UNIVERSITY OF CALIFORNIA, SAN DIEGO SCRIPPS INSTITUTION OF OCEANOGRAPHY

data report

CalCOFI Cruise 0504
15 April – 1 May 2005

CC Reference 07-04
9 August 2007

UNIVERSITY OF CALIFORNIA, SAN DIEGO

SCRIPPS INSTITUTION OF OCEANOGRAPHY

LA JOLLA, CALIFORNIA 92093-0227

PHYSICAL, CHEMICAL AND BIOLOGICAL DATA

CalCOFI Cruise 0504
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INTRODUCTION

The data presented in this report were collected during cruise 0504* of the California Cooperative Oceanic Fisheries Investigations (CalCOFI) program aboard the RV *New Horizon* of Scripps Institution of Oceanography, University of California, San Diego. The CalCOFI program was organized in the late 1940's to study the causes of variations in population size of fishes of importance to the State of California. It is carried out by NOAA's National Marine Fisheries Service Southwest Fisheries Science Center, the California Department of Fish and Game, and the Integrative Oceanography Division (IOD) at Scripps Institution of Oceanography (SIO). IOD contributes to this program by investigations of the physical, chemical and biological structure of the California Current. Data from the cruises were collected and processed by personnel of the Integrative Oceanography Division and the Southwest Fisheries Science Center. SIO staff members from the Ocean Data Facility participate in the chemical analysis of nutrient samples at sea. CalCOFI data presented in this report and collected on previous cruises can be accessed at http://www.calcofi.org.

STANDARD PROCEDURES

CTD/Rosette Cast Data

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

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

Salinity samples were collected from all rosette bottles and analyzed at sea using a Guildline model 8410 Portasal salinometer. Salinity samples were drawn into 200 ml Kimax high-alumina borosilicate bottles that were rinsed three times with sample prior to filling. The results were compared with the CTD salinity to verify that the rosette bottle did not mis-trip or leak. The salinometer was standardized before and after each group of samples with standardized seawater. Periodic checks on the conductivity of the standardized seawater were made by comparison with IAPSO Standard Seawater batch P144. Salinity values were calculated using the algorithms for the Practical Salinity Scale, 1978 (UNESCO, 1981a) and are reported to three decimal places, provided that accepted standards were met.

Dissolved oxygen analyses were performed with an Ocean Data Facility of Scripps Institution of Oceanography designed automated oxygen titrator using photometric end-point detection based on the absorption of 365nm wavelength ultra-violet light. A computer using PC software controlled the titration of the samples and the data logging. The method used a modified-Winkler titration following the technique of Carpenter (1965) with modifications by Culberson (1991), but with higher concentrations of thiosulfate solution (50 g/l). Standard KIO3

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

solutions prepared ashore were run at the beginning of each run. Reagent and sea water blanks were determined to account for presence of oxidizing or reducing materials.

Nutrient samples were analyzed at sea by the Scripps Ocean Data Facility for dissolved silicate, phosphate, nitrate, nitrite, and ammonium using procedures similar to those described in Gordon et al. (1993) and Koroleff (1969, 1970). Samples were collected in 45 ml high-density polypropylene screw-capped tubes which were rinsed three times prior to filling. Standardizations were done at the beginning and end of each group of samples with a set of mid-concentration range standards prepared fresh for each run. Samples not analyzed immediately after collection were refrigerated and run the following day. Sets of six different concentration standards were analyzed periodically to determine the deviation from linearity as a function of concentration, for the silicate, nitrate and phosphate analyses. Final sample concentrations were corrected for deviations from linearity using a second order polynomial.

Samples for chlorophyll-*a* and phaeopigments were collected in calibrated 138 ml polyethylene bottles and filtered onto Whatman GF/F filters. The pigments were extracted in cold 90% acetone (Venrick and Hayward, 1984) for a minimum of 24 hours. Chlorophyll a and 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 41.58 µCi of ^{14}C as $NaHCO_3$ (200 µl of 215.76 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) *Marine mammal observations*. During daylight transits, visual line-transect surveys were conducted by marine mammal observers focusing on cetaceans. Acoustic line-transect surveys were performed using a towed hydrophone array which consists of multiple hydrophone elements that sample sounds up to 100 kHz allowing for localization of calling animals. Acoustic monitoring also takes place on individual stations using sonobuoys.

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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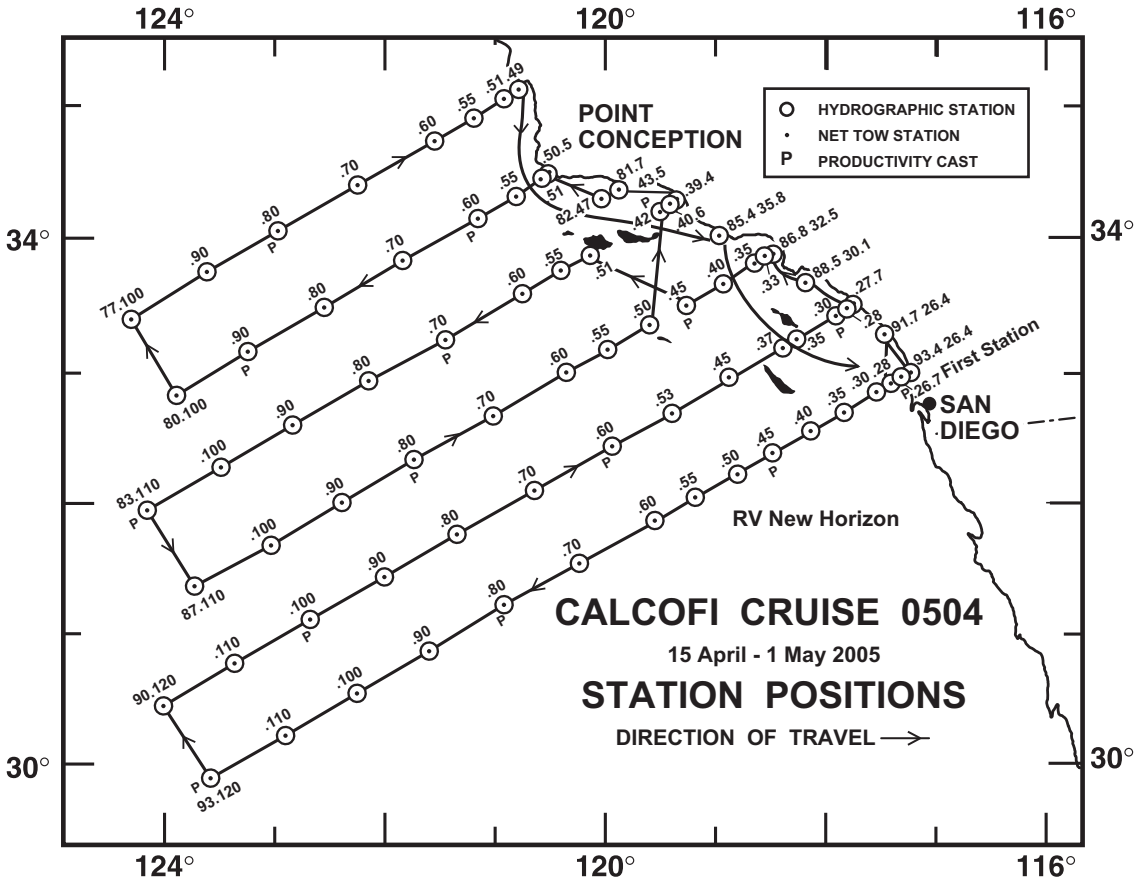


