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**PHYSICAL, CHEMICAL AND BIOLOGICAL DATA**

**CalCOFI Cruise 0707  
28 June – 14 July 2007**

**CC Reference 08-07  
3 October 2008**

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## INTRODUCTION

The data presented in this report were collected during cruise 0707\* of the California Cooperative Oceanic Fisheries Investigations (CalCOFI) program aboard the RV *New Horizon* of Scripps Institution of Oceanography, University of California, San Diego. 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 P144. 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 Culbertson (1991), but with higher concentrations of thiosulfate solution (50 g/l). Standard KIO<sub>3</sub>

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

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.

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 rinsed three times prior to filling. Standardizations were done at the beginning and end of each group of samples with a set of mid-concentration range standards prepared fresh for each run. Samples not analyzed immediately after collection were refrigerated and run the following day. Sets of six different concentration standards were analyzed periodically to determine the deviation from linearity as a function of concentration, for the silicate, nitrate and phosphate analyses. Final sample concentrations were corrected for deviations from linearity using a second order polynomial.

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 pheopigment 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  $^{14}\text{C}$  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 52.29  $\mu\text{Ci}$  of  $^{14}\text{C}$  as  $\text{NaHCO}_3$  (200  $\mu\text{l}$  of 271  $\mu\text{Ci/ml}$  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). An Optical Plankton Counter (OPC, Dave Checkley, SIO) was routinely used in one side of the paired bongo net frame. The purpose of the OPC is to obtain information on the vertical distributions of size categories of zooplankton, using data from the counter, without affecting the ongoing time series of data obtained from the catches of the integrative bongo net.

### *Avifauna Observations (Point Reys Bird Observatory)*

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, salinity and *in vivo* chlorophyll fluorescence were 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 and a Wetlabs Wetstar fluorometer.
- 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 Sea Surface xCO<sub>2</sub>.* Continuous measurements of the partial pressure of CO<sub>2</sub> were made from the ship's uncontaminated seawater system. The seawater was equilibrated in a membrane contactor with a gas loop that was analyzed with a Licor 6262 infrared CO<sub>2</sub>/H<sub>2</sub>O analyzer. One-minute averages were recorded and the mole fraction of CO<sub>2</sub> (xCO<sub>2</sub>) at sea surface temperature was calculated. The system was calibrated with standard gases traceable to CMDL every two hours; at that time absolute zero and atmospheric samples were also collected. (G. Friederich, MBARI)
- 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 and Bio-optical Observations:* The objective of these observations is to extend CalCOFI time series to the nearshore and make bio-optical observations for the development of empirical proxies for particle size load and structure and phytoplankton biomass and rates of primary production. The 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. Bio-optical measurements at all CalCOFI and SCCOOS stations consist of irradiance at 9 wavelengths, light transmission at three wavelengths, fluorescence of Chl a, CDOM and phycoerythrin and light scattering at three wavelengths.
- 6) *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)

## 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 ( $\text{cm}^3/1000\text{m}^3$  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 0707

