93.2	3.7	0.53	3.4	0.10	0.01	0.22	0.13	111	211
125	11.66	11.64	33.190	25.250	274.0	0.432	5.37	87.1	6.2	0.75	7.3	0.02	0.00	0.14	0.16	125	210
140	11.02	11.00	33.214	25.385	261.4	0.472	5.17	82.7	9.2	0.96	10.7	0.00	0.01	0.06	0.08	141	209
150 ISL	10.53 D	10.51	33.328 D	25.560	244.9	0.498	4.83	76.5	11.9	1.13	13.4	0.00	0.01	0.03	0.05	151	
170	10.12	10.10	33.572	25.820	220.5	0.544	4.04	63.5	17.5	1.44	18.6	0.00	0.01	0.01	0.03	171	208
200	9.49	9.47	33.838	26.133	191.2	0.606	3.29	51.1	24.4	1.72	23.1	0.00	0.00	0.00	0.03	201	207
231	8.70	8.68	33.928	26.330	172.9	0.662	3.15	48.1	30.0	1.85	25.5	0.00	0.03			232	206
250 ISL	8.36 D	8.33	33.999 D	26.438	162.8	0.694	2.73	41.4	34.0	2.00	27.5	0.00	0.02			251	
272	8.16	8.13	34.044	26.504	156.9	0.730	2.19	33.0	38.9	2.19	29.9	0.00	0.00			273	205
300 ISL	7.88 D	7.85	34.079 D	26.573	150.7	0.773	1.85	27.7	44.8	2.35	32.2	0.00	0.00			302	
321	7.45	7.42	34.077	26.633	145.0	0.804	1.66	24.6	48.9	2.45	33.5	0.00	0.00			323	204
381	7.05	7.01	34.150	26.747	134.9	0.888	1.02	15.0	57.3	2.72	35.8	0.00	0.00			383	203
400 ISL	6.70 D	6.66	34.136 D	26.784	131.5	0.913	0.89	13.0	59.9	2.78	36.3	0.00	0.00			402	
442	6.62	6.58	34.207	26.851	125.7	0.967	0.67	9.8	65.8	2.88	37.3	0.00	0.00			445	202
500 ISL	6.14 D	6.10	34.239 D	26.939	117.7	1.038	0.45	6.5	74.3	3.01	38.9	0.00	0.00			503	
520	6.01	5.96	34.258	26.971	114.9	1.061	0.38	5.5	77.2	3.06	39.5	0.00	0.00			523	201

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS;PRIMARY T; PRIMARY CORRECTED S;

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT TYPE
29 50.6 N	123 35.4 W	18/07/09	0454 UTC	4019 m	350 15 kn			1018.4 mb	19.0 C	18.2 C		