FIGURE 1

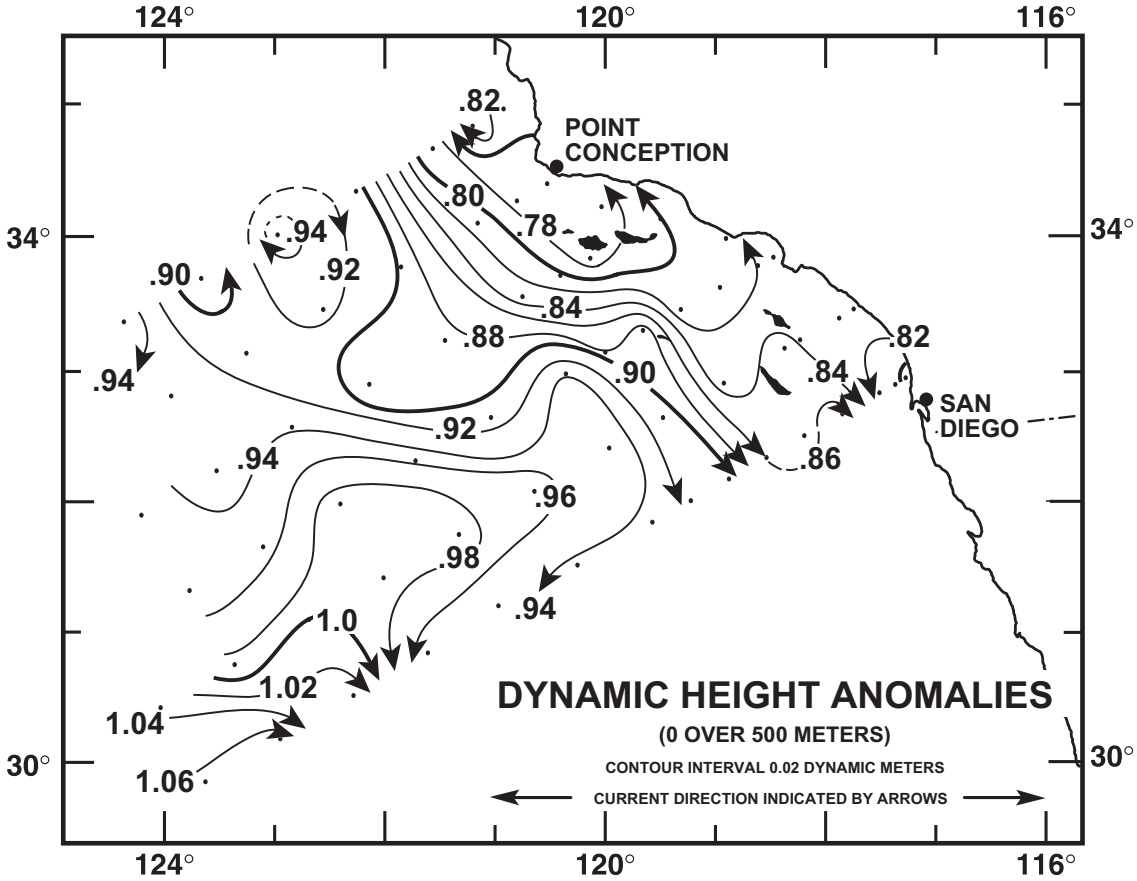


FIGURE 2

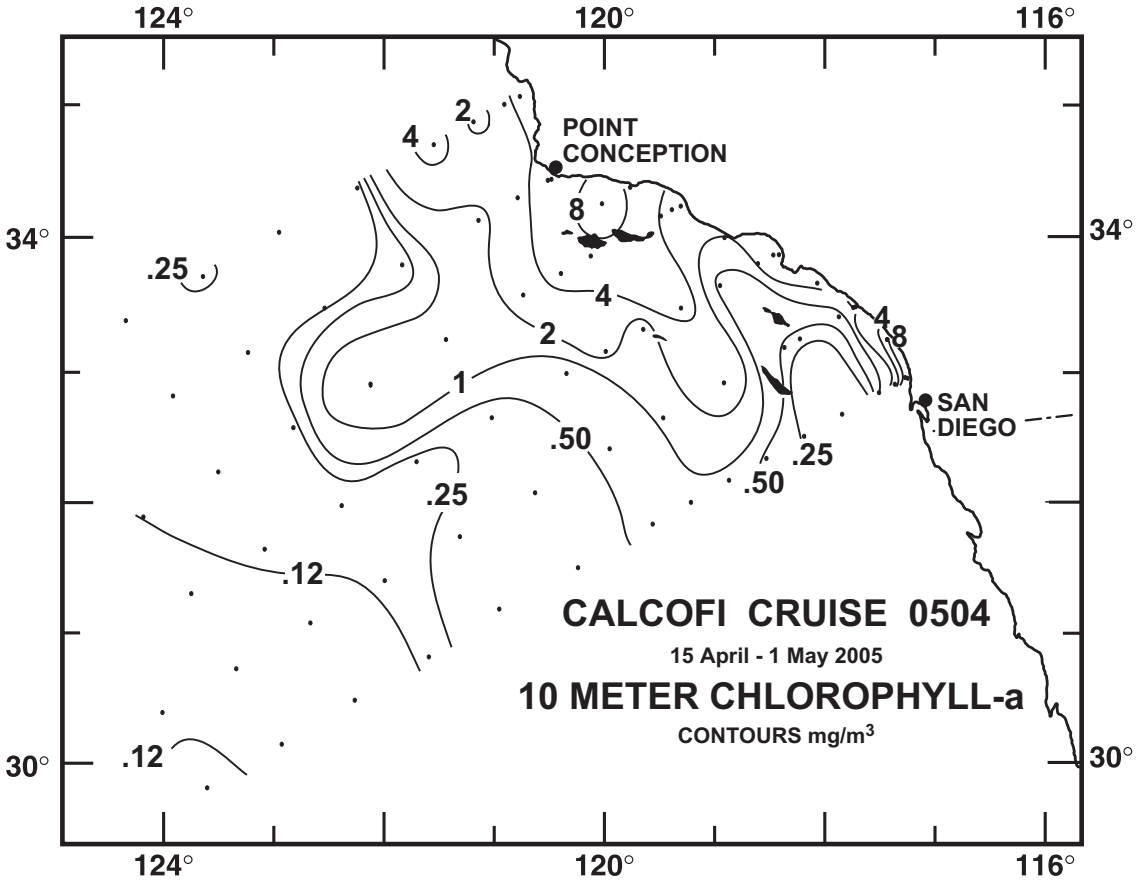


FIGURE 3A

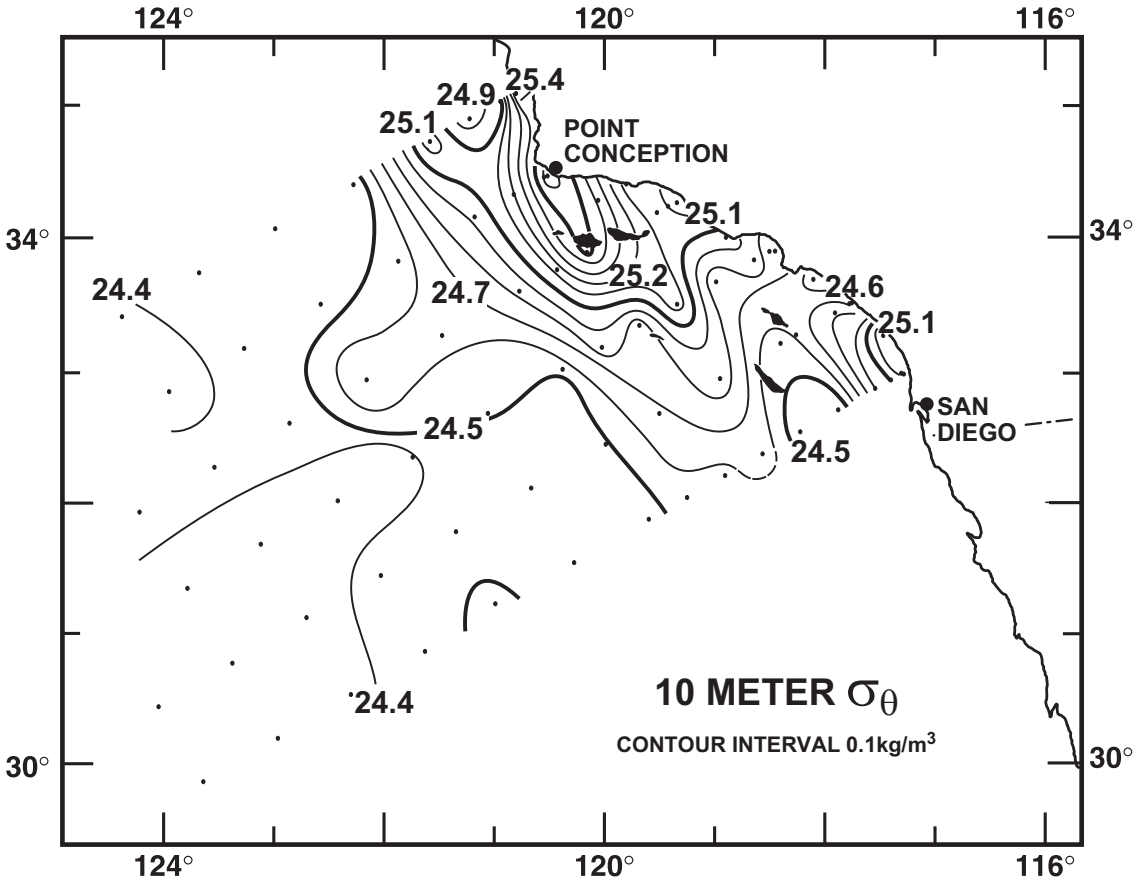


FIGURE 3B

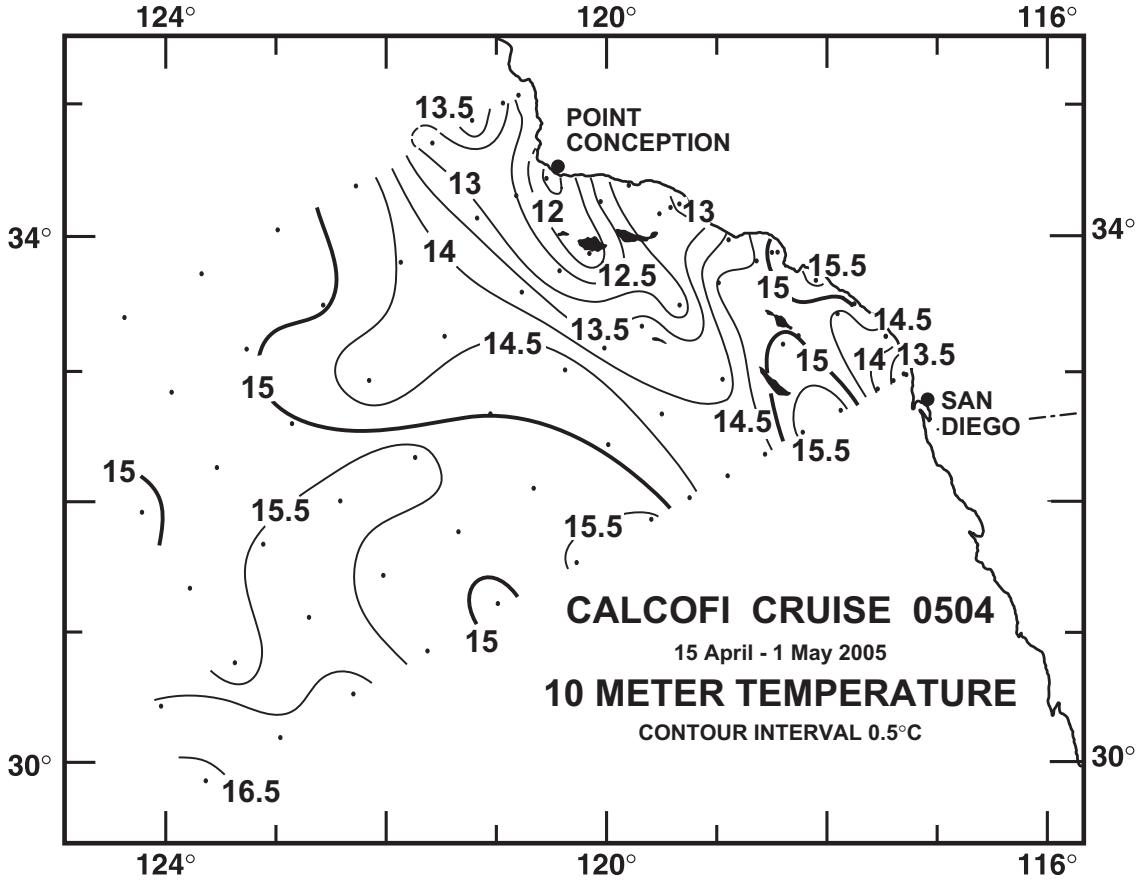


FIGURE 3C

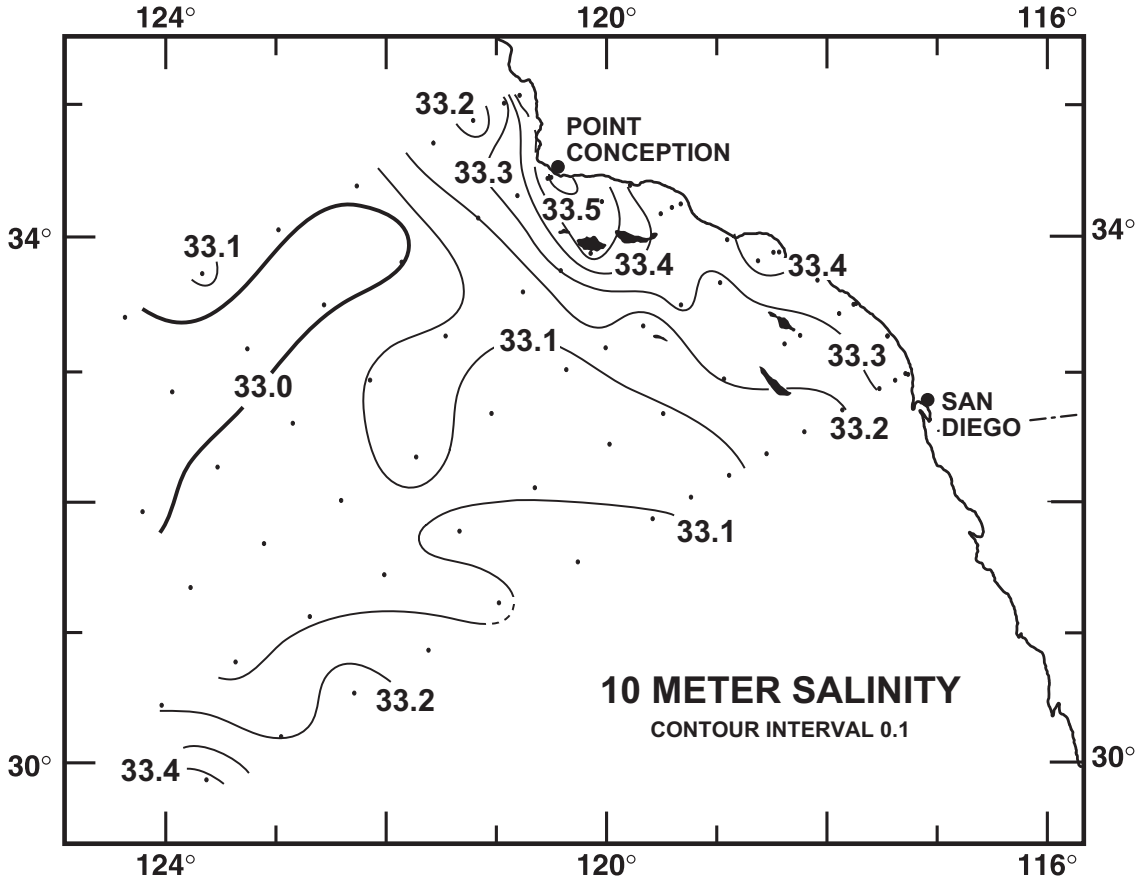


FIGURE 3D

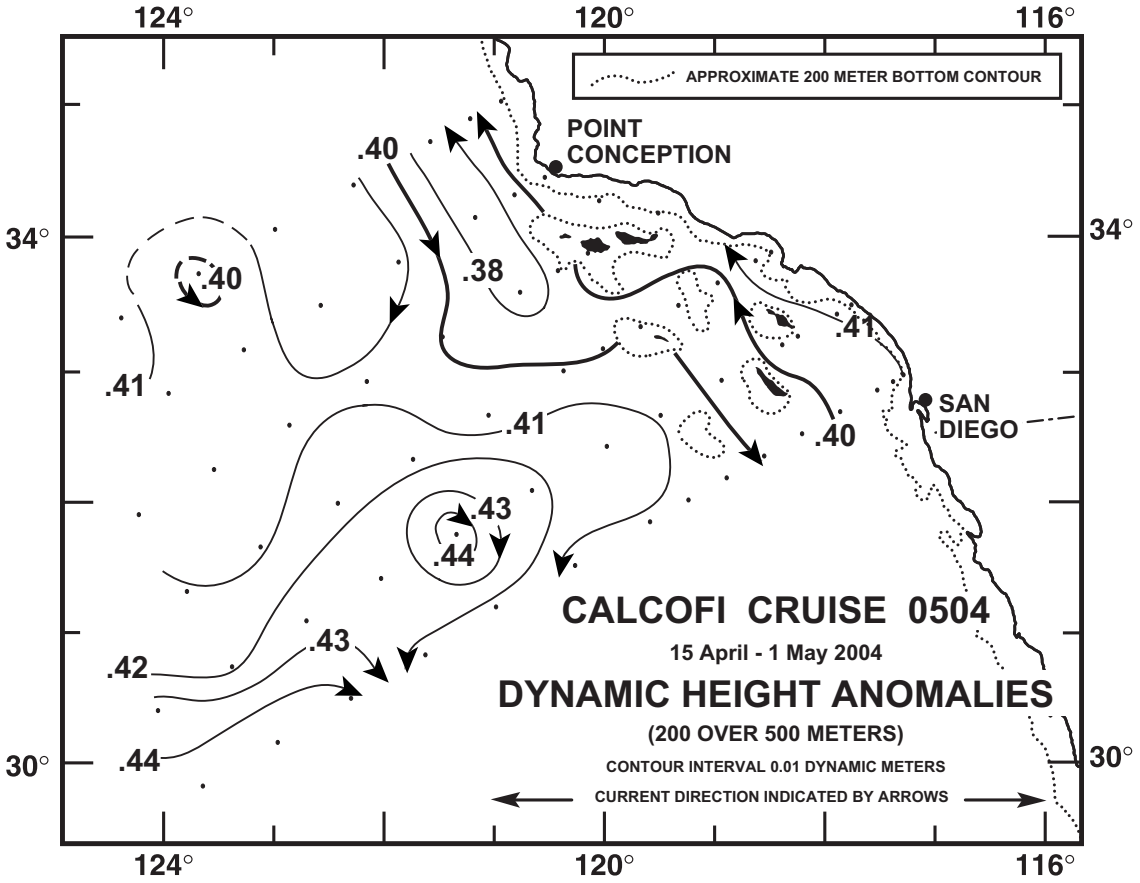


FIGURE 4A

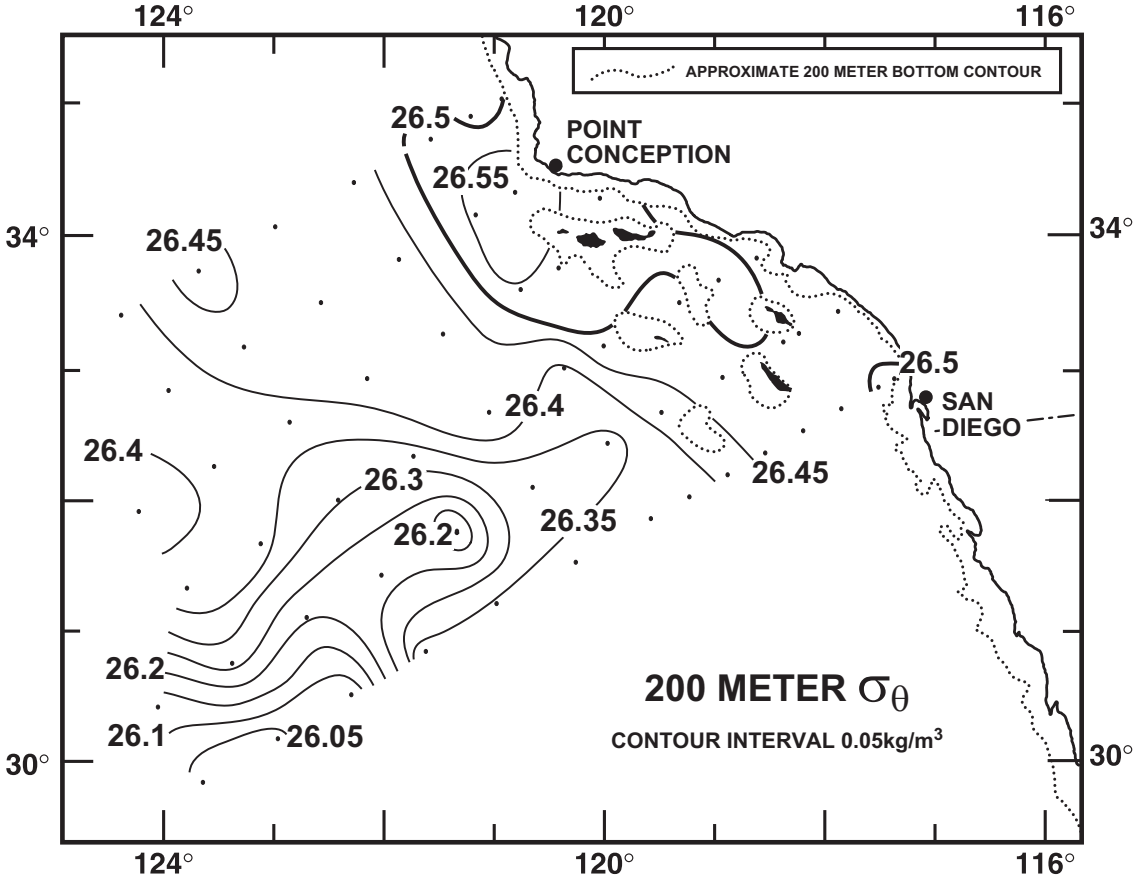


FIGURE 4B

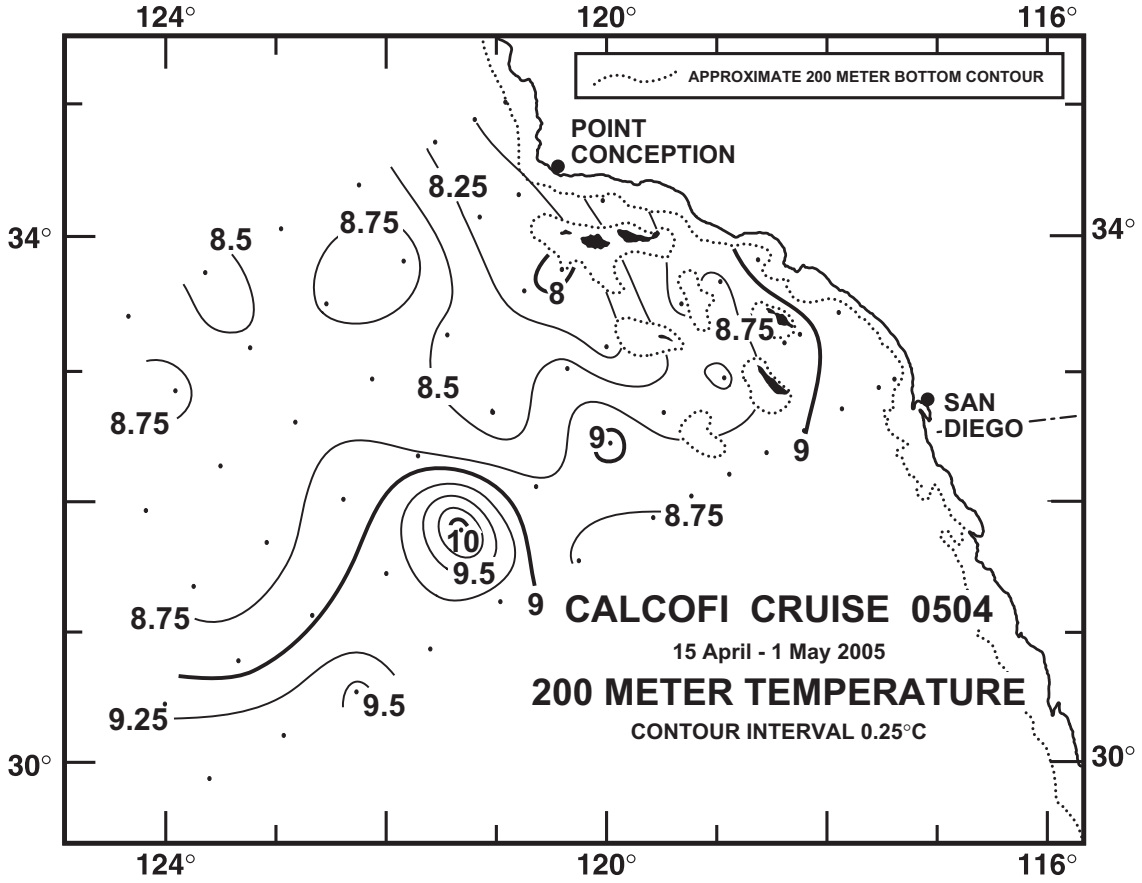


FIGURE 4C

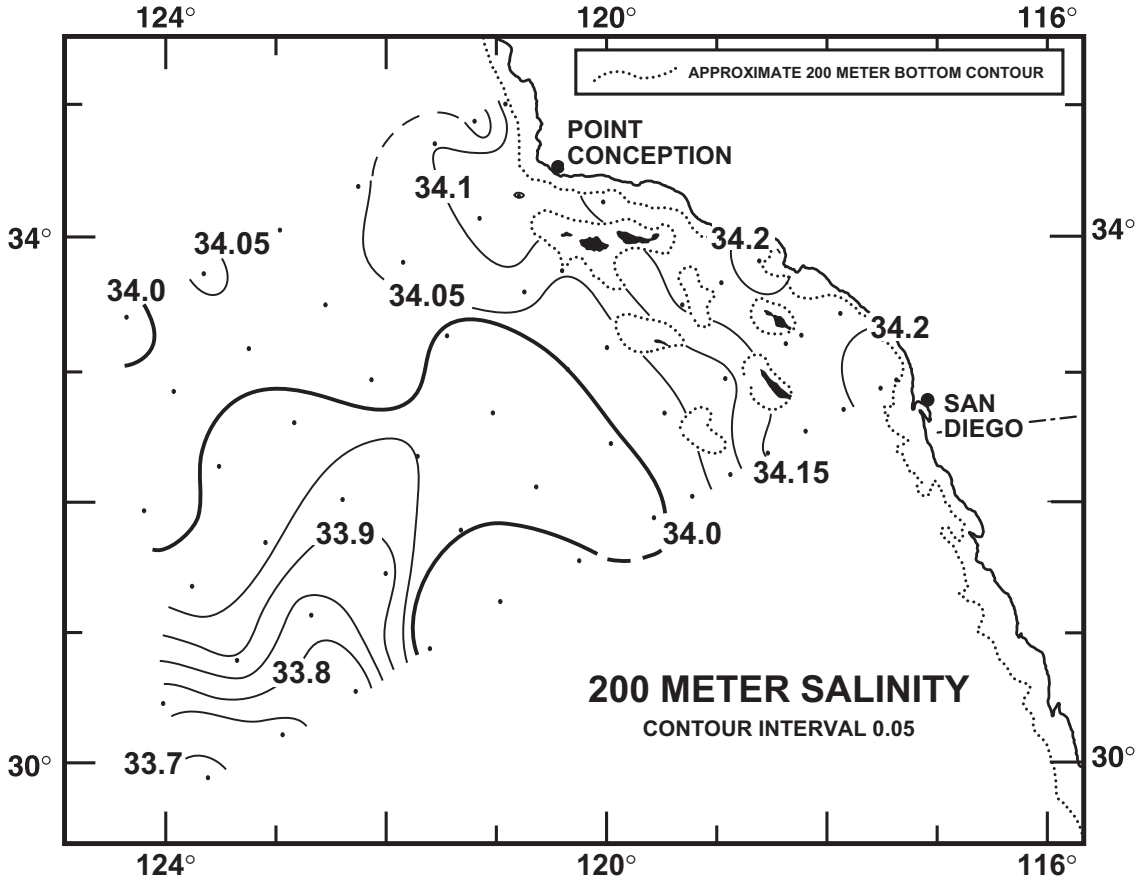


FIGURE 4D

CALCOFI CRUISE 0504NH

19 - 22 April 2005

POTENTIAL DENSITY (σ_θ) ALONG CALCOFI LINE 90

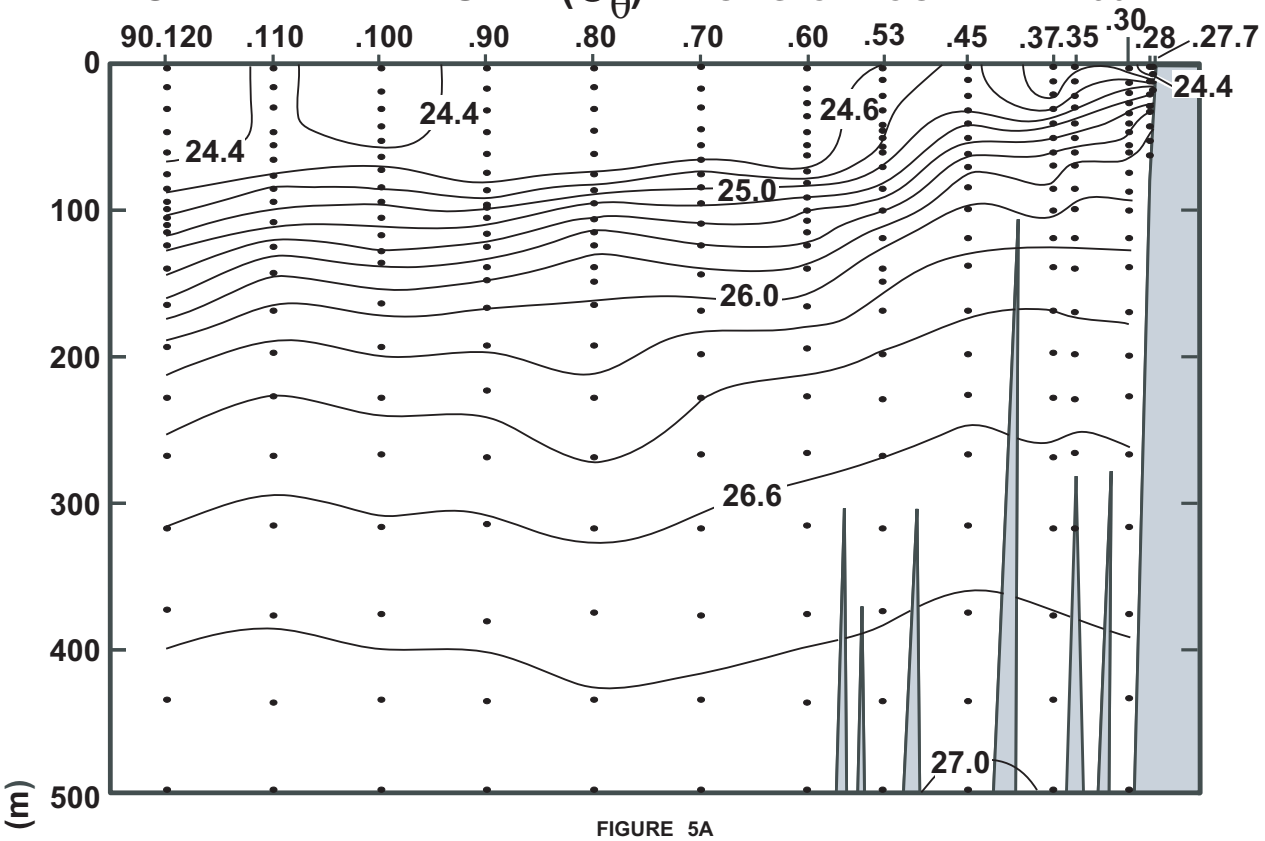


FIGURE 5A

TEMPERATURE (°C) ALONG CALCOFI LINE 90

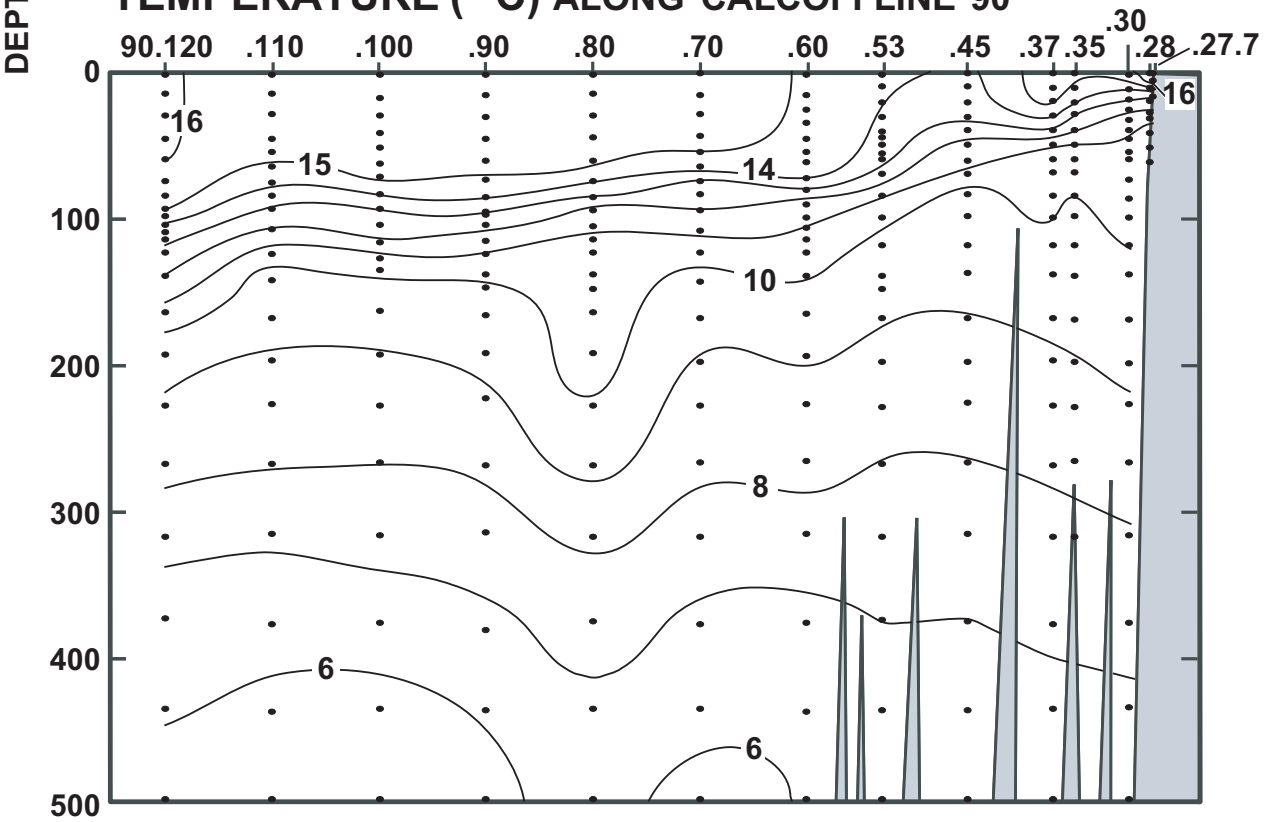


FIGURE 5B

CALCOFI CRUISE 0504NH

19- 22 April 2005

SALINITY ALONG CALCOFI LINE 90

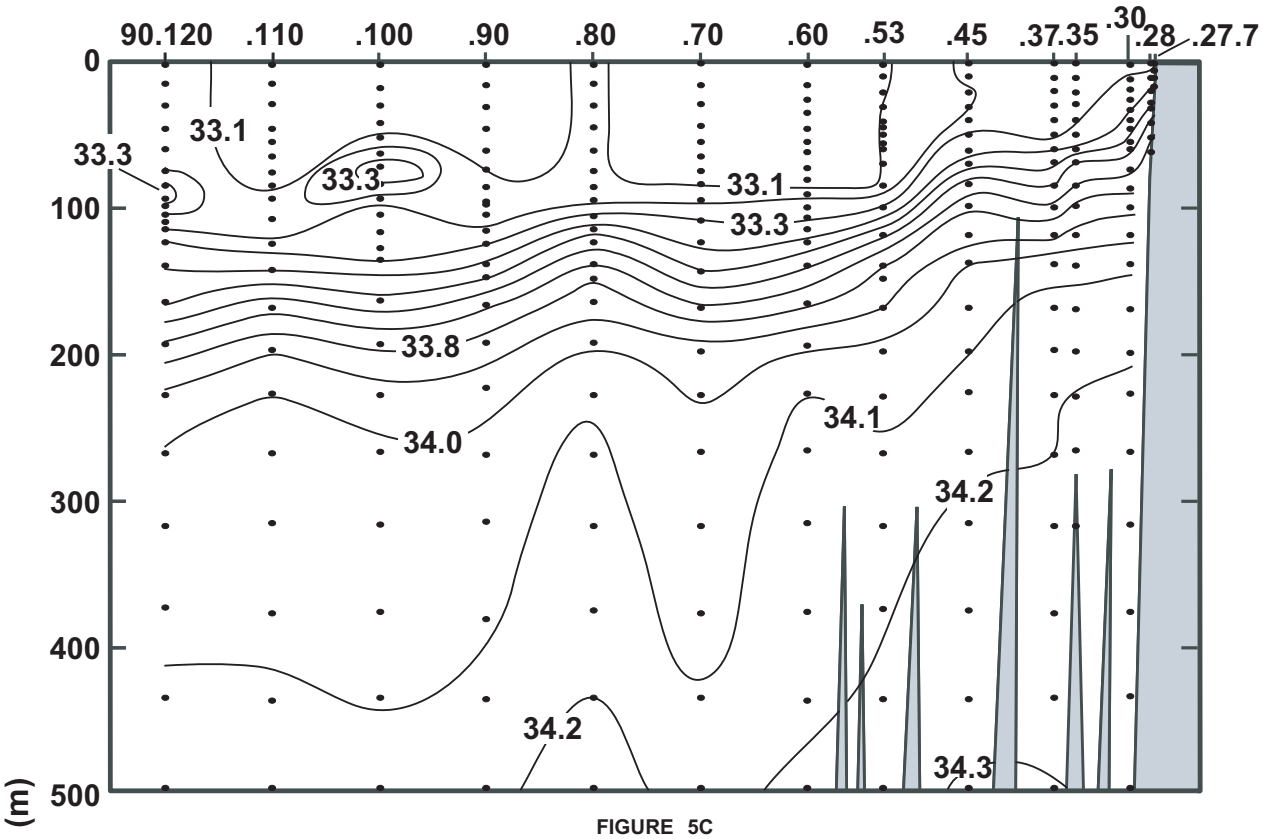


FIGURE 5C

SILICATE (μM/L) ALONG CALCOFI LINE 90

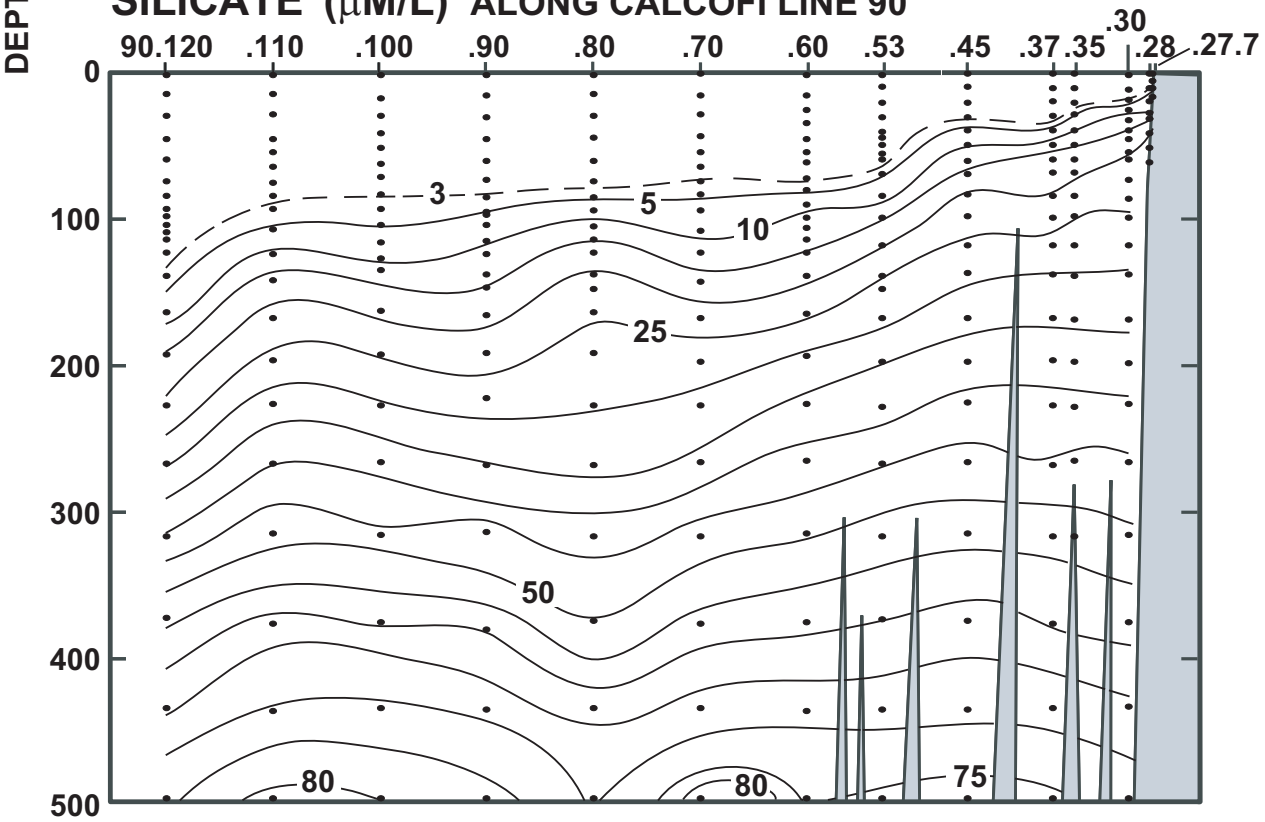


FIGURE 5D

CALCOFI CRUISE 0504NH

19- 22 April 2005

NITRATE (μM/L) ALONG CALCOFI LINE 90

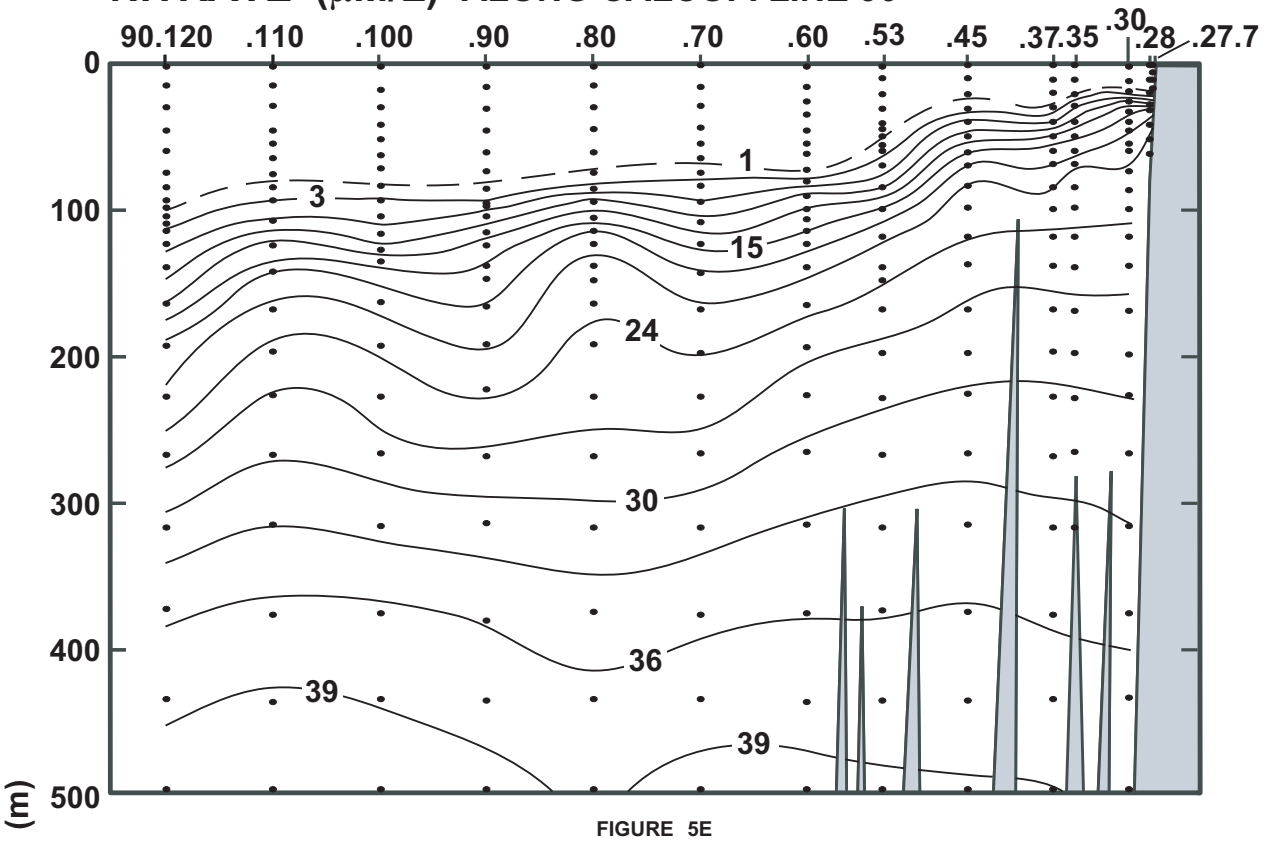


FIGURE 5E

PHOSPHATE (μM/L) ALONG CALCOFI LINE 90

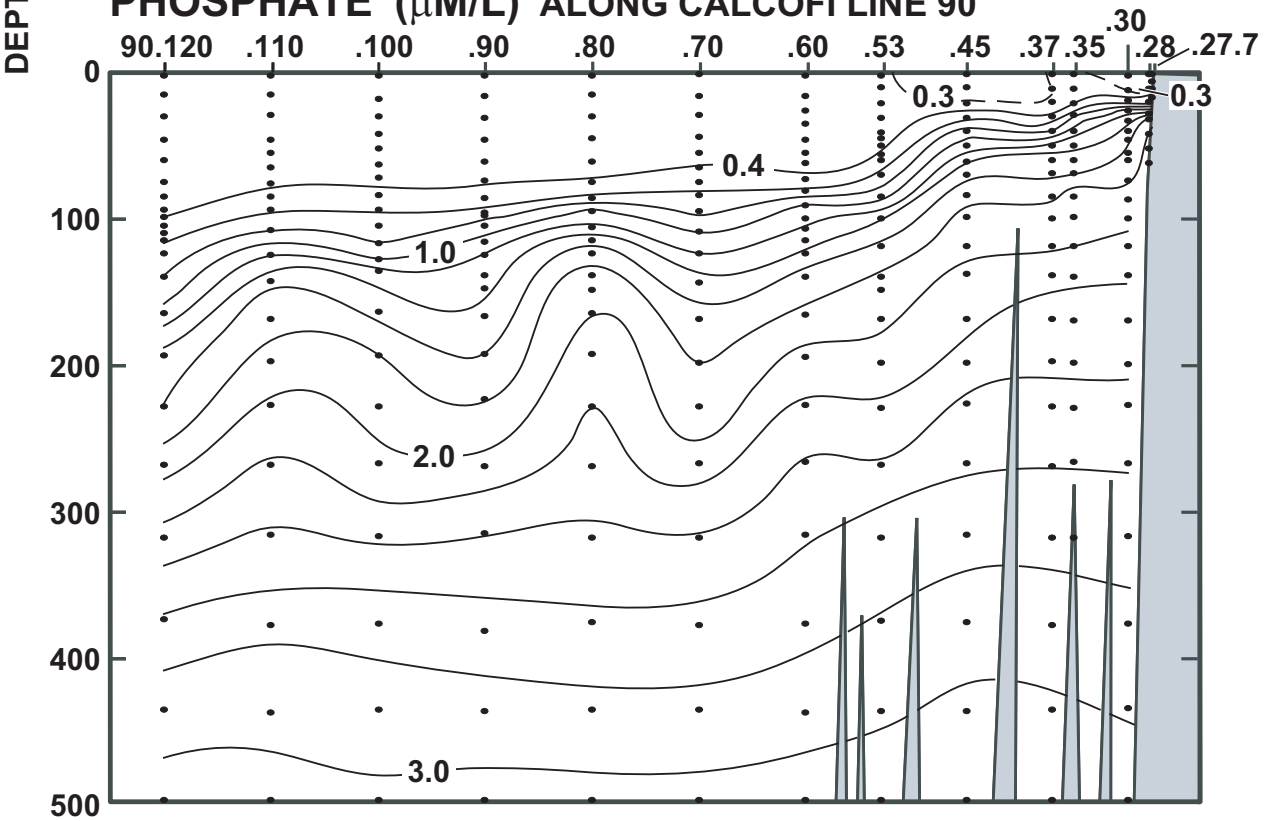


FIGURE 5F

CALCOFI CRUISE 0504NH

19 - 22 April 2005

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

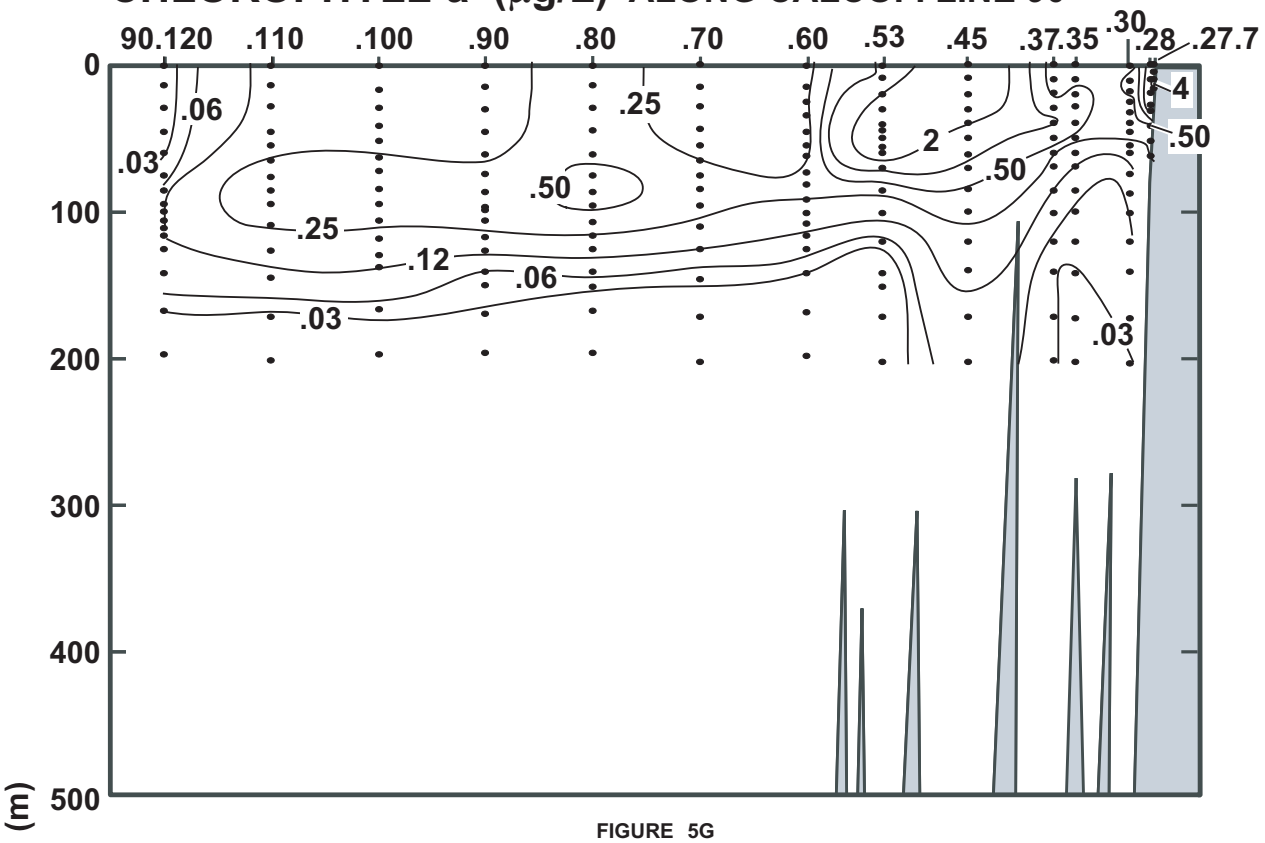


FIGURE 5G

OXYGEN SATURATION (%) ALONG CALCOFI LINE 90

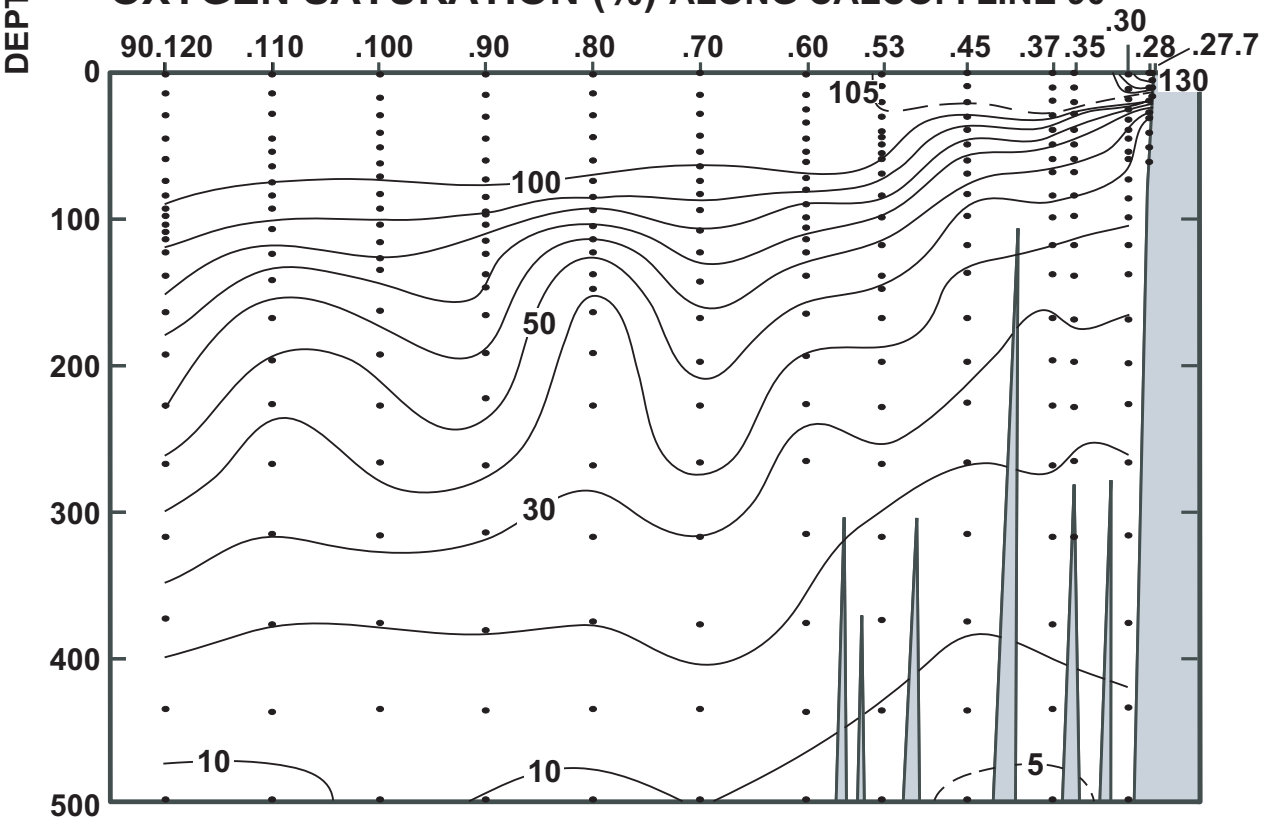


FIGURE 5H

CALCOFI CRUISE 0504NH

19 - 22 April 2005

OXYGEN (mL/L) ALONG CALCOFI LINE 90

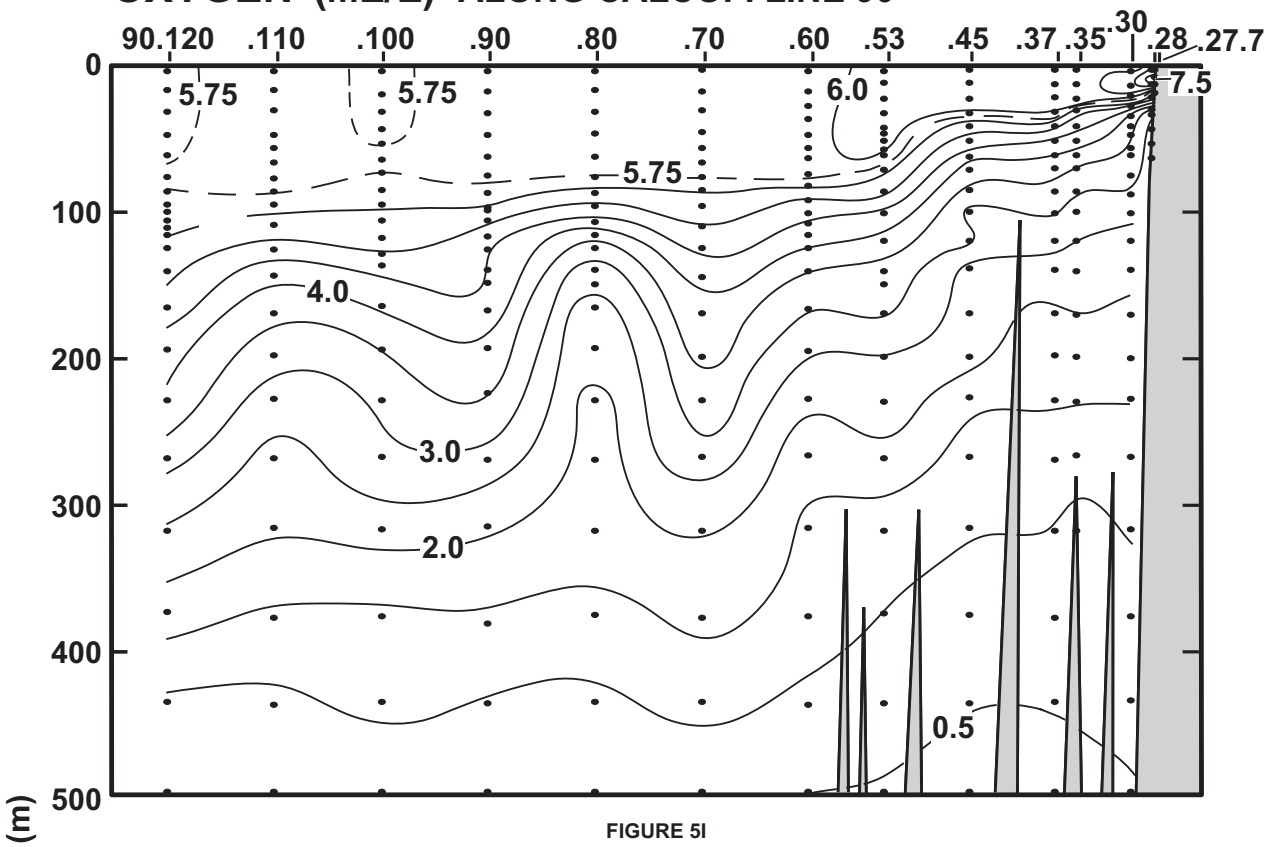


FIGURE 5I

NITRITE (μM/L) ALONG CALCOFI LINE 90

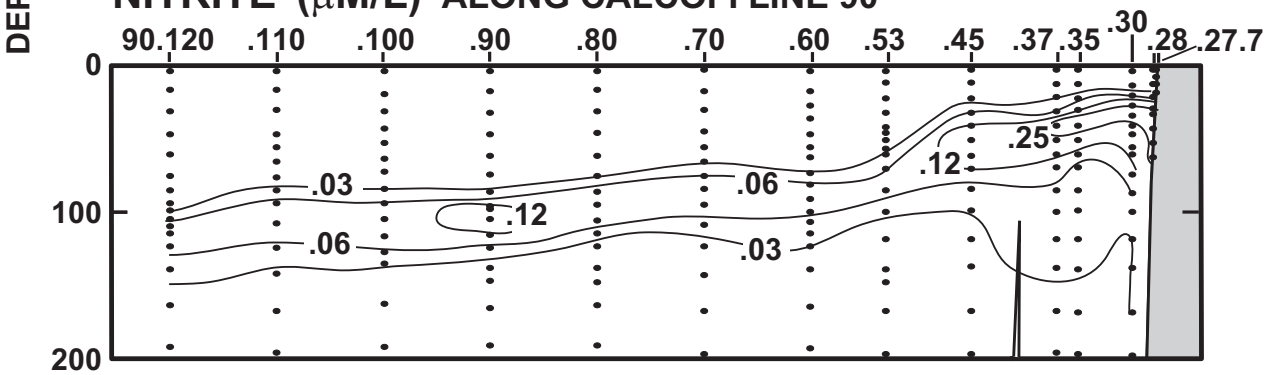


FIGURE 5J

PHAEOPIGMENTS (μg/L) ALONG CALCOFI LINE 90

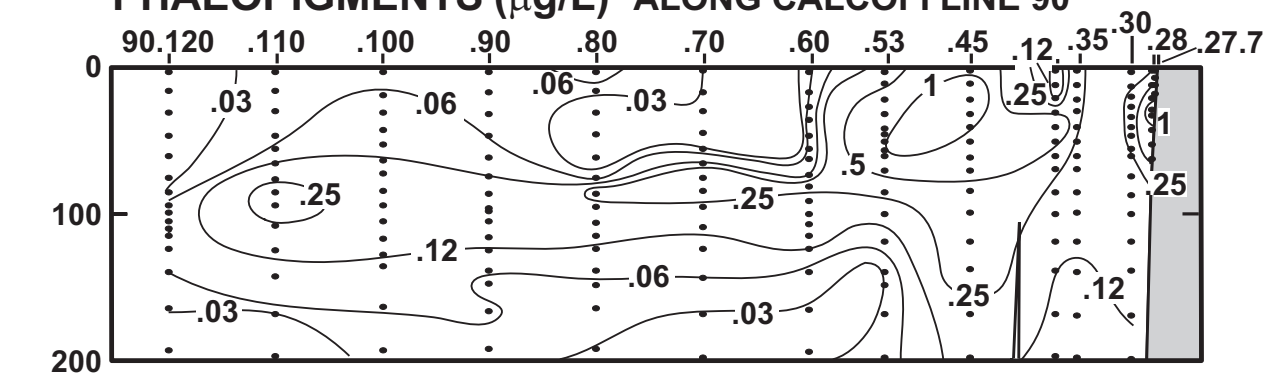


FIGURE 5K

PERSONNEL

CalCOFI Cruise 0504

SHIP'S CAPTAIN

Murray A. Stein, RV *New Horizon*

PERSONNEL PARTICIPATING IN THE COLLECTION OF DATA

		Participating (Legs)
Wolgast, David M. (Chief Scientist)	Staff Research Associate, SIO	1,2,3
Becker, Susan M.	Staff Research Associate, SIO	1,2,3
Bowlin, Noelle M.	Fishery Biologist, NMFS	1,2,3
Camacho, Dominique	Marine Mammal Observer, Cascadia Research	1,2,3
Claussen, Stephen	Marine Mammal Observer, Cascadia Research	1,2,3
Clermont, Jason	Staff Research Associate, SIO	1,2,3
Dovel, Shonna	Staff Research Associate, SIO	1,2,3
Hays, Amy E.	Fishery Biologist, NMFS	1,2,3
Henderson, E. Elizabeth	Staff Research Associate, SIO	1,2,3
Holte, James	Graduate Student, SIO	1,2,3
Lieberman, Bruce	Writer, Union Tribune	2
Manion, Susan M.	Fishery Biologist, NMFS	1
Morales, Kimberly	Volunteer	1,2,3
Murdoch, Craig	Volunteer	1,2,3
Pascual, Chrissy	Photographer, Union Tribune	2
Ramirez, Fernando	Staff Research Associate, SIO	1,2,3
Sheldon, Jennifer L.	Staff Research Associate, SIO	1,2,3
Thombley, Robert	Staff Research Associate, SIO	1,2,3
Wilkinson, James R.	Programmer Analyst, SIO	1,2,3
Yakich, Jason	Seabird Biologist, Pt. Reyes Bird Observatory	1,2,3

Leg 1: San Diego to Dana Point, California, 15-21 April, 2005
Leg 2: Dana Point to Ventura, California, 21-26 April, 2005
Leg 3: Ventura to San Diego, California, 26 April-1 May, 2005

RV NEW HORIZON CALCOFI CRUISE 0504 STATION 77 49

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
35 5.1 N	120 46.6 W	30/04/05	1458 UTC	66 m	050 02 kn	250 03 06	1	1019.1 mb	12.6 C	11.4 C	06m	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	12.64	12.64	33.542	25.335	262.9	0.000	6.90	114.5	2.1	0.53	2.5	0.11	5.99	1.41	0	
2	12.64	12.64	33.542	25.335	263.0	0.005	6.90	114.5	2.1	0.53	2.5	0.11	5.99	1.41	2	207
10	12.12	12.12	33.584	25.468	250.5	0.026	6.47	106.2	4.5	0.76	5.0	0.14	5.77	1.86	10	206
20	11.51	11.51	33.604	25.597	238.5	0.050	5.76	93.4	8.2	1.07	8.8	0.15	3.62	1.96	20	205
30	11.35	11.35	33.656	25.667	232.1	0.074	5.59	90.3	9.4	1.21	9.6	0.17	3.31	1.98	30	204
40	11.41	11.41	33.698	25.689	230.2	0.097	5.69	92.1	9.1	1.22	9.1	0.18	3.17	2.05	40	203
49	11.32	11.31	33.714	25.718	227.7	0.117	5.51	89.0	10.3	1.34	9.8	0.19	2.71	2.35	49	202
50 ISL	11.27	11.26	33.720	25.732	226.4	0.120	5.44	87.8	10.8	1.38	10.1	0.19	2.66	2.48	50	
59	10.84	10.83	33.776	25.853	215.1	0.140	4.78	76.4	15.3	1.71	13.2	0.21	2.25	3.64	59	201

RV NEW HORIZON CALCOFI CRUISE 0504 STATION 77 51

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
35 1.5 N	120 55.0 W	30/04/05	1154 UTC	234 m	310 10 kn			1018.6 mb	14.0 C	12.9 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	13.35	13.35	33.238	24.959	298.7	0.000	6.50	109.3	0.0	0.38	1.5	0.05	3.08	0.93	0	
1	13.35	13.35	33.238	24.959	298.7	0.003	6.50	109.3	0.0	0.38	1.5	0.05	3.08	0.93	1	215
10	13.34	13.34	33.237	24.961	298.8	0.030	6.50	109.3	0.0	0.37	1.5	0.05	2.51	0.73	10	214
20	12.60	12.60	33.255	25.121	283.8	0.059	6.13	101.5	1.9	0.62	3.5	0.07	3.48	0.41	20	213
30	11.20	11.20	33.425	25.514	246.5	0.086	4.95	79.6	10.5	1.25	11.5	0.16	0.41	0.57	30	212
40	11.00	11.00	33.449	25.569	241.6	0.110	4.76	76.2	12.0	1.34	13.0	0.16	0.34	0.66	40	211
50	10.97	10.96	33.476	25.596	239.3	0.134	4.72	75.6	12.1	1.36	13.1	0.16	0.36	0.53	50	210
60	10.87	10.86	33.520	25.648	234.5	0.158	4.59	73.3	12.8	1.42	13.9	0.16	0.42	0.54	60	209
70	10.74	10.73	33.572	25.712	228.7	0.181	4.49	71.6	13.2	1.47	14.3	0.15	0.44	0.84	70	208
75 ISL	10.57	10.56	33.608	25.769	223.3	0.192	4.33	68.8	14.4	1.54	15.2	0.15	0.64	0.78	75	
85	10.20	10.19	33.698	25.904	210.7	0.214	3.83	60.4	18.1	1.73	17.9	0.16	0.94	0.60	85	207
100	9.85	9.84	33.864	26.092	193.1	0.244	2.72	42.6	25.8	2.02	23.6	0.18	0.27	0.79	101	206
119	9.48	9.47	34.029	26.283	175.4	0.279	2.07	32.2	31.5	2.22	26.9	0.07	0.20	0.67	120	205
125 ISL	9.34	9.33	34.051	26.323	171.6	0.290	1.98	30.7	32.9	2.26	27.5	0.05	0.18	0.60	126	
138	9.08	9.07	34.076	26.385	166.0	0.311	1.87	28.8	35.4	2.31	28.4	0.04	0.15	0.46	139	204
150 ISL	8.98	8.96	34.090	26.412	163.6	0.331	1.86	28.6	36.4	2.32	28.6	0.04	0.13	0.44	151	
169	8.89	8.87	34.100	26.434	161.9	0.362	1.84	28.2	37.4	2.34	28.9	0.04	0.11	0.41	170	203
199	8.51	8.49	34.108	26.500	156.1	0.410	1.88	28.6	40.2	2.37	29.5	0.05	0.09	0.37	200	202
200 ISL	8.51	8.49	34.108	26.500	156.1	0.411	1.88	28.6	40.2	2.37	29.5	0.05			201	
225	8.42	8.40	34.112	26.517	154.9	0.450	1.85	28.1	41.2	2.38	29.8	0.05			226	201

RV NEW HORIZON CALCOFI CRUISE 0504 STATION 77 55

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
34 53.6 N	121 11.7 W	30/04/05	0821 UTC	570 m	340 10 kn			1019.7 mb	14.1 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	13.76	13.76	33.145	24.804	313.4	0.000	6.51	110.3	0.0	0.29	0.4	0.02	1.47	0.47	0	
1	13.76	13.76	33.145	24.804	313.5	0.003	6.51	110.3	0.0	0.29	0.4	0.02	1.47	0.47	1	220
10	13.74	13.74	33.148	24.811	313.1	0.031	6.51	110.3	0.0	0.30	0.4	0.02	1.50	0.43	10	219
20	12.15	12.15	33.209	25.171	279.0	0.061	5.86	96.1	3.3	0.77	5.2	0.12	1.33	0.80	20	218
30	11.47	11.47	33.310	25.376	259.7	0.088	5.26	85.0	8.6	1.09	9.7	0.17	0.59	0.66	30	217
40	11.30	11.30	33.343 D	25.433	254.5	0.114									40	216
50	10.93	10.92	33.401	25.544	244.1	0.139	4.85	77.5	12.4	1.30	13.0	0.18	0.30	0.50	50	215
60	10.82	10.81	33.431	25.587	240.3	0.163	4.82	76.9	13.4	1.34	13.6	0.19	0.26	0.58	60	214
70	10.53	10.52	33.584	25.758	224.3	0.186	4.79	76.0	16.7	1.50	15.6	0.18	0.20	0.46	70	213
75 ISL	10.38	10.37	33.605	25.800	220.4	0.197	4.58	72.4	17.7	1.56	16.7	0.17	0.21	0.46	75	
85	10.08	10.07	33.604	25.850	215.8	0.219	4.03	63.3	19.3	1.67	19.1	0.15	0.24	0.46	85	212
98	9.65	9.64	33.623	25.937	207.7	0.246	3.48	54.2	21.6	1.80	22.0	0.09	0.17	0.34	99	211
100 ISL	9.59	9.58	33.632	25.954	206.1	0.251	3.42	53.2	22.0	1.82	22.4	0.08	0.15	0.32	101	
117	9.24	9.23	33.739	26.095	193.1	0.284	3.02	46.6	25.3	1.93	24.7	0.05	0.06	0.26	118	210
125 ISL	9.24	9.23	33.814	26.154	187.7	0.300	2.81	43.4	27.0	1.99	25.3	0.07	0.12	0.31	126	
138	9.27	9.25	33.923	26.234	180.3	0.324	2.57	39.7	29.4	2.07	25.8	0.10	0.22	0.39	139	209
150 ISL	9.04	9.02	33.964	26.303	173.9	0.345	2.66	40.9	30.7	2.05	26.1	0.08	0.19	0.33	151	
169	8.60	8.58	33.990	26.393	165.7	0.377	2.89	44.0	32.3	2.00	26.6	0.04	0.08	0.19	170	208
198	8.28	8.26	34.032	26.475	158.3	0.424	2.57	38.9	36.3	2.13	28.3	0.03	0.04	0.13	199	207
200 ISL	8.25	8.23	34.034	26.481	157.7	0.427	2.54	38.4	36.7	2.14	28.5	0.03			201	
228	7.83	7.81	34.064	26.567	149.9	0.470	2.17	32.5	42.4	2.30	30.7	0.02			229	206
250 ISL	7.68	7.66	34.098	26.616	145.6	0.503	1.86	27.8	46.0	2.43	32.0	0.02			252	
269	7.57	7.54	34.125	26.653	142.3	0.530	1.61	24.0	48.9	2.54	32.9	0.02			271	205
300 ISL	7.23	7.20	34.149	26.721	136.3	0.573	1.30	19.2	54.2	2.68	34.5	0.02			302	
317	7.05	7.02	34.160	26.755	133.2	0.596	1.17	17.2	57.0	2.74	35.3	0.02			319	204
377	6.71	6.68	34.208	26.839	125.9	0.674	0.83	12.1	64.3	2.90	36.9	0.02			380	203
400 ISL	6.58	6.54	34.220	26.866	123.6	0.703	0.72	10.5	66.9	2.95	37.5	0.02			403	
437	6.38	6.34	34.239	26.908	120.0	0.748	0.57	8.3	70.7	3.02	38.4	0.02			440	202
500 ISL	6.18	6.14	34.280	26.967	115.2	0.822	0.43	6.2	76.1	3.11	39.0	0.02			504	
514	6.14	6.09	34.289	26.979	114.2	0.838	0.40	5.8	77.3	3.13	39.1	0.02			518	201

RV NEW HORIZON CALCOFI CRUISE 0504 STATION 77 60

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
34 43.2 N	121 33.2 W	30/04/05	0420 UTC	958 m	330 15 kn			1020.5 mb	14.6 C	13.2 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	13.27	13.27	33.260	24.992	295.5	0.000	7.18	120.5	0.1	0.31	0.5	0.04	3.10	1.98	0	
2	13.27	13.27	33.260	24.992	295.6	0.006	7.18	120.5	0.1	0.31	0.5	0.04	3.10	1.98	2	221
10	12.58	12.58	33.312	25.168	279.0	0.029	7.26	120.2	0.1	0.37	1.0	0.05	5.33	2.01	10	220
20	11.88	11.88	33.381	25.355	261.5	0.056	6.66	108.7	1.2	0.66	4.3	0.09	8.03	1.51	20	219
30	11.14	11.14	33.491	25.577	240.6	0.081	5.76	92.6	7.2	1.11	9.4	0.13	1.38	1.25	30	217
40	10.78	10.78	33.562	25.696	229.5	0.105	5.29	84.4	10.7	1.29	12.3	0.13	2.60	1.29	40	216
50 ISL	10.25	10.24	33.670	25.872	212.9	0.127	4.59	72.4	16.6	1.56	16.3	0.14	3.82	2.02	50	
51	10.20	10.19	33.681	25.890	211.3	0.129	4.52	71.2	17.2	1.59	16.7	0.14	3.88	2.06	51	215
60	9.91	9.90	33.757	25.998	201.2	0.147	3.94	61.7	21.6	1.79	20.1	0.14	2.97	1.14	60	214
71	9.64	9.63	33.793	26.071	194.4	0.169	3.42	53.3	24.5	1.92	22.5	0.13	2.03	1.28	71	213
75 ISL	9.56	9.55	33.804	26.093	192.4	0.177	3.26	50.7	25.3	1.96	23.2	0.13	1.89	1.08	75	
84	9.39	9.38	33.842	26.151	187.1	0.194	2.91	45.1	27.2	2.03	24.8	0.13	1.59	0.56	84	212
100	9.18	9.17	34.000	26.308	172.5	0.223	2.19	33.8	32.2	2.19	27.4	0.05	0.22	0.55	101	211
119	8.97	8.96	34.045	26.377	166.2	0.255	2.07	31.8	34.5	2.24	28.3	0.04	0.25	0.42	120	210
125 ISL	8.91	8.90	34.052	26.392	164.9	0.265	2.09	32.1	34.9	2.25	28.5	0.03	0.22	0.37	126	
139	8.78	8.77	34.064	26.422	162.3	0.288	2.14	32.8	35.8	2.27	28.9	0.02	0.12	0.28	140	209
150 ISL	8.66	8.64	34.072	26.448	160.1	0.305	2.08	31.8	36.8	2.29	29.3	0.02	0.11	0.28	151	
169	8.45	8.43	34.085	26.490	156.4	0.335	1.93	29.3	38.6	2.33	30.1	0.02	0.09	0.27	170	208
199	8.19	8.17	34.105	26.546	151.6	0.382	1.77	26.7	41.7	2.41	31.2	0.02	0.07	0.20	200	207
200 ISL	8.18	8.16	34.105	26.547	151.5	0.383	1.77	26.7	41.8	2.41	31.2	0.02			201	
230	7.88	7.86	34.111	26.597	147.2	0.428	1.63	24.4	45.1	2.48	32.5	0.02			231	206
250 ISL	7.68	7.66	34.136	26.646	142.8	0.457	1.44	21.5	48.5	2.58	33.3	0.02			252	
268	7.48	7.45	34.158	26.692	138.6	0.482	1.26	18.7	51.9	2.67	34.1	0.02			270	205
300 ISL	7.07	7.04	34.157	26.749	133.5	0.526	1.10	16.2	56.9	2.77	35.5	0.02			302	
320	6.82	6.79	34.153	26.780	130.7	0.552	1.02	14.9	59.9	2.82	36.4	0.02			322	204
379	6.28	6.25	34.198	26.888	121.0	0.627	0.66	9.5	69.9	3.00	38.5	0.01			382	203
400 ISL	6.20	6.16	34.213	26.910	119.1	0.652	0.58	8.4	71.8	3.03	38.9	0.01			403	
437	6.09	6.05	34.236	26.943	116.5	0.695	0.48	6.9	74.8	3.08	39.4	0.01			440	202
500 ISL	5.64	5.60	34.266	27.023	109.3	0.766	0.34	4.8	83.7	3.18	40.9	0.01			504	
511	5.56	5.52	34.271	27.036	108.0	0.778	0.32	4.5	85.2	3.20	41.2	0.01			515	201

RV NEW HORIZON CALCOFI CRUISE 0504 STATION 77 70

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
34 23.5 N	122 14.5 W	29/04/05	2223 UTC	4015 m	350 07 kn	310 03 04	1	1021.7 mb	16.5 C	13.8 C	24m	3/8	AC

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	15.54	15.54	32.993	24.308	360.7	0.000	5.93	104.1	2.1	0.33	0.0	0.00	0.20	0.04	0	
2	15.54	15.54	32.993	24.308	360.8	0.007	5.93	104.1	2.1	0.33	0.0	0.00	0.20	0.04	2	221
10	15.02	15.02	33.004	24.430	349.3	0.036	6.00	104.2	2.4	0.33	0.0	0.00	0.19	0.04	10	220
20	14.50	14.50	33.005	24.542	338.9	0.070	5.99	103.0	2.6	0.34	0.0	0.00	0.18	0.04	20	219
30 ISL	14.31	14.31	32.984	24.567	336.9	0.104	5.99	102.6	2.5	0.35	0.0	0.00	0.23	0.09	30	
31	14.30	14.30	32.982	24.567	336.9	0.107	5.99	102.5	2.5	0.35	0.0	0.00	0.24	0.09	31	218
40	14.16	14.15	32.996	24.608	333.3	0.137	5.94	101.4	2.7	0.36	0.1	0.01	0.53	0.28	40	217
50	13.86	13.85	33.041	24.705	324.3	0.170	5.88	99.8	2.6	0.41	0.6	0.05	0.90	0.49	50	215
55	13.65	13.64	33.079	24.777	317.5	0.186	5.93	100.2	2.0	0.41	0.5	0.03	0.81	0.45	55	216
60	13.56	13.55	33.087	24.802	315.3	0.202	5.94	100.2	2.7	0.46	0.8	0.05	0.64	0.43	60	214
70	12.59	12.58	33.118	25.018	294.9	0.233	5.92	97.9	3.7	0.64	3.1	0.07	0.54	0.63	70	213
75 ISL	12.08	12.07	33.162	25.149	282.5	0.247	5.41	88.5	6.2	0.84	6.7	0.07	0.42	0.55	75	
85	11.09	11.08	33.270	25.415	257.3	0.274	4.29	68.8	12.1	1.27	14.3	0.07	0.19	0.29	85	212
100	9.83	9.82	33.397	25.731	227.4	0.310	3.89	60.7	17.4	1.57	19.4	0.05	0.06	0.11	100	211
120	9.32	9.31	33.568	25.948	207.0	0.354	3.40	52.5	22.2	1.81	23.1	0.05	0.05	0.13	121	210
125 ISL	9.24	9.23	33.615	25.998	202.4	0.364	3.26	50.3	23.4	1.86	23.9	0.05	0.04	0.12	126	
140	9.07	9.05	33.750	26.131	190.1	0.393	2.88	44.3	26.7	1.99	25.9	0.04	0.03	0.10	141	209
150 ISL	9.00	8.98	33.823	26.199	183.7	0.412	2.72	41.8	28.4	2.04	26.6	0.04	0.02	0.10	151	
169	8.89	8.87	33.933	26.303	174.3	0.446	2.51	38.5	31.1	2.10	27.4	0.03	0.02	0.10	170	208
199	8.64	8.62	34.032	26.420	163.7	0.497	2.24	34.2	35.0	2.20	28.8	0.02	0.02	0.08	200	207
200 ISL	8.63	8.61	34.033	26.422	163.5	0.499	2.23	34.0	35.1	2.20	28.9	0.02			201	
230	8.26	8.24	34.059	26.500	156.6	0.547	2.06	31.2	38.9	2.29	30.5	0.02			231	206
250 ISL	8.07	8.04	34.075	26.541	152.9	0.577	1.93	29.1	41.1	2.36	31.3	0.02			251	
270	7.91	7.88	34.090	26.577	149.8	0.608	1.79	26.9	43.3	2.43	32.0	0.02			272	205
300 ISL	7.71	7.68	34.118	26.628	145.3	0.652	1.57	23.5	46.8	2.52	32.9	0.02			302	
317	7.59	7.56	34.131	26.656	142.9	0.677	1.44	21.5	49.1	2.58	33.5	0.02			319	204
376	6.83	6.80	34.146	26.774	132.1	0.758	1.04	15.2	59.6	2.81	36.5	0.02			378	203
400 ISL	6.59	6.55	34.153	26.812	128.7	0.789	0.91	13.2	63.4	2.88	37.4	0.02			403	
437	6.26	6.22	34.167	26.866	123.8	0.836	0.75	10.8	68.8	2.97	38.5	0.02			440	202
500 ISL	5.83	5.79	34.205	26.951	116.2	0.911	0.53	7.6	77.6	3.09	40.1	0.02			503	
520	5.69	5.65	34.217	26.978	113.8	0.934	0.46	6.6	80.4	3.13	40.6	0.02			524	201

RV NEW HORIZON CALCOFI CRUISE 0504 STATION 77 80

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
34 3.4 N	122 56.8 W	29/04/05	1734 UTC	4233 m	010 08 kn	310 06 11	1	1022.3 mb	15.1 C	14.0 C	20m	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	15.24	15.24	33.012	24.388	353.0	0.000	5.93	103.5					0.19	0.04	0	
1 A	15.24	15.24	33.012	24.388	353.0	0.004	5.93	103.5					0.19	0.04	1	224
10 ISL	15.10	15.10	33.005	24.414	350.9	0.035	5.94	103.4					0.20	0.03	10	
12 A	15.05	15.05	33.003	24.423	350.1	0.042	5.94	103.3	2.5	0.33	0.0	0.00	0.20	0.03	12	222
20 ISL	14.99	14.99	33.015	24.446	348.2	0.070	5.96	103.5	2.2	0.33	0.0	0.00	0.21	0.04	20	
27 A	14.87	14.87	33.007	24.465	346.5	0.094	6.00	103.9	1.9	0.33	0.0	0.00	0.21	0.04	27	221
30 ISL	14.70	14.70	33.017	24.510	342.3	0.105	6.04	104.3	1.7	0.33	0.0	0.00	0.22	0.04	30	
42 A	14.05	14.04	33.068	24.686	325.9	0.145	6.13	104.4	1.2	0.33	0.0	0.00	0.28	0.10	42	220
48 A	13.94	13.93	33.086	24.723	322.5	0.164	6.04	102.7	1.5	0.34	0.0	0.00	0.41	0.17	48	218
50 ISL	13.86	13.85	33.083	24.737	321.2	0.171	6.06	102.9	1.5	0.35	0.1	0.00	0.57	0.22	50	
52	13.78	13.77	33.081	24.752	319.8	0.177	6.09	103.2	1.4	0.37	0.2	0.01	0.74	0.27	52	217
58	13.65	13.64	33.103	24.796	315.8	0.196	6.06	102.4	1.1	0.40	0.3	0.02	0.96	0.37	58	216
68	13.40	13.39	33.116	24.856	310.3	0.228	5.88	98.9	2.6	0.49	1.1	0.05	0.43	0.40	68	215
75 ISL	13.31	13.30	33.115	24.874	308.8	0.249	5.83	97.8	3.2	0.53	1.4	0.05	0.30	0.47	75	
78 A	13.23	13.22	33.116	24.891	307.3	0.258	5.81	97.3	3.5	0.55	1.7	0.06	0.28	0.49	78	214
86	12.69	12.68	33.143	25.018	295.3	0.283	5.66	93.8	5.1	0.68	3.9	0.11	0.28	0.43	86	213
96	12.53	12.52	33.167	25.068	290.8	0.312	5.65	93.3	5.8	0.73	4.7	0.12	0.21	0.43	96	212
100 ISL	12.15	12.14	33.143	25.122	285.7	0.323	5.48	89.8	6.4	0.81	6.2	0.14	0.20	0.43	100	
109	11.09	11.08	33.120	25.299	268.9	0.348	4.96	79.4	8.8	1.04	10.6	0.17	0.17	0.43	109	211
124	9.77	9.76	33.350	25.705	230.3	0.386	4.21	65.6	15.9	1.47	17.9	0.04	0.06	0.11	125	210
125 ISL	9.73	9.72	33.363	25.721	228.8	0.388	4.17	64.9	16.2	1.49	18.2	0.04	0.06	0.11	126	
144	9.25	9.23	33.579	25.969	205.6	0.429	3.68	56.7	21.4	1.71	21.9	0.02	0.03	0.04	145	209
150 ISL	9.10	9.08	33.634	26.036	199.3	0.442	3.60	55.3	22.8	1.75	22.7	0.02	0.02	0.04	151	
170	8.70	8.68	33.795	26.225	181.6	0.480	3.34	50.9	27.3	1.85	24.7	0.02	0.00	0.03	171	208
200	8.65	8.63	34.022	26.411	164.6	0.532	2.39	36.5	33.9	2.14	28.2	0.02	0.00	0.02	201	207
229	8.39	8.37	34.090	26.504	156.2	0.578	1.95	29.6	38.9	2.31	30.3	0.02			230	206
250 ISL	8.22	8.19	34.115	26.550	152.2	0.610	1.78	26.9	41.6	2.40	31.2	0.02			251	
269	8.06	8.03	34.128	26.584	149.2	0.639	1.66	25.0	43.8	2.46	31.9	0.02			271	205
300 ISL	7.79	7.76	34.148	26.640	144.3	0.685	1.42	21.3	47.7	2.56	33.1	0.01			302	
318	7.63	7.60	34.157	26.671	141.6	0.710	1.29	19.2	50.0	2.62	33.7	0.01			320	204
378	7.07	7.03	34.187	26.774	132.4	0.792	0.94	13.8	58.1	2.80	35.8	0.02			380	203
400 ISL	6.83	6.79	34.183	26.804	129.8	0.821	0.87	12.7	61.2	2.85	36.6	0.02			403	
437	6.41	6.37	34.173	26.852	125.3	0.868	0.79	11.5	66.6	2.92	37.8	0.02			440	202
500 ISL	5.76	5.72	34.174	26.935	117.6	0.945	0.61	8.7	76.9	3.04	39.9	0.01			503	
518	5.58	5.54	34.175	26.958	115.5	0.966	0.56	8.0	79.9	3.07	40.5	0.01			522	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV NEW HORIZON CALCOFI CRUISE 0504 STATION 77 90

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
33 43.3 N	123 38.0 W	29/04/05	1050 UTC	4314 m	320 08 kn			1020.0 mb	14.9 C	12.3 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	15.18	15.18	33.122	24.486	343.7	0.000	5.90	102.9	3.0	0.32	0.0	0.01	0.29	0.00	0	
1	15.18	15.18	33.122	24.486	343.7	0.003	5.90	102.9	3.0	0.32	0.0	0.01	0.29	0.00	1	220
10	15.18	15.18	33.125	24.489	343.8	0.034	5.93	103.4	3.0	0.31	0.0	0.00	0.25	0.08	10	219
20	14.78	14.78	33.127	24.577	335.6	0.068	5.99	103.6	2.8	0.31	0.0	0.00	0.22	0.07	20	218
30 ISL	14.51	14.51	33.129	24.636	330.3	0.102	5.99	103.1	2.9	0.30	0.0	0.00	0.28	0.11	30	
31	14.49	14.49	33.129	24.641	329.9	0.105	5.99	103.0	2.9	0.30	0.0	0.00	0.29	0.12	31	217
41	14.43	14.42	33.128	24.653	329.0	0.138	5.93	101.9	3.0	0.31	0.1	0.01	0.44	0.17	41	216
50 ISL	14.39	14.38	33.129	24.662	328.4	0.167	5.89	101.1	3.0	0.34	0.3	0.02	0.52	0.28	50	
51	14.39	14.38	33.129	24.662	328.4	0.171	5.88	100.9	3.0	0.34	0.3	0.02	0.53	0.29	51	215
60	14.32	14.31	33.129	24.677	327.2	0.200	5.82	99.7	3.2	0.36	0.5	0.03	0.73	0.34	60	214
70	12.12	12.11	33.219	25.186	278.9	0.231	4.88	79.9	9.3	0.97	9.5	0.21	0.76	0.35	70	213
75 ISL	11.31	11.30	33.281	25.384	260.1	0.244	4.46	71.8	12.2	1.22	13.5	0.18	0.64	0.31	75	
85	10.18	10.17	33.405	25.678	232.1	0.269	3.80	59.8	17.1	1.60	19.6	0.11	0.35	0.20	85	212
99	9.53	9.52	33.527	25.882	212.9	0.300	3.38	52.4	21.0	1.80	22.9	0.02	0.23	0.13	99	211
100 ISL	9.50	9.49	33.537	25.895	211.8	0.302	3.35	51.9	21.3	1.81	23.1	0.02	0.22	0.12	100	
119	9.11	9.10	33.724	26.104	192.2	0.340	2.91	44.8	26.2	1.99	25.8	0.02	0.02	0.03	120	210
125 ISL	9.03	9.02	33.783	26.163	186.7	0.352	2.78	42.7	27.6	2.03	26.4	0.02	0.02	0.03	126	
140	8.87	8.86	33.908	26.286	175.3	0.379	2.49	38.2	30.5	2.10	27.7	0.02	0.01	0.02	141	209
150 ISL	8.79	8.77	33.957	26.337	170.6	0.396	2.39	36.6	32.0	2.13	28.2	0.02	0.01	0.02	151	
168	8.65	8.63	34.010	26.401	164.9	0.426	2.26	34.5	34.3	2.19	29.0	0.02	0.01	0.01	169	208
199	8.35	8.33	34.066	26.491	156.8	0.476	1.97	29.9	38.7	2.31	30.7	0.02	0.00	0.02	200	207
200 ISL	8.34	8.32	34.067	26.494	156.6	0.478	1.96	29.7	38.8	2.31	30.7	0.02			201	
229	8.09	8.07	34.094	26.553	151.4	0.522	1.72	25.9	42.5	2.42	31.9	0.02			230	206
250 ISL	7.86	7.84	34.108	26.598	147.4	0.554	1.58	23.7	45.4	2.50	32.8	0.02			251	
269	7.64	7.61	34.117	26.637	143.9	0.581	1.47	21.9	48.1	2.56	33.6	0.02			271	205
300 ISL	7.32	7.29	34.124	26.688	139.4	0.625	1.32	19.5	52.2	2.64	34.7	0.02			302	
318	7.15	7.12	34.127	26.715	137.1	0.650	1.23	18.1	54.6	2.69	35.3	0.02			320	204
379	6.57	6.54	34.156	26.817	127.9	0.731	0.90	13.1	64.1	2.88	37.5	0.02			381	203
400 ISL	6.45	6.41	34.177	26.849	125.1	0.758	0.78	11.3	66.8	2.94	38.0	0.02			403	
437	6.25	6.21	34.212	26.903	120.4	0.803	0.60	8.7	71.6	3.02	38.7	0.02			440	202
500 ISL	5.67	5.63	34.226	26.987	112.6	0.876	0.44	6.3	81.5	3.13	40.7	0.02			503	
513	5.55	5.51	34.230	27.005	111.0	0.891	0.41	5.8	83.5	3.15	41.1	0.02			517	201

RV NEW HORIZON CALCOFI CRUISE 0504 STATION 77 100

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT TYPE
33 23.3 N	124 19.7 W	29/04/05	0448 UTC	4542 m	350 06 kn			1019.0 mb	14.9 C	12.7 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	15.13	15.13	32.956	24.369	354.9	0.000	5.87	102.2	1.8	0.34	0.0	0.00	0.16	0.13	0	
2	15.13	15.13	32.956	24.369	354.9	0.007	5.87	102.2	1.8	0.34	0.0	0.00	0.16	0.13	2	221
10 ISL	15.14	15.14	32.957	24.368	355.3	0.036	5.87	102.2	1.8	0.34	0.0	0.00	0.18	0.07	10	
14	15.14	15.14	32.958	24.369	355.3	0.050	5.87	102.2	1.8	0.34	0.0	0.00	0.19	0.03	14	220
20 ISL	15.06	15.06	32.968	24.394	353.1	0.071	5.88	102.2	1.8	0.34	0.0	0.00	0.22	0.03	20	
30	14.89	14.89	32.987	24.446	348.4	0.106	5.90	102.2	1.8	0.33	0.0	0.00	0.27	0.03	30	219
45	14.78	14.77	32.998	24.478	345.8	0.158	5.91	102.2	1.6	0.33	0.0	0.00	0.38	0.12	45	218
50 ISL	14.77	14.76	33.011	24.491	344.7	0.175	5.91	102.1	1.6	0.33	0.0	0.00	0.43	0.24	50	
55	14.76	14.75	33.027	24.505	343.5	0.193	5.91	102.1	1.6	0.33	0.0	0.00	0.49	0.36	55	217
64	14.88	14.87	33.107	24.542	340.3	0.223	5.89	102.1	1.6	0.31	0.0	0.00			64	216
75	13.50	13.49	32.922	24.687	326.7	0.260	6.02	101.3	2.1	0.38	0.1	0.01	0.78	0.40	75	215
85	12.84	12.83	33.002	24.880	308.5	0.292	5.78	96.0	2.9	0.49	1.6	0.08	0.68	0.35	85	213
95	12.27	12.26	33.092	25.059	291.5	0.322	5.53	90.8	4.0	0.64	4.3	0.10	0.50	0.31	95	212
100 ISL	11.92	11.91	33.098	25.130	284.9	0.336	5.43	88.5	4.7	0.72	5.6	0.08	0.39	0.30	100	
109	11.20	11.19	33.110	25.271	271.5	0.361	5.19	83.3	6.8	0.90	8.6	0.03	0.22	0.26	109	211
124	9.73	9.72	33.278	25.655	235.0	0.399	4.45	69.2	14.0	1.36	16.3	0.02	0.07	0.06	125	210
125 ISL	9.68	9.67	33.295	25.677	233.0	0.402	4.39	68.2	14.5	1.39	16.7	0.02	0.06	0.06	126	
145	9.16	9.14	33.629	26.022	200.5	0.445	3.40	52.3	23.2	1.81	23.4	0.01	0.01	0.01	146	209
150 ISL	9.09	9.07	33.687	26.079	195.2	0.455	3.25	50.0	24.6	1.87	24.2	0.01	0.01	0.01	151	
170	8.90	8.88	33.853	26.239	180.4	0.492	2.84	43.5	28.6	1.99	26.1	0.01	0.00	0.02	171	208
200	8.63	8.61	33.978	26.379	167.5	0.545	2.59	39.5	32.5	2.08	27.7	0.01	0.00	0.02	201	207
229	8.32	8.30	34.032	26.469	159.4	0.592	2.41	36.5	36.4	2.15	28.9	0.01			230	206
250 ISL	8.09	8.06	34.063	26.529	154.1	0.625	2.15	32.4	40.0	2.28	30.4	0.01			251	
268	7.90	7.87	34.084	26.573	150.1	0.652	1.90	28.5	43.2	2.40	31.7	0.01			270	205
300 ISL	7.60	7.57	34.111	26.639	144.3	0.699	1.57	23.4	48.0	2.55	33.3	0.01			302	
317	7.44	7.41	34.121	26.669	141.6	0.724	1.43	21.2	50.4	2.61	34.0	0.01			319	204
376	6.79	6.76	34.131	26.768	132.7	0.805	1.12	16.4	58.9	2.78	36.4	0.01			378	203
400 ISL	6.52	6.48	34.135	26.807	129.1	0.836	1.00	14.5	63.0	2.85	37.3	0.01			403	
438	6.13	6.09	34.149	26.869	123.5	0.884	0.80	11.5	69.6	2.95	38.7	0.02			441	202
500 ISL	5.78	5.74	34.213	26.964	115.0	0.958	0.49	7.0	78.7	3.11	40.3	0.01			503	
511	5.72	5.68	34.225	26.981	113.5	0.970	0.44	6.3	80.3	3.14	40.6	0.01			514	201

