UNIVERSITY OF CALIFORNIA, SAN DIEGO SCRIPPS INSTITUTION OF OCEANOGRAPHY

data report

CalCOFI Cruise 0511
4 – 21 November 2005

CC Reference 07-06
23 May 2008

UNIVERSITY OF CALIFORNIA, SAN DIEGO

SCRIPPS INSTITUTION OF OCEANOGRAPHY

LA JOLLA, CALIFORNIA 92093-0227

PHYSICAL, CHEMICAL AND BIOLOGICAL DATA

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INTRODUCTION

The data presented in this report were collected during cruise 0511* of the California Cooperative Oceanic Fisheries Investigations (CalCOFI) program aboard the RV *New Horizon*. 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 Culberson (1991), but with higher concentrations of thiosulfate solution (50 g/l). Standard KIO3 solutions prepared ashore were run at the beginning of each run. Reagent and sea water blanks were determined to account for presence of oxidizing or reducing materials.

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

Nutrient samples were analyzed at sea by the Scripps Ocean Data Facility for dissolved silicate, phosphate, nitrate, nitrite, and ammonium using procedures similar to those described in Gordon et al. (1993) and Koroleff (1969, 1970). Samples were collected in 45 ml high-density polypropylene screw-capped tubes which were 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 phaeopigment concentrations were determined from fluorescence readings before and after acidification with a Turner Designs Fluorometer Model 10-AU-005-CE (Yentsch and Menzel, 1963; Holm-Hansen *et al*., 1965).

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

Primary Productivity Sampling

Primary productivity samples were taken each day shortly before local apparent noon (LAN). Primary production was estimated from ^{14}C uptake using a simulated *in situ* technique. Light penetration was estimated from the Secchi depth (assuming that the 1% light level is three times the Secchi depth). The depths with ambient light intensities corresponding to light levels simulated by the on-deck incubators were identified and sampled on the rosette up-cast. Occasionally an extra bottle or two were tripped in addition to the usual 20 levels sampled in the combined rosette-productivity cast in order to maintain the normal sampling depth resolution. Triplicate samples (two light and one dark control) were drawn from each productivity sample depth into 250 ml polycarbonate incubation bottles. Samples were inoculated with 59.10 µCi of ^{14}C as $NaHCO_3$ (200 µl of 335.90 µCi/ml stock) prepared in a 0.3 g/liter solution of sodium carbonate (Fitzwater *et al*., 1982). An adjustment to the specific activity was made to account for the 10 ml aliquot removed for DOC-14 analysis on CCE-LTER samples. 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 xCO2*. Continuous measurements of the partial pressure of CO2 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 CO2/H2O analyzer. One-minute averages were recorded and the mole fraction of CO2 (xCO2) 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.

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) *Bio-optics*. Spectral radiometry of the top 100 meters of the water column were measured daily with a multi-spectral free fall radiometer (PRR-800, Biospherical). Water samples obtained from the CTD/rosette cast were analyzed for determination of absorption by particulate, detrital materials, and algal HPLC pigments. (G. Mitchell, SIO)

7) *Marine mammal observations*. During daylight transits, visual line-transect surveys were conducted by marine mammal observers focusing on cetaceans. Surveys were conducted using handheld 10x binoculars, while mounted 125x "Big Eyes" binoculars are used to confirm species identity of groups. 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.

8) *O_2 Isotopes.* Water samples were collected at 38 stations for analysis of isotopic composition of dissolved oxygen to assess in situ primary production rates and compare with CalCOFI 14-C primary production. Isotopic analysis was performed at the University of Washington.

TABULATED DATA

CTD/Rosette Cast Data

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

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

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

Primary Productivity Data

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

Macrozooplankton Data

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

FOOTNOTES

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

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

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FIGURES

Cruise 0511

1. CalCOFI Cruise 0507 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.

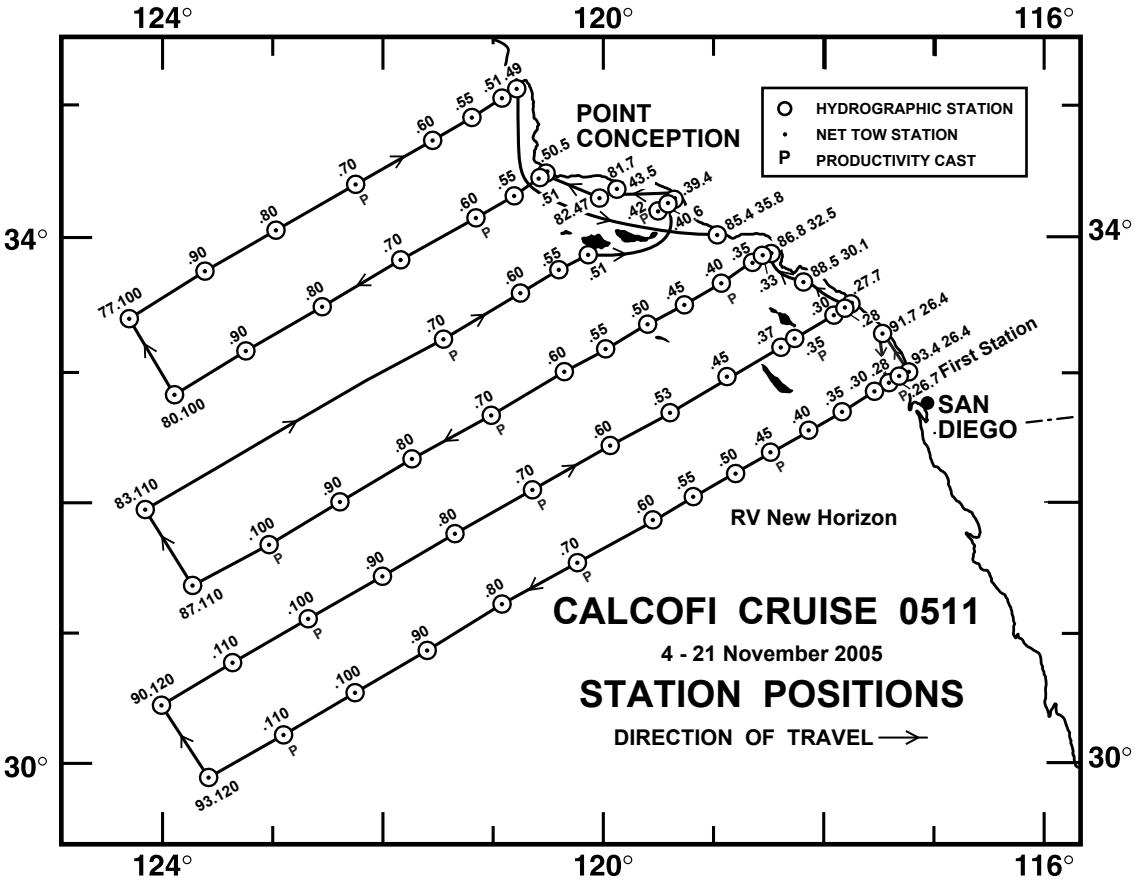

FIGURE 1

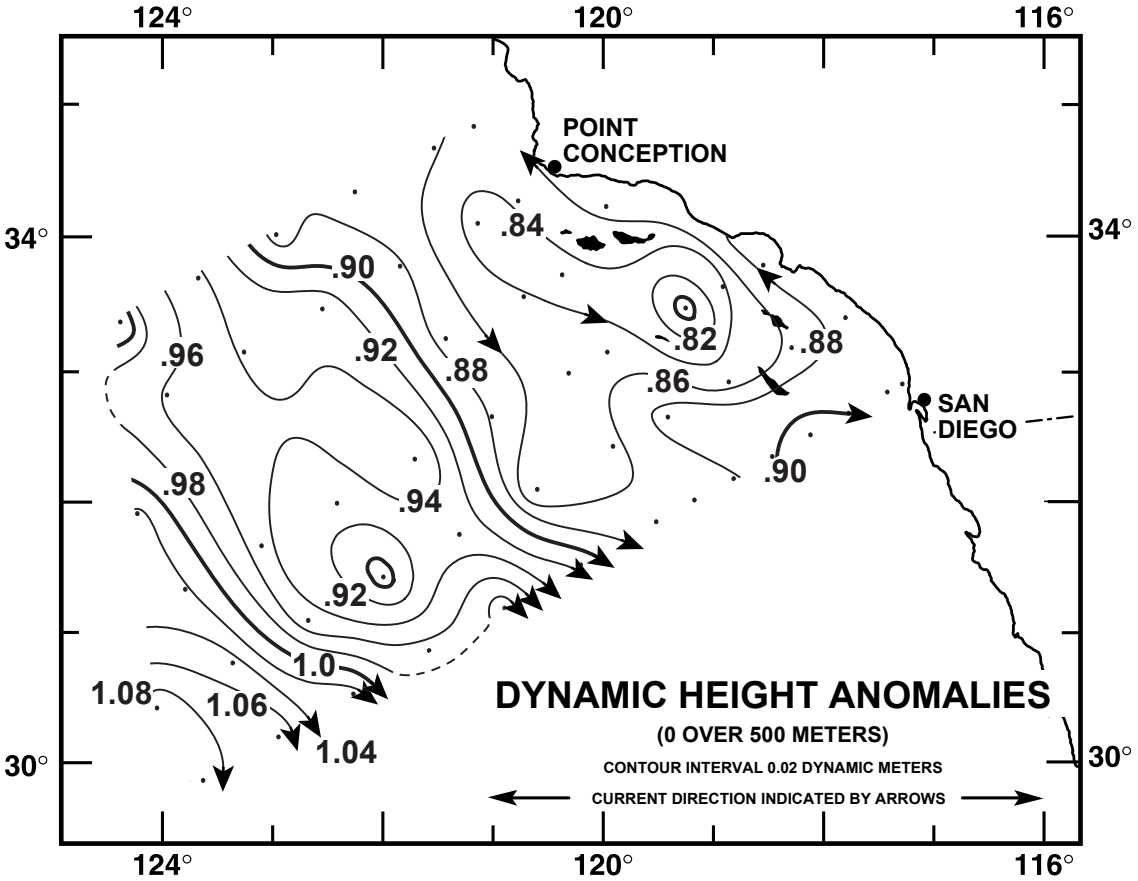

FIGURE 2

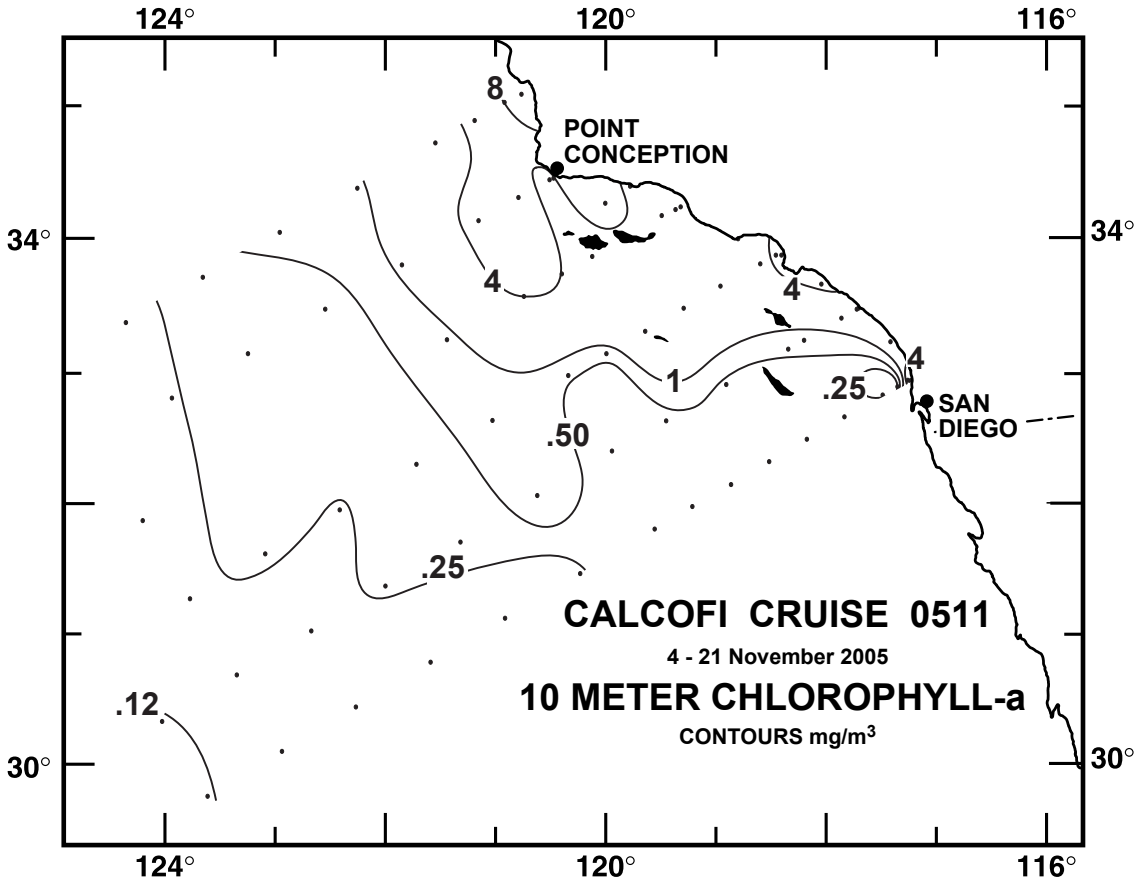

FIGURE 3A

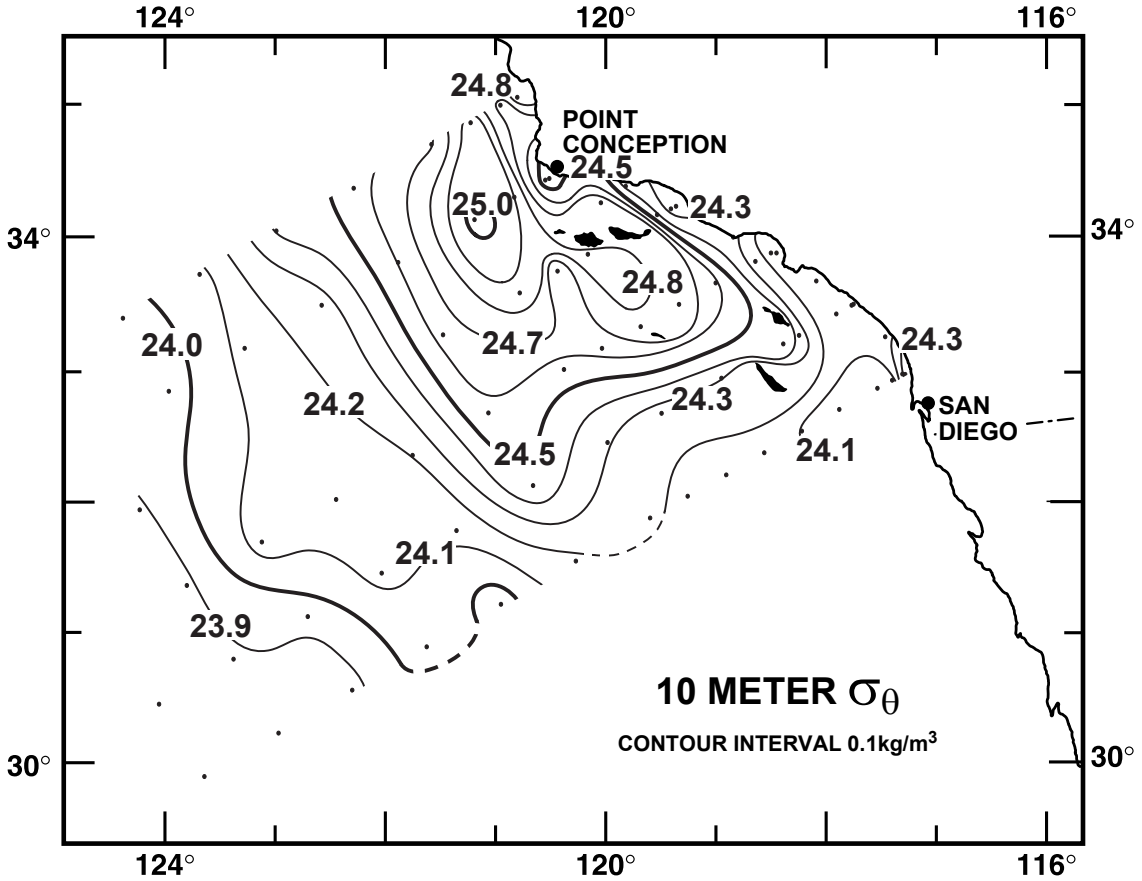

FIGURE 3B

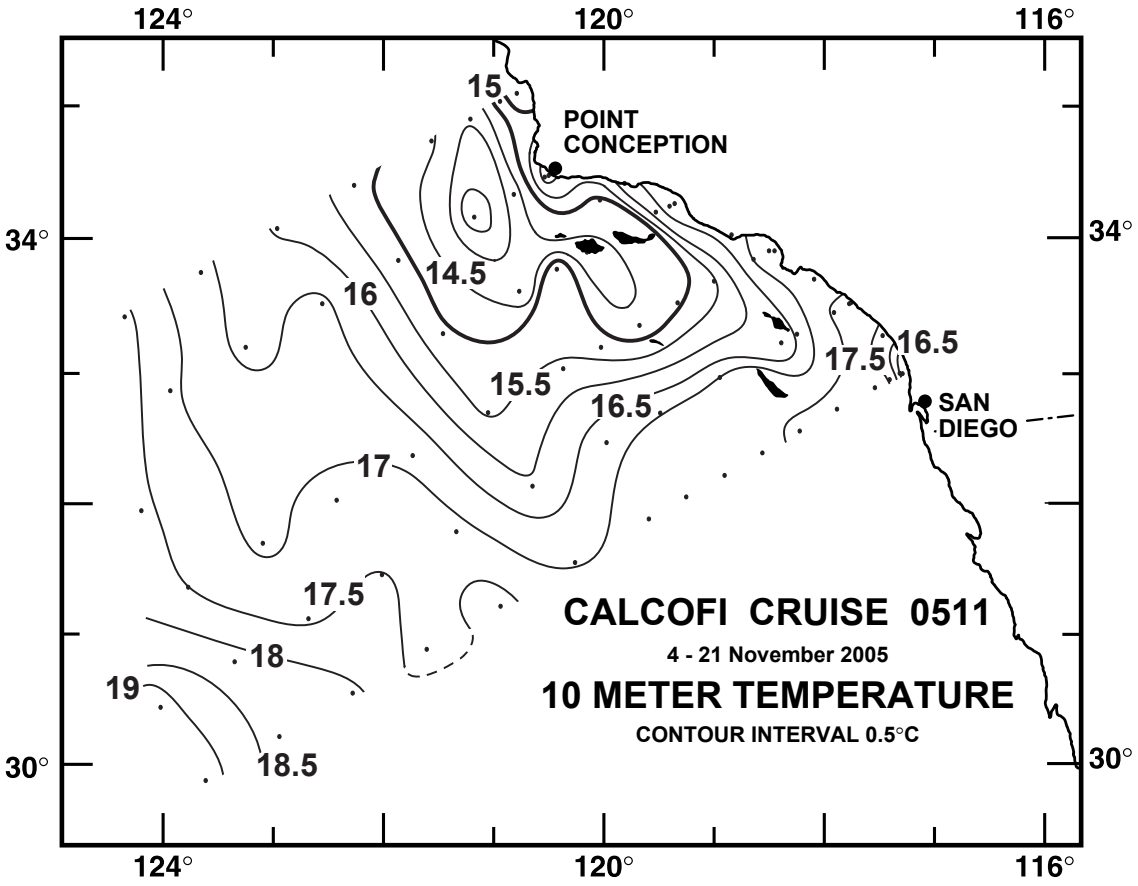

FIGURE 3C

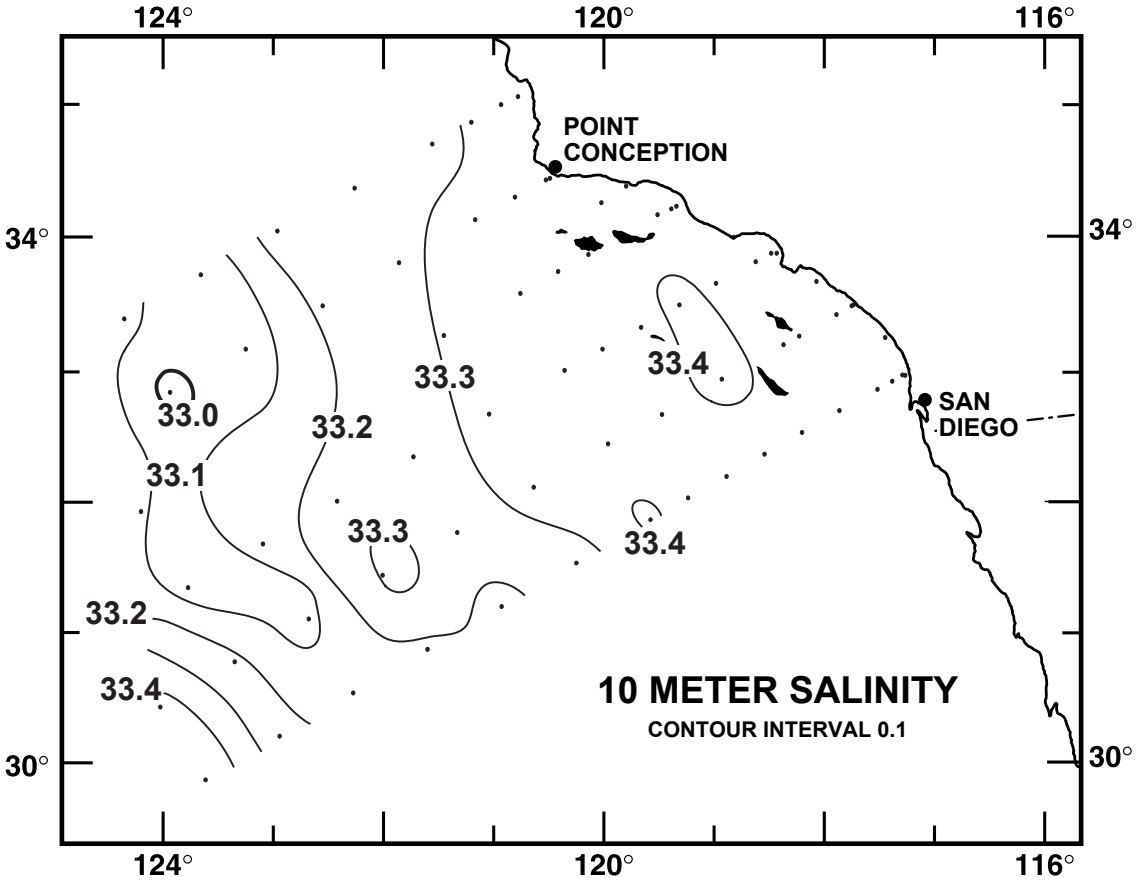

FIGURE 3D

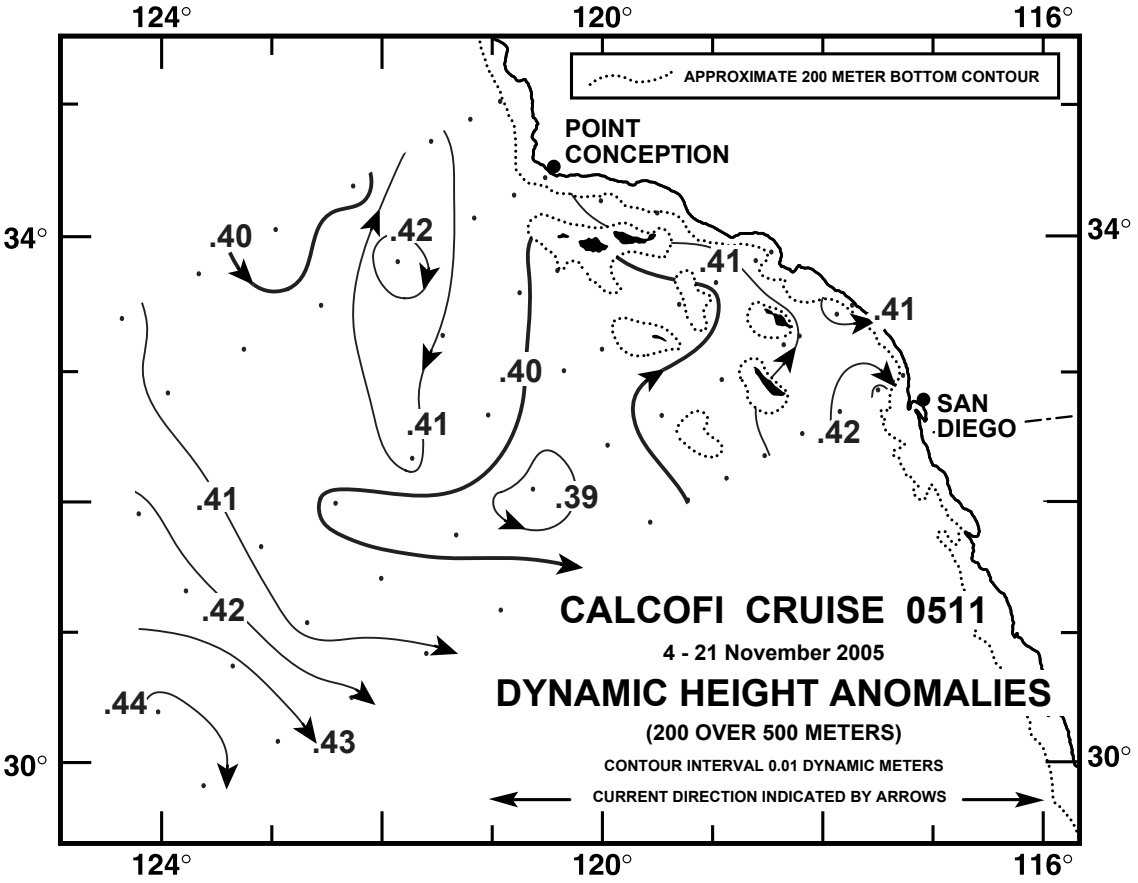

FIGURE 4A

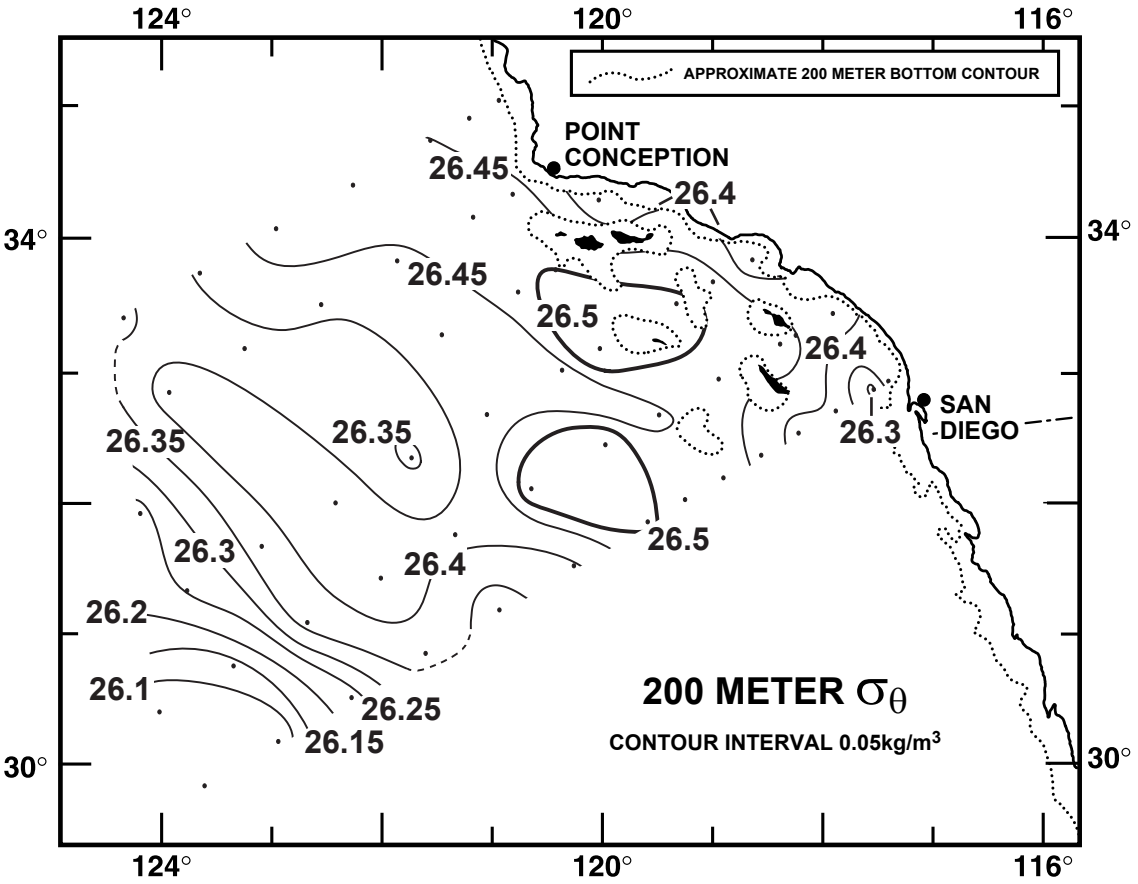

FIGURE 4B

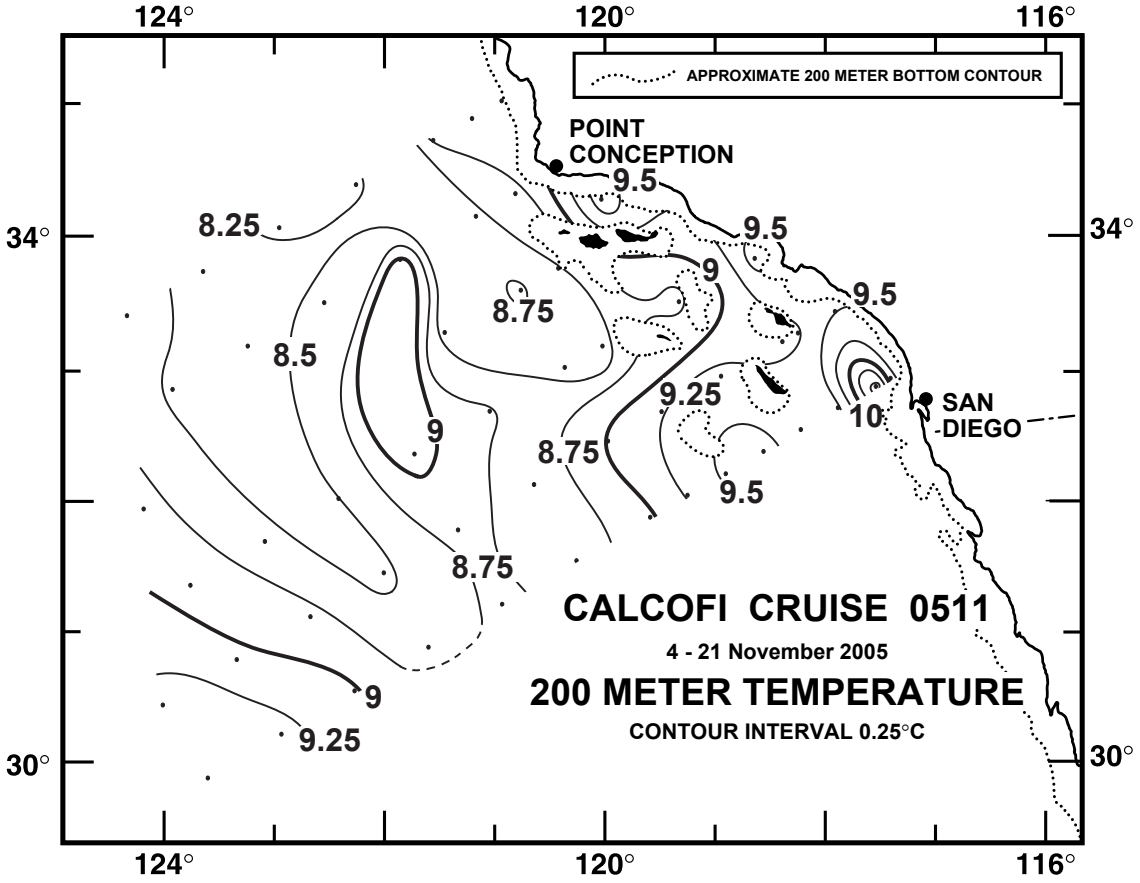

FIGURE 4C

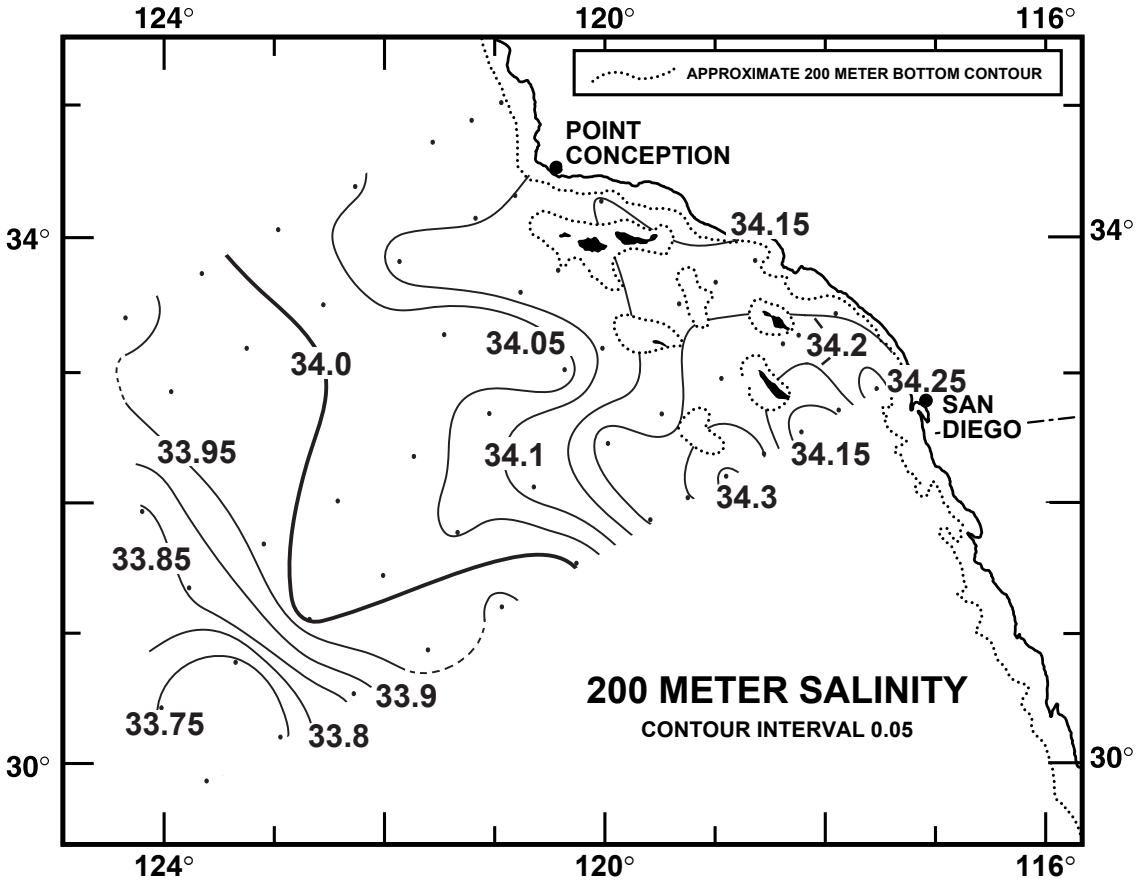

FIGURE 4D

CALCOFI CRUISE 0511

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POTENTIAL DENSITY (σ_θ) ALONG CALCOFI LINE 90