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	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	19.54	19.54	33.528	23.760	413.0	0.000	5.37	102.2	1.7	0.33	0.1	0.00	0.05	0.07	0.02	0	
2	19.54	19.54	33.528	23.760	413.0	0.008	5.37	102.2	1.7	0.33	0.1	0.00	0.05	0.07	0.02	2	220
10 ISL	19.51 D	19.51	33.528 D	23.768	412.5	0.041	5.36	101.9	1.6	0.31	0.1	0.00	0.05	0.06	0.01	10	
11	19.52	19.52	33.529	23.766	412.7	0.045	5.36	101.9	1.6	0.31	0.1	0.00	0.05	0.06	0.01	11	219
20 ISL	19.23 D	19.23	33.525 D	23.838	406.2	0.082	5.42	102.5	1.6	0.31	0.0	0.00	0.04	0.07	0.01	20	
26	19.14	19.14	33.507	23.847	405.6	0.107	5.46	103.1	1.6	0.31	0.0	0.00	0.04	0.08	0.02	26	218
30 ISL	17.23 D	17.23	33.422 D	24.251	367.1	0.122	5.61	102.1	1.6	0.31	0.0	0.00	0.04	0.08	0.02	30	
41	16.18	16.17	33.342	24.434	350.0	0.162	5.95	106.0	1.6	0.29	0.0	0.00	0.03	0.08	0.03	41	217
50 ISL	16.37 D	16.36	33.541 D	24.544	339.8	0.193	5.87	105.1	1.8	0.26	0.0	0.00	0.03	0.08	0.02	50	
51	16.37	16.36	33.548	24.549	339.4	0.196	5.85	104.7	1.8	0.26	0.0	0.00	0.03	0.08	0.02	51	216
62	16.00	15.99	33.549	24.635	331.5	0.233	5.83	103.6	1.8	0.26	0.0	0.00	0.06	0.10	0.03	62	215
75 ISL	15.62 D	15.61	33.498 D	24.681	327.5	0.276	5.79	102.1	1.7	0.28	0.0	0.00	0.04	0.13	0.05	75	
76	15.59	15.58	33.493	24.684	327.2	0.279	5.79	102.0	1.7	0.28	0.0	0.00	0.04	0.13	0.05	76	214
87	15.31	15.30	33.462	24.722	323.9	0.315	5.78	101.3	1.7	0.28	0.0	0.00	0.07	0.19	0.06	87	213
100	15.40	15.38	33.609	24.816	315.4	0.356	5.61	98.5	1.9	0.28	0.0	0.01	0.03	0.28	0.17	100	212
112	14.77	14.75	33.596	24.944	303.5	0.393	5.47	94.9	2.5	0.34	0.9	0.15	0.02	0.32	0.23	112	211
125 ISL	13.64 D	13.62	33.527 D	25.127	286.2	0.432	5.31	89.9	3.6	0.47	3.2	0.09	0.04	0.23	0.17	125	
126	13.63	13.61	33.528	25.130	285.9	0.435	5.30	89.8	3.7	0.48	3.4	0.08	0.04	0.22	0.16	126	210
137	12.38	12.36	33.394	25.274	272.3	0.465	5.24	86.4	5.4	0.64	6.0	0.02	0.03	0.15	0.12	138	209
150 ISL	11.26 D	11.24	33.364 D	25.459	254.7	0.500	5.00	80.5	7.8	0.83	9.1	0.01	0.03	0.09	0.08	151	
166	10.96	10.94	33.537	25.648	237.1	0.539	4.62	73.9	11.2	1.04	12.7	0.00	0.04	0.05	0.05	167	208
199	9.86	9.84	33.772	26.021	202.0	0.611	3.92	61.3	19.0	1.42	19.1	0.00	0.01	0.00	0.02	200	207
200 ISL	9.78 D	9.76	33.787 D	26.046	199.6	0.613	3.90	60.9	19.2	1.43	19.2	0.00	0.01			201	
234	9.12	9.09	33.922	26.259	179.8	0.678	3.41	52.5	25.7	1.69	23.2	0.00	0.03			235	206
250 ISL	8.78 D	8.75	33.977 D	26.356	170.8	0.706	3.20	48.9	28.8	1.79	24.6	0.00	0.02			251	
273	8.44	8.41	34.009	26.434	163.7	0.744	2.91	44.2	33.4	1.92	26.5	0.00	0.00			274	205
300 ISL	7.90 D	7.87	34.026 D	26.528	154.9	0.787	2.51	37.6	39.7	2.11	29.1	0.00	0.00			302	
318	7.59	7.56	34.038	26.583	149.9	0.815	2.26	33.6	43.9	2.23	30.8	0.00	0.00			320	204
385	6.75	6.71	34.067	26.723	137.1	0.911	1.62	23.7	56.3	2.55	34.8	0.00	0.00			387	203
400 ISL	6.57 D	6.53	34.080 D	26.757	133.9	0.931	1.48	21.5	59.0	2.61	35.6	0.00	0.00			402	
439	6.22	6.18	34.097	26.816	128.5	0.982	1.16	16.7	65.7	2.76	37.3	0.00	0.00			442	202
500 ISL	5.66 D	5.62	34.124 D	26.908	120.1	1.058	0.86	12.2	74.6	2.92	39.2	0.00	0.00			503	
513	5.66	5.62	34.139	26.920	119.1	1.074	0.80	11.4	76.5	2.95	39.6	0.00	0.00			516	201

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS;PRIMARY T; PRIMARY CORRECTED S;

PRIMARY PRODUCTIVITY CASTS

RV MCARTHUR II — CALCOFI CRUISE 0907 — STATION 76.7 80.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
34 3.2 N	122 56.8 W	29/07/09	1853 UTC	14 m	1217 - 1939 PST	1218 PST	1939 PST	431.6 mg C/m2

DEPTH m	TEMP DEG C	SALINITY	SIGMA THETA	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
2	16.56	33.410	24.398	5.78	103.8	1.6	0.37	0.3	0.02	0.54	0.15	80. A	17.5	18.7	18.1	0.26
10	16.54	33.414	24.406	5.79	103.9	1.6	0.35	0.2	0.01	0.52	0.16	33.	17.0	20.5	18.8	0.23
19	16.38	33.437	24.461	5.82	104.2	1.6	0.41	0.8	0.04	0.60	0.18	12.	10.4	11.1	10.8	0.19
29	13.16	33.568	25.253	5.96	100.0	3.2	0.88	7.1	0.40	0.56	0.29	4.2	4.6	4.0	4.3	0.17
39	11.56	33.659	25.631	4.11	66.7	15.0	1.58	18.0	0.16	0.38	0.35	1.4	1.4	1.4	1.4	0.15
46	10.93	33.620	25.715	4.32	69.2	18.3	1.64	19.9	0.04	0.19	0.19					
53	10.00	33.537	25.811	4.33	67.9	20.1	1.68	20.8	0.02	0.09	0.10	0.30	0.14	0.07	0.11	0.11

RV MCARTHUR II — CALCOFI CRUISE 0907 — STATION 80.0 60.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
34 9.0 N	121 9.4 W	27/07/09	1957 UTC	13 m	1245 - 1941 PST	1211 PST	1941 PST	1084.4 mg C/m2