1. CalCOFI Cruise 0707 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.

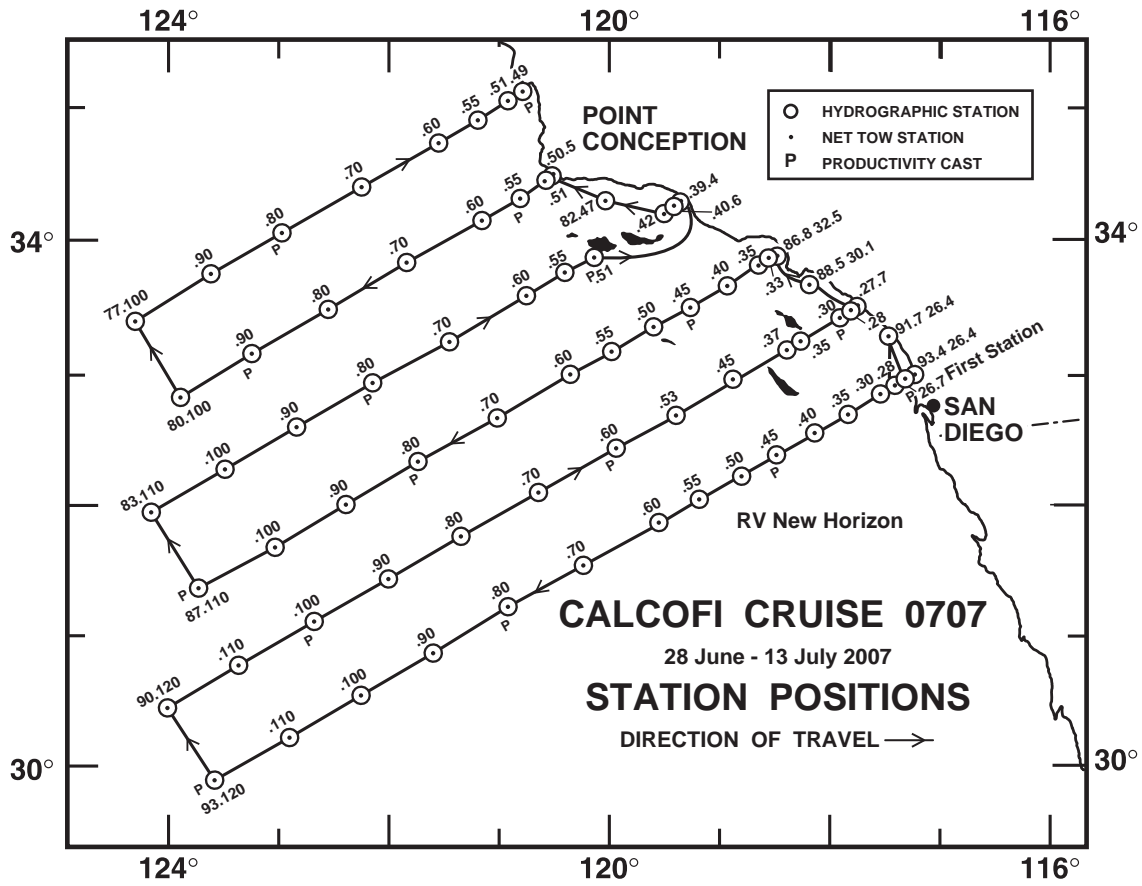


FIGURE 1

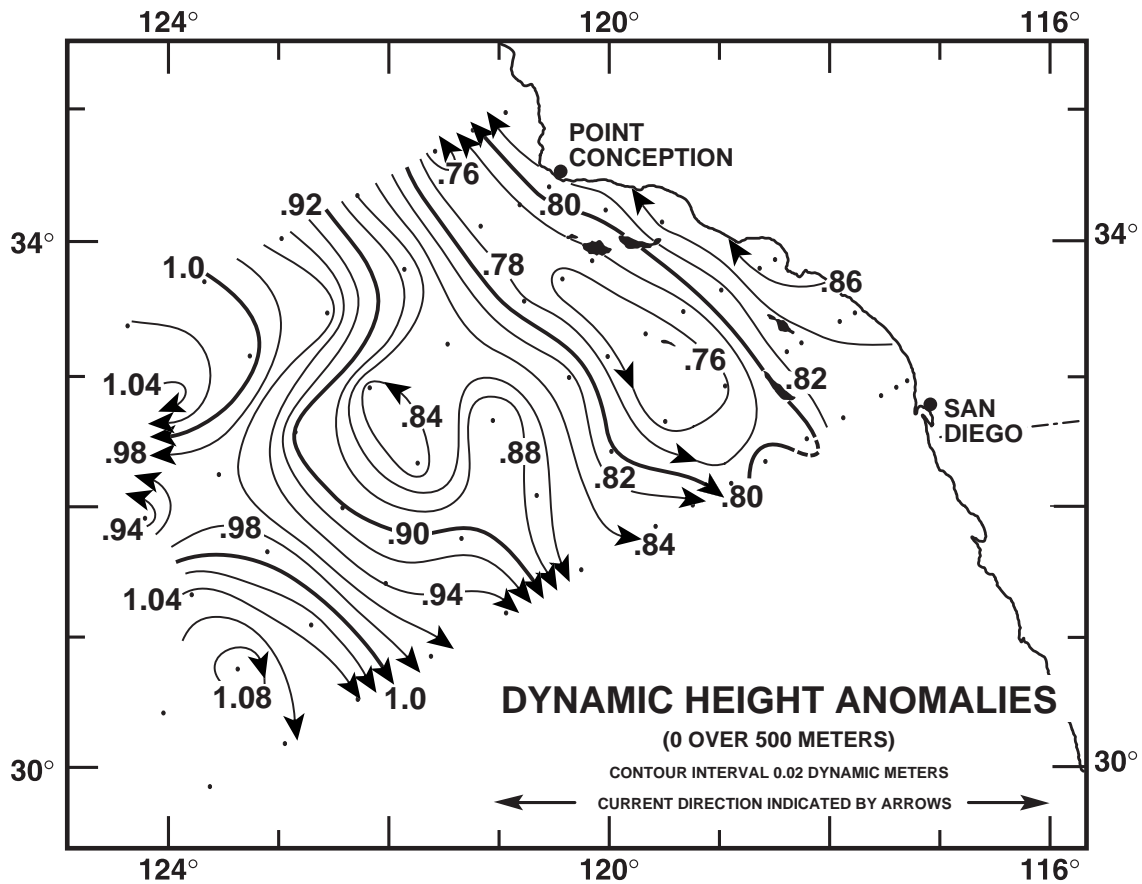


FIGURE 2

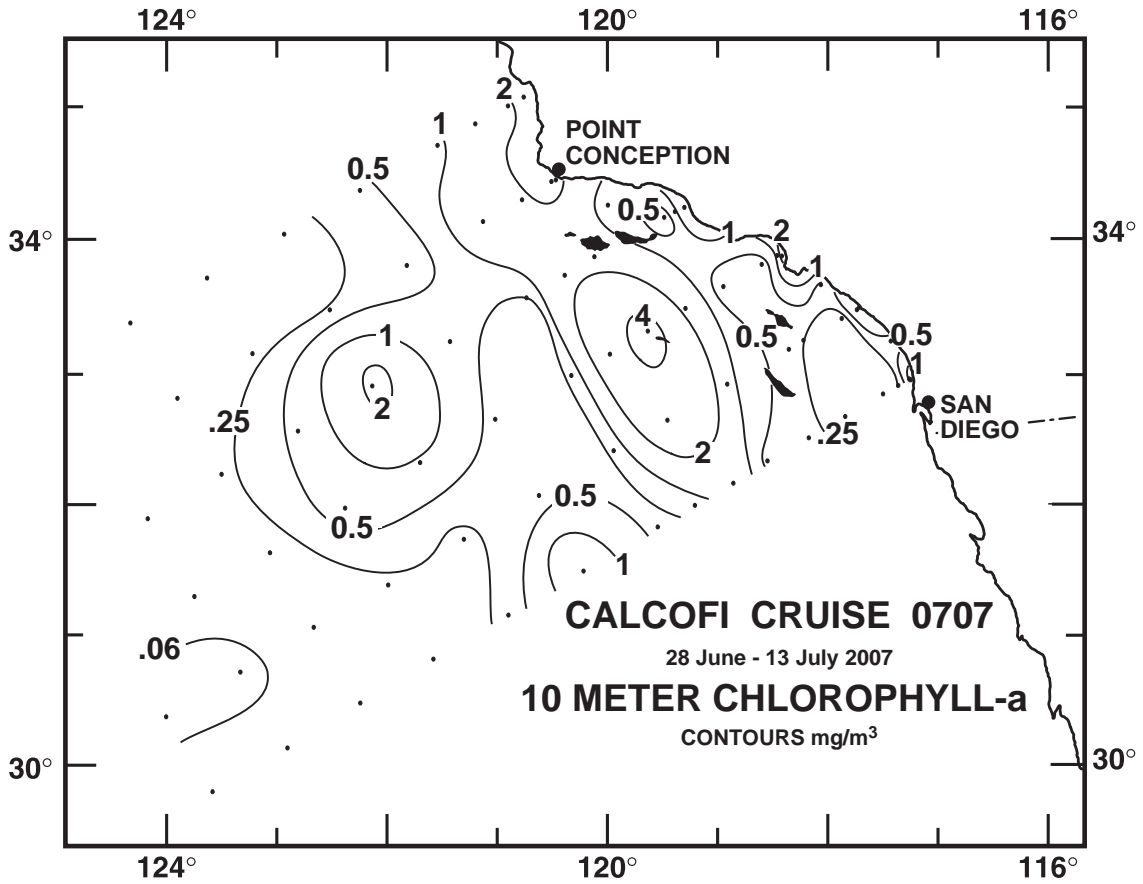


FIGURE 3A

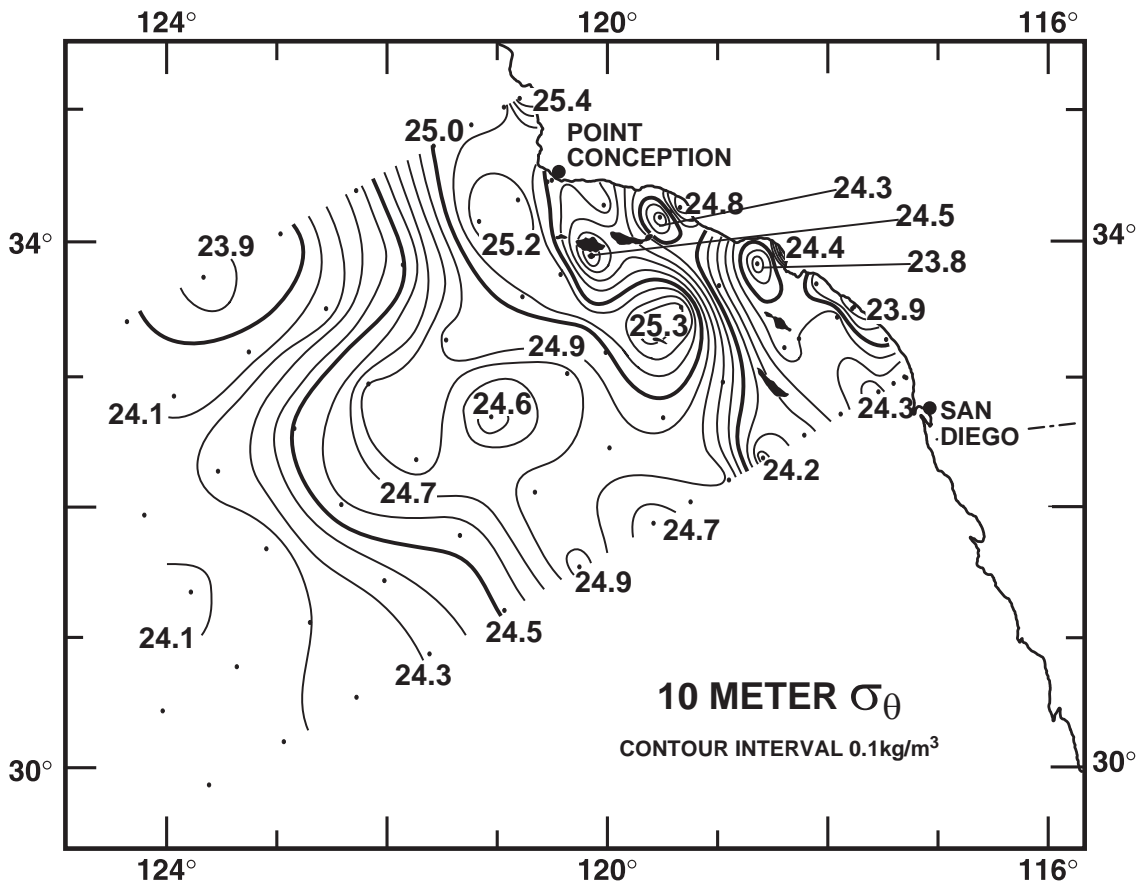


FIGURE 3B

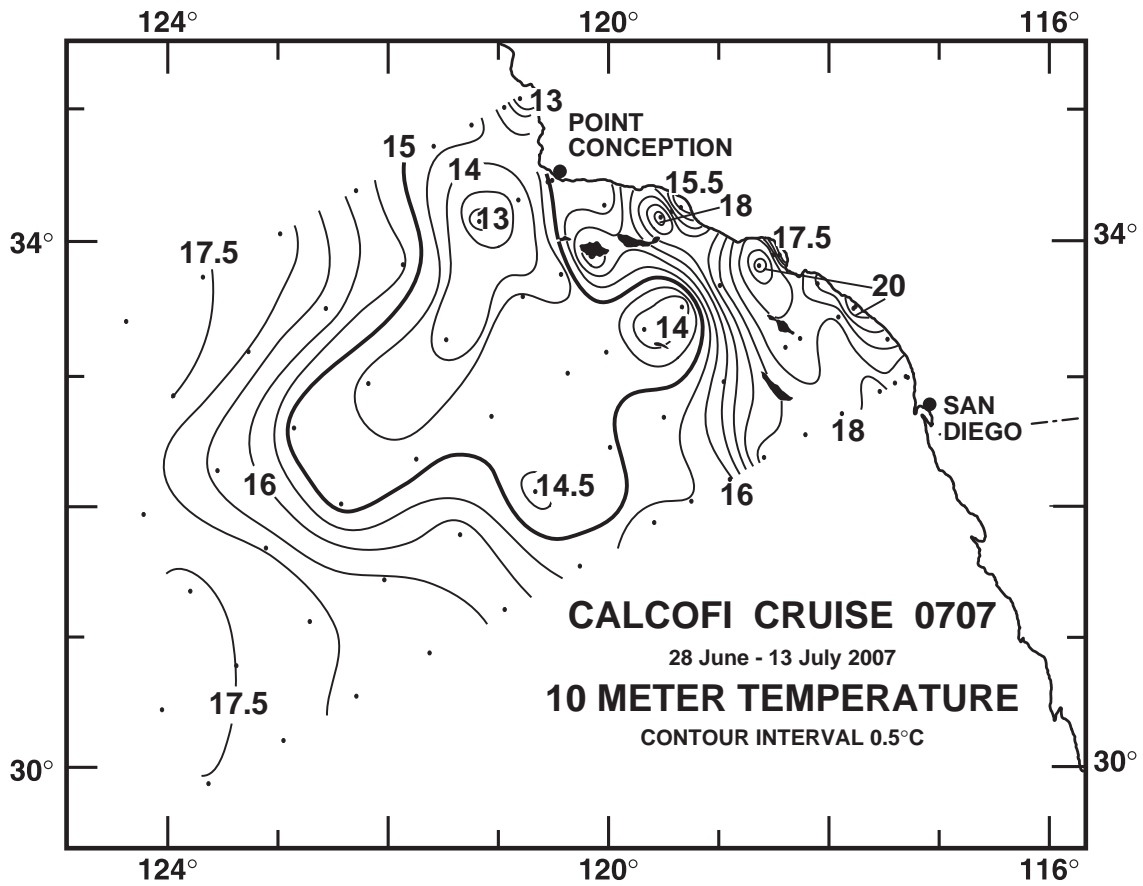


FIGURE 3C

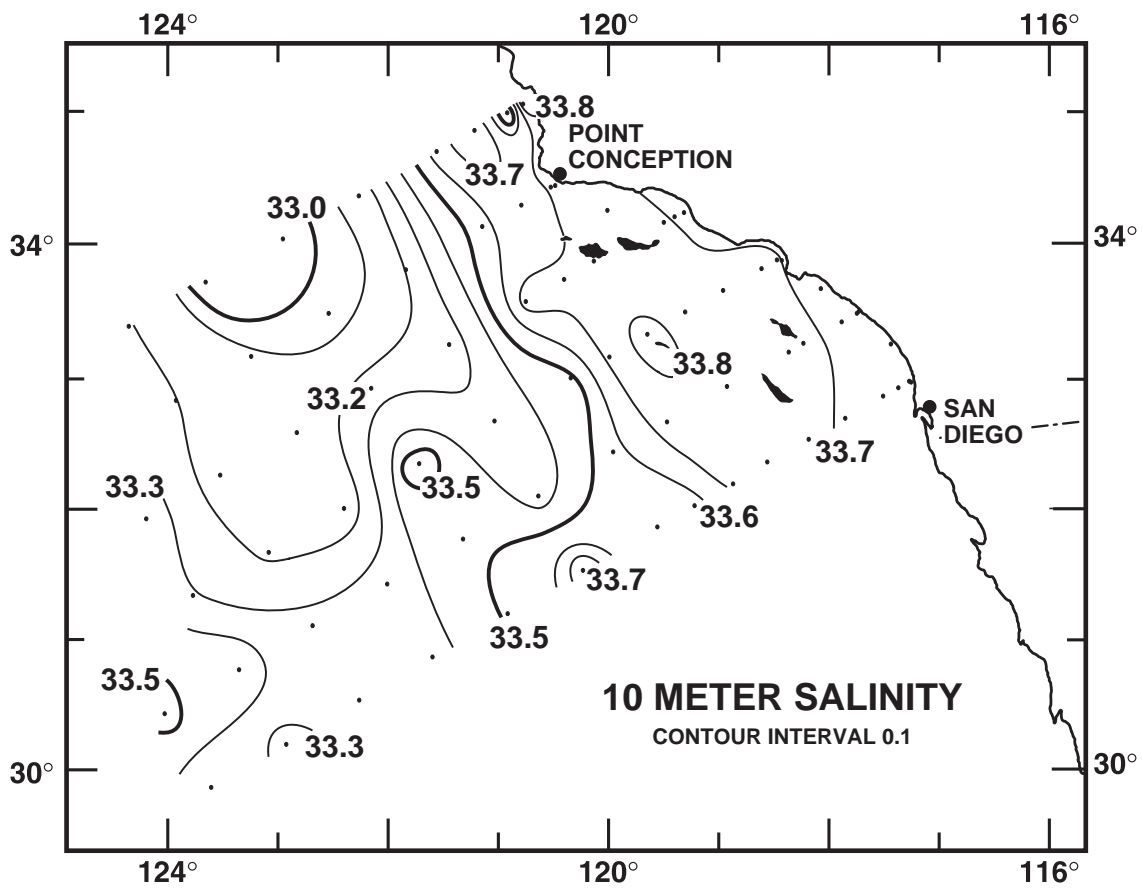


FIGURE 3D

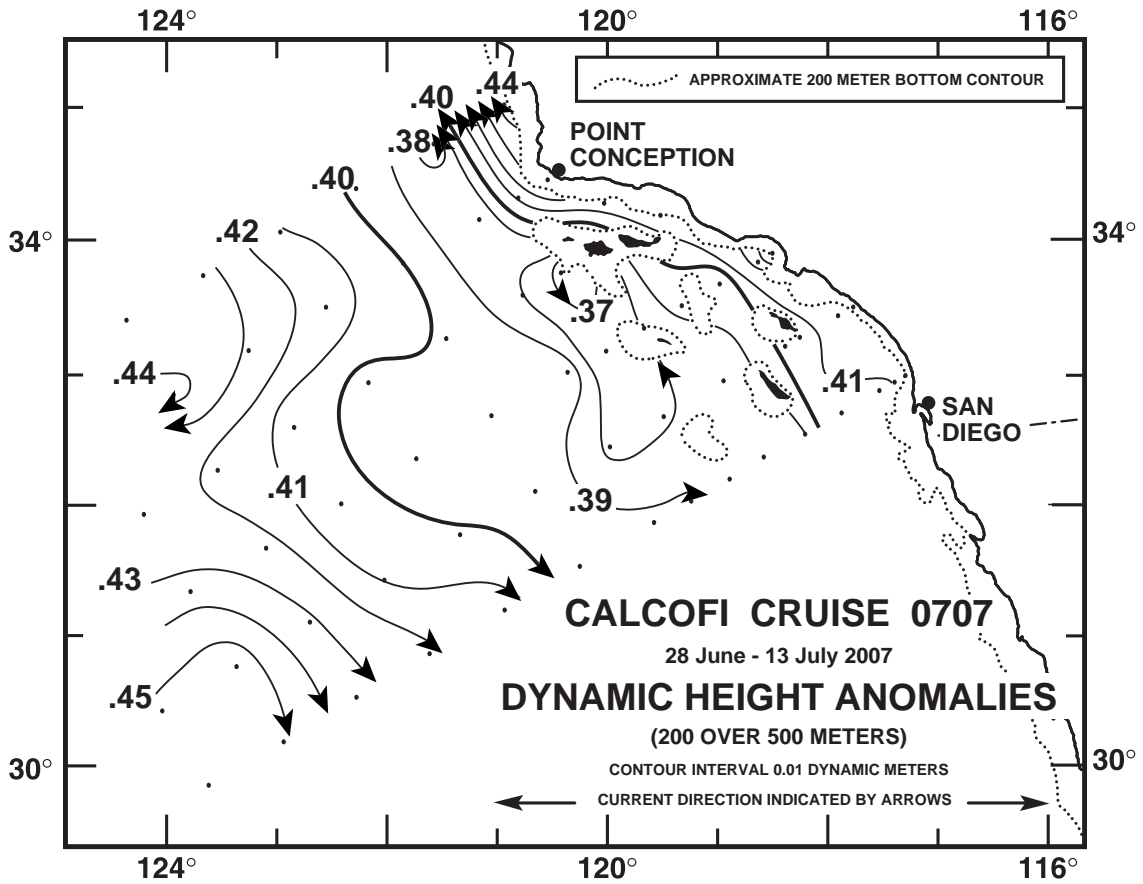


FIGURE 4A

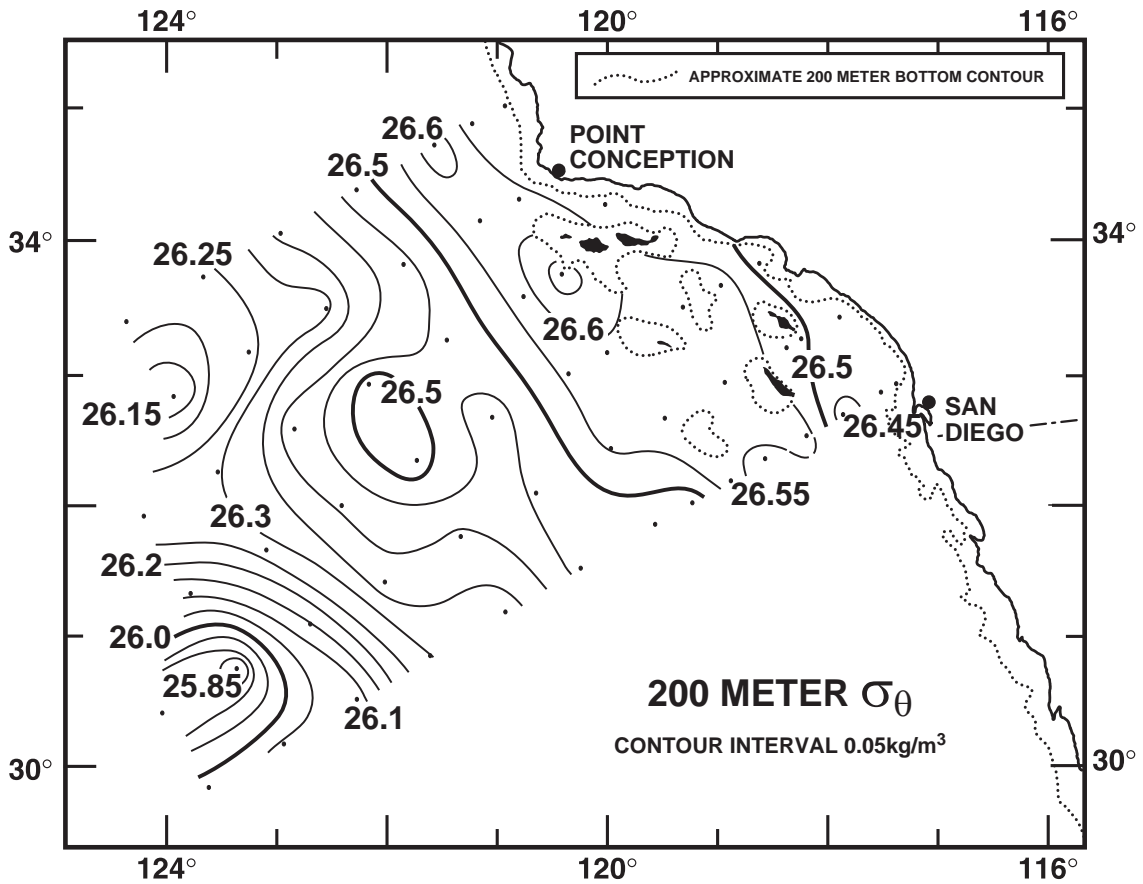


FIGURE 4B

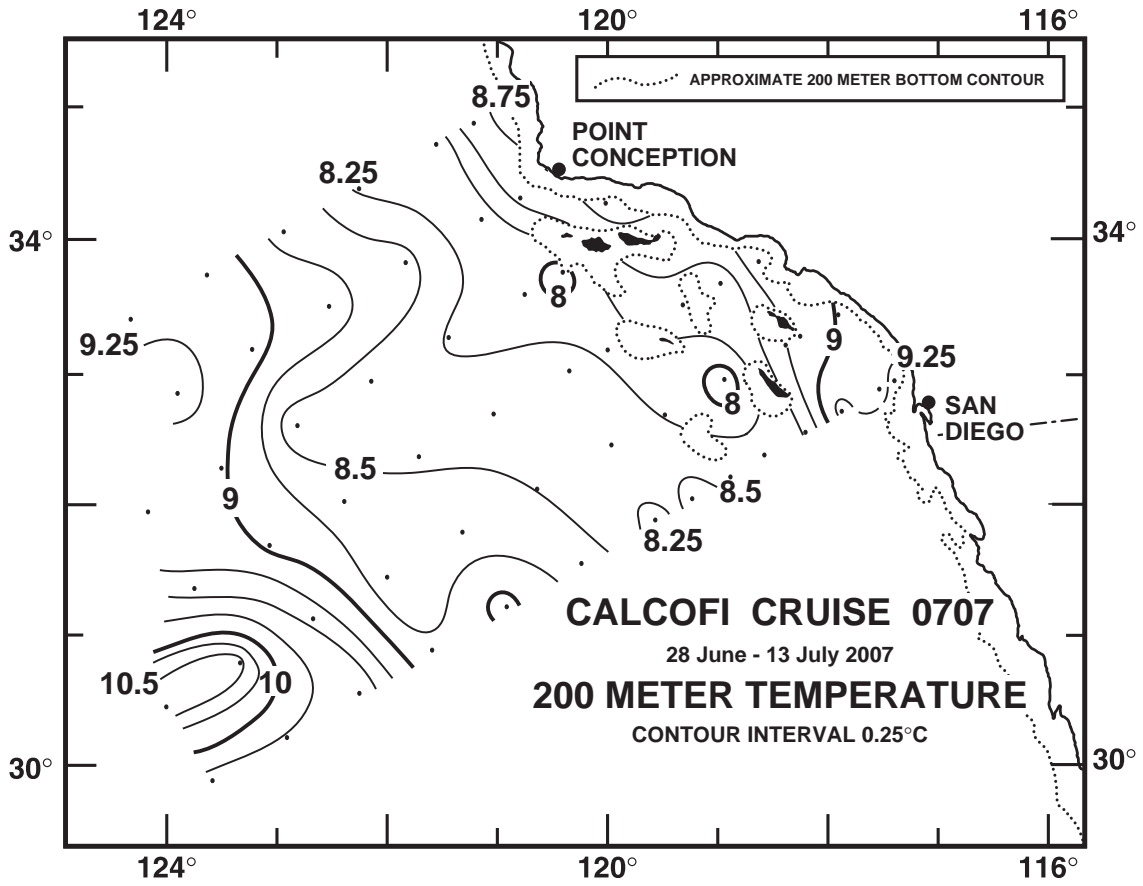


FIGURE 4C

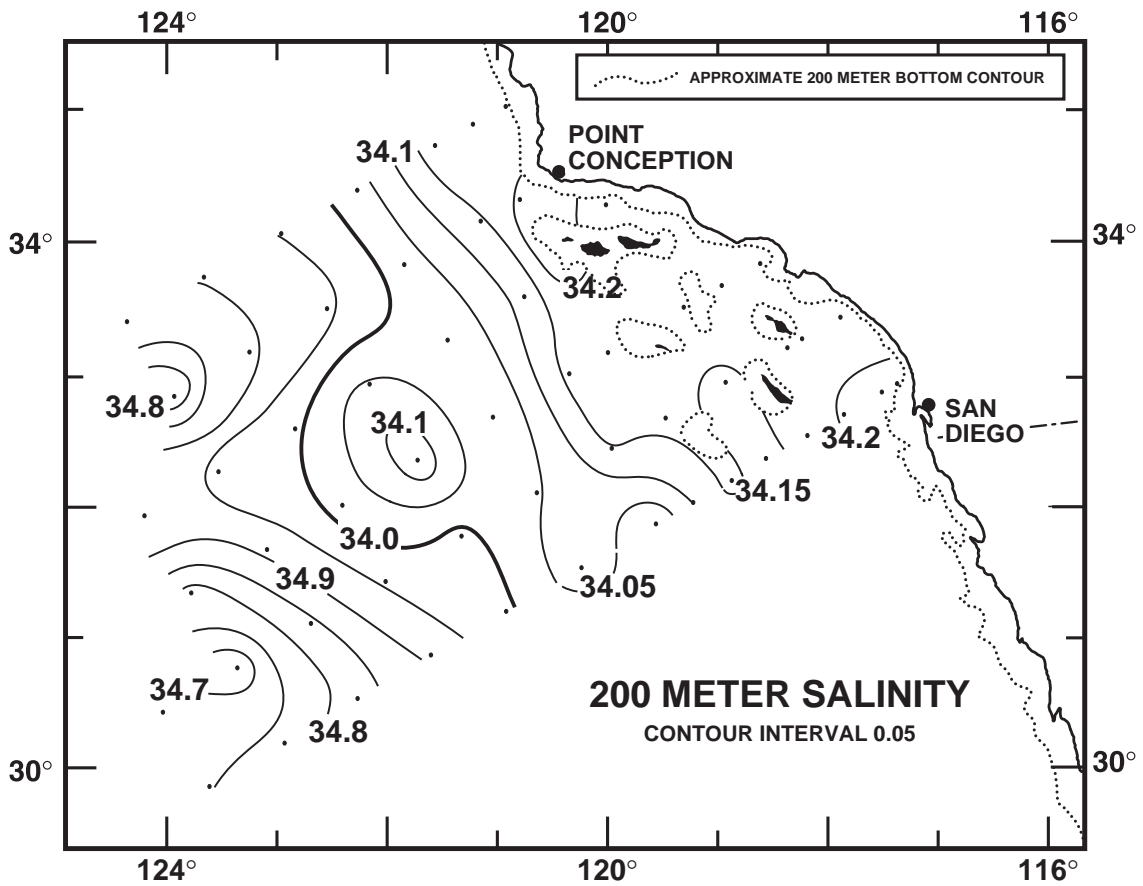


FIGURE 4D

# CALCOFI CRUISE 0707

2 - 5 July 2007

## POTENTIAL DENSITY ( $\sigma_\theta$ ) ALONG CALCOFI LINE 90

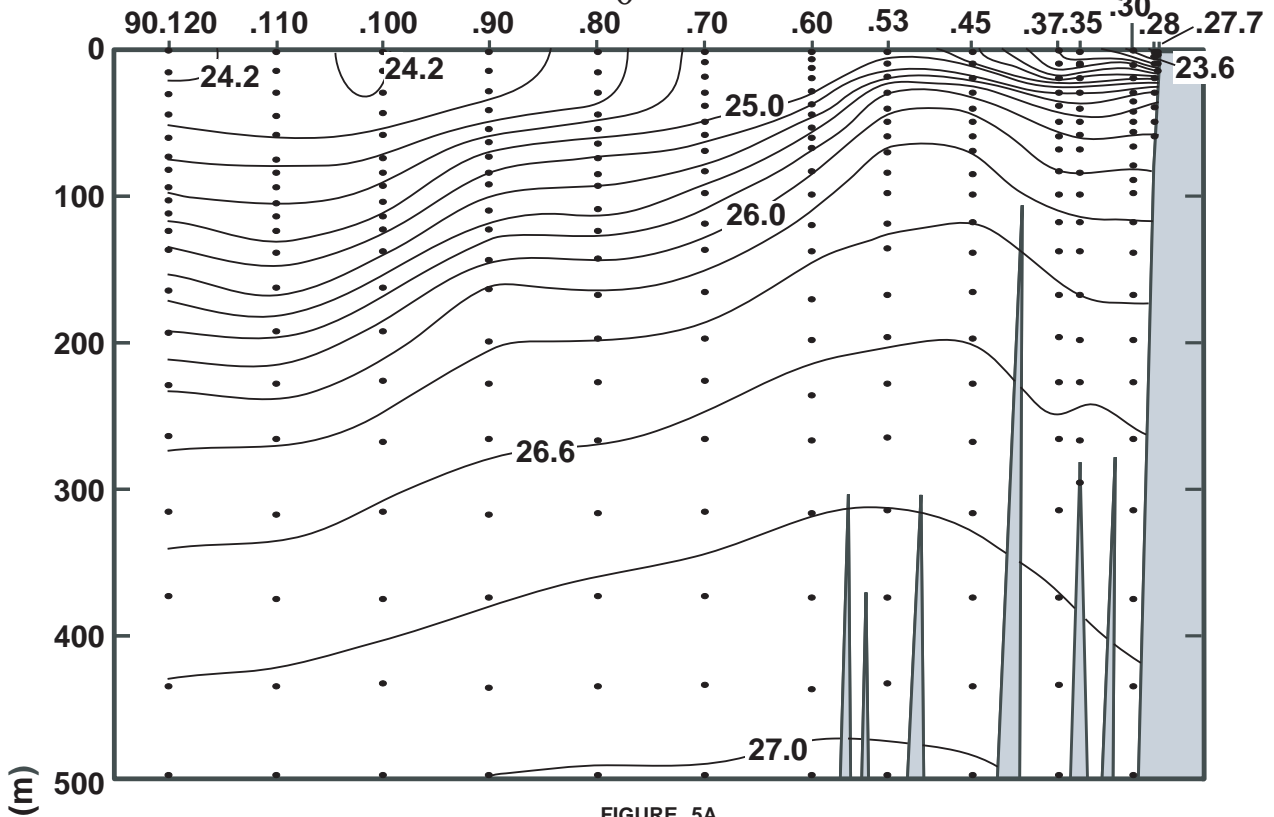


FIGURE 5A

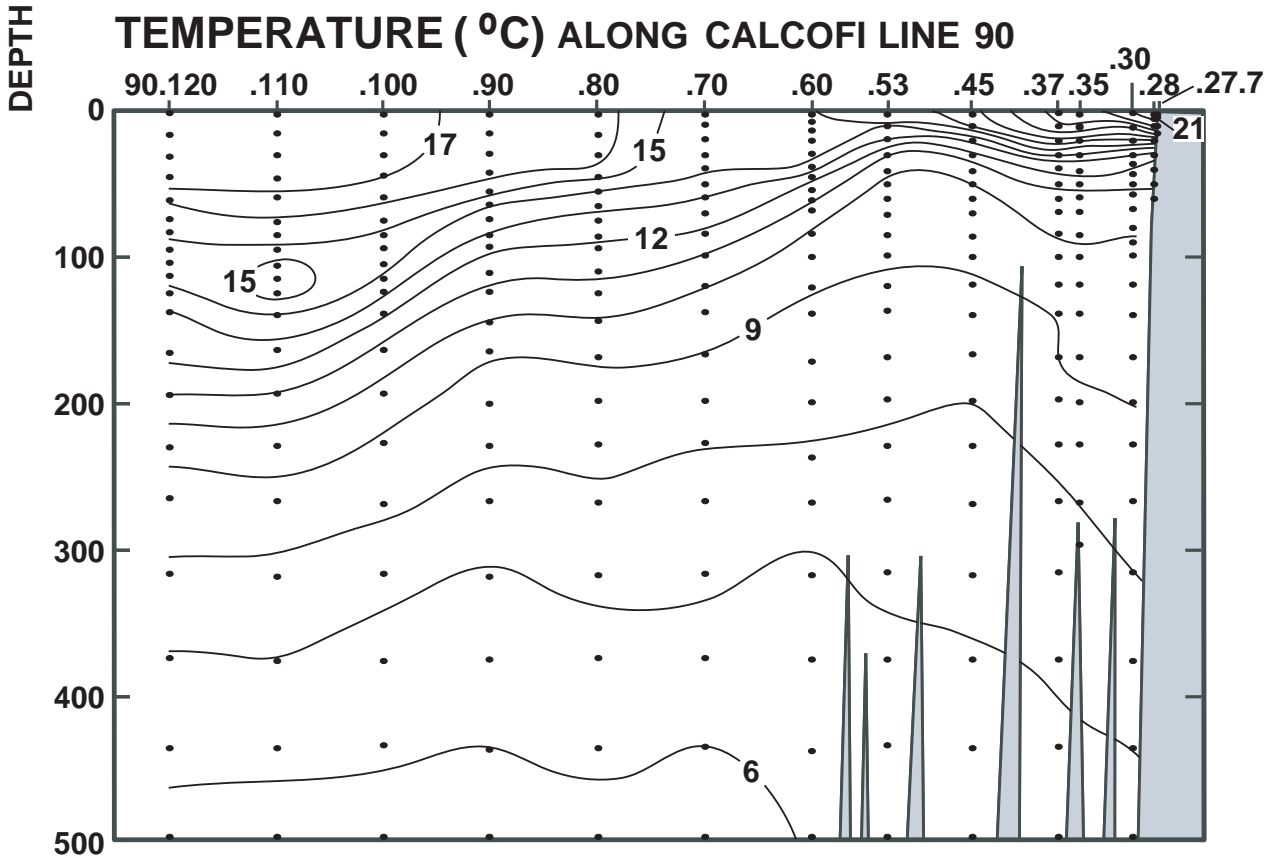


FIGURE 5B

# CALCOFI CRUISE 0707

2- 5 July 2007

## SALINITY ALONG CALCOFI LINE 90

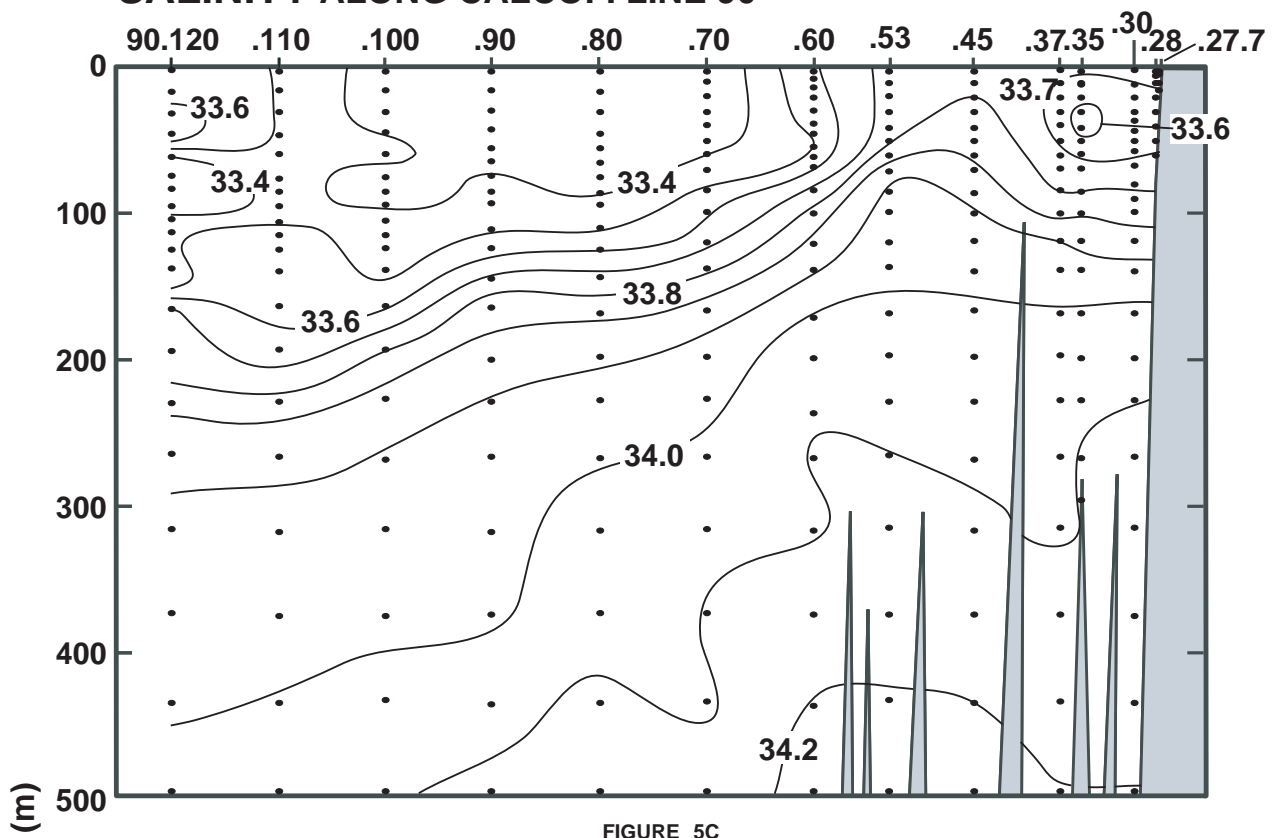


FIGURE 5C

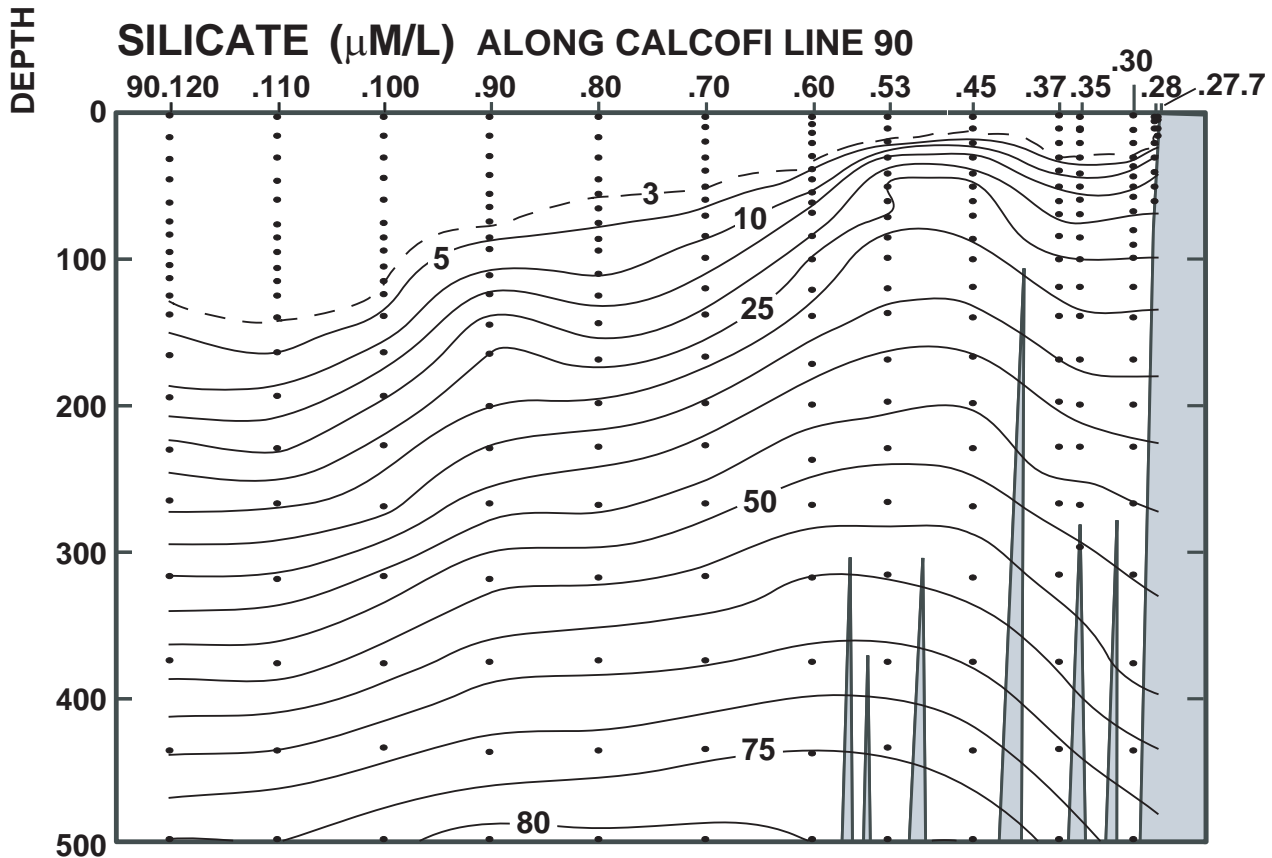


FIGURE 5D



# CALCOFI CRUISE 0707

2 - 5 July 2007

## NITRATE ( $\mu\text{M/L}$ ) ALONG CALCOFI LINE 90

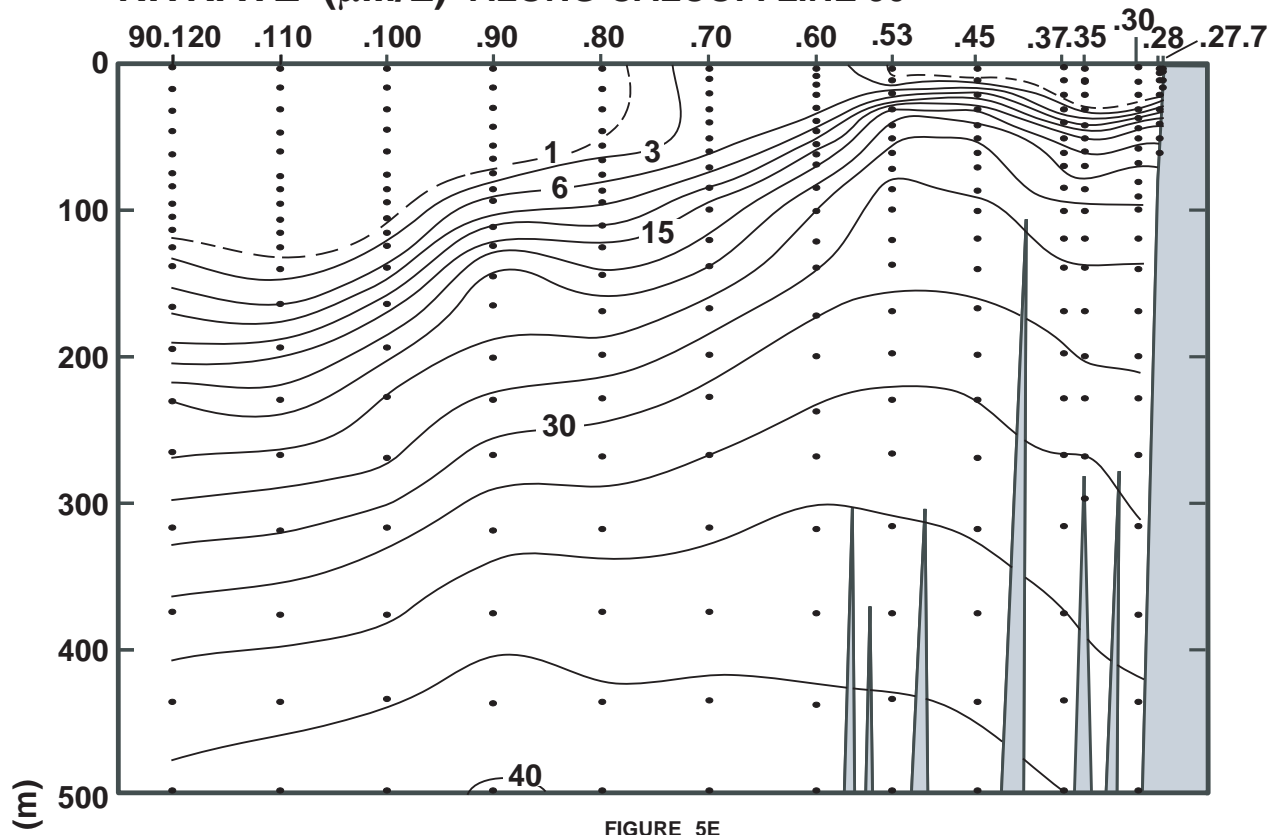


FIGURE 5E

## PHOSPHATE ( $\mu\text{M/L}$ ) ALONG CALCOFI LINE 90

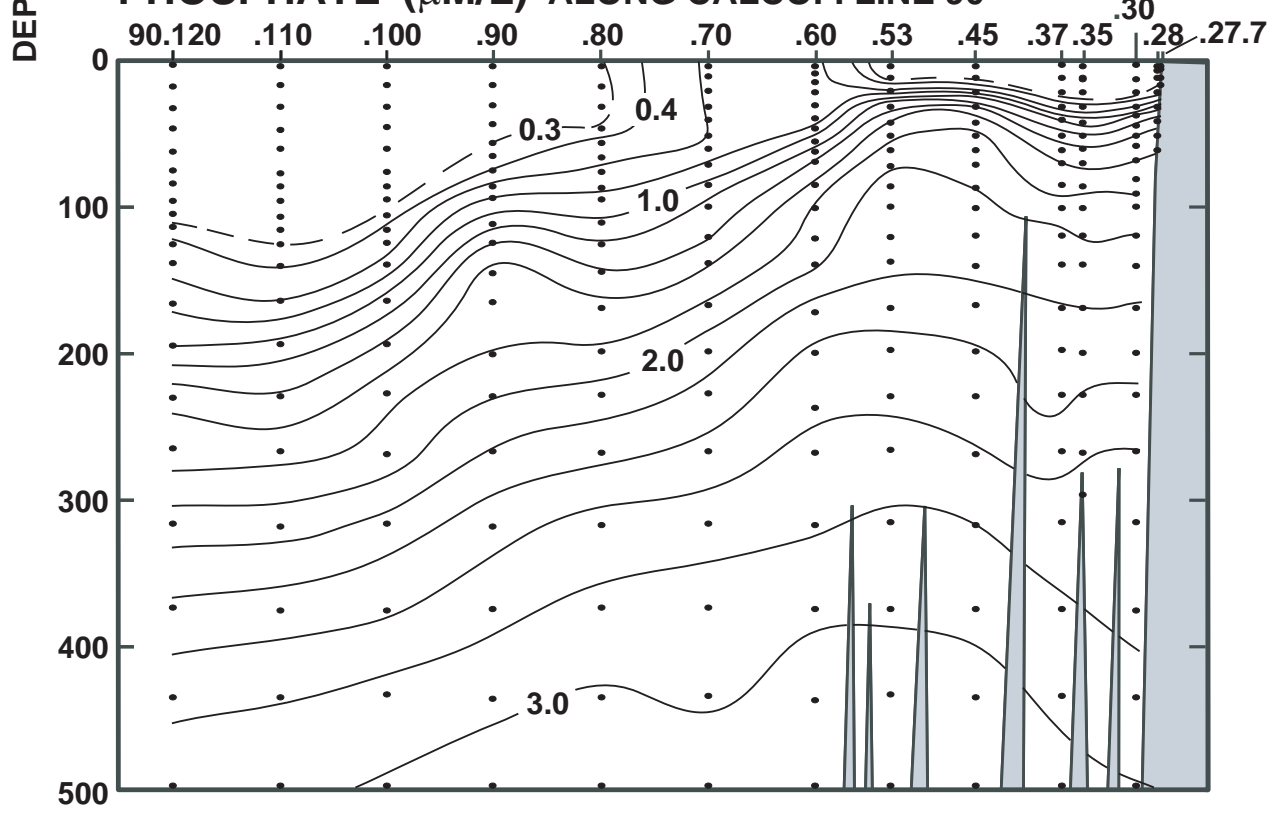


FIGURE 5F

# CALCOFI CRUISE 0707

2 - 5 July 2007

## CHLOROPHYLL-a ( $\mu\text{g/L}$ ) ALONG CALCOFI LINE 90

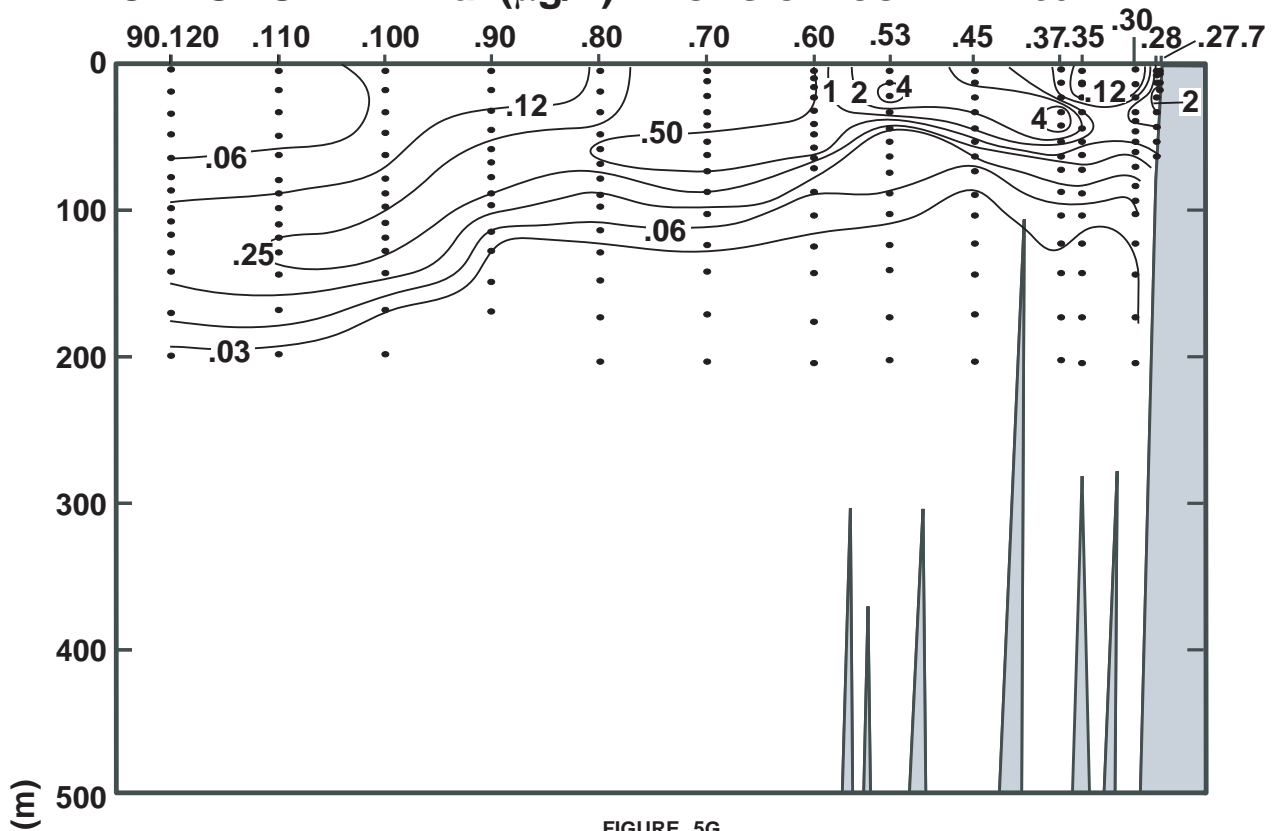


FIGURE 5G

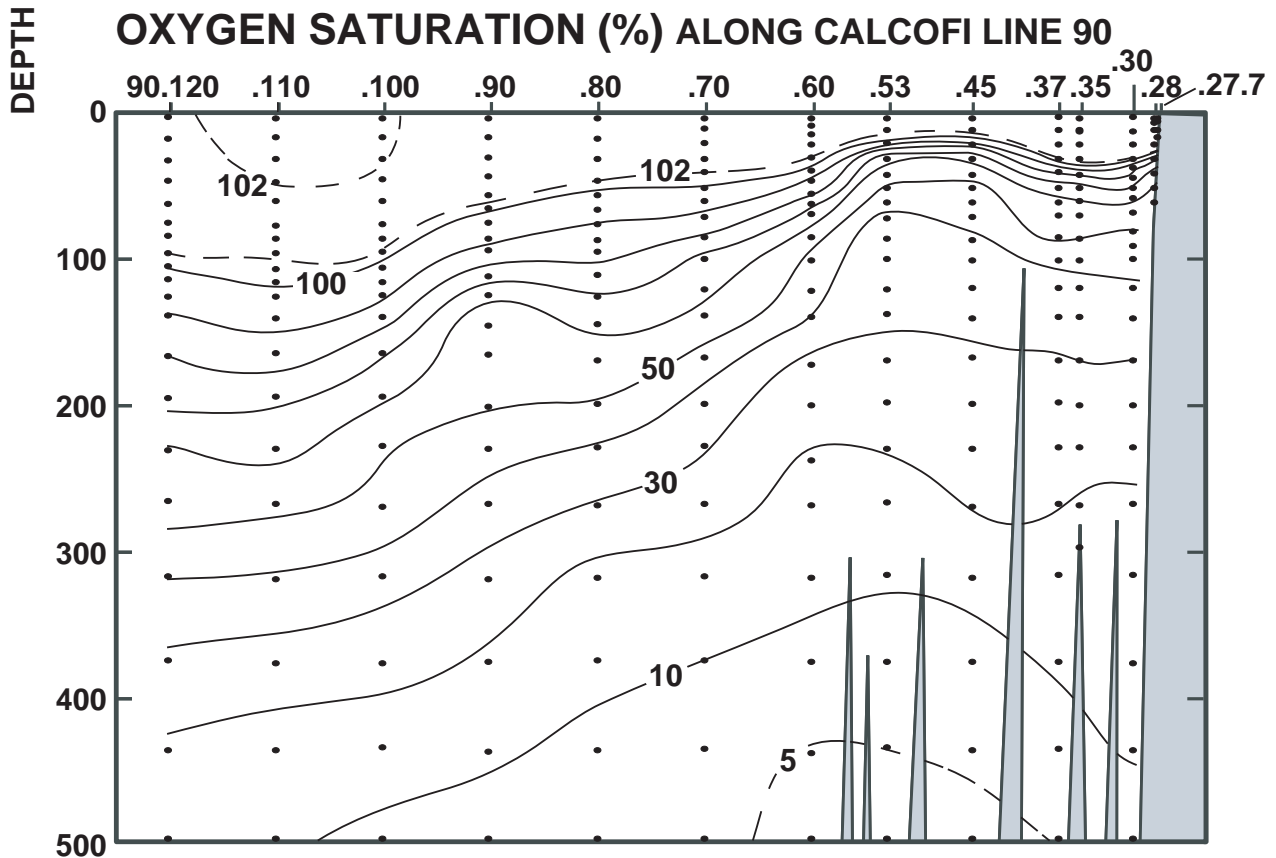


FIGURE 5H

# CALCOFI CRUISE 0707

2 - 5 July 2007

## OXYGEN (mL/L) ALONG CALCOFI LINE 90

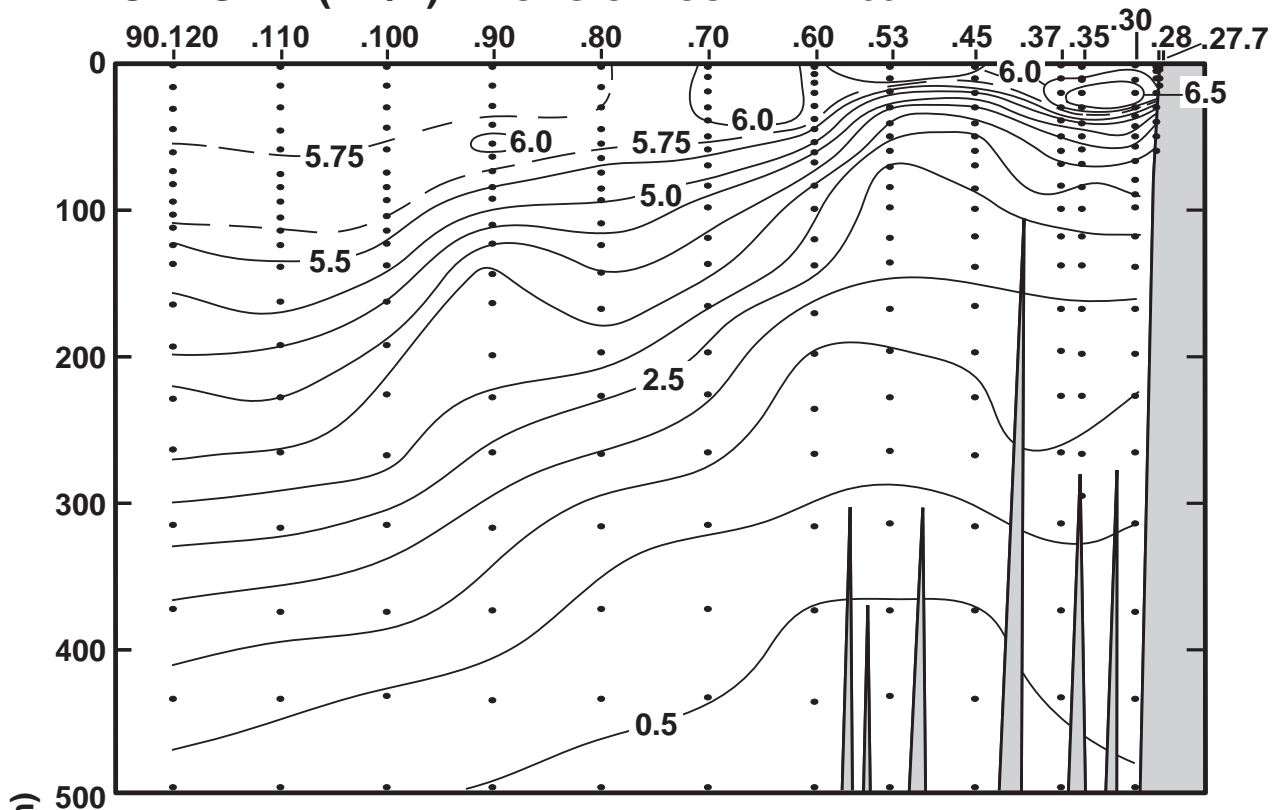


FIGURE 5I

## NITRITE ( $\mu\text{M/L}$ ) ALONG CALCOFI LINE 90

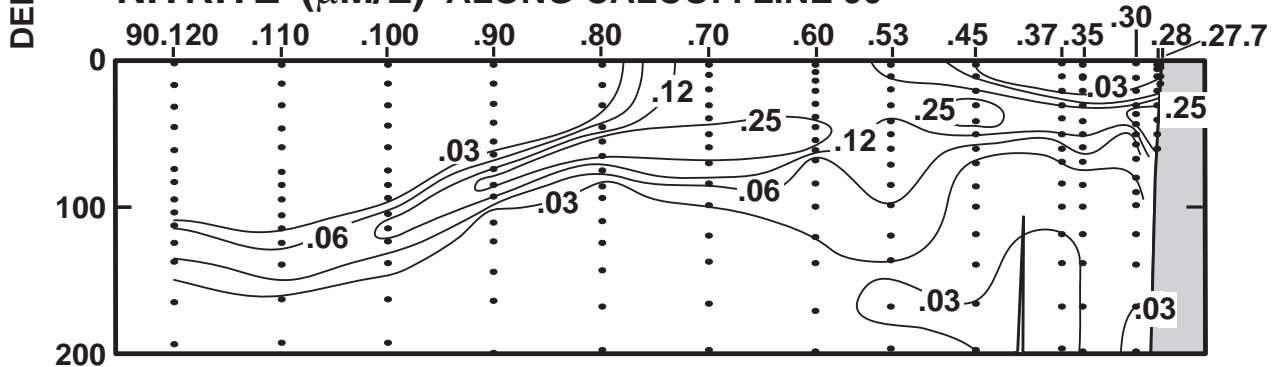


FIGURE 5J

## PHAEOPIGMENTS ( $\mu\text{g/L}$ ) ALONG CALCOFI LINE 90

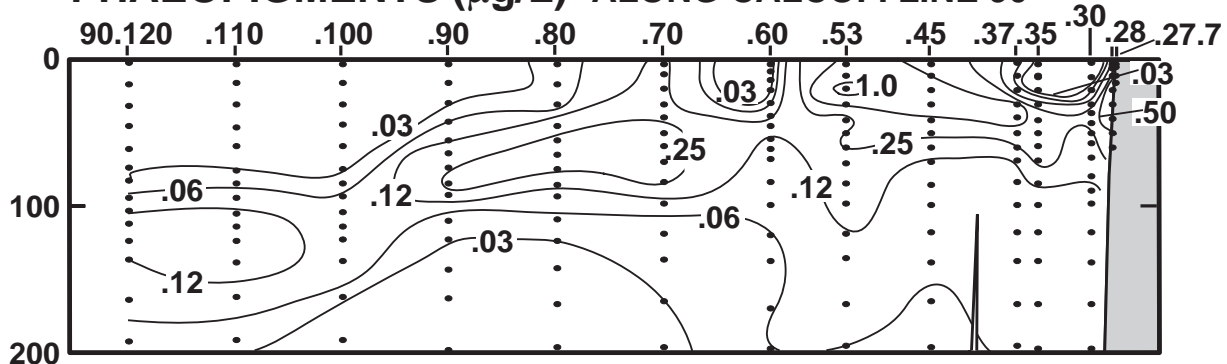


FIGURE 5K







Table with columns: LATITUDE, LONGITUDE, DAY/MO/YR, CAST TIME, BOTTOM, WIND, SPEED, WAVES, WEA, BAROMETER, DRY, WET, SECCHI, CLD AMT, TYPE. Includes depth profiles from 0 to 514 meters.

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

Table with columns: LATITUDE, LONGITUDE, DAY/MO/YR, CAST TIME, BOTTOM, WIND, SPEED, WAVES, WEA, BAROMETER, DRY, WET, SECCHI, CLD AMT, TYPE. Includes depth profiles from 0 to 512 meters.

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













Table with columns: LATITUDE, LONGITUDE, DAY/MO/YR, CAST TIME, BOTTOM, WIND SPEED, WAVES, WEA, BAROMETER, DRY, WET, SECCHI, CLD AMT, TYPE. Includes depth data from 0 to 108 meters.

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

Table with columns: LATITUDE, LONGITUDE, DAY/MO/YR, CAST TIME, BOTTOM, WIND SPEED, WAVES, WEA, BAROMETER, DRY, WET, SECCHI, CLD AMT, TYPE. Includes depth data from 0 to 89 meters.

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

Table with columns: LATITUDE, LONGITUDE, DAY/MO/YR, CAST TIME, BOTTOM, WIND SPEED, WAVES, WEA, BAROMETER, DRY, WET, SECCHI, CLD AMT, TYPE. Includes depth data from 0 to 512 meters.

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













Table with columns: LATITUDE, LONGITUDE, DAY/MO/YR, CAST TIME, BOTTOM, WIND SPEED, WAVES, WEA, BAROMETER, DRY, WET, SECCHI, CLD AMT TYPE, DEPTH, TEMP, POT TEMP, SALINITY, SIGMA, SVA, DYN HT, OXYGEN, OXY, SIO3, P04, N03, N02, CHL-A, PHAE0, PRES, SAMP. Rows include depth measurements from 0 to 513 m.

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

Table with columns: LATITUDE, LONGITUDE, DAY/MO/YR, CAST TIME, BOTTOM, WIND SPEED, WAVES, WEA, BAROMETER, DRY, WET, SECCHI, CLD AMT TYPE, DEPTH, TEMP, POT TEMP, SALINITY, SIGMA, SVA, DYN HT, OXYGEN, OXY, SIO3, P04, N03, N02, CHL-A, PHAE0, PRES, SAMP. Rows include depth measurements from 0 to 515 m.

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



Table with columns: LATITUDE, LONGITUDE, DAY/MO/YR, CAST TIME, BOTTOM, WIND SPEED, WAVES, WEA, BAROMETER, DRY, WET, SECCHI, CLD AMT TYPE, DEPTH, TEMP, POT TEMP, SALINITY, SIGMA, SVA, DYN HT, OXYGEN, OXY, SI03, P04, N03, N02, CHL-A, PHAE0, PRES, SAMP.

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

