

# 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

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

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

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

Samples for chlorophyll-*a* and phaeopigments were collected in calibrated 138 ml polyethylene bottles and filtered onto Whatman GF/F filters. The pigments were extracted in cold 90% acetone (Venrick and Hayward, 1984) for a minimum of 24 hours. Chlorophyll *a* and 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  $^{14}\text{C}$  uptake using a simulated *in situ* technique. Light penetration was estimated from the Secchi depth (assuming that the 1% light level is three times the Secchi depth). The depths with ambient light intensities corresponding to light levels simulated by the on-deck incubators were identified and sampled on the rosette up-cast. Occasionally an extra bottle or two were tripped in addition to the usual 20 levels sampled in the combined rosette-productivity cast in order to maintain the normal sampling depth resolution. Triplicate samples (two light and one dark control) were drawn from each productivity sample depth into 250 ml polycarbonate incubation bottles. Samples were inoculated with 41.58  $\mu\text{Ci}$  of  $^{14}\text{C}$  as  $\text{NaHCO}_3$  (200  $\mu\text{l}$  of 215.76  $\mu\text{Ci/ml}$  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 Reyes Bird Observatory)*

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

### *Ancillary Programs*

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

- 1) *Underway Data.* Continuous near surface measurements of temperature, salinity and *in vivo* chlorophyll fluorescence were recorded from seawater pumped through the ship's uncontaminated seawater system. Water was drawn from a depth of approximately 3 meters. The data were logged in one-minute averages using a Sea-Bird Electronics, Inc., SBE 45 MicroTSG Thermosalinograph and a Wetlabs Wetstar fluorometer.
- 2) *ADCP.* Continuous profiles of ocean currents and acoustic backscatter between 20 and 500 meters deep were measured along the shiptrack from a hull-mounted 150 kHz Acoustic Doppler Current Profiler (ADCP). The ADCP data were averaged over 3-minute intervals. Sixty 8-meter depth bins were recorded. (T. Chereskin, SIO)
- 3) *Underway Sea Surface xCO<sub>2</sub>.* Continuous measurements of the partial pressure of CO<sub>2</sub> were made from the ship's uncontaminated seawater system. The seawater was equilibrated in a membrane contactor with a gas loop that was analyzed with a Licor 6262 infrared CO<sub>2</sub>/H<sub>2</sub>O analyzer. One-minute averages were recorded and the mole fraction of CO<sub>2</sub> (xCO<sub>2</sub>) at sea surface temperature was calculated. The system was calibrated with standard gases traceable to CMDL every two hours; at that time absolute zero and atmospheric samples were also collected. (G. Friederich, MBARI)
- 4) *California Current Ecosystem Long Term Ecological Research Program:* The CCE-LTER program augments standard CalCOFI measurements to further characterize the lower trophic levels as well as the carbon system. These additional samples, taken at all CalCOFI stations, are for measurements of particulate organic carbon and nitrogen, dissolved organic carbon and nitrogen, taxon-specific phytoplankton pigments, flow-cytometric counts of bacteria and picoautotrophs, microscopic counts of nano- microplankton, determination of mesozooplankton size structure using a Laser Optical Plankton Counter, and mesozooplankton community structure.
- 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 discrete 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<sup>3</sup>/1000m<sup>3</sup> 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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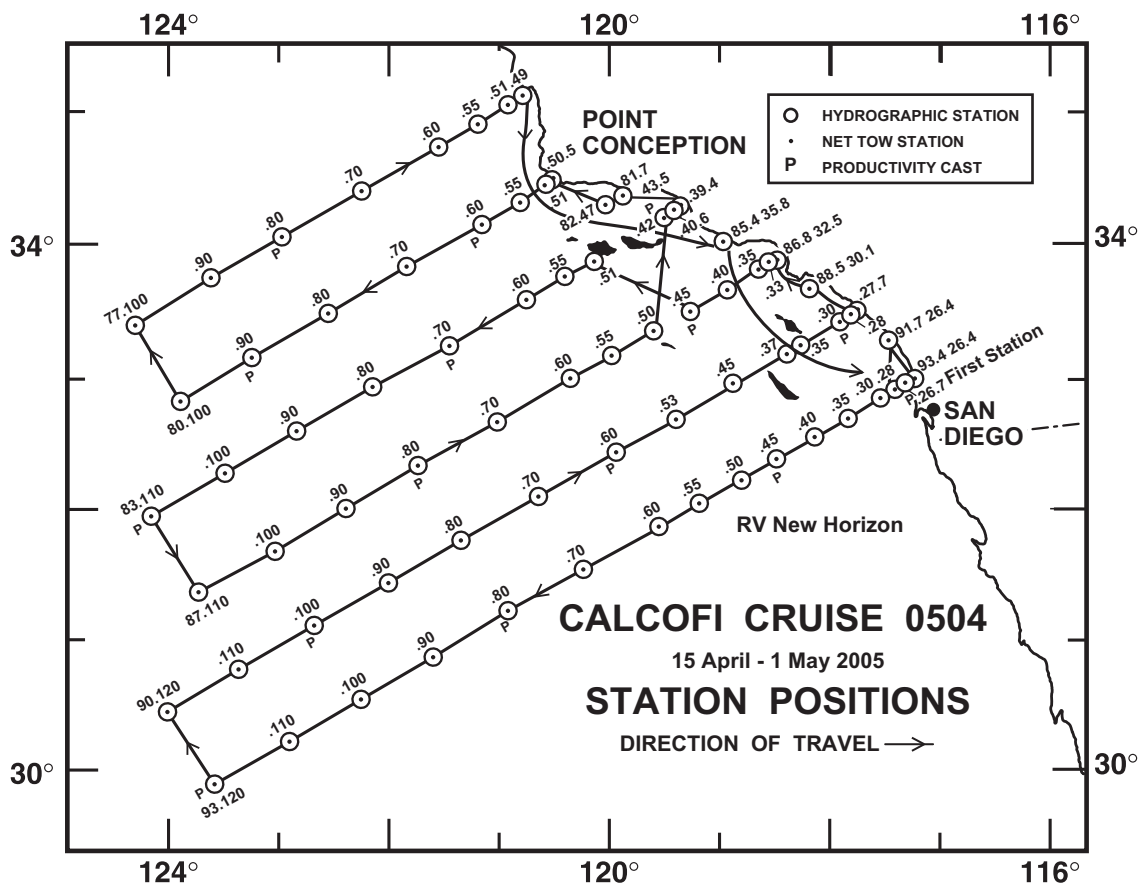


