UNIVERSITY OF CALIFORNIA, SAN DIEGO SCRIPPS INSTITUTION OF OCEANOGRAPHY

data report

CalCOFI Cruise 0911
6 – 23 November 2009

CC Reference 10-04
30 September 2010

UNIVERSITY OF CALIFORNIA, SAN DIEGO

SCRIPPS INSTITUTION OF OCEANOGRAPHY

LA JOLLA, CALIFORNIA 92093-0227

PHYSICAL, CHEMICAL AND BIOLOGICAL DATA

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INTRODUCTION

The data presented in this report were collected during cruise 0911* 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 P150. Salinity values were calculated using the algorithms for the Practical Salinity Scale, 1978 (UNESCO, 1981a) and are reported to three decimal places, provided that accepted standards were met.

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

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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 acid washed and rinsed with sample three times prior to filling. Daily standardizations and drift corrections were accomplished by running freshly prepared mid-range standards at the beginning and end of each group of samples. Samples not analyzed immediately after collection were refrigerated and run the following day. In addition to daily standardizations, periodic full calibrations were performed with sets of six different concentration standards.

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

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

Primary Productivity Sampling

Primary productivity samples were taken each day shortly before local apparent noon (LAN). Primary production was estimated from ^{14}C uptake using a simulated *in situ* technique. Light penetration was estimated from the Secchi depth (assuming that the 1% light level is three times the Secchi depth). The depths with ambient light intensities corresponding to light levels simulated by the on-deck incubators were identified and sampled on the rosette up-cast. Occasionally an extra bottle or two were tripped in addition to the usual 20 levels sampled in the combined rosette-productivity cast in order to maintain the normal sampling depth resolution. Triplicate samples (two light and one dark control) were drawn from each productivity sample depth into 250 ml polycarbonate incubation bottles. Samples were inoculated with 43.19 µCi of ^{14}C as $NaHCO_3$ (200 µl of 216 µCi/ml stock) prepared in a 0.3 g/liter solution of sodium carbonate (Fitzwater *et al*., 1982). Samples were incubated from LAN to civil twilight in seawater-cooled incubators with neutral-density screens which simulate *in situ* light levels. At the end of the incubation, the samples were filtered onto Millipore HA filters and placed in scintillation vials. One half ml of 10% HCl was added to each sample. The sample was then allowed to sit, without a cap, at room temperature for 12 hours (after Lean and Burnison, 1979). Following this, 10 ml of scintillation cocktail were added to each sample and the samples were returned to SIO where the radioactivity was determined with a scintillation counter. Salinity, oxygen, nutrients, chlorophyll-*a* and phaeopigments were determined from all rosette productivity bottles.

Macrozooplankton Net Tows

Macrozooplankton was sampled with a 71 cm mouth diameter paired net (bongo net) equipped with 0.505mm plankton mesh. Bottom depth permitting, the nets were towed obliquely from 210 meters to the surface. The tow time for a standard tow was 2 1.5 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).

Ancillary Programs

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

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

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

3) *Underway Sea Surface xCO2*. Continuous measurements of the partial pressure of CO2 were made from the ship's uncontaminated seawater system. The seawater was equilibrated in a membrane contactor with a gas loop that was analyzed with a Licor 6262 infrared CO2/H2O analyzer. One-minute averages were recorded and the mole fraction of CO2 (xCO2) at sea surface temperature was calculated. The system was calibrated with standard gases traceable to CMDL every two hours; at that time absolute zero and atmospheric samples were also collected. (G. Friederich, MBARI)

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

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

6) *Inorganic Carbon System*: The CalCOFI group collected samples for the characterization of the inorganic carbon system at selected locations along the cruise track. Total inorganic carbon and alkalinity will be measured which will allow the calculation of pH and pCO_2. The objectives of these measurements are first the long-term characterization of the inorganic carbon system and its response to changing ocean climate and second measurements of pH in the coastal zone in order to monitor the impact of 'corrosive' waters on benthic ecosystems in the Southern California Bight. (R. Goericke, SIO)

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

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

9) *ALF (Advanced Laser Fluorometer).* Continuous underway analysis of phytoplankton pigment groups and variable fluorescence (F_v/F_m). ALF, developed by A. Chekalyuk at Lamont-Doherty Earth Observatory, uses laser stimulated emission at 405 and 532 nm together with spectral deconvolution analysis to distinguish fluorescence from three types of phycoerythrin, chlorophyll-*a*, and chromophoric dissolved organic matter (CDOM). The ALF is useful for differentiating the contribution of cyanobacteria and cryptophytes from other phytoplankton taxa present in natural phytoplankton assemblages, as well as for assessing phytoplankton photophysiological status.

TABULATED DATA

CTD/Rosette Cast Data

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

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

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

Primary Productivity Data

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

Macrozooplankton Data

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

FOOTNOTES

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

D: CTD salinity value listed in place of normal shipboard salinity analysis.

ISL: After a depth value indicates that this is an interpolated or extrapolated standard level.

U: Uncertain value. Values which are not used in interpolation because they seem to be in error without apparent reason.

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FIGURES

Cruise 0911

1. CalCOFI Cruise 0911 track and station positions.

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

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

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

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

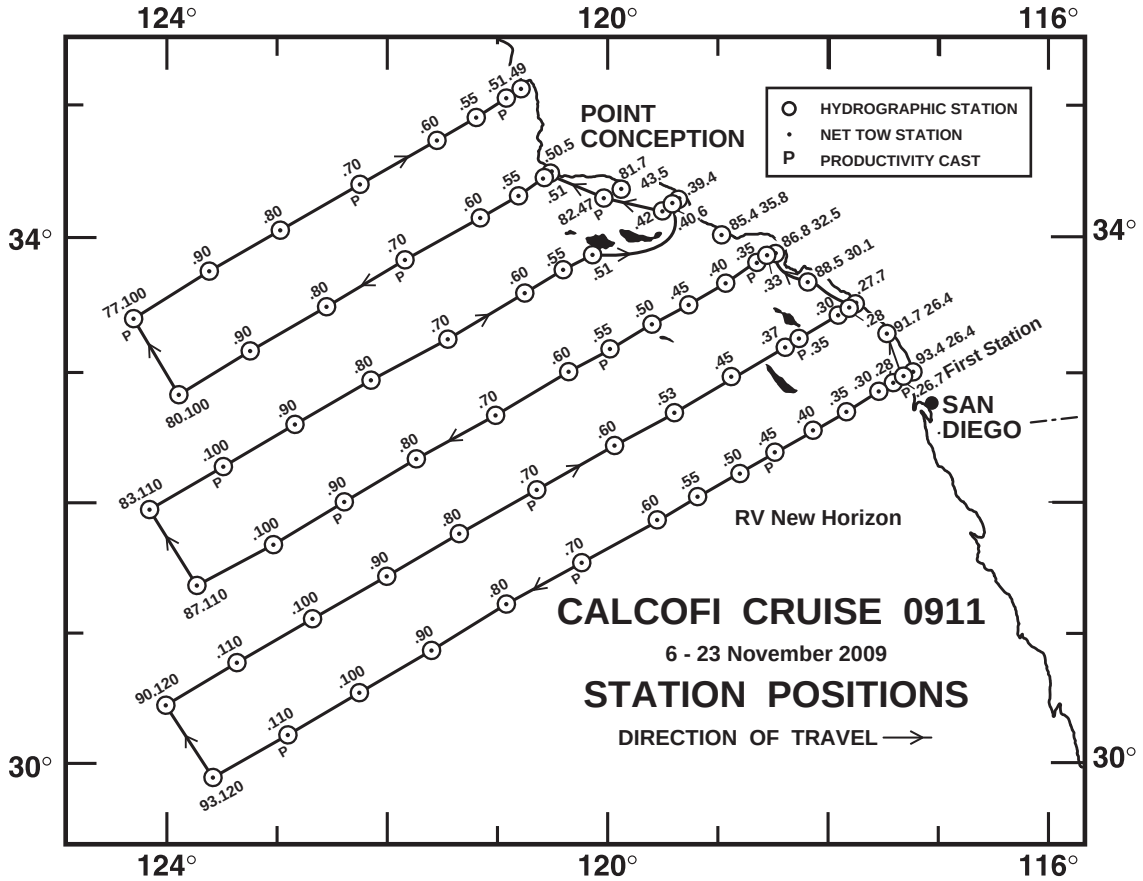


FIGURE 1

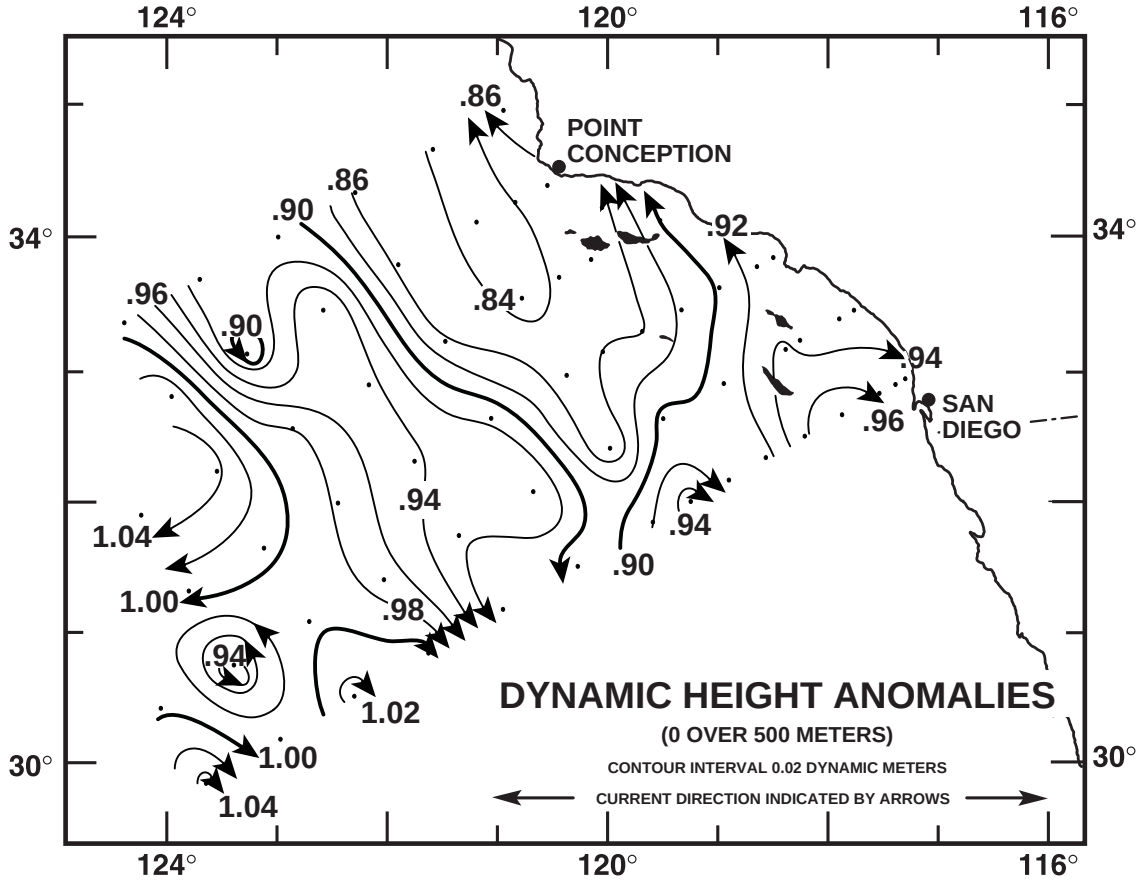


FIGURE 2

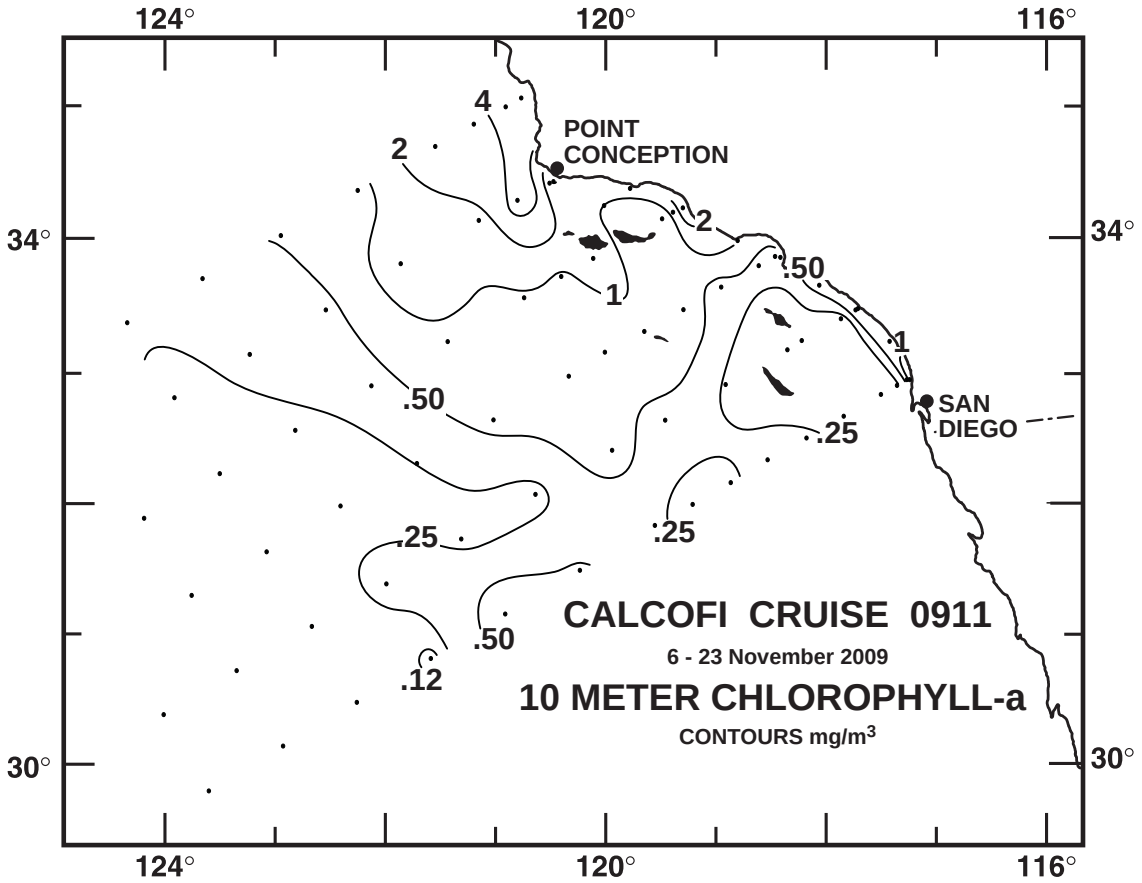
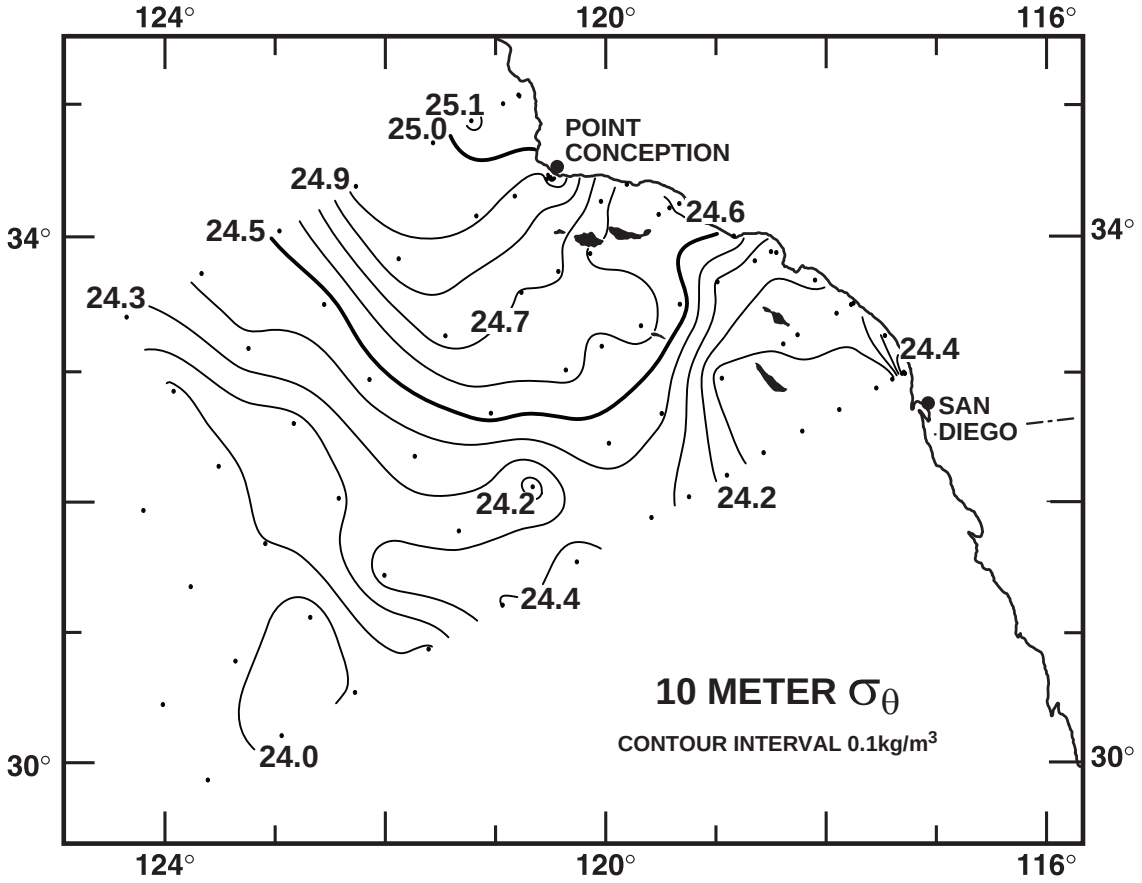


FIGURE 3A



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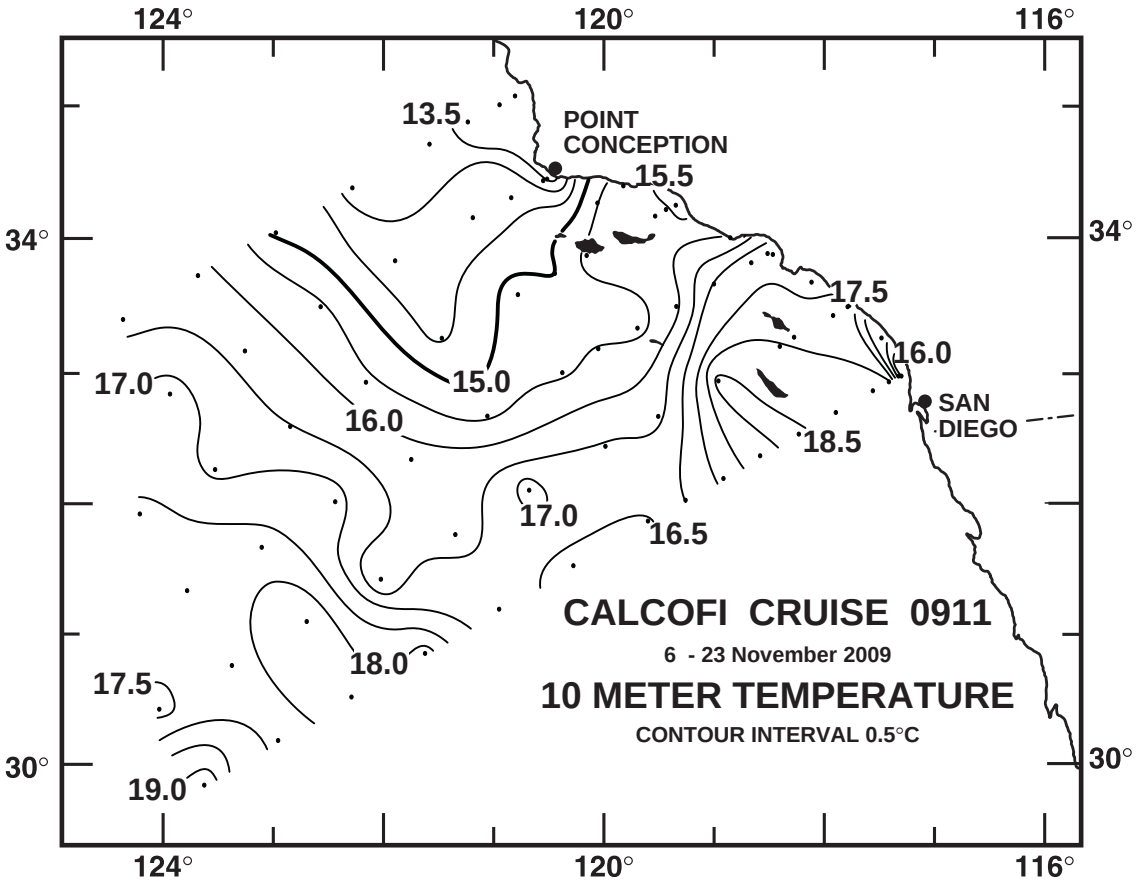

FIGURE 3C

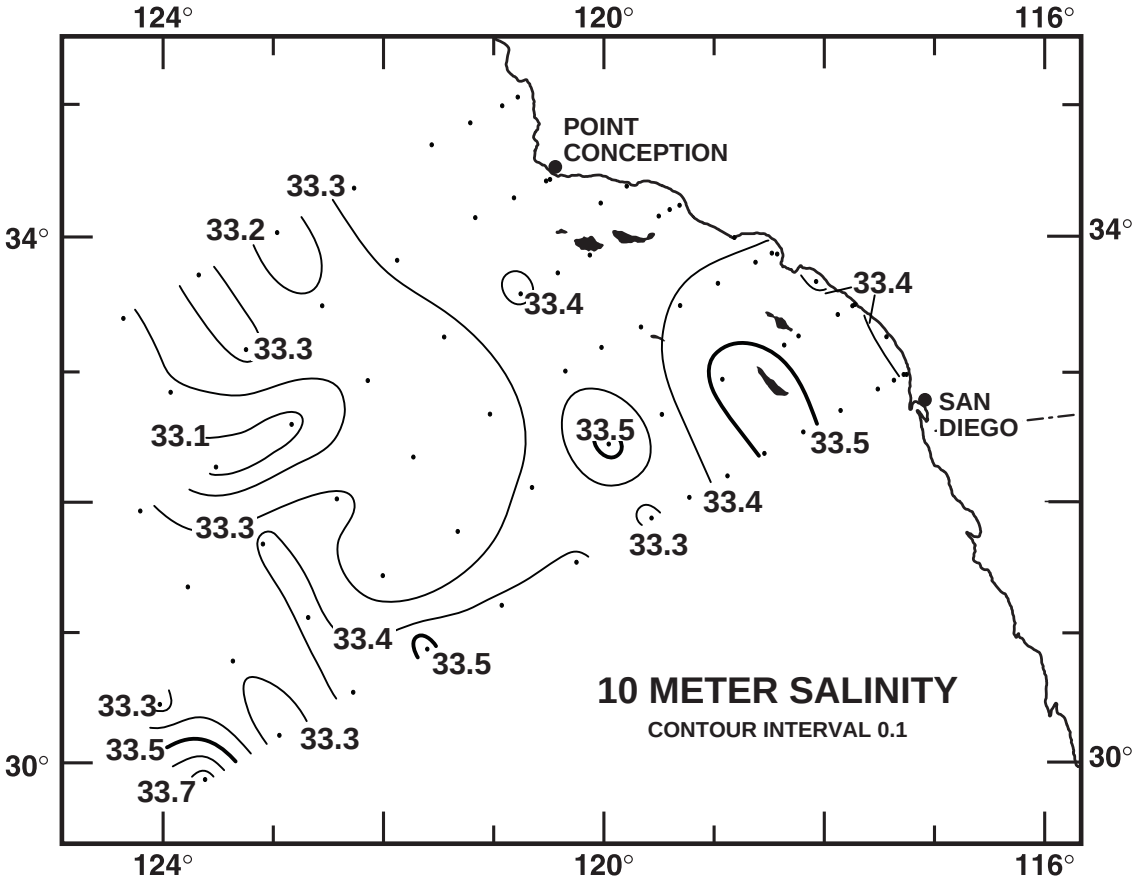

FIGURE 3D

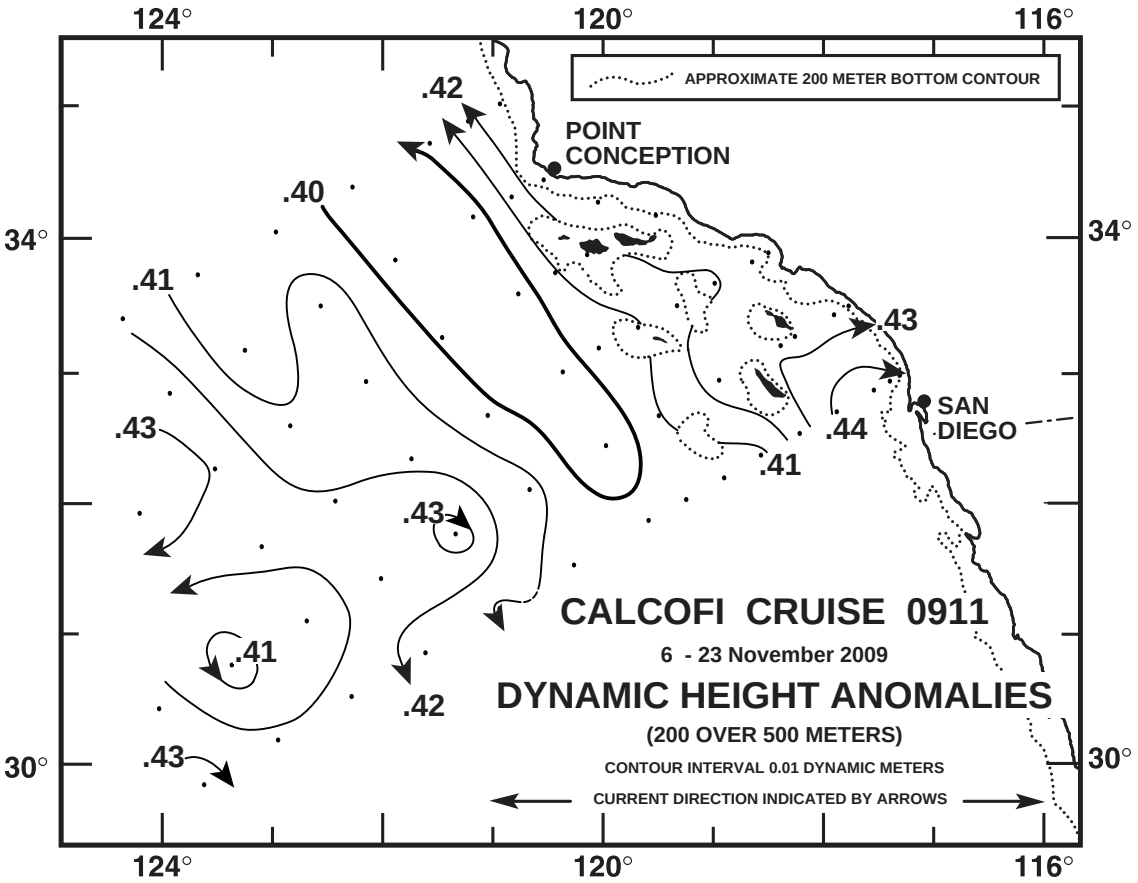

FIGURE 4A

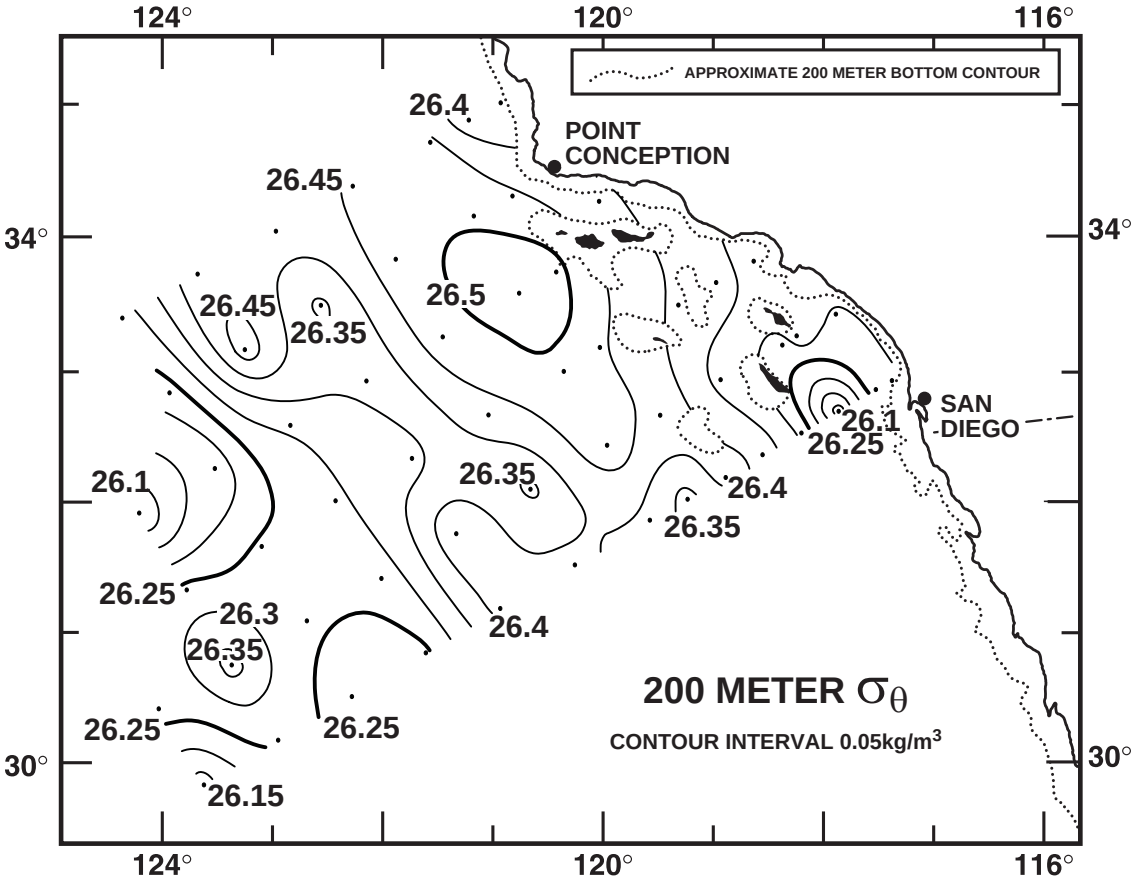

FIGURE 4B

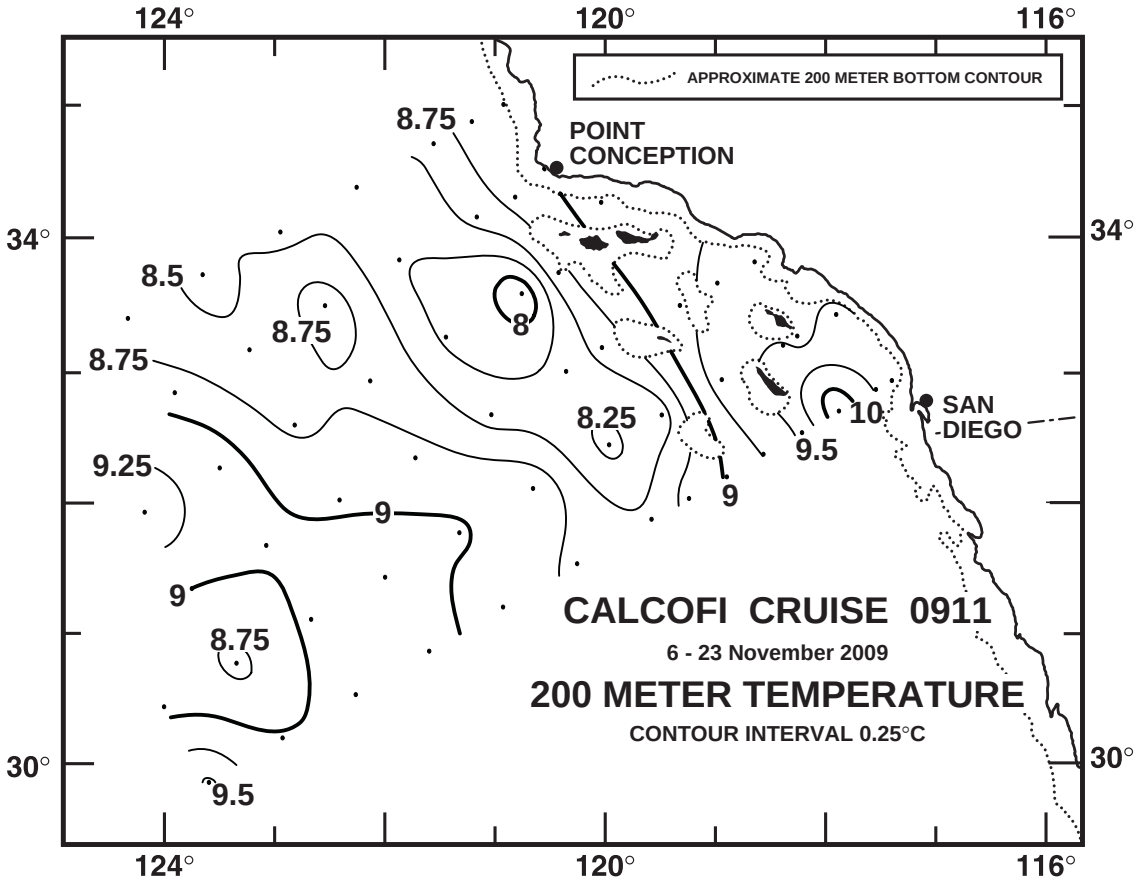

FIGURE 4C

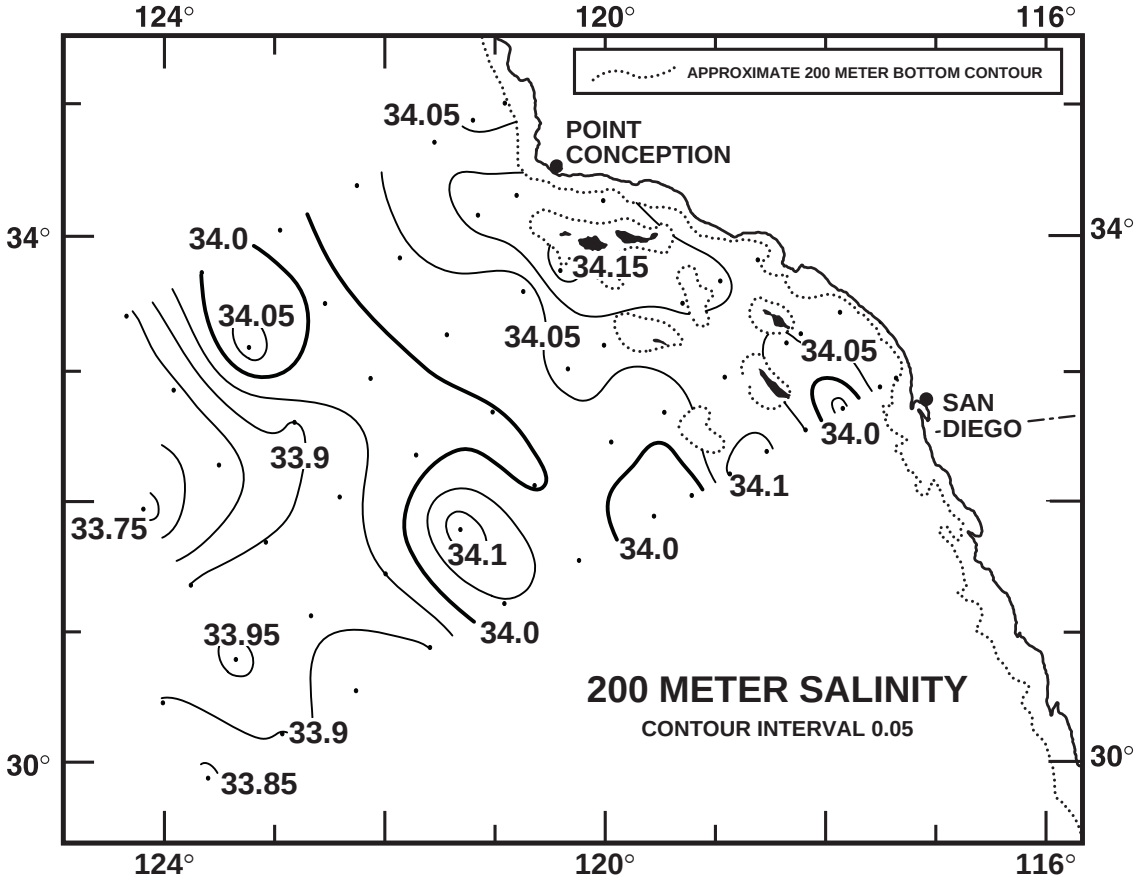

FIGURE 4D

CALCOFI CRUISE 0911

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POTENTIAL DENSITY (σ_θ) ALONG CALCOFI LINE 90

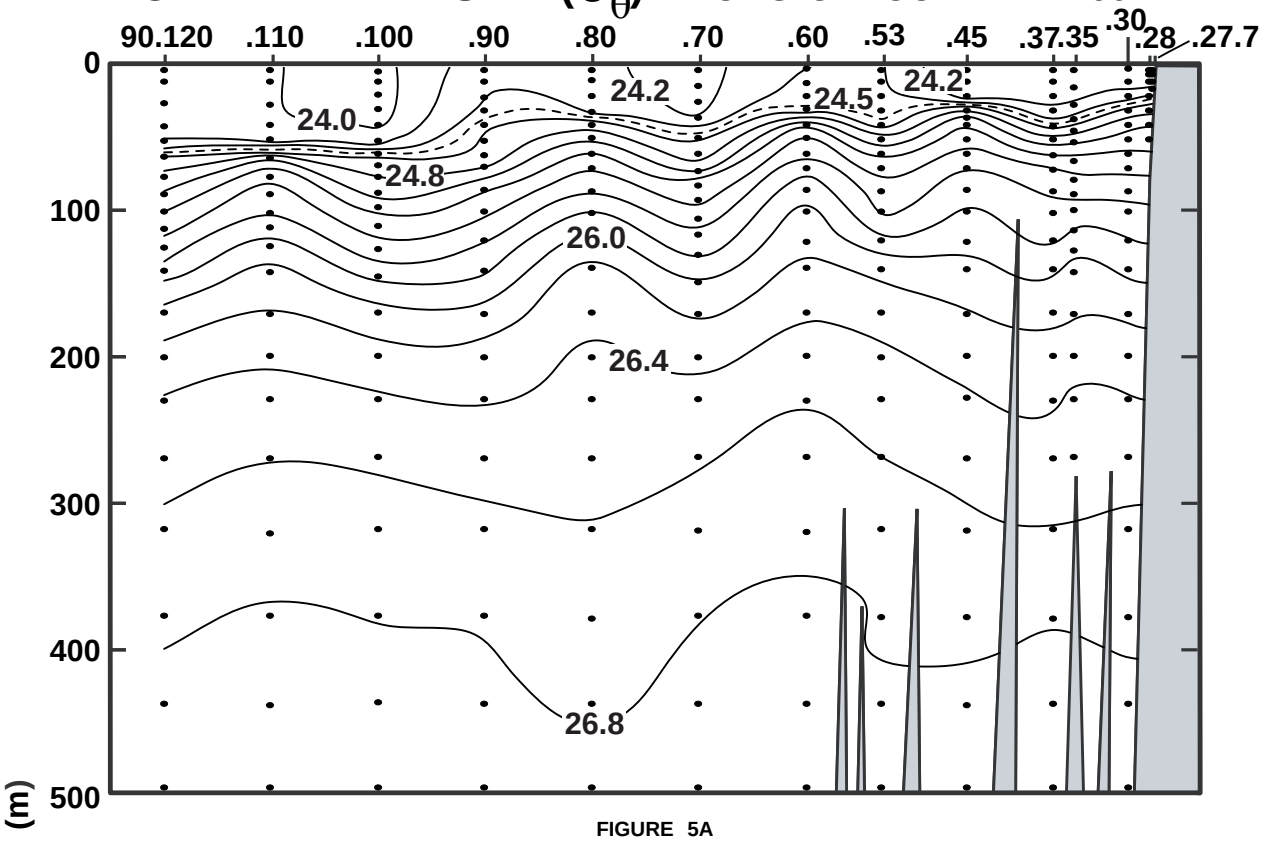

FIGURE 5A

TEMPERATURE (°C) ALONG CALCOFI LINE 90

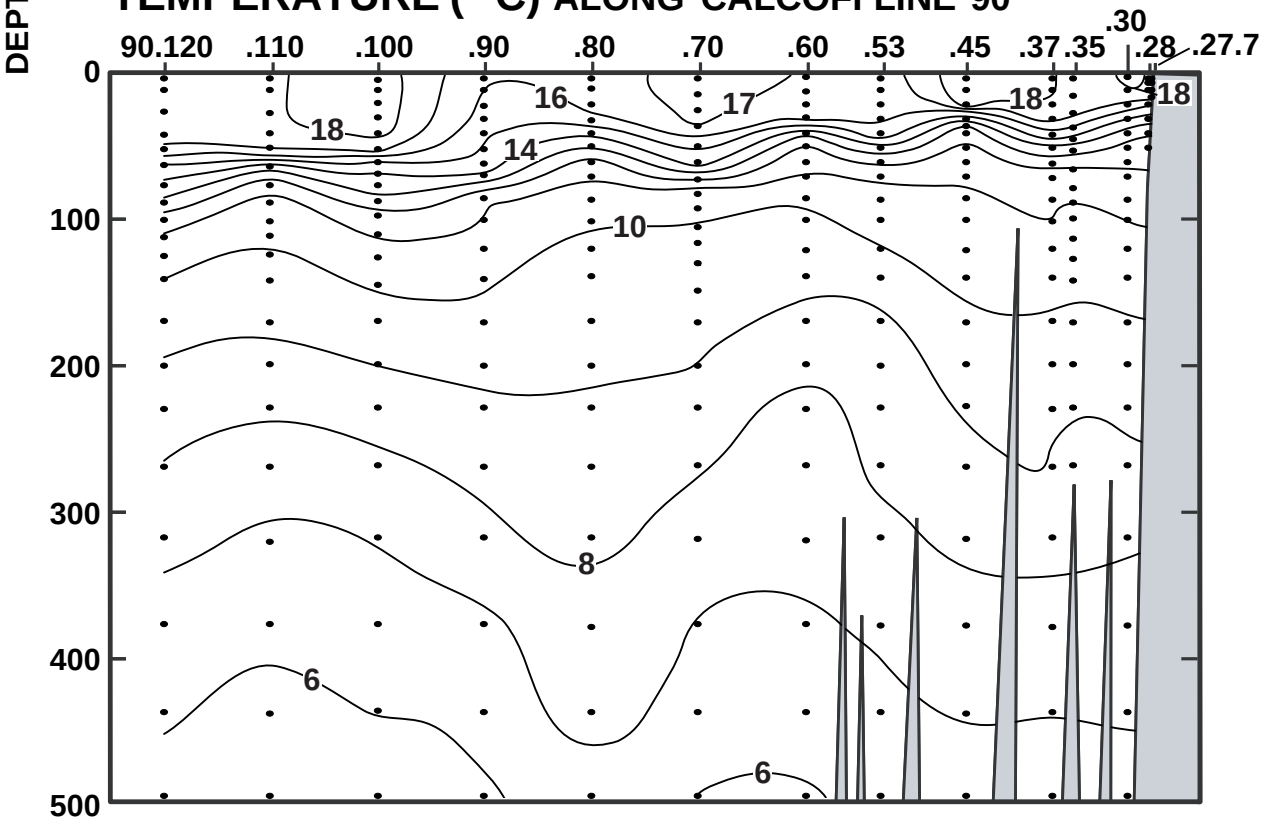

FIGURE 5B

CALCOFI CRUISE 0911

6 - 23 November 2009

SALINITY ALONG CALCOFI LINE 90

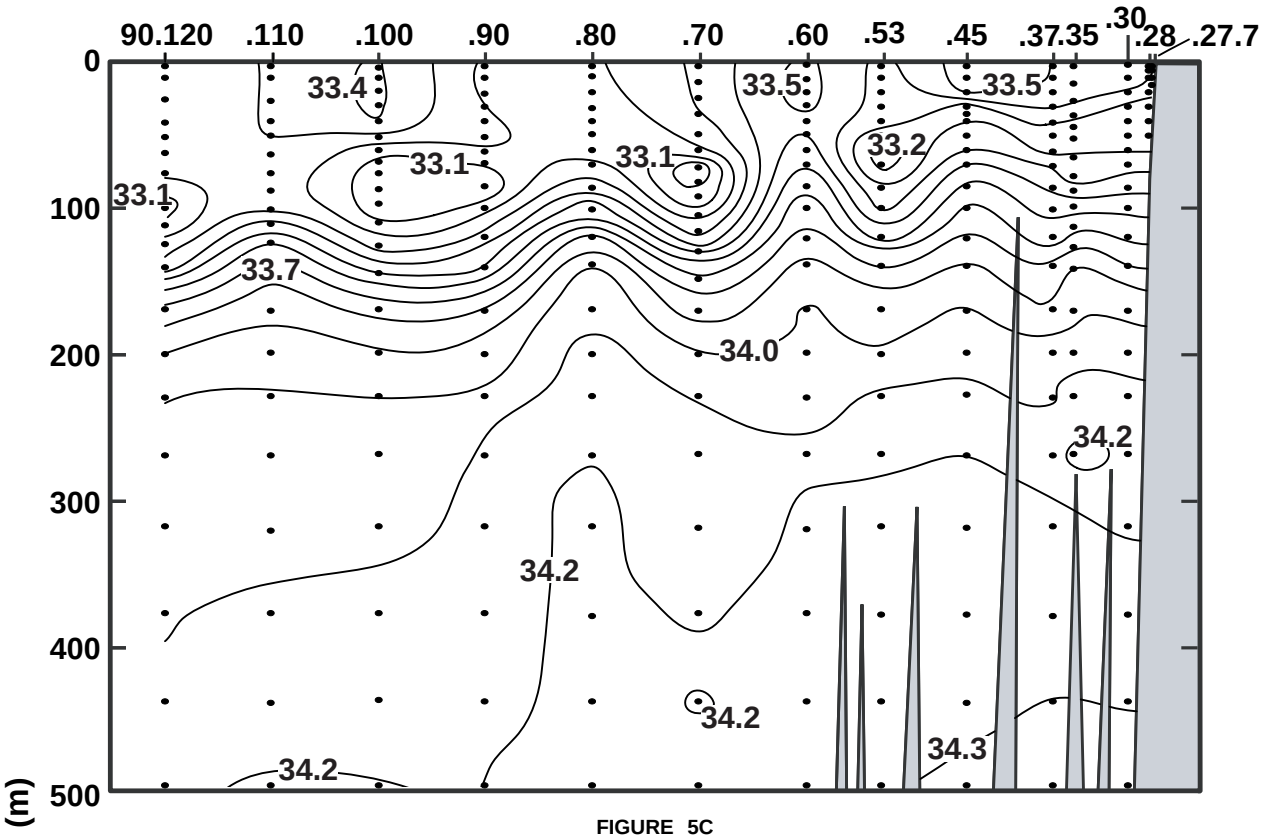

FIGURE 5C

SILICATE (μM/L) ALONG CALCOFI LINE 90

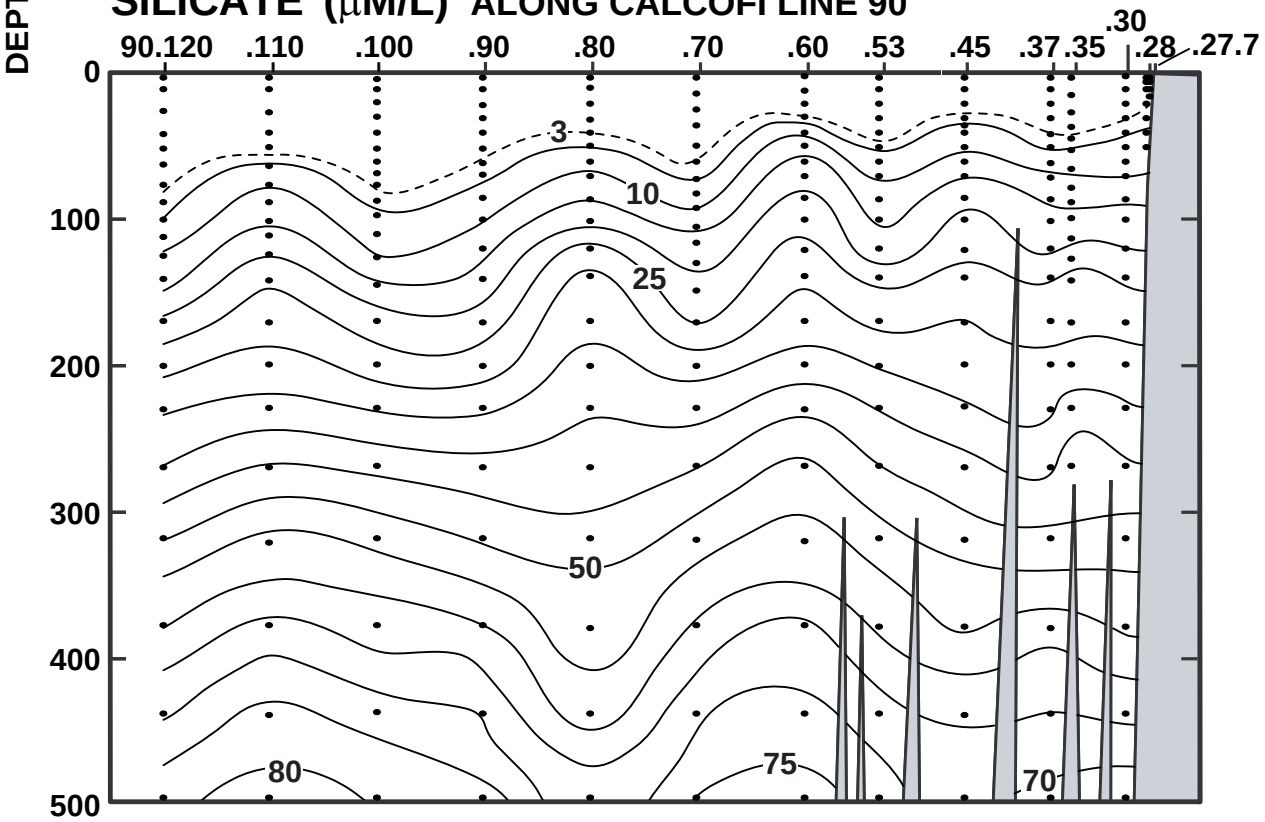

FIGURE 5D

CALCOFI CRUISE 0911

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NITRATE (μM/L) ALONG CALCOFI LINE 90