RV NEW HORIZON CALCOFI CRUISE 0504 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 27.5 N	120 29.6 W	27/04/05	1009 UTC	30 m	080 03 kn			1013.3 mb	12.3 C	11.0 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	11.97	11.97	33.603	25.510	246.2	0.000	5.02	82.2	10.9	1.26	10.7	0.16	2.57	0.89	0	
1	11.97	11.97	33.603	25.510	246.2	0.002	5.02	82.2	10.9	1.26	10.7	0.16	2.57	0.89	1	205
5	11.40	11.40	33.614	25.625	235.5	0.012	4.56	73.7	13.3	1.43	13.0	0.17	1.96	0.93	5	204
10	11.18	11.18	33.623	25.672	231.1	0.024	4.27	68.7	14.7	1.52	14.4	0.18	2.34	0.91	10	203
15	10.71	10.71	33.657	25.782	220.8	0.035	3.51	55.9	17.8	1.72	17.6	0.19	2.60	0.93	15	202
20 ISL	10.57	10.57	33.676	25.821	217.1	0.046	3.27	52.0	19.2	1.79	18.8	0.20	2.00	0.90	20	
22	10.51	10.51	33.683	25.837	215.7	0.050	3.18	50.5	19.7	1.82	19.3	0.20	1.76	0.89	22	201

RV NEW HORIZON CALCOFI CRUISE 0504 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 31.5 W	27/04/05	1057 UTC	72 m	170 04 kn			1013.7 mb	12.2 C	11.0 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	11.48	11.48	33.585	25.587	238.9	0.000	4.95	80.2	9.7	1.24	11.7	0.16	6.35	1.22	0	
1	11.48	11.48	33.585	25.587	238.9	0.002	4.95	80.2	9.7	1.24	11.7	0.16	6.35	1.22	1	208
6	11.47	11.47	33.586	25.590	238.8	0.014	4.93	79.8	9.7	1.26	11.8	0.16	6.46	1.25	6	207
10 ISL	11.38	11.38	33.589	25.609	237.1	0.024	4.73	76.5	10.9	1.33	12.6	0.17	5.37	1.19	10	
11	11.34	11.34	33.590	25.617	236.3	0.026	4.65	75.1	11.3	1.36	12.9	0.17	4.99	1.16	11	206
20 ISL	10.68	10.68	33.628	25.765	222.5	0.047	3.42	54.5	17.8	1.77	17.5	0.22	0.96	0.48	20	
21	10.61	10.61	33.634	25.782	220.9	0.049	3.29	52.3	18.5	1.81	18.0	0.22	0.58	0.41	21	205
30	10.42	10.42	33.703	25.869	212.8	0.069	3.03	48.0	21.1	1.87	20.4	0.20	0.54	0.49	30	204
39	10.07	10.07	33.830	26.028	197.9	0.087	2.67	42.0	25.2	2.01	22.9	0.17	0.43	0.58	39	203
49	9.96	9.95	33.869	26.077	193.5	0.107	2.54	39.9	26.8	2.06	23.5	0.16	0.40	0.77	49	202
50 ISL	9.94	9.93	33.876	26.086	192.6	0.109	2.52	39.5	27.1	2.07	23.6	0.16	0.41	0.82	50	
65	9.58	9.57	33.988	26.233	178.9	0.136	2.17	33.8	31.8	2.21	25.8	0.13	0.56	1.57	65	201

RV NEW HORIZON CALCOFI CRUISE 0504 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 47.8 W	27/04/05	1402 UTC	741 m	120 09 kn	290 01 06	1	1014.1 mb	13.1 C	12.7 C	08m	5/8	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	13.13	13.13	33.318	25.065	288.6	0.000	6.47	108.3	1.5	0.49	3.6	0.11	1.71	0.28	0	
1	13.13	13.13	33.318	25.065	288.6	0.003	6.47	108.3	1.5	0.49	3.6	0.11	1.71	0.28	1	223
5	13.06	13.06	33.318	25.079	287.4	0.014	6.45	107.8	1.5	0.49	3.6	0.11	3.11	0.79	5	222
10	12.52	12.52	33.307	25.176	278.3	0.029	6.24	103.2	2.5	0.58	4.5	0.12	2.97	0.88	10	221
15	12.07	12.07	33.275	25.237	272.6	0.042	5.57	91.2	5.6	0.82	7.2	0.14	2.11	1.01	15	220
20	11.23	11.23	33.317	25.425	254.8	0.056	4.79	77.0	10.9	1.18	12.0	0.17	0.65	0.46	20	219
26	11.14	11.14	33.410	25.513	246.5	0.071	5.02	80.6	10.3	1.20	11.8	0.15	1.19	0.81	26	218
30	11.19	11.19	33.506	25.579	240.4	0.080	5.34	85.9	9.2	1.17	10.4	0.14	2.74	2.04	30	217
39	10.98	10.98	33.540	25.644	234.5	0.102	5.16	82.7	11.3	1.28	11.9	0.14	1.93	1.55	39	216
49	10.50	10.49	33.564	25.747	224.9	0.125	4.70	74.5	15.0	1.46	15.1	0.13	1.57	1.55	49	215
50 ISL	10.42	10.41	33.558	25.756	224.0	0.127	4.60	72.8	15.5	1.49	15.7	0.13	1.50	1.50	50	
60	9.67	9.66	33.514	25.848	215.4	0.149	3.72	57.9	19.9	1.71	20.8	0.12	0.77	0.93	60	214
70	9.40	9.39	33.592	25.953	205.6	0.170	3.54	54.8	22.2	1.77	22.3	0.09	0.38	0.73	70	213
75 ISL	9.31	9.30	33.643	26.008	200.5	0.180	3.47	53.6	23.1	1.79	22.7	0.08	0.28	0.62	75	
84	9.19	9.18	33.729	26.094	192.4	0.198	3.34	51.5	24.6	1.82	23.4	0.07	0.19	0.48	84	212
100	9.00	8.99	33.802	26.182	184.4	0.228	3.11	47.8	27.0	1.91	24.9	0.04	0.22	0.62	101	211
121	8.89	8.88	33.991	26.348	169.1	0.265	2.73	41.9	31.5	2.03	26.1	0.04	0.06	0.16	122	210
125 ISL	8.91	8.90	34.007	26.357	168.3	0.272	2.62	40.2	32.2	2.07	26.4	0.05	0.06	0.18	126	
141	8.99	8.97	34.050	26.379	166.6	0.299	2.17	33.4	34.9	2.23	27.8	0.07	0.08	0.32	142	209
150 ISL	8.96	8.94	34.093	26.417	163.1	0.313	1.89	29.1	37.3	2.33	28.7	0.06	0.08	0.30	151	
170	8.75	8.73	34.171	26.512	154.5	0.345	1.42	21.7	42.3	2.49	30.3	0.02	0.09	0.27	171	208
199	8.15	8.13	34.156	26.592	147.2	0.389	1.54	23.2	45.5	2.51	31.3	0.02	0.09	0.26	200	207
200 ISL	8.14	8.12	34.156	26.593	147.1	0.390	1.54	23.2	45.6	2.51	31.3	0.02			201	
228	7.88	7.86	34.168	26.642	142.9	0.431	1.38	20.7	49.2	2.60	32.5	0.02			229	206
250 ISL	7.78	7.76	34.185	26.670	140.6	0.462	1.26	18.9	51.0	2.65	33.1	0.01			252	
268	7.72	7.69	34.198	26.689	139.0	0.487	1.17	17.5	52.2	2.68	33.4	0.01			270	205
300 ISL	7.56	7.53	34.203	26.717	136.9	0.531	1.07	15.9	54.6	2.73	34.0	0.01			302	
317	7.47	7.44	34.205	26.731	135.7	0.555	1.03	15.3	55.9	2.76	34.3	0.01			319	204
376	7.20	7.16	34.236	26.794	130.6	0.633	0.84	12.4	60.6	2.85	35.4	0.01			379	203
400 ISL	7.04	7.00	34.239	26.819	128.5	0.664	0.78	11.5	62.8	2.89	35.9	0.01			403	
436	6.77	6.73	34.241	26.858	125.2	0.710	0.70	10.2	66.4	2.94	36.8	0.01			439	202
500 ISL	6.34	6.29	34.266	26.935	118.4	0.788	0.50	7.2	73.2	3.05	38.5	0.01			504	
517	6.23	6.18	34.273	26.955	116.6	0.808	0.45	6.5	75.0	3.08	39.0	0.01			521	201

RV NEW HORIZON CALCOFI CRUISE 0504 STATION 80 60

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
34 8.8 N	121 9.0 W	27/04/05	1841 UTC	2180 m	200 18 kn	190 03 08	6	1015.1 mb	14.0 C	13.0 C	11m	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	13.94	13.94	33.163	24.781	315.6	0.000	6.51	110.7	0.9	0.26	0.1	0.01	1.65	0.49	0	
2 A	13.94	13.94	33.163	24.781	315.7	0.006	6.51	110.7	0.9	0.26	0.1	0.01	1.65	0.49	2	224
7 A	13.87	13.87	33.177	24.806	313.4	0.022	6.52	110.8	0.8	0.26	0.1	0.01	1.57	0.52	7	223
10 ISL	13.38	13.38	33.196	24.921	302.6	0.031	6.28	105.6	1.9	0.42	1.5	0.04	1.64	0.65	10	
15 A	12.61	12.61	33.230	25.099	285.7	0.046	5.91	97.8	3.6	0.67	3.7	0.10	1.84	0.84	15	222
18	12.59	12.59	33.235	25.107	285.1	0.055	5.92	98.0	3.5	0.67	3.7	0.10	1.95	0.82	18	221
20 ISL	12.50	12.50	33.244	25.131	282.8	0.060	5.90	97.5	4.0	0.71	4.1	0.11	1.71	0.84	20	
23 A	12.37	12.37	33.258	25.167	279.4	0.069	5.86	96.5	4.8	0.78	4.7	0.12	1.28	0.86	23	220
26 A	12.34	12.34	33.260	25.175	278.8	0.077	5.85	96.3	4.8	0.78	4.9	0.12	1.17	0.98	26	219
30 ISL	12.17	12.17	33.294	25.233	273.3	0.088	5.80	95.2	5.6	0.82	5.6	0.13	1.26	1.26	30	
34	11.95	11.95	33.333	25.305	266.6	0.099	5.76	94.1	6.5	0.87	6.4	0.14	1.42	1.50	34	218
44 A	11.64	11.63	33.338	25.367	260.9	0.125	5.80	94.1	6.4	0.87	6.3	0.14	1.36	1.37	44	216
50 ISL	11.60	11.59	33.353	25.386	259.3	0.141	5.53	89.7	8.4	1.01	8.1	0.15	1.38	1.97	50	
52	11.59	11.58	33.361	25.394	258.5	0.146	5.41	87.7	9.3	1.07	8.9	0.15	1.38	2.12	52	215
60	11.10	11.09	33.365	25.486	249.9	0.166	4.85	77.8	12.6	1.25	12.3	0.15	0.47	1.24	60	214
70	10.44	10.43	33.501	25.708	229.0	0.190	4.49	71.1	17.1	1.49	16.4	0.15	0.31	0.62	70	213
75 ISL	10.20	10.19	33.536	25.777	222.5	0.202	4.22	66.4	18.8	1.59	18.1	0.14	0.31	0.60	75	
85	9.85	9.84	33.585	25.874	213.5	0.223	3.71	58.0	21.3	1.73	20.6	0.13	0.31	0.55	85	212
100	9.59	9.58	33.679	25.991	202.7	0.255	3.37	52.4	23.5	1.83	22.2	0.12	0.90	0.65	101	211
120	9.08	9.07	33.911	26.255	177.9	0.293	2.87	44.2	29.5	1.97	25.3	0.05	0.14	0.32	121	210
125 ISL	9.01	9.00	33.927	26.279	175.7	0.302	2.87	44.1	29.9	1.97	25.5	0.05	0.13	0.31	126	
140	8.86	8.85	33.948	26.319	172.2	0.328	2.89	44.3	31.0	1.97	25.8	0.04	0.10	0.28	141	209
150 ISL	8.70	8.68	33.997	26.383	166.3	0.345	2.62	40.0	33.9	2.07	27.1	0.03	0.08	0.24	151	
168	8.43	8.41	34.085	26.493	156.1	0.374	2.08	31.6	39.5	2.28	29.5	0.02	0.05	0.17	169	208
199	8.17	8.15	34.115	26.557	150.5	0.421	1.85	27.9	43.1	2.38	30.8	0.02	0.04	0.11	200	207
200 ISL	8.16	8.14	34.117	26.560	150.3	0.423	1.84	27.8	43.3	2.39	30.9	0.02			201	
228	7.88	7.86	34.166	26.640	143.0	0.464	1.42	21.3	48.6	2.56	32.5	0.01			229	206
250 ISL	7.70	7.68	34.188	26.684	139.2	0.495	1.23	18.4	51.6	2.65	33.4	0.01			252	
268	7.58	7.55	34.199	26.710	137.0	0.520	1.13	16.8	53.5	2.70	33.9	0.01			270	205
300 ISL	7.43	7.40	34.216	26.745	134.1	0.563	1.00	14.9	56.4	2.76	34.6	0.01			302	
317	7.34	7.31	34.222	26.763	132.7	0.586	0.94	13.9	58.0	2.79	35.0	0.01			319	204
378	6.80	6.76	34.242	26.854	124.6	0.664	0.69	10.1	66.2	2.93	36.9	0.01			381	203
400 ISL	6.68	6.64	34.251	26.877	122.7	0.691	0.63	9.2	68.2	2.97	37.4	0.01			403	
437	6.51	6.47	34.266	26.912	119.8	0.736	0.54	7.9	70.9	3.02	38.0	0.01			440	202
500 ISL	6.27	6.23	34.283	26.958	116.2	0.810	0.44	6.4	75.3	3.08	38.9	0.01			504	
520	6.19	6.14	34.288	26.972	115.0	0.834	0.41	5.9	76.7	3.10	39.2	0.01			524	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV NEW HORIZON CALCOFI CRUISE 0504 STATION 80 70

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
33 48.6 N	121 50.3 W	28/04/05	0117	UTC	3621 m	160 11 kn	100 02 07	1	1012.5 mb	15.7 C	14.1 C	13m	6/8	AS

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	14.87	14.87	32.986	24.448	347.3	0.000	5.98	103.6	3.7	0.33	0.0	0.00	0.24	0.03	0	
2	14.87	14.87	32.986	24.448	347.3	0.007	5.98	103.6	3.7	0.33	0.0	0.00	0.24	0.03	2	223
10	14.37	14.37	32.975	24.546	338.2	0.034	6.02	103.2	3.6	0.33	0.0	0.00	0.25	0.02	10	222
20	14.14	14.14	33.014	24.625	331.0	0.068	6.05	103.2	3.4	0.35	0.0	0.00	0.38	0.21	20	221
30	13.95	13.95	33.004	24.657	328.3	0.101	6.03	102.5	3.8	0.34	0.0	0.01	0.67	0.18	30	220
36	13.98	13.97	33.062	24.696	324.8	0.120	6.00	102.1	3.4	0.35	0.2	0.02	1.12	0.16	36	219
39	13.99	13.98	33.087	24.713	323.2	0.130	5.96	101.4	3.2	0.39	0.2	0.03	1.21	0.12	39	218
45	13.61	13.60	33.026	24.744	320.4	0.149	5.87	99.1	4.3	0.43	0.9	0.05	0.83	0.12	45	217
50	13.26	13.25	33.060	24.841	311.3	0.165	5.95	99.7	3.6	0.47	1.1	0.05	1.00	0.24	50	216
55	12.92	12.91	33.093	24.934	302.5	0.181	5.81	96.7	4.7	0.56	2.0	0.08	0.47	0.57	55	215
60	12.54	12.53	33.137	25.042	292.3	0.195	5.51	91.0	6.8	0.73	4.5	0.14	0.46	0.67	60	214
70	11.63	11.62	33.231	25.286	269.2	0.224	4.85	78.6	11.3	1.10	10.3	0.19	0.37	0.68	70	213
75 ISL	11.29	11.28	33.273	25.381	260.3	0.237	4.94	79.5	12.0	1.15	11.3	0.17	0.95	0.60	75	
85	10.74	10.73	33.362	25.548	244.6	0.262	5.22	83.1	12.9	1.20	12.3	0.11	2.03	0.40	85	212
100	10.08	10.07	33.533	25.795	221.3	0.297	4.56	71.6	18.3	1.49	17.2	0.12	1.09	0.18	100	211
119	9.49	9.48	33.652	25.986	203.4	0.337	3.21	49.8	24.5	1.84	23.1	0.07	0.35	0.39	120	210
125 ISL	9.46	9.45	33.700	26.029	199.5	0.349	3.02	46.8	25.7	1.89	23.9	0.07	0.25	0.39	126	
140	9.38	9.36	33.799	26.120	191.2	0.379	2.77	42.9	28.0	1.98	24.9	0.09	0.15	0.38	141	209
150 ISL	9.31	9.29	33.863	26.181	185.6	0.398	2.60	40.2	29.6	2.04	25.7	0.07	0.13	0.32	151	
170	9.16	9.14	33.974	26.292	175.4	0.434	2.31	35.6	32.7	2.14	27.1	0.03	0.09	0.19	171	208
198	8.91	8.89	34.080	26.416	164.2	0.481	1.94	29.8	37.5	2.29	28.8	0.02	0.05	0.17	199	207
200 ISL	8.90	8.88	34.085	26.421	163.7	0.484	1.92	29.5	37.7	2.30	28.9	0.02			201	
229	8.68	8.66	34.139	26.498	156.9	0.531	1.69	25.8	40.8	2.40	30.0	0.02			230	206
250 ISL	8.46	8.43	34.155	26.545	152.8	0.563	1.57	23.9	43.4	2.46	30.8	0.02			251	
269	8.24	8.21	34.162	26.584	149.3	0.592	1.48	22.4	46.0	2.51	31.5	0.02			271	205
300 ISL	7.94	7.91	34.173	26.638	144.6	0.638	1.29	19.4	50.3	2.62	32.4	0.01			302	
318	7.77	7.74	34.178	26.667	142.1	0.663	1.19	17.8	52.7	2.68	33.0	0.01			320	204
376	7.08	7.04	34.189	26.774	132.4	0.743	0.97	14.3	59.7	2.81	35.6	0.01			378	203
400 ISL	6.87	6.83	34.195	26.808	129.4	0.774	0.87	12.8	62.7	2.87	36.5	0.01			403	
436	6.59	6.55	34.203	26.852	125.5	0.820	0.73	10.6	67.3	2.95	37.6	0.01			439	202
500 ISL	6.09	6.05	34.213	26.925	119.0	0.899	0.56	8.1	75.5	3.06	39.3	0.01			503	
517	5.96	5.91	34.216	26.944	117.3	0.919	0.51	7.3	77.7	3.09	39.7	0.01			521	201

RV NEW HORIZON CALCOFI CRUISE 0504 STATION 80 80

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
33 29.0 N	122 32.2 W	28/04/05	0756	UTC	3995 m	260 16 kn			1011.4 mb	15.2 C	13.4 C			

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	15.26	15.26	32.981	24.360	355.7	0.000	5.89	102.8	2.3	0.35	0.0	0.00	0.19	0.03	0	
1	15.26	15.26	32.981	24.360	355.7	0.004	5.89	102.8	2.3	0.35	0.0	0.00	0.19	0.03	1	223
10 ISL	15.19	15.19	32.990	24.383	353.9	0.035	5.89	102.7	2.3	0.34	0.0	0.00	0.18	0.04	10	
15	15.15	15.15	32.995	24.395	352.8	0.053	5.89	102.6	2.3	0.34	0.0	0.00	0.18	0.05	15	222
20 ISL	14.92	14.92	32.997	24.447	348.0	0.071	5.92	102.6	2.3	0.34	0.0	0.00	0.18	0.10	20	
30 ISL	14.48	14.48	33.002	24.545	339.0	0.105	5.97	102.6	2.4	0.35	0.0	0.00	0.18	0.19	30	
31	14.44	14.44	33.003	24.554	338.1	0.108	5.97	102.5	2.4	0.35	0.0	0.00	0.18	0.20	31	221
36	14.39	14.38	33.005	24.566	337.1	0.125	5.96	102.2	2.4	0.34	0.0	0.00	0.25	0.08	36	220
46	14.35	14.34	33.009	24.578	336.3	0.159	5.97	102.3	2.4	0.34	0.0	0.00	0.37	0.06	46	219
50 ISL	14.33	14.32	33.009	24.582	336.0	0.172	5.96	102.1	2.4	0.34	0.0	0.00	0.34	0.12	50	
51	14.32	14.31	33.011	24.586	335.7	0.176	5.96	102.1	2.4	0.34	0.0	0.00	0.33	0.14	51	218
55	14.21	14.20	33.009	24.608	333.7	0.189	5.94	101.5	2.6	0.35	0.0	0.00	0.50	0.26	55	217
60	14.17	14.16	33.009	24.616	333.0	0.206	5.96	101.8	2.3	0.34	0.0	0.00	0.31	0.10	60	216
65	13.70	13.69	33.025	24.725	322.7	0.222	5.78	97.7	3.3	0.46	1.4	0.05	0.63	0.37	65	215
74	11.68	11.67	33.115	25.187	278.8	0.249	5.19	84.2	7.2	0.88	7.8	0.19	0.37	0.54	74	214
75 ISL	11.56	11.55	33.117	25.211	276.5	0.252	5.16	83.5	7.4	0.90	8.2	0.18	0.37	0.49	75	
85	10.93	10.92	33.133	25.337	264.7	0.279	4.98	79.5	8.6	1.03	10.6	0.08	0.49	0.07	85	213
95	10.61	10.60	33.249	25.483	250.9	0.305	4.59	72.8	11.9	1.26	13.8	0.11	0.47	0.43	95	212
100 ISL	10.37	10.36	33.288	25.555	244.2	0.317	4.43	69.9	13.4	1.35	15.2	0.10	0.38	0.38	100	
110	9.90	9.89	33.365	25.695	231.0	0.341	4.12	64.4	16.3	1.50	17.9	0.07	0.19	0.27	111	211
125	9.49	9.48	33.536	25.896	212.1	0.374	3.58	55.5	20.4	1.72	21.7	0.05	0.08	0.16	126	210
144	9.16	9.14	33.749	26.116	191.6	0.413	3.05	47.0	25.4	1.91	24.7	0.03	0.05	0.20	145	209
150 ISL	9.13	9.11	33.798	26.159	187.6	0.424	2.91	44.8	26.5	1.96	25.4	0.03	0.04	0.18	151	
169	9.08	9.06	33.914	26.258	178.6	0.459	2.53	38.9	29.2	2.07	26.9	0.03	0.03	0.08	170	208
199	8.80	8.78	34.023	26.388	166.8	0.511	2.22	34.0	33.5	2.19	28.5	0.02	0.03	0.07	200	207
200 ISL	8.79	8.77	34.026	26.392	166.4	0.512	2.21	33.8	33.7	2.20	28.6	0.02			201	
230	8.54	8.52	34.107	26.495	157.2	0.561	1.87	28.5	38.0	2.34	30.2	0.02			231	206
250 ISL	8.37	8.34	34.120	26.531	154.0	0.592	1.78	27.0	40.1	2.38	30.8	0.02			251	
271	8.19	8.16	34.122	26.560	151.6	0.624	1.71	25.8	42.2	2.42	31.4	0.02			273	205
300 ISL	7.92	7.89	34.141	26.616	146.7	0.667	1.50	22.5	46.0	2.53	32.5	0.01			302	
318	7.75	7.72	34.156	26.653	143.4	0.693	1.35	20.2	48.6	2.60	33.3	0.01			320	204
378	7.24	7.20	34.213	26.771	132.9	0.776	0.87	12.9	57.6	2.82	35.5	0.01			380	203
400 ISL	7.04	7.00	34.217	26.802	130.1	0.805	0.78	11.5	60.4	2.87	36.2	0.01			403	
440	6.70	6.66	34.221	26.852	125.7	0.856	0.67	9.8	65.2	2.95	37.4	0.01			443	202
500 ISL	6.37	6.32	34.265	26.930	118.9	0.930	0.45	6.5	72.1	3.07	38.7	0.01			503	
513	6.30	6.25	34.275	26.948	117.4	0.945	0.40	5.8	73.6	3.10	39.0	0.01			516	201

RV NEW HORIZON CALCOFI CRUISE 0504 STATION 80 90

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
33 8.8 N	123 13.6 W	28/04/05	1653 UTC	4227 m	270 20 kn	270 04 08	1	1014.4 mb	16.0 C	14.0 C	24m	5/8	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	15.10	15.10	32.986	24.399	352.0	0.000	5.90	102.7	2.5	0.34	0.0	0.00	0.14	0.03	0	
2 A	15.10	15.10	32.986	24.399	352.1	0.007	5.90	102.7	2.5	0.34	0.0	0.00	0.14	0.03	2	222
10 ISL	15.03	15.03	32.991	24.418	350.5	0.035	5.90	102.5	2.4	0.34	0.0	0.00	0.15	0.03	10	
15 A	14.99	14.99	32.995	24.430	349.5	0.053	5.90	102.4	2.4	0.34	0.0	0.00	0.15	0.03	15	220
20 ISL	14.74	14.74	33.005	24.492	343.8	0.070	5.92	102.3	2.4	0.34	0.0	0.00	0.18	0.05	20	
24	14.54	14.54	33.013	24.540	339.2	0.084	5.93	102.0	2.4	0.34	0.0	0.00	0.21	0.07	24	219
30 ISL	14.45	14.45	33.019	24.564	337.1	0.104	5.95	102.2	2.5	0.33	0.0	0.00	0.24	0.08	30	
33 A	14.43	14.43	33.022	24.571	336.6	0.114	5.96	102.3	2.5	0.33	0.0	0.00	0.26	0.08	33	218
42	14.35	14.34	33.033	24.596	334.4	0.144	6.00	102.8	2.6	0.34	0.0	0.00	0.32	0.10	42	217
50 ISL	14.32	14.31	33.032	24.602	334.1	0.171	6.01	102.9	2.6	0.33	0.0	0.00	0.30	0.10	50	
52 A	14.31	14.30	33.032	24.604	334.0	0.178	6.01	102.9	2.6	0.33	0.0	0.00	0.30	0.10	52	216
58 A	14.27	14.26	33.037	24.617	332.9	0.198	5.95	101.8	2.6	0.34	0.0	0.00	0.37	0.17	58	215
70	12.88	12.87	33.037	24.899	306.3	0.236	5.69	94.6	4.2	0.57	2.8	0.08	0.67	0.38	70	214
75 ISL	12.34	12.33	33.055	25.017	295.1	0.251	5.52	90.7	5.2	0.69	4.7	0.12	0.54	0.36	75	
82	11.61	11.60	33.096	25.185	279.1	0.271	5.24	84.8	7.0	0.87	7.8	0.16	0.29	0.34	82	213
94 A	10.46	10.45	33.205	25.475	251.7	0.303	4.69	74.1	11.3	1.20	13.5	0.09	0.16	0.30	94	212
100 ISL	10.10	10.09	33.267	25.584	241.3	0.318	4.48	70.3	13.4	1.32	15.5	0.07	0.12	0.23	100	
109	9.73	9.72	33.358	25.717	228.8	0.339	4.25	66.2	16.1	1.46	17.8	0.04	0.09	0.12	109	211
123	9.37	9.36	33.480	25.871	214.4	0.370	4.07	62.9	19.0	1.57	19.7	0.02	0.05	0.05	124	210
125 ISL	9.33	9.32	33.496	25.891	212.6	0.374	4.06	62.7	19.3	1.58	19.9	0.02	0.05	0.04	126	
144	9.04	9.02	33.647	26.055	197.3	0.413	3.85	59.1	22.5	1.67	21.6	0.02	0.01	0.02	145	209
150 ISL	9.00	8.98	33.700	26.103	192.9	0.425	3.68	56.5	23.8	1.72	22.4	0.02	0.01	0.02	151	
169	8.88	8.86	33.855	26.244	179.9	0.460	3.09	47.3	28.1	1.90	25.1	0.02	0.00	0.01	170	208
200	8.53	8.51	34.015	26.424	163.3	0.513	2.50	38.0	34.8	2.12	28.0	0.02	0.00	0.01	201	207
229	8.37	8.35	34.070	26.492	157.3	0.560	2.09	31.7	38.3	2.26	29.9	0.02			230	206
250 ISL	8.17	8.14	34.093	26.540	153.0	0.593	1.89	28.5	40.9	2.35	30.9	0.01			251	
269	7.94	7.91	34.104	26.583	149.2	0.621	1.76	26.4	43.6	2.43	31.8	0.01			271	205
300 ISL	7.43	7.40	34.104	26.657	142.4	0.666	1.58	23.4	49.3	2.55	33.5	0.01			302	
317	7.16	7.13	34.104	26.695	138.9	0.690	1.48	21.8	52.5	2.61	34.4	0.01			319	204
379	6.64	6.61	34.152	26.804	129.2	0.773	0.98	14.3	62.1	2.83	36.9	0.02			381	203
400 ISL	6.51	6.47	34.167	26.833	126.6	0.800	0.85	12.4	64.8	2.89	37.5	0.02			403	
437	6.29	6.25	34.192	26.882	122.4	0.846	0.67	9.7	69.3	2.97	38.4	0.01			440	202
500 ISL	5.90	5.86	34.241	26.971	114.5	0.921	0.44	6.3	77.7	3.10	39.9	0.01			503	
517	5.79	5.75	34.254	26.995	112.3	0.940	0.38	5.4	80.0	3.13	40.3	0.01			521	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV NEW HORIZON CALCOFI CRUISE 0504 STATION 80 100

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
32 49.1 N	123 54.2 W	28/04/05	2158 UTC	4396 m	270 17 kn	270 06 07	1	1016.5 mb	17.1 C	14.9 C	22m	2/8	CI

DEPTH m	TEMP DEG C	POT TEMP DEG 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	15.24	15.24	32.943	24.335	358.1	0.000	5.85	102.0	2.2	0.34	0.0	0.00			0	
2	15.24	15.24	32.943	24.335	358.2	0.007	5.85	102.0	2.2	0.34	0.0	0.00			2	221
10	15.23	15.23	32.942	24.337	358.2	0.036	5.89	102.7	2.2	0.34	0.0	0.00			10	220
20 ISL	14.44	14.44	32.948	24.511	341.9	0.071	5.99	102.8	2.5	0.34	0.0	0.00			20	
21	14.35	14.35	32.949	24.531	340.0	0.074	6.00	102.8	2.5	0.34	0.0	0.00			21	219
30 ISL	14.02	14.02	32.954	24.604	333.3	0.105	6.00	102.1	2.6	0.35	0.0	0.00			30	
31	14.01	14.01	32.957	24.608	332.9	0.108	6.00	102.1	2.6	0.35	0.0	0.00			31	218
40	14.07	14.06	33.047	24.666	327.7	0.138	6.07	103.5	1.9	0.33	0.0	0.00	0.00	0.00	40	217
50 ISL	14.03	14.02	33.092	24.709	323.9	0.170	6.05	103.1	1.9	0.35	0.3	0.02	0.98	0.42	50	
51	14.02	14.01	33.094	24.713	323.6	0.173	6.05	103.0	1.9	0.35	0.3	0.02	1.08	0.46	51	216
56	13.98	13.97	33.101	24.726	322.4	0.190	6.03	102.6	1.5	0.35	0.3	0.02	1.01	0.47	56	215
60	13.92	13.91	33.114	24.749	320.4	0.202	5.92	100.6	1.9	0.39	0.4	0.03	0.76	0.28	60	214
71	13.67	13.66	33.110	24.797	316.0	0.237	5.82	98.4	2.6	0.46	0.9	0.04	0.27	0.23	71	213
75 ISL	13.06	13.05	33.119	24.927	303.8	0.250	5.54	92.5	4.3	0.62	3.5	0.06	0.24	0.26	75	
85	11.41	11.40	33.183	25.289	269.2	0.278	4.74	76.5	9.1	1.05	10.9	0.11	0.18	0.32	85	212
100 ISL	10.58	10.57	33.297	25.526	247.0	0.317	4.24	67.2	13.0	1.33	15.2	0.05	0.13	0.20	100	
101	10.56	10.55	33.306	25.536	246.0	0.320	4.22	66.9	13.2	1.34	15.4	0.04	0.13	0.19	101	211
121	9.87	9.86	33.578	25.866	215.0	0.366	3.36	52.5	20.6	1.73	21.5	0.02	0.03	0.10	122	210
125 ISL	9.74	9.73	33.604	25.908	211.1	0.374	3.32	51.8	21.3	1.76	22.0	0.02	0.02	0.09	126	
138	9.39	9.37	33.667	26.015	201.1	0.401	3.25	50.3	23.2	1.82	23.2	0.02	0.01	0.08	139	209
150 ISL	9.19	9.17	33.753	26.114	191.9	0.425	3.04	46.9	25.5	1.90	24.5	0.02	0.01	0.07	151	
170	9.00	8.98	33.892	26.254	179.0	0.462	2.64	40.6	29.4	2.03	26.5	0.02	0.01	0.06	171	208
200	8.86	8.84	34.017	26.374	168.1	0.514	2.21	33.9	33.7	2.18	28.3	0.02	0.01	0.06	201	207
228	8.48	8.46	34.055	26.463	160.1	0.560	2.03	30.9	37.2	2.26	29.9	0.02			229	206
250 ISL	8.29	8.26	34.107	26.533	153.8	0.594	1.77	26.8	41.0	2.38	30.9	0.02			251	
268	8.13	8.10	34.141	26.584	149.2	0.622	1.57	23.7	44.3	2.48	31.7	0.02			270	205
300 ISL	7.59	7.56	34.115	26.643	143.9	0.668	1.55	23.1	48.8	2.54	33.1	0.01			302	
318	7.28	7.25	34.095	26.672	141.3	0.694	1.54	22.8	51.2	2.56	33.9	0.01			320	204
379	6.80	6.76	34.171	26.798	129.9	0.777	0.95	13.9	61.1	2.83	36.3	0.01			381	203
400 ISL	6.61	6.57	34.187	26.836	126.5	0.804	0.80	11.7	64.6	2.90	37.1	0.01			403	
439	6.24	6.20	34.208	26.901	120.5	0.852	0.60	8.7	71.0	3.00	38.6	0.01			442	202
500 ISL	5.65	5.61	34.219	26.984	112.9	0.923	0.45	6.4	81.1	3.11	40.5	0.01			503	
518	5.48	5.44	34.223	27.008	110.7	0.943	0.41	5.8	84.1	3.14	41.0	0.01			522	201

RV NEW HORIZON CALCOFI CRUISE 0504 STATION 81.7 43.5

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT TYPE
34 23.8 N	119 47.0 W	27/04/05	0315 UTC	31 m	020 01 kn			1012.5 mb	15.3 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	14.41	14.41	33.362	24.836	310.4	0.000	7.22	124.2	0.2	0.22	0.0	0.01	5.69		0	
2	14.41	14.41	33.362	24.836	310.4	0.006	7.22	124.2	0.2	0.22	0.0	0.01	5.69	-0.36 U	2	204
5	14.39	14.39	33.361	24.840	310.2	0.016	7.21	123.9	0.1	0.22	0.0	0.01	4.81	0.14	5	203
10	13.47	13.47	33.379	25.044	290.9	0.031	6.70	113.0	1.4	0.34	1.1	0.06	6.94	-0.31 U	10	202
20	11.65	11.65	33.538	25.520	245.8	0.057	4.07	66.1	12.0	1.47	13.6	0.18	3.14	0.59	20	201

RV NEW HORIZON CALCOFI CRUISE 0504 STATION 82 47

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT TYPE
34 16.4 N	120 2.2 W	27/04/05	0538 UTC	579 m	280 19 kn			1013.4 mb	13.7 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	12.77	12.77	33.592	25.348	261.6	0.000	7.81	130.0	0.0	0.23	0.0	0.02	12.98	2.72	0	
2	12.77	12.77	33.592	25.348	261.7	0.005	7.81	130.0	0.0	0.23	0.0	0.02	12.98	2.72	2	224
10	12.62	12.62	33.585	25.372	259.6	0.026	7.53	125.0	0.0	0.30	0.1	0.02	12.76	3.21	10	223
20	10.58	10.58	33.693	25.833	216.0	0.050	3.99	63.4	16.5	1.65	17.1	0.14	4.23	5.95	20	222
30	10.28	10.28	33.741	25.922	207.7	0.071	3.63	57.3	18.4	1.79	19.1	0.14			30	221
41	9.95	9.95	33.777	26.007	200.0	0.093	3.32	52.1	22.7	1.96	22.1	0.15	4.41	0.89	41	220
50	9.77	9.76	33.854	26.097	191.5	0.111	2.67	41.7	26.4	2.07	24.4	0.16	1.51	1.44	50	219
59	9.52	9.51	33.900	26.174	184.4	0.128	2.36	36.7	28.2	2.14	25.9	0.12	3.22	0.10	59	218
70	9.47	9.46	33.968	26.236	178.8	0.148	2.16	33.6	30.6	2.18	27.0	0.09	0.82	0.80	70	217
75 ISL	9.42	9.41	33.995	26.265	176.1	0.157	2.07	32.1	31.7	2.21	27.4	0.07	0.67	0.71	75	
84	9.35	9.34	34.042	26.314	171.7	0.173	1.93	29.9	33.4	2.26	27.9	0.04	0.40	0.56	84	216
100	9.36	9.35	34.138	26.387	165.0	0.199	1.79	27.8	35.0	2.32	28.2	0.03	0.26	0.35	101	215
119	9.31	9.30	34.154	26.408	163.4	0.231	1.72	26.7	35.7	2.34	28.5	0.03	0.12	0.34	120	214
125 ISL	9.31	9.30	34.158	26.412	163.2	0.240	1.71	26.5	35.8	2.35	28.5	0.03	0.13	0.33	126	
139	9.29	9.27	34.164	26.420	162.8	0.263	1.69	26.2	36.1	2.36	28.6	0.02	0.15	0.30	140	213
150 ISL	9.25	9.23	34.169	26.430	162.0	0.281	1.67	25.8	36.4	2.37	28.7	0.02	0.15	0.28	151	
169	9.11	9.09	34.175	26.458	159.7	0.312	1.58	24.4	38.0	2.41	29.3	0.02	0.13	0.26	170	212
199	8.63	8.61	34.171	26.531	153.2	0.359	1.16	17.7	45.0	2.61	31.4	0.01	0.12	0.22	200	211
200 ISL	8.62	8.60	34.172	26.533	153.0	0.360	1.15	17.5	45.3	2.62	31.5	0.01			201	
228	8.27	8.25	34.195	26.605	146.6	0.402	0.89	13.5	51.4	2.76	32.6	0.01			229	210
250 ISL	8.16	8.13	34.198	26.624	145.1	0.434	0.88	13.3	52.5	2.78	32.9	0.01			252	
268	8.09	8.06	34.196	26.633	144.5	0.460	0.88	13.3	52.8	2.79	33.0	0.01			270	209
300 ISL	7.81	7.78	34.202	26.680	140.6	0.506	0.83	12.4	56.3	2.84	33.5	0.01			302	
317	7.64	7.61	34.206	26.708	138.1	0.530	0.79	11.8	58.7	2.88	33.8	0.01			319	208
376	7.10	7.06	34.224	26.799	130.1	0.609	0.58	8.5	67.6	3.03	34.5	0.01			379	207
400 ISL	6.91	6.87	34.234	26.833	127.1	0.640	0.45	6.6	73.8	3.14	33.5	0.01			403	
435	6.69	6.65	34.246	26.873	123.7	0.683	0.27	3.9	84.5	3.40	30.1	0.01			438	206
500 ISL	6.56	6.51	34.248	26.892	122.7	0.763	0.05	0.7	107.3	4.21	15.6	0.01			504	
512	6.56	6.51	34.252	26.895	122.6	0.778	0.03	0.4	112.3	4.44	11.7	0.01			516	205
541	6.52	6.47	34.252	26.901	122.4	0.814	0.01	0.1	126.2	5.21	0.6	0.04			545	204
567	6.48	6.43	34.262	26.915	121.5	0.845	0.17	2.5	96.3	3.79	25.0	0.03			571	203
570	6.47	6.42	34.262	26.916	121.4	0.849	0.18	2.6	95.0	3.73	26.0	0.02			574	202
576	6.46	6.41	34.263	26.918	121.3	0.856	0.18	2.6	94.9	3.72	26.8	0.04			580	201

A) SANTA BARBARA BASIN STATION.

RV NEW HORIZON CALCOFI CRUISE 0504 STATION 83.3 39.4

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT TYPE
34 15.3 N	119 19.6 W	27/04/05	0019 UTC	19 m	290 14 kn	270 01 04	1	1012.8 mb	14.9 C	13.8 C		7/8 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	15.22	15.22	33.019	24.398	352.1	0.000	6.85	119.5	5.5	0.22	0.5	0.06	7.10	1.07	0	
1	15.22	15.22	33.019	24.398	352.1	0.004	6.85	119.5	5.5	0.22	0.5	0.06	7.10	1.07	1	204
6	14.82	14.82	33.192	24.618	331.3	0.021	6.78	117.5	3.8	0.22	0.4	0.04	5.35	0.36	6	203
10 ISL	12.47	12.47	33.374	25.238	272.4	0.033	4.99	82.4	7.4	1.11	7.1	0.18	2.49	1.12	10	
11	11.93	11.93	33.418	25.375	259.4	0.035	4.55	74.3	8.4	1.33	8.7	0.21	1.89	1.36	11	202
14	11.80	11.80	33.430	25.408	256.3	0.043	4.35	70.9	9.0	1.45	8.9	0.23	1.69	1.65	14	201

RV NEW HORIZON CALCOFI CRUISE 0504 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 24.4 W	26/04/05	2223 UTC	29 m	280 11 kn	280 01 06	1	1014.1 mb	16.4 C	14.4 C	06m	7/8 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	14.318	14.318	33.354	24.850	309.1	0.000	6.67	114.5	1.4	0.31	0.9	0.04	2.84	0.84	0	
1	14.318	14.318	33.354	24.850	309.1	0.003	6.67	114.5	1.4	0.31	0.9	0.04	2.84	0.84	1	206
6	13.82	13.82	33.357	24.956	299.2	0.018	6.51	110.6	1.7	0.33	1.4	0.05	3.31	0.93	6	204
10 ISL	13.47	13.47	33.372	25.039	291.4	0.030	6.38	107.6	2.1	0.39	2.2	0.06	3.62	1.00	10	
11	13.36	13.36	33.376	25.064	289.0	0.033	6.33	106.5	2.3	0.42	2.5	0.06	3.70	1.03	11	203
16	12.48	12.48	33.392	25.250	271.4	0.047	5.72	94.5	4.2	0.68	5.5	0.10	4.11	1.30	16	202
20 ISL	11.67	11.67	33.465	25.460	251.5	0.057	4.68	76.1	9.1	1.18	10.4	0.17	2.79	1.07	20	
22	11.27	11.27	33.505	25.564	241.7	0.062	4.16	67.0	11.5	1.43	12.9	0.20	2.13	0.96	22	201

RV NEW HORIZON CALCOFI CRUISE 0504 STATION 83 42

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
34 10.8 N	119 30.4 W	26/04/05	1945	UTC	120 m	230	06 kn	210 01 06	1	1015.3 mb	14.9 C	14.0 C	09m	7/8	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	14.27	14.27	33.340	24.849	309.2	0.000	6.84	117.3	0.8	0.30	0.3	0.02	3.02	0.49	0	
1	A	14.27	14.27	33.340	24.849	309.2	0.003	6.84	117.3	0.8	0.30	0.3	0.02	3.02	0.49	1	217
5	A	13.40	13.40	33.376	25.056	289.6	0.015	6.60	111.2	2.5	0.44	1.6	0.06	2.90	0.73	5	216
10	ISL	13.28	13.28	33.377	25.081	287.4	0.029	6.50	109.2	2.5	0.45	1.7	0.06	3.21	1.01	10	
12	A	13.23	13.23	33.378	25.092	286.4	0.035	6.47	108.6	2.5	0.45	1.8	0.06	3.42	1.10	12	214
19	A	12.98	12.98	33.377	25.141	281.9	0.055	6.16	102.9	3.1	0.55	3.1	0.07	4.16	1.15	19	213
20	ISL	12.87	12.87	33.377	25.162	279.8	0.058	6.03	100.5	3.6	0.60	3.8	0.08	3.81	1.07	20	
22	A	12.59	12.59	33.382	25.221	274.3	0.063	5.70	94.4	4.9	0.73	5.5	0.09	3.00	0.91	22	211
22		12.59	12.59	33.382	25.221	274.3	0.063	5.77	95.6	4.8	0.71	5.3	0.09	3.11	0.93	22	212
28		11.13	11.13	33.501	25.586	239.7	0.079	4.19	67.3	13.4	1.37	14.1	0.15	1.11	0.96	28	210
30	ISL	10.91	10.91	33.526	25.645	234.1	0.084	3.98	63.7	15.0	1.47	15.5	0.15	0.80	0.84	30	
35	A	10.68	10.68	33.564	25.715	227.6	0.095	3.75	59.7	17.2	1.58	17.1	0.16	0.45	0.55	35	208
42		10.66	10.66	33.594	25.742	225.2	0.111	3.56	56.6	17.6	1.62	17.8	0.17	0.48	0.62	42	207
50		10.44	10.43	33.657	25.830	217.0	0.129	3.41	54.0	20.1	1.73	19.1	0.17	0.41	0.59	50	206
60		10.15	10.14	33.779	25.975	203.4	0.150	2.79	44.0	24.0	1.91	22.2	0.18	0.32	0.71	60	205
70		10.12	10.11	33.857	26.041	197.4	0.170	2.41	38.0	24.9	2.00	23.7	0.20	0.28	0.65	70	204
75	ISL	10.06	10.05	33.897	26.082	193.5	0.180	2.33	36.7	25.8	2.03	24.2	0.19	0.25	0.60	75	
85		9.91	9.90	33.971	26.166	185.8	0.198	2.24	35.1	27.9	2.09	25.0	0.15	0.19	0.52	85	203
100		9.78	9.77	34.050	26.249	178.2	0.226	2.07	32.4	29.9	2.16	25.9	0.09	0.17	0.51	101	202
110		9.71	9.70	34.078	26.283	175.2	0.243	1.99	31.1	30.8	2.19	26.3	0.07	0.19	0.47	111	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV NEW HORIZON CALCOFI CRUISE 0504 STATION 83 51

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
33 52.6 N	120 8.3 W	23/04/05	0209	UTC	103 m	080	08 kn	210 02 04	0	1015.5 mb	13.9 C	12.8 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	12.19	12.19	33.509	25.396	257.1	0.000	6.06	99.6	8.2	0.78	7.8	0.14	3.95	0.93	0	
1		12.19	12.19	33.509	25.396	257.1	0.003	6.06	99.6	8.2	0.78	7.8	0.14	3.95	0.93	1	211
10		11.49	11.49	33.543	25.553	242.4	0.025	5.42	87.8	10.2	1.01	10.0	0.14	6.07	1.68	10	209
20		11.07	11.07	33.625	25.693	229.3	0.049	4.65	74.7	14.7	1.34	13.4	0.15	4.01	1.19	20	208
30		10.63	10.63	33.710	25.838	215.8	0.071	3.87	61.6	19.8	1.65	17.5	0.15	2.71	1.28	30	207
41		9.74	9.74	33.785	26.048	196.0	0.094	2.98	46.5	25.0	1.94	22.7	0.10	0.48	0.75	41	206
50	ISL	9.72	9.71	33.785	26.051	195.9	0.111	2.99	46.7	25.2	1.94	22.8	0.09	0.48	0.68	50	
51		9.72	9.71	33.785	26.051	195.9	0.113	2.99	46.7	25.2	1.94	22.8	0.09	0.48	0.67	51	205
60		9.71	9.70	33.883	26.130	188.7	0.130	2.60	40.6	26.9	2.02	24.5	0.08	0.11	0.25	60	204
70		9.55	9.54	33.966	26.221	180.2	0.149	2.32	36.1	29.8	2.14	25.8	0.09	0.08	0.45	70	203
75	ISL	9.52	9.51	33.982	26.239	178.6	0.158	2.26	35.2	30.5	2.17	26.0	0.09	0.08	0.46	75	
80		9.50	9.49	33.988	26.247	177.9	0.167	2.24	34.8	30.8	2.18	26.1	0.09	0.08	0.48	80	202
90		9.49	9.48	33.990	26.250	177.8	0.185	2.23	34.7	30.7	2.18	26.1	0.09	0.09	0.41	91	201

RV NEW HORIZON CALCOFI CRUISE 0504 STATION 83 55

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
33 44.7 N	120 24.4 W	23/04/05	0512	UTC	984 m	130	10 kn			1016.1 mb	14.3 C	12.9 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	13.18	13.18	33.258	25.008	294.0	0.000	6.05	101.4	0.9	0.44	2.6	0.11	4.25	1.39	0	
2		13.18	13.18	33.258	25.009	294.0	0.006	6.05	101.4	0.9	0.44	2.6	0.11	4.25	1.39	2	223
10		12.65	12.65	33.284	25.133	282.4	0.029			1.0	0.47	2.9	0.12	5.01	1.17	10	220
20		12.08	12.08	33.336	25.283	268.4	0.056	6.30	103.2	3.5	0.68	5.7	0.13	6.88	1.00	20	219
30		11.85	11.85	33.359	25.344	262.8	0.083	6.08	99.1	4.7	0.79	7.1	0.14	6.98	1.42	30	218
35		11.40	11.40	33.367	25.433	254.4	0.096	5.48	88.5	8.4	1.06	10.0	0.15	7.38	2.09	35	217
40		11.30	11.30	33.403	25.479	250.1	0.109	5.47	88.2	9.1	1.10	10.4	0.14	4.74	1.49	40	216
50		11.08	11.07	33.414	25.528	245.7	0.133	5.28	84.7	10.2	1.16	11.6	0.14	4.71	1.76	50	215
60		10.08	10.07	33.402	25.692	230.2	0.157	4.08	64.0	16.2	1.52	17.9	0.10	0.66	0.30	60	214
70		9.98	9.97	33.424	25.727	227.2	0.180	4.03	63.1	16.8	1.55	18.5	0.09	0.98	0.77	70	213
75	ISL	9.84	9.83	33.437	25.760	224.1	0.191	3.97	62.0	17.4	1.58	19.1	0.08	0.78	0.73	75	
85		9.51	9.50	33.497	25.861	214.6	0.213	3.74	58.0	19.4	1.68	20.9	0.06	0.22	0.45	85	212
100		9.10	9.09	33.727	26.108	191.5	0.244	3.13	48.2	25.0	1.90	24.5	0.02	0.05	0.12	101	211
119		8.85	8.84	33.907	26.288	174.7	0.278	2.94	45.0	28.7	1.96	25.7	0.02	0.02	0.09	120	210
125	ISL	8.80	8.79	33.931	26.315	172.2	0.289	2.92	44.7	29.4	1.97	25.9	0.02	0.02	0.08	126	
139		8.68	8.67	33.959	26.356	168.6	0.313	2.87	43.8	30.8	1.99	26.4	0.01	0.02	0.05	140	209
150	ISL	8.57	8.55	33.985	26.393	165.2	0.331	2.79	42.5	32.2	2.02	27.0	0.01	0.02	0.05	151	
169		8.35	8.33	34.019	26.454	159.8	0.362	2.64	40.0	34.9	2.09	28.0	0.01	0.01	0.06	170	208
200		7.95	7.93	34.039	26.530	153.0	0.410	2.53	38.0	39.0	2.17	29.3	0.02	0.01	0.13	201	207
230		7.81	7.79	34.085	26.587	148.1	0.456	1.97	29.5	43.5	2.38	31.4	0.02			231	206
250	ISL	7.64	7.62	34.117	26.637	143.6	0.485	1.66	24.8	47.1	2.51	32.6	0.02			252	
268		7.47	7.44	34.142	26.681	139.6	0.510	1.43	21.2	50.3	2.60	33.6	0.02			270	205
300	ISL	7.24	7.21	34.164	26.731	135.3	0.554	1.20	17.7	54.1	2.70	34.7	0.02			302	
317		7.13	7.10	34.172	26.753	133.4	0.577	1.12	16.5	55.9	2.74	35.1	0.02			319	204
380		6.75	6.71	34.220	26.843	125.6	0.659	0.76	11.1	64.0	2.92	36.9	0.01			383	203
400	ISL	6.66	6.62	34.233	26.866	123.7	0.684	0.68	9.9	65.9	2.95	37.3	0.01			403	
437		6.48	6.44	34.256	26.908	120.1	0.729	0.55	8.0	69.4	3.01	38.0	0.01			440	202
500	ISL	6.09	6.05	34.298	26.992	112.7	0.802	0.38	5.5	77.4	3.12	39.5	0.02			504	
509		6.03	5.99	34.304	27.005	111.6	0.812	0.35	5.0	78.6	3.14	39.7	0.02			513	201