Table with columns: LATITUDE, LONGITUDE, DAY/MO/YR, CAST TIME, BOTTOM, WIND SPEED, WAVES, WEA, BAROMETER, DRY, WET, SECCHI, CLD AMT TYPE, DEPTH, TEMP, POT TEMP, SALINITY, SIGMA, SVA, DYN HT, OXYGEN, OXY, SI03, P04, N03, N02, CHL-A, PHAE0, PRES, SAMP.

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 NEW HORIZON

CALCOFI CRUISE 0707

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 53.3 N	118 26.7 W	05/07/07	0638 UTC	28 m	150 01 kn			1010.2 mb	19.4 c	18.0 c						
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SI03	P04	N03	N02	CHL-A	PHAE0	PRES	SAMP
m	DEG C	DEG C		THETA			mL/L	PCT	uM/L	uM/L	uM/L	uM/L	ug/L	ug/L	db	
0 ISL	21.65	21.65	33.734	23.354	451.6	0.000	6.07	120.2	1.8	0.06	0.0	0.02	1.77	0.52	0	
2	21.65	21.65	33.734	23.355	451.7	0.009	6.07	120.2	1.8	0.06	0.0	0.02	1.77	0.52	2	204
5	20.88	20.88	33.710	23.546	433.6	0.022	6.08	118.7	1.1	0.10	0.0	0.02	1.93	0.59	5	203
10	17.03	17.03	33.666	24.485	344.2	0.042	6.20	112.5	0.7	0.14	0.0	0.02	3.22	0.17	10	202
20	13.24	13.24	33.603	25.264	270.2	0.072	5.49	92.3	8.0	0.72	5.1	0.23	2.06	0.70	20	201

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

RV NEW HORIZON

CALCOFI CRUISE 0707

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 40.3 N	118 5.6 W	05/07/07	0248 UTC	23 m	240 07 kn	250 01 07	1	1008.6 mb	20.0 c	18.8 c		7/8	CS			
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SI03	P04	N03	N02	CHL-A	PHAE0	PRES	SAMP
m	DEG C	DEG C		THETA			mL/L	PCT	uM/L	uM/L	uM/L	uM/L	ug/L	ug/L	db	
0 ISL	20.59	20.59	33.653	23.580	430.1	0.000	5.97	115.9	0.6	0.12	0.0	0.01	0.98	0.18	0	
2	20.59	20.59	33.653	23.580	430.2	0.009	5.97	115.9	0.6	0.12	0.0	0.01	0.98	0.18	2	204
4	19.92	19.92	33.681	23.778	411.3	0.017	5.88	112.8	1.4	0.18	0.0	0.01	0.51	0.10	4	203
10	19.72	19.72	33.689	23.837	406.0	0.042	5.86	112.0	1.6	0.17	0.0	0.00	0.34	0.08	10	202
15	14.79	14.79	33.632	24.964	298.6	0.059	5.88	102.1	2.9	0.45	0.7	0.08	7.85	2.19	15	201

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

RV NEW HORIZON

CALCOFI CRUISE 0707

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 29.9 N	117 45.0 W	05/07/07	0027 UTC	24 m	240 05 kn	230 01 07	1	1008.7 mb	21.2 c	19.0 c		6/8	SC			
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SI03	P04	N03	N02	CHL-A	PHAE0	PRES	SAMP
m	DEG C	DEG C		THETA			mL/L	PCT	uM/L	uM/L	uM/L	uM/L	ug/L	ug/L	db	
0 ISL	21.94	21.94	33.758	23.293	457.6	0.000	5.83	116.1	2.4	0.21	0.0	0.02	1.23	0.25	0	
2	21.94	21.94	33.758	23.293	457.6	0.009	5.83	116.1	2.4	0.21	0.0	0.02	1.23	0.25	2	204
4	21.77	21.77	33.762	23.343	452.9	0.018	5.74	113.9	2.2	0.20	0.0	0.02	1.24	0.29	4	203
10	20.16	20.16	33.744	23.764	413.0	0.044	5.78	111.4	2.2	0.22	0.0	0.02	1.82	0.54	10	202
15	18.34	18.34	33.685	24.183	373.1	0.064	5.79	107.8	3.7	0.34	0.4	0.08	2.81	1.00	15	201

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

RV NEW HORIZON

CALCOFI CRUISE 0707

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 29.0 N	117 46.1 W	04/07/07	2245 UTC	68 m	220 06 kn	170 01 08	1	1009.8 mb	21.0 c	19.2 c		6/8	SC			
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SI03	P04	N03	N02	CHL-A	PHAE0	PRES	SAMP
m	DEG C	DEG C		THETA			mL/L	PCT	uM/L	uM/L	uM/L	uM/L	ug/L	ug/L	db	
0 ISL	21.52	21.52	33.751	23.403	447.0	0.000	5.76	113.8	1.3	0.17	0.0	0.00	0.43	0.09	0	
2	21.52	21.52	33.751	23.403	447.1	0.009	5.76	113.8	1.3	0.17	0.0	0.00	0.43	0.09	2	208
5	20.96	20.96	33.740	23.547	433.4	0.022	5.86	114.6	1.3	0.18	0.0	0.00	0.44	0.10	5	207
10	20.61	20.61	33.734	23.637	425.1	0.044	5.92	115.0	1.4	0.18	0.1	0.01	0.57	0.14	10	206
20	15.66	15.66	33.645	24.783	316.0	0.081	6.76	119.4	1.4	0.27	0.1	0.01	2.64	0.46	20	205
30	12.13	12.13	33.646	25.514	246.6	0.109	4.82	79.2	11.9	0.94	7.7	0.24	1.97	0.94	30	204
40	11.43	11.43	33.667	25.661	232.9	0.133	3.92	63.5	14.5	1.32	14.6	0.43	0.92	0.60	40	203
50	11.08	11.07	33.686	25.740	225.6	0.156	3.61	58.0	16.3	1.49	17.4	0.36	0.65	0.48	50	202
60	10.76	10.75	33.704	25.811	219.1	0.178	3.38	53.9	17.8	1.59	18.8	0.33	0.47	0.44	60	201

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



Table with columns: LATITUDE, LONGITUDE, DAY/MO/YR, CAST TIME, BOTTOM, WIND SPEED, WAVES, WEA, BAROMETER, DRY, WET, SECCHI, CLD AMT TYPE, DEPTH, TEMP, POT TEMP, SALINITY, SIGMA THETA, SVA, DYN HT, OXYGEN, OXY PCT, SI03, P04, N03, N02, CHL-A, PHAE0, PRES, SAMP. Contains depth data from 0 to 511 meters.