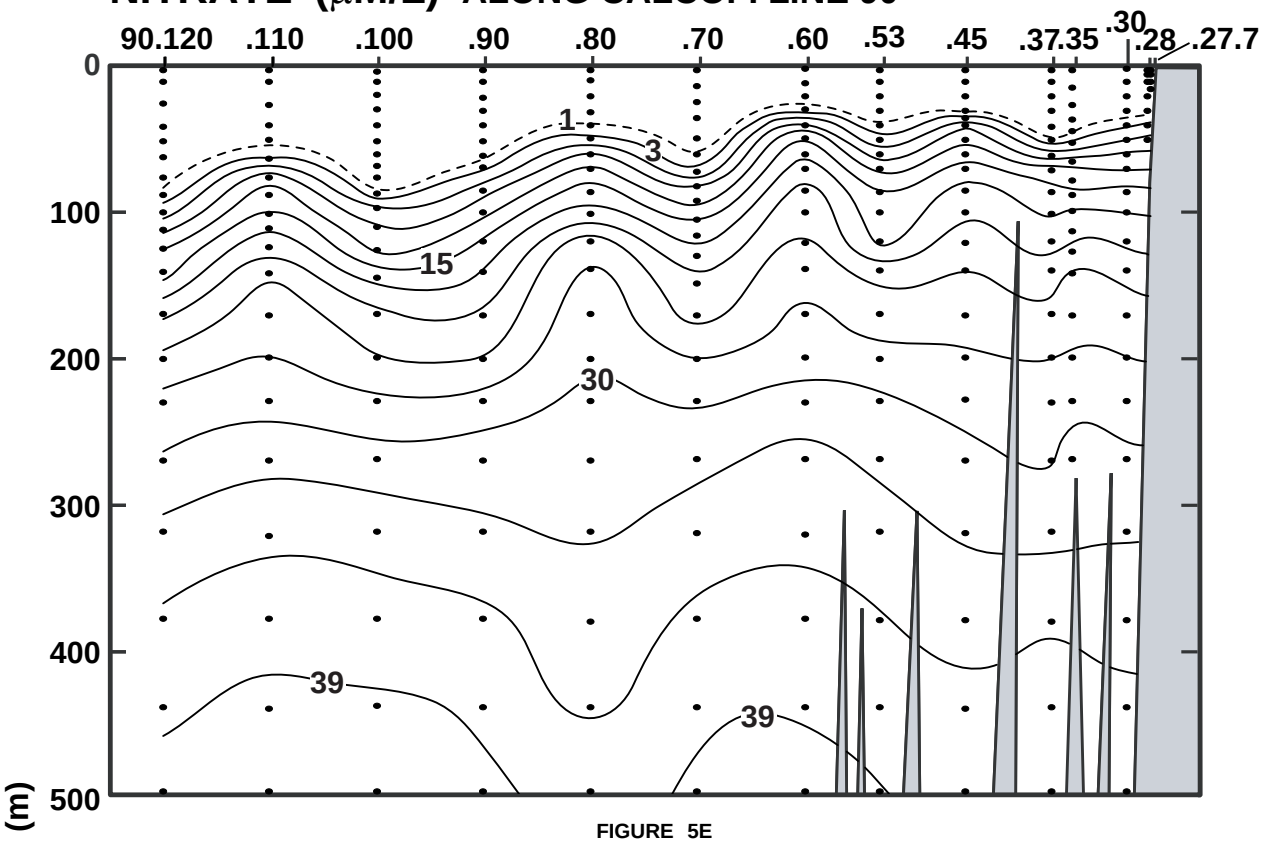

FIGURE 5E

PHOSPHATE (μM/L) ALONG CALCOFI LINE 90

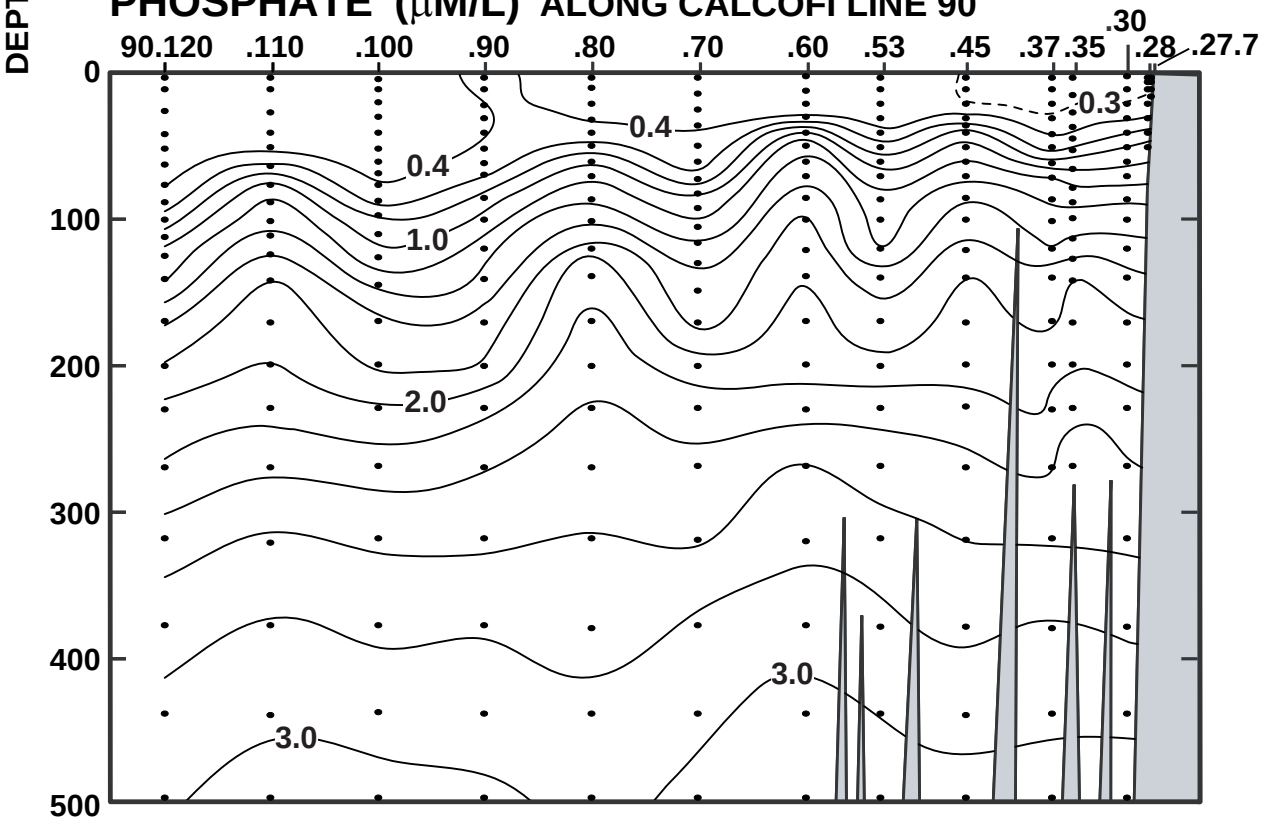

FIGURE 5F

CALCOFI CRUISE 0911

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

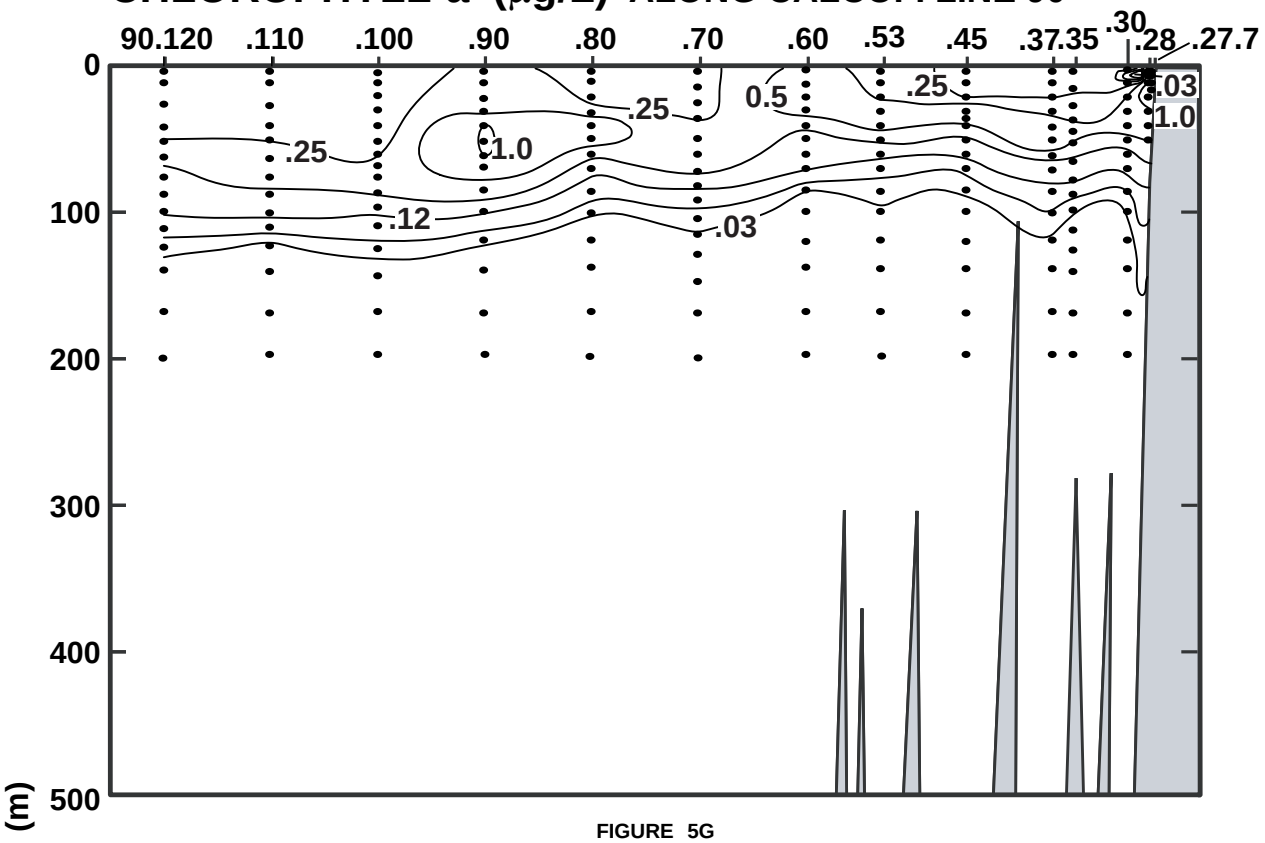

FIGURE 5G

OXYGEN SATURATION (%) ALONG CALCOFI LINE 90

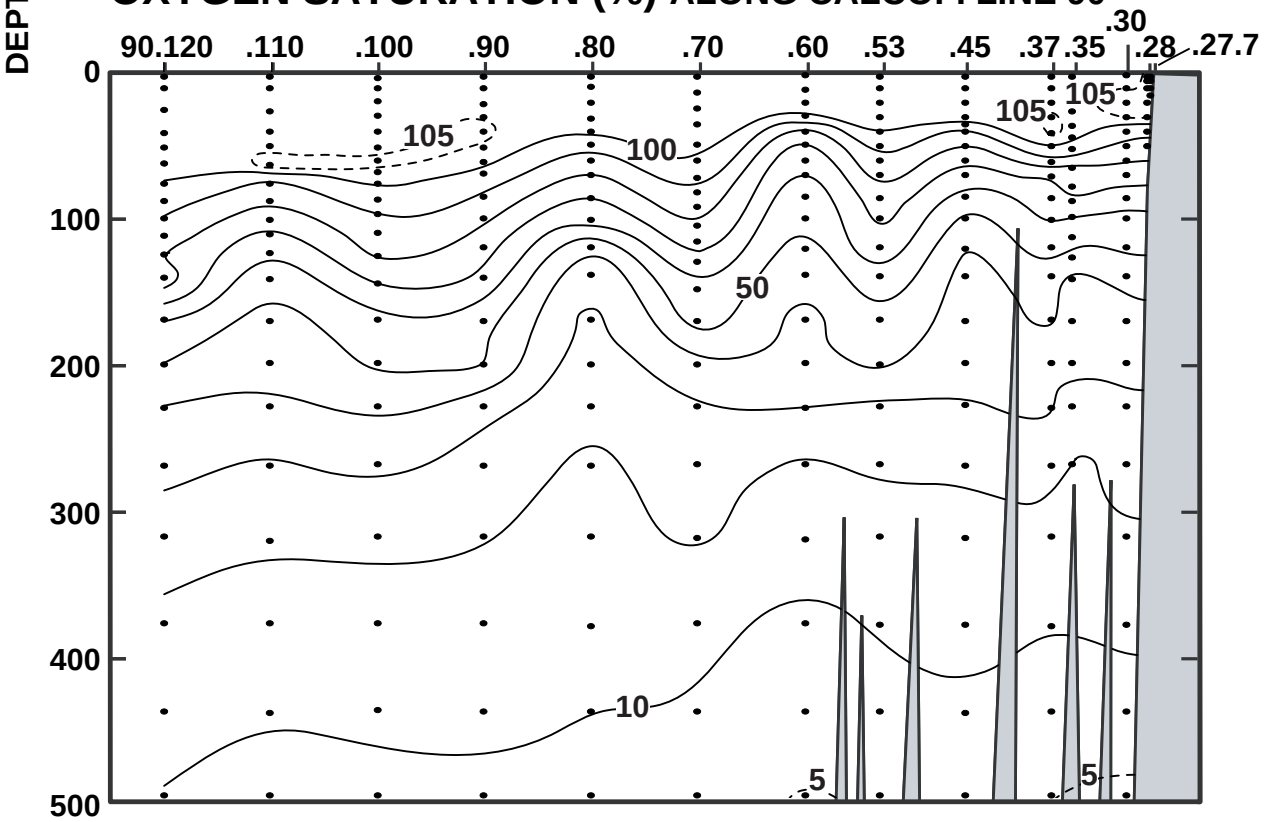

FIGURE 5H

CALCOFI CRUISE 0911

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OXYGEN (mL/L) ALONG CALCOFI LINE 90

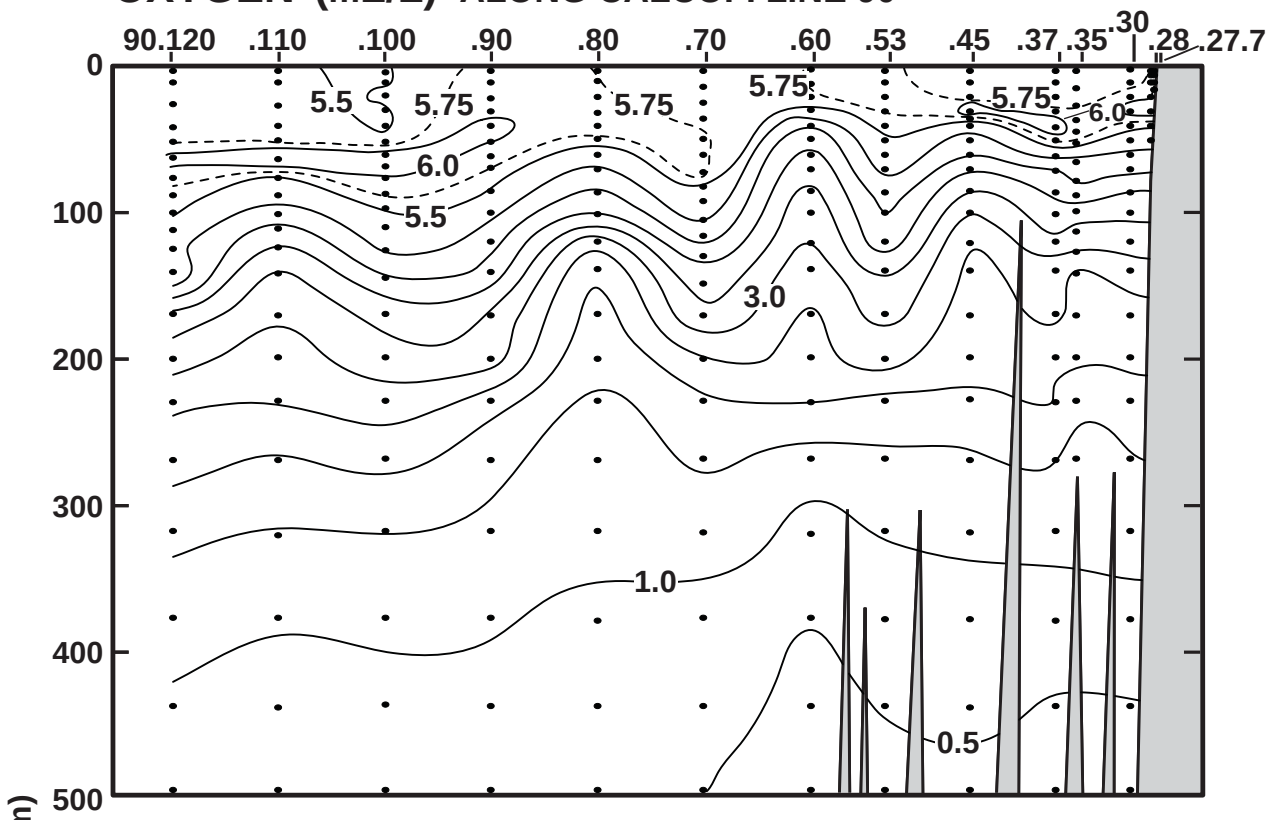

FIGURE 5I

NITRITE (μM/L) ALONG CALCOFI LINE 90

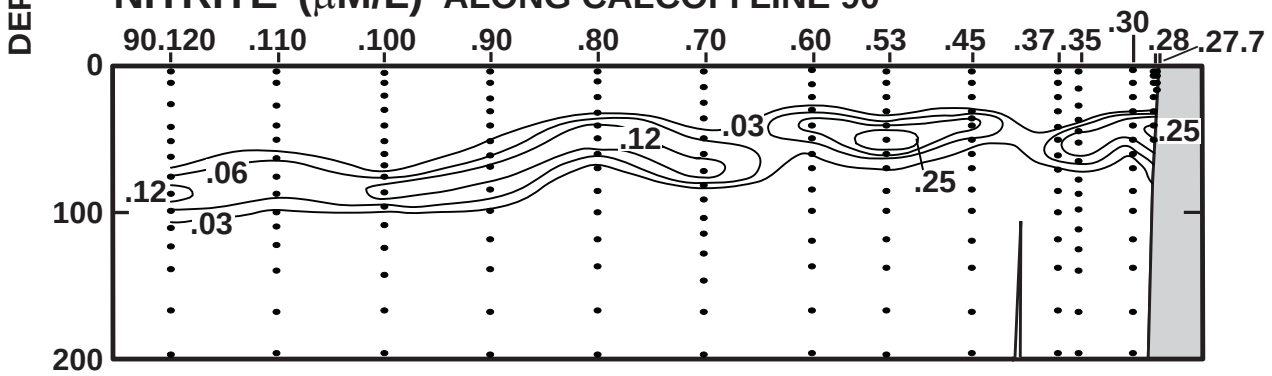

FIGURE 5J

PHAEOPIGMENTS (μg/L) ALONG CALCOFI LINE 90

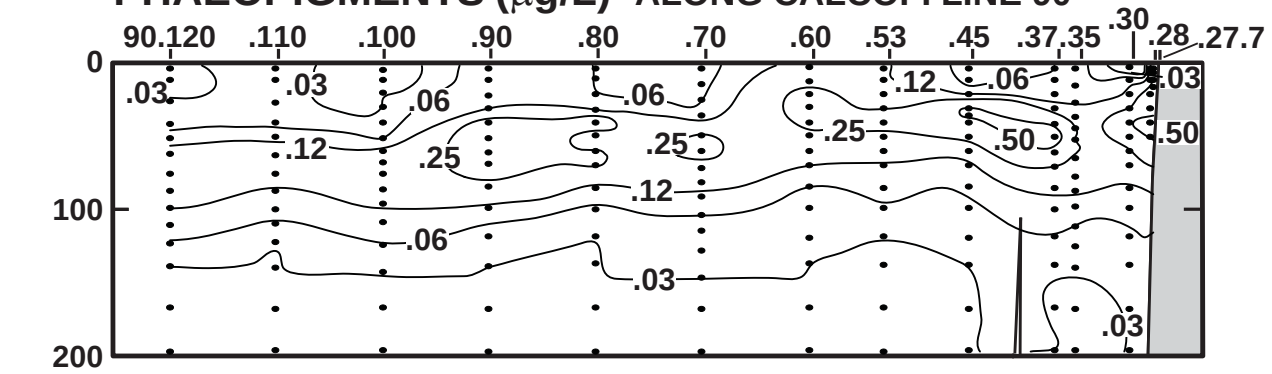

FIGURE 5K

PERSONNEL

CalCOFI Cruise 0911

SHIP'S CAPTAIN

Wes Hill, RV *New Horizon*

PERSONNEL PARTICIPATING IN THE COLLECTION OF DATA

Ro dgers-Wolgast, Jennifer L. (Chief Scientist)	Staff Research Associate, SIO
Abramenkoff, Dimitry Fisher	y Biologist, NMFS
Atkins, Kelly Vol	unteer, SIO
Becker, Susan	Staff Research Associate, SIO
Carter, Matthew	Volunteer, SIO
Dovel, Shonna L.	Staff Research Associate, SIO
Faber, David N.	Staff Research Associate, SIO
Hays, Amy E.	Fishery Biologist, NMFS
Kondor, Julie-Ann	Marine Mammal Observer, MPL
Liu, Jian	Staff Research Associate, SIO
Merkin, Karlina	Staff Research Associate, MPL
Overcash, Brian J.	Staff Research Associate, SIO
Patonai, Katalin	Volunteer, SIO
Roadman, Megan J.	Staff Research Associate, SIO
Susner, Michael G.	Staff Research Associate, SIO
Wilkinson, James A.	Programmer Analyst, SIO
Wolgast, David M.	Staff Research Associate, SIO

San Diego to San Diego, California, 6-23 November, 2009

RV NEW HORIZON CALCOFI CRUISE 0911 STATION 76.7 49.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
35 5.4 N	120 46.7 W	22/11/09	1921 UTC	68 m	300 04 kn	320 04 06	1	1017.8 mb	17.0 C	11.7 C	11m	2/8	CI

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	13.20	13.20	33.383	25.101	285.1	0.000	6.05	101.5	4.2	0.54	2.7	0.15	0.08	5.10	0.18	0	
2	13.20	13.20	33.383	25.101	285.2	0.006	6.05	101.5	4.2	0.54	2.7	0.15	0.08	5.10	0.18	2	209
5	13.15	13.15	33.382	25.111	284.4	0.014	6.01	100.7	4.1	0.56	2.7	0.17	0.18	4.77	0.23	5	208
10	13.13	13.13	33.383	25.115	284.1	0.028	5.97	100.0	4.2	0.55	2.8	0.16	0.09	5.49	0.64	10	206
10	13.13	13.13	33.383	25.115	284.1	0.028										10	207
20 ISL	13.04 D	13.04	33.380 D	25.131	282.8	0.057	5.80	97.0	5.1	0.62	3.8	0.19	0.12	3.92	0.16	20	
21	13.05	13.05	33.383	25.132	282.8	0.060	5.78	96.7	5.2	0.63	3.9	0.19	0.12	3.62	0.08	21	205
30	12.46	12.46	33.386	25.250	271.8	0.085	4.96	81.9	9.4	1.00	9.0	0.29	0.09	0.96	0.17	30	204
40	11.92	11.91	33.428	25.385	259.2	0.111	4.60	75.1	12.1	1.17	11.5	0.24	0.00	0.53	0.18	40	203
50 ISL	11.67 D	11.66	33.450 D	25.449	253.3	0.137	4.38	71.2	14.1	1.27	13.2	0.24	0.00	0.44	0.26	50	
51	11.65	11.64	33.452	25.454	252.8	0.139	4.36	70.8	14.3	1.28	13.4	0.24	0.00	0.43	0.27	51	202
60	11.34	11.33	33.494	25.544	244.5	0.162	4.03	65.0	17.3	1.43	15.1	0.25	0.16	0.53	0.39	60	201

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

RV NEW HORIZON CALCOFI CRUISE 0911 STATION 76.7 51.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
35 1.4 N	120 55.1 W	22/11/09	1644 UTC	27 m	350 16 kn	350 05 06	0	1018.4 mb	14.2 C	11.1 C	08m	0/8	

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	13.42	13.42	33.370	25.047	290.3	0.000	6.12	103.1	3.7	0.46	1.2	0.08	0.06	4.33	0.73	0	
3 A	13.42	13.42	33.370	25.047	290.4	0.009	6.12	103.1	3.7	0.46	1.2	0.08	0.06	4.33	0.73	3	218
6 A	13.42	13.42	33.369	25.046	290.5	0.017	6.13	103.3	3.7	0.46	1.2	0.11	0.06	4.96	0.66	6	217
10	13.43	13.43	33.368	25.044	290.9	0.029	6.14	103.5	3.8	0.46	1.2	0.08	0.07	5.21	0.63	10	216
12 A	13.42	13.42	33.368	25.046	290.8	0.035	6.11	103.0	3.9	0.47	1.3	0.08	0.05	5.06	0.60	12	215
18 A	13.39	13.39	33.369	25.053	290.2	0.052	6.03	101.5	4.0	0.51	1.7	0.10	0.09	4.25	1.00	18	214
20 ISL	12.94 D	12.94	33.371 D	25.144	281.6	0.058	5.72	95.4	5.4	0.64	3.6	0.14	0.13	3.04	0.80	20	
24 A	12.59	12.59	33.374	25.215	275.0	0.069	5.04	83.5	8.7	0.93	7.9	0.22	0.20	0.67	0.32	24	213
30 ISL	12.12 D	12.12	33.391 D	25.318	265.3	0.085	4.64	76.1	11.1	1.12	11.1	0.19	0.10	0.40	0.32	30	
31 A	12.00	12.00	33.397	25.345	262.7	0.088	4.61	75.4	11.3	1.14	11.4	0.19	0.07	0.35	0.32	31	212
42	11.63	11.62	33.431	25.441	253.9	0.116	4.37	70.9	13.0	1.25	13.5	0.13	0.00	0.30	0.24	42	211
50	11.29	11.28	33.474	25.537	244.9	0.136	4.12	66.4	14.9	1.38	15.5	0.08	0.00	0.22	0.20	50	210
60	11.05	11.04	33.503	25.603	238.8	0.161	3.94	63.2	16.2	1.47	16.8	0.04	0.00	0.15	0.20	60	209
71	10.99	10.98	33.511	25.620	237.5	0.187	3.91	62.6	16.5	1.48	17.1	0.04	0.00	0.13	0.18	71	208
75 ISL	10.96 D	10.95	33.515 D	25.628	236.7	0.196	3.88	62.1	16.8	1.50	17.4	0.04	0.00	0.12	0.17	75	
86	10.73	10.72	33.562	25.706	229.6	0.222	3.74	59.6	18.1	1.56	18.4	0.03	0.00	0.11	0.16	86	207
100	10.46	10.45	33.621	25.799	221.0	0.253	3.52	55.8	20.3	1.66	19.8	0.05	0.00	0.10	0.17	101	206
121	10.32	10.31	33.677	25.867	215.0	0.299	3.29	52.0	22.5	1.74	21.1	0.06	0.00	0.09	0.21	122	205
125 ISL	10.29 D	10.28	33.692 D	25.884	213.5	0.308	3.17	50.1	23.5	1.79	21.8	0.08	0.00	0.09	0.21	126	
140	9.83	9.81	33.823	26.064	196.6	0.339	2.67	41.8	27.5	1.98	24.4	0.14	0.00	0.07	0.20	141	204
150 ISL	9.75 D	9.73	33.856 D	26.104	193.1	0.358	2.43	38.0	29.8	2.08	25.6	0.16	0.03	0.07	0.23	151	
172	9.37	9.35	33.952	26.242	180.3	0.399	2.03	31.5	34.3	2.24	27.4	0.19	0.08	0.08	0.29	173	203
199	9.00	8.98	34.030	26.362	169.3	0.446	1.74	26.8	38.4	2.35	29.2	0.12	0.00	0.05	0.22	200	202
200 ISL	8.99 D	8.97	34.034 D	26.367	168.9	0.448	1.73	26.6	38.5	2.35	29.2	0.12	0.00			201	
233	8.67	8.65	34.091	26.462	160.4	0.502	1.45	22.1	42.8	2.49	30.6	0.12	0.12			234	201

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

RV NEW HORIZON CALCOFI CRUISE 0911 STATION 76.7 55.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
34 53.5 N	121 12.3 W	22/11/09	1253 UTC	592 m	340 20 kn			1016.7 mb	13.0 C	11.0 C			

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	13.09	13.09	33.380	25.121	283.3	0.000	5.87	98.3	4.7	0.58	3.2	0.14	0.21	3.25	0.38	0	
2	13.09	13.09	33.380	25.121	283.3	0.006	5.87	98.3	4.7	0.58	3.2	0.14	0.21	3.25	0.38	2	221
10	13.09	13.09	33.379	25.120	283.6	0.028	5.85	97.9	4.8	0.59	3.2	0.14	0.24	3.77	0.45	10	219
10	13.09	13.09	33.380	25.121	283.5	0.028										10	220
20	11.82	11.82	33.434	25.408	256.5	0.055	4.65	75.8	11.9	1.14	11.7	0.10	0.05	1.14	0.34	20	218
30	11.24	11.24	33.473	25.545	243.7	0.080	4.11	66.2	15.1	1.39	15.5	0.06	0.00	0.29	0.20	30	217
41	11.05	11.05	33.495	25.596	239.0	0.107	3.99	64.0	15.8	1.44	16.4	0.04	0.00	0.23	0.20	41	216
50 ISL	10.69 D	10.68	33.582 D	25.728	226.7	0.128	3.70	58.9	18.5	1.58	18.6	0.02	0.00	0.12	0.16	50	
51	10.66	10.65	33.590	25.739	225.6	0.130	3.67	58.4	18.8	1.59	18.8	0.02	0.00	0.11	0.16	51	215
61	10.59	10.58	33.608	25.766	223.3	0.153	3.59	57.0	19.5	1.62	19.4	0.02	0.00	0.13	0.19	61	214
72	10.49	10.48	33.628	25.799	220.4	0.177	3.54	56.1	19.9	1.65	19.9	0.02	0.00	0.08	0.15	72	213
75 ISL	10.41 D	10.40	33.654 D	25.833	217.2	0.184	3.44	54.5	20.7	1.69	20.5	0.02	0.00	0.07	0.15	75	
85	10.04	10.03	33.759	25.978	203.6	0.205	3.09	48.6	23.8	1.82	22.7	0.01	0.00	0.06	0.14	85	212
100	9.94	9.93	33.796	26.024	199.6	0.235	2.95	46.3	25.1	1.87	23.3	0.01	0.00	0.08	0.15	101	211
121	9.69	9.68	33.886	26.137	189.3	0.276	2.61	40.7	28.2	2.00	25.1	0.00	0.00	0.04	0.11	122	210
125 ISL	9.68 D	9.67	33.886 D	26.138	189.2	0.283	2.62	40.9	28.2	2.00	25.1	0.00	0.00	0.04	0.10	126	
140	9.67	9.65	33.891	26.144	189.0	0.312	2.64	41.2	28.2	2.00	25.1	0.01	0.00	0.05	0.09	141	209
150 ISL	9.54 D	9.52	33.920 D	26.188	185.0	0.330	2.54	39.5	29.1	2.04	25.5	0.01	0.00	0.04	0.09	151	
171	9.40	9.38	33.974	26.254	179.2	0.369	2.28	35.4	31.7	2.13	26.7	0.00	0.00	0.03	0.08	172	208
200	8.96	8.94	34.032	26.370	168.6	0.419	2.15	33.0	35.0	2.19	28.4	0.00	0.00	0.03	0.09	201	207
230	8.54	8.52	34.026	26.431	163.2	0.469	2.32	35.3	36.2	2.19	28.9	0.00	0.00			231	206
250 ISL	8.28 D	8.25	34.064 D	26.501	156.8	0.501	1.80	27.2	40.9	2.38	30.7	0.00	0.00			252	
269	8.32	8.29	34.157	26.568	150.9	0.530	1.23	18.6	45.9	2.57	32.5	0.00	0.00			271	205
300 ISL	8.06 D	8.03	34.195 D	26.637	144.7	0.576	1.18	17.8	48.8	2.62	33.2	0.00	0.00			302	
320	7.89	7.86	34.188	26.657	143.1	0.605	1.15	17.3	50.2	2.65	33.4	0.00	0.00			322	204
380	7.09	7.05	34.193	26.776	132.3	0.687	0.78	11.5	61.3	2.88	36.3	0.00	0.00			383	203
400 ISL	6.91 D	6.87	34.197 D	26.804	129.8	0.713	0.72	10.6	63.8	2.92	36.9	0.00	0.00			403	
443	6.52	6.48	34.200	26.859	124.9	0.768	0.64	9.3	68.9	2.99	38.0	0.00	0.00			446	202
500 ISL	6.04 D	6.00	34.236 D	26.950	116.6	0.837	0.47	6.8	77.8	3.10	39.3	0.02	0.00			504	
515	5.93	5.89	34.242	26.968	115.0	0.854	0.42	6.0	80.1	3.13	39.6	0.03	0.00			519	201

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

RV NEW HORIZON CALCOFI CRUISE 0911 STATION 76.7 60.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
34 43.4 N	121 33.1 W	21/11/09	2345 UTC	931 m	340 27 kn	350 10 10	0	1014.7 mb	13.0 C	10.4 C		0/8	

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	13.90	13.90	33.363	24.944	300.1	0.000	6.12	104.2	2.0	0.35	0.5	0.07	0.15	3.78	0.59	0	
3	13.90	13.90	33.363	24.944	300.2	0.009	6.12	104.2	2.0	0.35	0.5	0.07	0.15	3.78	0.59	3	220
10	13.90	13.90	33.365	24.945	300.2	0.030	6.12	104.2	1.9	0.35	0.6	0.07	0.15	3.81	0.51	10	219
20 ISL	13.89 D	13.89	33.362 D	24.946	300.5	0.060	6.11	104.0	1.7	0.35	0.6	0.07	0.14	3.61	0.53	20	
21	13.90	13.90	33.361	24.943	300.8	0.063	6.11	104.0	1.7	0.35	0.6	0.07	0.14	3.58	0.53	21	218
30	13.83	13.83	33.359	24.956	299.8	0.090	6.07	103.1	2.1	0.36	0.9	0.07	0.15	3.26	0.74	30	217
40	13.44	13.43	33.330	25.013	294.6	0.120	5.89	99.3	3.4	0.49	2.4	0.09	0.11	2.66	0.53	40	216
50 ISL	11.66 D	11.65	33.324 D	25.353	262.4	0.148	5.11	82.9	9.1	0.98	9.6	0.09	0.07	0.64	0.23	50	
51	11.25 D	11.24	33.307	25.414	256.6	0.150	5.02	80.8	9.8	1.04	10.5	0.09	0.07	0.45	0.20	51	215
60	10.57	10.56	33.391	25.600	239.1	0.173	4.29	68.0	16.2	1.48	17.9	0.02	0.00	0.15	0.14	60	214
70	10.38	10.37	33.425	25.659	233.6	0.196	4.25	67.1	17.3	1.51	18.7	0.02	0.00	0.09	0.15	70	213
75 ISL	10.16 D	10.15	33.484 D	25.743	225.7	0.208	4.08	64.2	19.2	1.59	20.0	0.02	0.00	0.07	0.13	75	
85	9.76	9.75	33.602	25.902	210.8	0.230	3.69	57.6	23.0	1.77	22.7	0.01	0.00	0.04	0.08	85	212
100	9.59	9.58	33.671	25.985	203.3	0.261	3.50	54.4	24.6	1.82	23.9	0.01	0.00	0.02	0.07	101	211
121	9.27	9.26	33.849	26.176	185.4	0.301	2.95	45.6	28.4	1.92	25.5	0.01	0.00	0.01	0.10	122	210
125 ISL	9.24 D	9.23	33.858 D	26.188	184.4	0.309	2.88	44.5	29.1	1.94	25.8	0.01	0.00	0.01	0.09	126	
140	8.99	8.97	33.942	26.294	174.6	0.336	2.69	41.3	31.3	2.00	26.7	0.01	0.00	0.02	0.07	141	209
150 ISL	8.88 D	8.86	33.973 D	26.336	170.8	0.353	2.59	39.7	32.5	2.03	27.1	0.01	0.00	0.02	0.07	151	
169	8.74	8.72	34.009	26.386	166.3	0.385	2.40	36.7	34.6	2.10	28.0	0.01	0.00	0.02	0.07	170	208
200 ISL	8.51 D	8.49	34.089 D	26.485	157.5	0.435	1.86	28.3	39.3	2.31	30.3	0.01	0.00	0.01	0.04	201	
201	8.51	8.49	34.088	26.484	157.6	0.437	1.84	28.0	39.5	2.32	30.4	0.01	0.00	0.01	0.04	202	207
230	8.31	8.29	34.117	26.538	153.0	0.482	1.63	24.7	42.7	2.41	31.4	0.00	0.00			231	206
250 ISL	8.27 D	8.24	34.143 D	26.564	150.8	0.512	1.50	22.7	44.3	2.46	31.8	0.00	0.00			252	
270	8.07	8.04	34.170	26.616	146.2	0.542	1.36	20.5	46.3	2.52	32.4	0.00	0.00			272	205
300 ISL	7.58 D	7.55	34.167 D	26.686	139.9	0.585	1.12	16.7	52.6	2.67	34.4	0.00	0.00			302	
320	7.22	7.19	34.166	26.736	135.2	0.612	0.96	14.2	57.0	2.77	35.8	0.00	0.00			322	204
382	7.03	6.99	34.241	26.822	127.9	0.694	0.61	9.0	63.6	2.92	36.8	0.00	0.00			385	203
400 ISL	6.83 D	6.79	34.245 D	26.853	125.1	0.717	0.56	8.2	66.7	2.96	37.4	0.00	0.00			403	
444	6.34	6.30	34.246	26.919	119.1	0.770	0.48	6.9	73.9	3.05	38.8	0.00	0.00			447	202
500 ISL	6.11 D	6.07	34.247 D	26.949	116.7	0.836	0.40	5.8	78.1	3.08	39.7	0.00	0.00			504	
511	6.04	5.99	34.260	26.969	115.0	0.849	0.38	5.5	78.9	3.09	39.9	0.00	0.00			515	201

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

RV NEW HORIZON CALCOFI CRUISE 0911 STATION 76.7 70.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
34 23.4 N	122 15.0 W	21/11/09	1609 UTC	4026 m	340 25 kn	320 10 06	1	1017.7 mb	13.5 C	10.2 C	09m	5/8	SC

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	13.86	13.86	33.363	24.952	299.4	0.000	5.85	99.5	2.9	0.52	2.1	0.16	0.21	0.69	0.35	0	
2 A	13.86	13.86	33.363	24.952	299.4	0.006	5.85	99.5	2.9	0.52	2.1	0.16	0.21	0.69	0.35	2	222
7 A	13.86	13.86	33.363	24.952	299.5	0.021	5.84	99.3	2.9	0.52	2.1	0.16	0.19	0.68	0.34	7	221
10 ISL	13.86 D	13.86	33.362 D	24.951	299.7	0.030	5.84	99.3	2.9	0.52	2.1	0.16	0.19	0.68	0.36	10	
12 A	13.86	13.86	33.363	24.952	299.7	0.036	5.84	99.3	2.9	0.52	2.1	0.16	0.20	0.68	0.37	12	220
20 A	13.86	13.86	33.362	24.952	299.9	0.060	5.86	99.6	2.9	0.52	2.1	0.16	0.21	0.70	0.36	20	219
26 A	13.86	13.86	33.362	24.952	300.1	0.078	5.85	99.5	2.7	0.51	2.1	0.17	0.24	0.70	0.38	26	218
30 ISL	13.86 D	13.86	33.362 D	24.952	300.2	0.090	5.85	99.5	2.7	0.51	2.1	0.17	0.24	0.70	0.36	30	
37 A	13.86	13.85	33.362	24.952	300.4	0.111	5.85	99.5	2.9	0.51	2.1	0.17	0.25	0.69	0.32	37	217
44	13.85	13.84	33.362	24.954	300.4	0.132	5.83	99.1	2.9	0.52	2.2	0.17	0.23	0.67	0.37	44	216
50	13.86	13.85	33.376	24.963	299.7	0.150	5.85	99.5	2.7	0.52	2.1	0.17	0.23	0.69	0.32	50	215
60	13.79	13.78	33.349	24.957	300.5	0.180	5.81	98.6	3.0	0.54	2.4	0.17	0.26	0.62	0.32	60	214
73	11.09	11.08	33.227	25.381	260.2	0.216	4.88	78.2	12.0	1.26	13.8	0.07	0.00	0.12	0.17	73	213
75 ISL	10.81 D	10.80	33.233 D	25.435	255.1	0.222	4.81	76.6	12.7	1.31	14.7	0.06	0.00	0.11	0.16	75	
87	10.24	10.23	33.347	25.623	237.4	0.251	4.48	70.5	16.2	1.52	18.1	0.02	0.00	0.07	0.13	87	212
100	9.81	9.80	33.570	25.870	214.2	0.280	3.80	59.3	22.2	1.79	22.5	0.01	0.00	0.03	0.09	100	211
120	9.48	9.47	33.755	26.069	195.7	0.321	3.17	49.2	26.9	1.97	25.6	0.01	0.00	0.01	0.06	121	210
125 ISL	9.33 D	9.32	33.781 D	26.113	191.5	0.331	3.04	47.0	27.8	2.00	26.2	0.01	0.00	0.01	0.06	126	
143	9.12	9.10	33.886	26.229	180.8	0.365	2.67	41.1	30.6	2.09	27.8	0.00	0.00	0.00	0.05	144	209
150 ISL	8.96 D	8.94	33.926 D	26.286	175.5	0.377	2.56	39.3	31.6	2.12	28.3	0.00	0.00	0.00	0.05	151	
169	8.73	8.71	33.972	26.359	168.9	0.410	2.33	35.6	34.2	2.19	29.2	0.00	0.00	0.00	0.04	170	208
200	8.39	8.37	34.036	26.462	159.6	0.461	2.09	31.7	38.0	2.27	30.4	0.00	0.00	0.00	0.03	201	207
232	8.03	8.01	34.084	26.554	151.4	0.511	1.66	25.0	43.5	2.44	32.3	0.00	0.00			233	206
250 ISL	7.67 D	7.65	34.069 D	26.595	147.6	0.537	1.57	23.4	46.3	2.51	33.1	0.00	0.00			251	
274	7.45	7.42	34.085	26.639	143.7	0.572	1.48	22.0	49.8	2.58	34.1	0.00	0.00			276	205
300 ISL	7.23 D	7.20	34.119 D	26.697	138.5	0.609	1.27	18.8	53.7	2.67	35.2	0.00	0.00			302	
322	7.04	7.01	34.125	26.728	135.8	0.639	1.09	16.0	57.2	2.74	36.2	0.00	0.00			324	204
381	6.39	6.36	34.173	26.854	124.3	0.716	0.77	11.2	67.7	2.94	38.5	0.00	0.00			383	203
400 ISL	6.12 D	6.08	34.147 D	26.868	123.0	0.740	0.69	9.9	70.8	2.99	39.2	0.00	0.00			403	
442	5.95	5.91	34.205	26.936	117.0	0.790	0.53	7.6	76.7	3.07	40.3	0.00	0.00			445	202
500 ISL	5.77 D	5.73	34.251 D	26.995	112.0	0.856	0.39	5.6	81.2	3.14	40.8	0.00	0.00			503	
516	5.70	5.66	34.256	27.008	111.0	0.874	0.35	5.0	82.4	3.16	41.0	0.00	0.00			520	201