RV NEW HORIZON CALCOFI CRUISE 0504 STATION 83 60

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT TYPE
33 34.9 N	120 44.8 W	23/04/05	0916 UTC	1260 m	140 15 kn			1014.5 mb	14.8 C	12.8 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	14.04	14.04	33.148	24.749	318.7	0.000	6.24	106.4	0.1	0.31	0.1	0.01	2.32	0.54	0	
2	14.04	14.04	33.148	24.749	318.8	0.006	6.24	106.4	0.1	0.31	0.1	0.01	2.32	0.54	2	222
10	13.65	13.65	33.157	24.836	310.7	0.032	6.41	108.4	0.0	0.31	0.1	0.02	2.73	1.03	10	220
20	13.35	13.35	33.185	24.919	303.1	0.062	6.49	109.1	0.0	0.33	0.2	0.02	3.92	1.61	20	219
25	13.12	13.12	33.194	24.972	298.2	0.077	6.20	103.7	0.7	0.44	1.5	0.05	3.62	1.98	25	218
29	13.05	13.05	33.193	24.985	297.0	0.089	6.09	101.7	1.1	0.49	2.0	0.06	3.65	0.94	29	217
30 ISL	13.02	13.02	33.194	24.991	296.4	0.092	6.07	101.3	1.2	0.50	2.1	0.06	3.64	0.96	30	
40	12.67	12.66	33.215 D	25.077	288.5	0.121									40	216
50	12.41	12.40	33.226	25.135	283.2	0.150	5.65	93.1	4.9	0.75	5.4	0.11	2.58	1.26	50	215
61	11.84	11.83	33.240	25.254	272.1	0.181	5.14	83.7	8.0	0.97	8.6	0.15	1.50	1.21	61	214
70	10.77	10.76	33.353	25.536	245.4	0.204	4.61	73.4	13.0	1.33	14.4	0.13	0.60	0.68	70	213
75 ISL	10.43	10.42	33.380	25.616	237.9	0.216	4.32	68.3	14.7	1.44	16.5	0.10	0.38	0.51	75	
84	10.06	10.05	33.401	25.695	230.4	0.237	3.91	61.3	16.6	1.56	18.8	0.06	0.22	0.34	84	212
99	9.67	9.66	33.444	25.794	221.3	0.271	3.79	58.9	18.5	1.65	20.4	0.06	0.11	0.27	99	211
100 ISL	9.63	9.62	33.462	25.815	219.4	0.273	3.75	58.3	18.9	1.67	20.7	0.06	0.10	0.26	100	
120	8.91	8.90	33.835	26.222	180.9	0.313	2.87	44.0	28.1	2.00	26.1	0.03	0.03	0.12	121	210
125 ISL	8.89	8.88	33.874	26.256	177.8	0.322	2.78	42.6	28.9	2.03	26.5	0.03	0.03	0.11	126	
140	8.83	8.82	33.920	26.302	173.8	0.348	2.63	40.3	30.4	2.07	27.1	0.02	0.04	0.09	141	209
150 ISL	8.73	8.71	33.969	26.356	168.8	0.366	2.48	37.9	32.2	2.12	27.8	0.02	0.03	0.07	151	
169	8.49	8.47	34.049	26.456	159.6	0.397	2.20	33.4	36.0	2.23	29.3	0.02	0.02	0.06	170	208
199	8.11	8.09	34.099	26.553	150.8	0.443	1.88	28.3	41.4	2.38	31.1	0.02	0.03	0.13	200	207
200 ISL	8.09	8.07	34.100	26.557	150.5	0.445	1.87	28.2	41.6	2.38	31.2	0.02			201	
230	7.66	7.64	34.108	26.627	144.2	0.489	1.72	25.7	46.6	2.49	32.5	0.02			231	206
250 ISL	7.51	7.49	34.127	26.663	141.0	0.518	1.54	22.9	49.2	2.57	33.2	0.02			251	
269	7.39	7.36	34.143	26.693	138.5	0.544	1.37	20.3	51.5	2.64	33.9	0.02			271	205
300 ISL	7.00	6.97	34.138	26.744	133.9	0.586	1.24	18.2	56.1	2.72	35.2	0.02			302	
319	6.74	6.71	34.133	26.775	131.1	0.612	1.18	17.2	59.1	2.77	36.0	0.02			321	204
378	6.17	6.14	34.158	26.870	122.5	0.686	0.85	12.3	68.9	2.94	38.3	0.02			380	203
400 ISL	6.09	6.05	34.186	26.903	119.7	0.713	0.72	10.4	71.5	3.00	38.7	0.02			403	
440	6.01	5.97	34.240	26.956	115.2	0.760	0.51	7.3	75.4	3.09	39.3	0.01			443	202
500 ISL	5.82	5.78	34.287	27.017	110.0	0.828	0.35	5.0	80.6	3.17	40.1	0.01			503	
511	5.79	5.75	34.296	27.028	109.1	0.840	0.32	4.6	81.6	3.19	40.3	0.01			515	201

RV NEW HORIZON CALCOFI CRUISE 0504 STATION 83 70

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT TYPE
33 14.7 N	121 26.6 W	23/04/05	1751 UTC	3798 m	210 08 kn	180 04 08	2	1012.8 mb	14.9 C	14.0 C	14m	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	14.45	14.45	33.116	24.638	329.2	0.000	6.06	104.1	1.8	0.32	0.1	0.01	1.02	0.37	0	
2 A	14.45	14.45	33.116	24.638	329.3	0.007	6.06	104.1	1.8	0.32	0.1	0.01	1.02	0.37	2	223
9 A	14.44	14.44	33.115	24.640	329.3	0.030	6.07	104.3	1.7	0.31	0.0	0.01	0.94	0.36	9	221
10 ISL	14.41	14.41	33.115	24.646	328.8	0.033	6.08	104.4	1.7	0.31	0.0	0.01	0.98	0.38	10	
20 A	13.95	13.95	33.128	24.752	318.9	0.065	6.26	106.5	1.2	0.31	0.1	0.01	1.37	0.57	20	220
29 A	13.42	13.42	33.153	24.880	307.0	0.093	6.43	108.2	0.4	0.35	0.3	0.02	3.91	1.37	29	218
30 ISL	13.40	13.40	33.154	24.885	306.6	0.097	6.42	108.0	0.4	0.35	0.3	0.02	4.01	1.38	30	
34 A	13.30	13.30	33.156	24.906	304.6	0.109	6.40	107.4	0.6	0.38	0.6	0.04	4.19	1.41	34	217
44	12.71	12.70	33.163	25.029	293.2	0.139	6.08	100.8	2.4	0.56	2.9	0.08	3.91	1.39	44	216
50 ISL	12.44	12.43	33.169	25.086	287.9	0.156	5.90	97.3	3.8	0.65	4.1	0.10	2.87	1.20	50	
55 A	12.25	12.24	33.178	25.129	283.9	0.170	5.78	94.9	4.8	0.72	5.1	0.11	2.21	1.10	55	215
62	12.03	12.02	33.204	25.191	278.2	0.190	5.70	93.2	5.7	0.79	6.5	0.13	2.80	1.31	62	214
71	11.52	11.51	33.183	25.269	270.9	0.215	5.00	80.8	8.5	1.00	9.8	0.12	1.98	1.25	71	213
75 ISL	11.42	11.41	33.237	25.329	265.2	0.225	5.15	83.1	8.9	1.02	9.9	0.13	2.08	1.30	75	
85	11.24	11.23	33.393	25.484	250.8	0.251	5.65	90.9	9.8	1.06	10.0	0.15	2.47	1.38	85	212
100	10.64	10.63	33.434	25.622	237.9	0.288	4.77	75.8	14.0	1.35	14.4	0.13	1.49	0.94	100	211
120	9.52	9.51	33.527	25.884	213.2	0.333	3.68	57.1	20.4	1.68	20.9	0.06	0.32	0.46	121	210
125 ISL	9.38	9.37	33.552	25.926	209.3	0.344	3.66	56.6	21.2	1.71	21.5	0.05	0.20	0.35	126	
139	9.13	9.11	33.630	26.027	199.8	0.372	3.60	55.4	22.9	1.75	22.5	0.03	0.06	0.12	140	209
150 ISL	9.03	9.01	33.721	26.115	191.8	0.394	3.38	51.9	24.9	1.82	23.6	0.03	0.06	0.13	151	
169	8.90	8.88	33.872	26.254	178.9	0.429	2.98	45.7	28.5	1.94	25.5	0.03	0.05	0.14	170	208
200	8.43	8.41	33.981	26.412	164.3	0.482	2.80	42.5	33.5	2.04	27.3	0.02	0.04	0.20	201	207
229	8.09	8.07	34.036	26.507	155.8	0.529	2.40	36.2	38.9	2.19	29.6	0.02			230	206
250 ISL	7.81	7.79	34.058	26.566	150.4	0.561	2.13	31.9	42.9	2.31	31.2	0.01			251	
269	7.54	7.51	34.071	26.615	145.9	0.589	1.89	28.1	46.7	2.42	32.5	0.01			271	205
300 ISL	7.09	7.06	34.092	26.695	138.6	0.633	1.49	21.9	53.5	2.63	34.7	0.01			302	
319	6.83	6.80	34.104	26.740	134.4	0.659	1.28	18.7	57.5	2.74	35.8	0.01			321	204
378	6.33	6.30	34.136	26.832	126.2	0.736	0.94	13.6	65.9	2.86	37.8	0.01			380	203
400 ISL	6.34	6.30	34.181	26.867	123.3	0.763	0.75	10.9	68.3	2.93	38.2	0.01			403	
438	6.36	6.32	34.254	26.922	118.7	0.809	0.46	6.7	72.0	3.06	38.7	0.01			441	202
500 ISL	6.03	5.99	34.287	26.991	112.7	0.881	0.34	4.9	78.2	3.15	39.8	0.01			503	
518	5.94	5.89	34.297	27.010	111.0	0.901	0.30	4.3	80.0	3.17	40.1	0.01			522	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV NEW HORIZON CALCOFI CRUISE 0504 STATION 83 80

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
32 54.5 N	122 7.4 W	23/04/05	2228 UTC	4175 m	310 04 kn	330 03 04	2	1012.7 mb	13.8 C	12.8 C	10m	7/8	NS

DEPTH m	TEMP DEG C	POT TEMP DEG 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	14.15	14.15	33.106	24.693	324.0	0.000	6.38	109.0	0.5	0.29	0.1	0.01	1.53	0.65	0	
2	14.15	14.15	33.106	24.693	324.0	0.006	6.38	109.0	0.5	0.29	0.1	0.01	1.53	0.65	2	222
10	13.82	13.82	33.111	24.766	317.4	0.032	6.30	106.9	0.8	0.31	0.1	0.01	2.07	0.71	10	220
20	13.60	13.60	33.115	24.814	313.0	0.064	6.23	105.2	1.2	0.36	0.3	0.02	3.25	1.17	20	219
26	13.55	13.55	33.117	24.826	312.1	0.082	6.19	104.4	1.3	0.39	0.5	0.03	3.22	1.07	26	218
30	13.51	13.51	33.116	24.833	311.5	0.095	6.17	104.0	1.5	0.40	0.7	0.03	3.38	1.12	30	217
40	13.11	13.10	33.139	24.931	302.4	0.126	5.94	99.3	2.8	0.53	2.0	0.06	2.46	0.96	40	216
50 ISL	12.16	12.15	33.150	25.124	284.2	0.155	5.23	85.7	7.1	0.86	6.8	0.14	1.19	0.85	50	
51	12.05	12.04	33.153	25.147	282.0	0.158	5.15	84.2	7.6	0.90	7.4	0.15	1.07	0.84	51	215
60	11.33	11.32	33.220	25.332	264.6	0.182	4.59	73.9	10.9	1.16	12.0	0.20	0.54	0.73	60	214
70	10.50	10.49	33.293	25.536	245.3	0.208	4.42	70.0	13.5	1.33	15.1	0.11	0.31	0.37	70	213
75 ISL	10.29	10.28	33.328	25.599	239.4	0.220	4.37	68.9	14.5	1.39	16.0	0.09	0.34	0.39	75	
83	10.04	10.03	33.391	25.691	230.8	0.239	4.24	66.5	16.3	1.47	17.3	0.08	0.41	0.49	83	212
100	9.25	9.24	33.590	25.976	203.9	0.276	3.56	54.9	22.4	1.76	22.4	0.04	0.14	0.20	100	211
119	9.18	9.17	33.640	26.027	199.5	0.314	3.43	52.8	23.5	1.81	23.1	0.04	0.09	0.18	120	210
125 ISL	9.19	9.18	33.666	26.046	197.9	0.326	3.33	51.3	24.0	1.84	23.5	0.04	0.08	0.18	126	
140	9.21	9.19	33.744	26.104	192.6	0.355	3.03	46.7	25.6	1.93	24.7	0.03	0.07	0.19	141	209
150 ISL	9.17	9.15	33.813	26.165	187.1	0.374	2.82	43.5	27.2	1.99	25.6	0.03	0.06	0.16	151	
170	9.00	8.98	33.944	26.294	175.2	0.410	2.45	37.7	30.7	2.10	27.3	0.02	0.04	0.08	171	208
199	8.60	8.58	34.042	26.434	162.3	0.459	2.25	34.3	35.5	2.20	28.8	0.02	0.01	0.05	200	207
200 ISL	8.59	8.57	34.044	26.437	162.0	0.461	2.24	34.1	35.7	2.20	28.9	0.02			201	
229	8.29	8.27	34.089	26.519	154.8	0.507	1.97	29.8	40.0	2.33	30.4	0.02			230	206
250 ISL	8.10	8.07	34.117	26.570	150.2	0.539	1.74	26.2	43.1	2.43	31.4	0.02			251	
267	7.95	7.92	34.136	26.607	146.9	0.564	1.56	23.4	45.5	2.51	32.2	0.02			269	205
300 ISL	7.68	7.65	34.157	26.663	142.0	0.612	1.33	19.9	49.4	2.62	33.4	0.02			302	
319	7.54	7.51	34.166	26.691	139.7	0.639	1.22	18.2	51.5	2.67	34.0	0.02			321	204
378	7.14	7.10	34.212	26.784	131.5	0.719	0.86	12.7	58.4	2.83	35.7	0.02			380	203
400 ISL	6.95	6.91	34.222	26.818	128.5	0.747	0.75	11.0	61.6	2.89	36.4	0.02			403	
439	6.61	6.57	34.238	26.877	123.2	0.796	0.58	8.5	67.3	3.00	37.7	0.02			442	202
500 ISL	6.23	6.19	34.271	26.953	116.5	0.870	0.40	5.8	74.5	3.10	39.1	0.02			503	
517	6.13	6.08	34.281	26.974	114.7	0.889	0.35	5.0	76.5	3.13	39.5	0.02			521	201

RV NEW HORIZON CALCOFI CRUISE 0504 STATION 83 90

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
32 34.7 N	122 49.1 W	24/04/05	0409 UTC	4257 m	310 07 kn			1013.7 mb	14.8 C	12.6 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	15.00	15.00	32.989	24.423	349.7	0.000	5.87	101.9	2.1	0.34	0.0	0.00	0.20	0.00	0	
2	15.00	15.00	32.989	24.423	349.8	0.007	5.87	101.9	2.1	0.34	0.0	0.00	0.20	0.00	2	222
10 ISL	15.01	15.01	33.014	24.440	348.4	0.035	5.87	102.0	2.0	0.34	0.0	0.01	0.21	0.02	10	
15	15.02	15.02	33.039	24.457	346.9	0.052	5.87	102.0	1.9	0.34	0.0	0.01	0.22	0.03	15	220
20 ISL	14.93	14.93	33.037	24.475	345.3	0.070	5.88	102.0	2.0	0.34	0.0	0.01	0.23	0.03	20	
30	14.71	14.71	33.021	24.511	342.3	0.104	5.91	102.0	2.2	0.34	0.0	0.01	0.26	0.02	30	219
45	14.57	14.56	33.015	24.536	340.2	0.155	5.93	102.1	2.3	0.34	0.0	0.01	0.31	0.03	45	218
50 ISL	14.48	14.47	33.030	24.567	337.5	0.172	5.94	102.1	2.4	0.34	0.0	0.01	0.33	0.08	50	
55	14.39	14.38	33.044	24.597	334.7	0.189	5.94	101.9	2.5	0.34	0.0	0.01	0.38	0.12	55	217
65	14.27	14.26	33.044	24.622	332.6	0.222	5.94	101.6	2.6	0.35	0.1	0.01	0.62	0.10	65	216
75 ISL	14.14	14.13	33.059	24.661	329.2	0.255	5.92	101.0	2.8	0.36	0.2	0.02	0.56	0.12	75	
76	14.13	14.12	33.060	24.664	328.9	0.259	5.92	101.0	2.8	0.36	0.2	0.02	0.55	0.12	76	214
85	12.14	12.13	33.049	25.050	292.1	0.287	5.51	90.2	5.0	0.71	5.1	0.12	0.57	0.33	85	213
95	11.03	11.02	33.092	25.287	269.6	0.315	5.11	81.7	7.5	0.96	9.4	0.14	0.40 A	0.25 A	95	212
100 ISL	10.62	10.61	33.161	25.413	257.7	0.328	4.86	77.0	9.6	1.11	11.9	0.11	0.32	0.21	100	
110	10.03	10.02	33.311	25.631	237.1	0.353	4.41	69.1	13.8	1.38	16.3	0.04	0.20	0.15	110	211
125	9.70	9.69	33.417	25.769	224.3	0.387	4.14	64.4	16.4	1.51	18.5	0.02	0.10	0.11	126	210
144	9.28	9.26	33.669	26.034	199.4	0.427	3.60	55.6	21.9	1.73	22.1	0.01	0.03	0.02	145	209
150 ISL	9.20	9.18	33.719	26.086	194.5	0.439	3.49	53.8	23.0	1.77	22.7	0.01	0.02	0.02	151	
168	9.03	9.01	33.829	26.200	184.1	0.473	3.22	49.5	25.8	1.85	24.2	0.01	0.01	0.02	169	208
199	8.69	8.67	33.975	26.368	168.7	0.528	2.63	40.1	31.8	2.07	27.3	0.01	0.01	0.01	200	207
200 ISL	8.68	8.66	33.978	26.372	168.3	0.530	2.62	40.0	32.0	2.07	27.4	0.01			201	
229	8.39	8.37	34.050	26.473	159.1	0.577	2.35	35.6	36.2	2.18	29.0	0.01			230	206
250 ISL	8.12	8.09	34.076	26.534	153.6	0.610	2.12	32.0	39.9	2.29	30.3	0.01			251	
268	7.88	7.85	34.091	26.582	149.3	0.637	1.91	28.6	43.3	2.39	31.4	0.01			270	205
300 ISL	7.48	7.45	34.119	26.662	142.0	0.684	1.52	22.6	49.3	2.56	33.4	0.01			302	
317	7.28	7.25	34.132	26.701	138.5	0.708	1.33	19.7	52.4	2.65	34.4	0.01			319	204
378	6.64	6.61	34.161	26.811	128.5	0.789	0.93	13.6	62.3	2.86	37.0	0.01			380	203
400 ISL	6.48	6.44	34.173	26.842	125.8	0.817	0.81	11.8	65.3	2.92	37.7	0.01			403	
437	6.25	6.21	34.197	26.891	121.5	0.863	0.64	9.2	70.1	3.00	38.6	0.01			440	202
500 ISL	5.91	5.87	34.248	26.975	114.1	0.937	0.42	6.0	78.0	3.12	39.8	0.00			503	
519	5.81	5.77	34.264	27.001	111.8	0.959	0.36	5.1	80.4	3.15	40.2	0.00			522	201

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

RV NEW HORIZON CALCOFI CRUISE 0504 STATION 83 100

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT TYPE
32 14.6 N	123 29.7 W	24/04/05	0936 UTC	4149 m	300 14 kn			1014.9 mb	14.9 C	13.0 C		

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	15.01	15.01	33.032	24.454	346.8	0.000	5.86	101.8	2.3	0.35	0.0	0.00	0.16	0.02	0	
2	15.01	15.01	33.032	24.454	346.9	0.007	5.86	101.8	2.3	0.35	0.0	0.00	0.16	0.02	2	222
10 ISL	15.01	15.01	33.032	24.454	347.1	0.035	5.86	101.8	2.3	0.35	0.0	0.00	0.17	0.01	10	
16	15.01	15.01	33.032	24.454	347.2	0.056	5.87	102.0	2.3	0.35	0.0	0.00	0.17	0.01	16	220
20 ISL	14.96	14.96	33.032	24.465	346.3	0.069	5.88	102.0	2.3	0.35	0.0	0.00	0.17	0.02	20	
30 ISL	14.83	14.83	33.033	24.494	343.8	0.104	5.90	102.1	2.3	0.34	0.0	0.00	0.16	0.04	30	
31	14.82	14.82	33.033	24.496	343.6	0.107	5.90	102.1	2.3	0.34	0.0	0.00	0.16	0.04	31	219
44	14.78	14.77	33.032	24.505	343.2	0.152	5.90	102.0	2.3	0.37	0.0	0.00	0.22	0.07	44	218
50 ISL	14.77	14.76	33.031	24.506	343.3	0.173	5.90	102.0	2.3	0.35	0.0	0.00	0.25	0.08	50	
55	14.76	14.75	33.030	24.508	343.3	0.190	5.90	102.0	2.3	0.34	0.0	0.00	0.28	0.09	55	217
64	14.72	14.71	33.028	24.515	342.8	0.221	5.89	101.7	2.3	0.35	0.0	0.00	0.38	0.14	64	216
74	13.49	13.48	33.005	24.753	320.3	0.254	5.95	100.2	3.2	0.44	0.6	0.03	0.83	0.31	74	215
75 ISL	13.29	13.28	33.013	24.799	315.9	0.257	5.89	98.8	3.5	0.48	1.2	0.05	0.80	0.31	75	
79	12.52	12.51	33.050	24.979	298.8	0.269	5.60	92.4	4.7	0.65	4.0	0.11	0.63	0.32	79	214
84	12.03	12.02	33.068	25.086	288.7	0.284	5.37	87.7	5.8	0.79	6.2	0.14	0.42	0.39	84	213
95	11.05	11.04	33.132	25.315	267.0	0.315	4.93	78.9	8.7	1.05	10.8	0.08	0.27	0.42	95	212
100 ISL	10.77	10.76	33.153	25.380	260.8	0.328	4.81	76.5	9.7	1.13	12.1	0.06	0.20	0.41	100	
110	10.27	10.26	33.218	25.518	247.9	0.353	4.57	71.9	12.1	1.28	14.6	0.03	0.09	0.39	110	211
124	9.35	9.34	33.434	25.839	217.5	0.386	4.02	62.1	18.4	1.61	20.0	0.02	0.06	0.05	125	210
125 ISL	9.34	9.33	33.451	25.854	216.1	0.388	4.02	62.1	18.6	1.61	20.0	0.02	0.06	0.05	126	
144	9.20	9.18	33.674	26.051	197.8	0.427	4.01	61.8	20.7	1.59	20.4	0.01	0.01	0.02	145	209
150 ISL	9.14	9.12	33.727	26.102	193.0	0.439	3.98	61.3	21.5	1.60	20.7	0.01	0.01	0.02	151	
169	8.94	8.92	33.856	26.235	180.7	0.474	3.73	57.2	24.8	1.69	22.4	0.01	0.00	0.01	170	208
199	8.61	8.59	33.986	26.389	166.6	0.527	2.81	42.8	31.9	2.02	26.9	0.01	0.00	0.01	200	207
200 ISL	8.60	8.58	33.988	26.392	166.4	0.528	2.80	42.7	32.1	2.02	27.0	0.01			201	
228	8.21	8.19	34.023	26.479	158.5	0.574	2.60	39.3	36.4	2.12	28.6	0.01			229	206
250 ISL	7.81	7.79	34.036	26.549	152.0	0.608	2.35	35.2	41.3	2.25	30.4	0.01			251	
268	7.49	7.46	34.042	26.599	147.4	0.635	2.13	31.6	45.4	2.36	31.9	0.01			269	205
300 ISL	7.11	7.08	34.055	26.663	141.6	0.681	1.81	26.7	50.6	2.51	33.8	0.01			302	
321	6.90	6.87	34.063	26.699	138.4	0.710	1.62	23.7	53.8	2.60	34.8	0.01			323	204
375	6.22	6.19	34.084	26.805	128.6	0.783	1.24	17.9	63.9	2.80	37.4	0.01			377	203
400 ISL	6.12	6.08	34.116	26.844	125.3	0.814	1.02	14.7	67.3	2.89	38.2	0.01			402	
436	6.04	6.00	34.169	26.896	120.8	0.859	0.72	10.3	71.6	3.00	39.0	0.01			439	202
500 ISL	5.72	5.68	34.235	26.989	112.6	0.933	0.44	6.3	80.3	3.14	40.5	0.01			503	
515	5.64	5.60	34.251	27.011	110.6	0.950	0.37	5.3	82.4	3.17	40.8	0.01			518	201

RV NEW HORIZON CALCOFI CRUISE 0504 STATION 83 110

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT TYPE
31 54.1 N	124 10.2 W	24/04/05	1650 UTC	4181 m	310 11 kn	290 05 08	2	1017.8 mb	15.8 C	13.1 C	27m	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	14.90	14.90	32.950	24.414	350.6	0.000	5.88	101.9	2.1	0.35	0.0	0.00	0.12	0.02	0	
2 A	14.90	14.90	32.950	24.414	350.6	0.007	5.88	101.9	2.1	0.35	0.0	0.00	0.12	0.02	2	224
10 ISL	14.89	14.89	32.950	24.417	350.6	0.035	5.89	102.0	2.1	0.35	0.0	0.00	0.12	0.02	10	
17 A	14.89	14.89	32.949	24.416	350.9	0.060	5.89	102.0	2.1	0.35	0.0	0.00	0.12	0.02	17	222
20 ISL	14.85	14.85	32.946	24.422	350.4	0.070	5.89	101.9	2.1	0.35	0.0	0.00	0.12	0.02	20	
26	14.77	14.77	32.941	24.436	349.2	0.091	5.89	101.8	2.1	0.35	0.0	0.00	0.12	0.03	26	221
30 ISL	14.73	14.73	32.939	24.443	348.7	0.105	5.90	101.9	2.1	0.35	0.0	0.00	0.12	0.03	30	
37 A	14.68	14.67	32.938	24.453	347.9	0.129	5.91	101.9	2.1	0.35	0.0	0.00	0.13	0.03	37	220
47	14.66	14.65	32.941	24.460	347.6	0.164	5.91	101.9	2.1	0.35	0.0	0.00	0.17	0.06	47	219
50 ISL	14.65	14.64	32.940	24.462	347.5	0.175	5.91	101.9	2.1	0.35	0.0	0.00	0.18	0.06	50	
58 A	14.64	14.63	32.940	24.464	347.5	0.202	5.91	101.8	2.1	0.35	0.0	0.00	0.20	0.07	58	217
65 A	14.64	14.63	32.949	24.471	347.0	0.227	5.87	101.1	2.1	0.35	0.0	0.00	0.11	0.02	65	216
75	14.60	14.59	32.941	24.474	347.1	0.261	5.90	101.6	2.1	0.35	0.0	0.00	0.29	0.11	75	215
86	12.94	12.93	33.024	24.877	308.7	0.298			3.3	0.51	2.1	0.04	0.45	0.23	86	214
95	12.25	12.24	33.067	25.044	293.0	0.325	5.56	91.2	4.3	0.65	4.2	0.07	0.31	0.25	95	213
100 ISL	11.79	11.78	33.100	25.156	282.4	0.339	5.36	87.1	5.7	0.78	6.4	0.09	0.26	0.25	100	
105 A	11.34	11.33	33.134	25.265	272.1	0.353	5.15	82.9	7.4	0.92	8.8	0.10	0.22	0.24	105	212
114	10.74	10.73	33.183	25.409	258.4	0.377	4.82	76.6	10.0	1.12	12.2	0.10	0.16	0.23	114	211
125	10.10	10.09	33.291	25.604	240.0	0.404	4.53	71.1	13.1	1.31	15.3	0.05	0.12	0.16	126	210
140	9.42	9.40	33.495	25.875	214.4	0.438	4.02	62.2					0.06	0.07	141	209
150 ISL	9.19	9.17	33.642	26.028	200.1	0.459	3.62	55.8	21.8	1.71	21.8	0.02	0.03	0.04	151	
164	9.00	8.98	33.823	26.200	184.0	0.486	3.12	47.9	26.6	1.88	24.6	0.01	0.01	0.02	165	208
195	8.57	8.55	34.002	26.407	164.8	0.540	2.62	39.9	33.4	2.07	27.6	0.01	0.00	0.02	196	207
200 ISL	8.53	8.51	34.018	26.426	163.1	0.548	2.54	38.6	34.2	2.10	28.0	0.01			201	
229	8.35	8.33	34.077	26.500	156.5	0.594	2.10	31.8	38.4	2.27	29.8	0.01			230	206
250 ISL	8.16	8.13	34.100	26.547	152.4	0.627	1.89	28.5	41.3	2.36	30.8	0.01			251	
269	7.96	7.93	34.114	26.588	148.7	0.655	1.74	26.1	43.9	2.43	31.7	0.01			270	205
300 ISL	7.62	7.59	34.142	26.660	142.3	0.701	1.45	21.6	48.6	2.57	33.2	0.01			302	
317	7.45	7.42	34.157	26.696	139.0	0.725	1.30	19.3	51.1	2.64	34.0	0.01			319	204
377	7.03	6.99	34.200	26.790	130.9	0.805	0.88	12.9	58.9	2.83	35.9	0.01			379	203
400 ISL	6.85	6.81	34.216	26.827	127.6	0.835	0.75	11.0	62.2	2.90	36.7	0.01			402	
439	6.55	6.51	34.243	26.889	122.1	0.884	0.57	8.3	67.9	3.00	37.9	0.01			442	202
500 ISL	6.14	6.10	34.291	26.980	113.9	0.956	0.36	5.2	76.2	3.12	39.5	0.01			503	
513	6.05	6.00	34.301	27.000	112.1	0.971	0.31	4.5	78.0	3.15	39.8	0.01			516	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV NEW HORIZON CALCOFI CRUISE 0504 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 0.7 N	118 50.2 W	01/05/05	0307 UTC	32 m	270 17 kn			1015.8 mb	14.9 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
1	15.35	15.35	33.372	24.641	328.9	0.003	6.53	114.5	2.2	0.37	0.8	0.07	3.02	1.01	1	206
5	15.33	15.33	33.372	24.646	328.6	0.016	6.52	114.2	2.1	0.34	0.8	0.08	3.97	1.01	5	205
10	14.09	14.09	33.403	24.935	301.2	0.032	6.06	103.6	2.7	0.51	2.5	0.11	3.26	1.46	10	204
15	13.31	13.31	33.463	25.141	281.7	0.047	5.33	89.7	4.3	0.77	5.2	0.14	1.36	0.85	15	203
20	12.88	12.88	33.491	25.249	271.6	0.061	4.97	82.9	5.3	0.92	6.6	0.15	1.17	0.98	20	202
25	12.66	12.66	33.506	25.304	266.5	0.074	4.75	78.8	5.8	1.02	7.5	0.17	1.31	0.81	25	201

RV NEW HORIZON CALCOFI CRUISE 0504 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 53.2 N	118 26.5 W	22/04/05	0553	UTC	23 m	270	02 kn			1014.8 mb	15.4 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	15.55	15.55	33.452	24.659	327.3	0.000	7.61	134.0	0.0	0.07	0.0	0.01	1.44	0.34	0	
1	15.55	15.55	33.452	24.659	327.3	0.003	7.61	134.0	0.0	0.07	0.0	0.01	1.44	0.34	1	204
5	15.27	15.27	33.455	24.723	321.3	0.016	7.62	133.4	0.0	0.09	0.0	0.01	2.03	0.32	5	203
10	15.09	15.09	33.461	24.767	317.2	0.032	7.54	131.5	0.0	0.11	0.0	0.02	2.54	0.35	10	202
15	14.73	14.73	33.467	24.850	309.5	0.048	7.33	127.0	0.2	0.17	0.4	0.03	4.37	0.68	15	201

RV NEW HORIZON CALCOFI CRUISE 0504 STATION 87 33

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE
33 53.1 N	118 29.6 W	22/04/05	0654	UTC	57 m	210	03 kn			1014.4 mb	15.2 C	13.3 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	15.43	15.43	33.410	24.653	327.8	0.000	7.84	137.7	1.0	0.09	0.0	0.01	2.43	0.55	0	
1	15.43	15.43	33.410	24.653	327.8	0.003	7.84	137.7	1.0	0.09	0.0	0.01	2.43	0.55	1	208
4	15.43	15.43	33.411	24.654	327.8	0.013	7.84	137.7	1.0	0.09	0.0	0.01	3.55	0.19	4	207
10	15.23	15.23	33.419	24.704	323.2	0.033	7.67	134.2	0.9	0.12	0.0	0.01	4.35	0.02	10	206
20	13.75	13.75	33.452	25.044	291.2	0.063	6.56	111.4	2.1	0.33	1.4	0.07	5.39	0.59	20	205
24	12.99	12.99	33.470	25.211	275.3	0.075	6.12	102.3	2.4	0.50	2.7	0.11	3.10	1.08	24	204
30	12.27	12.27	33.501	25.375	259.9	0.091	4.90	80.7	6.0	1.01	8.0	0.23	2.09	0.98	30	203
40	11.73	11.72	33.470	25.453	252.7	0.116	4.02	65.4	10.4	1.51	12.6	0.32	2.55	0.84	40	202
50	10.76	10.75	33.630	25.753	224.3	0.140	2.86	45.6	17.7	1.94	19.4	0.29	3.84	2.44	50	201

RV NEW HORIZON CALCOFI CRUISE 0504 STATION 87 35

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE
33 49.2 N	118 37.9 W	22/04/05	0915	UTC	691 m	330	03 kn			1013.5 mb	14.9 C	13.0 C				

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	14.91	14.91	33.416	24.771	316.5	0.000	7.46	129.6	0.0	0.15	0.0	0.01	1.87	0.17	0	
2	14.91	14.91	33.416	24.771	316.6	0.006	7.46	129.6	0.0	0.15	0.0	0.01	1.87	0.17	2	222
10 ISL	14.46	14.46	33.453	24.896	304.9	0.031	8.05	138.7	0.0	0.17	0.0	0.01	1.83	0.22	10	
11	14.35	14.35	33.460	24.925	302.2	0.034	8.10	139.2	0.0	0.17	0.0	0.01	1.83	0.23	11	220
20 ISL	12.68	12.68	33.544	25.329	264.0	0.060	6.79	112.8	1.0	0.38	2.2	0.07	1.97	0.50	20	
21	12.50	12.50	33.553	25.371	260.0	0.062	6.56	108.6	1.1	0.43	2.4	0.08	1.98	0.55	21	219
26	12.07	12.07	33.564	25.462	251.5	0.075	5.48	89.9	1.7	0.82	6.6	0.13	2.85	0.99	26	218
29	11.73	11.73	33.571	25.531	245.0	0.083	4.62	75.2	3.0	1.19	10.5	0.18	2.44	1.29	29	217
30 ISL	11.63	11.63	33.575	25.553	242.9	0.085	4.40	71.5	3.7	1.28	11.5	0.18	2.45	1.35	30	
40	10.91	10.91	33.621	25.719	227.3	0.109	3.06	49.0	12.2	1.79	18.2	0.23	2.72	1.92	40	216
50	10.56	10.55	33.663	25.813	218.5	0.131	2.77	44.0	19.3	1.85	21.2	0.24	1.35	0.94	50	215
59	10.38	10.37	33.720	25.889	211.5	0.150	2.64	41.8	21.7	1.92	22.3	0.33	0.75	0.97	59	214
69	10.23	10.22	33.784	25.965	204.5	0.171	2.65	41.8	22.7	1.92	22.8	0.13	0.52	0.64	69	213
75 ISL	10.15	10.14	33.825	26.011	200.3	0.183	2.61	41.1	23.6	1.94	23.2	0.11	0.48	0.62	75	
86	10.04	10.03	33.898	26.087	193.4	0.205	2.49	39.2	25.3	2.00	24.0	0.07	0.45	0.59	86	212
100	9.93	9.92	33.984	26.173	185.5	0.231	2.29	35.9	27.4	2.08	25.0	0.05	0.28	0.61	101	211
118	9.84	9.83	34.047	26.237	179.7	0.264	2.13	33.4	29.1	2.14	25.7	0.04	0.16	0.38	119	210
125 ISL	9.81	9.80	34.084	26.271	176.7	0.277	2.04	32.0	30.1	2.18	26.1	0.04	0.16	0.43	126	
141	9.72	9.70	34.165	26.350	169.5	0.304	1.82	28.5	32.4	2.26	27.0	0.03	0.19	0.58	142	209
150 ISL	9.62	9.60	34.188	26.385	166.4	0.319	1.74	27.2	33.5	2.30	27.5	0.03	0.16	0.51	151	
168	9.41	9.39	34.213	26.439	161.6	0.349	1.60	24.9	35.5	2.36	28.3	0.02	0.10	0.33	169	208
198	9.20	9.18	34.239	26.494	156.9	0.397	1.41	21.8	38.4	2.46	29.2	0.02	0.15	0.37	199	207
200 ISL	9.20	9.18	34.240	26.495	156.9	0.400	1.40	21.7	38.5	2.46	29.2	0.02			201	
229	9.10	9.07	34.247	26.517	155.4	0.445	1.34	20.7	39.6	2.49	29.5	0.01			230	206
250 ISL	8.83	8.80	34.247	26.560	151.6	0.477	1.26	19.3	41.9	2.54	30.3	0.01			252	
269	8.55	8.52	34.246	26.603	147.7	0.506	1.19	18.1	44.3	2.59	31.1	0.01			271	205
300 ISL	8.20	8.17	34.241	26.653	143.4	0.551	1.10	16.6	47.6	2.65	32.1	0.01			302	
321	7.99	7.96	34.237	26.681	140.9	0.581	1.05	15.8	49.6	2.69	32.7	0.01			323	204
377	7.55	7.51	34.236	26.745	135.5	0.658	0.90	13.4	54.6	2.79	34.3	0.01			379	203
400 ISL	7.36	7.32	34.230	26.768	133.6	0.689	0.87	12.9	56.7	2.82	34.9	0.01			403	
433	7.08	7.04	34.225	26.803	130.6	0.733	0.81	11.9	60.0	2.87	35.8	0.01			436	202
500 ISL	6.57	6.52	34.268	26.907	121.3	0.817	0.51	7.4	69.4	3.03	37.7	0.01			504	
511	6.49	6.44	34.276	26.924	119.8	0.830	0.46	6.7	70.9	3.06	38.0	0.01			515	201

RV NEW HORIZON CALCOFI CRUISE 0504 STATION 87 40

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
33 39.2 N	118 58.4 W	22/04/05	1407 UTC	695 m	230 02 kn	200 03 07	1	1012.7 mb	13.8 C	12.4 C	15m	7/8	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	14.70	14.70	33.265	24.700	323.3	0.000	6.12	105.8	0.4	0.34	0.2	0.01	0.49	0.18	0	
2	14.70	14.70	33.265	24.700	323.4	0.006	6.12	105.8	0.4	0.34	0.2	0.01	0.49	0.18	2	224
10	14.70	14.70	33.265	24.700	323.6	0.032	6.14	106.2	0.2	0.35	0.1	0.01	0.47	0.16	10	223
20	13.69	13.69	33.252	24.901	304.7	0.064	6.25	105.8	0.3	0.35	0.2	0.01	0.89	0.19	20	222
30	11.70	11.70	33.446	25.439	253.7	0.092	4.80	78.0	7.8	1.16	10.3	0.20	1.42	0.76	30	221
40	11.20	11.20	33.473	25.552	243.2	0.117	3.87	62.3	13.7	1.46	15.3	0.22	1.86	1.57	40	220
50	10.55	10.54	33.464	25.660	233.1	0.140	3.76	59.6	16.4	1.53	17.7	0.15	0.63	0.52	50	219
60	10.16	10.15	33.560	25.802	219.8	0.163	3.51	55.2	19.2	1.66	19.7	0.06	0.21	0.28	60	218
69	9.86	9.85	33.652	25.925	208.3	0.182	3.33	52.1	21.4	1.74	21.4	0.04	0.15	0.23	69	217
75 ISL	9.89	9.88	33.713	25.967	204.4	0.195	3.12	48.8	22.4	1.80	22.2	0.04	0.13	0.20	75	
84	10.02	10.01	33.795	26.010	200.6	0.213	2.79	43.8	23.7	1.90	23.1	0.05	0.12	0.16	84	216
99	9.90	9.89	33.892	26.106	191.8	0.242	2.52	39.5	26.3	2.01	24.4	0.03	0.08	0.16	100	215
100 ISL	9.89	9.88	33.897	26.111	191.3	0.244	2.50	39.2	26.5	2.02	24.5	0.03	0.08	0.16	101	
119	9.64	9.63	33.996	26.231	180.3	0.280	2.23	34.8	29.4	2.12	25.9	0.06	0.08	0.24	120	214
125 ISL	9.58	9.57	34.026	26.264	177.3	0.290	2.16	33.7	30.3	2.15	26.3	0.05	0.07	0.22	126	
137	9.45	9.43	34.081	26.329	171.4	0.311	2.04	31.7	32.0	2.20	27.0	0.01	0.05	0.17	138	213
150 ISL	9.30	9.28	34.121	26.385	166.3	0.333	1.91	29.6	33.8	2.26	27.7	0.01	0.05	0.17	151	
168	9.08	9.06	34.156	26.448	160.6	0.363	1.76	27.1	36.3	2.34	28.7	0.01	0.04	0.17	169	212
198	8.72	8.70	34.178	26.522	154.0	0.410	1.59	24.3	40.0	2.43	30.0	0.01	0.03	0.14	199	211
200 ISL	8.70	8.68	34.180	26.527	153.6	0.413	1.58	24.2	40.2	2.44	30.1	0.01			201	
227	8.49	8.47	34.200	26.575	149.5	0.454	1.43	21.8	42.8	2.51	30.8	0.00			228	210
250 ISL	8.16	8.13	34.209	26.633	144.3	0.488	1.27	19.2	46.5	2.60	32.0	0.00			252	
267	7.91	7.88	34.214	26.674	140.6	0.512	1.15	17.3	49.4	2.66	32.9	0.00			269	209
300 ISL	7.57	7.54	34.225	26.733	135.4	0.557	0.98	14.6	53.8	2.76	34.1	0.01			302	
318	7.43	7.40	34.231	26.757	133.3	0.581	0.90	13.4	55.9	2.80	34.6	0.01			320	208
377	7.09	7.05	34.247	26.818	128.2	0.659	0.72	10.6	61.3	2.90	35.9	0.01			379	207
400 ISL	6.99	6.95	34.258	26.841	126.4	0.688	0.65	9.6	63.6	2.94	36.3	0.01			403	
437	6.81	6.77	34.278	26.882	123.0	0.734	0.53	7.8	67.6	3.01	36.9	0.01			440	206
475	6.52	6.48	34.296	26.935	118.2	0.780	0.41	6.0	72.4	3.08	37.8	0.01			478	205
500 ISL	6.37	6.32	34.307	26.964	115.7	0.809	0.35	5.1	75.1	3.11	38.3	0.01			504	
511	6.30	6.25	34.312	26.977	114.6	0.822	0.33	4.8	76.4	3.13	38.5	0.01			515	204
566	5.88	5.83	34.352	27.062	106.8	0.883	0.23	3.3	86.8	3.23	39.1	0.02			570	203
600 ISL	5.65	5.60	34.367	27.103	103.1	0.918	0.18	2.6	92.3	3.27	39.0	0.02			604	
632	5.48	5.43	34.377	27.131	100.6	0.951	0.15	2.1	96.4	3.30	39.0	0.02			637	202
691	5.35	5.29	34.389	27.157	98.7	1.010	0.13	1.8	100.8	3.33	38.3	0.04			696	201

RV NEW HORIZON CALCOFI CRUISE 0504 STATION 87 45

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
33 29.0 N	119 19.5 W	22/04/05	1833 UTC	1625 m	260 08 kn	250 02 08	2	1016.5 mb	14.3 C	12.9 C	07m	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	12.70	12.70	33.318	25.150	280.5	0.000	6.77	112.4	1.2	0.40	2.3	0.10	4.08	1.35	0	
2 A	12.70	12.70	33.318	25.150	280.6	0.006	6.77	112.3	1.2	0.40	2.3	0.10	4.08	1.35	2	224
5 A	12.68	12.68	33.321	25.156	280.1	0.014	6.77	112.3	1.3	0.42	2.3	0.11	4.07	1.32	5	223
10 A	12.63	12.63	33.319	25.164	279.4	0.028	6.74	111.7	1.3	0.41	2.5	0.10	4.40	1.35	10	222
16 A	12.50	12.50	33.330	25.198	276.4	0.045	6.62	109.4	1.4	0.46	3.1	0.10	5.13	1.76	16	221
18 A	12.47	12.47	33.346	25.216	274.7	0.050	6.51	107.5	1.6	0.46	3.5	0.10	5.74	1.90	18	219
20 ISL	12.43	12.43	33.362	25.236	272.8	0.056	6.36	105.0	1.9	0.49	3.9	0.10	5.69	1.90	20	
28 A	11.98	11.98	33.410	25.359	261.3	0.077	5.68	92.9	5.6	0.80	7.1	0.11	5.51	1.90	28	218
30 ISL	11.70	11.70	33.416	25.416	255.9	0.082	5.50	89.4	7.5	0.93	8.6	0.12	4.47	1.63	30	
35	11.07	11.07	33.424	25.537	244.5	0.095	5.08	81.5	12.3	1.23	12.4	0.13	2.11	1.00	35	217
40	10.95	10.95	33.414 D	25.551	243.3	0.107							2.11	1.00	40	216
50	10.38	10.37	33.402	25.641	234.9	0.131	4.38	69.2	15.3	1.41	16.0	0.17	0.85	0.77	50	215
60	9.91	9.90	33.495	25.793	220.6	0.154	3.88	60.7	18.5	1.59	19.2	0.16	0.34	0.51	60	214
70	9.93	9.92	33.645	25.907	210.0	0.175	3.38	52.9	21.6	1.75	21.0	0.15	0.34	0.40	70	213
75 ISL	9.92	9.91	33.710	25.960	205.1	0.185	3.14	49.2	23.0	1.83	22.0	0.13	0.30	0.40	75	
85	9.90	9.89	33.820	26.049	196.9	0.206	2.75	43.1	25.2	1.95	23.6	0.08	0.21	0.40	85	212
100	9.73	9.72	33.890	26.133	189.2	0.235	2.56	40.0	27.2	2.03	24.7	0.06	0.10	0.38	101	211
119	9.42	9.41	33.929	26.214	181.8	0.270	2.52	39.1	29.4	2.08	25.6	0.07	0.08	0.27	120	210
125 ISL	9.41	9.40	33.957	26.238	179.7	0.281	2.41	37.4	30.3	2.12	26.0	0.09	0.08	0.26	126	
140	9.37	9.35	34.020	26.294	174.7	0.307	2.12	32.9	32.3	2.21	27.0	0.12	0.07	0.25	141	209
150 ISL	9.32	9.30	34.043	26.320	172.4	0.325	2.05	31.8	33.1	2.24	27.4	0.10	0.06	0.24	151	
169	9.17	9.15	34.078	26.372	167.8	0.357	1.98	30.6	34.7	2.28	28.0	0.05	0.05	0.21	170	208
198	8.86	8.84	34.156	26.483	157.8	0.404	1.68	25.8	38.7	2.40	29.5	0.02	0.04	0.16	199	207
200 ISL	8.84	8.82	34.159	26.489	157.3	0.407	1.67	25.6	38.9	2.41	29.6	0.02			201	
229	8.59	8.57	34.181	26.545	152.4	0.452	1.50	22.9	41.8	2.48	30.6	0.01			230	206
250 ISL	8.36	8.33	34.195	26.592	148.3	0.484	1.38	20.9	44.6	2.55	31.4	0.01			252	
268	8.15	8.12	34.205	26.631	144.8	0.510	1.27	19.2	47.1	2.61	32.1	0.01			270	205
300 ISL	7.82	7.79	34.221	26.693	139.3	0.556	1.09	16.3	51.4	2.70	33.3	0.01			302	
319	7.64	7.61	34.230	26.727	136.3	0.582	0.99	14.8	54.0	2.76	34.0	0.01			321	204
378	7.09	7.05	34.270	26.837	126.5	0.659	0.63	9.3	62.8	2.95	36.0	0.01			380	203
400 ISL	6.92	6.88	34.281	26.869	123.7	0.687	0.54	7.9	65.7	3.00	36.6	0.01			403	
437	6.67	6.63	34.297	26.915	119.6	0.732	0.43	6.3	70.3	3.06	37.4	0.01			440	202
500 ISL	6.27	6.23	34.325	26.991	113.1	0.805	0.30	4.3	78.3	3.15	38.5	0.01			504	
517	6.16	6.11	34.333	27.011	111.2	0.824	0.27	3.9	80.4	3.18	38.8	0.01			521	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV NEW HORIZON CALCOFI CRUISE 0504 STATION 87 50

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT TYPE
33 19.3 N	119 39.9 W	26/04/05	1245 UTC	84 m	310 20 kn			1014.7 mb	13.4 C	12.1 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	14.10	14.10	33.111	24.708	322.6	0.000	6.01	102.5	1.0	0.33	0.2	0.01	1.20	0.32	0	
2	14.10	14.10	33.111	24.708	322.7	0.006	6.01	102.5	1.0	0.33	0.2	0.01	1.20	0.32	2	209
10 ISL	14.10	14.10	33.113	24.709	322.7	0.032	6.02	102.7	1.0	0.33	0.2	0.01	1.22	0.31	10	
11	14.10	14.10	33.113	24.709	322.7	0.035	6.02	102.7	1.0	0.33	0.2	0.01	1.22	0.31	11	207
20 ISL	14.00	14.00	33.118	24.734	320.6	0.064	6.08	103.5	1.0	0.35	0.3	0.01	1.35	0.39	20	
21	13.99	13.99	33.118	24.736	320.5	0.068	6.08	103.5	1.0	0.35	0.3	0.01	1.38	0.40	21	206
30 ISL	13.30	13.30	33.150	24.902	304.9	0.096	5.95	99.9	1.6	0.48	1.5	0.05	1.80	0.86	30	
31	13.22	13.22	33.154	24.921	303.1	0.099	5.93	99.4	1.7	0.50	1.7	0.05	1.83	0.92	31	205
39	12.87	12.86	33.170	25.003	295.6	0.123	5.90	98.2	2.9	0.60	2.8	0.07	1.66	1.26	39	204
50 ISL	12.78	12.77	33.174	25.024	293.8	0.155	5.79	96.1	3.2	0.62	3.1	0.07	1.54	1.55	50	
51	12.78	12.77	33.174	25.024	293.9	0.158	5.78	96.0	3.2	0.62	3.1	0.07	1.53	1.55	51	203
60	12.46	12.45	33.179	25.090	287.8	0.184	5.70	94.0	4.3	0.70	4.5	0.08	1.45	1.21	60	202
75	10.41	10.40	33.467	25.687	231.1	0.223	4.27	67.5	16.9	1.41	16.1	0.10	0.35	0.50	75	201