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

Table with columns: LATITUDE, LONGITUDE, DAY/MO/YR, CAST TIME, BOTTOM, WIND SPEED, WAVES, WEA, BAROMETER, DRY, WET, SECCHI, CLD AMT TYPE, DEPTH, TEMP, POT TEMP, SALINITY, SIGMA THETA, SVA, DYN HT, OXYGEN, OXY PCT, SI03, P04, N03, N02, CHL-A, PHAE0, PRES, SAMP. Contains depth data from 0 to 520 meters.

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			
32 39.0 N	119 28.7 W	04/07/07	0102 UTC	1319 m	310 19 kn	330 07 07	0	1011.2 mb	16.8 c	14.2 c	5m	0/8				
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SI03	P04	N03	N02	CHL-A	PHAE0	PRES	SAMP
m	DEG C	DEG C		THETA			mL/L	PCT	uM/L	uM/L	uM/L	uM/L	ug/L	ug/L	db	
0 ISL	15.36	15.36	33.769	24.945	300.0	0.000	6.33	111.2	0.0	0.21	0.9	0.11	3.37	0.57	0	
2	15.36	15.36	33.769	24.945	300.1	0.006	6.33	111.2	0.0	0.21	0.9	0.11	3.37	0.57	2	220
10	15.37	15.37	33.769	24.943	300.5	0.030	6.32	111.1	0.0	0.21	0.9	0.11	3.43	0.55	10	219
19	13.40	13.40	33.755	25.349	262.1	0.055	5.53	93.4	1.5	0.57	5.9	0.16	5.02	1.42	19	218
20 ISL	12.45 D	12.45	33.750 D	25.533	244.5	0.058	5.36	88.7	2.9	0.66	7.1	0.17	4.66	1.35	20	
30	10.67	10.67	33.711	25.831	216.4	0.081	3.74	59.6	17.9	1.50	18.9	0.26	0.41	0.37	30	217
41	9.80	9.80	33.772	26.028	197.9	0.104	3.22	50.5	23.2	1.73	22.9	0.08	0.10	0.18	41	216
50	9.77	9.76	33.794	26.050	196.0	0.121	3.15	49.2	26.4	1.74	23.4	0.08	0.11	0.27	50	215
60	9.69	9.68	33.833	26.094	192.0	0.141	3.00	46.8	23.7	1.82	24.1	0.07	0.08	0.26	60	214
71	9.44	9.43	33.983	26.253	177.2	0.161	2.39	37.1	24.9	2.03	26.6	0.09	0.10	0.18	71	213
75 ISL	9.31 D	9.30	34.003 D	26.289	173.8	0.168	2.34	36.2	27.0	2.04	27.0	0.09	0.09	0.16	75	
85	9.25	9.24	34.010	26.305	172.5	0.185	2.23	34.5	32.3	2.08	27.5	0.08	0.05	0.14	85	212
99	9.11	9.10	34.031	26.344	169.1	0.209	2.15	33.1	33.7	2.14	28.1	0.06	0.04	0.15	100	211
100 ISL	9.10 D	9.09	34.034 D	26.348	168.7	0.211	2.15	33.1	33.7	2.14	28.1	0.06	0.04	0.15	101	
120	8.96	8.95	34.046	26.380	166.0	0.245	2.12	32.6	34.4	2.16	28.4	0.05	0.02	0.12	121	210
125 ISL	8.88 D	8.87	34.045 D	26.392	165.0	0.253	2.12	32.5	34.7	2.16	28.5	0.04	0.02	0.12	126	
137	8.77	8.76	34.064	26.424	162.1	0.272	2.12	32.4	35.7	2.16	29.0	0.03	0.01	0.11	138	209
150 ISL	8.57 D	8.55	34.092 D	26.477	157.3	0.293	1.96	29.9	37.5	2.22	29.8	0.03	0.01	0.10	151	
169	8.51	8.49	34.126	26.513	154.2	0.323	1.70	25.9	40.3	2.34	30.9	0.04	0.01	0.09	170	208
198	8.24	8.22	34.142	26.567	149.6	0.367	1.61	24.4	43.3	2.43	31.9	0.02	0.01	0.06	199	207
200 ISL	8.20 D	8.18	34.163 D	26.590	147.4	0.370	1.60	24.2	43.6	2.44	32.0	0.02			201	
230	7.82	7.80	34.160	26.644	142.7	0.413	1.38	20.7	48.3	2.55	33.4	0.02			231	206
250 ISL	7.75 D	7.73	34.197 D	26.684	139.2	0.442	1.29	19.3	50.6	2.62	34.0	0.03			252	
267	7.59	7.56	34.193	26.704	137.5	0.465	1.21	18.0	52.4	2.67	34.4	0.03			269	205
300 ISL	7.30 D	7.27	34.238 D	26.781	130.6	0.509	0.89	13.2	57.0	2.78	35.6	0.02			302	
317	7.22	7.19	34.248	26.800	129.0	0.531	0.72	10.6	59.4	2.84	36.2	0.02			319	204
377	6.85	6.81	34.284	26.880	122.2	0.607	0.51	7.5	66.6	2.97	37.7	0.01			380	203
400 ISL	6.56 D	6.52	34.274 D	26.911	119.3	0.635	0.44	6.4	69.6	3.01	38.3	0.01			403	
436	6.38	6.34	34.303	26.958	115.3	0.677	0.35	5.1	74.1	3.07	39.1	0.01			439	202
500 ISL	6.13 D	6.09	34.325 D	27.009	111.2	0.749	0.27	3.9	79.5	3.12	39.8	0.01			504	
511	6.08	6.03	34.330	27.019	110.3	0.761	0.26	3.7	80.4	3.13	39.9	0.01			515	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			
32 25.2 N	119 57.8 W	03/07/07	1936 UTC	894 m	320 20 kn	320 07 06	0	1014.0 mb	17.9 c	15.7 c	14m	0/8				
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SI03	P04	N03	N02	CHL-A	PHAE0	PRES	SAMP
m	DEG C	DEG C		THETA			mL/L	PCT	uM/L	uM/L	uM/L	uM/L	ug/L	ug/L	db	
0 ISL	14.93	14.93	33.585	24.897	304.6	0.000	5.93	103.2	2.7	0.65	5.2	0.16	0.44	0.00	0	
2 A	14.93	14.93	33.585	24.897	304.6	0.006	5.93	103.2	2.7	0.65	5.2	0.16	0.44	0.00	2	222
7 A	14.93	14.93	33.583	24.896	304.9	0.021	5.92	103.0	2.7	0.64	5.2	0.16	0.48	0.03	7	221
10 ISL	14.91 D	14.91	33.584 D	24.901	304.5	0.030	5.92	103.0	2.7	0.64	5.2	0.16	0.46	0.02	10	
13	14.88	14.88	33.583	24.907	304.0	0.040	5.93	103.1	2.7	0.64	5.2	0.16	0.44	0.02	13	220
20 A	14.81	14.81	33.581	24.921	302.9	0.061	5.94	103.1	2.7	0.64	5.3	0.17	0.50	0.00	20	219
29 A	14.52	14.52	33.558	24.965	299.0	0.088	5.92	102.2	2.8	0.65	5.3	0.17	0.46	0.05	29	218
30 ISL	14.46 D	14.46	33.558 D	24.978	297.8	0.091	5.92	102.0	2.9	0.65	5.3	0.17	0.47	0.05	30	
38 A	13.99	13.98	33.566	25.083	288.0	0.114	5.90	100.7	3.3	0.70	6.1	0.19	0.54	0.09	38	217
45	12.36	12.35	33.483	25.344	263.2	0.134	5.60	92.4	5.9	0.83	8.3	0.29	0.90	0.22	45	216
50 ISL	11.53 D	11.52	33.489 D	25.505	248.0	0.146	5.32	86.2	8.3	1.02	11.3	0.32	0.84	0.16	50	
54 A	11.43	11.42	33.504	25.535	245.2	0.156	5.06	81.8	10.4	1.17	13.7	0.34	0.80	0.09	54	215
61	10.80	10.79	33.521	25.661	233.3	0.173	4.48	71.5	13.8	1.30	16.1	0.07	0.31	0.09	61	214
68	10.45	10.44	33.573	25.763	223.8	0.189	4.22	66.8	16.0	1.41	17.9	0.04	0.11	0.09	68	213
75 ISL	10.14 D	10.13	33.653 D	25.878	212.9	0.204	3.92	61.7	18.2	1.52	19.7	0.04	0.09	0.08	75	
84	9.91	9.90	33.704	25.957	205.6	0.223	3.54	55.4	20.9	1.66	21.9	0.04	0.06	0.07	84	212
100	9.39	9.38	33.836	26.146	187.9	0.255	3.01	46.6	25.7	1.83	24.6	0.03	0.05	0.07	101	211
121	9.10	9.09	33.916	26.256	177.8	0.293	3.01	46.4	27.9	1.88	25.4	0.03	0.02	0.06	122	210
125 ISL	9.01 D	9.00	33.934 D	26.284	175.2	0.300	2.96	45.5	28.7	1.90	25.7	0.03	0.02	0.06	126	
139	8.75	8.74	33.995	26.373	167.0	0.324	2.68	41.0	31.7	1.97	27.0	0.02	0.01	0.04	140	209
150 ISL	8.63 D	8.61	34.026 D	26.416	163.1	0.342	2.34	35.7	34.0	2.08	28.1	0.02	0.01	0.04	151	
172	8.77	8.75	34.118	26.467	158.8	0.378	1.70	26.0	38.4	2.31	30.0	0.02	0.01	0.06	173	208
200	8.36	8.34	34.156	26.560	150.3	0.421	1.46	22.1	43.2	2.44	31.7	0.02	0.01	0.06	201	207
238	7.89	7.87	34.192	26.659	141.4	0.476	1.23	18.5	48.7	2.56	33.2	0.02			239	206
250 ISL	7.76 D	7.74	34.198 D	26.683	139.3	0.493	1.20	18.0	50.2	2.60	33.6	0.02			251	
269	7.58	7.55	34.205	26.715	136.5	0.519	1.17	17.4	52.6	2.67	34.3	0.03			271	205
300 ISL	7.00 D	6.97	34.191 D	26.786	130.0	0.561	1.03	15.1	57.7	2.73	35.9	0.02			302	
319	6.86	6.83	34.186	26.801	128.8	0.585	0.91	13.3	60.7	2.77	36.8	0.01			321	204
377	6.83	6.79	34.291	26.889	121.4	0.658	0.46	6.7	66.7	2.97	37.6	0.01			379	203
400 ISL	6.65 D	6.61	34.283 D	26.907	119.9	0.686	0.38	5.5	70.0	3.02	38.2	0.01			403	
440	6.31	6.27	34.315	26.977	113.5	0.732	0.32	4.6	75.5	3.08						

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE			
32 4.9 N	120 38.2 W	03/07/07	1248 UTC	3821 m	320 18 kn	320 07 07	0	1014.9 mb	15.9 c	14.8 c		0/8				
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SI03	P04	N03	N02	CHL-A	PHAE0	PRES	SAMP
m	DEG C	DEG C		THETA			mL/L	PCT	uM/L	uM/L	uM/L	uM/L	ug/L	ug/L	db	
0 ISL	14.14	14.14	33.343	24.878	306.3	0.000	6.02	102.9	2.5	0.61	4.6	0.18	0.44	0.13	0	
2	14.14	14.14	33.343	24.878	306.4	0.006	6.02	102.9	2.5	0.61	4.6	0.18	0.44	0.13	2	220
9	14.14	14.14	33.351	24.885	306.0	0.028	6.02	103.0	2.5	0.60	4.6	0.18	0.43	0.13	9	219
10 ISL	14.14 D	14.14	33.345 D	24.880	306.5	0.031	6.02	102.9	2.5	0.60	4.6	0.18	0.43	0.13	10	
19	14.14	14.14	33.347	24.882	306.5	0.058	6.03	103.1	2.4	0.61	4.6	0.18	0.48	0.13	19	218
20 ISL	14.14 D	14.14	33.345 D	24.880	306.7	0.061	6.03	103.1	2.4	0.61	4.6	0.18	0.48	0.13	20	
30	14.14	14.14	33.346	24.882	306.9	0.092	6.03	103.1	2.4	0.62	4.6	0.18	0.50	0.13	30	217
39	14.11	14.10	33.350	24.891	306.3	0.120	6.01	102.7	2.4	0.62	4.6	0.18	0.47	0.14	39	216
50	13.64	13.63	33.367	25.001	296.0	0.153	5.90	99.9	2.7	0.58	3.3	0.33	0.60	0.29	50	215
59	13.06	13.05	33.409	25.151	282.0	0.179	5.57	93.2	4.4	0.67	5.1	0.48	0.61	0.47	59	214
70	12.57	12.56	33.430	25.263	271.6	0.209	5.39	89.2	5.7	0.79	7.4	0.26	0.55	0.40	70	213
75 ISL	12.37 D	12.36	33.453 D	25.320	266.3	0.223	5.20	85.8	6.9	0.88	9.0	0.17	0.43	0.33	75	
84	11.92	11.91	33.529	25.464	252.7	0.246	4.80	78.4	9.4	1.06	12.2	0.05	0.21	0.21	84	212
99	11.00	10.99	33.592	25.682	232.3	0.282	4.17	66.8	13.9	1.33	16.7	0.03	0.08	0.08	99	211
100 ISL	10.73 D	10.72	33.604 D	25.739	226.8	0.285	4.15	66.1	14.1	1.34	16.8	0.03	0.08	0.08	100	
120	10.13	10.12	33.619	25.854	216.2	0.329	3.96	62.3	16.7	1.39	18.2	0.02	0.04	0.05	121	210
125 ISL	9.77 D	9.76	33.705 D	25.982	204.1	0.339	3.90	60.9	17.7	1.43	18.9	0.02	0.03	0.05	125	
138	9.54	9.52	33.763	26.065	196.4	0.365	3.70	57.5	20.7	1.55	21.0	0.01	0.02	0.04	139	209
150 ISL	9.22 D	9.20	33.867 D	26.199	183.9	0.388	3.43	53.0	23.7	1.67	22.7	0.01	0.01	0.04	151	
167	8.99	8.97	33.941	26.294	175.2	0.419	3.01	46.2	28.0	1.83	25.0	0.01	0.01	0.03	168	208
199	8.51	8.49	34.043	26.449	160.9	0.473	2.35	35.7	35.5	2.12	28.7	0.01	0.00	0.02	200	207
200 ISL	8.48 D	8.46	34.046 D	26.456	160.3	0.474	2.34	35.6	35.7	2.13	28.8	0.01			201	
228	8.05	8.03	34.070	26.540	152.6	0.518	2.07	31.2	40.8	2.25	30.7	0.01			229	206
250 ISL	7.79 D	7.77	34.102 D	26.603	146.9	0.551	1.82	27.2	44.6	2.37	32.0	0.01			251	
268	7.61	7.58	34.115	26.640	143.6	0.577	1.62	24.1	47.7	2.47	33.0	0.01			270	205
300 ISL	7.25 D	7.22	34.156 D	26.724	136.0	0.622	1.28	18.9	53.2	2.62	34.7	0.01			302	
318	7.14	7.11	34.162	26.744	134.3	0.646			56.1	2.70	35.5	0.01			320	204
376	6.71	6.68	34.209	26.840	125.8	0.722	0.72	10.5	63.9	2.87	37.5	0.00			378	203
400 ISL	6.45 D	6.41	34.206 D	26.872	122.9	0.751	0.67	9.7	67.9	2.91	38.4	0.00			403	
437	5.96	5.92	34.188	26.921	118.4	0.796	0.63	9.0	74.0	2.96	39.7	0.00			440	202
500 ISL	5.62 D	5.58	34.241 D	27.005	110.9	0.868	0.42	6.0	81.8	3.07	41.1	0.00			503	
511	5.56	5.52	34.247	27.018	109.8	0.880	0.38	5.4	83.2	3.09	41.3	0.00			514	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			
31 45.1 N	121 18.9 W	03/07/07	0601 UTC	3679 m	320 21 kn			1017.2 mb	15.7 c	14.8 c						
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SI03	P04	N03	N02	CHL-A	PHAE0	PRES	SAMP
m	DEG C	DEG C		THETA			mL/L	PCT	uM/L	uM/L	uM/L	uM/L	ug/L	ug/L	db	
0 ISL	16.37	16.37	33.488	24.501	342.3	0.000	5.72	102.4	2.2	0.29	0.1	0.00	0.13	0.04	0	
2	16.37	16.37	33.488	24.501	342.3	0.007	5.72	102.4	2.2	0.29	0.1	0.00	0.13	0.04	2	220
10 ISL	16.37 D	16.37	33.490 D	24.503	342.4	0.034	5.73	102.6	2.2	0.28	0.0	0.00	0.13	0.04	10	
16	16.37	16.37	33.490	24.503	342.6	0.055	5.73	102.6	2.2	0.28	0.0	0.00	0.13	0.04	16	219
20 ISL	16.37 D	16.37	33.490 D	24.504	342.7	0.068	5.73	102.6	2.2	0.28	0.0	0.00	0.14	0.04	20	
30	16.29	16.29	33.488	24.521	341.4	0.103	5.72	102.2	2.1	0.28	0.0	0.00	0.15	0.03	30	218
45	15.33	15.32	33.414	24.680	326.7	0.153	5.92	103.7	2.0	0.30	0.0	0.00	0.32	0.16	45	217
50 ISL	14.24 D	14.23	33.358 D	24.870	308.5	0.169	5.87	100.6	2.3	0.38	0.8	0.21	0.47	0.30	50	
55	13.59	13.58	33.333	24.985	297.7	0.184	5.79	97.9	2.8	0.46	1.8	0.38	0.56	0.41	55	216
65	13.03	13.02	33.347	25.109	286.2	0.213	5.57	93.1	3.8	0.56	3.7	0.21	0.26	0.32	65	215
75	12.55	12.54	33.358	25.212	276.6	0.241	5.42	89.7	4.7	0.65	5.4	0.03	0.16	0.23	75	214
86	12.13	12.12	33.399	25.324	266.1	0.271	5.24	85.9	5.8	0.74	7.2	0.01	0.10	0.11	86	213
94	11.85	11.84	33.405	25.381	260.8	0.292	5.10	83.2	6.9	0.83	8.4	0.01	0.08	0.07	94	212
100 ISL	11.67 D	11.66	33.439 D	25.441	255.3	0.308	4.97	80.7	7.8	0.91	9.6	0.01	0.07	0.06	100	
110	11.40	11.39	33.472	25.517	248.3	0.333	4.73	76.4	9.6	1.03	11.7	0.00	0.05	0.05	110	211
125	10.64	10.63	33.611	25.761	225.3	0.368	4.35	69.2	13.2	1.18	15.0	0.00	0.02	0.03	126	210
144	9.95	9.93	33.704	25.952	207.4	0.409	4.01	62.9	17.3	1.41	18.5	0.00	0.01	0.02	145	209
150 ISL	9.63 D	9.61	33.753 D	26.043	198.8	0.422	3.92	61.0	18.8	1.47	19.4	0.00	0.01	0.02	151	
169	9.18	9.16	33.875	26.212	183.0	0.458	3.68	56.8	23.5	1.62	21.9	0.00	0.00	0.01	170	208
199	8.61	8.59	33.976	26.381	167.4	0.510	3.29	50.1	30.1	1.82	24.9	0.00	0.00	0.01	200	207
200 ISL	8.59 D	8.57	33.980 D	26.387	166.8	0.512	3.27	49.8	30.4	1.83	25.0	0.00			201	
229	8.08	8.06	34.030	26.504	156.0	0.559	2.60	39.2	37.8	2.08	28.7	0.00			230	206
250 ISL	8.04 D	8.01	34.083 D	26.552	151.9	0.591	2.25	33.9	41.1	2.22	30.3	0.00			251	
269	7.84	7.81	34.083	26.581	149.3	0.620	1.97	29.5	43.7	2.34	31.4	0.00			271	205
300 ISL	7.45 D	7.42	34.152 D	26.692	139.1	0.665	1.43	21.2	50.0	2.56	33.6	0.00			302	
319	7.35	7.32	34.168	26.719	136.8	0.691	1.14	16.9	54.0	2.68	34.8	0.00			321	204
376	6.62	6.59	34.178	26.827	126.9	0.766	0.87	12.7	63.6	2.86	37.3	0.00			378	203
400 ISL	6.38 D	6.34	34.189 D	26.868	123.3	0.796	0.72	10.4	66.8	2.93	38.1	0.00			402	
438	6.29	6.25	34.237	26.918	119.0	0.842	0.50	7.2	71.6	3.03	39.2	0.00			441	202
500 ISL	5.71 D	5.67	34.262 D	27.011	110.5	0.913	0.36	5.1	80.5	3.13	40.7	0.00			503	