DEPTH m	TEMP DEG C	SALINITY	SIGMA THETA	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
1	12.51	33.323	25.190	5.99	99.0	7.2	0.86	7.1	0.21	1.91	0.60	89. A	46.3	48.2	47.2	0.31
9	12.44	33.346	25.222	5.99	98.9	7.2	0.88	7.4	0.21	2.25	0.73	35.	51.4	45.7	48.5	0.30
18	12.27	33.376	25.278	5.89	96.9	8.0	0.93	8.2	0.21	3.01	1.75	12.	34.0	29.9	32.0	0.37
27	12.12	33.374	25.305	5.77	94.6	8.7	0.96	8.9	0.20	3.39	0.84	4.1	12.3	11.9	12.1	0.24
36	11.62	33.301	25.342	5.60	90.8	9.7	1.03	10.1	0.14	2.27	0.59	1.4	3.1	3.5	3.3	0.14
42	11.10	33.362	25.484	4.82	77.3	13.3	1.31	14.1	0.19	0.52	0.25					
50	11.33	33.608	25.634	3.50	56.5	17.7	1.59	18.3	0.38	0.28	0.17	0.27	0.23	0.15	0.19	0.15

RV MCARTHUR II — CALCOFI CRUISE 0907 — STATION 80.0 90.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
33 8.9 N	123 13.5 W	28/07/09	1641 UTC	15 m	1219 - 1947 PST	1219 PST	1947 PST	264.6 mg C/m2

DEPTH m	TEMP DEG C	SALINITY	SIGMA THETA	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
2	16.50	33.208	24.257	5.71	102.3	3.1	0.38	0.1	0.00	0.30	0.08	81. A	8.4	8.3	8.3	0.12
11	16.49	33.206	24.258	5.73	102.6	3.2	0.37	0.0	0.00	0.31	0.08	32.	9.7	9.3	9.5	0.10
21	16.48	33.208	24.262	5.73	102.6	3.1	0.36	0.0	0.00	0.34	0.08	12.	6.3	7.3	6.8	0.17
31	16.27	33.230	24.327	5.75	102.6	3.0	0.39	0.1	0.00	0.44	0.12	4.2	3.2	2.9	3.0	0.26
41	13.38	33.287	24.992	6.27	105.5	5.4	0.68	3.8	0.16	0.49	0.21	1.5	1.6	1.7	1.7	0.15
48	11.96	33.334	25.305	5.62	91.8	10.3	1.06	9.7	0.49	0.43	0.26					
56	12.06	33.668	25.545	4.10	67.3	14.7	1.43	15.9	0.35	0.26	0.23	0.32	0.20	0.10	0.15	0.18

RV MCARTHUR II — CALCOFI CRUISE 0907 — STATION 83.3 42.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
34 10.8 N	119 30.7 W	26/07/09	2006 UTC	9 m	1245 - 1940 PST	1205 PST	1934 PST	1160.9 mg C/m2

DEPTH m	TEMP DEG C	SALINITY	SIGMA THETA	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
1	17.81	33.577	24.230	6.44	118.6	0.5	0.25	0.1	0.00	1.37	0.34	84. A	70.1	70.6	70.3	1.0
6	17.03	33.624	24.453	6.38	115.8	0.1	0.27	0.0	0.00	1.75	0.45	36.	67.3	66.3	66.8	0.88
12	16.33	33.591	24.590	6.29	112.6	0.6	0.32	0.1	0.01	3.54	0.85	13.	63.4	56.4	59.9	0.68
19	14.16	33.489	24.987	5.60	95.9	6.0	0.67	4.9	0.15	2.40	1.14	3.9	17.7	15.8	16.7	0.45
25	13.43	33.463	25.118	5.36	90.4	7.3	0.78	6.4	0.22	1.78	0.99	1.4	6.4	6.5	6.4	0.32
34	11.81	33.440	25.414	4.57	74.5	11.2	1.12	12.0	0.19	0.78	0.56	0.30	0.31	0.38	0.35	0.20

A) INCUBATION LIGHT INTENSITIES WERE 98, 34, 12, 4.2, 1.1, 0.31 PERCENT RESPECTIVELY.

RV MCARTHUR II — CALCOFI CRUISE 0907 — STATION 83.3 80.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
32 54.6 N	122 8.0 W	25/07/09	1904 UTC	21 m	1217 - 1937 PST	1215 PST	1935 PST	113.8 mg C/m2

DEPTH m	TEMP DEG C	SALINITY	SIGMA THETA	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
1	17.11	33.173	24.088	5.62	101.9	2.4	0.33	0.1	0.00	0.14	0.04	93. A	3.0	3.1	3.0	0.16
9	17.11	33.172	24.087													
10	17.11	33.173	24.088	5.63	102.1	2.6	0.34	0.0	0.00	0.13	0.03					
15	17.11	33.172	24.087	5.63	102.1	2.5	0.34	0.0	0.00	0.14	0.03	33.	2.7	3.0	2.8	0.17
29	17.08	33.176	24.098	5.70	103.3	2.5	0.32	0.0	0.00	0.14	0.04	12.	1.8	1.8	1.8	0.18
44	15.79	33.150	24.375	6.02	106.3	2.7	0.34	0.0	0.00	0.29	0.05	4.0	0.97	0.87	0.92	0.18
50	15.09	33.175	24.548	6.08	105.9	1.8	0.33	0.0	0.00	0.29	0.12					
58	14.76	33.240	24.670	6.03	104.3	2.1	0.31	0.0	0.00	0.37	0.05	1.4	0.49	0.54	0.51	0.17
67	14.13	33.189	24.764	5.96	101.8	2.4	0.34	0.0	0.00	0.46	0.16					
79	13.33	33.113	24.868	5.84	98.1	2.6	0.44	0.4	0.18	0.49	0.41	0.31	0.19	0.23	0.21	0.12