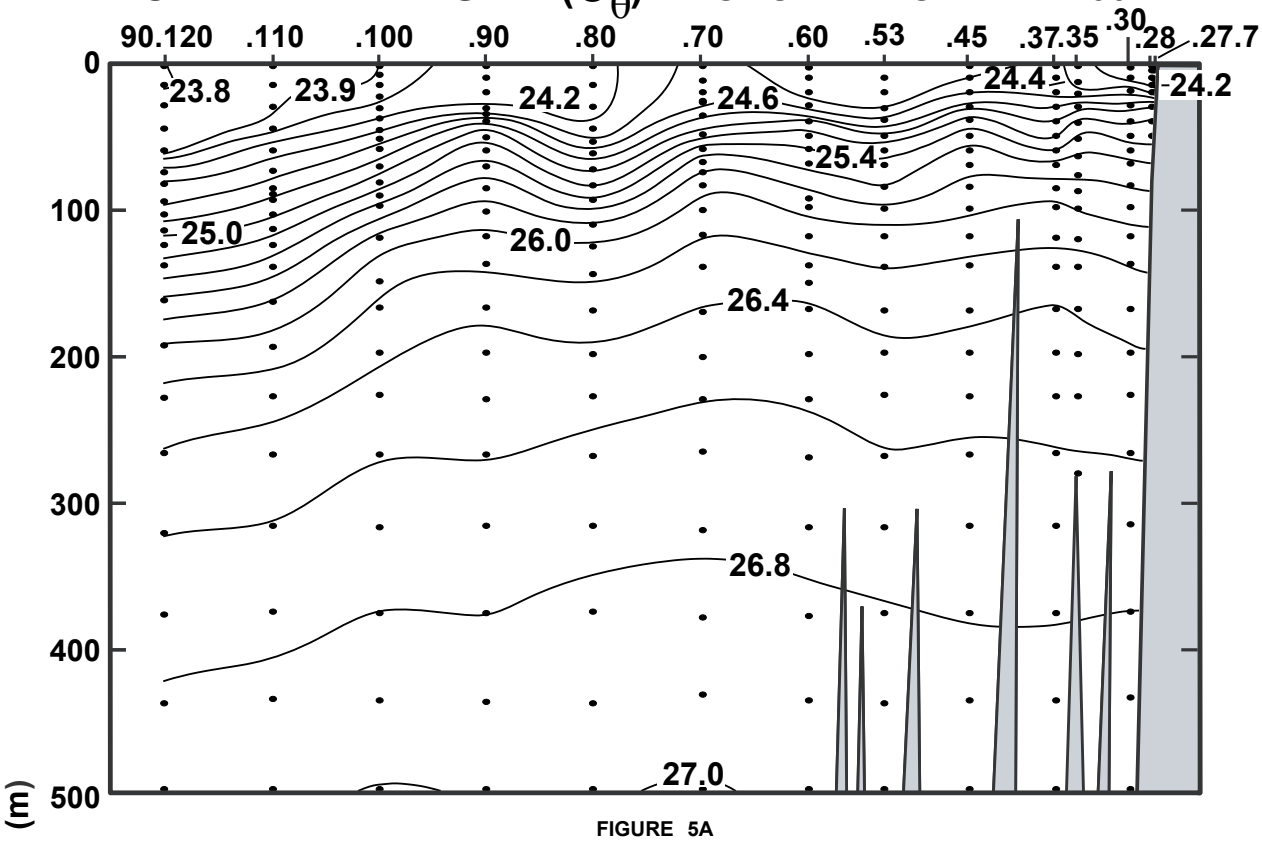


FIGURE 5A

TEMPERATURE (^{o}C) ALONG CALCOFI LINE 90

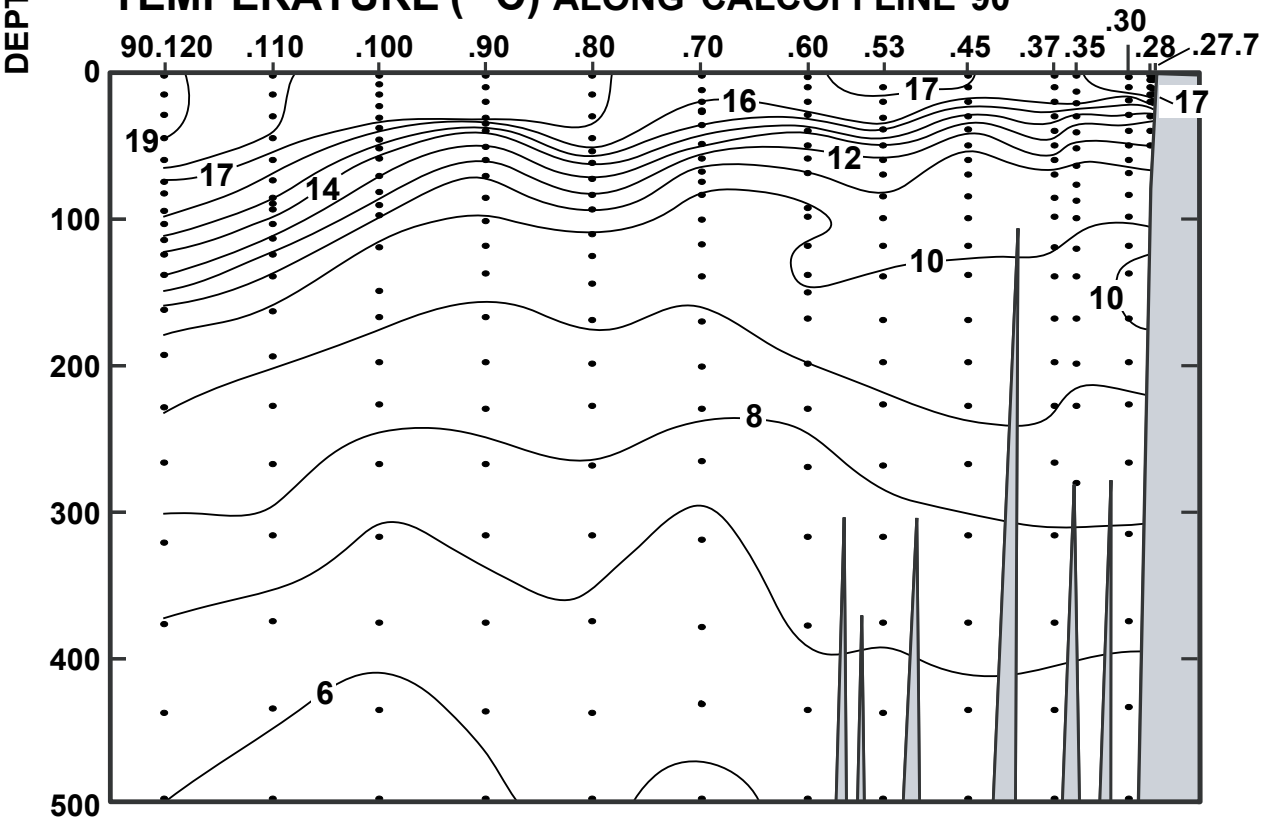


FIGURE 5B

CALCOFI CRUISE 0511

8 - 11 November 2005

SALINITY ALONG CALCOFI LINE 90

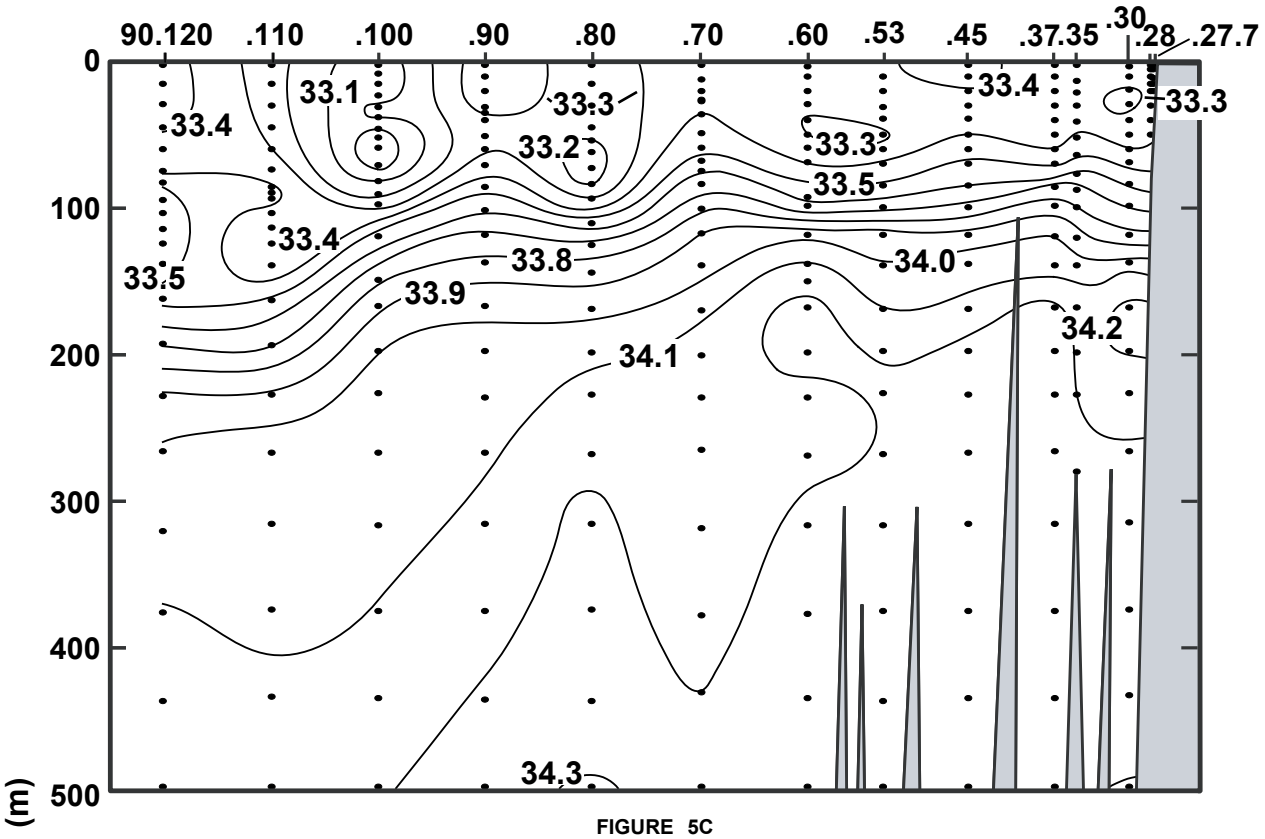


FIGURE 5C

SILICATE (μM/L) ALONG CALCOFI LINE 90

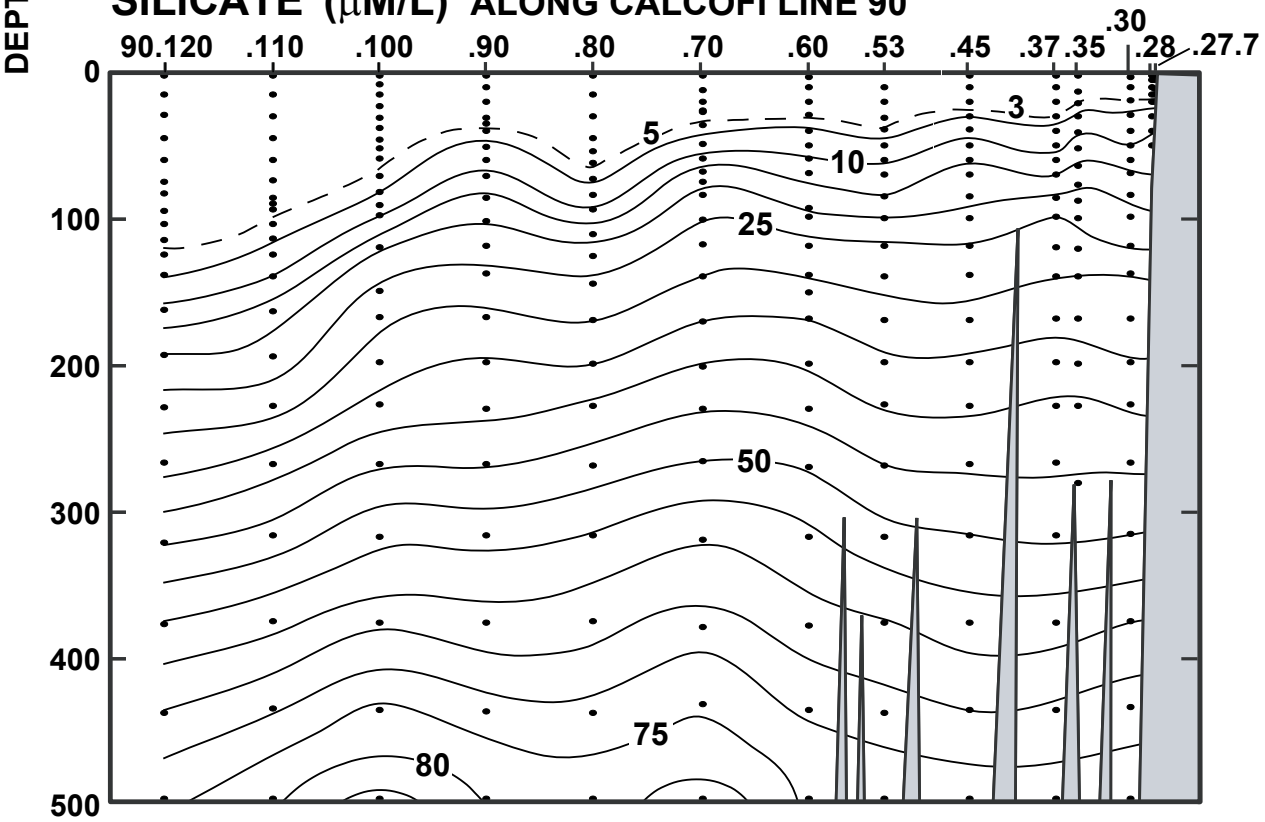


FIGURE 5D

CALCOFI CRUISE 0511

8 - 11 November 2005

NITRATE (μM/L) ALONG CALCOFI LINE 90

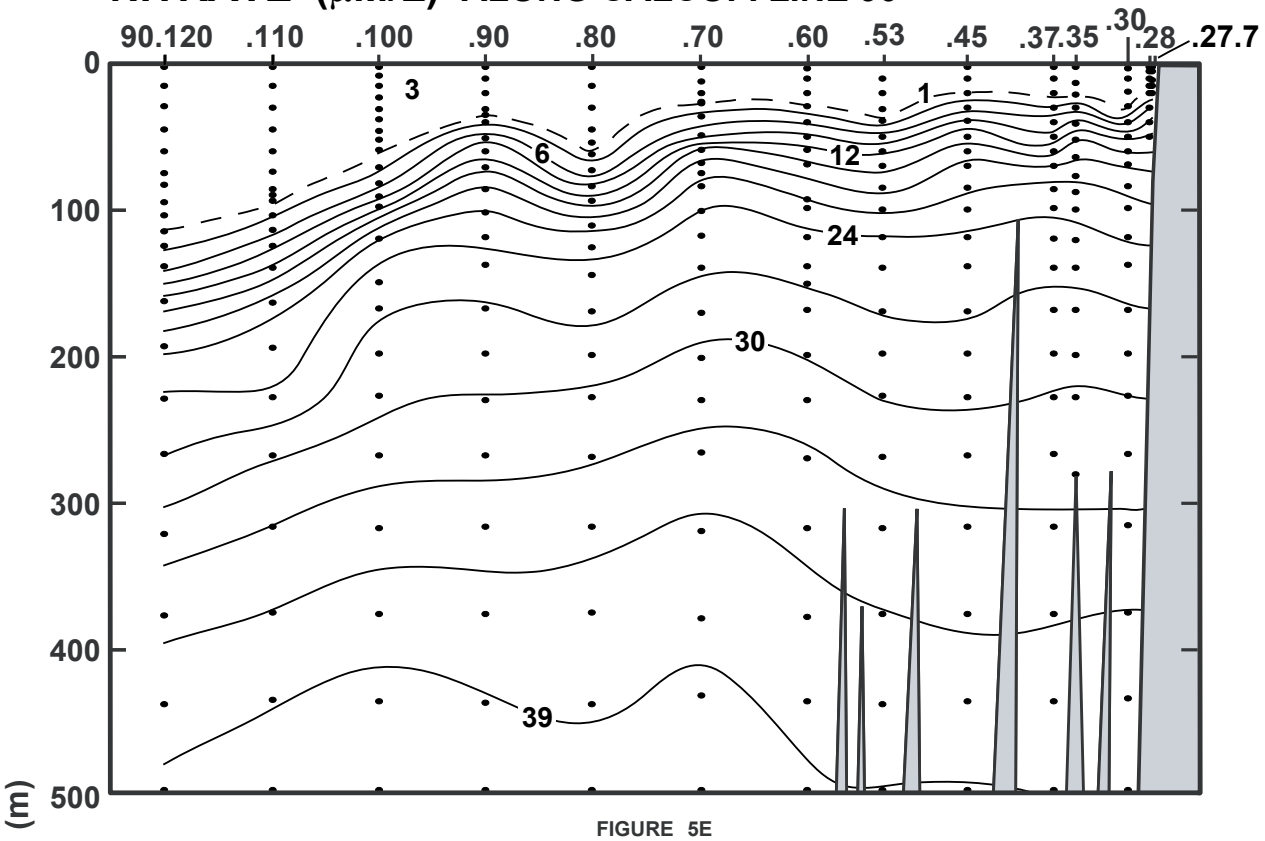


FIGURE 5E

PHOSPHATE (μM/L) ALONG CALCOFI LINE 90

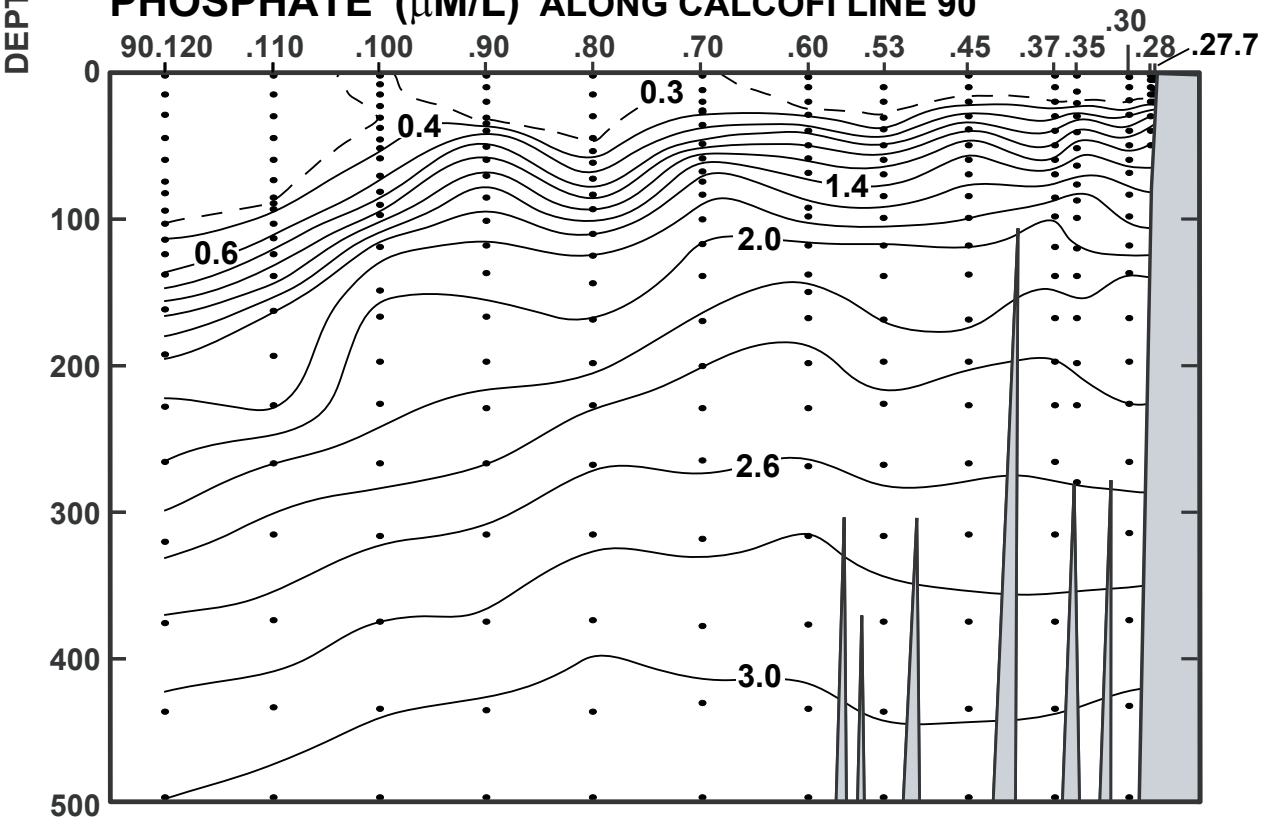


FIGURE 5F

CALCOFI CRUISE 0511

8 - 11 November 2005

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

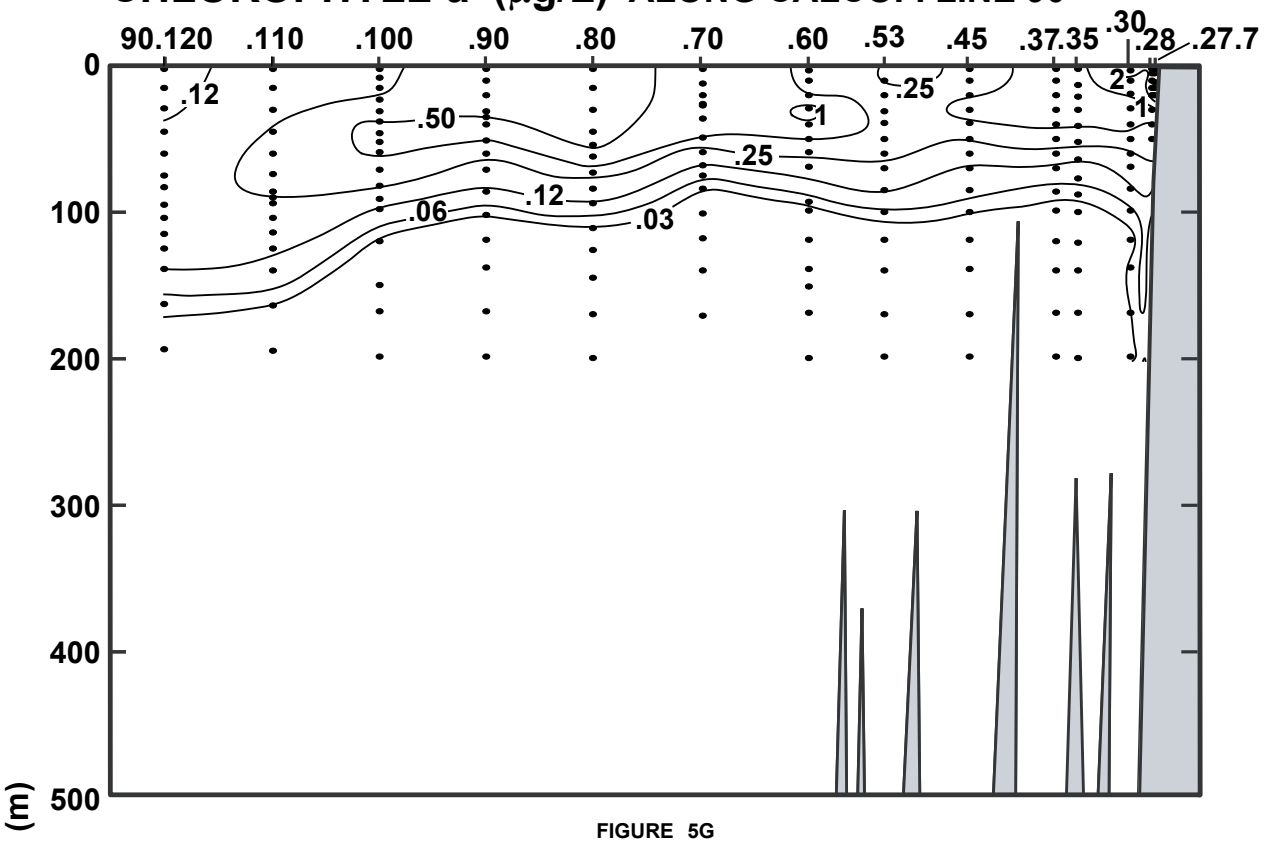


FIGURE 5G

OXYGEN SATURATION (%) ALONG CALCOFI LINE 90

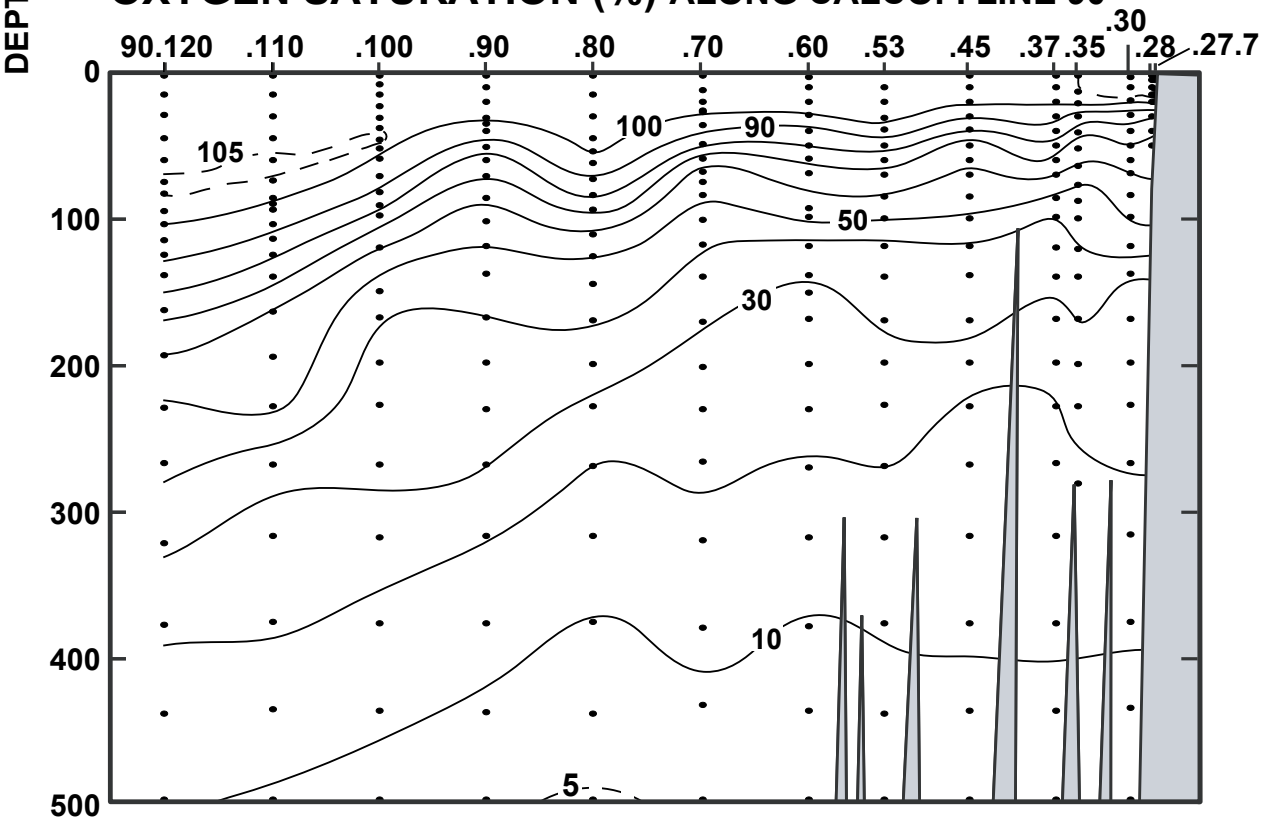


FIGURE 5H

CALCOFI CRUISE 0511

8 - 11 November 2005

OXYGEN (mL/L) ALONG CALCOFI LINE 90

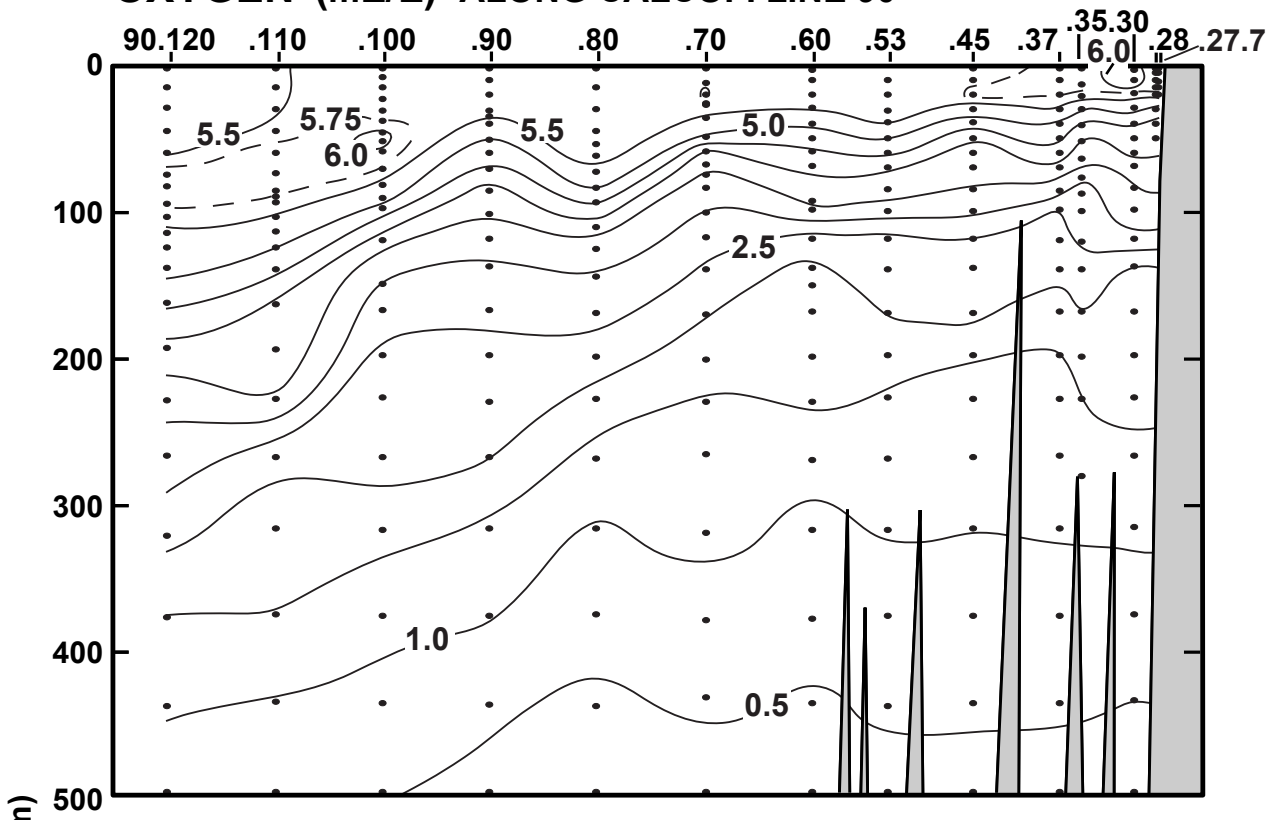


FIGURE 5I

NITRITE (μM/L) ALONG CALCOFI LINE 90

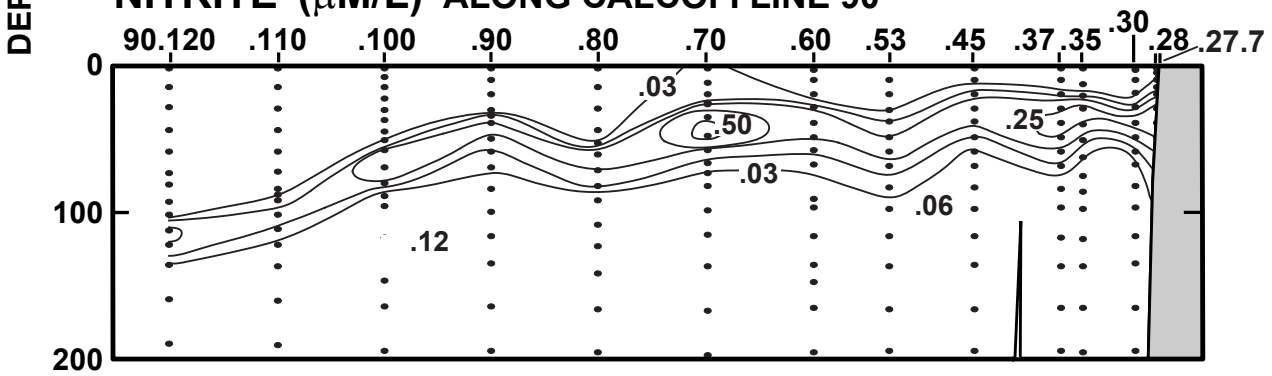


FIGURE 5J

PHAEOPIGMENTS (μg/L) ALONG CALCOFI LINE 90

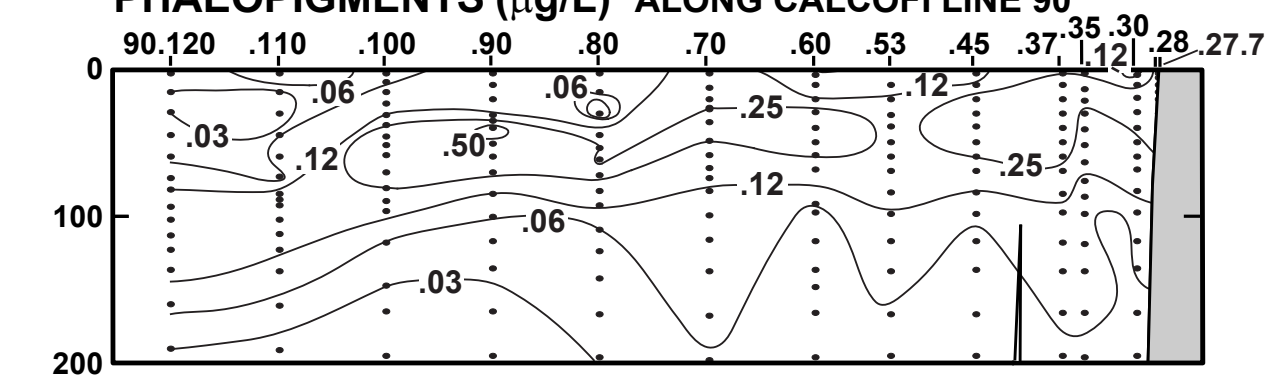


FIGURE 5K

PERSONNEL

CalCOFI Cruise 0511

SHIP'S CAPTAIN

John P. Manion, RV *New Horizon*

PERSONNEL PARTICIPATING IN THE COLLECTION OF DATA

		Participating (Legs)
Wolgast, David (Chief Scientist)	Staff Research Associate, SIO	1,2
Abremenkoff, Dimitry	Fishery Biologist, NMFS	1,2
Bowlin, Noelle M.	Fishery Biologist, NMFS	1,2
Camacho, Dominique	Marine Mammal Observer, Cascadia Research	1,2
Campbell, Gregory	Staff Research Associate, SIO	1,2
Claussen, Stephen	Marine Mammal Observer, Cascadia Research	1,2
Dovel, Shonna	Staff Research Associate, SIO	1,2
Gardener, David	Seabird Biologist, Pt. Reyes Bird Observatory	1,2
Goericke, Ralf	Professor	2
Hays, Amy E.	Fishery Biologist, NMFS	1,2
Munro, David	Graduate Student, Univ. Washington	1,2
Murdoch, Craig	Staff Research Associate, SIO	1,2
Ramirez, Fernando	Staff Research Associate, SIO	1,2
Rowland, Rebecca	Volunteer	1,2
Schuller, Daniel G.	Staff Research Associate, SIO	1,2
Sheldon, Jennifer L.	Staff Research Associate, SIO	1,2
Thombley, Robert	Staff Research Associate, SIO	1,2
Wilkinson, James R.	Programmer Analyst, SIO	1,2

Leg 1: San Diego to Dana Point, 4-10 November, 200
Leg 2: Dana Point to San Diego, 10-21 November, 2005

RV NEW HORIZON CALCOFI CRUISE 0511 STATION 77 49

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT TYPE
35 5.3 N	120 46.5 W	20/11/05	1116 UTC	70 m	120 06 kn			1017.0 mb	15.0 C	11.6 C		

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	14.72	14.72	33.387	24.790	314.8	0.000	6.39	110.6	5.6	0.29	0.0	0.02	17.51	0.83	0	
2	14.72	14.72	33.387	24.790	314.8	0.006	6.39	110.6	5.6	0.29	0.0	0.02	17.51 A	0.83 A	2	208
6	14.70	14.70	33.387	24.794	314.5	0.019	6.36	110.0	5.5	0.30	0.0	0.02	17.42	0.85	6	207
10	14.54	14.54	33.392	24.832	311.0	0.031	6.00	103.5	6.1	0.38	0.3	0.06	11.57	0.81	10	206
20	13.74	13.74	33.420	25.021	293.3	0.062	4.99	84.7	8.5	0.72	4.5	0.29	1.03	0.28	20	205
30	13.35	13.35	33.444	25.119	284.3	0.090	4.66	78.4	10.0	0.89	6.7	0.33	0.54	0.27	30	204
40	13.10	13.09	33.468	25.188	278.0	0.119	4.46	74.7	11.4	1.00	8.0	0.33	0.43	0.30	40	203
50 ISL	13.00	12.99	33.475	25.214	275.8	0.146	4.41	73.7	12.2	1.04	8.3	0.31	0.39	0.27	50	
51	12.99	12.98	33.476	25.216	275.6	0.149	4.40	73.5	12.3	1.04	8.3	0.31	0.38	0.27	51	202
62	12.16	12.15	33.554	25.438	254.7	0.178	3.69	60.6	17.0	1.41	13.0	0.31	0.22	0.44	62	201

A) SECOND FLUOROMETER READING RECALCULATED BECAUSE ACID RATIO > TAU OF PURE CHL-A.
CHLOROPHYLL AND PHAEOPIGMENT CALCULATED WITH ACID RATIO FROM ADJACENT SAMPLES.

RV NEW HORIZON CALCOFI CRUISE 0511 STATION 77 51

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT TYPE
35 1.6 N	120 55.6 W	20/11/05	0837 UTC	254 m	090 05 kn			1017.1 mb	15.6 C	12.5 C		

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	15.31	15.31	33.358	24.639	329.1	0.000	6.44	112.8	4.9	0.20	0.0	0.01	5.55	0.56	0	
1	15.31	15.31	33.358	24.639	329.1	0.003	6.44	112.8	4.9	0.20	0.0	0.01	5.55	0.56	1	217
10	15.24	15.24	33.360	24.657	327.8	0.033	6.31	110.4	5.0	0.22	0.0	0.02	7.98	0.73	10	216
15	14.67	14.67	33.375	24.792	315.1	0.049	5.68	98.2	5.9	0.38	0.2	0.10	7.79	0.42	15	215
20	13.77	13.77	33.396	24.996	295.7	0.064	4.79	81.3	8.1	0.73	4.7	0.39	0.55	0.21	20	214
30	12.21	12.21	33.476	25.367	260.6	0.092	3.89	63.9	13.2	1.26	12.8	0.20	0.14	0.16	30	213
41	11.83	11.82	33.519	25.472	250.9	0.120	3.58	58.4	15.2	1.42	15.0	0.12	0.12	0.16	41	212
50	11.38	11.37	33.588	25.609	238.0	0.142	3.31	53.5	17.8	1.58	17.4	0.10	0.09	0.17	50	211
60	10.92	10.91	33.686	25.768	223.1	0.165	2.84	45.5	21.6	1.80	20.2	0.07	0.06	0.15	60	210
70	10.73	10.72	33.752	25.854	215.2	0.187	2.57	41.0	24.2	1.92	21.6	0.22	0.06	0.25	70	209
75 ISL	10.59	10.58	33.791	25.909	210.1	0.198	2.44	38.8	25.5	1.98	22.5	0.21	0.05	0.24	75	
85	10.32	10.31	33.862	26.011	200.6	0.218	2.22	35.1	27.6	2.08	24.0	0.20	0.03	0.22	85	208
100	10.11	10.10	33.912	26.086	193.7	0.248	2.11	33.2	29.2	2.15	25.0	0.18	0.03	0.20	101	207
120	9.91	9.90	33.946	26.147	188.4	0.286	2.07	32.5	30.0	2.18	25.8	0.16	0.02	0.18	121	206
125 ISL	9.85	9.84	33.948	26.159	187.4	0.295	2.08	32.6	30.3	2.19	26.0	0.15	0.02	0.17	126	
140	9.66	9.64	33.955	26.196	184.1	0.323	2.10	32.8	31.4	2.20	26.5	0.11	0.02	0.14	141	205
150 ISL	9.51	9.49	33.969	26.232	180.9	0.342	2.09	32.5	31.8	2.20	26.9	0.10	0.02	0.13	151	
171	9.20	9.18	34.009	26.313	173.4	0.379	2.08	32.1	32.9	2.22	27.9	0.09	0.01	0.10	172	204
200	8.84	8.82	34.064	26.414	164.4	0.428	1.91	29.3	36.3	2.30	29.5	0.08	0.01	0.07	201	203
229	8.30	8.28	34.111	26.535	153.3	0.474	1.59	24.1	43.4	2.48	31.5	0.15			230	202
245	8.05	8.03	34.129	26.586	148.5	0.498	1.43	21.5	47.4	2.57	32.3	0.16			247	201

RV NEW HORIZON CALCOFI CRUISE 0511 STATION 77 55

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT TYPE
34 53.5 N	121 11.7 W	20/11/05	0507 UTC	564 m	310 08 kn			1016.8 mb	15.5 C	14.8 C		

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	14.12	14.12	33.315	24.861	308.0	0.000	6.63	113.3	6.1	0.44	0.8	0.07	4.70	0.57	0	
2	14.12	14.12	33.315	24.861	308.1	0.006	6.63	113.3	6.1	0.44	0.8	0.07	4.70	0.57	2	221
10	13.73	13.73	33.323	24.948	300.0	0.030	6.40	108.5	6.4	0.43	1.5	0.12	4.94	0.56	10	220
15	13.66	13.66	33.332	24.969	298.1	0.045	6.39	108.2	6.5	0.43	1.5	0.12	3.97	0.56	15	219
20 ISL	13.47	13.47	33.337	25.012	294.2	0.060	6.12	103.2	6.8	0.49	2.4	0.15	2.98	0.54	20	
21	13.42	13.42	33.338	25.023	293.2	0.063	6.05	101.9	6.9	0.51	2.7	0.16	2.78	0.54	21	218
30	12.90	12.90	33.368	25.150	281.3	0.089	5.41	90.2	8.9	0.76	6.4	0.24	0.85	0.33	30	217
40	12.10	12.09	33.451	25.369	260.7	0.116	4.72	77.4	12.5	1.07	11.0	0.30	0.44	0.22	40	216
50	11.56	11.55	33.497	25.505	247.9	0.142	4.24	68.8	14.7	1.29	14.5	0.25	0.18	0.14	50	215
59	11.47	11.46	33.497	25.522	246.5	0.164	4.18	67.6	14.9	1.32	15.0	0.22	0.15	0.15	59	214
70	11.42	11.41	33.494	25.529	246.1	0.191	4.17	67.4	14.8	1.33	15.1	0.22	0.15	0.16	70	213
75 ISL	11.14	11.13	33.498	25.583	241.1	0.203	4.06	65.2	15.3	1.39	16.1	0.19	0.13	0.14	75	
85	10.48	10.47	33.526	25.721	228.1	0.227	3.76	59.6	17.0	1.55	18.7	0.12	0.08	0.10	85	212
99	9.94	9.93	33.615	25.883	212.9	0.257	3.35	52.5	20.4	1.73	21.6	0.09	0.05	0.09	100	211
100 ISL	9.90	9.89	33.627	25.899	211.4	0.260	3.31	51.8	20.8	1.75	21.8	0.09	0.05	0.09	101	
120	9.28	9.27	33.868	26.189	184.2	0.299	2.60	40.2	27.7	2.02	26.0	0.07	0.03	0.09	121	210
125 ISL	9.28	9.27	33.905	26.219	181.5	0.308	2.50	38.7	28.6	2.06	26.4	0.07	0.03	0.08	126	
139	9.28	9.26	33.958	26.260	177.9	0.333	2.31	35.7	30.2	2.13	26.9	0.08	0.03	0.07	140	209
150 ISL	9.25	9.23	33.994	26.293	174.9	0.353	2.17	33.5	31.6	2.18	27.4	0.07	0.03	0.07	151	
169	9.16	9.14	34.036	26.341	170.8	0.386	2.00	30.9	33.8	2.24	28.1	0.05	0.02	0.08	170	208
199	8.91	8.89	34.063	26.402	165.5	0.436	1.88	28.9	36.1	2.30	29.1	0.05	0.03	0.08	200	207
200 ISL	8.88	8.86	34.063	26.407	165.0	0.438	1.89	29.0	36.2	2.30	29.1	0.05			201	
228	8.11	8.09	34.058	26.521	154.4	0.482	2.10	31.7	39.7	2.28	30.6	0.06			229	206
250 ISL	7.72	7.70	34.068	26.587	148.4	0.516	1.96	29.3	44.1	2.38	32.1	0.05			252	
268	7.49	7.46	34.078	26.628	144.7	0.542	1.77	26.3	47.7	2.48	33.3	0.04			270	205
300 ISL	7.22	7.19	34.084	26.671	141.0	0.588	1.62	23.9	51.1	2.56	34.5	0.04			302	
318	7.11	7.08	34.088	26.690	139.4	0.613	1.54	22.7	52.6	2.59	34.9	0.04			320	204
379	6.78	6.74	34.129	26.768	132.8	0.696	1.15	16.8	59.3	2.76	36.5	0.04			382	203
400 ISL	6.54	6.50	34.135	26.804	129.4	0.724	1.03	15.0	63.1	2.83	37.5	0.04			403	
437	6.13	6.09	34.152	26.871	123.2	0.770	0.82	11.8	70.0	2.94	39.1	0.04			440	202
500 ISL	5.91	5.87	34.227	26.959	115.6	0.846	0.49	7.0	78.2	3.08	40.0	0.04			504	
513	5.87	5.83	34.243	26.976	114.1	0.861	0.42	6.0	79.9	3.11	40.2	0.04			517	201

RV NEW HORIZON CALCOFI CRUISE 0511 STATION 77 60

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
34 43.5 N	121 32.8 W	20/11/05	0058 UTC	915 m	300 05 kn	320 03 06	0	1016.0 mb	16.8 C	15.6 C		0/8	

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	14.82	14.82	33.208	24.630	330.0	0.000	6.02	104.3	3.0	0.39	1.4	0.10	0.89	0.24	0	
2	14.82	14.82	33.208	24.630	330.0	0.007	6.02	104.3	3.0	0.39	1.4	0.10	0.89	0.24	2	222
10 ISL	14.62	14.62	33.218	24.681	325.4	0.033	6.21	107.2	3.2	0.37	1.1	0.09	1.80	0.38	10	
11	14.60	14.60	33.219	24.686	325.0	0.036	6.22	107.3	3.2	0.37	1.1	0.09	1.86	0.41	11	221
15	14.17	14.17	33.267	24.814	312.9	0.049	5.99	102.4	3.9	0.44	2.0	0.17	1.22	0.48	15	220
20	14.07	14.07	33.279	24.844	310.2	0.064	6.01	102.6	3.9	0.43	1.7	0.15	1.18	0.46	20	219
25	13.98	13.98	33.304	24.882	306.7	0.080	5.82	99.2	4.2	0.47	1.7	0.15	0.73	0.35	25	218
30 ISL	13.90	13.90	33.307	24.901	305.0	0.095	5.88	100.0	4.6	0.49	1.9	0.16	0.62	0.29	30	
31	13.88	13.88	33.307	24.905	304.7	0.098	5.90	100.3	4.7	0.49	1.9	0.16	0.61	0.28	31	217
40	13.72	13.71	33.354	24.975	298.3	0.125	5.80	98.3	5.4	0.51	1.7	0.15	0.38	0.21	40	216
50	12.79	12.78	33.366	25.170	279.9	0.154	5.02	83.5	8.7	0.88	8.3	0.37	0.25	0.23	50	215
59	11.59	11.58	33.487	25.492	249.4	0.178	3.88	62.9	14.2	1.36	15.3	0.05	0.12	0.20	59	214
69	11.27	11.26	33.534	25.588	240.6	0.203	3.63	58.5	16.0	1.48	17.1	0.03	0.12	0.14	69	213
75 ISL	10.94	10.93	33.579	25.682	231.7	0.217	3.38	54.1	17.8	1.60	18.8	0.02	0.10	0.14	75	
84	10.45	10.44	33.666	25.836	217.2	0.237	2.98	47.2	21.0	1.80	21.5	0.02	0.06	0.13	84	212
99	10.12	10.11	33.846	26.033	198.8	0.268	2.43	38.3	25.9	2.02	24.3	0.02	0.04	0.10	100	211
100 ISL	10.11	10.10	33.852	26.039	198.2	0.270	2.41	37.9	26.1	2.03	24.4	0.02	0.04	0.10	101	
119	10.01	10.00	33.926	26.114	191.5	0.307	2.22	34.9	27.8	2.10	25.2	0.02	0.03	0.10	120	210
125 ISL	9.96	9.95	33.951	26.142	188.9	0.319	2.16	33.9	28.4	2.12	25.5	0.02	0.03	0.10	126	
138	9.83	9.81	33.995	26.199	183.8	0.343	2.08	32.6	29.4	2.16	26.2	0.02	0.03	0.09	139	209
150 ISL	9.63	9.61	33.993	26.231	181.0	0.365	2.16	33.7	29.7	2.15	26.5	0.02	0.03	0.08	151	
169	9.28	9.26	33.987	26.283	176.3	0.399	2.27	35.1	30.6	2.13	27.1	0.02	0.02	0.07	170	208
199	8.78	8.76	34.096	26.449	161.0	0.449	1.90	29.1	36.6	2.29	29.5	0.03	0.01	0.05	200	207
200 ISL	8.77	8.75	34.098	26.452	160.8	0.451	1.89	28.9	36.7	2.29	29.5	0.03			201	
229	8.63	8.61	34.124	26.494	157.2	0.497	1.71	26.1	39.1	2.36	30.4	0.04			230	206
250 ISL	8.43	8.40	34.134	26.533	153.9	0.530	1.62	24.6	41.5	2.42	31.1	0.03			252	
268	8.24	8.21	34.139	26.566	151.0	0.557	1.55	23.4	43.8	2.47	31.7	0.02			270	205
300 ISL	7.96	7.93	34.141	26.610	147.3	0.605	1.46	21.9	47.1	2.54	32.7	0.01			302	
318	7.78	7.75	34.140	26.636	145.0	0.631	1.40	20.9	49.4	2.58	33.4	0.01			320	204
377	6.78	6.75	34.144	26.779	131.6	0.713	1.04	15.2	62.1	2.81	36.4	0.01			379	203
400 ISL	6.59	6.55	34.160	26.818	128.2	0.743	0.91	13.2	65.3	2.87	37.2	0.01			403	
437	6.40	6.36	34.190	26.867	124.0	0.789	0.73	10.6	69.4	2.96	38.2	0.01			440	202
500 ISL	6.04	6.00	34.221	26.938	117.7	0.865	0.53	7.6	76.7	3.07	39.4	0.01			503	
513	5.97	5.93	34.228	26.952	116.5	0.881	0.49	7.0	78.2	3.09	39.7	0.01			517	201

RV NEW HORIZON CALCOFI CRUISE 0511 STATION 77 70

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
34 23.2 N	122 14.8 W	19/11/05	1850 UTC	4024 m	010 06 kn	350 02 07	1	1018.2 mb	17.4 C	16.0 C	14m	2/8	CS

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	15.20	15.20	33.217	24.555	337.2	0.000	5.94	103.7	2.8	0.35	0.6	0.06	0.74	0.18	0	
2 A	15.20	15.20	33.217	24.555	337.2	0.007	5.94	103.7	2.8	0.35	0.6	0.06	0.74	0.18	2	224
10 ISL	15.08	15.08	33.210	24.576	335.4	0.034	5.95	103.6	2.5	0.35	0.6	0.07	0.78	0.20	10	
11 A	15.06	15.06	33.209	24.580	335.1	0.037	5.95	103.6	2.5	0.35	0.6	0.07	0.79	0.20	11	222
11	15.06	15.06	33.209	24.580	335.1	0.037	5.95	103.6	2.6	0.35	0.6	0.07	0.79	0.19	11	223
20	14.99	14.99	33.203	24.590	334.4	0.067	5.90	102.6	2.6	0.36	0.8	0.09	0.78	0.27	20	221
21 A	14.99	14.99	33.203	24.590	334.4	0.070	5.91	102.7	2.4	0.36	0.7	0.09	0.81	0.27	21	220
30 A	14.92	14.92	33.189	24.595	334.2	0.101	5.84	101.4	2.4	0.40	1.1	0.14	0.68	0.26	30	219
39 A	14.78	14.77	33.186	24.623	331.8	0.131	5.76	99.7	2.3	0.43	1.4	0.19	0.47	0.26	39	217
39	14.77	14.76	33.191	24.629	331.3	0.131	5.76	99.7	2.3	0.43	1.3	0.18	0.50	0.25	39	218
48	12.48	12.47	33.025	24.966	299.2	0.159	5.42	89.4	5.0	0.78	6.2	0.30	0.33	0.28	48	216
50 ISL	12.20	12.19	33.000	25.000	296.0	0.165	5.40	88.5	5.4	0.82	6.9	0.25	0.32	0.28	50	
56 A	11.79	11.78	33.006	25.082	288.4	0.182	5.27	85.6	6.3	0.92	8.6	0.08	0.29	0.26	56	215
63	12.07	12.06	33.267	25.232	274.3	0.202	4.78	78.2	7.6	1.02	10.5	0.05	0.17	0.17	63	214
68	11.66	11.65	33.266	25.308	267.1	0.216	4.69	76.1	8.4	1.11	12.2	0.04	0.14	0.15	68	213
75 ISL	11.17	11.16	33.299	25.423	256.3	0.234	4.50	72.3	10.1	1.24	14.4	0.04	0.12	0.14	75	
85	10.57	10.56	33.372	25.586	241.0	0.259	4.22	66.9	13.1	1.41	17.1	0.04	0.10	0.13	85	212
100	9.82	9.81	33.478	25.796	221.2	0.293	3.90	60.9	17.3	1.61	20.5	0.04	0.05	0.06	100	211
125 ISL	9.13	9.12	33.719	26.097	193.0	0.345	3.20	49.3	24.4	1.88	24.8	0.03	0.01	0.03	126	
128	9.08	9.07	33.747	26.127	190.2	0.351	3.12	48.0	25.2	1.91	25.2	0.03	0.01	0.03	129	210
139	8.94	8.93	33.823	26.209	182.6	0.371	2.88	44.2	27.6	1.98	26.5	0.03	0.01	0.03	140	209
150 ISL	8.81	8.79	33.881	26.275	176.6	0.391	2.74	41.9	29.3	2.02	27.3	0.03	0.01	0.03	151	
170	8.57	8.55	33.959	26.373	167.5	0.426	2.56	39.0	32.2	2.09	28.3	0.03	0.00	0.03	171	208
199	8.14	8.12	34.036	26.499	156.0	0.473	2.26	34.1	38.1	2.22	30.4	0.03	0.00	0.02	200	207
200 ISL	8.12	8.10	34.037	26.503	155.6	0.474	2.25	33.9	38.3	2.22	30.5	0.03			201	
228	7.68	7.66	34.052	26.580	148.6	0.517	2.01	30.0	43.5	2.36	32.2	0.03			229	206
250 ISL	7.40	7.38	34.060	26.626	144.5	0.549	1.82	27.0	47.2	2.45	33.4	0.03			251	
267	7.20	7.17	34.066	26.659	141.5	0.573	1.69	24.9	49.9	2.52	34.3	0.03			269	205
300 ISL	6.83	6.80	34.079	26.720	136.0	0.619	1.47	21.5	54.9	2.64	35.7	0.03			302	
317	6.66	6.63	34.085	26.748	133.5	0.642	1.37	20.0	57.4	2.69	36.3	0.03			319	204
377	6.12	6.09	34.107	26.836	125.7	0.720	1.06	15.3	66.6	2.86	38.4	0.02			379	203
400 ISL	5.96	5.93	34.124	26.870	122.7	0.748	0.91	13.0	70.1	2.92	39.1	0.02			403	
437	5.76	5.72	34.157	26.921	118.1	0.793	0.69	9.8	75.5	3.01	40.2	0.02			440	202
500 ISL	5.51	5.47	34.212	26.996	111.7	0.865	0.46	6.5	82.8	3.13	41.3	0.02			503	
511	5.47	5.43	34.222	27.009	110.5	0.877	0.42	6.0	84.1	3.15	41.5	0.02			515	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV NEW HORIZON CALCOFI CRUISE 0511 STATION 77 80

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT TYPE
34 3.5 N	122 56.6 W	19/11/05	1242 UTC	4234 m	050 09 kn			1017.4 mb	16.6 C	14.9 C		

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	15.91	15.91	33.245	24.419	350.1	0.000	5.78	102.4	2.1	0.31	0.0	0.01	0.70	0.19	0	
2	15.91	15.91	33.245	24.419	350.2	0.007	5.78	102.4	2.1	0.31	0.0	0.01	0.70	0.19	2	220
10	15.91	15.91	33.247	24.421	350.2	0.035	5.78	102.4	2.0	0.30	0.0	0.01	0.58	0.17	10	219
20	15.80	15.80	33.241	24.441	348.6	0.070	5.75	101.6	1.9	0.32	0.2	0.02	0.66	0.21	20	218
30	15.76	15.76	33.238	24.448	348.2	0.105	5.72	101.0	1.9	0.33	0.3	0.04	0.55	0.26	30	217
40	15.76	15.75	33.238	24.449	348.5	0.140	5.71	100.8	1.7	0.33	0.3	0.04	0.54	0.25	40	216
50	14.49	14.48	33.209	24.703	324.5	0.173	5.56	95.7	2.6	0.53	2.5	0.37	0.44	0.37	50	215
60	13.49	13.48	33.232	24.928	303.3	0.205	5.35	90.2	3.7	0.72	5.4	0.46	0.41	0.29	60	214
70	11.96	11.95	33.257	25.245	273.2	0.234	4.81	78.5	7.5	1.05	11.1	0.05	0.16	0.18	70	213
75 ISL	11.29	11.28	33.311	25.411	257.5	0.247	4.51	72.6	10.2	1.22	14.0	0.04	0.10	0.13	75	
85	10.24	10.23	33.452	25.705	229.6	0.271	3.94	62.1	15.6	1.54	19.0	0.03	0.05	0.07	85	212
100	9.55	9.54	33.640	25.967	204.9	0.304	3.37	52.3	21.5	1.85	23.1	0.03	0.02	0.05	100	211
120	9.10	9.09	33.800	26.165	186.4	0.343	2.98	45.9	26.2	1.94	25.4	0.03	0.01	0.03	121	210
125 ISL	9.01	9.00	33.830	26.203	182.9	0.352	2.93	45.0	27.0	1.96	25.8	0.03	0.01	0.03	126	
139	8.81	8.80	33.897	26.287	175.2	0.377	2.80	42.8	29.0	2.02	26.8	0.03	0.00	0.03	140	209
150 ISL	8.68	8.66	33.935	26.337	170.6	0.396	2.67	40.7	30.6	2.07	27.6	0.03	0.00	0.03	151	
169	8.48	8.46	33.983	26.406	164.4	0.428	2.45	37.2	33.3	2.14	28.9	0.03	0.00	0.03	170	208
199	8.11	8.09	34.033	26.501	155.8	0.476	2.23	33.6	38.1	2.25	30.6	0.03	0.00	0.02	200	207
200 ISL	8.09	8.07	34.034	26.505	155.4	0.478	2.22	33.4	38.3	2.25	30.6	0.03			201	
229	7.65	7.63	34.051	26.583	148.3	0.522	2.05	30.6	43.7	2.36	32.0	0.03			230	206
250 ISL	7.40	7.38	34.068	26.632	143.9	0.552	1.80	26.7	47.7	2.48	33.3	0.03			251	
269	7.21	7.18	34.082	26.670	140.5	0.579	1.58	23.3	51.1	2.58	34.5	0.03			271	205
300 ISL	6.92	6.89	34.091	26.718	136.4	0.622	1.41	20.7	54.8	2.65	35.6	0.03			302	
318	6.77	6.74	34.096	26.742	134.2	0.647	1.34	19.6	56.7	2.68	36.1	0.03			320	204
378	6.40	6.37	34.152	26.836	126.0	0.725	0.90	13.0	65.1	2.90	38.0	0.03			380	203
400 ISL	6.21	6.17	34.159	26.866	123.3	0.752	0.79	11.4	68.4	2.96	38.8	0.03			403	
439	5.88	5.84	34.170	26.917	118.7	0.799	0.64	9.2	74.3	3.04	40.1	0.03			442	202
500 ISL	5.52	5.48	34.221	27.002	111.1	0.869	0.42	6.0	83.5	3.16	41.4	0.03			503	
512	5.45	5.41	34.231	27.018	109.6	0.883	0.38	5.4	85.3	3.18	41.6	0.03			516	201

RV NEW HORIZON CALCOFI CRUISE 0511 STATION 77 90

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT TYPE
33 43.4 N	123 38.0 W	19/11/05	0648 UTC	4241 m	020 10 kn			1019.1 mb	16.8 C	15.3 C		

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	16.57	16.57	32.998	24.079	382.5	0.000			1.9	0.33	0.0	0.00	0.27	0.11	0	
1 A	16.57	16.57	32.998	24.079	382.5	0.004			1.9	0.33	0.0	0.00	0.27	0.11	1	221
10 ISL	16.58	16.58	32.995	24.075	383.2	0.038	5.71	102.3	1.8	0.32	0.0	0.00	0.27	0.10	10	
15	16.58	16.58	32.995	24.075	383.4	0.057	5.71	102.3	1.7	0.31	0.0	0.00	0.27	0.10	15	220
20 ISL	16.56	16.56	32.996	24.081	383.0	0.077	5.72	102.5	1.6	0.31	0.0	0.00	0.27	0.10	20	
30	16.52	16.52	32.996	24.090	382.4	0.115	5.73	102.6	1.5	0.31	0.0	0.00	0.28	0.11	30	219
45	16.50	16.49	32.989	24.090	382.9	0.172	5.71	102.2	1.5	0.31	0.0	0.00	0.34	0.15	45	218
50 ISL	16.08	16.07	32.985	24.183	374.2	0.191	5.81	103.1	1.6	0.34	0.3	0.04	0.44	0.27	50	
55	15.41	15.40	32.979	24.328	360.5	0.210	5.89	103.1	1.7	0.41	0.7	0.08	0.52	0.37	55	217
60	14.41	14.40	32.970	24.536	340.7	0.227	5.88	100.9	2.0	0.55	2.3	0.35	0.49	0.38	60	216
64	13.55	13.54	32.907	24.664	328.5	0.240	5.87	98.9	2.7	0.58	2.6	0.53	0.40	0.32	64	215
75	12.73	12.72	32.978	24.882	307.9	0.275	5.81	96.3	2.7	0.52	2.1	0.09	0.21	0.21	75	214
85	11.98	11.97	33.069	25.096	287.7	0.305	5.46	89.1	4.1	0.70	5.1	0.03	0.11	0.13	85	213
95	10.90	10.89	33.155	25.359	262.8	0.333	5.15	82.1	6.6	0.90	9.3	0.02	0.06	0.09	95	212
100 ISL	10.52	10.51	33.208	25.467	252.6	0.346	4.85	76.7	9.1	1.08	12.3	0.02	0.05	0.08	100	
110	9.95	9.94	33.326	25.656	234.7	0.370	4.22	66.0	14.7	1.45	18.1	0.02	0.04	0.07	110	211
125	9.33	9.32	33.531	25.918	210.0	0.403	3.63	56.1	20.7	1.74	22.6	0.02	0.02	0.04	126	210
145	8.99	8.97	33.659	26.073	195.7	0.444	3.41	52.3	23.4	1.81	24.1	0.02	0.01	0.02	146	209
150 ISL	8.91	8.89	33.706	26.122	191.1	0.454	3.30	50.5	24.6	1.85	24.7	0.02	0.01	0.02	151	
169	8.63	8.61	33.870	26.294	175.0	0.488	2.97	45.2	29.2	1.97	26.7	0.02	0.00	0.03	170	208
200	8.35	8.33	33.958	26.406	164.8	0.541	3.21	48.6	31.1	1.90	26.2	0.02	0.00	0.02	201	207
229	7.91	7.89	33.990	26.498	156.6	0.588	3.11	46.6	36.1	1.96	27.6	0.02			230	206
250 ISL	7.66	7.64	34.015	26.554	151.5	0.620	2.62	39.1	41.1	2.15	30.1	0.02			251	
270	7.45	7.42	34.038	26.602	147.1	0.650	2.09	31.0	46.0	2.35	32.6	0.02			272	205
300 ISL	7.17	7.14	34.074	26.670	141.0	0.693	1.65	24.3	51.4	2.54	34.5	0.02			302	
318	7.02	6.99	34.093	26.706	137.8	0.718	1.47	21.6	54.2	2.62	35.3	0.02			320	204
376	6.52	6.49	34.132	26.804	129.0	0.796	1.02	14.8	62.7	2.80	37.5	0.01			378	203
400 ISL	6.34	6.30	34.150	26.842	125.6	0.826	0.86	12.4	66.4	2.88	38.4	0.01			403	
437	6.08	6.04	34.179	26.899	120.6	0.872	0.66	9.5	72.0	2.99	39.6	0.01			440	202
500 ISL	5.75	5.71	34.227	26.979	113.6	0.945	0.46	6.6	80.5	3.10	40.8	0.01			503	
511	5.69	5.65	34.235	26.992	112.3	0.958	0.42	6.0	82.0	3.12	41.0	0.01			514	201

A)SURFACE SAMPLE FROM BUCKET RATHER THAN ROSETTE BOTTLE.