FIGURE 1

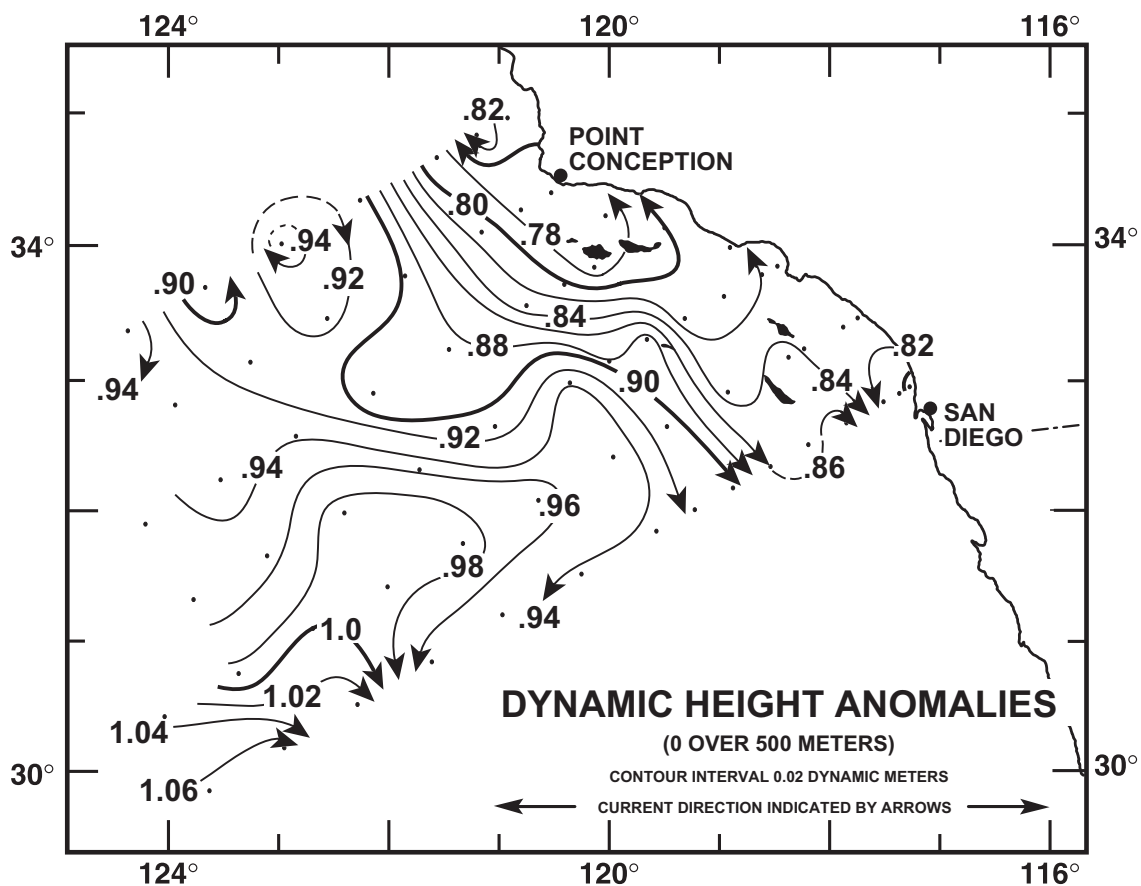


FIGURE 2

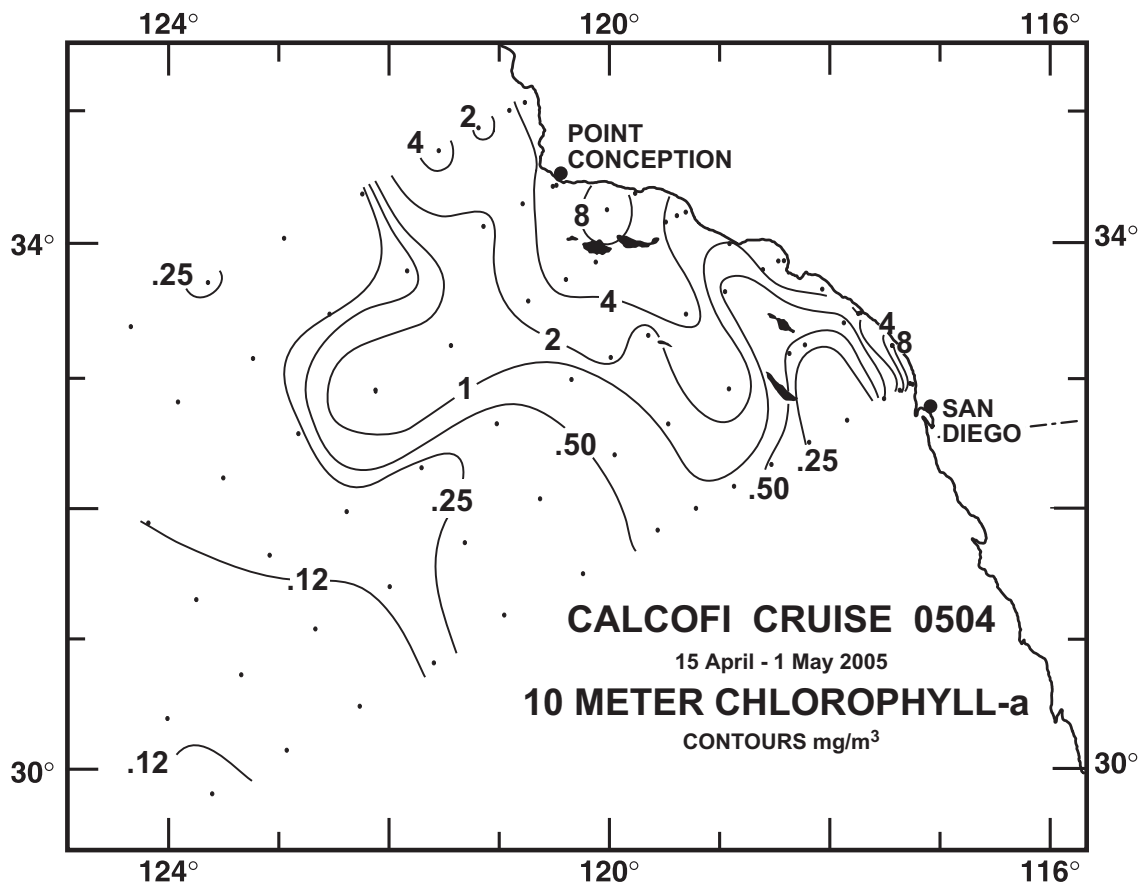


FIGURE 3A

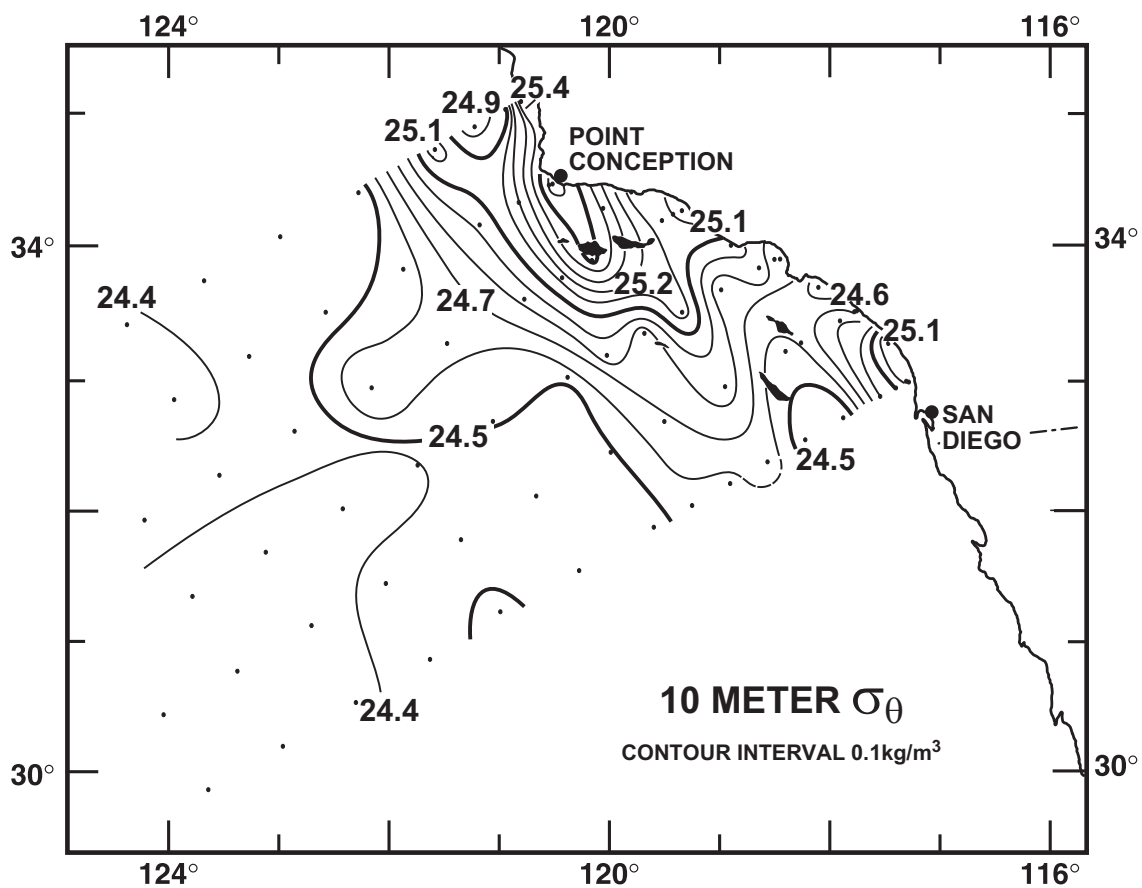


FIGURE 3B

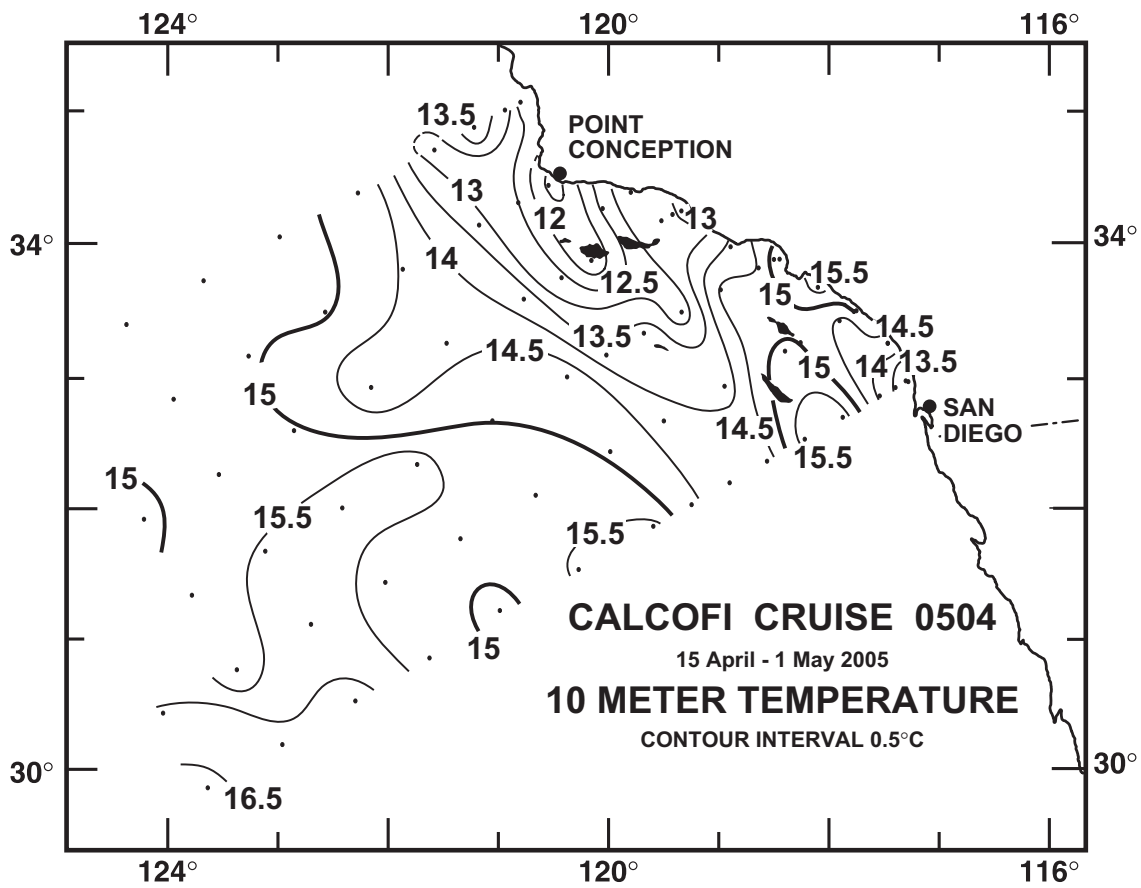


FIGURE 3C

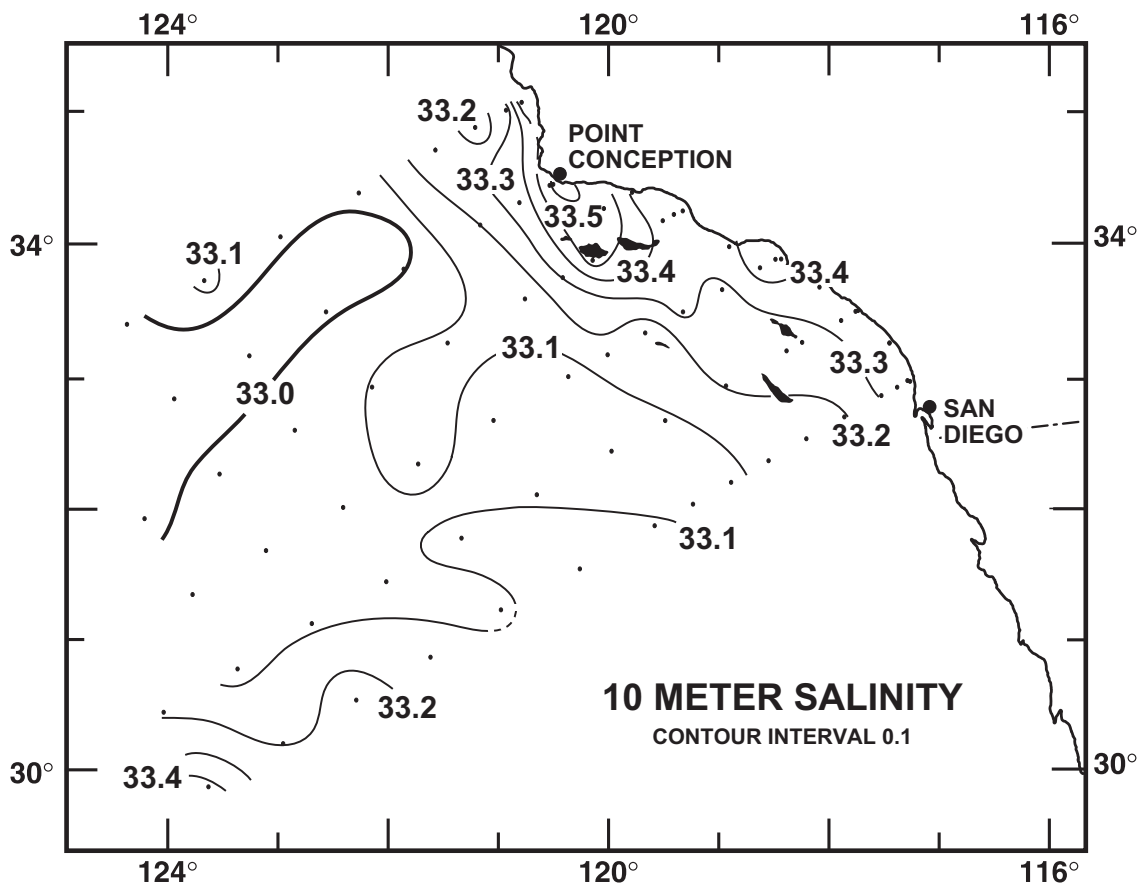


FIGURE 3D

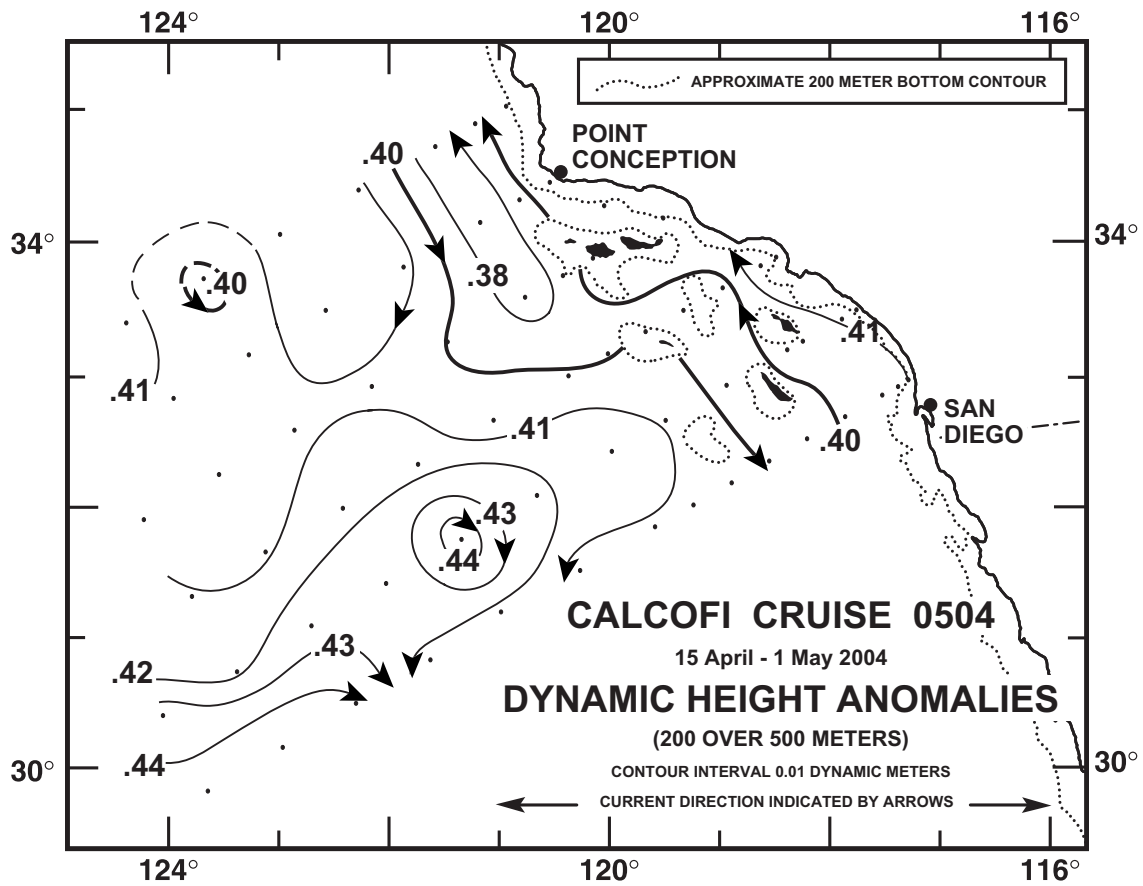


FIGURE 4A

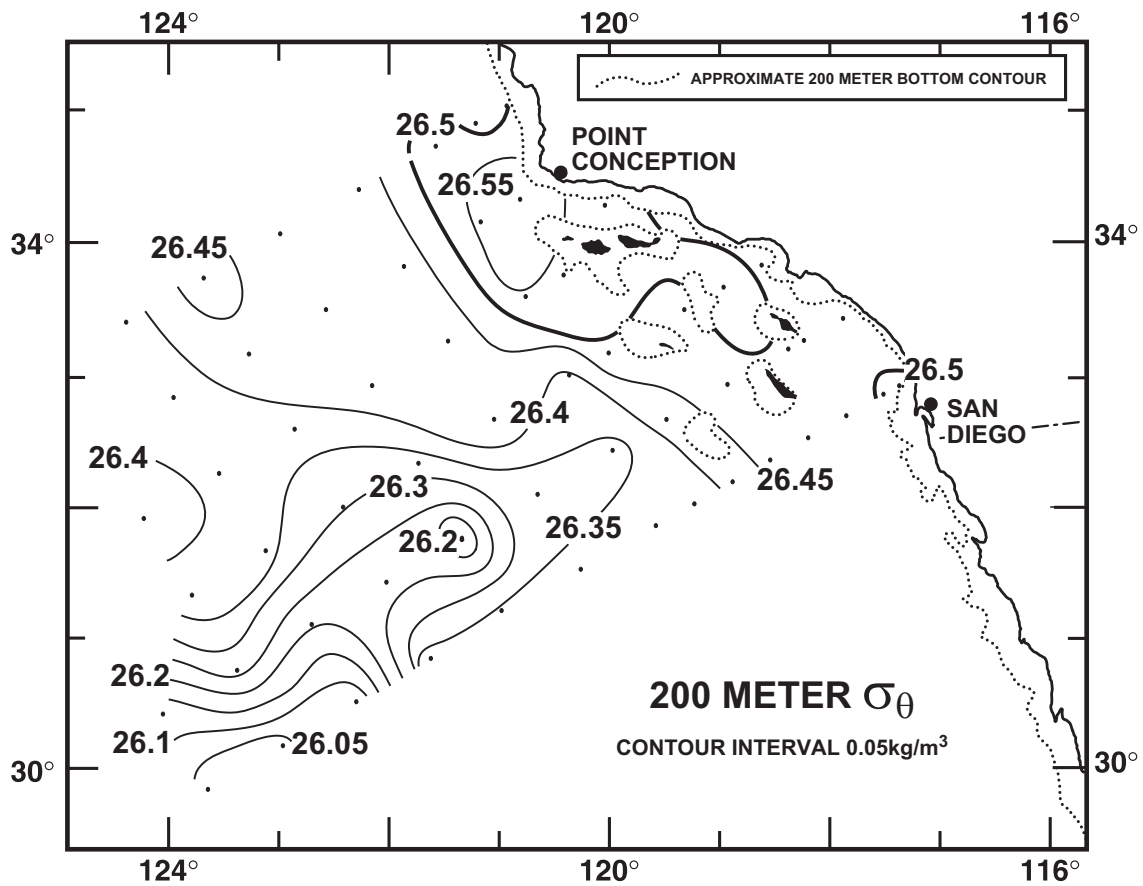


FIGURE 4B

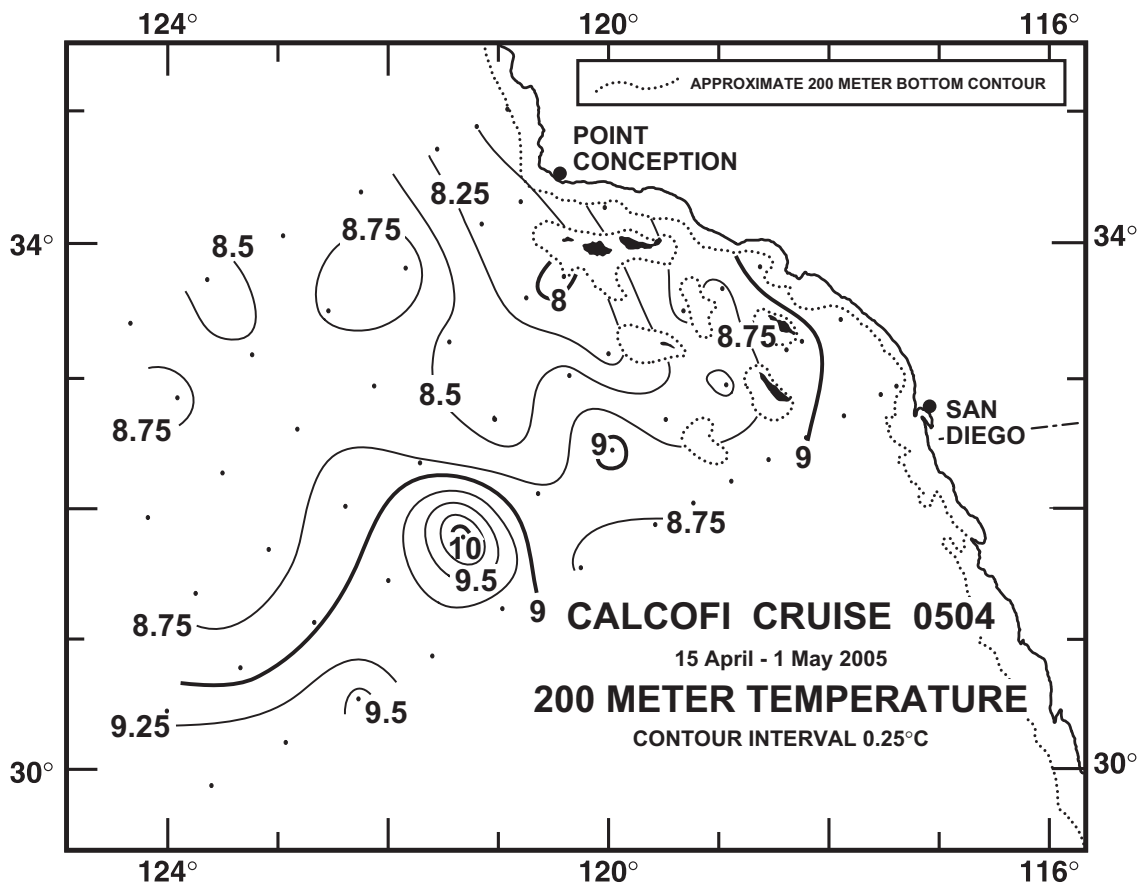


FIGURE 4C

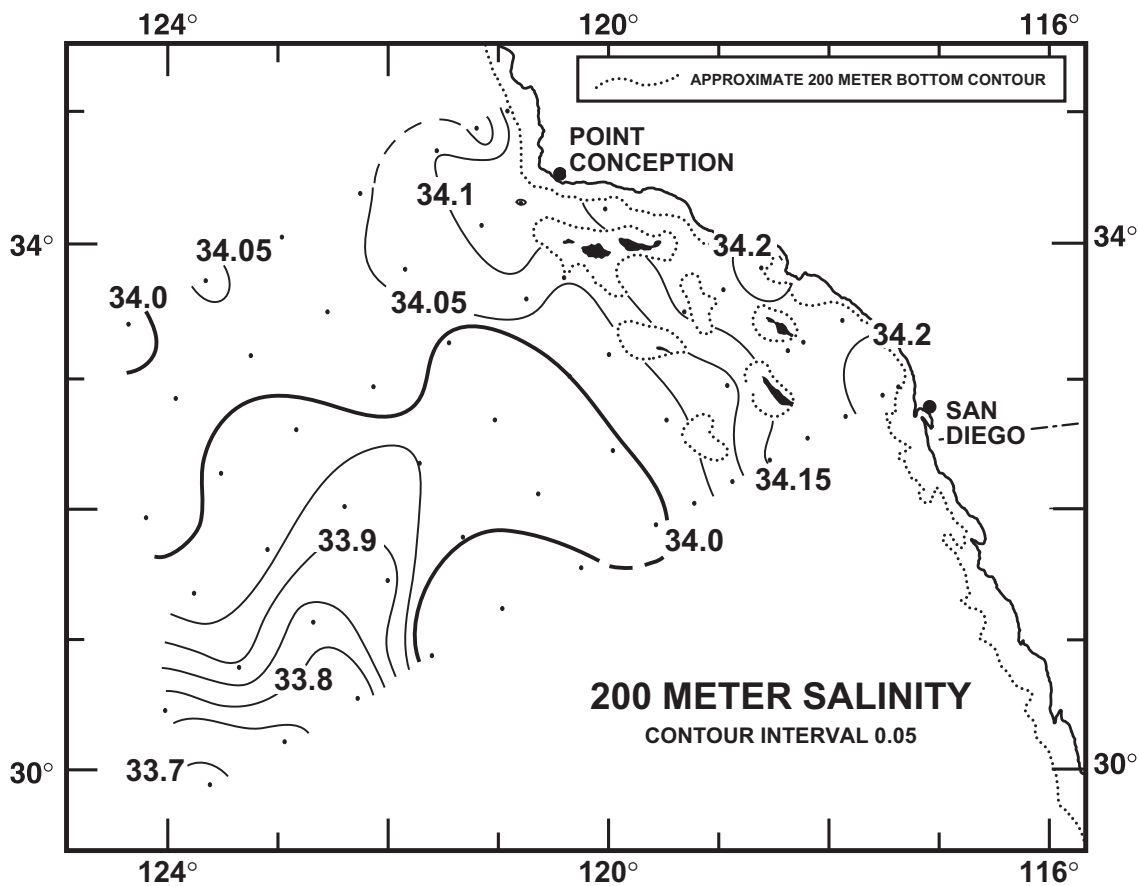


FIGURE 4D

# CALCOFI CRUISE 0504NH

19 - 22 April 2005

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

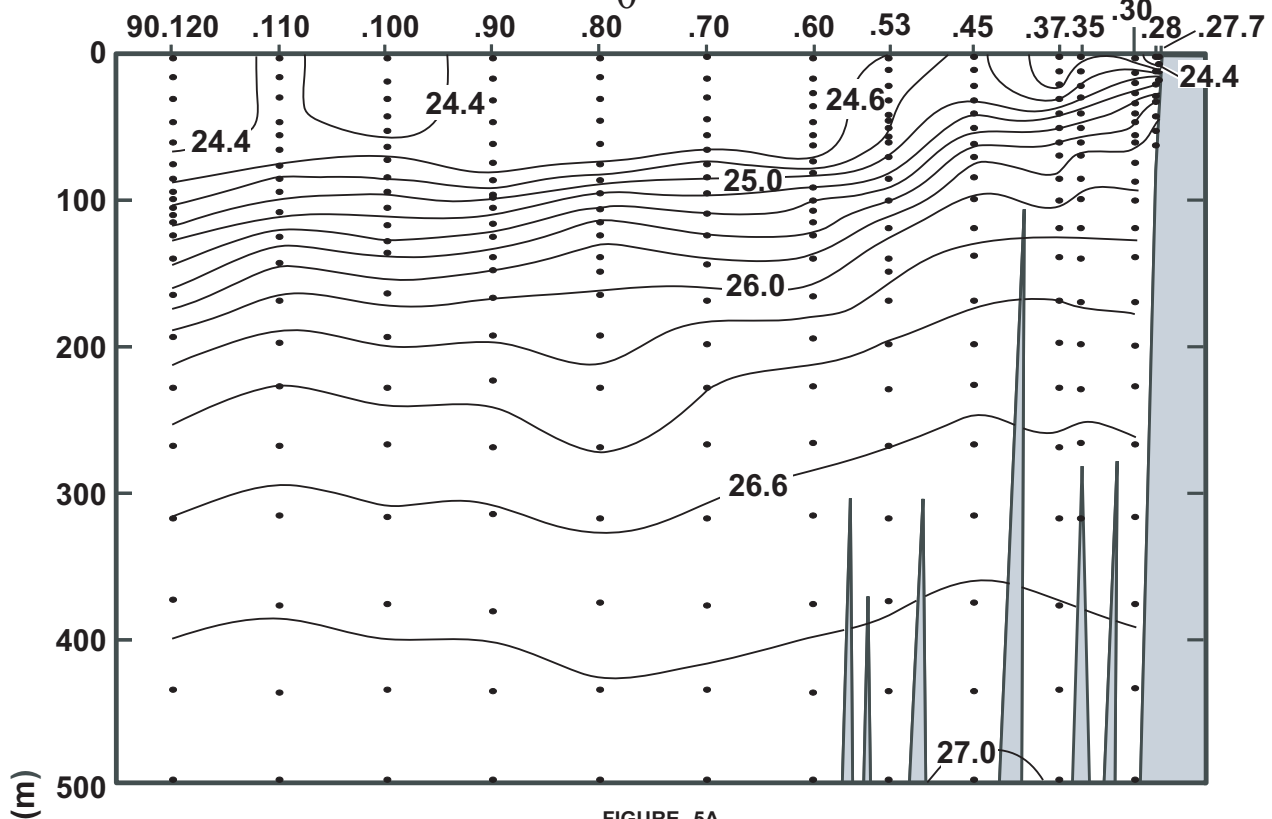


FIGURE 5A

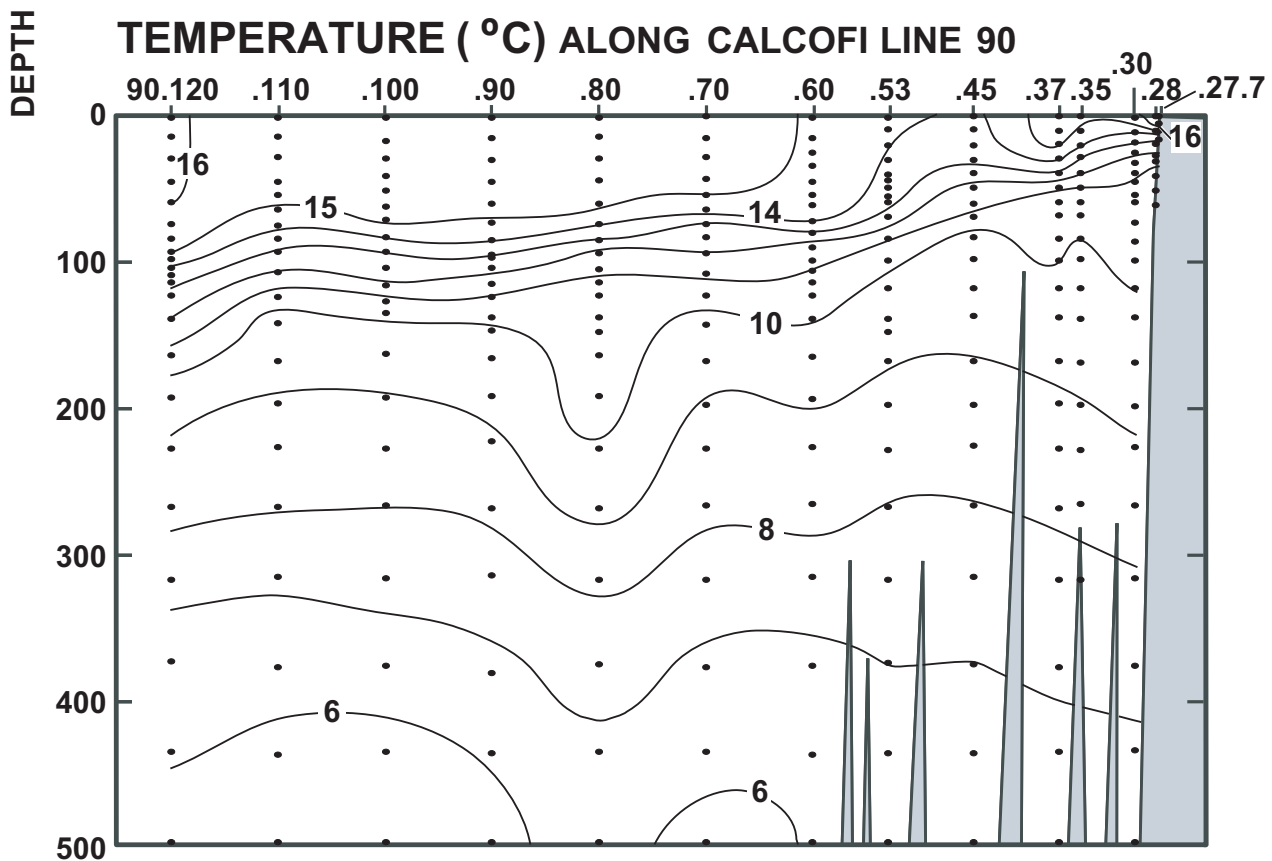


FIGURE 5B

# CALCOFI CRUISE 0504NH

19- 22 April 2005

## SALINITY ALONG CALCOFI LINE 90

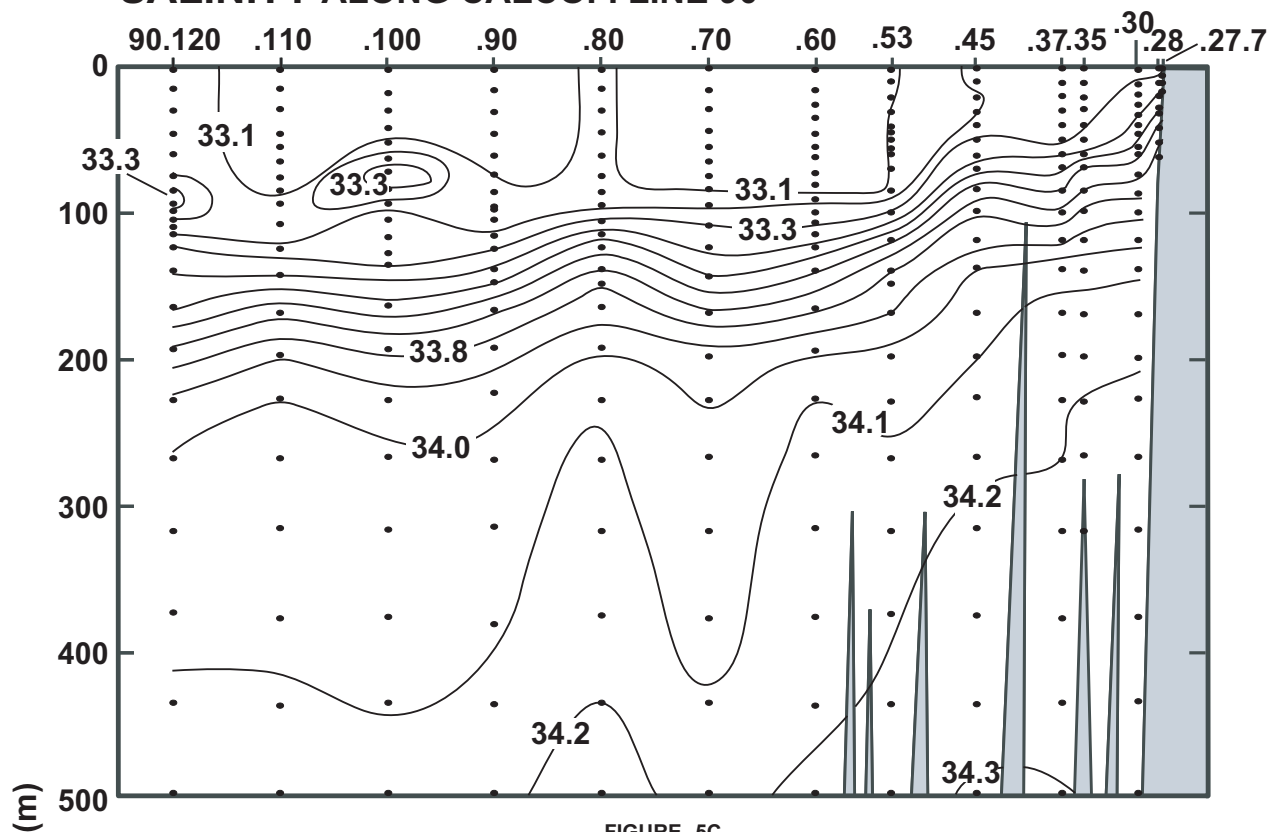


FIGURE 5C

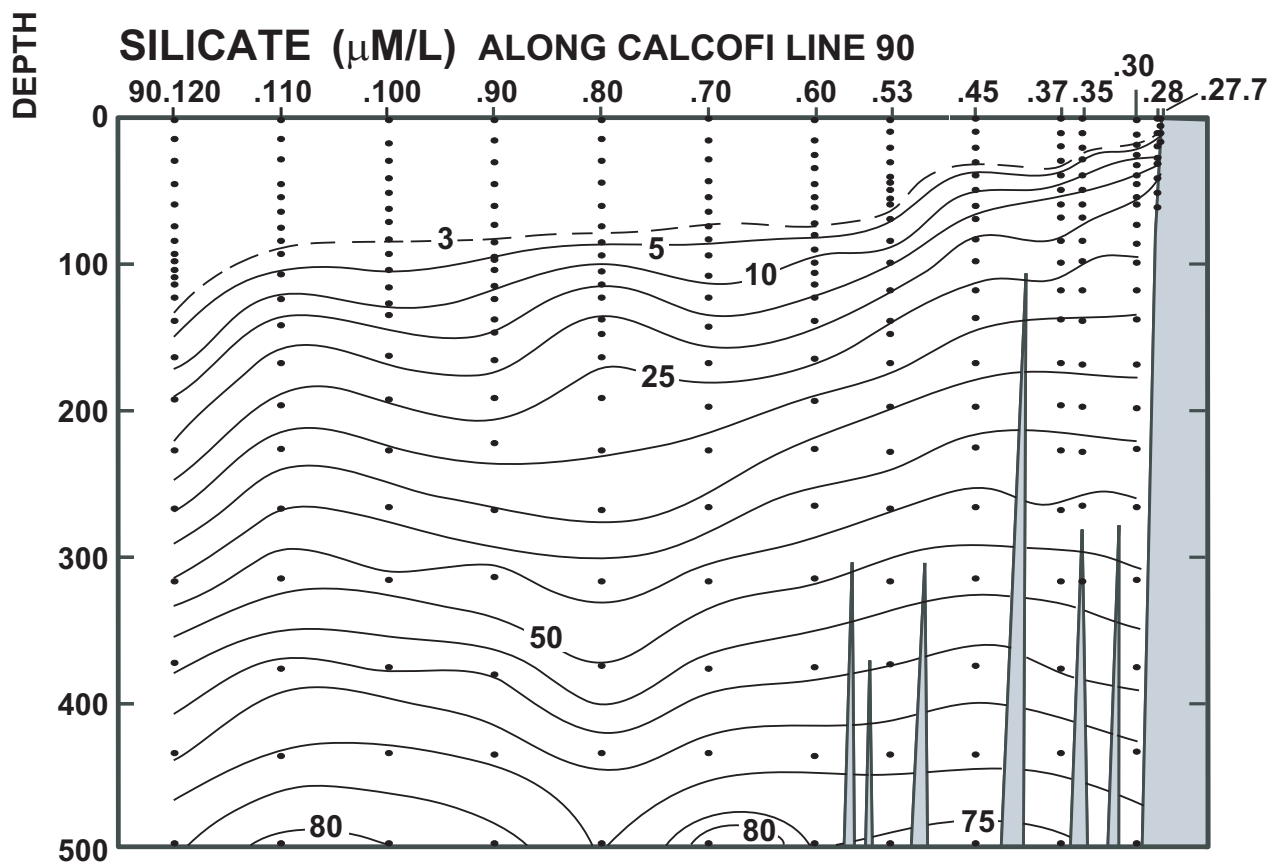


FIGURE 5D

# CALCOFI CRUISE 0504NH

19-22 April 2005

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

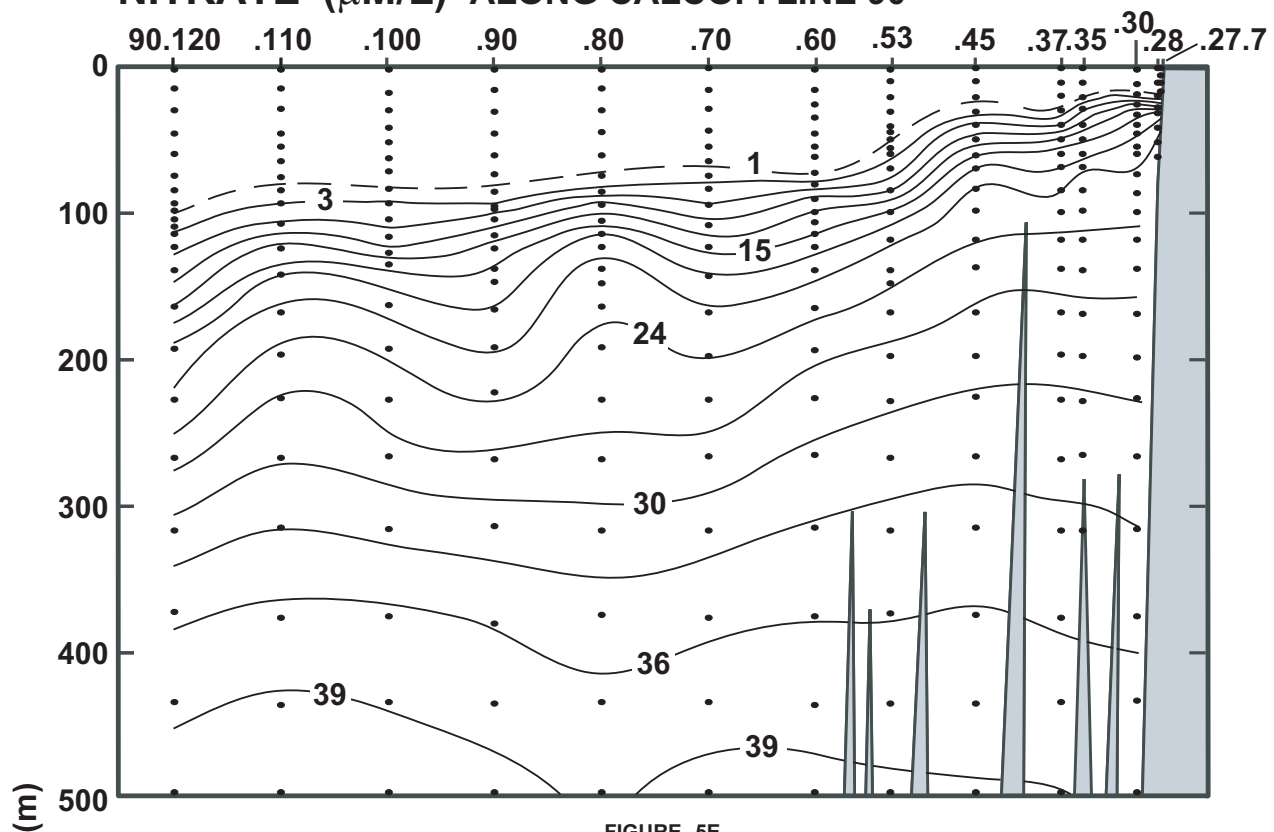


FIGURE 5E

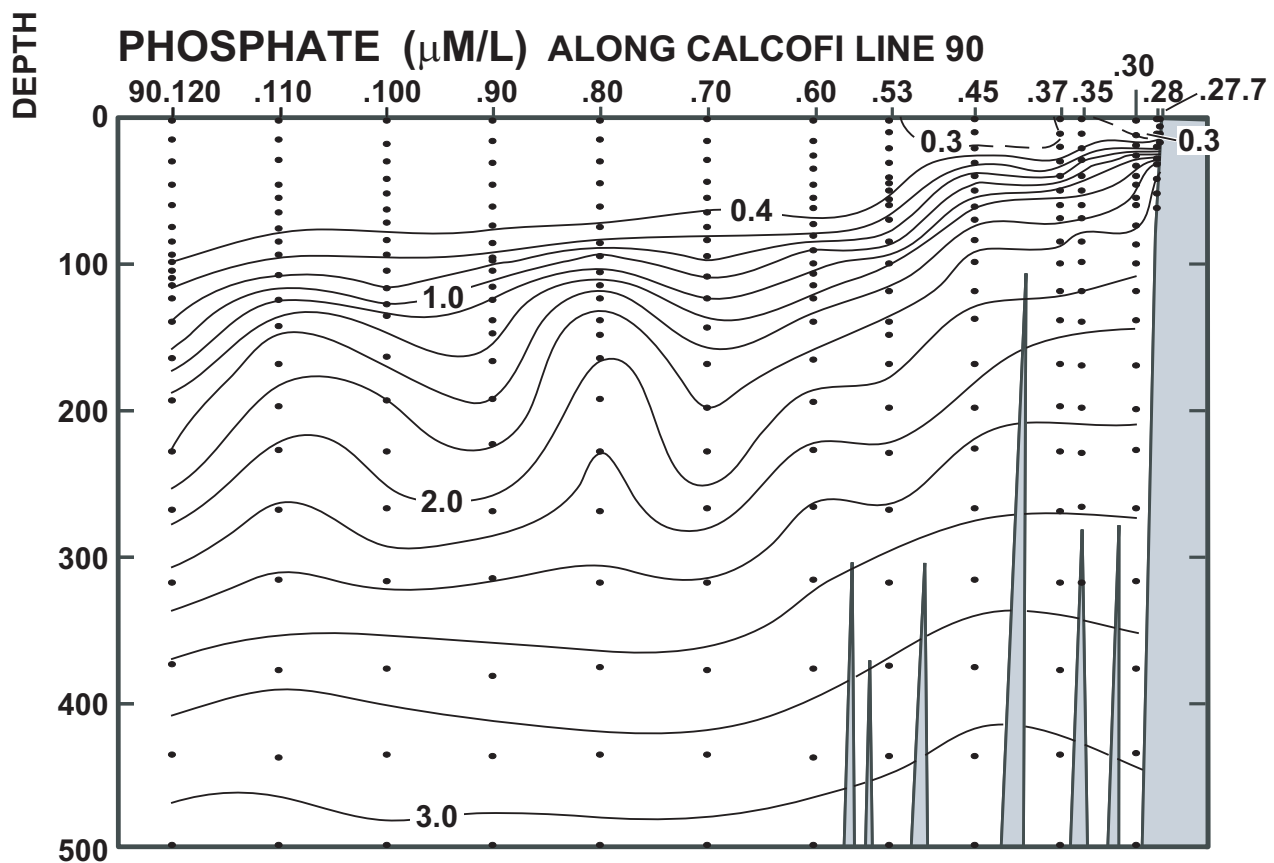


FIGURE 5F

# CALCOFI CRUISE 0504NH

19 - 22 April 2005

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

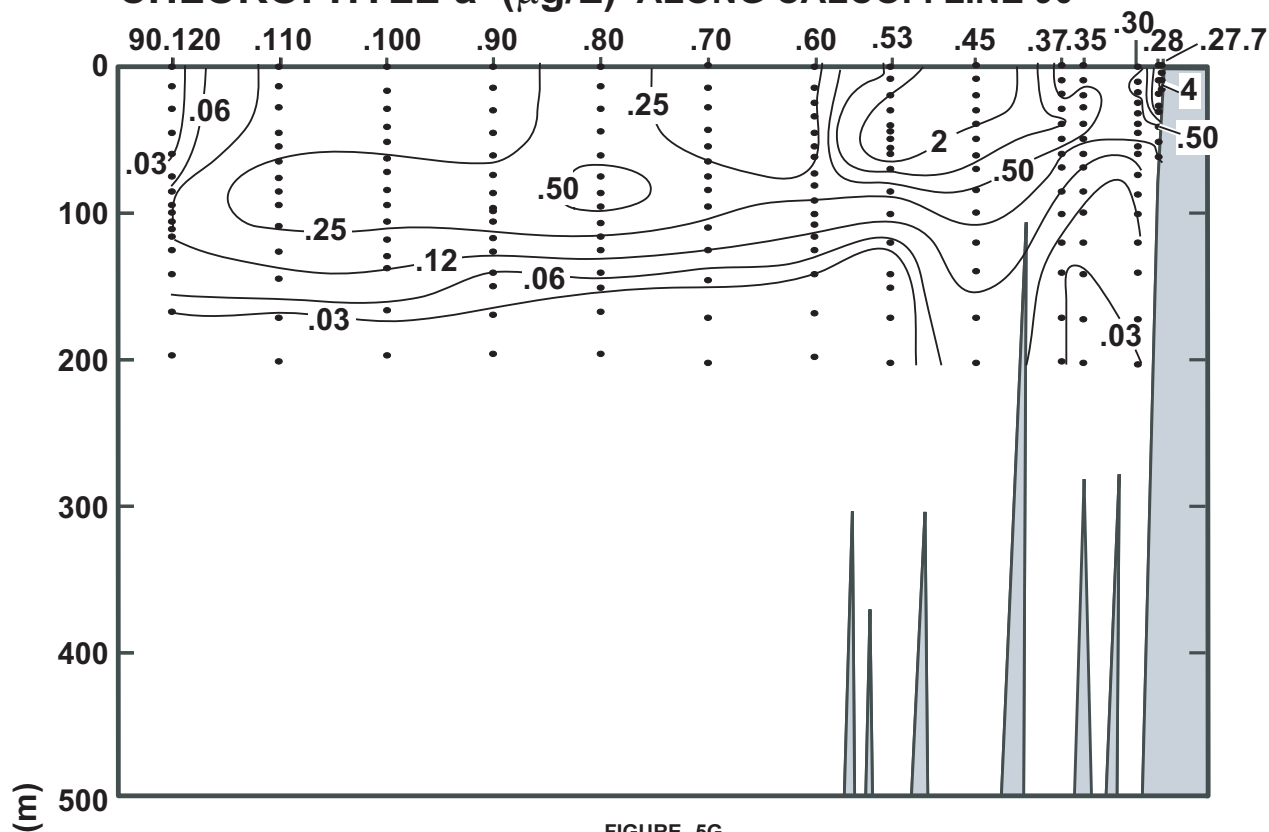


FIGURE 5G

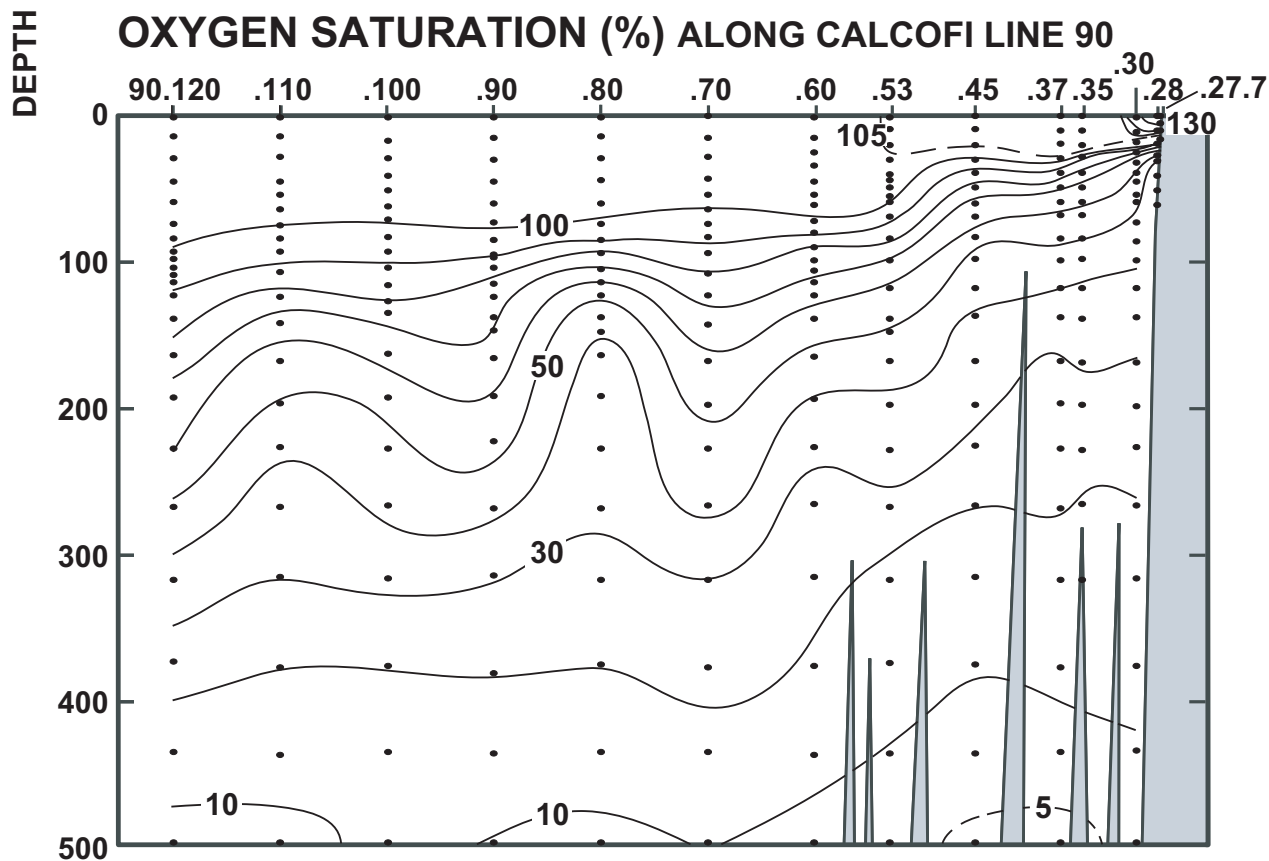
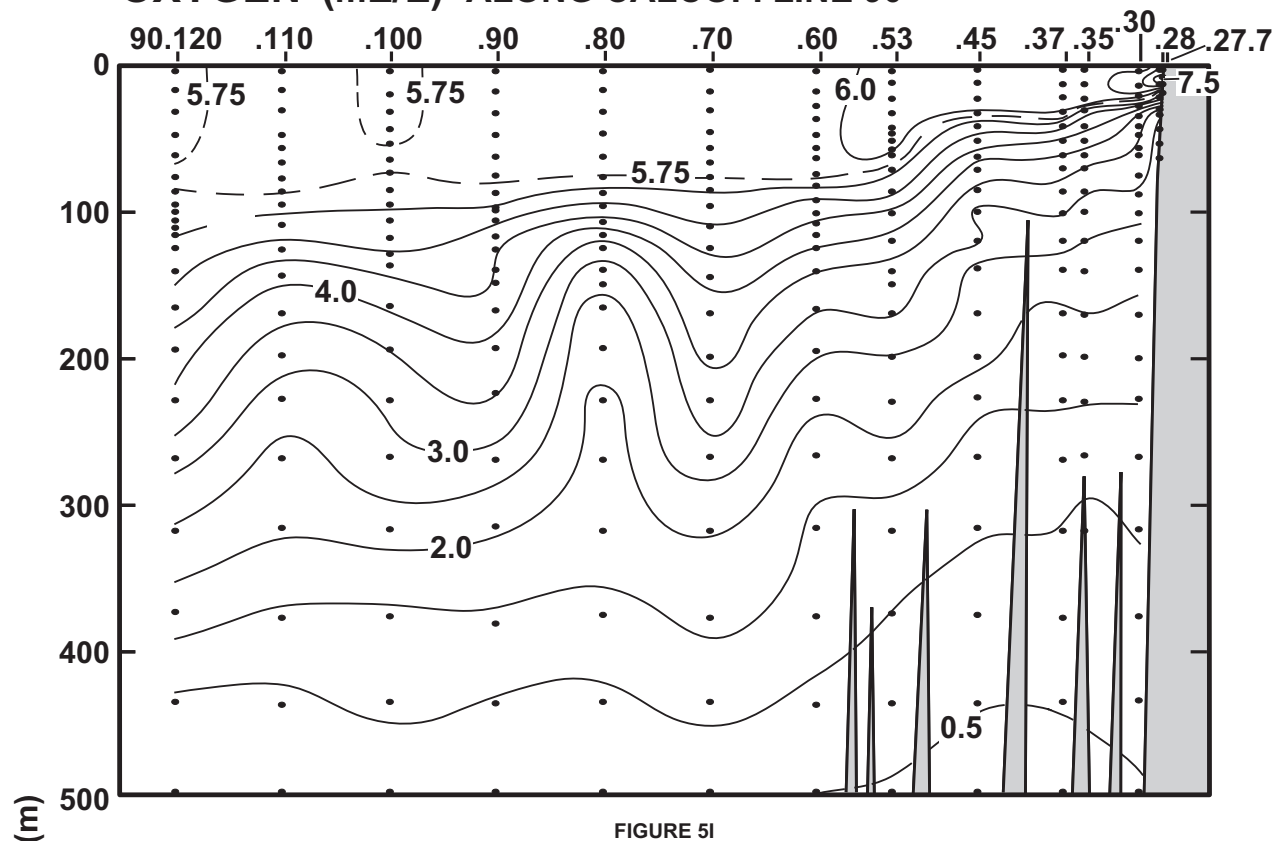


FIGURE 5H

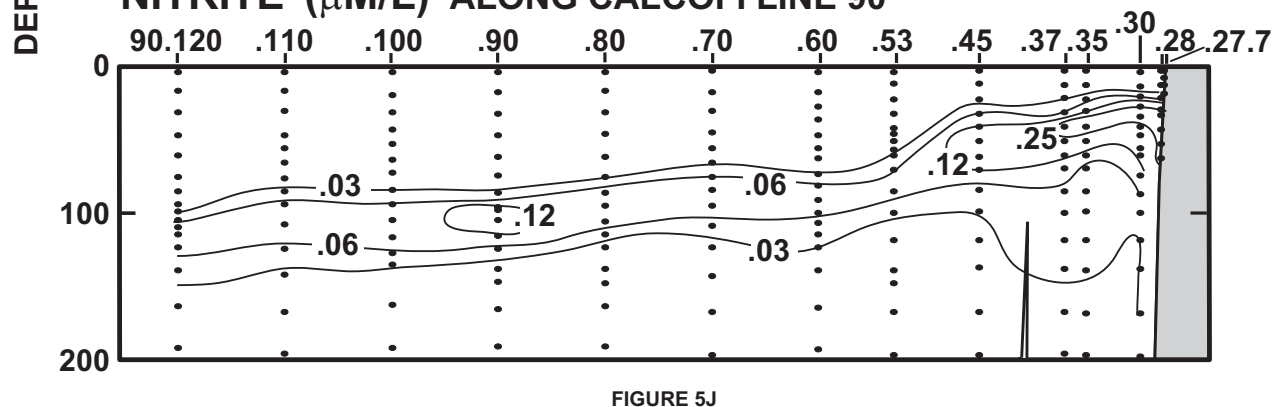
# CALCOFI CRUISE 0504NH

19 - 22 April 2005

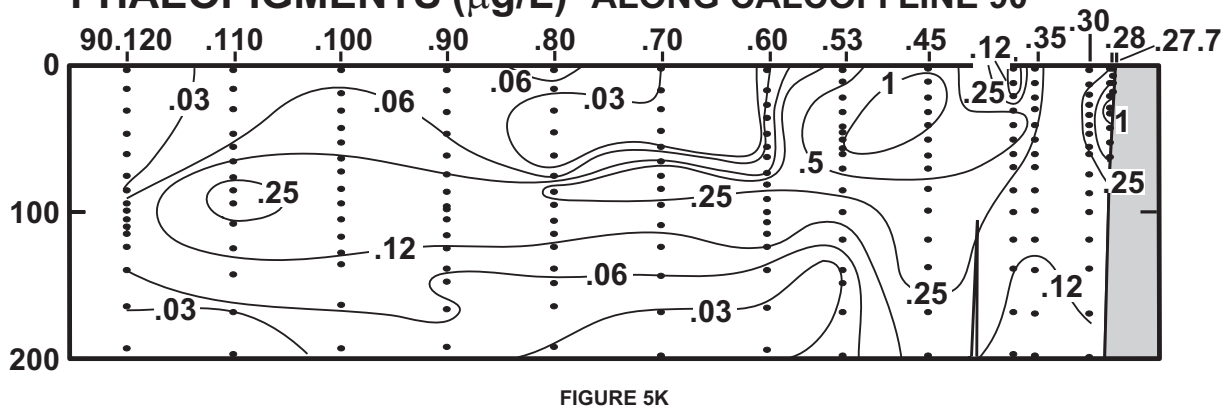
## OXYGEN (mL/L) ALONG CALCOFI LINE 90



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



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