RV MCARTHUR II — CALCOFI CRUISE 0907 — STATION 86.7 110.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
31 19.2 N	123 45.2 W	24/07/09	1641 UTC	16 m	1221 - 1945 PST	1222 PST	1944 PST	192.5 mg C/m2

DEPTH m	TEMP DEG C	SALINITY	SIGMA THETA	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
1	17.75	33.323	24.050	5.61	103.1	2.3	0.34	0.1	0.00	0.17	0.04	0.99	3.6	3.9	3.8	0.15
11	17.75	33.324	24.051	5.63	103.4	2.3	0.33	0.0	0.00	0.18	0.03	0.34	5.1	5.1	5.1	0.17
23	17.74	33.323	24.053	5.62	103.2	2.3	0.32	0.0	0.00	0.18	0.04	0.12	3.6	3.8	3.7	0.15
34	17.35	33.323	24.147	5.62	102.4	2.3	0.32	0.0	0.00	0.18	0.04	0.04	1.3	1.2	1.2	0.15
45	14.74	33.355	24.762	6.49	112.3	2.1	0.41	0.5	0.05	1.07	0.33	0.01	4.5	4.6	4.5	0.22
52	12.57	33.195	25.081	5.90	97.6	5.5	0.75	5.2	0.43	0.74	0.38					
59	11.68	33.154	25.217	5.65	91.6	7.5	0.92	8.7	0.23	0.31	0.18	0.00	0.20	0.26	0.23	0.15

RV MCARTHUR II — CALCOFI CRUISE 0907 — STATION 86.7 35.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
33 49.3 N	118 37.7 W	21/07/09	1837 UTC	20 m	1206 - 1933 PST	1201 PST	1933 PST	881.3 mg C/m2

DEPTH m	TEMP DEG C	SALINITY	SIGMA THETA	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
1	21.37	33.604	23.333	6.04 D	118.9 D	0.0	0.13	0.1	0.00	0.16	0.06	93. A	9.4	8.7	9.1	0.28
7	21.06	33.592	23.408	6.04	118.2	0.0	0.14	0.1	0.00	0.19	0.05					
10	20.73	33.591	23.496	6.41	124.7	0.0	0.12	0.1	0.00	0.25	0.04					
14	18.57	33.551	24.024	6.86	128.2	0.0	0.13	0.0	0.00	0.56	0.16	34.	21.0	17.1	19.0	0.48
21	15.19	33.483	24.763	7.11	124.3	0.8	0.30	0.0	0.00	2.68	0.68					
28	13.35	33.417	25.098	5.97	100.5	5.5	0.63	3.5	0.10	1.93	0.55	12.	28.4	29.5	28.9	0.49
34	12.53	33.425	25.266	5.18	85.7	8.0	0.89	7.9	0.24	1.75	0.50					
41	11.81	33.460	25.430	4.58	74.6	11.3	1.15	12.2	0.32	1.15	0.59	4.3	8.3	7.5	7.9	0.16
48	11.33	33.479	25.533	4.22	68.1	13.6	1.29	15.1	0.16	0.91	0.54					
55	11.02	33.524	25.624	4.00	64.1	15.4	1.40	16.9	0.07	1.04	0.56	1.5	3.4	3.5	3.4	0.30
65	10.68	33.549	25.704	3.98	63.3	17.1	1.47	18.3	0.04	0.68	0.49					
75	10.32	33.642	25.839	3.57	56.4	19.8	1.61	20.4	0.02	0.39	0.24	0.32	0.21	0.19	0.20	0.22

RV MCARTHUR II — CALCOFI CRUISE 0907 — STATION 83.3 51.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
33 52.7 N	120 8.6 W	22/07/09	1828 UTC	10 m	1207 - 1936 PST	1207 PST	1936 PST	1510.7 mg C/m2

DEPTH m	TEMP DEG C	SALINITY	SIGMA THETA	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
1	20.00	33.594	23.691	6.37	122.3	1.1	0.13	0.1	0.00	1.33	0.23	86. A	35.2	31.4	33.3	0.63
7	19.89	33.590	23.717	6.42	123.0	1.1	0.11	0.0	0.00	1.43	0.23	34.	65.3	52.1	58.7	0.74
10	18.99	33.556	23.922	6.67	125.6	1.5	0.17	0.0	0.00	2.23	0.32					
14	17.02	33.563	24.408	6.88	124.8	2.3	0.21	0.2	0.02	4.39	0.86	12.	90.8	90.1	90.4	0.81
21	16.76	33.590	24.490	6.11	110.3	4.4	0.37	2.0	0.06	4.45	1.23	4.0	40.8	35.0	37.9	0.53
28	15.95	33.595	24.680	5.73	101.8	6.8	0.54	4.4	0.11	3.05	0.88	1.4	11.0	12.3	11.7	0.54
37	14.80	33.589	24.929	5.28	91.6	9.8	0.78	7.4	0.19	2.36	0.90	0.34	0.89	1.0	0.95	0.42

A) INCUBATION LIGHT INTENSITIES WERE 98, 34, 12, 4.2, 1.1, 0.31 PERCENT RESPECTIVELY.