RV NEW HORIZON CALCOFI CRUISE 0511 STATION 77 100

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
33 23.1 N	124 19.4 W	19/11/05	0048	UTC	4574 m	200	13 kn	360 03 06	1	1018.2 mb	17.4 C	16.2 C		4/8	AS

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	17.73	17.73	33.139	23.914	398.3	0.000	5.53	101.4	2.1	0.29	0.0	0.00	0.16	0.05	0	
2	17.73	17.73	33.139	23.914	398.3	0.008	5.53	101.4	2.1	0.29	0.0	0.00	0.16	0.05	2	222
2	17.73	17.73	33.137	23.912	398.5	0.008									2	221
10	17.71	17.71	33.141	23.920	398.0	0.040	5.54	101.6	2.0	0.28	0.0	0.00	0.15	0.04	10	220
15	17.66	17.66	33.136	23.929	397.3	0.060	5.55	101.7	2.0	0.28	0.0	0.00	0.14	0.05	15	219
20 ISL	17.66	17.66	33.136	23.929	397.5	0.080	5.55	101.7	2.0	0.28	0.0	0.00	0.14	0.05	20	
30	17.65	17.64	33.135	23.931	397.6	0.119	5.54	101.4	1.9	0.29	0.0	0.00	0.15	0.05	30	218
45	17.64	17.63	33.135	23.934	397.9	0.179	5.54	101.4	1.9	0.28	0.0	0.00	0.17	0.05	45	217
50 ISL	17.64	17.63	33.135	23.934	398.0	0.199	5.54	101.4	1.9	0.28	0.0	0.00	0.17	0.05	50	
55	17.64	17.63	33.135	23.935	398.2	0.219	5.54	101.4	1.9	0.28	0.0	0.00	0.17	0.05	55	216
64	17.61	17.60	33.135	23.942	397.7	0.255	5.54	101.4	1.8	0.28	0.0	0.00	0.19	0.06	64	215
74	14.48	14.47	33.057	24.589	336.1	0.291	6.00	103.1	2.1	0.34	0.0	0.01	0.32	0.26	74	214
75 ISL	14.33	14.32	33.061	24.623	332.8	0.295	6.00	102.8	2.1	0.35	0.0	0.04	0.32	0.26	75	
84	13.56	13.55	33.114	24.823	313.9	0.324	5.80	97.8	2.5	0.41	0.5	0.24	0.32	0.28	84	213
94	12.94	12.93	33.158	24.981	299.1	0.354	5.55	92.5	3.4	0.52	2.3	0.11	0.18	0.23	94	212
100 ISL	12.47	12.46	33.212	25.114	286.5	0.372	5.38	88.8	4.3	0.62	4.2	0.06	0.13	0.19	100	
110	11.61	11.60	33.300	25.344	264.7	0.400	5.05	81.9	6.6	0.83	8.2	0.02	0.09	0.12	110	211
125	10.30	10.29	33.340	25.608	239.7	0.437	4.46	70.3	12.6	1.26	15.2	0.02	0.05	0.07	126	210
145	9.47	9.45	33.513	25.881	213.9	0.483	3.99	61.8	18.6	1.57	20.0	0.01	0.01	0.03	146	209
150 ISL	9.35	9.33	33.557	25.935	208.9	0.493	3.87	59.8	19.9	1.62	20.9	0.01	0.01	0.03	151	
171	9.00	8.98	33.732	26.128	190.9	0.535	3.41	52.3	24.7	1.79	23.8	0.01	0.00	0.02	172	208
199	8.65	8.63	33.914	26.326	172.6	0.586	3.00	45.7	30.0	1.93	26.3	0.01	0.00	0.02	200	207
200 ISL	8.64	8.62	33.919	26.332	172.1	0.588	2.97	45.3	30.2	1.94	26.4	0.01			201	
228	8.33	8.31	34.026	26.463	160.0	0.634	2.29	34.7	37.0	2.19	29.6	0.01			229	206
250 ISL	8.04	8.01	34.056	26.531	153.9	0.669	2.06	31.0	41.0	2.30	31.0	0.01			251	
268	7.78	7.75	34.063	26.574	149.9	0.696	1.97	29.5	44.0	2.36	31.9	0.01			269	205
300 ISL	7.30	7.27	34.069	26.648	143.2	0.743	1.74	25.7	49.6	2.49	33.6	0.01			302	
317	7.07	7.04	34.070	26.681	140.2	0.767	1.62	23.8	52.4	2.55	34.5	0.01			319	204
378	6.57	6.54	34.108	26.779	131.5	0.850	1.16	16.9	61.2	2.77	36.9	0.01			380	203
400 ISL	6.40	6.36	34.121	26.812	128.6	0.879	1.03	14.9	64.4	2.84	37.7	0.01			402	
437	6.14	6.10	34.147	26.866	123.7	0.925	0.82	11.8	69.9	2.94	38.9	0.01			440	202
500 ISL	5.78	5.74	34.209	26.961	115.3	1.001	0.50	7.1	79.1	3.08	40.4	0.01			503	
513	5.71	5.67	34.222	26.980	113.6	1.016	0.43	6.1	81.0	3.11	40.7	0.01			516	201

RV NEW HORIZON CALCOFI CRUISE 0511 STATION 80.0 50.5

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
34 27.7 N	120 29.2 W	17/11/05	0809	UTC	26 m	320	03 kn			1017.7 mb	18.7 C	14.8 C			

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	16.73	16.73	33.335	24.301	361.4	0.000	6.75	121.6	3.0	0.12	0.0	0.00	1.97	0.27	0	
2	16.73	16.73	33.335	24.301	361.4	0.007	6.75	121.6	3.0	0.12	0.0	0.00	1.97	0.27	2	204
5	16.66	16.66	33.330	24.313	360.3	0.018	6.72	120.9	2.9	0.14	0.1	0.00	2.23	0.28	5	203
10	16.24	16.24	33.331	24.411	351.2	0.036	6.40	114.2	4.2	0.20	0.2	0.02	6.13	0.28	10	202
20	15.92	15.92	33.344	24.494	343.6	0.071	6.20	109.9	5.2	0.30	0.9	0.04	5.67	0.36	20	201

RV NEW HORIZON CALCOFI CRUISE 0511 STATION 80 51

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
34 27.0 N	120 31.4 W	17/11/05	0907	UTC	77 m	300	11 kn			1017.5 mb	16.6 C	14.9 C			

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	16.22	16.22	33.321	24.407	351.2	0.000	6.31	112.5	3.8	0.15	0.1	0.01	1.46	0.20	0	
2	16.22	16.22	33.321	24.407	351.3	0.007	6.31	112.5	3.8	0.15	0.1	0.01	1.46	0.20	2	210
5	16.22	16.22	33.320	24.407	351.4	0.018	6.32	112.7	3.8	0.15	0.0	0.01	1.43	0.23	5	209
10	16.19	16.19	33.325	24.418	350.6	0.035	6.32	112.6	3.8	0.15	0.1	0.01	1.88	0.21	10	208
20	16.02	16.02	33.333	24.463	346.6	0.070	6.27	111.4	4.1	0.19	0.2	0.01	4.00	0.33	20	207
25	15.75	15.75	33.344	24.532	340.1	0.087	6.09	107.6	4.9	0.26	0.6	0.03	4.03	0.40	25	206
30	15.33	15.33	33.364	24.641	329.9	0.104	5.69	99.7	6.6	0.41	1.7	0.06	2.53	0.35	30	205
40	13.52	13.51	33.459	25.097	286.7	0.135	4.46	75.3	12.0	0.99	9.0	0.17	0.59	0.21	40	204
50	12.81	12.80	33.502	25.272	270.2	0.163	4.06	67.6	14.1	1.19	11.6	0.17	0.30	0.21	50	203
60	12.56	12.55	33.524	25.338	264.2	0.189	3.88	64.3	15.1	1.27	12.7	0.17	0.29	0.22	60	202
70	12.03	12.02	33.564	25.470	251.8	0.215	3.49	57.2	17.2	1.48	15.3	0.14	0.20	0.21	70	201

RV NEW HORIZON CALCOFI CRUISE 0511 STATION 80 55

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
34 19.1 N	120 48.1 W	17/11/05	1237 UTC	774 m	310 13 kn		4	1017.4 mb	13.5 C	13.0 C		8/8	ST

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	14.01	14.01	33.376	24.931	301.3	0.000	6.31	107.6	3.2	0.42	0.9	0.09	6.88	0.08	0	
2	14.01	14.01	33.376	24.931	301.4	0.006	6.31	107.6	3.2	0.42	0.9	0.09	6.88	0.08	2	222
5	14.02	14.02	33.376	24.929	301.7	0.015	6.34	108.2	3.2	0.42	0.9	0.09	6.18	0.54	5	221
10 ISL	14.02	14.02	33.378	24.931	301.7	0.030	6.35	108.3	3.1	0.41	0.8	0.09	4.94	0.63	10	
11	14.02	14.02	33.378	24.931	301.7	0.033	6.35	108.3	3.1	0.41	0.8	0.09	4.73	0.65	11	220
16	14.02	14.02	33.376	24.929	302.0	0.048	6.34	108.2	3.1	0.42	0.9	0.10	4.35	0.69	16	219
20	13.93	13.93	33.376	24.948	300.3	0.060	6.09	103.7	3.4	0.47	1.6	0.13	2.97 A	0.68 A	20	218
30	13.84	13.84	33.378	24.968	298.6	0.090	5.76	97.9	4.0	0.55	2.6	0.16	0.88	0.27	30	217
40	13.58	13.57	33.391	25.032	292.8	0.120	5.46	92.3	5.3	0.67	4.3	0.20	1.16	0.50	40	216
50	12.75	12.74	33.443	25.238	273.5	0.148	4.64	77.1	9.6	0.99	9.3	0.30	0.87	0.43	50	215
60	11.76	11.75	33.505	25.475	251.1	0.174	3.86	62.9	13.9	1.32	14.5	0.24	0.32	0.39	60	214
71	11.12	11.11	33.552	25.629	236.7	0.201	3.60	57.8	16.4	1.49	17.5	0.08	0.31	0.38	71	213
75 ISL	10.91	10.90	33.559	25.672	232.6	0.211	3.56	56.9	17.0	1.53	18.3	0.07	0.30	0.37	75	
85	10.43	10.42	33.592	25.781	222.4	0.233	3.44	54.5	18.6	1.63	20.1	0.03	0.24	0.35	85	212
99	9.85	9.84	33.737	25.993	202.5	0.263	2.95	46.2	23.3	1.86	23.3	0.02	0.11	0.30	100	211
100 ISL	9.81	9.80	33.743	26.005	201.4	0.265	2.94	46.0	23.5	1.87	23.5	0.02	0.11	0.30	101	
120	9.24	9.23	33.854	26.185	184.6	0.304	2.71	41.9	27.5	1.98	25.9	0.01	0.09	0.26	121	210
125 ISL	9.26	9.25	33.901	26.219	181.5	0.313	2.58	39.9	28.4	2.02	26.2	0.01	0.08	0.24	126	
140	9.42	9.40	34.035	26.298	174.4	0.340	2.19	34.0	30.9	2.14	26.9	0.03	0.05	0.17	141	209
150 ISL	9.37	9.35	34.084	26.344	170.1	0.357	1.99	30.9	32.7	2.21	27.5	0.03	0.05	0.14	151	
169	9.14	9.12	34.125	26.414	163.9	0.388	1.78	27.5	35.5	2.29	28.7	0.04	0.04	0.11	170	208
200	8.65	8.63	34.102	26.474	158.6	0.438	1.95	29.8	37.4	2.27	29.6	0.03	0.03	0.09	201	207
230	8.27	8.25	34.134	26.557	151.2	0.485	1.68	25.4	42.4	2.41	31.4	0.01			231	206
250 ISL	8.17	8.14	34.162	26.594	147.9	0.515	1.49	22.5	44.6	2.49	32.1	0.01			252	
268	8.07	8.04	34.177	26.621	145.7	0.541	1.36	20.5	46.3	2.54	32.6	0.01			270	205
300 ISL	7.56	7.53	34.136	26.664	141.9	0.587	1.42	21.1	50.0	2.57	33.8	0.01			302	
318	7.25	7.22	34.112	26.689	139.6	0.613	1.46	21.6	52.3	2.58	34.5	0.01			320	204
379	6.85	6.81	34.184	26.802	129.6	0.695	0.90	13.2	62.0	2.83	36.7	0.00			381	203
400 ISL	6.61	6.57	34.185	26.835	126.6	0.722	0.82	11.9	65.5	2.88	37.6	0.00			403	
436	6.20	6.16	34.183	26.887	121.8	0.766	0.73	10.5	71.3	2.95	38.9	0.00			439	202
500 ISL	5.86	5.82	34.230	26.967	114.8	0.842	0.49	7.0	79.0	3.07	40.2	0.00			504	
512	5.80	5.76	34.239	26.982	113.5	0.856	0.44	6.3	80.4	3.09	40.4	0.00			516	201

A) SECOND FLUOROMETER READING RECALCULATED BECAUSE ACID RATIO > TAU OF PURE CHL-A.
CHLOROPHYLL AND PHAEOPIGMENT CALCULATED WITH ACID RATIO FROM ADJACENT SAMPLES.

RV NEW HORIZON CALCOFI CRUISE 0511 STATION 80 60

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
34 8.7 N	121 9.6 W	17/11/05	1827 UTC	2252 m	320 10 kn	290 03 07	4	1019.4 mb	14.1 C	13.7 C	06m	8/8	ST

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	13.94	13.94	33.303	24.889	305.3	0.000	6.40	109.0	4.5	0.47	1.1	0.12	9.09	0.80	0	
2 A	13.94	13.94	33.303	24.889	305.4	0.006	6.40	109.0	4.5	0.47	1.1	0.12	9.09	0.80	2	223
2	13.93	13.93	33.305	24.893	305.1	0.006									2	224
4 A	13.91	13.91	33.308	24.899	304.5	0.012	6.44	109.6	6.6	0.44	1.1	0.11	9.23	1.12	4	222
9 A	13.43	13.43	33.389	25.060	289.3	0.027	6.31	106.4	4.6	0.43	0.9	0.11	6.30	0.72	9	221
10 ISL	13.38	13.38	33.393	25.073	288.1	0.030	6.20	104.4	5.2	0.45	1.2	0.12	5.71	0.73	10	
13 A	13.30	13.30	33.396	25.092	286.4	0.039	5.88	98.9	7.3	0.53	2.3	0.14	4.21	0.75	13	220
17 A	13.29	13.29	33.397	25.094	286.2	0.050	5.82	97.8	7.5	0.56	2.5	0.15	3.37	1.04	17	219
20 ISL	13.27	13.27	33.396	25.098	286.0	0.059	5.86	98.5	7.6	0.56	2.5	0.16	3.43	0.96	20	
24 A	13.24	13.24	33.393	25.102	285.8	0.070	5.91	99.2	7.7	0.55	2.5	0.16	3.50	0.76	24	218
30 ISL	13.17	13.17	33.383	25.108	285.3	0.087	5.79	97.1	7.8	0.59	3.3	0.16	2.45	0.91	30	
32	13.13	13.13	33.379	25.113	284.9	0.093	5.72	95.8	7.8	0.62	3.7	0.16	2.04	0.96	32	217
39	12.84	12.83	33.362	25.157	280.8	0.113	5.38	89.6	7.8	0.75	5.9	0.14	1.39	0.64	39	216
50	11.44	11.43	33.416	25.464	251.8	0.142	4.17	67.4	12.3	1.29	14.9	0.04	0.14	0.17	50	215
60	10.56	10.55	33.471	25.664	233.0	0.166	3.88	61.6	15.5	1.46	17.8	0.03	0.10	0.17	60	214
70	10.15	10.14	33.556	25.801	220.1	0.189	3.58	56.3	18.5	1.61	20.1	0.03	0.09	0.15	70	213
75 ISL	10.07	10.06	33.615	25.861	214.6	0.200	3.37	52.9	20.0	1.69	21.1	0.03	0.08	0.13	75	
85	9.99	9.98	33.724	25.959	205.4	0.221	3.00	47.1	22.5	1.82	22.8	0.02	0.06	0.11	85	212
100	9.78	9.77	33.801	26.055	196.6	0.251	2.80	43.8	25.0	1.91	24.1	0.02	0.04	0.12	101	211
120	9.51	9.50	33.909	26.184	184.7	0.289	2.58	40.1	27.9	2.01	25.6	0.01	0.00	0.10	121	210
125 ISL	9.48	9.47	33.933	26.208	182.6	0.298	2.51	39.0	28.6	2.03	25.9	0.01	0.00	0.10	126	
142	9.35	9.33	34.001	26.282	175.8	0.329	2.30	35.6	30.9	2.10	26.8	0.01	0.02	0.08	143	209
150 ISL	9.24	9.22	34.027	26.321	172.3	0.343	2.22	34.3	32.0	2.13	27.3	0.01	0.02	0.07	151	
168	8.93	8.91	34.067	26.402	164.9	0.373	2.09	32.1	34.5	2.20	28.5	0.02	0.01	0.06	169	208
198	8.36	8.34	34.069	26.492	156.7	0.421	2.15	32.6	38.5	2.23	29.8	0.02	0.01	0.06	199	207
200 ISL	8.33	8.31	34.069	26.497	156.3	0.424	2.15	32.6	38.8	2.23	29.9	0.02			201	
230	7.97	7.95	34.082	26.561	150.6	0.470	1.96	29.5	42.9	2.33	31.4	0.01			231	206
250 ISL	7.84	7.82	34.122	26.612	146.1	0.500	1.64	24.6	46.4	2.46	32.5	0.01			252	
268	7.73	7.70	34.156	26.655	142.3	0.526	1.36	20.3	49.6	2.58	33.5	0.01			270	205
300 ISL	7.34	7.31	34.141	26.699	138.4	0.571	1.34	19.9	53.5	2.64	34.6	0.00			302	
319	7.11	7.08	34.126	26.719	136.6	0.597	1.33	19.6	55.5	2.65	35.1	0.00			321	204
377	6.81	6.77	34.182	26.805	129.2	0.674	0.89	13.0	63.3	2.84	36.7	0.00			379	203
400 ISL	6.73	6.69	34.201	26.831	127.1	0.704	0.78	11.4	65.3	2.89	37.2	0.00			403	
438	6.60	6.56	34.226	26.869	124.0	0.751	0.65	9.5	68.2	2.95	37.9	0.00			441	202
500 ISL	6.26	6.22	34.250	26.933	118.5	0.826	0.49	7.1	74.7	3.04	39.2	0.00			504	
512	6.19	6.14	34.255	26.946	117.4	0.841	0.46	6.6	75.9	3.06	39.4	0.00			516	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV NEW HORIZON CALCOFI CRUISE 0511 STATION 80 70

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
33 48.9 N	121 50.8 W	17/11/05	2327 UTC	3629 m	320 06 kn	300 03 08	4	1017.4 mb	14.4 C	13.7 C	10m	8/8	ST

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	15.22	15.22	33.278	24.598	333.1	0.000	5.94	103.8	2.4	0.44	0.5	0.05	1.08	0.28	0	
3	15.22	15.22	33.278	24.598	333.2	0.010	5.94	103.8	2.4	0.44	0.5	0.05	1.08	0.28	3	220
10	15.19	15.19	33.276	24.603	332.9	0.033	5.93	103.5	2.4	0.34	0.6	0.04	1.14	0.27	10	219
20	15.07	15.07	33.280	24.632	330.4	0.066	5.93	103.3	2.4	0.34	0.4	0.04	1.41	0.35	20	218
30	15.05	15.05	33.275	24.633	330.6	0.100	5.87	102.2	2.4	0.34	0.6	0.04	1.09	0.36	30	217
40	14.98	14.97	33.275	24.649	329.4	0.133	5.77	100.3	2.3	0.37	1.0	0.07	0.74	0.28	40	216
50	12.68	12.67	33.347	25.177	279.2	0.163	4.73	78.5	7.8	0.97	10.3	0.06	0.40	0.34	50	215
60	10.72	10.71	33.500	25.659	233.5	0.189	3.68	58.6	15.9	1.52	18.5	0.02	0.17	0.15	60	214
69	10.43	10.42	33.553	25.751	224.9	0.209	3.50	55.4	17.9	1.62	19.9	0.02	0.11	0.12	69	213
75 ISL	10.24	10.23	33.659	25.866	214.1	0.222	3.15	49.7	20.7	1.75	21.6	0.02	0.07	0.09	75	
85	10.02	10.01	33.849	26.052	196.6	0.243	2.54	39.9	25.5	1.97	24.2	0.01	0.01	0.06	85	212
100	10.09	10.08	33.965	26.131	189.5	0.272	2.17	34.2	28.1	2.09	25.3	0.01	0.01	0.06	100	211
119	10.17	10.16	34.047	26.182	185.1	0.307	1.87	29.5	29.9	2.19	26.1	0.01	0.00	0.05	120	210
125 ISL	9.99	9.98	34.032	26.201	183.4	0.319	1.98	31.1	29.9	2.16	26.2	0.01	0.00	0.05	126	
139	9.51	9.49	33.987	26.245	179.3	0.344	2.28	35.5	29.8	2.09	26.4	0.01	0.00	0.05	140	209
150 ISL	9.46	9.44	34.014	26.275	176.7	0.364	2.19	34.0	30.4	2.10	26.7	0.01	0.00	0.05	151	
170	9.37	9.35	34.065	26.330	171.9	0.398	2.02	31.3	32.4	2.18	27.6	0.00	0.00	0.05	171	208
198	9.08	9.06	34.133	26.430	162.9	0.445	1.76	27.1	36.2	2.29	29.1	0.01	0.00	0.04	199	207
200 ISL	9.06	9.04	34.136	26.436	162.4	0.449	1.75	27.0	36.4	2.30	29.2	0.01			201	
228	8.88	8.86	34.167	26.489	157.9	0.493	1.60	24.6	38.4	2.36	29.9	0.01			229	206
250 ISL	8.78	8.75	34.191	26.524	154.9	0.528	1.47	22.5	40.2	2.42	30.5	0.00			251	
268	8.71	8.68	34.208	26.548	153.0	0.555	1.37	20.9	41.5	2.47	30.9	0.00			270	205
300 ISL	8.65	8.62	34.227	26.573	151.2	0.604	1.25	19.1	42.7	2.51	31.3	0.00			302	
318	8.60	8.57	34.235	26.588	150.2	0.631	1.19	18.2	43.5	2.54	31.6	0.00			320	204
378	8.08	8.04	34.261	26.688	141.4	0.719	0.86	13.0	50.5	2.72	33.6	0.00			380	203
400 ISL	7.94	7.90	34.264	26.711	139.5	0.750	0.80	12.0	52.3	2.76	34.1	0.00			403	
438	7.69	7.65	34.265	26.749	136.4	0.802	0.73	10.9	55.5	2.81	34.8	0.00			441	202
500 ISL	7.08	7.03	34.265	26.836	128.6	0.884	0.60	8.8	63.2	2.92	36.7	0.00			503	
512	6.96	6.91	34.265	26.852	127.1	0.900	0.58	8.5	64.7	2.94	37.1	0.00			516	201

RV NEW HORIZON CALCOFI CRUISE 0511 STATION 80 80

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
33 29.1 N	122 32.1 W	18/11/05	0544 UTC	4002 m	320 12 kn			1018.5 mb	14.5 C	14.3 C			

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	16.63	16.63	33.220	24.236	367.6	0.000	5.65	101.5	1.2	0.29	0.0	0.00	0.28	0.09	0	
2	16.63	16.63	33.220	24.236	367.6	0.007	5.65	101.5	1.2	0.29	0.0	0.00	0.28	0.09	2	221
10 ISL	16.63	16.63	33.221	24.237	367.8	0.037	5.65	101.5	1.2	0.28	0.0	0.00	0.27	0.09	10	
15	16.63	16.63	33.221	24.237	367.9	0.055	5.65	101.5	1.2	0.28	0.0	0.00	0.27	0.09	15	220
20 ISL	16.63	16.63	33.223	24.239	367.9	0.074	5.65	101.5	1.2	0.28	0.0	0.00	0.27	0.09	20	
29	16.64	16.64	33.226	24.239	368.2	0.107	5.65	101.5	1.2	0.28	0.0	0.00	0.27	0.08	29	219
30 ISL	16.64	16.64	33.226	24.239	368.2	0.110	5.65	101.5	1.2	0.28	0.0	0.00	0.27	0.08	30	
45	16.62	16.61	33.227	24.245	368.2	0.166	5.65	101.5	1.2	0.28	0.0	0.00	0.30	0.10	45	218
50 ISL	16.62	16.61	33.228	24.246	368.2	0.184	5.65	101.5	1.1	0.28	0.0	0.00	0.31	0.11	50	
55	16.61	16.60	33.228	24.248	368.1	0.202	5.65	101.4	1.1	0.28	0.0	0.00	0.32	0.11	55	217
60	16.52	16.51	33.211	24.256	367.6	0.221	5.65	101.2	1.2	0.29	0.0	0.00	0.36	0.16	60	216
64	15.28	15.27	33.183	24.513	343.1	0.235	5.69	99.5	1.8	0.37	0.6	0.05	0.50	0.27	64	215
75	13.08	13.07	33.245	25.020	294.9	0.270	5.21	87.1	4.6	0.73	5.6	0.20	0.52	0.42	75	214
85	11.93	11.92	33.242	25.240	274.1	0.299	4.86	79.3	7.2	0.96	9.6	0.04	0.29	0.32	85	213
94	11.01	11.00	33.245	25.410	258.0	0.322	4.76	76.1	9.1	1.08	12.0	0.03	0.18	0.20	94	212
100 ISL	10.68	10.67	33.313	25.521	247.5	0.338	4.47	71.0	11.3	1.23	14.4	0.03	0.13	0.15	100	
110	10.34	10.33	33.455	25.691	231.5	0.362	3.93	62.0	15.4	1.50	18.4	0.02	0.07	0.10	110	211
125	9.75	9.74	33.592	25.897	212.1	0.395	3.51	54.7	20.1	1.70	21.8	0.01	0.02	0.05	126	210
144	9.49	9.47	33.775	26.083	194.8	0.434	3.06	47.5	24.1	1.85	23.8	0.01	0.01	0.05	145	209
150 ISL	9.38	9.36	33.814	26.132	190.3	0.445	3.00	46.5	25.2	1.87	24.3	0.01	0.01	0.05	151	
168	9.04	9.02	33.902	26.255	178.8	0.478	2.91	44.8	28.2	1.92	25.5	0.01	0.00	0.04	169	208
199	8.65	8.63	34.006	26.398	165.8	0.532	2.62	40.0	33.0	2.05	27.6	0.01	0.00	0.02	200	207
200 ISL	8.63	8.61	34.007	26.402	165.4	0.533	2.62	39.9	33.2	2.05	27.7	0.01			201	
228	8.04	8.02	34.032	26.511	155.3	0.578	2.50	37.6	38.7	2.16	29.6	0.01			229	206
250 ISL	7.78	7.76	34.047	26.562	150.8	0.612	2.29	34.3	42.0	2.25	30.9	0.00			251	
269	7.61	7.58	34.058	26.595	147.9	0.640	2.07	30.8	44.8	2.34	31.9	0.00			271	205
300 ISL	7.21	7.18	34.074	26.665	141.6	0.685	1.76	26.0	50.3	2.49	33.8	0.00			302	
316	7.01	6.98	34.083	26.699	138.4	0.708	1.60	23.5	53.2	2.57	34.7	0.00			318	204
379	6.44	6.41	34.143	26.823	127.2	0.791	0.98	14.2	64.3	2.83	37.6	0.00			381	203
400 ISL	6.30	6.26	34.158	26.854	124.5	0.818	0.85	12.3	67.2	2.89	38.3	0.00			403	
439	6.09	6.05	34.185	26.902	120.3	0.865	0.66	9.5	72.1	2.99	39.3	0.00			442	202
500 ISL	5.83	5.79	34.242	26.980	113.5	0.937	0.42	6.0	79.7	3.12	40.5	0.00			503	
514	5.77	5.73	34.255	26.998	111.9	0.952	0.36	5.1	81.4	3.15	40.8	0.00			517	201

RV NEW HORIZON CALCOFI CRUISE 0511 STATION 80 90

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
33 9.2 N	123 13.7 W	18/11/05	1206 UTC	4218 m	320 02 kn			1019.1 mb	14.4 C	13.7 C			

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	16.32	16.32	33.017	24.151	375.6	0.000	5.73	102.2	1.7	0.31	0.0	0.00	0.28	0.11	0	
2	16.32	16.32	33.017	24.151	375.7	0.008	5.73	102.2	1.7	0.31	0.0	0.00	0.28	0.11	2	220
10 ISL	16.34	16.34	33.018	24.148	376.3	0.038	5.73	102.2	1.6	0.31	0.0	0.00	0.28	0.11	10	
11	16.34	16.34	33.018	24.148	376.3	0.041	5.73	102.2	1.6	0.31	0.0	0.00	0.28	0.11	11	219
20	16.34	16.34	33.023	24.152	376.2	0.075	5.73	102.2	1.6	0.31	0.0	0.00	0.29	0.11	20	218
30	16.23	16.23	33.064	24.209	371.1	0.113	5.72	101.8	1.6	0.31	0.0	0.00	0.47	0.25	30	217
40	15.98	15.97	33.108	24.299	362.7	0.149	5.76	102.1	1.5	0.32	0.0	0.01	0.62	0.27	40	216
50 ISL	15.77	15.76	33.143	24.374	356.0	0.185	5.74	101.3	1.5	0.33	0.2	0.03	0.45	0.24	50	
51	15.75	15.74	33.154	24.387	354.8	0.189	5.74	101.3	1.5	0.33	0.2	0.03	0.43	0.24	51	215
60	13.79	13.78	32.940	24.641	330.6	0.220	5.93	100.4	2.4	0.46	1.0	0.22	0.40	0.39	60	214
70	12.77	12.76	32.919	24.829	312.9	0.252	5.80	96.1	3.3	0.56	2.4	0.13	0.25	0.25	70	213
75 ISL	12.43	12.42	32.949	24.917	304.5	0.267	5.66	93.2	3.9	0.63	3.5	0.09	0.20	0.21	75	
85	11.84	11.83	33.038	25.098	287.5	0.297	5.32	86.5	5.6	0.79	6.4	0.02	0.14	0.17	85	212
100	10.79	10.78	33.162	25.384	260.5	0.338	4.86	77.3	9.0	1.07	11.7	0.02	0.09	0.12	100	211
120	9.56	9.55	33.435	25.805	220.6	0.386	4.00	62.1	17.9	1.56	19.9	0.01	0.03	0.05	121	210
125 ISL	9.40	9.39	33.487	25.872	214.4	0.397	3.93	60.8	19.0	1.60	20.6	0.01	0.02	0.04	126	
139	9.10	9.09	33.614	26.020	200.6	0.426	3.82	58.7	21.5	1.65	21.8	0.01	0.01	0.03	140	209
150 ISL	8.91	8.89	33.711	26.126	190.7	0.447	3.52	53.9	24.5	1.76	23.6	0.01	0.01	0.03	151	
170	8.67	8.65	33.854	26.276	176.8	0.484	3.00	45.7	29.5	1.95	26.4	0.01	0.00	0.03	171	208
199	8.47	8.45	33.951	26.383	167.1	0.534	2.94	44.6	32.3	1.97	26.9	0.01	0.01	0.03	200	207
200 ISL	8.46	8.44	33.955	26.387	166.7	0.536	2.92	44.3	32.5	1.98	27.0	0.01			201	
229	8.18	8.16	34.050	26.505	156.0	0.583	2.19	33.1	39.1	2.25	30.4	0.01			230	206
250 ISL	7.98	7.95	34.081	26.559	151.2	0.615	1.89	28.4	42.6	2.37	31.7	0.00			251	
269	7.78	7.75	34.095	26.600	147.6	0.643	1.71	25.6	45.5	2.45	32.6	0.00			271	205
300 ISL	7.42	7.39	34.112	26.665	141.7	0.688	1.47	21.8	50.5	2.57	34.1	0.00			302	
318	7.18	7.15	34.115	26.701	138.4	0.713	1.37	20.2	53.7	2.63	34.9	0.00			320	204
378	6.14	6.11	34.104	26.831	126.2	0.793	1.05	15.1	66.7	2.84	38.3	0.00			380	203
400 ISL	5.97	5.94	34.122	26.867	122.9	0.820	0.91	13.1	70.3	2.91	39.1	0.00			403	
438	5.81	5.77	34.163	26.920	118.3	0.866	0.68	9.7	75.5	3.01	40.0	0.01			441	202
500 ISL	5.63	5.59	34.221	26.988	112.5	0.937	0.44	6.3	82.1	3.12	41.0	0.01			503	
514	5.59	5.55	34.234	27.004	111.2	0.953	0.39	5.5	83.6	3.15	41.2	0.01			517	201

RV NEW HORIZON CALCOFI CRUISE 0511 STATION 80 100

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
32 49.3 N	123 54.6 W	18/11/05	1832 UTC	4352 m	360 03 kn	360 03 07	1	1020.3 mb	17.9 C	16.6 C	23m	3/8	CS

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	17.14	17.14	32.957	23.915	398.2	0.000	5.65	102.3	1.6	0.31	0.0	0.00	0.22	0.07	0	
2 A	17.14	17.14	32.957	23.915	398.2	0.008	5.65	102.3	1.6	0.31	0.0	0.00	0.22	0.07	2	224
10 ISL	17.04	17.04	32.955	23.937	396.4	0.040	5.66	102.3	1.6	0.30	0.0	0.00	0.24	0.08	10	
16	16.93	16.93	32.959	23.966	393.8	0.063									16	223
16 A	16.93	16.93	32.957	23.965	393.9	0.063	5.66	102.1	1.6	0.30	0.0	0.00	0.27	0.09	16	222
20 ISL	16.87	16.87	32.963	23.983	392.3	0.079	5.67	102.2	1.6	0.30	0.0	0.00	0.28	0.10	20	
26	16.80	16.80	32.972	24.007	390.2	0.103	5.69	102.4	1.5	0.31	0.0	0.00	0.29	0.11	26	221
30 ISL	16.77	16.77	32.971	24.013	389.8	0.118	5.69	102.3	1.5	0.31	0.0	0.00	0.32	0.11	30	
35 A	16.74	16.73	32.970	24.020	389.3	0.138	5.69	102.3	1.6	0.31	0.0	0.00	0.36	0.12	35	220
42	16.73	16.72	32.982	24.031	388.4	0.165	5.67	101.9	1.6	0.31	0.0	0.00	0.44	0.17	42	219
49 A	14.85	14.84	32.933	24.413	352.1	0.191	5.95	103.0	2.0	0.43	0.8	0.14	0.54	0.47	49	218
50 ISL	14.68	14.67	32.932	24.449	348.7	0.194	5.94	102.4	2.1	0.44	0.9	0.17	0.53	0.46	50	
56	13.89	13.88	32.925	24.609	333.6	0.215	5.91	100.3	2.5	0.50	1.6	0.29	0.49	0.43	56	217
63 A	13.00	12.99	32.880	24.753	319.9	0.238	5.86	97.6	3.2	0.57	2.7	0.18	0.34	0.41	63	216
73	12.26	12.25	32.895	24.908	305.4	0.269	5.63	92.3	4.5	0.71	5.0	0.03	0.21	0.25	73	215
75 ISL	12.20	12.19	32.916	24.936	302.8	0.275	5.61	91.9	4.5	0.69	4.9	0.03	0.19	0.22	75	
84	11.90	11.89	33.022	25.074	289.7	0.302	5.48	89.2	4.3	0.66	4.5	0.02	0.13	0.14	84	214
92 A	11.20	11.19	33.084	25.250	273.1	0.324	5.21	83.6	6.7	0.87	8.3	0.02	0.08	0.11	92	213
100	10.85	10.84	33.163	25.374	261.4	0.346	5.03	80.1	7.9	0.97	10.2	0.02	0.07	0.09	100	212
110	10.43	10.42	33.182	25.462	253.2	0.371	4.92	77.7	9.5	1.07	12.1	0.01	0.05	0.08	110	211
124	9.64	9.63	33.363	25.736	227.3	0.405	4.42	68.7	14.9	1.37	17.1	0.01	0.03	0.05	125	210
125 ISL	9.61	9.60	33.375	25.750	226.0	0.407	4.38	68.0	15.3	1.39	17.4	0.01	0.03	0.05	126	
144	9.22	9.20	33.589	25.981	204.4	0.448	3.69	56.9	21.8	1.71	22.5	0.01	0.01	0.02	145	209
150 ISL	9.09	9.07	33.649	26.049	198.0	0.460	3.57	54.9	23.3	1.76	23.4	0.01	0.01	0.02	151	
169	8.73	8.71	33.814	26.235	180.7	0.496	3.28	50.1	27.5	1.86	25.2	0.01	0.00	0.01	170	208
198	8.45	8.43	33.998	26.423	163.3	0.546	2.57	39.0	34.4	2.08	28.4	0.01	0.00	0.02	199	207
200 ISL	8.43	8.41	34.002	26.429	162.8	0.549	2.57	39.0	34.7	2.08	28.5	0.01			201	
244	7.79	7.77	34.017	26.536	153.1	0.619	2.57	38.4	40.9	2.15	30.0	0.01			245	206
250 ISL	7.69	7.67	34.020	26.553	151.5	0.628	2.49	37.2	42.5	2.19	30.5	0.01			251	
268	7.38	7.35	34.030	26.606	146.7	0.655	2.22	32.9	47.2	2.32	32.2	0.01			269	205
300 ISL	6.99	6.96	34.035	26.664	141.5	0.701	1.99	29.2	51.9	2.44	33.8	0.01			302	
317	6.82	6.79	34.036	26.688	139.3	0.725	1.90	27.8	53.8	2.49	34.4	0.01			319	204
377	6.18	6.15	34.066	26.796	129.5	0.805	1.36	19.6	64.4	2.74	37.6	0.01			379	203
400 ISL	6.13	6.09	34.100	26.830	126.6	0.835	1.11	16.0	67.5	2.83	38.4	0.01			402	
438	6.08	6.04	34.158	26.882	122.2	0.882	0.74	10.6	72.4	2.97	39.4	0.01			441	202
500 ISL	5.66	5.62	34.198	26.967	114.6	0.956	0.51	7.3	81.8	3.10	40.9	0.01			503	
512	5.58	5.54	34.206	26.983	113.1	0.969	0.47	6.7	83.6	3.12	41.2	0.01			515	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV NEW HORIZON CALCOFI CRUISE 0511 STATION 81.7 43.5

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT TYPE
34 24.1 N	119 48.0 W	17/11/05	0048 UTC	31 m	270 06 kn	080 02 06	0	1017.4 mb	18.8 C	15.7 C		0/8

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	16.82	16.82	33.274	24.233	367.8	0.000	7.24	130.6	4.5	0.16	0.0	0.02	6.97	0.21	0	
2	16.82	16.82	33.274	24.233	367.9	0.007	7.24	130.6	4.5	0.16	0.0	0.02	6.97	0.21	2	205
5	16.85	16.85	33.275	24.227	368.6	0.018	7.19	129.8	4.4	0.15	0.0	0.02	5.60	1.11	5	204
10	16.29	16.29	33.302	24.377	354.4	0.036	6.05	108.0	3.8	0.17	0.0	0.01	3.17	0.27	10	203
15	16.20	16.20	33.305	24.400	352.4	0.054	5.68	101.2	4.3	0.22	0.0	0.02	3.96	0.14	15	202
20	16.03	16.03	33.307	24.440	348.7	0.072	5.56	98.7	4.7	0.24	0.0	0.03	3.16	-0.03	20	201

RV NEW HORIZON CALCOFI CRUISE 0511 STATION 82 47

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT TYPE
34 16.5 N	120 1.4 W	17/11/05	0301 UTC	578 m	260 12 kn			1017.8 mb	16.3 C	15.0 C		

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	16.15	16.15	33.352	24.447	347.4	0.000	6.73	119.8	3.2	0.16	0.0	0.01	1.97	0.28	0	
2 A	16.15	16.15	33.352	24.447	347.5	0.007	6.73	119.8	3.2	0.16	0.0	0.01	1.97	0.28	2	224
10	14.86	14.86	33.351	24.732	320.6	0.034	5.70	98.9	5.0	0.30	0.0	0.02	5.93	0.58	10	223
20	13.87	13.87	33.389	24.970	298.2	0.065	4.82	82.0	7.7	0.70	3.9	0.32	1.61	0.32	20	222
30	13.45	13.45	33.401	25.066	289.3	0.094	4.52	76.2	9.2	0.89	8.0	0.24	0.39	0.26	30	221
40	12.27	12.26	33.436	25.325	264.9	0.122	3.97	65.3	12.1	1.22	12.7	0.06	0.19	0.19	40	220
50	11.66	11.65	33.479	25.473	251.0	0.147	3.51	57.0	14.3	1.44	15.6	0.03	0.10	0.15	50	219
59	11.39	11.38	33.511	25.548	244.1	0.170	3.37	54.4	15.6	1.54	17.1	0.03	0.08	0.14	59	218
70	11.14	11.13	33.606	25.667	233.0	0.196	3.06	49.2	18.9	1.70	19.3	0.02	0.06	0.12	70	217
75 ISL	11.06	11.05	33.668	25.730	227.2	0.208	2.77	44.5	20.5	1.81	20.5	0.02	0.05	0.11	75	
85	10.97	10.96	33.796	25.846	216.4	0.230	2.17	34.8	23.8	2.02	22.8	0.02	0.03	0.10	85	216
99	10.97	10.96	33.934	25.953	206.5	0.259	1.70	27.3	27.7	2.21	24.5	0.02	0.02	0.08	100	215
100 ISL	10.95	10.94	33.939	25.961	205.8	0.261	1.70	27.3	27.7	2.21	24.5	0.02	0.02	0.08	101	
120	10.64	10.63	34.007	26.069	195.9	0.302	1.82	29.0	28.4	2.19	25.0	0.01	0.02	0.08	121	214
125 ISL	10.64	10.63	34.035	26.091	194.0	0.311	1.72	27.4	29.2	2.23	25.3	0.01	0.02	0.08	126	
139	10.65	10.63	34.106	26.145	189.2	0.338	1.40	22.3	31.7	2.34	26.2	0.01	0.01	0.07	140	213
150 ISL	10.51	10.49	34.130	26.188	185.3	0.359	1.43	22.8	32.5	2.34	26.6	0.01	0.01	0.07	151	
170	10.15	10.13	34.145	26.263	178.6	0.395	1.49	23.5	33.2	2.34	27.1	0.01	0.01	0.07	171	212
199	9.71	9.69	34.152	26.343	171.5	0.446	1.51	23.6	35.2	2.37	28.1	0.01	0.01	0.07	200	211
200 ISL	9.69	9.67	34.152	26.346	171.2	0.448	1.51	23.6	35.3	2.37	28.1	0.01			201	
228	9.23	9.20	34.152	26.422	164.4	0.495	1.48	22.9	38.5	2.43	29.3	0.01			229	210
250 ISL	8.88	8.85	34.174	26.495	157.7	0.530	1.25	19.2	42.8	2.55	30.7	0.01			251	
270	8.58	8.55	34.196	26.559	151.9	0.561	1.01	15.4	47.1	2.67	31.9	0.01			272	209
300 ISL	8.22	8.19	34.205	26.621	146.3	0.606	0.82	12.4	52.7	2.78	32.9	0.01			302	
318	8.02	7.99	34.206	26.652	143.6	0.632	0.74	11.1	56.0	2.84	33.2	0.01			320	208
378	7.28	7.24	34.214	26.766	133.4	0.715	0.52	7.7	68.2	3.13	33.5	0.01			380	207
400 ISL	7.04	7.00	34.221	26.805	129.8	0.744	0.36	5.3	75.3	3.27	32.6	0.01			403	
437	6.73	6.69	34.236	26.859	125.0	0.791	0.11	1.6	88.9	3.56	29.0	0.01			440	206
477	6.60	6.56	34.251	26.889	122.7	0.840	0.01	0.1	104.5	4.01	21.0	0.82			480	205
500 ISL	6.56	6.51	34.251	26.895	122.5	0.869	0.02	0.3	109.9	4.19	16.9	1.98			503	
512	6.55	6.50	34.251	26.896	122.5	0.883	0.02	0.3	112.7	4.30	14.2	3.06			516	204
536	6.54	6.49	34.254	26.900	122.5	0.913	0.04	0.6	120.8	4.64	5.3	6.96			540	203
561	6.52	6.47	34.253	26.902	122.6	0.943	0.04	0.6	125.2	4.81	2.4	7.66			565	202
571	6.52	6.47	34.253	26.902	122.7	0.956	0.05	0.7	125.1	4.81	2.9	7.30			575	201

A) SANTA BARBARA BASIN STATION.