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

RV NEW HORIZON CALCOFI CRUISE 0911 STATION 76.7 80.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
34 2.9 N	122 56.5 W	21/11/09	0814 UTC	4234 m	010 19 kn			1018.3 mb	14.0 C	10.4 C			

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	14.92	14.92	33.101	24.526	339.9	0.000	5.86	101.7	2.9	0.41	0.4	0.05	0.06	0.59	0.19	0	
2	14.92	14.92	33.101	24.526	339.9	0.007	5.86	101.7	2.9	0.41	0.4	0.05	0.06	0.59	0.19	2	223
10	14.93	14.93	33.101	24.524	340.4	0.034	5.87	101.9	2.6	0.41	0.4	0.05	0.07	0.57	0.20	10	222
20 ISL	14.93 D	14.93	33.101 D	24.525	340.6	0.068	5.88	102.0	2.5	0.41	0.4	0.05	0.07	0.59	0.19	20	
21	14.93	14.93	33.101	24.525	340.7	0.071	5.88	102.0	2.5	0.41	0.4	0.05	0.07	0.59	0.19	21	221
30	14.93	14.93	33.101	24.525	340.9	0.102	5.87	101.8	3.0	0.41	0.4	0.05	0.06	0.59	0.20	30	220
40	14.92	14.91	33.105	24.531	340.7	0.136	5.90	102.3	2.7	0.41	0.4	0.05	0.07	0.57	0.20	40	219
50	14.65	14.64	33.095	24.581	336.1	0.170	5.88	101.4	3.2	0.46	0.8	0.10	0.21	0.40	0.17	50	218
60	13.78	13.77	33.029	24.712	323.9	0.203	5.91	100.1	4.2	0.54	1.5	0.17	0.39	0.28	0.16	60	217
69	11.46	11.45	32.896	25.057	291.0	0.231	5.85	94.3	5.6	0.68	3.4	0.27	0.11	0.21	0.18	69	216
75 ISL	11.08 D	11.07	32.898 D	25.127	284.4	0.248	5.81	92.9	6.1	0.75	4.7	0.20	0.07	0.17	0.16	75	
86	10.12	10.11	32.924	25.313	266.8	0.278	5.62	88.0	8.1	0.91	7.9	0.02	0.00	0.11	0.10	86	212
100	9.18	9.17	33.148	25.642	235.7	0.313	5.02	77.1	14.7	1.31	15.1	0.01	0.00	0.04	0.05	100	211
121	9.05	9.04	33.436	25.888	212.7	0.361	4.21	64.6	23.1	1.71	21.7	0.01	0.00	0.02	0.04	122	210
125 ISL	9.03 D	9.02	33.467 D	25.916	210.2	0.369	4.12	63.2	24.1	1.75	22.3	0.03	0.00	0.02	0.04	126	
139	8.58	8.57	33.586	26.079	194.8	0.397	3.82	58.0	26.9	1.84	23.9	0.11	0.00	0.01	0.03	140	209
150 ISL	8.54 D	8.52	33.688 D	26.165	186.8	0.418	3.42	51.9	29.1	1.93	25.4	0.09	0.00	0.01	0.03	151	
171	8.58	8.56	33.941	26.358	169.0	0.456	2.73	41.6	32.8	2.08	27.8	0.00	0.00	0.00	0.04	172	208
200 ISL	8.37 D	8.35	33.985 D	26.425	163.1	0.504	2.56	38.8	35.7	2.13	28.8	0.00	0.00	0.00	0.03	201	
201	8.37	8.35	33.989	26.428	162.9	0.506	2.56	38.8	35.8	2.13	28.8	0.00	0.00	0.00	0.03	202	207
231	8.06	8.04	34.061	26.531	153.5	0.553	1.80	27.1	42.2	2.39	32.0	0.00	0.00			232	206
250 ISL	7.84 D	7.82	34.065 D	26.567	150.3	0.582	1.63	24.4	44.7	2.47	32.9	0.00	0.00			251	
270	7.67	7.64	34.081	26.604	147.0	0.612	1.55	23.1	47.1	2.52	33.6	0.00	0.00			272	205
300 ISL	7.28 D	7.25	34.117 D	26.689	139.3	0.655	1.35	20.0	53.1	2.64	35.1	0.00	0.00			302	
322	6.89	6.86	34.105	26.733	135.2	0.685	1.21	17.7	57.6	2.73	36.1	0.00	0.00			324	204
380	6.55	6.52	34.165	26.827	127.0	0.761	0.86	12.5	65.6	2.89	37.7	0.00	0.00			382	203
400 ISL	6.66 D	6.62	34.231 D	26.864	123.9	0.786	0.79	11.5	68.9	2.94	38.4	0.00	0.00			403	
441	5.88	5.84	34.169	26.916	118.8	0.836	0.68	9.7	75.1	3.02	39.7	0.00	0.00			444	202
500 ISL	5.93 D	5.89	34.277 D	26.996	112.2	0.904	0.43	6.2	80.1	3.13	40.3	0.00	0.00			503	
516	5.78	5.74	34.272	27.011	110.8	0.922	0.36	5.1	81.4	3.16	40.5	0.00	0.00			520	201

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

RV NEW HORIZON CALCOFI CRUISE 0911 STATION 76.7 90.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
33 43.3 N	123 38.8 W	21/11/09	0143 UTC	4141 m	010 13 kn			1015.8 mb	15.1 C	13.1 C			

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	16.15	16.15	33.334	24.433	348.7	0.000	5.72	101.9	2.0	0.36	0.0	0.01	0.00	0.37	0.12	0	
2	16.15	16.15	33.334	24.433	348.8	0.007	5.72	101.9	2.0	0.36	0.0	0.01	0.00	0.37	0.12	2	220
10	16.13	16.13	33.329	24.434	349.0	0.035	5.70	101.4	2.0	0.36	0.0	0.01	0.00	0.38	0.12	10	219
20 ISL	16.04 D	16.04	33.314 D	24.443	348.4	0.070	5.72	101.6	1.8	0.36	0.0	0.00	0.05	0.39	0.12	20	
21	16.04	16.04	33.313	24.443	348.5	0.073	5.72	101.6	1.8	0.36	0.0	0.00	0.06	0.39	0.12	21	218
30	15.97	15.97	33.308	24.455	347.6	0.105	5.73	101.6	2.0	0.36	0.0	0.01	0.06	0.38	0.13	30	217
40	15.92	15.91	33.295	24.457	347.8	0.139	5.72	101.4	2.1	0.35	0.0	0.00	0.00	0.42	0.14	40	216
50	15.87	15.86	33.291	24.465	347.3	0.174	5.74	101.6	2.0	0.35	0.0	0.00	0.05	0.42	0.14	50	215
60	15.63	15.62	33.250	24.488	345.4	0.209	5.73	100.9	2.1	0.37	0.0	0.01	0.07	0.36	0.14	60	214
71	12.44	12.43	33.423	25.283	269.7	0.243	5.00	82.6	10.1	1.07	10.6	0.27	0.08	0.19	0.21	71	213
75 ISL	11.89 D	11.88	33.462 D	25.418	256.9	0.253	4.76	77.7	11.9	1.21	13.0	0.22	0.06	0.16	0.19	75	
85	11.18	11.17	33.516	25.590	240.7	0.278	4.23	68.0	15.4	1.44	17.2	0.02	0.00	0.13	0.12	85	212
100 ISL	10.54 D	10.53	33.607 D	25.774	223.4	0.313	3.71	58.9	20.0	1.66	21.0	0.01	0.00	0.08	0.07	100	
102	10.34	10.33	33.640	25.835	217.7	0.317	3.67	58.0	20.5	1.68	21.3	0.01	0.00	0.07	0.07	102	211
121	9.28	9.27	33.657	26.024	199.8	0.357	3.69	57.0	25.0	1.81	23.6	0.01	0.08	0.01	0.03	122	210
125 ISL	9.21 D	9.20	33.676 D	26.051	197.4	0.365	3.60	55.5	25.6	1.83	23.9	0.01	0.07	0.01	0.03	126	
140	9.23	9.21	33.829	26.167	186.7	0.394	3.15	48.6	27.5	1.89	24.9	0.01	0.00	0.01	0.03	141	209
150 ISL	9.11 D	9.09	33.898 D	26.241	179.9	0.412	2.85	43.9	29.2	1.96	25.9	0.01	0.00	0.01	0.03	151	
171	8.91	8.89	33.999	26.352	169.7	0.449	2.43	37.3	32.6	2.08	27.5	0.00	0.00	0.00	0.03	172	208
200 ISL	8.40 D	8.38	34.005 D	26.436	162.1	0.497	2.74	41.6	34.6	2.01	27.3	0.00	0.00	0.00	0.02	201	
202	8.36	8.34	34.008	26.444	161.3	0.500	2.77	42.0	34.7	2.00	27.3	0.00	0.00	0.00	0.02	203	207
231	7.98	7.96	34.029	26.518	154.7	0.546	2.39	35.9	40.1	2.17	29.6	0.00	0.00			232	206
250 ISL	7.77 D	7.75	34.041 D	26.558	151.1	0.575	2.14	32.0	43.5	2.28	31.1	0.00	0.00			251	
271	7.52	7.49	34.058	26.608	146.6	0.606	1.86	27.7	47.1	2.40	32.6	0.00	0.00			273	205
300 ISL	7.30 D	7.27	34.094 D	26.668	141.3	0.648	1.50	22.2	51.6	2.55	34.2	0.00	0.00			302	
321	7.13	7.10	34.118	26.710	137.5	0.677	1.27	18.7	54.7	2.64	35.2	0.00	0.00			323	204
381	6.64	6.61	34.154	26.806	129.1	0.757	0.86	12.5	64.1	2.85	37.7	0.00	0.00			383	203
400 ISL	6.39 D	6.35	34.155 D	26.840	125.9	0.781	0.73	10.6	66.5	2.91	38.1	0.00	0.00			403	
440	6.34	6.30	34.232	26.907	120.1	0.831	0.51	7.4	71.6	3.03	38.9	0.00	0.00			443	202
500 ISL	6.00 D	5.96	34.288 D	26.996	112.3	0.900	0.42	6.0								503	
516	5.69	5.65	34.256 D	27.009	110.9	0.918	0.39 D	5.6 D								520	201

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

RV NEW HORIZON CALCOFI CRUISE 0911 STATION 76.7 100.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
33 23.3 N	124 19.5 W	20/11/09	1930 UTC	4549 m	210 12 kn	260 05 07	1	1015.6 mb	18.1 C	15.0 C	22m	4/8	ST

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	16.30	16.30	33.167	24.271	364.2	0.000	5.71	D101.9	1.8	0.35	0.0	0.00	0.00	0.32	0.10	0	
3 A	16.30	16.30	33.167	24.271	364.3	0.011	5.71D	101.9 D	1.8	0.35	0.0	0.00	0.00	0.32	0.10	3	222
8	16.28	16.28	33.166	24.275	364.1	0.029	5.72D	102.0 D	1.8	0.35	0.0	0.00	0.00	0.33	0.09	8	221
10 ISL	16.28 D	16.28	33.168 D	24.276	364.0	0.036	5.72	102.0	1.8	0.35	0.0	0.00	0.00	0.32	0.09	10	
16 A	16.25	16.25	33.165	24.281	363.7	0.058	5.71	101.8	1.8	0.35	0.0	0.00	0.00	0.30	0.10	16	220
20 ISL	16.25 D	16.25	33.167 D	24.283	363.7	0.073	5.70	101.6	1.8	0.34	0.0	0.00	0.00	0.33	0.08	20	
23	16.25	16.25	33.167	24.283	363.8	0.084	5.70	101.6	1.8	0.34	0.0	0.00	0.00	0.35	0.07	23	219
30 ISL	16.25 D	16.25	33.168 D	24.284	363.9	0.109	5.77	102.8	1.7	0.34	0.0	0.00	0.00	0.36	0.09	30	
33 A	16.25	16.24	33.169	24.285	363.9	0.120	5.79	103.2	1.7	0.34	0.0	0.00	0.00	0.36	0.10	33	218
40	16.10	16.09	33.191	24.336	359.3	0.145	5.72	101.7	2.1	0.36	0.0	0.01	0.06	0.44	0.15	40	217
49 A	16.00	15.99	33.199	24.365	356.8	0.178	5.75	102.0	2.1	0.37	0.1	0.02	0.08	0.49	0.14	49	216
50 ISL	15.95 D	15.94	33.196 D	24.374	356.0	0.181	5.75	101.9	2.1	0.37	0.1	0.02	0.08	0.48	0.16	50	
57	15.88	15.87	33.191	24.386	355.0	0.206	5.74	101.6	2.1	0.39	0.2	0.03	0.11	0.43	0.24	57	215
62 A	15.74	15.73	33.184	24.412	352.7	0.224	5.79	102.2	2.1	0.40	0.2	0.04	0.19	0.43	0.16	62	214
75	14.81	14.80	33.076	24.533	341.5	0.269	5.82	100.7	2.7	0.45	0.4	0.10	0.38	0.37	0.21	75	213
89 A	11.66	11.65	32.852	24.987	298.2	0.314	6.00	97.1	4.7	0.66	2.9	0.33	0.05	0.20	0.14	89	212
100 ISL	10.84 D	10.83	32.845 D	25.128	284.8	0.346	5.95	94.6	6.4	0.81	5.8	0.13	0.02	0.10	0.22	100	
105	10.56	10.55	32.851	25.182	279.8	0.360	5.92	93.5	7.1	0.87	7.0	0.02	0.00	0.07	0.25	105	211
121	9.94	9.93	32.896	25.322	266.6	0.404	5.56	86.7	8.8	0.98	9.0	0.01	0.00	0.09	0.06	122	210
125 ISL	9.61 D	9.60	32.920 D	25.395	259.7	0.414	5.48	84.8	9.7	1.03	9.9	0.01	0.00	0.08	0.06	126	
141	9.21	9.19	33.068	25.575	242.8	0.454	5.11	78.5	14.3	1.27	14.4	0.00	0.00	0.03	0.04	142	209
150 ISL	8.96 D	8.94	33.319 D	25.811	220.5	0.475	4.67	71.4	17.8	1.43	17.3	0.00	0.00	0.02	0.03	151	
171	9.01	8.99	33.690	26.094	194.1	0.519	3.77	57.9	24.9	1.73	22.8	0.00	0.00	0.01	0.02	172	208
200	8.57	8.55	33.830	26.273	177.6	0.573	3.86	58.7	27.3	1.71	23.2	0.00	0.00	0.00	0.02	201	207
231	8.19	8.17	33.947	26.422	163.8	0.626	2.90	43.8	34.7	2.03	27.9	0.00	0.00			232	206
250 ISL	8.03 D	8.00	33.998 D	26.486	158.0	0.656	2.46	37.0	38.4	2.18	29.9	0.00	0.00			251	
269	7.84	7.81	34.012	26.526	154.6	0.686	2.11	31.6	41.9	2.30	31.5	0.00	0.00			270	205
300 ISL	7.33 D	7.30	34.037 D	26.619	146.0	0.732	1.75	25.9	47.9	2.46	33.5	0.00	0.00			302	
321	7.16	7.13	34.054	26.656	142.7	0.763	1.57	23.1	51.9	2.55	34.6	0.00	0.00			323	204
383	6.58	6.55	34.115	26.783	131.2	0.848	0.98	14.3	63.3	2.82	37.7	0.00	0.00			385	203
400 ISL	6.43 D	6.39	34.123 D	26.809	128.8	0.870	0.89	12.9	65.8	2.87	38.3	0.00	0.00			402	
440	6.15	6.11	34.145	26.863	124.0	0.920	0.74	10.7	71.4	2.96	39.5	0.00	0.00			443	202
500 ISL	5.64 D	5.60	34.173 D	26.949	116.2	0.992	0.57	8.1	80.4	3.08	41.1	0.00	0.00			503	
516	5.52	5.48	34.187	26.975	113.8	1.011	0.52	7.4	82.8	3.11	41.5	0.00	0.00			519	201

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

RV NEW HORIZON CALCOFI CRUISE 0911 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 27.4 N	120 29.3 W	23/11/09	0105 UTC	29 m	340 18 kn	270 05 12	1	1012.9 mb	15.3 C	12.5 C		2/8	CS

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	13.42	13.42	33.305	24.997	295.1	0.000	5.47	92.1	6.8	0.77	4.5	0.35	0.16	1.00	0.34	0	
3	13.42	13.42	33.305	24.997	295.2	0.009	5.47	92.1	6.8	0.77	4.5	0.35	0.16	1.00	0.34	3	205
5	13.44	13.44	33.305	24.993	295.6	0.015	5.46	92.0	6.9	0.77	4.5	0.35	0.18	1.00	0.16	5	204
10	13.21	13.21	33.306	25.040	291.2	0.029	5.35	89.7	7.4	0.80	5.3	0.34	0.13	1.01	0.19	10	202
10	13.30	13.30	33.303	25.020	293.2	0.029										10	203
17	12.85	12.85	33.297	25.104	285.3	0.050	5.10	84.9	8.2	0.92	6.9	0.32	0.14	0.72	0.52	17	201

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

RV NEW HORIZON CALCOFI CRUISE 0911 STATION 80.0 51.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
34 26.7 N	120 31.4 W	18/11/09	2257 UTC	79 m	310 26 kn	290 08 08	0	1012.2 mb	15.0 C	12.5 C	09m	0/8	

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	14.25	14.25	33.317	24.835	310.5	0.000	5.77	98.9	5.9	0.56	1.7	0.19	0.05	2.35	0.25	0	
2	14.25	14.25	33.317	24.835	310.5	0.006	5.77	98.9	5.9	0.56	1.7	0.19	0.05	2.35	0.25	2	209
5	14.26	14.26	33.317	24.833	310.8	0.016	5.76	98.7	5.5	0.58	1.7	0.19	0.05	2.13	0.24	5	208
10	14.16	14.16	33.313	24.851	309.2	0.031	5.70	97.5	6.1	0.59	2.1	0.21	0.00	1.53	0.23	10	207
20	12.68	12.68	33.266	25.114	284.5	0.061	5.04	83.6	9.0	0.89	6.8	0.29	0.00	0.41	0.21	20	206
30	12.47	12.47	33.278	25.164	280.0	0.089	5.01	82.7	8.9	0.94	8.0	0.22	0.00	0.35	0.24	30	205
40	12.29	12.28	33.290	25.208	276.0	0.117	4.90	80.6	9.7	0.99	8.9	0.19	0.06	0.31	0.22	40	204
50	11.67	11.66	33.339	25.362	261.5	0.144	4.59	74.5	11.7	1.17	11.9	0.07	0.00	0.34	0.29	50	203
62	11.19	11.18	33.467	25.550	244.0	0.174	4.05	65.1	15.7	1.39	15.6	0.07	0.04	0.16	0.22	62	202
65	11.22	11.21	33.464	25.542	244.8	0.181	4.08	65.7	15.4	1.38	15.5	0.07	0.04	0.17	0.22	65	201

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

RV NEW HORIZON CALCOFI CRUISE 0911 STATION 80.0 55.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
34 18.9 N	120 48.7 W	19/11/09	0221 UTC	802 m	330 28 kn			1014.1 mb	14.3 C	12.2 C			

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	14.27	14.27	33.389	24.887	305.6	0.000	6.08	104.3	3.3	0.39	1.1	0.06	0.08	5.28	0.61	0	
3	14.27	14.27	33.389	24.887	305.6	0.009	6.08	104.3	3.3	0.39	1.1	0.06	0.08	5.28	0.61	3	221
9	14.28	14.28	33.391	24.886	305.9	0.028										9	220
10	14.28	14.28	33.387	24.883	306.2	0.031	6.03	103.4	3.2	0.38	1.1	0.07	0.07	5.20	0.60	10	219
20	14.28	14.28	33.386	24.883	306.5	0.061	6.02	103.3	3.3	0.39	1.2	0.07	0.07	4.99	0.57	20	218
30	14.24	14.24	33.388	24.893	305.8	0.092	6.02	103.2	3.3	0.40	1.3	0.07	0.07	4.44	0.55	30	217
41	12.35	12.34	33.403	25.284	268.8	0.123	4.75	78.3	10.5	1.04	10.6	0.23	0.04	0.89	0.18	41	216
50	11.12	11.11	33.457	25.554	243.2	0.146	4.19	67.3	14.6	1.35	15.7	0.09	0.00	0.34	0.26	50	215
61	10.43	10.42	33.544	25.744	225.4	0.172	3.89	61.6	18.3	1.51	18.6	0.03	0.00	0.14	0.17	61	214
71	10.31	10.30	33.652	25.849	215.7	0.194	3.47	54.8	20.7	1.66	20.4	0.04	0.00	0.10	0.15	71	213
75 ISL	10.24 D	10.23	33.681 D	25.883	212.5	0.203	3.41	53.8	21.2	1.68	20.8	0.04	0.00	0.10	0.15	75	
86	10.07	10.06	33.715	25.939	207.4	0.226	3.32	52.2	22.5	1.73	21.8	0.04	0.00	0.10	0.15	86	212
99	9.89	9.88	33.818	26.050	197.1	0.252	2.98	46.7	25.1	1.84	23.2	0.03	0.00	0.08	0.12	100	211
100 ISL	9.85 D	9.84	33.833 D	26.068	195.4	0.254	2.94	46.0	25.4	1.85	23.4	0.03	0.00	0.08	0.12	101	
120	9.47	9.46	33.956	26.227	180.6	0.292	2.31	35.9	31.1	2.08	26.5	0.02	0.00	0.06	0.14	121	210
125 ISL	9.32 D	9.31	34.000 D	26.286	175.1	0.301	2.25	34.8	31.8	2.10	26.8	0.02	0.00	0.06	0.14	126	
141	9.25	9.23	34.022	26.315	172.7	0.329	2.14	33.1	33.1	2.15	27.4	0.02	0.00	0.05	0.12	142	209
150 ISL	9.22 D	9.20	34.034 D	26.329	171.5	0.344	2.05	31.7	34.0	2.18	27.8	0.02	0.00	0.05	0.12	151	
170	9.10	9.08	34.074	26.380	167.1	0.378	1.84	28.4	36.1	2.26	28.8	0.02	0.00	0.04	0.12	171	208
200 ISL	8.85 D	8.83	34.124 D	26.460	160.1	0.427	1.45	22.2	40.2	2.42	30.3	0.00	0.00	0.03	0.07	201	
202	8.83	8.81	34.134	26.471	159.1	0.430	1.43	21.9	40.5	2.43	30.4	0.00	0.00	0.03	0.07	203	207
231	8.49	8.47	34.148	26.535	153.4	0.475	1.43	21.8	43.1	2.47	31.0	0.01	0.00			232	206
250 ISL	8.36 D	8.33	34.178 D	26.578	149.6	0.504	1.36	20.6	44.8	2.51	31.5	0.01	0.00			252	
270	8.22	8.19	34.193	26.612	146.7	0.534	1.26	19.1	46.6	2.56	32.0	0.00	0.00			272	205
300 ISL	8.01 D	7.98	34.207 D	26.654	143.1	0.577	1.13	17.0	49.2	2.63	32.8	0.00	0.00			302	
320	7.91	7.88	34.198	26.662	142.6	0.606	1.05	15.8	51.1	2.67	33.3	0.00	0.00			322	204
381	7.21	7.17	34.202	26.766	133.3	0.690	0.91	13.4	58.3	2.80	35.5	0.00	0.00			384	203
400 ISL	7.13 D	7.09	34.211 D	26.785	131.8	0.715	0.83	12.2	60.6	2.84	36.1	0.00	0.00			403	
441	6.78	6.74	34.251	26.865	124.6	0.768	0.65	9.5	65.6	2.93	37.2	0.00	0.00			444	202
500 ISL	6.46 D	6.41	34.273 D	26.925	119.5	0.840	0.43	6.2	71.9	3.05	38.3	0.00	0.00			504	
514	6.39	6.34	34.285	26.944	117.8	0.856	0.38	5.5	73.4	3.08	38.6	0.00	0.00			518	201

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

RV NEW HORIZON CALCOFI CRUISE 0911 STATION 80.0 60.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
34 9.8 N	121 9.6 W	19/11/09	0740 UTC	2256 m	350 25 kn			1017.1 mb	14.1 C	11.8 C			

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	14.10	14.10	33.383	24.918	302.6	0.000	5.93	101.4	2.1	0.42	0.6	0.13	0.18	1.53	0.43	0	
3	14.10	14.10	33.383	24.918	302.7	0.009	5.93	101.4	2.1	0.42	0.6	0.13	0.18	1.53	0.43	3	220
10	14.10	14.10	33.387	24.921	302.6	0.030	5.97	102.0	2.2	0.42	0.6	0.13	0.21	1.27	0.54	10	219
20	14.11	14.11	33.382	24.915	303.4	0.061	5.95	101.7	2.1	0.42	0.6	0.13	0.19	1.35	0.45	20	218
29	14.11	14.11	33.382	24.916	303.6	0.088	5.96	101.9	2.0	0.43	0.6	0.13	0.10	1.39	0.41	29	217
30 ISL	14.11 D	14.11	33.381 D	24.915	303.7	0.091	5.95	101.7	2.0	0.43	0.6	0.13	0.11	1.39	0.41	30	
40	13.99	13.98	33.383	24.942	301.5	0.121	5.90	100.6	2.3	0.43	0.7	0.13	0.22	1.41	0.41	40	216
50	12.14	12.13	33.365	25.295	268.0	0.150	4.96	81.4	9.2	0.99	8.4	0.18	0.11	0.76	0.42	50	215
60	11.63	11.62	33.376	25.399	258.3	0.176	4.56	74.0	12.0	1.22	12.2	0.12	0.00	0.60	0.28	60	214
72	10.70	10.69	33.472	25.641	235.5	0.206	4.12	65.6	16.8	1.49	16.9	0.04	0.00	0.34	0.23	72	213
75 ISL	10.60 D	10.59	33.490 D	25.672	232.5	0.213	4.05	64.3	17.4	1.52	17.5	0.04	0.00	0.32	0.22	75	
84	10.34	10.33	33.547	25.762	224.2	0.233	3.85	60.8	19.1	1.60	18.8	0.04	0.00	0.28	0.19	84	212
100	9.83	9.82	33.704	25.971	204.6	0.267	3.30	51.6	23.7	1.80	22.1	0.03	0.00	0.07	0.12	101	211
119	9.42	9.41	33.870	26.168	186.2	0.305	2.83	43.9	27.9	1.95	24.5	0.02	0.00	0.05	0.10	120	210
125 ISL	9.28 D	9.27	33.943 D	26.248	178.7	0.316	2.70	41.8	29.1	1.99	25.1	0.02	0.00	0.04	0.10	126	
141	9.15	9.13	33.996	26.311	173.1	0.344	2.41	37.2	32.1	2.09	26.3	0.01	0.00	0.03	0.10	142	209
150 ISL	9.00 D	8.98	34.044 D	26.372	167.4	0.359	2.28	35.1	33.7	2.14	26.9	0.01	0.00	0.03	0.10	151	
169	8.85	8.83	34.088	26.431	162.1	0.390	2.06	31.6	36.5	2.22	28.0	0.01	0.00	0.02	0.11	170	208
200 ISL	8.63 D	8.61	34.127 D	26.496	156.5	0.440	1.84	28.1	39.4	2.33	29.3	0.01	0.00	0.02	0.10	201	
201	8.66	8.64	34.123	26.488	157.3	0.441	1.83	27.9	39.5	2.33	29.3	0.01	0.00	0.02	0.10	202	207
233	8.15	8.13	34.172	26.605	146.6	0.490	1.42	21.4	46.4	2.53	31.9	0.01	0.00			234	206
250 ISL	7.93 D	7.90	34.179 D	26.643	143.2	0.515	1.30	19.5	48.6	2.58	32.6	0.01	0.00			252	
271	7.84	7.81	34.188	26.664	141.5	0.544	1.18	17.7	50.7	2.63	33.1	0.01	0.00			273	205
300 ISL	7.69 D	7.66	34.202 D	26.697	138.8	0.585	0.98	14.6	53.8	2.72	33.9	0.01	0.00			302	
321	7.53	7.50	34.246	26.755	133.6	0.614	0.84	12.5	56.1	2.79	34.5	0.01	0.00			323	204
380	7.02	6.98	34.258	26.837	126.5	0.690	0.58	8.5								383	203
400 ISL	6.91 D	6.87	34.262 D	26.855	125.0	0.716	0.54	7.9	65.4	2.96	36.8	0.00	0.00			403	
440	6.60	6.56	34.263	26.898	121.2	0.765	0.49	7.1	70.1	3.02	37.9	0.00	0.00			443	202
500 ISL	6.22 D	6.18	34.304 D	26.980	114.0	0.835	0.32	4.6	76.4	3.13	39.3	0.00	0.00			504	
512	6.18	6.13	34.310	26.990	113.2	0.849	0.29	4.2	77.7	3.15	39.6	0.00	0.00			516	201

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

RV NEW HORIZON CALCOFI CRUISE 0911 STATION 80.0 70.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT TYPE
33 50.1 N	121 51.8 W	19/11/09	1632 UTC	3689 m	350 20 kn	330 10 06	0	1016.7 mb	15.9 C	12.7 C	09m	0/8

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	14.10	14.10	33.327	24.874	306.7	0.000	5.90	100.8	3.8	0.53	1.0	0.13	0.19	1.58	0.20	0	
3 A	14.10	14.10	33.327	24.874	306.8	0.009	5.90	100.8	3.8	0.53	1.0	0.13	0.19	1.58	0.20	3	222
8 A	14.10	14.10	33.332	24.878	306.6	0.025	5.90	100.8	3.9	0.54	1.0	0.13	0.21	1.57	0.21	8	221
10 ISL	14.10 D	14.10	33.331 D	24.878	306.7	0.031	5.90	100.8	3.9	0.54	1.0	0.13	0.18	1.63	0.15	10	
14 A	14.10	14.10	33.333	24.879	306.6	0.043	5.89	100.6	3.9	0.53	1.0	0.13	0.14	1.71	0.09	14	220
20 A	14.10	14.10	33.337	24.883	306.5	0.061	5.92	101.1	3.7	0.53	1.0	0.13	0.21	1.37	0.41	20	219
25 A	14.10	14.10	33.332	24.879	307.0	0.077	5.89	100.6	3.8	0.52	1.0	0.13	0.23	1.35	0.40	25	218
30 ISL	14.10 D	14.10	33.331 D	24.878	307.2	0.092	5.89	100.6	3.8	0.52	1.0	0.13	0.22	1.44	0.32	30	
37 A	14.10	14.09	33.336	24.882	307.0	0.114	5.90	100.8	3.8	0.53	1.0	0.13	0.20	1.52	0.26	37	217
43	14.10	14.09	33.333	24.880	307.4	0.132	5.89	100.6	3.7	0.52	1.0	0.13	0.22	1.38	0.40	43	216
50	14.10	14.09	33.333	24.880	307.6	0.153	5.89	100.6	3.8	0.53	1.0	0.13	0.21	1.43	0.34	50	215
61	14.09	14.08	33.333	24.883	307.7	0.187	5.87	100.3	3.8	0.52	1.1	0.13	0.21	1.43	0.26	61	214
70	11.03	11.02	33.241	25.403	258.1	0.213	4.85	77.6	12.1	1.30	13.6	0.06	0.04	0.16	0.18	70	213
75 ISL	10.23 D	10.22	33.318 D	25.602	239.2	0.225	4.58	72.1	14.9	1.40	16.7	0.05	0.03	0.13	0.16	75	
87	9.91	9.90	33.430	25.743	225.9	0.253	4.19	65.5	19.6	1.65	19.8	0.02	0.00	0.05	0.13	87	212
99	9.64	9.63	33.626	25.941	207.3	0.279	3.59	55.9	24.2	1.85	23.0	0.03	0.00	0.03	0.09	99	211
100 ISL	9.57 D	9.56	33.678 D	25.993	202.4	0.281	3.55	55.2	24.5	1.86	23.2	0.03	0.00	0.03	0.09	100	
122	9.22	9.21	33.828	26.168	186.3	0.324	2.90	44.8	29.4	2.04	26.3	0.01	0.00	0.01	0.08	123	210
125 ISL	9.17 D	9.16	33.849 D	26.192	184.0	0.329	2.82	43.5	30.0	2.06	26.6	0.01	0.00	0.01	0.08	126	
140	8.95	8.93	33.930	26.291	174.9	0.356	2.49	38.2	32.4	2.13	27.9	0.01	0.00	0.00	0.06	141	209
150 ISL	8.88 D	8.86	33.969 D	26.333	171.1	0.374	2.33	35.7	33.8	2.17	28.5	0.01	0.00	0.00	0.06	151	
169	8.68	8.66	34.016	26.401	164.9	0.406	2.11	32.2	36.1	2.23	29.3	0.01	0.00	0.00	0.05	170	208
200 ISL	8.25 D	8.23	34.044 D	26.489	157.0	0.455	1.97	29.8	39.6	2.32	30.7	0.00	0.00	0.00	0.07	201	
201	8.26	8.24	34.054	26.495	156.4	0.457	1.97	29.8	39.7	2.32	30.7	0.00	0.00	0.00	0.07	202	207
232	7.90	7.88	34.056	26.551	151.6	0.505	1.77	26.5	43.7	2.41	32.0	0.00	0.00			233	206
250 ISL	7.63 D	7.61	34.061 D	26.594	147.6	0.532	1.63	24.3	47.0	2.48	33.0	0.00	0.00			251	
269	7.38	7.35	34.077	26.643	143.2	0.559	1.48	21.9	50.8	2.56	34.1	0.00	0.00			271	205
300 ISL	6.93 D	6.90	34.093 D	26.718	136.3	0.603	1.28	18.8	56.1	2.67	35.6	0.00	0.00			302	
320	6.79	6.76	34.098	26.741	134.4	0.630	1.17	17.1	59.3	2.74	36.4	0.00	0.00			322	204
382	6.10	6.07	34.101	26.834	125.9	0.710	1.00	14.4	68.6	2.88	38.5	0.00	0.00			384	203
400 ISL	5.91 D	5.88	34.103 D	26.860	123.6	0.733	0.91	13.0	71.6	2.92	39.1	0.00	0.00			403	
441	5.60	5.56	34.138	26.926	117.6	0.782	0.70 D	10.0 D	78.3	3.01	40.5	0.00	0.00			444	202
500 ISL	5.15 D	5.11	34.171 D	27.005	110.3	0.850	0.54	7.6	87.2	3.11	41.9	0.00	0.00			503	
517	5.09	5.05	34.179	27.019	109.1	0.868	0.50	7.0	89.7	3.14	42.3	0.00	0.00			521	201

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

RV NEW HORIZON CALCOFI CRUISE 0911 STATION 80.0 80.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT TYPE
33 29.1 N	122 32.2 W	19/11/09	2233 UTC	4025 m	340 17 kn	340 05 07	0	1015.8 mb	15.9 C	12.8 C	17m	0/8

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	15.66	15.66	33.209	24.447	347.4	0.000	5.77	101.7	1.8	0.36	0.0	0.01	0.00	0.40	0.16	0	
2	15.66	15.66	33.209	24.447	347.5	0.007	5.77	101.7	1.8	0.36	0.0	0.01	0.00	0.40	0.16	2	220
10	15.66	15.66	33.209	24.448	347.7	0.035	5.75	101.3	2.0	0.36	0.0	0.00	0.00	0.43	0.10	10	219
20	15.66	15.66	33.217	24.454	347.4	0.070	5.75	101.3	1.9	0.36	0.0	0.01	0.00	0.43	0.11	20	218
30	15.64	15.64	33.200	24.446	348.5	0.104	5.75	101.3	2.0	0.35	0.0	0.01	0.05	0.43	0.12	30	217
40	15.62	15.61	33.207	24.456	347.8	0.139	5.74	101.0	2.1	0.35	0.0	0.00	0.04	0.43	0.13	40	216
50	15.61	15.60	33.206	24.458	348.0	0.174	5.73	100.8	2.0	0.35	0.0	0.00	0.06	0.43	0.12	50	215
61	15.61	15.60	33.205	24.458	348.3	0.212	5.74	101.0	1.9	0.35	0.0	0.00	0.05	0.40	0.16	61	214
71	15.58	15.57	33.203	24.463	348.1	0.247	5.73	100.8	2.1	0.36	0.0	0.01	0.05	0.43	0.12	71	213
75 ISL	14.84 D	14.83	33.146 D	24.581	337.0	0.261	5.72	99.1	3.0	0.45	1.0	0.04	0.04	0.36	0.15	75	
85	11.63	11.62	32.941	25.061	291.0	0.292	5.70	92.2	5.6	0.72	4.3	0.09	0.00	0.17	0.21	85	212
100 ISL	10.57 D	10.56	33.019 D	25.311	267.4	0.334	5.44	86.1	8.3	0.94	8.4	0.02	0.00	0.12	0.13	100	
101	10.57	10.56	33.014	25.307	267.8	0.337	5.42	85.7	8.5	0.95	8.7	0.01	0.00	0.12	0.12	101	211
121	9.83	9.82	33.200	25.578	242.3	0.388	4.94	77.0	14.4	1.28	14.5	0.00	0.00	0.04	0.05	122	210
125 ISL	9.76 D	9.75	33.218 D	25.603	240.0	0.397	4.83	75.2	15.6	1.34	15.5	0.00	0.00	0.03	0.04	126	
141	9.47	9.45	33.426	25.813	220.3	0.434	4.32	66.9	20.3	1.57	19.4	0.00	0.00	0.01	0.03	142	209
150 ISL	9.42 D	9.40	33.610 D	25.966	206.0	0.453	3.83	59.3	23.0	1.71	21.6	0.00	0.00	0.01	0.03	151	
171	9.43	9.41	33.867	26.165	187.6	0.495	2.77	43.0	28.5	1.97	25.6	0.00	0.00	0.00	0.03	172	208
200 ISL	8.96 D	8.94	33.993 D	26.340	171.5	0.547	2.45	37.6	32.6	2.07	27.4	0.00	0.00	0.00	0.03	201	
201	8.97	8.95	33.999	26.343	171.2	0.548	2.45	37.6	32.7	2.07	27.4	0.00	0.00	0.00	0.03	202	207
232	8.71	8.69	34.061	26.433	163.2	0.600	2.00	30.6	37.2	2.24	29.4	0.00	0.00			233	206
250 ISL	8.54 D	8.51	34.091 D	26.483	158.7	0.629	1.83	27.9	39.8	2.32	30.5	0.00	0.00			251	
272	8.23	8.20	34.101	26.538	153.7	0.664	1.65	24.9	43.1	2.41	31.7	0.00	0.00			274	205
300 ISL	7.87 D	7.84	34.142 D	26.624	145.9	0.706	1.32	19.8	48.1	2.57	33.2	0.00	0.00			302	
320	7.72	7.69	34.177	26.673	141.5	0.734	1.11	16.6	51.6	2.67	34.1	0.00	0.00			322	204
383	7.10	7.06	34.187	26.770	132.9	0.821	0.88	13.0	59.2	2.81	36.3	0.00	0.00			385	203
400 ISL	6.92 D	6.88	34.194 D	26.800	130.2	0.843	0.79	11.6	62.0	2.86	36.9	0.00	0.00			403	
438	6.58	6.54	34.219	26.866	124.2	0.891	0.60	8.7	68.2	2.96	38.4	0.00	0.00			441	202
500 ISL	6.22 D	6.18	34.278 D	26.960	115.9	0.966	0.44	6.4								503	
518	6.00	5.95	34.259 D	26.973	114.7	0.987	0.39 D	5.6 D								521	201

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

RV NEW HORIZON CALCOFI CRUISE 0911 STATION 80.0 90.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
33 8.9 N	123 13.3 W	20/11/09	0451 UTC	4259 m	340 08 kn			1016.6 mb	14.8 C	12.0 C			

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	16.36	16.36	33.343	24.392	352.7	0.000	5.64	100.9	1.7	0.35	0.0	0.01	0.00	0.35	0.13	0	
2	16.36	16.36	33.343	24.392	352.7	0.007	5.64	100.9	1.7	0.35	0.0	0.01	0.00	0.35	0.13	2	220
10	16.37	16.37	33.343	24.390	353.2	0.035	5.65	101.0	2.0	0.35	0.0	0.01	0.06	0.37	0.13	10	219
20 ISL	16.37 D	16.37	33.343 D	24.391	353.4	0.071	5.64	100.9	1.9	0.33	0.0	0.00	0.01	0.37	0.13	20	
21	16.37	16.37	33.344	24.391	353.4	0.074	5.64	100.9	1.9	0.33	0.0	0.00	0.00	0.37	0.13	21	218
30 ISL	16.37 D	16.37	33.343 D	24.391	353.7	0.106	5.64	100.9	2.0	0.33	0.0	0.00	0.00	0.35	0.13	30	
31	16.37	16.37	33.343	24.391	353.7	0.110	5.64	100.9	2.0	0.33	0.0	0.00	0.00	0.35	0.13	31	217
40	16.37	16.36	33.342	24.391	354.1	0.141	5.64	100.9	1.7	0.33	0.0	0.00	0.00	0.34	0.12	40	216
50	16.36	16.35	33.342	24.393	354.2	0.177	5.66	101.2	1.9	0.33	0.0	0.00	0.04	0.35	0.13	50	215
60	16.21	16.20	33.340	24.426	351.3	0.212	5.62	100.2	2.2	0.36	0.1	0.01	0.09	0.33	0.13	60	214
71	11.85	11.84	33.473	25.434	255.3	0.245	4.65	75.9	12.5	1.24	13.2	0.14	0.04	0.22	0.20	71	213
75 ISL	11.17 D	11.16	33.539 D	25.610	238.6	0.255	4.38	70.4	14.8	1.40	15.8	0.11	0.03	0.18	0.18	75	
85	10.58	10.57	33.588	25.752	225.2	0.278	3.85	61.1	19.0	1.62	19.6	0.00	0.00	0.09	0.09	85	212
100	9.82	9.81	33.724	25.988	203.0	0.311	3.37	52.7	24.1	1.82	23.1	0.00	0.00	0.03	0.05	100	211
120	9.25	9.24	33.809	26.148	188.1	0.350	3.23	49.9	27.1	1.89	24.4	0.00	0.00	0.00	0.03	121	210
125 ISL	9.23 D	9.22	33.857 D	26.189	184.3	0.359	3.15	48.6	27.7	1.91	24.7	0.00	0.00	0.00	0.03	126	
141	9.07	9.05	33.907	26.254	178.4	0.388	2.84	43.7	29.9	1.97	25.8	0.00	0.00	0.00	0.03	142	209
150 ISL	8.94 D	8.92	33.932 D	26.294	174.8	0.404	2.61	40.1	31.6	2.04	26.7	0.00	0.00	0.00	0.03	151	
172	8.76	8.74	34.042	26.409	164.3	0.441	2.10	32.1	35.9	2.22	28.8	0.00	0.00	0.00	0.03	173	208
200	8.53	8.51	34.089	26.482	157.8	0.486	1.82	27.7	39.3	2.32	30.3	0.00	0.00	0.00	0.02	201	207
231	8.05	8.03	34.078	26.546	152.1	0.534	1.88	28.3	42.9	2.38	31.2	0.00	0.00			232	206
250 ISL	7.72 D	7.70	34.092 D	26.606	146.6	0.563	1.64	24.5	46.3	2.47	32.4	0.00	0.00			251	
271	7.64	7.61	34.130	26.647	143.0	0.593	1.34	20.0	50.1	2.58	33.8	0.00	0.00			273	205
300 ISL	7.29 D	7.26	34.126 D	26.694	138.8	0.634	1.24	18.3	53.3	2.65	34.8	0.00	0.00			302	
321	7.15	7.12	34.127	26.715	137.1	0.663	1.21	17.8	55.5	2.69	35.4	0.00	0.00			323	204
380	6.55	6.52	34.146	26.812	128.4	0.741	0.90	13.1	64.8	2.86	37.7	0.00	0.00			382	203
400 ISL	6.37 D	6.33	34.166 D	26.851	124.9	0.767	0.82	11.9	67.6	2.91	38.3	0.00	0.00			403	
441	6.08	6.04	34.176	26.896	120.9	0.817	0.70	10.1	73.2	3.00	39.4	0.00	0.00			444	202
500 ISL	5.94 D	5.90	34.262 D	26.983	113.4	0.886	0.62	8.9								503	
517	5.85	5.81	34.268 D	26.999	112.0	0.905	0.60 D	8.6 D								521	201

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

RV NEW HORIZON CALCOFI CRUISE 0911 STATION 80.0 100.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
32 49.2 N	123 54.0 W	20/11/09	1301 UTC	4445 m	260 13 kn			1015.9 mb	14.7 C	11.6 C			