RV MCARTHUR II — CALCOFI CRUISE 0907 — STATION 86.7 70.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
32 39.3 N	121 2.6 W	23/07/09	1554 UTC	16 m	1211 - 1940 PST	1211 PST	1940 PST	191.3 mg C/m2

DEPTH m	TEMP DEG C	SALINITY	SIGMA THETA	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
2	17.56	33.349	24.115	5.60	102.5	3.1	0.36	0.1	0.00	0.16	0.04	83. A	4.3	4.0	4.1	0.14
11	17.56	33.344	24.112	5.60	102.5	3.2	0.35	0.0	0.00	0.16	0.05	35.	5.3	5.0	5.2	0.13
23	17.56	33.352	24.119	5.60	102.5	3.0	0.35	0.0	0.00	0.17	0.04	11.	3.3	3.4	3.4	0.13
33	16.93	33.363	24.277	5.82	105.2	3.7	0.37	0.2	0.01	0.36	0.09	4.2	3.0	2.7	2.8	0.13
45	16.03	33.497	24.587	5.99	106.5	4.1	0.45	1.0	0.05	0.75	0.20	1.3	2.9	3.0	2.9	0.18
52	14.10	33.535	25.036	5.77	98.7	7.4	0.75	4.4	0.32	0.71	0.31					
61	11.86	33.346	25.333	5.29	86.2	11.1	1.06	10.7	0.30	0.28	0.18	0.29	0.12	0.20	0.16	0.16

RV MCARTHUR II — CALCOFI CRUISE 0907 — STATION 90.0 37.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
33 10.9 N	118 22.9 W	20/07/09	1930 UTC	20 m	1229 - 1927 PST	1200 PST	1927 PST	522.8 mg C/m2

DEPTH m	TEMP DEG C	SALINITY	SIGMA THETA	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
1	20.62	33.522	23.472	5.46	106.0	1.9	0.31	0.1	0.00	0.14	0.03	93. A	6.3	6.6	6.4	0.26
7	19.88	33.516	23.663	5.49	105.1	2.0	0.29	0.1	0.00	0.16	0.03					
14	19.30	33.505	23.804	5.66	107.2	1.8	0.29	0.1	0.00	0.27	0.05	34.	10.1	9.6	9.8	0.39
21	16.49	33.444	24.441	6.34	113.7	2.1	0.30	0.0	0.00	0.37	0.10					
28	13.93	33.361	24.937	6.64	113.1	3.3	0.50	1.9	0.07	0.78	0.26	12.	17.9	16.7	17.3	0.37
34	12.19	33.352	25.275	5.34	87.7	7.5	0.95	9.2	0.13	1.00	0.45					
41	11.86	33.366	25.348	5.08	82.8	8.9	1.04	11.0	0.09	0.59	0.36	4.3	6.2	5.4	5.8	0.27
47	11.73	33.394	25.394	4.93	80.2	10.1	1.14	12.2	0.06	0.58	0.34					
55	11.36	33.431	25.491	4.70	75.8	12.0	1.25	14.1	0.04	0.31	0.23	1.5	1.7	1.7	1.7	0.23
65	10.86	33.515	25.646	4.18	66.8	15.5	1.43	17.0	0.03	0.17	0.14					
75	10.72	33.580	25.721	3.77	60.1	17.4	1.53	18.6	0.02	0.13	0.13	0.32	0.15	0.19	0.17	0.16

RV MCARTHUR II — CALCOFI CRUISE 0907 — STATION 90.0 70.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
32 5.2 N	120 38.3 W	19/07/09	2017 UTC	26 m	1315 - 1932 PST	1209 PST	1932 PST	248.5 mg C/m2

DEPTH m	TEMP DEG C	SALINITY	SIGMA THETA	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
1	18.50	33.349	23.886	5.46 D	101.8 D	2.3	0.35	0.1	0.00	0.09	0.02	94. A	2.5	2.4	2.5	0.45
9	18.48	33.351	23.893	5.48	102.1	2.0	0.33	0.1	0.00	0.09	0.02					
17	18.45	33.347	23.898	5.49	102.2	2.0	0.33	0.0	0.00	0.10	0.02	37.	2.0	2.2	2.1	0.34
27	15.67	33.208	24.445	6.23	109.8	2.5	0.35	0.0	0.00	0.19	0.06					
36	13.40	33.196	24.917	6.03	101.5	4.2	0.57	2.4	0.37	0.48	0.21	12.	6.1	6.0	6.0	0.31
45	12.32	33.102	25.056	5.98	98.3	5.8	0.67	4.4	0.38	0.61	0.39					
54	11.86	33.154	25.184	5.74	93.5	7.2	0.85	7.3	0.39	0.70	0.47	4.1	4.0	3.6	3.8	0.14
63	11.36	33.196	25.308	5.45	87.8	8.4	0.98	9.9	0.09	0.31	0.23					
72	11.22	33.291	25.408	5.24	84.2	9.4	1.11	11.9	0.01	0.16	0.13	1.4	0.40	0.44	0.42	0.17
85	10.97	33.396	25.534	4.98	79.7	12.0	1.25	14.3	0.01	0.08	0.08					
99	10.28	33.479	25.719	4.53	71.4	16.5	1.45	17.4	0.00	0.03	0.05	0.29	0.04	0.01	0.03	0.15