RV NEW HORIZON CALCOFI CRUISE 0511 STATION 83.3 39.4

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT TYPE
34 14.9 N	119 20.8 W	16/11/05	2124 UTC	23 m	290 09 kn	080 02 08	0	1017.5 mb	19.8 C	17.5 C	08m	0/8

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	17.26	17.26	33.343	24.182	372.7	0.000	6.22	113.2	1.9	0.15	0.0	0.00	1.22	0.19	0	
2	17.26	17.26	33.343	24.182	372.7	0.007	6.22	113.2	1.9	0.15	0.0	0.00	1.22	0.19	2	205
5	17.19	17.19	33.341	24.198	371.4	0.019	6.31	114.7	1.9	0.13	0.1	0.00	1.79	0.17	5	204
10	17.00	17.00	33.340	24.242	367.3	0.037									10	203
10	17.00	17.00	33.340	24.242	367.3	0.037	6.37	115.3	1.9	0.13	0.0	0.00	4.46	0.36	10	202
17	16.87	16.87	33.334	24.268	365.1	0.063	6.21	112.1	2.1	0.15	0.0	0.00	2.00	0.30	17	201

RV NEW HORIZON CALCOFI CRUISE 0511 STATION 83 40.6

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT TYPE
34 13.7 N	119 23.6 W	16/11/05	2036 UTC	29 m	260 02 kn	080 02 05	0	1018.1 mb	20.3 C	18.5 C	03m	0/8

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	17.35	17.35	33.338	24.157	375.1	0.000	6.04	110.1	1.8	0.16	0.1	0.00	1.11	0.16	0	
3	17.35	17.35	33.338	24.157	375.1	0.011	6.04	110.1	1.8	0.16	0.1	0.00	1.11	0.16	3	206
5	17.09	17.09	33.337	24.218	369.4	0.019	6.14 U	111.4 U	1.5	0.17	0.1	0.00	1.18	0.24	5	205
10	16.99	16.99	33.335	24.240	367.5	0.037									10	204
10	16.99	16.99	33.335	24.240	367.5	0.037	6.02	109.0	1.6	0.19	0.1	0.00	1.70	0.22	10	203
15	16.88	16.88	33.336	24.267	365.1	0.055	5.97	107.8	2.3	0.21	0.1	0.01	1.77	0.30	15	202
20 ISL	16.84	16.84	33.334	24.275	364.5	0.074	5.93	107.0	2.6	0.22	0.1	0.02	1.58	0.30	20	
23	16.81	16.81	33.332	24.281	364.0	0.085	5.91	106.6	2.8	0.23	0.1	0.02	1.47	0.30	23	201

RV NEW HORIZON CALCOFI CRUISE 0511 STATION 83 42

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT TYPE
34 11.0 N	119 31.0 W	16/11/05	1814 UTC	121 m	100 11 kn	110 02 06	0	1019.6 mb	21.9 C	17.8 C		0/8

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	16.19	16.19	33.336	24.426	349.5	0.000	5.86	104.4	2.7	0.22	0.1	0.03	2.80	0.26	0	
2	16.19	16.19	33.336	24.426	349.5	0.007	5.86	104.4	2.7	0.22	0.1	0.03	2.80	0.26	2	217
2	16.19	16.19	33.339	24.428	349.3	0.007									2	218
9	16.13	16.13	33.337	24.440	348.4	0.031									9	216
9	16.13	16.13	33.342	24.444	348.0	0.031	5.85	104.1	2.5	0.21	0.1	0.02	2.87	0.30	9	215
10 ISL	16.12	16.12	33.342	24.447	347.8	0.035	5.84	103.9	2.5	0.21	0.1	0.02	2.81	0.30	10	
20	16.05	16.05	33.340	24.461	346.7	0.070	5.79	102.9	2.1	0.22	0.2	0.02	2.15	0.25	20	213
20	16.04	16.04	33.341	24.464	346.4	0.070									20	214
28	16.03	16.03	33.344	24.469	346.2	0.097									28	212
28	16.03	16.03	33.342	24.468	346.4	0.097	5.80	103.0	1.8	0.22	0.2	0.02	1.95	0.29	28	211
30 ISL	15.94	15.94	33.323	24.473	345.9	0.104	5.77	102.3	1.8	0.23	0.2	0.02	1.82	0.30	30	
36	15.67	15.66	33.343	24.549	338.8	0.125	5.69	100.4	1.9	0.26	0.3	0.04	1.38	0.32	36	209
36	15.79	15.78	33.345	24.524	341.2	0.125									36	210
44	14.06	14.05	33.309	24.870	308.4	0.151	5.09	86.9	4.2	0.47	0.7	0.15	0.97	0.30	44	208
50 ISL	12.85	12.84	33.324	25.126	284.1	0.169	4.32	71.9	8.1	0.94	7.5	0.46	0.41	0.20	50	
52	12.51	12.50	33.335	25.201	277.0	0.174	4.09	67.6	9.4	1.10	10.0	0.54	0.24	0.17	52	206
52	12.52	12.51	33.333	25.197	277.4	0.174									52	207
61	12.00	11.99	33.375	25.329	265.0	0.199	3.90	63.8	10.6	1.25	13.9	0.27	0.21	0.21	61	205
71	11.21	11.20	33.503	25.574	241.8	0.224	3.42	55.0	15.6	1.55	17.6	0.07	0.10	0.16	71	204
75 ISL	11.06	11.05	33.544	25.633	236.3	0.233	3.28	52.6	16.7	1.62	18.5	0.05	0.08	0.14	75	
85	10.87	10.86	33.642	25.744	226.1	0.257	2.97	47.5	18.8	1.75	20.2	0.01	0.05	0.10	85	203
100	10.69	10.68	33.822	25.916	210.0	0.289	2.35	37.5	24.0	2.04	22.9	0.03	0.03	0.09	100	202
115	10.67	10.66	33.847	25.939	208.2	0.321	2.27	36.2	24.5	2.05	23.2	0.03	0.03	0.10	116	201

RV NEW HORIZON CALCOFI CRUISE 0511 STATION 83 51

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT TYPE
33 52.7 N	120 8.4 W	16/11/05	1005 UTC	106 m	090 23 kn			1017.3 mb	19.8 C	14.9 C		

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	14.90	14.90	33.370	24.738	319.7	0.000	5.72	99.4	2.3	0.43	2.2	0.08	2.20	0.51	0	
2	14.90	14.90	33.370	24.738	319.8	0.006	5.72	99.4	2.3	0.43	2.2	0.08	2.20	0.51	2	211
10	14.19	14.19	33.387	24.902	304.4	0.031	5.25	89.9	5.7	0.64	4.8	0.12	1.63	0.47	10	209
10	14.20	14.20	33.388	24.901	304.5	0.031									10	210
20	12.94	12.94	33.406	25.171	279.0	0.061	4.66	77.8	9.7	0.94	9.0	0.16	1.22	0.43	20	208
30	12.66	12.66	33.415	25.233	273.4	0.088	4.50	74.7	9.4	1.02	9.9	0.15	0.96	0.39	30	207
40	12.30	12.29	33.419	25.306	266.7	0.115	4.23	69.6	10.9	1.15	11.7	0.13	0.68	0.34	40	206
50	11.50	11.49	33.481	25.504	248.1	0.141	3.79	61.4	14.0	1.39	15.3	0.09	0.32	0.22	50	205
60	10.81	10.80	33.661	25.768	223.1	0.164	3.10	49.5	19.7	1.72	20.0	0.06	0.11	0.14	60	204
70	10.41	10.40	33.793	25.941	206.9	0.186	2.67	42.3	23.1	1.91	22.6	0.04	0.04	0.09	70	203
75 ISL	10.33	10.32	33.835	25.988	202.5	0.196	2.53	40.0	24.2	1.97	23.3	0.04	0.04	0.09	75	
85	10.26	10.25	33.895	26.047	197.1	0.216	2.33	36.8	26.0	2.04	24.2	0.04	0.03	0.09	85	202
99	10.13	10.12	33.966	26.125	190.1	0.243	2.14	33.7	28.3	2.12	25.2	0.04	0.02	0.08	100	201

RV NEW HORIZON CALCOFI CRUISE 0511 STATION 83 55

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT TYPE
33 44.9 N	120 24.8 W	16/11/05	0539 UTC	1021 m	080 11 kn			1017.7 mb	18.0 C	15.1 C		

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	15.04	15.04	33.345	24.688	324.4	0.000	6.09	106.1	2.2	0.30	0.1	0.03	4.74	0.54	0	
3	15.04	15.04	33.345	24.688	324.5	0.010	6.09	106.1	2.2	0.30	0.1	0.03	4.74	0.54	3	221
10	15.05	15.05	33.344	24.686	325.0	0.032	6.09	106.1	2.2	0.30	0.1	0.03	4.81	0.54	10	219
10	15.05	15.05	33.344	24.686	325.0	0.032									10	220
20	15.04	15.04	33.346	24.690	324.9	0.065	6.06	105.5	2.3	0.30	0.1	0.03	5.66	0.50	20	218
30	14.98	14.98	33.353	24.708	323.4	0.097	5.98	104.0	1.8	0.30	0.2	0.03	4.95	0.71	30	217
40	13.61	13.60	33.346	24.991	296.7	0.128	5.18	87.6	5.4	0.72	6.0	0.30	1.11	0.55	40	216
50	11.96	11.95	33.376	25.337	263.9	0.156	4.48	73.2	10.0	1.12	12.4	0.10	0.26	0.24	50	215
59	10.96	10.95	33.440	25.570	242.0	0.179	4.07	65.1	13.7	1.35	16.2	0.04	0.15	0.17	59	214
70	10.36	10.35	33.564	25.771	223.0	0.205	3.61	57.1	18.1	1.58	19.6	0.02	0.08	0.13	70	213
75 ISL	10.26	10.25	33.601	25.817	218.7	0.216	3.48	54.9	19.3	1.64	20.4	0.02	0.07	0.12	75	
84	10.16	10.15	33.652	25.874	213.5	0.235	3.30	52.0	20.9	1.71	21.3	0.02	0.06	0.12	84	212
100	9.78	9.77	33.734	26.003	201.6	0.268	3.08	48.1	23.6	1.82	23.3	0.01	0.03	0.10	101	211
120	9.54	9.53	33.930	26.196	183.6	0.307	2.56	39.8	28.6	2.01	25.7	0.01	0.01	0.06	121	210
125 ISL	9.49	9.48	33.952	26.221	181.3	0.316	2.50	38.9	29.3	2.03	26.0	0.01	0.01	0.06	126	
139	9.40	9.38	33.999	26.273	176.7	0.341	2.36	36.6	30.7	2.08	26.7	0.01	0.01	0.06	140	209
150 ISL	9.41	9.39	34.068	26.325	172.0	0.360	2.12	32.9	32.3	2.16	27.2	0.01	0.01	0.06	151	
170	9.43	9.41	34.191	26.419	163.6	0.394	1.75	27.2	35.2	2.29	28.2	0.01	0.01	0.05	171	208
199	8.49	8.47	34.127	26.518	154.4	0.440	1.91	29.1	38.2	2.31	30.2	0.01	0.01	0.05	200	207
200 ISL	8.47	8.45	34.127	26.521	154.1	0.442	1.90	28.9	38.3	2.31	30.3	0.01			201	
228	8.19	8.17	34.149	26.581	148.8	0.484	1.65	24.9	42.5	2.44	31.7	0.00			229	206
250 ISL	8.05	8.02	34.168	26.617	145.7	0.516	1.48	22.3	44.7	2.51	32.4	0.00			251	
269	7.94	7.91	34.184	26.646	143.3	0.544	1.34	20.1	46.6	2.56	32.9	0.00			271	205
300 ISL	7.62	7.59	34.202	26.707	137.8	0.587	1.11	16.6	51.2	2.68	34.1	0.00			302	
318	7.43	7.40	34.209	26.740	134.9	0.612	1.00	14.9	54.1	2.74	34.9	0.00			320	204
377	6.95	6.91	34.218	26.815	128.5	0.690	0.79	11.6	61.8	2.87	36.9	0.00			379	203
400 ISL	6.74	6.70	34.226	26.850	125.3	0.719	0.71	10.4	65.1	2.92	37.7	0.00			403	
439	6.37	6.33	34.239	26.909	120.0	0.767	0.58	8.4	70.7	3.00	38.9	0.00			442	202
500 ISL	5.87	5.83	34.248	26.980	113.6	0.838	0.43	6.2	79.0	3.11	40.5	0.00			503	
514	5.76	5.72	34.251	26.996	112.1	0.854	0.40	5.7	80.9	3.13	40.9	0.00			518	201

RV NEW HORIZON CALCOFI CRUISE 0511 STATION 83 60

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
33 34.8 N	120 45.2 W	16/11/05	0220 UTC	1343 m	130 01 kn	320 03 08	4	1016.1 mb	15.0 C	14.0 C	07m	8/8	ST

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	14.24	14.24	33.383	24.888	305.4	0.000	6.31	108.2	2.7	0.42	1.1	0.09	8.74	1.17	0	
3	14.24	14.24	33.383	24.888	305.5	0.009	6.31	108.2	2.7	0.42	1.1	0.09	8.74	1.17	3	221
10	14.21	14.21	33.381	24.893	305.2	0.031									10	220
10	14.20	14.20	33.382	24.896	304.9	0.031	6.11	104.6	2.7	0.47	1.5	0.09	7.94	1.16	10	219
20	14.00	14.00	33.388	24.943	300.8	0.061	5.85	99.8	3.6	0.53	2.7	0.12	6.12	0.97	20	218
30	13.63	13.63	33.396	25.025	293.2	0.091	5.37	90.9	6.1	0.72	5.2	0.18	1.85	0.66	30	217
40	12.28	12.27	33.361	25.265	270.6	0.119	4.67	76.8	9.1	1.02	10.7	0.12	0.49	0.36	40	216
50	11.31	11.30	33.386	25.465	251.8	0.145	4.34	69.9	11.7	1.21	13.8	0.05	0.22	0.22	50	215
60	10.80	10.79	33.472	25.623	236.9	0.169	3.89	62.0	15.1	1.43	16.9	0.05	0.13	0.29	60	214
71	10.70	10.69	33.526	25.683	231.5	0.195	3.62	57.6	16.6	1.54	18.2	0.05	0.10	0.22	71	213
75 ISL	10.56	10.55	33.567	25.739	226.2	0.204	3.48	55.2	17.8	1.60	19.1	0.04	0.08	0.19	75	
84	10.19	10.18	33.663	25.878	213.1	0.224	3.19	50.3	20.7	1.74	21.2	0.03	0.05	0.14	84	212
100	9.72	9.71	33.738	26.016	200.3	0.257	3.06	47.7	23.6	1.84	23.3	0.02	0.03	0.12	101	211
120	9.51	9.50	33.802	26.100	192.7	0.296	2.89	44.9	25.5	1.92	24.3	0.02	0.02	0.10	121	210
125 ISL	9.48	9.47	33.822	26.121	190.8	0.306	2.84	44.1	26.1	1.94	24.6	0.02	0.02	0.10	126	
140	9.38	9.36	33.885	26.187	184.8	0.334	2.67	41.4	27.9	1.98	25.4	0.02	0.01	0.09	141	209
150 ISL	9.29	9.27	33.927	26.234	180.5	0.352	2.57	39.8	29.2	2.01	26.0	0.02	0.01	0.08	151	
169	9.10	9.08	34.004	26.326	172.2	0.386	2.35	36.2	32.0	2.09	27.1	0.02	0.01	0.07	170	208
199	8.84	8.82	34.114	26.453	160.6	0.436	1.87	28.7	37.1	2.29	29.1	0.02	0.00	0.07	200	207
200 ISL	8.83	8.81	34.116	26.456	160.4	0.437	1.86	28.5	37.3	2.30	29.2	0.02			201	
229	8.48	8.46	34.154	26.541	152.8	0.483	1.59	24.2	41.5	2.41	30.8	0.02			230	206
250 ISL	8.24	8.21	34.153	26.577	149.6	0.515	1.55	23.4	43.7	2.45	31.4	0.02			251	
268	8.03	8.00	34.147	26.604	147.3	0.541	1.54	23.2	45.6	2.49	31.9	0.02			270	205
300 ISL	7.60	7.57	34.157	26.675	140.9	0.587	1.33	19.8	51.0	2.61	33.5	0.02			302	
318	7.37	7.34	34.165	26.714	137.3	0.612	1.20	17.8	54.2	2.68	34.5	0.02			320	204
378	6.85	6.81	34.179	26.797	130.0	0.693	0.95	13.9	61.4	2.82	36.4	0.02			380	203
400 ISL	6.66	6.62	34.201	26.841	126.1	0.721	0.81	11.8	65.2	2.89	37.2	0.02			403	
437	6.37	6.33	34.240	26.910	119.8	0.766	0.59	8.5	71.6	2.99	38.5	0.01			440	202
500 ISL	5.97	5.93	34.258	26.976	114.1	0.840	0.45	6.5	79.2	3.08	39.9	0.01			503	
512	5.89	5.85	34.262	26.989	112.9	0.854	0.42	6.0	80.7	3.10	40.2	0.01			516	201

RV NEW HORIZON CALCOFI CRUISE 0511 STATION 83 70

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
33 15.4 N	121 26.6 W	15/11/05	1814 UTC	3803 m	100 10 kn	330 09 08	4	1016.7 mb	14.2 C	13.3 C	17m	8/8	ST

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	15.13	15.13	33.298	24.633	329.8	0.000	5.77	100.7	2.3	0.39	1.0	0.13	0.74	0.18	0	
2 A	15.13	15.13	33.298	24.633	329.8	0.007	5.77	100.6	2.3	0.39	1.0	0.13	0.74	0.18	2	222
10	15.05	15.05	33.307	24.657	327.7	0.033	5.76	100.3	2.2	0.40	1.1	0.15	0.73	0.31	10	221
12 A	15.05	15.05	33.307	24.657	327.8	0.039	5.77	100.5	2.0	0.40	1.1	0.15			12	219
12	15.05	15.05	33.309	24.659	327.6	0.039	5.77	100.5					0.75	0.26	12	220
20	14.94	14.94	33.309	24.683	325.6	0.066	5.74	99.7	2.0	0.42	1.3	0.17	0.77	0.24	20	218
28 A	14.80	14.80	33.301	24.707	323.5	0.092	5.72	99.1	2.0	0.43	1.6	0.19	1.22	0.20	28	217
30 ISL	14.73	14.73	33.295	24.718	322.6	0.098	5.74	99.3	2.2	0.43	1.6	0.18	1.24	0.22	30	
39 A	14.33	14.32	33.275	24.787	316.2	0.127	5.81	99.7	3.5	0.44	1.7	0.16	1.33	0.31	39	216
49 A	13.83	13.82	33.290	24.903	305.4	0.158	5.43	92.2	4.5	0.62	4.3	0.24	0.60	0.36	49	215
50 ISL	13.64	13.63	33.293	24.944	301.5	0.161	5.34	90.3	5.0	0.67	5.1	0.22	0.54	0.35	50	
61 A	11.42	11.41	33.349	25.416	256.6	0.192	4.39	70.9	11.3	1.20	13.6	0.03	0.14	0.16	61	214
71	10.67	10.66	33.362	25.560	243.1	0.217	4.28	68.0	13.3	1.32	15.7	0.03	0.10	0.13	71	213
75 ISL	10.44	10.43	33.390	25.622	237.3	0.226	4.20	66.4	14.3	1.37	16.6	0.03	0.09	0.11	75	
84	10.06	10.05	33.466	25.746	225.6	0.247	4.00	62.8	16.4	1.48	18.4	0.02	0.06	0.08	84	212
99	9.80	9.79	33.555	25.859	215.1	0.280	3.76	58.7	18.5	1.59	20.1	0.01	0.03	0.05	99	211
100 ISL	9.77	9.76	33.565	25.872	213.9	0.282	3.74	58.3	18.8	1.60	20.3	0.01	0.03	0.05	100	
119	9.19	9.18	33.754	26.115	191.2	0.321	3.30	50.9	24.3	1.80	23.7	0.01	0.01	0.04	120	210
125 ISL	9.17	9.16	33.790	26.146	188.3	0.332	3.20	49.3	25.2	1.84	24.2	0.01	0.01	0.04	126	
139	9.11	9.09	33.833	26.190	184.5	0.358	3.02	46.5	26.7	1.89	25.0	0.01	0.00	0.05	140	209
150 ISL	9.02	9.00	33.866	26.230	180.9	0.378	2.98	45.8	27.6	1.91	25.4	0.01	0.00	0.04	151	
170	8.81	8.79	33.920	26.306	174.0	0.414	2.94	45.0	29.4	1.94	26.1	0.01	0.00	0.03	171	208
200	8.42	8.40	34.005	26.433	162.4	0.464	2.67	40.5	34.3	2.05	28.1	0.01	0.00	0.03	201	207
228	8.06	8.04	34.055	26.526	153.9	0.508	2.26	34.0	39.6	2.22	30.3	0.01			229	206
250 ISL	7.74	7.72	34.064	26.581	149.0	0.542	2.06	30.8	43.6	2.33	31.7	0.00			251	
268	7.48	7.45	34.064	26.618	145.6	0.568	1.93	28.7	46.8	2.40	32.8	0.00			270	205
300 ISL	7.06	7.03	34.069	26.681	139.9	0.614	1.70	25.0	52.2	2.53	34.5	0.00			302	
318	6.87	6.84	34.075	26.712	137.1	0.639	1.58	23.1	54.9	2.59	35.3	0.00			320	204
379	6.56	6.53	34.126	26.794	130.0	0.720	1.14	16.6	61.7	2.77	37.0	0.00			381	203
400 ISL	6.41	6.37	34.145	26.829	126.9	0.747	0.98	14.2	65.1	2.84	37.7	0.00			403	
437	6.14	6.10	34.177	26.890	121.5	0.793	0.74	10.7	71.2	2.95	39.0	0.01			440	202
500 ISL	5.82	5.78	34.220	26.964	115.0	0.868	0.50	7.1	78.6	3.07	40.4	0.00			503	
511	5.76	5.72	34.228	26.978	113.7	0.880	0.46	6.6	79.9	3.09	40.7	0.00			515	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV NEW HORIZON CALCOFI CRUISE 0511 STATION 83 110

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT TYPE
31 54.5 N	124 10.3 W	14/11/05	0804 UTC	4182 m	360 27 kn			1022.0 mb	16.9 C	16.1 C		

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	17.80	17.80	33.128	23.888	400.7	0.000	5.51	101.2	2.3	0.29	0.1	0.00	0.15	0.05	0	
3	17.80	17.80	33.128	23.888	400.8	0.012	5.51	101.2	2.3	0.29	0.1	0.00	0.15	0.05	3	222
10	17.80	17.80	33.128	23.889	401.0	0.040	5.52	101.4	2.1	0.29	0.0	0.00	0.15	0.04	10	221
15	17.80	17.80	33.126	23.887	401.3	0.060	5.50	101.0	1.9	0.28	0.0	0.00	0.15	0.04	15	220
20 ISL	17.80	17.80	33.127	23.888	401.4	0.080	5.50	101.0	1.9	0.28	0.0	0.00	0.15	0.04	20	
29	17.81	17.81	33.131	23.889	401.6	0.116	5.51	101.2	1.9	0.28	0.0	0.00	0.14	0.05	29	219
30 ISL	17.81	17.80	33.131	23.889	401.6	0.120	5.51	101.2	1.9	0.28	0.0	0.00	0.14	0.05	30	
45	17.81	17.80	33.129	23.889	402.2	0.181	5.51	101.2	1.9	0.28	0.0	0.00	0.15	0.04	45	218
50 ISL	17.80	17.79	33.128	23.890	402.2	0.201	5.52	101.4	1.9	0.28	0.0	0.00	0.15	0.04	50	
55	17.78	17.77	33.128	23.895	401.9	0.221	5.52	101.3	1.9	0.28	0.0	0.00	0.15	0.04	55	217
61	15.85	15.84	33.322	24.494	344.9	0.243	6.07	107.4	1.8	0.24	0.0	0.00	0.25	0.10	61	216
66	15.28	15.27	33.332	24.628	332.2	0.260	5.99	104.8	1.8	0.26	0.0	0.00	0.21	0.12	66	215
74	15.23	15.22	33.385	24.680	327.5	0.287	5.93	103.7	1.8	0.26	0.0	0.00	0.20	0.12	74	214
75 ISL	15.22	15.21	33.389	24.686	327.0	0.290	5.93	103.7	1.8	0.26	0.0	0.00	0.20	0.12	75	
85	14.99	14.98	33.411	24.753	320.9	0.322	5.87	102.2	1.9	0.26	0.0	0.00	0.19	0.13	85	213
95	14.36	14.35	33.436	24.907	306.4	0.354	5.68	97.6	2.2	0.31	0.0	0.06	0.16	0.12	95	212
100 ISL	14.03	14.02	33.475	25.006	297.1	0.369	5.55	94.7	2.6	0.36	0.8	0.06	0.15	0.14	100	
110	13.25	13.23	33.532	25.210	277.9	0.397	5.30	89.1	4.0	0.50	3.3	0.05	0.14	0.18	110	211
124	11.71	11.69	33.458	25.449	255.1	0.435	5.07	82.4	6.8	0.77	8.1	0.01	0.10	0.12	125	210
125 ISL	11.65	11.63	33.457	25.459	254.1	0.437	5.06	82.2	6.9	0.78	8.3	0.01	0.10	0.12	126	
146	10.76	10.74	33.478	25.636	237.6	0.489	4.86	77.4	9.9	0.99	11.6	0.01	0.06	0.08	147	209
150 ISL	10.54	10.52	33.488	25.683	233.2	0.498	4.79	75.9	11.0	1.05	12.6	0.01	0.05	0.07	151	
170	9.53	9.51	33.579	25.924	210.4	0.543	4.36	67.6	17.1	1.37	17.7	0.00	0.02	0.03	171	208
197	8.86	8.84	33.806	26.209	183.7	0.596	3.73	57.1	24.7	1.68	22.8	0.00	0.00	0.02	198	207
200 ISL	8.82	8.80	33.826	26.231	181.7	0.601	3.69	56.4	25.3	1.70	23.1	0.00			201	
231	8.49	8.47	33.972	26.397	166.4	0.655	3.30	50.1	30.8	1.81	25.3	0.00			232	206
250 ISL	8.27	8.24	34.009	26.459	160.8	0.686	3.00	45.4	34.5	1.94	27.1	0.00			251	
270	8.02	7.99	34.025	26.510	156.2	0.718	2.67	40.1	38.5	2.08	29.0	0.00			271	205
300 ISL	7.62	7.59	34.046	26.585	149.4	0.764	2.23	33.2	43.8	2.18	31.4	0.00			302	
317	7.38	7.35	34.054	26.625	145.7	0.789	2.00	29.6	46.9	2.24	32.7	0.00			319	204
380	6.49	6.46	34.086	26.772	132.1	0.877	1.34	19.5	60.5	2.69	36.8	0.00			382	203
400 ISL	6.32	6.28	34.111	26.814	128.3	0.903	1.11	16.1	64.6	2.79	37.8	0.00			402	
437	6.06	6.02	34.156	26.883	122.0	0.949	0.74	10.6	71.4	2.94	39.4	0.00			440	202
500 ISL	5.62	5.58	34.179	26.956	115.5	1.024	0.58	8.3	80.0	3.05	40.9	0.00			503	
515	5.52	5.48	34.185	26.973	114.0	1.041	0.54	7.7	82.0	3.07	41.2	0.00			518	201

RV NEW HORIZON CALCOFI CRUISE 0511 STATION 85.4 35.8

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT TYPE
34 0.6 N	118 49.9 W	21/11/05	0141 UTC	31 m	080 01 kn			1017.2 mb	20.3 C	15.1 C		

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	17.86	17.86	33.379	24.066	383.7	0.000	5.85	107.7	2.1	0.18	0.0	0.00	0.80	0.10	0	
2	17.86	17.86	33.379	24.066	383.8	0.008	5.85	107.7	2.1	0.18	0.0	0.00	0.80	0.10	2	205
5	17.59	17.59	33.380	24.132	377.6	0.019	5.82	106.6	1.9	0.19	0.0	0.00	0.59	0.11	5	204
10	16.75	16.75	33.383	24.333	358.6	0.038	5.99	108.0	2.0	0.22	0.0	0.00	0.74	0.14	10	203
15	16.59	16.59	33.378	24.367	355.6	0.055	5.92	106.4	2.1	0.24	0.0	0.01	0.95	0.23	15	202
20	16.48	16.48	33.375	24.390	353.5	0.073	5.82	104.3	2.3	0.26	0.1	0.03	1.53	0.31	20	201

RV NEW HORIZON CALCOFI CRUISE 0511 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 26.6 W	11/11/05	0907 UTC	26 m	320 05 kn			1016.7 mb	16.4 C	14.2 C		

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	17.18	17.18	33.338	24.198	371.2	0.000	6.16	111.9	1.4	0.14	0.0	0.01	0.93	0.18	0	
2	17.18	17.18	33.338	24.198	371.3	0.007	6.16	111.9	1.4	0.14	0.0	0.01	0.93	0.18	2	204
5	17.18	17.18	33.337	24.197	371.4	0.019	6.18	112.3	1.4	0.14	0.0	0.00	0.86	0.17	5	203
10	17.15	17.15	33.334	24.202	371.1	0.037	6.10	110.8	1.5	0.15	0.0	0.01	2.53	0.19	10	202
19	16.93	16.93	33.324	24.246	367.2	0.070	6.05	109.4	1.8	0.19	0.0	0.01	5.93	0.13	19	201

RV NEW HORIZON CALCOFI CRUISE 0511 STATION 87 33

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT TYPE
33 53.3 N	118 29.6 W	11/11/05	1118 UTC	60 m	050 05 kn			1016.4 mb	16.4 C	14.0 C		

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	17.29	17.29	33.341	24.174	373.5	0.000	6.24	113.6	1.4	0.17	0.0	0.01	2.31	0.19	0	
2	17.29	17.29	33.341	24.174	373.5	0.007	6.24	113.6	1.4	0.17	0.0	0.01	2.31	0.19	2	208
5	17.29	17.29	33.345	24.177	373.3	0.019	6.26	114.0	1.3	0.17	0.0	0.01	2.19	0.17	5	207
10	17.20	17.20	33.331	24.188	372.5	0.037	6.26	113.8	1.3	0.17	0.0	0.01	4.64	0.30	10	205
20	16.86	16.86	33.332	24.269	365.1	0.074	5.78	104.4	2.2	0.24	0.0	0.02	1.61	0.22	20	204
30	15.77	15.77	33.309	24.501	343.3	0.110	5.44	96.1	3.8	0.37	0.1	0.09	1.21	0.20	30	203
40	14.34	14.33	33.273	24.784	316.5	0.143	5.27	90.4	3.9	0.47	0.6	0.17	0.63	0.23	40	202
50	12.96	12.95	33.298	25.084	288.1	0.173	4.38	73.1	7.2	0.89	5.9	0.80	0.35	0.26	50	201

RV NEW HORIZON CALCOFI CRUISE 0511 STATION 87 35

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
33 49.4 N	118 38.0 W	11/11/05	1248 UTC	696 m	300 06 kn			1016.7 mb	16.0 C	14.2 C			

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	17.07	17.07	33.324	24.213	369.8	0.000	6.49	117.7	3.0	0.12	0.0	0.01	2.24	0.20	0	
2	17.07	17.07	33.324	24.213	369.8	0.007	6.49	117.7	3.0	0.12	0.0	0.01	2.24	0.20	2	222
10	17.07	17.07	33.324	24.213	370.0	0.037	6.47	117.3	2.8	0.12	0.0	0.01	2.07	0.22	10	220
20	15.68	15.68	33.340	24.544	338.8	0.072	5.88	103.7	3.4	0.29	0.0	0.01	1.14	0.42	20	219
25	14.52	14.52	33.341	24.798	314.8	0.089	5.55	95.6	4.4	0.49	1.1	0.14	1.98	0.50	25	218
30	13.97	13.97	33.331	24.905	304.6	0.104	5.29	90.1	5.4	0.65	4.5	0.38	0.65	0.48	30	217
41	12.25	12.24	33.359	25.269	270.2	0.136	3.91	64.3	11.0	1.17	11.2	0.49	0.32	0.27	41	216
50	11.82	11.81	33.452	25.422	255.8	0.160	3.51	57.2	13.3	1.39	14.1	0.03	0.16	0.18	50	215
60	11.57	11.56	33.515	25.518	247.0	0.185	3.21	52.1	15.6	1.55	16.5	0.02	0.10	0.14	60	214
70	11.37	11.36	33.541	25.575	241.8	0.209	3.16	51.0	16.5	1.62	17.7	0.03	0.12	0.13	70	213
75 ISL	11.31	11.30	33.553	25.595	240.0	0.221	3.13	50.5	16.9	1.64	18.2	0.03	0.12	0.14	75	
85	11.18	11.17	33.583	25.642	235.7	0.245	3.04	48.9	17.8	1.68	19.1	0.02	0.13	0.15	85	212
100	10.86	10.85	33.667	25.765	224.3	0.279	2.87	45.9	20.0	1.78	20.6	0.02	0.09	0.11	100	211
119	10.69	10.68	33.835	25.926	209.5	0.321	2.32	37.0	24.7	2.01	23.0	0.01	0.05	0.08	120	210
125 ISL	10.52	10.51	33.852	25.969	205.5	0.333	2.37	37.7	25.0	2.00	23.4	0.01	0.04	0.07	126	
140	10.12	10.10	33.891	26.069	196.3	0.363	2.54	40.0	25.5	1.99	24.1	0.01	0.03	0.05	141	209
150 ISL	10.12	10.10	33.993	26.149	188.9	0.383	2.27	35.8	27.5	2.08	25.0	0.01	0.02	0.05	151	
170	10.11	10.09	34.170	26.289	176.1	0.419	1.67	26.3	31.5	2.28	26.7	0.01	0.02	0.05	171	208
199	9.63	9.61	34.170	26.370	168.9	0.469	1.79	27.9	32.4	2.27	27.6	0.01	0.02	0.04	200	207
200 ISL	9.61	9.59	34.170	26.373	168.6	0.471	1.79	27.9	32.5	2.27	27.6	0.01			201	
229	9.06	9.04	34.184	26.474	159.4	0.518	1.74	26.8	36.2	2.34	29.1	0.02			230	206
250 ISL	8.82	8.79	34.200	26.525	154.9	0.551	1.56	23.9	39.1	2.43	30.1	0.03			251	
268	8.65	8.62	34.212 D	26.561	151.7	0.579	1.38	21.1	41.6	2.51	30.9	0.03			270	205
300 ISL	8.25	8.22	34.222	26.630	145.5	0.626	1.21	18.3	45.6	2.60	32.3	0.02			302	
318	8.02	7.99	34.225	26.667	142.2	0.652	1.13	17.0	47.9	2.65	33.1	0.01			320	204
378	7.38	7.34	34.241	26.773	132.8	0.735	0.83	12.3	56.7	2.84	35.3	0.01			380	203
400 ISL	7.20	7.16	34.255	26.810	129.5	0.764	0.71	10.5	59.7	2.90	36.0	0.01			403	
437	6.91	6.87	34.279	26.869	124.3	0.811	0.53	7.8	64.7	3.00	37.2	0.01			440	202
500 ISL	6.38	6.33	34.307	26.962	115.9	0.886	0.36	5.2	74.2	3.12	38.8	0.01			503	
513	6.27	6.22	34.313	26.981	114.1	0.901	0.32	4.6	76.1	3.15	39.1	0.01			517	201

RV NEW HORIZON CALCOFI CRUISE 0511 STATION 87 40

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
33 39.4 N	118 59.4 W	11/11/05	1727 UTC	721 m	350 04 kn	270 03 06	1	1019.0 mb	16.5 C	14.8 C	13m	3/8	SC

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	15.70	15.70	33.353	24.549	337.7	0.000	6.00	105.9	0.1	0.26	0.2	0.04	1.00	0.32	0	
2 A	15.70	15.70	33.353	24.549	337.8	0.007	6.00	105.9	0.1	0.26	0.2	0.04	1.00	0.32	2	224
10 A	15.37	15.37	33.370	24.636	329.7	0.033	6.20	108.7	0.0	0.25	0.2	0.04	1.38	0.56	10	222
20 A	14.30	14.30	33.390	24.882	306.6	0.065	5.42	93.0	2.9	0.59	4.1	0.17	0.94	0.64	20	221
29 A	14.09	14.09	33.440	24.964	299.0	0.093	5.49	93.8	2.4	0.63	5.0	0.19	1.62	1.06	29	220
30 ISL	13.96	13.96	33.438	24.990	296.6	0.096	5.41	92.2	3.0	0.67	5.5	0.20	1.49	1.01	30	
36 A	13.13	13.13	33.419	25.144	282.0	0.113	4.87	81.6	7.2	0.91	8.7	0.27	0.65	0.66	36	219
43	12.54	12.53	33.411	25.254	271.7	0.132	4.63	76.6	9.2	1.03	10.6	0.30	0.56	0.53	43	218
50 ISL	11.79	11.78	33.404	25.391	258.9	0.151	4.30	70.0	10.9	1.19	13.0	0.19	0.30	0.36	50	
52 A	11.57	11.56	33.407	25.434	254.8	0.156	4.20	68.1	11.4	1.24	13.8	0.15	0.23	0.31	52	217
61	10.75	10.74	33.469	25.629	236.3	0.178	3.88	61.8	14.5	1.46	17.5	0.05	0.13	0.22	61	216
70	10.37	10.36	33.526	25.740	226.0	0.199	3.69	58.3	16.7	1.57	19.2	0.05	0.10	0.20	70	215
75 ISL	10.17	10.16	33.571	25.809	219.5	0.210	3.57	56.2	18.1	1.63	20.2	0.04	0.08	0.19	75	
86	9.85	9.84	33.667	25.938	207.4	0.233	3.31	51.8	21.0	1.75	22.0	0.03	0.04	0.16	86	214
100	9.76	9.75	33.739	26.010	200.9	0.262	3.07	47.9	22.9	1.82	23.1	0.02	0.03	0.10	101	213
121	9.68	9.67	33.892	26.143	188.7	0.303	2.61	40.7	26.5	1.98	24.8	0.03	0.02	0.11	122	212
125 ISL	9.65	9.64	33.911	26.163	186.9	0.310	2.56	39.9	27.0	2.00	25.0	0.03	0.02	0.11	126	
139	9.53	9.51	33.965	26.225	181.3	0.336	2.43	37.8	28.6	2.05	25.7	0.02	0.02	0.11	140	211
150 ISL	9.42	9.40	34.004	26.274	176.9	0.356	2.38	36.9	29.6	2.07	26.2	0.02	0.02	0.11	151	
170	9.21	9.19	34.069	26.359	169.1	0.391	2.26	34.9	31.6	2.12	27.1	0.02	0.01	0.10	171	210
199	8.98	8.96	34.162	26.469	159.2	0.438	1.79	27.5	36.4	2.30	29.0	0.01	0.01	0.06	200	209
200 ISL	8.97	8.95	34.164	26.472	158.9	0.440	1.78	27.4	36.5	2.31	29.1	0.01	0.01	0.06	201	
232	8.60	8.58	34.192	26.552	151.8	0.489	1.44	22.0	41.2	2.47	30.7	0.06	0.00	0.06	233	208
250 ISL	8.35	8.32	34.206	26.602	147.3	0.516	1.29	19.6	44.3	2.54	31.7	0.04	0.00	0.06	251	
272	8.04	8.01	34.221	26.660	142.0	0.548	1.15	17.3	47.9	2.62	32.9	0.01	0.00	0.05	274	207
300 ISL	7.73	7.70	34.233	26.716	137.1	0.587	1.04	15.6	51.3	2.69	33.8	0.02			302	
321	7.54	7.51	34.240	26.749	134.2	0.616	0.97	14.4	53.5	2.74	34.4	0.02			323	206
380	7.22	7.18	34.264	26.814	128.8	0.693	0.67	9.9	60.7	2.89	36.0	0.01			382	205
400 ISL	7.08	7.04	34.272	26.840	126.6	0.719	0.60	8.8	63.2	2.93	36.5	0.01			403	
434	6.83	6.79	34.285	26.885	122.7	0.761	0.51	7.5	67.5	2.99	37.3	0.01			437	204
500 ISL	6.34	6.29	34.312	26.971	115.0	0.840	0.35	5.1	76.2	3.09	38.7	0.01			503	
512	6.25	6.20	34.317	26.987	113.6	0.853	0.33	4.8	77.7	3.11	38.9	0.01			516	203
600 ISL	5.78	5.73	34.351	27.074	106.0	0.950	0.23	3.3	87.8	3.21	39.8	0.01			604	
625	5.67	5.62	34.359	27.094	104.3	0.976	0.21	3.0	90.5	3.23	39.9	0.01			630	202
700 ISL	5.43	5.37	34.378	27.139	100.7	1.053	0.16	2.3	98.2	3.28	39.3	0.01			705	
721	5.36	5.30	34.384	27.152	99.6	1.074	0.14	2.0	100.4	3.30	39.1	0.01			727	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV NEW HORIZON CALCOFI CRUISE 0511 STATION 87 45

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
33 29.5 N	119 19.2 W	11/11/05	2145	UTC	1645 m	040	02 kn	270 03 05	0	1018.2 mb	16.7 C	15.3 C	13m	0/8	

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	15.54	15.54	33.396	24.618	331.2	0.000	6.04	106.3	0.5	0.29	1.0	0.07	1.44	0.25	0	
2	15.54	15.54	33.396	24.618	331.2	0.007	6.04	106.3	0.5	0.29	1.0	0.07	1.44	0.25	2	221
10	14.89	14.89	33.444	24.797	314.4	0.032	5.67	98.5	2.0	0.52	3.9	0.15	2.27	0.66	10	220
10	15.05	15.05	33.397	24.727	321.1	0.032									10	222
14	13.53	13.53	33.449	25.086	286.9	0.045	5.32	89.9	4.3	0.73	6.7	0.22	2.48	0.86	14	219
19	12.36	12.36	33.426	25.299	266.8	0.058	4.64	76.5	8.7	1.05	11.0	0.25	1.69	0.54	19	218
20 ISL	12.17	12.17	33.429	25.338	263.1	0.061	4.54	74.6	9.5	1.10	11.8	0.25	1.54	0.52	20	
30	10.89	10.89	33.507	25.634	235.2	0.086	3.81	60.9	15.7	1.49	17.6	0.19	0.46	0.33	30	217
40	10.63	10.63	33.610	25.760	223.4	0.109	3.43	54.6	18.7	1.64	19.8	0.23	0.34	0.33	40	216
50	10.31	10.30	33.662	25.856	214.5	0.131	3.21	50.7	20.5	1.74	21.4	0.13	0.23	0.24	50	215
60	10.00	9.99	33.740	25.970	203.9	0.152	2.94	46.2	22.9	1.85	23.1	0.06	0.14	0.15	60	214
69	10.20	10.19	33.855	26.026	198.8	0.170	2.51	39.6	25.2	2.00	23.9	0.03	0.06	0.13	69	213
75 ISL	10.28	10.27	33.931	26.071	194.6	0.182	2.19	34.6	26.8	2.09	24.5	0.03	0.03	0.12	75	
84	10.41	10.40	34.043	26.137	188.6	0.199	1.89	30.0	28.7	2.18	25.2	0.02	0.02	0.10	84	212
100	9.53	9.52	33.958	26.219	181.0	0.229	2.40	37.3	28.8	2.07	26.0	0.02	0.02	0.10	101	211
119	9.41	9.40	34.020	26.287	174.9	0.262	2.22	34.5	30.7	2.14	26.9	0.02	0.01	0.11	120	210
125 ISL	9.34	9.33	34.043	26.317	172.2	0.273	2.15	33.3	31.6	2.17	27.3	0.02	0.01	0.10	126	
140	9.15	9.13	34.095	26.388	165.7	0.298	1.99	30.7	33.8	2.24	28.2	0.01	0.00	0.08	141	209
150 ISL	9.06	9.04	34.116	26.419	163.0	0.315	1.91	29.4	34.9	2.28	28.6	0.01	0.00	0.07	151	
169	8.91	8.89	34.143	26.464	159.0	0.345	1.76	27.0	37.0	2.34	29.4	0.01	0.00	0.06	170	208
198	8.66	8.64	34.188	26.539	152.4	0.390	1.50	22.9	40.7	2.45	30.7	0.01	0.01	0.06	199	207
200 ISL	8.64	8.62	34.190	26.544	152.0	0.393	1.49	22.7	40.9	2.46	30.8	0.01			201	
228	8.38	8.36	34.206	26.597	147.4	0.435	1.30	19.7	44.0	2.55	31.9	0.01			229	206
250 ISL	8.17	8.14	34.215	26.636	144.0	0.467	1.18	17.8	46.4	2.61	32.7	0.01			252	
269	7.98	7.95	34.222	26.670	141.0	0.494	1.07	16.1	48.8	2.66	33.4	0.01			271	205
300 ISL	7.64	7.61	34.239	26.734	135.4	0.537	0.85	12.7	53.9	2.78	34.7	0.01			302	
318	7.45	7.42	34.249	26.769	132.2	0.561	0.74	11.0	56.8	2.84	35.4	0.01			320	204
377	7.10	7.06	34.268	26.833	126.8	0.638	0.59	8.7	63.0	2.94	36.7	0.01			380	203
400 ISL	6.94	6.90	34.272	26.859	124.7	0.667	0.54	7.9	65.2	2.98	37.2	0.01			403	
437	6.69	6.65	34.280	26.899	121.2	0.712	0.47	6.9	68.8	3.03	37.9	0.01			440	202
500 ISL	6.31	6.26	34.305	26.970	115.1	0.787	0.34	4.9	75.9	3.12	39.1	0.01			504	
511	6.24	6.19	34.310	26.983	113.9	0.799	0.32	4.6	77.1	3.13	39.3	0.01			515	201

RV NEW HORIZON CALCOFI CRUISE 0511 STATION 87 50

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
33 19.2 N	119 39.9 W	12/11/05	0313	UTC	80 m	320	24 kn			1018.5 mb	15.1 C	13.7 C			

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	14.53	14.53	33.323	24.781	315.6	0.000	5.97	102.9	3.1	0.41	1.1	0.07	2.77	0.31	0	
3	14.53	14.53	33.323	24.781	315.7	0.009	5.97	102.9	3.1	0.41	1.1	0.07	2.77	0.31	3	209
10	14.53	14.53	33.321	24.780	316.0	0.032	5.97	102.9	3.0	0.41	1.1	0.07	2.73	0.48	10	208
11	14.53	14.53	33.325	24.783	315.8	0.035	5.97	102.9	3.1	0.41	1.1	0.07	2.95	0.50	11	207
19	14.40	14.40	33.321	24.807	313.7	0.060	5.82	100.0	3.4	0.46	1.8	0.10	2.84	0.51	19	206
20 ISL	14.24	14.24	33.321	24.841	310.5	0.063	5.72	98.0	3.8	0.51	2.5	0.11	2.64	0.50	20	
30	12.35	12.35	33.351	25.243	272.4	0.092	4.67	76.9	8.5	1.03	10.2	0.21	0.48	0.33	30	205
41	11.26	11.25	33.419	25.499	248.3	0.121	4.20	67.6	12.8	1.29	14.9	0.07	0.19	0.19	41	204
50 ISL	10.34	10.33	33.618	25.816	218.2	0.142	3.45	54.5	19.2	1.65	20.1	0.04	0.09	0.14	50	
51	10.26	10.25	33.640	25.847	215.3	0.144	3.37	53.2	19.8	1.68	20.6	0.04	0.08	0.14	51	203
60	10.19	10.18	33.682	25.892	211.3	0.163	3.23	50.9	20.8	1.74	21.1	0.05	0.07	0.12	60	202
70	10.19	10.18	33.679	25.890	211.7	0.184	3.22	50.7	20.7	1.74	21.2	0.05	0.06	0.13	70	201

RV NEW HORIZON CALCOFI CRUISE 0511 STATION 87 55

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
33 9.2 N	120 0.8 W	12/11/05	0719	UTC	1202 m	310	26 kn			1019.3 mb	14.9 C	13.5 C			

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	15.19	15.19	33.345	24.656	327.6	0.000	5.76	100.6	2.2	0.41	1.4	0.11	0.40	0.17	0	
3	15.19	15.19	33.345	24.656	327.6	0.010	5.76	100.6	2.2	0.41	1.4	0.11	0.40	0.17	3	221
10	15.19	15.19	33.345	24.656	327.8	0.033	5.76	100.6	2.1	0.41	1.3	0.12	0.39	0.17	10	219
20	15.17	15.17	33.349	24.664	327.4	0.066	5.76	100.6	2.1	0.41	1.4	0.12	0.40	0.18	20	218
30 ISL	15.13	15.13	33.350	24.674	326.8	0.098	5.74	100.1	2.0	0.43	1.6	0.13	0.38	0.20	30	
31	15.12	15.12	33.350	24.676	326.6	0.102	5.74	100.1	2.0	0.43	1.6	0.13	0.38	0.20	31	217
41	14.94	14.93	33.351	24.716	323.1	0.134	5.71	99.2	2.3	0.45	1.8	0.18	0.43	0.23	41	216
49	14.42	14.41	33.346	24.823	313.0	0.159	5.54	95.3	3.3	0.56	3.2	0.36	0.41	0.29	49	215
50 ISL	14.23	14.22	33.348	24.865	309.1	0.163	5.45	93.4	3.8	0.61	3.9	0.35	0.39	0.29	50	
60	12.22	12.21	33.404	25.310	266.8	0.191	4.44	73.0	9.6	1.13	12.2	0.11	0.22	0.22	60	214
70	11.16	11.15	33.477	25.563	242.9	0.217	3.97	63.8	13.7	1.40	16.5	0.04	0.14	0.18	70	213
75 ISL	10.72	10.71	33.511	25.668	233.0	0.229	3.80	60.5	15.6	1.51	18.2	0.04	0.11	0.16	75	
85	10.01	10.00	33.590	25.851	215.6	0.251	3.52	55.2	19.1	1.68	21.0	0.03	0.06	0.12	85	212
99	9.37	9.36	33.745	26.078	194.3	0.280	3.15	48.8	24.1	1.85	23.9	0.03	0.02	0.06	99	211
100 ISL	9.36	9.35	33.752	26.085	193.6	0.282	3.14	48.6	24.3	1.85	23.9	0.03	0.02	0.06	100	
119	9.20	9.19	33.805	26.153	187.6	0.318	3.05	47.0	26.0	1.89	24.8	0.02	0.01	0.05	120	210
125 ISL	9.20	9.19	33.834	26.176	185.5	0.329	2.97	45.8	26.7	1.92	25.2	0.02	0.01	0.06	126	
139	9.21	9.19	33.909	26.233	180.4	0.355	2.74	42.3	28.1	1.99	25.9	0.01	0.01	0.08	140	209
150 ISL	9.05	9.03	33.959	26.298	174.4	0.374	2.61	40.2	28.1	1.99	25.9	0.01	0.01	0.07	151	
169	8.69	8.67	34.033	26.413	163.8	0.406	2.38	36.3	28.2	1.99	25.8	0.01	0.00	0.05	170	208
198	8.35	8.33	34.106	26.523	153.9	0.453	1.96	29.7	39.7	2.32	30.3	0.01	0.00	0.04	199	207
200 ISL	8.35	8.33	34.113	26.528	153.4	0.456	1.93	29.3	40.0	2.34	30.4	0.01			201	
230	8.38	8.36	34.193	26.587	148.4	0.501	1.47	22.3	43.1	2.50	31.4	0.01			231	206
250 ISL	8.11	8.08	34.190	26.625	145.0	0.530	1.36	20.5	46.0	2.56	32.4	0.03			251	
268	7.81	7.78	34.178	26.660	141.8	0.556	1.31	19.6	48.8	2.61	33.3	0.04			270	205
300 ISL	7.55	7.52	34.200	26.716	137.0	0.601	1.09	16.2	52.8	2.72	34.4	0.02			302	
316	7.45	7.42	34.214	26.741	134.8	0.622	0.98	14.6	54.6	2.77	34.8	0.01			318	204
380	7.00	6.96	34.237	26.823	127.8	0.706	0.74	10.9	61.2	2.90	36.6	0.01			382	203
400 ISL	6.83	6.79	34.245	26.853	125.1	0.732									403	
438	6.51	6.47	34.263 D	26.910	120.0	0.778									441	202
500 ISL	6.03	5.99	34.304	27.005	111.5	0.850									503	
511	5.95	5.91	34.312 D	27.021	110.0	0.862									515	201

RV NEW HORIZON CALCOFI CRUISE 0511 STATION 87 60

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
32 59.4 N	120 21.3 W	12/11/05	1143 UTC	723 m	320 29 kn			1018.7 mb	14.9 C	13.7 C			