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	17.27	17.27	33.200	24.070	383.3	0.000	5.56	101.1	1.8	0.31	0.0	0.00	0.00	0.15	0.06	0	
2	17.27	17.27	33.200	24.070	383.4	0.008	5.56	101.1	1.8	0.31	0.0	0.00	0.00	0.15	0.06	2	223
10	17.27	17.27	33.196	24.068	383.9	0.038	5.56	101.1	1.8	0.31	0.0	0.00	0.00	0.15	0.05	10	222
20 ISL	17.28 D	17.28	33.197 D	24.067	384.4	0.077	5.59	101.7	1.8	0.31	0.0	0.00	0.00	0.15	0.05	20	
25	17.28	17.28	33.197	24.067	384.5	0.096	5.61	102.0	1.8	0.31	0.0	0.00	0.00	0.15	0.05	25	221
30 ISL	17.28 D	17.28	33.197 D	24.067	384.7	0.115	5.60	101.9	1.8	0.31	0.0	0.00	0.00	0.15	0.05	30	
40	17.28	17.27	33.197	24.067	385.0	0.154	5.58	101.5	1.8	0.30	0.0	0.00	0.00	0.15	0.05	40	220
50 ISL	17.29 D	17.28	33.197 D	24.065	385.5	0.192	5.57	101.3	1.6	0.30	0.0	0.00	0.00	0.15	0.05	50	
51	17.28	17.27	33.196	24.067	385.4	0.196	5.57	101.3	1.6	0.30	0.0	0.00	0.00	0.15	0.05	51	219
63	17.23	17.22	33.198 D	24.081	384.5	0.242	5.59	101.6	1.8	0.30	0.0	0.00	0.00	0.16	0.05	63	218
75 ISL	14.01 D	14.00	32.937 D	24.594	335.5	0.285	6.24	106.1	2.6	0.35	0.0	0.00	0.09	0.34	0.22	75	
76	14.03	14.02	32.940	24.592	335.7	0.289	6.29	107.0	2.7	0.35	0.0	0.00	0.10	0.35	0.24	76	217
87	13.41	13.40	32.924	24.706	325.1	0.325	6.27	105.3	2.9	0.38	0.0	0.03	0.13	0.32	0.30	87	216
100	12.64	12.63	32.970	24.894	307.4	0.366	6.00	99.2	3.5	0.48	0.5	0.25	0.04	0.17	0.12	100	215
112	11.94	11.93	33.052	25.091	288.9	0.402	5.73	93.4	4.7	0.58	2.7	0.07	0.00	0.11	0.09	112	214
125 ISL	11.14 D	11.12	33.098 D	25.273	271.7	0.439	5.52	88.5	6.5	0.74	5.9	0.02	0.00	0.06	0.07	126	
126	11.12	11.10	33.086	25.267	272.3	0.441	5.51	88.3	6.7	0.76	6.2	0.02	0.00	0.06	0.07	127	213
140	9.91	9.89	33.055	25.451	254.7	0.478	5.35	83.4	10.3	1.04	10.5	0.01	0.00	0.03	0.05	141	212
150 ISL	9.70 D	9.68	33.114 D	25.532	247.2	0.503	5.17	80.3	12.9	1.19	13.0	0.01	0.00	0.02	0.04	151	
171	9.04	9.02	33.339	25.815	220.6	0.552	4.63	70.9	18.6	1.44	17.6	0.00	0.00	0.01	0.02	172	211
200 ISL	8.88 D	8.86	33.832 D	26.226	182.1	0.611	3.47	53.1	27.5	1.81	24.3	0.00	0.00	0.00	0.02	201	
201	8.91	8.89	33.809	26.203	184.3	0.613	3.44	52.7	27.8	1.82	24.5	0.00	0.00	0.00	0.02	202	210
230	8.49	8.47	33.955	26.383	167.7	0.664	3.57	54.2	29.8	1.76	24.2	0.00	0.00			231	209
250 ISL	8.11 D	8.08	33.975 D	26.457	160.9	0.696	3.41	51.4	33.3	1.83	25.4	0.00	0.00			251	
271	7.81	7.78	33.982	26.506	156.4	0.730	3.08	46.1	37.9	1.98	27.4	0.00	0.00			272	208
300 ISL	7.43 D	7.40	34.005 D	26.579	149.8	0.774	2.33	34.6	44.8	2.27	31.0	0.00	0.00			302	
320	7.29	7.26	34.041	26.628	145.4	0.804	1.81	26.8	49.5	2.47	33.5	0.00	0.00			322	207
380	6.58	6.55	34.078	26.754	133.9	0.887	1.22	17.7	61.0	2.74	37.0	0.00	0.00			382	206
400 ISL	6.35 D	6.31	34.083 D	26.788	130.7	0.914	1.14	16.5	64.1	2.80	37.8	0.00	0.00			402	
441	5.97	5.93	34.101	26.851	125.0	0.966	1.02	14.6	70.4	2.90	39.1	0.00	0.00			444	205
500 ISL	5.43 D	5.39	34.133 D	26.943	116.5	1.038	0.76	10.8	80.6	3.02	40.7	0.00	0.00			503	
514	5.36	5.32	34.144	26.960	115.0	1.054	0.69	9.8	83.1	3.05	41.0	0.00	0.00			517	204
600 CSL	4.94	4.89	34.229	27.076	104.5	1.148										604	200
700 CSL	4.79	4.73	34.333	27.177	96.0	1.249										705	200
800 CSL	4.53	4.47	34.383	27.246	90.1	1.342										806	200
900 CSL	4.30	4.23	34.424	27.304	85.3	1.429										907	200
1000 CSL	4.12	4.04	34.453	27.347	81.9	1.513										1008	200
1100 CSL	3.70	3.62	34.489	27.418	75.0	1.591										1109	200
1200 CSL	3.29	3.20	34.520	27.483	68.6	1.663										1211	200
1300 CSL	2.99	2.90	34.544	27.530	64.0	1.729										1312	200
1400 CSL	2.77	2.67	34.561	27.564	60.8	1.792										1413	200
1500 CSL	2.63	2.53	34.571	27.585	59.0	1.852										1514	200
1600 CSL	2.48	2.37	34.582	27.607	57.0	1.910										1616	200
1800 CSL	2.23	2.11	34.604	27.646	53.4	2.020										1819	200
2000 CSL	2.06	1.92	34.622	27.675	50.9	2.124										2022	200
2200 CSL	1.91	1.76	34.635	27.698	48.9	2.224										2225	200
2400 CSL	1.80	1.63	34.644	27.715	47.6	2.321										2429	200
2600 CSL	1.72	1.53	34.652	27.729	46.7	2.415										2632	200
2800 CSL	1.65	1.45	34.658	27.740	46.0	2.508										2836	200
3000 CSL	1.61	1.39	34.663	27.748	45.7	2.599										3040	200
3200 CSL	1.56	1.32	34.668	27.757	45.2	2.690										3245	200
3400 CSL	1.53	1.27	34.672	27.764	45.1	2.781										3449	200
3502	1.52	1.25	34.677	27.769	44.9	2.826	2.92	37.4	173.9	2.68	38.6	0.00	0.00			3553	201
3504	1.52	1.25	34.677	27.769	44.9	2.827										3556	202

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

RV NEW HORIZON CALCOFI CRUISE 0911 STATION 81.7 43.5

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT TYPE
34 24.3 N	119 47.9 W	18/11/09	1535 UTC	22 m	110 04 kn	260 01 06	0	1012.9 mb	14.9 C	12.2 C		0/8

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	15.90	15.90	33.404	24.544	338.2	0.000	5.91	104.8	2.6	0.34	0.0	0.02	0.05	1.58	0.23	0	
2	15.90	15.90	33.404	24.544	338.3	0.007	5.91	104.8	2.6	0.34	0.0	0.02	0.05	1.58	0.23	2	204
5	15.90	15.90	33.403	24.543	338.4	0.017	5.94	105.3	3.0	0.33	0.0	0.02	0.05	1.40	0.25	5	203
10	15.79	15.79	33.397	24.563	336.7	0.034	5.93	104.9	2.6	0.32	0.0	0.02	0.05	1.21	0.25	10	202
16	15.57	15.57	33.375	24.596	333.8	0.054	5.79	101.9	3.4	0.42	0.4	0.08	0.19	1.40	0.31	16	201

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

RV NEW HORIZON CALCOFI CRUISE 0911 STATION 81.8 46.9

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT TYPE
34 16.5 N	120 1.9 W	18/11/09	1747 UTC	585 m	300 19 kn	300 04 06	0	1013.3 mb	14.9 C	12.0 C	12m	0/8

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	15.63	15.63	33.420	24.616	331.3	0.000	6.04	106.5	1.5	0.27	0.0	0.00	0.00	0.69	0.14	0	
2 A,B	15.63	15.63	33.420	24.616	331.4	0.007	6.04	106.5	1.5	0.27	0.0	0.00	0.00	0.69	0.14	2	224
9 B	15.56	15.56	33.397	24.615	331.8	0.030	6.05	106.5	1.8	0.27	0.0	0.00	0.10	0.76	0.14	9	223
10 ISL	15.55 D	15.55	33.398 D	24.618	331.5	0.033	6.02	106.0	2.0	0.29	0.2	0.01	0.11	1.03	0.15	10	
18 B	14.04	14.04	33.347	24.903	304.5	0.059	5.63	96.1	4.6	0.58	2.8	0.16	0.16	2.78	0.23	18	222
20 ISL	13.40 D	13.40	33.337 D	25.026	292.8	0.065	5.46	92.0	5.6	0.68	4.2	0.23	0.14	2.40	0.23	20	
27 B	12.81	12.81	33.366	25.166	279.7	0.085	4.89	81.4	9.0	0.98	8.9	0.39	0.05	0.65	0.22	27	221
30 ISL	12.45 D	12.45	33.380 D	25.247	272.1	0.093	4.82	79.6	9.7	1.02	9.7	0.37	0.05	0.59	0.22	30	
35 B	12.14	12.14	33.383	25.308	266.3	0.106	4.66	76.4	11.2	1.10	11.1	0.26	0.05	0.48	0.23	35	220
42	11.09	11.08	33.524	25.612	237.6	0.124	3.92	62.9	16.4	1.43	16.4	0.06	0.00	0.17	0.17	42	219
50 B	10.59	10.58	33.638	25.789	220.9	0.142	3.45	54.8	19.2	1.61	19.8	0.03	0.00	0.06	0.09	50	218
60	10.51	10.50	33.670	25.828	217.4	0.164	3.35	53.2	20.4	1.66	20.4	0.03	0.00	0.04	0.08	60	217
71	10.42	10.41	33.699	25.866	214.0	0.188	3.24	51.3	21.6	1.71	21.0	0.02	0.04	0.05	0.09	71	216
75 ISL	10.41 D	10.40	33.703 D	25.871	213.6	0.197	3.24	51.3	21.6	1.71	21.0	0.02	0.04	0.05	0.08	75	
85	10.40	10.39	33.706	25.875	213.4	0.218	3.24	51.3	21.9	1.71	21.2	0.02	0.04	0.05	0.07	85	215
100	10.11	10.10	33.813	26.009	201.1	0.249	2.84	44.7	24.9	1.85	23.0	0.01	0.00	0.04	0.08	101	214
120	9.90	9.89	33.876	26.094	193.4	0.288	2.62	41.1	27.4	1.94	24.3	0.01	0.00	0.04	0.07	121	213
125 ISL	9.84 D	9.83	33.892 D	26.116	191.4	0.298	2.56	40.1	27.9	1.96	24.6	0.01	0.00	0.04	0.07	126	
140	9.70	9.68	33.948	26.184	185.3	0.326	2.37	37.0	29.5	2.03	25.6	0.01	0.00	0.03	0.07	141	212
150 ISL	9.57 D	9.55	33.976 D	26.227	181.3	0.345	2.22	34.6	31.1	2.09	26.3	0.01	0.00	0.03	0.08	151	
171	9.38	9.36	34.038	26.307	174.1	0.382	1.87	29.0	34.7	2.23	27.9	0.01	0.00	0.03	0.09	172	211
200 ISL	9.12 D	9.10	34.126 D	26.418	164.1	0.431	1.26	19.4	38.8	2.41	30.5	0.01	0.00	0.03	0.07	201	
201	9.13	9.11	34.122	26.414	164.6	0.433	1.24	19.1	38.9	2.42	30.6	0.01	0.00	0.03	0.07	202	210
230	8.89	8.87	34.172	26.491	157.7	0.479	0.84	12.9	44.4	2.58	32.1	0.01	0.00			231	209
250 ISL	8.61 D	8.58	34.202 D	26.559	151.6	0.510	0.65	9.9	47.2	2.67	33.1	0.01	0.00			252	
271	8.48	8.45	34.209	26.585	149.4	0.542	0.51	7.8	49.7	2.75	34.0	0.01	0.00			273	208
300 ISL	8.32 D	8.29	34.214 D	26.613	147.2	0.585	0.47	7.1	52.6	2.81	35.0	0.00	0.00			302	
320	8.12	8.09	34.219	26.648	144.2	0.614	0.44	6.6	54.7	2.84	35.5	0.00	0.00			322	207
381	7.67	7.63	34.222	26.717	138.4	0.700	0.27	4.0	64.0	2.97	34.8	0.01	0.00			384	206
400 ISL	7.46 D	7.42	34.232 D	26.755	134.9	0.726	0.19	2.8	68.1	3.02	34.3	0.01	0.00			403	
440	7.00	6.96	34.245	26.830	128.1	0.779	0.06	0.9	79.2	3.17	33.4	0.00	0.00			443	205
481	6.73	6.69	34.243	26.865	125.1	0.831	0.04	0.6	94.7	3.40	28.4	0.00	0.00			484	204
500 ISL	6.66 D	6.61	34.252 D	26.882	123.7	0.854	0.02	0.3	100.3	3.46	26.3	0.08	0.00			503	
516	6.64	6.59	34.255	26.887	123.5	0.874	0.00	0.0	105.2	3.53	24.2	0.14	0.00			520	203
568	6.54	6.49	34.258	26.904	122.6	0.938	0.00	0.0	129.9	4.23	12.1	0.01	0.24			572	202
573	6.54	6.49	34.257	26.903	122.7	0.944	0.00	0.0	129.2	4.21	11.9	0.01	0.24			577	201

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

RV NEW HORIZON CALCOFI CRUISE 0911 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 15.5 N	119 19.4 W	18/11/09	1234 UTC	28 m	040 11 kn			1012.1 mb	10.8 C	8.2 C		

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	15.16	15.16	33.363	24.676	325.6	0.000	5.84	102.0	4.8	0.49	0.0	0.06	0.06	3.92	0.51	0	
2	15.16	15.16	33.363	24.676	325.7	0.007	5.84	102.0	4.8	0.49	0.0	0.06	0.06	3.92	0.51	2	205
5	15.17	15.17	33.363	24.674	326.0	0.016	5.84	102.0	4.5	0.48	0.0	0.06	0.07	3.45	0.67	5	204
10	15.18	15.18	33.370	24.677	325.8	0.033	5.84	102.0	4.5	0.48	0.0	0.05	0.04	3.50	0.66	10	202
10	15.18	15.18	33.364	24.673	326.2	0.033										10	203
17	15.18	15.18	33.365	24.674	326.3	0.055	5.85	102.2	4.6	0.47	0.0	0.06	0.07	2.74	0.67	17	201

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

RV NEW HORIZON CALCOFI CRUISE 0911 STATION 83.3 40.6

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT TYPE
34 13.5 N	119 24.7 W	18/11/09	1102 UTC	37 m	240 05 kn			1012.3 mb	15.1 C	13.0 C		

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	15.64	15.64	33.371	24.576	335.1	0.000	6.04	106.5	2.9	0.33	0.0	0.01	0.00	0.94	0.27	0	
2	15.64	15.64	33.371	24.577	335.2	0.007	6.04	106.5	2.9	0.33	0.0	0.01	0.00	0.94	0.27	2	206
5	15.66	15.66	33.371	24.572	335.7	0.017	6.06	106.9	2.4	0.33	0.0	0.01	0.00	0.93	0.31	5	205
10	15.68	15.68	33.370	24.567	336.3	0.034	6.03	106.4	3.0	0.32	0.0	0.01	0.00	1.07	0.23	10	203
10	15.68	15.68	33.372	24.569	336.2	0.034										10	204
20	15.24	15.24	33.336	24.638	329.8	0.067	6.00	104.9	3.5	0.37	0.3	0.10	0.00	1.70	0.62	20	202
30 ISL	13.75 D	13.75	33.288 D	24.917	303.5	0.099	5.38	91.2	7.1	0.82	4.8	0.53	0.15	0.93	0.53	30	
31	13.45	13.45	33.287	24.978	297.7	0.102	5.32	89.7	7.5	0.86	5.3	0.57	0.17	0.85	0.52	31	201

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

RV NEW HORIZON CALCOFI CRUISE 0911 STATION 83.3 42.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT TYPE
34 10.5 N	119 30.6 W	18/11/09	0825 UTC	178 m	260 17 kn			1011.3 mb	15.1 C	13.0 C		

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	15.73	15.73	33.361	24.549	337.7	0.000	5.96	105.3	2.5	0.33	0.0	0.01	0.00	0.63	0.21	0	
2	15.73	15.73	33.361	24.549	337.8	0.007	5.96	105.3	2.5	0.33	0.0	0.01	0.00	0.63	0.21	2	214
10	15.75	15.75	33.362	24.545	338.4	0.034	5.98	105.7	2.3	0.32	0.0	0.01	0.00	0.63	0.22	10	212
10	15.73	15.73	33.361	24.549	338.0	0.034										10	213
20	15.73	15.73	33.359	24.548	338.5	0.068	5.98	105.6	2.5	0.33	0.0	0.02	0.00	0.65	0.21	20	211
30	15.62	15.62	33.342 D	24.560	337.6	0.101	5.97	105.2	2.6	0.34	0.1	0.03	0.00	0.72	0.23	30	210
40	13.89	13.88	33.245	24.856	309.6	0.134	5.86	99.6	4.0	0.52	1.7	0.10	0.06	1.00	0.33	40	209
50	12.27	12.26	33.248 D	25.179	279.0	0.163	5.21	85.6	7.5	0.89	7.8	0.18	0.00	0.46	0.33	50	208
60	11.65	11.64	33.337	25.365	261.5	0.190	4.69	76.1	10.5	1.13	12.0	0.05	0.00	0.22	0.26	60	207
70	11.34	11.33	33.431	25.495	249.4	0.216	4.31	69.5	12.8	1.29	14.5	0.03	0.00	0.13	0.17	70	206
75 ISL	11.07 D	11.06	33.483 D	25.584	241.0	0.228	4.16	66.7	13.9	1.36	15.6	0.02	0.00	0.10	0.14	75	
86	10.88	10.87	33.545	25.666	233.4	0.254	3.86	61.7	16.5	1.50	17.8	0.02	0.00	0.05	0.09	86	205
100 ISL	10.47 D	10.46	33.672 D	25.837	217.4	0.286	3.41	54.1	20.3	1.67	20.4	0.02	0.00	0.02	0.08	100	
101	10.46	10.45	33.673	25.840	217.2	0.288	3.38	53.6	20.5	1.68	20.6	0.02	0.00	0.02	0.08	101	204
120	10.26	10.25	33.757	25.940	208.1	0.328	3.10	48.9	23.0	1.78	22.0	0.05	0.00	0.04	0.07	121	203
125 ISL	10.20 D	10.19	33.770 D	25.960	206.2	0.339	3.01	47.5	23.8	1.81	22.4	0.05	0.00	0.03	0.07	126	
141	9.94	9.92	33.873	26.085	194.7	0.371	2.69	42.2	26.7	1.94	24.0	0.04	0.00	0.01	0.06	142	202
150 ISL	9.79 D	9.77	33.929 D	26.154	188.3	0.388	2.50	39.1	28.7	2.02	24.9	0.05	0.00	0.01	0.06	151	
160	9.62	9.60	33.975	26.219	182.4	0.406	2.28	35.5	30.9	2.10	26.0	0.06	0.00	0.01	0.06	161	201

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

RV NEW HORIZON CALCOFI CRUISE 0911 STATION 83.3 51.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT TYPE
33 52.5 N	120 7.8 W	18/11/09	0216 UTC	105 m	320 23 kn			1012.7 mb	15.0 C	12.8 C		

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	15.73	15.73	33.400	24.579	334.9	0.000	5.87	103.7	3.0	0.39	0.6	0.03	0.00	1.34	0.35	0	
2	15.73	15.73	33.400	24.579	334.9	0.007	5.87	103.7	3.0	0.39	0.6	0.03	0.00	1.34	0.35	2	211
10	15.70	15.70	33.398	24.584	334.7	0.033	5.81	102.6	3.0	0.40	0.7	0.03	0.00	1.49	0.34	10	209
10	15.70	15.70	33.395	24.582	334.9	0.033										10	210
20 ISL	12.91 D	12.91	33.385 D	25.161	280.0	0.064	5.57	92.9	4.8	0.56	3.0	0.07	0.06	1.45	0.31	20	
22	12.66 D	12.66	33.375	25.202	276.1	0.070	5.52	91.6	5.1	0.59	3.4	0.08	0.07	1.44	0.31	22	208
30	11.46	11.46	33.441	25.480	249.9	0.091	4.30	69.6	13.8	1.27	14.1	0.12	0.04	0.33	0.21	30	207
40	11.20	11.20	33.475	25.554	243.1	0.115	4.09	65.8	15.3	1.38	15.7	0.11	0.00	0.20	0.21	40	206
50 ISL	10.83 D	10.82	33.562 D	25.688	230.5	0.139	3.76	60.0	17.4	1.51	17.8	0.09	0.00	0.12	0.16	50	
51	10.80	10.79	33.565	25.695	229.8	0.141	3.72	59.4	17.7	1.52	18.0	0.09	0.00	0.11	0.15	51	205
60	10.54	10.53	33.640	25.799	220.1	0.162	3.45	54.8	20.3	1.64	19.8	0.09	0.00	0.06	0.12	60	204
70	10.25	10.24	33.739	25.927	208.2	0.183	3.13	49.4	23.3	1.78	21.8	0.08	0.00	0.05	0.12	70	203
75 ISL	10.09 D	10.08	33.786 D	25.991	202.2	0.193	3.01	47.4	24.3	1.83	22.5	0.08	0.00	0.04	0.11	75	
85	9.97	9.96	33.811	26.031	198.6	0.213	2.83	44.4	25.9	1.90	23.5	0.08	0.00	0.03	0.10	85	202
95	9.86	9.85	33.854	26.083	193.9	0.233	2.69	42.1	27.1	1.94	24.1	0.08	0.00	0.02	0.10	95	201

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

RV NEW HORIZON CALCOFI CRUISE 0911 STATION 83.3 55.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT TYPE
33 44.3 N	120 25.1 W	17/11/09	2207 UTC	1132 m	320 17 kn	320 03 07	0	1013.3 mb	15.1 C	13.8 C	10m	0/8

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	14.99	14.99	33.359	24.710	322.4	0.000	5.90	102.7	3.4	0.42	0.8	0.07	0.08	0.88	0.25	0	
3	14.99	14.99	33.359	24.710	322.5	0.010	5.90	102.7	3.4	0.42	0.8	0.07	0.08	0.88	0.25	3	221
10	14.98	14.98	33.361	24.714	322.3	0.032	5.89	102.5	3.1	0.42	0.8	0.07	0.05	0.92	0.27	10	219
10	14.98	14.98	33.364	24.716	322.1	0.032										10	220
19	14.68	14.68	33.343	24.765	317.7	0.061	5.91	102.2	3.4	0.44	0.9	0.07	0.07	1.00	0.31	19	218
20 ISL	14.62 D	14.62	33.339 D	24.775	316.8	0.064	5.91	102.1	3.4	0.44	0.9	0.07	0.07	0.99	0.32	20	
30	14.37	14.37	33.313	24.808	313.9	0.096	5.83	100.1	3.6	0.49	1.6	0.11	0.07	0.81	0.36	30	217
40	13.91	13.90	33.281	24.879	307.4	0.127	5.74	97.6	4.1	0.56	2.7	0.14	0.11	0.67	0.32	40	216
50	11.21	11.20	33.156	25.304	267.0	0.156	5.10	81.9	10.1	1.08	11.1	0.08	0.05	0.25	0.19	50	215
60	10.68	10.67	33.415	25.600	239.1	0.181	4.26	67.7	15.9	1.43	17.1	0.02	0.04	0.09	0.10	60	214
70	10.15	10.14	33.548	25.795	220.7	0.204	3.96	62.3	18.9	1.54	19.3	0.01	0.00	0.04	0.10	70	213
75 ISL	10.04 D	10.03	33.682 D	25.918	209.1	0.215	3.59	56.4	21.3	1.65	20.8	0.01	0.00	0.03	0.09	75	
84	10.01	10.00	33.818	26.029	198.7	0.233	2.94	46.2	25.3	1.83	23.1	0.01	0.00	0.02	0.07	84	212
100	9.70	9.69	33.866	26.119	190.5	0.264	2.86	44.6	27.0	1.89	24.1	0.01	0.00	0.02	0.07	101	211
121	9.55	9.54	33.974	26.228	180.6	0.303	2.40	37.4	30.3	2.04	26.0	0.01	0.00	0.01	0.05	122	210
125 ISL	9.55 D	9.54	33.974 D	26.229	180.6	0.310	2.37	36.9	30.6	2.05	26.2	0.01	0.00	0.01	0.05	126	
141	9.37	9.35	33.998	26.277	176.3	0.339	2.30	35.7	31.6	2.09	26.7	0.01	0.00	0.01	0.05	142	209
150 ISL	9.29 D	9.27	34.055 D	26.335	171.0	0.354	2.16	33.4	33.2	2.14	27.4	0.01	0.00	0.01	0.05	151	
172	8.97	8.95	34.112	26.431	162.3	0.391	1.78	27.4	37.6	2.29	29.1	0.00	0.00	0.01	0.06	173	208
200 ISL	8.71 D	8.69	34.175 D	26.521	154.2	0.435	1.44	22.0	41.6	2.44	30.7	0.00	0.00	0.00	0.06	201	
201	8.72	8.70	34.159	26.507	155.5	0.437	1.43	21.9	41.7	2.44	30.7	0.00	0.00	0.00	0.06	202	207
231	8.45	8.43	34.209	26.589	148.3	0.483	1.18	17.9	45.3	2.56	31.9	0.00	0.00			232	206
250 ISL	8.25 D	8.22	34.217 D	26.626	145.0	0.510	1.10	16.6	47.5	2.60	32.6	0.01	0.00			252	
271	8.04	8.01	34.217	26.657	142.3	0.541	1.05	15.8	49.8	2.64	33.2	0.01	0.00			273	205
300 ISL	7.87 D	7.84	34.219 D	26.684	140.2	0.582	0.98	14.7	52.1	2.69	33.8	0.01	0.00			302	
322	7.75	7.72	34.225	26.707	138.3	0.612	0.93	13.9	53.6	2.73	34.1	0.00	0.00			324	204
381	7.40	7.36	34.249	26.777	132.5	0.692	0.73	10.8	58.5	2.83	35.4	0.00	0.00			383	203
400 ISL	7.32 D	7.28	34.252 D	26.791	131.5	0.717	0.68	10.1	60.1	2.86	35.8	0.00	0.00			403	
444	7.04	7.00	34.267	26.842	127.1	0.774	0.57	8.4	64.2	2.94	36.7	0.00	0.00			447	202
500 ISL	6.62 D	6.57	34.280 D	26.909	121.1	0.844	0.45	6.6	70.6	3.03	38.0	0.00	0.00			503	
517	6.52	6.47	34.284	26.926	119.7	0.864	0.41	6.0	72.5	3.06	38.4	0.00	0.00			521	201

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

RV NEW HORIZON CALCOFI CRUISE 0911 STATION 83.3 60.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT TYPE
33 34.6 N	120 45.1 W	17/11/09	1738 UTC	1340 m	320 15 kn	290 04 09	0	1015.8 mb	17.0 C	14.9 C	14m	0/8

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	15.26	15.26	33.418	24.697	323.7	0.000	5.75	100.6	3.6	0.44	1.1	0.09	0.09	0.97	0.25	0	
2 A	15.26	15.26	33.418	24.697	323.7	0.006	5.75	100.6	3.6	0.44	1.1	0.09	0.09	0.97	0.25	2	223
10 A	15.26	15.26	33.413 D	24.693	324.3	0.032	5.74	100.5	3.5	0.44	1.1	0.09	0.08	1.01	0.30	10	220
10	15.26	15.26	33.413	24.693	324.3	0.032										10	222
20 ISL	15.24 D	15.24	33.413 D	24.698	324.2	0.065	5.76	100.8	3.6	0.44	1.1	0.09	0.08	0.93	0.49	20	
21 A	15.24	15.24	33.414	24.699	324.1	0.068	5.76	100.8	3.6	0.44	1.1	0.09	0.08	0.92	0.50	21	219
30 ISL	15.23 D	15.23	33.412 D	24.699	324.3	0.097	5.80	101.4	3.6	0.44	1.1	0.09	0.10	0.84	0.33	30	
31 A	15.23	15.23	33.413	24.700	324.3	0.100	5.80	101.4	3.6	0.44	1.1	0.09	0.10	0.82	0.30	31	218
40 A	14.65	14.64	33.413	24.826	312.5	0.129	5.28	91.3	6.0	0.69	4.8	0.17	0.08	0.44	0.23	40	217
48	12.91	12.90	33.420	25.189	278.1	0.153	4.66	77.7	10.6	1.06	11.0	0.13	0.06	0.29	0.24	48	216
50 ISL	12.25 D	12.24	33.459 D	25.347	263.1	0.158	4.43	72.9	12.0	1.17	12.7	0.11	0.05	0.25	0.23	50	
58 A	11.41	11.40	33.583	25.600	239.1	0.178	3.56	57.6	17.7	1.55	18.9	0.02	0.00	0.13	0.15	58	215
65	10.54	10.53	33.661	25.816	218.7	0.194	3.20	50.8	21.6	1.76	22.2	0.01	0.00	0.05	0.09	65	214
70	10.12	10.11	33.688	25.909	209.9	0.205	3.20	50.3	23.3	1.81	23.2	0.01	0.04	0.03	0.07	70	213
75 ISL	9.99 D	9.98	33.697 D	25.938	207.2	0.215	3.21	50.4	24.0	1.83	23.4	0.01	0.03	0.03	0.07	75	
86	9.78	9.77	33.719	25.990	202.4	0.238	3.23	50.4	24.7	1.85	23.8	0.01	0.00	0.02	0.06	86	212
100	9.55	9.54	33.796	26.089	193.3	0.266	3.00	46.6	26.5	1.91	24.9	0.01	0.00	0.01	0.05	101	211
120	9.04	9.03	33.885	26.241	179.2	0.303	2.99	46.0	29.3	1.93	25.8	0.01	0.00	0.00	0.04	121	210
125 ISL	8.97 D	8.96	33.889 D	26.255	177.9	0.312	2.96	45.5	29.8	1.94	25.9	0.01	0.00	0.00	0.04	126	
140	8.85	8.84	33.954	26.325	171.6	0.338	2.82	43.2	31.4	1.98	26.5	0.01	0.00	0.00	0.05	141	209
150 ISL	8.70 D	8.68	33.975 D	26.365	167.9	0.355	2.63	40.2	33.0	2.05	27.3	0.01	0.00	0.00	0.05	151	
170	8.51	8.49	34.027	26.436	161.6	0.388	2.32	35.3	36.4	2.17	29.0	0.01	0.00	0.00	0.04	171	208
200 ISL	7.75 D	7.73	34.007 D	26.534	152.5	0.435	2.50	37.4	40.7	2.18	30.0	0.01	0.00	0.00	0.03	201	
202	7.74	7.72	34.009	26.537	152.3	0.438	2.51	37.5	41.0	2.18	30.0	0.01	0.00	0.00	0.03	203	207
229	7.53	7.51	34.025	26.580	148.6	0.479	2.24	33.3	45.0	2.29	31.5	0.00	0.00			230	206
250 ISL	7.57 D	7.55	34.080 D	26.618	145.4	0.510	1.90	28.3	47.9	2.41	32.7	0.00	0.00			252	
272	7.43	7.40	34.097	26.651	142.5	0.541	1.54	22.9	50.8	2.53	33.8	0.00	0.00			274	205
300 ISL	7.20 D	7.17	34.121 D	26.703	138.0	0.581	1.21	17.9	54.2	2.66	34.9	0.00	0.00			302	
321	7.22	7.19	34.169	26.738	135.0	0.609	1.02	15.1	56.7	2.74	35.6	0.00	0.00			323	204
381	6.89	6.85	34.244	26.843	125.8	0.687	0.62	9.1	64.3	2.92	37.0	0.00	0.00			383	203
400 ISL	6.78 D	6.74	34.252 D	26.865	123.9	0.711	0.54	7.9	66.6	2.96	37.4	0.00	0.00			403	
441	6.54	6.50	34.279	26.919	119.3	0.761	0.42	6.1	70.9	3.04	38.3	0.00	0.00			444	202
500 ISL	6.35 D	6.30	34.310 D	26.969	115.2	0.830	0.33	4.8	74.8	3.10	39.1	0.00	0.00			503	
516	6.31	6.26	34.316	26.979	114.5	0.849	0.30	4.3	75.9	3.11	39.3	0.00	0.00			520	201

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

RV NEW HORIZON CALCOFI CRUISE 0911 STATION 83.3 70.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT TYPE
33 14.7 N	121 26.4 W	17/11/09	1112 UTC	3803 m	330 12 kn			1017.1 mb	14.1 C	12.8 C		

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	14.42	14.42	33.262	24.757	317.9	0.000	6.00	103.1	3.6	0.51	1.6	0.10	0.08	0.91	0.27	0	
2	14.42	14.42	33.262	24.757	317.9	0.006	6.00	103.1	3.6	0.51	1.6	0.10	0.08	0.91	0.27	2	221
10	14.43	14.43	33.257	24.751	318.7	0.032	5.97	102.6	3.6	0.52	1.6	0.10	0.06	0.95	0.28	10	219
10	14.44	14.44	33.256	24.749	319.0	0.032										10	220
20	14.39	14.39	33.286	24.783	316.1	0.064	5.98	102.7	3.4	0.50	1.4	0.10	0.10	1.17	0.35	20	218
30	14.34	14.34	33.301	24.805	314.2	0.095	5.98	102.6	3.3	0.53	1.4	0.11	0.14	1.30	0.39	30	217
40	14.34	14.33	33.305	24.808	314.2	0.127	5.93	101.8	3.2	0.51	1.4	0.12	0.19	1.36	0.43	40	216
50	13.64	13.63	33.215	24.884	307.2	0.158	5.77	97.6	3.9	0.66	3.5	0.23	0.58	0.46	0.32	50	215
61	11.98	11.97	33.235	25.224	275.0	0.190	5.17	84.4	9.2	1.07	10.6	0.14	0.00	0.35	0.23	61	214
70	11.14	11.13	33.292	25.423	256.2	0.214	4.85	77.8	12.2	1.27	14.1	0.04	0.00	0.17	0.16	70	213
75 ISL	10.36 D	10.35	33.346 D	25.601	239.2	0.226	4.62	72.9	14.5	1.40	16.3	0.03	0.00	0.12	0.13	75	
85	10.10	10.09	33.456	25.732	227.0	0.249	4.17	65.5	18.9	1.62	20.1	0.02	0.00	0.07	0.09	85	212
100	9.82	9.81	33.612	25.901	211.3	0.282	3.74	58.4	22.9	1.79	23.0	0.01	0.00	0.03	0.08	100	211
120	9.27	9.26	33.833	26.164	186.6	0.322	3.05	47.1	27.7	1.94	25.5	0.01	0.00	0.01	0.04	121	210
125 ISL	9.23 D	9.22	33.848 D	26.182	185.0	0.331	2.93	45.2	28.7	1.98	26.1	0.01	0.00	0.01	0.04	126	
140	9.01	8.99	33.914	26.269	177.0	0.358	2.64	40.6	31.5	2.10	27.7	0.01	0.00	0.00	0.04	141	209
150 ISL	8.83 D	8.81	33.964 D	26.337	170.7	0.376	2.51	38.4	33.0	2.14	28.3	0.01	0.00	0.00	0.04	151	
170	8.59	8.57	34.001	26.403	164.7	0.409	2.33	35.5	35.7	2.20	29.1	0.01	0.00	0.00	0.04	171	208
200	8.19	8.17	34.034	26.490	156.9	0.457	2.11	31.9	39.6	2.29	30.8	0.00	0.00	0.00	0.04	201	207
230	7.80	7.78	34.056	26.565	150.1	0.504	1.79	26.8	44.6	2.43	32.6	0.00	0.00			231	206
250 ISL	7.56 D	7.54	34.064 D	26.607	146.4	0.533	1.70	25.3	47.2	2.49	33.4	0.00	0.00			251	
270	7.39	7.36	34.061	26.629	144.6	0.562	1.65	24.5	49.6	2.53	34.1	0.00	0.00			272	205
300 ISL	7.02 D	6.99	34.068 D	26.686	139.4	0.605	1.51	22.2	54.1	2.61	35.2	0.00	0.00			302	
320	6.80	6.77	34.069	26.717	136.6	0.632	1.41	20.6	57.3	2.67	36.0	0.00	0.00			322	204
381	6.12	6.09	34.091	26.824	126.9	0.713	1.09	15.7	67.7	2.86	38.4	0.00	0.00			383	203
400 ISL	5.90 D	5.87	34.095 D	26.854	124.1	0.737	1.01	14.5	70.9	2.90	39.0	0.00	0.00			403	
441	5.62	5.58	34.119	26.908	119.3	0.787	0.84	11.9	76.9	2.99	40.1	0.00	0.00			444	202
500 ISL	5.75 D	5.71	34.238 D	26.987	112.8	0.855	0.56	8.0	82.2	3.12	40.8	0.00	0.00			503	
515	5.60	5.56	34.239	27.006	111.0	0.872	0.49	7.0	83.6	3.15	41.0	0.00	0.00			519	201

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

RV NEW HORIZON CALCOFI CRUISE 0911 STATION 83.3 80.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT TYPE
32 54.6 N	122 7.6 W	17/11/09	0516 UTC	4184 m	340 08 kn			1018.8 mb	15.0 C	13.5 C		

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	15.54	15.54	33.197	24.465	345.7	0.000	5.78	101.6	2.1	0.38	0.1	0.01	0.00	0.39	0.13	0	
2	15.54	15.54	33.197	24.465	345.8	0.007	5.78	101.6	2.1	0.38	0.1	0.01	0.00	0.39	0.13	2	221
10	15.55	15.55	33.197	24.463	346.2	0.035	5.79	101.8	2.1	0.38	0.1	0.01	0.05	0.39	0.15	10	219
10	15.55	15.55	33.203	24.468	345.8	0.035										10	220
20	15.48	15.48	33.201	24.482	344.7	0.069	5.80	101.8	2.1	0.38	0.2	0.02	0.00	0.44	0.15	20	218
30	15.48	15.48	33.200	24.481	345.1	0.104	5.80	101.8	2.3	0.39	0.2	0.02	0.06	0.45	0.15	30	217
40	15.46	15.45	33.201	24.487	344.9	0.138	5.80	101.8	2.2	0.38	0.2	0.02	0.05	0.45	0.16	40	216
50	15.31	15.30	33.203	24.522	341.9	0.172	5.79	101.3	2.3	0.39	0.3	0.03	0.06	0.55	0.18	50	215
60	15.05	15.04	33.193	24.571	337.4	0.206	5.79	100.8	2.5	0.42	0.4	0.04	0.09	0.50	0.20	60	214
70	13.19	13.18	33.003	24.811	314.6	0.239	5.95	99.5	3.5	0.52	1.3	0.17	0.10	0.37	0.30	70	213
75 ISL	11.51 D	11.50	32.825 D	24.993	297.2	0.254	5.92	95.5	4.4	0.60	2.7	0.14	0.07	0.29	0.27	75	
85	10.63	10.62	32.852	25.170	280.4	0.283	5.74	90.8	6.4	0.79	6.0	0.02	0.00	0.16	0.16	85	212
100	10.01	10.00	32.965	25.364	262.2	0.324	5.43	84.8	9.4	1.01	10.2	0.01	0.00	0.09	0.09	100	211
120	9.49	9.48	33.255	25.676	232.9	0.373	4.81	74.4	16.1	1.36	16.6	0.00	0.00	0.02	0.03	121	210
125 ISL	9.46 D	9.45	33.358 D	25.762	224.9	0.385	4.64	71.8	17.5	1.45	18.1	0.00	0.00	0.02	0.03	126	
140	9.54	9.52	33.505	25.864	215.5	0.418	4.17	64.7	21.1	1.67	21.6	0.00	0.00	0.01	0.03	141	209
150 ISL	9.54 D	9.52	33.615 D	25.950	207.6	0.439	4.04	62.7	22.6	1.68	22.4	0.00	0.00	0.01	0.03	151	
170	8.93	8.91	33.785	26.181	185.9	0.478	3.80	58.3	25.4	1.71	23.2	0.00	0.00	0.00	0.02	171	208
200	8.67	8.65	33.967	26.365	169.0	0.532	2.91	44.4	32.2	1.97	27.0	0.00	0.00	0.00	0.02	201	207
230	8.44	8.42	34.037	26.455	160.8	0.581	2.21	33.6	37.4	2.20	30.3	0.00	0.00			231	206
250 ISL	8.39 D	8.36	34.091 D	26.505	156.5	0.613	1.97	29.9	40.2	2.30	31.5	0.00	0.00			251	
270	8.04	8.01	34.080	26.550	152.4	0.644	1.83	27.5	43.1	2.38	32.4	0.00	0.00			272	205
300 ISL	7.29 D	7.26	34.071 D	26.651	142.9	0.688	1.67	24.7	48.9	2.50	34.3	0.00	0.00			302	
320	7.12	7.09	34.061	26.667	141.6	0.716	1.57	23.1	52.9	2.57	35.5	0.00	0.00			322	204
381	6.77	6.73	34.156	26.790	130.7	0.799	0.99	14.5	61.9	2.81	37.8	0.00	0.00			383	203
400 ISL	6.64 D	6.60	34.174 D	26.822	127.8	0.824	0.86	12.5	64.6	2.88	38.4	0.00	0.00			403	
440	6.34	6.30	34.211	26.891	121.7	0.874	0.64	9.3	70.3	3.00	39.6	0.00	0.00			443	202
500 ISL	5.78 D	5.74	34.223 D	26.972	114.3	0.945	0.46	6.6	78.9	3.09	41.4	0.00	0.00			503	
516	5.73	5.69	34.236	26.988	112.8	0.963	0.41	5.8	81.2	3.12	41.9	0.00	0.00			519	201

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

RV NEW HORIZON CALCOFI CRUISE 0911 STATION 83.3 90.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
32 34.4 N	122 48.7 W	16/11/09	2321 UTC	4285 m	350 11 kn	350 03 07	1	1019.2 mb	18.0 C	16.0 C	23m	4/8	SC

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	16.60	16.60	33.074	24.130	377.6	0.000	5.66	101.5	1.7	0.35	0.0	0.00	0.00	0.16	0.05	0	
2	16.60	16.60	33.074	24.131	377.7	0.008	5.66	101.5	1.7	0.35	0.0	0.00	0.00	0.16	0.05	2	221
9	16.48	16.48	33.073	24.158	375.3	0.034										9	220
10	16.49	16.49	33.073	24.156	375.6	0.038	5.69	101.8	1.7	0.35	0.0	0.00	0.00	0.17	0.05	10	219
20 ISL	16.32 D	16.32	33.082 D	24.202	371.5	0.075	5.70	101.7	1.8	0.35	0.0	0.00	0.00	0.19	0.06	20	
25	16.26	16.26	33.088 D	24.220	369.9	0.094	5.70	101.6	1.8	0.35	0.0	0.00	0.00	0.21	0.07	25	218
30 ISL	16.22 D	16.22	33.093 D	24.233	368.8	0.112	5.70	101.5	1.8	0.35	0.0	0.00	0.00	0.22	0.08	30	
40	16.18	16.17	33.101	24.249	367.6	0.149	5.70	101.4	1.7	0.35	0.0	0.00	0.00	0.26	0.09	40	217
50	16.24	16.23	33.156	24.278	365.2	0.185	5.72	101.9	1.8	0.36	0.0	0.00	0.00	0.38	0.16	50	216
61	14.70	14.69	32.991	24.491	345.1	0.225	6.10	105.3	2.4	0.38	0.0	0.00	0.06	0.45	0.26	61	215
75	12.45	12.44	32.857	24.842	311.7	0.270	6.16	101.4	3.5	0.48	0.5	0.15	0.10	0.32	0.28	75	214
87	11.14	11.13	32.796	25.037	293.2	0.307	6.00	96.0	5.0	0.66	3.2	0.09	0.00	0.17	0.14	87	213
100	10.78	10.77	32.907	25.187	279.2	0.344	5.62	89.3	7.2	0.86	7.4	0.01	0.00	0.09	0.12	100	212
112	10.26	10.25	32.910	25.279	270.6	0.377	5.53	86.8	8.7	0.96	9.2	0.01	0.00	0.06	0.08	112	211
125 ISL	9.94 D	9.93	33.065 D	25.454	254.2	0.411	5.32	83.0	10.6	1.08	11.3	0.01	0.00	0.04	0.05	126	
126	9.99	9.98	33.059	25.441	255.4	0.414	5.30	82.8	10.7	1.09	11.5	0.01	0.00	0.04	0.05	127	210
140	9.72	9.70	33.250	25.635	237.3	0.448	5.03	78.2	12.3	1.15	13.1	0.00	0.00	0.03	0.03	141	209
150 ISL	9.42 D	9.40	33.460 D	25.848	217.1	0.471	4.76	73.6	14.8	1.25	15.1	0.00	0.00	0.02	0.03	151	
171	9.19	9.17	33.678	26.056	197.8	0.514	4.06	62.6	21.9	1.56	20.4	0.00	0.00	0.01	0.02	172	208
200 ISL	8.69 D	8.67	33.895 D	26.305	174.6	0.568	2.84	43.3	32.8	2.09	28.1	0.00	0.00	0.00	0.02	201	
201	8.68	8.66	33.895	26.307	174.5	0.570	2.80	42.7	33.1	2.10	28.3	0.00	0.00	0.00	0.02	202	207
230	8.19	8.17	33.971	26.441	162.1	0.619	2.65	40.0	36.0	2.10	28.7	0.00	0.00			231	206
250 ISL	7.78 D	7.76	33.985 D	26.513	155.4	0.651	2.53	37.8	39.6	2.15	29.6	0.00	0.00			251	
270	7.53	7.50	33.998	26.559	151.2	0.681	2.39	35.5	43.6	2.23	30.8	0.00	0.00			271	205
300 ISL	7.17 D	7.14	34.034 D	26.639	144.0	0.726	2.12	31.3	49.0	2.37	32.6	0.00	0.00			302	
321	6.85	6.82	34.021	26.672	140.9	0.756	1.90	27.8	52.9	2.47	33.9	0.00	0.00			323	204
381	6.20	6.17	34.072	26.798	129.4	0.837	1.25	18.0	65.0	2.75	37.4	0.00	0.00			383	203
400 ISL	6.21 D	6.17	34.122 D	26.837	126.0	0.861	1.07	15.4	67.9	2.83	38.1	0.00	0.00			402	
440	5.92	5.88	34.146	26.893	121.0	0.910	0.76	10.9	73.4	2.96	39.3	0.00	0.00			443	202
500 ISL	5.54 D	5.50	34.200 D	26.983	112.9	0.981	0.47	6.7	81.5	3.09	40.6	0.00	0.00			503	
520	5.53	5.49	34.230	27.008	110.8	1.003	0.38	5.4	84.2	3.13	41.0	0.00	0.00			523	201

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

RV NEW HORIZON CALCOFI CRUISE 0911 STATION 83.3 100.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
32 14.7 N	123 29.5 W	16/11/09	1734 UTC	4168 m	010 10 kn	360 02 06	0	1021.5 mb	18.9 C	15.3 C	28m	0/8	