## 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.<br>(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          | TEMP       | POT TEMP  | SALINITY | SIGMA               | SVA    | DYN HT | OXYGEN | OXY       | SI03 | P04       | N03    | N02    | CHL-A  | PHAE0      | PRES | SAMP |  |    |  |
| m              | DEG C      | DEG C     |          | THETA               |        |        | ml/L   | PCT       | uM/L | uM/L      | uM/L   | uM/L   | ug/L   | ug/L       | db   |      |  |    |  |
| 0 ISL          | 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          |  | TEMP       |  | POT TEMP            |  | SALINITY  |  | SIGMA  |  | SVA        |  | DYN HT |  | OXYGEN     |  | OXY       |  | SI03   |  | P04    |  | N03    |  | N02     |  | CHL-A |  | PHAE0 |     | PRES |     | SAMP |  |
| m              |  | DEG C      |  | DEG C               |  |           |  | THETA  |  |            |  |        |  | mL/L       |  | PCT       |  | uM/L   |  | uM/L   |  | uM/L   |  | uM/L    |  | ug/L  |  | ug/L  |     | db   |     |      |  |
| 0 ISL          |  | 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          | TEMP       | POT TEMP  | SALINITY | SIGMA               | SVA    | DYN HT | OXYGEN | OXY   | SI03 | P04       | N03    | N02    | CHL-A  | PHAE0         | PRES | SAMP |  |
| m              | DEG C      | DEG C     |          | THETA               |        |        | ml/L   | PCT   | uM/L | uM/L      | uM/L   | uM/L   | ug/L   | ug/L          | db   |      |  |
| 0 ISL          | 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   | 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  |  |

| 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     | TEMP       | POT TEMP  | SALINITY | SIGMA  | SVA    | DYN HT | OXYGEN | OXY   | SI03 | P04       | N03    | N02    | CHL-A  | PHAE0 | PRES | SAMP |
| m         | DEG C      | DEG C     |          | THETA  |        |        | mL/L   | PCT   | uM/L | uM/L      | uM/L   | uM/L   | ug/L   | ug/L  | db   |      |
| 0 ISL     | 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 | 135.5  | 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  |