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE			
31 24.4 N	121 59.9 W	02/07/07	2311 UTC	3891 m	340 23 kn	320 07 07	0	1017.4 mb	17.5 c	16.6 c	22m	0/8				
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SI03	P04	N03	N02	CHL-A	PHAE0	PRES	SAMP
m	DEG C	DEG C		THETA			mL/L	PCT	uM/L	uM/L	uM/L	uM/L	ug/L	ug/L	db	
0 ISL	16.75	16.75	33.357	24.313	360.2	0.000	5.69	102.5	1.8	0.29	0.0	0.01	0.09	0.03	0	
2	16.75	16.75	33.357	24.313	360.3	0.007	5.69	102.5	1.8	0.29	0.0	0.01	0.09	0.03	2	220
10 ISL	16.73 D	16.73	33.359 D	24.320	359.9	0.036	5.69	102.5	1.8	0.29	0.0	0.01	0.09	0.02	10	
15	16.73	16.73	33.358	24.319	360.1	0.054	5.69	102.5	1.8	0.29	0.0	0.01	0.09	0.02	15	219
20 ISL	16.73 D	16.73	33.359 D	24.320	360.2	0.072	5.69	102.5	1.8	0.29	0.0	0.01	0.09	0.02	20	
29	16.64	16.64	33.360	24.342	358.4	0.104	5.69	102.3	1.7	0.30	0.0	0.01	0.10	0.03	29	218
30 ISL	16.63 D	16.63	33.361 D	24.345	358.1	0.108	5.69	102.3	1.7	0.30	0.0	0.01	0.10	0.03	30	
42	16.27	16.26	33.431	24.482	345.5	0.150	5.78	103.2	1.8	0.28	0.0	0.01	0.18	0.06	42	217
50 ISL	15.93 D	15.92	33.434 D	24.562	338.1	0.178	6.01	106.6	1.9	0.29	0.0	0.01	0.30	0.08	50	
55	15.30	15.29	33.411	24.684	326.5	0.194	6.11	107.0	2.0	0.29	0.0	0.01	0.37	0.11	55	216
64	14.03	14.02	33.376	24.929	303.4	0.222	5.89	100.5	2.0	0.33	0.0	0.02	0.40	0.21	64	215
74	13.41	13.40	33.386	25.063	290.8	0.252	5.74	96.7	2.3	0.37	0.1	0.15	0.26	0.18	74	214
75 ISL	13.33 D	13.32	33.437 D	25.119	285.5	0.255	5.72	96.2	2.5	0.40	0.4	0.18	0.26	0.20	75	
85	12.88	12.87	33.421	25.196	278.4	0.283	5.53	92.2	4.7	0.68	4.6	0.32	0.28	0.30	85	213
93	12.39	12.38	33.419	25.290	269.6	0.305	5.32	87.7	6.1	0.81	6.8	0.03	0.14	0.16	93	212
100 ISL	11.82 D	11.81	33.435 D	25.410	258.2	0.324	5.05	82.3	7.8	0.94	8.9	0.03	0.11	0.09	100	
111	11.32	11.31	33.485	25.541	245.9	0.351	4.56	73.5	11.1	1.15	12.6	0.02	0.05	0.05	111	211
124	10.68	10.67	33.578	25.728	228.4	0.382	3.95	62.9	15.8	1.43	17.3	0.02	0.02	0.03	125	210
125 ISL	10.66 D	10.65	33.584 D	25.736	227.6	0.384	3.90	62.0	16.2	1.45	17.6	0.02	0.02	0.03	126	
145	9.82	9.80	33.720	25.986	204.2	0.428	3.17	49.5	22.2	1.74	22.6	0.02	0.01	0.03	146	209
150 ISL	9.60 D	9.58	33.756 D	26.050	198.1	0.438	3.21	49.9	23.1	1.74	22.8	0.02	0.01	0.03	151	
165	9.05	9.03	33.874	26.232	181.0	0.466	3.46	53.2	25.3	1.73	23.2	0.01	0.00	0.02	166	208
200 ISL	8.53 D	8.51	33.961 D	26.381	167.3	0.527	3.31	50.3	30.1	1.82	25.0	0.02	0.00	0.02	201	
201	8.53	8.51	33.959	26.380	167.5	0.529	3.31	50.3	30.2	1.82	25.1	0.02	0.00	0.02	202	207
230	8.17	8.15	34.005	26.471	159.2	0.576	2.91	43.9	35.4	1.99	27.5	0.02			231	206
250 ISL	7.91 D	7.88	34.019 D	26.521	154.7	0.608	2.63	39.4	39.3	2.12	29.4	0.01			251	
268	7.66	7.63	34.034	26.569	150.3	0.635	2.39	35.6	43.0	2.24	31.2	0.01			269	205
300 ISL	7.16 D	7.13	34.043 D	26.647	143.2	0.682	1.99	29.3	49.8	2.42	33.9	0.01			302	
320	6.86	6.83	34.052	26.695	138.7	0.710	1.76	25.8	53.8	2.52	35.3	0.01			322	204
377	6.33	6.30	34.077	26.786	130.6	0.787	1.29	18.7	62.9	2.74	38.1	0.01			379	203
400 ISL	6.30 D	6.26	34.119 D	26.823	127.4	0.817	1.11	16.0	66.2	2.82	38.9	0.01			402	
439	5.96	5.92	34.141	26.884	121.9	0.865	0.83	11.9	71.9	2.95	40.2	0.01			442	202
500 ISL	5.58 D	5.54	34.229 D	27.001	111.3	0.936	0.48	6.8	82.5	3.10	42.1	0.01			503	
515	5.45	5.41	34.232	27.019	109.6	0.953	0.40	5.7	85.1	3.14	42.6	0.01			518	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			
31 5.3 N	122 40.2 W	02/07/07	1735 UTC	3984 m	340 18 kn	340 07 07	0	1017.9 mb	18.9 c	16.8 c	29m	0/8				
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SI03	P04	N03	N02	CHL-A	PHAE0	PRES	SAMP
m	DEG C	DEG C		THETA			mL/L	PCT	uM/L	uM/L	uM/L	uM/L	ug/L	ug/L	db	
0 ISL	17.24	17.24	33.354	24.196	371.4	0.000	5.60	101.9	1.7	0.28	0.0	0.01	0.07	0.00	0	
2 A	17.24	17.24	33.354	24.196	371.5	0.007	5.60	101.9	1.7	0.28	0.0	0.01	0.07	0.00	2	220
10 ISL	17.24 D	17.24	33.355 D	24.197	371.6	0.037	5.60	101.9	1.6	0.28	0.0	0.01	0.06	0.01	10	
15 A	17.23	17.23	33.354	24.198	371.6	0.056	5.60	101.9	1.6	0.28	0.0	0.01	0.06	0.01	15	219
20 ISL	17.21 D	17.21	33.354 D	24.203	371.3	0.074	5.60	101.8	1.6	0.28	0.0	0.01	0.06	0.01	20	
30	17.20	17.20	33.351	24.204	371.6	0.111	5.61	102.0	1.5	0.28	0.0	0.01	0.07	0.01	30	218
44 A	17.14	17.13	33.347	24.216	371.0	0.163	5.62	102.0	1.6	0.28	0.0	0.01	0.07	0.01	44	217
50 ISL	16.83 D	16.82	33.413 D	24.339	359.4	0.185	5.67	102.4	1.6	0.27	0.0	0.01	0.08	0.02	50	
59 A	16.55	16.54	33.462	24.442	349.8	0.217	5.78	103.8	1.6	0.26	0.0	0.01	0.09	0.03	59	216
75 A	15.25	15.24	33.323	24.628	332.5	0.272	5.96	104.2	1.6	0.28	0.0	0.01	0.14	0.02	75	215
85	14.81	14.80	33.317	24.719	324.1	0.305	5.97	103.5	1.8	0.28	0.0	0.01	0.13	0.05	85	214
94	14.72	14.71	33.370	24.780	318.6	0.334	5.94	102.8	1.9	0.28	0.0	0.01	0.18	0.05	94	213
100 ISL	14.55 D	14.54	33.460 D	24.885	308.7	0.352	5.83	100.6	2.1	0.30	0.2	0.03	0.23	0.08	100	
105	14.28	14.26	33.441	24.928	304.7	0.368	5.73	98.3	2.3	0.33	0.3	0.06	0.28	0.11	105	212
115 A	13.67	13.65	33.380	25.007	297.3	0.398	5.65	95.7	2.8	0.43	1.6	0.15	0.33	0.08	115	211
124	13.25	13.23	33.405	25.112	287.5	0.424	5.50	92.3	3.4	0.49	3.0	0.10	0.30	0.07	125	210
125 ISL	12.88 D	12.86	33.455 D	25.224	276.8	0.427	5.48	91.3	3.5	0.50	3.2	0.10	0.29	0.07	126	
139	12.46	12.44	33.467	25.315	268.4	0.465	5.17	85.4	5.3	0.66	6.1	0.04	0.14	0.10	140	209
150 ISL	11.25 D	11.23	33.516 D	25.579	243.3	0.493	4.85	78.1	8.1	0.85	9.5	0.02	0.07	0.08	151	
164	10.74	10.72	33.576	25.717	230.4	0.526	4.46	71.1	12.1	1.10	13.9	0.01	0.03	0.03	165	208
194	9.61	9.59	33.793	26.078	196.3	0.590	3.97	61.8	19.4	1.44	19.6	0.01	0.00	0.01	195	207
200 ISL	9.43 D	9.41	33.836 D	26.142	190.4	0.602	3.84	59.5	20.9	1.50	20.6	0.01			201	
228	8.90	8.88	33.937	26.306	175.2	0.653	3.32	50.9	27.4	1.75	24.4	0.01			229	206
250 ISL	8.54 D	8.51	33.989 D	26.403	166.3	0.691	3.23	49.1	30.4	1.82	25.6	0.01			251	
270	8.30	8.27	34.007	26.454	161.7	0.724	3.16	47.8	33.3	1.87	26.4	0.01			271	205
300 ISL	7.54 D	7.51	34.023 D	26.578	150.0	0.770	2.65	39.4	41.2	2.11	29.7	0.01			302	
318	7.34	7.31	34.032	26.614	146.8	0.797	2.31	34.2	46.3	2.27	31.8	0.01			320	204
378	6.59	6.56	34.058	26.737	135.5	0.882</										

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE			
30 45.0 N	123 19.9 W	02/07/07	0932 UTC	4013 m	330 15 kn			1018.1 mb	17.4 c	15.5 c						
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SI03	P04	N03	N02	CHL-A	PHAE0	PRES	SAMP
m	DEG C	DEG C		THETA			mL/L	PCT	uM/L	uM/L	uM/L	uM/L	ug/L	ug/L	db	
0 ISL	17.50	17.50	33.492	24.239	367.2	0.000	5.55	101.6	1.7	0.28	0.2	0.00	0.05	0.01	0	
2	17.50	17.50	33.492	24.239	367.3	0.007	5.55	101.6	1.7	0.28	0.2	0.00	0.05	0.01	2	220
10 ISL	17.50 D	17.50	33.493 D	24.240	367.5	0.037	5.56	101.7	1.7	0.27	0.1	0.00	0.05	0.01	10	
15	17.50	17.50	33.492	24.240	367.7	0.055	5.56	101.7	1.7	0.27	0.1	0.00	0.05	0.01	15	219
20 ISL	17.50 D	17.50	33.493 D	24.241	367.8	0.073	5.56	101.7	1.7	0.27	0.1	0.00	0.05	0.01	20	
30	17.50	17.49	33.492	24.241	368.1	0.110	5.56	101.7	1.7	0.27	0.1	0.00	0.05	0.01	30	218
46	17.48	17.47	33.494	24.248	368.0	0.169	5.57	101.9	1.7	0.27	0.2	0.00	0.05	0.01	46	217
50 ISL	17.27 D	17.26	33.496 D	24.299	363.2	0.184	5.59	101.8	1.7	0.27	0.2	0.00	0.06	0.01	50	
59	16.93	16.92	33.491	24.376	356.2	0.216	5.67	102.6	1.7	0.26	0.1	0.00	0.07	0.02	59	216
75 ISL	15.82 D	15.81	33.426 D	24.581	337.0	0.272	5.83	103.2	1.7	0.27	0.1	0.00	0.09	0.03	75	
76	15.81	15.80	33.426	24.583	336.8	0.275	5.84	103.3	1.7	0.27	0.1	0.00	0.09	0.03	76	215
85	15.57	15.56	33.455	24.660	329.9	0.305	5.86	103.2	1.6	0.27	0.2	0.00	0.12	0.05	85	214
95	14.95	14.94	33.391	24.746	321.8	0.338	5.87	102.1	1.8	0.29	0.1	0.00	0.15	0.07	95	213
100 ISL	14.74 D	14.73	33.376 D	24.780	318.7	0.354	5.86	101.4	1.8	0.29	0.1	0.00	0.18	0.10	100	
106	14.74	14.72	33.387	24.789	318.1	0.373	5.84	101.1	1.8	0.30	0.2	0.00	0.21	0.14	106	212
115	15.71	15.69	33.708	24.824	315.2	0.401	5.71	101.0	1.7	0.24	0.2	0.00	0.22	0.18	115	211
125	15.40	15.38	33.712	24.896	308.5	0.432	5.64	99.1	1.9	0.27	0.2	0.06	0.27	0.21	126	210
140	14.14	14.12	33.617	25.094	289.9	0.477	5.45	93.3	2.9	0.39	2.1	0.09	0.17	0.16	141	209
150 ISL	13.24 D	13.22	33.526 D	25.208	279.1	0.506	5.36	90.0	3.4	0.45	3.2	0.07	0.13	0.13	151	
164	12.89	12.87	33.554	25.300	270.7	0.544	5.20	86.7	4.7	0.57	5.2	0.02	0.09	0.09	165	208
194	10.98	10.96	33.624	25.712	231.6	0.620	4.52	72.4	11.6	1.06	13.4	0.00	0.02	0.04	195	207
200 ISL	10.56 D	10.54	33.663 D	25.817	221.7	0.633	4.44	70.5	12.8	1.13	14.5	0.00	0.02	0.04	201	
230	9.64	9.61	33.813	26.090	196.0	0.696	4.07	63.4	19.2	1.40	19.2	0.00	0.02	0.04	231	206
250 ISL	9.03 D	9.00	33.919 D	26.272	178.9	0.733	3.74	57.5	24.5	1.58	22.2	0.00	0.02	0.04	251	
268	8.64	8.61	33.971	26.374	169.4	0.765	3.43	52.3	29.3	1.73	24.6	0.00	0.02	0.04	269	205
300 ISL	8.07 D	8.04	34.009 D	26.490	158.6	0.817	2.91	43.8	36.4	1.97	28.0	0.00	0.02	0.04	302	
320	7.78	7.75	34.022	26.543	153.8	0.848	2.60	38.9	40.5	2.11	29.8	0.00	0.02	0.04	322	204
378	7.01	6.97	34.063	26.684	140.8	0.934	1.75	25.7	52.4	2.49	34.5	0.00	0.02	0.04	380	203
400 ISL	6.59 D	6.55	34.071 D	26.747	134.8	0.964	1.48	21.5	57.2	2.61	36.0	0.00	0.02	0.04	402	
438	6.26	6.22	34.108	26.820	128.2	1.014	1.11	16.0	65.0	2.78	38.1	0.00	0.02	0.04	441	202
500 ISL	5.74 D	5.70	34.142 D	26.912	119.8	1.091	0.78	11.1	74.8	2.95	40.1	0.00	0.02	0.04	503	
513	5.70	5.66	34.156	26.929	118.4	1.106	0.71	10.1	76.8	2.98	40.5	0.00	0.02	0.04	516	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			
30 24.8 N	124 0.1 W	02/07/07	0245 UTC	4208 m	360 22 kn	360 06 08	1	1018.8 mb	18.0 c	15.7 c		2/8	SC			
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SI03	P04	N03	N02	CHL-A	PHAE0	PRES	SAMP
m	DEG C	DEG C		THETA			mL/L	PCT	uM/L	uM/L	uM/L	uM/L	ug/L	ug/L	db	
0 ISL	17.93	17.93	33.553	24.182	372.7	0.000	5.53	102.1	1.5	0.27	0.0	0.01	0.05	0.01	0	
1	17.93	17.93	33.553	24.182	372.7	0.004	5.53	102.1	1.5	0.27	0.0	0.01	0.05	0.01	1	220
10 ISL	17.94 D	17.94	33.554 D	24.181	373.1	0.037	5.54	102.3	1.5	0.27	0.0	0.01	0.04	0.02	10	
16	17.93	17.93	33.552	24.182	373.3	0.060	5.54	102.3	1.5	0.27	0.0	0.01	0.04	0.03	16	219
20 ISL	17.93 D	17.93	33.556 D	24.185	373.1	0.075	5.54	102.3	1.5	0.27	0.0	0.01	0.04	0.03	20	
30 ISL	17.89 D	17.88	33.660 D	24.275	364.9	0.112	5.54	102.2	1.5	0.26	0.0	0.01	0.05	0.01	30	
31	17.90	17.89	33.620	24.242	368.0	0.115	5.54	102.2	1.5	0.26	0.0	0.01	0.05	0.01	31	218
45	17.70	17.69	33.668	24.328	360.3	0.166	5.57	102.4	1.5	0.25	0.0	0.01	0.05	0.01	45	217
50 ISL	17.34 D	17.33	33.622 D	24.379	355.6	0.184	5.66	103.3	1.5	0.26	0.0	0.01	0.05	0.01	50	
61	16.09	16.08	33.375	24.481	346.2	0.223	5.86	104.2	1.5	0.28	0.0	0.01	0.06	0.02	61	216
74	15.57	15.56	33.352	24.580	337.1	0.267	5.93	104.4	1.5	0.28	0.0	0.00	0.07	0.03	74	215
75 ISL	15.44 D	15.43	33.347 D	24.605	334.7	0.270	5.93	104.1	1.5	0.28	0.0	0.00	0.07	0.03	75	
83	15.22	15.21	33.347	24.653	330.3	0.297	5.95	104.0	1.5	0.28	0.0	0.00	0.10	0.03	83	214
95	14.67	14.66	33.341	24.768	319.7	0.336	5.90	102.0	1.5	0.28	0.0	0.00	0.13	0.07	95	213
100 ISL	14.67 D	14.66	33.396 D	24.810	315.8	0.352	5.85	101.1	1.5	0.28	0.0	0.00	0.14	0.09	100	
104	14.65	14.63	33.413	24.828	314.2	0.365	5.80	100.2	1.6	0.28	0.0	0.00	0.15	0.11	104	212
113	14.58	14.56	33.497	24.908	306.9	0.392	5.72	98.8	1.8	0.31	0.0	0.05	0.23	0.16	113	211
125	13.54	13.52	33.491	25.120	286.9	0.428	5.46	92.3	2.8	0.44	2.2	0.11	0.18	0.14	126	210
138	12.97	12.95	33.468	25.216	277.9	0.465	5.37	89.7	3.5	0.51	3.6	0.05	0.14	0.12	139	209
150 ISL	12.34 D	12.32	33.469 D	25.340	266.3	0.497	5.15	84.9	4.9	0.61	5.5	0.03	0.11	0.10	151	
166	12.28	12.26	33.715	25.543	247.5	0.539	4.84	79.8	7.3	0.76	8.4	0.01	0.07	0.08	167	208
195	11.01	10.99	33.757	25.811	222.3	0.607	4.63	74.3	11.2	0.99	12.7	0.01	0.02	0.04	196	207
200 ISL	10.55 D	10.53	33.745 D	25.882	215.5	0.618	4.51	71.6	12.7	1.07	13.9	0.01	0.02	0.04	201	
231	9.39	9.36	33.856	26.164	188.9	0.680	3.79	58.7	22.1	1.55	21.0	0.00	0.02	0.04	232	206
250 ISL	8.83 D	8.80	33.952 D	26.329	173.4	0.715	3.67	56.2	25.6	1.64	22.7	0.00	0.02	0.04	251	
266	8.67	8.64	33.968	26.366	170.1	0.742	3.61	55.1	28.3	1.68	23.6	0.00	0.02	0.04	267	205
300 ISL	8.12 D	8.09	34.007 D	26.481	159.5	0.798	3.05	46.0	35.9	1.95	27.1	0.00	0.02	0.04	302	
318	7.78	7.75	34.022	26.543	153.8	0.826	2.70	40.4	40.1	2.11	29.0	0.00	0.02	0.04	320	204
376	6.92	6.88	34.046	26.683	140.8	0.912	1.92	28.1	52.5	2.						

RV NEW HORIZON

CALCOFI CRUISE 0707

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 14.8 N	117 27.7 W	28/06/07	2251 UTC	19 m	260 05 kn	300 02 07	0	1013.0 mb	21.2 c	17.8 c		0/8				
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SI03	P04	N03	N02	CHL-A	PHAE0	PRES	SAMP
m	DEG C	DEG C		THETA			mL/L	PCT	uM/L	uM/L	uM/L	uM/L	ug/L	ug/L	db	
0 ISL	20.80	20.80	33.750	23.598	428.4	0.000	5.91	115.3	0.7	0.15	0.1	0.00	0.28	0.05	0	
1	20.80	20.80	33.750	23.598	428.5	0.004	5.91	115.3	0.7	0.15	0.1	0.00	0.28	0.05	1	204
5	20.34	20.34	33.751	23.721	416.8	0.021	5.97	115.4	0.5	0.12	0.2	0.00	0.27	0.05	5	203
10	19.44	19.44	33.722	23.934	396.7	0.042	6.13	116.6	0.4	0.14	0.1	0.01	0.42	0.08	10	202
15	15.85	15.85	33.663	24.755	318.6	0.059	6.23	110.5	2.9	0.36	0.2	0.03	1.35	0.44	15	201

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

RV NEW HORIZON

CALCOFI CRUISE 0707

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 57.7 N	117 17.8 W	28/06/07	1818 UTC	48 m	230 04 kn	290 02 07	0	1013.8 mb	20.0 c	18.2 c	12m	0/8				
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SI03	P04	N03	N02	CHL-A	PHAE0	PRES	SAMP
m	DEG C	DEG C		THETA			mL/L	PCT	uM/L	uM/L	uM/L	uM/L	ug/L	ug/L	db	
0 ISL	20.72					0.000	5.88		0.5	0.11	0.4	0.00	0.39	0.05	0	
2 A	20.72	20.72	33.777 D	23.640	424.5	0.008	5.88	114.5	0.5	0.11	0.4	0.00	0.39	0.05	2	208
6 A	20.23	20.23	33.768	23.763	412.9	0.025	5.91	114.1	0.5	0.12	0.2	0.00	0.34	0.06	6	207
10	17.35	17.35	33.701	24.436	348.8	0.040	6.31	115.3	3.1	0.20	0.3	0.01	0.74	0.21	10	206
17 A	12.69	12.69	33.653	25.411	256.1	0.062	5.57	92.6	9.9	0.68	3.5	0.06	4.69	1.16	17	205
20 ISL	11.77 D	11.77	33.633 D	25.572	240.9	0.069	4.88	79.6	12.1	0.98	8.6	0.14	3.42	0.95	20	
25 A	11.17	11.17	33.663	25.705	228.3	0.081	3.81	61.3	15.0	1.41	16.8	0.26	0.55	0.39	25	204
30 ISL	10.96 D	10.96	33.677 D	25.754	223.8	0.092	3.63	58.2	16.7	1.50	18.2	0.25	0.51	0.24	30	
32 A	10.91	10.91	33.695	25.776	221.7	0.097	3.56	57.0	17.2	1.54	18.8	0.24	0.49	0.23	32	203
39	10.80	10.80	33.712	25.809	218.7	0.112	3.34	53.4	18.8	1.61	19.6	0.28	0.48	0.22	39	202
45 A	10.78	10.77	33.712	25.813	218.5	0.125	3.36	53.6	18.7	1.62	19.6	0.27	0.43	0.28	45	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 NEW HORIZON