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	16.88	16.88	33.074	24.066	383.8	0.000	5.60	101.0	1.5	0.33	0.0	0.00	0.00	0.17	0.06	0	
2 A	16.88	16.88	33.074	24.066	383.9	0.008	5.60	101.0	1.5	0.33	0.0	0.00	0.00	0.17	0.06	2	223
10 ISL	16.86 D	16.86	33.076 D	24.072	383.5	0.038	5.60	101.0	1.5	0.33	0.0	0.00	0.00	0.18	0.06	10	
11	16.86	16.86	33.076	24.072	383.5	0.042	5.60	101.0	1.5	0.33	0.0	0.00	0.00	0.18	0.06	11	221
11	16.86	16.86	33.074	24.071	383.7	0.042										11	222
20 ISL	16.85 D	16.85	33.077 D	24.076	383.5	0.077	5.60	100.9	1.4	0.33	0.0	0.00	0.00	0.17	0.07	20	
21 A	16.85	16.85	33.076	24.075	383.6	0.081	5.60	100.9	1.4	0.33	0.0	0.00	0.00	0.17	0.07	21	220
30 ISL	16.83 D	16.83	33.077 D	24.081	383.3	0.115	5.61	101.1	1.5	0.33	0.0	0.00	0.00	0.19	0.07	30	
32	16.83	16.82	33.075	24.079	383.5	0.123	5.62	101.3	1.5	0.33	0.0	0.00	0.00	0.19	0.07	32	219
42 A	16.77	16.76	33.068	24.088	383.0	0.161	5.67	102.0	1.5	0.32	0.0	0.00	0.00	0.30	0.02	42	218
50 ISL	16.73 D	16.72	33.062 D	24.093	382.8	0.192	5.63	101.2	1.4	0.33	0.0	0.00	0.04	0.25	0.07	50	
53	16.73	16.72	33.063	24.094	382.8	0.203	5.61	100.9	1.4	0.33	0.0	0.00	0.05	0.22	0.09	53	217
64 A	16.66	16.65	33.060	24.108	381.8	0.245	5.64	101.3	1.5	0.33	0.0	0.00	0.04	0.22	0.09	64	216
71	16.63	16.62	33.057	24.113	381.6	0.272	5.64	101.2	1.5	0.32	0.0	0.00	0.04	0.25	0.09	71	215
75 ISL	16.46 D	16.45	33.065 D	24.159	377.3	0.287	5.77	103.2	1.7	0.32	0.0	0.00	0.06	0.27	0.10	75	
79 A	15.77	15.76	33.119	24.356	358.5	0.302	5.92	104.5	2.0	0.31	0.0	0.00	0.07	0.28	0.11	79	214
90	14.61	14.60	33.226	24.692	326.7	0.340	6.01	103.7	2.5	0.29	0.0	0.00	0.04	0.22	0.14	90	213
100 ISL	13.97 D	13.96	33.259 D	24.852	311.7	0.371	5.86	99.8	2.9	0.32	0.1	0.05	0.05	0.19	0.12	100	
102	13.86	13.85	33.257	24.873	309.7	0.378	5.82	98.9	3.0	0.33	0.1	0.06	0.05	0.19	0.12	102	212
114 A	13.01	12.99	33.179	24.984	299.3	0.414	5.76	96.1	3.6	0.43	1.0	0.17	0.00	0.16	0.13	114	211
125 ISL	11.90 D	11.88	33.142 D	25.168	281.8	0.446	5.60	91.2	4.8	0.60	3.7	0.07	0.00	0.09	0.12	126	
128	11.44	11.42	33.109	25.228	276.2	0.455	5.55	89.5	5.3	0.66	4.7	0.03	0.00	0.07	0.12	129	210
145	9.85	9.83	33.003	25.421	257.7	0.500	5.37	83.6	9.9	1.03	10.7	0.01	0.00	0.04	0.05	146	209
150 ISL	9.57 D	9.55	33.169 D	25.596	241.1	0.512	5.19	80.4	11.8	1.13	12.5	0.01	0.00	0.03	0.04	151	
169	9.39	9.37	33.502	25.886	213.9	0.556	4.40	68.0	18.7	1.44	18.4	0.00	0.00	0.01	0.02	170	208
200	9.20	9.18	33.809	26.157	188.8	0.618	3.68	56.8	24.3	1.66	22.3	0.00	0.00	0.00	0.02	201	207
230	8.68	8.66	33.944	26.346	171.4	0.672	3.27	49.9	29.8	1.84	25.2	0.00	0.00			231	206
250 ISL	8.24 D	8.21	33.985 D	26.445	162.1	0.705	2.99	45.2	34.0	1.97	27.1	0.00	0.00			251	
270	7.95	7.92	33.998	26.499	157.2	0.737	2.71	40.7	38.4	2.10	28.8	0.00	0.00			271	205
300 ISL	7.54 D	7.51	34.014 D	26.571	150.6	0.784	2.33	34.6	44.4	2.26	31.1	0.00	0.00			302	
320	7.26	7.23	34.029	26.622	145.9	0.813	2.09	30.9	48.3	2.36	32.5	0.00	0.00			322	204
381	6.64	6.61	34.082	26.749	134.4	0.899	1.34	19.5	59.4	2.69	36.2	0.00	0.00			383	203
400 ISL	6.45 D	6.41	34.092 D	26.782	131.4	0.924	1.20	17.4	63.1	2.77	37.2	0.00	0.00			402	
441	6.00	5.96	34.112	26.856	124.6	0.976	0.97	13.9	70.4	2.89	38.8	0.00	0.00			444	202
500 ISL	5.64 D	5.60	34.161 D	26.940	117.1	1.048	0.76	10.8	77.5	2.98	39.7	0.00	0.00			503	
516	5.55	5.51	34.158	26.948	116.4	1.066	0.70	9.9	79.4	3.01	40.0	0.00	0.00			519	201

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

RV NEW HORIZON CALCOFI CRUISE 0911 STATION 83.3 110.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
31 54.4 N	124 10.4 W	16/11/09	1113 UTC	4238 m	010 10 kn			1021.1 mb	15.9 C	13.0 C			

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	17.64	17.64	33.325	24.078	382.6	0.000	5.50	100.8	1.9	0.31	0.0	0.00	0.00	0.13	0.05	0	
3	17.64	17.64	33.325	24.078	382.7	0.011	5.50	100.8	1.9	0.31	0.0	0.00	0.00	0.13	0.05	3	224
10	17.64	17.64	33.326	24.079	382.8	0.038	5.52	101.2	2.0	0.31	0.0	0.00	0.00	0.13	0.04	10	219
11	17.64	17.64	33.323	24.077	383.1	0.042										11	220
20 ISL	17.65 D	17.65	33.323 D	24.075	383.6	0.077	5.53	101.4	2.0	0.30	0.0	0.00	0.04	0.13	0.04	20	
25	17.65	17.65	33.325	24.076	383.6	0.096	5.53	101.4	2.0	0.30	0.0	0.00	0.05	0.13	0.04	25	218
30 ISL	17.65 D	17.64	33.323 D	24.075	383.9	0.115	5.52	101.2	1.9	0.30	0.0	0.00	0.03	0.13	0.04	30	
40	17.65	17.64	33.323	24.076	384.2	0.153	5.51	101.0	1.7	0.31	0.0	0.00	0.00	0.13	0.04	40	217
50	17.65	17.64	33.324	24.077	384.4	0.192	5.54	101.6	1.9	0.31	0.0	0.00	0.05	0.13	0.04	50	216
63	17.64	17.63	33.321	24.077	384.8	0.242	5.53	101.3	1.9	0.30	0.0	0.00	0.05	0.13	0.04	63	215
75	14.92	14.91	33.241	24.637	331.6	0.285	6.06	105.2	2.4	0.31	0.0	0.00	0.05	0.20	0.13	75	214
87	14.21	14.20	33.213	24.766	319.6	0.324	5.90	100.9	2.5	0.34	0.0	0.00	0.00	0.19	0.14	87	213
100 ISL	13.55 D	13.54	33.210 D	24.900	307.1	0.365	5.75	97.0	3.0	0.40	0.3	0.15	0.00	0.19	0.18	100	
101	13.57	13.56	33.210	24.896	307.5	0.368	5.74	96.9	3.1	0.40	0.3	0.16	0.00	0.19	0.18	101	212
112	12.20	12.19	33.023	25.020	295.7	0.401	5.67	92.9	4.5	0.62	3.5	0.04	0.00	0.13	0.17	112	211
125	11.23	11.21	33.024	25.199	278.7	0.438	5.53	88.8	6.4	0.82	7.1	0.01	0.00	0.08	0.08	126	210
140	10.42	10.40	33.141	25.433	256.7	0.478	5.26	83.0	10.6	1.09	11.6	0.00	0.00	0.03	0.03	141	209
150 ISL	10.43 D	10.41	33.249 D	25.515	249.1	0.504	5.06	79.9	12.6	1.20	13.6	0.00	0.00	0.02	0.03	151	
171	10.00	9.98	33.434	25.733	228.7	0.554	4.59	71.9	16.3	1.38	17.0	0.00	0.00	0.01	0.02	172	208
200 ISL	9.49 D	9.47	33.723 D	26.043	199.7	0.616	3.79	58.8	22.5	1.66	21.8	0.00	0.00	0.00	0.01	201	
201	9.50	9.48	33.722	26.041	200.0	0.618	3.76	58.3	22.7	1.67	21.9	0.00	0.00	0.00	0.01	202	207
230	8.96	8.94	33.907	26.273	178.4	0.673	3.26	50.0	28.2	1.83	24.8	0.00	0.00			231	206
250 ISL	8.54 D	8.51	33.962 D	26.381	168.3	0.707	3.06	46.5	31.9	1.92	26.3	0.00	0.00			251	
271	8.14	8.11	33.991	26.465	160.5	0.742	2.87	43.3	35.9	2.02	27.8	0.00	0.00			272	205
300 ISL	7.72 D	7.69	34.016 D	26.547	153.1	0.787	2.46	36.7	41.8	2.22	30.3	0.00	0.00			302	
321	7.45	7.42	34.032	26.598	148.4	0.819	2.15	31.9	46.1	2.36	32.1	0.00	0.00			323	204
381	6.66	6.63	34.063	26.731	136.1	0.904	1.52	22.1	58.1	2.64	36.0	0.00	0.00			383	203
400 ISL	6.44 D	6.40	34.077 D	26.772	132.4	0.930	1.37	19.9	61.2	2.71	36.8	0.00	0.00			402	
441	6.18	6.14	34.102	26.825	127.6	0.983	1.08	15.6	67.4	2.85	38.3	0.00	0.00			444	202
500 ISL	5.73 D	5.69	34.163 D	26.930	118.1	1.056	0.76	10.8	77.1	3.01	40.1	0.00	0.00			503	
518	5.64	5.60	34.184	26.958	115.6	1.077	0.66	9.4	80.0	3.06	40.7	0.00	0.00			521	201

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

RV NEW HORIZON CALCOFI CRUISE 0911 STATION 85.4 35.8

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
34 0.6 N	118 49.8 W	13/11/09	1419 UTC	28 m	020 01 kn	260 01 07	1	1007.6 mb	15.0 C	11.0 C		2/8	SC

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	16.51	16.51	33.392	24.395	352.4	0.000	6.01	107.8	2.0	0.31	0.0	0.01	0.05	1.78	0.31	0	
1	16.51	16.51	33.392	24.396	352.4	0.004	6.01	107.8	2.0	0.31	0.0	0.01	0.05	1.78	0.31	1	205
5	16.47	16.47	33.391	24.404	351.7	0.018	6.03	108.1	2.0	0.30	0.0	0.01	0.00	1.77	0.28	5	204
10	15.99	15.99	33.353	24.484	344.2	0.035	5.99	106.3	2.1	0.33	0.0	0.01	0.04	1.05	0.34	10	202
10	16.05	16.05	33.363	24.479	344.7	0.035										10	203
20	15.29	15.29	33.311 D	24.608	332.7	0.069	5.76	100.8	3.6	0.48	0.2	0.13	0.12	2.53	0.40	20	206

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

RV NEW HORIZON CALCOFI CRUISE 0911 STATION 86.7 33.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
33 53.4 N	118 29.6 W	13/11/09	1035 UTC	60 m	340 03 kn			1006.6 mb	17.1 C	13.5 C			

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	17.23	17.23	33.413	24.243	366.9	0.000	5.80	105.5	1.9	0.29	0.0	0.00	0.00	0.28	0.07	0	
1	17.23	17.23	33.413	24.243	366.9	0.004	5.80	105.5	1.9	0.29	0.0	0.00	0.00	0.28	0.07	1	208
5	17.23	17.23	33.412	24.243	367.1	0.018	5.84	106.3	1.7	0.29	0.0	0.00	0.00	0.27	0.07	5	207
10	17.20	17.20	33.415	24.252	366.3	0.037	5.80	105.5	1.9	0.29	0.0	0.00	0.00	0.28	0.09	10	205
10	17.21	17.21	33.414	24.249	366.6	0.037										10	206
20 ISL	16.60 D	16.60	33.369 D	24.358	356.6	0.073	5.91	106.2	2.0	0.29	0.0	0.00	0.00	0.33	0.13	20	
21	16.72	16.72	33.385	24.342	358.1	0.076	5.93	106.8	2.0	0.29	0.0	0.00	0.00	0.33	0.13	21	204
30	14.54	14.54	33.243	24.718	322.5	0.107	6.14	105.8	3.4	0.44	0.6	0.17	0.73	1.05	0.50	30	203
40	13.55	13.54	33.215	24.902	305.2	0.138	5.53	93.3	5.9	0.71	3.6	0.54	2.71	0.72	0.60	40	202
50	12.13	12.12	33.311	25.255	271.8	0.167	4.64	76.1	10.7	1.11	10.8	0.57	0.28	0.18	0.29	50	201

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

RV NEW HORIZON CALCOFI CRUISE 0911 STATION 86.7 35.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
33 49.2 N	118 38.4 W	13/11/09	1804 UTC	751 m	290 11 kn	270 03 07	1	1009.6 mb	17.9 C	14.5 C	23m	2/8	CU

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	17.36	17.36	33.432 D	24.227	368.4	0.000	5.76D	105.1 D	1.7	0.31	0.1	0.00	0.00	0.36	0.09	0	
2	17.36	17.36	33.432 D	24.227	368.5	0.007	5.76D	105.1 D								2	223
9 A	17.34	17.34	33.421	24.224	369.0	0.033	5.75	104.9	1.9	0.30	0.0	0.00	0.00	0.40	0.05	9	221
9	17.36	17.36	33.432	24.227	368.7	0.033	5.75	104.9								9	222
10 ISL	17.33 D	17.33	33.431 D	24.234	368.1	0.037	5.75	104.8	1.9	0.30	0.0	0.00	0.00	0.39	0.05	10	
17 A	17.31	17.31	33.422	24.232	368.5	0.063	5.76	105.0	1.6	0.30	0.0	0.00	0.00	0.35	0.08	17	220
20 ISL	17.31 D	17.31	33.434 D	24.241	367.7	0.074	5.84	106.4	1.7	0.31	0.0	0.00	0.00	0.37	0.10	20	
26	16.38	16.38	33.349	24.393	353.4	0.095	6.03	107.9	2.1	0.32	0.0	0.00	0.00	0.52	0.16	26	219
30 ISL	14.72 D	14.72	33.263 D	24.695	324.7	0.109	6.10	105.5	2.6	0.36	0.1	0.00	0.00	0.74	0.20	30	
34 A	14.35	14.35	33.242	24.757	318.9	0.122	6.17	105.9	3.3	0.42	0.1	0.01	0.00	0.95	0.26	34	218
43	13.13	13.12	33.241	25.006	295.3	0.149	5.60	93.7	5.0	0.63	3.0	0.15	0.00	1.04	0.59	43	217
50 ISL	12.64 D	12.63	33.271 D	25.126	284.1	0.170	5.18	85.8	6.4	0.81	6.4	0.07	0.00	0.66	0.41	50	
52 A	12.56	12.55	33.274	25.144	282.4	0.175	5.08	84.0	6.9	0.86	7.4	0.04	0.00	0.52	0.34	52	216
57	12.09	12.08	33.296	25.251	272.3	0.189	4.89	80.1	8.3	1.00	9.9	0.03	0.00	0.27	0.30	57	215
65 A	11.67	11.66	33.351	25.372	261.0	0.211	4.46	72.4	11.1	1.19	13.0	0.03	0.00	0.17	0.21	65	214
75 ISL	11.47 D	11.46	33.400 D	25.447	254.1	0.236	4.25	68.7	12.2	1.28	14.5	0.02	0.00	0.13	0.15	75	
79	11.43	11.42	33.403	25.457	253.2	0.246	4.22	68.2	12.4	1.29	14.7	0.02	0.00	0.12	0.14	79	213
93 A	11.22	11.21	33.465	25.543	245.3	0.281	4.01	64.5	14.3	1.39	16.2	0.01	0.00	0.06	0.11	93	212
100 ISL	11.11 D	11.10	33.503 D	25.593	240.7	0.298	3.89	62.5	15.2	1.44	16.9	0.01	0.00	0.05	0.09	100	
106	11.05	11.04	33.523	25.619	238.4	0.313	3.77	60.5	16.0	1.48	17.6	0.01	0.00	0.05	0.08	107	211
120	10.55	10.54	33.660	25.814	220.1	0.345	3.42	54.3	19.0	1.63	20.4	0.00	0.00	0.02	0.06	121	210
125 ISL	10.47 D	10.46	33.694 D	25.855	216.3	0.356	3.30	52.3	20.1	1.68	21.2	0.00	0.00	0.01	0.06	126	
140	10.15	10.13	33.771	25.970	205.6	0.387	2.99	47.1	23.2	1.80	23.0	0.00	0.00	0.00	0.07	141	209
150 ISL	9.98 D	9.96	33.840 D	26.053	198.0	0.408	2.85	44.7	24.6	1.85	23.9	0.00	0.00	0.00	0.07	151	
170	9.75	9.73	33.908	26.145	189.6	0.446	2.60	40.6	27.1	1.95	25.3	0.00	0.00	0.00	0.05	171	208
200 ISL	9.41 D	9.39	34.060 D	26.320	173.5	0.501	2.08	32.3	32.1	2.14	27.6	0.00	0.00	0.00	0.04	201	
201	9.41	9.39	34.061	26.321	173.5	0.503	2.06	32.0	32.3	2.15	27.7	0.00	0.00	0.00	0.04	202	207
231	9.11	9.08	34.141	26.432	163.4	0.553	1.73	26.7	36.3	2.29	29.2	0.00	0.00			232	206
250 ISL	8.97 D	8.94	34.172 D	26.479	159.3	0.584	1.59	24.5	38.3	2.35	29.9	0.00	0.00			251	
270	8.85	8.82	34.183	26.507	157.0	0.615	1.45	22.2	40.4	2.41	30.6	0.00	0.00			272	205
300 ISL	8.45 D	8.42	34.226 D	26.603	148.2	0.661	1.19	18.1	44.9	2.54	32.0	0.00	0.00			302	
320	8.25	8.22	34.242	26.646	144.4	0.690	1.02	15.4	48.0	2.63	32.9	0.00	0.00			322	204
381	7.67	7.63	34.266	26.752	135.1	0.776	0.69	10.3	55.5	2.82	35.1	0.00	0.00			383	203
400 ISL	7.52 D	7.48	34.276 D	26.781	132.5	0.801	0.61	9.1	57.9	2.87	35.7	0.00	0.00			403	
442	7.17	7.13	34.295	26.846	126.8	0.856	0.46	6.8	63.5	2.96	37.0	0.00	0.00			445	202
500 ISL	6.59 D	6.54	34.321 D	26.946	117.7	0.926	0.32	4.7	72.8	3.08	38.8	0.00	0.00			503	
517	6.42	6.37	34.326	26.972	115.2	0.946	0.28	4.1	75.5	3.11	39.3	0.00	0.00			521	201

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

RV NEW HORIZON CALCOFI CRUISE 0911 STATION 86.7 40.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
33 39.5 N	118 58.7 W	13/11/09	2118 UTC	766 m	280 13 kn	290 04 05	1	1008.8 mb	16.5 C	12.8 C	23m	2/8	CC

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	17.11	17.11	33.421	24.278	363.6	0.000	5.71	103.7	1.4	0.35	0.1	0.00	0.00	0.35	0.04	0	
2	17.11	17.11	33.421	24.278	363.6	0.007	5.71	103.7	1.4	0.35	0.1	0.00	0.00	0.35	0.04	2	224
10	17.10	17.10	33.428	24.286	363.1	0.036	5.72	103.8	1.4	0.33	0.0	0.00	0.00	0.36	0.07	10	223
20	17.02	17.02	33.415	24.295	362.6	0.073	5.74	104.0	1.5	0.33	0.0	0.00	0.00	0.34	0.07	20	222
30	14.88	14.88	33.272	24.668	327.3	0.107	5.95	103.2	2.6	0.45	0.8	0.04	0.07	1.34	0.36	30	221
41	13.88	13.87	33.244	24.857	309.5	0.142	5.73	97.4	4.1	0.58	2.6	0.10	0.09	1.10	0.33	41	220
50	13.34	13.33	33.304	25.013	294.9	0.169	5.23	87.9	6.6	0.83	6.6	0.28	0.00	0.83	0.49	50	219
61	12.02	12.01	33.304	25.270	270.6	0.200	4.87	79.6	9.1	1.03	10.3	0.16	0.00	0.33	0.35	61	218
70	11.42	11.41	33.392	25.450	253.7	0.224	4.41	71.2	11.9	1.24	13.9	0.05	0.00	0.20	0.23	70	217
75 ISL	11.15 D	11.14	33.463 D	25.554	243.9	0.236	4.22	67.8	13.2	1.32	15.3	0.04	0.00	0.15	0.19	75	
85	10.89	10.88	33.524	25.648	235.1	0.260	3.89	62.2	15.9	1.47	17.6	0.02	0.00	0.08	0.13	85	216
100	10.33	10.32	33.696	25.880	213.3	0.294	3.28	51.8	20.7	1.71	21.5	0.01	0.00	0.02	0.07	100	215
121	9.95	9.94	33.837	26.055	197.1	0.337	2.80	43.9	25.0	1.89	24.0	0.00	0.00	0.00	0.05	122	214
125 ISL	9.88 D	9.87	33.863 D	26.087	194.1	0.345	2.73	42.8	25.7	1.92	24.3	0.00	0.00	0.00	0.05	126	
141	9.71	9.69	33.932	26.170	186.6	0.375	2.48	38.7	28.0	2.00	25.4	0.00	0.00	0.00	0.06	142	213
150 ISL	9.60 D	9.58	33.985 D	26.229	181.1	0.392	2.38	37.1	28.9	2.03	25.8	0.00	0.00	0.00	0.06	151	
171	9.54	9.52	34.006	26.256	179.0	0.430	2.18	33.9	30.7	2.11	26.8	0.00	0.00	0.00	0.05	172	212
200 ISL	9.29 D	9.27	34.116 D	26.383	167.5	0.480	1.80	27.9	34.4	2.26	28.4	0.00	0.00	0.00	0.05	201	
201	9.29	9.27	34.116	26.383	167.5	0.482	1.79	27.7	34.5	2.27	28.5	0.00	0.00	0.00	0.05	202	211
229	8.98	8.96	34.165	26.472	159.6	0.527	1.58	24.3	38.3	2.38	29.7	0.00	0.00			230	210
250 ISL	8.81 D	8.78	34.192 D	26.520	155.3	0.561	1.40	21.5	41.1	2.45	30.5	0.01	0.00			251	
271	8.61	8.58	34.211	26.566	151.3	0.593	1.24	18.9	43.6	2.52	31.3	0.01	0.00			273	209
300 ISL	8.45 D	8.42	34.230 D	26.606	147.9	0.636	1.10	16.7	46.3	2.59	32.1	0.00	0.00			302	
320	8.25	8.22	34.239	26.644	144.6	0.665	1.02	15.4	48.1	2.64	32.7	0.00	0.00			322	208
380	7.66	7.62	34.268	26.755	134.8	0.749	0.70	10.5	55.9	2.84	34.9	0.00	0.00			382	207
400 ISL	7.34 D	7.30	34.286 D	26.815	129.2	0.776	0.61	9.0	58.5	2.89	35.5	0.00	0.00			403	
441	7.11	7.07	34.298	26.857	125.7	0.828	0.45	6.6	64.3	2.98	36.8	0.00	0.00			444	206
480	6.70	6.66	34.314	26.925	119.4	0.876	0.33	4.8	70.7	3.07	38.0	0.00	0.00			483	205
500 ISL	6.60 D	6.55	34.318 D	26.942	118.0	0.899	0.32	4.7	72.3	3.08	38.4	0.00	0.00			503	
517	6.51	6.46	34.308	26.946	117.8	0.919	0.31	4.5	73.4	3.08	38.7	0.00	0.00			521	204
600 ISL	5.95 D	5.90	34.352 D	27.054	108.1	1.013	0.23	3.3	82.0	3.17	39.2	0.00	0.00			604	
682	5.62	5.56	34.376	27.114	103.1	1.100	0.14	2.0	93.1	3.28	39.7	0.00	0.00			687	203
700 ISL	5.53 D	5.47	34.379 D	27.128	101.9	1.118	0.13	1.8	96.0	3.29	39.4	0.00	0.00			705	
745	5.36	5.30	34.379	27.148	100.2	1.164	0.10	1.4	102.8	3.34	37.9	0.00	0.00			751	202
752	5.35	5.29	34.391	27.159	99.3	1.171	0.09	1.3	103.6	3.35	37.5	0.00	0.00			758	201

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

RV NEW HORIZON CALCOFI CRUISE 0911 STATION 86.7 45.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT TYPE
33 29.2 N	119 19.1 W	14/11/09	0209 UTC	1636 m	310 29 kn			1008.4 mb	14.9 C	12.0 C		

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	15.80	15.80	33.398	24.562	336.5	0.000	5.78	102.2	2.6	0.39	0.8	0.04	0.09	0.79	0.25	0	
3	15.80	15.80	33.398	24.562	336.6	0.010	5.78	102.2	2.6	0.39	0.8	0.04	0.09	0.79	0.25	3	221
9	15.80	15.80	33.399	24.563	336.7	0.030										9	220
10	15.80	15.80	33.400	24.563	336.7	0.034	5.77	102.1	2.6	0.39	0.7	0.04	0.11	0.82	0.27	10	219
20	15.78	15.78	33.397	24.566	336.7	0.067	5.76	101.8	2.6	0.38	0.8	0.04	0.09	0.84	0.27	20	218
30 ISL	13.60 D	13.60	33.303 D	24.960	299.5	0.099	5.47	92.5	5.2	0.65	4.7	0.14	0.04	0.68	0.32	30	
41	12.26	12.25	33.295	25.217	275.1	0.131	4.97	81.7	9.2	1.02	10.1	0.23	0.00	0.43	0.34	41	216
50 ISL	11.66 D	11.65	33.405 D	25.416	256.5	0.155	4.53	73.6	11.9	1.19	12.8	0.17	0.00	0.28	0.27	50	
52	11.59	11.58	33.407	25.430	255.1	0.160	4.43	71.8	12.5	1.23	13.4	0.15	0.00	0.25	0.25	52	215
61	11.12	11.11	33.508	25.594	239.7	0.182	3.98	63.9	15.6	1.42	16.3	0.07	0.00	0.15	0.23	61	214
70	10.83	10.82	33.598	25.716	228.3	0.203	3.62	57.8	18.1	1.54	18.4	0.05	0.00	0.10	0.20	70	213
75 ISL	10.80 D	10.79	33.618 D	25.737	226.4	0.214	3.49	55.7	19.0	1.59	19.1	0.05	0.00	0.08	0.18	75	
85	10.66	10.65	33.671	25.803	220.4	0.237	3.34	53.2	20.1	1.65	19.9	0.04	0.00	0.06	0.16	85	212
100 ISL	10.47 D	10.46	33.697 D	25.857	215.6	0.270	3.24	51.4	21.3	1.70	20.7	0.02	0.00	0.04	0.15	100	
101	10.50	10.49	33.699	25.853	216.0	0.272	3.23	51.2	21.4	1.70	20.7	0.02	0.00	0.04	0.15	102	211
121	10.24	10.23	33.784	25.964	205.8	0.314	2.94	46.4	24.1	1.81	22.5	0.01	0.00	0.02	0.08	122	210
125 ISL	10.20 D	10.19	33.797 D	25.982	204.2	0.322	2.90	45.7	24.4	1.83	22.7	0.01	0.00	0.02	0.07	126	
140	10.10	10.08	33.845	26.036	199.4	0.352	2.75	43.3	25.5	1.89	23.5	0.01	0.00	0.01	0.06	141	209
150 ISL	10.04 D	10.02	33.916 D	26.102	193.3	0.372	2.55	40.1	27.0	1.96	24.3	0.01	0.01	0.01	0.06	151	
170	9.81	9.79	34.026	26.227	181.8	0.409	2.14	33.5	30.5	2.11	26.0	0.00	0.04	0.00	0.05	171	208
200 ISL	9.19 D	9.17	34.106 D	26.392	166.6	0.462	1.91	29.5	34.7	2.23	28.2	0.00	0.00	0.00	0.07	201	
201	9.21	9.19	34.109	26.391	166.8	0.463	1.91	29.5	34.8	2.23	28.3	0.00	0.00	0.00	0.07	202	207
231	8.76	8.74	34.126	26.476	159.1	0.512	1.71	26.2	38.7	2.34	30.1	0.00	0.00			232	206
250 ISL	8.63 D	8.60	34.167 D	26.528	154.4	0.542	1.51	23.0	41.0	2.42	30.9	0.00	0.00			251	
272	8.54	8.51	34.199	26.568	151.1	0.576	1.28	19.5	43.6	2.51	31.7	0.00	0.00			274	205
300 ISL	8.23 D	8.20	34.212 D	26.625	146.0	0.617	1.11	16.8	46.8	2.59	32.6	0.00	0.00			302	
319	8.11	8.08	34.231	26.659	143.1	0.645	1.03	15.5	48.9	2.64	33.1	0.00	0.00			321	204
384	7.60	7.56	34.267	26.762	134.1	0.735	0.72	10.7	56.3	2.83	35.1	0.00	0.00			386	203
400 ISL	7.39 D	7.35	34.274 D	26.798	130.8	0.756	0.67	9.9	57.9	2.86	35.5	0.00	0.00			403	
444	7.17	7.13	34.286	26.839	127.5	0.813	0.55	8.1	62.6	2.94	36.5	0.00	0.00			447	202
500 ISL	6.56 D	6.51	34.320 D	26.949	117.3	0.881	0.38	5.5	70.0	3.05	38.0	0.00	0.00			503	
520	6.51	6.46	34.322	26.957	116.8	0.905	0.32	4.7	72.7	3.09	38.5	0.00	0.00			524	201

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

RV NEW HORIZON CALCOFI CRUISE 0911 STATION 86.7 50.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT TYPE
33 19.3 N	119 40.2 W	14/11/09	0600 UTC	83 m	310 30 kn			1011.1 mb	14.3 C	12.2 C		

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	15.18	15.18	33.373	24.679	325.3	0.000	5.70	99.6	3.5	0.49	1.8	0.07	0.00	1.08	0.36	0	
2	15.18	15.18	33.373	24.679	325.4	0.007	5.70	99.6	3.5	0.49	1.8	0.07	0.00	1.08	0.36	2	210
5	15.20	15.20	33.373	24.675	325.9	0.016	5.70	99.6	3.4	0.46	1.7	0.07	0.00	1.08	0.37	5	209
10	15.18	15.18	33.373	24.680	325.6	0.033	5.69	99.4	3.6	0.47	1.7	0.07	0.04	1.05	0.38	10	207
10	15.19	15.19	33.372	24.677	325.9	0.033										10	208
20	15.05	15.05	33.361	24.699	324.0	0.065	5.68	99.0	3.7	0.49	2.0	0.07	0.00	1.04	0.31	20	206
30 ISL	14.10 D	14.10	33.307 D	24.860	309.0	0.097	5.57	95.1	4.4	0.59	3.5	0.09	0.00	0.81	0.07	30	
31	14.27	14.27	33.317	24.832	311.7	0.100	5.56	95.3	4.5	0.60	3.6	0.09	0.00	0.77	0.05	31	205
41	11.12	11.12	33.238	25.384	259.2	0.128	4.97	79.7	10.8	1.13	12.1	0.04	0.00	0.15	0.18	41	204
49	10.91	10.90	33.389	25.539	244.7	0.149	4.43	70.8	14.1	1.31	15.0	0.05	0.00	0.12	0.20	49	203
50 ISL	10.93 D	10.92	33.436 D	25.572	241.5	0.151	4.38	70.0	14.4	1.33	15.2	0.05	0.00	0.11	0.20	50	
60	10.83	10.82	33.500	25.639	235.3	0.175	3.99	63.7	16.6	1.45	17.0	0.08	0.00	0.08	0.15	60	202
70	10.80	10.79	33.555	25.688	231.0	0.198	3.78	60.3	17.9	1.51	18.0	0.08	0.00	0.10	0.14	70	201

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

RV NEW HORIZON CALCOFI CRUISE 0911 STATION 86.7 55.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT TYPE
33 9.9 N	120 1.5 W	14/11/09	1659 UTC	1165 m	330 27 kn	320 15 07	0	1015.2 mb	15.7 C	12.6 C		0/8

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	15.55	15.55	33.334	24.568	335.9	0.000	5.68	99.9	2.3	0.43	0.7	0.07	0.00	0.65	0.16	0	
3 A	15.55	15.55	33.334	24.568	336.0	0.010	5.68	99.9	2.3	0.43	0.7	0.07	0.00	0.65	0.16	3	221
6 A	15.55	15.55	33.335	24.569	336.0	0.020	5.68	99.9	1.8	0.42	0.7	0.07	0.00	0.62	0.19	6	220
10 ISL	15.54 D	15.54	33.334 D	24.571	336.0	0.034	5.68	99.9	1.8	0.42	0.7	0.06	0.04	0.63	0.18	10	
15 A	15.54	15.54	33.347	24.581	335.2	0.050	5.68	99.9	1.9	0.41	0.7	0.06	0.07	0.66	0.17	15	219
20 ISL	15.55 D	15.55	33.334 D	24.569	336.5	0.067	5.68	99.9	1.8	0.41	0.7	0.07	0.02	0.61	0.20	20	
22 A	15.55	15.55	33.335	24.569	336.5	0.074	5.68	99.9	1.8	0.41	0.7	0.07	0.00	0.59	0.21	22	218
29 A	15.55	15.55	33.334	24.569	336.7	0.097	5.67	99.8	1.9	0.41	0.7	0.07	0.04	0.67	0.19	29	217
30 ISL	15.56 D	15.56	33.334 D	24.567	337.0	0.101	5.67	99.8	1.9	0.41	0.7	0.07	0.04	0.67	0.18	30	
40 A	15.55	15.54	33.335	24.570	337.0	0.135	5.67	99.8	2.1	0.40	0.7	0.07	0.04	0.70	0.14	40	216
49	12.16	12.15	33.207	25.168	280.0	0.162	5.06	83.0	7.9	0.97	9.8	0.03	0.00	0.28	0.15	49	215
50 ISL	12.06 D	12.05	33.207 D	25.187	278.2	0.165	5.02	82.1	8.3	1.01	10.4	0.03	0.00	0.26	0.15	50	
60	10.89	10.88	33.280	25.458	252.6	0.192	4.71	75.2	12.0	1.24	14.4	0.01	0.00	0.13	0.11	60	214
70	10.34	10.33	33.456	25.691	230.6	0.216	4.23	66.8	16.8	1.45	18.2	0.00	0.00	0.04	0.05	70	213
75 ISL	10.12 D	10.11	33.526 D	25.783	222.0	0.227	4.07	64.0	18.1	1.51	19.2	0.00	0.00	0.03	0.05	75	
85	10.02	10.01	33.588	25.848	216.0	0.249	3.79	59.5	19.9	1.61	20.7	0.00	0.00	0.02	0.05	85	212
100	9.84	9.83	33.741	25.998	202.0	0.280	3.25	50.8	23.3	1.76	23.4	0.00	0.00	0.01	0.04	100	211
121	9.57	9.56	33.821	26.106	192.2	0.322	3.07	47.8	25.5	1.82	24.5	0.00	0.00	0.00	0.04	122	210
125 ISL	9.46 D	9.45	33.835 D	26.135	189.5	0.329	3.01	46.7	26.5	1.84	24.9	0.00	0.00	0.00	0.04	126	
141	9.02	9.00	33.958	26.302	173.9	0.358	2.77	42.6	30.3	1.94	26.5	0.00	0.00	0.00	0.03	142	209
150 ISL	8.96 D	8.94	33.977 D	26.326	171.7	0.374	2.72	41.8	31.2	1.96	26.9	0.00	0.00	0.00	0.03	151	
171	8.79	8.77	33.998	26.370	168.0	0.410	2.63	40.2	32.6	2.00	27.5	0.00	0.00	0.00	0.03	172	208
200 ISL	8.61 D	8.59	34.069 D	26.454	160.5	0.457	2.25	34.3	35.8	2.14	28.7	0.00	0.00	0.00	0.02	201	
201	8.67	8.65	34.068	26.444	161.5	0.459	2.24	34.2	35.9	2.15	28.8	0.00	0.00	0.00	0.02	202	207
231	8.27	8.25	34.091	26.523	154.3	0.506	1.95	29.5	40.6	2.28	30.7	0.00	0.00			232	206
250 ISL	8.22 D	8.19	34.131 D	26.563	151.0	0.535	1.64	24.8	43.5	2.39	31.6	0.00	0.00			251	
270	8.20	8.17	34.192	26.614	146.5	0.565	1.31	19.8	46.5	2.51	32.4	0.00	0.00			272	205
300 ISL	7.89 D	7.86	34.238 D	26.696	139.1	0.608	1.04	15.6	50.3	2.62	33.6	0.00	0.00			302	
321	7.74	7.71	34.231	26.713	137.7	0.637	0.92	13.8	53.0	2.69	34.5	0.00	0.00			323	204
382	7.12	7.08	34.271	26.833	127.0	0.718	0.57	8.4	63.4	2.89	36.9	0.00	0.00			384	203
400 ISL	7.05 D	7.01	34.274 D	26.845	126.0	0.740	0.52	7.7	65.1	2.92	37.4	0.00	0.00			403	
441	6.73	6.69	34.278	26.892	121.9	0.791	0.45	6.6	68.7	2.96	38.4	0.00	0.00			444	202
500 ISL	6.16 D	6.12	34.294 D	26.980	113.9	0.861	0.35	5.0	78.3	3.07	40.1	0.00	0.00			503	
527	5.86	5.81	34.308	27.029	109.3	0.891	0.30	4.3	82.7	3.12	40.9	0.00	0.00			531	201

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

RV NEW HORIZON CALCOFI CRUISE 0911 STATION 86.7 60.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
32 59.0 N	120 21.0 W	14/11/09	2134 UTC	765 m	230 26 kn	340 06 06	0	1015.1 mb	16.2 C	14.5 C		0/8	

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	15.36	15.36	33.374	24.641	329.0	0.000	5.73	100.5	3.2	0.46	1.3	0.06	0.05	1.09	0.30	0	
3	15.36	15.36	33.374	24.641	329.1	0.010	5.73	100.5	3.2	0.46	1.3	0.06	0.05	1.09	0.30	3	221
10 CSL	15.37	15.37	33.375	24.640	329.4	0.033										10	200
10	15.37	15.37	33.374	24.639	329.5	0.033										10	220
11	15.37	15.37	33.374	24.639	329.5	0.036	5.75	100.8	2.9	0.45	1.2	0.06	0.05	1.20	0.18	11	219
20	15.37	15.37	33.374	24.639	329.7	0.066	5.72	100.3	2.9	0.45	1.2	0.06	0.00	1.09	0.29	20	218
30 ISL	15.35 D	15.35	33.374 D	24.644	329.6	0.099	5.73	100.4	3.1	0.44	1.2	0.06	0.05	1.12	0.29	30	
31	15.37	15.37	33.364	24.632	330.8	0.102	5.73	100.5	3.1	0.44	1.2	0.06	0.05	1.13	0.29	31	217
41	15.29	15.28	33.372	24.656	328.8	0.135	5.69	99.6	2.9	0.46	1.4	0.06	0.00	1.13	0.34	41	216
50	11.77	11.76	33.295	25.310	266.5	0.162	4.76	77.4	10.6	1.13	12.2	0.03	0.00	0.20	0.22	50	215
59	10.58	10.57	33.196	25.446	253.6	0.185	4.84	76.7	12.8	1.25	14.1	0.02	0.00	0.14	0.14	59	214
70	10.27	10.26	33.410	25.667	232.9	0.212	4.26	67.1	17.2	1.51	18.3	0.01	0.00	0.08	0.14	70	213
75 ISL	10.37 D	10.36	33.571 D	25.775	222.7	0.223	4.00	63.2	18.9	1.58	19.6	0.01	0.00	0.06	0.11	75	
85	10.02	10.01	33.654	25.900	211.1	0.245	3.60	56.5	21.2	1.67	21.4	0.01	0.00	0.02	0.06	85	212
100	9.91	9.90	33.682	25.940	207.5	0.277	3.52	55.1	21.7	1.70	21.9	0.01	0.00	0.02	0.05	100	211
121	9.63	9.62	33.794	26.075	195.2	0.319	3.17	49.4	25.2	1.82	23.8	0.00	0.00	0.01	0.04	122	210
125 ISL	9.38 D	9.37	33.844 D	26.155	187.6	0.326	3.13	48.5	25.9	1.83	24.1	0.00	0.00	0.01	0.04	126	
140	9.10	9.08	33.914	26.255	178.4	0.354	3.00	46.2	28.5	1.88	25.2	0.00	0.00	0.00	0.03	141	209
150 ISL	9.06 D	9.04	33.920 D	26.266	177.5	0.372	2.88	44.3	30.1	1.93	25.9	0.00	0.00	0.00	0.03	151	
169	8.77	8.75	33.996	26.371	167.8	0.405	2.59	39.6	33.2	2.04	27.3	0.00	0.00	0.00	0.03	170	208
200	8.37	8.35	34.077	26.497	156.3	0.455	2.00	30.3	39.8	2.27	30.2	0.00	0.00	0.00	0.03	201	207
230	8.20	8.18	34.107	26.547	152.1	0.501	1.75	26.4	42.9	2.37	31.3	0.00	0.00			231	206
250 ISL	7.92 D	7.89	34.132 D	26.608	146.5	0.531	1.53	23.0	45.7	2.47	32.1	0.00	0.00			251	
270	7.82	7.79	34.174	26.656	142.3	0.560	1.32	19.8	48.8	2.57	33.0	0.00	0.00			272	205
300 ISL	7.47 D	7.44	34.158 D	26.694	139.0	0.602	1.10	16.3	54.1	2.68	34.5	0.00	0.00			302	
321	7.27	7.24	34.194	26.751	133.8	0.631	0.98	14.5	57.6	2.75	35.5	0.00	0.00			323	204
380	6.89	6.85	34.239	26.839	126.1	0.707	0.66	9.7	64.4	2.90	37.1	0.00	0.00			382	203
400 ISL	6.73 D	6.69	34.252 D	26.871	123.3	0.732	0.60	8.8	66.5	2.94	37.5	0.00	0.00			403	
439	6.57	6.53	34.264	26.903	120.8	0.780	0.50	7.3	70.5	3.00	38.3	0.00	0.00			442	202
500 ISL	6.21 D	6.17	34.291 D	26.971	114.8	0.852	0.36	5.2	77.6	3.09	39.5	0.00	0.00			503	
518	6.08	6.03	34.301	26.996	112.6	0.872	0.32	4.6	79.7	3.12	39.9	0.00	0.00			522	201

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

RV NEW HORIZON CALCOFI CRUISE 0911 STATION 86.7 70.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
32 39.1 N	121 1.7 W	15/11/09	0340 UTC	3795 m	320 25 kn			1017.2 mb	14.0 C	11.0 C			

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	15.23	15.23	33.199	24.535	339.1	0.000	5.83	101.8	2.9	0.42	0.5	0.04	0.19	0.66	0.22	0	
2	15.23	15.23	33.199	24.535	339.2	0.007	5.83	101.8	2.9	0.42	0.5	0.04	0.19	0.66	0.22	2	222
10	15.23	15.23	33.208	24.542	338.7	0.034	5.84	102.0	2.7	0.42	0.6	0.04	0.00	0.64	0.16	10	220
10	15.23	15.23	33.192	24.529	339.9	0.034										10	221
20	15.24	15.24	33.208	24.540	339.2	0.068	5.83	101.9	2.7	0.42	0.5	0.04	0.06	0.60	0.21	20	219
30	15.24	15.24	33.206	24.539	339.6	0.102	5.84	102.0	2.9	0.42	0.5	0.04	0.06	0.65	0.21	30	218
40	15.22	15.21	33.207	24.544	339.4	0.136	5.84	102.0	2.5	0.42	0.5	0.04	0.05	0.62	0.19	40	217
50 ISL	15.16 D	15.15	33.196 D	24.549	339.2	0.170	5.83	101.7	2.9	0.42	0.5	0.04	0.05	0.65	0.20	50	
51	15.21	15.20	33.202	24.543	339.9	0.173	5.83	101.8	2.9	0.42	0.5	0.04	0.05	0.65	0.20	51	216
60	14.81	14.80	33.161	24.598	334.8	0.203	5.87	101.6	3.0	0.44	0.7	0.06	0.06	0.53	0.26	60	215
70	13.62	13.61	33.152	24.840	312.0	0.236	5.72	96.6	4.5	0.66	3.5	0.21	0.34	0.31	0.22	70	214
75 ISL	12.12 D	12.11	33.073 D	25.073	289.8	0.251	5.63	92.1	5.6	0.76	5.3	0.19	0.27	0.24	0.21	75	
87	10.93	10.92	33.051	25.273	270.8	0.284	5.42	86.4	8.7	0.99	9.7	0.06	0.00	0.13	0.16	87	213
100	9.81	9.80	33.020	25.440	255.0	0.319	5.28	82.2	12.5	1.19	13.1	0.02	0.00	0.06	0.06	100	212
114	9.51	9.50	33.250	25.669	233.4	0.353	4.79	74.1	17.2	1.42	17.2	0.01	0.00	0.02	0.03	115	211
125	9.89	9.88	33.561	25.850	216.7	0.378	3.91	61.2	20.8	1.65	21.1	0.01	0.00	0.01	0.03	126	210
140	9.67	9.65	33.720	26.010	201.6	0.409	3.64	56.7	22.6	1.69	22.2	0.01	0.00	0.01	0.03	141	209
150 ISL	9.36 D	9.34	33.817 D	26.137	189.8	0.429	3.50	54.2	24.5	1.73	23.1	0.01	0.00	0.01	0.03	151	
171	8.88	8.86	33.934	26.306	174.1	0.467	3.24	49.7	29.1	1.82	25.0	0.00	0.00	0.00	0.02	172	208
200	8.37	8.35	33.995	26.432	162.4	0.515	2.88	43.6	34.4	1.98	27.5	0.00	0.00	0.00	0.02	201	207
231	7.92	7.90	34.030	26.528	153.8	0.565	2.30	34.5	40.3	2.23	30.7	0.00	0.00			232	206
250 ISL	7.72 D	7.70	34.051 D	26.573	149.6	0.593	1.92	28.7	45.3	2.38	32.5	0.00	0.00			251	
270	7.47	7.44	34.095	26.644	143.2	0.623	1.57	23.3	50.2	2.52	34.1	0.00	0.00			272	205
300 ISL	7.41 D	7.38	34.139 D	26.688	139.5	0.665	1.26	18.7	54.0	2.65	35.4	0.00	0.00			302	
321	7.20	7.17	34.150	26.726	136.1	0.694	1.12	16.5	55.9	2.71	35.9	0.00	0.00			323	204
382	6.82	6.78	34.209	26.825	127.4	0.774	0.71	10.4	63.9	2.91	37.7	0.00	0.00			384	203
400 ISL	6.57 D	6.53	34.213 D	26.862	124.0	0.797	0.67	9.8	66.7	2.95	38.3	0.00	0.00			403	
439	6.22	6.18	34.207	26.903	120.3	0.845	0.60	8.7	72.5	3.01	39.6	0.00	0.00			442	202
500 ISL	5.79 D	5.75	34.244 D	26.987	112.8	0.916	0.35	5.0	78.7	3.12	40.6	0.00	0.00			503	
519	5.98	5.93	34.308	27.014	110.8	0.937	0.27	3.9	80.6	3.16	40.9	0.00	0.00			523	201

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

RV NEW HORIZON CALCOFI CRUISE 0911 STATION 86.7 80.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
32 19.3 N	121 43.0 W	15/11/09	0957 UTC	4065 m	360 19 kn			1017.9 mb	14.0 C	11.8 C			