RV MCARTHUR II — CALCOFI CRUISE 0907 — STATION 90.0 110.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
30 44.8 N	123 20.1 W	18/07/09	1746 UTC	28 m	1216 - 1941 PST	1220 PST	1940 PST	156.4 mg C/m2

DEPTH m	TEMP DEG C	SALINITY	SIGMA THETA	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
2	18.16	33.293	23.927	5.51	102.0	2.1	0.43	0.3	0.00	0.09	0.03	90. A	1.9	2.1	2.0	1.1
10	18.09	33.292	23.944	5.52	102.0	1.9	0.34	0.1	0.00	0.08	0.03					
20	17.94	33.289	23.979	5.53	101.9	1.9	0.33	0.1	0.00	0.08	0.04	33.	2.6	2.1	2.3	1.0
30	17.86	33.281 D	23.992	5.54		1.9	0.33	0.1	0.00	0.09	0.02					
39	16.95	33.287	24.214	5.85	105.8	2.0	0.31	0.0	0.00	0.09	0.03	12.	1.9	2.3	2.2	0.55
48	15.50	33.217	24.491	6.17	108.4	1.9	0.32	0.1	0.00	0.09	0.03					
59	14.82	33.200	24.626	6.06	105.0	2.0	0.32	0.1	0.00	0.11	0.04	3.9	1.4	1.1	1.3	0.99
68	14.38	33.159 D	24.688	6.04		2.0	0.33	0.0	0.00	0.14	0.05					
77	14.06	33.149	24.748	5.92	100.9	2.2	0.34	0.0	0.00	0.17	0.09	1.5	0.86	0.83	0.84	0.70
86	13.57	33.137	24.839	5.92	99.9	2.4	0.35	0.0	0.00	0.17	0.13					
95	13.15	33.107	24.900	5.90	98.7	2.8	0.40	0.5	0.10	0.17	0.16					
104	12.31	33.083	25.045	5.64	92.7	4.0	0.57	3.5	0.12	0.22	0.11	0.33	0.56	0.24	0.40	0.46

A) INCUBATION LIGHT INTENSITIES WERE 98, 34, 12, 4.2, 1.1, 0.31 PERCENT RESPECTIVELY.

PRIMARY PRODUCTIVITY CASTS

RV MCARTHUR II — CALCOFI CRUISE 0907 — STATION 93.3 35.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
32 40.8 N	117 52.0 W	15/07/09	1839 UTC	11 m	1157 - 1928 PST	1157 PST	1928 PST	1691.6 mg C/m2

DEPTH m	TEMP DEG C	SALINITY	SIGMA THETA	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
2	21.39	33.615	23.335	6.36	125.3	0.1	0.14	0.1	0.00	1.25	0.44	76. A	46.9	66.2	56.5	1.6
9	20.47	33.568	23.548	6.58	127.4	0.1	0.15	0.1	0.01	1.67	0.46	28.	81.6	79.3	80.5	2.2
15	16.77	33.497	24.416	7.30	131.7	0.9	0.24	0.0	0.01	2.55	0.40	12.	77.0	69.4	73.2	2.4
23	14.35	33.440	24.910	6.91	118.7	2.9	0.38	0.1	0.01	2.51	0.71	4.0	34.5	40.2	37.3	0.85
30	12.69	33.443	25.249	5.40	89.7	7.3	0.89	7.6	0.24	0.88	0.35	1.5	6.8	6.3	6.5	0.55
42	11.34	33.494	25.543	4.18	67.5	14.2	1.33	15.6	0.21	0.61	0.37	0.28	0.70	0.54	0.62	0.45

RV MCARTHUR II — CALCOFI CRUISE 0907 — STATION 93.3 60.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
31 50.7 N	119 34.7 W	16/07/09	1709 UTC	14 m	1203 - 1936 PST	1204 PST	1936 PST	440.9 mg C/m2

DEPTH m	TEMP DEG C	SALINITY	SIGMA THETA	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
1	17.03	33.476	24.339	5.80	105.2	1.3	0.34	0.1	0.00	0.31	0.05	90. A	8.6	8.6	8.6	0.53
10	16.91	33.479	24.370	5.81	105.1	1.3	0.34	0.1	0.00	0.32	0.05	33.	12.0	12.1	12.1	0.59
19	16.36	33.430	24.460	5.99	107.2	1.1	0.34	0.1	0.00	0.50	0.16	12.	11.4	12.1	11.7	0.51
29	15.12	33.354	24.679	6.17	107.6	1.8	0.40	0.6	0.05	0.97	0.32	4.2	10.6	11.7	11.1	0.48
40	13.13	33.177	24.957	6.04	101.0	4.3	0.62	3.4	0.33	0.85	0.41	1.2	4.6	4.5	4.6	0.71
46	12.66	33.151	25.029	5.98	99.0	4.9	0.66	4.2	0.38	0.76	0.41					
53	12.20	33.162	25.126	5.80	95.1	6.0	0.77	6.4	0.38	0.56	0.34	0.30	0.27	0.29	0.28	0.81