RV NEW HORIZON CALCOFI CRUISE 0504 STATION 87 55

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT TYPE
33 9.3 N	120 0.2 W	26/04/05	0843 UTC	1209 m	320 19 kn			1016.2 mb	14.0 C	12.1 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	13.58	13.58	33.180	24.868	307.4	0.000	6.20	104.7	0.4	0.37	1.1	0.05	2.30	0.65	0	
1	13.58	13.58	33.180	24.868	307.4	0.003	6.20	104.7	0.4	0.37	1.1	0.05	2.30	0.65	1	220
10	13.58	13.58	33.181	24.869	307.5	0.031	6.21	104.9	0.4	0.38	1.1	0.05	2.32	0.64	10	219
20	13.58	13.58	33.182	24.870	307.7	0.062	6.21	104.9	0.4	0.38	1.1	0.05	2.24	0.72	20	218
30	13.44	13.44	33.188	24.903	304.8	0.092	6.19	104.2	0.6	0.41	1.5	0.06	2.25	0.71	30	217
40	13.45	13.44	33.210	24.918	303.6	0.123	6.25	105.3	0.8	0.42	1.9	0.07	2.20	0.72	40	216
50 ISL	13.35	13.34	33.201	24.932	302.6	0.153	6.18	103.9	0.8	0.45	1.8	0.07	2.44	0.88	50	
51	13.34	13.33	33.200	24.933	302.5	0.156	6.17	103.7	0.8	0.45	1.8	0.07	2.46	0.91	51	215
60	12.73	12.72	33.215	25.065	290.1	0.183	5.84	96.9	3.0	0.65	3.8	0.10	2.39	1.42	60	214
71	12.41	12.40	33.233	25.141	283.1	0.214	5.64	93.0	4.9	0.79	5.4	0.12	1.38	0.89	71	213
75 ISL	12.28	12.27	33.222	25.158	281.7	0.225	5.56	91.4	5.5	0.82	5.8	0.12	1.18	0.89	75	
85	11.79	11.78	33.193	25.228	275.2	0.253	5.31	86.4	7.3	0.92	7.5	0.12	0.83	0.88	85	212
100	10.40	10.39	33.242	25.514	248.1	0.292	4.65	73.4	12.1	1.25	14.0	0.09	0.35	0.58	100	211
120	9.38	9.37	33.587	25.953	206.5	0.338	3.94	60.9	19.9	1.60	20.1	0.02	0.05	0.14	121	210
125 ISL	9.23	9.22	33.671	26.043	198.1	0.348	3.82	58.9	21.6	1.65	21.1	0.02	0.04	0.12	126	
140	8.95	8.94	33.871	26.245	179.3	0.376	3.56	54.6	25.7	1.74	23.0	0.01	0.01	0.05	141	209
150 ISL	8.90	8.88	33.887	26.265	177.5	0.394	3.51	53.8	26.3	1.75	23.3	0.01	0.01	0.05	151	
169	8.82	8.80	33.921	26.305	174.1	0.428	3.41	52.2	27.4	1.79	23.8	0.01	0.01	0.04	170	208
199	8.15	8.13	34.029 D	26.492	156.6	0.477	2.73	41.2	36.9	2.09	28.2	0.01	0.00	0.03	200	207
200 ISL	8.13	8.11	34.032	26.498	156.1	0.479	2.70	40.7	37.2	2.10	28.3	0.01			201	
229	7.76	7.74	34.095	26.602	146.6	0.523	1.97	29.5	44.9	2.39	31.4	0.01			230	206
250 ISL	7.66	7.64	34.134	26.647	142.6	0.553	1.62	24.2	47.9	2.52	32.6	0.01			251	
269	7.62	7.59	34.160	26.674	140.4	0.580	1.41	21.0	49.6	2.59	33.2	0.01			271	205
300 ISL	7.46	7.43	34.172	26.707	137.8	0.623	1.26	18.7	52.1	2.66	34.0	0.01			302	
318	7.35	7.32	34.173	26.723	136.4	0.648	1.22	18.1	53.6	2.69	34.3	0.01			320	204
380	6.89	6.85	34.202	26.810	128.9	0.730	0.91	13.3	61.3	2.84	36.1	0.01			382	203
400 ISL	6.85	6.81	34.210	26.822	128.0	0.756	0.85	12.5	62.3	2.87	36.3	0.01			403	
437	6.75	6.71	34.228	26.850	125.9	0.803	0.75	11.0	64.8	2.92	36.6	0.01			440	202
500 ISL	6.10	6.06	34.297	26.990	112.9	0.878	0.42	6.0	77.6	3.10	39.1	0.01			503	
516	5.94	5.89	34.316	27.026	109.6	0.896	0.34	4.9	80.9	3.14	39.7	0.01			520	201

RV NEW HORIZON CALCOFI CRUISE 0504 STATION 87 60

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT TYPE
32 59.3 N	120 21.4 W	26/04/05	0416 UTC	766 m	320 19 kn			1016.4 mb	14.7 C	12.8 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	15.00	15.00	33.052	24.471	345.1	0.000	5.85	101.6	1.6	0.33	0.0	0.00	0.16	0.02	0	
2	15.00	15.00	33.052	24.471	345.2	0.007	5.85	101.6	1.6	0.33	0.0	0.00	0.16	0.02	2	222
10 ISL	15.00	15.00	33.052	24.472	345.4	0.035	5.85	101.6	1.6	0.33	0.0	0.00	0.15	0.04	10	
16	15.01	15.01	33.052	24.470	345.7	0.055	5.85	101.6	1.6	0.33	0.0	0.00	0.15	0.06	16	220
20 ISL	15.01	15.01	33.053	24.471	345.8	0.069	5.85	101.6	1.6	0.33	0.0	0.00	0.16	0.05	20	
30 ISL	15.02	15.02	33.054	24.469	346.2	0.104	5.86	101.8	1.7	0.33	0.0	0.00	0.19	0.00	30	
31	15.02	15.02	33.054	24.469	346.2	0.107	5.86	101.8	1.7	0.33	0.0	0.00	0.19	0.00	31	219
46	14.93	14.92	33.045	24.482	345.4	0.159	5.86	101.6	1.6	0.33	0.0	0.00	0.36	0.00	46	218
50 ISL	14.78	14.77	33.037	24.509	343.0	0.173	5.88	101.7	1.8	0.33	0.0	0.00	0.34	0.00	50	
56	14.56	14.55	33.027	24.548	339.5	0.193	5.90	101.6	2.0	0.33	0.0	0.00	0.31	0.00	56	217
66	14.54	14.53	33.030	24.555	339.1	0.227	5.91	101.7	1.9	0.32	0.0	0.00	0.32	0.05	66	216
75 ISL	14.42	14.41	33.016	24.570	337.9	0.258	5.91	101.4	2.0	0.34	0.0	0.00	0.28	0.25	75	
76	14.41	14.40	33.014	24.570	337.9	0.261	5.91	101.4	2.0	0.34	0.0	0.00	0.28	0.27	76	215
87	12.98	12.97	33.021	24.867	309.7	0.297	5.75	95.8	3.4	0.53	2.2	0.07	0.80	0.01	87	213
96	11.64	11.63	33.089	25.175	280.5	0.323	5.22	84.6	6.1	0.86	7.5	0.12	0.52	0.34	96	212
100 ISL	11.12	11.11	33.139	25.308	267.8	0.334	5.00	80.1	8.0	1.00	9.9	0.10	0.41	0.29	100	
109	10.23	10.22	33.259	25.556	244.2	0.357	4.60	72.3	12.2	1.26	14.6	0.03	0.21	0.17	109	211
125	9.76	9.75	33.391	25.738	227.2	0.395	4.24	66.1	15.8	1.46	17.9	0.01	0.14	0.07	126	210
144	9.36	9.34	33.592	25.961	206.3	0.436	3.82	59.1	20.2	1.65	21.0	0.01	0.05	0.03	145	209
150 ISL	9.29	9.27	33.643	26.012	201.6	0.448	3.70	57.1	21.3	1.69	21.7	0.01	0.04	0.03	151	
170	9.07	9.05	33.789	26.162	187.7	0.487	3.39	52.1	24.8	1.80	23.5	0.01	0.01	0.02	171	208
200 ISL	8.59	8.57	33.972	26.381	167.4	0.541	3.18	48.4	30.5	1.89	25.4	0.01	0.00	0.01	201	
201	8.57	8.55	33.977	26.388	166.7	0.542	3.17	48.3	30.7	1.89	25.5	0.01	0.00	0.01	202	207
229	8.16	8.14	34.029	26.491	157.3	0.588	2.65	40.0	37.0	2.12	28.5	0.01			230	206
250 ISL	7.94	7.91	34.044	26.536	153.3	0.620	2.41	36.2	40.2	2.22	29.8	0.01			251	
269	7.74	7.71	34.047	26.568	150.5	0.649	2.26	33.8	42.8	2.29	30.8	0.01			271	205
300 ISL	7.23	7.20	34.042	26.636	144.2	0.695	2.06	30.4	48.4	2.41	32.6	0.01			302	
319	6.90	6.87	34.039	26.680	140.2	0.722	1.94	28.4	52.2	2.49	33.8	0.01			321	204
378	6.12	6.09	34.067	26.805	128.6	0.801	1.36	19.6	64.5	2.77	37.4	0.00			380	203
400 ISL	5.98	5.95	34.093	26.843	125.2	0.829	1.15	16.5	68.2	2.85	38.3	0.00			403	
439	5.82	5.78	34.145	26.904	119.8	0.877	0.82	11.7	74.0	2.98	39.5	0.01			442	202
500 ISL	5.55	5.51	34.220	26.997	111.6	0.947	0.50	7.1	82.4	3.11	40.7	0.01			503	
517	5.48	5.44	34.241	27.022	109.3	0.966	0.41	5.8	84.7	3.15	41.0	0.01			520	201

RV NEW HORIZON CALCOFI CRUISE 0504 STATION 87 70

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
32 39.2 N	121 1.8 W	25/04/05	2143 UTC	3793 m	310 18 kn	290 04 08	1	1012.2 mb	17.4 C	14.9 C	22m	5/8	AC

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	15.04	15.04	33.089	24.491	343.2	0.000	5.90	102.6	2.6	0.36	0.2	0.01	0.31	0.00	0	
2	15.04	15.04	33.089	24.491	343.3	0.007	5.90	102.6	2.6	0.36	0.2	0.01	0.31	0.00	2	221
10 ISL	14.99	14.99	33.086	24.500	342.7	0.034	5.91	102.7	2.6	0.36	0.1	0.01	0.26	0.01	10	
11	14.98	14.98	33.086	24.502	342.5	0.038	5.91	102.6	2.6	0.36	0.1	0.01	0.26	0.01	11	219
20 ISL	14.70	14.70	33.080	24.558	337.5	0.068	5.95	102.7	2.5	0.35	0.1	0.01	0.36	0.03	20	
21	14.67	14.67	33.080	24.564	336.9	0.072	5.95	102.7	2.5	0.35	0.1	0.01	0.37	0.03	21	218
30 ISL	14.49	14.49	33.083	24.605	333.2	0.102	5.98	102.8	2.0	0.34	0.1	0.01	0.47	0.05	30	
31	14.47	14.47	33.084	24.610	332.8	0.105			1.9	0.34	0.1	0.01	0.48	0.05	31	217
41	14.23	14.22	33.096	24.670	327.4	0.138	6.00	102.6	2.0	0.36	0.2	0.01	0.55	0.16	41	216
50 ISL	14.10	14.09	33.102	24.702	324.6	0.168	6.01	102.5	1.6	0.36	0.2	0.01	0.71	0.24	50	
51	14.08	14.07	33.103	24.707	324.1	0.171	6.01	102.5	1.6	0.36	0.2	0.01	0.73	0.25	51	215
60	13.83	13.82	33.112	24.766	318.8	0.200	5.99	101.6	1.3	0.38	0.2	0.02	0.69	0.24	60	214
71	12.82	12.81	33.157	25.003	296.3	0.234	5.22	86.7	6.7	0.78	6.0	0.17	0.61	0.37	71	213
75 ISL	12.22	12.21	33.195	25.148	282.6	0.245	4.90	80.4	8.8	0.96	8.9	0.16	0.53	0.34	75	
86	10.73	10.72	33.326	25.522	247.1	0.274	4.16	66.2	13.9	1.38	15.9	0.14	0.31	0.20	86	212
100 ISL	10.29	10.28	33.426	25.676	232.6	0.308	3.81	60.1	16.7	1.55	18.6	0.07	0.22	0.16	100	
101	10.29	10.28	33.431	25.680	232.3	0.310	3.80	59.9	16.8	1.55	18.7	0.06	0.22	0.16	101	211
118	9.75	9.74	33.535	25.852	216.2	0.348	3.54	55.2	20.1	1.69	21.0	0.03	0.11	0.07	119	210
125 ISL	9.52	9.51	33.600	25.941	207.9	0.363	3.41	52.9	21.9	1.76	22.1	0.03	0.07	0.05	126	
139	9.10	9.08	33.734	26.114	191.7	0.391	3.14	48.3	25.7	1.89	24.3	0.03	0.01	0.04	140	209
150 ISL	8.92	8.90	33.820	26.210	182.8	0.412	2.97	45.5	28.0	1.95	25.4	0.03	0.01	0.03	151	
169	8.69	8.67	33.932	26.334	171.3	0.445	2.76	42.1	31.3	2.02	26.8	0.02	0.00	0.02	170	208
199	8.24	8.22	34.003	26.458	159.9	0.495	2.71	41.0	35.6	2.07	28.0	0.02	0.01	0.04	200	207
200 ISL	8.23	8.21	34.005	26.461	159.6	0.497	2.69	40.6	35.8	2.08	28.1	0.02			201	
229	7.94	7.92	34.051	26.541	152.5	0.542	2.19	32.9	41.3	2.28	30.5	0.03			230	206
250 ISL	7.76	7.74	34.069	26.582	148.9	0.573	1.96	29.3	44.1	2.37	31.6	0.03			251	
269	7.61	7.58	34.082	26.614	146.1	0.601	1.80	26.8	46.4	2.44	32.4	0.03			271	205
300 ISL	7.39	7.36	34.112	26.669	141.3	0.646	1.50	22.2	50.5	2.57	33.6	0.02			302	
318	7.27	7.24	34.129	26.700	138.6	0.671	1.34	19.8	53.0	2.64	34.3	0.02			320	204
378	6.76	6.73	34.168	26.801	129.6	0.752	0.92	13.4	61.5	2.84	36.5	0.03			380	203
400 ISL	6.63	6.59	34.186	26.833	126.8	0.780	0.79	11.5	64.1	2.90	37.1	0.03			403	
437	6.39	6.35	34.209	26.883	122.4	0.826	0.62	9.0	68.9	2.98	38.0	0.02			440	202
500 ISL	5.66	5.62	34.206	26.973	114.0	0.900	0.47	6.7	80.9	3.10	40.3	0.02			503	
517	5.46	5.42	34.207	26.998	111.6	0.920	0.43	6.1	84.2	3.13	40.9	0.02			521	201

RV NEW HORIZON CALCOFI CRUISE 0504 STATION 87 80

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
32 19.2 N	121 42.5 W	25/04/05	1650 UTC	4021 m	310 11 kn	300 04 08	1	1018.9 mb	16.0 C	13.2 C	33m	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	15.73	15.73	33.101	24.349	356.8	0.000	5.75	101.4	1.7	0.33	0.0	0.00	0.08	0.02	0	
2 A	15.73	15.73	33.101	24.349	356.9	0.007	5.75	101.4	1.7	0.33	0.0	0.00	0.08	0.02	2	223
10 ISL	15.72	15.72	33.101	24.351	356.9	0.036	5.76	101.5	1.7	0.33	0.0	0.00	0.10	0.01	10	
11	15.72	15.72	33.101	24.351	356.9	0.039	5.76	101.5	1.7	0.33	0.0	0.00	0.10	0.01	11	221
20 A	15.70	15.70	33.101	24.356	356.7	0.071	5.84	102.9	1.7	0.33	0.0	0.00	0.09	0.02	20	220
30 ISL	15.83	15.83	33.160	24.373	355.5	0.107	5.76	101.8	1.7	0.32	0.0	0.00	0.09	0.02	30	
33	15.88	15.87	33.181	24.378	355.1	0.118	5.73	101.4	1.7	0.32	0.0	0.00	0.09	0.02	33	219
46 A	15.93	15.92	33.218	24.396	353.8	0.164	5.72	101.3	1.7	0.32	0.0	0.00	0.10	0.03	46	218
50 ISL	15.92	15.91	33.222	24.401	353.4	0.178	5.73	101.5	1.7	0.32	0.0	0.00	0.11	0.04	50	
58	15.90	15.89	33.230	24.412	352.6	0.206	5.74	101.6	1.6	0.33	0.0	0.00	0.14	0.05	58	217
70 A	15.77	15.76	33.206	24.423	351.9	0.248	5.74	101.3	1.6	0.32	0.0	0.00	0.17	0.05	70	216
75 ISL	14.94	14.93	33.125	24.543	340.6	0.266	5.86	101.7	1.8	0.33	0.0	0.00	0.29	0.12	75	
82 A	13.65	13.64	33.033	24.742	321.6	0.289	5.94	100.3	2.4	0.39	0.1	0.01	0.43	0.22	82	214
82	13.65	13.64	33.033	24.742	321.6	0.289	5.96	100.7	2.4	0.39	0.1	0.01	0.43	0.23	82	215
91	12.77	12.76	33.039	24.922	304.6	0.317	5.71	94.7	3.8	0.57	2.8	0.08	0.40	0.29	91	213
100 ISL	11.97	11.96	33.101	25.123	285.5	0.344	5.38	87.8	5.6	0.76	6.0	0.10	0.32	0.23	100	
104	11.59	11.58	33.139	25.223	276.1	0.355	5.20	84.2	6.8	0.86	7.8	0.11	0.28	0.19	104	212
116	10.20	10.19	33.263	25.565	243.6	0.386	4.57	71.8	12.9	1.28	14.9	0.05	0.14	0.17	116	211
125 ISL	9.79	9.78	33.354	25.705	230.4	0.407	4.35	67.8	15.3	1.41	17.1	0.03	0.10	0.12	126	
129 A	9.71	9.70	33.394	25.749	226.2	0.416	4.29	66.8	16.0	1.44	17.6	0.03	0.09	0.09	130	210
147	9.39	9.37	33.603	25.965	206.0	0.455	4.11	63.6	19.4	1.53	19.5	0.03	0.03	0.03	148	209
150 ISL	9.39	9.37	33.638	25.992	203.5	0.462	4.16	64.4	19.3	1.50	19.2	0.03	0.02	0.03	151	
163	9.42	9.40	33.776	26.096	194.0	0.487	4.36	67.6	19.0	1.39	18.1	0.03	0.01	0.03	164	208
194	8.78	8.76	33.915	26.307	174.4	0.544	3.16	48.3	28.7	1.88	25.0	0.03	0.00	0.02	195	207
200 ISL	8.70	8.68	33.936	26.336	171.7	0.555	3.09	47.2	29.8	1.91	25.5	0.03			201	
228	8.36	8.34	34.012	26.448	161.5	0.601	2.90	43.9	34.0	2.00	26.9	0.02			229	206
250 ISL	8.03	8.00	34.041	26.520	154.9	0.636	2.51	37.8	38.7	2.16	29.0	0.02			251	
267	7.78	7.75	34.052	26.566	150.7	0.662	2.21	33.1	42.4	2.29	30.7	0.02			268	205
300 ISL	7.36	7.33	34.063	26.635	144.5	0.711	1.94	28.7	47.6	2.42	32.5	0.02			302	
317	7.16	7.13	34.064	26.664	141.9	0.735	1.85	27.3	50.1	2.47	33.2	0.02			319	204
377	6.46	6.43	34.077	26.769	132.3	0.818	1.43	20.7	60.0	2.69	36.1	0.02			379	203
400 ISL	6.31	6.27	34.098	26.805	129.1	0.848	1.24	17.9	63.3	2.77	37.0	0.02			402	
437	6.10	6.06	34.139	26.865	123.8	0.894	0.93	13.4	68.7	2.90	38.2	0.02			440	202
500 ISL	5.66	5.62	34.202	26.970	114.3	0.969	0.56	8.0	79.7	3.08	40.2	0.02			503	
518	5.53	5.49	34.220	27.000	111.5	0.990	0.45	6.4	82.8	3.13	40.8	0.02			521	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV NEW HORIZON CALCOFI CRUISE 0504 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 23.0 W	25/04/05	0947 UTC	4081 m	320 11 kn			1018.5 mb	15.1 C	13.2 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	15.81	15.81	33.064	24.302	361.2	0.000	5.77	101.9	1.6	0.33	0.0	0.00	0.09	0.00	0	
2	15.81	15.81	33.064	24.302	361.3	0.007	5.77	101.9	1.6	0.33	0.0	0.00	0.09	0.00	2	221
10 ISL	15.81	15.81	33.064	24.303	361.5	0.036	5.76	101.7	1.6	0.33	0.0	0.00	0.09	0.01	10	
15	15.81	15.81	33.064	24.303	361.6	0.054	5.76	101.7	1.6	0.33	0.0	0.00	0.09	0.01	15	219
20 ISL	15.79	15.79	33.066	24.309	361.2	0.072	5.76	101.7	1.6	0.33	0.0	0.00	0.09	0.01	20	
30	15.74	15.74	33.071	24.324	360.0	0.108	5.77	101.7	1.5	0.33	0.0	0.00	0.08	0.02	30	218
45	15.70	15.69	33.074 D	24.336	359.4	0.162									45	217
50 ISL	15.68	15.67	33.072	24.339	359.3	0.180	5.78	101.8	1.6	0.33	0.0	0.00	0.13	0.01	50	
60	15.65	15.64	33.069	24.344	359.1	0.216	5.79	101.9	1.6	0.33	0.0	0.00	0.16	0.00	60	216
75	14.89	14.88	33.071	24.512	343.5	0.269	5.90	102.3	1.8	0.35	0.0	0.00	0.27	0.07	75	215
85	14.00	13.99	33.020	24.661	329.5	0.303	5.97	101.6	2.2	0.37	0.0	0.00	0.39	0.17	85	214
95	13.70	13.69	33.214	24.872	309.6	0.334	5.67	96.0	2.9	0.47	1.5	0.04	0.43	0.26	95	213
100 ISL	13.40	13.39	33.246	24.958	301.5	0.350	5.56	93.6	3.4	0.53	2.5	0.07	0.41	0.27	100	
105	13.00	12.99	33.246	25.038	294.0	0.365	5.47	91.3	4.0	0.60	3.7	0.10	0.37	0.28	105	212
114	12.05	12.04	33.192	25.179	280.6	0.391	5.31	86.8	5.5	0.75	6.2	0.10	0.29	0.22	114	211
124	11.00	10.98	33.215	25.389	260.6	0.418	5.00	79.9	8.7	0.99	10.3	0.05	0.20	0.11	125	210
125 ISL	10.92	10.90	33.220	25.407	258.9	0.420	4.98	79.5	9.0	1.01	10.6	0.05	0.19	0.11	126	
139	10.07	10.05	33.330	25.639	236.9	0.455	4.62	72.4	13.1	1.27	14.8	0.03	0.09	0.09	140	209
150 ISL	9.60	9.58	33.480	25.835	218.5	0.480	4.14	64.3	17.5	1.50	18.5	0.03	0.04	0.07	151	
165	9.17	9.15	33.689	26.068	196.6	0.511	3.52	54.2	23.1	1.75	22.6	0.02	0.01	0.04	166	208
195	8.89	8.87	33.890	26.270	177.9	0.567	3.23	49.5	27.5	1.85	24.4	0.02	0.00	0.02	196	207
200 ISL	8.84	8.82	33.912	26.295	175.6	0.576	3.16	48.4	28.3	1.88	24.8	0.02			201	
229	8.48	8.46	33.997	26.418	164.4	0.625	2.76	41.9	33.3	2.03	27.2	0.02			230	206
250 ISL	8.16	8.13	34.022	26.486	158.2	0.659	2.69	40.6	36.7	2.09	28.2	0.02			251	
270	7.84	7.81	34.031	26.541	153.2	0.690	2.63	39.4	40.0	2.15	29.0	0.02			271	205
300 ISL	7.42	7.39	34.045	26.612	146.7	0.735	2.27	33.7	45.5	2.31	31.2	0.02			302	
318	7.19	7.16	34.052	26.650	143.2	0.761	2.01	29.7	48.9	2.42	32.6	0.02			320	204
379	6.55	6.52	34.096	26.772	132.1	0.845	1.38	20.1	59.9	2.71	35.7	0.02			381	203
400 ISL	6.31	6.27	34.105	26.811	128.6	0.873	1.21	17.5	63.9	2.79	36.8	0.02			402	
438	5.91	5.87	34.121	26.874	122.7	0.921	0.95	13.6	70.8	2.92	38.5	0.02			441	202
500 ISL	5.62	5.58	34.173	26.952	115.9	0.995	0.63	9.0	78.8	3.06	39.9	0.01			503	
518	5.53	5.49	34.188	26.974	113.9	1.015	0.54	7.7	81.1	3.10	40.3	0.01			521	201

RV NEW HORIZON CALCOFI CRUISE 0504 STATION 87 100

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT TYPE
31 39.5 N	123 4.6 W	25/04/05	0350 UTC	4115 m	320 15 kn			1018.8 mb	15.5 C	13.2 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	15.64	15.64	33.047	24.327	358.9	0.000	5.80	102.1	1.8	0.35	0.0	0.00	0.13	0.00	0	
1	15.64	15.64	33.047	24.327	358.9	0.004	5.80	102.1	1.8	0.35	0.0	0.00	0.13	0.00	1	222
10 ISL	15.62	15.62	33.046	24.331	358.8	0.036	5.81	102.2	1.8	0.34	0.0	0.00	0.13	0.00	10	
14	15.61	15.61	33.046	24.333	358.7	0.050	5.81	102.2	1.8	0.34	0.0	0.00	0.13	0.00	14	220
20 ISL	15.54	15.54	33.043	24.347	357.6	0.072	5.82	102.2	1.8	0.34	0.0	0.00	0.12	0.01	20	
30	15.40	15.40	33.038	24.374	355.3	0.107	5.83	102.1	1.8	0.34	0.0	0.00	0.11	0.02	30	219
45	15.27	15.26	33.030	24.397	353.5	0.161	5.85	102.2	1.9	0.34	0.0	0.00	0.17	0.01	45	218
50 ISL	15.25	15.24	33.031	24.402	353.2	0.178	5.84	101.9	1.9	0.34	0.0	0.00	0.18	0.02	50	
55	15.23	15.22	33.032	24.408	352.8	0.196	5.83	101.7	1.9	0.34	0.0	0.00	0.19	0.03	55	217
65	14.97	14.96	33.046	24.475	346.7	0.231	5.80	100.7	1.7	0.34	0.0	0.00	0.25	0.04	65	216
75	13.33	13.32	33.007	24.786	317.1	0.264	5.96	100.0	2.8	0.43	0.7	0.03	0.62	0.17	75	214
84	12.58	12.57	33.033	24.954	301.3	0.292	5.69	94.0	4.2	0.61	3.4	0.09	0.62	0.17	84	213
95	11.34	11.33	33.096	25.235	274.7	0.324	5.12	82.4	7.5	0.95	9.1	0.15	0.41	0.21	95	212
100 ISL	10.92	10.91	33.135	25.340	264.7	0.337	4.96	79.1	8.9	1.06	11.0	0.12	0.35	0.18	100	
110	10.25	10.24	33.233	25.533	246.5	0.363	4.66	73.3	12.0	1.25	14.3	0.05	0.25	0.10	110	211
124	9.51	9.50	33.427	25.807	220.5	0.395	4.07	63.1	17.7	1.56	19.4	0.02	0.11	0.08	125	210
125 ISL	9.50	9.49	33.440	25.819	219.4	0.397	4.05	62.7	17.9	1.57	19.6	0.02	0.10	0.08	126	
145	9.26	9.24	33.604	25.986	203.9	0.440	3.77	58.2	21.1	1.68	21.5	0.02	0.04	0.04	146	209
150 ISL	9.20	9.18	33.643	26.027	200.2	0.450	3.69	56.9	22.0	1.71	22.0	0.02	0.03	0.04	151	
172	8.94	8.92	33.804	26.194	184.6	0.492	3.34	51.2	25.9	1.83	24.1	0.02	0.00	0.03	173	208
198	8.66	8.64	33.966	26.365	168.8	0.538	3.09	47.1	30.2	1.91	25.7	0.02	0.00	0.02	199	207
200 ISL	8.63	8.61	33.973	26.375	167.9	0.542	3.05	46.5	30.6	1.92	25.9	0.02			201	
226	8.28	8.26	34.027	26.472	159.2	0.584	2.53	38.3	36.4	2.13	28.8	0.02			227	206
250 ISL	7.97	7.94	34.054	26.539	153.0	0.622	2.20	33.1	40.8	2.27	30.6	0.02			251	
270	7.70	7.67	34.066	26.588	148.6	0.652	1.99	29.7	44.2	2.37	31.8	0.02			271	205
300 ISL	7.26	7.23	34.079	26.661	141.9	0.695	1.69	25.0	50.1	2.52	33.7	0.02			302	
319	6.98	6.95	34.083	26.703	138.0	0.722	1.54	22.6	53.8	2.60	34.8	0.02			321	204
380	6.14	6.11	34.075	26.808	128.4	0.803	1.29	18.6	64.5	2.78	37.3	0.02			382	203
400 ISL	5.97	5.94	34.085	26.838	125.7	0.828	1.18	16.9	67.8	2.84	37.9	0.02			402	
437	5.73	5.69	34.112	26.889	121.1	0.874	0.97	13.8	73.5	2.93	39.0	0.02			440	202
500 ISL	5.40	5.36	34.172	26.977	113.3	0.948	0.66	9.3	82.5	3.06	40.5	0.02			503	
512	5.34	5.30	34.184	26.994	111.8	0.961	0.60	8.5	84.2	3.08	40.8	0.02			515	201

RV NEW HORIZON CALCOFI CRUISE 0504 STATION 87 110

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
31 19.3 N	123 44.3 W	24/04/05	2143 UTC	4054 m	290 11 kn	250 03 06	1	1019.1 mb	17.2 C	14.8 C	30m	5/8	AC

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	15.76	15.76	33.041	24.296	361.8	0.000	5.81	102.5	2.2	0.35	0.0	0.00	0.09	0.04	0	
2	15.76	15.76	33.041	24.296	361.9	0.007	5.81	102.5	2.2	0.35	0.0	0.00	0.09	0.04	2	222
10 ISL	15.55	15.55	33.037	24.340	358.0	0.036	5.82	102.2	2.2	0.35	0.0	0.00	0.10	0.03	10	
15	15.39	15.39	33.035	24.374	354.9	0.054	5.83	102.1	2.2	0.35	0.0	0.00	0.11	0.02	15	220
20 ISL	15.37	15.37	33.035	24.378	354.6	0.072	5.83	102.0	2.2	0.35	0.0	0.00	0.11	0.02	20	
30	15.34	15.34	33.036	24.386	354.2	0.107	5.83	102.0	2.2	0.35	0.0	0.00	0.12	0.04	30	219
46	15.19	15.18	33.030	24.415	351.9	0.164	5.85	102.0	2.1	0.34	0.0	0.00	0.17	0.05	46	218
50 ISL	15.19	15.18	33.031	24.416	352.0	0.178	5.85	102.0	2.1	0.34	0.0	0.00	0.17	0.06	50	
55	15.19	15.18	33.031	24.416	352.1	0.195	5.85	102.0	2.1	0.34	0.0	0.00	0.18	0.07	55	217
65	15.04	15.03	33.030	24.448	349.3	0.230	5.85	101.7	2.1	0.34	0.0	0.00	0.28	0.12	65	216
70	13.14	13.13	33.020	24.834	312.4	0.247	5.95	99.5	3.6	0.48	1.1	0.03	0.66	0.37	70	215
75	13.05	13.04	33.023	24.854	310.6	0.262	5.86	97.8	3.9	0.52	1.8	0.04	0.56	0.25	75	214
84	12.39	12.38	33.034	24.991	297.7	0.290	5.59	92.0	4.9	0.67	4.3	0.07	0.50	0.26	84	213
95	11.49	11.48	33.072	25.189	279.1	0.321	5.23	84.4	6.7	0.88	8.0	0.10	0.31	0.30	95	212
100 ISL	11.02	11.01	33.126	25.315	267.1	0.335	5.02	80.3	8.5	1.01	10.3	0.09	0.24	0.28	100	
109	10.25	10.24	33.245	25.542	245.6	0.358	4.66	73.3	12.1	1.24	14.3	0.05	0.15	0.21	109	211
124	9.66	9.65	33.409	25.769	224.2	0.393	4.36	67.8	16.3	1.47	18.0	0.02	0.09	0.13	125	210
125 ISL	9.63	9.62	33.423	25.785	222.7	0.396	4.32	67.1	16.6	1.49	18.3	0.02	0.09	0.12	126	
144	9.14	9.12	33.667	26.055	197.4	0.436	3.61	55.6	22.7	1.74	22.4	0.02	0.02	0.03	145	209
150 ISL	9.06	9.04	33.721	26.110	192.2	0.447	3.52	54.1	23.7	1.77	23.0	0.02	0.02	0.03	151	
170	8.90	8.88	33.855	26.240	180.2	0.485	3.36	51.5	26.4	1.82	24.0	0.02	0.01	0.02	171	208
199	8.61	8.59	33.992	26.393	166.2	0.535	2.94	44.8	31.6	1.97	26.3	0.02	0.00	0.02	200	207
200 ISL	8.60	8.58	33.995	26.397	165.8	0.536	2.92	44.5	31.8	1.98	26.4	0.02			201	
229	8.28	8.26	34.049	26.489	157.6	0.583	2.33	35.3	37.5	2.21	29.3	0.02			230	206
250 ISL	8.07	8.04	34.079	26.544	152.6	0.616	2.03	30.6	41.0	2.33	30.7	0.02			251	
271	7.84	7.81	34.097	26.592	148.3	0.647	1.82	27.3	44.4	2.43	31.9	0.01			272	205
300 ISL	7.37	7.34	34.094	26.658	142.3	0.690	1.64	24.3	49.5	2.54	33.5	0.01			302	
317	7.10	7.07	34.091	26.693	139.0	0.714	1.56	23.0	52.3	2.59	34.4	0.01			319	204
377	6.72	6.69	34.127	26.774	132.1	0.795	1.15	16.8	59.5	2.78	36.3	0.01			379	203
400 ISL	6.49	6.45	34.140	26.815	128.4	0.825	0.98	14.2	63.5	2.86	37.2	0.01			402	
437	6.14	6.10	34.167	26.882	122.2	0.871	0.73	10.5	70.1	2.98	38.7	0.01			440	202
500 ISL	5.86	5.82	34.238	26.974	114.2	0.946	0.46	6.6	78.3	3.11	40.0	0.01			503	
519	5.77	5.73	34.260	27.002	111.6	0.967	0.38	5.4	80.8	3.15	40.4	0.01			522	201

RV NEW HORIZON CALCOFI CRUISE 0504 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 5.8 W	22/04/05	0231 UTC	19 m	260 15 kn	260 03 04	0	1013.1 mb	15.6 C	14.3 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	15.85	15.85	33.320	24.490	343.3	0.000	6.70	118.6	0.0	0.19	0.1	0.01	1.94	0.95	0	
1	15.85	15.85	33.320	24.490	343.3	0.003	6.70	118.6	0.0	0.19	0.1	0.01	1.94	0.95	1	204
5	15.84	15.84	33.322	24.494	343.1	0.017	6.71	118.7	0.0	0.20	0.0	0.01	1.86	0.77	5	203
10	15.74	15.74	33.321	24.516	341.2	0.034	6.75	119.2	0.0	0.20	0.0	0.01	2.31	1.06	10	202
15	14.79	14.79	33.335	24.735	320.4	0.051	6.84	118.5	0.5	0.25	0.0	0.01	2.74	1.56	15	201

RV NEW HORIZON CALCOFI CRUISE 0504 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	22/04/05	0000 UTC	26 m	310 07 kn	270 02 05	0	1014.1 mb	16.8 C	14.9 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	17.23	17.23	33.300	24.156	375.1	0.000	7.20	130.9	2.4	0.18	0.0	0.01	3.32	0.38	0	
1	17.23	17.23	33.300	24.156	375.2	0.004	7.20	130.9	2.4	0.18	0.0	0.01	3.32	0.38	1	204
6	16.71	16.71	33.301	24.280	363.6	0.022	7.40	133.2	2.4	0.18	0.0	0.01	3.51	0.39	6	203
10 ISL	15.52	15.52	33.324	24.567	336.3	0.036	7.54	132.6	3.2	0.19	0.0	0.01	4.45	0.45	10	
11	15.15	15.15	33.334	24.656	327.8	0.040	7.58	132.3	3.6	0.19	0.0	0.01	4.70	0.48	11	202
17	12.76	12.76	33.432	25.227	273.7	0.058	4.99	83.0	8.0	0.54	0.0	0.01	5.26	0.86	17	201

RV NEW HORIZON CALCOFI CRUISE 0504 STATION 90 28

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
33 29.2 N	117 46.3 W	21/04/05	2159 UTC	72 m	290 10 kn	270 02 03	0	1014.8 mb	18.2 C	16.3 C	14m	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	16.78	16.78	33.289	24.254	365.8	0.000	6.52	117.5	1.2	0.24	0.0	0.01	1.29	0.16	0	
1	16.78	16.78	33.289	24.254	365.9	0.004	6.52	117.5	1.2	0.24	0.0	0.01	1.29	0.16	1	208
10 ISL	14.83	14.83	33.296	24.696	324.0	0.035	7.49	129.9	1.6	0.20	0.0	0.01	1.22	0.32	10	
11	14.52	14.52	33.302	24.767	317.3	0.038	7.56	130.3	1.6	0.20	0.0	0.01	1.21	0.35	11	207
20	12.79	12.79	33.390	25.188	277.4	0.065	5.47	91.0	6.1	0.42	0.1	0.02	1.31	0.76	20	206
28	11.76	11.76	33.478	25.453	252.4	0.086	3.58	58.3	8.5	1.29	8.9	0.23	3.44	1.30	28	205
30 ISL	11.43	11.43	33.515	25.543	243.9	0.091	3.24	52.4	12.0	1.52	12.9	0.27	2.47	1.23	30	
32	11.12	11.12	33.553	25.628	235.7	0.096	2.96	47.6	15.7	1.73	16.7	0.31	1.36	1.13	32	204
42	10.68	10.68	33.636	25.771	222.4	0.119	2.76	43.9	21.4	1.85	20.7	0.40	0.38	0.64	42	203
50 ISL	10.51	10.50	33.689	25.843	215.8	0.136	2.71	43.0	22.7	1.88	21.7	0.28	0.29	0.62	50	
52	10.49	10.48	33.700	25.855	214.7	0.140	2.70	42.8	22.8	1.88	21.8	0.25	0.27	0.61	52	202
62	10.44	10.43	33.748	25.901	210.5	0.162	2.54	40.3	24.2	1.95	22.4	0.33	0.26	0.67	62	201

RV NEW HORIZON CALCOFI CRUISE 0504 STATION 90 30

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
33 25.0 N	117 54.1 W	21/04/05	1851 UTC	618 m	260 08 kn	210 02 07	0	1016.4 mb	16.0 C	15.0 C	19m	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	15.69	15.69	33.294	24.506	341.8	0.000	6.44	113.6	0.7	0.28	0.0	0.01	0.35	0.21	0	
2 A	15.69	15.69	33.294	24.506	341.9	0.007	6.44	113.6	0.7	0.28	0.0	0.01	0.35	0.21	2	222
10 ISL	14.35	14.35	33.324	24.820	312.2	0.033	6.96	119.5	0.8	0.30	0.0	0.01	0.48	0.22	10	
12 A	13.92	13.92	33.336	24.919	302.8	0.039	7.08	120.5	0.9	0.30	0.0	0.01	0.54	0.22	12	221
19	13.31	13.31	33.331	25.039	291.5	0.060	6.75	113.5	1.1	0.36	0.2	0.02	0.80	0.29	19	220
20 ISL	13.16	13.16	33.326	25.066	289.1	0.063	6.42	107.6	2.2	0.46	1.5	0.06	0.75	0.29	20	
26 A	12.21	12.21	33.314	25.241	272.5	0.080	4.42	72.6	9.8	1.12	10.2	0.31	0.40	0.30	26	219
30 ISL	11.76	11.76	33.354	25.357	261.6	0.090	4.12	67.0	12.5	1.30	13.2	0.26	0.43	0.34	30	
33	11.50	11.50	33.391 D	25.434	254.3	0.098	3.90	63.1	13.8	1.37	14.6	0.23	0.46	0.36	33	218
40 A	11.20	11.20	33.437	25.524	245.9	0.116	3.72	59.8	15.2	1.47	16.3	0.17	0.44	0.29	40	217
46 A	11.00	10.99	33.462	25.579	240.7	0.130	3.64	58.3	16.1	1.52	17.1	0.15	0.40	0.27	46	216
50 ISL	10.88	10.87	33.493	25.625	236.5	0.140	3.55	56.7	17.0	1.56	17.8	0.13	0.33	0.26	50	
55	10.72	10.71	33.532	25.684	231.0	0.151	3.44	54.8	18.0	1.62	18.7	0.11	0.22	0.24	55	215
60	10.50	10.49	33.556	25.741	225.7	0.163	3.41	54.1	18.6	1.66	19.4	0.11	0.14	0.18	60	214
74 A	10.26	10.25	33.675	25.875	213.2	0.194	3.13	49.4	21.3	1.78	21.1	0.07	0.09	0.16	74	213
75 ISL	10.25	10.24	33.680	25.881	212.7	0.196	3.12	49.2	21.4	1.78	21.2	0.07	0.09	0.16	75	
87	10.18	10.17	33.742	25.941	207.2	0.221	2.96	46.6	22.7	1.83	22.0	0.06	0.07	0.16	87	212
100	10.12	10.11	33.867	26.049	197.2	0.247	2.61	41.1	25.5	1.96	23.4	0.04	0.05	0.14	101	211
119	10.07	10.06	33.972	26.140	189.0	0.284	2.37	37.3	27.5	2.05	24.5	0.03	0.05	0.16	120	210
125 ISL	9.97	9.96	34.006	26.184	185.0	0.295	2.30	36.1	28.5	2.09	25.0	0.03	0.05	0.16	126	
139	9.72	9.70	34.076	26.280	176.1	0.320	2.14	33.5	31.0	2.17	26.2	0.03	0.05	0.14	140	209
150 ISL	9.63	9.61	34.114	26.325	172.0	0.340	2.04	31.8	32.3	2.22	26.8	0.03	0.05	0.14	151	
170	9.52	9.50	34.159	26.379	167.4	0.373	1.88	29.3	34.1	2.28	27.5	0.03	0.04	0.13	171	208
200	9.26	9.24	34.195	26.450	161.2	0.423	1.70	26.3	37.0	2.37	28.5	0.02	0.02	0.09	201	207
228	8.90	8.88	34.215	26.523	154.6	0.467	1.52	23.3	40.7	2.46	29.9	0.02			229	206
250 ISL	8.62	8.59	34.221	26.572	150.3	0.501	1.39	21.2	43.5	2.53	30.8	0.01			252	
268	8.40	8.37	34.224	26.609	147.1	0.527	1.30	19.7	45.6	2.58	31.5	0.01			270	205
300 ISL	8.10	8.07	34.229	26.658	142.8	0.574	1.16	17.5	49.0	2.67	32.5	0.01			302	
318	7.94	7.91	34.232	26.685	140.5	0.599	1.09	16.4	50.8	2.71	33.0	0.01			320	204
378	7.38	7.34	34.242	26.774	132.7	0.681	0.84	12.5	57.8	2.85	35.1	0.01			380	203
400 ISL	7.15	7.11	34.245	26.809	129.6	0.710	0.76	11.2	60.9	2.90	35.9	0.01			403	
436	6.81	6.77	34.250	26.860	125.0	0.756	0.64	9.4	65.9	2.98	37.1	0.01			439	202
500 ISL	6.45	6.40	34.266	26.921	119.9	0.834	0.49	7.1	72.3	3.07	38.1	0.02			503	
517	6.35	6.30	34.270	26.937	118.4	0.854	0.45	6.5	74.0	3.10	38.4	0.02			521	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV NEW HORIZON CALCOFI CRUISE 0504 STATION 90 35

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
33 15.0 N	118 15.2 W	21/04/05	1457 UTC	324 m	040 02 kn	230 02 07	1	1017.2 mb	15.0 C	13.0 C	19m	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	15.22	15.22	33.254	24.579	334.9	0.000	6.21	108.5	0.5	0.31	0.0	0.00	0.36	0.20	0	
1	15.22	15.22	33.254	24.579	334.9	0.003	6.21	108.5	0.5	0.31	0.0	0.00	0.36	0.20	1	218
10 ISL	14.79	14.79	33.237	24.659	327.5	0.033	6.19	107.2	0.8	0.34	0.0	0.01	0.46	0.27	10	
11	14.72	14.72	33.236	24.674	326.2	0.036	6.19	107.0	0.8	0.34	0.0	0.01	0.48	0.28	11	217
20 ISL	14.17	14.17	33.271	24.817	312.8	0.065	6.55	112.0	0.7	0.34	0.2	0.02	0.65	0.31	20	
21	14.08	14.08	33.273	24.837	310.9	0.068	6.59	112.5	0.7	0.34	0.2	0.02	0.67	0.31	21	216
29	12.89	12.89	33.224	25.040	291.7	0.092	5.15	85.7	6.5	0.83	6.1	0.21	0.95	0.58	29	214
30 ISL	12.79	12.79	33.226	25.061	289.7	0.095	5.07	84.2	6.9	0.86	6.6	0.23	0.94	0.58	30	
40	11.96	11.95	33.278	25.261	271.0	0.123	4.61	75.3	9.9	1.10	10.3	0.31	0.61	0.41	40	213
50	10.92	10.91	33.337	25.496	248.7	0.149	4.18	66.8	13.9	1.35	14.9	0.22	0.29	0.24	50	212
60	10.47	10.46	33.446	25.660	233.3	0.173	3.83	60.6	16.7	1.51	17.7	0.08	0.19	0.23	60	211
69	10.08	10.07	33.605	25.851	215.4	0.194	3.41	53.6	20.5	1.70	20.4	0.05	0.11	0.18	69	210
75 ISL	10.04	10.03	33.676	25.913	209.6	0.206	3.23	50.7	22.5	1.81	21.9	0.05	0.10	0.16	75	
85	9.98	9.97	33.732	25.967	204.6	0.227	3.01	47.2	24.7	1.94	23.5	0.04	0.08	0.14	85	209
99	9.94	9.93	33.828	26.049	197.2	0.255	2.74	43.0	24.7	1.92	23.5	0.04	0.05	0.15	100	208
100 ISL	9.93	9.92	33.835	26.056	196.5	0.257	2.72	42.7	24.8	1.92	23.5	0.04	0.05	0.15	101	
119	9.82	9.81	33.946	26.162	186.9	0.294	2.48	38.8	27.2	2.02	24.7	0.03	0.05	0.16	120	207
125 ISL	9.79	9.78	33.973	26.188	184.5	0.305	2.43	38.0	27.9	2.04	25.0	0.03			126	
140	9.69	9.67	34.031	26.250	179.0	0.332	2.31	36.1	29.5	2.10	25.7	0.03			141	206
150 ISL	9.59	9.57	34.068	26.296	174.8	0.350	2.21	34.4	30.8	2.14	26.2	0.03			151	
170	9.33	9.31	34.126	26.384	166.8	0.384	2.03	31.5	33.6	2.22	27.4	0.02			171	205
199	8.85	8.83	34.153	26.482	157.9	0.431	1.84	28.2	37.9	2.33	29.1	0.02			200	204
200 ISL	8.84	8.82	34.155	26.485	157.6	0.433	1.83	28.1	38.0	2.33	29.1	0.02			201	
230	8.70	8.68	34.205	26.547	152.3	0.479	1.50	22.9	41.3	2.46	30.3	0.02			231	203
250 ISL	8.45	8.42	34.219	26.597	147.9	0.509	1.34	20.4	44.3	2.54	31.2	0.02			251	
267	8.21	8.18	34.226	26.639	144.1	0.534	1.21	18.3	47.0	2.61	31.9	0.02			269	202
300 ISL	7.87	7.84	34.235	26.697	139.0	0.581	0.94	14.1	51.1	2.71	33.1	0.02			302	
319	7.68	7.65	34.241	26.730	136.1	0.607	0.78	11.7	53.5	2.76	33.8	0.02			321	201

RV NEW HORIZON CALCOFI CRUISE 0504 STATION 90 37

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT TYPE
33 11.1 N	118 23.6 W	21/04/05	1144 UTC	1178 m	280 09 kn			1015.7 mb	13.9 C	12.2 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	15.39	15.39	33.228	24.522	340.3	0.000	6.11	107.1	0.2	0.31	0.0	0.01	0.30	0.09	0	
1	15.39	15.39	33.228	24.522	340.3	0.003	6.11	107.1	0.2	0.31	0.0	0.01	0.30	0.09	1	221
10 ISL	15.39	15.39	33.228	24.522	340.6	0.034	6.11	107.1	0.2	0.30	0.0	0.00	0.31	0.09	10	
11	15.39	15.39	33.228	24.522	340.6	0.037	6.11	107.1	0.2	0.30	0.0	0.00	0.31	0.09	11	220
20	15.30	15.30	33.223	24.538	339.3	0.068	6.13	107.2	0.2	0.30	0.0	0.00	0.30	0.10	20	219
30	14.24	14.24	33.238	24.777	316.8	0.101	6.26	107.2	0.5	0.36	0.0	0.01	0.58	0.39	30	218
40	12.94	12.93	33.218	25.026	293.4	0.131	5.21	86.8	5.9	0.79	5.7	0.20	1.21	0.72	40	217
50	11.16	11.15	33.276	25.406	257.3	0.159	4.37	70.2	10.8	1.25	12.6	0.27	0.53	0.59	50	215
60	10.59	10.58	33.408	25.610	238.1	0.184	3.98	63.2	15.4	1.45	16.6	0.12	0.25	0.32	60	214
69	10.42	10.41	33.467	25.685	231.1	0.205	3.81	60.3	16.9	1.53	17.8	0.09	0.21	0.29	69	213
75 ISL	10.33	10.32	33.515	25.738	226.2	0.219	3.64	57.5	18.0	1.59	18.7	0.07	0.19	0.25	75	
85	10.22	10.21	33.599	25.823	218.4	0.241	3.35	52.8	19.7	1.70	20.2	0.05	0.15	0.19	85	212
100	10.08	10.07	33.708	25.932	208.3	0.273	3.04	47.8	22.1	1.82	22.0	0.04	0.09	0.20	100	211
119	9.80	9.79	33.874	26.109	191.9	0.311	2.66	41.6	25.9	1.97	24.2	0.03	0.05	0.14	120	210
125 ISL	9.72	9.71	33.927	26.164	186.8	0.322	2.55	39.8	27.2	2.01	24.8	0.03	0.04	0.13	126	
139	9.55	9.53	34.036	26.277	176.3	0.348	2.30	35.8	30.0	2.11	26.0	0.03	0.03	0.11	140	209
150 ISL	9.47	9.45	34.091	26.334	171.2	0.367	2.12	33.0	31.7	2.18	26.7	0.03	0.03	0.11	151	
169	9.33	9.31	34.148	26.401	165.2	0.399	1.87	29.0	34.3	2.28	27.8	0.02	0.03	0.11	170	208
198	8.93	8.91	34.183	26.493	156.9	0.445	1.65	25.4	38.4	2.39	29.4	0.02	0.03	0.09	199	207
200 ISL	8.91	8.89	34.184	26.497	156.5	0.448	1.64	25.2	38.6	2.39	29.5	0.02			201	
229	8.66	8.64	34.189	26.541	152.9	0.493	1.56	23.8	40.7	2.45	30.2	0.02			230	206
250 ISL	8.47	8.44	34.191	26.572	150.2	0.525	1.49	22.7	42.6	2.49	30.9	0.02			251	
270	8.26	8.23	34.195	26.607	147.2	0.555	1.40	21.2	44.9	2.54	31.6	0.01			272	205
300 ISL	7.86	7.83	34.211	26.680	140.6	0.598	1.17	17.5	50.0	2.66	33.0	0.01			302	
319	7.62	7.59	34.223	26.724	136.6	0.624	1.02	15.2	53.3	2.74	33.9	0.01			321	204
379	7.20	7.16	34.241	26.798	130.3	0.704	0.80	11.8	59.3	2.87	35.6	0.01			381	203
400 ISL	7.02	6.98	34.252	26.832	127.2	0.731	0.70	10.3	62.5	2.93	36.3	0.01			403	
437	6.69	6.65	34.273	26.894	121.7	0.778	0.52	7.6	68.4	3.02	37.5	0.01			440	202
500 ISL	6.26	6.22	34.309	26.979	114.1	0.852	0.34	4.9	76.0	3.13	39.1	0.01			503	
509	6.20	6.15	34.314	26.991	113.1	0.862	0.32	4.6	77.1	3.15	39.3	0.01			513	201