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	16.28	16.28	33.258	24.345	357.1	0.000	5.74	102.4	1.9	0.37	0.0	0.00	0.00	0.24	0.08	0	
2	16.28	16.28	33.258	24.345	357.2	0.007	5.74	102.4	1.9	0.37	0.0	0.00	0.00	0.24	0.08	2	221
10	16.28	16.28	33.258	24.346	357.4	0.036	5.70	101.7	2.0	0.37	0.0	0.00	0.00	0.24	0.08	10	219
10	16.28	16.28	33.261	24.348	357.2	0.036										10	220
20 ISL	16.29 D	16.29	33.258 D	24.344	357.9	0.071	5.70	101.7	2.1	0.37	0.0	0.00	0.04	0.24	0.08	20	
24	16.27	16.27	33.256	24.347	357.8	0.086	5.70	101.7	2.1	0.37	0.0	0.00	0.05	0.24	0.08	24	218
30 ISL	16.27 D	16.27	33.256 D	24.347	357.9	0.107	5.70	101.7	2.0	0.37	0.0	0.00	0.03	0.24	0.08	30	
40	16.22	16.21	33.258	24.360	357.0	0.143	5.71	101.8	1.8	0.36	0.0	0.00	0.00	0.23	0.08	40	217
50 ISL	14.32 D	14.31	33.172 D	24.710	323.8	0.177	6.01	103.0	2.8	0.33	0.0	0.00	0.00	0.41	0.26	50	
51	14.32	14.31	33.174	24.712	323.7	0.180	6.04	103.5	2.9	0.33	0.0	0.00	0.00	0.43	0.28	51	216
62	12.49	12.48	32.898	24.866	309.1	0.215	6.12	100.8	3.8	0.49	0.8	0.15	0.04	0.39	0.31	62	215
75	12.04	12.03	33.077	25.091	288.0	0.254	5.70	93.1	4.7	0.59	3.0	0.12	0.00	0.23	0.23	75	214
88	10.50	10.49	33.033	25.334	264.9	0.290	5.48	86.6	8.2	0.90	8.5	0.02	0.00	0.11	0.11	88	213
99	10.19	10.18	33.085	25.427	256.2	0.319	5.33	83.7	10.2	1.04	10.7	0.01	0.00	0.08	0.07	99	212
100 ISL	10.18 D	10.17	33.108 D	25.447	254.4	0.321	5.30	83.2	10.5	1.06	11.1	0.01	0.00	0.08	0.07	100	
112	9.98	9.97	33.258	25.598	240.3	0.351	4.86	76.0	14.9	1.34	15.5	0.00	0.00	0.04	0.04	112	211
125	10.04	10.03	33.497	25.775	223.8	0.381	4.21	66.0	18.3	1.52	18.9	0.00	0.00	0.02	0.03	126	210
140	9.77	9.75	33.636	25.928	209.5	0.413	3.83	59.8	21.7	1.65	21.0	0.00	0.00	0.01	0.02	141	209
150 ISL	9.56 D	9.54	33.752 D	26.054	197.7	0.434	3.54	55.0	24.1	1.75	22.6	0.00	0.00	0.01	0.02	151	
171	9.19	9.17	33.843	26.185	185.6	0.474	3.09	47.7	27.9	1.89	25.1	0.00	0.00	0.00	0.03	172	208
200	8.83	8.81	33.955	26.330	172.3	0.526	3.20	49.0	28.7	1.84	24.9	0.00	0.00	0.00	0.02	201	207
231	8.27	8.25	33.986	26.441	162.1	0.578	3.06	46.3	34.4	1.94	26.6	0.00	0.00			232	206
250 ISL	8.03 D	8.00	34.006 D	26.493	157.4	0.608	2.81	42.3	38.1	2.06	28.1	0.00	0.00			251	
272	7.77	7.74	34.026	26.547	152.6	0.642	2.44	36.5	42.4	2.21	30.1	0.00	0.00			274	205
300 ISL	7.47 D	7.44	34.055 D	26.613	146.6	0.684	1.92	28.5	48.2	2.41	32.5	0.00	0.00			302	
324	7.18	7.15	34.087	26.679	140.6	0.719	1.52	22.4	52.9	2.56	34.2	0.00	0.00			326	204
381	6.68	6.64	34.108	26.764	133.0	0.797	1.22	17.8	61.0	2.72	36.1	0.00	0.00			383	203
400 ISL	6.45 D	6.41	34.115 D	26.800	129.7	0.821	1.11	16.1	64.3	2.78	36.8	0.00	0.00			402	
442	6.06	6.02	34.147	26.876	122.8	0.874	0.86	12.4	71.7	2.90	38.4	0.00	0.00			445	202
500 ISL	5.60 D	5.56	34.197 D	26.973	113.9	0.943	0.61	8.7	80.6	3.05	40.0	0.00	0.00			503	
516	5.52	5.48	34.216	26.998	111.7	0.961	0.54	7.7	83.0	3.09	40.5	0.00	0.00			519	201

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

RV NEW HORIZON CALCOFI CRUISE 0911 STATION 86.7 90.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
32 0.0 N	122 24.3 W	15/11/09	1704 UTC	4122 m	330 14 kn	330 06 07	1	1021.7 mb	15.8 C	13.3 C	24m	1/8	AC

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	17.27	17.27	33.339	24.177	373.2	0.000	5.54	100.8	1.9	0.32	0.0	0.00	0.00	0.16	0.06	0	
2 A	17.27	17.27	33.339	24.177	373.2	0.007	5.54	100.8	1.9	0.32	0.0	0.00	0.00	0.16	0.06	2	223
10 ISL	17.28 D	17.28	33.340 D	24.176	373.6	0.037	5.54	100.9	1.9	0.32	0.0	0.00	0.00	0.15	0.07	10	
11	17.28	17.28	33.341	24.177	373.6	0.041	5.54	100.9	1.9	0.32	0.0	0.00	0.00	0.15	0.07	11	222
18 A	17.27	17.27	33.345	24.182	373.3	0.067	5.54	100.8	1.7	0.31	0.0	0.00	0.00	0.16	0.05	18	221
20 ISL	17.28 D	17.28	33.340 D	24.176	373.9	0.075	5.54	100.9	1.8	0.31	0.0	0.00	0.00	0.16	0.05	20	
27	17.27	17.27	33.353	24.189	373.0	0.101	5.55	101.0	2.0	0.32	0.0	0.00	0.00	0.17	0.05	27	220
30 ISL	17.27 D	17.27	33.340 D	24.179	374.0	0.112	5.54	100.8	2.0	0.32	0.0	0.00	0.00	0.17	0.05	30	
37 A	17.25	17.24	33.340	24.184	373.7	0.138	5.53	100.6	1.8	0.31	0.0	0.00	0.00	0.17	0.06	37	219
45	16.84	16.83	33.303	24.252	367.5	0.168	5.67	102.3	1.9	0.32	0.0	0.00	0.00	0.31	0.17	45	218
50 ISL	15.98 D	15.97	33.228 D	24.392	354.3	0.186	5.89	104.4	2.3	0.33	0.0	0.00	0.02	0.39	0.28	50	
55 A	14.57	14.56	33.075	24.583	336.1	0.203	6.09	104.9	2.7	0.35	0.0	0.00	0.05	0.44	0.36	55	217
62	13.38	13.37	33.002	24.772	318.1	0.226	6.17	103.6	3.0	0.39	0.1	0.03	0.06	0.40	0.31	62	216
67 A	12.82	12.81	33.014	24.892	306.8	0.242	6.00	99.6	3.5	0.46	0.8	0.11	0.07	0.27	0.32	67	215
75 ISL	12.18 D	12.17	33.006 D	25.009	295.8	0.266	5.81	95.2	4.5	0.57	2.5	0.12	0.06	0.22	0.28	75	
78	11.93	11.92	32.992	25.045	292.4	0.275	5.76	93.8	4.9	0.61	3.2	0.12	0.05	0.20	0.26	78	214
88	11.32	11.31	32.957	25.130	284.4	0.303	5.63	90.5	6.3	0.77	5.8	0.05	0.00	0.18	0.19	88	213
97 A	11.04	11.03	33.029	25.236	274.5	0.329	5.48	87.6	6.7	0.84	7.4	0.02	0.00	0.14	0.19	97	212
100 ISL	10.85 D	10.84	33.060 D	25.294	269.0	0.337	5.43	86.5	7.3	0.88	8.1	0.02	0.01	0.13	0.18	100	
109	10.60	10.59	33.111	25.378	261.3	0.361	5.28	83.6	9.4	1.00	10.3	0.01	0.04	0.09	0.12	109	211
125 ISL	10.45 D	10.44	33.309 D	25.558	244.5	0.401	4.89	77.3	13.1	1.23	14.1	0.00	0.01	0.04	0.05	126	
127	10.44	10.43	33.316	25.565	243.8	0.406	4.83	76.3	13.6	1.26	14.6	0.00	0.00	0.04	0.04	128	210
146	9.92	9.90	33.523	25.815	220.4	0.450	4.24	66.3	18.3	1.50	18.8	0.00	0.00	0.01	0.03	147	209
150 ISL	9.83 D	9.81	33.580 D	25.875	214.8	0.459	4.11	64.2	19.3	1.54	19.6	0.00	0.00	0.01	0.03	151	
170	9.48	9.46	33.752	26.067	196.8	0.500	3.55	55.1	23.8	1.73	22.8	0.00	0.00	0.00	0.03	171	208
200 ISL	8.95 D	8.93	33.929 D	26.291	176.0	0.556	3.08	47.3	29.1	1.87	25.2	0.00	0.00	0.00	0.02	201	
201	8.96	8.94	33.928	26.289	176.3	0.558	3.07	47.1	29.3	1.87	25.2	0.00	0.00	0.00	0.02	202	207
231	8.57	8.55	33.999	26.406	165.6	0.609	2.95	44.9	33.1	1.94	26.2	0.00	0.00			232	206
250 ISL	8.28 D	8.25	34.021 D	26.467	160.0	0.640	2.73	41.3	36.5	2.04	27.7	0.00	0.00			251	
272	7.91	7.88	34.030	26.530	154.3	0.674	2.42	36.3	40.8	2.18	29.6	0.00	0.00			273	205
300 ISL	7.58 D	7.55	34.045 D	26.590	148.9	0.717	2.05	30.5	46.0	2.34	31.6	0.00	0.00			302	
323	7.33	7.30	34.077	26.650	143.4	0.750	1.75	25.9	50.4	2.47	33.1	0.00	0.00			325	204
381	6.59	6.56	34.111	26.779	131.6	0.830	1.12	16.3	62.0	2.77	36.9	0.00	0.00			383	203
400 ISL	6.33 D	6.29	34.119 D	26.819	127.8	0.855	0.97	14.0	64.9	2.83	37.5	0.00	0.00			402	
441	6.29	6.25	34.178	26.871	123.4	0.906	0.74	10.7	70.7	2.93	38.5	0.00	0.00			444	202
500 ISL	5.65 D	5.61	34.188 D	26.960	115.2	0.977	0.65	9.3	79.2	3.01	40.1	0.00	0.00			503	
518	5.47	5.43	34.178	26.974	113.9	0.997	0.62	8.8	81.8	3.04	40.6	0.00	0.00			521	201

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

RV NEW HORIZON CALCOFI CRUISE 0911 STATION 86.7 100.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
31 39.2 N	123 4.2 W	15/11/09	2300 UTC	4143 m	360 16 kn	350 06 06	1	1020.5 mb	16.3 C	13.9 C	26m	4/8	AC

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	17.80	17.80	33.410	24.104	380.1	0.000	5.51	101.4	2.4	0.31	0.0	0.00	0.00	0.16	0.03	0	
3	17.80	17.80	33.410	24.104	380.2	0.011	5.51	101.4	2.4	0.31	0.0	0.00	0.00	0.16	0.03	3	221
10	17.80	17.80	33.404	24.100	380.8	0.038	5.53	101.7	2.2	0.31	0.0	0.00	0.00	0.14	0.04	10	219
10	17.79	17.79	33.387	24.089	381.9	0.038										10	220
20 ISL	17.81 D	17.81	33.406 D	24.100	381.2	0.076	5.52	101.6	1.6	0.31	0.0	0.00	0.00	0.15	0.04	20	
26	17.80	17.80	33.404	24.101	381.3	0.099	5.51	101.4	1.3	0.31	0.0	0.00	0.00	0.16	0.04	26	218
30 ISL	17.81 D	17.80	33.417 D	24.108	380.7	0.114	5.51	101.4	1.3	0.31	0.0	0.00	0.00	0.16	0.04	30	
50	17.83	17.82	33.427	24.112	381.1	0.190	5.50	101.2	1.4	0.31	0.0	0.00	0.00	0.16	0.04	50	216
62	16.23	16.22	33.256	24.357	358.0	0.235	5.86	104.4	1.4	0.32	0.0	0.00	0.00	0.23	0.11	62	215
75 ISL	13.57 D	13.56	33.069 D	24.786	317.2	0.279	6.00	101.2	2.3	0.39	0.1	0.03	0.00	0.34	0.30	75	
76	13.58	13.57	33.071	24.786	317.3	0.282	6.01	101.4	2.4	0.40	0.1	0.03	0.00	0.34	0.31	76	214
87	13.11	13.10	33.087	24.892	307.4	0.316	5.77	96.4	3.0	0.49	1.0	0.23	0.00	0.27	0.25	87	213
100 ISL	12.61 D	12.60	33.240 D	25.109	287.0	0.355	5.45	90.2	4.3	0.62	3.9	0.10	0.00	0.20	0.18	100	
102	12.44	12.43	33.237	25.140	284.1	0.361	5.41	89.2	4.6	0.65	4.5	0.07	0.00	0.19	0.17	102	212
112	11.52	11.51	33.143	25.239	274.7	0.389	5.36	86.6	6.3	0.84	7.5	0.02	0.00	0.14	0.11	112	211
125	10.83	10.81	33.211	25.416	258.1	0.423	5.13	81.7	9.7	1.07	11.3	0.01	0.00	0.05	0.08	126	210
140	10.43	10.41	33.395	25.629	238.1	0.460	4.64	73.4	13.7	1.29	15.2	0.01	0.00	0.02	0.04	141	209
150 ISL	10.16 D	10.14	33.565 D	25.808	221.2	0.483	4.20	66.1	17.2	1.47	18.2	0.01	0.00	0.01	0.04	151	
169	9.68	9.66	33.737	26.023	201.1	0.523	3.44	53.6	23.4	1.78	23.0	0.00	0.00	0.00	0.03	170	208
200	9.00	8.98	33.903	26.263	178.7	0.582	3.03	46.6	28.6	1.91	25.4	0.00	0.00	0.00	0.02	201	207
231	8.46	8.44	33.992	26.417	164.5	0.636	2.76	41.9	34.0	2.02	27.4	0.00	0.00			232	206
250 ISL	8.18 D	8.15	34.010 D	26.474	159.3	0.666	2.51	37.9	37.5	2.13	29.0	0.00	0.00			251	
270	7.85	7.82	34.027	26.536	153.6	0.698	2.24	33.6	41.1	2.26	30.7	0.00	0.00			271	205
300 ISL	7.58 D	7.55	34.058 D	26.600	148.0	0.743	1.94	28.9	46.4	2.40	32.4	0.00	0.00			302	
322	7.28	7.25	34.076	26.657	142.7	0.775	1.75	25.9	50.2	2.49	33.4	0.00	0.00			324	204
380	6.68	6.65	34.097	26.756	133.8	0.855	1.23	17.9	59.7	2.75	36.5	0.00	0.00			382	203
400 ISL	6.51 D	6.47	34.113 D	26.791	130.6	0.881	1.10	16.0	62.7	2.82	37.3	0.00	0.00			402	
441	6.19	6.15	34.137	26.852	125.2	0.934	0.87	12.5	68.8	2.93	38.6	0.00	0.00			444	202
500 ISL	5.68 D	5.64	34.185 D	26.954	115.8	1.005	0.62	8.8	77.6	3.05	40.0	0.00	0.00			503	
517	5.64	5.60	34.199	26.970	114.5	1.025	0.55	7.8	80.1	3.08	40.4	0.00	0.00			520	201

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

RV NEW HORIZON CALCOFI CRUISE 0911 STATION 86.7 110.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
31 19.4 N	123 44.7 W	16/11/09	0501 UTC	4024 m	010 13 kn			1021.8 mb	16.0 C	12.6 C			

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	17.80	17.80	33.345	24.055	384.8	0.000	5.51	101.3	1.4	0.32	0.0	0.00	0.00	0.16	0.05	0	
2	17.80	17.80	33.345	24.055	384.9	0.008	5.51	101.3	1.4	0.32	0.0	0.00	0.00	0.16	0.05	2	221
10	17.81	17.81	33.345	24.052	385.4	0.039	5.51	101.3	1.5	0.31	0.0	0.00	0.00	0.16	0.06	10	219
10	17.81	17.81	33.347	24.054	385.2	0.039										10	220
20 ISL	17.82 D	17.82	33.345 D	24.051	385.9	0.077	5.51	101.4	1.5	0.32	0.0	0.00	0.00	0.16	0.05	20	
25	17.82	17.82	33.345	24.051	386.1	0.096	5.51	101.4	1.5	0.32	0.0	0.00	0.00	0.16	0.05	25	218
30 ISL	17.82 D	17.81	33.346 D	24.052	386.2	0.116	5.51	101.4	1.5	0.32	0.0	0.00	0.00	0.16	0.05	30	
40	17.82	17.81	33.345	24.051	386.5	0.154	5.51	101.4	1.5	0.32	0.0	0.00	0.00	0.16	0.05	40	217
50	17.83	17.82	33.346	24.050	387.0	0.193	5.51	101.4	1.6	0.31	0.0	0.00	0.00	0.17	0.05	50	216
62	17.67	17.66	33.333	24.079	384.6	0.239	5.53	101.4	1.6	0.32	0.0	0.00	0.00	0.19	0.06	62	215
75	13.73	13.72	33.038	24.729	322.6	0.285	6.14	103.9	2.6	0.37	0.0	0.01	0.00	0.38	0.26	75	214
87	12.92	12.91	33.066	24.914	305.3	0.323	5.84	97.2	3.5	0.46	0.8	0.20	0.00	0.29	0.28	87	213
100	11.33	11.32	33.022	25.179	280.1	0.361	5.67	91.2	5.5	0.71	5.4	0.02	0.00	0.17	0.16	100	212
112	10.69	10.68	33.039	25.306	268.2	0.394	5.47	86.8	7.0	0.85	7.9	0.01	0.00	0.12	0.12	112	211
125	10.21	10.20	33.084	25.424	257.1	0.428	5.35	84.0	9.5	1.00	10.5	0.01	0.00	0.06	0.08	126	210
140	9.73	9.71	33.262	25.643	236.5	0.465	5.02	78.1	12.8	1.16	13.5	0.00	0.00	0.03	0.04	141	209
150 ISL	9.63 D	9.61	33.386 D	25.756	225.9	0.488	4.53	70.4	16.2	1.36	16.7	0.00	0.00	0.02	0.03	151	
171	9.64	9.62	33.721	26.017	201.7	0.533	3.51	54.6	23.3	1.74	22.8	0.00	0.00	0.00	0.02	172	208
200 ISL	8.99 D	8.97	33.906 D	26.267	178.4	0.588	3.19	49.0	28.2	1.84	25.1	0.00	0.00	0.00	0.02	201	
201	8.99	8.97	33.915	26.274	177.7	0.590	3.19	49.0	28.3	1.84	25.1	0.00	0.00	0.00	0.02	202	207
231	8.44	8.42	33.981	26.411	165.0	0.641	2.92	44.3	33.5	1.97	27.1	0.00	0.00			232	206
250 ISL	8.14 D	8.11	34.001 D	26.473	159.4	0.672	2.70	40.7	37.1	2.07	28.7	0.00	0.00			251	
270	7.76	7.73	34.005	26.532	154.0	0.704	2.42	36.2	41.2	2.20	30.4	0.00	0.00			271	205
300 ISL	7.39 D	7.36	34.061 D	26.629	145.0	0.748	1.88	27.9	48.5	2.43	33.1	0.00	0.00			302	
321	7.07	7.04	34.079	26.688	139.6	0.778	1.54	22.7	53.3	2.57	34.8	0.00	0.00			323	204
380	6.60	6.57	34.106	26.773	132.1	0.858	1.26	18.3	61.3	2.73	36.6	0.00	0.00			382	203
400 ISL	6.42 D	6.38	34.116 D	26.805	129.2	0.885	1.12	16.2	64.4	2.79	37.3	0.00	0.00			402	
440	6.11	6.07	34.141	26.865	123.8	0.935	0.85	12.2	70.7	2.92	38.8	0.00	0.00			443	202
500 ISL	5.91 D	5.87	34.230 D	26.961	115.4	1.007	0.60	8.6	79.3	3.05	40.3	0.00	0.00			503	
516	5.59	5.55	34.197	26.974	114.0	1.025	0.53	7.5	81.6	3.09	40.7	0.00	0.00			519	201

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

RV NEW HORIZON CALCOFI CRUISE 0911 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 53.0 N	118 26.7 W	13/11/09	0935 UTC	30 m	290 07 kn			1006.9 mb	17.0 C	14.4 C			

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	17.28	17.28	33.426	24.241	367.1	0.000	5.80	105.6	1.9	0.30	0.0	0.00	0.00	0.40	0.14	0	
2	17.28	17.28	33.426	24.241	367.1	0.007	5.80	105.6	1.9	0.30	0.0	0.00	0.00	0.40	0.14	2	205
5	17.28	17.28	33.422	24.238	367.5	0.018	5.78	105.3	2.0	0.29	0.0	0.00	0.04	0.34	0.35	5	204
10	17.28	17.28	33.421	24.238	367.7	0.037	5.82	106.0	2.0	0.29	0.0	0.00	0.05	0.47	0.13	10	203
20	16.93	16.93	33.391	24.298	362.3	0.073	5.85	105.8	2.1	0.31	0.0	0.02	0.08	0.57	0.21	20	202
25	15.63	15.63	33.334	24.551	338.3	0.091	5.84	102.9	3.3	0.41	0.6	0.14	0.35	1.00	0.27	25	201

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

RV NEW HORIZON CALCOFI CRUISE 0911 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 5.7 W	13/11/09	0551 UTC	23 m	180 06 kn			1006.7 mb	17.8 C	15.5 C			

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	17.69	17.69	33.442	24.155	375.2	0.000	5.77	105.9	1.8	0.32	0.1	0.00	0.00	0.37	0.09	0	
2	17.69	17.69	33.442	24.156	375.3	0.008	5.77	105.9	1.8	0.32	0.1	0.00	0.00	0.37	0.09	2	204
5	17.66	17.66	33.443	24.164	374.6	0.019	5.77	105.9	1.7	0.30	0.1	0.00	0.00	0.38	0.09	5	203
10	17.17	17.17	33.377	24.230	368.4	0.037	6.00	109.0	2.3	0.31	0.0	0.00	0.04	0.73	0.09	10	202
15	16.87	16.87	33.340	24.272	364.6	0.056	6.10	110.2	2.8	0.31	0.0	0.00	0.06	1.25	0.12	15	201

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

RV NEW HORIZON CALCOFI CRUISE 0911 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 29.7 N	117 44.8 W	12/11/09	2255 UTC	23 m	200 07 kn	270 01 05	1	1007.3 mb	19.8 C	17.0 C		6/8	AC

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	17.80	17.80	33.424	24.115	379.1	0.000	5.79	106.5	2.0	0.29	0.0	0.00	0.05	0.94	0.17	0	
2	17.80	17.80	33.424	24.115	379.1	0.008	5.79	106.5	2.0	0.29	0.0	0.00	0.05	0.94	0.17	2	204
5	17.63	17.63	33.407	24.143	376.6	0.019	5.95	109.1	2.1	0.29	0.0	0.00	0.06	1.26	0.20	5	203
10	17.34	17.34	33.375	24.188	372.4	0.038	6.02	109.7	2.5	0.30	0.0	0.01	0.06	2.10	0.33	10	202
15	17.42	17.42	33.378	24.172	374.2	0.056	6.03	110.1	2.5	0.30	0.0	0.01	0.08	2.08	0.31	15	201

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

RV NEW HORIZON CALCOFI CRUISE 0911 STATION 90.0 28.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
33 29.1 N	117 46.1 W	12/11/09	2342 UTC	66 m	120 06 kn	290 01 05	1	1006.7 mb	18.5 C	16.9 C	18m	5/8	AC

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	18.18	18.18	33.459	24.049	385.4	0.000	5.61	104.0	1.4	0.27	0.0	0.00	0.00	0.27	0.05	0	
2	18.18	18.18	33.459	24.049	385.4	0.008	5.61	104.0	1.4	0.27	0.0	0.00	0.00	0.27	0.05	2	207
5	18.09	18.09	33.456	24.069	383.6	0.019	5.65	104.6	1.5	0.27	0.0	0.00	0.00	0.25	0.07	5	206
10	17.81	17.81	33.448	24.131	377.9	0.038	5.70	104.9	1.6	0.27	0.0	0.00	0.00	0.32	0.09	10	205
20	16.07	16.07	33.335	24.453	347.5	0.075	5.96	106.0	2.9	0.37	0.0	0.01	0.00	1.70	0.45	20	204
30	14.53	14.53	33.249	24.725	321.9	0.108	6.20	106.8	3.3	0.38	0.0	0.00	0.00	0.86	0.40	30	203
40	13.07	13.06	33.220	25.002	295.7	0.139	5.54	92.6	5.7	0.68	3.8	0.30	0.07	1.02	0.63	40	202
50	12.68	12.67	33.214	25.074	289.0	0.168	5.21	86.4	7.3	0.89	7.0	0.28	0.34	0.55	0.58	50	201

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

RV NEW HORIZON CALCOFI CRUISE 0911 STATION 90.0 30.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
33 25.1 N	117 54.0 W	13/11/09	0158 UTC	629 m	180 05 kn			1006.6 mb	18.7 C	16.6 C			

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	18.04	18.04	33.460	24.084	382.0	0.000	5.64	104.3	1.5	0.29	0.1	0.00	0.00	0.23	0.00	0	
1	18.04	18.04	33.460	24.084	382.0	0.004	5.64	104.3	1.5	0.29	0.1	0.00	0.00	0.23	0.00	1	220
10	17.85	17.85	33.458	24.129	378.1	0.038	5.70	105.0	1.5	0.28	0.0	0.00	0.00	0.21	0.11	10	219
20	16.92	16.92	33.381	24.292	362.8	0.075	5.91	106.9	2.1	0.30	0.0	0.00	0.00	0.35	0.14	20	218
30	14.88	14.88	33.261	24.659	328.1	0.110	6.12	106.2	3.0	0.37	0.0	0.01	0.00	0.65	0.25	30	217
40	13.44	13.43	33.240	24.943	301.2	0.141	5.57	93.8	4.7	0.59	2.2	0.23	0.04	0.79	0.53	40	216
50	12.72	12.71	33.235	25.083	288.2	0.171	5.28	87.6	6.1	0.77	5.9	0.06	0.00	0.37	0.35	50	215
60	12.17	12.16	33.303	25.241	273.3	0.199	4.88	80.1	8.3	0.97	9.6	0.02	0.00	0.21	0.24	60	214
70	11.82	11.81	33.357	25.349	263.3	0.225	4.66	75.9	9.6	1.08	11.6	0.01	0.00	0.16	0.24	70	213
75 ISL	11.69 D	11.68	33.401 D	25.407	257.9	0.238	4.43	72.0	11.1	1.17	13.1	0.01	0.00	0.13	0.20	75	
86	11.32	11.31	33.472	25.531	246.4	0.266	3.92	63.2	14.5	1.38	16.1	0.01	0.00	0.06	0.10	86	212
100	11.02	11.01	33.573	25.663	234.0	0.300	3.60	57.7	16.9	1.51	18.0	0.00	0.00	0.04	0.08	100	211
120	10.68	10.67	33.681	25.808	220.7	0.345	3.24	51.6	20.0	1.68	20.4	0.00	0.00	0.02	0.05	121	210
125 ISL	10.62 D	10.61	33.712 D	25.843	217.5	0.356	3.12	49.6	21.0	1.72	21.0	0.00	0.00	0.02	0.05	126	
140	10.43	10.41	33.795	25.941	208.5	0.388	2.77	43.9	23.9	1.85	22.6	0.01	0.00	0.01	0.04	141	209
150 ISL	10.28 D	10.26	33.882 D	26.035	199.8	0.409	2.59	40.9	25.6	1.92	23.6	0.01	0.00	0.01	0.04	151	
171	9.91	9.89	33.976	26.171	187.2	0.449	2.30	36.1	28.7	2.03	25.4	0.00	0.00	0.00	0.04	172	208
200	9.56	9.54	34.061	26.296	175.8	0.502	2.12	33.0	31.5	2.13	27.0	0.00	0.00	0.00	0.03	201	207
230	9.22	9.19	34.131	26.407	165.8	0.553	1.80	27.8	35.4	2.25	28.7	0.00	0.00			231	206
250 ISL	9.03 D	9.00	34.169 D	26.467	160.4	0.586	1.62	24.9	37.8	2.33	29.6	0.00	0.00			251	
270	8.81	8.78	34.191	26.520	155.8	0.617	1.48	22.7	40.3	2.41	30.5	0.00	0.00			272	205
300 ISL	8.21 D	8.18	34.172 D	26.597	148.6	0.663	1.34	20.3	44.7	2.50	32.0	0.00	0.00			302	
320	8.03	8.00	34.188	26.637	145.1	0.692	1.26	19.0	47.6	2.56	32.9	0.00	0.00			322	204
381	7.74	7.70	34.267	26.742	136.1	0.778	0.79	11.8	54.1	2.76	34.6	0.00	0.00			383	203
400 ISL	7.49 D	7.45	34.271 D	26.782	132.5	0.804	0.68	10.1	56.9	2.83	35.3	0.00	0.00			403	
441	7.13	7.09	34.296	26.852	126.1	0.857	0.48	7.1	63.7	2.96	36.8	0.00	0.00			444	202
500 ISL	6.52 D	6.47	34.326 D	26.959	116.4	0.928	0.29	4.2	74.3	3.10	38.6	0.00	0.00			503	
515	6.33	6.28	34.334	26.990	113.4	0.945	0.24	3.5	77.0	3.13	39.0	0.00	0.00			519	201

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

RV NEW HORIZON CALCOFI CRUISE 0911 STATION 90.0 35.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
33 15.2 N	118 15.2 W	12/11/09	1752 UTC	302 m	190 03 kn	280 01 05	1	1009.3 mb	19.0 C	17.2 C	35m	4/8	CS

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	17.74	17.74	33.458	24.156	375.2	0.000	5.63	103.5	1.6	0.30	0.1	0.00	0.00	0.28	0.08	0	
2 A	17.74	17.74	33.458	24.156	375.3	0.008	5.63	103.5	1.6	0.30	0.1	0.00	0.00	0.28	0.08	2	218
10 ISL	17.71 D	17.71	33.459 D	24.164	374.8	0.038	5.63	103.4	1.6	0.29	0.0	0.00	0.00	0.26	0.07	10	
14	17.69	17.69	33.458	24.168	374.5	0.052	5.63	103.4	1.6	0.29	0.0	0.00	0.00	0.26	0.07	14	216
20 ISL	17.62 D	17.62	33.456 D	24.184	373.2	0.075	5.66	103.8	1.6	0.30	0.0	0.00	0.00	0.29	0.10	20	
26 A	17.29	17.29	33.426	24.240	368.1	0.097	5.72	104.2	1.7	0.32	0.0	0.00	0.00	0.33	0.13	26	215
30 ISL	16.67 D	16.67	33.378 D	24.349	357.8	0.112	5.77	103.8	1.8	0.33	0.0	0.00	0.01	0.35	0.14	30	
36	15.91	15.90	33.306	24.467	346.6	0.133	5.86	103.8	2.0	0.36	0.0	0.00	0.04	0.43	0.16	36	214
44	14.56	14.55	33.276	24.740	320.9	0.160	5.95	102.6	3.6	0.47	1.0	0.09	0.13	0.70	0.26	44	213
50 ISL	13.61 D	13.60	33.261 D	24.926	303.2	0.178	5.75	97.2	4.8	0.61	3.0	0.23	0.10	0.56	0.25	50	
52 A	13.35	13.34	33.256	24.974	298.6	0.184	5.64	94.8	5.3	0.66	3.8	0.27	0.08	0.49	0.25	52	212
65	11.85	11.84	33.330	25.322	265.7	0.221	4.73	77.1	9.7	1.09	11.3	0.07	0.00	0.23	0.23	65	211
75 ISL	11.50 D	11.49	33.330 D	25.387	259.7	0.247	4.61	74.6	11.0	1.18	13.0	0.02	0.00	0.15	0.23	75	
78 A	11.29	11.28	33.346	25.438	255.0	0.255	4.60	74.1	11.3	1.20	13.3	0.02	0.00	0.14	0.23	78	210
88	11.05	11.04	33.449	25.561	243.4	0.280	4.24	68.0	13.7	1.35	15.6	0.01	0.00	0.09	0.15	88	209
99 A	10.78	10.77	33.555	25.692	231.2	0.306	3.76	60.0	17.0	1.52	18.4	0.01	0.00	0.04	0.08	99	208
100 ISL	10.79 D	10.78	33.569 D	25.701	230.4	0.308	3.73	59.5	17.2	1.53	18.5	0.01	0.00	0.04	0.08	100	
113	10.60	10.59	33.682	25.823	219.1	0.337	3.36	53.4	19.6	1.66	20.2	0.02	0.00	0.03	0.06	114	207
125 ISL	10.28 D	10.27	33.783 D	25.957	206.6	0.363	2.96	46.8	23.1	1.81	22.4	0.01	0.00	0.01	0.05	126	
127	10.20	10.19	33.797	25.982	204.3	0.367	2.89	45.6	23.7	1.84	22.8	0.01	0.00	0.01	0.05	128	206
142 A	10.08	10.06	33.921	26.099	193.4	0.397	2.41	37.9	27.5	2.02	24.6	0.01	0.00	0.00	0.04	143	205
150 ISL	10.03 D	10.01	33.957 D	26.136	190.1	0.412	2.36	37.1	28.3	2.04	25.1	0.01	0.00	0.00	0.04	151	
171	9.81	9.79	33.991	26.200	184.5	0.452	2.24	35.1	29.4	2.10	26.0	0.00	0.00	0.00	0.04	172	204
200	9.38	9.36	34.074	26.336	172.0	0.503	2.03	31.5	32.8	2.20	27.8	0.00	0.00	0.00	0.04	201	203
230	9.02	9.00	34.168	26.468	160.0	0.553	1.58	24.3	38.4	2.41	29.7	0.00	0.00			231	202
250 ISL	8.76 D	8.73	34.196 D	26.531	154.3	0.585	1.40	21.4	41.2	2.49	30.6	0.00	0.00			251	
270	8.56	8.53	34.213	26.576	150.3	0.615	1.22	18.6	43.9	2.56	31.5	0.01	0.00			272	201

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

RV NEW HORIZON CALCOFI CRUISE 0911 STATION 90.0 37.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
33 11.0 N	118 22.9 W	12/11/09	1441 UTC	1185 m	310 07 kn	330 02 09	1	1008.9 mb	17.1 C	15.8 C	24m	7/8	SC

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	18.06	18.06	33.498	24.108	379.7	0.000	5.57	103.0	1.4	0.28	0.1	0.00	0.00	0.23	0.06	0	
2	18.06	18.06	33.498	24.109	379.8	0.008	5.57	103.0	1.4	0.28	0.1	0.00	0.00	0.23	0.06	2	220
10	18.05	18.05	33.499	24.112	379.7	0.038	5.58	103.2	1.4	0.28	0.0	0.00	0.00	0.23	0.06	10	219
20	17.88	17.88	33.476	24.136	377.7	0.076	5.63	103.8	1.5	0.27	0.0	0.00	0.00	0.25	0.08	20	218
30	17.31	17.31	33.414	24.226	369.5	0.113	5.80	105.7	1.9	0.31	0.0	0.00	0.00	0.44	0.19	30	217
41	15.61	15.60	33.311	24.538	340.0	0.152	6.03	106.2	2.9	0.37	0.2	0.02	0.05	0.85	0.51	41	216
50	13.86	13.85	33.242	24.860	309.5	0.181	5.93	100.8	3.9	0.48	0.7	0.07	0.00	0.97	0.73	50	215
61	12.39	12.38	33.260	25.166	280.5	0.214	5.23	86.2	6.9	0.84	7.2	0.08	0.00	0.34	0.46	61	214
71	11.46	11.45	33.402	25.450	253.7	0.241	4.43	71.6	11.9	1.22	13.8	0.02	0.00	0.15	0.26	71	213
75 ISL	11.43 D	11.42	33.412 D	25.464	252.5	0.251	4.29	69.3	12.8	1.28	14.4	0.02	0.00	0.14	0.22	75	
86	11.16	11.15	33.480	25.566	243.0	0.278	4.11	66.1	14.2	1.36	16.0	0.01	0.00	0.10	0.15	86	212
100 ISL	11.01 D	11.00	33.545 D	25.643	235.9	0.312	3.85	61.7	16.0	1.45	17.4	0.01	0.00	0.07	0.10	100	
101	11.00	10.99	33.546	25.646	235.7	0.314	3.83	61.4	16.1	1.46	17.5	0.01	0.00	0.07	0.10	101	211
120	10.72	10.71	33.625	25.757	225.5	0.358	3.53	56.2	18.6	1.58	19.3	0.00	0.00	0.03	0.06	121	210
125 ISL	10.54 D	10.53	33.680 D	25.832	218.5	0.369	3.32	52.7	20.1	1.66	20.1	0.00	0.00	0.02	0.06	126	
140	10.49	10.47	33.810	25.942	208.4	0.401	2.72	43.2	24.5	1.88	22.4	0.00	0.00	0.01	0.05	141	209
150 ISL	10.17 D	10.15	33.842 D	26.022	200.9	0.421	2.71	42.7	25.5	1.89	23.1	0.00	0.00	0.00	0.04	151	
170	9.92	9.90	33.891	26.103	193.6	0.461	2.70	42.3	26.4	1.92	24.2	0.00	0.00	0.00	0.03	171	208
200	9.52	9.50	34.024	26.274	177.9	0.516	2.24	34.8	30.9	2.09	26.8	0.00	0.00	0.00	0.03	201	207
231	9.31	9.28	34.074	26.348	171.5	0.571	2.03	31.4	33.3	2.18	28.0	0.00	0.00			232	206
250 ISL	9.15 D	9.12	34.130 D	26.418	165.2	0.603	1.83	28.2	35.3	2.26	28.7	0.00	0.00			251	
271	9.07	9.04	34.170	26.462	161.4	0.637	1.60	24.7	38.0	2.35	29.6	0.00	0.00			273	205
300 ISL	8.76 D	8.73	34.198 D	26.533	155.0	0.683	1.32	20.2	42.6	2.49	31.1	0.00	0.00			302	
320	8.43	8.40	34.223	26.604	148.5	0.713	1.15	17.5	46.2	2.59	32.2	0.00	0.00			322	204
382	7.39	7.35	34.263	26.789	131.3	0.800	0.70	10.4	58.5	2.85	35.8	0.00	0.00			384	203
400 ISL	7.27 D	7.23	34.281 D	26.820	128.6	0.823	0.61	9.0	60.8	2.90	36.3	0.00	0.00			403	
441	7.02	6.98	34.302	26.872	124.2	0.875	0.46	6.8	65.2	2.98	37.1	0.00	0.00			444	202
500 ISL	6.57 D	6.52	34.323 D	26.950	117.3	0.946	0.35	5.1	71.6	3.07	38.5	0.00	0.00			503	
518	6.48	6.43	34.327	26.965	116.0	0.967	0.32	4.6	73.6	3.10	38.9	0.00	0.00			522	201

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

RV NEW HORIZON CALCOFI CRUISE 0911 STATION 90.0 45.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
32 55.2 N	118 56.3 W	12/11/09	0915 UTC	1691 m	340 09 kn			1010.5 mb	17.1 C	15.4 C			

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	18.54	18.54	33.541	24.023	387.9	0.000	5.49	102.5	1.4	0.30	0.1	0.00	0.00	0.18	0.05	0	
2	18.54	18.54	33.541	24.023	387.9	0.008	5.49	102.5	1.4	0.30	0.1	0.00	0.00	0.18	0.05	2	222
10	18.53	18.53	33.540	24.025	388.0	0.039	5.53	103.2	1.4	0.29	0.0	0.00	0.00	0.19	0.05	10	220
10	18.54	18.54	33.541	24.023	388.2	0.039										10	221
20	18.43	18.43	33.525	24.039	387.1	0.078	5.57	103.8	1.3	0.30	0.0	0.00	0.00	0.22	0.07	20	219
30	14.03	14.03	33.252	24.832	311.6	0.112	6.27	106.9	3.5	0.43	0.3	0.02	0.00	0.91	0.58	30	218
35	12.86	12.86	33.244	25.062	289.8	0.128	5.79	96.4	5.3	0.65	3.3	0.15	0.00	0.91	0.61	35	217
40	12.37	12.36	33.307	25.206	276.2	0.142	5.14	84.7	8.0	0.93	8.7	0.15	0.00	0.35	0.43	40	216
50	11.81	11.80	33.340	25.337	263.9	0.169	4.80	78.2	9.8	1.08	11.6	0.04	0.14	0.20	0.30	50	215
60	11.32	11.31	33.397	25.472	251.3	0.194	4.50	72.5	11.8	1.21	13.9	0.01	0.00	0.12	0.17	60	214
70	11.12	11.11	33.511	25.597	239.7	0.219	4.03	64.7	14.9	1.40	16.4	0.01	0.00	0.07	0.11	70	213
75 ISL	11.04 D	11.03	33.548 D	25.640	235.7	0.231	3.84	61.6	16.2	1.47	17.4	0.01	0.00	0.06	0.09	75	
85	10.84	10.83	33.624	25.735	226.9	0.254	3.49	55.8	18.5	1.58	19.1	0.01	0.00	0.04	0.07	85	212
100	10.72	10.71	33.720	25.831	218.1	0.287	3.01	48.0	21.9	1.75	21.0	0.01	0.04	0.02	0.05	100	211
121	10.59	10.58	33.825	25.936	208.6	0.332	2.51	39.9	23.2	1.91	22.8	0.00	0.00	0.01	0.04	122	210
125 ISL	10.50 D	10.49	33.857 D	25.977	204.8	0.340	2.47	39.2	24.1	1.93	23.1	0.00	0.00	0.01	0.04	126	
140	10.23	10.21	33.918	26.071	196.1	0.371	2.40	37.9	27.8	2.00	24.2	0.00	0.00	0.00	0.03	141	209
150 ISL	10.13 D	10.11	33.950 D	26.113	192.3	0.390	2.34	36.9	28.9	2.04	24.8	0.00	0.00	0.00	0.03	151	
171	9.81	9.79	34.015	26.218	182.7	0.429	2.23	34.9	30.3	2.10	26.0	0.00	0.00	0.00	0.03	172	208
200	9.44	9.42	34.078	26.329	172.7	0.481	2.08	32.3	32.8	2.16	27.5	0.00	0.00	0.00	0.03	201	207
229	9.09	9.07	34.124	26.422	164.3	0.530	1.91	29.4	35.8	2.26	28.8	0.00	0.00			230	206
250 ISL	8.95 D	8.92	34.176 D	26.485	158.7	0.564	1.65	25.4	38.9	2.37	30.0	0.00	0.00			251	
271	8.68	8.65	34.202	26.548	153.0	0.596	1.39	21.2	42.1	2.47	31.1	0.00	0.00			273	205
300 ISL	8.48 D	8.45	34.225 D	26.598	148.8	0.640	1.21	18.4	45.1	2.55	31.9	0.00	0.00			302	
321	8.35	8.32	34.237	26.627	146.3	0.671	1.12	17.0	47.0	2.59	32.4	0.00	0.00			323	204
381	7.70	7.66	34.245	26.731	137.1	0.756	0.86	12.9	54.2	2.75	34.5	0.00	0.00			383	203
400 ISL	7.54 D	7.50	34.270 D	26.774	133.2	0.782	0.78	11.6	57.2	2.81	35.2	0.00	0.00			403	
442	7.08	7.04	34.282	26.848	126.5	0.836	0.61	9.0	63.6	2.92	36.8	0.00	0.00			445	202
500 ISL	6.67 D	6.62	34.312 D	26.928	119.4	0.908	0.47	6.9	69.1	3.02	38.2	0.00	0.00			503	
519	6.61	6.56	34.313	26.937	118.8	0.930	0.42	6.1	70.9	3.05	38.7	0.00	0.00			523	201

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

RV NEW HORIZON CALCOFI CRUISE 0911 STATION 90.0 53.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
32 39.0 N	119 28.9 W	12/11/09	0336 UTC	1321 m	310 08 kn			1012.0 mb	16.8 C	15.0 C			

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	16.36	16.36	33.377	24.418	350.2	0.000	5.80	103.7	1.5	0.38	0.1	0.00	0.00	0.45	0.14	0	
2	16.36	16.36	33.377	24.418	350.2	0.007	5.80	103.7	1.5	0.38	0.1	0.00	0.00	0.45	0.14	2	220
10	16.36	16.36	33.376	24.418	350.5	0.035	5.80	103.7	1.4	0.37	0.0	0.00	0.00	0.44	0.13	10	219
20	16.26	16.26	33.372	24.438	348.9	0.070	5.80	103.5	1.4	0.36	0.0	0.00	0.00	0.49	0.17	20	218
30	16.13	16.13	33.361	24.460	347.2	0.105	5.77	102.7	1.4	0.37	0.0	0.00	0.00	0.73	0.27	30	217
40	15.89	15.88	33.356	24.510	342.7	0.139	5.66	100.3	1.5	0.40	0.2	0.05	0.22	0.67	0.28	40	216
50	13.65	13.64	33.230	24.894	306.3	0.172	5.46	92.4	3.9	0.70	3.8	0.66	0.21	0.29	0.24	50	215
60	12.18	12.17	33.136	25.110	285.8	0.201	5.34	87.5	6.1	0.88	7.6	0.07	0.00	0.14	0.15	60	214
70	11.25	11.24	33.166	25.305	267.4	0.229	5.18	83.3	8.7	1.05	10.8	0.03	0.00	0.10	0.13	70	213
75 ISL	11.02 D	11.01	33.206 D	25.377	260.6	0.242	5.02	80.3	10.2	1.14	12.4	0.02	0.00	0.08	0.11	75	
86	10.74	10.73	33.320	25.516	247.7	0.270	4.68	74.5	12.8	1.29	15.1	0.01	0.00	0.04	0.08	86	212
100	10.67	10.66	33.366	25.564	243.4	0.305	4.57	72.6	13.5	1.32	15.6	0.01	0.00	0.04	0.07	100	211
120	10.09	10.08	33.546	25.804	220.9	0.351	4.32	67.9	15.9	1.37	17.2	0.01	0.00	0.02	0.04	121	210
125 ISL	9.71 D	9.70	33.655 D	25.953	206.8	0.362	4.14	64.5	17.7	1.45	18.5	0.01	0.00	0.01	0.03	126	
140	9.41	9.39	33.784	26.103	192.8	0.392	3.59	55.6	23.3	1.70	22.7	0.00	0.00	0.00	0.02	141	209
150 ISL	9.17 D	9.15	33.872 D	26.211	182.7	0.410	3.43	52.9	25.2	1.76	23.8	0.00	0.00	0.00	0.02	151	
170	8.86	8.84	33.929	26.305	174.1	0.446	3.23	49.5	28.0	1.82	24.9	0.00	0.00	0.00	0.02	171	208
200 ISL	8.38 D	8.36	34.002 D	26.436	162.0	0.497	2.76	41.8	34.2	2.03	28.0	0.00	0.00	0.00	0.02	201	
201	8.39	8.37	34.001	26.434	162.3	0.498	2.74	41.5	34.4	2.04	28.1	0.00	0.00	0.00	0.02	202	207
230	8.51	8.49	34.119	26.509	155.8	0.544	1.85	28.1	39.5	2.32	30.5	0.00	0.00			231	206
250 ISL	8.33 D	8.30	34.145 D	26.557	151.6	0.575	1.59	24.1	42.1	2.42	31.4	0.00	0.00			251	
270	8.26	8.23	34.175	26.591	148.6	0.605	1.46	22.1	44.5	2.49	32.1	0.00	0.00			272	205
300 ISL	7.85 D	7.82	34.207 D	26.678	140.8	0.648	1.21	18.1	49.1	2.61	33.5	0.01	0.00			302	
320	7.65	7.62	34.209	26.709	138.1	0.676	1.06	15.8	52.2	2.69	34.4	0.01	0.00			322	204
381	7.26	7.22	34.246	26.794	130.7	0.758	0.74	10.9	58.9	2.84	36.3	0.00	0.00			383	203
400 ISL	7.02 D	6.98	34.243 D	26.825	127.9	0.783	0.66	9.7	61.4	2.89	36.9	0.00	0.00			403	
441	6.76	6.72	34.268	26.881	123.1	0.834	0.53	7.8	66.6	3.00	38.2	0.00	0.00			444	202
500 ISL	6.47 D	6.42	34.290 D	26.937	118.4	0.906	0.39	5.7	71.3	3.06	39.1	0.00	0.00			503	
516	6.46	6.41	34.308	26.953	117.1	0.924	0.35	5.1	72.6	3.07	39.3	0.00	0.00			520	201