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	15.68	15.68	33.351	24.552	337.4	0.000	5.71	100.7	2.2	0.32	0.5	0.06	0.54	0.17	0	
3	15.68	15.68	33.351	24.552	337.5	0.010	5.71	100.7	2.2	0.32	0.5	0.06	0.54	0.17	3	221
10	15.69	15.69	33.347	24.547	338.2	0.034	5.71	100.8	2.3	0.32	0.5	0.06	0.51	0.17	10	219
10	15.69	15.69	33.347	24.547	338.2	0.034									10	220
20 ISL	15.69	15.69	33.350	24.550	338.3	0.068	5.71	100.8	2.0	0.33	0.5	0.06	0.49	0.21	20	
21	15.69	15.69	33.350	24.550	338.3	0.071	5.71	100.8	2.0	0.33	0.5	0.06	0.49	0.21	21	218
30	15.52	15.52	33.345	24.584	335.3	0.101	5.64	99.2	1.9	0.36	0.9	0.09	0.46	0.20	30	217
41	13.31	13.30	33.211	24.947	300.9	0.136	5.43	91.2	3.7	0.63	3.9	0.50	0.45	0.42	41	216
49	12.33	12.32	33.204	25.134	283.3	0.160	5.17	85.1	5.4	0.79	6.7	0.23	0.33	0.29	49	215
50 ISL	12.21	12.20	33.213	25.164	280.5	0.162	5.11	83.9	5.9	0.83	7.3	0.20	0.31	0.27	50	
60	11.26	11.25	33.321	25.423	255.9	0.189	4.49	72.3	10.4	1.17	13.1	0.04	0.16	0.17	60	214
70	10.88	10.87	33.370	25.530	246.0	0.214	4.30	68.6	12.4	1.28	15.0	0.03	0.09	0.22	70	213
75 ISL	10.64	10.63	33.415	25.607	238.8	0.227	4.12	65.5	14.0	1.37	16.5	0.03	0.07	0.18	75	
85	10.17	10.16	33.521	25.771	223.4	0.250	3.74	58.8	17.5	1.57	19.5	0.02	0.05	0.09	85	212
99	9.66	9.65	33.663	25.967	204.9	0.280	3.38	52.6	21.7	1.74	22.3	0.02	0.02	0.06	99	211
100 ISL	9.63	9.62	33.673	25.980	203.7	0.282	3.36	52.3	22.0	1.75	22.5	0.02	0.02	0.06	100	
120	9.26	9.25	33.830	26.163	186.7	0.321	3.04	47.0	25.8	1.87	24.6	0.01	0.00	0.04	121	210
125 ISL	9.22	9.21	33.847	26.183	184.9	0.330	3.00	46.3	26.3	1.89	24.9	0.01	0.00	0.04	126	
137	9.15	9.14	33.874	26.215	182.0	0.352	2.93	45.2	27.2	1.92	25.3	0.01	0.00	0.05	138	209
150 ISL	9.03	9.01	33.913	26.265	177.5	0.375	2.83	43.5	28.7	1.96	26.0	0.01	0.00	0.05	151	
169	8.82	8.80	33.967	26.341	170.7	0.408	2.68	41.0	31.3	2.02	27.1	0.01	0.00	0.04	170	208
198	8.52	8.50	34.022	26.431	162.6	0.457	2.43	37.0	35.1	2.13	28.7	0.00	0.00	0.04	199	207
200 ISL	8.50	8.48	34.027	26.438	162.0	0.460	2.40	36.5	35.4	2.14	28.8	0.00			201	
230	8.21	8.19	34.098	26.538	152.9	0.507	1.96	29.6	40.8	2.33	30.8	0.00			231	206
250 ISL	7.93	7.90	34.123	26.599	147.3	0.537	1.71	25.7	44.8	2.45	32.1	0.00			251	
271	7.63	7.60	34.141	26.657	142.0	0.568	1.49	22.2	48.9	2.56	33.4	0.00			273	205
300 ISL	7.33	7.30	34.167	26.721	136.3	0.608	1.23	18.2	53.5	2.68	34.8	0.00			302	
316	7.20	7.17	34.180	26.750	133.8	0.630	1.10	16.2	55.8	2.73	35.4	0.00			318	204
378	6.80	6.76	34.230	26.844	125.5	0.710	0.71	10.4	64.0	2.93	37.3	0.00			380	203
400 ISL	6.64	6.60	34.236	26.871	123.3	0.737									403	
437	6.35	6.31	34.246 D	26.917	119.1	0.782									440	202
500 ISL	5.85	5.81	34.291	27.017	110.1	0.854									503	
512	5.75	5.71	34.300 D	27.036	108.3	0.868									516	201

RV NEW HORIZON CALCOFI CRUISE 0511 STATION 87 70

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
32 39.3 N	121 2.1 W	12/11/05	1840 UTC	3792 m	330 20 kn	330 08 08	1	1021.5 mb	16.4 C	14.7 C	15m	7/8	SC

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	15.42	15.42	33.325	24.590	333.8	0.000	5.77	101.3	2.3	0.34	0.6	0.09	0.64	0.16	0	
2 A	15.42	15.42	33.325	24.590	333.9	0.007	5.77	101.3	2.3	0.34	0.6	0.09	0.64	0.16	2	223
2	15.42	15.42	33.325	24.590	333.9	0.007	5.77	101.3					0.79	0.10	2	224
10 A	15.43	15.43	33.328	24.590	334.1	0.033	5.78	101.4	2.2	0.33	0.6	0.08	0.60	0.14	10	221
10	15.43	15.43	33.324	24.587	334.4	0.033	5.77	101.3	2.2	0.33	0.5	0.09	0.56	0.20	10	222
16	15.43	15.43	33.324	24.587	334.6	0.053	5.76	101.1	2.1	0.33	0.5	0.08	0.62	0.13	16	220
20 ISL	15.42	15.42	33.325	24.590	334.4	0.067	5.77	101.2	2.0	0.32	0.5	0.08	0.64	0.16	20	
23 A	15.42	15.42	33.325	24.591	334.5	0.077	5.77	101.2	1.9	0.32	0.5	0.08	0.66	0.18	23	219
30 ISL	15.09	15.09	33.317	24.657	328.4	0.100	5.69	99.2	2.2	0.39	1.2	0.16	0.66	0.22	30	
31	15.04	15.04	33.316	24.667	327.4	0.103	5.68	98.9	2.3	0.40	1.3	0.18	0.66	0.22	31	218
32 A	14.90	14.90	33.313	24.695	324.8	0.107	5.68	98.6	2.4	0.43	1.6	0.21	0.59	0.26	32	217
41 A	14.65	14.64	33.309	24.746	320.2	0.136	5.61	96.9	2.7	0.47	2.2	0.27	0.63	0.25	41	216
49	13.41	13.40	33.282	24.982	297.8	0.160	5.19	87.4	4.5	0.71	5.6	0.37	0.46	0.36	49	215
50 ISL	13.29	13.28	33.283	25.007	295.4	0.163	5.14	86.3	4.8	0.74	6.0	0.35	0.44	0.35	50	
60 A	12.36	12.35	33.331	25.227	274.7	0.192	4.70	77.4	7.8	1.00	10.4	0.08	0.27	0.23	60	214
69	11.71	11.70	33.416	25.415	257.0	0.216	4.26	69.3	11.3	1.23	14.0	0.05	0.20	0.15	69	213
75 ISL	11.26	11.25	33.450	25.524	246.7	0.231	4.03	64.9	13.2	1.36	16.1	0.04	0.15	0.14	75	
85	10.69	10.68	33.526	25.685	231.6	0.255	3.59	57.1	16.5	1.58	19.1	0.04	0.09	0.11	85	212
98	10.64	10.63	33.736	25.857	215.5	0.284	2.63	41.9	22.6	1.90	22.2	0.02	0.04	0.12	98	211
100 ISL	10.56	10.55	33.743	25.877	213.7	0.288	2.66	42.3	22.7	1.90	22.4	0.02	0.04	0.12	100	
120	9.66	9.65	33.757	26.041	198.4	0.329	2.97	46.3	24.2	1.88	23.9	0.02	0.02	0.08	121	210
125 ISL	9.57	9.56	33.795	26.085	194.2	0.339	2.89	44.9	25.2	1.91	24.4	0.02	0.02	0.08	126	
139	9.40	9.38	33.911	26.204	183.2	0.366	2.58	40.0	28.3	2.02	25.8	0.02	0.01	0.07	140	209
150 ISL	9.23	9.21	33.953	26.265	177.7	0.385	2.50	38.6	29.9	2.06	26.5	0.02	0.01	0.07	151	
169	8.97	8.95	33.996	26.340	170.8	0.419	2.42	37.2	32.0	2.10	27.5	0.01	0.00	0.06	170	208
199	8.78	8.76	34.079	26.435	162.3	0.468	2.11	32.3	35.4	2.22	28.9	0.01	0.00	0.05	200	207
200 ISL	8.77	8.75	34.080	26.438	162.1	0.470	2.10	32.1	35.5	2.22	29.0	0.01			201	
230	8.37	8.35	34.103	26.518	154.9	0.518	1.93	29.3	39.6	2.32	30.5	0.01			231	206
250 ISL	8.21	8.18	34.125	26.559	151.3	0.548	1.77	26.7	41.9	2.40	31.3	0.01			251	
268	8.07	8.04	34.142	26.594	148.3	0.575	1.62	24.4	44.1	2.47	32.0	0.01			270	205
300 ISL	7.62	7.59	34.148	26.665	141.8	0.622	1.42	21.2	49.3	2.59	33.6	0.01			302	
320	7.34	7.31	34.150	26.706	138.1	0.650	1.31	19.4	52.7	2.66	34.6	0.01			322	204
376	6.89	6.85	34.184	26.796	130.1	0.725	0.92	13.5	60.5	2.83	36.7	0.01			378	203
400 ISL	6.74	6.70	34.190	26.821	128.0	0.756	0.83	12.1	63.0	2.89	37.3	0.01			403	
440	6.49	6.45	34.202	26.864	124.3	0.806	0.72	10.5	67.3	2.97	38.3	0.01			443	202
500 ISL	6.02	5.98	34.255	26.967	115.0	0.878	0.45	6.5	76.8	3.10	40.1	0.01			503	
511	5.93	5.89	34.265	26.986	113.2	0.891	0.40	5.7	78.6	3.12	40.4	0.01			514	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV NEW HORIZON CALCOFI CRUISE 0511 STATION 87 80

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
32 19.7 N	121 43.0 W	13/11/05	0130 UTC	4066 m	330 19 kn	320 08 08	0	1019.2 mb	16.3 C	14.5 C		0/8	

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	16.91	16.91	33.253	24.196	371.4	0.000	5.60	101.2	0.9	0.28	0.0	0.01	0.31	0.09	0	
3	16.91	16.91	33.253	24.196	371.5	0.011	5.60	101.2	0.9	0.28	0.0	0.01	0.31	0.09	3	220
10 ISL	16.92	16.92	33.253	24.194	371.9	0.037	5.60	101.2	0.8	0.28	0.0	0.01	0.31	0.08	10	
15	16.92	16.92	33.253	24.194	372.0	0.056	5.60	101.2	0.8	0.28	0.0	0.01	0.32	0.08	15	219
20 ISL	16.92	16.92	33.254	24.195	372.1	0.074	5.60	101.2	0.9	0.28	0.0	0.01	0.33	0.08	20	
30	16.92	16.92	33.256	24.197	372.3	0.112	5.60	101.2	1.1	0.29	0.0	0.00	0.35	0.08	30	218
46	16.92	16.91	33.252	24.194	373.0	0.171	5.60	101.2	1.1	0.28	0.0	0.00	0.32	0.10	46	217
50 ISL	16.90	16.89	33.251	24.198	372.8	0.186	5.60	101.1	1.1	0.28	0.0	0.00	0.34	0.07	50	
55	16.88	16.87	33.250	24.203	372.5	0.205	5.61	101.3	1.1	0.28	0.0	0.00	0.37	0.06	55	216
66	15.26	15.25	33.133	24.479	346.4	0.244	5.91	103.2	1.7	0.32	0.0	0.00	0.48	0.23	66	215
75	13.65	13.64	33.148	24.831	313.0	0.274	5.52	93.3	3.3	0.54	2.3	0.25	0.35	0.27	75	214
83	12.84	12.83	33.166	25.007	296.3	0.298	5.26	87.4	5.0	0.72	5.5	0.10	0.25	0.26	83	213
94	11.84	11.83	33.232	25.249	273.4	0.330	4.87	79.3	7.9	0.97	9.7	0.04	0.22	0.18	94	212
100 ISL	11.49	11.48	33.265	25.339	264.9	0.346	4.69	75.8	9.0	1.07	11.4	0.03	0.18	0.16	100	
108	11.11	11.10	33.311	25.444	255.1	0.367	4.47	71.7	10.6	1.20	13.4	0.02	0.12	0.14	108	211
124	10.18	10.17	33.447	25.712	229.8	0.405	3.98	62.6	15.8	1.49	18.3	0.01	0.06	0.07	125	210
125 ISL	10.14	10.13	33.458	25.727	228.3	0.408	3.95	62.1	16.1	1.51	18.6	0.01	0.06	0.07	126	
146	9.62	9.60	33.689	25.995	203.3	0.453	3.29	51.2	22.2	1.79	22.7	0.01	0.01	0.04	147	209
150 ISL	9.56	9.54	33.724	26.032	199.8	0.461	3.20	49.7	23.1	1.83	23.2	0.01	0.01	0.04	151	
169	9.35	9.33	33.865	26.177	186.4	0.498	2.88	44.6	26.5	1.97	24.8	0.01	0.00	0.04	170	208
198	9.17	9.15	34.017	26.325	172.9	0.550	2.48	38.3	30.5	2.05	26.6	0.01	0.00	0.03	199	207
200 ISL	9.15	9.13	34.024	26.334	172.1	0.553	2.45	37.8	30.8	2.06	26.7	0.01			201	
231	8.80	8.78	34.096	26.446	161.9	0.605	2.10	32.2	35.5	2.21	28.7	0.00			232	206
250 ISL	8.45	8.42	34.114	26.514	155.6	0.635	1.92	29.2	39.3	2.31	30.1	0.00			251	
270	8.09	8.06	34.127	26.579	149.7	0.666	1.73	26.1	43.3	2.41	31.5	0.00			271	205
300 ISL	7.83	7.80	34.169	26.651	143.3	0.710	1.38	20.7	48.2	2.56	33.0	0.00			302	
319	7.71	7.68	34.194	26.688	140.0	0.737	1.17	17.5	50.9	2.65	33.7	0.00			321	204
377	7.17	7.13	34.218	26.784	131.5	0.815	0.85	12.5	58.4	2.81	35.8	0.00			379	203
400 ISL	6.98	6.94	34.235	26.824	128.0	0.845	0.72	10.6	61.7	2.87	36.6	0.00			402	
438	6.68	6.64	34.262	26.887	122.4	0.893	0.53	7.7	67.0	2.97	37.7	0.00			441	202
500 ISL	6.27	6.23	34.285	26.959	116.0	0.967	0.39	5.6	74.2	3.07	39.1	0.00			503	
515	6.17	6.12	34.291	26.977	114.5	0.984	0.36	5.2	76.0	3.09	39.5	0.00			518	201

RV NEW HORIZON CALCOFI CRUISE 0511 STATION 87 90

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
31 59.3 N	122 24.3 W	13/11/05	0817 UTC	4097 m	350 21 kn			1021.0 mb	16.9 C	14.9 C			

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	17.15	17.15	33.251	24.138	376.9	0.000	5.57	101.1	1.6	0.27	0.1	0.00	0.22	0.07	0	
3	17.15	17.15	33.251	24.138	377.0	0.011	5.57	101.1	1.6	0.27	0.1	0.00	0.22	0.07	3	222
10	17.15	17.15	33.251	24.138	377.2	0.038	5.58	101.3	1.6	0.27	0.1	0.00	0.22	0.07	10	221
16	17.16	17.16	33.251	24.136	377.6	0.060	5.56	100.9	1.5	0.27	0.1	0.00	0.22	0.08	16	220
20 ISL	17.16	17.16	33.251	24.136	377.7	0.075	5.57	101.1	1.5	0.27	0.1	0.00	0.22	0.08	20	
30	17.16	17.16	33.251	24.137	378.0	0.113	5.58	101.3	1.5	0.27	0.0	0.00	0.22	0.07	30	219
45	16.84	16.83	33.250	24.212	371.3	0.169	5.64	101.7	1.5	0.27	0.0	0.00	0.35	0.14	45	218
50 ISL	15.69	15.68	33.221	24.452	348.6	0.187	5.87	103.5	1.7	0.29	0.1	0.00	0.34	0.22	50	
51	15.47	15.46	33.215	24.496	344.3	0.191	5.91	103.7	1.8	0.29	0.1	0.00	0.34	0.24	51	217
55	15.12	15.11	33.181	24.546	339.6	0.205	5.95	103.7	2.0	0.30	0.0	0.00	0.34	0.27	55	216
65	13.66	13.65	33.147	24.828	313.0	0.237	5.74	97.1	2.8	0.45	1.2	0.19	0.46	0.31	65	215
75	13.36	13.35	33.226	24.950	301.6	0.268	5.58	93.8	3.3	0.49	2.1	0.13	0.33	0.27	75	214
85	12.29	12.28	33.274	25.197	278.2	0.297	5.22	85.8	5.2	0.71	5.9	0.03	0.21	0.28	85	213
95	11.52	11.51	33.333	25.386	260.3	0.324	4.98	80.6	7.3	0.87	9.0	0.02	0.14	0.18	95	212
100 ISL	11.13	11.12	33.345	25.466	252.8	0.337	4.79	76.9	9.0	1.01	11.2	0.02	0.12	0.15	100	
109	10.48	10.47	33.378	25.606	239.5	0.359	4.39	69.5	12.7	1.27	15.2	0.01	0.09	0.11	109	211
125	9.61	9.60	33.564	25.898	212.0	0.395	3.73	58.0	19.4	1.63	20.9	0.00	0.02	0.06	126	210
145	9.30	9.28	33.758	26.101	193.1	0.435	3.34	51.6	23.6	1.77	23.3	0.00	0.01	0.03	146	209
150 ISL	9.23	9.21	33.789	26.136	189.8	0.445	3.32	51.2	24.3	1.78	23.6	0.00	0.01	0.03	151	
170	8.94	8.92	33.887	26.259	178.5	0.482	3.28	50.3	26.9	1.82	24.5	0.00	0.00	0.03	171	208
200	8.50	8.48	34.022	26.434	162.3	0.533	2.69	40.9	33.8	2.04	27.8	0.00	0.00	0.02	201	207
232	8.05	8.03	34.063	26.534	153.2	0.583	2.30	34.6	39.6	2.22	30.1	0.00			233	206
250 ISL	7.78	7.76	34.077	26.585	148.6	0.611	2.08	31.1	43.4	2.33	31.5	0.00			251	
271	7.48	7.45	34.089	26.638	143.8	0.641	1.84	27.3	47.8	2.45	33.0	0.00			273	205
300 ISL	7.15	7.12	34.100	26.693	138.8	0.682	1.60	23.6	52.4	2.57	34.4	0.00			302	
319	6.96	6.93	34.108	26.726	135.9	0.708	1.46	21.4	55.1	2.64	35.2	0.00			321	204
383	6.47	6.44	34.162	26.835	126.2	0.792	0.93	13.5	64.9	2.87	37.9	0.00			385	203
400 ISL	6.35	6.31	34.177	26.862	123.8	0.814	0.81	11.7	67.5	2.93	38.5	0.00			402	
439	6.10	6.06	34.209	26.920	118.6	0.861	0.58	8.3	73.1	3.04	39.7	0.00			442	202
500 ISL	5.85	5.81	34.247	26.982	113.4	0.932	0.49	7.0	78.8	3.11	40.5	0.00			503	
512	5.80	5.76	34.255	26.995	112.3	0.945	0.47	6.7	79.9	3.12	40.7	0.00			515	201

RV NEW HORIZON CALCOFI CRUISE 0511 STATION 87 100

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
31 39.6 N	123 4.4 W	13/11/05	1728 UTC	4129 m	010 22 kn	360 10 09	1	1022.4 mb	18.0 C	16.9 C	18m	2/8	ST

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	16.86	16.86	33.176	24.148	375.9	0.000	5.63	101.6	1.3	0.29	0.0	0.01	0.32	0.12	0	
2 A	16.86	16.86	33.176	24.149	376.0	0.008	5.63	101.6	1.3	0.29	0.0	0.01	0.32	0.12	2	221
10 ISL	16.88	16.88	33.188	24.153	375.7	0.038	5.61	101.2	1.5	0.29	0.0	0.01	0.35	0.10	10	
11 A	16.88	16.88	33.190	24.155	375.6	0.041	5.61	101.2	1.5	0.29	0.0	0.01	0.35	0.10	11	219
20 ISL	16.89	16.89	33.198	24.159	375.5	0.075	5.62	101.4	1.4	0.28	0.0	0.00	0.32	0.12	20	
21	16.89	16.89	33.198	24.159	375.6	0.079	5.62	101.4	1.4	0.28	0.0	0.00	0.32	0.12	21	218
28 A	16.93	16.93	33.206	24.156	376.1	0.105	5.61	101.3	1.4	0.28	0.0	0.01	0.32	0.12	28	217
30 ISL	16.93	16.93	33.207	24.157	376.1	0.113	5.61	101.3	1.4	0.28	0.0	0.01	0.32	0.12	30	
40 A	16.94	16.93	33.215	24.161	376.0	0.150	5.61	101.4	1.2	0.28	0.0	0.01	0.34	0.13	40	216
49 A	15.70	15.69	33.092	24.350	358.2	0.183	5.76	101.5	1.5	0.35	0.1	0.03	0.62	0.41	49	215
50 ISL	15.46	15.45	33.076	24.391	354.3	0.187	5.75	100.8	1.7	0.37	0.3	0.05	0.61	0.41	50	
61	13.14	13.13	32.980	24.803	315.2	0.224	5.68	94.9	3.5	0.59	2.9	0.21	0.38	0.36	61	214
72 A	12.97	12.96	33.020	24.868	309.3	0.258	5.58	92.9	3.7	0.64	3.8	0.19	0.32	0.30	72	213
75 ISL	12.76	12.75	33.052	24.934	303.0	0.267	5.47	90.7	4.2	0.70	4.9	0.16	0.29	0.28	75	
85	11.91	11.90	33.179	25.194	278.4	0.296	5.01	81.7	6.6	0.95	9.6	0.04	0.19	0.21	85	212
100	10.92	10.91	33.330	25.492	250.3	0.336	4.44	70.9	11.0	1.28	15.2	0.02	0.10	0.13	100	211
119	9.93	9.92	33.407	25.723	228.6	0.381	4.18	65.4	15.1	1.46	18.2	0.01	0.05	0.08	120	210
125 ISL	9.73	9.72	33.455	25.793	221.9	0.395	4.04	62.9	16.7	1.53	19.4	0.01	0.04	0.07	126	
140	9.37	9.35	33.591	25.959	206.5	0.427	3.64	56.3	20.7	1.72	22.4	0.01	0.01	0.04	141	209
150 ISL	9.20	9.18	33.685	26.060	197.1	0.447	3.32	51.2	23.3	1.83	24.1	0.01	0.01	0.04	151	
170	8.94	8.92	33.849	26.229	181.3	0.485	2.77	42.5	28.0	2.01	26.7	0.01	0.00	0.04	171	208
200 ISL	8.59	8.57	33.967	26.377	167.8	0.538	2.50	38.1	32.4	2.10	28.4	0.01	0.00	0.04	201	
201	8.58	8.56	33.969	26.380	167.5	0.539	2.50	38.1	32.5	2.10	28.4	0.01	0.00	0.04	202	207
229	8.22	8.20	34.024	26.478	158.5	0.585	2.29	34.6	36.4	2.20	30.0	0.01			230	206
250 ISL	7.99	7.96	34.051	26.534	153.5	0.618	2.08	31.3	39.8	2.29	31.3	0.01			251	
269	7.78	7.75	34.065	26.576	149.8	0.646	1.89	28.3	43.0	2.38	32.4	0.01			270	205
300 ISL	7.29	7.26	34.068	26.649	143.1	0.692	1.73	25.6	48.5	2.48	33.8	0.01			302	
318	7.00	6.97	34.067	26.688	139.5	0.717	1.66	24.4	51.8	2.54	34.6	0.01			320	204
378	6.23	6.20	34.081	26.802	129.0	0.798	1.26	18.2	63.2	2.76	37.5	0.01			380	203
400 ISL	6.05	6.02	34.098	26.838	125.7	0.826	1.09	15.7	66.9	2.84	38.4	0.01			402	
436	5.83	5.79	34.133	26.894	120.8	0.870	0.82	11.7	72.6	2.96	39.8	0.01			439	202
500 ISL	5.51	5.47	34.203	26.989	112.3	0.945	0.50	7.1	82.2	3.10	41.3	0.01			503	
513	5.45	5.41	34.217	27.007	110.7	0.959	0.43	6.1	84.1	3.13	41.6	0.01			516	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV NEW HORIZON CALCOFI CRUISE 0511 STATION 87 110

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
31 19.5 N	123 44.9 W	13/11/05	2327 UTC	3999 m	070 22 kn	360 10 06	0	1020.6 mb	17.7 C	15.8 C	21m	0/8	

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	17.45	17.45	33.028	23.896	400.0	0.000	5.56	101.4	2.0	0.30	0.0	0.00	0.17	0.05	0	
2	17.45	17.45	33.028	23.896	400.0	0.008	5.56	101.4	2.0	0.30	0.0	0.00	0.17	0.05	2	221
10 ISL	17.44	17.44	33.028	23.899	400.1	0.040	5.57	101.5	2.0	0.30	0.0	0.00	0.17	0.06	10	
16	17.44	17.44	33.028	23.899	400.2	0.064	5.57	101.5	1.9	0.30	0.0	0.00	0.17	0.06	16	219
16	17.44	17.44	33.028	23.899	400.2	0.064									16	220
20 ISL	17.44	17.44	33.027	23.898	400.4	0.080	5.57	101.5	1.9	0.30	0.0	0.00	0.17	0.06	20	
30	17.44	17.44	33.025	23.897	400.9	0.120	5.56	101.3	1.8	0.30	0.0	0.00	0.17	0.06	30	218
45	17.33	17.32	33.013	23.915	399.7	0.180	5.57	101.3	1.7	0.30	0.0	0.00	0.20	0.08	45	217
50 ISL	17.11	17.10	33.036	23.984	393.2	0.200	5.59	101.2	1.6	0.31	0.0	0.00	0.23	0.13	50	
56	16.70	16.69	33.076	24.111	381.3	0.223	5.67	101.9	1.5	0.32	0.0	0.00	0.27	0.18	56	216
65	15.72	15.71	33.155	24.395	354.5	0.256	5.94	104.7	1.7	0.30	0.0	0.00	0.27	0.19	65	215
75	15.53	15.52	33.377	24.608	334.4	0.291	5.96	104.8	1.7	0.25	0.0	0.00	0.20	0.15	75	214
86	14.76	14.75	33.386	24.783	318.0	0.327	5.82	100.8	1.9	0.29	0.0	0.00	0.17	0.14	86	213
93	14.47	14.46	33.426	24.876	309.3	0.349	5.72	98.5	1.9	0.30	0.0	0.02	0.16	0.15	93	212
100 ISL	14.18	14.17	33.439	24.947	302.7	0.370	5.61	96.0	2.2	0.34	0.6	0.10	0.15	0.15	100	
109	13.67	13.65	33.433	25.048	293.3	0.397	5.46	92.5	3.0	0.43	1.3	0.18	0.14	0.15	109	211
124	12.16	12.14	33.419	25.335	266.1	0.439	5.14	84.4	5.6	0.71	6.5	0.02	0.10	0.13	124	210
125 ISL	12.07	12.05	33.418	25.351	264.5	0.441	5.13	84.0	5.8	0.73	6.8	0.02	0.10	0.13	125	
146	10.44	10.42	33.442	25.664	234.9	0.494	4.82	76.2	10.5	1.06	12.5	0.01	0.05	0.07	147	209
150 ISL	10.21	10.19	33.460	25.717	229.8	0.503	4.72	74.3	11.8	1.13	13.7	0.01	0.04	0.06	151	
174	9.23	9.21	33.627	26.010	202.3	0.555	4.10	63.2	19.5	1.52	19.9	0.00	0.01	0.02	175	208
194	8.91	8.89	33.827	26.217	182.9	0.594	3.72	57.0	24.5	1.68	22.6	0.00	0.00	0.02	195	207
200 ISL	8.90	8.88	33.872	26.254	179.5	0.604	3.45	52.9	26.2	1.77	23.7	0.00			201	
238	8.68	8.65	34.023	26.408	165.6	0.670	2.32	35.4	34.5	2.15	28.6	0.00			239	206
250 ISL	8.38	8.35	34.026	26.456	161.1	0.690	2.64	40.0	35.3	2.07	28.2	0.00			251	
258	8.17	8.14	34.023	26.485	158.4	0.702	2.88	43.5	35.8	2.01	27.8	0.00			259	205
300 ISL	7.53	7.50	34.051	26.601	147.8	0.767	2.36	35.1	44.1	2.25	31.1	0.00			302	
318	7.33	7.30	34.064	26.640	144.3	0.793	1.88	27.8	48.5	2.44	33.2	0.00			320	204
380	6.50	6.47	34.080	26.766	132.7	0.879	1.39	20.2	60.4	2.70	36.6	0.00			382	203
400 ISL	6.33	6.29	34.097	26.802	129.4	0.905	1.20	17.4	63.8	2.78	37.5	0.00			402	
438	6.07	6.03	34.134	26.865	123.8	0.953	0.88	12.7	69.9	2.92	39.0	0.00			441	202
500 ISL	5.65	5.61	34.176	26.950	116.1	1.027	0.59	8.4	79.6	3.06	40.8	0.00			503	
509	5.59	5.55	34.182	26.962	115.0	1.038	0.55	7.8	81.0	3.08	41.1	0.00			512	201

RV NEW HORIZON CALCOFI CRUISE 0511 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 5.1 W	11/11/05	0525	UTC	19 m	210	08 kn			1016.8 mb	16.8 C	15.1 C				

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	17.60	17.60	33.351	24.107	379.8	0.000	5.84	107.0	1.4	0.16	0.0	0.01	1.14	0.24	0	
2	17.60	17.60	33.351	24.107	379.9	0.008	5.84	107.0	1.4	0.16	0.0	0.01	1.14	0.24	2	204
5	17.62	17.62	33.350	24.102	380.5	0.019	5.85	107.2	1.3	0.17	0.0	0.01	1.39	0.23	5	203
10	17.30	17.30	33.349	24.178	373.4	0.038	5.87	106.9	1.3	0.18	0.0	0.01	1.53	0.30	10	202
15	17.56	17.56	33.347	24.115	379.6	0.057	5.88	107.6	1.4	0.20	0.0	0.01	6.66	0.20	15	201

RV NEW HORIZON CALCOFI CRUISE 0511 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 29.6 N	117 45.0 W	11/11/05	0114	UTC	32 m	190	02 kn	200 01 03	1	1015.8 mb	17.3 C	14.5 C			6/8	ST

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	17.70	17.70	33.346	24.079	382.5	0.000	5.86	107.6	2.4	0.23	0.0	0.03	2.41	0.32	0	
2	17.70	17.70	33.346	24.079	382.5	0.008	5.86	107.6	2.4	0.23	0.0	0.03	2.41	0.32	2	205
5	17.70	17.70	33.343	24.077	382.8	0.019	5.87	107.7	2.5	0.22	0.0	0.03	2.30	0.39	5	204
10 ISL	17.58	17.58	33.343	24.106	380.2	0.038	5.90	108.0	2.7	0.21	0.1	0.03	3.58	0.37	10	
11	17.55	17.55	33.343	24.114	379.6	0.042	5.90	108.0	2.7	0.21	0.1	0.03	3.84	0.37	11	203
15	17.44	17.44	33.342	24.139	377.3	0.057	5.91	107.9	2.6	0.19	0.0	0.03	3.62	0.51	15	202
20	17.48	17.48	33.349	24.135	377.8	0.076	5.83	106.6	2.5	0.23	0.1	0.04	3.64	0.40	20	201

RV NEW HORIZON CALCOFI CRUISE 0511 STATION 90 28

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE
33 29.1 N	117 46.0 W	11/11/05	0203	UTC	64 m	070	01 kn			1015.9 mb	17.8 C	15.9 C				

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	17.53	17.53	33.341	24.116	378.9	0.000	5.76	105.4	2.3	0.24	0.1	0.04	1.86	0.32	0	
2	17.53	17.53	33.341	24.117	379.0	0.008	5.76	105.4	2.3	0.24	0.1	0.04	1.86	0.32	2	208
5	17.53	17.53	33.342	24.117	379.0	0.019	5.75	105.2	2.3	0.24	0.0	0.04	1.81	0.32	5	207
10	17.52	17.52	33.341	24.119	379.0	0.038	5.75	105.2	2.4	0.23	0.1	0.04	2.02	0.31	10	206
15	17.38	17.38	33.340	24.152	376.1	0.057	5.76	105.1	2.3	0.23	0.1	0.04	2.45	0.39	15	205
20	15.30	15.30	33.312	24.607	332.8	0.074	5.47	95.7	4.0	0.41	0.6	0.17	1.49	0.31	20	204
30	13.19	13.19	33.326	25.060	289.9	0.106	4.74	79.5	7.7	0.88	6.7	0.39	0.62	0.31	30	203
40	12.31	12.30	33.356	25.255	271.5	0.134	4.33	71.3	9.9	1.10	10.3	0.36	0.41	0.57	40	202
50	12.02	12.01	33.389	25.336	264.1	0.160	4.06	66.4	11.5	1.23	12.5	0.28	0.44	0.34	50	201

RV NEW HORIZON CALCOFI CRUISE 0511 STATION 90 30

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE
33 25.1 N	117 54.3 W	10/11/05	2157	UTC	621 m	190	04 kn	180 02 04	1	1015.9 mb	18.2 C	15.7 C	14m		1/8	CS

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	17.87	17.87	33.330	24.026	387.6	0.000	6.15	113.2	2.1	0.12	0.0	0.01	2.99	0.08	0	
3	17.87	17.87	33.330	24.026	387.6	0.012	6.15	113.2	2.1	0.12	0.0	0.01	2.99	0.08	3	220
10	17.57	17.57	33.345	24.110	379.9	0.038	6.43	117.7	2.4	0.10	0.0	0.01	1.55	0.23	10	219
19	15.57	15.57	33.285	24.526	340.4	0.071	5.74	101.0	3.2	0.29	0.0	0.01	1.09	0.31	19	218
20 ISL	15.41	15.41	33.283	24.560	337.3	0.074	5.69	99.8	3.3	0.30	0.0	0.01	1.06	0.31	20	
29	14.15	14.15	33.284	24.832	311.6	0.103	5.28	90.3	4.5	0.45	0.0	0.03	0.88	0.26	29	217
30 ISL	14.00	14.00	33.285	24.864	308.6	0.107	5.21	88.8	4.8	0.49	0.2	0.06	0.86	0.26	30	
40	12.72	12.71	33.313	25.143	282.2	0.136	4.56	75.7	7.6	0.86	3.7	0.34	0.67	0.27	40	216
50	12.07	12.06	33.344	25.292	268.3	0.164	4.36	71.4	9.5	1.10	11.1	0.10	0.33	0.25	50	215
60	11.30	11.29	33.395	25.474	251.1	0.190	4.14	66.7	11.9	1.29	14.5	0.04	0.18	0.19	60	214
69	10.74	10.73	33.471	25.633	236.2	0.212	3.78	60.2	15.3	1.49	17.5	0.03	0.13	0.15	69	213
75 ISL	10.52	10.51	33.511	25.703	229.7	0.226	3.64	57.7	16.7	1.57	18.8	0.02	0.11	0.15	75	
84	10.29	10.28	33.567	25.786	221.9	0.246	3.49	55.1	18.3	1.65	20.1	0.02	0.09	0.15	84	212
99	9.98	9.97	33.685	25.931	208.4	0.278	3.26	51.1	21.2	1.76	21.8	0.02	0.03	0.07	99	211
100 ISL	9.97	9.96	33.693	25.939	207.7	0.280	3.25	51.0	21.3	1.76	21.9	0.02	0.03	0.07	100	
119	9.79	9.78	33.816	26.065	196.1	0.319	2.90	45.3	24.4	1.90	23.6	0.02	0.01	0.06	120	210
125 ISL	9.89	9.88	33.890	26.106	192.3	0.330	2.59	40.6	26.1	1.99	24.3	0.02	0.02	0.06	126	
138	10.16	10.14	34.052	26.188	185.0	0.355	1.90	30.0	29.8	2.20	25.7	0.01	0.03	0.06	139	209
150 ISL	10.15	10.13	34.134	26.254	179.0	0.377	1.74	27.5	31.6	2.29	26.4	0.01	0.03	0.06	151	
169	10.14	10.12	34.238	26.337	171.6	0.410	1.48	23.4	33.3	2.35	27.2	0.01	0.02	0.05	170	208
199	9.51	9.49	34.205	26.417	164.4	0.460	1.65	25.7	35.2	2.34	28.3	0.01	0.01	0.05	200	207
200 ISL	9.48	9.46	34.204	26.421	164.0	0.462	1.65	25.7	35.3	2.34	28.4	0.01			201	
228	8.80	8.78	34.183	26.514	155.4	0.507	1.64	25.1	39.1	2.40	30.0	0.01			229	206
250 ISL	8.55	8.52	34.195	26.563	151.2	0.540	1.49	22.7	41.9	2.47	31.0	0.01			251	
268	8.43	8.40	34.210	26.593	148.5	0.567	1.34	20.4	44.1	2.54	31.7	0.01			270	205
300 ISL	8.11	8.08	34.224	26.653	143.3	0.614	1.16	17.5	47.8	2.64	32.8	0.02			302	
317	7.93	7.90	34.229	26.684	140.6	0.638	1.08	16.2	50.0	2.69	33.4	0.02			319	204
377	7.16	7.12	34.239	26.802	129.8	0.719	0.77	11.4	60.1	2.88	36.1	0.02			379	203
400 ISL	6.98	6.94	34.253	26.839	126.6	0.749	0.66	9.7	63.3	2.94	36.8	0.02			403	
436	6.76	6.72	34.276	26.887	122.4	0.794	0.50	7.3	67.7	3.03	37.7	0.01			439	202
500 ISL	6.39	6.34	34.304	26.959	116.2	0.870	0.35	5.1	74.3	3.13	38.9	0.01			503	
511	6.33	6.28	34.309	26.970	115.2	0.883	0.33	4.8	75.4	3.15	39.1	0.01			515	201

RV NEW HORIZON CALCOFI CRUISE 0511 STATION 90 35

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
33 15.2 N	118 14.4 W	10/11/05	1751	UTC	291 m	170 04 kn	140 02 08	1	1017.7 mb	18.4 C	15.8 C	19m	2/8	CS

DEPTH m		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0	ISL	16.82	16.82	33.355	24.295	361.9	0.000	5.79	104.5	2.3	0.24	0.0	0.01	0.66	0.25	0	
2	A	16.82	16.82	33.355	24.295	362.0	0.007	5.79	104.5	2.3	0.24	0.0	0.01	0.66	0.25	2	216
10	ISL	16.65	16.65	33.356	24.336	358.4	0.036	5.81	104.5	2.4	0.25	0.0	0.01	0.73	0.29	10	
13	A	16.55	16.55	33.355	24.358	356.3	0.047	5.82	104.5	2.4	0.26	0.0	0.01	0.77	0.31	13	215
20	ISL	16.30	16.30	33.344	24.407	351.8	0.072	5.70	101.8	2.8	0.29	0.1	0.03	0.83	0.34	20	
21		16.26	16.26	33.343	24.416	351.1	0.075	5.68	101.4	2.8	0.29	0.1	0.03	0.83	0.35	21	214
30	A	13.34	13.34	33.317	25.023	293.4	0.104	4.89	82.2	6.8	0.77	5.1	0.40	0.80	0.20	30	213
41	A	12.20	12.19	33.349	25.271	270.0	0.135	4.37	71.8	9.8	1.09	10.9	0.18	0.52	0.23	41	212
50	ISL	11.56	11.55	33.424	25.449	253.3	0.159	3.89	63.0	13.1	1.34	14.6	0.07	0.28	0.20	50	
52	A	11.44	11.43	33.442	25.485	249.9	0.164	3.80	61.4	13.8	1.39	15.3	0.06	0.23	0.19	52	211
64		10.86	10.85	33.510	25.642	235.2	0.193	3.66	58.5	15.9	1.51	17.8	0.03	0.15	0.16	64	210
75	ISL	10.78	10.77	33.613	25.737	226.5	0.218	3.14	50.1	19.1	1.71	19.9	0.02	0.07	0.10	75	
77	A	10.77	10.76	33.635	25.755	224.7	0.223	3.04	48.5	19.8	1.75	20.3	0.02	0.06	0.09	77	209
88		10.44	10.43	33.756	25.908	210.5	0.247	2.74	43.4	23.0	1.89	22.3	0.02	0.03	0.06	88	208
100		10.14	10.13	33.772	25.972	204.6	0.271	2.84	44.7	23.3	1.89	22.9	0.02	0.02	0.06	100	207
121		9.77	9.76	33.926	26.155	187.6	0.313	2.59	40.5	27.0	2.00	24.8	0.02			122	206
125	ISL	9.71	9.70	33.950	26.183	185.0	0.320	2.54	39.7	27.7	2.02	25.1	0.02			126	
140		9.50	9.48	34.026	26.278	176.3	0.347	2.37	36.9	29.9	2.10	26.2	0.02			141	205
150	ISL	9.41	9.39	34.059	26.318	172.6	0.365	2.28	35.4	31.0	2.14	26.7	0.02			151	
169		9.31	9.29	34.106	26.372	167.9	0.397	2.10	32.5	32.9	2.20	27.5	0.02			170	204
200		9.20	9.18	34.185	26.452	161.0	0.448	1.70	26.3	36.7	2.36	28.8	0.03			201	203
229		8.68	8.66	34.185	26.534	153.5	0.494	1.55	23.7	41.2	2.45	30.5	0.04			230	202
250	ISL	8.50	8.47	34.194	26.570	150.5	0.526	1.44	21.9	43.1	2.51	31.2	0.04			251	
282		8.22	8.19	34.208	26.624	145.8	0.573	1.26	19.1	46.1	2.59	32.3	0.03			284	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV NEW HORIZON CALCOFI CRUISE 0511 STATION 90 37

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
33 11.2 N	118 22.9 W	10/11/05	1445	UTC	1179 m	210 03 kn	180 02 06	1	1016.7 mb	16.0 C	14.7 C	20m	4/8	SC

DEPTH m		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0	ISL	16.02	16.02	33.328	24.458	346.4	0.000	5.76	102.3	1.4	0.28	0.1	0.03	0.64	0.23	0	
2		16.02	16.02	33.328	24.458	346.4	0.007	5.76	102.3	1.4	0.28	0.1	0.03	0.64	0.23	2	220
10		16.04	16.04	33.358	24.477	344.9	0.035	5.80	103.1	1.2	0.27	0.1	0.02	0.78	0.29	10	219
20		15.93	15.93	33.367	24.509	342.1	0.069	5.78	102.5	1.0	0.28	0.2	0.03	0.70	0.36	20	218
30		14.80	14.80	33.362	24.754	319.1	0.102	5.48	95.0	2.9	0.52	3.0	0.21	0.82	0.43	30	217
40		13.53	13.52	33.352	25.012	294.7	0.133	5.00	84.4	5.9	0.79	6.9	0.34	0.66	0.45	40	216
50		12.84	12.83	33.362	25.158	281.1	0.161	4.71	78.4	7.8	0.95	9.4	0.27	0.41	0.37	50	215
60		11.65	11.64	33.381	25.399	258.3	0.188	4.32	70.1	10.8	1.22	13.7	0.10	0.20	0.34	60	214
70		10.74	10.73	33.475	25.636	235.9	0.213	3.86	61.5	14.8	1.48	17.8	0.05	0.10	0.17	70	213
75	ISL	10.44	10.43	33.528	25.730	227.1	0.225	3.68	58.2	16.5	1.57	19.2	0.04	0.08	0.17	75	
86		10.10	10.09	33.666	25.896	211.5	0.249	3.24	50.9	20.3	1.74	21.6	0.02	0.05	0.16	86	212
99		10.20	10.19	33.876	26.043	197.9	0.275	2.50	39.4	25.2	1.99	23.7	0.02	0.03	0.10	99	211
100	ISL	10.19	10.18	33.884	26.051	197.1	0.277	2.49	39.3	25.4	2.00	23.8	0.02	0.03	0.10	100	
120		10.08	10.07	34.002	26.162	187.0	0.316	2.20	34.6	27.5	2.10	25.2	0.02	0.01	0.08	121	210
125	ISL	9.99	9.98	34.016	26.188	184.6	0.325	2.20	34.6	28.0	2.11	25.5	0.02	0.01	0.07	126	
140		9.71	9.69	34.056	26.266	177.4	0.352	2.18	34.1	29.5	2.13	26.3	0.01	0.01	0.06	141	209
150	ISL	9.70	9.68	34.124	26.321	172.4	0.370	1.97	30.8	31.2	2.21	26.9	0.01	0.01	0.07	151	
169		9.68	9.66	34.237	26.413	164.1	0.402	1.54	24.1	34.4	2.36	28.0	0.01	0.01	0.08	170	208
199		9.24	9.22	34.238	26.487	157.6	0.450	1.47	22.8	37.0	2.41	29.2	0.01	0.01	0.05	200	207
200	ISL	9.23	9.21	34.240	26.490	157.4	0.452	1.46	22.6	37.1	2.41	29.2	0.01			201	
229		9.11	9.08	34.291	26.550	152.3	0.496	1.15	17.8	40.6	2.54	30.1	0.02			230	206
250	ISL	8.90	8.87	34.287	26.580	149.7	0.528	1.14	17.5	42.2	2.57	30.7	0.02			251	
268		8.67	8.64	34.271	26.604	147.7	0.555	1.13	17.3	43.5	2.58	31.2	0.01			270	205
300	ISL	8.20	8.17	34.242	26.654	143.3	0.602	1.09	16.5	46.8	2.64	32.6	0.01			302	
318		7.93	7.90	34.228	26.683	140.7	0.627	1.05	15.8	49.0	2.68	33.5	0.01			320	204
378		7.28	7.24	34.239	26.786	131.5	0.709	0.79	11.7	57.3	2.84	35.7	0.00			380	203
400	ISL	7.07	7.03	34.248	26.822	128.2	0.737	0.70	10.3	60.5	2.90	36.4	0.00			403	
438		6.76	6.72	34.264	26.877	123.3	0.785	0.56	8.2	65.6	2.99	37.6	0.00			441	202
500	ISL	6.42	6.37	34.288	26.942	117.8	0.860	0.41	5.9	71.7	3.07	38.9	0.01			503	
512		6.35	6.30	34.293	26.955	116.7	0.874	0.38	5.5	72.9	3.09	39.2	0.01			516	201

RV NEW HORIZON CALCOFI CRUISE 0511 STATION 90 45

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT TYPE
32 55.4 N	118 56.3 W	10/11/05	0928 UTC	1709 m	150 04 kn			1016.1 mb	17.4 C	14.5 C		

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	17.05	17.05	33.437	24.304	361.1	0.000	5.60	101.6	1.1	0.25	0.0	0.01	0.27	0.10	0	
2	17.05	17.05	33.437	24.304	361.1	0.007	5.60	101.6	1.1	0.25	0.0	0.01	0.27	0.10	2	220
10	17.06	17.06	33.439	24.304	361.4	0.036	5.61	101.8	1.2	0.25	0.0	0.01	0.28	0.10	10	219
20	15.82	15.82	33.383	24.546	338.6	0.071	5.90	104.4	1.0	0.32	0.5	0.05	0.46	0.31	20	218
30	13.48	13.48	33.317	24.995	296.1	0.103	5.25	88.5	4.7	0.68	4.9	0.22	0.71	0.41	30	217
39	12.05	12.04	33.303	25.263	270.7	0.128	4.77	78.1	7.7	0.98	9.3	0.19	0.42	0.37	39	216
50	11.08	11.07	33.413	25.527	245.8	0.157	4.04	64.8	12.3	1.33	14.9	0.04	0.24	0.31	50	215
60	10.65	10.64	33.464	25.643	235.0	0.181	3.85	61.2	14.5	1.45	16.9	0.02	0.18	0.25	60	214
70	10.17	10.16	33.527	25.775	222.6	0.204	3.71	58.4	17.2	1.57	19.2	0.02	0.09	0.14	70	213
75 ISL	10.14	10.13	33.559	25.805	219.9	0.215	3.63	57.1	17.8	1.60	19.7	0.02	0.09	0.13	75	
85	10.09	10.08	33.599	25.845	216.3	0.237	3.46	54.4	18.6	1.66	20.5	0.01	0.08	0.12	85	212
100	9.98	9.97	33.724	25.961	205.5	0.268	3.12	48.9	21.5	1.79	22.3	0.01	0.03	0.06	100	211
119	10.06	10.05	33.927	26.107	192.2	0.306	2.51	39.5	25.1	1.98	24.2	0.01	0.01	0.05	120	210
125 ISL	10.03	10.02	33.975	26.149	188.3	0.317	2.38	37.4	26.2	2.03	24.7	0.01	0.01	0.05	126	
139	9.91	9.89	34.059	26.235	180.4	0.343	2.18	34.2	28.3	2.11	25.7	0.01	0.01	0.04	140	209
150 ISL	9.76	9.74	34.087	26.283	176.1	0.363	2.19	34.3	29.2	2.12	26.0	0.01	0.01	0.04	151	
170	9.50	9.48	34.121	26.352	169.9	0.397	2.20	34.2	30.9	2.14	26.6	0.01	0.01	0.04	171	208
199	9.36	9.34	34.245	26.473	159.0	0.445	1.57	24.4	36.1	2.37	28.6	0.01	0.01	0.04	200	207
200 ISL	9.36	9.34	34.248	26.475	158.8	0.447	1.55	24.1	36.2	2.38	28.6	0.01			201	
229	9.21	9.18	34.294	26.536	153.6	0.492	1.24	19.2	39.1	2.53	29.6	0.01			230	206
250 ISL	8.77	8.74	34.267	26.585	149.2	0.524	1.26	19.3	41.8	2.56	30.6	0.01			251	
269	8.34	8.31	34.234	26.626	145.4	0.552	1.28	19.4	44.4	2.57	31.6	0.01			271	205
300 ISL	8.00	7.97	34.235	26.678	140.9	0.596	1.13	17.0	48.2	2.66	32.9	0.01			302	
318	7.86	7.83	34.243	26.705	138.5	0.621	1.01	15.2	50.3	2.72	33.6	0.01			320	204
378	7.34	7.30	34.253	26.788	131.3	0.702	0.77	11.4	57.4	2.85	35.5	0.01			380	203
400 ISL	7.15	7.11	34.261	26.821	128.4	0.731	0.68	10.0	60.1	2.90	36.2	0.01			403	
438	6.83	6.79	34.274	26.876	123.5	0.779	0.54	7.9	64.9	2.99	37.4	0.01			441	202
500 ISL	6.34	6.29	34.285	26.950	117.0	0.853	0.41	5.9	72.9	3.09	39.2	0.01			503	
512	6.24	6.19	34.288	26.965	115.6	0.867	0.39	5.6	74.4	3.11	39.5	0.01			516	201