RV NEW HORIZON CALCOFI CRUISE 0504 STATION 90 45

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT TYPE
32 55.0 N	118 56.3 W	21/04/05	0549 UTC	1694 m	300 15 kn			1017.7 mb	13.3 C	11.9 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	13.76	13.76	33.224	24.865	307.6	0.000	6.49	110.0	0.0	0.27	0.2	0.02	2.84	0.74	0	
1	13.76	13.76	33.224	24.865	307.6	0.003	6.49	110.0	0.0	0.27	0.2	0.02	2.84	0.74	1	220
10	13.71	13.71	33.214	24.868	307.6	0.031	6.48	109.7	0.0	0.27	0.2	0.02	3.23	1.30	10	219
20 ISL	13.53	13.53	33.192	24.888	306.0	0.061	6.41	108.1	0.0	0.30	0.3	0.02	3.57	1.11	20	
21	13.51	13.51	33.188	24.889	305.9	0.065	6.40	107.9	0.0	0.30	0.3	0.02	3.59	1.08	21	218
30 ISL	13.23	13.23	33.197	24.952	300.1	0.092	6.03	101.1	1.1	0.45	1.5	0.04	3.35	1.22	30	
31	13.18	13.18	33.200	24.964	299.0	0.095	5.97	100.0	1.2	0.48	1.8	0.05	3.32	1.23	31	217
40	12.22	12.21	33.267	25.203	276.4	0.121	5.15	84.6	6.9	0.92	7.1	0.13	1.23	0.74	40	216
50	11.74	11.73	33.313	25.329	264.7	0.148	4.73	76.9	9.9	1.09	10.2	0.18	1.25	0.91	50	215
61	10.75	10.74	33.395	25.572	241.8	0.176	4.07	64.8	14.6	1.40	15.8	0.21	1.01	0.98	61	214
70	10.15	10.14	33.476	25.739	226.1	0.197	3.84	60.4	17.2	1.55	18.3	0.10	0.86	0.81	70	213
75 ISL	10.00	9.99	33.536	25.811	219.3	0.208	3.66	57.4	18.7	1.63	19.5	0.07	0.70	0.64	75	
84	9.90	9.89	33.646	25.914	209.7	0.227	3.33	52.1	21.3	1.75	21.3	0.04	0.44	0.37	84	212
99	9.79	9.78	33.790	26.045	197.6	0.258	2.87	44.9	24.6	1.91	23.3	0.03	0.35	0.39	99	211
100 ISL	9.77	9.76	33.793	26.050	197.1	0.260	2.88	45.0	24.6	1.91	23.3	0.03	0.34	0.39	101	
119	9.39	9.38	33.839	26.149	188.0	0.296	3.06	47.4	25.3	1.88	23.7	0.03	0.17	0.33	120	210
125 ISL	9.42	9.41	33.888	26.182	185.0	0.307	2.86	44.4	26.4	1.94	24.3	0.03	0.17	0.34	126	
138	9.51	9.49	33.997	26.253	178.6	0.331	2.36	36.7	29.0	2.09	25.8	0.02	0.16	0.37	139	209
150 ISL	9.35	9.33	34.033	26.308	173.6	0.352	2.33	36.1	30.6	2.12	26.6	0.02	0.14	0.31	151	
169	8.96	8.94	34.048	26.382	166.8	0.384	2.28	35.0	33.0	2.16	27.5	0.02	0.11	0.18	170	208
199	8.42	8.40	34.077	26.489	157.0	0.433	2.20	33.4	37.7	2.24	29.1	0.02	0.10	0.15	200	207
200 ISL	8.42	8.40	34.081	26.492	156.8	0.435	2.18	33.1	37.9	2.25	29.2	0.02			201	
227	8.43	8.41	34.172	26.563	150.6	0.476	1.58	24.0	41.8	2.46	30.7	0.02			228	206
250 ISL	8.22	8.19	34.192	26.610	146.5	0.510	1.39	21.0	44.7	2.55	31.7	0.02			251	
268	8.00	7.97	34.192	26.644	143.5	0.536	1.32	19.9	46.9	2.60	32.3	0.02			270	205
300 ISL	7.68	7.65	34.207	26.703	138.3	0.581	1.12	16.7	51.3	2.70	33.6	0.02			302	
317	7.51	7.48	34.215	26.733	135.6	0.605	1.02	15.2	53.7	2.75	34.2	0.02			319	204
377	6.98	6.94	34.248	26.834	126.6	0.683	0.70	10.3	62.3	2.93	36.3	0.02			379	203
400 ISL	6.83	6.79	34.259	26.864	124.1	0.712	0.62	9.1	65.0	2.98	36.9	0.02			403	
438	6.60	6.56	34.277	26.909	120.2	0.759	0.51	7.4	69.1	3.05	37.7	0.02			441	202
500 ISL	6.20	6.16	34.304	26.983	113.7	0.831	0.36	5.2	75.9	3.14	39.2	0.02			503	
519	6.08	6.03	34.313	27.006	111.7	0.853	0.32	4.6	78.0	3.17	39.6	0.02			523	201

RV NEW HORIZON CALCOFI CRUISE 0504 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 29.1 W	20/04/05	2354 UTC	1315 m	310 15 kn	300 05 06	1	1017.3 mb	14.3 C	12.9 C	10m	3/8	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	14.51	14.51	33.084	24.601	332.8	0.000	6.12	105.3	1.2	0.31	0.1	0.00	1.12	0.34	0	
2	14.51	14.51	33.084	24.601	332.8	0.007	6.12	105.3	1.2	0.31	0.1	0.00	1.12	0.34	2	223
10	14.14	14.14	33.086	24.680	325.5	0.033	6.18	105.5	1.0	0.32	0.1	0.01	1.09	0.40	10	222
20 ISL	13.97	13.97	33.090	24.719	322.1	0.065	6.19	105.3	1.0	0.31	0.1	0.01	2.04	0.79	20	
21	13.96	13.96	33.091	24.722	321.9	0.069	6.19	105.3	1.0	0.31	0.1	0.01	2.15	0.83	21	221
30 ISL	13.88	13.88	33.100	24.745	319.9	0.097	6.17	104.8	0.7	0.31	0.1	0.01	2.44	0.88	30	
31	13.87	13.87	33.101	24.748	319.6	0.101	6.17	104.8	0.7	0.31	0.1	0.01	2.46	0.88	31	220
41	13.78	13.77	33.104	24.769	317.9	0.133	6.15	104.2	0.9	0.34	0.2	0.01	2.81	0.98	41	219
45	13.73	13.72	33.101	24.777	317.2	0.145	6.12	103.6	1.0	0.34	0.3	0.01	3.29	0.69	45	218
50	13.68	13.67	33.106	24.792	316.0	0.161	6.15	104.0	1.0	0.35	0.4	0.01	3.08	0.94	50	217
56	13.57	13.56	33.106	24.814	314.0	0.180	6.12	103.3	1.2	0.36	0.5	0.01	3.05	1.08	56	216
60	13.37	13.36	33.104	24.853	310.4	0.192	6.05	101.7	1.7	0.42	0.9	0.02	2.98	1.09	60	215
70	12.54	12.53	33.084	25.001	296.5	0.223	5.60	92.5	4.4	0.64	3.9	0.06	1.15	0.52	70	214
75 ISL	12.16	12.15	33.088	25.077	289.4	0.237	5.45	89.3	5.4	0.73	5.4	0.07	0.68	0.37	75	
85	11.40	11.39	33.131	25.251	272.9	0.266	5.15	83.0	7.7	0.92	8.7	0.08	0.23	0.23	85	213
100	10.19	10.18	33.298	25.593	240.5	0.304	4.43	69.6	14.0	1.34	15.6	0.03	0.14	0.16	100	212
119	9.42	9.41	33.575	25.938	208.1	0.347	3.86	59.7	20.5	1.63	20.5	0.01	0.03	0.04	120	211
125 ISL	9.34	9.33	33.653	26.012	201.1	0.359	3.68	56.9	22.2	1.69	21.5	0.01	0.02	0.04	126	
140	9.25	9.23	33.798	26.140	189.3	0.388	3.32	51.3	25.4	1.80	23.1	0.02	0.01	0.03	141	210
149	9.16	9.14	33.837	26.185	185.1	0.405	3.24	49.9	26.3	1.84	23.7	0.02	0.01	0.03	150	209
150 ISL	9.15	9.13	33.840	26.189	184.8	0.407	3.23	49.8	26.4	1.84	23.7	0.02	0.01	0.03	151	
169	9.05	9.03	33.899	26.251	179.2	0.442	3.10	47.7	28.2	1.89	24.5	0.02	0.00	0.03	170	208
199	8.63	8.61	34.021	26.413	164.3	0.493	2.48	37.8	35.2	2.13	27.7	0.01	0.00	0.04	200	207
200 ISL	8.62	8.60	34.023	26.416	164.0	0.495	2.47	37.7	35.3	2.13	27.7	0.01			201	
230	8.41	8.39	34.059	26.477	158.8	0.543	2.35	35.7	37.4	2.19	28.7	0.01			231	206
250 ISL	8.17	8.14	34.088	26.536	153.4	0.574	2.11	31.8	40.8	2.29	30.1	0.01			251	
269	7.92	7.89	34.115	26.595	148.1	0.603	1.85	27.8	44.6	2.41	31.5	0.01			271	205
300 ISL	7.62	7.59	34.148	26.665	141.8	0.648	1.49	22.2	49.6	2.57	33.1	0.01			302	
319	7.46	7.43	34.163	26.700	138.8	0.675	1.31	19.5	52.4	2.65	33.9	0.01			321	204
376	7.02	6.98	34.192	26.785	131.3	0.752	0.99	14.6	59.7	2.81	35.7	0.01			378	203
400 ISL	6.83	6.79	34.203	26.819	128.3	0.783	0.86	12.6	62.8	2.87	36.5	0.01			403	
438	6.55	6.51	34.222	26.872	123.6	0.831	0.68	9.9	67.6	2.96	37.7	0.01			441	202
500 ISL	6.13	6.09	34.262	26.959	115.9	0.905	0.48	6.9	75.7	3.09	39.3	0.01			503	
514	6.04	5.99	34.271	26.977	114.2	0.921	0.43	6.2	77.5	3.12	39.7	0.01			517	201

RV NEW HORIZON CALCOFI CRUISE 0504 STATION 90 60

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
32 25.1 N	119 58.1 W	20/04/05	1814 UTC	896 m	330 14 kn	300 05 06	1	1019.2 mb	15.1 C	13.1 C	26m	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	14.96	14.96	33.059	24.485	343.8	0.000	5.83	101.2	2.4	0.36	0.0	0.00	0.18	0.05	0	
2 A	14.96	14.96	33.059	24.485	343.8	0.007	5.83	101.2	2.4	0.36	0.0	0.00	0.18	0.05	2	224
10 ISL	14.92	14.92	33.057	24.493	343.4	0.034	5.85	101.5	2.4	0.36	0.0	0.00	0.19	0.05	10	
16 A	14.89	14.89	33.055	24.498	343.1	0.055	5.86	101.6	2.4	0.36	0.0	0.00	0.19	0.05	16	222
20 ISL	14.89	14.89	33.055	24.498	343.2	0.069	5.86	101.6	2.4	0.36	0.0	0.00	0.19	0.05	20	
26	14.88	14.88	33.055	24.500	343.1	0.089	5.86	101.5	2.4	0.35	0.0	0.00	0.19	0.06	26	221
30 ISL	14.88	14.88	33.055	24.500	343.2	0.103	5.85	101.4	2.4	0.35	0.0	0.00	0.19	0.06	30	
35 A	14.88	14.87	33.055	24.501	343.4	0.120	5.84	101.2	2.3	0.35	0.0	0.00	0.20 B	0.06 B	35	220
46	14.87	14.86	33.055	24.503	343.5	0.158	5.86	101.5	2.3	0.36	0.0	0.00	0.20	0.06	46	219
50 ISL	14.87	14.86	33.055	24.503	343.6	0.172	5.86	101.5	2.3	0.35	0.0	0.00	0.20	0.06	50	
55 A	14.87	14.86	33.055	24.503	343.7	0.189	5.85	101.3	2.4	0.35	0.0	0.00	0.21	0.06	55	218
62 A	14.87	14.86	33.054	24.503	344.0	0.213	5.85	101.3	2.4	0.36	0.0	0.00	0.22	0.07	62	217
73	14.68	14.67	33.051	24.542	340.6	0.251	5.85	100.9	2.4	0.37	0.0	0.01	0.29	0.09	73	216
75 ISL	14.21	14.20	33.048	24.638	331.4	0.257	5.80	99.1	2.8	0.43	0.8	0.03	0.35	0.15	75	
81	12.69	12.68	33.069	24.961	300.6	0.276	5.56	92.1	4.6	0.64	3.9	0.10	0.48	0.32	81	215
91	11.50	11.49	33.193	25.281	270.2	0.305	4.84	78.2	9.3	1.04	10.3	0.10	0.25	0.21	91	214
100 A	11.16	11.15	33.271	25.403	258.7	0.329	4.54	72.9	11.4	1.20	12.7	0.06	0.17	0.18	100	213
107	11.00	10.99	33.303	25.457	253.8	0.347	4.40	70.4	12.3	1.25	13.7	0.05	0.14	0.18	107	212
115	10.94	10.93	33.318	25.479	251.8	0.367	4.34	69.3	12.7	1.29	14.2	0.04	0.14	0.18	116	211
124	10.59	10.58	33.437	25.634	237.3	0.389	3.92	62.2	15.8	1.47	17.0	0.03	0.08	0.12	125	210
125 ISL	10.56	10.55	33.448	25.647	236.0	0.391	3.89	61.7	16.1	1.49	17.2	0.03	0.08	0.11	126	
140	10.12	10.10	33.588	25.832	218.7	0.425	3.50	55.0	19.6	1.68	20.1	0.02	0.03	0.06	141	209
150 ISL	9.93	9.91	33.667	25.926	209.9	0.447	3.29	51.5	21.5	1.76	21.4	0.02	0.02	0.04	151	
166	9.68	9.66	33.782	26.058	197.7	0.479	3.00	46.8	24.5	1.87	23.2	0.01	0.01	0.03	167	208
195	9.14	9.12	33.987	26.306	174.6	0.533	2.53	39.0	30.7	2.07	26.4	0.01	0.01	0.03	196	207
200 ISL	9.07	9.05	34.011	26.336	171.8	0.542	2.45	37.7	31.6	2.10	26.8	0.01			201	
228	8.76	8.74	34.101	26.456	160.9	0.589	2.07	31.7	36.4	2.25	28.8	0.01			229	206
250 ISL	8.56	8.53	34.139	26.517	155.4	0.623	1.81	27.6	39.7	2.36	30.0	0.01			251	
267	8.39	8.36	34.154	26.555	152.1	0.649	1.65	25.0	42.1	2.44	30.8	0.01			268	205
300 ISL	7.93	7.90	34.165	26.633	145.0	0.698	1.46	21.9	46.8	2.55	32.3	0.01			302	
317	7.67	7.64	34.161	26.668	141.8	0.723	1.41	21.0	49.2	2.59	33.1	0.01			319	204
378	6.72	6.69	34.112	26.762	133.2	0.807	1.32	19.3	58.4	2.72	35.9	0.01			380	203
400 ISL	6.53	6.49	34.128	26.800	129.8	0.836	1.15	16.7	62.1	2.80	36.9	0.01			402	
439	6.30	6.26	34.173	26.866	123.9	0.885	0.81	11.7	68.3	2.95	38.3	0.01			442	202
500 ISL	6.07	6.03	34.238	26.947	116.9	0.959	0.50	7.2	74.8	3.08	39.5	0.01			503	
512	6.03	5.98	34.251	26.963	115.6	0.973	0.44	6.3	76.1	3.10	39.7	0.01			515	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.
B) FIRST FLUOROMETER READING NOT RECORDED, CHLOROPHYLL AND PHAEOPIGMENT
CALCULATED WITH ASSUMED ACID RATIO INTERPOLATED FROM ADJACENT LEVELS.

RV NEW HORIZON CALCOFI CRUISE 0504 STATION 90 70

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT TYPE
32 5.1 N	120 38.4 W	20/04/05	1145 UTC	3812 m	330 14 kn			1017.2 mb	13.9 C	11.2 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	15.04	15.04	33.034	24.449	347.3	0.000	5.82	101.2	2.0	0.36	0.0	0.00	0.14	0.03	0	
1	15.04	15.04	33.034	24.449	347.3	0.003	5.82	101.2	2.0	0.36	0.0	0.00	0.14	0.03	1	220
10 ISL	15.04	15.04	33.033	24.448	347.6	0.035	5.82	101.2	2.0	0.36	0.0	0.00	0.13	0.03	10	
16	15.04	15.04	33.032	24.448	347.9	0.056	5.82	101.2	2.0	0.36	0.0	0.00	0.13	0.03	16	219
20 ISL	15.04	15.04	33.032	24.448	348.0	0.070	5.82	101.2	2.0	0.36	0.0	0.00	0.13	0.03	20	
29	15.04	15.04	33.033	24.449	348.1	0.101	5.82	101.2	2.0	0.35	0.0	0.00	0.14	0.03	29	218
30 ISL	15.04	15.04	33.033	24.449	348.2	0.104	5.82	101.2	2.0	0.35	0.0	0.00	0.14	0.03	30	
44	15.04	15.03	33.032	24.449	348.6	0.153	5.82	101.2	1.9	0.35	0.0	0.00	0.16	0.00	44	217
50 ISL	15.04	15.03	33.032	24.449	348.8	0.174	5.83	101.3	1.9	0.35	0.0	0.00	0.15	0.01	50	
55	15.04	15.03	33.032	24.449	348.9	0.191	5.83	101.3	1.9	0.35	0.0	0.00	0.15	0.02	55	216
65	14.33	14.32	33.039	24.606	334.2	0.226	5.88	100.7	2.2	0.38	0.1	0.01	0.44	0.12	65	215
75	12.82	12.81	32.968	24.857	310.4	0.258	5.84	96.9	3.1	0.52	1.8	0.07	0.44	0.32	75	214
84	12.34	12.33	33.037	25.003	296.6	0.285	5.60	92.0	4.2	0.66	4.1	0.10	0.43	0.25	84	213
95	12.09	12.08	33.195	25.173	280.7	0.317	5.32	87.1	5.4	0.75	6.1	0.08	0.30	0.22	95	212
100 ISL	11.79	11.78	33.231	25.257	272.7	0.331	5.19	84.4	6.4	0.83	7.5	0.07	0.26	0.19	100	
109	11.16	11.15	33.274	25.406	258.7	0.355	4.97	79.8	8.5	0.99	10.2	0.04	0.19	0.13	109	211
124	10.38	10.37	33.355	25.606	239.9	0.392	4.71	74.4	11.8	1.19	13.6	0.02	0.11	0.09	125	210
125 ISL	10.33	10.32	33.362	25.620	238.5	0.394	4.69	74.0	12.0	1.20	13.8	0.02	0.10	0.09	126	
144	9.63	9.61	33.502	25.847	217.2	0.438	4.31	67.0	16.7	1.45	17.9	0.01	0.03	0.04	145	209
150 ISL	9.49	9.47	33.553	25.910	211.4	0.451	4.18	64.8	18.1	1.51	18.9	0.01	0.03	0.04	151	
169	9.17	9.15	33.715	26.088	194.7	0.489	3.81	58.7	22.3	1.66	21.4	0.01	0.01	0.03	170	208
199	8.80	8.78	33.941	26.324	172.8	0.544	3.54	54.2	27.6	1.77	23.5	0.01	0.00	0.02	200	207
200 ISL	8.79	8.77	33.944	26.328	172.5	0.546	3.53	54.0	27.7	1.77	23.6	0.01			201	
229	8.55	8.53	33.984	26.397	166.4	0.595	3.23	49.1	31.1	1.89	25.4	0.01			230	206
250 ISL	8.36	8.33	34.007	26.444	162.2	0.630	3.05	46.2	33.6	1.97	26.6	0.01			251	
268	8.16	8.13	34.023	26.487	158.4	0.659	2.88	43.4	36.2	2.05	27.7	0.01			269	205
300 ISL	7.63	7.60	34.042	26.580	149.8	0.708	2.39	35.6	43.4	2.27	30.7	0.01			302	
319	7.30	7.27	34.051	26.634	144.8	0.736	2.09	30.9	47.9	2.41	32.4	0.01			321	204
379	6.64	6.61	34.065	26.736	135.6	0.820	1.61	23.4	57.3	2.64	35.4	0.01			381	203
400 ISL	6.39	6.35	34.067	26.770	132.5	0.848	1.47	21.3	61.0	2.71	36.4	0.01			402	
437	5.98	5.94	34.080	26.833	126.6	0.896	1.22	17.5	67.6	2.84	38.0	0.01			440	202
500 ISL	5.60	5.56	34.151	26.937	117.3	0.973	0.73	10.4	78.4	3.04	40.1	0.01			503	
511	5.53	5.49	34.164	26.955	115.6	0.986	0.64	9.1	80.3	3.08	40.5	0.01			514	201

RV NEW HORIZON CALCOFI CRUISE 0504 STATION 90 80

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT TYPE
31 45.2 N	121 19.1 W	20/04/05	0522 UTC	3734 m	310 18 kn			1018.3 mb	14.7 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	15.25	15.25	33.117	24.467	345.5	0.000	5.83	101.8	1.9	0.35	0.0	0.00	0.36	0.07	0	
2	15.25	15.25	33.117	24.467	345.6	0.007	5.83	101.8	1.9	0.35	0.0	0.00	0.36	0.07	2	222
10 ISL	15.25	15.25	33.118	24.468	345.7	0.035	5.83	101.8	1.8	0.35	0.0	0.00	0.33	0.06	10	
15	15.25	15.25	33.118	24.468	345.9	0.052	5.83	101.8	1.8	0.35	0.0	0.00	0.32	0.05	15	221
20 ISL	15.25	15.25	33.118	24.468	346.0	0.069	5.83	101.8	1.8	0.35	0.0	0.00	0.34	0.03	20	
30	15.26	15.26	33.117	24.466	346.6	0.104	5.82	101.7	1.8	0.34	0.0	0.00	0.39	0.00	30	220
45	15.26	15.25	33.118	24.467	346.9	0.156	5.83	101.8	1.8	0.34	0.0	0.00	0.32	0.02	45	219
50 ISL	15.26	15.25	33.118	24.467	347.0	0.173	5.82	101.7	1.8	0.35	0.0	0.00	0.32	0.02	50	
61	15.26	15.25	33.117	24.467	347.4	0.211	5.80	101.3	1.8	0.36	0.0	0.00	0.31	0.01	61	218
75	15.16	15.15	33.111	24.484	346.1	0.260	5.77	100.6	1.8	0.35	0.1	0.00	0.52	0.02	75	217
86	12.72	12.71	33.099	24.978	299.1	0.295	5.54	91.8	4.2	0.64	3.8	0.09	0.76	0.30	86	215
95	11.57	11.56	33.211	25.282	270.2	0.321	4.75	76.9	8.9	1.07	10.6	0.10	0.56	0.19	95	214
100 ISL	11.36	11.35	33.240	25.343	264.5	0.334	4.58	73.8	9.8	1.15	11.9	0.09	0.46	0.21	100	
106	11.22	11.21	33.286	25.404	258.8	0.350	4.38	70.4	11.0	1.23	13.1	0.08	0.35	0.23	106	213
115	10.67	10.66	33.468	25.644	236.2	0.372	3.57	56.8	16.1	1.58	18.4	0.03	0.20	0.30	115	212
124	10.45	10.44	33.561	25.755	225.8	0.393	3.27	51.8	18.5	1.71	20.2	0.02	0.17	0.11	125	211
125 ISL	10.45	10.44	33.571	25.762	225.1	0.395	3.23	51.1	18.7	1.72	20.4	0.02	0.16	0.11	126	
139	10.41	10.39	33.692	25.864	215.8	0.426	2.75	43.5	21.6	1.88	22.2	0.01	0.08	0.12	140	210
149	10.32	10.30	33.792	25.958	207.1	0.447	2.53	40.0	23.5	1.97	23.3	0.01	0.03	0.03	150	209
150 ISL	10.32	10.30	33.798	25.962	206.7	0.449	2.52	39.8	23.6	1.97	23.4	0.01	0.03	0.03	151	
165	10.31	10.29	33.852	26.006	202.8	0.480	2.36	37.3	24.7	2.02	23.9	0.01	0.01	0.04	166	208
193	10.27	10.25	33.982	26.115	193.1	0.536	2.05	32.4	27.2	2.12	25.1	0.01	0.00	0.03	194	207
200 ISL	10.26	10.24	34.011	26.140	190.9	0.549	1.99	31.5	27.7	2.14	25.4	0.01			201	
229	10.09	10.06	34.100	26.239	182.1	0.603	1.85	29.2	29.8	2.22	26.4	0.01			230	206
250 ISL	9.73	9.70	34.116	26.312	175.5	0.641	1.92	30.0	31.3	2.24	27.1	0.01			251	
270	9.32	9.29	34.120	26.383	169.0	0.675	1.98	30.7	33.2	2.26	27.9	0.01			271	205
300 ISL	8.78	8.75	34.152	26.494	158.7	0.724	1.77	27.1	38.2	2.38	29.7	0.01			302	
319	8.46	8.43	34.171	26.559	152.8	0.754	1.59	24.2	41.6	2.46	30.9	0.01			321	204
377	7.70	7.66	34.174	26.675	142.3	0.839	1.33	19.9	49.2	2.63	33.3	0.01			379	203
400 ISL	7.36	7.32	34.182	26.730	137.2	0.872	1.14	16.9	53.8	2.73	34.6	0.01			402	
437	6.86	6.82	34.204	26.817	129.1	0.921	0.84	12.3	61.3	2.89	36.7	0.01			440	202
500 ISL	6.45	6.40	34.253	26.911	120.8	1.000	0.54	7.8	69.5	3.04	38.5	0.01			503	
507	6.40	6.35	34.259	26.922	119.8	1.008	0.51	7.4	70.4	3.06	38.7	0.01			510	201

RV NEW HORIZON CALCOFI CRUISE 0504 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	19/04/05	2235 UTC	3801 m	330 19 kn	330 10 08	1	1016.7 mb	15.8 C	13.9 C	34m	6/8	AS

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	15.08	15.08	33.044	24.448	347.4	0.000	5.84	101.6	2.0	0.36	0.1	0.00	0.16	0.05	0	
2	15.08	15.08	33.044	24.448	347.4	0.007	5.84	101.6	2.0	0.36	0.1	0.00	0.16	0.05	2	222
10 ISL	15.07	15.07	33.044	24.450	347.4	0.035	5.85	101.8	2.0	0.36	0.1	0.00	0.16	0.05	10	
16	15.07	15.07	33.044	24.450	347.6	0.056	5.85	101.8	2.0	0.36	0.1	0.00	0.16	0.05	16	221
20 ISL	15.05	15.05	33.044	24.455	347.3	0.069	5.85	101.7	2.0	0.36	0.1	0.00	0.16	0.05	20	
30 ISL	15.01	15.01	33.044	24.464	346.7	0.104	5.84	101.5	2.0	0.36	0.0	0.00	0.16	0.05	30	
31	15.01	15.01	33.044	24.464	346.8	0.108	5.84	101.5	2.0	0.36	0.0	0.00	0.16	0.05	31	220
46	14.99	14.98	33.044	24.469	346.7	0.160	5.84	101.4	2.0	0.35	0.0	0.00	0.18	0.06	46	219
50 ISL	14.99	14.98	33.045	24.470	346.8	0.174	5.84	101.4	2.0	0.35	0.0	0.00	0.19	0.06	50	
61	14.99	14.98	33.047	24.472	346.9	0.212	5.84	101.4	2.0	0.35	0.0	0.00	0.20	0.07	61	218
74	15.00	14.99	33.077	24.493	345.3	0.257	5.81	100.9	2.2	0.36	0.0	0.00	0.33 A	0.13 A	74	217
75 ISL	14.98	14.97	33.082	24.501	344.5	0.260	5.81	100.9	2.2	0.36	0.1	0.00	0.34	0.13	75	
86	14.38	14.37	33.121	24.659	329.7	0.297	5.72	98.1	2.9	0.44	0.8	0.02	0.39	0.17	86	216
96	13.13	13.12	33.120	24.914	305.5	0.329	5.52	92.3	4.7	0.63	3.4	0.09	0.46	0.16	96	215
98	12.71	12.70	33.128	25.003	297.1	0.335	5.33	88.3	5.8	0.74	5.1	0.15	0.35	0.13	98	214
100 ISL	12.49	12.48	33.136	25.052	292.4	0.341	5.22	86.1	6.4	0.80	6.0	0.17	0.32	0.14	100	
105	12.23	12.22	33.154	25.115	286.5	0.355	5.07	83.2	7.1	0.88	7.3	0.21	0.26	0.17	105	213
116	11.46	11.45	33.204	25.297	269.2	0.386	4.77	77.0	9.1	1.07	10.7	0.09	0.17	0.13	116	212
125	10.90	10.88	33.293	25.467	253.2	0.409	4.47	71.3	11.6	1.25	13.6	0.04	0.12	0.12	126	211
139	10.12	10.10	33.399	25.685	232.6	0.443	4.61	72.4	13.4	1.28	14.9	0.01	0.05	0.06	140	210
148	9.86	9.84	33.489	25.799	221.9	0.464	4.50	70.3	15.0	1.34	16.1	0.01	0.05	0.05	149	209
150 ISL	9.81	9.79	33.511	25.824	219.6	0.468	4.48	69.9	15.4	1.35	16.3	0.01	0.05	0.05	151	
167	9.49	9.47	33.682	26.011	202.1	0.504	4.31	66.9	18.3	1.43	18.0	0.01	0.02	0.07	168	208
193	9.19	9.17	33.831	26.176	186.9	0.555	3.93	60.6	22.6	1.59	20.7	0.01	0.00	0.04	194	207
200 ISL	9.10	9.08	33.863	26.216	183.2	0.568	3.87	59.6	23.6	1.62	21.2	0.01			201	
224	8.78	8.76	33.951	26.335	172.2	0.610	3.64	55.7	27.2	1.73	23.0	0.01			225	206
250 ISL	8.41	8.38	34.002	26.433	163.3	0.654	3.19	48.4	32.5	1.92	25.7	0.00			251	
270	8.11	8.08	34.023	26.495	157.7	0.686	2.80	42.2	36.9	2.08	27.9	0.00			271	205
300 ISL	7.61	7.58	34.042	26.583	149.6	0.732	2.32	34.6	43.4	2.29	30.7	0.00			302	
316	7.35	7.32	34.049	26.625	145.6	0.756	2.10	31.1	46.8	2.39	32.1	0.00			318	204
383	6.50	6.47	34.078	26.764	132.9	0.849	1.44	20.9	59.8	2.71	36.0	0.00			385	203
400 ISL	6.32	6.28	34.091	26.798	129.8	0.871	1.28	18.5	63.1	2.78	36.9	0.00			402	
438	5.99	5.95	34.122	26.865	123.6	0.920	0.96	13.8	69.9	2.92	38.5	0.01			441	202
500 ISL	5.72	5.68	34.171	26.938	117.4	0.994	0.68	9.7	77.5	3.06	39.9	0.01			503	
511	5.67	5.63	34.180	26.951	116.2	1.007	0.63	9.0	78.8	3.08	40.2	0.01			514	201

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

RV NEW HORIZON CALCOFI CRUISE 0504 STATION 90 100

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
31 6.0 N	122 39.9 W	19/04/05	1640 UTC	4039 m	340 22 kn	330 12 08	1	1018.5 mb	14.2 C	11.8 C	30m	6/8	SC

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	15.74	15.74	33.098	24.344	357.2	0.000	5.74	101.2	1.6	0.34	0.0	0.00			0	
2 A	15.74	15.74	33.098	24.344	357.3	0.007	5.74	101.2	1.6	0.34	0.0	0.00			2	221
10 ISL	15.74	15.74	33.095	24.342	357.7	0.036	5.73	101.1	1.6	0.34	0.0	0.00			10	
18 A	15.74	15.74	33.091	24.339	358.3	0.064	5.72	100.9	1.6	0.34	0.0	0.00			18	220
20 ISL	15.74	15.74	33.091	24.339	358.3	0.072	5.72	100.9	1.6	0.34	0.0	0.00			20	
30	15.74	15.74	33.091	24.340	358.6	0.107	5.75	101.4	1.6	0.34	0.0	0.00			30	219
42 A	15.74	15.73	33.091	24.340	358.9	0.150	5.75	101.4	1.6	0.34	0.0	0.00			42	218
50 ISL	15.74	15.73	33.093	24.342	359.0	0.179	5.74	101.2	1.7	0.34	0.1	0.00			50	
52	15.74	15.73	33.093	24.342	359.0	0.186	5.74	101.2	1.7	0.34	0.1	0.00			52	217
63 A	15.51	15.50	33.212	24.485	345.8	0.225	5.79	101.7	1.8	0.34	0.0	0.00			63	216
72 A	15.29	15.28	33.371	24.656	329.7	0.256	5.74	100.5	2.0	0.34	0.0	0.00			72	215
75 ISL	15.16	15.15	33.370	24.684	327.2	0.265	5.73	100.0	2.0	0.35	0.2	0.00			75	
84	14.44	14.43	33.278	24.768	319.3	0.294	5.72	98.4	2.4	0.42	0.6	0.02			84	214
94	12.80	12.79	33.114	24.974	299.7	0.325	5.55	92.2	3.8	0.61	3.5	0.07			94	213
100 ISL	12.72	12.71	33.212	25.066	291.1	0.343	5.45	90.4	4.3	0.65	4.4	0.08			100	
105	12.66	12.65	33.276	25.127	285.4	0.358	5.37	89.0	4.7	0.67	5.0	0.09			105	212
117 A	11.98	11.96	33.255	25.241	274.8	0.391	5.20	84.9	6.1	0.80	7.1	0.08			117	211
125 ISL	11.32	11.30	33.248	25.357	263.7	0.413	5.06	81.5	7.6	0.93	9.2	0.07			126	
128	11.04	11.02	33.249	25.408	258.9	0.421	4.99	79.9	8.5	0.99	10.2	0.06			129	210
136	10.23	10.21	33.270	25.566	243.9	0.441	4.66	73.3	12.2	1.25	14.3	0.03			137	209
150 ISL	9.85	9.83	33.430	25.754	226.2	0.474	4.34	67.8	16.0	1.46	17.7	0.02			151	
164	9.47	9.45	33.524	25.891	213.5	0.504	4.12	63.8	18.4	1.54	19.2	0.01			165	208
194	9.03	9.01	33.773	26.156	188.7	0.565	3.43	52.7	24.6	1.81	23.4	0.01			195	207
200 ISL	8.96	8.94	33.808	26.195	185.2	0.576	3.35	51.4	25.6	1.84	24.0	0.01			201	
229	8.64	8.62	33.933	26.343	171.5	0.628	3.08	46.9	30.3	1.94	25.9	0.01			230	206
250 ISL	8.35	8.32	33.989	26.432	163.4	0.663	2.99	45.3	33.7	1.99	26.9	0.01			251	
268	8.08	8.05	34.019	26.496	157.5	0.692	2.91	43.8	36.7	2.04	27.7	0.01			269	205
300 ISL	7.63	7.60	34.037	26.576	150.2	0.741	2.50	37.3	42.5	2.23	30.2	0.01			302	
318	7.39	7.36	34.039	26.612	147.0	0.768	2.23	33.0	46.0	2.35	31.7	0.01			320	204
378	6.61	6.58	34.084	26.755	133.8	0.852	1.41	20.5	58.7	2.72	36.1	0.01			380	203
400 ISL	6.31	6.27	34.085	26.795	130.1	0.881	1.28	18.5	63.0	2.79	37.1	0.01			402	
437	5.86	5.82	34.087	26.854	124.6	0.928	1.14	16.3	69.8	2.88	38.5	0.01			440	202
500 ISL	5.41	5.37	34.129	26.942	116.6	1.004	0.82	11.6	79.9	3.02	40.3	0.00			503	
518	5.28	5.24	34.142	26.968	114.2	1.025	0.73	10.3	82.8	3.06	40.8	0.00			521	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV NEW HORIZON CALCOFI CRUISE 0504 STATION 90 110

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
30 45.2 N	123 20.0 W	19/04/05	0828 UTC	4019 m	340 23 kn			1019.5 mb	14.1 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	15.18	15.18	33.032	24.417	350.3	0.000	5.82	101.5	2.0	0.36	0.0	0.00	0.15	0.05	0	
2	15.18	15.18	33.032	24.417	350.4	0.007	5.82	101.5	2.0	0.36	0.0	0.00	0.15	0.05	2	220
10 ISL	15.18	15.18	33.033	24.418	350.5	0.035	5.83	101.6	2.0	0.36	0.0	0.00	0.15	0.05	10	
15	15.18	15.18	33.034	24.419	350.6	0.053	5.83	101.6	2.0	0.36	0.0	0.00	0.15	0.05	15	219
20 ISL	15.18	15.18	33.033	24.418	350.8	0.070	5.82	101.5	2.0	0.36	0.0	0.00	0.16	0.05	20	
29	15.18	15.18	33.030	24.416	351.2	0.102			2.0	0.36	0.0	0.00	0.17	0.05	29	218
30 ISL	15.18	15.18	33.030	24.416	351.3	0.105	5.82	101.4	2.0	0.36	0.0	0.00	0.17	0.05	30	
46	15.18	15.17	33.031	24.418	351.6	0.161	5.81	101.3	2.0	0.35	0.0	0.00	0.16	0.05	46	217
50 ISL	15.18	15.17	33.030	24.417	351.8	0.176	5.82	101.4	1.9	0.35	0.0	0.00	0.17	0.05	50	
55	15.16	15.15	33.028	24.420	351.7	0.193	5.83	101.6	1.9	0.35	0.0	0.00	0.18	0.05	55	216
65	15.07	15.06	33.018	24.432	350.8	0.228	5.85	101.7	2.1	0.37	0.0	0.00	0.22	0.07	65	215
75 ISL	14.18	14.17	33.004	24.610	334.0	0.262	5.93	101.3	1.9	0.37	0.0	0.00	0.34	0.21	75	
76	14.07	14.06	33.006	24.635	331.7	0.266	5.93	101.0	1.9	0.37	0.0	0.00	0.36	0.23	76	214
85	13.36	13.35	33.080	24.837	312.6	0.295	5.76	96.7	2.7	0.48	1.3	0.04	0.49	0.33	85	213
94	12.95	12.94	33.111	24.943	302.7	0.322	5.60	93.3	3.3	0.58	3.0	0.07	0.44	0.30	94	212
100 ISL	12.54	12.53	33.098	25.013	296.1	0.340	5.51	91.0	3.9	0.65	4.2	0.08	0.37	0.28	100	
108	11.90	11.89	33.088	25.126	285.4	0.364	5.36	87.3	5.3	0.78	6.3	0.09	0.26	0.24	108	211
125	10.35	10.34	33.231	25.515	248.6	0.409	4.72	74.4	11.3	1.21	13.6	0.05	0.14	0.12	126	210
143	9.59	9.57	33.398	25.772	224.3	0.452	4.11	63.8	17.1	1.55	18.9	0.02	0.10	0.12	144	209
150 ISL	9.44	9.42	33.474	25.856	216.4	0.467	3.93	60.8	18.9	1.63	20.2	0.02	0.08	0.10	151	
169	9.19	9.17	33.674	26.053	198.1	0.506	3.54	54.5	22.8	1.77	22.6	0.01	0.02	0.03	170	208
198	8.90	8.88	33.889	26.268	178.2	0.561	3.17	48.6	27.5	1.88	24.8	0.01	0.00	0.02	199	207
200 ISL	8.88	8.86	33.899	26.279	177.2	0.565	3.14	48.1	27.8	1.89	25.0	0.01			201	
228	8.57	8.55	33.997	26.404	165.7	0.613	2.72	41.4	32.7	2.05	27.4	0.01			229	206
250 ISL	8.27	8.24	34.032	26.477	159.0	0.648	2.51	38.0	36.8	2.16	29.0	0.01			251	
269	7.98	7.95	34.045	26.531	154.1	0.678	2.37	35.6	40.3	2.24	30.2	0.01			270	205
300 ISL	7.45	7.42	34.049	26.611	146.8	0.725	2.16	32.1	45.7	2.36	32.0	0.00			302	
317	7.16	7.13	34.048	26.651	143.1	0.749	2.04	30.1	48.8	2.43	33.0	0.00			319	204
379	6.27	6.24	34.066	26.785	130.7	0.834	1.39	20.1	62.2	2.75	36.9	0.00			381	203
400 ISL	6.10	6.06	34.085	26.822	127.4	0.861	1.19	17.1	65.9	2.83	37.9	0.00			402	
439	5.84	5.80	34.121	26.883	121.8	0.910	0.88	12.6	72.3	2.96	39.4	0.00			442	202
500 ISL	5.36	5.32	34.142	26.958	115.0	0.982	0.73	10.3	81.8	3.06	40.8	0.00			503	
516	5.23	5.19	34.148	26.978	113.1	1.000	0.69	9.7	84.3	3.09	41.2	0.00			519	201

RV NEW HORIZON CALCOFI CRUISE 0504 STATION 90 120

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
30 25.3 N	123 59.9 W	19/04/05	0147 UTC	4230 m	350 19 kn	340 08 07	1	1019.9 mb	14.9 C	12.5 C		6/8	SC

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	16.08	16.08	33.183	24.333	358.3	0.000	5.72	101.6	2.0	0.33	0.1	0.00	0.02	0.01	0	
2	16.08	16.08	33.183	24.333	358.3	0.007	5.72	101.6	2.0	0.33	0.1	0.00	0.02	0.01	2	222
10 ISL	16.08	16.08	33.180	24.331	358.8	0.036	5.72	101.6	1.9	0.33	0.1	0.00	0.02	0.01	10	
15	16.08	16.08	33.178	24.330	359.1	0.054	5.72	101.6	1.8	0.33	0.1	0.00	0.02	0.01	15	221
20 ISL	16.08	16.08	33.178	24.330	359.2	0.072	5.72	101.6	1.7	0.33	0.1	0.00	0.02	0.01	20	
30	16.08	16.08	33.178	24.330	359.5	0.108	5.72	101.6	1.4	0.33	0.1	0.00	0.03	0.00	30	220
46	16.06	16.05	33.183	24.339	359.2	0.165	5.72	101.6	1.1	0.32	0.1	0.00	0.02	0.01	46	219
50 ISL	16.06	16.05	33.185	24.341	359.1	0.180	5.72	101.6	1.0	0.32	0.1	0.00	0.02	0.01	50	
60	16.07	16.06	33.191	24.344	359.2	0.215	5.72	101.6	0.8	0.32	0.1	0.00	0.02	0.02	60	218
75	15.50	15.49	33.203	24.481	346.5	0.268	5.79	101.7	0.8	0.33	0.1	0.00	0.04	0.02	75	217
85	15.54	15.53	33.322	24.564	339.0	0.303	5.74	100.9	0.5	0.32	0.1	0.00	0.07	0.02	85	216
94	15.06	15.05	33.345	24.687	327.4	0.333	5.71	99.5	0.5	0.35	0.2	0.01	0.12	0.08	94	215
99	14.50	14.49	33.276	24.754	321.1	0.349	5.68	97.8	0.6	0.40	0.8	0.03	0.11	0.09	99	214
100 ISL	14.39	14.38	33.260	24.765	320.1	0.352	5.68	97.6	0.6	0.41	0.9	0.03	0.11	0.10	100	
105	13.88	13.87	33.193	24.819	314.9	0.368	5.65	96.0	0.9	0.46	1.5	0.05	0.10	0.12	105	213
110	13.42	13.40	33.171	24.896	307.7	0.384	5.60	94.2	1.1	0.52	2.3	0.07	0.15	0.05	110	212
115	13.25	13.23	33.197	24.950	302.6	0.399	5.52	92.6	0.9	0.58	3.3	0.08	0.13	0.07	115	211
124	12.70	12.68	33.317	25.152	283.6	0.425	5.32	88.3	1.9	0.67	5.1	0.07	0.10	0.09	124	210
125 ISL	12.65	12.63	33.325	25.168	282.1	0.428	5.30	87.8	2.0	0.68	5.3	0.07	0.10	0.09	126	
140	11.99	11.97	33.393	25.347	265.3	0.469	5.10	83.4	3.5	0.80	7.6	0.04	0.09	0.06	141	209
150 ISL	11.46	11.44	33.423	25.469	253.8	0.495	5.00	80.8	4.8	0.90	9.3	0.03	0.07	0.05	151	
165	10.66	10.64	33.480	25.656	236.1	0.532	4.83	76.8	7.4	1.06	12.1	0.02	0.03	0.03	166	208
194	9.35	9.33	33.713	26.058	198.1	0.595	4.24	65.6	15.5	1.46	18.8	0.01	0.00	0.02	195	207
200 ISL	9.23	9.21	33.756	26.111	193.2	0.606	4.19	64.6	16.5	1.49	19.4	0.01			201	
229	8.90	8.88	33.918	26.291	176.6	0.660	3.95	60.6	20.7	1.60	21.4	0.01			230	206
250 ISL	8.60	8.57	33.978	26.385	168.0	0.696	3.57	54.4	25.1	1.76	23.7	0.01			251	
269	8.31	8.28	34.006	26.451	161.9	0.728	3.19	48.3	29.5	1.92	26.0	0.01			270	205
300 ISL	7.74	7.71	34.025	26.551	152.7	0.776	2.70	40.3	36.3	2.14	29.2	0.01			302	
319	7.38	7.35	34.027	26.604	147.7	0.805	2.44	36.2	40.5	2.27	31.0	0.01			321	204
375	6.41	6.38	34.039	26.745	134.5	0.884	1.78	25.8	53.6	2.62	35.3	0.01			377	203
400 ISL	6.24	6.20	34.076	26.797	129.8	0.917	1.41	20.3	58.1	2.75	36.7	0.01			402	
437	6.10	6.06	34.136	26.862	124.0	0.964	0.92	13.2	64.0	2.92	38.4	0.01			440	202
500 ISL	5.64	5.60	34.179	26.954	115.7	1.039	0.62	8.8	73.8	3.07	40.2	0.01			503	
516	5.52	5.48	34.191	26.978	113.5	1.058	0.54	7.7	76.3	3.11	40.7	0.01			519	201

RV NEW HORIZON CALCOFI CRUISE 0504 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 14.7 N	117 28.0 W	15/04/05	2312	UTC	23 m	230	04 kn	260 03 06	1	1011.1 mb	17.9 C	15.2 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	15.30	15.30	33.402	24.675	325.7	0.000	9.09	159.2	5.3	0.17	0.1	0.01	6.92	0.64	0	
1	15.30	15.30	33.402	24.676	325.7	0.003	9.09	159.2	5.3	0.17	0.1	0.01	6.92	0.64	1	204
5	14.38	14.38	33.403	24.875	306.9	0.016	8.11	139.4	5.0	0.22	0.2	0.03	8.68	1.05	5	203
10	12.82	12.82	33.444	25.224	273.7	0.030	5.65	94.1	7.9	0.57	3.2	0.15	5.23	1.39	10	202
17	12.08	12.08	33.495	25.406	256.6	0.049	4.28	70.2	12.0	1.20	10.6	0.26	2.96	2.02	17	201

RV NEW HORIZON CALCOFI CRUISE 0504 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 16.9 W	15/04/05	2021	UTC	21 m	230	05 kn	260 04 06	1	1012.3 mb	15.1 C	11.9 C		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	15.40	15.40	33.370	24.629	330.1	0.000	8.50	149.1	1.0	0.17	0.1	0.01	4.04	0.59	0	
1	15.40	15.40	33.370	24.629	330.1	0.003	8.50	149.1	1.0	0.17	0.1	0.01	4.04	0.59	1	204
7	13.34	13.34	33.375	25.067	288.6	0.022	6.99	117.6	1.6	0.29	0.1	0.01	16.17	2.70	7	203
10	12.88	12.88	33.396	25.175	278.4	0.030	5.57	92.8	2.4	0.47	0.3	0.02	15.46	3.52	10	202
16	11.59	11.59	33.510	25.509	246.7	0.046	3.58	58.1	12.4	1.40	13.6	0.40	6.01	7.63	16	201

RV NEW HORIZON CALCOFI CRUISE 0504 STATION 93 26.7

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
32 57.5 N	117 18.3 W	15/04/05	1821	UTC	63 m	240	06 kn	260 03 05	1	1012.9 mb	17.4 C	15.1 C	06m	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	15.54	15.54	33.389	24.613	331.7	0.000	8.69	152.9	1.4	0.15	0.0	0.01	3.08	0.49	0	
1 A	15.54	15.54	33.389	24.613	331.7	0.003	8.69	152.9	1.4	0.15	0.0	0.01	3.08	0.49	1	210
5 A	14.88	14.88	33.385	24.754	318.3	0.016	8.57	148.8	1.7	0.18	0.1	0.01	2.42	0.46	5	209
8 A	14.52	14.52	33.381	24.828	311.4	0.026	8.26	142.4	2.0	0.20	0.1	0.01	2.41	0.48	8	208
10 ISL	13.71	13.71	33.393	25.006	294.5	0.032	7.68	130.2	2.0	0.24	0.1	0.01	4.56	1.47	10	
13 A	12.53	12.53	33.414	25.257	270.6	0.040	6.18	102.3	1.9	0.42	0.1	0.01	10.32	3.40	13	207
14 A	12.37	12.37	33.408	25.283	268.2	0.043	5.50	90.7	2.8	0.53	0.1	0.02	12.75	3.90	14	206
20 ISL	11.32	11.32	33.476	25.532	244.6	0.058	3.46	55.8	12.6	1.33	11.8	0.18	4.82	2.29	20	
23 A	10.89	10.89	33.537	25.657	232.8	0.066	3.18	50.8	17.6	1.67	19.1	0.27	0.85	1.48	23	205
30 ISL	10.71	10.71	33.629	25.760	223.1	0.081	2.91	46.4	20.6	1.79	20.8	0.38	0.51	1.05	30	
32	10.66	10.66	33.638	25.776	221.7	0.086	2.83	45.0	20.8	1.82	21.3	0.40	0.41	0.93	32	204
40	10.47	10.47	33.735	25.885	211.5	0.103	2.58	40.9	23.1	1.95	22.5	0.46	0.34	0.76	40	203
50 ISL	10.24	10.23	33.861	26.023	198.6	0.124	2.37	37.4	25.6	2.03	23.5	0.27	0.22	1.06	50	
51	10.22	10.21	33.873	26.036	197.4	0.126	2.36	37.3	25.8	2.03	23.6	0.24	0.21	1.08	51	202
54	10.17	10.16	33.908	26.072	194.1	0.132	2.34	36.9	26.2	2.04	24.0	0.17	0.18	0.98	54	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV NEW HORIZON CALCOFI CRUISE 0504 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 23.9 W	16/04/05	0217 UTC	566 m	300 01 kn	270 01 06	1	1011.1 mb	16.6 C	15.0 C		2/8	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	16.51	16.51	33.341	24.356	356.1	0.000	7.21	129.3	0.3	0.20	0.1	0.00	1.37	0.33	0	
1	16.51	16.51	33.341	24.356	356.1	0.004	7.21	129.3	0.3	0.20	0.1	0.00	1.37 A	0.33 A	1	221
10	13.40	13.40	33.312	25.006	294.4	0.033	7.11	119.7	0.5	0.32	0.1	0.01	2.59	0.61	10	220
20	12.53	12.53	33.368	25.222	274.2	0.061	6.27	103.7	0.5	0.45	1.1	0.07	8.42	4.45	20	219
30 ISL	11.34	11.34	33.425	25.489	249.0	0.087	3.90	62.9	12.0	1.42	14.4	0.22	9.30	4.09	30	
31	11.23	11.23	33.434	25.516	246.4	0.090	3.67	59.1	13.3	1.52	15.8	0.23	9.39	4.05	31	218
40	10.80	10.80	33.567	25.697	229.4	0.111	3.12	49.8	17.9	1.72	19.6	0.14	1.29	1.06	40	217
50	10.56	10.55	33.638	25.794	220.4	0.134	3.10	49.2	19.6	1.77	20.6	0.08	0.56	0.88	50	215
59	10.27	10.26	33.775	25.951	205.6	0.153	2.77	43.8	23.1	1.90	22.5	0.03	0.38	0.52	59	214
70	10.21	10.20	33.801	25.982	203.0	0.175	2.69	42.4	24.0	1.93	22.9	0.03	0.47	0.50	70	213
75 ISL	10.16	10.15	33.851	26.030	198.6	0.185	2.60	41.0	24.8	1.97	23.4	0.03	0.40	0.48	75	
84	10.06	10.05	33.949	26.123	189.9	0.203	2.42	38.1	26.5	2.04	24.4	0.03	0.23	0.44	84	212
99	9.91	9.90	34.025	26.208	182.1	0.231	2.25	35.3	28.4	2.11	25.3	0.02	0.18	0.34	100	211
100 ISL	9.91	9.90	34.029	26.211	181.8	0.233	2.24	35.2	28.5	2.11	25.3	0.02	0.18	0.34	101	
119	9.86	9.85	34.087	26.265	177.1	0.267	2.12	33.2	29.8	2.16	26.0	0.02	0.16	0.29	120	210
125 ISL	9.80	9.79	34.102	26.287	175.2	0.277	2.08	32.6	30.5	2.18	26.3	0.02	0.20	0.29	126	
139	9.65	9.63	34.139	26.341	170.3	0.302	1.96	30.6	32.3	2.23	27.0	0.02	0.27	0.28	140	209
150 ISL	9.55	9.53	34.181	26.391	165.8	0.320	1.78	27.7	34.1	2.30	27.7	0.02	0.22	0.22	151	
169	9.39	9.37	34.242	26.465	159.1	0.351	1.49	23.1	37.0	2.41	28.7	0.02	0.10	0.16	170	208
199	9.14	9.12	34.251	26.513	155.1	0.398	1.37	21.2	39.4	2.48	29.6	0.02	0.15	0.44	200	207
200 ISL	9.13	9.11	34.251	26.515	155.0	0.400	1.37	21.2	39.5	2.48	29.6	0.02			201	
230	8.93	8.91	34.260	26.554	151.8	0.446	1.26	19.4	41.6	2.54	30.3	0.02			231	206
250 ISL	8.77	8.74	34.264	26.583	149.4	0.476	1.19	18.2	43.0	2.58	30.8	0.02			252	
269	8.59	8.56	34.266	26.612	146.8	0.504	1.13	17.2	44.6	2.62	31.4	0.02			271	205
300 ISL	8.25	8.22	34.268	26.666	142.1	0.549	1.00	15.1	48.2	2.70	32.4	0.02			302	
317	8.05	8.02	34.268	26.697	139.5	0.573	0.93	14.0	50.4	2.74	33.0	0.02			319	204
377	7.38	7.34	34.250	26.780	132.1	0.654	0.79	11.7	57.5	2.86	35.2	0.02			379	203
400 ISL	7.14	7.10	34.248	26.813	129.2	0.684	0.73	10.8	60.6	2.91	36.0	0.02			403	
437	6.78	6.74	34.252	26.865	124.5	0.731	0.63	9.2	65.6	2.99	37.2	0.02			440	202
500 ISL	6.36	6.31	34.280	26.943	117.6	0.807	0.48	7.0	72.8	3.10	38.7	0.02			503	
519	6.23	6.18	34.289	26.968	115.5	0.829	0.43	6.2	75.0	3.13	39.2	0.02			523	201