CALCOFI CRUISE 0707

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 54.7 N	117 23.7 W	29/06/07	0134 UTC	620 m	230 04 kn	300 02 08	1	1011.9 mb	19.9 c	17.4 c		3/8	sc			
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SI03	P04	N03	N02	CHL-A	PHAE0	PRES	SAMP
m	DEG C	DEG C		THETA			mL/L	PCT	uM/L	uM/L	uM/L	uM/L	ug/L	ug/L	db	
0 ISL	20.26	20.26	33.727	23.724	416.4	0.000	5.74	110.8	2.3	0.23	0.4	0.00	0.12	0.03	0	
2	20.26	20.26	33.727	23.724	416.5	0.008	5.74	110.8	2.3	0.23	0.4	0.00	0.12	0.03	2	220
10	18.92	18.92	33.687	24.040	386.6	0.040	6.15	115.8	1.7	0.20	0.4	0.00	0.18	0.04	10	219
19	15.59	15.59	33.619	24.779	316.4	0.072	7.20	127.0	2.0	0.24	0.2	0.00	0.40	0.12	19	218
20 ISL	15.22 D	15.22	33.613 D	24.856	309.1	0.075	7.18	125.7	2.1	0.25	0.3	0.00	0.61	0.17	20	
29	13.43	13.43	33.595	25.220	274.7	0.101	6.34	107.0	4.9	0.48	1.7	0.09	2.37	0.66	29	217
30 ISL	13.29 D	13.29	33.597 D	25.250	271.8	0.104	6.19	104.2	5.6	0.54	2.6	0.11	2.30	0.66	30	
40	11.77	11.76	33.653	25.588	239.9	0.130	4.59	74.8	12.7	1.14	12.6	0.36	1.57	0.68	40	216
50	11.19	11.18	33.699	25.730	226.6	0.153	3.51	56.5	16.9	1.43	16.5	0.44	0.75	0.47	50	215
60	10.75	10.74	33.736	25.837	216.5	0.175	3.10	49.5	19.7	1.63	20.0	0.32	0.42	0.37	60	214
70	10.23	10.22	33.749	25.938	207.1	0.196	3.37	53.2	20.2	1.68	21.1	0.03	0.10	0.09	70	213
75 ISL	10.00 D	9.99	33.779 D	26.000	201.3	0.207	3.20	50.2	21.6	1.75	22.0	0.03	0.08	0.08	75	
84	9.98	9.97	33.873	26.077	194.2	0.224	2.77	43.5	24.3	1.87	23.5	0.03	0.03	0.06	84	212
99	9.77	9.76	33.929	26.156	187.0	0.253	2.63	41.1	26.4	1.94	24.7	0.02	0.01	0.05	100	211
100 ISL	9.75 D	9.74	33.932 D	26.162	186.4	0.255	2.62	40.9	26.5	1.94	24.8	0.02	0.01	0.05	101	
120	9.55	9.54	34.005	26.253	178.3	0.291	2.48	38.6	28.9	2.02	25.7	0.02	0.00	0.05	121	210
125 ISL	9.56 D	9.55	34.034 D	26.274	176.4	0.300	2.41	37.5	29.5	2.04	25.9	0.02	0.00	0.05	126	
140	9.53	9.51	34.083	26.317	172.5	0.326	2.16	33.6	31.3	2.12	26.6	0.02	0.00	0.05	141	209
150 ISL	9.37 D	9.35	34.084 D	26.344	170.1	0.344	2.01	31.2	32.5	2.17	27.1	0.02	0.00	0.05	151	
169	9.44	9.42	34.179	26.408	164.6	0.375	1.77	27.5	34.8	2.27	27.9	0.02	0.00	0.04	170	208
198	9.25	9.23	34.224	26.474	158.8	0.422	1.52	23.5	37.6	2.37	29.0	0.02	0.00	0.05	199	207
200 ISL	9.29 D	9.27	34.235 D	26.476	158.7	0.425	1.49	23.1	37.8	2.38	29.1	0.02	0.00	0.05	201	
229	9.14	9.11	34.277	26.534	153.8	0.471	1.15	17.8	41.0	2.52	30.0	0.02	0.00	0.05	230	206
250 ISL	8.99 D	8.96	34.290 D	26.568	150.9	0.503	1.32	20.3	43.0	2.52	30.8	0.02	0.00	0.05	251	
269	8.28	8.25	34.200	26.608	147.1	0.531	1.53	23.2	45.0	2.52	31.7	0.03	0.00	0.05	271	205
300 ISL	8.02 D	7.99	34.216 D	26.660	142.6	0.576	1.40	21.1	49.3	2.58	33.3	0.04	0.00	0.05	302	
317	7.54	7.51	34.159	26.685	140.2	0.600	1.26	18.8	51.7	2.63	34.1	0.04	0.00	0.05	319	204
379	7.30	7.26	34.245	26.788	131.4	0.684	0.83	12.3	57.6	2.82	35.6	0.02	0.00	0.05	381	203
400 ISL	7.23 D	7.19	34.246 D	26.798	130.6	0.712	0.69	10.2	59.2	2.88	35.9	0.02	0.00	0.05	403	
437	7.23	7.19	34.314	26.853	126.1	0.759	0.49	7.2	62.3	2.96	36.5	0.02	0.00	0.05	440	202
500 ISL	6.62 D	6.57	34.315 D	26.937	118.5	0.836	0.37	5.4	69.6	3.06	38.1	0.03	0.00	0.05	503	
514	6.57	6.52	34.316	26.945	118.0	0.853	0.34	5.0	71.2	3.08	38.5	0.03	0.00	0.05	518	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			
32 50.9 N	117 31.9 W	29/06/07	0436 UTC	850 m	360 02 kn			1012.0 mb	19.0 c	17.0 c						
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SI03	P04	N03	N02	CHL-A	PHAE0	PRES	SAMP
m	DEG C	DEG C		THETA			mL/L	PCT	uM/L	uM/L	uM/L	uM/L	ug/l	ug/l	db	
0 ISL	19.52	19.52	33.734	23.922	397.5	0.000	6.15	117.1	1.2	0.19	0.1	0.00	0.19	0.04	0	
2	19.52	19.52	33.734	23.922	397.5	0.008	6.15	117.1	1.2	0.19	0.1	0.00	0.19	0.04	2	220
10	17.43	17.43	33.695	24.412	351.1	0.038	6.45	118.0	1.2	0.20	0.0	0.00	0.18	0.04	10	219
20	14.51	14.51	33.600	24.999	295.4	0.070	6.95	119.9	2.5	0.27	0.0	0.00	0.47	0.12	20	218
30	12.85	12.85	33.600	25.339	263.3	0.098	5.83	97.2	2.8	0.51	1.8	0.05	7.88	2.75	30	217
40	11.91	11.90	33.611	25.529	245.5	0.124	4.37	71.4	11.4	1.05	10.6	0.39	2.01	0.96	40	216
50	11.43	11.42	33.610	25.617	237.3	0.148	4.01	64.9	13.6	1.27	14.5	0.22	0.88	0.55	50	215
59	11.01	11.00	33.680	25.748	225.1	0.169	3.86	61.9	15.7	1.41	16.9	0.05	0.34	0.31	59	214
70	10.36	10.35	33.731	25.902	210.6	0.193	3.53	55.8	19.6	1.63	20.4	0.02	0.14	0.18	70	213
75 ISL	10.19 D	10.18	33.751 D	25.946	206.5	0.203	3.36	53.0	21.2	1.71	21.4	0.02	0.10	0.14	75	
84	9.86	9.85	33.813	26.051	196.7	0.221	3.06	47.9	23.6	1.82	22.8	0.02	0.06	0.11	84	212
99	9.71	9.70	33.896	26.141	188.5	0.250	2.64	41.2	26.3	1.95	24.6	0.02	0.04	0.14	100	211
100 ISL	9.67 D	9.66	33.902 D	26.152	187.4	0.252	2.63	41.0	26.4	1.95	24.7	0.02	0.04	0.14	101	
119	9.48	9.47	33.963	26.231	180.2	0.287	2.49	38.7	28.6	2.02	25.5	0.02	0.02	0.09	120	210
125 ISL	9.38 D	9.37	33.989 D	26.268	176.9	0.297	2.45	38.0	29.2	2.04	25.8	0.02	0.02	0.09	126	
140	9.27	9.25	34.015	26.306	173.5	0.324	2.36	36.5	30.7	2.09	26.5	0.01	0.01	0.08	141	209
150 ISL	9.12 D	9.10	34.036 D	26.347	169.8	0.341	2.29	35.3	32.0	2.12	27.0	0.01	0.01	0.07	151	
169	8.98	8.96	34.084	26.407	164.5	0.373	2.11	32.4	34.7	2.20	28.0	0.02	0.01	0.06	170	208
199	8.97	8.95	34.167	26.474	158.7	0.421	1.67	25.7	38.1	2.36	29.9	0.01	0.01	0.08	200	207
200 ISL	8.96 D	8.94	34.170 D	26.478	158.3	0.423	1.66	25.5	38.2	2.36	29.9	0.01			201	
228	8.92	8.90	34.216	26.521	154.8	0.467	1.36	20.9	40.4	2.48	30.5	0.01			229	206
250 ISL	8.67 D	8.64	34.238 D	26.578	149.8	0.500	1.21	18.5	43.2	2.56	31.1	0.02			251	
268	8.52	8.49	34.255	26.615	146.6	0.527	1.11	16.9	45.8	2.62	31.6	0.03			270	205
300 ISL	8.09 D	8.06	34.261 D	26.685	140.3	0.573	0.90	13.6	49.7	2.74	32.9	0.02			302	
318	8.08	8.05	34.292	26.711	138.2	0.598	0.79	11.9	51.7	2.80	33.7	0.01			320	204
377	7.51	7.47	34.288	26.792	131.1	0.677	0.64	9.5	58.1	2.89	35.2	0.01			379	203
400 ISL	7.36 D	7.32	34.297 D	26.820	128.7	0.707	0.56	8.3	60.9	2.94	35.9	0.01			403	
438	6.97	6.93	34.303	26.880	123.3	0.755	0.43	6.3	65.5	3.03	37.2	0.01			441	202
500 ISL	6.50 D	6.45	34.313 D	26.951	117.0	0.829	0.35	5.1	72.3	3.11	38.9	0.00			503	
512	6.39	6.34	34.311	26.964	115.9	0.843	0.34	4.9	73.6	3.12	39.2	0.00			516	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			
32 40.7 N	117 52.4 W	29/06/07	0844 UTC	638 m	210 03 kn			1012.2 mb	17.9 c	16.1 c						
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SI03	P04	N03	N02	CHL-A	PHAE0	PRES	SAMP
m	DEG C	DEG C		THETA			mL/L	PCT	uM/L	uM/L	uM/L	uM/L	ug/l	ug/l	db	
0 ISL	18.92	18.92	33.702	24.051	385.2	0.000	5.65	106.4	1.8	0.25	0.0	0.01	0.15	0.03	0	
1	18.92	18.92	33.702	24.051	385.2	0.004	5.65	106.4	1.8	0.25	0.0	0.01	0.15	0.03	1	220
10	18.55	18.55	33.692	24.136	377.4	0.038	5.71	106.7	1.8	0.24	0.1	0.01	0.16	0.03	10	219
20	15.70	15.70	33.601	24.741	320.1	0.073	6.42	113.5	1.9	0.27	0.0	0.01	0.30	0.08	20	218
30	13.92	13.92	33.565	25.096	286.5	0.103	6.62	112.8	2.3	0.30	0.0	0.02	0.83	0.27	30	217
40	12.32	12.31	33.549	25.403	257.5	0.131	5.08	83.7	7.3	0.82	7.4	0.26	1.62	1.00	40	216
50	11.28	11.27	33.610	25.644	234.7	0.155	4.01	64.7	13.8	1.30	15.5	0.10	0.78	0.42	50	215
60	10.69	10.68	33.691	25.813	218.9	0.178	3.44	54.8	17.8	1.52	18.8	0.06	0.32	0.22	60	214
70	9.98	9.97	33.828	26.042	197.2	0.199	2.90	45.5	23.6	1.82	23.1	0.04	0.07	0.11	70	213
75 ISL	9.85 D	9.84	33.888 D	26.111	190.8	0.208	2.62	41.0	26.2	1.93	24.6	0.03	0.05	0.12	75	
85	9.64	9.63	33.984	26.221	180.5	0.227	2.15	33.5	30.0	2.07	26.6	0.03	0.02	0.13	85	212
100	9.56	9.55	34.033	26.272	175.9	0.254	1.95	30.4	30.4	2.16	27.4	0.03	0.01	0.13	101	211
120	9.49	9.48	34.097	26.334	170.5	0.288	1.68	26.1	34.2	2.27	28.3	0.02	0.02	0.18	121	210
125 ISL	9.49 D	9.48	34.099 D	26.336	170.4	0.297	1.65	25.7	34.6	2.29	28.4	0.02	0.02	0.17	126	
139	9.46	9.44	34.127	26.363	168.2	0.321	1.60	24.9	35.1	2.32	28.6	0.03	0.01	0.15	140	209
150 ISL	9.45 D	9.43	34.138 D	26.374	167.4	0.339	1.55	24.1	35.5	2.34	28.7	0.03	0.01	0.15	151	
170	9.45	9.43	34.167	26.397	165.7	0.372	1.46	22.7	36.3	2.37	28.8	0.02	0.01	0.15	171	208
199	9.37	9.35	34.199	26.435	162.6	0.420	1.41	21.9	37.4	2.40	29.3	0.03	0.01	0.12	200	207
200 ISL	9.37 D	9.35	34.203 D	26.438	162.3	0.422	1.41	21.9	37.4	2.40	29.3	0.03			201	
229	9.25	9.22	34.245	26.491	157.9	0.468	1.29	20.0	39.1	2.46	29.8	0.02			230	206
250 ISL	9.19 D	9.16	34.282 D	26.530	154.6	0.501	1.19	18.4	40.8	2.51	30.2	0.02			251	
269	8.97	8.94	34.277	26.562	151.9	0.530	1.11	17.1	42.4	2.56	30.5	0.02			271	205
300 ISL	8.71 D	8.68	34.286 D	26.610	147.8	0.576	1.05	16.1	44.4	2.61	31.1	0.02			302	
319	8.55	8.52	34.285	26.634	145.7	0.604	1.03	15.7	46.0	2.64	31.7	0.02			321	204
379	7.41	7.37	34.222	26.754	134.6	0.688	0.93	13.8	55.5	2.78	35.4	0.02			381	203
400 ISL	7.25 D	7.21	34.228 D	26.781	132.2	0.716	0.86	12.7	58.3	2.83	36.2	0.02			403	
438	6.89	6.85	34.240	26.841	126.9	0.766	0.69	10.1	63.1	2.92	37.3	0.01			441	202
500 ISL	6.59 D	6.54	34.317 D	26.943	118.0	0.841	0.37	5.4	70.7	3.08	38.7	0.01			503	
512	6.50	6.45	34.326	26.962	116.2	0.856	0.31	4.5	72.2	3.11	39.0	0.01			516	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			
32 31.0 N	118 12.1 W	29/06/07	1244 UTC	1722 m	290 04 kn	270 04 05	2	1012.0 mb	17.5 c	16.1 c		8/8	SC			
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SI03	P04	N03	N02	CHL-A	PHAE0	PRES	SAMP
m	DEG C	DEG C		THETA			mL/L	PCT	uM/L	uM/L	uM/L	uM/L	ug/L	ug/L	db	
0 ISL	18.46	18.46	33.730	24.187	372.2	0.000	5.85	109.2	2.6	0.23	0.2	0.00	0.19	0.04	0	
2	18.46	18.46	33.730	24.187	372.3	0.007	5.85	109.2	2.6	0.23	0.2	0.00	0.19	0.04	2	221
10	17.73	17.73	33.729	24.366	355.5	0.037	6.31	116.1	3.8	0.16	0.3	0.00	0.29	0.05	10	219
10	17.77	17.77	33.729	24.356	356.4	0.037									10	220
20	13.87	13.87	33.682	25.197	276.6	0.068	6.54	111.4	7.8	0.27	0.3	0.00	0.54	0.17	20	218
30 ISL	12.39 D	12.39	33.679 D	25.490	248.9	0.094	5.84	96.5	5.1	0.40	0.4	0.01	7.54	2.56	30	
31	12.35	12.35	33.677	25.496	248.3	0.097	5.77	95.3	4.8	0.41	0.4	0.01	8.08	2.72	31	217
39	11.22	11.22	33.722	25.742	225.1	0.116	3.44	55.5	16.8	1.30	14.9	0.36	4.24	0.78	39	216
49	10.64	10.63	33.744	25.863	213.9	0.138	3.01	47.9	19.5	1.61	20.3	0.16	2.63	0.23	49	215
50 ISL	10.56 D	10.55	33.749 D	25.881	212.2	0.140	2.99	47.5	19.8	1.63	20.6	0.15	2.37	0.22	50	
60	10.33	10.32	33.797	25.958	205.0	0.161	2.81	44.4	22.0	1.75	22.2	0.05	0.18	0.17	60	214
70	9.85	9.84	33.806	26.047	196.8	0.181	3.19	49.9	22.5	1.75	22.4	0.03	0.05	0.06	70	213
75 ISL	9.78 D	9.77	33.830 D	26.077	194.0	0.191	3.12	48.8	23.2	1.78	22.9	0.02	0.04	0.06	75	
84	9.62	9.61	33.878	26.141	188.1	0.208	2.98	46.4	25.0	1.85	24.0	0.02	0.02	0.06	84	212
99	9.58	9.57	33.980	26.228	180.2	0.236	2.49	38.8	28.2	2.01	25.7	0.02	0.02	0.07	100	211
100 ISL	9.49 D	9.48	33.982 D	26.244	178.6	0.237	2.48	38.5	28.4	2.02	25.8	0.02	0.02	0.07	101	
119	9.30	9.29	34.043	26.323	171.5	0.271	2.33	36.1	31.0	2.09	26.8	0.02	0.01	0.09	120	210
125 ISL	9.21 D	9.20	34.082 D	26.368	167.3	0.281	2.26	34.9	31.7	2.12	27.1	0.02	0.01	0.09	126	
139	9.20	9.18	34.102	26.386	165.9	0.304	2.07	32.0	33.3	2.18	27.8	0.02	0.01	0.08	140	209
150 ISL	9.10 D	9.08	34.142 D	26.433	161.6	0.322	1.89	29.2	35.1	2.25	28.6	0.03	0.01	0.08	151	
168	8.87	8.85	34.186	26.505	155.2	0.351	1.64	25.2	38.2	2.36	29.8	0.06	0.01	0.07	169	208
199	8.52	8.50	34.200	26.570	149.4	0.398	1.52	23.1	41.6	2.45	30.9	0.08	0.01	0.05	200	207
200 ISL	8.51 D	8.49	34.197 D	26.570	149.5	0.399	1.51	23.0	41.7	2.45	30.9	0.08			201	
228	8.38	8.36	34.224	26.611	146.1	0.441	1.32	20.0	44.1	2.54	31.8	0.05			229	206
250 ISL	7.99 D	7.96	34.204 D	26.654	142.2	0.472	1.22	18.4	47.0	2.60	32.8	0.03			252	
268	7.86	7.83	34.224	26.689	139.1	0.498	1.14	17.1	49.6	2.66	33.6	0.01			270	205
300 ISL	7.71 D	7.68	34.261 D	26.741	134.7	0.542	0.88	13.2	53.7	2.78	34.8	0.01			302	
318	7.57	7.54	34.281	26.777	131.5	0.565	0.74	11.0	55.8	2.84	35.4	0.01			320	204
378	7.18	7.14	34.306	26.852	125.1	0.642	0.51	7.5	61.6	2.97	36.9	0.01			380	203
400 ISL	7.00 D	6.96	34.307 D	26.878	122.9	0.670	0.45	6.6	63.9	3.01	37.4	0.01			403	
435	6.80	6.76	34.328	26.922	119.1	0.712	0.36	5.3	67.6	3.07	38.1	0.01			438	202
500 ISL	6.48 D	6.43	34.349 D	26.982	114.1	0.788	0.26	3.8	73.4	3.16	39.1	0.01			503	
511	6.38	6.33	34.356	27.001	112.4	0.800	0.24	3.5	74.4	3.17	39.3	0.01			515	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			
32 20.6 N	118 34.5 W	29/06/07	1827 UTC	1443 m	320 03 kn	280 03 06	2	1014.1 mb	19.0 c	17.1 c	16m	8/8	ST			
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SI03	P04	N03	N02	CHL-A	PHAE0	PRES	SAMP
m	DEG C	DEG C		THETA			mL/L	PCT	uM/L	uM/L	uM/L	uM/L	ug/L	ug/L	db	
0 ISL	18.61	18.61	33.712	24.136	377.1	0.000	5.84	109.3	1.8	0.21	0.1	0.01	0.27	0.05	0	
1	18.61	18.61	33.712	24.136	377.1	0.004	5.84	109.3	1.8	0.21	0.1	0.01	0.27	0.05	1	221
9	18.46	18.46	33.710	24.172	373.9	0.034	5.87	109.6	1.7	0.21	0.1	0.01	0.30	0.03	9	220
10 ISL	18.48 D	18.48	33.714 D	24.171	374.1	0.038	5.91	110.3	1.7	0.21	0.1	0.01	0.31	0.03	10	
16	17.13	17.13	33.712	24.497	343.2	0.059	6.20	112.8	1.3	0.21	0.2	0.01	0.42	0.02	16	219
20 ISL	15.95 D	15.95	33.717 D	24.774	317.0	0.072	6.32	112.3	1.0	0.23	0.2	0.02	0.60	0.08	20	
23	15.80	15.80	33.718	24.808	313.7	0.082	6.35	112.5	0.7	0.24	0.2	0.02	0.83	0.15	23	218
30 ISL	14.55 D	14.55	33.730 D	25.092	287.0	0.103	6.11	105.6	3.3	0.46	3.0	0.09	2.11	0.39	30	
33	14.29	14.29	33.728	25.145	281.9	0.111	5.90	101.4	5.0	0.59	4.9	0.15	2.49	0.46	33	217
43	12.35	12.34	33.702	25.516	246.8	0.138	4.86	80.2	10.9	1.14	13.0	0.52	0.56	0.16	43	216
50 ISL	11.76 D	11.75	33.725 D	25.646	234.6	0.155	4.45	72.6	13.3	1.31	15.8	0.25	0.36	0.18	50	
52	11.78	11.77	33.725	25.642	235.0	0.159	4.36	71.1	13.8	1.34	16.3	0.15	0.30	0.20	52	215
61	10.84	10.83	33.686	25.783	221.8	0.180	3.93	62.8	16.3	1.47	18.6	0.02	0.10	0.09	61	214
70	10.09	10.08	33.800	26.001	201.1	0.199	3.10	48.8	22.4	1.77	22.7	0.02	0.03	0.05	70	213
75 ISL	9.91 D	9.90	33.847 D	26.069	194.8	0.209	2.87	45.0	24.0	1.85	23.8	0.02	0.03	0.05	75	
85	9.85	9.84	33.891	26.113	190.8	0.228	2.64	41.3	25.8	1.95	24.9	0.02	0.02	0.06	85	212
100	9.67	9.66	33.968	26.204	182.5	0.256	2.35	36.7	28.4	2.11	26.2	0.02	0.02	0.06	101	211
120	9.47	9.46	34.038	26.292	174.5	0.292	2.12	32.9	31.0	2.17	27.3	0.01	0.02	0.06	121	210
125 ISL	9.42 D	9.41	34.046 D	26.306	173.3	0.300	2.14	33.2	31.5	2.17	27.5	0.01	0.02	0.06	126	
140	9.03	9.01	34.059	26.379	166.5	0.326	2.25	34.6	33.2	2.16	27.9	0.01	0.01	0.05	141	209
150 ISL	8.88 D	8.86	34.075 D	26.416	163.2	0.342	2.23	34.2	34.6	2.17	28.4	0.01	0.01	0.05	151	
169	8.52	8.50	34.082	26.477	157.6	0.373	2.20	33.5	37.2	2.22	29.4	0.02	0.01	0.04	170	208
199	8.37	8.35	34.121	26.531	153.0	0.419	1.87	28.4	40.3	2.35	30.7	0.02	0.01	0.04	200	207
200 ISL	8.35 D	8.33	34.126 D	26.538	152.4	0.421	1.86	28.2	40.4	2.35	30.7	0.02			201	
229	8.00	7.98	34.135	26.598	147.1	0.464	1.67	25.1	44.7	2.46	32.2	0.02			230	206
250 ISL	7.75 D	7.73	34.152 D	26.648	142.6	0.495	1.48	22.1	48.0	2.55	33.3	0.01			251	
268	7.55	7.52	34.165	26.688	139.1	0.520	1.31	19.5	50.8	2.63	34.2	0.01			270	205
300 ISL	7.32 D	7.29	34.209 D	26.755	133.1	0.564	1.02	15.1	55.9	2.77	35.6	0.01			302	
318	7.13	7.10	34.207	26.781	130.9	0.588	0.88	13.0	58.5	2.84	36.2	0.				

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE			
32 10.5 N	118 53.0 W	29/06/07	2145 UTC	1457 m	310 22 kn	310 04 06	4	1013.5 mb	16.0 c	15.1 c	8m	8/8	ST			
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SI03	PO4	NO3	NO2	CHL-A	PHAE0	PRES	SAMP
m	DEG C	DEG C		THETA			mL/L	PCT	uM/L	uM/L	uM/L	uM/L	ug/L	ug/L	db	
0 ISL	15.84	15.84	33.724	24.803	313.5	0.000	6.26	111.0	0.9	0.27	0.1	0.02	1.33	0.09	0	
3	15.84	15.84	33.724	24.803	313.6	0.009	6.26	111.0	0.9	0.27	0.1	0.02	1.33	0.09	3	220
10	15.81	15.81	33.724	24.810	313.2	0.031	6.27	111.2	0.9	0.26	0.4	0.02	1.61	0.04	10	219
20 ISL	13.17 D	13.17	33.607 D	25.281	268.6	0.060	5.76	96.7	5.5	0.73	6.9	0.26	2.06	0.65	20	
21	13.16	13.16	33.609	25.285	268.2	0.063	5.69	95.5	6.1	0.79	7.7	0.29	2.11	0.70	21	218
30	12.02	12.02	33.616	25.512	246.9	0.086	5.06	82.9	9.8	1.10	12.7	0.36	0.80	0.22	30	217
41	11.77	11.76	33.632	25.571	241.4	0.113	4.86	79.2	11.3	1.22	14.3	0.26	0.65	0.28	41	216
50 ISL	11.29 D	11.28	33.756 D	25.756	224.1	0.134	3.94	63.6	16.4	1.45	17.8	0.16	0.27	0.14	50	
51 A	11.32	11.31	33.755	25.750	224.7	0.136	3.83	61.9	17.0	1.48	18.2	0.15	0.23	0.12	51	215
60	10.80	10.79	33.789	25.870	213.5	0.156	3.48	55.6	20.1	1.65	20.6	0.07	0.16	0.10	60	214
71	10.58	10.57	33.815	25.929	208.1	0.179	3.13	49.8	21.8	1.73	21.8	0.08	0.17	0.13	71	213
75 ISL	10.43 D	10.42	33.821 D	25.960	205.2	0.188	3.06	48.5	22.6	1.77	22.3	0.07	0.15	0.12	75	
85	10.07	10.06	33.851	26.045	197.3	0.208	2.93	46.1	24.9	1.87	23.7	0.03	0.08	0.08	85	212
99	9.41	9.40	33.927	26.214	181.4	0.234	2.62	40.6	28.6	1.99	25.8	0.02	0.02	0.06	100	211
100 ISL	9.42 D	9.41	33.943 D	26.225	180.4	0.236	2.58	40.0	28.8	2.00	25.9	0.02	0.02	0.06	101	
120	9.36	9.35	34.072	26.336	170.3	0.271	1.98	30.7	32.4	2.21	27.8	0.02	0.02	0.08	121	210
125 ISL	9.33 D	9.32	34.097 D	26.361	168.1	0.279	1.99	30.8	33.3	2.22	28.1	0.02	0.02	0.08	126	
140	8.84	8.83	34.098	26.440	160.7	0.304	2.02	31.0	35.7	2.24	28.8	0.02	0.02	0.06	141	209
150 ISL	8.76 D	8.74	34.111 D	26.463	158.7	0.320	1.99	30.5	37.0	2.27	29.3	0.02	0.02	0.06	151	
170	8.54	8.52	34.120	26.504	155.1	0.352	1.86	28.3	39.1	2.33	30.2	0.02	0.01	0.05	171	208
199	8.45	8.43	34.166	26.554	150.9	0.396	1.59	24.2	41.7	2.44	31.0	0.02	0.02	0.27	200	207
200 ISL	8.42 D	8.40	34.164 D	26.557	150.6	0.397	1.59	24.2	41.8	2.44	31.0	0.02	0.02		201	
230	8.13	8.11	34.171	26.607	146.3	0.442	1.45	21.9	45.1	2.51	32.1	0.02	0.02		231	206
250 ISL	8.09 D	8.06	34.224 D	26.655	142.2	0.471	1.23	18.5	47.2	2.60	32.7	0.02	0.02		252	
269	8.02	7.99	34.240	26.678	140.3	0.498	1.02	15.4	49.4	2.70	33.3	0.02	0.02		271	205
300 ISL	7.51 D	7.48	34.240 D	26.753	133.4	0.540	0.85	12.6	54.2	2.80	34.6	0.01	0.02		302	
318	7.39	7.36	34.245	26.774	131.7	0.564	0.79	11.7	57.0	2.84	35.4	0.01	0.02		320	204
380	6.91	6.87	34.272	26.863	123.9	0.643	0.55	8.1	64.3	2.98	37.1	0.01	0.02		382	203
400 ISL	6.85 D	6.81	34.293 D	26.888	121.8	0.668	0.47	6.9	66.5	3.02	37.5	0.01	0.02		403	
439	6.61	6.57	34.309	26.933	118.0	0.714	0.35	5.1	70.9	3.09	38.3	0.01	0.02		442	202
500 ISL	6.12 D	6.08	34.329 D	27.013	110.8	0.784	0.27	3.9	78.7	3.17	39.8	0.01	0.02		503	
511	6.04	5.99	34.333	27.026	109.6	0.796	0.25	3.6	80.1	3.19	40.1	0.01	0.02		515	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;