| 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     | TEMP       | POT TEMP  | SALINITY | SIGMA  | SVA    | DYN HT | OXYGEN | OXY       | SI03 | P04       | N03    | N02    | CHL-A  | PHAE0 | PRES | SAMP |
| m         | DEG C      | DEG C     |          | THETA  |        |        | mL/L   | PCT       | uM/L | uM/L      | uM/L   | uM/L   | ug/L   | ug/L  | db   |      |
| 0 ISL     | 15.54      | 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          | TEMP       | POT TEMP  | SALINITY |                     | SIGMA  | SVA   | DYN HT | OXYGEN    | OXY   | SI03      | P04    | N03    | N02    | CHL-A      | PHAE0 | PRES | SAMP |    |  |
| m              | DEG C      | DEG C     |          |                     | THETA  |       |        | ml/L      | PCT   | uM/L      | uM/L   | uM/L   | uM/L   | ug/L       | ug/L  | db   |      |    |  |
| 0 ISL          | 15.24      | 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          | TEMP       | POT TEMP  | SALINITY | SIGMA               | SVA    | DYN HT | OXYGEN | OXY   | SI03 | P04       | N03    | N02    | CHL-A  | PHAE0         | PRES | SAMP |  |
| m              | DEG C      | DEG C     |          | THETA               |        |        | mL/L   | PCT   | uM/L | uM/L      | uM/L   | uM/L   | ug/L   | ug/L          | db   |      |  |
| 0 ISL          | 15.18      | 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          | TEMP       | POT TEMP  | SALINITY | SIGMA               | SVA    | DYN HT | OXYGEN | OXY   | SI03 | P04       | N03    | N02    | CHL-A  | PHAE0          | PRES | SAMP |  |
| m              | DEG C      | DEG C     |          | THETA               |        |        | mL/L   | PCT   | uM/L | uM/L      | uM/L   | uM/L   | ug/L   | ug/L           | db   |      |  |