RV MCARTHUR II — CALCOFI CRUISE 0907 — STATION 93.3 100.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
30 30.8 N	122 15.9 W	17/07/09	1802 UTC	27 m	1213 - 1943 PST	1215 PST	1941 PST	244.8 mg C/m2

DEPTH m	TEMP DEG C	SALINITY	SIGMA THETA	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
2	19.13	33.394	23.762			1.6	0.36	0.1	0.00	0.09	0.02	89. A	3.3	3.1	3.2	0.45
10	19.03	33.401	23.793	5.50	103.6	1.7	0.33	0.1	0.00	0.06	0.10					
19	18.91	33.386	23.813	5.44	102.2	1.8	0.32	0.1	0.00	0.12	0.02	34.	4.0	3.9	3.9	0.56
28	18.53	33.347	23.878	5.53	103.1	2.0	0.31	0.0	0.00	0.12	0.03					
37	16.20	33.233	24.346	6.13	109.2	1.9	0.31	0.0	0.00	0.13	0.05	12.	3.2	2.6	2.9	0.51
46	15.29	33.213	24.534	6.18	108.1	2.0	0.31	0.0	0.00	0.17	0.07					
56	14.52	33.176	24.671	6.14	105.7	1.9	0.34	0.0	0.00	0.19	0.09	4.1	2.5	2.3	2.5	0.25
65	13.79	33.157	24.809	5.95	100.9	1.9	0.40	0.2	0.09	0.25	0.14					
74	13.21	33.136	24.910	5.79	97.0	2.8	0.51	1.8	0.71	0.29	0.15	1.5	1.7	1.9	1.8	0.39
88	12.23	33.144	25.107	5.53	90.7	4.9	0.72	6.2	0.05	0.28	0.13					
102	11.68	33.175	25.234	5.42	87.9	6.7	0.85	8.4	0.03	0.15	0.09	0.30	0.09	0.15	0.12	0.46

A) INCUBATION LIGHT INTENSITIES WERE 98, 34, 12, 4.2, 1.1, 0.31 PERCENT RESPECTIVELY.