RV NEW HORIZON CALCOFI CRUISE 0511 STATION 90 53

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT TYPE
32 39.1 N	119 28.6 W	10/11/05	0411 UTC	1305 m	170 08 kn			1015.8 mb	16.8 C	13.9 C		

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	17.03	17.03	33.390	24.273	364.0	0.000	5.60	101.5	1.8	0.26	0.0	0.01	0.24	0.08	0	
2	17.03	17.03	33.390	24.273	364.1	0.007			1.8	0.26	0.0	0.01	0.24	0.08	2	220
10	17.05	17.05	33.392	24.270	364.6	0.036	5.60	101.5	1.7	0.26	0.0	0.01	0.24	0.09	10	219
20	16.84	16.84	33.373	24.305	361.6	0.073	5.61	101.3	1.8	0.27	0.0	0.01	0.30	0.13	20	218
30 ISL	16.55	16.55	33.352	24.357	357.0	0.109	5.67	101.8	2.2	0.30	0.1	0.02	0.36	0.18	30	
31	16.50	16.50	33.350	24.367	356.1	0.112	5.67	101.7	2.3	0.31	0.1	0.02	0.37	0.19	31	217
39	15.75	15.74	33.330	24.522	341.5	0.140	5.57	98.4	2.9	0.39	1.0	0.05	0.44	0.24	39	216
50	12.76	12.75	33.283	25.112	285.4	0.175	5.04	83.7	6.4	0.83	7.2	0.13	0.38	0.23	50	215
60	11.90	11.89	33.325	25.309	266.9	0.202	4.62	75.4	9.1	1.06	10.8	0.17	0.28	0.19	60	214
70	11.53	11.52	33.441	25.468	252.0	0.228	4.07	65.9	12.6	1.29	14.2	0.09	0.24	0.20	70	213
75 ISL	11.38	11.37	33.465	25.514	247.7	0.241	3.93	63.5	13.5	1.36	15.1	0.07	0.21	0.19	75	
85	11.06	11.05	33.504	25.602	239.5	0.265	3.74	60.0	15.1	1.46	16.7	0.04	0.15	0.18	85	212
100	10.37	10.36	33.651	25.838	217.3	0.299	3.27	51.7	19.8	1.69	20.4	0.02	0.05	0.11	100	211
119	10.22	10.21	33.951	26.098	193.0	0.338	2.28	36.0	27.2	2.05	24.2	0.02	0.01	0.06	120	210
125 ISL	10.12	10.11	33.979	26.137	189.5	0.350	2.28	35.9	27.6	2.07	24.7	0.02	0.01	0.07	126	
140	9.87	9.85	33.998	26.194	184.3	0.378	2.27	35.6	28.6	2.11	25.3	0.02	0.01	0.09	141	209
150 ISL	9.76	9.74	34.030	26.238	180.3	0.396	2.21	34.6	29.7	2.14	25.8	0.02	0.01	0.08	151	
170	9.58	9.56	34.096	26.320	173.0	0.431	2.04	31.8	32.1	2.19	26.8	0.02	0.01	0.05	171	208
199	9.27	9.25	34.160	26.421	163.9	0.480	1.80	27.9	35.6	2.29	28.2	0.01	0.01	0.04	200	207
200 ISL	9.26	9.24	34.162	26.424	163.6	0.482	1.79	27.7	35.7	2.29	28.3	0.01			201	
228	8.94	8.92	34.216	26.518	155.2	0.526	1.48	22.8	39.4	2.43	29.8	0.01			229	206
250 ISL	8.59	8.56	34.212	26.570	150.5	0.560	1.40	21.4	42.3	2.49	30.9	0.01			251	
270	8.27	8.24	34.198	26.608	147.1	0.590	1.36	20.6	45.0	2.54	31.8	0.01			272	205
300 ISL	7.90	7.87	34.204	26.668	141.7	0.633	1.19	17.9	49.0	2.64	33.2	0.01			302	
319	7.70	7.67	34.213	26.705	138.5	0.660	1.07	16.0	51.6	2.70	34.0	0.01			321	204
378	7.10	7.06	34.245	26.815	128.5	0.739	0.74	10.9	60.4	2.86	36.2	0.00			380	203
400 ISL	6.93	6.89	34.250	26.843	126.1	0.767	0.67	9.8	63.0	2.91	36.8	0.00			403	
440	6.66	6.62	34.258	26.886	122.4	0.816	0.57	8.3	67.4	2.98	37.7	0.00			443	202
500 ISL	6.30	6.25	34.282	26.953	116.7	0.888	0.42	6.1	74.2	3.08	39.1	0.00			503	
513	6.22	6.17	34.287	26.967	115.4	0.903	0.39	5.6	75.7	3.10	39.4	0.00			516	201

RV NEW HORIZON CALCOFI CRUISE 0511 STATION 90 60

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
32 25.6 N	119 57.8 W	09/11/05	2308 UTC	972 m	160 08 kn	260 06 11	1	1014.3 mb	17.9 C	15.3 C	17m	1/8	CU

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	16.85	16.85	33.357	24.290	362.4	0.000	5.65	102.0	1.9	0.25	0.0	0.00	0.45	0.06	0	
3	16.85	16.85	33.357	24.290	362.5	0.011	5.65	102.0	1.9	0.25	0.0	0.00	0.45	0.06	3	221
10	16.85	16.85	33.361	24.293	362.4	0.036	5.65	102.0	1.8	0.26	0.0	0.00	0.42	0.10	10	220
20	16.74	16.74	33.351	24.311	361.0	0.072	5.65	101.8	1.9	0.26	0.0	0.00	0.45	0.07	20	219
29	16.08	16.08	33.334	24.450	348.1	0.104	5.69	101.2	2.2	0.31	0.3	0.03	1.23	0.34	29	218
30 ISL	15.80	15.80	33.325	24.506	342.7	0.108	5.64	99.7	2.5	0.35	0.7	0.06	1.20	0.36	30	
40	12.89	12.88	33.288	25.090	287.3	0.139	5.07	84.4	5.8	0.78	5.7	0.26	0.92	0.47	40	217
50	12.01	12.00	33.298	25.267	270.6	0.167	4.69	76.7	8.2	1.01	10.2	0.10	0.44	0.39	50	216
59	11.42	11.41	33.333	25.404	257.8	0.191	4.42	71.4	10.3	1.18	13.1	0.06	0.27	0.23	59	215
69	11.00	10.99	33.389	25.523	246.6	0.216	4.17	66.8	12.8	1.32	15.4	0.03	0.17	0.17	69	214
75 ISL	10.67	10.66	33.441	25.622	237.3	0.231	4.00	63.6	14.7	1.42	17.1	0.03	0.13	0.14	75	
93	9.81	9.80	33.583	25.880	213.1	0.271	3.58	55.9	19.6	1.66	21.1	0.02	0.04	0.06	93	213
99	9.66	9.65	33.605	25.922	209.2	0.284	3.52	54.8	20.6	1.70	21.7	0.01	0.02	0.05	99	212
100 ISL	9.67	9.66	33.621	25.932	208.2	0.286	3.47	54.0	20.9	1.72	21.9	0.01	0.02	0.05	100	
119	10.12	10.11	33.983	26.140	189.0	0.324	2.32	36.6	27.1	2.05	24.8	0.01	0.01	0.04	120	211
125 ISL	10.12	10.11	34.024	26.172	186.1	0.335	2.16	34.1	28.0	2.10	25.2	0.01	0.01	0.04	126	
139	10.13	10.11	34.105	26.234	180.6	0.361	1.95	30.8	29.4	2.17	25.9	0.01	0.01	0.03	140	210
150 ISL	9.98	9.96	34.168	26.309	173.7	0.380	1.80	28.3	31.1	2.23	26.6	0.01	0.01	0.04	151	
151	9.96	9.94	34.173	26.316	173.0	0.382	1.79	28.1	31.3	2.24	26.7	0.01	0.01	0.04	152	209
169	9.58	9.56	34.237	26.430	162.5	0.412	1.56	24.3	34.9	2.35	28.2	0.01	0.01	0.04	170	208
200	9.05	9.03	34.244	26.522	154.2	0.461	1.39	21.4	39.5	2.45	29.9	0.01	0.02	0.03	201	207
231	8.23	8.21	34.159	26.583	148.7	0.508	1.62	24.5	43.2	2.46	31.5	0.01			232	206
250 ISL	7.96	7.93	34.163	26.626	144.8	0.536	1.48	22.2	46.2	2.53	32.5	0.01			251	
271	7.77	7.74	34.189	26.675	140.5	0.566	1.23	18.4	49.6	2.63	33.5	0.01			273	205
300 ISL	7.57	7.54	34.221	26.729	135.7	0.606	0.97	14.5	53.7	2.74	34.6	0.01			302	
319	7.47	7.44	34.241	26.760	133.1	0.632	0.83	12.3	56.1	2.81	35.2	0.01			321	204
380	7.14	7.10	34.271	26.830	127.2	0.711	0.60	8.9	61.6	2.93	36.5	0.00			382	203
400 ISL	6.98	6.94	34.279	26.859	124.7	0.736	0.54	7.9	64.1	2.97	37.0	0.00			403	
438	6.68	6.64	34.291	26.909	120.2	0.783	0.44	6.4	68.8	3.04	38.0	0.01			441	202
500 ISL	6.37	6.32	34.297	26.956	116.5	0.856	0.37	5.4	74.0	3.11	39.1	0.01			503	
513	6.30	6.25	34.299	26.966	115.6	0.871	0.36	5.2	75.1	3.13	39.3	0.01			517	201

RV NEW HORIZON CALCOFI CRUISE 0511 STATION 90 70

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
32 5.7 N	120 38.0 W	09/11/05	1819 UTC	3812 m	160 03 kn	300 07 09	1	1015.0 mb	17.3 C	14.9 C	17m	1/8	CU

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	16.08	16.08	33.369	24.476	344.7	0.000	5.75	102.3	1.8	0.32	0.4	0.04	0.68	0.15	0	
2 A	16.08	16.08	33.369	24.476	344.7	0.007	5.75	102.3	1.8	0.32	0.4	0.04	0.68	0.15	2	222
10 ISL	16.02	16.02	33.368	24.489	343.7	0.034	5.74	102.0	1.8	0.31	0.3	0.04	0.67	0.14	10	
12 A	16.00	16.00	33.368	24.494	343.4	0.041	5.74	101.9	1.8	0.31	0.3	0.04	0.66	0.14	12	221
20	15.99	15.99	33.368	24.496	343.4	0.069	5.76	102.3	1.9	0.32	0.3	0.04	0.62	0.28	20	220
26	15.98	15.98	33.374	24.503	342.9	0.089	5.73	101.7	1.9	0.31	0.3	0.04	0.72	0.26	26	219
27 A	15.98	15.98	33.370	24.500	343.2	0.093	5.74	101.9	1.9	0.31	0.3	0.04	0.67	0.20	27	218
30 ISL	15.67	15.67	33.376	24.575	336.2	0.103	5.68	100.2	2.3	0.37	1.1	0.14	0.65	0.24	30	
36 A	14.70	14.69	33.407	24.811	313.9	0.122	5.43	94.0	3.5	0.57	3.4	0.44	0.61	0.33	36	217
49 A	13.34	13.33	33.405	25.092	287.4	0.162	5.00	84.1	5.5	0.84	6.9	0.68	0.40	0.25	49	216
50 ISL	13.15	13.14	33.408	25.132	283.6	0.164	4.90	82.1	6.2	0.89	7.8	0.62	0.37	0.24	50	
59	11.49	11.48	33.470	25.498	248.9	0.188	3.98	64.4	13.3	1.37	15.8	0.05	0.15	0.17	59	215
68 A	10.67	10.66	33.556	25.711	228.7	0.210	3.57	56.8	17.2	1.58	19.2	0.03	0.12	0.15	68	214
75	10.33	10.32	33.598	25.803	220.1	0.226	3.42	54.0	18.9	1.66	20.4	0.03	0.07	0.15	75	213
84	9.73	9.72	33.666	25.957	205.5	0.245	3.30	51.5	21.7	1.77	22.2	0.02	0.03	0.10	84	212
100 ISL	9.55	9.54	33.785	26.080	194.2	0.277	2.97	46.2	24.8	1.89	24.0	0.02	0.01	0.10	100	
101	9.54	9.53	33.788	26.084	193.8	0.279	2.95	45.8	25.0	1.90	24.1	0.02	0.01	0.10	101	211
118	9.45	9.44	33.907	26.192	183.9	0.311	2.58	40.0	28.0	2.02	25.6	0.03	0.01	0.09	119	210
125 ISL	9.37	9.36	33.924	26.219	181.5	0.324	2.55	39.5	28.7	2.04	25.9	0.03	0.01	0.08	126	
140	9.19	9.17	33.947	26.266	177.3	0.350	2.51	38.7	30.0	2.06	26.6	0.02	0.01	0.07	141	209
150 ISL	9.09	9.07	33.987	26.313	173.0	0.368	2.36	36.4	31.5	2.11	27.3	0.02	0.01	0.07	151	
171	8.87	8.85	34.074	26.417	163.5	0.403	2.00	30.7	35.2	2.25	28.9	0.03	0.00	0.07	172	208
200 ISL	8.54	8.52	34.138	26.519	154.3	0.449	1.68	25.6	40.2	2.40	30.6	0.02	0.00	0.06	201	
202	8.52	8.50	34.141	26.524	153.8	0.452	1.66	25.3	40.5	2.41	30.7	0.02	0.00	0.06	203	207
231	8.13	8.11	34.157	26.596	147.4	0.496	1.48	22.3	44.7	2.51	32.1	0.02			232	206
250 ISL	7.78	7.76	34.140	26.635	143.9	0.524	1.49	22.3	47.4	2.54	33.0	0.02			251	
267	7.46	7.43	34.121	26.666	141.0	0.548	1.50	22.3	50.0	2.56	33.8	0.02			269	205
300 ISL	6.91	6.88	34.109	26.733	134.9	0.594	1.35	19.8	56.2	2.67	35.6	0.01			302	
321	6.62	6.59	34.111	26.774	131.1	0.622	1.22	17.8	60.1	2.75	36.6	0.01			323	204
381	6.21	6.18	34.145	26.855	124.1	0.698	0.90	13.0	67.9	2.90	38.4	0.01			383	203
400 ISL	6.12	6.08	34.163	26.881	121.8	0.721	0.79	11.4	70.4	2.95	38.9	0.01			403	
434	5.97	5.93	34.196	26.926	117.9	0.762	0.61	8.8	75.0	3.03	39.7	0.01			437	202
500 ISL	5.61	5.57	34.251	27.015	110.0	0.837	0.40	5.7	83.6	3.15	41.2	0.00			503	
514	5.53	5.49	34.263	27.034	108.3	0.853	0.35	5.0	85.4	3.18	41.5	0.00			518	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV NEW HORIZON CALCOFI CRUISE 0511 STATION 90 80

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT TYPE
31 44.9 N	121 19.3 W	09/11/05	1024 UTC	3699 m	270 14 kn			1010.8 mb	16.0 C	13.0 C		

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	17.15	17.15	33.253	24.139	376.8	0.000	5.56	100.9	1.5	0.28	0.0	0.00	0.28	0.08	0	
2	17.15	17.15	33.253	24.140	376.8	0.008	5.56	100.9	1.5	0.28	0.0	0.00	0.28	0.08	2	220
10 ISL	17.15	17.15	33.253	24.140	377.1	0.038	5.57	101.1	1.7	0.28	0.0	0.00	0.27	0.07	10	
15	17.15	17.15	33.253	24.140	377.2	0.057	5.57	101.1	1.8	0.28	0.0	0.00	0.27	0.07	15	219
20 ISL	17.13	17.13	33.252	24.144	377.0	0.075	5.57	101.1	1.7	0.28	0.0	0.00	0.29	0.04	20	
30	17.10	17.10	33.249	24.149	376.8	0.113	5.57	101.0	1.4	0.28	0.0	0.00	0.34	0.01	30	218
45	16.89	16.88	33.261	24.208	371.7	0.169	5.60	101.1	1.2	0.28	0.0	0.00	0.33	0.16	45	217
50 ISL	16.29	16.28	33.219	24.315	361.6	0.188	5.70	101.7	1.4	0.29	0.0	0.01	0.41	0.23	50	
54	15.68	15.67	33.185	24.426	351.1	0.202	5.76	101.5	1.6	0.32	0.0	0.01	0.48	0.27	54	216
62	14.36	14.35	33.157	24.691	326.0	0.229	5.67	97.3	2.5	0.43	0.9	0.17	0.56	0.22	62	215
73	13.04	13.03	33.172	24.972	299.4	0.263	5.38	89.8	4.1	0.65	4.2	0.16	0.25	0.30	73	214
75 ISL	12.87	12.86	33.174	25.007	296.1	0.269	5.33	88.7	4.5	0.69	4.9	0.14	0.24	0.28	75	
84	12.13	12.12	33.196	25.166	281.1	0.295	5.03	82.4	6.7	0.89	8.4	0.03	0.20	0.16	84	213
94	11.05	11.04	33.285	25.434	255.7	0.322	4.55	72.9	10.5	1.18	13.3	0.02	0.11	0.13	94	212
100 ISL	10.54	10.53	33.366	25.587	241.2	0.337	4.27	67.7	13.2	1.34	16.0	0.02	0.07	0.10	100	
111	9.89	9.88	33.531	25.826	218.6	0.362	3.78	59.1	18.1	1.60	20.1	0.01	0.03	0.05	111	211
125 ISL	9.63	9.62	33.723	26.019	200.5	0.392	3.22	50.1	22.5	1.80	23.0	0.01	0.01	0.05	126	
126	9.62	9.61	33.735	26.030	199.5	0.394	3.19	49.6	22.7	1.81	23.1	0.01	0.01	0.05	127	210
145	9.34	9.32	33.840	26.158	187.7	0.430	2.98	46.1	25.7	1.89	24.5	0.01	0.00	0.04	146	209
150 ISL	9.30	9.28	33.868	26.187	185.0	0.440	2.92	45.2	26.5	1.91	24.8	0.01	0.00	0.04	151	
170	9.15	9.13	33.966	26.288	175.8	0.476	2.66	41.0	29.7	2.01	26.1	0.01	0.00	0.04	171	208
200	8.79	8.77	34.063	26.421	163.7	0.527	2.35	36.0	34.5	2.14	28.0	0.01	0.00	0.03	201	207
229	8.49	8.47	34.151	26.537	153.1	0.573	1.73	26.3	40.9	2.39	30.6	0.01			230	206
250 ISL	8.24	8.21	34.180	26.598	147.6	0.604	1.47	22.2	44.3	2.51	31.8	0.01			251	
270	7.99	7.96	34.194	26.647	143.3	0.633	1.31	19.7	47.3	2.59	32.7	0.01			272	205
300 ISL	7.64	7.61	34.210	26.711	137.5	0.675	1.07	16.0	52.4	2.71	34.2	0.01			302	
318	7.45	7.42	34.219	26.745	134.5	0.700	0.95	14.1	55.3	2.78	35.0	0.01			320	204
377	7.01	6.97	34.264	26.843	125.9	0.777	0.61	9.0	62.8	2.95	36.9	0.00			379	203
400 ISL	6.84	6.80	34.277	26.876	122.9	0.805	0.52	7.6	65.8	3.00	37.5	0.00			402	
440	6.57	6.53	34.294	26.926	118.6	0.854	0.41	6.0	70.8	3.07	38.5	0.01			443	202
500 ISL	6.25	6.21	34.312	26.983	113.8	0.923	0.32	4.6	76.3	3.15	39.5	0.00			503	
510	6.20	6.15	34.315	26.992	113.0	0.935	0.31	4.5	77.2	3.16	39.7	0.00			513	201

RV NEW HORIZON CALCOFI CRUISE 0511 STATION 90 90

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT TYPE
31 25.2 N	121 59.7 W	09/11/05	0320 UTC	3876 m	320 22 kn			1011.1 mb	15.8 C	14.3 C		

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	17.51	17.51	33.356	24.133	377.4	0.000	5.53	101.1	1.5	0.26	0.0	0.01	0.32	0.10	0	
2	17.51	17.51	33.356	24.133	377.4	0.008	5.53	101.1	1.5	0.26	0.0	0.01	0.32	0.10	2	222
10	17.52	17.52	33.355	24.130	378.0	0.038	5.54	101.3	1.3	0.25	0.0	0.01	0.34	0.08	10	221
20	17.52	17.52	33.356	24.131	378.2	0.076	5.54	101.3	1.3	0.25	0.0	0.01	0.34	0.07	20	220
30 ISL	17.51	17.50	33.354	24.132	378.4	0.113	5.54	101.3	1.3	0.26	0.0	0.01	0.31	0.10	30	
31	17.51	17.50	33.354	24.132	378.5	0.117	5.54	101.3	1.3	0.26	0.0	0.01	0.31	0.10	31	219
35	16.30	16.29	33.308	24.380	354.9	0.132	5.68	101.4	1.4	0.28	0.0	0.01	0.48	0.27	35	218
40	13.91	13.90	33.239	24.847	310.5	0.148	5.62	95.6	3.6	0.54	2.2	0.15	0.79	0.69	40	217
50 ISL	12.68	12.67	33.305	25.145	282.3	0.178	4.98	82.6	6.1	0.89	7.8	0.11	0.50	0.44	50	
51	12.56	12.55	33.279	25.148	282.0	0.181	4.91	81.2	6.3	0.91	8.3	0.11	0.47	0.41	51	216
60	11.88	11.87	33.295	25.289	268.7	0.206	4.73	77.1	8.0	1.03	10.4	0.04	0.27	0.40	60	215
71	10.98	10.97	33.335	25.485	250.3	0.234	4.37	69.9	11.4	1.28	14.2	0.03	0.19	0.24	71	214
75 ISL	10.77	10.76	33.372	25.551	244.1	0.244	4.21	67.1	12.7	1.36	15.6	0.03	0.16	0.19	75	
86	10.34	10.33	33.483	25.712	229.0	0.270	3.80	60.0	16.1	1.53	18.9	0.02	0.10	0.09	86	213
100 ISL	9.86	9.85	33.574	25.864	214.7	0.301	3.58	56.0	19.4	1.66	21.1	0.01	0.04	0.06	100	
102	9.80	9.79	33.586	25.884	212.9	0.306	3.56	55.6	19.8	1.68	21.3	0.01	0.03	0.06	102	212
119	9.46	9.45	33.735	26.056	196.8	0.340	3.18	49.3	23.6	1.83	23.5	0.01	0.01	0.04	120	211
125 ISL	9.40	9.39	33.769	26.093	193.5	0.352	3.10	48.0	24.3	1.86	23.9	0.01	0.01	0.04	126	
138	9.29	9.27	33.829	26.158	187.6	0.377	2.96	45.8	25.8	1.90	24.7	0.01	0.00	0.04	139	210
150 ISL	9.06	9.04	33.894	26.245	179.4	0.399	2.81	43.2	28.2	1.96	25.8	0.01	0.00	0.03	151	
168	8.71	8.69	33.977	26.366	168.3	0.430	2.61	39.9	31.9	2.05	27.5	0.01	0.00	0.02	169	208
199	8.40	8.38	34.023	26.450	160.8	0.481	2.44	37.0	35.6	2.14	29.0	0.00	0.00	0.03	200	207
200 ISL	8.39	8.37	34.024	26.452	160.6	0.483	2.43	36.9	35.7	2.14	29.0	0.00			201	
231	8.21	8.19	34.055	26.504	156.1	0.532	2.24	33.8	38.7	2.23	30.1	0.00			232	206
250 ISL	8.00	7.97	34.066	26.544	152.6	0.561	2.15	32.3	41.3	2.30	31.0	0.00			251	
269	7.77	7.74	34.078	26.588	148.7	0.590	2.03	30.4	44.2	2.39	32.0	0.00			271	205
300 ISL	7.42	7.39	34.113	26.666	141.6	0.635	1.64	24.3	49.8	2.54	33.7	0.00			302	
318	7.23	7.20	34.133	26.708	137.8	0.660	1.40	20.7	53.1	2.63	34.6	0.00			320	204
378	6.69	6.66	34.150	26.796	130.0	0.740	1.04	15.2	61.1	2.81	36.9	0.00			380	203
400 ISL	6.51	6.47	34.172	26.838	126.2	0.768	0.87	12.6	65.0	2.89	37.8	0.00			403	
439	6.21	6.17	34.214	26.910	119.7	0.816	0.58	8.4	71.9	3.02	39.2	0.00			442	202
500 ISL	5.86	5.82	34.255	26.987	112.9	0.887	0.40	5.7	79.6	3.13	40.6	0.00			503	
514	5.78	5.74	34.265	27.005	111.3	0.903	0.36	5.1	81.4	3.16	40.9	0.00			517	201

RV NEW HORIZON CALCOFI CRUISE 0511 STATION 90 100

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
31 5.1 N	122 39.6 W	08/11/05	1936 UTC	4018 m	010 11 kn	330 06 06	2	1012.1 mb	15.9 C	14.9 C	21m	8/8	SC

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	17.46	17.46	33.037	23.900	399.6	0.000	5.58	101.8	1.8	0.31	0.0	0.00	0.23	0.04	0	
2 A	17.46	17.46	33.037	23.900	399.6	0.008	5.58	101.8	1.8	0.31	0.0	0.00	0.23	0.04	2	223
8	17.46	17.46	33.039	23.902	399.6	0.032	5.58	101.8	1.8	0.31	0.0	0.00	0.23	0.05	8	221
10 ISL	17.45	17.45	33.039	23.905	399.5	0.040	5.58	101.7	1.8	0.31	0.0	0.00	0.22	0.06	10	
15 A	17.40	17.40	33.040	23.917	398.4	0.060	5.59	101.8	1.8	0.30	0.0	0.00	0.21	0.08	15	222
20 ISL	17.32	17.32	33.041	23.938	396.7	0.080	5.60	101.8	1.8	0.31	0.0	0.00	0.25	0.09	20	
23	17.27	17.27	33.049	23.956	395.0	0.092	5.61	101.9	1.8	0.31	0.0	0.00	0.29	0.10	23	220
30 ISL	17.14	17.14	33.116	24.038	387.4	0.119	5.64	102.3	1.5	0.30	0.0	0.00	0.40	0.10	30	
31 A	17.11	17.10	33.125	24.052	386.1	0.123	5.65	102.4	1.5	0.30	0.0	0.00	0.42	0.10	31	219
38	16.75	16.74	33.117	24.130	378.9	0.150	5.73	103.1	1.6	0.31	0.0	0.00	0.49	0.21	38	218
46 A	15.37	15.36	32.995	24.348	358.2	0.179	6.09	106.5	1.8	0.34	0.0	0.00	0.65	0.31	46	217
50 ISL	14.52	14.51	32.965	24.508	343.0	0.193	6.09	104.7	2.1	0.36	0.1	0.01	0.62	0.38	50	
52	14.13	14.12	32.958	24.585	335.8	0.200	6.09	103.9	2.2	0.37	0.1	0.02	0.60	0.41	52	216
59 A	13.53	13.52	32.943	24.696	325.3	0.223	5.95	100.2	2.6	0.46	0.9	0.16	0.56	0.40	59	215
71	12.84	12.83	32.964	24.850	310.9	0.261	5.73	95.1	3.4	0.55	2.0	0.26	0.34	0.40	71	214
75 ISL	12.71	12.70	33.011	24.912	305.1	0.274	5.63	93.3	3.7	0.58	2.7	0.18	0.31	0.34	75	
82 A	12.41	12.40	33.098	25.037	293.3	0.295	5.44	89.6	4.3	0.66	4.2	0.04	0.26	0.24	82	213
91	11.63	11.62	33.156	25.229	275.2	0.320	5.22	84.6	5.9	0.81	6.9	0.02	0.17	0.20	91	212
98	10.87	10.86	33.243	25.433	255.8	0.339	4.85	77.3	9.4	1.06	11.6	0.00	0.11	0.13	98	211
100 ISL	10.71	10.70	33.272	25.484	251.0	0.344	4.73	75.2	10.4	1.13	12.8	0.00	0.10	0.12	100	
120	9.69	9.68	33.545	25.870	214.5	0.390	3.64	56.7	19.3	1.71	21.5	0.00	0.02	0.05	121	210
125 ISL	9.53	9.52	33.597	25.937	208.3	0.401	3.49	54.2	20.9	1.78	22.6	0.00	0.02	0.05	126	
150	9.13	9.11	33.792	26.155	188.0	0.450	2.97	45.7	26.4	1.94	25.3	0.00	0.00	0.03	151	209
168	9.12	9.10	33.892	26.235	180.8	0.484	2.60	40.1	28.9	2.05	26.8	0.00	0.00	0.02	169	208
199	8.85	8.83	34.013	26.373	168.3	0.538	2.29	35.1	33.4	2.16	28.4	0.00	0.00	0.03	200	207
200 ISL	8.84	8.82	34.015	26.376	168.0	0.539	2.29	35.1	33.5	2.16	28.4	0.00			201	
228	8.37	8.35	34.032	26.462	160.2	0.585	2.35	35.6	36.8	2.18	29.5	0.00			229	206
250 ISL	7.93	7.90	34.038	26.533	153.6	0.620	2.29	34.4	40.8	2.24	30.6	0.00			251	
269	7.56	7.53	34.042	26.590	148.4	0.649	2.24	33.3	44.7	2.31	31.7	0.00			270	205
300 ISL	7.10	7.07	34.055	26.665	141.5	0.694	1.91	28.1	50.6	2.47	33.8	0.00			302	
319	6.87	6.84	34.064	26.703	138.0	0.720	1.68	24.6	54.2	2.58	35.0	0.00			321	204
378	6.34	6.31	34.102	26.804	128.9	0.799	1.16	16.8	64.3	2.81	37.7	0.00			380	203
400 ISL	6.09	6.06	34.112	26.844	125.2	0.827	1.03	14.8	68.6	2.88	38.6	0.00			402	
438	5.68	5.64	34.132	26.911	119.0	0.873	0.83	11.8	76.2	2.99	40.1	0.00			441	202
500 ISL	5.25	5.21	34.190	27.009	110.1	0.944	0.53	7.5	86.9	3.12	41.8	0.00			503	
512	5.17	5.13	34.202	27.028	108.3	0.957	0.47	6.6	89.0	3.15	42.1	0.00			515	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV NEW HORIZON CALCOFI CRUISE 0511 STATION 90 110

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
30 45.4 N	123 19.7 W	08/11/05	1253 UTC	4026 m	180 06 kn			1010.1 mb	18.7 C	17.5 C			

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	18.13	18.13	33.239	23.893	400.2	0.000	5.49	101.5	1.7	0.28	0.0	0.00	0.15	0.11	0	
2	18.13	18.13	33.239	23.893	400.3	0.008	5.49	101.5	1.7	0.28	0.0	0.00	0.15	0.11	2	221
10 ISL	18.14	18.14	33.239	23.891	400.8	0.040	5.48	101.4	1.6	0.28	0.0	0.00	0.17	0.06	10	
15	18.14	18.14	33.239	23.891	400.9	0.060	5.48	101.4	1.6	0.28	0.0	0.00	0.18	0.02	15	220
20 ISL	18.14	18.14	33.239	23.891	401.1	0.080	5.48	101.4	1.6	0.28	0.0	0.00	0.19	0.02	20	
30	18.14	18.13	33.238	23.891	401.5	0.120	5.48	101.4	1.7	0.28	0.0	0.00	0.20	0.01	30	219
45	17.97	17.96	33.249	23.942	397.2	0.180	5.52	101.8	1.7	0.28	0.0	0.00	0.26	0.04	45	218
50 ISL	17.49	17.48	33.268	24.072	384.9	0.200	5.67	103.6	1.7	0.27	0.0	0.00	0.27	0.06	50	
60	16.44	16.43	33.320	24.358	357.8	0.237	5.94	106.3	1.6	0.26	0.0	0.00	0.28	0.09	60	217
74	15.83	15.82	33.368	24.534	341.5	0.286	5.90	104.4	1.8	0.27	0.0	0.00	0.30	0.03	74	216
75 ISL	15.78	15.77	33.367	24.545	340.5	0.289	5.90	104.3	1.8	0.27	0.0	0.00	0.30	0.04	75	
86	15.21	15.20	33.394	24.692	326.7	0.326	5.81	101.5	2.0	0.29	0.0	0.00	0.27	0.15	86	215
90	14.99	14.98	33.444	24.778	318.6	0.339	5.73	99.7	1.9	0.30	0.0	0.00	0.24	0.16	90	214
94	14.78	14.77	33.461	24.837	313.1	0.351	5.69	98.6	2.2	0.31	0.1	0.02	0.22	0.19	94	213
100 ISL	13.94	13.93	33.336	24.917	305.5	0.370	5.56	94.7	3.1	0.45	1.7	0.07	0.26	0.18	100	
104	13.36	13.35	33.253	24.971	300.3	0.382	5.46	91.8	3.7	0.55	2.9	0.10	0.28	0.18	104	212
114	13.04	13.02	33.372	25.128	285.7	0.411	5.29	88.4	4.4	0.60	4.2	0.05	0.16	0.15	114	211
125	11.73	11.71	33.278	25.306	268.8	0.442	4.99	81.1	6.7	0.88	8.7	0.01	0.13	0.13	125	210
140	10.91	10.89	33.319	25.486	251.7	0.481	4.73	75.5	9.5	1.08	12.1	0.01	0.10	0.09	141	209
150 ISL	10.45	10.43	33.396	25.626	238.5	0.505	4.29	67.8	13.2	1.31	15.7	0.01	0.07	0.07	151	
164	9.92	9.90	33.518	25.812	221.1	0.538	3.72	58.2	18.3	1.61	20.3	0.00	0.03	0.05	165	208
195	9.09	9.07	33.681	26.075	196.5	0.602	3.89	59.8	21.7	1.62	21.5	0.00	0.01	0.02	196	207
200 ISL	9.02	9.00	33.717	26.114	192.8	0.612	3.87	59.4	22.5	1.63	21.8	0.00			201	
229	8.72	8.70	33.913	26.315	174.2	0.665	3.49	53.3	27.9	1.77	24.1	0.00			230	206
250 ISL	8.54	8.51	34.002	26.413	165.3	0.701	2.82	42.9	33.0	2.00	27.1	0.00			251	
269	8.37	8.34	34.054	26.480	159.2	0.732	2.20	33.4	37.7	2.22	29.8	0.00			270	205
300 ISL	8.01	7.98	34.094	26.566	151.5	0.780	1.78	26.8	43.5	2.40	32.0	0.00			302	
318	7.76	7.73	34.099	26.606	147.8	0.807	1.68	25.1	46.6	2.46	32.9	0.00			320	204
377	6.70	6.67	34.077	26.737	135.5	0.890	1.50	21.9	58.1	2.65	36.0	0.00			379	203
400 ISL	6.46	6.42	34.091	26.780	131.6	0.921	1.31	19.0	62.3	2.74	37.1	0.00			402	
437	6.16	6.12	34.124	26.845	125.7	0.969	0.97	14.0	68.7	2.89	38.7	0.00			440	202
500 ISL	5.69	5.65	34.176	26.945	116.6	1.045	0.65	9.3	79.0	3.04	40.5	0.00			503	
522	5.53	5.49	34.195 D	26.980	113.4	1.070	0.54	7.7	82.6	3.09	41.1	0.00			525	201

RV NEW HORIZON CALCOFI CRUISE 0511 STATION 90 120

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT TYPE
30 24.6 N	123 59.9 W	08/11/05	0609 UTC	4233 m	210 09 kn			1013.1 mb	19.3 C	17.9 C		

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	19.14	19.14	33.446	23.799	409.2	0.000	5.43	102.5	2.0	0.27	0.0	0.00	0.10	0.03	0	
2	19.14	19.14	33.446	23.800	409.2	0.008	5.43	102.5	2.0	0.27	0.0	0.00	0.10	0.03	2	222
10 ISL	19.15	19.15	33.445	23.797	409.8	0.041	5.39	101.8	1.9	0.26	0.0	0.00	0.10	0.03	10	
15	19.15	19.15	33.445	23.797	410.0	0.061	5.36	101.2	1.8	0.26	0.0	0.00	0.10	0.03	15	221
20 ISL	19.14	19.14	33.449	23.803	409.6	0.082	5.36	101.2	1.8	0.26	0.0	0.00	0.10	0.03	20	
29	19.12	19.11	33.454	23.812	409.0	0.119	5.37	101.3	1.8	0.27	0.1	0.00	0.10	0.03	29	219
30 ISL	19.11	19.10	33.452	23.813	409.0	0.123	5.37	101.3	1.8	0.27	0.1	0.00	0.10	0.03	30	
45	19.03	19.02	33.426	23.814	409.4	0.184	5.43	102.3	1.7	0.27	0.0	0.00	0.14	0.04	45	218
50 ISL	18.91	18.90	33.385	23.813	409.7	0.205	5.43	102.0	1.7	0.27	0.0	0.00	0.15	0.04	50	
60	18.66	18.65	33.303	23.814	410.0	0.246	5.43	101.5	1.7	0.28	0.0	0.00	0.16	0.05	60	217
75	16.84	16.83	33.364	24.300	363.9	0.304	5.92	106.8	1.6	0.26	0.0	0.00	0.20	0.09	75	215
83	16.69	16.68	33.489	24.431	351.7	0.332	5.84	105.2	1.7	0.25	0.0	0.00	0.19	0.12	83	214
95	16.21	16.19	33.528	24.572	338.6	0.374	5.77	103.0	1.8	0.29	0.0	0.00	0.19	0.17	95	213
100 ISL	15.94	15.92	33.523	24.630	333.2	0.391	5.73	101.7	1.9	0.29	0.0	0.00	0.19	0.17	100	
104	15.68	15.66	33.523	24.688	327.8	0.404	5.68	100.3	2.0	0.29	0.0	0.00	0.19	0.18	104	212
115	14.77	14.75	33.605	24.951	302.9	0.438	5.39	93.5	2.8	0.41	1.1	0.16	0.18	0.24	115	211
125	13.80	13.78	33.519	25.088	289.9	0.468	5.39	91.6	3.2	0.49	2.5	0.11	0.18	0.18	125	210
139	13.09	13.07	33.555	25.260	273.8	0.508	5.16	86.4	4.5	0.61	4.9	0.02	0.12	0.15	140	209
150 ISL	12.01	11.99	33.507	25.432	257.5	0.537	4.92	80.5	7.3	0.83	8.6	0.01	0.08	0.11	151	
163	10.70	10.68	33.469	25.640	237.6	0.569	4.60	73.2	11.4	1.13	13.3	0.00	0.04	0.07	164	208
194	9.49	9.47	33.688	26.016	202.2	0.637	3.85	59.7	20.2	1.57	20.2	0.00	0.01	0.03	195	207
200 ISL	9.38	9.36	33.732	26.068	197.3	0.649	3.71	57.4	21.6	1.63	21.1	0.00			201	
230	9.04	9.02	33.917	26.268	178.9	0.706	3.13	48.1	27.5	1.85	24.6	0.00			231	206
250 ISL	8.82	8.79	33.979	26.352	171.3	0.741	2.95	45.2	30.3	1.93	25.9	0.00			251	
268	8.60	8.57	34.010	26.410	165.9	0.771	2.82	43.0	32.9	2.00	26.9	0.00			269	205
300 ISL	8.05	8.02	34.047	26.523	155.5	0.822	2.44	36.7	39.6	2.19	29.6	0.00			302	
323	7.64	7.61	34.064	26.596	148.7	0.857	2.14	31.9	44.7	2.34	31.6	0.00			325	204
379	6.95	6.91	34.106	26.726	136.8	0.937	1.48	21.7	55.4	2.63	35.1	0.00			381	203
400 ISL	6.74	6.70	34.117	26.764	133.4	0.966	1.31	19.1	59.0	2.71	36.1	0.00			402	
440	6.39	6.35	34.136	26.825	127.9	1.018	1.05	15.2	65.3	2.85	37.7	0.00			443	202
500 ISL	6.01	5.97	34.175	26.905	120.8	1.093	0.76	10.9	73.7	3.00	39.5	0.00			503	
512	5.93	5.89	34.183	26.922	119.3	1.107	0.70	10.0	75.4	3.03	39.8	0.00			515	201

RV NEW HORIZON CALCOFI CRUISE 0511 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 14.5 N	117 27.9 W	05/11/05	0057 UTC	24 m	290 09 kn	260 02 06	1	1014.8 mb	17.3 C	15.4 C		2/8 CC

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	17.82	17.82	33.368	24.067	383.6	0.000	5.77	106.2	1.5	0.18	0.0	0.01	0.51	0.16	0	
2	17.82	17.82	33.368	24.067	383.7	0.008	5.77	106.2	1.5	0.18	0.0	0.01	0.51	0.16	2	205
6	17.78	17.78	33.366	24.076	383.0	0.023	5.80	106.6	1.5	0.18	0.0	0.00	0.59	0.17	6	204
10	17.46	17.46	33.336	24.130	378.0	0.038	5.93	108.3	2.2	0.21	0.0	0.01	1.38	0.34	10	203
15	16.42	16.42	33.308	24.352	357.0	0.057	5.82	104.2	3.2	0.32	0.0	0.03	9.69	1.07	15	202
18	16.12	16.12	33.312	24.424	350.2	0.067	5.87	104.4	3.1	0.27	0.0	0.02	9.71	0.24	18	201

RV NEW HORIZON CALCOFI CRUISE 0511 STATION 93.4 26.4

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT TYPE
32 57.1 N	117 17.1 W	04/11/05	2157 UTC	26 m	250 08 kn	280 03 06	0	1015.7 mb	18.3 C	15.4 C	05m	0/8

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	16.75	16.75	33.329	24.292	362.3	0.000	6.57	118.4	3.0	0.14	0.0	0.01	4.56	0.56	0	
2	16.75	16.75	33.329	24.292	362.3	0.007	6.57	118.4	3.0	0.14	0.0	0.01	4.56	0.56	2	204
6	16.49	16.49	33.334	24.356	356.3	0.022	6.69	119.9	3.4	0.15	0.0	0.02	7.13	1.22	6	203
10	16.17	16.17	33.334	24.429	349.5	0.036	5.66	100.8	4.8	0.34	0.3	0.06	7.02	0.09	10	202
15	14.10	14.10	33.332	24.879	306.8	0.052	5.43	92.8	5.3	0.39	0.4	0.07	5.09	0.43	15	201

RV NEW HORIZON CALCOFI CRUISE 0511 STATION 93 26.7

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
32 57.3 N	117 18.6 W	04/11/05	1949	UTC	91 m	040	02 kn	290 02 07	1	1017.3 mb	17.7 C	16.0 C	12m	2/8	ST

DEPTH m		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0	ISL	16.70	16.70	33.319	24.295	361.9	0.000	6.13	110.3	2.4	0.18	0.0	0.00	1.10	0.15	0	
2	A	16.70	16.70	33.319	24.296	361.9	0.007	6.13	110.3	2.4	0.18	0.0	0.00	1.10	0.15	2	213
5		16.64	16.64	33.320	24.310	360.6	0.018	6.14	110.4	2.4	0.17	0.0	0.00	1.29	0.25	5	212
8	A	16.56	16.56	33.316	24.326	359.2	0.029	6.14	110.2	2.4	0.17	0.0	0.00	1.26	0.43	8	211
10	ISL	16.27	16.27	33.314	24.391	353.1	0.036	6.05	108.0	2.6	0.19	0.0	0.01	1.39	0.51	10	
18	A	14.50	14.50	33.317	24.783	315.9	0.063	5.41	93.2	4.6	0.42	0.1	0.05	1.81	0.65	18	210
20	ISL	14.02	14.02	33.319	24.885	306.3	0.069	5.22	89.0	5.4	0.51	0.8	0.13	1.71	0.65	20	
26	A	12.63	12.63	33.339	25.180	278.3	0.087	4.68	77.6	8.0	0.82	4.3	0.31	1.22	0.64	26	209
30	ISL	11.82	11.82	33.366	25.355	261.7	0.097	4.46	72.7	9.2	1.00	8.1	0.22	0.82	0.53	30	
34	A	11.23	11.23	33.392	25.484	249.6	0.108	4.30	69.2	10.2	1.15	11.4	0.10	0.49	0.41	34	208
40		10.98	10.98	33.403	25.537	244.6	0.122	4.11	65.8	11.2	1.25	12.6	0.05	0.43	0.38	40	207
49	A	10.81	10.80	33.431	25.589	239.9	0.144	3.88	61.9	12.7	1.35	14.0	0.06	0.40	0.24	49	206
50	ISL	10.80	10.79	33.442	25.599	238.9	0.147	3.78	60.3	13.2	1.39	14.4	0.07	0.37	0.24	50	
55		10.79	10.78	33.502	25.648	234.4	0.158	3.28	52.3	16.1	1.57	16.5	0.13	0.24	0.27	55	205
71		10.74	10.73	33.584	25.721	227.9	0.195	2.73	43.5	19.4	1.77	18.8	0.14	0.13	0.21	71	204

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV NEW HORIZON CALCOFI CRUISE 0511 STATION 93 28

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
32 54.4 N	117 24.1 W	05/11/05	0352	UTC	574 m	320	06 kn			1015.7 mb	17.2 C	15.1 C			

DEPTH m		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0	ISL	17.71	17.71	33.320	24.057	384.6	0.000	5.62	103.2	1.9	0.26	0.0	0.00	0.21	0.06	0	
2		17.71	17.71	33.320	24.057	384.7	0.008	5.62	103.2	1.9	0.26	0.0	0.00	0.21	0.06	2	221
10		17.69	17.69	33.322	24.064	384.3	0.038	5.62	103.1	1.9	0.25	0.0	0.00	0.18	0.06	10	220
19		16.50	16.50	33.293	24.322	359.9	0.072	5.82	104.3	2.4	0.29	0.0	0.00	0.40	0.18	19	219
20	ISL	16.21	16.21	33.286	24.383	354.1	0.076	5.80	103.4	2.6	0.32	0.3	0.02	0.47	0.23	20	
29		13.65	13.65	33.270	24.924	302.8	0.105	5.45	92.2	5.2	0.63	3.2	0.16	0.99	0.62	29	217
29		13.82	13.82	33.268	24.888	306.3	0.105	5.53	93.9	4.7	0.58	2.6	0.13	1.01	0.67	29	218
30	ISL	13.50	13.50	33.273	24.957	299.7	0.108	5.39	90.9	5.4	0.65	3.4	0.16	0.97	0.62	30	
40		12.60	12.59	33.320	25.172	279.5	0.137	4.67	77.3	7.7	0.89	6.0	0.16	0.72	0.45	40	216
49		12.24	12.23	33.402	25.304	267.1	0.162	3.99	65.6	11.1	1.18	10.3	0.03	0.41	0.35	49	215
50	ISL	12.20	12.19	33.410	25.318	265.8	0.164	3.93	64.6	11.4	1.21	10.7	0.03	0.40	0.35	50	
60		11.74	11.73	33.471	25.452	253.2	0.190	3.58	58.3	14.2	1.41	14.1	0.04	0.36	0.33	60	214
70		11.16	11.15	33.477	25.563	242.9	0.215	3.66	58.8	15.2	1.47	15.6	0.02	0.14	0.21	70	213
75	ISL	11.17	11.16	33.543	25.613	238.3	0.227	3.37	54.2	16.9	1.58	16.9	0.01	0.11	0.16	75	
85		11.20	11.19	33.670	25.706	229.6	0.251	2.69	43.3	20.6	1.82	19.4	0.01	0.05	0.10	85	212
100		10.76	10.75	33.767	25.861	215.3	0.284	2.51	40.1	23.5	1.93	21.2	0.01	0.04	0.06	100	211
119		10.59	10.58	33.911	26.003	202.2	0.324	2.12	33.7	27.0	2.09	22.9	0.00	0.02	0.06	120	210
125	ISL	10.55	10.54	33.938	26.031	199.6	0.336	2.07	32.9	27.5	2.11	23.2	0.00	0.02	0.06	126	
140		10.45	10.43	33.993	26.092	194.2	0.365	1.99	31.6	28.5	2.14	23.9	0.00	0.02	0.07	141	209
150	ISL	10.38	10.36	34.042	26.142	189.6	0.384	1.91	30.3	29.3	2.17	24.4	0.00	0.03	0.06	151	
170		10.19	10.17	34.137	26.250	179.9	0.421	1.75	27.6	31.2	2.24	25.5	0.00	0.05	0.05	171	208
199		9.80	9.78	34.232	26.390	167.0	0.472	1.52	23.8	34.8	2.43	27.0	0.00	0.02	0.05	200	207
200	ISL	9.79	9.77	34.234	26.393	166.7	0.473	1.51	23.7	34.9	2.43	27.0	0.00			201	
228		9.43	9.40	34.274	26.485	158.6	0.519	1.35	21.0	37.9	2.44	28.3	0.00			229	206
250	ISL	9.23	9.20	34.287	26.528	154.8	0.553	1.25	19.3	39.8	2.49	29.0	0.00			251	
269		9.04	9.01	34.286	26.558	152.3	0.582	1.19	18.3	41.4	2.54	29.6	0.00			271	205
300	ISL	8.53	8.50	34.257	26.615	147.1	0.629	1.17	17.8	44.8	2.59	30.8	0.00			302	
318		8.21	8.18	34.239	26.650	144.0	0.655	1.16	17.5	47.1	2.62	31.6	0.00			320	204
383		7.37	7.33	34.231	26.767	133.4	0.745	0.87	12.9	56.3	2.80	34.6	0.00			385	203
400	ISL	7.23	7.19	34.235	26.790	131.4	0.768	0.80	11.8	58.3	2.84	35.2	0.00			403	
441		6.91	6.87	34.252	26.848	126.3	0.821	0.64	9.4	63.3	2.94	36.4	0.00			444	202
500	ISL	6.35	6.30	34.302	26.962	115.8	0.892	0.37	5.4	74.0	3.10	38.3	0.00			503	
518		6.18	6.13	34.318	26.997	112.6	0.913	0.29	4.2	77.2	3.15	38.9	0.00			522	201