| 0 ISL          | 15.13      | 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          | TEMP       | POT TEMP  | SALINITY | SIGMA               | SVA    | DYN HT | OXYGEN | OXY   | SI03 | P04       | N03    | N02    | CHL-A  | PHAE0             | PRES | SAMP |  |
| m              | DEG C      | DEG C     |          | THETA               |        |        | mL/L   | PCT   | uM/L | uM/L      | uM/L   | uM/L   | ug/L   | ug/L              | db   |      |  |
| 0 ISL          | 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          | TEMP       | POT TEMP  | SALINITY | SIGMA               | SVA    | DYN HT | OXYGEN | OXY   | SI03 | P04       | N03    | N02    | CHL-A  | PHAE0         | PRES | SAMP |  |
| m              | DEG C      | DEG C     |          | THETA               |        |        | mL/L   | PCT   | uM/L | uM/L      | uM/L   | uM/L   | ug/L   | ug/L          | db   |      |  |
| 0 ISL          | 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          | TEMP       | POT TEMP  | SALINITY | SIGMA               | SVA    | DYN HT | OXYGEN | OXY       | SI03 | P04       | N03    | N02    | CHL-A  | PHAE0         | PRES | SAMP |  |
| m              | DEG C      | DEG C     |          | THETA               |        |        | ml/L   | PCT       | uM/L | uM/L      | uM/L   | uM/L   | ug/L   | ug/L          | db   |      |  |
| 0 ISL          | 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          | TEMP      | POT TEMP  | SALINITY | SIGMA               | SVA    | DYN HT | OXYGEN | OXY       | SI03 | P04       | N03    | N02    | CHL-A  | PHAE0         | PRES | SAMP |  |
| m              | DEG C     | DEG C     |          | THETA               |        |        | ml/l   | PCT       | uM/L | uM/L      | uM/L   | uM/L   | ug/l   | ug/l          | db   |      |  |
| 0 ISL          | 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.