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE			
32 0.5 N	119 13.8 W	30/06/07	0203 UTC	1595 m	320 22 kn	310 06 07	1	1013.0 mb	15.9 c	14.9 c		5/8	SC			
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SI03	PO4	NO3	NO2	CHL-A	PHAE0	PRES	SAMP
m	DEG C	DEG C		THETA			mL/L	PCT	uM/L	uM/L	uM/L	uM/L	ug/L	ug/L	db	
0 ISL	15.50	15.50	33.556	24.750	318.6	0.000	5.98	105.3	1.2	0.40	0.6	0.06	0.55	0.12	0	
1	15.50	15.50	33.556	24.750	318.6	0.003	5.98	105.3	1.2	0.40	0.6	0.06	0.55	0.12	1	221
10	15.49	15.49	33.559	24.755	318.4	0.032	5.99	105.4	1.3	0.40	0.7	0.06	0.54	0.13	10	219
10	15.49	15.49	33.560	24.756	318.4	0.032									10	220
20	15.47	15.47	33.582	24.777	316.6	0.064	5.99	105.4	1.3	0.41	0.8	0.06	0.56	0.13	20	218
30	14.08	14.08	33.490	25.005	295.1	0.094	5.97	102.1	2.4	0.67	3.4	0.18	0.49	0.17	30	217
40	12.62	12.61	33.478	25.290	268.2	0.122	5.67	94.0	4.8	0.78	7.2	0.40	0.51	0.23	40	216
50	12.47	12.46	33.542	25.369	261.0	0.149	5.50	90.9	6.4	0.89	9.2	0.49	0.62	0.28	50	215
60	12.28	12.27	33.634	25.477	250.9	0.174	5.22	86.0	8.4	1.04	12.4	0.10	0.36	0.21	60	214
70	11.58	11.57	33.638	25.612	238.3	0.199	4.67	75.8	12.4	1.23	15.1	0.03	0.12	0.09	70	213
75 ISL	11.06 D	11.05	33.651 D	25.716	228.4	0.211	4.36	70.0	14.4	1.32	16.6	0.03	0.09	0.08	75	
84	10.44	10.43	33.699	25.863	214.6	0.230	3.91	62.0	17.4	1.45	18.7	0.03	0.04	0.05	84	212
100	10.01	10.00	33.745	25.973	204.5	0.264	3.82	60.0	18.8	1.52	19.5	0.02	0.02	0.04	100	211
120	9.54	9.53	33.879	26.156	187.4	0.303	2.94	45.7	26.1	1.87	24.8	0.01	0.01	0.04	121	210
125 ISL	9.43 D	9.42	33.897 D	26.188	184.5	0.312	2.85	44.2	26.8	1.90	25.3	0.01	0.01	0.04	126	
138	9.40	9.38	33.920	26.211	182.5	0.336	2.71	42.0	28.2	1.96	26.0	0.01	0.01	0.05	139	209
150 ISL	9.06 D	9.04	33.975 D	26.309	173.4	0.358	2.50	38.5	30.5	2.04	27.1	0.01	0.01	0.05	151	
168	8.92	8.90	34.040	26.382	166.8	0.388	2.20	33.8	34.1	2.15	28.6	0.01	0.00	0.05	169	208
199	8.65	8.63	34.095	26.468	159.2	0.439	1.93	29.5	37.9	2.27	29.9	0.01	0.00	0.05	200	207
200 ISL	8.63 D	8.61	34.102 D	26.477	158.4	0.440	1.93	29.4	38.0	2.27	30.0	0.01	0.02		201	
229	8.11	8.09	34.112	26.564	150.4	0.485	1.86	28.0	42.6	2.37	31.5	0.02	0.02		230	206
250 ISL	8.04 D	8.01	34.164 D	26.615	145.9	0.516	1.51	22.7	45.9	2.50	32.5	0.02	0.02		251	
268	7.96	7.93	34.203	26.658	142.1	0.542	1.18	17.7	48.7	2.61	33.3	0.02	0.02		270	205
300 ISL	7.58 D	7.55	34.219 D	26.726	136.0	0.587	0.99	14.8	53.4	2.73	34.6	0.01	0.02		302	
319	7.37	7.34	34.219	26.756	133.3	0.612	0.93	13.8	56.1	2.78	35.3	0.01	0.02		321	204
379	7.03	6.99	34.286	26.857	124.5	0.690	0.52	7.7	63.5	2.98	37.0	0.01	0.02		381	203
400 ISL	6.83 D	6.79	34.286 D	26.885	122.1	0.716	0.43	6.3	66.7	3.03	37.7	0.01	0.02		403	
439	6.48	6.44	34.310	26.951	116.1	0.762	0.33	4.8	72.5	3.10	38.8	0.01	0.02		442	202
500 ISL	6.16 D	6.12	34.332 D	27.010	111.1	0.831	0.27	3.9	78.7	3.17	39.5	0.01	0.02		503	
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Table with 16 columns: LATITUDE, LONGITUDE, DAY/MO/YR, CAST TIME, BOTTOM, WIND SPEED, WAVES, WEA, BAROMETER, DRY, WET, SECCHI, CLD AMT, TYPE. Rows include depth measurements from 0 to 516 meters with associated temperature, salinity, and sigma data.

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

Table with 16 columns: LATITUDE, LONGITUDE, DAY/MO/YR, CAST TIME, BOTTOM, WIND SPEED, WAVES, WEA, BAROMETER, DRY, WET, SECCHI, CLD AMT, TYPE. Rows include depth measurements from 0 to 511 meters with associated temperature, salinity, and sigma data.

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 50.9 N	123 35.0 W	01/07/07	2017 UTC	4116 m	360 20 kn	350 07 07	1	1019.6 mb	18.8 c	16.2 c	25m	1/8	SC			
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SI03	P04	N03	N02	CHL-A	PHAE0	PRES	SAMP
m	DEG C	DEG C		THETA			mL/L	PCT	uM/L	uM/L	uM/L	uM/L	ug/L	ug/L	db	
0 ISL	17.50	17.50	33.307	24.098	380.7	0.000	5.62	102.7	2.1	0.30	0.0	0.00	0.07	0.01	0	
2 A	17.50	17.50	33.307	24.098	380.8	0.008	5.62	102.7	2.1	0.30	0.0	0.00	0.07	0.01	2	221
10 ISL	17.47 D	17.47	33.301 D	24.101	380.8	0.038	5.63	102.8	2.0	0.29	0.0	0.00	0.07	0.01	10	
14 A	17.43	17.43	33.300	24.109	380.1	0.053	5.63	102.8	2.0	0.29	0.0	0.00	0.07	0.01	14	220
20 ISL	17.39 D	17.39	33.301 D	24.120	379.3	0.076	5.62	102.5	1.9	0.28	0.1	0.00	0.08	0.01	20	
23	17.36	17.36	33.300	24.127	378.8	0.087	5.62	102.4	1.9	0.28	0.1	0.00	0.08	0.01	23	219
30 ISL	17.25 D	17.25	33.317 D	24.166	375.2	0.114	5.64	102.6	1.8	0.28	0.1	0.00	0.09	0.01	30	
37 A	17.08	17.07	33.343	24.226	369.7	0.140	5.68	103.0	1.8	0.28	0.1	0.00	0.09	0.02	37	218
50 ISL	16.73 D	16.72	33.533 D	24.455	348.4	0.187	5.76	103.9	1.8	0.26	0.1	0.00	0.09	0.02	50	
51 A	16.66	16.65	33.519	24.460	347.9	0.190	5.77	103.9	1.8	0.26	0.1	0.00	0.09	0.02	51	217
67 A	16.12	16.11	33.553	24.611	334.0	0.245	5.85	104.2	1.7	0.26	0.1	0.00	0.11	0.04	67	216
75 ISL	15.62 D	15.61	33.495 D	24.679	327.7	0.271	5.89	103.9	1.8	0.28	0.0	0.00	0.14	0.05	75	
77	15.54	15.53	33.476	24.682	327.5	0.278	5.89	103.7	1.8	0.28	0.0	0.00	0.15	0.06	77	215
87	15.07	15.06	33.420	24.742	321.9	0.310	5.84	101.8	1.7	0.29	0.1	0.01	0.18	0.10	87	214
96 A	14.50	14.49	33.347	24.809	315.8	0.339	5.84	100.6	1.9	0.35	0.3	0.06	0.30	0.19	96	213
100 ISL	13.98 D	13.97	33.265 D	24.854	311.5	0.351	5.85	99.6	2.0	0.37	0.5	0.15	0.29	0.20	100	
107	13.84	13.82	33.258	24.878	309.4	0.373	5.88	99.9	2.2	0.41	0.8	0.34	0.26	0.21	107	212
114	13.49	13.47	33.309	24.989	299.0	0.394	5.74	96.8	2.8	0.51	2.2	0.46	0.15	0.15	114	211
125 ISL	13.96 D	13.94	33.591 D	25.111	287.8	0.427	5.46	93.1	2.7	0.42	1.9	0.21	0.14	0.15	125	
126	14.01	13.99	33.590	25.100	288.9	0.430	5.44	92.9	2.7	0.41	1.9	0.18	0.14	0.15	126	210
138	13.24	13.22	33.557	25.232	276.5	0.463	5.30	89.1	3.7	0.52	3.9	0.04	0.09	0.11	138	209
150 ISL	12.35 D	12.33	33.531 D	25.386	261.9	0.496	5.10	84.1	5.4	0.66	6.4	0.03	0.06	0.07	150	
164	11.72	11.70	33.563	25.530	248.4	0.531	4.82	78.4	8.0	0.84	9.6	0.01	0.03	0.04	164	208
196	9.97	9.95	33.697	25.944	209.3	0.605	4.17	65.4	16.5	1.34	17.8	0.01	0.00	0.02	196	207
200 ISL	9.71 D	9.69	33.744 D	26.024	201.7	0.613	4.11	64.1	17.4	1.38	18.4	0.01			200	
228	9.19	9.17	33.856	26.196	185.7	0.667	3.79	58.5	22.8	1.58	21.7	0.01			228	206
250 ISL	8.72 D	8.69	33.958 D	26.351	171.3	0.706	3.60	55.0	26.5	1.69	23.5	0.00			250	
270	8.54	8.51	33.976	26.393	167.6	0.740	3.42	52.0	29.9	1.78	24.9	0.00			270	205
300 ISL	8.05 D	8.02	34.017 D	26.499	157.8	0.789	2.99	45.0	35.7	1.97	27.5	0.01			300	
319	7.84	7.81	34.022	26.534	154.7	0.819	2.69	40.3	39.5	2.10	29.2	0.01			319	204
378	6.97	6.93	34.051	26.680	141.1	0.906	1.95	28.6	51.5	2.44	33.8	0.01			378	203
400 ISL	6.78 D	6.74	34.080 D	26.729	136.7	0.937	1.68	24.6	55.5	2.55	35.2	0.01			400	
436	6.44	6.40	34.098	26.789	131.3	0.985	1.26	18.3	61.6	2.72	37.0	0.00			436	202
500 ISL	6.26 D	6.22	34.227 D	26.915	120.2	1.065	0.67	9.7	71.2	2.93	39.0	0.01			500	
514	6.11	6.06	34.224	26.932	118.6	1.082	0.54	7.8	73.3	2.98	39.4	0.01			514	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;

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE			
32 57.3 N	117 16.8 W	28/06/07	2002 UTC	21 m	200 06 kn	300 02 08	0	1013.6 mb	19.9 c	17.8 c		0/8				
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SI03	P04	N03	N02	CHL-A	PHAE0	PRES	SAMP
m	DEG C	DEG C		THETA			mL/L	PCT	uM/L	uM/L	uM/L	uM/L	ug/L	ug/L	db	
0 ISL	21.35	21.35	33.787	23.477	439.9	0.000	5.81	114.5	1.6	0.13	0.2	0.00	0.67	0.12	0	
1	21.35	21.35	33.787	23.477	440.0	0.004	5.81	114.5	1.6	0.13	0.2	0.00	0.67	0.12	1	204
5	20.91	20.91	33.791	23.600	428.4	0.022	5.86	114.5	1.6	0.13	0.3	0.00	0.66	0.15	5	203
10	18.19	18.19	33.718	24.245	367.0	0.042	5.99	111.2	3.4	0.26	0.1	0.01	1.28	0.53	10	202
15	14.19	14.19	33.687	25.134	282.5	0.058	5.84	100.2	6.7	0.44	0.9	0.05	4.63	0.83	15	201

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

## RV NEW HORIZON

## CALCOFI CRUISE 0707

STATION 76.7 49.0

LATITUDE		LONGITUDE		DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME				LAN	CIVIL TWILIGHT		INTEGRATED VALUE		
35 5.2 N		120 46.5 W		13/07/07	1714 UTC	10 m	1208 - 1942 PST				1209 PST	1940 PST		1445.0 mg C/m2		
DEPTH	TEMP	SALINITY	SIGMA	OXYGEN	OXY	SI03	P04	N03	N02	CHL-A	PHAE0	LIGHT	UPTAKE (mg C/m3)			
m	DEG C		THETA	mL/L	PCT	uM/L	uM/L	uM/L	uM/L	ug/L	ug/L	PCT	1	2	MEAN	DARK
2	13.71	33.806	25.325	6.40	108.8	8.9	0.65	5.9	0.18	2.49	0.75	74. A	76.8	70.6	73.7	0.47
5	13.63	33.805	25.341	6.41	108.8	8.8	0.64	5.6	0.18	2.75	0.75	46.	105.7	106.6	106.1	0.47
10	12.97	33.809	25.477	5.94	99.4	10.0	0.75	7.5	0.20	3.05	1.46					
14	12.45	33.819	25.587	5.46	90.4	12.1	0.97	9.8	0.22	2.72	1.26	12.	52.1	48.4	50.2	0.41
20	11.96	33.829	25.688	4.93	80.8	14.5	1.18	12.5	0.25	2.36	1.55	4.6	19.1	18.9	19.0	0.26
27	11.68	33.829	25.741	4.60	74.9	15.9	1.30	13.9	0.26	1.93	1.26	1.6	5.6	5.3	5.4	0.18
38	11.44	33.822	25.780	4.12	66.8	17.5	1.41	15.7	0.27	1.08	1.09	0.29	0.37	0.31	0.34	0.10

## RV NEW HORIZON

## CALCOFI CRUISE 0707

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 56.2 W		12/07/07	1847 UTC	23 m	1214 - 1953 PST				1217 PST	1951 PST		362.2 mg C/m2		
DEPTH	TEMP	SALINITY	SIGMA	OXYGEN	OXY	SI03	P04	N03	N02	CHL-A	PHAE0	LIGHT	UPTAKE (mg C/m3)			
m	DEG C		THETA	mL/L	PCT	uM/L	uM/L	uM/L	uM/L	ug/L	ug/L	PCT	1	2	MEAN	DARK
2	17.58	32.895	23.763	5.69	103.9	2.0	0.33	0.4	0.00	0.11	0.02	88. A	3.6	3.3	3.5	0.07
12	17.26	33.002	23.922	5.75	104.4	2.8	0.33	0.3	0.00	0.14	0.03	45.	4.8	5.0	4.9	0.09
22	17.03	33.007	23.980	5.77	104.3	2.8	0.33	0.3	0.00	0.17	0.05					
33	14.38	32.789	24.402	6.47	110.8	2.5	0.36	0.3	0.00	0.27	0.09	11.	5.6	5.5	5.6	0.13
40	13.63	32.813	24.575	6.41	108.1	2.7	0.43	0.9	0.05	0.83	0.38					
47	13.10	32.827	24.692	6.18	103.1	4.2	0.54	2.0	0.14	0.73	0.34	4.3	7.9	8.1	8.0	0.10
54	12.84	32.851	24.762	5.94	98.6	5.6	0.65	3.0	0.34	0.36	0.26					
62	12.93	33.023	24.878	5.86	97.5	3.5	0.51	1.9	0.29	0.44	0.39	1.6	2.3	2.2	2.3	0.06
75	12.30	33.111	25.068	5.65	92.8	5.3	0.71	5.4	0.03	0.15	0.19					
88	12.52	33.325	25.192	5.49	90.7	5.5	0.75	6.7	0.03	0.08	0.10	0.28	0.05	0.06	0.05	0.03

## RV NEW HORIZON

## CALCOFI CRUISE 0707

STATION 80.0 55.0

LATITUDE		LONGITUDE		DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME				LAN	CIVIL TWILIGHT		INTEGRATED VALUE		
34 18.7 N		120 47.4 W		10/07/07	1818 UTC	7 m	1204 - 1948 PST				1209 PST	1948 PST		1071.8 mg C/m2		
DEPTH	TEMP	SALINITY	SIGMA	OXYGEN	OXY	SI03	P04	N03	N02	CHL-A	PHAE0	LIGHT	UPTAKE (mg C/m3)			
m	DEG C		THETA	mL/L	PCT	uM/L	uM/L	uM/L	uM/L	ug/L	ug/L	PCT	1	2	MEAN	DARK
1	14.33	33.719	25.129	6.32	108.8	2.2	0.48	3.6	0.13	2.98	0.72	80. A	79.9	74.7	77.3	0.55
4	14.14	33.724	25.173	6.40	109.7	1.6	0.46	3.3	0.13	3.22	0.98	42.	107.1	101.5	104.3	0.68
10	13.53	33.688	25.271	5.60	94.8	7.9	0.75	7.0	0.13	1.88	0.79	11.	65.3	55.3	60.3	0.55
14	13.40	33.690	25.299	5.29	89.3	8.9	0.82	8.1	0.13	1.48	0.67	4.6	17.8	17.5	17.6	0.28
19	12.97	33.714	25.404	4.87	81.5	10.8	0.97	10.1	0.17	1.13	0.54	1.6	3.8	4.5	4.2	0.18
27	11.65	33.748	25.683	4.15	67.5	15.6	1.33	15.9	0.15	0.89	0.51	0.27	0.33	0.26	0.30	0.10

## RV NEW HORIZON

## CALCOFI CRUISE 0707

STATION 80.0 90.0

LATITUDE		LONGITUDE		DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME				LAN	CIVIL TWILIGHT		INTEGRATED VALUE		
33 9.1 N		123 13.4 W		11/07/07	1859 UTC	26 m	1219 - 1954 PST				1218 PST	1954 PST		167.8 mg C/m2		
DEPTH	TEMP	SALINITY	SIGMA	OXYGEN	OXY	SI03	P04	N03	N02	CHL-A	PHAE0	LIGHT	UPTAKE (mg C/m3)			
m	DEG C		THETA	mL/L	PCT	uM/L	uM/L	uM/L	uM/L	ug/L	ug/L	PCT	1	2	MEAN	DARK
1	17.40	33.095	23.959	5.61	102.2	2.2	0.31	0.0	0.01	0.09	0.01	94. A	2.3	2.3	2.3	0.17
2	17.40															
14	16.86	33.110	24.098	5.64	101.7	2.1	0.31	0.0	0.01	0.12	0.00	44.	2.9	3.0	2.9	0.11
27	16.78	33.114	24.120	5.67	102.1	2.1	0.31	0.1	0.01	0.12	0.02					
37	16.70	33.108	24.135	5.67	101.9	2.1	0.30	0.0	0.01	0.16	0.03	11.	2.5	2.4	2.5	0.22
45	16.61	33.097	24.148	5.68	101.9	2.2	0.31	0.0	0.01	0.24	0.01					
53	16.21	33.145	24.276	5.77	102.7	1.9	0.30	0.0	0.01	0.28	0.05	4.4	1.6	1.7	1.6	0.17
62	14.73	33.106	24.573	6.07	104.9	2.1	0.31	0.1	0.00	0.46	0.08					
69	14.31	33.055	24.623	6.10	104.5	2.3	0.32	0.1	0.00	0.49	0.18	1.7	0.88	1.0	0.95	0.07
79	13.95	33.150	24.771	5.93	100.9	2.2	0.36	0.2	0.03	0.60	0.36					
90	13.41	33.169	24.896	5.80	97.6	2.7	0.42	0.8	0.26	0.38	0.25					
100	13.00	33.162	24.973	5.72	95.4	3.3	0.51	2.3	0.22	0.30	0.23	0.27	0.12	0.09	0.11	0.02

A) INCUBATION LIGHT INTENSITIES WERE 99, 44, 11, 4.3, 1.6, 0.28 PERCENT RESPECTIVELY.

RV NEW HORIZON

CALCOFI CRUISE 0707

STATION 83.3 51.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE								
33 53.0 N	120 8.2 W	09/07/07	1845 UTC	12 m	1207 - 1942 PST	1206 PST	1941 PST	781.7 mg C/m <sup>2</sup>								
DEPTH	TEMP	SALINITY	SIGMA	OXYGEN	OXY	SI03	P04	N03	N02	CHL-A	PHAE0	LIGHT	UPTAKE (mg C/m <sup>3</sup> )			
m	DEG C		THETA	mL/L	PCT	uM/L	uM/L	uM/L	uM/L	ug/L	ug/L	PCT	1	2	MEAN	DARK
2	17.48	33.706	24.408	5.95	109.0	3.0	0.23	0.1	0.01	0.92	0.11	77. A	8.6	7.7	8.1	0.24
6	17.35	33.703	24.437	5.96	108.9	3.0	0.23	0.1	0.01	0.93	0.25	46.	26.2	27.0	26.6	0.21
10	17.20	33.701	24.471	5.95	108.4	3.2	0.24	0.1	0.01	1.35	0.19					
17	16.95	33.699	24.529	5.96	108.0	3.5	0.26	0.4	0.01	1.76	0.30	11.	36.3	37.1	36.7	0.19
25	16.77	33.701	24.573	5.96	107.7	3.8	0.28	0.5	0.02	2.10	0.09	4.1	18.9	18.0	18.4	0.25
31	15.16	33.700	24.937	5.51	96.4	7.0	0.57	4.3	0.07	2.30	0.23	1.9	6.4	7.0	6.7	0.22
40	13.79	33.688	25.219	5.20	88.5	9.0	0.74	7.1	0.12	2.11	0.38					
46	12.22	33.727	25.560	4.30	70.8	14.3	1.17	13.4	0.14	1.88	0.49	0.28	0.33	0.21	0.27	0.10

RV NEW HORIZON

CALCOFI CRUISE 0707

STATION 83.3 80.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE								
32 54.5 N	122 8.5 W	08/07/07	2020 UTC	10 m	1328 - 1947 PST	1214 PST	1947 PST	442.5 mg C/m <sup>2</sup>								
DEPTH	TEMP	SALINITY	SIGMA	OXYGEN	OXY	SI03	P04	N03	N02	CHL-A	PHAE0	LIGHT	UPTAKE (mg C/m <sup>3</sup> )			
m	DEG C		THETA	mL/L	PCT	uM/L	uM/L	uM/L	uM/L	ug/L	ug/L	PCT	1	2	MEAN	DARK
2	14.68	33.155	24.619	6.05	104.5	2.3	0.49	2.9	0.11	1.20	0.08	74. A	16.0	15.4	15.7	0.13
5	14.61	33.165	24.642	6.06	104.5	2.3	0.50	3.1	0.11	1.24	0.12	46.	17.8	18.0	17.9	0.13
10	14.06	33.253	24.826	6.18	105.5	2.0	0.55	3.8	0.13	2.32	0.04					
14	13.71	33.339	24.964	6.24	105.8	1.8	0.59	4.7	0.15	3.09	0.14	12.	23.6	21.9	22.7	0.24
20	13.62	33.370	25.007	6.23	105.4	1.7	0.60	5.0	0.15	2.99	0.38	4.6	11.8	10.8	11.3	0.19
28	13.37	33.418	25.095	6.21	104.6	1.5	0.65	5.8	0.16	3.48	0.06	1.4	3.3	3.8	3.5	0.15
37	13.20	33.431	25.139	6.19	103.9	1.4	0.71	6.6	0.17	3.36	0.10	0.34	0.19	0.26	0.23	0.14

RV NEW HORIZON

CALCOFI CRUISE 0707

STATION 86.7 45.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE								
33 29.6 N	119 18.9 W	05/07/07	1842 UTC	11 m	1158 - 1938 PST	1202 PST	1941 PST	571.9 mg C/m <sup>2</sup>								
DEPTH	TEMP	SALINITY	SIGMA	OXYGEN	OXY	SI03	P04	N03	N02	CHL-A	PHAE0	LIGHT	UPTAKE (mg C/m <sup>3</sup> )			
m	DEG C		THETA	mL/L	PCT	uM/L	uM/L	uM/L	uM/L	ug/L	ug/L	PCT	1	2	MEAN	DARK
2	17.47	33.736	24.434	6.04	110.6	0.9	0.21	0.3	0.01	0.42	0.03	76. A	11.8	11.6	11.7	0.29
6	17.41	33.736	24.448	6.07	111.0	0.7	0.21	0.3	0.01	0.45	0.03	43.	12.0	11.9	11.9	0.27
10	13.30	33.735	25.354	6.09	102.6	2.2	0.50	4.5	0.14	1.77	0.37					
16	11.97	33.725	25.605	4.75	77.8	7.0	0.96	10.7	0.22	3.45	0.45	11.	40.4	38.0	39.2	0.53
23	11.01	33.748	25.800	3.27	52.5	16.7	1.54	19.0	0.21	2.68	0.58	4.0	12.2	12.0	12.1	0.22
29	10.72	33.766	25.865	3.01	48.0	19.3	1.67	20.9	0.14	1.62	0.70	1.7	3.1	3.0	3.1	0.13
42	10.23	33.819	25.992	2.74	43.3	22.6	1.83	23.3	0.06	0.49	0.22	0.28	0.10	0.05	0.08	0.06

RV NEW HORIZON

CALCOFI CRUISE 0707

STATION 86.7 80.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE								
32 19.8 N	121 42.6 W	06/07/07	2032 UTC	13 m	1330 - 1947 PST	1212 PST	1947 PST	309.5 mg C/m <sup>2</sup>								
DEPTH	TEMP	SALINITY	SIGMA	OXYGEN	OXY	SI03	P04	N03	N02	CHL-A	PHAE0	LIGHT	UPTAKE (mg C/m <sup>3</sup> )			
m	DEG C		THETA	mL/L	PCT	uM/L	uM/L	uM/L	uM/L	ug/L	ug/L	PCT	1	2	MEAN	DARK
1	14.71	33.511	24.887	6.17	106.9	0.4	0.42	2.7	0.16	0.89	0.01	89. A	11.5	11.2	11.3	0.16
8	14.65	33.512	24.901	6.17	106.7	0.4	0.45	2.7	0.16	0.86	0.12	39.	13.1	12.6	12.9	0.12
10	14.65	33.517	24.905	6.15	106.4	0.4	0.41	2.7	0.16	0.93	0.12					
19	14.65	33.527	24.913	6.13	106.0	0.4	0.41	2.7	0.16	1.19	0.06	11.	9.3	10.1	9.7	0.12
26	14.57	33.510	24.917	6.14	106.0	0.4	0.45	2.7	0.16	0.95	0.20	4.6	5.0	4.6	4.8	0.11
35	14.10	33.696	25.160	5.86	100.3	1.6	0.53	2.8	0.20	0.77	0.17	1.6	1.6	1.4	1.5	0.09
41	12.52	33.434	25.275	5.59	92.5	5.5	0.76	7.3	0.20	0.40	0.15					
48	11.54	33.280	25.340	5.35	86.6	8.7	0.95	10.6	0.20	0.32	0.19	0.35	0.05	0.05	0.05	0.05

A) INCUBATION LIGHT INTENSITIES WERE 99, 44, 11, 4.3, 1.6, 0.28 PERCENT RESPECTIVELY.