MACROZOOPLANKTON BIOMASS
Net Mesh Size: 0.505mm

Line	Sta.	Latitude N	Longitude W	Date Mo/Day	Time (PST) Start	Time (PST) End	Water Volume Strained (m^3)	Max. Tow Depth (m)	Volume per 1000 m^3 Strained Total (cm^3)	Volume per 1000 m^3 Strained Small (cm^3)
93.3	26.7	32 57.3	117 18.4	07/14	2105	2126	467	201	186	126
91.7	26.4	33 14.7	117 27.9	07/15	0009	0011	45	15	312	312
93.3	28.0	32 54.8	117 23.7	07/15	0427	0448	514	176	76	76
93.3	30.0	32 50.5	117 31.9	07/15	0722	0744	398	223	63	63
93.3	35.0	32 40.8	117 52.3	07/15	1201	1223	443	203	50	50
93.3	40.0	32 30.7	118 12.8	07/15	1630	1651	452	211	111	69
93.3	45.0	32 20.8	118 33.1	07/15	2038	2059	436	205	115	101
93.3	50.0	32 10.8	118 53.7	07/16	0045	0106	432	216	211	155
93.3	55.0	32 00.8	119 14.0	07/16	0457	0518	427	206	131	119
93.3	60.0	31 50.7	119 34.3	07/16	0745	0807	458	197	81	81
93.3	70.0	31 30.9	120 15.0	07/16	1556	1617	380	229	66	66
93.3	80.0	31 10.8	120 55.1	07/16	2147	2208	442	210	63	63
93.3	90.0	30 50.8	121 35.0	07/17	0346	0407	428	208	54	54
93.3	100.0	30 30.9	122 15.5	07/17	0836	0857	424	211	38	38
93.3	110.0	30 10.8	122 55.4	07/17	1613	1634	458	206	26	26
93.3	120.0	29 50.8	123 35.1	07/17	2202	2224	481	196	35	35
90.0	120.0	30 25.0	123 59.8	07/18	0427	0448	426	204	16	16
90.0	110.0	30 45.1	123 20.0	07/18	1121	1144	513	205	23	23
90.0	100.0	31 05.0	122 39.6	07/18	1758	1819	430	210	174	174
90.0	90.0	31 25.0	121 59.3	07/19	0029	0050	426	218	94	94
90.0	80.0	31 45.1	121 19.0	07/19	0711	0733	497	195	38	38
90.0	70.0	32 05.1	120 38.2	07/19	1342	1403	441	211	120	100
90.0	60.0	32 25.0	119 57.6	07/19	2021	2042	467	207	208	208
90.0	45.0	32 55.2	118 56.2	07/20	0726	0747	408	219	64	64
90.0	37.0	33 11.1	118 23.1	07/20	1252	1313	450	203	87	87
90.0	35.0	33 15.3	118 14.8	07/20	1555	1616	433	216	79	79
90.0	30.0	33 25.1	117 54.4	07/20	2040	2101	457	189	140	140
90.0	28.0	33 29.1	117 46.1	07/20	2305	2308	69	29	289	289
90.0	27.7	33 29.3	117 45.2	07/20	2356	2359	61	20	1289	1289
88.5	30.1	33 40.5	118 05.0	07/21	0241	0242	24	12	249	249
86.8	32.5	33 53.4	118 26.6	07/21	0714	0716	58	12	209	209
86.7	33.0	33 53.2	118 29.4	07/21	0844	0849	108	39	157	157
86.7	35.0	33 49.3	118 37.7	07/21	1203	1224	426	209	106	106
85.4	35.8	34 00.3	118 50.6	07/21	1448	1453	115	46	96	96
86.7	40.0	33 39.4	118 58.3	07/21	1933	1955	475	195	177	177
86.7	45.0	33 29.4	119 19.2	07/21	2352	0013	446	205	479	65
86.7	50.0	33 19.4	119 39.8	07/22	0337	0342	120	46	208	208
83.3	51.0	33 52.4	120 08.4	07/22	0914	0935	475	192	25	25
83.3	55.0	33 44.6	120 24.6	07/22	1425	1446	442	229	45	45
86.7	55.0	33 09.3	120 00.4	07/22	2048	2109	470	222	75	75
86.7	60.0	32 59.3	120 21.0	07/23	0117	0138	455	206	90	90
86.7	70.0	32 39.3	121 02.3	07/23	0641	0703	515	190	54	54
86.7	80.0	32 19.5	121 42.6	07/23	1451	1512	495	204	69	69
86.7	90.0	31 59.2	122 23.7	07/23	2048	2110	478	215	50	50
86.7	100.0	31 39.4	123 04.3	07/24	0234	0255	452	217	71	71
86.7	110.0	31 19.7	123 44.9	07/24	0720	0740	533	192	58	58
83.3	110.0	31 54.5	124 10.2	07/24	1640	1701	497	192	171	171
83.3	100.0	32 14.7	123 29.6	07/24	2315	2337	437	214	48	48
83.3	90.0	32 34.3	122 48.8	07/25	0539	0601	464	206	50	50
83.3	80.0	32 54.7	122 07.7	07/25	1207	1228	469	202	13	13
83.3	70.0	33 14.7	121 26.4	07/25	1903	1924	478	205	65	65
83.3	60.0	33 34.7	120 45.4	07/26	0221	0242	447	208	186	105
83.3	42.0	34 10.7	119 30.6	07/26	1304	1317	254	129	47	47
83.3	40.6	34 13.5	119 24.6	07/26	1507	1510	80	25	50	50
83.3	39.4	34 15.8	119 19.8	07/26	1623	1624	36	14	56	56
81.7	43.5	34 24.0	119 48.0	07/26	2008	2011	82	25	86	86
81.8	46.9	34 16.3	120 01.5	07/26	2333	2355	471	187	187	187
80.0	50.5	34 28.1	120 30.0	07/27	0338	0341	84	26	143	143
80.0	51.0	34 27.1	120 31.3	07/27	0504	0511	152	59	66	66
80.0	55.0	34 18.9	120 48.3	07/27	0933	0954	427	203	70	70
80.0	60.0	34 09.1	121 08.8	07/27	1316	1337	397	227	86	86
80.0	70.0	33 49.0	121 50.7	07/27	1930	1952	446	214	175	175
80.0	80.0	33 28.1	122 29.7	07/28	0150	0210	384	234	130	130
80.0	90.0	33 09.0	123 13.2	07/28	0730	0751	546	172	227	227
80.0	100.0	32 49.0	123 54.3	07/28	1556	1618	453	199	406	406
76.7	100.0	33 23.2	124 19.5	07/28	2245	2307	483	200	33	33
76.7	90.0	33 43.4	123 38.2	07/29	0528	0549	495	185	222	153
76.7	80.0	34 03.3	122 56.6	07/29	1147	1208	443	204	79	79
76.7	70.0	34 23.4	122 14.8	07/29	1810	1832	429	211	126	126
76.7	60.0	34 43.3	121 32.8	07/30	0025	0046	428	201	226	226
76.7	55.0	34 53.5	121 11.6	07/30	0440	0502	472	191	150	150
76.7	51.0	35 01.4	120 55.1	07/30	0820	0842	480	192	67	67
76.7	49.0	35 05.3	120 46.6	07/30	1248	1255	148	57	608	608
66.7	50.0	36 44.1	122 00.7	07/31	0615	0637	468	198	28	28
66.7	55.0	36 37.3	122 24.9	07/31	1128	1150	438	206	64	64
66.7	60.0	36 27.3	122 46.0	07/31	1646	1707	406	212	42	30
66.7	70.0	36 07.2	123 29.1	08/01	0206	0227	481	190	54	54
66.7	80.0	35 47.2	124 11.7	08/01	1121	1142	472	202	78	78
66.7	90.0	35 27.2	124 54.1	08/01	2014	2036	434	210	106	106
60.0	90.0	36 36.8	125 46.1	08/02	0658	0720	414	221	58	58
60.0	80.0	36 56.8	125 03.2	08/02	1417	1439	490	197	78	78
60.0	70.0	37 16.9	124 19.9	08/02	2138	2159	429	215	70	70
60.0	60.0	37 36.7	123 36.5	08/03	0438	0459	440	202	93	93
60.0	53.0	37 50.9	123 05.9	08/03	1003	1010	164	57	189	49