RV NEW HORIZON CALCOFI CRUISE 0511 STATION 93 30

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT TYPE
32 50.7 N	117 32.1 W	05/11/05	0708 UTC	866 m	050 04 kn			1015.1 mb	17.3 C	15.2 C		

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	17.66	17.66	33.319	24.068	383.5	0.000	5.62	103.1	1.7	0.26	0.0	0.00	0.20	0.05	0	
2	17.66	17.66	33.319	24.068	383.6	0.008	5.62	103.1	1.7	0.26	0.0	0.00	0.20	0.05	2	220
10 ISL	17.59	17.59	33.316	24.083	382.4	0.038	5.62	102.9	1.6	0.26	0.0	0.00	0.21	0.07	10	
11	17.58	17.58	33.316	24.086	382.2	0.042	5.62	102.9	1.6	0.26	0.0	0.00	0.21	0.08	11	219
20	15.99	15.99	33.292	24.438	348.9	0.075	5.76	102.2	2.5	0.31	0.0	0.00	0.37	0.17	20	218
30	13.86	13.86	33.282	24.890	306.1	0.108	5.38	91.4	4.9	0.59	1.8	0.09	0.93	0.45	30	217
40	12.08	12.07	33.417	25.346	262.8	0.136	3.93	64.4	11.1	1.24	11.7	0.05	0.66	0.37	40	216
50	11.35	11.34	33.575	25.604	238.5	0.161	3.11	50.2	17.1	1.65	17.9	0.03	0.19	0.19	50	215
60	11.29	11.28	33.700	25.713	228.4	0.185	2.38	38.4	21.3	1.91	20.5	0.02	0.10	0.14	60	214
70	11.34	11.33	33.794	25.777	222.6	0.207	1.94	31.4	24.5	2.08	21.9	0.02	0.04	0.12	70	213
75 ISL	11.36	11.35	33.828	25.800	220.5	0.218	1.78	28.8	25.5	2.14	22.5	0.02	0.03	0.10	75	
85	11.40	11.39	33.895	25.845	216.5	0.240	1.50	24.3	27.3	2.24	23.4	0.02	0.02	0.08	85	212
100	11.50	11.49	34.032	25.934	208.5	0.272	0.99	16.1	30.9	2.43	24.6	0.02	0.02	0.09	100	211
119	11.41	11.40	34.129	26.026	200.2	0.311	0.84	13.6	33.2	2.49	25.2	0.01	0.02	0.07	120	210
125 ISL	11.40	11.38	34.146	26.041	198.9	0.323	0.81	13.1	33.7	2.51	25.4	0.01	0.03	0.07	126	
140	11.36	11.34	34.180	26.075	196.0	0.352	0.75	12.2	34.5	2.54	25.7	0.01	0.04	0.07	141	209
150 ISL	11.33	11.31	34.214	26.107	193.2	0.372	0.75	12.2	34.5	2.54	25.8	0.01	0.04	0.07	151	
171	11.20	11.18	34.275	26.179	186.9	0.412	0.76	12.3	34.6	2.55	26.0	0.01	0.03	0.07	172	208
199	10.74	10.72	34.295	26.278	178.1	0.463	1.06	17.0	33.5	2.46	26.6	0.01	0.02	0.05	200	207
200 ISL	10.73	10.71	34.296	26.280	177.9	0.465	1.07	17.1	33.5	2.46	26.6	0.01			201	
229	10.24	10.21	34.303	26.372	169.7	0.515	1.20	19.0	35.1	2.45	27.3	0.01			230	206
250 ISL	9.73	9.70	34.280	26.440	163.4	0.550	1.33	20.8	36.9	2.45	28.0	0.00			251	
268	9.27	9.24	34.255	26.496	158.2	0.579	1.42	22.0	38.8	2.45	28.8	0.00			270	205
300 ISL	8.63	8.60	34.225	26.575	151.1	0.628	1.35	20.6	42.9	2.51	30.4	0.00			302	
320	8.29	8.26	34.213	26.618	147.1	0.658	1.30	19.7	45.8	2.57	31.5	0.00			322	204
378	7.53	7.49	34.227	26.741	135.9	0.740	0.97	14.4	54.8	2.77	34.2	0.00			380	203
400 ISL	7.24	7.20	34.225	26.781	132.3	0.770	0.88	13.0	58.3	2.84	35.2	0.00			403	
439	6.81	6.77	34.228	26.842	126.7	0.820	0.73	10.7	64.1	2.94	36.7	0.00			442	202
500 ISL	6.55	6.50	34.284	26.922	119.9	0.896	0.45	6.5	70.9	3.07	38.0	0.00			503	
513	6.49	6.44	34.296	26.939	118.3	0.911	0.39	5.7	72.4	3.10	38.3	0.00			516	201

RV NEW HORIZON CALCOFI CRUISE 0511 STATION 93 35

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT TYPE
32 40.9 N	117 52.7 W	05/11/05	1104 UTC	612 m	350 05 kn			1014.5 mb	17.1 C	15.2 C		

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	17.79	17.79	33.342	24.055	384.8	0.000	5.74	105.5	1.9	0.17	0.0	0.00	0.39	0.09	0	
2	17.79	17.79	33.342	24.055	384.9	0.008	5.74	105.5	1.9	0.17	0.0	0.00	0.39	0.09	2	221
10 ISL	17.76	17.76	33.342	24.062	384.4	0.038	5.75	105.7	1.6	0.18	0.0	0.00	0.42	0.07	10	
11	17.76	17.76	33.342	24.062	384.5	0.042	5.75	105.7	1.6	0.18	0.0	0.00	0.43	0.07	11	220
20	17.57	17.57	33.345	24.111	380.2	0.077	5.74	105.1	1.6	0.20	0.0	0.00	0.45	0.12	20	219
30	15.78	15.78	33.349	24.529	340.5	0.113	5.65	99.9	2.8	0.35	0.4	0.05	0.59	0.17	30	218
40	13.19	13.18	33.298	25.039	292.2	0.144	5.08	85.2	6.1	0.75	5.1	0.22	0.83	0.33	40	217
50	12.10	12.09	33.375	25.310	266.5	0.172	4.22	69.2	10.2	1.14	11.1	0.08	0.56	0.31	50	216
55	11.84	11.83	33.464	25.428	255.4	0.185	3.63	59.2	13.4	1.38	14.3	0.04	0.30	0.23	55	215
60	11.31	11.30	33.466	25.527	246.1	0.198	3.66	59.0	14.6	1.45	16.2	0.03	0.23	0.17	60	214
70	10.81	10.80	33.509	25.650	234.5	0.222	3.60	57.4	16.2	1.54	18.0	0.03	0.11	0.14	70	213
75 ISL	10.64	10.63	33.533	25.699	230.0	0.234	3.55	56.4	17.0	1.58	18.7	0.03	0.08	0.12	75	
85	10.49	10.48	33.609	25.784	222.1	0.256	3.29	52.2	19.1	1.69	20.0	0.02	0.04	0.09	85	212
99	10.68	10.67	33.816	25.913	210.3	0.286	2.38	37.9	24.6	1.99	22.6	0.02	0.03	0.06	99	211
100 ISL	10.69	10.68	33.826	25.919	209.7	0.289	2.34	37.3	24.8	2.00	22.7	0.02	0.03	0.06	100	
119	10.79	10.78	33.952	26.000	202.5	0.328	1.89	30.2	27.4	2.15	24.0	0.02	0.02	0.08	120	210
125 ISL	10.75	10.73	33.979	26.028	200.0	0.340	1.79	28.6	28.3	2.19	24.3	0.02	0.02	0.07	126	
139	10.66	10.64	34.042	26.093	194.1	0.367	1.68	26.8	29.8	2.24	25.0	0.02	0.01	0.05	140	209
150 ISL	10.39	10.37	34.038	26.137	190.1	0.388	1.86	29.5	29.6	2.20	25.2	0.02	0.01	0.05	151	
169	9.86	9.84	34.027	26.219	182.5	0.424	2.19	34.3	29.2	2.12	25.7	0.01	0.02	0.04	170	208
199	9.43	9.41	34.152	26.389	167.0	0.476	1.88	29.2	33.4	2.25	27.7	0.01	0.02	0.03	200	207
200 ISL	9.42	9.40	34.155	26.393	166.6	0.478	1.87	29.0	33.5	2.25	27.7	0.01			201	
229	9.26	9.23	34.216	26.467	160.2	0.525	1.59	24.6	36.6	2.37	28.9	0.01			230	206
250 ISL	9.11	9.08	34.233	26.505	157.0	0.559	1.48	22.8	38.5	2.42	29.5	0.01			251	
269	8.93	8.90	34.236	26.536	154.3	0.588	1.42	21.8	40.2	2.46	30.1	0.01			271	205
300 ISL	8.51	8.48	34.230	26.597	148.8	0.635	1.31	19.9	43.7	2.54	31.4	0.01			302	
319	8.24	8.21	34.226	26.635	145.4	0.663	1.24	18.8	46.1	2.59	32.3	0.01			321	204
378	7.58	7.54	34.249	26.751	135.0	0.746	0.88	13.1	54.7	2.79	34.7	0.01			380	203
400 ISL	7.31	7.27	34.255	26.794	131.1	0.775	0.77	11.4	58.1	2.86	35.7	0.01			403	
438	6.87	6.83	34.267	26.865	124.6	0.824	0.61	8.9	64.0	2.96	37.3	0.00			441	202
500 ISL	6.46	6.41	34.292	26.940	118.1	0.899	0.42	6.1	73.3	3.08	38.9	0.00			503	
513	6.37	6.32	34.298	26.957	116.6	0.914	0.38	5.5	75.3	3.10	39.2	0.00			516	201

RV NEW HORIZON CALCOFI CRUISE 0511 STATION 93 40

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
32 30.9 N	118 12.9 W	05/11/05	1512 UTC	1640 m	020 04 kn	290 06 08	1	1014.9 mb	16.7 C	15.3 C	20m	7/8	SC

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	17.75	17.75	33.379	24.093	381.2	0.000	5.57	102.4	1.4	0.23	0.0	0.00	0.40	0.10	0	
2	17.75	17.75	33.379	24.093	381.3	0.008	5.57	102.4	1.4	0.23	0.0	0.00	0.40	0.10	2	220
10	17.75	17.75	33.379	24.093	381.5	0.038	5.55	102.0	1.3	0.22	0.0	0.00	0.34	0.11	10	219
20	17.74	17.74	33.393	24.107	380.6	0.076	5.55	102.0	1.3	0.22	0.0	0.00	0.41	0.14	20	218
30	16.43	16.43	33.266	24.318	360.7	0.113	5.79	103.6	1.8	0.28	0.0	0.01	0.51	0.25	30	217
40	14.62	14.61	33.230	24.691	325.4	0.148	5.73	98.9	2.8	0.43	0.5	0.08	0.97	0.40	40	216
50	13.26	13.25	33.269	25.002	295.9	0.179	5.13	86.1	5.1	0.73	4.5	0.33	0.47	0.30	50	215
62	11.85	11.84	33.346	25.335	264.5	0.212	4.37	71.2	9.5	1.15	11.9	0.05	0.25	0.40	62	214
70	10.91	10.90	33.368	25.523	246.7	0.233	4.26	68.1	12.5	1.29	14.7	0.03	0.16	0.15	70	213
75 ISL	10.83	10.82	33.431	25.586	240.8	0.245	4.11	65.6	13.6	1.36	15.9	0.02	0.12	0.13	75	
85	10.68	10.67	33.499	25.666	233.4	0.269	3.74	59.5	15.5	1.50	17.7	0.01	0.08	0.09	85	212
100 ISL	10.45	10.44	33.643	25.818	219.2	0.303	3.20	50.7	19.7	1.72	20.5	0.01	0.04	0.08	100	
103	10.40	10.39	33.667	25.845	216.7	0.309	3.12	49.4	20.5	1.76	21.0	0.01	0.04 A	0.08 A	103	211
119	10.16	10.15	33.717	25.926	209.4	0.343	3.04	47.9	21.9	1.81	22.0	0.01	0.02	0.06	120	210
125 ISL	10.22	10.21	33.778	25.963	206.0	0.356	2.81	44.3	23.5	1.89	22.5	0.01	0.02	0.06	126	
139	10.36	10.34	33.927	26.056	197.6	0.384	2.27	36.0	27.3	2.07	23.7	0.01	0.01	0.05	140	209
150 ISL	10.16	10.14	33.968	26.122	191.4	0.405	2.34	36.9	27.2	2.05	24.1	0.01	0.01	0.05	151	
169	9.67	9.65	34.000 D	26.230	181.5	0.441	2.65	41.4	27.1	1.97	24.6	0.01	0.02	0.04	170	208
200	9.32	9.30	34.113	26.376	168.2	0.495	2.34	36.3	31.8	2.10	26.5	0.00	0.01	0.03	201	207
229	9.28	9.25	34.237	26.480	158.9	0.542	1.65	25.6	36.5	2.36	28.4	0.00			230	206
250 ISL	9.12	9.09	34.282	26.541	153.5	0.575	1.32	20.4	39.5	2.49	29.5	0.00			251	
270	8.93	8.90	34.303	26.588	149.4	0.605	1.11	17.1	42.1	2.58	30.4	0.00			272	205
300 ISL	8.65	8.62	34.320	26.646	144.3	0.650	0.89	13.6	45.7	2.69	31.6	0.00			302	
318	8.47	8.44	34.321	26.675	141.8	0.675	0.82	12.5	47.7	2.74	32.2	0.00			320	204
378	7.82	7.78	34.292	26.750	135.3	0.758	0.76	11.4	53.8	2.82	34.1	0.00			380	203
400 ISL	7.55	7.51	34.283	26.782	132.4	0.788	0.72	10.7	56.7	2.89	35.0	0.00			403	
438	7.10	7.06	34.274	26.839	127.3	0.837	0.62	9.1	62.0	3.00	36.6	0.00			441	202
500 ISL	6.58	6.53	34.294	26.926	119.5	0.914	0.44	6.4	70.0	3.08	38.4	0.00			503	
512	6.48	6.43	34.298	26.942	118.1	0.928	0.40	5.8	71.5	3.09	38.8	0.00			515	201

A) FIRST FLUOROMETER READING NOT RECORDED, CHLOROPHYLL AND PHAEOPIGMENT
CALCULATED WITH ASSUMED ACID RATIO INTERPOLATED FROM ADJACENT LEVELS.

RV NEW HORIZON CALCOFI CRUISE 0511 STATION 93 45

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
32 20.9 N	118 33.2 W	05/11/05	1924 UTC	1323 m	300 10 kn	300 08 08	1	1015.2 mb	17.2 C	15.1 C	24m	2/8	SC

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	17.23	17.23	33.326	24.177	373.2	0.000	5.68	103.3	1.9	0.24	0.0	0.00	0.28	0.10	0	
2 A	17.23	17.23	33.326	24.177	373.3	0.007	5.68	103.3	1.9	0.24	0.0	0.00	0.28	0.10	2	223
10	17.20	17.20	33.323	24.182	373.1	0.037	5.67	103.1	2.1	0.24	0.0	0.00	0.28	0.11	10	222
17 A	17.06	17.06	33.319	24.212	370.4	0.063	5.70	103.3	2.0	0.25	0.0	0.00	0.29	0.11	17	221
20 ISL	16.93	16.93	33.310	24.236	368.2	0.074	5.72	103.4	2.0	0.25	0.0	0.00	0.32	0.12	20	
26	16.53	16.53	33.285	24.310	361.4	0.096	5.76	103.3	2.1	0.26	0.0	0.00	0.37	0.18	26	220
30 ISL	16.23	16.23	33.269	24.366	356.1	0.111	5.77	102.9	2.4	0.30	0.1	0.01	0.59	0.25	30	
37 A	15.28	15.27	33.247	24.562	337.6	0.135	5.78	101.1	2.9	0.37	0.3	0.03	0.88	0.38	37	219
44	13.40	13.39	33.261	24.968	299.0	0.157	5.20	87.5	5.5	0.71	4.0	0.35	0.66	0.43	44	218
50 A	12.46	12.45	33.253	25.147	282.1	0.175	4.95	81.7	7.0	0.90	7.8	0.20	0.47	0.36	50	217
59	12.16	12.15	33.269	25.217	275.6	0.200	4.81	78.9	7.8	0.96	8.8	0.15	0.41	0.38	59	216
65 A	11.58	11.57	33.283	25.336	264.4	0.216	4.61	74.7	9.3	1.10	11.5	0.08	0.29	0.29	65	215
75 ISL	11.59	11.58	33.470	25.479	251.0	0.242	3.80	61.6	13.4	1.40	15.4	0.05	0.17	0.21	75	
80	11.60	11.59	33.536	25.529	246.4	0.254	3.29	53.4	15.8	1.57	17.1	0.04	0.14	0.19	80	214
90	11.82	11.81	33.679	25.600	240.0	0.278	2.41	39.3	20.6	1.89	20.1	0.03	0.09	0.14	90	213
96 A	11.71	11.70	33.726	25.657	234.7	0.293	2.19	35.7	22.1	2.08	21.2	0.02	0.07	0.12	96	212
100 ISL	11.57	11.56	33.795	25.736	227.2	0.302	1.99	32.3	24.2	2.14	22.1	0.02	0.05	0.10	100	
106	11.39	11.38	33.913	25.861	215.5	0.315	1.65	26.7	27.9	2.20	23.4	0.02	0.02	0.08	106	211
120	11.56	11.54	34.112	25.985	204.1	0.345	0.69	11.2	35.7	2.53	25.0	0.01	0.02	0.06	121	210
125 ISL	11.26	11.24	34.082	26.017	201.2	0.355	1.01	16.3	34.2	2.44	24.9	0.01	0.02	0.06	126	
139	10.17	10.15	33.943	26.101	193.2	0.382	2.31	36.4	27.6	2.06	24.2	0.01	0.03	0.06	140	209
150 ISL	9.59	9.57	33.932	26.190	184.9	0.403	2.41	37.5	29.0	2.06	24.9	0.01	0.03	0.05	151	
169	9.05	9.03	34.004	26.333	171.4	0.437	2.58	39.7	31.3	2.05	26.6	0.00	0.02	0.03	170	208
200	9.64	9.62	34.255	26.435	162.8	0.489	1.47	23.0	35.8	2.40	28.1	0.00	0.02	0.05	201	207
229	9.27	9.24	34.261	26.500	157.0	0.535	1.46	22.6	38.4	2.43	29.1	0.00			230	206
250 ISL	8.94	8.91	34.263	26.555	152.1	0.568	1.36	20.9	41.2	2.50	30.2	0.00			251	
269	8.68	8.65	34.273	26.604	147.7	0.596	1.21	18.5	43.8	2.58	31.1	0.00			271	205
300 ISL	8.60	8.57	34.331	26.662	142.7	0.641	0.86	13.1	46.7	2.71	31.8	0.00			302	
317	8.56	8.53	34.357	26.689	140.5	0.665	0.69	10.5	48.4	2.77	32.1	0.00			319	204
378	7.42	7.38	34.279	26.797	130.5	0.748	0.69	10.2	58.2	2.88	35.4	0.00			380	203
400 ISL	7.17	7.13	34.275	26.830	127.6	0.776	0.64	9.4	61.5	2.93	36.2	0.00			403	
437	6.84	6.80	34.282	26.881	123.1	0.823	0.53	7.8	66.7	3.01	37.4	0.00			440	202
500 ISL	6.40	6.35	34.300	26.954	116.7	0.898	0.38	5.5	73.9	3.12	39.2	0.00			503	
511	6.32	6.27	34.303	26.967	115.5	0.911	0.35	5.1	75.1	3.14	39.5	0.00			514	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV NEW HORIZON CALCOFI CRUISE 0511 STATION 93 50

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
32 10.6 N	118 53.7 W	05/11/05	2343 UTC	1432 m	310 21 kn	290 09 07	1	1013.3 mb	16.9 C	15.1 C	17m	3/8	AS

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	17.42	17.42	33.335	24.138	376.9	0.000	5.66	103.3	1.9	0.22	0.0	0.00	0.31	0.09	0	
3	17.42	17.42	33.335	24.138	377.0	0.011	5.66	103.3	1.9	0.22	0.0	0.00	0.31	0.09	3	220
10	17.42	17.42	33.335	24.139	377.2	0.038	5.66	103.3	1.9	0.22	0.0	0.00	0.30	0.09	10	219
20	17.40	17.40	33.335	24.144	377.0	0.075	5.66	103.3	2.1	0.22	0.0	0.00	0.31	0.09	20	218
30 ISL	15.27	15.27	33.239	24.557	337.8	0.111	5.86	102.5	2.7	0.32	0.0	0.01	0.81	0.17	30	
31	15.02	15.02	33.232	24.607	333.2	0.115	5.87	102.1	2.8	0.34	0.0	0.01	0.86	0.18	31	217
40	13.76	13.75	33.218	24.861	309.1	0.143	5.59	94.8	4.7	0.55	2.1	0.18	0.78	0.46	40	216
50	12.56	12.55	33.262	25.135	283.3	0.173	4.94	81.7	6.9	0.87	7.1	0.19	0.49	0.37	50	215
60	11.43	11.42	33.251	25.338	264.0	0.200	4.76	76.8	8.8	1.04	10.7	0.08	0.30	0.25	60	214
70	11.25	11.24	33.413	25.497	249.2	0.226	4.03	64.9	12.4	1.31	14.4	0.03	0.17	0.22	70	213
75 ISL	11.03	11.02	33.493	25.599	239.6	0.238	3.71	59.5	14.7	1.45	16.4	0.02	0.12	0.18	75	
85	10.53	10.52	33.635	25.798	220.9	0.261	3.23	51.3	19.0	1.69	20.0	0.01	0.05	0.10	85	212
99	9.98	9.97	33.761	25.990	202.8	0.291	2.99	46.9	22.9	1.84	22.7	0.01	0.01	0.06	99	211
100 ISL	9.95	9.94	33.767	26.000	201.9	0.293	2.99	46.9	23.1	1.84	22.8	0.01	0.01	0.06	100	
117	9.71	9.70	33.866	26.118	191.0	0.326	2.92	45.6	25.4	1.89	23.6	0.01	0.00	0.04	118	210
125 ISL	9.84	9.83	33.948	26.160	187.2	0.341	2.61	40.9	27.2	1.98	24.3	0.01	0.00	0.04	126	
140	10.08	10.06	34.089	26.230	181.0	0.369	2.03	32.0	30.5	2.16	25.6	0.01	0.01	0.05	141	209
150 ISL	9.90	9.88	34.100	26.269	177.4	0.387	2.06	32.3	31.1	2.16	26.0	0.01	0.01	0.05	151	
170	9.45	9.43	34.103	26.347	170.4	0.422	2.20	34.2	32.2	2.14	26.6	0.01	0.02	0.04	171	208
200	9.56	9.54	34.310	26.491	157.4	0.471	1.26	19.7	38.1	2.48	28.7	0.00	0.01	0.03	201	207
229	8.79	8.77	34.226	26.549	152.1	0.516	2.37	36.3	40.9	2.45	29.9	0.00			230	206
250 ISL	8.57	8.54	34.218	26.578	149.8	0.548	1.99	30.3	42.8	2.48	30.5	0.00			251	
269	8.49	8.46	34.234	26.603	147.7	0.576	1.36	20.7	44.5	2.54	31.0	0.00			271	205
300 ISL	8.39	8.36	34.293	26.665	142.4	0.621	0.96	14.6	47.4	2.66	31.8	0.00			302	
318	8.32	8.29	34.327	26.703	139.1	0.646	0.83	12.6	49.3	2.74	32.4	0.00			320	204
379	7.64	7.60	34.325	26.802	130.3	0.728	0.52	7.8	57.8	2.93	35.0	0.00			381	203
400 ISL	7.36	7.32	34.309	26.830	127.8	0.755	0.52	7.7	60.7	2.96	35.9	0.00			403	
440	6.84	6.80	34.282	26.881	123.1	0.806	0.51	7.5	66.1	3.01	37.5	0.00			443	202
500 ISL	6.33	6.28	34.301	26.964	115.6	0.877	0.37	5.4	74.2	3.12	39.2	0.00			503	
510	6.25	6.20	34.304	26.977	114.5	0.889	0.35	5.1	75.6	3.14	39.5	0.00			513	201

RV NEW HORIZON CALCOFI CRUISE 0511 STATION 93 55

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
32 0.8 N	119 14.5 W	06/11/05	0422 UTC	1606 m	320 17 kn			1013.7 mb	16.8 C	14.9 C			

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	17.21	17.21	33.324	24.180	372.9	0.000	5.66	102.9	1.6	0.23	0.1	0.00	0.28	0.11	0	
3	17.21	17.21	33.324	24.180	373.0	0.011	5.66	102.9	1.6	0.23	0.1	0.00	0.28	0.11	3	220
10	17.22	17.22	33.328	24.181	373.1	0.037	5.66	102.9	1.5	0.22	0.0	0.00	0.27	0.11	10	219
20	17.22	17.22	33.324	24.178	373.7	0.075	5.66	102.9	1.5	0.23	0.0	0.00	0.28	0.11	20	218
29	16.74	16.74	33.303	24.275	364.8	0.108	5.70	102.7	1.7	0.25	0.0	0.00	0.33	0.15	29	217
30 ISL	16.41	16.41	33.292	24.343	358.3	0.111	5.66	101.3	2.0	0.29	0.4	0.03	0.35	0.17	30	
40	12.96	12.95	33.247	25.045	291.6	0.144	5.17	86.2	5.2	0.76	5.4	0.31	0.49	0.36	40	216
50	12.01	12.00	33.206	25.196	277.4	0.172	5.05	82.5	6.5	0.88	7.9	0.14	0.32	0.30	50	215
61	11.13	11.12	33.354	25.472	251.3	0.202	4.30	69.0	11.3	1.25	13.9	0.03	0.18	0.19	61	214
68	11.00	10.99	33.400	25.532	245.8	0.219	4.14	66.3	12.4	1.33	15.0	0.03	0.15	0.17	68	213
75 ISL	10.87	10.86	33.516	25.645	235.2	0.236	3.69	59.0	15.2	1.50	17.2	0.03	0.11	0.13	75	
86	10.58	10.57	33.688	25.830	217.8	0.261	3.06	48.6	19.7	1.74	20.6	0.02	0.05	0.07	86	212
100	9.95	9.94	33.701	25.948	206.8	0.290	3.22	50.5	21.2	1.76	21.9	0.01	0.02	0.06	100	211
120	9.26	9.25	33.757	26.106	192.1	0.330	3.28	50.6	24.3	1.82	23.5	0.01	0.01	0.03	121	210
125 ISL	9.22	9.21	33.798	26.144	188.5	0.340	3.23	49.8	25.1	1.84	23.9	0.01	0.01	0.03	126	
141	9.10	9.08	33.914	26.255	178.4	0.369	2.95	45.4	27.8	1.92	25.1	0.01	0.00	0.02	142	209
150 ISL	9.16	9.14	33.989	26.304	173.9	0.385	2.70	41.7	29.4	2.00	25.8	0.01	0.00	0.02	151	
170	9.33	9.31	34.138	26.393	165.9	0.419	2.09	32.4	32.9	2.19	27.2	0.01	0.00	0.03	171	208
200 ISL	9.27	9.25	34.249	26.491	157.3	0.467	1.45	22.5	37.7	2.43	29.0	0.00	0.00	0.03	201	
201	9.27	9.25	34.252	26.493	157.1	0.469	1.43	22.2	37.9	2.44	29.1	0.00	0.00	0.03	202	207
229	9.03	9.01	34.306	26.574	149.9	0.512	1.08	16.6	41.9	2.59	30.3	0.00			230	206
250 ISL	8.78	8.75	34.303	26.612	146.7	0.543	1.00	15.3	44.2	2.63	31.1	0.00			251	
268	8.56	8.53	34.293	26.638	144.4	0.569	0.98	14.9	46.0	2.66	31.7	0.00			270	205
300 ISL	8.29	8.26	34.311	26.694	139.5	0.615	0.80	12.1	49.4	2.76	32.6	0.00			302	
321	8.12	8.09	34.323	26.729	136.5	0.644	0.69	10.4	51.7	2.83	33.2	0.00			323	204
379	7.40	7.36	34.299	26.816	128.8	0.721	0.58	8.6	59.5	2.93	35.6	0.00			381	203
400 ISL	7.15	7.11	34.295	26.848	125.9	0.747	0.54	8.0	62.4	2.98	36.5	0.00			403	
437	6.75	6.71	34.296	26.904	120.8	0.793	0.45	6.6	67.4	3.06	37.8	0.00			440	202
500 ISL	6.36	6.31	34.334	26.986	113.6	0.867	0.29	4.2	75.0	3.17	39.3	0.00			503	
510	6.30	6.25	34.340	26.999	112.5	0.878	0.26	3.8	76.2	3.19	39.5	0.00			513	201

RV NEW HORIZON CALCOFI CRUISE 0511 STATION 93 60

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT TYPE
31 50.7 N	119 34.8 W	06/11/05	1039 UTC	1897 m	330 18 kn			1013.6 mb	16.5 C	14.9 C		

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	17.41	17.41	33.428	24.212	369.9	0.000	5.55	101.4	1.6	0.23	0.0	0.00	0.30	0.10	0	
2	17.41	17.41	33.428	24.212	369.9	0.007	5.55	101.3	1.6	0.23	0.0	0.00	0.30	0.10	2	220
10 ISL	17.41	17.41	33.428	24.212	370.2	0.037	5.55	101.3	1.6	0.22	0.0	0.00	0.30	0.10	10	
15	17.41	17.41	33.428	24.212	370.3	0.056	5.55	101.3	1.6	0.22	0.0	0.00	0.30	0.10	15	219
20 ISL	17.40	17.40	33.427	24.214	370.3	0.074	5.55	101.3	1.6	0.22	0.0	0.00	0.31	0.10	20	
30	17.39	17.39	33.424	24.215	370.6	0.111	5.56	101.5	1.7	0.22	0.0	0.00	0.33	0.11	30	218
45	13.60	13.59	33.270	24.934	302.3	0.162	5.41	91.4	4.0	0.58	3.7	0.16	1.35	0.74	45	217
50 ISL	12.90	12.89	33.294	25.093	287.2	0.176	5.18	86.3	5.4	0.72	5.7	0.14	0.97	0.63	50	
55	12.30	12.29	33.323	25.232	274.1	0.190	4.90	80.6	7.2	0.87	8.1	0.12	0.51	0.46	55	216
65	10.86	10.85	33.343	25.512	247.6	0.216	4.37	69.7	12.3	1.26	14.7	0.03	0.21	0.25	65	215
75	10.34	10.33	33.407	25.652	234.4	0.240	4.12	65.0	14.9	1.41	17.2	0.02	0.15	0.21	75	214
84	9.94	9.93	33.599	25.870	213.8	0.261	3.47	54.3	20.0	1.70	21.3	0.01	0.08	0.12	84	213
95	9.68	9.67	33.686	25.981	203.5	0.284	3.25	50.6	22.5	1.79	22.8	0.01	0.04	0.06	95	212
100 ISL	9.62	9.61	33.720	26.018	200.1	0.294	3.18	49.5	23.3	1.82	23.2	0.01	0.03	0.06	100	
111	9.51	9.50	33.786	26.088	193.7	0.315	3.06	47.5	24.9	1.86	23.9	0.01	0.01 A	0.05 A	112	211
125	9.32	9.31	33.867	26.182	185.0	0.342	2.86	44.3	27.3	1.93	25.0	0.01	0.00	0.04	126	210
145	9.05	9.03	33.973	26.309	173.3	0.378	2.60	40.0	30.6	2.04	26.5	0.01	0.00	0.03	146	209
150 ISL	8.94	8.92	33.984	26.335	170.9	0.386	2.58	39.6	31.6	2.06	26.9	0.01	0.00	0.03	151	
169	8.61	8.59	34.024	26.418	163.3	0.418	2.43	37.0	35.2	2.13	28.4	0.01	0.00	0.02	170	208
200	8.96	8.94	34.210	26.510	155.4	0.467	1.59	24.5	39.0	2.39	29.3	0.01	0.01	0.03	201	207
230	8.35	8.33	34.193	26.591	148.0	0.513	1.49	22.6	43.8	2.48	31.1	0.00			231	206
250 ISL	8.17	8.14	34.206	26.629	144.7	0.542	1.35	20.4	46.2	2.55	32.0	0.00			251	
269	8.08	8.05	34.227	26.659	142.1	0.569	1.19	17.9	48.3	2.62	32.6	0.00			271	205
300 ISL	7.92	7.89	34.266	26.714	137.4	0.613	0.92	13.8	51.7	2.73	33.5	0.00			302	
319	7.81	7.78	34.285	26.745	134.7	0.639	0.77	11.5	53.9	2.80	34.0	0.00			321	204
377	7.13	7.09	34.280	26.839	126.3	0.714	0.60	8.9	62.0	2.94	36.2	0.00			379	203
400 ISL	6.80	6.76	34.272	26.878	122.7	0.743	0.55	8.1	66.6	2.99	37.3	0.00			403	
438	6.33	6.29	34.265	26.935	117.5	0.789	0.48	6.9	73.8	3.07	39.0	0.00			441	202
500 ISL	6.08	6.04	34.290	26.987	113.1	0.860	0.36	5.2	78.7	3.15	39.9	0.00			503	
511	6.03	5.98	34.295	26.998	112.3	0.873	0.34	4.9	79.6	3.16	40.1	0.00			514	201

A) FIRST FLUOROMETER READING NOT RECORDED, CHLOROPHYLL AND PHAEOPIGMENT
CALCULATED WITH ASSUMED ACID RATIO INTERPOLATED FROM ADJACENT LEVELS.

RV NEW HORIZON CALCOFI CRUISE 0511 STATION 93 70

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT TYPE
31 30.8 N	120 14.9 W	06/11/05	1741 UTC	3938 m	320 17 kn	320 07 09	1	1014.7 mb	17.7 C	15.9 C	24m	5/8 CS

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	17.00	17.00	33.235	24.161	374.7	0.000	5.60	101.3	1.5	0.28	0.0	0.00	0.22	0.07	0	
2 A	17.00	17.00	33.235	24.161	374.8	0.007	5.60	101.3	1.5	0.28	0.0	0.00	0.22	0.07	2	222
10 ISL	16.99	16.99	33.235	24.164	374.8	0.037	5.61	101.5	1.4	0.28	0.0	0.00	0.23	0.07	10	
17 A	16.99	16.99	33.235	24.164	375.0	0.064	5.62	101.7	1.4	0.28	0.0	0.00	0.24	0.07	17	221
20 ISL	16.91	16.91	33.242	24.188	372.8	0.075	5.63	101.7	1.4	0.28	0.0	0.00	0.27	0.09	20	
26	16.74	16.74	33.258	24.240	368.0	0.097	5.64	101.5	1.5	0.28	0.0	0.00	0.32	0.12	26	220
30 ISL	16.71	16.71	33.266	24.254	366.9	0.112	5.64	101.5	1.6	0.28	0.0	0.00	0.35	0.13	30	
36 A	16.64	16.63	33.267	24.271	365.4	0.134	5.66	101.7	1.7	0.28	0.0	0.00	0.37	0.14	36	219
44	16.30	16.29	33.237	24.326	360.4	0.163	5.72	102.1	1.6	0.30	0.0	0.00	0.37	0.19	44	218
50 ISL	15.02	15.01	33.168	24.558	338.4	0.184	5.70	99.1	2.5	0.40	0.7	0.05	0.45	0.33	50	
52 A	14.58	14.57	33.150	24.638	330.7	0.191	5.70	98.2	2.9	0.44	1.0	0.07	0.47	0.37	52	217
59	13.95	13.94	33.146	24.767	318.6	0.213	5.62	95.6	3.4	0.50	1.8	0.13	0.45	0.35	59	216
66 A	13.28	13.27	33.165	24.918	304.3	0.235	5.42	90.9	4.5	0.63	3.9	0.22	0.38	0.32	66	215
75 ISL	12.28	12.27	33.203	25.143	283.1	0.261	5.07	83.3	6.9	0.85	7.7	0.09	0.22	0.26	75	
76	12.17	12.16	33.209	25.169	280.7	0.264	5.02	82.3	7.2	0.88	8.2	0.07	0.20	0.25	76	214
87	11.11	11.10	33.335	25.462	252.9	0.294	4.38	70.3	11.8	1.23	14.0	0.02	0.09	0.16	87	213
96 A	10.59	10.58	33.373	25.583	241.5	0.316	4.22	66.9	13.7	1.36	16.1	0.02	0.06	0.12	96	212
100 ISL	10.28	10.27	33.406	25.662	234.0	0.325	4.20	66.2	14.9	1.40	16.9	0.02	0.05	0.10	100	
110	9.61	9.60	33.501	25.849	216.3	0.348	4.14	64.3	17.8	1.48	18.7	0.01	0.03	0.06	110	211
125	9.34	9.33	33.602	25.972	204.9	0.379	3.79	58.6	21.0	1.64	21.1	0.01	0.01	0.03	126	210
144	9.06	9.04	33.789	26.163	187.1	0.417	3.25	50.0	25.9	1.84	24.3	0.01	0.00	0.03	145	209
150 ISL	9.03	9.01	33.823	26.195	184.2	0.428	3.15	48.4	26.7	1.87	24.8	0.01	0.00	0.03	151	
167	8.98	8.96	33.889	26.255	178.9	0.459	2.97	45.6	28.4	1.92	25.6	0.00	0.00	0.03	168	208
200	8.56	8.54	33.975	26.388	166.7	0.516	2.87	43.7	32.1	1.98	27.1	0.00	0.00	0.04	201	207
230	8.18	8.16	34.044	26.500	156.5	0.564	2.33	35.2	38.8	2.19	29.9	0.00			231	206
250 ISL	7.98	7.95	34.082	26.560	151.1	0.595	2.03	30.5	42.7	2.32	31.3	0.00			251	
270	7.76	7.73	34.110	26.614	146.2	0.625	1.78	26.6	46.4	2.44	32.5	0.00			272	205
300 ISL	7.29	7.26	34.119	26.689	139.3	0.668	1.53	22.6	52.0	2.58	34.2	0.00			302	
318	7.00	6.97	34.119	26.729	135.6	0.692	1.41	20.7	55.3	2.65	35.2	0.00			320	204
378	6.41	6.38	34.143	26.827	126.8	0.771	0.98	14.2	65.3	2.85	37.9	0.00			380	203
400 ISL	6.28	6.24	34.165	26.862	123.7	0.799	0.83	12.0	68.4	2.92	38.6	0.00			402	
439	6.07	6.03	34.206	26.921	118.5	0.846	0.60	8.6	73.7	3.03	39.7	0.00			442	202
500 ISL	5.63	5.59	34.235	26.999	111.5	0.916	0.43	6.1	82.4	3.14	41.1	0.00			503	
513	5.54	5.50	34.242	27.016	110.0	0.930	0.39	5.5	84.2	3.16	41.4	0.00			516	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV NEW HORIZON CALCOFI CRUISE 0511 STATION 93 80

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
31 10.8 N	120 55.3 W	06/11/05	2303 UTC	3828 m	330 15 kn	330 06 04	1	1013.3 mb	17.8 C	16.6 C	23m	6/8	CU

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	17.73	17.73	33.164	23.933	396.4	0.000	5.54	101.6	1.9	0.29	0.0	0.00	0.16	0.03	0	
3	17.73	17.73	33.164	23.933	396.5	0.012	5.54	101.6	1.9	0.29	0.0	0.00	0.16	0.03	3	220
10 ISL	17.74	17.74	33.164	23.931	397.0	0.040	5.54	101.6	1.8	0.29	0.1	0.00	0.16	0.04	10	
15	17.74	17.74	33.163	23.930	397.2	0.060	5.54	101.6	1.7	0.29	0.1	0.00	0.16	0.04	15	219
20 ISL	17.74	17.74	33.163	23.930	397.4	0.079	5.54	101.6	1.8	0.29	0.1	0.00	0.16	0.04	20	
30 ISL	17.71	17.70	33.159	23.935	397.3	0.119	5.54	101.6	1.9	0.29	0.1	0.00	0.17	0.03	30	
31	17.71	17.70	33.158	23.934	397.4	0.123	5.54	101.6	1.9	0.29	0.1	0.00	0.17	0.03	31	218
45	17.64	17.63	33.174	23.964	395.0	0.179	5.55	101.6	1.8	0.28	0.1	0.00	0.21	0.05	45	217
50 ISL	17.07	17.06	33.186	24.109	381.3	0.198	5.67	102.7	1.7	0.28	0.0	0.00	0.28	0.10	50	
55	16.41	16.40	33.191	24.266	366.5	0.217	5.80	103.7	1.7	0.29	0.0	0.00	0.35	0.16	55	216
65	15.37	15.36	33.130	24.453	348.9	0.252	5.91	103.5	1.9	0.31	0.0	0.00	0.37	0.21	65	215
75	14.54	14.53	33.152	24.649	330.4	0.286	5.93	102.1	2.0	0.33	0.1	0.00	0.35	0.17	75	214
85	13.89	13.88	33.257	24.866	309.9	0.318	5.70	96.9	2.4	0.40	0.6	0.14	0.37	0.18	85	213
95	14.45	14.44	33.573	24.994	298.2	0.349	5.38	92.7	2.9	0.41	1.2	0.20	0.27	0.17	95	212
100 ISL	13.77	13.76	33.491	25.072	290.7	0.364	5.32	90.3	3.6	0.51	2.7	0.14	0.21	0.15	100	
109	12.16	12.15	33.280	25.226	276.0	0.389	5.24	85.9	5.3	0.72	6.1	0.01	0.13	0.11	109	211
125	11.06	11.04	33.374	25.502	249.9	0.431	4.87	78.0	8.8	0.98	10.8	0.01	0.10	0.12	126	210
145	9.74	9.72	33.487	25.817	220.1	0.478	4.08	63.6	16.6	1.49	18.6	0.00	0.03	0.05	146	209
150 ISL	9.55	9.53	33.531	25.883	213.9	0.489	3.94	61.1	18.1	1.56	19.8	0.00	0.02	0.05	151	
168	9.14	9.12	33.695	26.077	195.7	0.526	3.55	54.6	22.7	1.74	22.8	0.00	0.01	0.03	169	208
199	8.81	8.79	33.919	26.305	174.6	0.583	2.98	45.6	28.9	1.93	25.9	0.00	0.00	0.04	200	207
200 ISL	8.80	8.78	33.924	26.311	174.1	0.585	2.97	45.4	29.1	1.94	26.0	0.00			201	
229	8.37	8.35	34.022	26.454	160.9	0.634	2.63	39.9	34.8	2.08	28.2	0.00			230	206
250 ISL	8.11	8.08	34.051	26.516	155.3	0.667	2.42	36.5	38.2	2.18	29.5	0.00			251	
269	7.87	7.84	34.062	26.561	151.3	0.696	2.23	33.4	41.2	2.27	30.7	0.00			270	205
300 ISL	7.41	7.38	34.080	26.641	143.9	0.742	1.88	27.9	47.5	2.45	32.8	0.00			302	
318	7.16	7.13	34.091	26.685	139.9	0.767	1.67	24.6	51.3	2.55	34.0	0.00			320	204
378	6.58	6.55	34.153	26.813	128.3	0.848	1.01	14.7	62.7	2.84	37.1	0.00			380	203
400 ISL	6.39	6.35	34.165	26.848	125.2	0.876	0.87	12.6	66.2	2.91	37.9	0.00			402	
438	6.09	6.05	34.184	26.901	120.4	0.922	0.70	10.1	71.7	3.02	39.1	0.00			441	202
500 ISL	5.73	5.69	34.232	26.985	112.9	0.994	0.46	6.6	79.7	3.16	40.7	0.00			503	
512	5.66	5.62	34.242	27.001	111.5	1.008	0.41	5.8	81.2	3.19	41.0	0.00			515	201

RV NEW HORIZON CALCOFI CRUISE 0511 STATION 93 90

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
30 51.1 N	121 35.4 W	07/11/05	0521 UTC	4122 m	360 12 kn			1014.1 mb	17.3 C	15.6 C			

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	17.34	17.34	33.171	24.032	387.0	0.000	5.59	101.8	1.7	0.29	0.0	0.00	0.21	0.06	0	
2	17.34	17.34	33.171	24.032	387.1	0.008	5.59	101.8	1.7	0.29	0.0	0.00	0.21	0.06	2	221
10 ISL	17.34	17.34	33.171	24.032	387.3	0.039	5.59	101.8	1.6	0.29	0.0	0.00	0.19	0.07	10	
16	17.34	17.34	33.172	24.033	387.4	0.062	5.59	101.8	1.5	0.29	0.0	0.00	0.18	0.07	16	220
20 ISL	17.35	17.35	33.175	24.033	387.6	0.077	5.59	101.8	1.5	0.29	0.0	0.00	0.18	0.07	20	
30	17.36	17.36	33.186	24.039	387.3	0.116	5.59	101.8	1.5	0.29	0.0	0.00	0.19	0.07	30	219
45	17.28	17.27	33.195	24.066	385.3	0.174	5.60	101.8	1.5	0.28	0.0	0.00	0.24	0.10	45	218
50 ISL	16.58	16.57	33.126	24.177	374.8	0.193	5.73	102.8	1.6	0.33	0.0	0.00	0.39	0.22	50	
56	15.57	15.56	33.052	24.348	358.6	0.215	5.90	103.7	1.8	0.38	0.0	0.00	0.55	0.37	56	217
65	14.30	14.29	33.043	24.615	333.3	0.246	5.99	102.6	2.2	0.36	0.1	0.03	0.52	0.43	65	215
75	13.36	13.35	33.085	24.841	312.0	0.279	5.71	95.9	2.9	0.48	0.9	0.18	0.34	0.34	75	214
85	12.83	12.82	33.123	24.975	299.4	0.309	5.52	91.7	3.8	0.58	2.6	0.10	0.24	0.26	85	213
95	12.27	12.26	33.265	25.194	278.8	0.338	5.24	86.1	5.0	0.71	5.7	0.01	0.13	0.18	95	212
100 ISL	11.86	11.85	33.298	25.297	269.0	0.352	5.10	83.1	6.1	0.81	7.5	0.01	0.11	0.16	100	
110	11.10	11.09	33.363	25.486	251.1	0.378	4.87	78.1	8.6	0.99	10.6	0.00	0.08	0.12	110	211
124	10.72	10.71	33.551	25.700	231.1	0.411	4.73	75.3	11.0	1.06	12.7	0.00	0.04	0.06	125	210
125 ISL	10.67	10.66	33.551	25.709	230.2	0.414	4.70	74.8	11.3	1.08	13.0	0.00	0.04	0.06	126	
145	9.57	9.55	33.521	25.871	214.9	0.458	4.06	63.0	17.7	1.51	19.3	0.00	0.02	0.05	146	209
150 ISL	9.42	9.40	33.574	25.937	208.7	0.469	4.00	61.9	18.9	1.55	20.0	0.00	0.02	0.04	151	
170	9.03	9.01	33.825	26.197	184.4	0.508	3.81	58.6	23.4	1.63	21.9	0.00	0.00	0.02	171	208
200	8.61	8.59	33.965	26.372	168.2	0.561	3.15	48.0	30.1	1.88	25.8	0.00	0.00	0.02	201	207
229	8.18	8.16	34.023	26.484	158.0	0.608	2.66	40.1	36.2	2.09	28.8	0.00			230	206
250 ISL	7.93	7.90	34.048	26.541	152.9	0.641	2.35	35.3	40.2	2.22	30.5	0.00			251	
269	7.74	7.71	34.065	26.582	149.2	0.670	2.09	31.2	43.6	2.33	31.8	0.00			270	205
300 ISL	7.51	7.48	34.102	26.644	143.7	0.715	1.68	25.0	48.4	2.51	33.6	0.00			302	
319	7.37	7.34	34.121	26.679	140.6	0.742	1.46	21.6	51.1	2.61	34.6	0.00			321	204
378	6.72	6.69	34.129	26.776	132.0	0.823	1.11	16.2	59.8	2.79	37.0	0.00			380	203
400 ISL	6.48	6.44	34.136	26.813	128.5	0.851	1.01	14.7	63.5	2.85	37.8	0.00			402	
437	6.13	6.09	34.155	26.874	123.0	0.898	0.85	12.2	69.8	2.94	39.0	0.00			440	202
500 ISL	5.75	5.71	34.223	26.975	113.9	0.972	0.48	6.9	79.8	3.12	40.8	0.00			503	
516	5.65	5.61	34.240	27.001	111.5	0.990	0.39	5.6	82.4	3.16	41.3	0.00			519	201