## RV NEW HORIZON

## CALCOFI CRUISE 0707

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 44.8 W		07/07/07	1726 UTC	24 m	1217 - 1957 PST					1220 PST	1953 PST	69.9 mg C/m <sup>2</sup>		
DEPTH	TEMP	SALINITY	SIGMA	OXYGEN	OXY	SI03	P04	N03	N02	CHL-A	PHAE0	LIGHT	UPTAKE (mg C/m <sup>3</sup> )			
m	DEG C		THETA	mL/L	PCT	uM/L	uM/L	uM/L	uM/L	ug/L	ug/L	PCT	1	2	MEAN	DARK
3	17.67	33.288	24.042	5.56	102.0	1.7	0.31	0.1	0.01	0.08	0.01	83. A	1.5	1.6	1.5	0.07
10	17.67	33.293	24.047	5.55	101.8	1.6	0.28	0.0	0.01	0.09	0.01					
13	17.67	33.288	24.043	5.56	102.0	1.6	0.28	0.1	0.01	0.08	0.00	44.	1.8	1.9	1.8	0.06
25	17.67	33.291	24.046	5.55	101.8	1.6	0.28	0.1	0.01	0.09	0.00					
34	17.63	33.304	24.066	5.57	102.1	1.6	0.28	0.1	0.01	0.10	0.01	11.	1.2	1.1	1.1	0.07
50	17.18	33.424	24.265	5.68	103.2	1.6	0.26	0.2	0.00	0.11	0.00	4.1	0.44	0.46	0.45	0.06
64	16.31	33.581	24.589	5.87	105.0	1.6	0.24	0.1	0.01	0.11	0.02	1.7	0.15	0.13	0.14	0.05
75	16.28	33.656	24.654	5.83	104.3	1.6	0.23	0.2	0.01	0.12	0.01					
84	15.77	33.589	24.718	5.84	103.3	1.6	0.24	0.2	0.01	0.14	0.01					
91	15.41	33.552	24.770	5.83	102.4	1.6	0.25	0.2	0.01	0.19	0.02	0.30	0.00	0.01	0.00	0.03

## RV NEW HORIZON

## CALCOFI CRUISE 0707

STATION 90.0 30.0

LATITUDE		LONGITUDE		DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME					LAN	CIVIL TWILIGHT	INTEGRATED VALUE		
33 25.0 N		117 54.3 W		04/07/07	1943 UTC	21 m	1248 - 1936 PST					1156 PST	1935 PST	504.4 mg C/m <sup>2</sup>		
DEPTH	TEMP	SALINITY	SIGMA	OXYGEN	OXY	SI03	P04	N03	N02	CHL-A	PHAE0	LIGHT	UPTAKE (mg C/m <sup>3</sup> )			
m	DEG C		THETA	mL/L	PCT	uM/L	uM/L	uM/L	uM/L	ug/L	ug/L	PCT	1	2	MEAN	DARK
1	21.06	33.755	23.532	5.70	111.7	1.6	0.19	0.0	0.00	0.16	0.00	93. A	5.5	5.4	5.5	0.12
11	17.91	33.690	24.292	6.39	118.0	2.2	0.21	0.0	0.00	0.19	0.00	45.	5.8	5.7	5.8	0.13
20	15.82	33.660	24.759	6.73	119.3	1.9	0.25	0.0	0.00	0.24	0.01					
30	13.50	33.690	25.279	6.41	108.4	0.6	0.44	1.0	0.06	1.54	0.15	11.	19.6	21.1	20.4	0.28
36	12.40	33.695	25.501	4.98	82.3	9.9	1.09	11.8	0.51	1.09	0.56					
43	11.80	33.682	25.605	4.77	77.8	11.6	1.24	15.2	0.05	0.61	0.30	4.3	3.7	3.5	3.6	0.07
50	11.26	33.691	25.711	4.29	69.2	14.5	1.39	17.5	0.05	0.45	0.17					
57	10.89	33.687	25.774	3.98	63.7	16.2	1.46	18.5	0.04	0.28	0.19	1.6	0.63	0.70	0.66	0.05
67	10.38	33.731	25.898	3.52	55.7	19.4	1.61	20.8	0.03	0.13	0.16					
80	10.04	33.787	26.000	3.19	50.1	22.3	1.73	22.8	0.02	0.10	0.14	0.29	0.01	0.00	0.01	0.03

## RV NEW HORIZON

## CALCOFI CRUISE 0707

STATION 90.0 60.0

LATITUDE		LONGITUDE		DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME					LAN	CIVIL TWILIGHT	INTEGRATED VALUE		
32 25.2 N		119 57.8 W		03/07/07	1936 UTC	14 m	1220 - 1937 PST					1204 PST	1937 PST	285.1 mg C/m <sup>2</sup>		
DEPTH	TEMP	SALINITY	SIGMA	OXYGEN	OXY	SI03	P04	N03	N02	CHL-A	PHAE0	LIGHT	UPTAKE (mg C/m <sup>3</sup> )			
m	DEG C		THETA	mL/L	PCT	uM/L	uM/L	uM/L	uM/L	ug/L	ug/L	PCT	1	2	MEAN	DARK
2	14.93	33.585	24.897	5.93	103.2	2.7	0.65	5.2	0.16	0.44	0.00	80. A	6.1	5.3	5.7	0.09
7	14.93	33.583	24.896	5.92	103.0	2.7	0.64	5.2	0.16	0.48	0.03	46.	12.2	10.8	11.5	0.11
13	14.88	33.583	24.907	5.93	103.1	2.7	0.64	5.2	0.16	0.44	0.02					
20	14.81	33.581	24.921	5.94	103.1	2.7	0.64	5.3	0.17	0.50	0.00	11.	8.4	7.5	7.9	0.11
29	14.52	33.558	24.965	5.92	102.2	2.8	0.65	5.3	0.17	0.46	0.05	4.2	4.2	4.2	4.2	0.10
38	13.99	33.566	25.083	5.90	100.7	3.3	0.70	6.1	0.19	0.54	0.09	1.6	2.4	2.5	2.4	0.10
45	12.36	33.483	25.344	5.60	92.4	5.9	0.83	8.3	0.29	0.90	0.22					
54	11.43	33.504	25.535	5.06	81.8	10.4	1.17	13.7	0.34	0.80	0.09	0.27	0.17	0.15	0.16	0.07

## RV NEW HORIZON

## CALCOFI CRUISE 0707

STATION 90.0 100.0

LATITUDE		LONGITUDE		DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME					LAN	CIVIL TWILIGHT	INTEGRATED VALUE		
31 5.3 N		122 40.2 W		02/07/07	1735 UTC	29 m	1212 - 1950 PST					1215 PST	1944 PST	98.4 mg C/m <sup>2</sup>		
DEPTH	TEMP	SALINITY	SIGMA	OXYGEN	OXY	SI03	P04	N03	N02	CHL-A	PHAE0	LIGHT	UPTAKE (mg C/m <sup>3</sup> )			
m	DEG C		THETA	mL/L	PCT	uM/L	uM/L	uM/L	uM/L	ug/L	ug/L	PCT	1	2	MEAN	DARK
2	17.24	33.354	24.196	5.60	101.9	1.7	0.28	0.0	0.01	0.07	0.00	90. A	0.91	0.80	0.86	0.05
15	17.23	33.354	24.198	5.60	101.9	1.6	0.28	0.0	0.01	0.06	0.01	45.	1.9	1.8	1.8	0.04
30	17.20	33.351	24.204	5.61	102.0	1.5	0.28	0.0	0.01	0.07	0.01					
44	17.14	33.347	24.216	5.62	102.0	1.6	0.28	0.0	0.01	0.07	0.01	9.7	1.5	1.3	1.4	0.05
59	16.55	33.462	24.442	5.78	103.8	1.6	0.26	0.0	0.01	0.09	0.03	4.4	0.83	0.78	0.81	0.07
75	15.25	33.323	24.628	5.96	104.2	1.6	0.28	0.0	0.01	0.14	0.02	1.9	0.30	0.28	0.29	0.05
85	14.81	33.317	24.719	5.97	103.5	1.8	0.28	0.0	0.01	0.13	0.05					
94	14.72	33.370	24.780	5.94	102.8	1.9	0.28	0.0	0.01	0.18	0.05					
105	14.28	33.441	24.928	5.73	98.3	2.3	0.33	0.3	0.06	0.28	0.11					
115	13.67	33.380	25.007	5.65	95.7	2.8	0.43	1.6	0.15	0.33	0.08	0.23	0.10	0.09	0.09	0.02

A) INCUBATION LIGHT INTENSITIES WERE 99, 44, 11, 4.3, 1.6, 0.28 PERCENT RESPECTIVELY.

RV NEW HORIZON

CALCOFI CRUISE 0707

STATION 93.3 26.7

LATITUDE		LONGITUDE		DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME				LAN	CIVIL TWILIGHT		INTEGRATED VALUE		
32 57.7 N		117 17.8 W		28/06/07	1818 UTC	12 m	1151 - 1931 PST				1152 PST	1931 PST		1411.5 mg C/m2		
DEPTH	TEMP	SALINITY	SIGMA	OXYGEN	OXY	SI03	P04	N03	N02	CHL-A	PHAE0	LIGHT	UPTAKE (mg C/m3)			
m	DEG C		THETA	ML/L	PCT	UM/L	UM/L	UM/L	UM/L	UG/L	UG/L	PCT	1	2	MEAN	DARK
2	20.72			5.88		0.5	0.11	0.4	0.00	0.39	0.05	77. A	21.6	21.1	21.4	0.35
6	20.23	33.768	23.763	5.91	114.1	0.5	0.12	0.2	0.00	0.34	0.06	46.	26.1	24.7	25.4	0.39
10	17.35	33.701	24.436	6.31	115.3	3.1	0.20	0.3	0.01	0.74	0.21					
17	12.69	33.653	25.411	5.57	92.6	9.9	0.68	3.5	0.06	4.69	1.16	11.	113.4	111.3	112.4	0.61
25	11.17	33.663	25.705	3.81	61.3	15.0	1.41	16.8	0.26	0.55	0.39	4.1	6.6	6.4	6.5	0.09
32	10.91	33.695	25.776	3.56	57.0	17.2	1.54	18.8	0.24	0.49	0.23	1.7	1.8	1.9	1.8	0.07
39	10.80	33.712	25.809	3.34	53.4	18.8	1.61	19.6	0.28	0.48	0.22					
45	10.78	33.712	25.813	3.36	53.6	18.7	1.62	19.6	0.27	0.43	0.28	0.32	0.15	0.12	0.13	0.07

RV NEW HORIZON

CALCOFI CRUISE 0707

STATION 93.3 45.0

LATITUDE		LONGITUDE		DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME				LAN	CIVIL TWILIGHT		INTEGRATED VALUE		
32 20.6 N		118 34.5 W		29/06/07	1827 UTC	16 m	1157 - 1935 PST				1158 PST	1935 PST		541.3 mg C/m2		
DEPTH	TEMP	SALINITY	SIGMA	OXYGEN	OXY	SI03	P04	N03	N02	CHL-A	PHAE0	LIGHT	UPTAKE (mg C/m3)			
m	DEG C		THETA	ML/L	PCT	UM/L	UM/L	UM/L	UM/L	UG/L	UG/L	PCT	1	2	MEAN	DARK
1	18.61	33.712	24.136	5.84	109.3	1.8	0.21	0.1	0.01	0.27	0.05					
9	18.46	33.710	24.172	5.87	109.6	1.7	0.21	0.1	0.01	0.30	0.03	42.	1.8	1.4	1.6	0.15
16	17.13	33.712	24.497	6.20	112.8	1.3	0.21	0.2	0.01	0.42	0.02					
23	15.80	33.718	24.808	6.35	112.5	0.7	0.24	0.2	0.02	0.83	0.15	11.	36.9	39.8	38.3	0.33
33	14.29	33.728	25.145	5.90	101.4	5.0	0.59	4.9	0.15	2.49	0.46	4.2	6.9	6.6	6.8	0.31
43	12.35	33.702	25.516	4.86	80.2	10.9	1.14	13.0	0.52	0.56	0.16	1.6	0.12	0.15	0.13	0.17
52	11.78	33.725	25.642	4.36	71.1	13.8	1.34	16.3	0.15	0.30	0.20					
61	10.84	33.686	25.783	3.93	62.8	16.3	1.47	18.6	0.02	0.10	0.09	0.29	0.08	0.07	0.08	0.06

RV NEW HORIZON

CALCOFI CRUISE 0707

STATION 93.3 80.0

LATITUDE		LONGITUDE		DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME				LAN	CIVIL TWILIGHT		INTEGRATED VALUE		
31 10.8 N		120 54.8 W		30/06/07	1859 UTC	0 m	1211 - 1946 PST				1207 PST	1941 PST		87.8 mg C/m2		
DEPTH	TEMP	SALINITY	SIGMA	OXYGEN	OXY	SI03	P04	N03	N02	CHL-A	PHAE0	LIGHT	UPTAKE (mg C/m3)			
m	DEG C		THETA	ML/L	PCT	UM/L	UM/L	UM/L	UM/L	UG/L	UG/L	PCT	1	2	MEAN	DARK
2	16.37	33.506	24.515	5.79	103.7	2.4	0.31	0.1	0.01	0.19	0.05					
8	16.35	33.503	24.518	5.76	103.1	2.4	0.30	0.1	0.01	0.25	0.03	0.44	4.9	4.7	4.8	0.12
20	16.29	33.502	24.531	5.79	103.5	2.4	0.30	0.2	0.00	0.23	0.05	0.11	4.1	4.1	4.1	0.13
28	16.28	33.502	24.534	5.79	103.5	2.4	0.30	0.2	0.01	0.25	0.06	0.04	2.0	2.0	2.0	0.11
34	16.27	33.501	24.536	5.79	103.4	2.3	0.30	0.2	0.00	0.27	0.06	0.02	0.40	0.29	0.34	0.09
41	16.26	33.505	24.541	5.78	103.2	2.4	0.30	0.2	0.01	0.29	0.09					
50	16.11	33.493	24.566	5.81	103.5	2.4	0.30	0.1	0.01	0.44	0.06	0.00	0.03	0.02	0.03	0.06

RV NEW HORIZON

CALCOFI CRUISE 0707

STATION 93.3 120.0

LATITUDE		LONGITUDE		DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME				LAN	CIVIL TWILIGHT		INTEGRATED VALUE		
29 50.9 N		123 35.0 W		01/07/07	2017 UTC	25 m	1318 - 1952 PST				1218 PST	1950 PST		76.4 mg C/m2		
DEPTH	TEMP	SALINITY	SIGMA	OXYGEN	OXY	SI03	P04	N03	N02	CHL-A	PHAE0	LIGHT	UPTAKE (mg C/m3)			
m	DEG C		THETA	ML/L	PCT	UM/L	UM/L	UM/L	UM/L	UG/L	UG/L	PCT	1	2	MEAN	DARK
2	17.50	33.307	24.098	5.62	102.7	2.1	0.30	0.0	0.00	0.07	0.01	88. A	1.2	1.2	1.2	0.08
14	17.43	33.300	24.109	5.63	102.8	2.0	0.29	0.0	0.00	0.07	0.01	42.	2.0	1.9	1.9	0.07
23	17.36	33.300	24.127	5.62	102.4	1.9	0.28	0.1	0.00	0.08	0.01					
37	17.08	33.343	24.226	5.68	103.0	1.8	0.28	0.1	0.00	0.09	0.02	10.	1.3	1.1	1.2	0.12
51	16.66	33.519	24.460	5.77	103.9	1.8	0.26	0.1	0.00	0.09	0.02	4.4	0.44	0.41	0.42	0.09
67	16.12	33.553	24.611	5.85	104.2	1.7	0.26	0.1	0.00	0.11	0.04	1.6	0.20	0.21	0.20	0.09
77	15.54	33.476	24.682	5.89	103.7	1.8	0.28	0.0	0.00	0.15	0.06					
87	15.07	33.420	24.742	5.84	101.8	1.7	0.29	0.1	0.01	0.18	0.10					
96	14.50	33.347	24.809	5.84	100.6	1.9	0.35	0.3	0.06	0.30	0.19	0.28	0.05	0.04	0.04	0.04

A) INCUBATION LIGHT INTENSITIES WERE 99, 44, 11, 4.3, 1.6, 0.28 PERCENT RESPECTIVELY.



## CalCOFI Cruise 0707

## MACROZOOPLANKTON BIOMASS

Net Mesh Size: 0.505mm

Line	Sta.	Latitude N	Longitude W	Date		Time (PST)		Water Volume Strained (m <sup>3</sup> )	Max. Tow Depth (m)	Volume per 1000 m <sup>3</sup> Strained	
				Mo/Day	Start	End	Total (cm <sup>3</sup> )			Small (cm <sup>3</sup> )	
76.7	49.0	35 05.1	120 46.5	07/13	0830	0835	109	41	73	73	
76.7	51.0	35 01.3	120 55.2	07/13	0642	0659	215	171	1094	1094	
76.7	55.0	34 53.0	121 12.8	07/13	0333	0354	428	200	599	599	
76.7	60.0	34 43.3	121 33.1	07/12	2331	2354	437	210	330	330	
76.7	70.0	34 23.1	122 15.4	07/12	1750	1811	417	212	77	77	
76.7	80.0	34 03.1	122 56.7	07/12	1159	1221	444	214	72	72	
76.7	90.0	33 43.3	123 38.0	07/12	0615	0636	398	214	40	40	
76.7	100.0	33 23.3	124 19.4	07/12	0036	0057	452	210	40	40	
80.0	50.5	34 27.7	120 29.1	07/10	0515	0517	49	14	122	122	
80.0	51.0	34 27.0	120 31.5	07/10	0621	0626	109	49	146	146	
80.0	55.0	34 18.7	120 47.4	07/10	0919	0940	276	212	72	72	
80.0	60.0	34 09.0	121 08.4	07/10	1507	1528	433	212	159	159	
80.0	70.0	33 49.0	121 49.7	07/10	2315	2338	461	208	134	134	
80.0	80.0	33 29.0	122 31.4	07/11	0537	0558	435	209	37	37	
80.0	90.0	33 08.9	123 13.2	07/11	1223	1243	435	209	55	55	
80.0	100.0	32 49.0	123 54.0	07/11	1840	1901	417	213	96	96	
81.8	46.9	34 16.3	120 00.7	07/10	0212	0233	427	215	150	150	
83.3	39.4	34 15.3	119 19.5	07/09	1730	1732	61	18	82	82	
83.3	40.6	34 13.4	119 24.5	07/09	1909	1912	71	28	84	84	
83.3	42.0	34 10.8	119 30.3	07/09	2110	2123	264	119	57	57	
83.3	51.0	33 52.7	120 08.1	07/09	1149	1155	129	55	147	147	
83.3	55.0	33 44.4	120 24.3	07/09	0819	0840	427	210	80	80	
83.3	60.0	33 34.5	120 44.8	07/09	0401	0422	399	206	196	196	
83.3	70.0	33 14.7	121 26.4	07/08	2110	2132	412	213	209	209	
83.3	80.0	32 54.5	122 08.0	07/08	1331	1352	475	205	183	183	
83.3	90.0	32 34.2	122 48.5	07/08	0641	0701	421	218	74	74	
83.3	100.0	32 14.4	123 29.5	07/07	2345	0006	484	211	45	45	
83.3	110.0	31 54.3	124 10.0	07/07	1649	1710	475	211	23	23	
86.7	33.0	33 53.5	118 29.3	07/05	0018	0022	92	31	501	501	
86.7	35.0	33 49.6	118 37.5	07/05	0317	0338	427	212	98	98	
86.7	40.0	33 39.6	118 58.3	07/05	0741	0802	431	212	132	132	
86.7	45.0	33 29.5	119 18.8	07/05	1210	1231	429	209	96	96	
86.7	50.0	33 19.3	119 39.1	07/05	1617	1625	172	77	145	145	
86.7	55.0	33 09.1	119 59.6	07/05	2031	2053	480	208	92	92	
86.7	60.0	32 59.4	120 20.6	07/06	0103	0124	497	205	121	121	
86.7	70.0	32 39.5	121 01.7	07/06	0710	0731	430	212	58	58	
86.7	80.0	32 19.6	121 42.8	07/06	1340	1401	447	208	121	121	
86.7	90.0	31 59.3	122 23.1	07/06	2017	2039	403	213	224	224	
86.7	100.0	31 39.0	123 03.8	07/07	0234	0255	432	217	28	28	
86.7	110.0	31 19.1	123 43.9	07/07	0802	0824	472	211	21	21	
86.8	32.5	33 53.3	118 26.7	07/04	2204	2206	48	13	166	166	
88.5	30.1	33 40.3	118 05.5	07/04	1900	1902	46	13	65	65	
90.0	27.7	33 29.9	117 45.0	07/04	1608	1610	47	14	43	43	
90.0	28.0	33 29.1	117 46.1	07/04	1538	1543	100	41	139	139	
90.0	30.0	33 25.0	117 54.5	07/04	1309	1330	423	211	45	45	
90.0	35.0	33 15.1	118 15.2	07/04	0900	0915	299	142	80	80	
90.0	37.0	33 10.9	118 23.0	07/04	0618	0639	418	208	77	77	
90.0	45.0	32 55.2	118 56.1	07/04	0029	0050	435	207	161	161	
90.0	53.0	32 39.0	119 28.7	07/03	1830	1851	428	218	164	164	
90.0	60.0	32 24.8	119 57.5	07/03	1306	1327	445	214	117	117	
90.0	70.0	32 04.9	120 38.1	07/03	0614	0634	428	208	47	47	
90.0	80.0	31 45.0	121 18.7	07/02	2327	2350	492	212	31	31	
90.0	90.0	31 24.4	121 59.9	07/02	1638	1659	465	209	32	32	
90.0	100.0	31 04.6	122 39.6	07/02	0832	0854	472	211	6	6	
90.0	110.0	30 44.7	123 19.7	07/02	0304	0326	485	214	23	23	
90.0	120.0	30 24.7	123 59.9	07/01	2011	2032	483	210	14	14	
91.7	26.4	33 14.7	117 27.7	06/28	1503	1505	40	15	25	25	
93.3	26.7	32 57.4	117 18.3	06/28	1113	1117	91	32	241	241	
93.3	28.0	32 54.7	117 23.6	06/28	1903	1923	417	208	60	60	
93.3	30.0	32 50.9	117 31.8	06/28	2152	2212	398	211	98	98	
93.3	35.0	32 40.8	117 52.4	06/29	0158	0219	413	213	65	65	
93.3	40.0	32 30.9	118 11.9	06/29	0617	0638	411	205	73	73	
93.3	45.0	32 20.8	118 33.0	06/29	0926	0947	451	212	49	49	
93.3	50.0	32 10.6	118 52.8	06/29	1509	1530	426	213	129	129	
93.3	55.0	32 00.6	119 13.6	06/29	1913	1934	437	215	64	64	
93.3	60.0	31 50.8	119 33.7	06/29	2326	2348	473	213	57	57	
93.3	70.0	31 30.9	120 13.9	06/30	0541	0602	424	215	85	85	
93.3	80.0	31 10.7	120 54.6	06/30	1211	1233	456	221	57	57	
93.3	90.0	30 50.9	121 35.0	06/30	1832	1853	467	204	19	19	
93.3	100.0	30 31.0	122 15.0	07/01	0038	0060	499	207	8	8	
93.3	110.0	30 10.8	122 54.4	07/01	0702	0723	480	208	4	4	
93.3	120.0	29 50.8	123 35.0	07/01	1322	1344	427	212	12	12	
93.4	26.4	32 57.2	117 16.9	06/28	1223	1225	49	14	82	82	