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

RV NEW HORIZON CALCOFI CRUISE 0504 STATION 93 30

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
32 50.6 N	117 32.4 W	16/04/05	0532 UTC	872 m	020 02 kn			1012.0 mb	15.9 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	15.44	15.44	33.291	24.559	336.7	0.000	6.98	122.5	0.0	0.25	0.0	0.01	0.72	0.03	0	
2	15.44	15.44	33.291	24.559	336.8	0.007	6.98	122.5	0.0	0.25	0.0	0.01	0.72	0.03	2	222
10	13.87	13.87	33.310	24.909	303.7	0.032	7.12	121.1	0.0	0.22	0.1	0.00	0.71	0.10	10	221
20	12.89	12.89	33.315	25.110	284.8	0.062	5.12	85.3	1.8	0.77	4.5	0.15	2.04	0.25	20	220
30	11.58	11.58	33.367	25.400	257.4	0.089	3.94	63.9	11.1	1.33	13.8	0.23	1.24	0.29	30	218
39	11.13	11.13	33.405	25.512	247.0	0.112	3.84	61.7	13.3	1.43	15.8	0.13	0.69	0.28	39	216
49	10.70	10.69	33.493	25.657	233.4	0.136	3.64	57.9	15.8	1.55	18.0	0.08	0.55	0.44	49	215
50 ISL	10.66	10.65	33.502	25.671	232.1	0.138	3.62	57.6	16.1	1.56	18.2	0.08	0.53	0.43	50	
59	10.34	10.33	33.588	25.793	220.6	0.158	3.40	53.7	18.3	1.67	19.9	0.05	0.37	0.28	59	214
69	10.23	10.22	33.702	25.901	210.6	0.180	3.09	48.7	20.5	1.79	21.4	0.04	0.27	0.23	69	213
75 ISL	10.22	10.21	33.771	25.957	205.5	0.192	2.87	45.3	22.0	1.86	22.3	0.03	0.23	0.23	75	
83	10.21	10.20	33.854	26.023	199.3	0.209	2.62	41.3	23.8	1.95	23.3	0.02	0.18	0.22	83	212
98	10.11	10.10	33.948	26.114	191.0	0.238	2.44	38.4	25.4	2.02	24.2	0.02	0.12	0.20	99	211
100 ISL	10.09	10.08	33.961	26.128	189.8	0.242	2.41	38.0	25.7	2.03	24.3	0.02	0.12	0.20	101	
120	9.90	9.89	34.073	26.248	178.8	0.278	2.12	33.3	28.8	2.13	25.7	0.01	0.11	0.19	121	210
125 ISL	9.88	9.87	34.094	26.268	177.0	0.287	2.06	32.3	29.4	2.15	26.0	0.01	0.11	0.19	126	
139	9.82	9.80	34.144	26.317	172.7	0.312	1.93	30.2	30.9	2.22	26.6	0.02	0.11	0.17	140	209
150 ISL	9.74	9.72	34.172	26.352	169.5	0.331	1.84	28.8	32.0	2.26	27.1	0.02	0.10	0.16	151	
171	9.52	9.50	34.210	26.419	163.6	0.366	1.67	26.0	34.4	2.34	28.0	0.02	0.08	0.14	172	208
200	9.12	9.10	34.241	26.508	155.6	0.412	1.39	21.5	38.7	2.47	29.5	0.02	0.05	0.12	201	207
229	8.84	8.82	34.253	26.563	150.9	0.456	1.25	19.2	41.4	2.55	30.5	0.02			230	206
250 ISL	8.43	8.40	34.222	26.602	147.3	0.488	1.30	19.8	43.9	2.57	31.5	0.01			252	
266	8.12	8.09	34.201	26.633	144.6	0.511	1.33	20.1	45.9	2.58	32.2	0.01			268	205
300 ISL	7.94	7.91	34.242	26.692	139.5	0.559	1.05	15.8	49.8	2.70	33.1	0.01			302	
320	7.89	7.86	34.273	26.724	136.8	0.587	0.85	12.8	52.0	2.78	33.6	0.01			322	204
383	7.19	7.15	34.238	26.797	130.4	0.671	0.80	11.8	58.6	2.86	35.7	0.01			386	203
400 ISL	7.03	6.99	34.240	26.821	128.3	0.693	0.74	10.9	60.7	2.90	36.2	0.01			403	
442	6.68	6.64	34.257	26.883	122.8	0.746	0.58	8.5	66.3	2.99	37.4	0.01			445	202
500 ISL	6.28	6.24	34.288	26.960	115.9	0.815	0.42	6.1	73.8	3.10	38.9	0.01			503	
517	6.16	6.11	34.298	26.984	113.9	0.835	0.37	5.3	76.0	3.13	39.4	0.01			521	201

RV NEW HORIZON CALCOFI CRUISE 0504 STATION 93 35

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT TYPE
32 40.8 N	117 52.4 W	16/04/05	0921 UTC	623 m	250 02 kn			1011.3 mb	16.0 C	14.1 C		

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	16.34	16.34	33.197	24.285	362.9	0.000	5.80	103.6	1.5	0.32	0.1	0.00	0.26	0.06	0	
1	16.34	16.34	33.197	24.285	362.9	0.004	5.80	103.6	1.5	0.32	0.1	0.00	0.26	0.06	1	220
10	15.84	15.84	33.189	24.392	353.0	0.036	5.82	102.9	1.5	0.32	0.1	0.00	0.22	0.07	10	219
20 ISL	15.67	15.67	33.186	24.428	349.9	0.071	5.85	103.1	1.6	0.32	0.1	0.00	0.26	0.10	20	
21	15.65	15.65	33.186	24.433	349.5	0.074	5.85	103.0	1.6	0.32	0.1	0.00	0.26	0.10	21	218
30	13.89	13.89	33.132	24.768	317.7	0.105	5.75	97.7	4.0	0.49	1.9	0.05	0.77	0.46	30	217
41	12.51	12.50	33.175	25.077	288.6	0.138	5.15	85.0	6.8	0.83	6.7	0.20	0.68	0.68	41	216
50	11.64	11.63	33.277	25.320	265.6	0.163	4.57	74.1	9.8	1.13	11.3	0.18	0.66	0.56	50	215
61	10.80	10.79	33.373	25.546	244.2	0.191	4.27	68.1	12.6	1.31	14.6	0.10	0.36	0.22	61	214
69	10.60	10.59	33.416	25.615	237.9	0.210	4.19	66.5	13.8	1.37	15.7	0.08	0.26	0.24	69	213
75 ISL	10.43	10.42	33.459	25.677	232.0	0.224	4.06	64.2	15.1	1.43	16.7	0.06	0.20	0.21	75	
85	10.20	10.19	33.538	25.779	222.6	0.247	3.76	59.2	17.3	1.55	18.6	0.04	0.12	0.15	85	212
100	10.17	10.16	33.648	25.870	214.3	0.280	3.25	51.2	20.2	1.74	21.1	0.02	0.06	0.11	100	211
119	9.98	9.97	33.879	26.083	194.4	0.319	2.69	42.2	24.6	1.95	23.7	0.01	0.02	0.06	120	210
125 ISL	9.83	9.82	33.912	26.134	189.7	0.330	2.64	41.3	25.7	1.98	24.3	0.01	0.02	0.06	126	
139	9.50	9.48	33.962	26.228	181.0	0.356	2.58	40.1	28.0	2.02	25.4	0.01	0.04	0.06	140	209
150 ISL	9.45	9.43	34.013	26.276	176.7	0.376	2.47	38.4	29.3	2.07	26.0	0.01	0.04	0.06	151	
169	9.36	9.34	34.078	26.342	170.8	0.409	2.21	34.3	31.5	2.16	27.0	0.01	0.02	0.05	170	208
199	9.18	9.16	34.192	26.460	160.1	0.458	1.72	26.6	36.2	2.34	28.8	0.01	0.01	0.05	200	207
200 ISL	9.17	9.15	34.194	26.464	159.8	0.460	1.71	26.4	36.3	2.34	28.8	0.01			201	
230	8.87	8.85	34.229	26.539	153.2	0.507	1.42	21.8	40.1	2.47	30.1	0.01			231	206
250 ISL	8.70	8.67	34.251	26.583	149.3	0.537	1.25	19.1	42.4	2.55	30.9	0.01			251	
268	8.52	8.49	34.262	26.620	146.0	0.564	1.12	17.1	44.7	2.62	31.6	0.01			270	205
300 ISL	7.97	7.94	34.243	26.688	139.9	0.609	1.04	15.6	51.0	2.70	33.2	0.00			302	
317	7.66	7.63	34.230	26.724	136.6	0.633	1.01	15.1	54.4	2.74	34.0	0.00			319	204
377	7.06	7.02	34.249	26.824	127.7	0.712	0.72	10.6	61.2	2.91	36.2	0.00			379	203
400 ISL	6.88	6.84	34.259	26.857	124.8	0.741	0.63	9.2	63.9	2.96	36.9	0.00			403	
439	6.61	6.57	34.276	26.907	120.4	0.789	0.50	7.3	68.5	3.03	37.9	0.00			442	202
500 ISL	6.25	6.21	34.296	26.970	115.0	0.861	0.39	5.6	74.8	3.12	39.2	0.01			503	
517	6.15	6.10	34.302	26.988	113.4	0.880	0.36	5.2	76.6	3.14	39.6	0.01			521	201

RV NEW HORIZON CALCOFI CRUISE 0504 STATION 93 40

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT TYPE
32 30.8 N	118 12.9 W	16/04/05	1328 UTC	1648 m	300 04 kn	270 04 07		1011.8 mb	14.9 C	13.8 C	23m	

DEPTH m	TEMP DEG C	POT TEMP DEG 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	15.90	15.90	33.184	24.374	354.4	0.000	5.80	102.7	1.9	0.33	0.1	0.00	0.21	0.05	0	
1	15.90	15.90	33.184	24.375	354.4	0.004	5.80	102.7	1.9	0.33	0.1	0.00	0.21	0.05	1	221
10	15.68	15.68	33.179	24.420	350.3	0.035	5.81	102.4	1.9	0.33	0.1	0.00	0.20	0.05	10	220
20	15.55	15.55	33.178	24.449	347.9	0.070	5.82	102.3	2.0	0.33	0.1	0.00	0.21	0.07	20	219
30	15.39	15.39	33.172	24.480	345.2	0.105	5.85	102.5	2.1	0.32	0.1	0.00	0.26	0.12	30	218
40	12.74	12.73	33.133	24.999	295.9	0.137	5.35	88.7	5.8	0.75	5.3	0.16	0.97	0.59	40	216
50	11.76	11.75	33.190	25.230	274.1	0.165	4.86	79.0	8.9	1.00	9.5	0.25	0.66	0.56	50	215
60	11.37	11.36	33.292	25.381	260.0	0.192	4.43	71.4	11.2	1.20	12.8	0.14	0.50	0.46	60	214
70	10.65	10.64	33.415	25.605	238.8	0.217	4.12	65.5	14.2	1.39	15.9	0.07	0.34	0.19	70	213
75 ISL	10.43	10.42	33.449	25.670	232.7	0.229	4.07	64.4	15.0	1.43	16.7	0.05	0.26	0.21	75	
85	10.15	10.14	33.503	25.760	224.4	0.252	3.98	62.6	16.4	1.49	17.8	0.04	0.12	0.25	85	212
99	9.92	9.91	33.621	25.891	212.2	0.282	3.57	55.9	19.7	1.65	20.2	0.02	0.06	0.10	99	211
100 ISL	9.90	9.89	33.631	25.902	211.1	0.284	3.55	55.6	20.0	1.66	20.4	0.02	0.06	0.10	100	
119	9.52	9.51	33.822	26.115	191.3	0.323	3.10	48.2	24.8	1.85	23.3	0.01	0.02	0.06	120	210
125 ISL	9.47	9.46	33.887	26.174	185.8	0.334	2.89	44.9	26.4	1.92	24.2	0.01	0.02	0.06	126	
139	9.41	9.39	34.019	26.287	175.4	0.359	2.42	37.6	29.7	2.07	26.0	0.01	0.02	0.06	140	209
150 ISL	9.36	9.34	34.071	26.336	170.9	0.378	2.24	34.7	31.3	2.14	26.7	0.01	0.02	0.06	151	
168	9.27	9.25	34.115	26.385	166.6	0.409	2.07	32.0	33.2	2.21	27.4	0.01	0.01	0.05	169	208
197	9.07	9.05	34.176	26.465	159.5	0.456	1.81	27.9	36.7	2.32	28.6	0.01	0.01	0.04	198	207
200 ISL	9.00	8.98	34.176	26.477	158.5	0.461	1.80	27.7	37.1	2.33	28.8	0.01			201	
228	8.39	8.37	34.172	26.569	150.1	0.504	1.67	25.3	41.3	2.42	30.4	0.01			229	206
250 ISL	8.26	8.23	34.208	26.617	145.8	0.536	1.39	21.0	44.5	2.54	31.4	0.01			251	
268	8.19	8.16	34.239	26.652	142.8	0.562	1.15	17.4	47.2	2.64	32.1	0.01			270	205
300 ISL	7.72	7.69	34.238	26.721	136.6	0.607	0.96	14.4	52.2	2.73	33.7	0.01			302	
318	7.43	7.40	34.232	26.758	133.2	0.631	0.90	13.4	54.9	2.77	34.5	0.01			320	204
378	6.98	6.94	34.253	26.838	126.3	0.709	0.68	10.0	62.4	2.92	36.4	0.01			380	203
400 ISL	6.84	6.80	34.265	26.867	123.8	0.737	0.59	8.6	65.2	2.97	37.0	0.01			403	
439	6.60	6.56	34.285	26.915	119.6	0.784	0.46	6.7	69.8	3.04	37.9	0.01			442	202
500 ISL	6.24	6.20	34.295	26.971	114.9	0.856	0.36	5.2	75.3	3.11	39.3	0.01			503	
519	6.13	6.08	34.299	26.988	113.4	0.877	0.33	4.8	77.0	3.13	39.7	0.01			523	201

RV NEW HORIZON CALCOFI CRUISE 0504 STATION 93 45

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT TYPE
32 20.7 N	118 33.3 W	16/04/05	1745 UTC	1363 m	260 05 kn	280 04 07	0	1013.9 mb	16.5 C	15.1 C	17m	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	15.24	15.24	33.182	24.519	340.6	0.000	5.99	104.6	1.0	0.31	0.0	0.00	0.28	0.09	0	
2 A	15.24	15.24	33.182	24.519	340.6	0.007	5.99	104.6	1.0	0.31	0.0	0.00	0.28	0.09	2	223
10 A	14.44	14.44	33.143	24.661	327.3	0.034	6.08	104.5	0.9	0.30	0.0	0.00	0.41	0.15	10	222
16	14.27	14.27	33.110	24.672	326.5	0.053	6.08	104.1	1.1	0.30	0.0	0.00	0.47	0.22	16	221
20 ISL	14.26	14.26	33.113	24.676	326.2	0.066	6.07	103.9	1.1	0.30	0.0	0.00	0.54	0.24	20	
23 A	14.24	14.24	33.121	24.687	325.2	0.076	6.07	103.9	1.2	0.30	0.0	0.00	0.67	0.25	23	220
30 ISL	13.94	13.94	33.131	24.757	318.8	0.099	5.93	100.9	1.8	0.37	0.4	0.02	1.55	0.59	30	
31	13.87	13.87	33.131	24.771	317.4	0.102	5.90	100.2	1.9	0.39	0.5	0.03	1.67	0.65	31	219
36 A	13.36	13.36	33.111	24.860	309.1	0.117	5.74	96.4	3.0	0.52	1.8	0.07	1.84	0.80	36	218
42 A	12.86	12.85	33.098	24.949	300.8	0.136	5.51	91.6	4.9	0.66	3.6	0.13	1.45	0.81	42	217
49	12.12	12.11	33.116	25.105	286.0	0.156	5.20	85.1	7.5	0.86	6.7	0.18	1.15	0.63	49	216
50 ISL	11.98	11.97	33.116	25.132	283.5	0.159	5.16	84.2	7.8	0.89	7.2	0.18	1.08	0.61	50	
58	10.94	10.93	33.169	25.362	261.6	0.181	4.79	76.5	11.0	1.12	11.5	0.18	0.55	0.50	58	215
67 A	10.51	10.50	33.410	25.625	236.8	0.203	4.03	63.8	16.3	1.47	16.8	0.08	0.36	0.50	67	214
75 ISL	10.45	10.44	33.522	25.723	227.7	0.222	3.56	56.4	18.6	1.62	19.1	0.05	0.20	0.38	75	
77	10.44	10.43	33.535	25.735	226.6	0.226	3.48	55.1	19.0	1.64	19.4	0.05	0.17	0.34	77	213
85	10.30	10.29	33.583	25.797	220.9	0.244	3.34	52.7	20.2	1.66	20.3	0.04	0.14	0.26	85	212
100	10.10	10.09	33.666	25.896	211.8	0.277	3.13	49.2	22.2	1.79	21.6	0.03	0.10	0.20	100	211
120	9.74	9.73	33.820	26.077	195.0	0.317	2.86	44.7	25.7	1.91	23.5	0.02	0.06	0.16	121	210
125 ISL	9.70	9.69	33.851	26.108	192.1	0.327	2.78	43.4	26.5	1.94	23.9	0.02	0.05	0.18	126	
140	9.61	9.59	33.934	26.188	184.9	0.355	2.53	39.4	29.0	2.03	25.0	0.02	0.03	0.22	141	209
150 ISL	9.49	9.47	33.987	26.249	179.2	0.374	2.42	37.6	30.5	2.08	25.7	0.02	0.02	0.19	151	
169	9.25	9.23	34.075	26.357	169.3	0.407	2.23	34.5	33.2	2.16	27.0	0.02	0.01	0.10	170	208
200	8.97	8.95	34.160	26.469	159.2	0.458	1.88	28.9	37.2	2.31	28.6	0.01	0.02	0.09	201	207
230	8.56	8.54	34.187	26.555	151.5	0.504	1.66	25.3	41.3	2.42	30.0	0.01			231	206
250 ISL	8.29	8.26	34.193	26.601	147.4	0.534	1.50	22.7	44.4	2.50	31.1	0.01			251	
268	8.07	8.04	34.197	26.637	144.2	0.560	1.36	20.5	47.3	2.58	32.1	0.01			270	205
300 ISL	7.80	7.77	34.221	26.696	139.0	0.606	1.10	16.5	51.7	2.69	33.3	0.01			302	
319	7.66	7.63	34.234	26.727	136.3	0.632	0.97	14.5	54.2	2.75	33.9	0.01			321	204
379	7.01	6.97	34.224	26.811	128.9	0.711	0.82	12.1	61.9	2.88	36.1	0.01			381	203
400 ISL	6.83	6.79	34.238	26.847	125.7	0.738	0.72	10.5	64.9	2.93	36.8	0.01			403	
440	6.53	6.49	34.270	26.913	119.8	0.787	0.53	7.7	70.4	3.03	38.0	0.01			443	202
500 ISL	6.16	6.12	34.294	26.980	113.9	0.857	0.38	5.5	77.3	3.12	39.3	0.01			503	
520	6.04	5.99	34.302	27.002	112.0	0.880	0.33	4.7	79.6	3.15	39.7	0.01			524	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV NEW HORIZON CALCOFI CRUISE 0504 STATION 93 50

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT TYPE
32 10.8 N	118 53.5 W	16/04/05	2143 UTC	1466 m	250 06 kn	280 04 07	0	1013.4 mb	15.7 C	14.9 C	12m	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	15.77	15.77	33.076	24.321	359.5	0.000	6.07	107.1	1.2	0.27	0.0	0.01	0.64	0.22	0	
1	15.77	15.77	33.076	24.321	359.5	0.004	6.07	107.1	1.2	0.27	0.0	0.01	0.64	0.22	1	221
10 ISL	14.74	14.74	33.069	24.541	338.8	0.035	6.15	106.3	1.2	0.28	0.0	0.00	0.81	0.27	10	
11	14.59	14.59	33.069	24.573	335.8	0.038	6.16	106.1	1.2	0.28	0.0	0.00	0.83	0.28	11	220
20 ISL	14.30	14.30	33.074	24.638	329.8	0.068	6.09	104.3	1.3	0.29	0.0	0.00	0.88	0.36	20	
21	14.30	14.30	33.074	24.638	329.9	0.072	6.08	104.1	1.3	0.29	0.0	0.00	0.88	0.38	21	219
30 ISL	14.20	14.20	33.067	24.654	328.6	0.101	6.04	103.2	1.4	0.30	0.0	0.01	1.71	0.76	30	
31	14.20	14.20	33.066	24.653	328.7	0.105	6.04	103.2	1.4	0.30	0.0	0.01	1.80	0.80	31	218
40	14.18	14.17	33.069	24.660	328.3	0.134	6.02	102.8	1.5	0.33	0.0	0.01	1.72	0.76	40	217
50	14.03	14.02	33.074	24.695	325.2	0.167	6.01	102.4	1.6	0.35	0.1	0.01	2.42	0.99	50	216
56	13.86	13.85	33.079	24.734	321.7	0.186	5.89	100.0	2.4	0.41	0.6	0.03	2.34	0.91	56	215
61	13.40	13.39	33.092	24.838	311.9	0.202	5.59	94.0	4.5	0.58	2.6	0.10	1.62	0.79	61	214
70	12.47	12.46	33.116	25.039	292.8	0.229	5.23	86.2	7.7	0.80	6.0	0.18	0.54	0.37	70	213
75 ISL	12.07	12.06	33.121	25.119	285.3	0.244	5.11	83.6	8.6	0.88	7.4	0.18	0.46	0.39	75	
86	11.32	11.31	33.170	25.296	268.7	0.274	4.83	77.7	10.5	1.07	10.5	0.19	0.27	0.43	86	212
99	10.51	10.50	33.367	25.593	240.6	0.307	4.16	65.9	15.6	1.40	16.1	0.06	0.12	0.19	99	211
100 ISL	10.48	10.47	33.380	25.608	239.2	0.310	4.12	65.2	15.9	1.42	16.4	0.06	0.12	0.19	100	
119	10.09	10.08	33.585	25.835	218.0	0.353			20.6	1.67	20.1	0.03	0.06	0.15	120	210
125 ISL	9.94	9.93	33.649	25.910	210.9	0.366	3.37	52.8	21.9	1.73	21.1	0.03	0.06	0.15	126	
140	9.58	9.56	33.792	26.082	194.9	0.396	3.09	48.1	25.0	1.86	23.1	0.02	0.05	0.15	141	209
150 ISL	9.42	9.40	33.865	26.165	187.2	0.416	2.90	45.0	27.0	1.93	24.3	0.02	0.04	0.13	151	
169	9.19	9.17	33.970	26.285	176.1	0.450	2.58	39.8	30.7	2.06	26.1	0.02	0.02	0.10	170	208
200	8.96	8.94	34.082	26.409	164.8	0.503	2.08	32.0	35.8	2.25	28.3	0.01	0.02	0.10	201	207
229	8.60	8.58	34.130	26.504	156.4	0.549	1.80	27.4	40.4	2.38	30.0	0.01			230	206
250 ISL	8.33	8.30	34.153	26.563	151.0	0.582	1.63	24.7	43.7	2.47	31.1	0.01			251	
268	8.10	8.07	34.167	26.609	146.8	0.609	1.49	22.5	46.4	2.54	32.0	0.01			270	205
300 ISL	7.75	7.72	34.185	26.675	140.9	0.655	1.28	19.1	50.8	2.64	33.3	0.01			302	
318	7.57	7.54	34.192	26.707	138.2	0.680	1.17	17.4	53.4	2.69	34.0	0.01			320	204
377	7.01	6.97	34.217	26.806	129.4	0.759	0.85	12.5	64.1	2.87	36.2	0.01			379	203
400 ISL	6.79	6.75	34.225	26.842	126.1	0.788	0.74	10.8	66.7	2.93	37.0	0.01			403	
438	6.46	6.42	34.240	26.898	121.1	0.835	0.58	8.4	70.4	3.01	38.2	0.01			441	202
500 ISL	6.09	6.05	34.285	26.982	113.7	0.908	0.41	5.9	77.9	3.11	39.6	0.01			503	
521	5.97	5.92	34.300	27.009	111.3	0.931	0.35	5.0	80.4	3.15	40.1	0.01			525	201

RV NEW HORIZON CALCOFI CRUISE 0504 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 14.1 W	17/04/05	0202 UTC	1589 m	310 14 kn	310 05 06	2	1013.2 mb	14.2 C	13.1 C		8/8	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	14.81	14.81	33.091	24.542	338.4	0.000	6.05	104.7	0.3	0.29	0.0	0.01	0.46	0.48	0	
2	14.81	14.81	33.091	24.542	338.4	0.007	6.05	104.7	0.3	0.29	0.0	0.01	0.46	0.48	2	221
10 ISL	14.45	14.45	33.078	24.609	332.3	0.034	6.16	105.8	0.0	0.29	0.0	0.01	0.99	0.19	10	
11	14.40	14.40	33.076	24.618	331.4	0.037	6.17	105.9	0.0	0.29	0.0	0.01	1.08	0.15	11	220
20	14.31	14.31	33.078	24.639	329.7	0.067	6.11	104.7	0.1	0.29	0.1	0.01	1.66	-0.06 U	20	219
30	14.14	14.14	33.074	24.672	326.9	0.100	6.02	102.8	0.6	0.33	0.0	0.01	1.65	0.56	30	218
39	14.11	14.10	33.081	24.683	326.0	0.129	6.02	102.7	0.4	0.33	0.1	0.01	2.87	0.08	39	217
49	14.02	14.01	33.088	24.708	324.0	0.161	5.92	100.8	1.0	0.38	0.3	0.01	2.28	0.40	49	216
50 ISL	13.99	13.98	33.091	24.716	323.2	0.165	5.91	100.6	1.1	0.38	0.3	0.01	2.31	0.47	50	
60	13.69	13.68	33.124	24.804	315.1	0.197	5.71	96.6	2.5	0.51	1.9	0.04	2.58	0.89	60	215
69	12.29	12.28	33.192	25.132	283.9	0.223	5.18	85.1	6.0	0.81	6.7	0.11	0.56	0.25	69	214
75 ISL	11.78	11.77	33.234	25.261	271.8	0.240	4.91	79.9	7.8	0.96	9.0	0.12	0.46	0.21	75	
84	11.38	11.37	33.283	25.373	261.3	0.264	4.65	75.0	9.6	1.10	11.4	0.14	0.30	0.14	84	212
99	11.05	11.04	33.327	25.467	252.7	0.303	4.62	74.0	10.3	1.14	12.4	0.10	0.26	0.08	99	211
100 ISL	11.00	10.99	33.334	25.481	251.3	0.305	4.60	73.6	10.5	1.15	12.6	0.10	0.25	0.08	100	
119	9.99	9.98	33.505	25.789	222.3	0.350	4.12	64.6	16.1	1.45	17.6	0.03	0.11	0.08	120	210
125 ISL	9.82	9.81	33.557	25.858	215.8	0.363	3.96	61.8	17.6	1.52	18.8	0.03	0.08	0.08	126	
140	9.55	9.53	33.680	25.999	202.7	0.395	3.60	55.9	21.0	1.68	21.2	0.02	0.04	0.09	141	209
150 ISL	9.42	9.40	33.754	26.078	195.4	0.415	3.41	52.8	22.8	1.76	22.4	0.02	0.02	0.07	151	
170	9.22	9.20	33.882	26.211	183.1	0.453	3.09	47.7	26.1	1.88	24.2	0.01	0.01	0.03	171	208
198	8.90	8.88	34.021	26.371	168.4	0.502	2.65	40.7	31.5	2.05	26.6	0.01	0.01	0.04	199	207
200 ISL	8.87	8.85	34.028	26.381	167.5	0.505	2.61	40.0	31.9	2.07	26.8	0.01			201	
228	8.52	8.50	34.099	26.492	157.4	0.551	2.12	32.3	37.5	2.27	29.3	0.01			229	206
250 ISL	8.38	8.35	34.131	26.538	153.3	0.585	1.89	28.7	40.1	2.36	30.3	0.01			251	
269	8.25	8.22	34.148	26.572	150.5	0.614	1.74	26.3	42.1	2.43	30.9	0.01			271	205
300 ISL	7.81	7.78	34.165	26.651	143.3	0.659	1.45	21.7	47.6	2.58	32.7	0.01			302	
316	7.57	7.54	34.173	26.692	139.5	0.682	1.31	19.5	50.6	2.65	33.7	0.01			318	204
378	7.03	6.99	34.225	26.809	129.1	0.765	0.81	11.9	60.3	2.87	36.3	0.01			380	203
400 ISL	6.83	6.79	34.240	26.849	125.5	0.793	0.69	10.1	64.0	2.94	37.1	0.01			403	
438	6.52	6.48	34.261	26.907	120.3	0.840	0.53	7.7	69.6	3.04	38.3	0.00			441	202
500 ISL	6.34	6.29	34.283	26.948	117.1	0.913	0.43	6.2	73.2	3.09	39.0	0.00			503	
520	6.28	6.23	34.290	26.962	116.1	0.937	0.40	5.8	74.3	3.10	39.2	0.00			524	201

RV NEW HORIZON CALCOFI CRUISE 0504 STATION 93 60

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
31 50.9 N	119 34.8 W	17/04/05	0606 UTC	1857 m	320 13 kn			1015.3 mb	14.5 C	12.9 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	15.61	15.61	33.158	24.419	350.1	0.000	5.76	101.4	1.9	0.35	0.0	0.00	0.15	0.06	0	
3	15.61	15.61	33.158	24.419	350.2	0.011	5.76	101.4	1.9	0.35	0.0	0.00	0.15	0.06	3	220
10 ISL	15.61	15.61	33.157	24.419	350.4	0.035	5.76	101.4	1.9	0.35	0.0	0.00	0.14	0.05	10	
16	15.62	15.62	33.157	24.417	350.8	0.056	5.76	101.4	1.8	0.35	0.1	0.00	0.13	0.04	16	219
20 ISL	15.62	15.62	33.159	24.418	350.8	0.070	5.76	101.4	1.8	0.35	0.1	0.00	0.13	0.04	20	
30	15.63	15.63	33.165	24.421	350.8	0.105	5.76	101.4	1.8	0.34	0.1	0.00	0.14	0.03	30	218
45	15.61	15.60	33.169	24.429	350.5	0.158	5.76	101.4	1.7	0.34	0.0	0.00	0.20	0.02	45	217
50 ISL	15.37	15.36	33.142	24.462	347.6	0.175	5.83	102.1	1.7	0.34	0.0	0.00	0.32	0.04	50	
56	14.80	14.79	33.107	24.558	338.5	0.196	5.88	101.8	1.7	0.34	0.0	0.00	0.45	0.07	56	216
65	13.13	13.12	33.094	24.893	306.7	0.225	5.77	96.5	3.8	0.54	2.1	0.06	0.46	0.15	65	215
75	12.71	12.70	33.123	24.998	296.9	0.255	5.53	91.7	4.9	0.66	4.2	0.08	0.71	0.38	75	214
84	12.21	12.20	33.163	25.126	284.9	0.281	5.15	84.5	6.8	0.86	7.3	0.11	0.90	0.12	84	213
95	11.09	11.08	33.279	25.422	256.8	0.311	4.62	74.0	10.2	1.16	12.6	0.08	0.49	0.16	95	212
100 ISL	10.88	10.87	33.306	25.480	251.4	0.324	4.56	72.8	10.8	1.20	13.3	0.07	0.38	0.15	100	
110	10.61	10.60	33.360	25.570	243.0	0.348	4.48	71.1	12.2	1.25	14.3	0.05	0.23	0.14	110	211
124	9.94	9.93	33.529	25.816	219.8	0.381	3.93	61.5	17.2	1.54	18.8	0.02	0.10	0.08	125	210
125 ISL	9.92	9.91	33.538	25.827	218.8	0.383	3.90	61.0	17.5	1.55	19.0	0.02	0.10	0.08	126	
145	9.67	9.65	33.688	25.986	204.1	0.425	3.41	53.1	21.4	1.73	21.7	0.01	0.05	0.05	146	209
150 ISL	9.57	9.55	33.721	26.028	200.2	0.435	3.38	52.5	22.2	1.75	22.1	0.01	0.04	0.04	151	
171	9.13	9.11	33.841	26.193	184.8	0.476	3.30	50.8	25.5	1.82	23.7	0.01	0.01	0.03	172	208
200	8.72	8.70	33.972	26.361	169.3	0.527	2.89	44.1	30.9	1.98	26.3	0.01	0.00	0.03	201	207
229	8.28	8.26	34.046	26.487	157.8	0.575	2.46	37.2	36.9	2.16	28.9	0.01			230	206
250 ISL	8.12	8.09	34.089	26.545	152.6	0.607	2.17	32.7	40.3	2.28	30.1	0.01			251	
266	8.01	7.98	34.112	26.579	149.6	0.631	1.98	29.8	42.6	2.37	30.9	0.01			267	205
300 ISL	7.59	7.56	34.115	26.643	143.9	0.681	1.72	25.6	47.3	2.50	32.7	0.01			302	
319	7.33	7.30	34.112	26.678	140.7	0.708	1.59	23.5	50.1	2.57	33.7	0.01			321	204
378	6.74	6.71	34.175	26.809	128.8	0.788	0.96	14.0	61.5	2.86	36.7	0.01			380	203
400 ISL	6.68	6.64	34.203	26.839	126.2	0.816	0.80	11.7	63.7	2.92	37.2	0.01			402	
439	6.59	6.55	34.246	26.886	122.4	0.864	0.60	8.7	66.9	3.00	37.9	0.01			442	202
500 ISL	6.13	6.09	34.276	26.970	114.8	0.937	0.41	5.9	75.3	3.16	39.6	0.01			503	
514	6.02	5.97	34.283	26.990	113.1	0.953	0.37	5.3	77.2	3.20	40.0	0.01			517	201

RV NEW HORIZON CALCOFI CRUISE 0504 STATION 93 70

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT TYPE
31 31.1 N	120 15.2 W	17/04/05	1213 UTC	3930 m	350 18 kn			1014.6 mb	15.0 C	13.3 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	15.62	15.62	33.145 D	24.407	351.3	0.000									0	
1	15.62	15.62	33.145 D	24.407	351.3	0.004									1	221
10 ISL	15.62	15.62	33.145	24.407	351.5	0.035									10	
15	15.62	15.62	33.145	24.408	351.7	0.053	5.74	101.0	2.4	0.35	0.1	0.00	0.22	0.00	15	220
20 ISL	15.62	15.62	33.145	24.408	351.8	0.070	5.74	101.0	2.4	0.35	0.1	0.00	0.21	0.01	20	
29	15.63	15.63	33.146	24.406	352.2	0.102	5.75	101.2	2.3	0.35	0.0	0.00	0.18	0.02	29	219
30 ISL	15.63	15.63	33.146	24.407	352.2	0.106	5.75	101.2	2.3	0.35	0.0	0.00	0.18	0.02	30	
45	15.63	15.62	33.146	24.407	352.6	0.158	5.74	101.0	2.2	0.35	0.0	0.00	0.18	0.02	45	218
50 ISL	15.63	15.62	33.146	24.407	352.8	0.176	5.75	101.2	2.2	0.34	0.0	0.00	0.20	0.01	50	
54	15.63	15.62	33.146	24.407	352.9	0.190	5.75	101.2	2.2	0.34	0.0	0.00	0.21	0.01	54	217
65	13.25	13.24	33.100	24.874	308.5	0.226	5.73	96.0	4.4	0.54	2.2	0.06	0.51	0.18	65	215
74	12.39	12.38	33.118	25.056	291.3	0.253	5.51	90.7	5.2	0.69	4.7	0.08	0.61	0.16	74	214
75 ISL	12.33	12.32	33.126	25.074	289.6	0.256	5.44	89.5	5.5	0.72	5.2	0.09	0.64	0.16	75	
84	11.83	11.82	33.209	25.233	274.7	0.282	4.81	78.3	8.7	1.02	9.8	0.13	0.82	0.14	84	213
94	11.14	11.13	33.273	25.408	258.1	0.308	4.47	71.7	11.1	1.22	13.2	0.10	0.43	0.28	94	212
100 ISL	10.78	10.77	33.329	25.516	248.0	0.324	4.41	70.2	12.3	1.27	14.3	0.08	0.30	0.25	100	
108	10.37	10.36	33.418	25.656	234.7	0.343	4.31	68.1	14.1	1.34	15.7	0.05	0.20	0.17	108	211
124	9.75	9.74	33.632	25.928	209.1	0.378	3.51	54.8	20.3	1.69	20.9	0.01	0.06	0.07	125	210
125 ISL	9.72	9.71	33.640	25.939	208.1	0.381	3.51	54.7	20.5	1.69	21.0	0.01	0.06	0.07	126	
144	9.24	9.22	33.758	26.110	192.2	0.419	3.59	55.4	23.2	1.71	22.1	0.01	0.01	0.04	145	209
150 ISL	9.15	9.13	33.800	26.158	187.8	0.430	3.48	53.6	24.5	1.75	22.8	0.01	0.01	0.04	151	
169	8.97	8.95	33.919	26.280	176.5	0.465	3.03	46.5	28.5	1.91	25.1	0.01	0.00	0.03	170	208
198	8.72	8.70	34.006	26.387	166.8	0.514	2.68	40.9	32.5	2.05	27.1	0.01	0.00	0.03	199	207
200 ISL	8.70	8.68	34.012	26.395	166.1	0.518	2.65	40.5	32.9	2.06	27.2	0.01			201	
229	8.40	8.38	34.087	26.501	156.5	0.564	2.26	34.3	38.3	2.22	29.1	0.01			230	206
250 ISL	8.18	8.15	34.113	26.554	151.7	0.597	2.05	31.0	41.3	2.32	30.2	0.01			251	
269	7.97	7.94	34.124	26.595	148.1	0.625	1.88	28.3	43.9	2.40	31.2	0.01			271	205
300 ISL	7.56	7.53	34.128	26.658	142.5	0.670	1.63	24.3	48.9	2.53	32.9	0.01			302	
319	7.31	7.28	34.127	26.693	139.3	0.697	1.49	22.1	52.0	2.60	33.9	0.01			321	204
377	6.68	6.65	34.147	26.795	130.1	0.775	1.08	15.8	61.1	2.82	36.6	0.01			379	203
400 ISL	6.56	6.52	34.175	26.833	126.7	0.805	0.90	13.1	64.2	2.90	37.3	0.01			402	
441	6.41	6.37	34.230	26.897	121.2	0.856	0.61	8.8	69.2	3.02	38.4	0.01			444	202
500 ISL	6.14	6.10	34.279	26.971	114.8	0.925	0.39	5.6	76.0	3.12	39.6	0.01			503	
510	6.09	6.04	34.287	26.984	113.6	0.937	0.35	5.0	77.2	3.14	39.8	0.01			513	201

RV NEW HORIZON CALCOFI CRUISE 0504 STATION 93 80

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT TYPE
31 12.3 N	120 57.8 W	17/04/05	1925 UTC	3907 m	360 20 kn	350 07 06	2	1017.5 mb	16.0 C	15.0 C	16m	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	14.84	14.84	33.064	24.515	341.0	0.000	5.90	102.2	1.4	0.35	0.0	0.00	0.34	0.12	0	
2 A	14.84	14.84	33.064	24.515	341.0	0.007	5.90	102.2	1.4	0.35	0.0	0.00	0.34	0.12	2	224
10 A	14.84	14.84	33.067	24.518	341.0	0.034	5.89	102.0	1.2	0.35	0.0	0.00	0.31	0.14	10	223
16	14.86	14.86	33.064	24.511	341.8	0.055	5.88	101.9	1.4	0.35	0.0	0.00	0.33	0.11	16	222
20 ISL	14.84	14.84	33.064	24.516	341.5	0.068	5.88	101.8	1.3	0.34	0.0	0.00	0.34	0.10	20	
22 A	14.83	14.83	33.064	24.518	341.3	0.075	5.88	101.8	1.3	0.34	0.0	0.00	0.34	0.10	22	221
30 ISL	14.81	14.81	33.063	24.522	341.2	0.102	5.91	102.3	1.3	0.34	0.0	0.00	0.31	0.13	30	
34 A	14.81	14.80	33.063	24.522	341.3	0.116	5.92	102.4	1.3	0.34	0.0	0.00	0.31	0.14	34	220
38 A	14.80	14.79	33.066	24.526	341.0	0.130	5.89	101.9	1.2	0.34	0.0	0.00	0.34	0.13	38	219
44	14.80	14.79	33.065	24.526	341.2	0.150	5.89	101.9	1.2	0.33	0.0	0.00	0.35	0.16	44	218
48	14.77	14.76	33.060	24.528	341.1	0.164	5.89	101.8	1.2	0.32	0.0	0.00	0.41	0.17	48	217
50 ISL	14.74	14.73	33.059	24.534	340.6	0.171	5.89	101.8	1.2	0.32	0.0	0.00	0.46	0.20	50	
62 A	14.58	14.57	33.054	24.565	338.0	0.211	5.88	101.3	1.2	0.33	0.0	0.00	0.69	0.35	62	216
69	12.93	12.92	33.061	24.907	305.4	0.234	5.58	92.9	3.4	0.56	3.0	0.07	0.62	0.34	69	215
75 ISL	12.38	12.37	33.095	25.040	292.8	0.252	5.32	87.6	4.9	0.72	5.5	0.13	0.41	0.28	75	
76	12.34	12.33	33.102	25.053	291.6	0.255	5.28	86.8	5.1	0.74	5.9	0.14	0.37	0.27	76	214
85	12.06	12.05	33.168	25.158	281.9	0.281	5.02	82.1	6.5	0.85	7.9	0.18	0.34	0.25	85	213
93	11.65	11.64	33.251	25.299	268.6	0.303	4.59	74.4	8.6	1.03	11.1	0.19	0.26	0.28	93	212
100 ISL	11.17	11.16	33.314	25.435	255.7	0.321	4.41	70.8	10.2	1.13	13.2	0.13	0.19	0.23	100	
110	10.50	10.49	33.410	25.628	237.5	0.346	4.20	66.5	13.0	1.26	15.9	0.04	0.11	0.13	110	211
125 ISL	9.92	9.91	33.599	25.874	214.3	0.379	3.55	55.6	19.4	1.53	20.3	0.02	0.03	0.06	126	
126	9.90	9.89	33.611	25.887	213.1	0.382	3.51	54.9	19.8	1.55	20.6	0.02	0.03	0.06	127	210
144	9.70	9.68	33.771	26.046	198.4	0.419	3.04	47.4	22.9	1.69	23.0	0.01	0.01	0.04	145	209
150 ISL	9.61	9.59	33.811	26.092	194.1	0.430	2.96	46.1	23.7	1.72	23.6	0.01	0.01	0.04	151	
171	9.29	9.27	33.924	26.233	181.1	0.470	2.78	43.0	26.5	1.78	25.1	0.01	0.01	0.04	172	208
199	8.99	8.97	34.039	26.371	168.5	0.519	2.44	37.5	30.7	1.90	27.1	0.01	0.00	0.04	200	207
200 ISL	8.98	8.96	34.042	26.375	168.1	0.520	2.43	37.4	30.8	1.90	27.2	0.01			201	
230	8.69	8.67	34.095	26.462	160.3	0.570	2.09	31.9	34.8	2.01	28.9	0.01			231	206
250 ISL	8.45	8.42	34.110	26.511	155.9	0.601	1.98	30.1	37.2	2.06	29.8	0.01			251	
272	8.19	8.16	34.120	26.559	151.7	0.635	1.88	28.4	39.8	2.11	30.7	0.01			274	205
300 ISL	7.89	7.86	34.140	26.619	146.3	0.677	1.64	24.6	43.5	2.20	32.0	0.01			302	
316	7.73	7.70	34.153	26.653	143.3	0.700	1.49	22.3	45.6	2.26	32.7	0.01			318	204
377	7.25	7.21	34.205	26.763	133.6	0.785	1.01	14.9	53.6	2.44	35.0	0.01			379	203
400 ISL	7.07	7.03	34.217	26.798	130.5	0.815	0.88	13.0	56.3	2.49	35.7	0.01			402	
438	6.77	6.73	34.232	26.851	125.8	0.864	0.71	10.4	60.8	2.56	36.9	0.01			441	202
500 ISL	6.23	6.19	34.259	26.944	117.4	0.939	0.50	7.2	69.3	2.67	38.9	0.00			503	
520	6.06	6.01	34.269	26.973	114.7	0.962	0.43	6.2	72.0	2.70	39.5	0.00			523	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV NEW HORIZON CALCOFI CRUISE 0504 STATION 93 90

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
30 50.6 N	121 35.8 W	18/04/05	0119	UTC	4128 m	340	20 kn	320 09 08	2	1017.0 mb	15.2 C	13.9 C		8/8	SC

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	15.37	15.37	33.140	24.458	346.4	0.000	5.81	101.7	1.6	0.36	0.1	0.00	0.21	0.06	0	
2	15.37	15.37	33.140	24.458	346.4	0.007	5.81	101.7	1.6	0.36	0.1	0.00	0.21	0.06	2	221
10 ISL	15.38	15.38	33.141	24.457	346.8	0.035	5.80	101.6	1.7	0.35	0.1	0.00	0.21	0.07	10	
14	15.38	15.38	33.142	24.458	346.8	0.049	5.80	101.6	1.7	0.35	0.1	0.00	0.21	0.07	14	220
20 ISL	15.37	15.37	33.139	24.458	347.0	0.069	5.80	101.6	1.8	0.35	0.1	0.00	0.21	0.07	20	
30	15.35	15.35	33.137	24.461	347.0	0.104	5.80	101.5	1.8	0.35	0.0	0.00	0.21	0.07	30	219
45	15.24	15.23	33.118	24.471	346.5	0.156	5.81	101.4	1.7	0.35	0.1	0.00	0.25	0.07	45	218
50 ISL	15.18	15.17	33.118	24.485	345.4	0.173	5.78	100.8	2.1	0.39	0.6	0.01	0.28	0.12	50	
59	15.06	15.05	33.118 D	24.511	343.1	0.204									59	217
75	12.94	12.93	33.072	24.914	304.9	0.256	5.62	93.6	4.1	0.60	3.1	0.07	0.42	0.30	75	216
80	12.48	12.47	33.106	25.030	294.0	0.271	5.35	88.2	5.4	0.76	5.5	0.10	0.43	0.27	80	215
84	12.13	12.12	33.110	25.100	287.4	0.283	5.27	86.3	5.8	0.81	6.5	0.13	0.36	0.28	84	214
96	11.51	11.50	33.206	25.289	269.5	0.316	4.79	77.4	8.8	1.06	10.7	0.16	0.28	0.25	96	213
100 ISL	11.37	11.36	33.224	25.329	265.8	0.327	4.68	75.4	9.5	1.12	11.6	0.14	0.26	0.25	100	
104	11.22	11.21	33.247	25.374	261.6	0.337	4.57	73.4	10.2	1.18	12.5	0.11	0.24	0.24	104	212
115	10.51	10.50	33.394	25.614	238.9	0.365	4.14	65.6	14.1	1.41	16.4	0.04	0.13	0.16	115	211
124	10.11	10.10	33.564	25.815	220.0	0.386	3.59	56.4	18.5	1.65	20.0	0.02	0.06	0.08	125	210
125 ISL	10.08	10.07	33.577	25.830	218.5	0.388	3.55	55.8	18.8	1.67	20.2	0.02	0.05	0.07	126	
140	9.76	9.74	33.712	25.989	203.7	0.419	3.21	50.1	22.1	1.81	22.4	0.02	0.01	0.02	141	209
150 ISL	9.63	9.61	33.789	26.071	196.1	0.439	3.03	47.2	24.0	1.88	23.5	0.02	0.01	0.02	151	
165	9.47	9.45	33.887	26.174	186.6	0.468	2.80	43.5	26.6	1.96	24.8	0.01	0.01	0.02	166	208
192	9.15	9.13	34.027	26.336	171.7	0.517	2.44	37.6	30.8	2.10	26.8	0.01	0.00	0.04	193	207
200 ISL	9.10	9.08	34.058	26.368	168.8	0.530	2.33	35.9	32.0	2.14	27.3	0.01			201	
230	8.80	8.78	34.115	26.461	160.5	0.580	2.12	32.5	36.0	2.25	28.7	0.01			231	206
250 ISL	8.28	8.25	34.075	26.510	156.0	0.611	2.38	36.0	38.3	2.21	29.2	0.01			251	
268	7.78	7.75	34.030	26.548	152.4	0.639	2.62	39.2	40.6	2.18	29.7	0.01			269	205
300 ISL	7.25	7.22	34.031	26.625	145.3	0.687	2.28	33.7	46.9	2.35	32.1	0.01			302	
320	7.02	6.99	34.048	26.670	141.2	0.715	1.93	28.4	51.1	2.50	33.7	0.01			322	204
379	6.56	6.53	34.095	26.770	132.3	0.796	1.34	19.5	60.1	2.75	36.5	0.00			381	203
400 ISL	6.36	6.32	34.105	26.804	129.3	0.823	1.19	17.2	63.5	2.82	37.4	0.00			402	
438	6.03	5.99	34.126	26.863	123.9	0.872	0.95	13.6	69.6	2.93	38.8	0.00			441	202
500 ISL	5.76	5.72	34.197	26.953	115.9	0.946	0.57	8.1	78.0	3.09	40.4	0.00			503	
512	5.71	5.67	34.211	26.971	114.4	0.960	0.50	7.1	79.6	3.12	40.7	0.00			515	201

RV NEW HORIZON CALCOFI CRUISE 0504 STATION 93 100

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
30 30.9 N	122 15.9 W	18/04/05	0725	UTC	4185 m	350	22 kn			1018.4 mb	14.9 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	16.30	16.30	33.273	24.352	356.5	0.000	5.67	101.2	1.4	0.22	0.1	0.00	0.08	0.02	0	
1	16.30	16.30	33.273	24.352	356.5	0.004	5.67	101.2	1.4	0.22	0.1	0.00	0.08	0.02	1	220
10 ISL	16.29	16.29	33.271	24.353	356.7	0.036	5.66	101.0	1.4	0.22	0.1	0.00	0.08	0.02	10	
15	16.29	16.29	33.270	24.353	356.9	0.053	5.66	101.0	1.4	0.22	0.1	0.00	0.08	0.02	15	219
20 ISL	16.29	16.29	33.270	24.353	357.0	0.071	5.66	101.0	1.4	0.22	0.1	0.00	0.08	0.02	20	
30	16.30	16.30	33.270	24.351	357.5	0.107	5.66	101.0	1.4	0.23	0.1	0.00	0.09	0.03	30	218
45	16.32	16.31	33.273	24.349	358.2	0.161	5.66	101.1	1.4	0.23	0.1	0.00	0.10	0.01	45	217
50 ISL	16.36	16.35	33.291	24.354	357.9	0.179	5.65	101.0	1.4	0.25	0.1	0.00	0.10	0.01	50	
60	16.45	16.44	33.326	24.361	357.6	0.214	5.64	101.0	1.4	0.27	0.1	0.00	0.11	0.03	60	216
75	15.93	15.92	33.438	24.566	338.5	0.267	5.68	100.7	1.6	0.23	0.0	0.00	0.18	0.07	75	215
85	14.75	14.74	33.245	24.677	328.1	0.300	5.77	99.8	2.0	0.29	0.0	0.00	0.17	0.10	85	214
95	14.92	14.91	33.536	24.865	310.5	0.332	5.54	96.3	2.4	0.32	0.7	0.03	0.34	0.22	95	213
100 ISL	14.73	14.72	33.548	24.915	305.9	0.347	5.49	95.1	2.7	0.35	1.2	0.05	0.34	0.21	100	
105	14.44	14.42	33.518	24.954	302.3	0.363	5.45	93.8	3.0	0.38	1.7	0.06	0.34	0.19	105	212
115	13.74	13.72	33.480	25.070	291.3	0.392	5.36	91.0	3.7	0.47	3.0	0.08	0.27	0.22	115	211
125	12.50	12.48	33.435	25.282	271.2	0.420	5.18	85.6	5.5	0.65	6.1	0.06	0.23	0.20	126	210
141	11.56	11.54	33.437	25.461	254.4	0.462	5.01	81.2	7.7	0.83	9.0	0.03	0.17	0.14	142	209
150 ISL	11.01	10.99	33.459	25.578	243.3	0.485	4.90	78.5	9.5	0.95	10.9	0.02	0.12	0.10	151	
164	10.28	10.26	33.519	25.752	226.9	0.518	4.74	74.7	12.3	1.11	13.7	0.01	0.04	0.05	165	208
194	9.67	9.65	33.706	26.001	203.7	0.582	4.57	71.2	16.2	1.26	16.4	0.01	0.01	0.03	195	207
200 ISL	9.56	9.54	33.743	26.048	199.4	0.594	4.50	69.9	17.3	1.30	17.1	0.01			201	
231	9.04	9.01	33.904	26.258	179.9	0.653	4.02	61.8	23.4	1.53	20.7	0.01			232	206
250 ISL	8.75	8.72	33.963	26.350	171.4	0.687	3.67	56.1	27.4	1.68	22.9	0.01			251	
269	8.47	8.44	34.002	26.424	164.6	0.718	3.30	50.1	31.5	1.84	25.1	0.01			270	205
300 ISL	7.95	7.92	34.035	26.528	155.0	0.768	2.69	40.4	38.9	2.11	28.7	0.01			302	
319	7.63	7.60	34.045	26.583	149.9	0.797	2.35	35.0	43.3	2.26	30.7	0.01			321	204
376	6.83	6.80	34.074	26.717	137.5	0.879	1.72	25.2	54.3	2.56	34.4	0.01			378	203
400 ISL	6.59	6.55	34.090	26.762	133.4	0.911	1.46	21.2	58.7	2.67	35.7	0.01			402	
438	6.23	6.19	34.114	26.828	127.4	0.961	1.10	15.9	65.8	2.83	37.5	0.01			441	202
500 ISL	5.55	5.51	34.149	26.941	116.8	1.037	0.74	10.5	79.1	3.02	40.1	0.01			503	
515	5.38	5.34	34.158	26.969	114.2	1.054	0.65	9.2	82.3	3.07	40.7	0.01			518	201