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     | TEMP       | POT TEMP  | SALINITY | SIGMA  | SVA    | DYN HT | OXYGEN | OXY       | SI03 | P04       | N03    | N02    | CHL-A  | PHAE0 | PRES | SAMP |
| m         | DEG C      | DEG C     |          | THETA  |        |        | ml/l   | PCT       | uM/L | uM/L      | uM/L   | uM/L   | ug/l   | ug/l  | db   |      |
| 0 ISL     | 14.87      | 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  |

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     | TEMP       | POT TEMP  | SALINITY | SIGMA  | SVA    | DYN HT | OXYGEN | OXY   | SI03 | P04       | N03    | N02    | CHL-A  | PHAE0 | PRES | SAMP |
| m         | DEG C      | DEG C     |          | THETA  |        |        | ml/L   | PCT   | uM/L | uM/L      | uM/L   | uM/L   | ug/L   | ug/L  | db   |      |
| 0 ISL     | 15.26      | 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   | 24.455 | 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          |  | TEMP       |  | POT TEMP  |  | SALINITY  |  | SIGMA               |  | SVA   |  | DYN HT |  | OXYGEN    |  | OXY           |  | SI03      |  | P04    |  | N03    |  | N02    |  | CHL-A   |  | PHAE0 |  | PRES    |  | SAMP |  |
| m              |  | DEG C      |  | DEG C     |  |           |  | THETA               |  |       |  |        |  | ml/L      |  | PCT           |  | uM/L      |  | uM/L   |  | uM/L   |  | uM/L   |  | ug/L    |  | ug/L  |  | db      |  |      |  |
| 0 ISL          |  | 15.10      |  | 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          | TEMP       | POT TEMP  | SALINITY | SIGMA  | SVA    | DYN HT | OXYGEN | OXY       | SI03 | P04                 | N03    | N02    | CHL-A  | PHAE0 | PRES | SAMP |  |  |  |                |  |  |  |
| m              | DEG C      | DEG C     |          | THETA  |        |        | ml/L   | PCT       | uM/L | uM/L                | uM/L   | uM/L   | ug/L   | ug/L  | db   |      |  |  |  |                |  |  |  |
| 0 ISL          | 15.24      | 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          | TEMP       | POT TEMP  | SALINITY | SIGMA  | SVA                 | DYN HT | OXYGEN | OXY   | SI03 | P04       | N03    | N02    | CHL-A  | PHAE0   | PRES              | SAMP |  |  |  |
| m              | DEG C      | DEG C     |          | THETA  |                     |        | ml/l   | PCT   | uM/L | uM/L      | uM/L   | uM/L   | ug/l   | ug/l    | db                |      |  |  |  |
| 0 ISL          | 14.41      | 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          | TEMP      | POT TEMP  | SALINITY | SIGMA               | SVA    | DYN HT | OXYGEN | OXY   | SI03  | P04       | N03    | N02    | CHL-A  | PHAE0         | PRES | SAMP |  |
| m              | DEG C     | DEG C     |          | THETA               |        |        | ml/L   | PCT   | uM/L  | uM/L      | uM/L   | uM/L   | ug/L   | ug/L          | db   |      |  |
| 0 ISL          | 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          | TEMP       | POT TEMP  | SALINITY | SIGMA               | SVA    | DYN HT | OXYGEN | OXY       | SI03 | P04       | N03    | N02    | CHL-A  | PHAE0             | PRES | SAMP |  |
| m              | DEG C      | DEG C     |          | THETA               |        |        | ml/L   | PCT       | uM/L | uM/L      | uM/L   | uM/L   | ug/L   | ug/L              | db   |      |  |
| 0 ISL          | 15.22      | 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          | TEMP       | POT TEMP  | SALINITY | SIGMA               | SVA    | DYN HT | OXYGEN | OXY       | SI03 | P04       | N03    | N02    | CHL-A  | PHAE0           | PRES | SAMP |  |
| m              | DEG C      | DEG C     |          | THETA               |        |        | ml/L   | PCT       | uM/L | uM/L      | uM/L   | uM/L   | ug/L   | ug/L            | db   |      |  |
| 0 ISL          | 14.318     | 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          | TEMP       | POT TEMP  | SALINITY | SIGMA               | SVA    | DYN HT | OXYGEN | OXY       | SI03  | P04       | N03    | N02    | CHL-A  | PHAE0         | PRES | SAMP    |  |
| m              | DEG C      | DEG C     |          | THETA               |        |        | ml/L   | PCT       | uM/L  | uM/L      | uM/L   | uM/L   | ug/L   | ug/L          | db   |         |  |
| 0              | ISL        | 14.27     | 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          | TEMP      | POT TEMP  | SALINITY |                     | SIGMA  | SVA   | DYN HT | OXYGEN    | OXY  | SI03      | P04    | N03    | N02    | CHL-A         | PHAE0 | PRES | SAMP |
| m              | DEG C     | DEG C     |          |                     | THETA  |       |        | ml/L      | PCT  | uM/L      | uM/L   | uM/L   | uM/L   | ug/L          | ug/L  | db   |      |
| 0              | ISL       | 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          | TEMP       | POT TEMP  | SALINITY | SIGMA               | SVA    | DYN HT | OXYGEN | OXY   | SI03  | P04       | N03    | N02    | CHL-A  | PHAE0         | PRES | SAMP    |  |
| m              | DEG C      | DEG C     |          | THETA               |        |        | ml/L   | PCT   | uM/L  | uM/L      | uM/L   | uM/L   | ug/L   | ug/L          | db   |         |  |
| 0              | ISL        | 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 |  |

| 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     | TEMP       | POT TEMP  | SALINITY | SIGMA  | SVA    | DYN HT | OXYGEN | OXYPCT | SI03 | P04       | N03    | N02    | CHL-A  | PHAE0 | PRES | SAMP |
| m         | DEG C      | DEG C     |          | THETA  |        |        | mL/L   |        | uM/L | uM/L      | uM/L   | uM/L   | ug/L   | ug/L  | db   |      |
| 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   | 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  |

| 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     | TEMP       | POT TEMP  | SALINITY | SIGMA  | SVA    | DYN HT | OXYGEN | OXYPCT    | SI03 | P04       | N03    | N02    | CHL-A  | PHAE0 | PRES | SAMP |
| m         | DEG C      | DEG C     |          | THETA  |        |        | mL/L   |           | uM/L | uM/L      | uM/L   | uM/L   | ug/L   | ug/L  | db   |      |
| 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          |  | TEMP      |  | POT TEMP            |  | SALINITY  |  | SIGMA  |  | SVA   |  | DYN HT |  | OXYGEN        |  | OXY   |  | SI03      |  | P04    |  | N03    |  | N02    |  | CHL-A   |  | PHAE0 |  | PRES |  | SAMP |  |
| m              |  | DEG C     |  | DEG C               |  |           |  | THETA  |  |       |  |        |  | mL/L          |  | PCT   |  | uM/L      |  | uM/L   |  | uM/L   |  | uM/L   |  | ug/L    |  | ug/L  |  | db   |  |      |  |
| 0 ISL          |  | 14.15     |  | 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          | TEMP       | POT TEMP  | SALINITY | SIGMA               | SVA    | DYN HT | OXYGEN | OXY   | SI03 | P04       | N03    | N02    | CHL-A  | PHAE0         | PRES | SAMP |  |
| m              | DEG C      | DEG C     |          | THETA               |        |        | mL/L   | PCT   | uM/L | uM/L      | uM/L   | uM/L   | ug/L   | ug/L          | db   |      |  |
| 0 ISL          | 15.00      | 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   | 0.25          | 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          | TEMP       | POT TEMP  | SALINITY | SIGMA               | SVA    | DYN HT | OXYGEN | OXY   | SI03 | P04       | N03    | N02    | CHL-A  | PHAE0          | PRES | SAMP |  |
| m              | DEG C      | DEG C     |          | THETA               |        |        | mL/L   | PCT   | uM/L | uM/L      | uM/L   | uM/L   | ug/L   | ug/L           | db   |      |  |
| 0 ISL          | 15.01      | 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          | TEMP       | POT TEMP  | SALINITY | SIGMA               | SVA    | DYN HT | OXYGEN | OXY       | SI03 | P04       | N03    | N02    | CHL-A  | PHAE0          | PRES | SAMP |  |
| m              | DEG C      | DEG C     |          | THETA               |        |        | mL/L   | PCT       | uM/L | uM/L      | uM/L   | uM/L   | ug/L   | ug/L           | db   |      |  |
| 0 ISL          | 14.90      | 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 |  |
|----------------|--|
|----------------|--|

|                |       |            |          |           |       |           |        |        |      |                     |      |       |       |       |      |           |  |        |  |                   |  |        |  |              |  |
|----------------|-------|------------|----------|-----------|-------|-----------|--------|--------|------|---------------------|------|-------|-------|-------|------|-----------|--|--------|--|-------------------|--|--------|--|--------------|--|
| 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          | TEMP  | POT TEMP   | SALINITY | SIGMA     | SVA   | DYN HT    | OXYGEN | OXY    | SI03 | P04                 | N03  | N02   | CHL-A | PHAE0 | PRES | SAMP      |  |        |  |                   |  |        |  |              |  |
| m              | DEG C | DEG C      |          | THETA     |       |           | mL/L   | PCT    | uM/L | uM/L                | uM/L | uM/L  | ug/L  | ug/L  | db   |           |  |        |  |                   |  |        |  |              |  |
| 0 ISL          | 15.55 | 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          | TEMP  | POT TEMP   | SALINITY | SIGMA     | SVA   | DYN HT    | OXYGEN | OXY    | SI03 | P04                 | N03  | N02   | CHL-A | PHAE0 | PRES | SAMP      |  |        |  |               |  |        |  |              |  |
| m              | DEG C | DEG C      |          | THETA     |       |           | mL/L   | PCT    | uM/L | uM/L                | uM/L | uM/L  | ug/L  | ug/L  | db   |           |  |        |  |               |  |        |  |              |  |
| 0 ISL          | 15.43 | 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          | TEMP  | POT TEMP   | SALINITY | SIGMA     | SVA   | DYN HT    | OXYGEN | OXY    | SI03 | P04                 | N03  | N02   | CHL-A | PHAE0 | PRES | SAMP      |  |        |  |               |  |        |  |              |  |
| m              | DEG C | DEG C      |          | THETA     |       |           | mL/L   | PCT    | uM/L | uM/L                | uM/L | uM/L  | ug/L  | ug/L  | db   |           |  |        |  |               |  |        |  |              |  |
| 0 ISL          | 14.91 | 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          | TEMP       | POT TEMP  | SALINITY | SIGMA               | SVA    | DYN HT | OXYGEN | OXY       | SI03  | P04       | N03    | N02    | CHL-A  | PHAE0         | PRES | SAMP |  |
| m              | DEG C      | DEG C     |          | THETA               |        |        | ml/L   | PCT       | uM/L  | uM/L      | uM/L   | uM/L   | ug/L   | ug/L          | db   |      |  |
| 0 ISL          | 14.70      | 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          | TEMP       | POT TEMP  | SALINITY | SIGMA               | SVA    | DYN HT | OXYGEN | OXY       | SI03 | P04       | N03    | N02    | CHL-A  | PHAE0         | PRES | SAMP |  |
| m              | DEG C      | DEG C     |          | THETA               |        |        | ml/L   | PCT       | uM/L | uM/L      | uM/L   | uM/L   | ug/L   | ug/L          | db   |      |  |
| 0 ISL          | 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          | TEMP       | POT TEMP  | SALINITY | SIGMA               | SVA    | DYN HT | OXYGEN | OXY   | SI03 | P04       | N03    | N02    | CHL-A  | PHAE0         | PRES | SAMP |  |
| m              | DEG C      | DEG C     |          | THETA               |        |        | ml/L   | PCT   | uM/L | uM/L      | uM/L   | uM/L   | ug/L   | ug/L          | db   |      |  |
| 0 ISL          | 14.10      | 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          | TEMP      | POT TEMP  | SALINITY | SIGMA               | SVA    | DYN HT | OXYGEN | OXY   | SI03 | P04       | N03    | N02    | CHL-A  | PHAE0         | PRES | SAMP |  |
| m              | DEG C     | DEG C     |          | THETA               |        |        | ml/L   | PCT   | uM/L | uM/L      | uM/L   | uM/L   | ug/L   | ug/L          | db   |      |  |
| 0 ISL          | 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   | 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          | TEMP       | POT TEMP  | SALINITY | SIGMA               | SVA    | DYN HT | OXYGEN | OXY   | SI03 | P04       | N03    | N02    | CHL-A  | PHAE0         | PRES | SAMP |  |
| m              | DEG C      | DEG C     |          | THETA               |        |        | ml/L   | PCT   | uM/L | uM/L      | uM/L   | uM/L   | ug/L   | ug/L          | db   |      |  |
| 0 ISL          | 15.00      | 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          |  | TEMP      |  | POT TEMP  |  | SALINITY  |  | SIGMA  |  | SVA                 |  | DYN HT |  | OXYGEN    |  | OXY   |  | SI03      |  | P04           |  | N03    |  | N02    |  | CHL-A |  | PHAE0 |  | PRES    |  | SAMP |  |
| m              |  | DEG C     |  | DEG C     |  |           |  | THETA  |  |                     |  |        |  | ml/L      |  | PCT   |  | uM/L      |  | uM/L          |  | uM/L   |  | uM/L   |  | ug/L  |  | ug/L  |  | db      |  |      |  |
| 0 ISL          |  | 15.04     |  | 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          | TEMP       | POT TEMP  | SALINITY | SIGMA  | SVA                 | DYN HT | OXYGEN | OXYPCT    | SI03 | P04       | N03    | N02    | CHL-A  | PHAE0 | PRES          | SAMP |
| m              | DEG C      | DEG C     |          | THETA  |                     |        | ml/L   | PCT       | uM/L | uM/L      | uM/L   | uM/L   | ug/L   | ug/L  | db            |      |
| 0 ISL          | 15.73      | 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  |