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

RV NEW HORIZON CALCOFI CRUISE 0911 STATION 90.0 60.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
32 25.3 N	119 57.6 W	11/11/09	2227 UTC	889 m	270 06 kn	290 05 10	1	1012.5 mb	18.2 C	16.8 C	10m	6/8	CS

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	16.89	16.89	33.517	24.403	351.6	0.000	5.76	104.2	1.6	0.31	0.0	0.00	0.00	0.59	0.15	0	
1	16.89	16.89	33.517	24.403	351.6	0.004	5.76	104.2	1.6	0.31	0.0	0.00	0.00	0.59	0.15	1	220
10 ISL	16.71 D	16.71	33.519 D	24.447	347.8	0.035	5.77	104.0	1.5	0.31	0.0	0.00	0.00	0.71	0.19	10	
11	16.73	16.73	33.521	24.444	348.1	0.038	5.77	104.0	1.5	0.31	0.0	0.00	0.00	0.73	0.19	11	219
20	16.66	16.66	33.526	24.464	346.4	0.070	5.72	103.0	1.9	0.32	0.1	0.01	0.00	0.93	0.35	20	218
29	16.59	16.59	33.514	24.472	346.0	0.101	5.59	100.5	2.0	0.36	0.3	0.03	0.21	0.70	0.31	29	217
30 ISL	16.56 D	16.56	33.520 D	24.483	345.0	0.104	5.50	98.8	2.6	0.42	1.2	0.05	0.20	0.66	0.30	30	
40	13.17	13.16	33.469	25.175	279.2	0.136	4.51	75.6	9.8	1.06	11.0	0.19	0.00	0.29	0.26	40	216
49	11.89	11.88	33.503	25.449	253.3	0.160	4.10	67.0	13.8	1.33	15.6	0.05	0.00	0.21	0.26	49	215
50 ISL	11.76 D	11.75	33.511 D	25.479	250.4	0.162	4.07	66.3	14.1	1.35	15.9	0.05	0.00	0.21	0.26	50	
60	11.35	11.34	33.537	25.575	241.5	0.187	3.88	62.6	16.1	1.46	17.7	0.03	0.00	0.20	0.21	60	214
70	10.81	10.80	33.574	25.701	229.7	0.210	3.71	59.2	17.9	1.56	19.4	0.02	0.00	0.14	0.13	70	213
75 ISL	10.42 D	10.41	33.639 D	25.820	218.5	0.221	3.60	57.0	19.1	1.61	20.3	0.02	0.00	0.10	0.10	75	
85	10.13	10.12	33.685	25.905	210.6	0.243	3.39	53.3	21.7	1.72	22.0	0.01	0.00	0.04	0.05	85	212
100	9.66	9.65	33.793	26.068	195.3	0.273	3.13	48.8	24.9	1.84	23.9	0.01	0.00	0.01	0.04	100	211
121	9.40	9.39	33.863	26.166	186.4	0.313	2.97	46.0	27.0	1.88	24.8	0.00	0.00	0.00	0.04	122	210
125 ISL	9.33 D	9.32	33.879 D	26.190	184.2	0.321	2.91	45.0	27.5	1.90	25.1	0.00	0.00	0.00	0.04	126	
139	9.23	9.21	33.925	26.242	179.5	0.346	2.70	41.7	29.2	1.98	26.1	0.00	0.00	0.00	0.03	140	209
150 ISL	9.07 D	9.05	33.969 D	26.303	174.0	0.366	2.57	39.6	30.6	2.03	26.7	0.00	0.00	0.00	0.03	151	
170	8.76	8.74	34.011	26.385	166.5	0.400	2.41	36.9	33.3	2.09	27.7	0.00	0.00	0.00	0.03	171	208
200	8.15	8.13	34.029	26.492	156.7	0.448	2.43	36.7	38.0	2.14	29.0	0.00	0.00	0.00	0.02	201	207
231	7.70	7.68	34.066	26.588	148.0	0.495	2.02	30.2	44.6	2.33	31.5	0.00	0.00			232	206
250 ISL	7.38 D	7.36	34.073 D	26.639	143.2	0.523	1.64	24.3	48.0	2.47	32.8	0.00	0.00			251	
270	7.57	7.54	34.159	26.680	139.8	0.551	1.26	18.8	51.2	2.61	34.0	0.00	0.00			272	205
300 ISL	7.51 D	7.48	34.211 D	26.730	135.6	0.593	0.96	14.3	54.9	2.73	35.0	0.00	0.00			302	
322	7.34	7.31	34.219	26.761	133.0	0.622	0.82	12.2	57.4	2.79	35.5	0.00	0.00			324	204
380	6.80	6.76	34.265	26.872	123.0	0.696	0.51	7.5	66.2	2.96	37.5	0.00	0.00			382	203
400 ISL	6.72 D	6.68	34.276 D	26.892	121.4	0.721	0.45	6.6	68.4	3.00	37.9	0.00	0.00			403	
441	6.45	6.41	34.290	26.939	117.3	0.770	0.38	5.5	72.5	3.05	38.7	0.00	0.00			444	202
500 ISL	5.84 D	5.80	34.271 D	27.002	111.4	0.837	0.33	4.7	79.0	3.11	40.0	0.00	0.00			503	
519	5.72	5.68	34.281	27.025	109.4	0.858	0.32	4.6	81.1	3.13	40.4	0.00	0.00			523	201

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

RV NEW HORIZON CALCOFI CRUISE 0911 STATION 90.0 70.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
32 5.3 N	120 39.0 W	11/11/09	1709 UTC	3801 m	290 02 kn	350 03 07	2	1015.0 mb	18.2 C	16.5 C	32m	8/8	CS

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	17.32	17.32	33.321	24.151	375.6	0.000	5.57	101.5	1.5	0.36	0.1	0.00	0.00	0.17	0.05	0	
2 A	17.32	17.32	33.321	24.151	375.7	0.008	5.57	101.5	1.5	0.36	0.1	0.00	0.00	0.17	0.05	2	221
10 ISL	17.30 D	17.30	33.323 D	24.158	375.3	0.038	5.58	101.6	1.5	0.36	0.0	0.00	0.00	0.18	0.05	10	
13	17.30	17.30	33.320	24.156	375.6	0.049	5.58	101.6	1.5	0.36	0.0	0.00	0.00	0.18	0.05	13	220
20 ISL	17.24 D	17.24	33.311 D	24.163	375.1	0.075	5.59	101.7	1.4	0.36	0.0	0.00	0.03	0.19	0.06	20	
24 A	17.23	17.23	33.310	24.165	375.1	0.090	5.59	101.6	1.4	0.36	0.0	0.00	0.04	0.19	0.07	24	219
30 ISL	17.20 D	17.20	33.309 D	24.172	374.7	0.113	5.60	101.8	1.4	0.36	0.0	0.00	0.04	0.21	0.07	30	
35	17.10	17.09	33.292	24.182	373.8	0.131	5.61	101.7	1.4	0.36	0.0	0.00	0.04	0.22	0.07	35	218
49 A	15.04	15.03	33.215	24.590	335.3	0.181	5.87	102.1	2.2	0.45	0.4	0.05	0.25	0.54	0.31	49	217
50 ISL	14.98 D	14.97	33.214 D	24.602	334.2	0.184	5.87	102.0	2.2	0.45	0.4	0.05	0.27	0.53	0.31	50	
60	14.68	14.67	33.222	24.673	327.7	0.217	5.84	100.9	2.1	0.48	0.8	0.09	0.38	0.48	0.29	60	216
72 A	12.06	12.05	32.917	24.963	300.1	0.255	5.89	96.2	4.5	0.68	3.4	0.20	0.18	0.29	0.25	72	215
75 ISL	11.14 D	11.13	32.909 D	25.125	284.6	0.264	5.75	92.0	5.8	0.79	5.4	0.15	0.12	0.24	0.22	75	
82	10.70	10.69	33.003	25.276	270.4	0.283	5.42	86.0	8.5	1.01	9.7	0.03	0.00	0.13	0.16	82	214
92 A	10.29	10.28	32.993	25.338	264.6	0.310	5.39	84.7	9.5	1.07	10.8	0.02	0.00	0.10	0.11	92	213
100 ISL	10.04 D	10.03	33.109 D	25.471	252.1	0.331	5.17	80.9	11.9	1.21	13.3	0.01	0.00	0.07	0.08	100	
105	9.96	9.95	33.173	25.535	246.1	0.343	5.00	78.1	13.6	1.30	14.9	0.01	0.00	0.05	0.06	105	212
116	9.81	9.80	33.264	25.631	237.2	0.370	4.76	74.2	15.9	1.42	16.8	0.01	0.00	0.03	0.05	117	211
125 ISL	9.85 D	9.84	33.356 D	25.696	231.2	0.391	4.42	69.0	17.4	1.51	18.4	0.01	0.00	0.02	0.05	126	
130 A	10.05	10.04	33.507	25.781	223.3	0.402	4.22	66.2	18.2	1.55	19.2	0.01	0.00	0.02	0.05	131	210
149	9.65	9.63	33.714	26.009	202.0	0.443	3.72	57.9	21.8	1.67	21.6	0.00	0.00	0.01	0.03	150	209
150 ISL	9.64 D	9.62	33.734 D	26.027	200.3	0.445	3.71	57.8	21.9	1.67	21.7	0.00	0.00	0.01	0.03	151	
171	9.31	9.29	33.839	26.163	187.7	0.485	3.51	54.3	24.4	1.72	22.8	0.00	0.00	0.00	0.03	172	208
200 ISL	9.00 D	8.98	33.998 D	26.337	171.7	0.537	2.54	39.0	31.5	2.06	26.8	0.00	0.00	0.00	0.03	201	
201	9.02	9.00	33.997	26.333	172.1	0.539	2.50	38.4	31.8	2.07	27.0	0.00	0.00	0.00	0.03	202	207
230	8.65	8.63	34.090	26.465	160.1	0.587	1.94	29.6	37.7	2.27	29.6	0.00	0.00			231	206
250 ISL	8.43 D	8.40	34.125 D	26.526	154.5	0.619	1.72	26.1	41.2	2.37	30.9	0.00	0.00			251	
270	8.10	8.07	34.128	26.578	149.8	0.649	1.58	23.8	44.5	2.45	32.0	0.00	0.00			271	205
300 ISL	7.58 D	7.55	34.109 D	26.640	144.2	0.693	1.51	22.5	49.3	2.52	33.5	0.00	0.00			302	
321	7.24	7.21	34.101	26.682	140.3	0.723	1.46	21.6	52.5	2.57	34.5	0.00	0.00			323	204
380	6.89	6.85	34.182	26.794	130.3	0.803	0.85	12.5	61.1	2.83	36.9	0.00	0.00			382	203
400 ISL	6.80 D	6.76	34.201 D	26.822	128.0	0.829	0.77	11.3	64.0	2.88	37.6	0.00	0.00			402	
441	6.31	6.27	34.189	26.877	122.9	0.880	0.67	9.7	69.5	2.96	38.8	0.00	0.00			444	202
500 ISL	5.96 D	5.92	34.235 D	26.959	115.7	0.951	0.51	7.3	75.4	3.05	39.7	0.00	0.00			503	
517	5.95	5.90	34.249	26.971	114.7	0.970	0.46	6.6	77.1	3.07	39.9	0.00	0.00			520	201

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

RV NEW HORIZON CALCOFI CRUISE 0911 STATION 90.0 80.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
31 45.0 N	121 19.1 W	11/11/09	0919 UTC	3694 m	340 06 kn			1014.6 mb	16.9 C	15.0 C			

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	16.41	16.41	33.196	24.268	364.5	0.000	5.74	102.6	1.7	0.37	0.1	0.00	0.06	0.20	0.06	0	
2	16.41	16.41	33.196	24.268	364.6	0.007	5.74	102.6	1.7	0.37	0.1	0.00	0.06	0.20	0.06	2	220
9	16.41	16.41	33.195	24.267	364.8	0.033	5.76	103.0	1.7	0.37	0.0	0.00	0.00	0.21	0.07	9	219
10 ISL	16.41 D	16.41	33.200 D	24.271	364.5	0.036	5.76	103.0	1.7	0.37	0.0	0.00	0.00	0.21	0.07	10	
20	16.25	16.25	33.178	24.291	362.9	0.073	5.76	102.7	1.6	0.37	0.0	0.00	0.00	0.21	0.06	20	218
30 ISL	15.79 D	15.79	33.153 D	24.376	355.1	0.109	5.84	103.1	1.8	0.38	0.0	0.00	0.00	0.33	0.09	30	
31	15.93	15.93	33.153	24.345	358.1	0.112	5.85	103.6	1.8	0.38	0.0	0.00	0.00	0.34	0.09	31	217
40	14.06	14.05	33.133	24.734	321.2	0.143	5.94	101.3	3.0	0.48	0.9	0.11	0.00	0.98	0.45	40	216
49	13.32	13.31	33.187	24.927	303.1	0.171	5.68	95.4	4.3	0.65	3.6	0.31	0.00	0.73	0.15	49	215
50 ISL	13.00 D	12.99	33.192 D	24.994	296.6	0.174	5.64	94.1	4.6	0.68	4.2	0.29	0.00	0.69	0.15	50	
60	11.62	11.61	33.161	25.234	274.0	0.202	5.22	84.6	8.4	1.00	9.7	0.04	0.00	0.31	0.27	60	214
70	11.09	11.08	33.230	25.383	259.9	0.229	4.95	79.3	11.0	1.17	12.7	0.02	0.00	0.16	0.28	70	213
75 ISL	10.90 D	10.89	33.273 D	25.451	253.6	0.242	4.77	76.1	12.3	1.25	14.1	0.01	0.00	0.13	0.23	75	
86	10.60	10.59	33.365	25.575	242.0	0.269	4.38	69.5	15.1	1.40	16.7	0.01	0.00	0.10	0.09	86	212
100 ISL	10.08 D	10.07	33.607 D	25.853	215.8	0.301	4.05	63.6	18.2	1.55	19.3	0.01	0.00	0.04	0.05	100	
101	10.14	10.13	33.578 D	25.820	219.0	0.304	4.02	63.2	18.5	1.56	19.5	0.01	0.00	0.04	0.05	101	211
120	9.77	9.76	33.853	26.098	193.0	0.343	2.70	42.2	26.8	1.94	25.1	0.00	0.00	0.01	0.03	121	210
125 ISL	9.74 D	9.73	33.860 D	26.108	192.1	0.352	2.50	39.0	28.3	2.01	25.9	0.00	0.00	0.01	0.03	126	
139	9.48	9.46	33.998	26.259	178.0	0.378	2.12	32.9	31.4	2.14	27.5	0.00	0.00	0.00	0.03	140	209
150 ISL	9.29 D	9.27	34.066 D	26.343	170.2	0.397	1.95	30.2	33.0	2.20	28.2	0.00	0.00	0.00	0.03	151	
170	9.20	9.18	34.093	26.379	167.2	0.431	1.79	27.7	34.9	2.26	28.9	0.00	0.00	0.00	0.03	171	208
200 ISL	9.05 D	9.03	34.147 D	26.446	161.4	0.480	1.55	23.9	37.6	2.35	30.0	0.00	0.00	0.00	0.03	201	
201	9.06	9.04	34.147	26.444	161.6	0.482	1.54	23.7	37.7	2.35	30.0	0.00	0.00	0.00	0.03	202	207
230	8.93	8.91	34.166	26.480	158.8	0.528	1.38	21.2	39.7	2.43	30.7	0.00	0.00			231	206
250 ISL	8.86 D	8.83	34.191 D	26.511	156.2	0.560	1.31	20.1	41.0	2.47	31.1	0.00	0.00			251	
271	8.73	8.70	34.211	26.548	153.1	0.592	1.24	19.0	42.4	2.51	31.5	0.00	0.00			273	205
300 ISL	8.59 D	8.56	34.226 D	26.582	150.4	0.636	1.12	17.1	44.6	2.57	32.1	0.00	0.00			302	
320	8.46	8.43	34.242	26.615	147.6	0.666	1.03	15.7	46.2	2.61	32.5	0.00	0.00			322	204
382	8.08	8.04	34.257	26.685	141.8	0.756	0.83	12.5	50.8	2.71	33.7	0.00	0.00			384	203
400 ISL	7.91 D	7.87	34.261 D	26.713	139.3	0.781	0.78	11.7	52.3	2.75	34.1	0.00	0.00			403	
441	7.68	7.64	34.273	26.757	135.7	0.838	0.67	10.0	56.2	2.83	35.1	0.00	0.00			444	202
500 ISL	6.93 D	6.88	34.281 D	26.869	125.3	0.915	0.52	7.6	64.4	2.94	37.0	0.00	0.00			503	
518	6.86	6.81	34.290	26.885	123.9	0.937	0.48	7.0	66.9	2.97	37.6	0.00	0.00			521	201

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

RV NEW HORIZON CALCOFI CRUISE 0911 STATION 90.0 90.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
31 24.6 N	121 59.5 W	11/11/09	0254 UTC	3917 m	040 04 kn			1015.6 mb	16.9 C	15.3 C			

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	16.11	16.11	33.195	24.336	358.1	0.000	5.83	103.6	2.1	0.42	0.1	0.00	0.00	0.33	0.09	0	
2	16.11	16.11	33.195	24.336	358.1	0.007	5.83	103.6	2.1	0.42	0.1	0.00	0.00	0.33	0.09	2	220
10	15.98	15.98	33.186	24.358	356.2	0.036	5.90	104.6	2.1	0.41	0.0	0.00	0.00	0.35	0.07	10	219
20 ISL	15.79 D	15.79	33.196 D	24.409	351.7	0.071	5.91	104.4	2.0	0.40	0.0	0.00	0.00	0.35	0.10	20	
21	15.78	15.78	33.195	24.411	351.6	0.075	5.91	104.4	2.0	0.40	0.0	0.00	0.00	0.35	0.10	21	218
30	15.78	15.78	33.212	24.424	350.6	0.106	5.91	104.4	2.1	0.39	0.0	0.00	0.00	0.42	0.11	30	217
40	15.12	15.11	33.219	24.575	336.4	0.141	6.11	106.5	2.5	0.40	0.0	0.00	0.06	1.08	0.33	40	216
50 ISL	14.96 D	14.95	33.247 D	24.632	331.3	0.174	6.01	104.4	2.4	0.42	0.2	0.03	0.12	1.08	0.39	50	
51	14.95	14.94	33.244	24.632	331.4	0.177	5.99	104.1	2.4	0.42	0.2	0.03	0.13	1.08	0.40	51	215
61	14.65	14.64	33.192	24.656	329.3	0.210	5.96	102.9	3.1	0.44	0.2	0.03	0.21	1.08	0.29	61	214
69	13.90	13.89	33.159	24.788	316.9	0.236	5.71	97.0	3.6	0.57	1.9	0.15	0.35	0.79	0.35	69	213
75 ISL	12.73 D	12.72	33.065 D	24.950	301.5	0.255	5.62	93.2	4.8	0.71	4.2	0.12	0.25	0.62	0.33	75	
85	11.08	11.07	32.987	25.196	278.0	0.284	5.50	88.0	7.2	0.92	8.1	0.08	0.00	0.39	0.23	85	212
100	11.02	11.01	33.177	25.355	263.3	0.324	5.15	82.4	9.3	1.05	10.9	0.02	0.00	0.15	0.09	100	211
120	10.47	10.46	33.344	25.582	242.1	0.375	4.68	74.0	14.0	1.32	15.4	0.01	0.00	0.03	0.04	121	210
125 ISL	10.33 D	10.32	33.409 D	25.657	235.1	0.387	4.60	72.6	14.7	1.35	16.1	0.01	0.00	0.03	0.04	126	
141	10.10	10.08	33.501	25.768	224.8	0.424	4.32	67.8	16.6	1.44	17.9	0.00	0.00	0.01	0.03	142	209
150 ISL	10.02 D	10.00	33.617 D	25.872	215.1	0.443	4.04	63.4	18.2	1.51	19.0	0.00	0.00	0.01	0.03	151	
171	9.77	9.75	33.821	26.073	196.4	0.487	3.44	53.7	22.2	1.68	21.4	0.00	0.00	0.00	0.02	172	208
200 ISL	9.21 D	9.19	33.952 D	26.268	178.4	0.541	3.29	50.8	26.7	1.80	23.9	0.00	0.00	0.00	0.02	201	
201	9.16	9.14	33.977 D	26.295	175.8	0.543	3.28	50.6	26.9	1.80	24.0	0.00	0.00	0.00	0.02	202	207
230	8.91	8.89	34.032	26.379	168.3	0.593	2.24	34.4	34.0	2.14	28.3	0.00	0.00			231	206
250 ISL	8.58 D	8.55	34.096 D	26.480	158.9	0.625	1.89	28.8	38.0	2.28	30.0	0.00	0.00			251	
271	8.25	8.22	34.116	26.547	152.9	0.658	1.69	25.6	41.8	2.39	31.3	0.00	0.00			272	205
300 ISL	7.96 D	7.93	34.127 D	26.599	148.3	0.702	1.49	22.4	46.4	2.50	32.7	0.00	0.00			302	
320	7.64	7.61	34.139	26.655	143.1	0.731	1.39	20.7	49.5	2.56	33.6	0.00	0.00			322	204
380	6.72	6.68	34.147	26.790	130.6	0.813	1.06	15.5	61.4	2.78	36.9	0.00	0.00			382	203
400 ISL	6.40 D	6.36	34.117 D	26.808	128.9	0.839	0.99	14.3	64.5	2.83	37.6	0.00	0.00			402	
441	6.12	6.08	34.151	26.872	123.2	0.891	0.85	12.2	70.2	2.92	38.8	0.00	0.00			444	202
500 ISL	5.80 D	5.76	34.200 D	26.951	116.2	0.961	0.58	8.3	78.2	3.05	40.2	0.00	0.00			503	
515	5.68	5.64	34.215	26.978	113.8	0.978	0.51	7.3	80.2	3.08	40.6	0.00	0.00			518	201

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

RV NEW HORIZON CALCOFI CRUISE 0911 STATION 90.0 100.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
31 5.3 N	122 39.8 W	10/11/09	1930 UTC	4035 m	020 13 kn	020 05 06	1	1018.4 mb	19.2 C	16.5 C	27m	3/8	CS

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	18.46	18.46	33.408	23.941	395.7	0.000	5.48	102.1	1.5	0.34	0.1	0.00	0.00	0.16	0.01	0	
3	18.46	18.46	33.408	23.941	395.8	0.012	5.48	102.1	1.5	0.34	0.1	0.00	0.00	0.16	0.01	3	224
10	18.44	18.44	33.400	23.940	396.1	0.040	5.47	101.9	1.5	0.33	0.0	0.00	0.05	0.17	0.01	10	223
19	18.39	18.39	33.404	23.956	394.9	0.075	5.56	103.4	1.5	0.32	0.0	0.00	0.05	0.13	0.03	19	222
20 ISL	18.39 D	18.39	33.405 D	23.957	394.9	0.079	5.55	103.3	1.5	0.32	0.0	0.00	0.04	0.13	0.03	20	
29	18.39	18.38	33.404	23.957	395.2	0.115	5.47	101.8	1.4	0.32	0.0	0.00	0.00	0.14	0.03	29	221
30 ISL	18.39 D	18.38	33.406 D	23.958	395.1	0.119	5.47	101.8	1.4	0.32	0.0	0.00	0.00	0.14	0.03	30	
40	18.38	18.37	33.404	23.960	395.3	0.158	5.46	101.6	1.5	0.31	0.0	0.00	0.04	0.15	0.04	40	220
50 ISL	17.12 D	17.11	33.252 D	24.148	377.6	0.197	5.55	100.7	1.4	0.32	0.0	0.00	0.00	0.22	0.05	50	
51	16.05 D	16.04	33.142 D	24.310	362.1	0.201	5.56	98.7	1.4	0.32	0.0	0.00	0.00	0.23	0.05	51	219
60	14.61	14.60	33.086	24.583	336.2	0.232	6.19	106.7	2.1	0.34	0.0	0.00	0.00	0.25	0.16	60	218
68	13.97	13.96	33.087	24.718	323.5	0.258	6.09	103.6	2.5	0.37	0.0	0.00	0.00	0.34	0.22	68	217
75 ISL	13.69 D	13.68	33.085 D	24.774	318.4	0.281	5.99	101.3	2.7	0.39	0.0	0.02	0.05	0.32	0.16	75	
76	13.64	13.63	33.082	24.782	317.6	0.284	5.98	101.0	2.7	0.39	0.0	0.03	0.06	0.31	0.15	76	216
87	12.63	12.62	33.021	24.935	303.2	0.318	5.81	96.1	3.5	0.51	1.2	0.21	0.00	0.28	0.21	87	215
97	11.71	11.70	33.035	25.120	285.7	0.348	5.52	89.5	5.7	0.78	6.3	0.02	0.00	0.16	0.15	97	214
100 ISL	11.47 D	11.46	33.066 D	25.188	279.3	0.356	5.47	88.3	6.3	0.83	7.2	0.02	0.00	0.14	0.13	100	
110	11.10	11.09	33.105	25.285	270.2	0.384	5.35	85.7	7.9	0.95	9.2	0.01	0.00	0.10	0.08	110	213
125 ISL	10.76 D	10.75	33.277 D	25.479	252.0	0.423	5.09	81.0	9.8	1.03	11.1	0.01	0.00	0.05	0.07	126	
126	10.76	10.74	33.248	25.457	254.2	0.425	5.07	80.7	10.0	1.04	11.2	0.01	0.00	0.05	0.07	127	212
145	10.19	10.17	33.490	25.744	227.2	0.471	4.46	70.2	15.7	1.36	16.9	0.00	0.00	0.01	0.03	146	211
150 ISL	10.05 D	10.03	33.580 D	25.838	218.3	0.482	4.29	67.3	17.2	1.43	18.1	0.00	0.00	0.01	0.03	151	
170	9.55	9.53	33.761	26.063	197.3	0.524	3.69	57.3	22.4	1.64	21.7	0.00	0.00	0.00	0.02	171	210
200	9.04	9.02	33.912	26.264	178.7	0.580	3.36	51.7	27.0	1.76	24.0	0.00	0.00	0.00	0.02	201	209
230	8.38	8.36	33.996	26.432	163.0	0.631	2.77	42.0	34.4	2.01	27.6	0.00	0.00			231	208
250 ISL	8.14 D	8.11	34.043 D	26.505	156.3	0.663	2.46	37.1	38.9	2.15	29.4	0.00	0.00			251	
270	7.78	7.75	34.053	26.567	150.7	0.694	2.18	32.6	43.1	2.27	30.9	0.00	0.00			271	207
300 ISL	7.29 D	7.26	34.053 D	26.637	144.3	0.738	1.77	26.2	49.5	2.45	33.4	0.00	0.00			302	
320	7.05	7.02	34.067	26.681	140.2	0.767	1.53	22.5	53.4	2.55	34.9	0.00	0.00			322	206
380	6.61	6.58	34.130	26.791	130.4	0.848	1.13	16.5	62.0	2.75	36.8	0.00	0.00			382	205
400 ISL	6.45 D	6.41	34.137 D	26.818	128.1	0.874	1.02	14.8	65.1	2.81	37.6	0.00	0.00			402	
440	6.05	6.01	34.145	26.876	122.8	0.924	0.83	11.9	71.3	2.91	39.2	0.00	0.00			443	204
500 ISL	5.70 D	5.66	34.205 D	26.967	114.6	0.995	0.57	8.1	79.3	3.04	40.6	0.00	0.00			503	
517	5.64	5.60	34.215	26.983	113.3	1.014	0.50	7.1	81.4	3.07	40.9	0.00	0.00			520	203
600 CSL	5.15	5.10	34.284	27.096	103.0	1.104										604	200
700 CSL	4.76	4.70	34.351	27.194	94.3	1.203										705	200
800 CSL	4.41	4.35	34.398	27.271	87.6	1.294										806	200
900 CSL	4.13	4.06	34.440	27.334	82.1	1.379										907	200
1000 CSL	3.90	3.82	34.478	27.389	77.4	1.458										1008	200
1100 CSL	3.67	3.59	34.500	27.430	73.8	1.534										1109	200
1200 CSL	3.44	3.35	34.523	27.471	70.2	1.606										1210	200
1300 CSL	3.21	3.12	34.540	27.507	66.9	1.674										1312	200
1400 CSL	3.00	2.90	34.556	27.540	63.9	1.740										1413	200
1500 CSL	2.80	2.69	34.570	27.569	61.1	1.802										1514	200
1600 CSL	2.66	2.55	34.581	27.591	59.2	1.862										1616	200
1800 CSL	2.32	2.19	34.605	27.640	54.4	1.976										1819	200
2000 CSL	2.10	1.96	34.625	27.674	51.2	2.082										2022	200
2200 CSL	1.94	1.79	34.640	27.700	48.9	2.182										2225	200
2400 CSL	1.85	1.68	34.649	27.715	47.9	2.278										2428	200
2600 CSL	1.77	1.58	34.657	27.729	47.0	2.373										2632	200
2800 CSL	1.70	1.49	34.662	27.739	46.4	2.467										2836	200
3000 CSL	1.64	1.42	34.665	27.747	45.9	2.559										3040	200
3200 CSL	1.60	1.36	34.669	27.755	45.7	2.651										3244	200
3400 CSL	1.57	1.31	34.673	27.762	45.6	2.742										3449	200
3506	1.56	1.29	34.675	27.765	45.6	2.790	2.89	37.1	172.9	2.69	38.7	0.00	0.00			3557	201
3507	1.56	1.29	34.675	27.765	45.6	2.791	2.90	37.2								3558	202

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

RV NEW HORIZON CALCOFI CRUISE 0911 STATION 90.0 110.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
30 45.2 N	123 20.4 W	10/11/09	1208 UTC	4041 m	030 14 kn			1015.9 mb	16.8 C	14.1 C			

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	17.82	17.82	33.305	24.019	388.2	0.000	5.54	101.9	1.5	0.37	0.1	0.00	0.00	0.20	0.06	0	
2	17.82	17.82	33.305	24.019	388.3	0.008	5.54	101.9	1.5	0.37	0.1	0.00	0.00	0.20	0.06	2	220
10	17.83	17.83	33.308	24.019	388.5	0.039	5.56	102.3	1.3	0.36	0.0	0.00	0.00	0.21	0.06	10	219
20 ISL	17.83 D	17.83	33.306 D	24.018	389.0	0.078	5.58	102.6	1.4	0.35	0.0	0.00	0.00	0.23	0.05	20	
26	17.83	17.83	33.305	24.018	389.3	0.101	5.58	102.6	1.5	0.35	0.0	0.00	0.00	0.23	0.04	26	218
30 ISL	17.83 D	17.82	33.306 D	24.019	389.3	0.117	5.58	102.6	1.5	0.35	0.0	0.00	0.00	0.22	0.04	30	
40	17.83	17.82	33.308	24.021	389.5	0.156	5.58	102.6	1.5	0.35	0.0	0.00	0.00	0.19	0.06	40	217
50	17.83	17.82	33.305	24.019	390.0	0.195	5.56	102.3	1.2	0.34	0.0	0.00	0.00	0.20	0.08	50	216
63	13.35	13.34	33.277	24.991	297.4	0.239	6.50	109.3	5.7	0.63	2.9	0.05	0.05	0.48	0.25	63	215
75 ISL	11.44 D	11.43	33.275 D	25.355	262.8	0.273	5.47	88.3	9.8	1.06	10.4	0.11	0.06	0.35	0.19	75	
76	11.44	11.43	33.275	25.355	262.8	0.275	5.36	86.6	10.1	1.09	11.0	0.11	0.06	0.33	0.19	76	214
88	10.56	10.55	33.251	25.493	249.8	0.306	5.08	80.5	12.5	1.24	13.7	0.07	0.00	0.24	0.11	88	213
100 ISL	10.09 D	10.08	33.250 D	25.573	242.4	0.336	4.89	76.7	14.1	1.32	15.1	0.02	0.00	0.16	0.07	100	
101	10.09	10.08	33.260	25.581	241.7	0.338	4.87	76.4	14.2	1.33	15.2	0.02	0.00	0.15	0.07	101	212
111	10.22	10.21	33.447	25.705	230.2	0.362	4.32	68.0	16.8	1.47	17.7	0.01	0.00	0.08	0.06	111	211
124	9.91	9.90	33.600	25.877	214.1	0.391	3.97	62.1	19.9	1.61	20.2	0.00	0.00	0.02	0.03	125	210
125 ISL	9.82 D	9.81	33.608 D	25.898	212.0	0.393	3.94	61.5	20.2	1.62	20.4	0.00	0.00	0.02	0.03	126	
142	9.50	9.48	33.753	26.064	196.6	0.427	3.42	53.1	24.4	1.82	23.7	0.00	0.00	0.00	0.03	143	209
150 ISL	9.34 D	9.32	33.797 D	26.125	190.9	0.443	3.27	50.6	25.6	1.87	24.5	0.00	0.00	0.00	0.03	151	
171	9.13	9.11	33.866	26.213	183.0	0.482	3.01	46.4	28.1	1.94	25.6	0.00	0.00	0.00	0.03	172	208
200	8.65	8.63	33.966	26.367	168.7	0.533	2.78	42.4	32.4	2.01	27.2	0.00	0.00	0.00	0.02	201	207
230	8.16	8.14	34.004	26.472	159.2	0.582	2.53	38.2	37.0	2.13	28.9	0.00	0.00			231	206
250 ISL	7.82 D	7.80	34.028 D	26.541	152.8	0.614	2.25	33.7	41.1	2.25	30.5	0.00	0.00			251	
271	7.57	7.54	34.050	26.594	147.9	0.645	1.94	28.9	45.7	2.38	32.3	0.00	0.00			272	205
300 ISL	7.06 D	7.03	34.076 D	26.687	139.4	0.687	1.64	24.1	52.1	2.53	34.2	0.00	0.00			302	
323	6.82	6.79	34.079	26.722	136.2	0.719	1.45	21.2	56.9	2.64	35.5	0.00	0.00			325	204
380	6.26	6.23	34.112	26.822	127.1	0.794	1.06	15.3	66.4	2.83	37.9	0.00	0.00			382	203
400 ISL	6.03 D	6.00	34.125 D	26.862	123.5	0.819	0.94	13.5	70.1	2.89	38.6	0.00	0.00			402	
442	5.71	5.67	34.160	26.930	117.3	0.869	0.73	10.4	77.2	2.99	39.9	0.00	0.00			445	202
500 ISL	5.49 D	5.45	34.212 D	26.998	111.4	0.936	0.51	7.2	83.5	3.09	40.9	0.00	0.00			503	
520	5.39	5.35	34.233	27.027	108.8	0.958	0.44	6.2	85.7	3.12	41.3	0.00	0.00			523	201

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

RV NEW HORIZON CALCOFI CRUISE 0911 STATION 90.0 120.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
30 25.2 N	123 59.8 W	10/11/09	0540 UTC	4250 m	040 18 kn			1017.5 mb	16.8 C	14.0 C			

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	17.47	17.47	33.273	24.079	382.5	0.000	5.56	101.6	1.4	0.35	0.1	0.00	0.00	0.14	0.03	0	
2	17.47	17.47	33.273	24.079	382.6	0.008	5.56	101.6	1.4	0.35	0.1	0.00	0.00	0.14	0.03	2	220
10	17.48	17.48	33.275	24.078	382.9	0.038	5.55	101.4	1.4	0.34	0.1	0.00	0.00	0.18	0.00	10	219
20 ISL	17.48 D	17.48	33.273 D	24.077	383.4	0.077	5.55	101.4	1.4	0.34	0.0	0.00	0.00	0.15	0.02	20	
25	17.47	17.47	33.273	24.080	383.3	0.096	5.56	101.5	1.4	0.34	0.0	0.00	0.00	0.13	0.04	25	218
30 ISL	17.48 D	17.47	33.274 D	24.078	383.6	0.115	5.56	101.6	1.4	0.34	0.0	0.00	0.00	0.14	0.04	30	
41	17.37	17.36	33.253	24.089	383.0	0.157	5.57	101.5	1.3	0.33	0.0	0.00	0.00	0.16	0.03	41	217
50 ISL	16.86 D	16.85	33.234 D	24.195	373.1	0.191	5.68	102.5	1.5	0.33	0.0	0.00	0.00	0.28	0.10	50	
51	16.86	16.85	33.237	24.197	372.9	0.195	5.70	102.8	1.5	0.33	0.0	0.00	0.00	0.29	0.11	51	216
62	14.84	14.83	33.198	24.620	332.8	0.234	6.10	105.7	2.1	0.30	0.0	0.00	0.00	0.31	0.15	62	215
75 ISL	13.79 D	13.78	33.216 D	24.855	310.7	0.275	5.86	99.4	2.5	0.37	0.1	0.05	0.05	0.22	0.24	75	
76	13.77	13.76	33.214	24.857	310.5	0.279	5.83	98.8	2.5	0.38	0.1	0.06	0.05	0.21	0.24	76	214
88	12.73	12.72	33.162	25.025	294.7	0.315	5.66	93.9	3.6	0.50	1.5	0.18	0.00	0.20	0.16	88	213
100	11.48	11.47	33.082	25.199	278.3	0.349	5.54	89.4	5.1	0.68	4.6	0.05	0.00	0.14	0.13	100	212
112	10.88	10.87	33.113	25.330	265.9	0.382	5.36	85.4	7.2	0.89	8.3	0.02	0.00	0.08	0.12	112	211
125	10.48	10.47	33.252	25.509	249.2	0.415	5.04	79.7	10.8	1.10	12.0	0.01	0.00	0.04	0.05	126	210
141	10.00	9.98	33.330	25.651	235.8	0.454	4.84 D	75.8 D	12.9	1.18	13.7	0.01	0.00	0.02	0.03	142	209
150 ISL	9.74 D	9.72	33.527 D	25.848	217.2	0.475	4.56	71.1	15.1	1.29	15.7	0.01	0.00	0.01	0.03	151	
170	9.46	9.44	33.727	26.051	198.4	0.516	3.88	60.2	20.9	1.57	20.4	0.00	0.00	0.00	0.02	171	208
200 ISL	8.92 D	8.90	33.898 D	26.272	177.9	0.573	3.27	50.1	28.1	1.81	24.6	0.00	0.00	0.00	0.01	201	
201	8.88	8.86	33.906	26.284	176.7	0.574	3.25	49.8	28.3	1.82	24.7	0.00	0.00	0.00	0.01	202	207
231	8.48	8.46	33.994	26.415	164.7	0.626	2.60	39.5	34.4	2.05	28.0	0.00	0.00			232	206
250 ISL	8.15 D	8.12	34.023 D	26.488	157.9	0.656	2.40	36.2	37.2	2.14	29.2	0.00	0.00			251	
271	7.97	7.94	34.030	26.521	155.2	0.689	2.24	33.6	40.1	2.22	30.3	0.00	0.00			272	205
300 ISL	7.54 D	7.51	34.041 D	26.592	148.6	0.733	1.87	27.8	45.7	2.38	32.4	0.00	0.00			302	
320	7.34	7.31	34.068	26.642	144.1	0.762	1.63	24.1	49.7	2.49	33.8	0.00	0.00			322	204
380	6.66	6.63	34.096	26.758	133.6	0.846	1.27	18.5	59.6	2.69	36.3	0.00	0.00			382	203
400 ISL	6.41 D	6.37	34.100 D	26.794	130.3	0.872	1.15	16.7	62.8	2.75	37.0	0.00	0.00			402	
441	6.14	6.10	34.133	26.855	124.8	0.924	0.92	13.2	69.1	2.85	38.3	0.00	0.00			444	202
500 ISL	5.76 D	5.72	34.181 D	26.941	117.1	0.996	0.68	9.7	77.2	2.97	39.9	0.00	0.00			503	
516	5.61	5.57	34.173	26.953	116.0	1.014	0.62	8.8	79.4	3.00	40.3	0.00	0.00			519	201

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

RV NEW HORIZON CALCOFI CRUISE 0911 STATION 91.7 26.4

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
33 14.8 N	117 27.7 W	06/11/09	2359 UTC	16 m	250 04 kn	270 01 06	1	1013.3 mb	20.0 C	16.6 C		7/8	SC

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	17.60	17.60	33.409	24.152	375.6	0.000	5.81	106.5	1.8	0.28	0.0	0.00	0.02	0.43	0.10	0	
2	17.60	17.60	33.409	24.152	375.6	0.008	5.81	106.5	1.8	0.28	0.0	0.00	0.02	0.43	0.10	2	204
7	17.43	17.43	33.398	24.184	372.7	0.026	5.83	106.5	1.9	0.28	0.0	0.00	0.01	0.43	0.11	7	203
10 ISL	16.63 D	16.63	33.351 D	24.337	358.3	0.037	5.92	106.4	2.2	0.30	0.0	0.00	0.02	0.46	0.18	10	
11	16.55	16.55	33.355	24.358	356.3	0.041	5.95	106.8	2.3	0.30	0.0	0.00	0.02	0.47	0.20	11	201
11	16.54	16.54	33.352	24.358	356.3	0.041										11	202

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

RV NEW HORIZON CALCOFI CRUISE 0911 STATION 93.3 26.7

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
32 57.4 N	117 18.4 W	06/11/09	1932 UTC	69 m	280 03 kn	290 01 06	1	1016.4 mb	18.5 C	16.9 C	15m	7/8	SC

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	16.78	16.78	33.369	24.315	360.0	0.000	6.02	108.6	2.8	0.34	0.2	0.00	0.27	0.66	0.16	0	
2 A	16.78	16.78	33.369	24.315	360.1	0.007	6.02	108.6	2.8	0.34	0.2	0.00	0.27	0.66	0.16	2	208
6	16.69	16.69	33.362	24.331	358.7	0.022	6.06	109.1	2.6	0.34	0.2	0.00	0.50	0.65	0.21	6	207
10 ISL	16.27 D	16.27	33.345 D	24.415	350.8	0.036	6.08	108.5	2.7	0.34	0.1	0.00	0.44	0.76	0.39	10	
11 A	15.91	15.91	33.348	24.499	342.9	0.039	6.08	107.8	2.7	0.34	0.1	0.00	0.42	0.79	0.44	11	206
20 ISL	15.00 D	15.00	33.280 D	24.648	328.9	0.069	6.11	106.3	3.2	0.38	0.2	0.02	0.31	1.02	0.46	20	
22 A	14.72	14.72	33.266	24.697	324.3	0.076	6.12	105.8	3.4	0.39	0.2	0.03	0.30	1.04	0.47	22	205
30 ISL	13.67 D	13.67	33.245 D	24.901	305.1	0.101	5.77	97.7	4.7	0.55	1.9	0.17	0.31	0.76	0.32	30	
34 A	13.49	13.49	33.242	24.935	301.9	0.113	5.55	93.6	5.5	0.65	3.1	0.25	0.31	0.60	0.25	34	204
42 A	13.17	13.16	33.260	25.013	294.7	0.137	5.19	86.9	7.1	0.80	5.4	0.39	0.36	0.55	0.29	42	203
50 ISL	12.88 D	12.87	33.271 D	25.079	288.6	0.161	5.07	84.4	7.7	0.86	6.8	0.38	0.30	0.44	0.28	50	
52	12.86	12.85	33.271	25.083	288.2	0.166	5.06	84.2	7.8	0.87	7.0	0.38	0.28	0.41	0.28	52	202
62 A	12.76	12.75	33.273	25.105	286.5	0.195	4.93	81.9	8.3	0.92	7.5	0.38	0.27	0.35	0.28	62	201

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

RV NEW HORIZON CALCOFI CRUISE 0911 STATION 93.3 28.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
32 54.8 N	117 23.7 W	07/11/09	0245 UTC	645 m	280 06 kn			1013.2 mb	17.9 C	15.3 C			