RV NEW HORIZON CALCOFI CRUISE 0504 STATION 93 110

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
30 10.9 N	122 55.4 W	18/04/05	1335 UTC	4185 m	330 18 kn	340 08 07	2	1018.9 mb	14.8 C	11.8 C		8/8	SC

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	16.16	16.16	33.200	24.328	358.8	0.000	5.70	101.4	1.8	0.33	0.0	0.01	0.10	0.02	0	
2	16.16	16.16	33.200	24.328	358.8	0.007	5.70	101.4	1.8	0.33	0.0	0.01	0.10	0.02	2	220
10 ISL	16.17	16.17	33.198	24.325	359.4	0.036	5.70	101.4	1.8	0.32	0.0	0.01	0.11	0.01	10	
15	16.17	16.17	33.196	24.323	359.7	0.054	5.70	101.4	1.8	0.32	0.0	0.01	0.11	0.01	15	219
20 ISL	16.17	16.17	33.198	24.325	359.7	0.072	5.69	101.3	1.8	0.32	0.0	0.01	0.10	0.02	20	
29	16.18	16.18	33.202	24.326	359.9	0.104	5.68	101.1	1.7	0.32	0.0	0.01	0.09	0.03	29	218
30 ISL	16.18	16.18	33.202	24.326	359.9	0.108	5.68	101.1	1.7	0.32	0.0	0.01	0.09	0.03	30	
45	16.17	16.16	33.197	24.325	360.5	0.162	5.68	101.1	1.7	0.32	0.0	0.01	0.09	0.03	45	217
50 ISL	16.23	16.22	33.211	24.322	360.9	0.180	5.68	101.2	1.7	0.32	0.0	0.01	0.09	0.03	50	
60	16.39	16.38	33.255	24.320	361.5	0.216	5.67	101.4	1.7	0.32	0.0	0.01	0.10	0.02	60	216
75	16.69	16.68	33.390	24.355	358.7	0.270	5.64	101.5	1.7	0.30	0.0	0.01	0.13	0.03	75	215
84	16.60	16.59	33.389	24.375	357.0	0.302	5.65	101.5	1.7	0.31	0.0	0.01	0.15	0.04	84	214
95	15.03	15.02	33.185	24.570	338.5	0.341	5.81	101.0	2.0	0.34	0.0	0.01	0.17	0.08	95	213
100 ISL	14.98	14.97	33.229	24.615	334.4	0.357	5.78	100.4	2.0	0.34	0.0	0.01	0.18	0.10	100	
105	14.94	14.92	33.268	24.654	330.9	0.374	5.76	100.0	2.1	0.35	0.0	0.01	0.19	0.14	105	212
114	14.69	14.67	33.358	24.777	319.4	0.403	5.66	97.9	2.5	0.38	0.4	0.02	0.31	0.26	114	211
125	13.97	13.95	33.388	24.952	302.9	0.437	5.52	94.1	3.2	0.46	1.7	0.07	0.27	0.26	125	210
140	13.03	13.01	33.428	25.174	282.0	0.481	5.28	88.3	4.8	0.61	4.6	0.08	0.22	0.25	141	209
150 ISL	12.23	12.21	33.411	25.316	268.5	0.509	5.12	84.1	6.4	0.76	7.0	0.06	0.17	0.20	151	
163	11.20	11.18	33.405	25.502	250.9	0.543	4.93	79.3	9.0	0.97	10.3	0.02	0.11	0.12	164	208
193	9.67	9.65	33.649	25.956	207.9	0.611	4.51	70.2	16.5	1.33	16.6	0.01	0.01	0.04	194	207
200 ISL	9.49	9.47	33.699	26.025	201.5	0.626	4.41	68.4	17.9	1.39	17.6	0.01			201	
228	9.07	9.05	33.859	26.218	183.6	0.680	3.98	61.2	23.2	1.58	20.8	0.01			229	206
250 ISL	8.77	8.74	33.940	26.329	173.4	0.719	3.63	55.5	27.2	1.73	23.0	0.02			251	
268	8.51	8.48	33.983	26.403	166.6	0.750	3.34	50.8	30.8	1.86	24.7	0.02			269	205
300 ISL	7.89	7.86	34.024	26.528	154.9	0.801	2.76	41.4	39.1	2.11	28.5	0.01			302	
318	7.54	7.51	34.035	26.588	149.4	0.828	2.44	36.3	43.8	2.25	30.5	0.01			320	204
378	6.75	6.72	34.068	26.723	136.9	0.914	1.65	24.1	55.8	2.61	34.9	0.01			380	203
400 ISL	6.51	6.47	34.084	26.768	132.8	0.944	1.41	20.5	60.1	2.72	36.1	0.01			402	
439	6.14	6.10	34.115	26.841	126.1	0.994	1.07	15.4	67.2	2.87	37.9	0.00			442	202
500 ISL	5.72	5.68	34.156	26.926	118.5	1.069	0.75	10.7	76.5	3.02	39.7	0.00			503	
517	5.60	5.56	34.168	26.950	116.3	1.089	0.66	9.4	79.1	3.06	40.2	0.00			520	201

RV NEW HORIZON CALCOFI CRUISE 0504 STATION 93 120

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
29 51.1 N	123 35.7 W	18/04/05	1930 UTC	4065 m	340 18 kn	340 09 08	1	1021.4 mb	16.3 C	13.8 C	25m	6/8	SC

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	16.71	16.71	33.413	24.365	355.2	0.000	5.62	101.2	1.9	0.30	0.0	0.00	0.13	0.00	0	
2 A	16.71	16.71	33.413	24.365	355.3	0.007	5.62	101.2	1.9	0.30	0.0	0.00	0.13	0.00	2	223
10 ISL	16.70	16.70	33.413	24.368	355.3	0.036	5.62	101.2	1.9	0.30	0.0	0.00	0.14	0.00	10	
15 A	16.70	16.70	33.413	24.368	355.5	0.053	5.62	101.2	1.9	0.30	0.0	0.00	0.15	0.00	15	222
20 ISL	16.70	16.70	33.412	24.368	355.7	0.071	5.63	101.4	1.9	0.30	0.1	0.00	0.14	0.01	20	
25	16.70	16.70	33.412	24.368	355.8	0.089	5.63	101.4	1.9	0.30	0.1	0.00	0.13	0.02	25	221
30 ISL	16.69	16.69	33.413	24.371	355.7	0.107	5.63	101.4	1.8	0.30	0.1	0.00	0.05	0.16	30	
35 A	16.69	16.68	33.413	24.371	355.8	0.124	5.62	101.2	1.8	0.30	0.0	0.00	0.00	0.25	35	220
43	16.69	16.68	33.412	24.371	356.1	0.153	5.62	101.2	1.8	0.30	0.0	0.00	0.13	0.03	43	219
50 ISL	16.69	16.68	33.412	24.371	356.3	0.178	5.63	101.4	1.8	0.30	0.0	0.00	0.14	0.02	50	
53 A	16.69	16.68	33.412	24.371	356.4	0.189	5.63	101.4	1.8	0.30	0.0	0.00	0.14	0.01	53	218
61 A	16.69	16.68	33.414	24.373	356.5	0.217	5.62	101.2	1.8	0.30	0.0	0.00	0.14	0.00	61	217
67	16.69	16.68	33.411	24.371	356.9	0.238	5.62	101.2	1.8	0.30	0.0	0.00	0.13	0.00	67	216
75 ISL	16.69	16.68	33.412	24.372	357.1	0.267	5.62	101.2	1.8	0.29	0.0	0.00	0.13	0.00	75	
79	16.69	16.68	33.412	24.372	357.2	0.281	5.62	101.2	1.8	0.29	0.0	0.00	0.13	0.00	79	215
89	16.63	16.62	33.442	24.409	354.0	0.317	5.62	101.1	1.8	0.29	0.0	0.00	0.21	0.00	89	214
97 A	16.24	16.22	33.515	24.555	340.2	0.345	5.64	100.7	1.9	0.29	0.0	0.00	0.28	0.04	97	213
100 ISL	16.06	16.04	33.489	24.576	338.3	0.355	5.66	100.7	1.9	0.29	0.0	0.00	0.30	0.04	100	
106	15.64	15.62	33.433	24.628	333.5	0.375	5.68	100.1	2.0	0.31	0.0	0.00	0.34	0.04	106	212
116	14.80	14.78	33.510	24.871	310.5	0.407	5.52	95.7	2.8	0.39	0.8	0.05	0.37	0.19	116	211
124	13.88	13.86	33.428	25.002	298.2	0.432	5.45	92.7	3.6	0.48	2.3	0.09	0.36	0.19	124	210
125 ISL	13.79	13.77	33.425	25.018	296.6	0.434	5.44	92.4	3.7	0.49	2.5	0.09	0.36	0.19	125	
141	12.54	12.52	33.423	25.266	273.2	0.480	5.22	86.4	5.6	0.68	5.7	0.07	0.33	0.20	142	209
150 ISL	11.81	11.79	33.410	25.394	261.0	0.504	5.06	82.4	7.5	0.84	8.2	0.05	0.26	0.17	151	
162	10.94	10.92	33.413	25.554	245.8	0.535	4.83	77.2	10.3	1.05	11.6	0.03	0.16	0.11	163	208
192	9.68	9.66	33.623	25.934	210.0	0.603	4.39	68.4	17.0	1.37	17.1	0.01	0.03	0.03	193	207
200 ISL	9.49	9.47	33.675	26.006	203.3	0.619	4.19	65.0	18.8	1.46	18.5	0.01			201	
232	9.02	8.99	33.857	26.224	183.0	0.681	3.38	51.9	26.0	1.79	23.5	0.01			233	206
250 ISL	8.80	8.77	33.943	26.326	173.6	0.713	3.05	46.7	29.8	1.92	25.4	0.01			251	
269	8.56	8.53	34.011	26.417	165.3	0.746	2.76	42.0	33.7	2.03	27.1	0.01			270	205
300 ISL	8.03	8.00	34.049	26.527	155.1	0.795	2.41	36.2	39.8	2.20	29.6	0.01			302	
320	7.67	7.64	34.052	26.582	150.0	0.826	2.23	33.3	43.6	2.30	31.1	0.01			322	204
379	6.76	6.72	34.061	26.717	137.6	0.911	1.72	25.1	55.3	2.58	34.7	0.01			381	203
400 ISL	6.53	6.49	34.073	26.757	133.9	0.939	1.52	22.1	59.2	2.67	35.8	0.01			402	
437	6.20	6.16	34.101	26.822	127.9	0.987	1.17	16.9	65.7	2.82	37.5	0.01			440	202
500 ISL	5.80	5.76	34.167	26.925	118.7	1.065	0.72	10.3	75.9	3.01	39.7	0.01			503	
516	5.70	5.66	34.184	26.951	116.3	1.084	0.61	8.7	78.5	3.06	40.2	0.01			519	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

PRIMARY PRODUCTIVITY CASTS

RV NEW HORIZON — CALCOFI CRUISE 0504 — STATION 77 80

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
34 3.4 N	122 56.8 W	29/04/05	1734 UTC	20 m		1209 - 1216 PST	1209 PST	1917 PST	248.3 mg C/m2

DEPTH m	TEMP DEG C	SALINITY	SIGMA THETA	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
1	15.24	33.012	24.388	5.93	103.5					0.19	0.04	93. A	4.1	4.2	4.1	0.11
12	15.05	33.003	24.423	5.94	103.3	2.5	0.33	0.0	0.00	0.20	0.03	40.	5.9	5.7	5.8	0.12
27	14.87	33.007	24.465	6.00	103.9	1.9	0.33	0.0	0.00	0.21	0.04	13.	5.0	4.8	4.9	0.13
42	14.05	33.068	24.686	6.13	104.4	1.2	0.33	0.0	0.00	0.28	0.10	4.0	3.3	3.2	3.2	0.12
48	13.94	33.086	24.723	6.04	102.7	1.5	0.34	0.0	0.00	0.41	0.17	2.5	2.1	1.8	2.0	0.12
52	13.78	33.081	24.752	6.09	103.2	1.4	0.37	0.2	0.01	0.74	0.27					
58	13.65	33.103	24.796	6.06	102.4	1.1	0.40	0.3	0.02	0.96	0.37					
68	13.40	33.116	24.856	5.88	98.9	2.6	0.49	1.1	0.05	0.43	0.40					
78	13.23	33.116	24.891	5.81	97.3	3.5	0.55	1.7	0.06	0.28	0.49	0.25	0.20	0.22	0.21	0.05

RV NEW HORIZON — CALCOFI CRUISE 0504 — STATION 80 60

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
34 8.8 N	121 9.0 W	27/04/05	1841 UTC	11 m		1205 - 1915 PST	1202 PST	1916 PST	455.9 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	13.94	33.163	24.781	6.51	110.7	0.9	0.26	0.1	0.01	1.65	0.49	76. A	18.1	16.4	17.2	0.50
7	13.87	33.177	24.806	6.52	110.8	0.8	0.26	0.1	0.01	1.57	0.52	38.	24.1	23.8	24.0	0.53
15	12.61	33.230	25.099	5.91	97.8	3.6	0.67	3.7	0.10	1.84	0.84	12.	17.6	16.4	17.0	0.34
18	12.59	33.235	25.107	5.92	98.0	3.5	0.67	3.7	0.10	1.95	0.82					
23	12.37	33.258	25.167	5.86	96.5	4.8	0.78	4.7	0.12	1.28	0.86	4.0	8.5	8.8	8.6	0.16
26	12.34	33.260	25.175	5.85	96.3	4.8	0.78	4.9	0.12	1.17	0.98	2.7	3.0	3.4	3.2	0.17
34	11.95	33.333	25.305	5.76	94.1	6.5	0.87	6.4	0.14	1.42	1.50					
44	11.64	33.338	25.367	5.80	94.1	6.4	0.87	6.3	0.14	1.36	1.37	0.22	0.59	0.64	0.62	0.19

RV NEW HORIZON — CALCOFI CRUISE 0504 — STATION 80 90

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
33 8.8 N	123 13.6 W	28/04/05	1653 UTC	24 m		1215 - 1925 PST	1210 PST	1924 PST	229.9 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	15.10	32.986	24.399	5.90	102.7	2.5	0.34	0.0	0.00	0.14	0.03	88. A	2.3	2.3	2.3	0.12
15	14.99	32.995	24.430	5.90	102.4	2.4	0.34	0.0	0.00	0.15	0.03	38.	3.9	4.2	4.1	0.09
24	14.54	33.013	24.540	5.93	102.0	2.4	0.34	0.0	0.00	0.21	0.07					
33	14.43	33.022	24.571	5.96	102.3	2.5	0.33	0.0	0.00	0.26	0.08	12.	4.1	4.4	4.3	0.13
42	14.35	33.033	24.596	6.00	102.8	2.6	0.34	0.0	0.00	0.32	0.10					
52	14.31	33.032	24.604	6.01	102.9	2.6	0.33	0.0	0.00	0.30	0.10	3.6	2.5	2.5	2.5	0.13
58	14.27	33.037	24.617	5.95	101.8	2.6	0.34	0.0	0.00	0.37	0.17	2.4	1.6	1.5	1.5	0.08
70	12.88	33.037	24.899	5.69	94.6	4.2	0.57	2.8	0.08	0.67	0.38					
82	11.61	33.096	25.185	5.24	84.8	7.0	0.87	7.8	0.16	0.29	0.34					
94	10.46	33.205	25.475	4.69	74.1	11.3	1.20	13.5	0.09	0.16	0.30	0.24	0.25	0.26	0.25	0.03

RV NEW HORIZON — CALCOFI CRUISE 0504 — STATION 83 42

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
34 10.8 N	119 30.4 W	26/04/05	1945 UTC	9 m		1222 - 1915 PST	1156 PST	1906 PST	899.2 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
1	14.27	33.340	24.849	6.84	117.3	0.8	0.30	0.3	0.02	3.02	0.49	84. A	46.0	46.5	46.3	0.40
5	13.40	33.376	25.056	6.60	111.2	2.5	0.44	1.6	0.06	2.90	0.73	43.	56.0	56.0	56.0	0.70
12	13.23	33.378	25.092	6.47	108.6	2.5	0.45	1.8	0.06	3.42	1.10	13.	40.9	45.5	43.2	0.42
19	12.98	33.377	25.141	6.16	102.9	3.1	0.55	3.1	0.07	4.16	1.15	3.9	19.9	20.2	20.1	0.27
22	12.59	33.382	25.221	5.70	94.4	4.9	0.73	5.5	0.09	3.00	0.91	2.3	6.2	5.8	6.0	0.19
28	11.13	33.501	25.586	4.19	67.3	13.4	1.37	14.1	0.15	1.11	0.96					
35	10.68	33.564	25.715	3.75	59.7	17.2	1.58	17.1	0.16	0.45	0.55	0.26	0.20	0.23	0.22	0.08

A) INCUBATION LIGHT INTENSITIES WERE 92, 39, 12, 4.0, 2.5, 0.25 PERCENT RESPECTIVELY.

PRIMARY PRODUCTIVITY CASTS

RV NEW HORIZON — CALCOFI CRUISE 0504 — STATION 83 70

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
33 14.7 N	121 26.6 W	23/04/05	1751 UTC	14 m		1209 - 1915 PST	1204 PST	1913 PST	608.3 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	14.45	33.116	24.638	6.06	104.1	1.8	0.32	0.1	0.01	1.02	0.37	80. A	32.1	28.2	30.1	0.27
9	14.44	33.115	24.640	6.07	104.3	1.7	0.31	0.0	0.01	0.94	0.36	37.	23.6	22.1	22.8	0.22
20	13.95	33.128	24.752	6.26	106.5	1.2	0.31	0.1	0.01	1.37	0.57	11.	12.7	11.5	12.1	0.23
29	13.42	33.153	24.880	6.43	108.2	0.4	0.35	0.3	0.02	3.91	1.37	4.2	9.4	11.6	10.5	0.35
34	13.30	33.156	24.906	6.40	107.4	0.6	0.38	0.6	0.04	4.19	1.41	2.4	3.0	3.2	3.1	0.31
44	12.71	33.163	25.029	6.08	100.8	2.4	0.56	2.9	0.08	3.91	1.39					
55	12.25	33.178	25.129	5.78	94.9	4.8	0.72	5.1	0.11	2.21	1.10	0.24	0.34	0.19	0.26	0.10

RV NEW HORIZON — CALCOFI CRUISE 0504 — STATION 83 110

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
31 54.1 N	124 10.2 W	24/04/05	1650 UTC	27 m		1216 - 1913 PST	1215 PST	1913 PST	152.8 mg C/m2

DEPTH m	TEMP DEG C	SALINITY	SIGMA THETA	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
2	14.90	32.950	24.414	5.88	101.9	2.1	0.35	0.0	0.00	0.12	0.02	89. A	0.88	0.90	0.89	0.06
17	14.89	32.949	24.416	5.89	102.0	2.1	0.35	0.0	0.00	0.12	0.02	38.	3.0	3.1	3.1	0.08
26	14.77	32.941	24.436	5.89	101.8	2.1	0.35	0.0	0.00	0.12	0.03					
37	14.68	32.938	24.453	5.91	101.9	2.1	0.35	0.0	0.00	0.13	0.03	12.	2.4	2.3	2.4	0.08
47	14.66	32.941	24.460	5.91	101.9	2.1	0.35	0.0	0.00	0.17	0.06					
58	14.64	32.940	24.464	5.91	101.8	2.1	0.35	0.0	0.00	0.20	0.07	3.7	2.0	1.9	1.9	0.10
65	14.64	32.949	24.471	5.87	101.1	2.1	0.35	0.0	0.00	0.11	0.02	2.5	0.35	0.36	0.36	0.07
75	14.60	32.941	24.474	5.90	101.6	2.1	0.35	0.0	0.00	0.29	0.11					
86	12.94	33.024	24.877			3.3	0.51	2.1	0.04	0.45	0.23					
95	12.25	33.067	25.044	5.56	91.2	4.3	0.65	4.2	0.07	0.31	0.25					
105	11.34	33.134	25.265	5.15	82.9	7.4	0.92	8.8	0.10	0.22	0.24	0.26	0.32	0.26	0.29	0.04

RV NEW HORIZON — CALCOFI CRUISE 0504 — STATION 87 45

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
33 29.0 N	119 19.5 W	22/04/05	1833 UTC	7 m		1200 - 1903 PST	1156 PST	1902 PST	1112.6 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	12.70	33.318	25.150	6.77	112.3	1.2	0.40	2.3	0.10	4.08	1.35	64. A	51.4	62.1	56.7	0.57
5	12.68	33.321	25.156	6.77	112.3	1.3	0.42	2.3	0.11	4.07	1.32	33.	95.3	102.0	98.7	1.1
10	12.63	33.319	25.164	6.74	111.7	1.3	0.41	2.5	0.10	4.40	1.35	11.	65.0	50.5	57.8	1.8
16	12.50	33.330	25.198	6.62	109.4	1.4	0.46	3.1	0.10	5.13	1.76	3.0	32.5	33.6	33.0	0.52
18	12.47	33.346	25.216	6.51	107.5	1.6	0.46	3.5	0.10	5.74	1.90	1.9	10.0	11.6	10.8	0.43
28	11.98	33.410	25.359	5.68	92.9	5.6	0.80	7.1	0.11	5.51	1.90	0.22	1.1	0.73	0.93	0.30

RV NEW HORIZON — CALCOFI CRUISE 0504 — STATION 87 80

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
32 19.2 N	121 42.5 W	25/04/05	1650 UTC	33 m		1210 - 1905 PST	1205 PST	1905 PST	158.2 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	15.73	33.101	24.349	5.75	101.4	1.7	0.33	0.0	0.00	0.08	0.02	91. A	0.87	0.73	0.80	0.05
11	15.72	33.101	24.351	5.76	101.5	1.7	0.33	0.0	0.00	0.10	0.01					
20	15.70	33.101	24.356	5.84	102.9	1.7	0.33	0.0	0.00	0.09	0.02	39.	1.9	1.8	1.8	0.07
33	15.88	33.181	24.378	5.73	101.4	1.7	0.32	0.0	0.00	0.09	0.02					
46	15.93	33.218	24.396	5.72	101.3	1.7	0.32	0.0	0.00	0.10	0.03	12.	1.6	1.6	1.6	0.08
58	15.90	33.230	24.412	5.74	101.6	1.6	0.33	0.0	0.00	0.14	0.05					
70	15.77	33.206	24.423	5.74	101.3	1.6	0.32	0.0	0.00	0.17	0.05	3.9	1.3	1.4	1.3	0.07
82	13.65	33.033	24.742	5.96	100.7	2.4	0.39	0.1	0.01	0.43	0.23	2.2	1.4	1.7	1.5	0.05
91	12.77	33.039	24.922	5.71	94.7	3.8	0.57	2.8	0.08	0.40	0.29					
104	11.59	33.139	25.223	5.20	84.2	6.8	0.86	7.8	0.11	0.28	0.19					
116	10.20	33.263	25.565	4.57	71.8	12.9	1.28	14.9	0.05	0.14	0.17					
129	9.71	33.394	25.749	4.29	66.8	16.0	1.44	17.6	0.03	0.09	0.09	0.25	0.09	0.10	0.09	0.02

A) INCUBATION LIGHT INTENSITIES WERE 92, 39, 12, 4.0, 2.5, 0.25 PERCENT RESPECTIVELY.

PRIMARY PRODUCTIVITY CASTS

RV NEW HORIZON — CALCOFI CRUISE 0504 — STATION 90 30

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
33 25.0 N	117 54.1 W	21/04/05	1851 UTC	19 m		1200 - 1857 PST	1150 PST	1856 PST	483.4 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	15.69	33.294	24.506	6.44	113.6	0.7	0.28	0.0	0.01	0.35	0.21	85. A	9.3	9.7	9.5	0.23
12	13.92	33.336	24.919	7.08	120.5	0.9	0.30	0.0	0.01	0.54	0.22	38.	21.1	21.1	21.1	0.26
19	13.31	33.331	25.039	6.75	113.5	1.1	0.36	0.2	0.02	0.80	0.29					
26	12.21	33.314	25.241	4.42	72.6	9.8	1.12	10.2	0.31	0.40	0.30	12.	8.3	7.9	8.1	0.10
33	11.50	33.391D	25.434	3.90	63.1	13.8	1.37	14.6	0.23	0.46	0.36					
40	11.20	33.437	25.524	3.72	59.8	15.2	1.47	16.3	0.17	0.44	0.29	3.9	3.1	3.1	3.1	0.07
46	11.00	33.462	25.579	3.64	58.3	16.1	1.52	17.1	0.15	0.40	0.27	2.4	1.1	1.2	1.1	0.06
55	10.72	33.532	25.684	3.44	54.8	18.0	1.62	18.7	0.11	0.22	0.24					
60	10.50	33.556	25.741	3.41	54.1	18.6	1.66	19.4	0.11	0.14	0.18					
74	10.26	33.675	25.875	3.13	49.4	21.3	1.78	21.1	0.07	0.09	0.16	0.25	0.05	0.03	0.04	0.03

RV NEW HORIZON — CALCOFI CRUISE 0504 — STATION 90 60

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
32 25.1 N	119 58.1 W	20/04/05	1814 UTC	26 m		1158 - 1856 PST	1158 PST	1856 PST	165.2 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	14.96	33.059	24.485	5.83	101.2	2.4	0.36	0.0	0.00	0.18	0.05	89. A	0.94	1.0	0.99	0.06
16	14.89	33.055	24.498	5.86	101.6	2.4	0.36	0.0	0.00	0.19	0.05	39.	3.3	3.3	3.3	0.10
26	14.88	33.055	24.500	5.86	101.5	2.4	0.35	0.0	0.00	0.19	0.06					
35A	14.88	33.055	24.501	5.84	101.2	2.3	0.35	0.0	0.00	0.20	0.06	13.	2.9	3.0	3.0	0.07
46	14.87	33.055	24.503	5.86	101.5	2.3	0.36	0.0	0.00	0.20	0.06					
55	14.87	33.055	24.503	5.85	101.3	2.4	0.35	0.0	0.00	0.21	0.06	3.9	1.9	1.8	1.9	0.06
62	14.87	33.054	24.503	5.85	101.3	2.4	0.36	0.0	0.00	0.22	0.07	2.6	0.72	0.62	0.67	0.06
73	14.68	33.051	24.542	5.85	100.9	2.4	0.37	0.0	0.01	0.29	0.09					
81	12.69	33.069	24.961	5.56	92.1	4.6	0.64	3.9	0.10	0.48	0.32					
91	11.50	33.193	25.281	4.84	78.2	9.3	1.04	10.3	0.10	0.25	0.21					
100	11.16	33.271	25.403	4.54	72.9	11.4	1.20	12.7	0.06	0.17	0.18	0.27	0.12	0.17	0.14	0.03

RV NEW HORIZON — CALCOFI CRUISE 0504 — STATION 90 100

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
31 6.0 N	122 39.9 W	19/04/05	1640 UTC	30 m		1210 - 1910 PST	1210 PST	1902 PST	110.0 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	15.74	33.098	24.344	5.74	101.2	1.6	0.34	0.0	0.00			90. A	0.42	0.41	0.41	0.04
18	15.74	33.091	24.339	5.72	100.9	1.6	0.34	0.0	0.00			40.	1.8	1.8	1.8	0.05
30	15.74	33.091	24.340	5.75	101.4	1.6	0.34	0.0	0.00							
42	15.74	33.091	24.340	5.75	101.4	1.6	0.34	0.0	0.00			12.	1.3	1.4	1.4	0.04
52	15.74	33.093	24.342	5.74	101.2	1.7	0.34	0.1	0.00							
63	15.51	33.212	24.485	5.79	101.7	1.8	0.34	0.0	0.00			4.0	1.2	1.2	1.2	0.04
72	15.29	33.371	24.656	5.74	100.5	2.0	0.34	0.0	0.00			2.5	0.64	0.63	0.64	0.04
84	14.44	33.278	24.768	5.72	98.4	2.4	0.42	0.6	0.02							
94	12.80	33.114	24.974	5.55	92.2	3.8	0.61	3.5	0.07							
105	12.66	33.276	25.127	5.37	89.0	4.7	0.67	5.0	0.09							
117	11.98	33.255	25.241	5.20	84.9	6.1	0.80	7.1	0.08			0.25	0.13	0.15	0.14	0.03

RV NEW HORIZON — CALCOFI CRUISE 0504 — STATION 93 26.7

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
32 57.5 N	117 18.3 W	15/04/05	1821 UTC	6 m		1155 - 1848 PST	1149 PST	1843 PST	555.0 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
1	15.54	33.389	24.613	8.69	152.9	1.4	0.15	0.0	0.01	3.08	0.49	77. A	36.4	38.2	37.3	0.96
5	14.88	33.385	24.754	8.57	148.8	1.7	0.18	0.1	0.01	2.42	0.46	28.	31.0	32.2	31.6	1.2
8	14.52	33.381	24.828	8.26	142.4	2.0	0.20	0.1	0.01	2.41	0.48	13.	20.9	22.1	21.5	1.2
13	12.53	33.414	25.257	6.18	102.3	1.9	0.42	0.1	0.01	10.32	3.40	3.6	40.2	45.6	42.9	1.4
14	12.37	33.408	25.283	5.50	90.7	2.8	0.53	0.1	0.02	12.75	3.90	2.8	24.0	22.6	23.3	1.3
23	10.89	33.537	25.657	3.18	50.8	17.6	1.67	19.1	0.27	0.85	1.48	0.28	0.26	0.30	0.28	0.11

A) INCUBATION LIGHT INTENSITIES WERE 92, 39, 12, 4.0, 2.5, 0.25 PERCENT RESPECTIVELY.

PRIMARY PRODUCTIVITY CASTS

RV NEW HORIZON — CALCOFI CRUISE 0504 — STATION 93 45

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
32 20.7 N	118 33.3 W	16/04/05	1745 UTC	17 m		1155 - 1856 PST	1154 PST	1854 PST	439.7 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	15.24	33.182	24.519	5.99	104.6	1.0	0.31	0.0	0.00	0.28	0.09	83. A	7.3	6.9	7.1	0.19
10	14.44	33.143	24.661	6.08	104.5	0.9	0.30	0.0	0.00	0.41	0.15	41.	8.5	8.2	8.3	0.48
16	14.27	33.110	24.672	6.08	104.1	1.1	0.30	0.0	0.00	0.47	0.22					
23	14.24	33.121	24.687	6.07	103.9	1.2	0.30	0.0	0.00	0.67	0.25	13.	8.9	8.7	8.8	0.21
31	13.87	33.131	24.771	5.90	100.2	1.9	0.39	0.5	0.03	1.67	0.65					
36	13.36	33.111	24.860	5.74	96.4	3.0	0.52	1.8	0.07	1.84	0.80	3.9	12.7	12.8	12.8	0.26
42	12.86	33.098	24.949	5.51	91.6	4.9	0.66	3.6	0.13	1.45	0.81	2.3	4.6	4.7	4.7	0.14
49	12.12	33.116	25.105	5.20	85.1	7.5	0.86	6.7	0.18	1.15	0.63					
58	10.94	33.169	25.362	4.79	76.5	11.0	1.12	11.5	0.18	0.55	0.50					
67	10.51	33.410	25.625	4.03	63.8	16.3	1.47	16.8	0.08	0.36	0.50	0.24	0.11	0.08	0.09	0.04

RV NEW HORIZON — CALCOFI CRUISE 0504 — STATION 93 80

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
31 12.3 N	120 57.8 W	17/04/05	1925 UTC	16 m		1227 - 1901 PST	1203 PST	1903 PST	138.8 mg C/m2

DEPTH m	TEMP DEG C	SALINITY	SIGMA THETA	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
2	14.84	33.064	24.515	5.90	102.2	1.4	0.35	0.0	0.00	0.34	0.12	83. A	5.0	5.0	5.0	0.21
10	14.84	33.067	24.518	5.89	102.0	1.2	0.35	0.0	0.00	0.31	0.14	38.	5.0	5.4	5.2	0.22
16	14.86	33.064	24.511	5.88	101.9	1.4	0.35	0.0	0.00	0.33	0.11					
22	14.83	33.064	24.518	5.88	101.8	1.3	0.34	0.0	0.00	0.34	0.10	12.	3.6	3.6	3.6	0.16
34	14.81	33.063	24.522	5.92	102.4	1.3	0.34	0.0	0.00	0.31	0.14	3.8	1.2	1.3	1.3	0.21
38	14.80	33.066	24.526	5.89	101.9	1.2	0.34	0.0	0.00	0.34	0.13	2.6	0.17	0.13	0.15	0.22
44	14.80	33.065	24.526	5.89	101.9	1.2	0.33	0.0	0.00	0.35	0.16					
48	14.77	33.060	24.528	5.89	101.8	1.2	0.32	0.0	0.00	0.41	0.17					
62	14.58	33.054	24.565	5.88	101.3	1.2	0.33	0.0	0.00	0.69	0.35	0.26	0.10	0.07	0.09	0.09

RV NEW HORIZON — CALCOFI CRUISE 0504 — STATION 93 120

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
29 51.1 N	123 35.7 W	18/04/05	1930 UTC	25 m		1232 - 1915 PST	1213 PST	1907 PST	52.9 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	16.71	33.413	24.365	5.62	101.2	1.9	0.30	0.0	0.00	0.13	0.00	88. A	0.53	0.40	0.46	0.02
15	16.70	33.413	24.368	5.62	101.2	1.9	0.30	0.0	0.00	0.15	0.00	40.	1.3	1.5	1.4	0.04
25	16.70	33.412	24.368	5.63	101.4	1.9	0.30	0.1	0.00	0.13	0.02					
35	16.69	33.413	24.371	5.62	101.2	1.8	0.30	0.0	0.00	0.00	0.25	12.	0.94	0.99	0.97	0.05
43	16.69	33.412	24.371	5.62	101.2	1.8	0.30	0.0	0.00	0.13	0.03					
53	16.69	33.412	24.371	5.63	101.4	1.8	0.30	0.0	0.00	0.14	0.01	3.9	0.36	0.42	0.39	0.05
61	16.69	33.414	24.373	5.62	101.2	1.8	0.30	0.0	0.00	0.14	0.00	2.4	0.10	0.12	0.11	0.06
67	16.69	33.411	24.371	5.62	101.2	1.8	0.30	0.0	0.00	0.13	0.00					
79	16.69	33.412	24.372	5.62	101.2	1.8	0.29	0.0	0.00	0.13	0.00					
89	16.63	33.442	24.409	5.62	101.1	1.8	0.29	0.0	0.00	0.21	0.00					
97	16.24	33.515	24.555	5.64	100.7	1.9	0.29	0.0	0.00	0.28	0.04	0.26	0.01	0.00	0.00	0.04

A) INCUBATION LIGHT INTENSITIES WERE 92, 39, 12, 4.0, 2.5, 0.25 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)
60.0	53.0	37 50.8	123 06.0	4/23	0950	0958	173	73	58	58
60.0	60.0	37 36.8	123 36.6	4/23	0525	0547	424	213	83	83
60.0	70.0	37 16.8	124 19.9	4/22	2153	2214	420	217	143	131
60.0	80.0	36 56.8	125 03.2	4/22	1603	1625	419	212	220	220
63.3	52.0	37 18.6	122 37.2	4/21	1615	1624	165	84	152	152
63.3	55.0	37 12.6	122 50.1	4/21	1845	1906	442	209	118	118
63.3	60.0	37 02.5	123 11.8	4/21	2211	2233	406	216	185	185
63.3	70.0	36 42.6	123 54.8	4/22	0403	0424	406	216	148	52
63.3	80.0	36 22.7	124 37.7	4/22	0953	1015	406	211	121	101
66.7	50.0	36 47.2	122 03.4	4/20	1045	1107	410	220	134	134
66.7	55.0	36 37.3	122 24.8	4/20	1513	1535	399	213	108	108
66.7	60.0	36 27.3	122 46.2	4/20	1950	2012	447	209	1275	83
66.7	80.0	35 47.2	124 11.7	4/17	1026	1047	478	192	50	50
66.7	90.0	35 27.2	124 54.2	4/17	0211	0233	452	203	49	49
66.7	100.0	35 07.1	125 36.4	4/16	1835	1856	431	213	144	144
70.0	51.0	36 09.0	121 47.9	4/15	0202	0223	524	189	137	137
70.0	55.0	36 02.8	122 00.6	4/15	0625	0647	458	219	33	33
70.0	60.0	35 52.8	122 22.1	4/15	1041	1103	493	189	45	45
70.0	70.0	35 32.9	123 04.4	4/15	1716	1738	465	213	34	34
70.0	80.0	35 12.8	123 46.7	4/15	2330	2352	439	216	232	36
70.0	90.0	34 53.0	124 28.9	4/16	0550	0612	445	212	38	38
70.0	100.0	34 32.8	125 10.8	4/16	1153	1215	423	215	47	47
73.3	70.0	34 57.7	122 39.7	4/08	1515	1537	484	204	37	37
73.3	80.0	34 38.7	123 21.9	4/08	0852	0913	523	191	44	44
73.3	90.0	34 18.5	124 03.7	4/08	0237	0258	448	216	25	25
73.3	100.0	33 58.6	124 45.3	4/07	2031	2053	455	210	51	51
76.7	49.0	35 05.3	120 46.6	4/30	0630	0636	111	51	90	90
76.7	51.0	35 01.4	120 54.9	4/30	0443	0503	402	200	187	187
76.7	55.0	34 53.4	121 11.5	4/30	0134	0156	423	202	156	156
76.7	60.0	34 43.2	121 33.1	4/29	2127	2147	385	207	169	169
76.7	70.0	34 23.5	122 14.5	4/29	1545	1606	450	203	56	56
76.7	80.0	34 03.3	122 56.5	4/29	0835	0855	403	209	65	65
76.7	90.0	33 43.4	123 37.8	4/29	0356	0417	434	210	74	74
76.7	100.0	33 23.3	124 19.6	4/28	2150	2210	419	207	244	84
80.0	50.5	34 27.5	120 29.6	4/27	0225	0228	66	27	211	211
80.0	51.0	34 27.0	120 31.4	4/27	0340	0346	124	56	210	210
80.0	55.0	34 19.0	120 48.0	4/27	0711	0732	419	209	86	86
80.0	60.0	34 09.0	121 09.0	4/27	1147	1209	410	212	51	51
80.0	70.0	33 48.7	121 50.3	4/27	1840	1901	440	207	59	59
80.0	80.0	33 29.0	122 32.2	4/28	0111	0133	460	213	83	83
80.0	90.0	33 09.0	123 13.4	4/28	0722	0743	473	208	21	21
80.0	100.0	32 49.2	123 54.0	4/28	1512	1534	444	216	65	65
81.7	43.5	34 23.8	119 46.9	4/26	1929	1932	69	19	88	88
81.8	46.9	34 16.4	120 01.6	4/26	2256	2316	364	206	146	146
83.3	39.4	34 15.3	119 19.6	4/26	1632	1634	42	15	24	24
83.3	40.6	34 13.7	119 24.4	4/26	1527	1530	59	20	51	51
83.3	42.0	34 11.0	119 30.6	4/26	1239	1254	299	140	261	261
83.3	51.0	33 52.6	120 08.3	4/22	1904	1912	154	64	39	39
83.3	55.0	33 44.9	120 24.3	4/22	2219	2239	381	211	66	66
83.3	60.0	33 34.7	120 45.2	4/23	0240	0301	458	198	144	144
83.3	70.0	33 14.7	121 26.6	4/23	0806	0826	388	210	83	83
83.3	80.0	32 54.5	122 07.3	4/23	1555	1616	437	196	110	110
83.3	90.0	32 34.7	122 48.9	4/23	2114	2134	409	207	54	54
83.3	100.0	32 14.7	123 29.5	4/24	0247	0309	473	206	25	25
83.3	110.0	31 54.2	124 08.7	4/24	0756	0817	419	208	50	50
85.4	35.8	34 00.7	118 50.2	4/30	1924	1928	78	28	1003	1003
86.7	33.0	33 53.0	118 29.6	4/21	2343	2348	67	46	747	747
86.7	35.0	33 49.5	118 37.5	4/22	0237	0259	375	213	312	312
86.7	40.0	33 39.4	118 58.4	4/22	0723	0744	400	206	248	248
86.7	45.0	33 29.3	119 19.3	4/22	1141	1203	446	195	76	76
86.7	50.0	33 19.4	119 39.8	4/26	0528	0535	131	56	46	46
86.7	55.0	33 09.5	120 00.1	4/26	0155	0216	447	189	60	60
86.7	60.0	32 59.3	120 21.3	4/25	2130	2150	409	201	34	34
86.7	70.0	32 39.2	121 01.7	4/25	1513	1535	447	202	54	54
86.7	80.0	32 19.1	121 41.4	4/25	0753	0813	385	211	39	39
86.7	90.0	31 59.2	122 22.8	4/25	0251	0313	430	212	30	30
86.7	100.0	31 39.5	123 04.5	4/24	2053	2113	395	206	96	96
86.7	110.0	31 19.3	123 44.3	4/24	1502	1525	429	209	30	30

86.8	32.5	33 53.2	118 26.5	4/21	2208	2211	52	19	134	134
88.5	30.1	33 40.3	118 05.7	4/21	1845	1847	51	14	39	39
90.0	27.7	33 29.6	117 45.0	4/21	1614	1617	71	19	113	113
90.0	28.0	33 29.2	117 46.3	4/21	1447	1508	417	212	185	185
90.0	30.0	33 25.2	117 54.3	4/21	1154	1216	421	203	145	145
90.0	35.0	33 15.2	118 15.1	4/21	0800	0820	385	196	166	166
90.0	37.0	33 11.2	118 23.1	4/21	0450	0511	400	207	352	177
90.0	45.0	32 55.1	118 56.2	4/20	2257	2317	359	207	109	109
90.0	53.0	32 39.1	119 28.8	4/20	1718	1739	417	203	36	36
90.0	60.0	32 25.1	119 57.7	4/20	1123	1143	418	200	19	19
90.0	70.0	32 05.0	120 38.2	4/20	0454	0515	441	200	27	27
90.0	80.0	31 45.2	121 19.1	4/19	2231	2251	438	210	30	30
90.0	90.0	31 25.0	121 59.2	4/19	1558	1619	503	202	20	20
90.0	100.0	31 05.1	122 39.7	4/19	0711	0734	512	211	20	20
90.0	110.0	30 45.1	123 19.9	4/19	0148	0213	545	212	97	97
90.0	120.0	30 25.1	123 59.8	4/18	1839	1901	520	195	6	6
91.7	26.4	33 14.7	117 27.8	4/15	1526	1528	64	8	63	63
93.3	26.7	32 57.5	117 18.1	4/15	1114	1135	427	206	154	154
93.3	28.0	32 54.6	117 23.7	4/15	2004	2024	399	200	198	198
93.3	30.0	32 50.8	117 32.0	4/15	2242	2303	384	202	294	294
93.3	35.0	32 40.8	117 52.1	4/16	0234	0254	424	206	99	99
93.3	40.0	32 30.8	118 12.7	4/16	0645	0706	452	197	55	55
93.3	45.0	32 20.8	118 33.3	4/16	1055	1116	433	211	224	224
93.3	50.0	32 10.9	118 53.4	4/16	1507	1528	459	197	61	61
93.3	55.0	32 00.8	119 14.0	4/16	1919	1940	449	210	58	58
93.3	60.0	31 50.8	119 34.3	4/16	2318	2340	413	209	61	61
93.3	70.0	31 31.0	120 14.7	4/17	0534	0555	447	209	45	45
93.3	80.0	31 10.8	120 55.2	4/17	1241	1302	453	214	38	38
93.3	90.0	30 50.7	121 35.6	4/17	1839	1901	459	205	26	26
93.3	100.0	30 30.8	122 15.5	4/18	0035	0058	478	215	17	17
93.3	110.0	30 10.8	122 55.3	4/18	0640	0702	509	208	6	6
93.3	120.0	29 50.9	123 35.3	4/18	1243	1306	515	213	6	6
93.4	26.4	32 57.1	117 16.8	4/15	1243	1245	63	10	63	63

FIGURES

Avifauna Observations

CalCOFI Cruise 0504NH

1a. Pacific Loon distribution.

1b. Red Phalarope distribution.

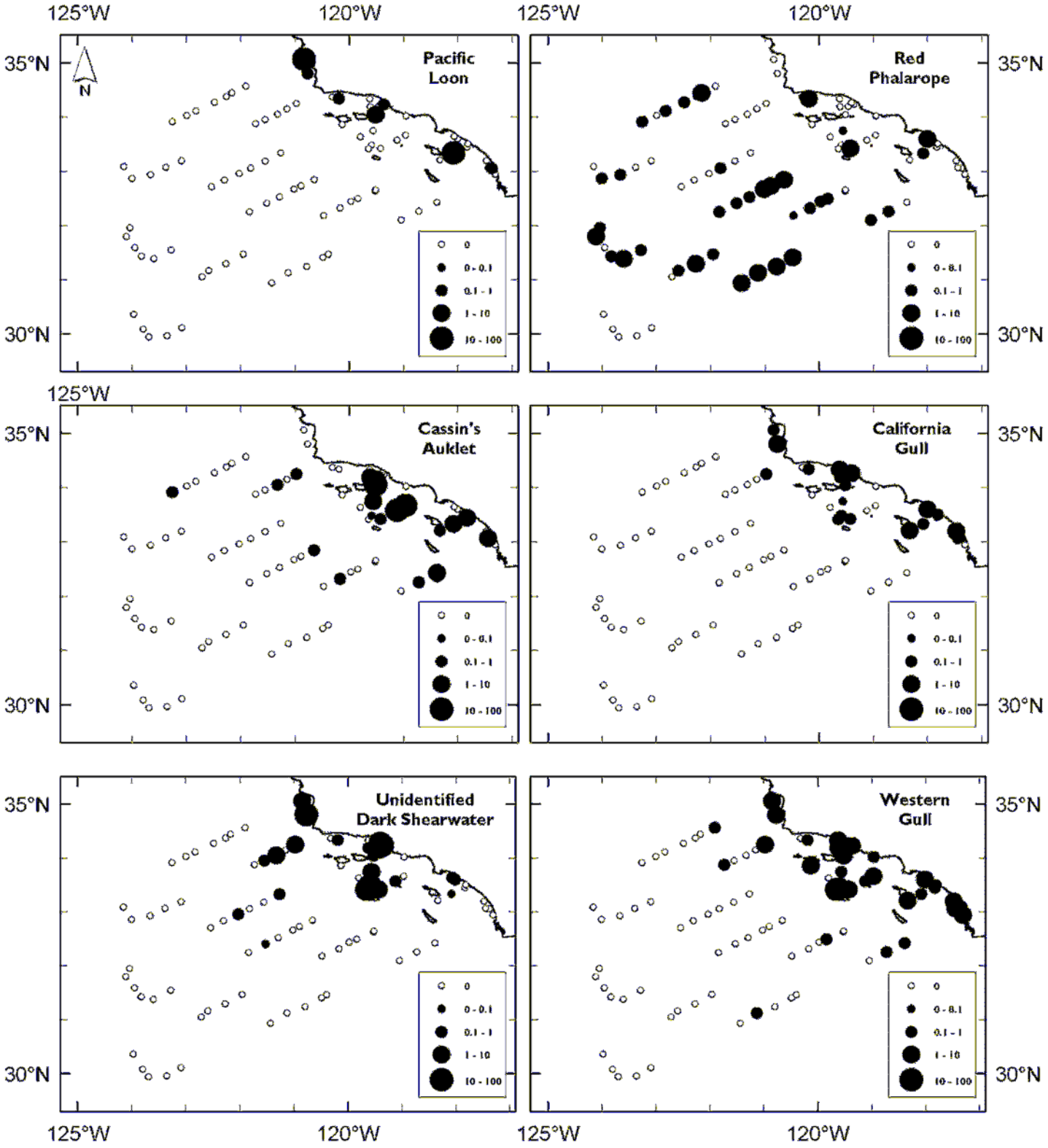
1c. Cassin's Auklet distribution.

1d. California Gull distribution.

1e. Unidentified Dark Shearwater distribution.

1f. Western Gull distribution.

CalCOFI Cruise 0504NH



FIGURES

Avifauna Observations

CalCOFI Cruise 0504JD

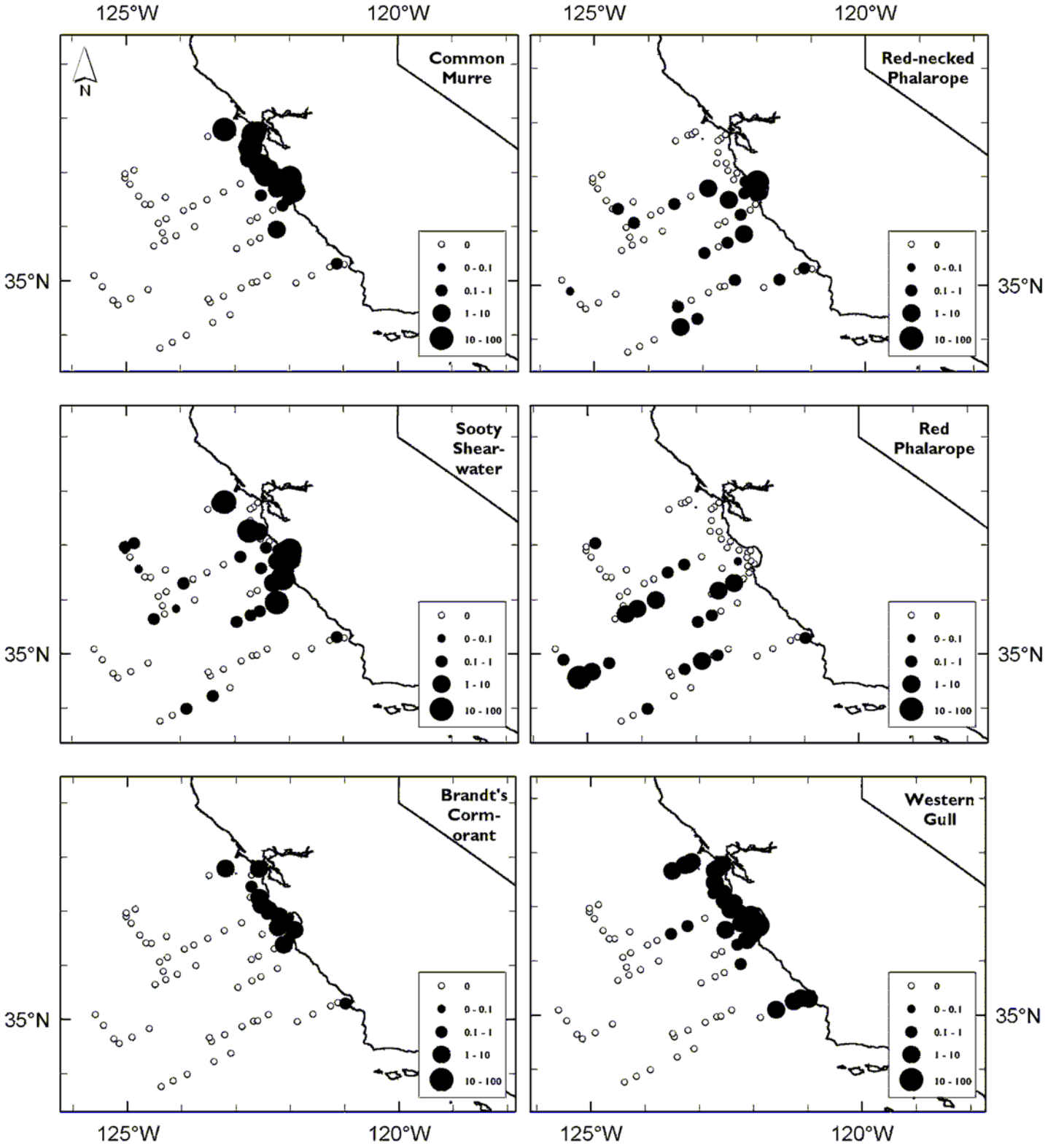
1a. Common Murre distribution.

1b. Red-necked Phalarope distribution.

1c. Sooty Shearwater distribution.

1d. Red Phalarope distribution.

1e. Brandt's Cormorant distribution.

1f. Western Gull distribution.

CalCOFI Cruise 0504DSJ