| 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     | TEMP       | POT TEMP  | SALINITY | SIGMA  | SVA    | DYN HT | OXYGEN | OXY   | SI03 | P04       | N03    | N02    | CHL-A  | PHAE0 | PRES | SAMP |
| m         | DEG C      | DEG C     |          | THETA  |        |        | mL/L   | PCT   | uM/L | uM/L      | uM/L   | uM/L   | ug/L   | ug/L  | db   |      |
| 0 ISL     | 15.81      | 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   | 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  |

| 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     | TEMP      | POT TEMP  | SALINITY | SIGMA  | SVA    | DYN HT | OXYGEN | OXY   | SI03 | P04       | N03    | N02    | CHL-A  | PHAE0 | PRES | SAMP |
| m         | DEG C     | DEG C     |          | THETA  |        |        | mL/L   | PCT   | uM/L | uM/L      | uM/L   | uM/L   | ug/L   | ug/L  | db   |      |
| 0 ISL     | 15.64     | 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          | TEMP       | POT TEMP  | SALINITY | SIGMA  | SVA                 | DYN HT | OXYGEN | OXY       | SI03 | P04       | N03    | N02    | CHL-A  | PHAE0 | PRES           | SAMP |  |  |  |
| m              | DEG C      | DEG C     |          | THETA  |                     |        | mL/L   | PCT       | uM/L | uM/L      | uM/L   | uM/L   | ug/L   | ug/L  | db             |      |  |  |  |
| 0 ISL          | 15.76      | 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          | TEMP      | POT TEMP  | SALINITY | SIGMA  | SVA                 | DYN HT | OXYGEN | OXY       | SI03 | P04       | N03    | N02    | CHL-A  | PHAE0 | PRES              | SAMP |  |  |  |
| m              | DEG C     | DEG C     |          | THETA  |                     |        | ml/L   | PCT       | uM/L | uM/L      | uM/L   | uM/L   | ug/L   | ug/L  | db                |      |  |  |  |
| 0 ISL          | 15.85     | 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          | TEMP       | POT TEMP  | SALINITY | SIGMA  | SVA                 | DYN HT | OXYGEN | OXY       | SI03 | P04       | N03    | N02    | CHL-A  | PHAE0 | PRES              | SAMP |  |  |  |
| m              | DEG C      | DEG C     |          | THETA  |                     |        | ml/L   | PCT       | uM/L | uM/L      | uM/L   | uM/L   | ug/L   | ug/L  | db                |      |  |  |  |
| 0 ISL          | 17.23      | 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          | TEMP       | POT TEMP  | SALINITY | SIGMA  | SVA                 | DYN HT | OXYGEN | OXY       | SI03 | P04       | N03    | N02    | CHL-A  | PHAE0 | PRES          | SAMP |  |  |  |
| m              | DEG C      | DEG C     |          | THETA  |                     |        | ml/L   | PCT       | uM/L | uM/L      | uM/L   | uM/L   | ug/L   | ug/L  | db            |      |  |  |  |
| 0 ISL          | 16.78      | 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          | TEMP       | POT TEMP  | SALINITY | SIGMA  | SVA                 | DYN HT | OXYGEN | OXY       | SI03 | P04       | N03    | N02    | CHL-A  | PHAE0   | PRES SAMP     |  |  |  |  |
| m              | DEG C      | DEG C     |          | THETA  |                     |        | mL/L   | PCT       | uM/L | uM/L      | uM/L   | uM/L   | ug/L   | ug/L    | db            |  |  |  |  |
| 0 ISL          | 15.69      | 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          | TEMP       | POT TEMP  | SALINITY | SIGMA               | SVA    | DYN HT | OXYGEN | OXY       | SI03 | P04       | N03    | N02    | CHL-A  | PHAE0      | PRES SAMP |    |  |
| m              | DEG C      | DEG C     |          | THETA               |        |        | mL/L   | PCT       | uM/L | uM/L      | uM/L   | uM/L   | ug/L   | ug/L       | db        |    |  |
| 0 ISL          | 15.22      | 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          | TEMP       | POT TEMP  | SALINITY | SIGMA               | SVA    | DYN HT | OXYGEN | OXY   | SI03 | P04       | N03    | N02    | CHL-A  | PHAE0         | PRES | SAMP |  |
| m              | DEG C      | DEG C     |          | THETA               |        |        | mL/L   | PCT   | uM/L | uM/L      | uM/L   | uM/L   | ug/L   | ug/L          | db   |      |  |
| 0 ISL          | 15.39      | 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          | TEMP       | POT TEMP  | SALINITY | SIGMA               | SVA    | DYN HT | OXYGEN | OXY   | SI03 | P04       | N03    | N02    | CHL-A  | PHAE0         | PRES | SAMP |  |
| m              | DEG C      | DEG C     |          | THETA               |        |        | mL/L   | PCT   | uM/L | uM/L      | uM/L   | uM/L   | ug/L   | ug/L          | db   |      |  |
| 0 ISL          | 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          | TEMP  | POT TEMP   | SALINITY | SIGMA     | SVA                 | DYN HT | OXYGEN | OXY   | SI03  | P04       | N03  | N02       | CHL-A  | PHAE0  | PRES          | SAMP |     |      |  |
| m              | DEG C | DEG C      |          | THETA     |                     |        | ml/L   | PCT   | uM/L  | uM/L      | uM/L | uM/L      | ug/L   | ug/L   | db            |      |     |      |  |
| 0 ISL          | 14.51 | 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          | TEMP       | POT TEMP  | SALINITY | SIGMA  | SVA                 | DYN HT | OXYGEN | OXY       | SI03 | P04       | N03    | N02    | CHL-A  | PHAE0 | PRES          | SAMP |  |  |
| m              | DEG C      | DEG C     |          | THETA  |                     |        | ml/L   | PCT       | uM/L | uM/L      | uM/L   | uM/L   | ug/L   | ug/L  | db            |      |  |  |
| 0 ISL          | 14.96      | 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   | 0.06  | 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  |  |  |

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| 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    | TEMP  | POT TEMP   | SALINITY  | SIGMA  | SVA   | DYN HT | OXYGEN | OXY   | SI03  | P04  | N03       | N02    | CHL-A  | PHAE0  | PRES         | SAMP |  |
| m        | DEG C | DEG C      |           | THETA  |       |        | ml/L   | PCT   | uM/L  | uM/L | uM/L      | uM/L   | ug/L   | ug/L   | db           |      |  |
| 0 ISL    | 15.04 | 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  | 2.42 | 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  |  |

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     | TEMP       | POT TEMP  | SALINITY | SIGMA  | SVA    | DYN HT | OXYGEN | OXY   | SI03 | P04       | N03    | N02    | CHL-A  | PHAE0 | PRES | SAMP |
| m         | DEG C      | DEG C     |          | THETA  |        |        | ml/L   | PCT   | uM/L | uM/L      | uM/L   | uM/L   | ug/L   | ug/L  | db   |      |
| 0 ISL     | 15.25      | 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          | TEMP       | POT TEMP  | SALINITY | SIGMA               | SVA    | DYN HT | OXYGEN | OXY       | SI03 | P04       | N03    | N02    | CHL-A  | PHAE0         | PRES | SAMP |  |
| m              | DEG C      | DEG C     |          | THETA               |        |        | ml/L   | PCT       | uM/L | uM/L      | uM/L   | uM/L   | ug/L   | ug/L          | db   |      |  |
| 0 ISL          | 15.08      | 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          | TEMP       | POT TEMP  | SALINITY | SIGMA  | SVA                 | DYN HT | OXYGEN | OXY       | SI03 | P04       | N03    | N02    | CHL-A          | PHAE0 | PRES | SAMP |
| m              | DEG C      | DEG C     |          | THETA  |                     |        | mL/L   | PCT       | uM/L | uM/L      | uM/L   | uM/L   | ug/L           | ug/L  | db   |      |
| 0 ISL          | 15.74      | 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.

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     | TEMP  | POT TEMP   | SALINITY  | SIGMA  | SVA   | DYN HT | OXYGEN | OXY   | SI03  | P04  | N03       | N02    | CHL-A  | PHAE0  | PRES         | SAMP |
| m         | DEG C | DEG C      |           | THETA  |       |        | ml/L   | PCT   | uM/L  | uM/L | uM/L      | uM/L   | ug/L   | ug/L   | db           |      |
| 0 ISL     | 15.18 | 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  |

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     |     | TEMP       | POT TEMP  | SALINITY | SIGMA  | SVA    | DYN HT | OXYGEN | OXY       | SI03 | P04       | N03    | N02    | CHL-A  | PHAEO | PRES | SAMP |
| m         |     | DEG C      | DEG C     |          | THETA  |        |        | ml/l   | PCT       | uM/L | uM/L      | uM/L   | uM/L   | ug/l   | ug/l  | db   |      |
| 0         | ISL | 16.08      | 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          | TEMP       | POT TEMP  | SALINITY  | SIGMA               | SVA        | DYN HT    | OXYGEN | OXY       | SI03   | P04    | N03    | N02     | CHL-A | PHAE0             | PRES | SAMP |  |
| m              | DEG C      | DEG C     |           | THETA               |            |           | mL/L   | PCT       | uM/L   | uM/L   | uM/L   | uM/L    | ug/l  | ug/l              | db   |      |  |
| 0 ISL          | 15.30      | 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          | TEMP       | POT TEMP  | SALINITY  | SIGMA               | SVA        | DYN HT    | OXYGEN | OXY       | SI03   | P04    | N03    | N02     | CHL-A | PHAE0             | PRES | SAMP |  |
| m              | DEG C      | DEG C     |           | THETA               |            |           | mL/L   | PCT       | uM/L   | uM/L   | uM/L   | uM/L    | ug/l  | ug/l              | db   |      |  |
| 0 ISL          | 15.40      | 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          | TEMP       | POT TEMP  | SALINITY  | SIGMA               | SVA        | DYN HT    | OXYGEN | OXY       | SI03   | P04    | N03    | N02     | CHL-A  | PHAE0           | PRES | SAMP |  |
| m              | DEG C      | DEG C     |           | THETA               |            |           | mL/L   | PCT       | uM/L   | uM/L   | uM/L   | uM/L    | ug/l   | ug/l            | db   |      |  |
| 0 ISL          | 15.54      | 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          | TEMP  | POT TEMP   | SALINITY | SIGMA     | SVA   | DYN HT    | OXYGEN | OXY                 | SI03 | P04   | N03       | N02  | CHL-A         | PHAE0     | PRES          | SAMP |        |         |      |
| m              | DEG C | DEG C      |          | THETA     |       |           | ml/L   | PCT                 | uM/L | uM/L  | uM/L      | uM/L | ug/L          | ug/L      | db            |      |        |         |      |
| 0 ISL          | 16.51 | 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          | 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          | TEMP  | POT TEMP   | SALINITY  | SIGMA  | SVA                 | DYN HT | OXYGEN | OXY   | SI03  | P04           | N03       | N02    | CHL-A  | PHAE0  | PRES    | SAMP |
| m              | DEG C | DEG C      |           | THETA  |                     |        | mL/L   | PCT   | uM/L  | uM/L          | uM/L      | uM/L   | ug/L   | ug/L   | db      |      |
| 0 ISL          | 15.44 | 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  |

| 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     | TEMP       | POT TEMP  | SALINITY | SIGMA  | SVA    | DYN HT | OXYGEN | OXY   | SI03 | P04       | N03    | N02    | CHL-A  | PHAE0 | PRES | SAMP |
| m         | DEG C      | DEG C     |          | THETA  |        |        | mL/L   | PCT   | uM/L | uM/L      | uM/L   | uM/L   | ug/L   | ug/L  | db   |      |
| 0 ISL     | 16.34      | 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  |

| 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     | TEMP       | POT TEMP  | SALINITY | SIGMA  | SVA    | DYN HT | OXYGEN | OXY       | SI03 | P04       | N03    | N02    | CHL-A  | PHAE0 | PRES | SAMP |
| m         | DEG C      | DEG C     |          | THETA  |        |        | mL/L   | PCT       | uM/L | uM/L      | uM/L   | uM/L   | ug/L   | ug/L  | db   |      |
| 0 ISL     | 15.90      | 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          | TEMP       | POT TEMP  | SALINITY | SIGMA               | SVA    | DYN HT | OXYGEN | OXY       | SI03 | P04       | N03    | N02    | CHL-A  | PHAE0         | PRES | SAMP |  |
| m              | DEG C      | DEG C     |          | THETA               |        |        | mL/L   | PCT       | uM/L | uM/L      | uM/L   | uM/L   | ug/L   | ug/L          | db   |      |  |
| 0 ISL          | 15.24      | 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          | TEMP       | POT TEMP  | SALINITY | SIGMA               | SVA    | DYN HT | OXYGEN | OXY       | SI03 | P04       | N03    | N02    | CHL-A  | PHAE0         | PRES | SAMP |  |
| m              | DEG C      | DEG C     |          | THETA               |        |        | ml/L   | PCT       | uM/L | uM/L      | uM/L   | uM/L   | ug/L   | ug/L          | db   |      |  |
| 0 ISL          | 15.77      | 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  |  |

| 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    | TEMP       | POT TEMP  | SALINITY | SIGMA  | SVA    | DYN HT | OXYGEN | OXY       | SI03 | P04       | N03    | N02    | CHL-A  | PHAE0   | PRES | SAMP |
| m        | DEG C      | DEG C     |          | THETA  |        |        | mL/L   | PCT       | uM/L | uM/L      | uM/L   | uM/L   | ug/L   | ug/L    | db   |      |
| 0 ISL    | 14.81      | 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  |