RV NEW HORIZON CALCOFI CRUISE 0511 STATION 93 100

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
30 31.1 N	122 15.6 W	07/11/05	1130 UTC	4165 m	330 06 kn			1014.1 mb	17.3 C	15.2 C			

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	18.06	18.06	33.170	23.857	403.6	0.000	5.49	101.4	2.1	0.29	0.0	0.00	0.15	0.06	0	
2	18.06	18.06	33.170	23.857	403.7	0.008	5.49	101.4	2.1	0.29	0.0	0.00	0.15	0.06	2	221
10 ISL	18.05	18.05	33.167	23.858	403.9	0.040	5.50	101.5	2.0	0.29	0.0	0.00	0.15	0.05	10	
15	18.04	18.04	33.166	23.860	403.9	0.061	5.50	101.5	2.0	0.29	0.0	0.00	0.15	0.05	15	220
20 ISL	18.01	18.01	33.157	23.860	404.0	0.081	5.50	101.4	2.0	0.29	0.0	0.00	0.15	0.05	20	
30	17.92	17.91	33.133	23.864	404.0	0.121	5.51	101.4	2.1	0.29	0.0	0.00	0.15	0.05	30	219
45	17.80	17.79	33.093	23.863	404.6	0.182	5.52	101.3	2.1	0.30	0.0	0.00	0.16	0.05	45	218
50 ISL	17.75	17.74	33.110	23.889	402.4	0.202	5.53	101.4	2.0	0.29	0.0	0.00	0.19	0.06	50	
55	17.70	17.69	33.127	23.914	400.1	0.222	5.57	102.1	1.9	0.29	0.0	0.00	0.23	0.09	55	217
65	16.27	16.26	33.053	24.192	373.8	0.261	5.77	102.8	1.9	0.32	0.0	0.00	0.30	0.22	65	216
75	15.37	15.36	33.131	24.454	349.1	0.297	5.93	103.8	1.9	0.32	0.0	0.01	0.28	0.22	75	215
80	14.95	14.94	33.130 D	24.545	340.5	0.314	5.96	103.5	2.1	0.33	0.1	0.03	0.28	0.25	80	214
85	14.24	14.23	33.047	24.632	332.3	0.331	5.97	102.1	2.4	0.38	0.3	0.09	0.28	0.28	85	213
95	12.46	12.45	32.995	24.948	302.2	0.363	5.60	92.3	4.2	0.60	2.9	0.09	0.19	0.24	95	212
100 ISL	12.05	12.04	33.024	25.048	292.7	0.378	5.45	89.0	5.1	0.69	4.5	0.06	0.16	0.21	100	
110	11.68	11.67	33.132	25.201	278.3	0.406	5.20	84.3	6.6	0.83	7.4	0.01	0.11	0.15	110	211
124	11.37	11.35	33.324	25.407	259.0	0.444	4.91	79.2	8.2	0.95	10.0	0.02	0.08	0.10	124	210
125 ISL	11.32	11.30	33.330	25.421	257.7	0.446	4.88	78.6	8.5	0.97	10.3	0.02	0.08	0.10	125	
145	10.14	10.12	33.408	25.689	232.4	0.495	4.28	67.2	14.8	1.38	16.9	0.01	0.04	0.06	146	209
150 ISL	9.93	9.91	33.433	25.743	227.2	0.507	4.17	65.2	16.1	1.45	18.1	0.01	0.03	0.05	151	
169	9.36	9.34	33.556	25.933	209.5	0.548	3.78	58.4	20.7	1.66	21.5	0.00	0.01	0.04	170	208
198	9.05	9.03	33.838	26.204	184.3	0.605	3.11	47.8	27.2	1.88	24.8	0.00	0.00	0.02	199	207
200 ISL	9.03	9.01	33.850	26.217	183.1	0.609	3.11	47.8	27.4	1.88	24.8	0.00			201	
229	8.65	8.63	33.970	26.370	169.0	0.660	3.18	48.5	30.5	1.87	25.4	0.00			230	206
250 ISL	8.38	8.35	34.021	26.452	161.5	0.695	2.81	42.6	34.8	2.02	27.5	0.00			251	
268	8.14	8.11	34.047	26.509	156.3	0.723	2.43	36.6	38.8	2.17	29.5	0.00			269	205
300 ISL	7.68	7.65	34.062	26.589	149.1	0.772	2.11	31.5	44.5	2.33	31.7	0.00			302	
318	7.41	7.38	34.064	26.629	145.4	0.799	1.97	29.2	47.6	2.41	32.7	0.00			320	204
378	6.59	6.56	34.101	26.771	132.3	0.882	1.25	18.2	60.4	2.74	36.8	0.00			380	203
400 ISL	6.36	6.32	34.114	26.811	128.6	0.911	1.10	15.9	64.6	2.82	37.8	0.00			402	
437	6.03	5.99	34.135	26.870	123.2	0.957	0.91	13.1	71.2	2.93	39.0	0.00			440	202
500 ISL	5.58	5.54	34.174	26.957	115.4	1.032	0.64	9.1	81.4	3.06	40.8	0.00			503	
512	5.50	5.46	34.182	26.973	113.9	1.046	0.59	8.4	83.3	3.09	41.1	0.00			515	201

RV NEW HORIZON CALCOFI CRUISE 0511 STATION 93 110

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
30 11.2 N	122 55.4 W	07/11/05	1753 UTC	4008 m	160 02 kn	340 05 09	1	1015.1 mb	19.1 C	17.1 C	35m	7/8	SC

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	18.39	18.39	33.224	23.818	407.4	0.000	5.46	101.5	2.2	0.29	0.0	0.00	0.15	0.04	0	
3 A	18.39	18.39	33.224	23.818	407.5	0.012	5.46	101.5	2.2	0.29	0.0	0.00	0.15	0.04	3	221
10 ISL	18.37	18.37	33.227	23.825	407.1	0.041	5.46	101.4	2.0	0.28	0.0	0.00	0.17	0.04	10	
12	18.36	18.36	33.229	23.829	406.7	0.049	5.46	101.4	2.0	0.28	0.0	0.00	0.17	0.04	12	220
20 ISL	18.38	18.38	33.236	23.830	407.0	0.081	5.47	101.6	2.0	0.28	0.0	0.00	0.16	0.04	20	
24 A	18.39	18.39	33.239	23.830	407.1	0.098	5.48	101.9	2.0	0.28	0.0	0.00	0.16	0.04	24	219
30 ISL	18.43	18.42	33.252	23.831	407.3	0.122	5.48	101.9	2.0	0.28	0.0	0.00	0.16	0.04	30	
38	18.50	18.49	33.276	23.832	407.4	0.155	5.48	102.1	1.9	0.28	0.0	0.00	0.17	0.05	38	218
50 ISL	18.61	18.60	33.318	23.837	407.4	0.204	5.44	101.6	1.8	0.27	0.0	0.00	0.17	0.05	50	
53 A	18.64	18.63	33.328	23.837	407.4	0.216	5.43	101.4	1.8	0.27	0.0	0.00	0.17	0.05	53	217
65	16.99	16.98	33.368	24.268	366.7	0.262	5.92	107.2	1.7	0.25	0.0	0.00	0.24	0.09	65	216
75 ISL	16.10	16.09	33.333	24.447	349.9	0.298	5.93	105.5	1.7	0.27	0.0	0.00	0.24	0.13	75	
76 A	16.04	16.03	33.330	24.458	348.8	0.302	5.93	105.3	1.7	0.27	0.0	0.00	0.24	0.13	76	215
86	15.75	15.74	33.402	24.579	337.6	0.336	5.82	102.8	1.8	0.28	0.0	0.00	0.20	0.17	86	214
97 A	15.46	15.45	33.482	24.705	325.9	0.372	5.70	100.2	2.0	0.29	0.0	0.00	0.19	0.17	97	213
100 ISL	15.29	15.27	33.512	24.766	320.2	0.382	5.63	98.6	2.1	0.31	0.1	0.04	0.19	0.17	100	
108	14.76	14.74	33.568	24.924	305.2	0.407	5.43	94.1	2.6	0.37	0.6	0.14	0.20	0.18	108	212
118	14.12	14.10	33.531	25.031	295.2	0.437	5.29	90.5	3.6	0.48	2.1	0.11	0.19	0.19	118	211
125 ISL	13.60	13.58	33.491	25.108	288.0	0.458	5.21	88.2	4.3	0.56	3.4	0.06	0.16	0.18	125	
128	13.36	13.34	33.477	25.145	284.5	0.466	5.18	87.2	4.6	0.59	4.0	0.04	0.14	0.17	128	210
141 A	12.33	12.31	33.503	25.368	263.4	0.502	5.01	82.6	6.5	0.75	7.2	0.01	0.10	0.13	142	209
150 ISL	11.56	11.54	33.475	25.491	251.8	0.525	4.82	78.1	8.7	0.93	10.1	0.01	0.08	0.10	151	
164	10.49	10.47	33.447	25.660	235.7	0.559	4.49	71.1	12.5	1.21	14.4	0.01	0.05	0.06	165	208
194	9.50	9.48	33.682	26.010	202.8	0.625	3.90	60.5	19.7	1.55	20.0	0.00	0.01	0.03	195	207
200 ISL	9.38	9.36	33.728	26.065	197.6	0.637	3.82	59.1	20.9	1.59	20.8	0.00			201	
229	8.94	8.92	33.912	26.280	177.7	0.691	3.46	53.1	26.2	1.76	23.6	0.00			230	206
250 ISL	8.71	8.68	33.977	26.367	169.7	0.728	3.19	48.7	29.4	1.87	25.3	0.00			251	
269	8.49	8.46	34.008	26.426	164.4	0.759	2.92	44.4	32.6	1.98	26.8	0.00			270	205
300 ISL	7.93	7.90	34.049	26.542	153.6	0.809	2.40	36.0	40.1	2.22	29.9	0.00			302	
319	7.58	7.55	34.066	26.606	147.7	0.837	2.09	31.1	44.9	2.36	31.8	0.00			321	204
378	6.90	6.86	34.101	26.729	136.5	0.921	1.48	21.7	55.6	2.65	35.2	0.00			380	203
400 ISL	6.73	6.69	34.129	26.774	132.4	0.951	1.24	18.1	59.5	2.76	36.3	0.00			402	
437	6.47	6.43	34.175	26.846	126.0	0.999	0.89	12.9	65.8	2.93	37.8	0.00			440	202
500 ISL	6.00	5.96	34.210	26.934	118.1	1.075	0.62	8.9	75.1	3.06	39.7	0.00			503	
513	5.90	5.86	34.218	26.953	116.3	1.091	0.56	8.0	77.0	3.09	40.1	0.00			516	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
29 51.1 N	123 35.4 W	07/11/05	2358 UTC	4091 m	180 03 kn	340 08 09	1	1012.7 mb	18.8 C	17.4 C	34m	7/8	SC

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	19.40	19.40	33.502	23.776	411.4	0.000	5.37	101.9	1.9	0.28	0.1	0.00	0.12	0.02	0	
2	19.40	19.40	33.502	23.776	411.5	0.008	5.37	101.9	1.9	0.28	0.1	0.00	0.12	0.02	2	220
10 ISL	19.32	19.32	33.504	23.798	409.6	0.041	5.36	101.6	1.8	0.27	0.1	0.00	0.12	0.03	10	
15	19.25	19.25	33.505	23.817	408.0	0.062	5.36	101.4	1.8	0.27	0.1	0.00	0.12	0.03	15	219
20 ISL	19.25	19.25	33.505	23.818	408.2	0.082	5.36	101.4	1.8	0.27	0.1	0.00	0.12	0.03	20	
30	19.24	19.23	33.505	23.820	408.3	0.123	5.36	101.4	1.9	0.27	0.1	0.00	0.13	0.03	30	218
45	19.21	19.20	33.509	23.832	407.7	0.184	5.36	101.3	1.6	0.27	0.1	0.00	0.15	0.02	45	216
50 ISL	19.20	19.19	33.514	23.839	407.3	0.204	5.36	101.3	1.7	0.27	0.1	0.00	0.15	0.02	50	
60	19.18	19.17	33.524	23.852	406.4	0.245	5.37	101.5	1.8	0.26	0.1	0.00	0.17	0.02	60	215
75	17.38	17.37	33.511	24.286	365.4	0.303	5.82	106.2	1.4	0.25	0.0	0.00	0.24	0.09	75	214
86	17.08	17.07	33.583	24.412	353.7	0.342	5.75	104.4	1.6	0.25	0.1	0.00	0.29	0.09	86	217
94	16.57	16.55	33.631	24.569	339.0	0.370	5.63	101.2	1.8	0.26	0.0	0.00	0.23	0.15	94	213
100 ISL	16.40	16.38	33.673	24.640	332.3	0.390	5.57	99.8	1.8	0.27	0.1	0.00	0.23	0.17	100	
106	16.15	16.13	33.681	24.704	326.4	0.410	5.52	98.5	1.9	0.30	0.1	0.00	0.24	0.18	106	212
114	15.25	15.23	33.588	24.833	314.1	0.436	5.41	94.7	2.6	0.37	0.5	0.12	0.27	0.14	114	211
124	14.02	14.00	33.395	24.947	303.4	0.467	5.34	91.1	3.5	0.50	2.0	0.12	0.20	0.16	124	210
125 ISL	13.90	13.88	33.385	24.964	301.7	0.470	5.32	90.5	3.6	0.52	2.3	0.11	0.19	0.16	125	
139	12.38	12.36	33.347	25.237	275.8	0.510	4.94	81.4	6.4	0.82	7.5	0.01	0.12	0.14	140	209
150 ISL	11.52	11.50	33.403	25.442	256.4	0.539	4.57	74.0	9.6	1.06	11.4	0.01	0.08	0.11	151	
163	10.74	10.72	33.508	25.664	235.4	0.571	4.17	66.4	13.5	1.31	15.4	0.00	0.05	0.08	164	208
194	9.51	9.49	33.720	26.038	200.1	0.639	3.78	58.7	20.5	1.59	20.6	0.00	0.01	0.03	195	207
200 ISL	9.40	9.38	33.749	26.078	196.4	0.651	3.72	57.6	21.3	1.62	21.2	0.00			201	
229	9.11	9.09	33.874	26.223	183.1	0.706	3.35	51.6	25.4	1.78	23.6	0.00			230	206
250 ISL	8.92	8.89	33.994	26.348	171.7	0.743	2.86	43.9	30.2	1.96	25.9	0.00			251	
268	8.73	8.70	34.082	26.447	162.6	0.773	2.44	37.3	34.6	2.12	27.9	0.00			269	205
300 ISL	8.15	8.12	34.109	26.557	152.4	0.823	2.13	32.1	40.8	2.29	30.3	0.00			302	
321	7.77	7.74	34.102	26.607	147.7	0.855	2.00	29.9	44.5	2.38	31.5	0.00			323	204
377	7.32	7.28	34.154	26.713	138.4	0.935	1.39	20.6	53.3	2.64	34.3	0.00			379	203
400 ISL	7.06	7.02	34.153	26.749	135.1	0.966	1.27	18.7	56.7	2.72	35.3	0.00			402	
438	6.63	6.59	34.152	26.806	129.9	1.017	1.10	16.0	62.2	2.84	36.8	0.00			441	202
500 ISL	6.26	6.22	34.221	26.910	120.6	1.094	0.66	9.5	70.5	3.02	38.9	0.00			503	
513	6.18	6.13	34.236	26.932	118.7	1.110	0.57	8.2	72.3	3.06	39.3	0.00			516	201

PRIMARY PRODUCTIVITY CASTS

RV NEW HORIZON — CALCOFI CRUISE 0511 — STATION 77 70

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
34 23.2 N	122 14.8 W	19/11/05	1850 UTC	14 m	1205 - 1726 PST	1154 PST	1726 PST	353.9 mg C/m2

DEPTH m	TEMP DEG C	SALINITY	SIGMA THETA	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
2	15.20	33.217	24.555	5.94	103.7	2.8	0.35	0.6	0.06	0.74	0.18	80. A	10.1	9.9	10.0	0.16
11	15.06	33.209	24.580	5.95	103.6	2.5	0.35	0.6	0.07	0.79	0.20	30.	12.9	13.3	13.1	0.19
21	14.99	33.203	24.590	5.91	102.7	2.4	0.36	0.7	0.09	0.81	0.27	10.	10.2	10.0	10.1	0.15
30	14.92	33.189	24.595	5.84	101.4	2.4	0.40	1.1	0.14	0.68	0.26	3.7	4.7	5.2	5.0	0.12
39	14.78	33.186	24.623	5.76	99.7	2.3	0.43	1.4	0.19	0.47	0.26	1.4	1.7	1.7	1.7	0.08
48	12.48	33.025	24.966	5.42	89.4	5.0	0.78	6.2	0.30	0.33	0.28					
56	11.79	33.006	25.082	5.27	85.6	6.3	0.92	8.6	0.08	0.29	0.26	0.22	0.14	0.18	0.16	0.05

RV NEW HORIZON — CALCOFI CRUISE 0511 — STATION 80 60

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
34 8.7 N	121 9.6 W	17/11/05	1827 UTC	6 m	1155 - 1732 PST	1150 PST	1732 PST	752.7 mg C/m2

DEPTH m	TEMP DEG C	SALINITY	SIGMA THETA	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
2	13.94	33.303	24.889	6.40	109.0	4.5	0.47	1.1	0.12	9.09	0.80	60. A	92.4	86.5	89.5	0.66
4	13.91	33.308	24.899	6.44	109.6	6.6	0.44	1.1	0.11	9.23	1.12	36.	75.2	82.5	78.8	0.71
9	13.43	33.389	25.060	6.31	106.4	4.6	0.43	0.9	0.11	6.30	0.72	10.	33.9	34.3	34.1	0.57
13	13.30	33.396	25.092	5.88	98.9	7.3	0.53	2.3	0.14	4.21	0.75	3.6	9.9	10.1	10.0	0.36
17	13.29	33.397	25.094	5.82	97.8	7.5	0.56	2.5	0.15	3.37	1.04	1.3	2.6	2.5	2.5	0.26
24	13.24	33.393	25.102	5.91	99.2	7.7	0.55	2.5	0.16	3.50	0.76	0.22	0.40	0.29	0.34	0.27

RV NEW HORIZON — CALCOFI CRUISE 0511 — STATION 80 100

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
32 49.3 N	123 54.6 W	18/11/05	1832 UTC	23 m	1205 - 1740 PST	1201 PST	1740 PST	167.5 mg C/m2

DEPTH m	TEMP DEG C	SALINITY	SIGMA THETA	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
2	17.14	32.957	23.915	5.65	102.3	1.6	0.31	0.0	0.00	0.22	0.07	88. A	2.0	1.8	1.9	0.13
16	16.93	32.957	23.965	5.66	102.1	1.6	0.30	0.0	0.00	0.27	0.09	34.	3.5	3.4	3.5	0.10
26	16.80	32.972	24.007	5.69	102.4	1.5	0.31	0.0	0.00	0.29	0.11					
35	16.74	32.970	24.020	5.69	102.3	1.6	0.31	0.0	0.00	0.36	0.12	9.7	2.8	3.0	2.9	0.12
42	16.73	32.982	24.031	5.67	101.9	1.6	0.31	0.0	0.00	0.44	0.17					
49	14.85	32.933	24.413	5.95	103.0	2.0	0.43	0.8	0.14	0.54	0.47	3.8	2.3	2.4	2.3	0.08
56	13.89	32.925	24.609	5.91	100.3	2.5	0.50	1.6	0.29	0.49	0.43					
63	13.00	32.880	24.753	5.86	97.6	3.2	0.57	2.7	0.18	0.34	0.41	1.5	0.54	0.50	0.52	0.16
73	12.26	32.895	24.908	5.63	92.3	4.5	0.71	5.0	0.03	0.21	0.25					
84	11.90	33.022	25.074	5.48	89.2	4.3	0.66	4.5	0.02	0.13	0.14					
92	11.20	33.084	25.250	5.21	83.6	6.7	0.87	8.3	0.02	0.08	0.11	0.22	0.13	0.06	0.10	0.08

RV NEW HORIZON — CALCOFI CRUISE 0511 — STATION 83 70

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
33 15.4 N	121 26.6 W	15/11/05	1814 UTC	17 m	1150 - 1728 PST	1150 PST	1726 PST	357.4 mg C/m2

DEPTH m	TEMP DEG C	SALINITY	SIGMA THETA	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
2	15.13	33.298	24.633	5.77	100.6	2.3	0.39	1.0	0.13	0.74	0.18	83. A	10.1	10.5	10.3	0.15
10	15.05	33.307	24.657	5.76	100.3	2.2	0.40	1.1	0.15	0.73	0.31					
12	15.05	33.307	24.657	5.77	100.5	2.0	0.40	1.1	0.15			34.	12.2	10.8	11.5	0.18
20	14.94	33.309	24.683	5.74	99.7	2.0	0.42	1.3	0.17	0.77	0.24					
28	14.80	33.301	24.707	5.72	99.1	2.0	0.43	1.6	0.19	1.22	0.20	8.0	6.4	7.1	6.8	0.12
39	14.33	33.275	24.787	5.81	99.7	3.5	0.44	1.7	0.16	1.33	0.31	3.0	2.8	3.1	3.0	0.18
49	13.83	33.290	24.903	5.43	92.2	4.5	0.62	4.3	0.24	0.60	0.36	1.2	0.72	0.81	0.77	0.14
61	11.42	33.349	25.416	4.39	70.9	11.3	1.20	13.6	0.03	0.14	0.16					
71	10.67	33.362	25.560	4.28	68.0	13.3	1.32	15.7	0.03	0.10	0.13	0.16	0.03	0.02	0.02	0.04

A) INCUBATION LIGHT INTENSITIES WERE 94, 35, 10, 3.6, 1.5, 0.21 PERCENT RESPECTIVELY.

PRIMARY PRODUCTIVITY CASTS

RV NEW HORIZON — CALCOFI CRUISE 0511 — STATION 87 40

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
33 39.4 N	118 59.4 W	11/11/05	1727 UTC	13 m	1139 - 1725 PST	1139 PST	1725 PST	509.1 mg C/m2

DEPTH m	TEMP DEG C	SALINITY	SIGMA THETA	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
2	15.70	33.353	24.549	6.00	105.9	0.1	0.26	0.2	0.04	1.00	0.32	79. A	18.8	17.4	18.1	0.27
10	15.37	33.370	24.636	6.20	108.7	0.0	0.25	0.2	0.04	1.38	0.56	31.	25.9	26.5	26.2	0.29
20	14.30	33.390	24.882	5.42	93.0	2.9	0.59	4.1	0.17	0.94	0.64	9.4	10.1	9.7	9.9	0.18
29	14.09	33.440	24.964	5.49	93.8	2.4	0.63	5.0	0.19	1.62	1.06	3.3	7.1	7.4	7.3	0.15
36	13.13	33.419	25.144	4.87	81.6	7.2	0.91	8.7	0.27	0.65	0.66	1.4	0.94	1.1	1.0	0.11
43	12.54	33.411	25.254	4.63	76.6	9.2	1.03	10.6	0.30	0.56	0.53					
52	11.57	33.407	25.434	4.20	68.1	11.4	1.24	13.8	0.15	0.23	0.31	0.22	0.11	0.08	0.09	0.05

RV NEW HORIZON — CALCOFI CRUISE 0511 — STATION 87 70

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
32 39.3 N	121 2.1 W	12/11/05	1840 UTC	15 m	1155 - 1738 PST	1148 PST	1734 PST	247.0 mg C/m2

DEPTH m	TEMP DEG C	SALINITY	SIGMA THETA	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
2	15.42	33.325	24.590	5.77	101.3	2.3	0.34	0.6	0.09	0.64	0.16	81. A	1.6	1.9	1.8	0.15
10	15.43	33.328	24.590	5.78	101.4	2.2	0.33	0.6	0.08	0.60	0.14	36.	9.3	9.5	9.4	0.15
16	15.43	33.324	24.587	5.76	101.1	2.1	0.33	0.5	0.08	0.62	0.13					
23	15.42	33.325	24.591	5.77	101.2	1.9	0.32	0.5	0.08	0.66	0.18	9.5	7.2	7.2	7.2	0.18
31	15.04	33.316	24.667	5.68	98.9	2.3	0.40	1.3	0.18	0.66	0.22					
32	14.90	33.313	24.695	5.68	98.6	2.4	0.43	1.6	0.21	0.59	0.26	3.8	3.6	3.8	3.7	0.11
41	14.65	33.309	24.746	5.61	96.9	2.7	0.47	2.2	0.27	0.63	0.25	1.5	1.8	1.6	1.7	0.10
49	13.41	33.282	24.982	5.19	87.4	4.5	0.71	5.6	0.37	0.46	0.36					
60	12.36	33.331	25.227	4.70	77.4	7.8	1.00	10.4	0.08	0.27	0.23	0.22	0.16	0.11	0.13	0.06

RV NEW HORIZON — CALCOFI CRUISE 0511 — STATION 87 100

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
31 39.6 N	123 4.4 W	13/11/05	1728 UTC	18 m	1158 - 1744 PST	1157 PST	1744 PST	154.4 mg C/m2

DEPTH m	TEMP DEG C	SALINITY	SIGMA THETA	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
2	16.86	33.176	24.149	5.63	101.6	1.3	0.29	0.0	0.01	0.32	0.12	84. A	0.40	0.19	0.29	0.19
11	16.88	33.190	24.155	5.61	101.2	1.5	0.29	0.0	0.01	0.35	0.10	39.	4.8	4.2	4.5	0.10
21	16.89	33.198	24.159	5.62	101.4	1.4	0.28	0.0	0.00	0.32	0.12					
28	16.93	33.206	24.156	5.61	101.3	1.4	0.28	0.0	0.01	0.32	0.12	9.2	3.4	3.4	3.4	0.11
40	16.94	33.215	24.161	5.61	101.4	1.2	0.28	0.0	0.01	0.34	0.13	3.3	1.8	1.7	1.8	0.09
49	15.70	33.092	24.350	5.76	101.5	1.5	0.35	0.1	0.03	0.62	0.41	1.5	1.5	1.5	1.5	0.08
61	13.14	32.980	24.803	5.68	94.9	3.5	0.59	2.9	0.21	0.38	0.36					
72	12.97	33.020	24.868	5.58	92.9	3.7	0.64	3.8	0.19	0.32	0.30	0.22	0.14	0.18	0.16	0.04

RV NEW HORIZON — CALCOFI CRUISE 0511 — STATION 90 35

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
33 15.2 N	118 14.4 W	10/11/05	1751 UTC	19 m	1137 - 1718 PST	1137 PST	1718 PST	503.0 mg C/m2

DEPTH m	TEMP DEG C	SALINITY	SIGMA THETA	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
2	16.82	33.355	24.295	5.79	104.5	2.3	0.24	0.0	0.01	0.66	0.25	85. A	11.2	11.2	11.2	0.19
13	16.55	33.355	24.358	5.82	104.5	2.4	0.26	0.0	0.01	0.77	0.31	35.	18.1	19.1	18.6	0.21
21	16.26	33.343	24.416	5.68	101.4	2.8	0.29	0.1	0.03	0.83	0.35					
30	13.34	33.317	25.023	4.89	82.2	6.8	0.77	5.1	0.40	0.80	0.20	8.9	8.5	8.5	8.5	0.13
41	12.20	33.349	25.271	4.37	71.8	9.8	1.09	10.9	0.18	0.52	0.23	3.6	2.4	2.7	2.6	0.07
52	11.44	33.442	25.485	3.80	61.4	13.8	1.39	15.3	0.06	0.23	0.19	1.5	0.60	0.58	0.59	0.05
64	10.86	33.510	25.642	3.66	58.5	15.9	1.51	17.8	0.03	0.15	0.16					
77	10.77	33.635	25.755	3.04	48.5	19.8	1.75	20.3	0.02	0.06	0.09	0.20	0.02	0.03	0.03	0.05

A) INCUBATION LIGHT INTENSITIES WERE 94, 35, 10, 3.6, 1.5, 0.21 PERCENT RESPECTIVELY.

PRIMARY PRODUCTIVITY CASTS

RV NEW HORIZON — CALCOFI CRUISE 0511 — STATION 90 70

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
32 5.7 N	120 38.0 W	09/11/05	1819 UTC	17 m	1146 - 1729 PST	1146 PST	1729 PST	329.4 mg C/m2

DEPTH m	TEMP DEG C	SALINITY	SIGMA THETA	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
2	16.08	33.369	24.476	5.75	102.3	1.8	0.32	0.4	0.04	0.68	0.15	83. A	3.6	4.1	3.8	0.14
12	16.00	33.368	24.494	5.74	101.9	1.8	0.31	0.3	0.04	0.66	0.14	34.	10.0	10.4	10.2	0.19
20	15.99	33.368	24.496	5.76	102.3	1.9	0.32	0.3	0.04	0.62	0.28					
26	15.98	33.374	24.503	5.73	101.7	1.9	0.31	0.3	0.04	0.72	0.26					
27	15.98	33.370	24.500	5.74	101.9	1.9	0.31	0.3	0.04	0.67	0.20	8.7	9.2	9.0	9.1	0.17
36	14.70	33.407	24.811	5.43	94.0	3.5	0.57	3.4	0.44	0.61	0.33	3.9	4.4	4.7	4.5	0.13
49	13.34	33.405	25.092	5.00	84.1	5.5	0.84	6.9	0.68	0.40	0.25	1.2	1.0	0.99	1.0	0.15
59	11.49	33.470	25.498	3.98	64.4	13.3	1.37	15.8	0.05	0.15	0.17					
68	10.67	33.556	25.711	3.57	56.8	17.2	1.58	19.2	0.03	0.12	0.15	0.22	0.05	0.08	0.06	0.03

RV NEW HORIZON — CALCOFI CRUISE 0511 — STATION 90 100

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
31 5.1 N	122 39.6 W	08/11/05	1936 UTC	21 m	1250 - 1740 PST	1154 PST	1742 PST	96.6 mg C/m2

DEPTH m	TEMP DEG C	SALINITY	SIGMA THETA	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
2	17.46	33.037	23.900	5.58	101.8	1.8	0.31	0.0	0.00	0.23	0.04	86. A	1.8	1.9	1.9	0.07
8	17.46	33.039	23.902	5.58	101.8	1.8	0.31	0.0	0.00	0.23	0.05					
15	17.40	33.040	23.917	5.59	101.8	1.8	0.30	0.0	0.00	0.21	0.08	33.	1.9	1.9	1.9	0.07
23	17.27	33.049	23.956	5.61	101.9	1.8	0.31	0.0	0.00	0.29	0.10					
31	17.11	33.125	24.052	5.65	102.4	1.5	0.30	0.0	0.00	0.42	0.10	10.	1.6	1.6	1.6	0.07
38	16.75	33.117	24.130	5.73	103.1	1.6	0.31	0.0	0.00	0.49	0.21					
46	15.37	32.995	24.348	6.09	106.5	1.8	0.34	0.0	0.00	0.65	0.31	3.5	1.3	1.4	1.3	0.05
52	14.13	32.958	24.585	6.09	103.9	2.2	0.37	0.1	0.02	0.60	0.41					
59	13.53	32.943	24.696	5.95	100.2	2.6	0.46	0.9	0.16	0.56	0.40	1.3	0.53	0.48	0.51	0.03
71	12.84	32.964	24.850	5.73	95.1	3.4	0.55	2.0	0.26	0.34	0.40					
82	12.41	33.098	25.037	5.44	89.6	4.3	0.66	4.2	0.04	0.26	0.24	0.25	0.06	0.07	0.06	0.02

RV NEW HORIZON — CALCOFI CRUISE 0511 — STATION 93 110

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
30 11.2 N	122 55.4 W	07/11/05	1753 UTC	35 m	1150 - 1745 PST	1155 PST	1748 PST	170.2 mg C/m2

DEPTH m	TEMP DEG C	SALINITY	SIGMA THETA	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
3	18.39	33.224	23.818	5.46	101.5	2.2	0.29	0.0	0.00	0.15	0.04	88. A	2.5	2.5	2.5	0.06
12	18.36	33.229	23.829	5.46	101.4	2.0	0.28	0.0	0.00	0.17	0.04					
24	18.39	33.239	23.830	5.48	101.9	2.0	0.28	0.0	0.00	0.16	0.04	35.	2.8	2.7	2.7	0.07
38	18.50	33.276	23.832	5.48	102.1	1.9	0.28	0.0	0.00	0.17	0.05					
53	18.64	33.328	23.837	5.43	101.4	1.8	0.27	0.0	0.00	0.17	0.05	9.8	1.5	1.5	1.5	0.05
65	16.99	33.368	24.268	5.92	107.2	1.7	0.25	0.0	0.00	0.24	0.09					
76	16.04	33.330	24.458	5.93	105.3	1.7	0.27	0.0	0.00	0.24	0.13	3.6	0.34	1.0	0.68	0.04
86	15.75	33.402	24.579	5.82	102.8	1.8	0.28	0.0	0.00	0.20	0.17					
97	15.46	33.482	24.705	5.70	100.2	2.0	0.29	0.0	0.00	0.19	0.17	1.4	0.43	0.41	0.42	0.02
108	14.76	33.568	24.924	5.43	94.1	2.6	0.37	0.6	0.14	0.20	0.18					
118	14.12	33.531	25.031	5.29	90.5	3.6	0.48	2.1	0.11	0.19	0.19					
128	13.36	33.477	25.145	5.18	87.2	4.6	0.59	4.0	0.04	0.14	0.17					
141	12.33	33.503	25.368	5.01	82.6	6.5	0.75	7.2	0.01	0.10	0.13	0.21	0.04	0.07	0.06	0.01

RV NEW HORIZON — CALCOFI CRUISE 0511 — STATION 93 70

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
31 30.8 N	120 14.9 W	06/11/05	1741 UTC	24 m	1140 - 1735 PST	1145 PST	1733 PST	262.1 mg C/m2

DEPTH m	TEMP DEG C	SALINITY	SIGMA THETA	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
2	17.00	33.235	24.161	5.60	101.3	1.5	0.28	0.0	0.00	0.22	0.07	88. A	3.2	3.0	3.1	0.09
17	16.99	33.235	24.164	5.62	101.7	1.4	0.28	0.0	0.00	0.24	0.07	34.	4.4	4.4	4.4	0.10
26	16.74	33.258	24.240	5.64	101.5	1.5	0.28	0.0	0.00	0.32	0.12					
36	16.64	33.267	24.271	5.66	101.7	1.7	0.28	0.0	0.00	0.37	0.14	10.	4.8	5.0	4.9	0.09
44	16.30	33.237	24.326	5.72	102.1	1.6	0.30	0.0	0.00	0.37	0.19					
52	14.58	33.150	24.638	5.70	98.2	2.9	0.44	1.0	0.07	0.47	0.37	3.6	3.2	3.5	3.3	0.08
59	13.95	33.146	24.767	5.62	95.6	3.4	0.50	1.8	0.13	0.45	0.35					
66	13.28	33.165	24.918	5.42	90.9	4.5	0.63	3.9	0.22	0.38	0.32	1.5	1.0	0.96	1.0	0.05
76	12.17	33.209	25.169	5.02	82.3	7.2	0.88	8.2	0.07	0.20	0.25					
87	11.11	33.335	25.462	4.38	70.3	11.8	1.23	14.0	0.02	0.09	0.16					
96	10.59	33.373	25.583	4.22	66.9	13.7	1.36	16.1	0.02	0.06	0.12	0.22	0.04	0.04	0.04	0.02

A) INCUBATION LIGHT INTENSITIES WERE 94, 35, 10, 3.6, 1.5, 0.21 PERCENT RESPECTIVELY.

PRIMARY PRODUCTIVITY CASTS

RV NEW HORIZON CALCOFI CRUISE 0511 STATION 93 45

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
32 20.9 N	118 33.2 W	05/11/05	1924 UTC	24 m	1236 - 1720 PST	1136 PST	1724 PST	360.3 mg C/m2

DEPTH m	TEMP DEG C	SALINITY	SIGMA THETA	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
2	17.23	33.326	24.177	5.68	103.3	1.9	0.24	0.0	0.00	0.28	0.10	88. A	4.2	4.1	4.2	0.14
10	17.20	33.323	24.182	5.67	103.1	2.1	0.24	0.0	0.00	0.28	0.11					
17	17.06	33.319	24.212	5.70	103.3	2.0	0.25	0.0	0.00	0.29	0.11	34.	5.9	6.3	6.1	0.22
26	16.53	33.285	24.310	5.76	103.3	2.1	0.26	0.0	0.00	0.37	0.18					
37	15.28	33.247	24.562	5.78	101.1	2.9	0.37	0.3	0.03	0.88	0.38	9.4	9.7	9.9	9.8	0.14
44	13.40	33.261	24.968	5.20	87.5	5.5	0.71	4.0	0.35	0.66	0.43					
50	12.46	33.253	25.147	4.95	81.7	7.0	0.90	7.8	0.20	0.47	0.36	4.1	2.3	2.4	2.3	0.12
59	12.16	33.269	25.217	4.81	78.9	7.8	0.96	8.8	0.15	0.41	0.38					
65	11.58	33.283	25.336	4.61	74.7	9.3	1.10	11.5	0.08	0.29	0.29	1.6	0.87	0.80	0.84	0.03
80	11.60	33.536	25.529	3.29	53.4	15.8	1.57	17.1	0.04	0.14	0.19					
90	11.82	33.679	25.600	2.41	39.3	20.6	1.89	20.1	0.03	0.09	0.14					
96	11.71	33.726	25.657	2.19	35.7	22.1	2.08	21.2	0.02	0.07	0.12	0.22	0.03	0.03	0.03	0.04

RV NEW HORIZON CALCOFI CRUISE 0511 STATION 93 26.7

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
32 57.3 N	117 18.6 W	04/11/05	1949 UTC	12 m	1233 - 1725 PST	1133 PST	1721 PST	495.2 mg C/m2

DEPTH m	TEMP DEG C	SALINITY	SIGMA THETA	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
2	16.70	33.319	24.296	6.13	110.3	2.4	0.18	0.0	0.00	1.10	0.15	77. A	17.6	18.3	17.9	0.30
5	16.64	33.320	24.310	6.14	110.4	2.4	0.17	0.0	0.00	1.29	0.25					
8	16.56	33.316	24.326	6.14	110.2	2.4	0.17	0.0	0.00	1.26	0.43	36.	21.5	23.1	22.4	0.35
18	14.50	33.317	24.783	5.41	93.2	4.6	0.42	0.1	0.05	1.81	0.65	10.	16.2	19.4	17.8	0.39
26	12.63	33.339	25.180	4.68	77.6	8.0	0.82	4.3	0.31	1.22	0.64	3.6	6.5	6.7	6.6	0.23
34	11.23	33.392	25.484	4.30	69.2	10.2	1.15	11.4	0.10	0.49	0.41	1.3	1.1	1.1	1.1	0.05
40	10.98	33.403	25.537	4.11	65.8	11.2	1.25	12.6	0.05	0.43	0.38					
49	10.81	33.431	25.589	3.88	61.9	12.7	1.35	14.0	0.06	0.40	0.24	0.19	0.09	0.13	0.11	0.06

A) INCUBATION LIGHT INTENSITIES WERE 94, 35, 10, 3.6, 1.5, 0.21 PERCENT RESPECTIVELY.

MACROZOOPLANKTON BIOMASS
Net Mesh Size: 0.505mm

Line	Sta.	Latitude N	Longitude W	Date Mo/Day	Time (PST) Start	Time (PST) End	Water Volume Strained (m^3)	Max. Tow Depth (m)	Volume per 1000 m^3 Strained Total (cm^3)	Volume per 1000 m^3 Strained Small (cm^3)
76.7	49.0	35 05.3	120 46.7	11/20	0401	0407	125	48	48	48
76.7	51.0	35 01.3	120 55.3	11/20	0138	0160	442	201	712	179
76.7	55.0	34 53.4	121 11.7	11/19	2213	2234	424	206	304	304
76.7	60.0	34 43.5	121 32.8	11/19	1831	1852	404	202	240	240
76.7	70.0	34 23.0	122 14.7	11/19	1207	1229	478	194	33	33
76.7	80.0	34 03.4	122 56.5	11/19	0549	0611	443	208	248	63
76.7	90.0	33 43.4	123 37.9	11/18	2355	0017	496	199	42	42
76.7	100.0	33 23.1	124 19.4	11/18	1756	1818	481	202	17	17
80.0	50.5	34 27.7	120 29.3	11/17	0025	0027	46	19	87	87
80.0	51.0	34 27.0	120 31.0	11/17	0207	0215	165	62	12	12
80.0	55.0	34 19.0	120 47.9	11/17	0613	0636	480	205	123	123
80.0	60.0	34 08.7	121 09.4	11/17	0928	0949	447	201	67	67
80.0	70.0	33 48.9	121 50.7	11/17	1704	1725	448	203	118	118
80.0	80.0	33 29.1	122 32.0	11/17	2311	2332	458	200	101	101
80.0	90.0	33 09.1	123 13.3	11/18	0534	0556	500	193	40	40
80.0	100.0	32 49.2	123 54.5	11/18	1159	1222	490	205	18	18
81.7	43.5	34 24.1	119 48.1	11/16	1706	1709	67	19	45	45
81.8	46.9	34 16.5	120 01.4	11/16	2040	2101	424	210	38	38
83.3	39.4	34 14.9	119 20.8	11/16	1346	1348	55	15	18	18
83.3	40.6	34 13.7	119 23.6	11/16	1207	1210	60	20	33	33
83.3	42.0	34 10.9	119 31.0	11/16	0917	0929	242	122	29	29
83.3	51.0	33 52.6	120 08.3	11/16	0313	0322	195	77	26	26
83.3	55.0	33 44.8	120 24.7	11/15	2317	2338	443	207	86	86
83.3	60.0	33 34.7	120 45.5	11/15	1702	1724	484	194	93	93
83.3	70.0	33 15.3	121 26.6	11/15	0916	0937	431	210	84	84
86.7	33.0	33 53.4	118 29.4	11/11	0233	0238	113	39	53	53
86.7	35.0	33 49.4	118 37.8	11/11	0618	0639	453	193	51	51
86.7	40.0	33 39.4	118 58.5	11/11	1111	1132	446	205	45	45
86.7	45.0	33 29.5	119 19.2	11/11	1522	1544	449	206	65	65
86.7	55.0	33 09.2	120 00.6	11/12	0034	0056	489	190	94	94
86.7	60.0	32 59.5	120 21.2	11/12	0437	0501	481	212	158	135
86.7	70.0	32 39.3	121 02.0	11/12	1223	1245	527	189	44	44
86.7	80.0	32 19.6	121 42.9	11/12	1846	1912	584	198	77	58
86.7	90.0	31 59.2	122 23.9	11/13	0139	0201	541	200	50	50
86.7	100.0	31 39.6	123 04.3	11/13	0823	0844	453	208	93	62
86.7	110.0	31 19.5	123 44.8	11/13	1650	1718	615	204	18	18
86.8	32.5	33 53.3	118 26.6	11/11	0121	0124	57	20	70	70
88.5	30.1	33 40.3	118 05.1	11/10	2140	2142	44	17	69	69
90.0	27.7	33 29.6	117 45.0	11/10	1730	1732	46	13	129	129
90.0	28.0	33 29.1	117 46.0	11/10	1859	1912	246	112	49	49
90.0	30.0	33 25.1	117 54.2	11/10	1533	1555	420	207	50	50
90.0	35.0	33 15.1	118 15.0	11/10	1110	1131	431	197	39	39
90.0	37.0	33 11.1	118 23.2	11/10	0816	0837	444	202	70	70
90.0	45.0	32 55.2	118 56.2	11/10	0255	0317	478	198	65	65
90.0	53.0	32 39.1	119 28.6	11/09	2141	2202	454	205	82	82
90.0	60.0	32 25.4	119 57.8	11/09	1647	1709	486	199	72	72
90.0	70.0	32 05.4	120 38.0	11/09	0920	0941	466	196	118	49
90.0	80.0	31 45.1	121 18.9	11/09	0355	0417	486	186	134	60
90.0	90.0	31 25.1	121 59.6	11/08	2041	2103	483	211	89	89
90.0	100.0	31 05.0	122 39.6	11/08	1316	1338	482	198	23	23
90.0	110.0	30 45.1	123 19.9	11/08	0621	0643	197	219	25	25
90.0	120.0	30 24.8	123 59.9	11/07	2354	0016	497	193	22	22
91.7	26.4	33 14.5	117 27.9	11/04	1715	1718	45	16	22	22
93.4	26.4	32 57.2	117 16.9	11/04	1426	1428	46	14	22	22
93.3	26.7	32 57.4	117 18.3	11/04	1248	1308	401	214	22	22
93.3	28.0	32 54.6	117 23.9	11/04	2144	2205	439	208	57	57
93.3	30.0	32 50.7	117 32.0	11/05	0027	0049	465	195	52	52
93.3	35.0	32 40.9	117 52.5	11/05	0424	0444	443	185	151	151
93.3	40.0	32 30.9	118 12.8	11/05	0827	0848	466	204	32	32
93.3	45.0	32 20.8	118 33.2	11/05	1243	1305	503	190	14	14
93.3	50.0	32 10.6	118 53.8	11/05	1705	1726	491	199	39	39
93.3	55.0	32 00.9	119 14.8	11/05	2147	2209	459	206	46	46
93.3	60.0	31 50.7	119 34.5	11/06	0119	0141	567	190	391	95
93.3	70.0	31 30.8	120 14.7	11/06	0836	0857	455	208	207	207
93.3	80.0	31 10.8	120 55.2	11/06	1623	1643	432	203	28	28
93.3	90.0	30 51.1	121 35.4	11/06	2231	2252	447	213	36	36
93.3	100.0	30 31.0	122 15.6	11/07	0440	0460	455	192	37	37
93.3	110.0	30 10.9	122 55.3	11/07	1102	1124	467	207	15	15
93.3	120.0	29 51.0	123 35.3	11/07	1716	1737	450	195	11	11

FIGURES

Avifauna Observations

CalCOFI Cruise 0511

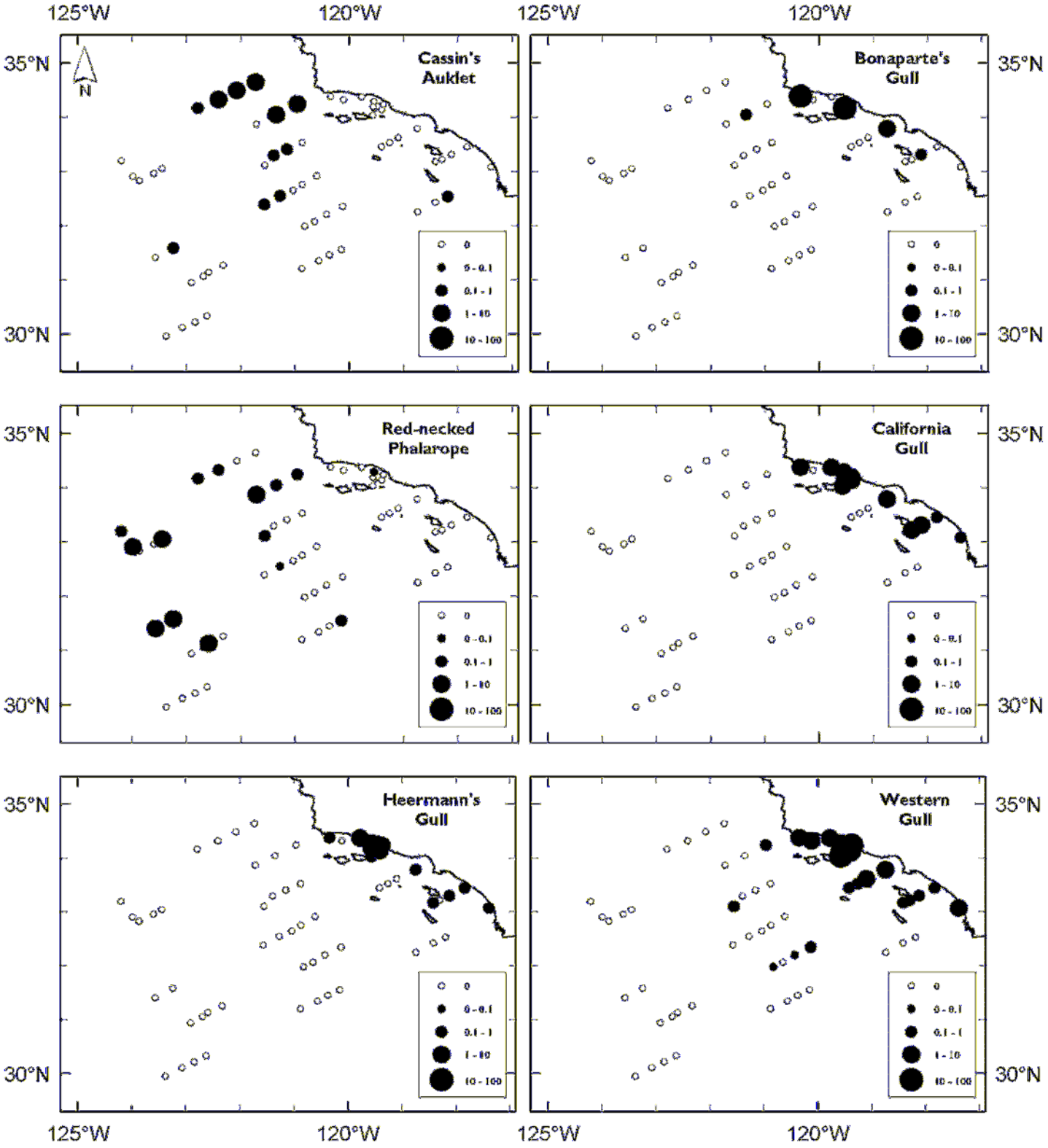
1a. Cassin's Auklet distribution.

1b. Bonaparte's Gull distribution

1c. Red-necked Phalarope distribution.

1d. California Gull distribution

1e. Heermann's Gull distribution.

1f. Western Gull distribution.

CalCOFI Cruise 0511