| 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     | TEMP       | POT TEMP  | SALINITY | SIGMA  | SVA    | DYN HT | OXYGEN | OXY   | SI03 | P04       | N03    | N02    | CHL-A  | PHAE0 | PRES | SAMP |
| m         | DEG C      | DEG C     |          | THETA  |        |        | mL/L   | PCT   | uM/L | uM/L      | uM/L   | uM/L   | ug/L   | ug/L  | db   |      |
| 0 ISL     | 15.61      | 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          |  | TEMP       |  | POT TEMP            |  | SALINITY  |  | SIGMA  |  | SVA        |  | DYN HT |  | OXYGEN        |  | OXY       |  | SI03   |  | P04    |  | N03    |  | N02     |  | CHL-A |  | PHAE0 |  | PRES    |  | SAMP |  |
| m              |  | DEG C      |  | DEG C               |  |           |  | THETA  |  |            |  |        |  | mL/L          |  | PCT       |  | uM/L   |  | uM/L   |  | uM/L   |  | uM/L    |  | ug/L  |  | ug/L  |  | db      |  |      |  |
| 0 ISL          |  | 15.62      |  | 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          | TEMP       | POT TEMP  | SALINITY  | SIGMA               | SVA        | DYN HT    | OXYGEN | OXY       | SI03   | P04    | N03    | N02     | CHL-A | PHAE0         | PRES | SAMP |  |
| m              | DEG C      | DEG C     |           | THETA               |            |           | mL/L   | PCT       | uM/L   | uM/L   | uM/L   | uM/L    | ug/L  | ug/L          | db   |      |  |
| 0 ISL          | 14.84      | 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  |  |

| 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          | TEMP  | POT TEMP   | SALINITY | SIGMA     | SVA                 | DYN HT | OXYGEN | OXY   | SI03  | P04       | N03  | N02       | CHL-A  | PHAE0  | PRES          | SAMP |     |      |
| m              | DEG C | DEG C      |          | THETA     |                     |        | ml/l   | PCT   | uM/L  | uM/L      | uM/L | uM/L      | ug/L   | ug/L   | db            |      |     |      |
| 0 ISL          | 15.37 | 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   | 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          |  | TEMP       |  | POT TEMP  |  | SALINITY  |  | SIGMA  |  | SVA                 |  | DYN HT |  | OXYGEN |  | OXY   |  | SI03      |  | P04            |  | N03    |  | N02    |  | CHL-A   |  | PHAE0 |  | PRES |  | SAMP |  |
| m              |  | DEG C      |  | DEG C     |  |           |  | THETA  |  |                     |  |        |  | mL/L   |  | PCT   |  | uM/L      |  | uM/L           |  | uM/L   |  | uM/L   |  | ug/L    |  | ug/L  |  | db   |  |      |  |
| 0 ISL          |  | 16.30      |  | 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          | TEMP       | POT TEMP  | SALINITY | SIGMA               | SVA    | DYN HT | OXYGEN | OXY       | SI03 | P04       | N03    | N02    | CHL-A  | PHAE0          | PRES | SAMP |  |
| m              | DEG C      | DEG C     |          | THETA               |        |        | mL/L   | PCT       | uM/L | uM/L      | uM/L   | uM/L   | ug/L   | ug/L           | db   |      |  |
| 0 ISL          | 16.16      | 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          | TEMP       | POT TEMP  | SALINITY | SIGMA               | SVA    | DYN HT | OXYGEN | OXY       | SI03 | P04       | N03    | N02    | CHL-A  | PHAE0          | PRES | SAMP |  |
| m              | DEG C      | DEG C     |          | THETA               |        |        | ml/L   | PCT       | uM/L | uM/L      | uM/L   | uM/L   | ug/L   | ug/L           | db   |      |  |
| 0 ISL          | 16.71      | 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          | TEMP  | SALINITY   | SIGMA  | OXYGEN    | OXY   | SI03                | P04  | N03    | N02   | CHL-A           | PHAE0 | LIGHT    | UPTAKE (mg C/m3) |      |                  |      |  |
| m              | DEG C |            | THETA  | ml/L      | PCT   | uM/L                | uM/L | uM/L   | uM/L  | ug/L            | ug/L  | PCT      | 1                | 2    | MEAN             | DARK |  |
| 1              | 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          | TEMP  | SALINITY   | SIGMA  | OXYGEN    | OXY   | SI03                | P04  | N03    | N02   | CHL-A           | PHAE0 | LIGHT    | UPTAKE (mg C/m3) |      |                  |      |  |
| m              | DEG C |            | THETA  | ml/L      | PCT   | uM/L                | uM/L | uM/L   | uM/L  | ug/L            | ug/L  | PCT      | 1                | 2    | MEAN             | DARK |  |
| 2              | 13.94 | 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          | TEMP  | SALINITY   | SIGMA  | OXYGEN    | OXY   | SI03                | P04  | N03    | N02   | CHL-A           | PHAE0 | LIGHT    | UPTAKE (mg C/m3) |      |                  |      |  |
| m              | DEG C |            | THETA  | ml/L      | PCT   | uM/L                | uM/L | uM/L   | uM/L  | ug/L            | ug/L  | PCT      | 1                | 2    | MEAN             | DARK |  |
| 2              | 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          | TEMP  | SALINITY   | SIGMA  | OXYGEN    | OXY   | SI03                | P04  | N03    | N02   | CHL-A           | PHAE0 | LIGHT    | UPTAKE (mg C/m3) |      |                  |      |  |
| m              | DEG C |            | THETA  | ml/L      | PCT   | uM/L                | uM/L | uM/L   | uM/L  | ug/L            | ug/L  | PCT      | 1                | 2    | MEAN             | DARK |  |
| 1              | 14.27 | 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 |  |

## 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          |  | TEMP       |  | SALINITY  |  | SIGMA               |  | OXYGEN |  | OXY   |  | SI03            |  | P04      |  | N03            |  | N02              |  | CHL-A |  | PHAE0 |  | LIGHT      |  | UPTAKE (mg C/m3) |  |
| m              |  | DEG C      |  |           |  | THETA               |  | mL/L   |  | PCT   |  | uM/L            |  | uM/L     |  | uM/L           |  | uM/L             |  | ug/L  |  | ug/L  |  | PCT        |  | 1 2 MEAN DARK    |  |
| 2              |  | 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/m <sup>2</sup> |      |      |  |
| DEPTH          | TEMP  | SALINITY   | SIGMA  | OXYGEN    | OXY       | SI03                | P04   | N03             | N02  | CHL-A           | PHAE0    | LIGHT          | UPTAKE (mg C/m <sup>3</sup> ) |                           |      |      |  |
| m              | DEG C |            | THETA  | ml/L      | PCT       | uM/L                | uM/L  | uM/L            | uM/L | ug/L            | ug/L     | PCT            | 1                             | 2                         | MEAN | DARK |  |
| 2              | 14.90 | 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          | TEMP  | SALINITY   | SIGMA  | OXYGEN    | OXY   | SI03                | P04  | N03    | N02   | CHL-A           | PHAE0 | LIGHT    | UPTAKE (mg C/m3) |       |                  |      |      |  |
|                |       |            |        |           |       |                     |      |        |       |                 |       |          | PCT              | 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          | TEMP  | SALINITY   | SIGMA  | OXYGEN    | OXY   | SI03                | P04  | N03    | N02   | CHL-A           | PHAE0 | LIGHT    | UPTAKE (mg C/m3) |      |                  |      |      |
|                |       |            |        |           |       |                     |      |        |       |                 |       |          | PCT              | 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 | TEMP  | SALINITY | SIGMA  | OXYGEN | OXY   | SI03 | P04  | N03  | N02  | CHL-A | PHAE0 | LIGHT | UPTAKE (mg C/m3) |      |      |      |
|-------|-------|----------|--------|--------|-------|------|------|------|------|-------|-------|-------|------------------|------|------|------|
| m     | DEG C |          | THETA  | ml/L   | PCT   | uM/L | uM/L | uM/L | uM/L | ug/L  | ug/L  | PCT   | 1                | 2    | MEAN | DARK |
| 2     | 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 | TEMP  | SALINITY | SIGMA  | OXYGEN | OXY   | SI03 | P04  | N03  | N02  | CHL-A | PHAE0 | LIGHT | UPTAKE (mg C/m3) |      |      |      |
|-------|-------|----------|--------|--------|-------|------|------|------|------|-------|-------|-------|------------------|------|------|------|
| m     | DEG C |          | THETA  | ml/L   | PCT   | uM/L | uM/L | uM/L | uM/L | ug/L  | ug/L  | PCT   | 1                | 2    | MEAN | DARK |
| 2     | 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 | TEMP  | SALINITY | SIGMA  | OXYGEN | OXY   | SI03 | P04  | N03  | N02  | CHL-A | PHAE0 | LIGHT | UPTAKE (mg C/m3) |      |      |      |
|-------|-------|----------|--------|--------|-------|------|------|------|------|-------|-------|-------|------------------|------|------|------|
| m     | DEG C |          | THETA  | ml/L   | PCT   | uM/L | uM/L | uM/L | uM/L | ug/L  | ug/L  | PCT   | 1                | 2    | MEAN | DARK |
| 2     | 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 | TEMP  | SALINITY | SIGMA  | OXYGEN | OXY   | SI03 | P04  | N03  | N02  | CHL-A | PHAE0 | LIGHT | UPTAKE (mg C/m3) |      |      |      |
|-------|-------|----------|--------|--------|-------|------|------|------|------|-------|-------|-------|------------------|------|------|------|
| m     | DEG C |          | THETA  | ml/L   | PCT   | uM/L | uM/L | uM/L | uM/L | ug/L  | ug/L  | PCT   | 1                | 2    | MEAN | DARK |
| 1     | 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          | TEMP  | SALINITY   | SIGMA  | OXYGEN    | OXY   | SI03                | P04  | N03    | N02   | CHL-A           | PHAE0 | LIGHT    | UPTAKE (mg C/m3) |      |                  |      |  |
| m              | DEG C |            | THETA  | ml/L      | PCT   | uM/L                | uM/L | uM/L   | uM/L  | ug/L            | ug/L  | PCT      | 1                | 2    | MEAN             | DARK |  |
| 2              | 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          | TEMP  | SALINITY   | SIGMA  | OXYGEN    | OXY   | SI03                | P04  | N03    | N02   | CHL-A           | PHAE0 | LIGHT    | UPTAKE (mg C/m3) |      |                  |      |  |
| m              | DEG C |            | THETA  | ml/L      | PCT   | uM/L                | uM/L | uM/L   | uM/L  | ug/L            | ug/L  | PCT      | 1                | 2    | MEAN             | DARK |  |
| 2              | 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          | TEMP  | SALINITY   | SIGMA  | OXYGEN    | OXY   | SI03                | P04  | N03    | N02   | CHL-A           | PHAE0 | LIGHT    | UPTAKE (mg C/m3) |      |                  |      |  |
| m              | DEG C |            | THETA  | ml/L      | PCT   | uM/L                | uM/L | uM/L   | uM/L  | ug/L            | ug/L  | PCT      | 1                | 2    | MEAN             | DARK |  |
| 2              | 16.71 | 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.

## CalCOFI Cruise 0504JD and 0504NH

## MACROZOOPLANKTON BIOMASS

Net Mesh Size: 0.505mm

| Line | Sta.  | Latitude N | Longitude W | Date<br>Mo/Day | Time (PST) |      | Water Volume<br>Strained (m <sup>3</sup> ) | Max. Tow<br>Depth (m) | Volume per<br>1000 m <sup>3</sup> Strained |                          |
|------|-------|------------|-------------|----------------|------------|------|--------------------------------------------|-----------------------|--------------------------------------------|--------------------------|
|      |       |            |             |                | Start      | End  |                                            |                       | Total (cm <sup>3</sup> )                   | Small (cm <sup>3</sup> ) |
| 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  |

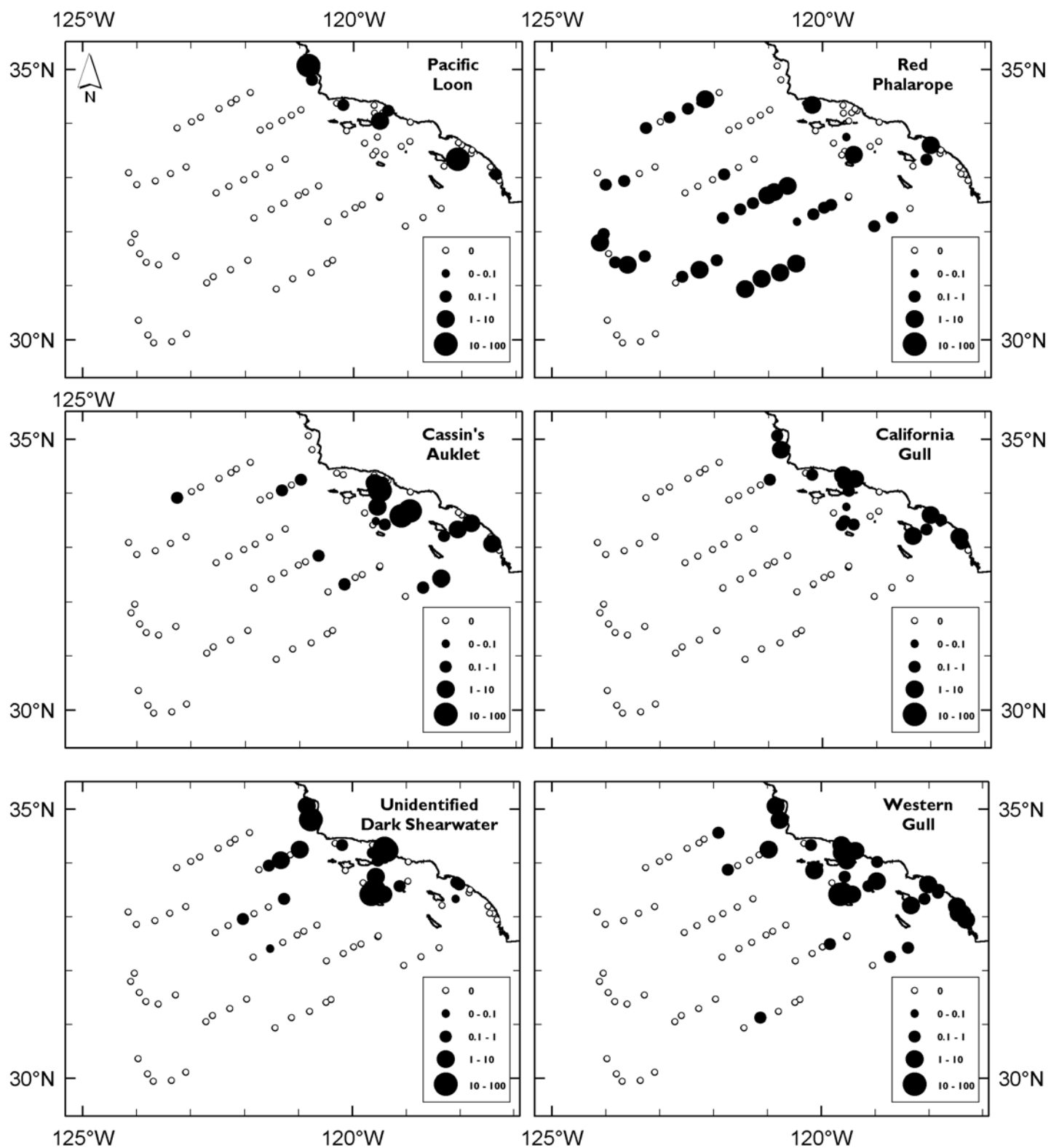
## FIGURES

### 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