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	18.50	18.50	33.478	23.985	391.5	0.000	5.54	103.3	1.7	0.30	0.1	0.00	0.00	0.18	0.06	0	
2	18.50	18.50	33.478	23.985	391.6	0.008	5.54	103.3	1.7	0.30	0.1	0.00	0.00	0.18	0.06	2	220
10 ISL	18.40 D	18.40	33.476 D	24.008	389.6	0.039	5.57	103.7	1.5	0.29	0.0	0.00	0.00	0.22	0.04	10	
11	18.37	18.37	33.470	24.011	389.4	0.043	5.57	103.6	1.5	0.29	0.0	0.00	0.00	0.23	0.04	11	219
20	17.66	17.66	33.405	24.135	377.8	0.077	5.71	104.8	1.7	0.30	0.0	0.00	0.00	0.31	0.08	20	218
30	16.10	16.10	33.285	24.408	352.1	0.114	6.06	107.8	2.2	0.35	0.0	0.00	0.00	0.46	0.19	30	217
40	13.76	13.75	33.213	24.858	309.4	0.147	6.06	102.7	3.5	0.45	0.3	0.03	0.00	1.07	0.75	40	216
50 ISL	12.81 D	12.80	33.286 D	25.104	286.1	0.177	5.05	84.0	7.3	0.85	6.7	0.01	0.09	0.43	0.50	50	
51	12.78	12.77	33.286	25.110	285.6	0.180	4.95	82.3	7.6	0.89	7.3	0.01	0.10	0.35	0.46	51	215
60	12.53	12.52	33.287	25.160	281.1	0.205	4.94	81.7	7.8	0.91	8.1	0.01	0.00	0.23	0.29	60	214
70	12.37	12.36	33.304	25.204	277.1	0.233	4.81	79.2	8.5	0.98	9.1	0.00	0.25	0.17	0.28	70	213
75 ISL	12.18 D	12.17	33.344 D	25.271	270.8	0.247	4.71	77.3	9.1	1.03	10.0	0.00	0.22	0.14	0.24	75	
85	11.89	11.88	33.374	25.350	263.6	0.274	4.47	72.9	10.8	1.14	12.1	0.00	0.06	0.10	0.15	85	212
100	11.27	11.26	33.504	25.565	243.4	0.312	3.98	64.1	14.2	1.37	15.8	0.00	0.00	0.05	0.09	100	211
120	10.81	10.80	33.666	25.774	224.0	0.358	3.38	54.0	18.9	1.60	19.4	0.00	0.06	0.02	0.07	121	210
125 ISL	10.72 D	10.71	33.714 D	25.827	219.0	0.369	3.26	52.0	19.8	1.65	20.0	0.00	0.08	0.02	0.06	126	
140	10.52	10.50	33.774	25.909	211.5	0.402	2.93	46.5	22.4	1.77	21.6	0.00	0.12	0.01	0.05	141	209
150 ISL	10.36 D	10.34	33.848 D	25.994	203.6	0.422	2.75	43.5	24.1	1.86	22.7	0.00	0.08	0.01	0.05	151	
169	10.03	10.01	33.923	26.110	193.0	0.460	2.46	38.7	27.3	2.02	24.6	0.00	0.00	0.00	0.05	170	208
200	9.58	9.56	34.063	26.295	176.0	0.517	2.04	31.8	31.6	2.15	27.1	0.00	0.06	0.00	0.05	201	207
230	9.30	9.27	34.132	26.395	167.0	0.569	1.71	26.5	35.9	2.27	28.8	0.00	0.00			231	206
250 ISL	9.20 D	9.17	34.162 D	26.435	163.6	0.602	1.55	24.0	37.2	2.33	29.3	0.00	0.00			251	
270	9.16	9.13	34.205	26.475	160.2	0.634	1.42	21.9	38.3	2.39	29.6	0.00	0.00			272	205
300 ISL	8.81 D	8.78	34.218 D	26.541	154.3	0.681	1.24	19.0	41.7	2.48	30.7	0.00	0.00			302	
320	8.62	8.59	34.234	26.584	150.6	0.712	1.15	17.6	44.2	2.54	31.5	0.00	0.00			322	204
380	7.99	7.95	34.235	26.681	142.1	0.800	1.01	15.2	49.9	2.65	33.3	0.00	0.00			382	203
400 ISL	7.63 D	7.59	34.196 D	26.703	140.0	0.828	0.93	13.9	52.0	2.70	33.9	0.00	0.07			403	
440	7.47	7.43	34.254	26.772	134.1	0.883	0.74	11.0	57.4	2.82	35.3	0.00	0.21			443	202
500 ISL	6.59 D	6.54	34.321 D	26.946	117.7	0.958	0.38	5.5	71.8	3.05	38.1	0.00	0.13			503	
519	6.35	6.30	34.328	26.983	114.2	0.980	0.26	3.8	76.3	3.12	39.0	0.00	0.10			522	201

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

RV NEW HORIZON CALCOFI CRUISE 0911 STATION 93.3 30.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT TYPE
32 50.7 N	117 32.4 W	07/11/09	0615 UTC	871 m	320 09 kn			1013.4 mb	17.8 C	15.5 C		

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	18.25	18.25	33.467	24.038	386.4	0.000	5.61	104.1	1.6	0.31	0.1	0.00	0.21	0.21	0.05	0	
1	18.25	18.25	33.467	24.038	386.4	0.004	5.61	104.1	1.6	0.31	0.1	0.00	0.21	0.21	0.05	1	220
10	18.25	18.25	33.463	24.035	387.0	0.039	5.59	103.8	1.4	0.30	0.1	0.00	0.05	0.21	0.05	10	219
20	17.67	17.67	33.410	24.136	377.7	0.077	5.76	105.7	1.5	0.32	0.0	0.00	0.41	0.28	0.11	20	218
30	15.66	15.66	33.272	24.497	343.6	0.113	6.07	107.0	2.8	0.38	0.0	0.00	0.09	0.38	0.17	30	217
40	14.06	14.05	33.245	24.820	313.0	0.146	5.86	100.0	4.2	0.49	0.7	0.09	0.09	1.15	0.50	40	216
50	13.06	13.05	33.256	25.032	293.1	0.176	5.32	88.9	5.9	0.75	5.0	0.08	0.14	0.59	0.52	50	215
60	12.14	12.13	33.352	25.285	269.2	0.204	4.63	75.9						0.23	0.25	60	214
70	11.92	11.91	33.379	25.348	263.5	0.231	4.48	73.1	10.6	1.13	11.8	0.01	0.06	0.17	0.27	70	213
75 ISL	11.78 D	11.77	33.420 D	25.406	258.1	0.244	4.34	70.7	11.6	1.20	12.9	0.01	0.07	0.13	0.23	75	
85	11.55	11.54	33.463	25.482	251.0	0.269	4.07	66.0	13.3	1.31	14.7	0.00	0.09	0.07	0.13	85	212
100	11.23	11.22	33.523	25.587	241.3	0.306	3.91	63.0	14.9	1.40	16.3	0.00	0.09	0.05	0.11	100	211
119	10.98	10.97	33.715	25.781	223.3	0.350	3.04	48.7	20.4	1.72	20.1	0.00	0.08	0.02	0.06	120	210
125 ISL	10.88 D	10.86	33.728 D	25.810	220.7	0.364	3.01	48.2	21.1	1.75	20.7	0.00	0.06	0.02	0.05	126	
140	10.59	10.57	33.770	25.894	213.0	0.396	2.93	46.6	22.4	1.78	21.7	0.00	0.00	0.01	0.04	141	209
150 ISL	10.30 D	10.28	33.820 D	25.983	204.7	0.417	2.75	43.5	24.4	1.86	23.0	0.00	0.00	0.01	0.03	151	
170	9.94	9.92	33.967	26.159	188.3	0.456	2.33	36.6	28.5	2.03	25.4	0.00	0.00	0.00	0.03	171	208
200	9.73	9.71	34.083	26.285	176.9	0.511	1.97	30.8	31.3	2.17	27.0	0.00	0.07	0.00	0.03	201	207
230	9.62	9.59	34.133	26.343	172.1	0.564	1.78	27.8	32.9	2.26	27.9	0.00	0.15			231	206
250 ISL	9.51 D	9.48	34.189 D	26.406	166.5	0.597	1.63	25.4	34.5	2.32	28.5	0.00	0.09			251	
270	9.46	9.43	34.203	26.425	165.1	0.631	1.47	22.9	36.3	2.37	29.1	0.00	0.00			272	205
300 ISL	9.26 D	9.23	34.220 D	26.471	161.2	0.680	1.28	19.8	39.1	2.46	30.0	0.00	0.00			302	
321	9.01	8.97	34.261	26.544	154.7	0.713	1.16	17.9	41.4	2.52	30.7	0.00	0.00			323	204
381	7.99	7.95	34.255	26.696	140.6	0.801	0.87	13.1	51.2	2.70	34.0	0.00	0.00			383	203
400 ISL	7.79 D	7.75	34.246 D	26.719	138.6	0.828	0.78	11.7	53.5	2.76	34.6	0.00	0.00			403	
441	7.49	7.45	34.285	26.793	132.1	0.883	0.61	9.1	58.1	2.88	35.8	0.00	0.00			444	202
500 ISL	6.89 D	6.84	34.291 D	26.882	124.0	0.959	0.47	6.9	66.1	2.97	37.7	0.00	0.00			503	
518	6.70	6.65	34.286	26.904	122.0	0.981	0.43	6.3	68.6	3.00	38.3	0.00	0.00			521	201

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

RV NEW HORIZON CALCOFI CRUISE 0911 STATION 93.3 35.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT TYPE
32 40.8 N	117 52.5 W	07/11/09	1027 UTC	617 m	090 02 kn			1011.9 mb	17.0 C	14.4 C		

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	18.09	18.09	33.458	24.070	383.3	0.000	5.59	103.4	1.6	0.30	0.0	0.00	0.09	0.21	0.05	0	
2	18.09	18.09	33.458	24.071	383.4	0.008	5.59	103.4	1.6	0.30	0.0	0.00	0.09	0.21	0.05	2	221
10	18.09	18.09	33.452	24.066	384.1	0.038	5.58	103.3	1.4	0.29	0.0	0.00	0.05	0.23	0.06	10	220
20	18.09	18.09	33.453	24.068	384.3	0.077	5.60	103.6	1.6	0.29	0.0	0.00	0.04	0.22	0.05	20	219
30	16.43	16.43	33.322	24.361	356.6	0.114	5.94	106.3	2.5	0.35	0.0	0.00	0.03	0.57	0.16	30	218
35	14.13	14.12	33.248	24.808	314.0	0.131	6.03	103.0	3.2	0.42	0.0	0.00	0.05	1.02	0.48	35	217
40	13.19	13.18	33.262	25.011	294.8	0.146	5.45	91.3	5.3	0.67	3.7	0.17	0.08	1.28	0.68	40	216
50	12.79	12.78	33.285	25.108	285.9	0.175	5.08	84.4	7.4	0.85	6.6	0.07	0.04	0.60	0.49	50	215
61	12.51	12.50	33.304	25.177	279.5	0.206	4.87	80.5	8.4	0.93	8.3	0.03	0.05	0.38	0.38	61	214
70	12.33	12.32	33.326	25.229	274.8	0.231	4.77	78.5	8.8	0.99	9.3	0.02	0.05	0.30	0.32	70	213
75 ISL	12.18 D	12.17	33.346 D	25.273	270.7	0.245	4.66	76.5	9.4	1.05	10.2	0.01	0.05	0.23	0.29	75	
80	12.03	12.02	33.372	25.322	266.2	0.258	4.52	74.0	10.2	1.11	11.3	0.01	0.06	0.16	0.25	80	212
100	11.53	11.52	33.513	25.525	247.3	0.309	3.84	62.2	14.8	1.39	15.6	0.00	0.07	0.07	0.11	100	211
120	11.34	11.33	33.600	25.627	238.0	0.358	3.39	54.7	17.5	1.57	17.7	0.00	0.00	0.04	0.07	121	210
125 ISL	11.29 D	11.27	33.635 D	25.664	234.7	0.370	3.30	53.2	18.1	1.61	18.2	0.00	0.00	0.03	0.07	126	
140	11.13	11.11	33.690	25.736	228.1	0.404	3.03	48.7	20.0	1.72	19.7	0.00	0.00	0.02	0.06	141	209
150 ISL	11.03 D	11.01	33.736 D	25.790	223.2	0.427	2.78	44.6	22.0	1.81	20.9	0.00	0.00	0.01	0.06	151	
170	10.74	10.72	33.862	25.940	209.4	0.470	2.38	38.0	25.8	1.97	22.9	0.00	0.00	0.00	0.05	171	208
200 ISL	10.26 D	10.24	33.930 D	26.077	196.9	0.531	2.41	38.1	27.4	1.99	24.0	0.00	0.00	0.00	0.03	201	
201	10.28	10.26	33.922	26.067	197.9	0.533	2.41	38.1	27.4	1.99	24.0	0.00	0.00	0.00	0.03	202	207
231	9.47	9.44	34.039	26.294	176.6	0.589	2.32	36.0	31.3	2.08	26.5	0.00	0.00			232	206
250 ISL	9.36 D	9.33	34.068 D	26.335	173.1	0.623	2.19	33.9	33.4	2.15	27.6	0.00	0.00			251	
270	8.95	8.92	34.107	26.432	164.2	0.656	2.01	30.9	35.7	2.24	28.5	0.00	0.00			272	205
300 ISL	8.62 D	8.59	34.169 D	26.532	155.0	0.704	1.65	25.2	40.7	2.39	30.2	0.00	0.00			302	
321	8.40	8.37	34.197	26.588	150.0	0.736	1.40	21.3	44.5	2.49	31.4	0.00	0.00			323	204
381	7.54	7.50	34.226	26.739	136.2	0.822	0.97	14.4	54.9	2.74	34.6	0.00	0.00			383	203
400 ISL	7.28 D	7.24	34.234 D	26.782	132.2	0.848	0.84	12.4	57.4	2.80	35.3	0.00	0.00			402	
440	7.11	7.07	34.272	26.836	127.6	0.899	0.60	8.8	62.1	2.90	36.5	0.00	0.00			443	202
500 ISL	6.69 D	6.64	34.312 D	26.925	119.7	0.974	0.40	5.8	69.7	3.04	38.1	0.00	0.00			503	
518	6.56	6.51	34.326	26.954	117.1	0.995	0.34	4.9	72.0	3.08	38.6	0.00	0.00			521	201

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

RV NEW HORIZON CALCOFI CRUISE 0911 STATION 93.3 40.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
32 30.9 N	118 12.6 W	07/11/09	1444 UTC	1672 m	340 03 kn	270 02 07	1	1011.6 mb	15.9 C	14.2 C	24m	3/8	SC

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	18.59	18.59	33.518	23.993	390.7	0.000	5.48	102.4	1.7	0.30	0.1	0.00	0.00			0	
2	18.59	18.59	33.518	23.993	390.8	0.008	5.48	102.4	1.7	0.30	0.1	0.00	0.00			2	222
10	18.59	18.59	33.530	24.002	390.2	0.039	5.49	102.6	1.6	0.29	0.0	0.00	0.00	0.29	0.08	10	220
10	18.59	18.59	33.519	23.994	391.0	0.039										10	221
20 ISL	18.60 D	18.60	33.521 D	23.994	391.4	0.078	5.49	102.6	1.7	0.29	0.0	0.00	0.00	0.24	0.06	20	
21	18.60	18.60	33.520	23.993	391.5	0.082	5.49	102.6	1.7	0.29	0.0	0.00	0.00	0.23	0.06	21	219
30	18.59	18.58	33.519 D	23.995	391.6	0.117	5.49	102.6	1.5	0.29	0.0	0.00	0.00	0.23	0.06	30	218
40	16.45	16.44	33.325	24.359	357.1	0.155	6.03	108.0	1.9	0.33	0.0	0.00	0.00	0.39	0.18	40	217
49	14.13	14.12	33.235	24.798	315.4	0.185	6.17	105.4	2.9	0.40	0.0	0.00	0.00	0.58	0.46	49	216
50 ISL	14.04 D	14.03	33.228 D	24.812	314.1	0.188	6.16	105.0	3.0	0.40	0.1	0.00	0.02	0.64	0.49	50	
55	13.74	13.73	33.210	24.860	309.7	0.204	6.09	103.2	3.4	0.44	0.3	0.01	0.10	0.85	0.60	55	215
60	13.26	13.25	33.217	24.962	300.0	0.219	5.81	97.5	4.1	0.55	2.0	0.16	0.05	0.62	0.60	60	214
70	12.57	12.56	33.239	25.115	285.6	0.248	5.34	88.3	6.0	0.78	6.4	0.10	0.00	0.29	0.41	70	213
75 ISL	12.27 D	12.26	33.269 D	25.196	278.0	0.262	5.18	85.1	6.8	0.86	7.8	0.07	0.01	0.25	0.36	75	
86	11.84	11.83	33.309	25.308	267.6	0.292	4.90	79.8	8.7	1.00	10.3	0.01	0.05	0.17	0.27	86	212
100	11.23	11.22	33.402	25.493	250.3	0.329	4.49	72.2	11.8	1.20	14.0	0.00	0.10	0.10	0.15	100	211
120	10.85	10.84	33.624	25.734	227.8	0.376	3.71	59.3	16.6	1.48	18.1	0.00	0.00	0.03	0.07	121	210
125 ISL	10.74 D	10.72	33.654 D	25.777	223.8	0.388	3.56	56.8	17.8	1.54	19.0	0.00	0.00	0.02	0.06	126	
141	10.38	10.36	33.777	25.935	209.0	0.422	3.13	49.5	21.7	1.71	21.5	0.00	0.00	0.01	0.04	142	209
150 ISL	10.26 D	10.24	33.856 D	26.018	201.4	0.441	2.90	45.8	23.7	1.80	22.7	0.00	0.01	0.01	0.04	151	
170	9.96	9.94	33.950	26.142	189.9	0.480	2.49	39.1	27.4	1.96	24.8	0.00	0.04	0.00	0.03	171	208
200	9.55	9.53	34.052	26.291	176.3	0.535	2.30	35.8	30.4	2.05	26.4	0.00	0.00	0.00	0.03	201	207
231	8.77	8.75	34.055	26.419	164.5	0.588	2.38	36.4	34.4	2.10	28.1	0.00	0.00			232	206
250 ISL	8.69 D	8.66	34.112 D	26.476	159.4	0.618	2.01	30.7	37.8	2.24	29.5	0.00	0.00			251	
270	8.55	8.52	34.169	26.543	153.4	0.650	1.53	23.3	41.5	2.41	30.8	0.00	0.00			272	205
300 ISL	8.41 D	8.38	34.239 D	26.620	146.7	0.695	1.07	16.3	45.7	2.57	31.9	0.00	0.00			302	
320	8.37	8.34	34.293	26.668	142.4	0.724	0.87	13.2	48.0	2.65	32.4	0.00	0.00			322	204
380	7.83	7.79	34.284	26.743	136.1	0.807	0.79	11.8	52.9	2.74	34.1	0.00	0.00			382	203
400 ISL	7.64 D	7.60	34.277 D	26.765	134.2	0.834	0.74	11.0	56.0	2.79	35.0	0.00	0.00			402	
441	6.95	6.91	34.265	26.853	125.9	0.888	0.61	9.0	63.0	2.90	36.9	0.00	0.00			444	202
500 ISL	6.55 D	6.50	34.293 D	26.929	119.2	0.960	0.45	6.5	70.5	3.00	38.7	0.00	0.00			503	
520	6.34	6.29	34.281	26.947	117.5	0.984	0.39	5.6	73.0	3.03	39.3	0.00	0.00			523	201

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

RV NEW HORIZON CALCOFI CRUISE 0911 STATION 93.3 45.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
32 21.0 N	118 33.6 W	07/11/09	1903 UTC	1340 m	310 10 kn	280 04 06	1	1012.9 mb	17.8 C	15.2 C	22m	7/8	SC

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	18.41	18.41	33.505	24.028	387.4	0.000	5.51	102.6	1.4	0.32	0.1	0.00	0.20	0.35	0.02	0	
1 A	18.41	18.41	33.505	24.028	387.4	0.004	5.51	102.6	1.4	0.32	0.1	0.00	0.20	0.35	0.02	1	222
8	18.40	18.40	33.505	24.030	387.4	0.031	5.52	102.8	1.5	0.31	0.0	0.00	0.06	0.35	0.00	8	221
10 ISL	18.39 D	18.39	33.506 D	24.034	387.2	0.039	5.52	102.8	1.5	0.30	0.0	0.00	0.06	0.35	0.02	10	
16 A	18.38	18.38	33.504	24.035	387.3	0.062	5.52	102.7	1.4	0.29	0.0	0.00	0.06	0.35	0.07	16	220
20 ISL	18.38 D	18.38	33.505 D	24.036	387.3	0.077	5.53	102.9	1.3	0.29	0.0	0.00	0.08	0.34	0.06	20	
24	18.38	18.38	33.504	24.035	387.5	0.093	5.53D	102.9 D	1.3	0.29	0.0	0.00	0.09	0.33	0.05	24	219
30 ISL	18.37 D	18.36	33.505 D	24.039	387.4	0.116	5.52	102.7	1.3	0.29	0.0	0.00	0.08	0.35	0.05	30	
33 A	18.37	18.36	33.505	24.039	387.5	0.128	5.52	102.7	1.3	0.29	0.0	0.00	0.07	0.37	0.05	33	218
41	18.09	18.08	33.488	24.095	382.4	0.159	5.57	103.1	1.4	0.28	0.0	0.00	0.04	0.44	0.12	41	217
49 A	14.09	14.08	33.247	24.816	313.7	0.186	6.27	107.0	3.2	0.42	0.1	0.00	0.07	1.42	0.46	49	216
50 ISL	13.50 D	13.49	33.251 D	24.940	301.9	0.190	6.16	103.9	3.7	0.48	1.0	0.02	0.06	1.34	0.46	50	
57	12.28	12.27	33.283	25.205	276.8	0.210	5.16	84.8	7.2	0.90	8.2	0.12	0.00	0.51	0.44	57	215
63 A	11.89	11.88	33.325	25.311	266.7	0.226	4.89	79.8	9.1	1.04	10.7	0.07	0.00	0.30	0.40	63	214
75 ISL	11.19 D	11.18	33.453 D	25.539	245.3	0.257	4.40	70.8	12.9	1.28	14.9	0.01	0.00	0.15	0.18	75	
77	11.05	11.04	33.452	25.563	243.0	0.262	4.33	69.4	13.5	1.31	15.5	0.01	0.00	0.14	0.14	77	213
90 A	10.67	10.66	33.562	25.716	228.7	0.292	3.87	61.6	16.7	1.51	18.6	0.00	0.00	0.06	0.08	90	212
100 ISL	10.46 D	10.45	33.643 D	25.816	219.4	0.315	3.60	57.0	18.6	1.60	20.1	0.00	0.00	0.03	0.06	100	
104	10.40	10.39	33.662	25.842	217.1	0.324	3.51	55.6	19.4	1.63	20.6	0.00	0.00	0.03	0.05	104	211
121	9.98	9.97	33.772	25.999	202.4	0.359	3.13	49.1	23.2	1.78	23.0	0.00	0.00	0.01	0.04	122	210
125 ISL	9.91 D	9.90	33.814 D	26.044	198.3	0.367	3.05	47.8	23.8	1.81	23.3	0.00	0.00	0.01	0.04	126	
141	9.85	9.83	33.891	26.114	191.9	0.398	2.75	43.1	26.1	1.90	24.3	0.00	0.00	0.00	0.04	142	209
150 ISL	9.80 D	9.78	33.996 D	26.205	183.5	0.415	2.53	39.6	27.6	1.97	24.9	0.00	0.02	0.00	0.04	151	
172	9.72	9.70	34.070	26.276	177.2	0.455	2.07	32.4	31.1	2.14	26.5	0.00	0.06	0.00	0.03	173	208
200 ISL	9.25 D	9.23	34.112 D	26.387	167.1	0.503	1.90	29.4	34.5	2.22	28.1	0.00	0.00	0.00	0.02	201	
201	9.25	9.23	34.119	26.392	166.6	0.505	1.90	29.4	34.6	2.22	28.2	0.00	0.00	0.00	0.02	202	207
231	8.88	8.86	34.176	26.496	157.2	0.553	1.54	23.6	39.4	2.39	30.0	0.00	0.00			232	206
250 ISL	8.49 D	8.46	34.170 D	26.552	152.1	0.583	1.49	22.7	41.5	2.43	30.7	0.00	0.00			251	
271	8.35	8.32	34.167	26.572	150.6	0.615	1.46	22.1	43.8	2.46	31.4	0.00	0.00			273	205
300 ISL	8.19 D	8.16	34.238 D	26.652	143.5	0.657	1.15	17.4	47.9	2.59	32.7	0.00	0.00			302	
321	7.96	7.93	34.237	26.686	140.5	0.687	0.89	13.4	51.2	2.70	33.6	0.00	0.00			323	204
381	7.27	7.23	34.287	26.825	127.8	0.768	0.54	8.0	61.3	2.91	36.1	0.00	0.00			383	203
400 ISL	7.15 D	7.11	34.298 D	26.851	125.6	0.792	0.47	6.9	64.0	2.95	36.7	0.00	0.00			403	
441	6.76	6.72	34.313	26.916	119.7	0.842	0.36	5.3	69.3	3.03	37.9	0.00	0.00			444	202
500 ISL	6.12 D	6.08	34.320 D	27.006	111.4	0.910	0.28	4.0	76.3	3.11	39.4	0.00	0.00			503	
522	6.10	6.05	34.333	27.019	110.5	0.935	0.25	3.6	78.9	3.14	40.0	0.00	0.00			526	201

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

RV NEW HORIZON CALCOFI CRUISE 0911 STATION 93.3 50.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
32 10.6 N	118 53.5 W	07/11/09	2323 UTC	1461 m	320 15 kn	290 07 08	1	1011.1 mb	16.9 C	15.0 C	15m	7/8	SC

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	17.72	17.72	33.439	24.146	376.1	0.000	5.57	102.3	1.8	0.32	0.1	0.00	0.00	0.22	0.09	0	
2	17.72	17.72	33.439	24.146	376.2	0.008	5.57	102.3	1.8	0.32	0.1	0.00	0.00	0.22	0.09	2	220
10	17.65	17.65	33.433	24.159	375.3	0.038	5.59	102.6	1.5	0.31	0.0	0.00	0.00	0.23	0.07	10	219
20	16.33	16.33	33.340	24.398	352.8	0.074	5.77	103.1	1.6	0.36	0.0	0.00	0.00	0.36	0.12	20	218
30 ISL	16.19 D	16.19	33.332 D	24.424	350.6	0.109	5.78	103.0	1.7	0.35	0.0	0.00	0.00	0.52	0.19	30	
31	16.16	16.16	33.327	24.427	350.4	0.113	5.78	102.9	1.7	0.35	0.0	0.00	0.00	0.53	0.20	31	217
41	14.98	14.97	33.269	24.644	329.9	0.147	5.81	101.0	2.1	0.41	0.4	0.07	0.12	0.52	0.42	41	216
50	13.58	13.57	33.204	24.888	306.9	0.175	5.68	95.9	3.4	0.52	1.7	0.24	0.00	0.25	0.28	50	215
62	12.23	12.22	33.179	25.134	283.6	0.211	5.35	87.8	5.7	0.77	6.4	0.09	0.00	0.17	0.17	62	214
69	11.64	11.63	33.218	25.274	270.3	0.230	5.21	84.5	7.0	0.84	8.1	0.02	0.00	0.11	0.22	69	213
75 ISL	11.18 D	11.17	33.250 D	25.383	260.1	0.246	5.10	81.9	8.4	0.94	10.0	0.01	0.00	0.10	0.19	75	
86	10.72	10.71	33.317	25.517	247.6	0.274	4.89	77.8	11.1	1.13	13.3	0.00	0.00	0.08	0.09	86	212
100	10.39	10.38	33.410	25.647	235.5	0.308	4.62	73.0	14.0	1.28	15.7	0.00	0.00	0.04	0.07	100	211
120	9.76	9.75	33.602	25.903	211.4	0.352	4.04	63.0	19.6	1.55	20.0	0.00	0.00	0.01	0.03	121	210
125 ISL	9.62 D	9.61	33.681 D	25.988	203.5	0.363	3.91	60.8	20.6	1.59	20.8	0.00	0.00	0.01	0.03	126	
139	9.44	9.42	33.766	26.084	194.6	0.391	3.58	55.5	23.1	1.68	22.5	0.00	0.00	0.00	0.03	140	209
150 ISL	9.36 D	9.34	33.843 D	26.157	187.8	0.412	3.32	51.4	24.9	1.76	23.6	0.00	0.00	0.00	0.03	151	
172	9.19	9.17	33.968	26.283	176.3	0.452	2.78	42.9	29.1	1.93	25.8	0.00	0.00	0.00	0.03	173	208
200 ISL	9.02 D	9.00	34.110 D	26.422	163.7	0.499	1.94	29.9	36.9	2.24	29.2	0.00	0.00	0.00	0.04	201	
204	8.90	8.88	34.131	26.457	160.4	0.506	1.84 D	28.2 D	38.0	2.28	29.7	0.00	0.00	0.00	0.04	205	207
228	8.38	8.36	34.136	26.542	152.6	0.543	1.71	25.9	41.7	2.36	31.3	0.00	0.00			229	206
250 ISL	8.15 D	8.12	34.151 D	26.589	148.5	0.577	1.54	23.2	44.4	2.44	32.2	0.00	0.00			251	
273	7.99	7.96	34.177	26.633	144.6	0.610	1.35	20.3	47.2	2.52	32.9	0.00	0.00			275	205
300 ISL	7.61 D	7.58	34.196 D	26.704	138.1	0.648	1.13	16.8	51.8	2.63	34.3	0.00	0.00			302	
319	7.41	7.38	34.202	26.737	135.2	0.674	0.98	14.5	55.0	2.71	35.3	0.00	0.00			321	204
385	7.09	7.05	34.254	26.824	127.8	0.761	0.67	9.9	61.8	2.86	36.8	0.00	0.00			387	203
400 ISL	7.05 D	7.01	34.273 D	26.845	126.1	0.780	0.62	9.1	62.5	2.88	37.0	0.00	0.00			403	
442	6.97	6.93	34.280	26.862	125.1	0.833	0.52	7.6	64.5	2.93	37.4	0.00	0.00			445	202
500 ISL	6.63 D	6.58	34.308 D	26.930	119.2	0.904	0.38	5.5	70.4	3.02	38.6	0.00	0.00			503	
517	6.53	6.48	34.313	26.948	117.7	0.924	0.34	4.9	72.1	3.05	38.9	0.00	0.00			520	201

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

RV NEW HORIZON CALCOFI CRUISE 0911 STATION 93.3 55.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
32 0.7 N	119 14.1 W	08/11/09	0407 UTC	1591 m	320 12 kn			1010.0 mb	16.5 C	14.0 C			

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	17.01	17.01	33.374	24.265	364.8	0.000	5.63	102.0	1.7	0.34	0.1	0.00	0.00	0.17	0.06	0	
2	17.01	17.01	33.374	24.265	364.8	0.007	5.63	102.0	1.7	0.34	0.1	0.00	0.00	0.17	0.06	2	221
9	17.02	17.02	33.376	24.265	365.1	0.033										9	220
10	17.02	17.02	33.378	24.266	365.0	0.036	5.62	101.8	1.4	0.34	0.1	0.00	0.00	0.17	0.05	10	219
20 ISL	16.96 D	16.96	33.369 D	24.274	364.6	0.073	5.65	102.2	1.6	0.35	0.1	0.00	0.20	0.18	0.06	20	
25	16.95	16.95	33.369	24.276	364.5	0.091	5.66	102.4	1.7	0.35	0.1	0.00	0.28	0.19	0.06	25	218
30 ISL	16.91 D	16.91	33.364 D	24.282	364.1	0.109	5.66	102.3	1.6	0.34	0.1	0.00	0.20	0.19	0.06	30	
41	16.71	16.70	33.368	24.332	359.7	0.149	5.65	101.7	1.3	0.33	0.0	0.00	0.00	0.19	0.06	41	217
50	16.14	16.13	33.331	24.435	350.2	0.181	5.74	102.2	1.5	0.35	0.0	0.00	0.05	0.35	0.25	50	216
62	14.91	14.90	33.302	24.685	326.6	0.222	5.78	100.4	2.3	0.37	0.1	0.01	0.07	0.29	0.31	62	215
75	13.89	13.88	33.282	24.885	307.8	0.263	5.66	96.2	2.9	0.43	0.6	0.06	0.00	0.25	0.32	75	214
88	12.62	12.61	33.235	25.103	287.3	0.302	5.44	90.1	4.2	0.61	4.1	0.10	0.00	0.20	0.27	88	213
100 ISL	11.63 D	11.62	33.229 D	25.285	270.0	0.335	5.27	85.4	6.1	0.79	7.2	0.03	0.00	0.15	0.19	100	
101	11.64	11.63	33.227	25.282	270.4	0.338	5.25	85.1	6.3	0.81	7.5	0.02	0.00	0.15	0.18	101	212
113	10.93	10.92	33.320	25.483	251.5	0.369	4.98	79.6	9.4	0.97	10.8	0.00	0.00	0.08	0.10	113	211
125 ISL	10.40 D	10.39	33.442 D	25.670	233.8	0.398	4.71	74.4	11.8	1.14	13.5	0.00	0.00	0.04	0.06	126	
127	10.42	10.41	33.436	25.662	234.6	0.403	4.66	73.7	12.3	1.17	14.0	0.00	0.00	0.04	0.06	128	210
140	9.90	9.88	33.590	25.871	215.0	0.432	4.18	65.4	17.6	1.45	18.5	0.00	0.00	0.01	0.03	141	209
150 ISL	9.58 D	9.56	33.719 D	26.025	200.5	0.453	3.86	60.0	20.6	1.58	20.7	0.00	0.00	0.01	0.03	151	
171	9.32	9.30	33.823	26.149	189.1	0.494	3.33	51.5	25.2	1.75	23.6	0.00	0.00	0.00	0.02	172	208
200	8.88	8.86	33.960	26.326	172.7	0.546	2.94	45.1	30.1	1.91	25.9	0.00	0.00	0.00	0.02	201	207
231	8.42	8.40	34.041	26.461	160.3	0.598	2.42	36.7	36.1	2.10	28.6	0.00	0.00			232	206
250 ISL	8.14 D	8.11	34.048 D	26.509	155.9	0.628	2.18	32.9	40.1	2.21	30.2	0.00	0.00			251	
271	7.78	7.75	34.074	26.583	149.1	0.660	1.93	28.9	44.4	2.33	31.7	0.00	0.00			272	205
300 ISL	7.91 D	7.88	34.194 D	26.659	142.6	0.702	1.42	21.3	49.1	2.51	32.9	0.00	0.00			302	
321	7.67	7.64	34.206	26.703	138.6	0.732	1.09	16.3	52.3	2.63	33.7	0.00	0.00			323	204
382	6.70	6.66	34.189	26.826	127.3	0.813	0.82	12.0	63.9	2.82	37.0	0.00	0.00			384	203
400 ISL	6.54 D	6.50	34.194 D	26.851	125.0	0.836	0.76	11.1	66.4	2.86	37.6	0.00	0.00			402	
440	6.25	6.21	34.215	26.906	120.2	0.885	0.65	9.4	71.3	2.93	38.7	0.00	0.00			443	202
500 ISL	5.95 D	5.91	34.253 D	26.974	114.2	0.955	0.43	6.2	78.6	3.04	39.8	0.00	0.00			503	
515	5.84	5.80	34.264	26.997	112.2	0.972	0.38	5.4	80.4	3.07	40.1	0.00	0.00			518	201

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

RV NEW HORIZON CALCOFI CRUISE 0911 STATION 93.3 60.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
31 51.2 N	119 34.5 W	08/11/09	0843 UTC	1981 m	330 21 kn			1011.8 mb	16.1 C	14.1 C			

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	16.43	16.43	33.289	24.335	358.1	0.000	5.81	104.0	1.8	0.41	0.1	0.00	0.00	0.29	0.07	0	
2	16.43	16.43	33.289	24.335	358.2	0.007	5.81	104.0	1.8	0.41	0.1	0.00	0.00	0.29	0.07	2	220
10	16.43	16.43	33.284	24.331	358.8	0.036	5.82	104.2	1.5	0.41	0.1	0.00	0.00	0.28	0.07	10	219
20	16.43	16.43	33.281	24.329	359.3	0.072	5.82	104.2	1.8	0.39	0.0	0.00	0.00	0.28	0.08	20	218
30 ISL	16.08 D	16.08	33.269 D	24.400	352.8	0.107	5.84	103.8	1.7	0.38	0.0	0.00	0.00	0.27	0.06	30	
31	15.95	15.95	33.286	24.443	348.8	0.111	5.84	103.5	1.7	0.38	0.0	0.00	0.00	0.27	0.06	31	217
40	15.09	15.08	33.167	24.542	339.6	0.142	5.94	103.4	2.0	0.43	0.0	0.00	0.00	0.76	0.36	40	216
50	14.18	14.17	33.208	24.767	318.4	0.175	5.88	100.5	2.6	0.44	0.2	0.03	0.05	0.59	0.31	50	215
61	13.28	13.27	33.174	24.925	303.6	0.209	5.66	95.0	4.0	0.63	2.9	0.31	0.00	0.36	0.29	61	214
70	12.18	12.17	33.147	25.119	285.3	0.235	5.39	88.4	6.3	0.89	7.7	0.12	0.00	0.28	0.19	70	213
75 ISL	11.77 D	11.76	33.145 D	25.194	278.2	0.250	5.31	86.3	6.7	0.92	8.5	0.06	0.00	0.23	0.16	75	
86	11.32	11.31	33.232	25.344	264.1	0.279	5.15	82.9	7.8	0.95	9.4	0.01	0.00	0.13	0.13	86	212
100 ISL	10.66 D	10.65	33.359 D	25.560	243.7	0.315	4.74	75.3	12.4	1.24	14.1	0.00	0.04	0.06	0.08	100	
101	10.65	10.64	33.360	25.563	243.5	0.317	4.71	74.8	12.8	1.26	14.5	0.00	0.04	0.06	0.08	101	211
120	10.28	10.27	33.468	25.711	229.8	0.362	4.31	67.9	16.4	1.45	17.7	0.00	0.00	0.03	0.05	121	210
125 ISL	10.23 D	10.22	33.474 D	25.724	228.6	0.374	4.21	66.3	17.3	1.49	18.4	0.00	0.00	0.02	0.04	126	
140	9.69	9.67	33.680	25.976	204.9	0.406	3.95	61.5	20.1	1.58	20.4	0.00	0.00	0.01	0.03	141	209
150 ISL	9.38 D	9.36	33.776 D	26.102	193.1	0.426	3.82	59.1	21.9	1.64	21.5	0.00	0.00	0.00	0.02	151	
170	9.05	9.03	33.865	26.225	181.8	0.464	3.58	55.1	25.5	1.75	23.4	0.00	0.00	0.00	0.02	171	208
200	8.53	8.51	33.970	26.389	166.6	0.516	3.19	48.5	31.3	1.90	26.0	0.00	0.00	0.00	0.02	201	207
229	8.22	8.20	34.047	26.496	156.8	0.563	2.34	35.4	38.0	2.19	29.6	0.00	0.00			230	206
250 ISL	7.93 D	7.90	34.099 D	26.581	149.1	0.595	1.75	26.3	43.3	2.41	31.7	0.00	0.00			251	
271	7.94	7.91	34.175	26.639	143.9	0.626	1.28	19.2	48.0	2.60	33.4	0.00	0.00			273	205
300 ISL	7.72 D	7.69	34.197 D	26.689	139.6	0.667	1.02	15.2	51.7	2.70	34.5	0.00	0.00			302	
323	7.58	7.55	34.212	26.721	136.9	0.699	0.94	14.0	53.9	2.74	34.9	0.00	0.00			325	204
380	7.22	7.18	34.255	26.807	129.5	0.775	0.67	9.9	60.3	2.88	36.4	0.00	0.00			382	203
400 ISL	6.98 D	6.94	34.268 D	26.850	125.5	0.800	0.58	8.5	62.8	2.94	37.0	0.00	0.00			402	
441	6.72	6.68	34.294	26.906	120.6	0.851	0.43	6.3	68.1	3.04	38.2	0.00	0.00			444	202
500 ISL	6.19 D	6.15	34.303 D	26.984	113.6	0.920	0.35	5.1	75.5	3.11	39.7	0.00	0.00			503	
518	6.09	6.04	34.305	26.998	112.4	0.940	0.33	4.8	77.8	3.13	40.2	0.00	0.00			521	201

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

RV NEW HORIZON CALCOFI CRUISE 0911 STATION 93.3 70.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
31 30.8 N	120 15.0 W	08/11/09	1635 UTC	3945 m	330 21 kn	320 09 10	1	1013.0 mb	15.4 C	14.1 C	10m	5/8	CS

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	16.27	16.27	33.418	24.470	345.2	0.000	5.73	102.3	1.6	0.37	0.2	0.01	0.03	0.70	0.22	0	
2 B	16.27	16.27	33.418	24.471	345.3	0.007	5.73	102.3	1.6	0.37	0.2	0.01	0.03	0.70	0.22	2	221
8 B	16.27	16.27	33.418	24.471	345.4	0.028	5.74	102.5	1.6	0.37	0.1	0.01	0.03	0.71 A	0.23 A	8	220
10 ISL	16.27 D	16.27	33.419 D	24.472	345.4	0.035	5.75	102.7	1.6	0.37	0.1	0.01	0.04	0.72	0.23	10	
15 B	16.27	16.27	33.418	24.471	345.6	0.052	5.76	102.9	1.6	0.36	0.1	0.00	0.06	0.74	0.24	15	219
20 ISL	16.27 D	16.27	33.419 D	24.472	345.7	0.069	5.75	102.7	1.5	0.36	0.1	0.00	0.04	0.74	0.21	20	
22 B	16.27	16.27	33.420	24.473	345.7	0.076	5.74	102.5	1.5	0.36	0.1	0.00	0.03	0.74	0.19	22	218
29 B	16.27	16.27	33.426	24.478	345.5	0.100	5.73	102.3	1.5	0.35	0.1	0.00	0.06	0.79	0.16	29	217
30 ISL	16.27 D	16.27	33.418 D	24.472	346.1	0.104	5.73	102.3	1.5	0.35	0.1	0.00	0.06	0.79	0.16	30	
39 B	16.27	16.26	33.422	24.475	346.0	0.135	5.72	102.1	1.6	0.35	0.1	0.01	0.06	0.70	0.21	39	216
50	15.53	15.52	33.420	24.640	330.6	0.172	5.39	94.8	3.0	0.53	2.5	0.18	0.16	0.49	0.26	50	215
61	12.83	12.82	33.391	25.182	279.1	0.206	4.69	78.1	8.8	1.04	10.7	0.12	0.00	0.35	0.39	61	214
70	12.10	12.09	33.411	25.339	264.3	0.230	4.40	72.1	11.4	1.22	13.7	0.03	0.00	0.31	0.25	70	213
75 ISL	11.63 D	11.62	33.465 D	25.468	252.1	0.243	4.24	68.8	12.9	1.31	15.2	0.02	0.00	0.26	0.20	75	
87	11.09	11.08	33.530	25.617	238.1	0.272	3.86	62.0	16.5	1.51	18.5	0.00	0.00	0.13	0.13	87	212
100	10.39	10.38	33.645	25.830	218.1	0.302	3.48	55.1	20.1	1.68	21.5	0.00	0.00	0.05	0.05	100	211
120	9.82	9.81	33.759	26.016	200.8	0.344	3.20	50.0	23.6	1.80	23.4	0.00	0.00	0.01	0.04	121	210
125 ISL	9.67 D	9.66	33.784 D	26.060	196.6	0.354	3.07	47.8	24.6	1.85	24.0	0.00	0.00	0.01	0.04	126	
141	9.53	9.51	33.886	26.163	187.1	0.384	2.64	41.0	27.9	1.99	26.0	0.00	0.00	0.00	0.03	142	209
150 ISL	9.38 D	9.36	33.932 D	26.224	181.6	0.401	2.47	38.3	29.5	2.04	26.8	0.00	0.00	0.00	0.03	151	
168	9.15	9.13	34.008	26.321	172.7	0.433	2.27	35.0	32.1	2.11	27.9	0.00	0.00	0.00	0.03	169	208
200	8.66	8.64	34.035	26.419	163.8	0.487	2.35	35.9	34.8	2.14	28.6	0.00	0.00	0.00	0.02	201	207
230	8.42	8.40	34.113	26.518	154.9	0.535	1.74	26.4	40.6	2.37	30.9	0.00	0.00			231	206
250 ISL	8.12 D	8.09	34.112 D	26.563	150.9	0.565	1.74	26.2	43.1	2.41	31.7	0.00	0.00			251	
271	7.80	7.77	34.100	26.601	147.5	0.597	1.74	26.0	45.6	2.43	32.3	0.00	0.00			273	205
300 ISL	7.18 D	7.15	34.078 D	26.672	140.9	0.638	1.47	21.7	50.8	2.56	33.9	0.00	0.00			302	
319	7.23	7.20	34.136	26.711	137.5	0.665	1.26	18.6	54.4	2.65	35.0	0.00	0.00			321	204
381	6.56	6.53	34.157	26.819	127.8	0.747	0.91	13.2	63.8	2.84	37.5	0.00	0.00			383	203
400 ISL	6.36 D	6.32	34.157 D	26.845	125.4	0.771	0.78	11.3	66.4	2.90	38.1	0.00	0.00			403	
443	6.29	6.25	34.232	26.914	119.5	0.824	0.52	7.5	71.7	3.02	39.1	0.00	0.00			446	202
500 ISL	6.01 D	5.97	34.270 D	26.980	113.7	0.890	0.37	5.3	77.2	3.11	40.1	0.00	0.00			503	
515	6.03	5.98	34.292	26.995	112.6	0.907	0.33	4.7	78.6	3.13	40.4	0.00	0.00			518	201

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

RV NEW HORIZON CALCOFI CRUISE 0911 STATION 93.3 80.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
31 10.9 N	120 55.3 W	08/11/09	2235 UTC	3852 m	330 18 kn	310 07 09	1	1012.1 mb	16.8 C	14.1 C	10m	2/8	SC

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	16.61	16.61	33.438	24.408	351.2	0.000	5.80	104.3	1.7	0.38	0.1	0.00	0.00	0.76	0.17	0	
2	16.61	16.61	33.438	24.408	351.3	0.007	5.80	104.3	1.7	0.38	0.1	0.00	0.00	0.76	0.17	2	220
10	16.61	16.61	33.439	24.409	351.4	0.035	5.80	104.3	1.7	0.37	0.1	0.00	0.00	0.76	0.17	10	219
20 ISL	16.61 D	16.61	33.439 D	24.409	351.7	0.070	5.80	104.3	1.7	0.36	0.0	0.00	0.00	0.76	0.20	20	
21	16.61	16.61	33.439	24.409	351.7	0.074	5.80	104.3	1.7	0.36	0.0	0.00	0.00	0.76	0.20	21	218
30	16.58	16.58	33.425	24.406	352.3	0.105	5.79	104.0	1.7	0.36	0.0	0.00	0.00	0.71	0.25	30	217
42	15.64	15.63	33.362	24.571	336.9	0.147	5.77	101.7	2.2	0.43	0.3	0.05	0.16	1.00	0.42	42	216
50	14.72	14.71	33.249	24.685	326.3	0.173	5.78	99.9	3.0	0.51	1.2	0.09	0.31	1.13	0.41	50	215
59	11.86	11.85	32.973	25.043	292.1	0.201	5.62	91.4	5.7	0.82	5.9	0.20	0.06	0.70	0.26	59	214
71	10.44	10.43	32.890	25.232	274.2	0.235	5.54	87.3	8.1	1.01	9.4	0.05	0.00	0.38	0.26	71	213
75 ISL	10.48 D	10.47	33.002 D	25.313	266.6	0.246	5.33	84.2	9.2	1.09	10.9	0.04	0.00	0.33	0.24	75	
85	11.02	11.01	33.326	25.471	252.0	0.272	4.64	74.3	12.6	1.30	14.9	0.02	0.00	0.24	0.18	85	212
100	10.34	10.33	33.577	25.786	222.3	0.307	3.68	58.1	19.5	1.65	20.8	0.00	0.00	0.07	0.06	100	211
120	9.84	9.83	33.748	26.004	201.9	0.350	3.19	49.9	23.6	1.81	23.6	0.00	0.00	0.02	0.05	121	210
125 ISL	9.59 D	9.58	33.793 D	26.080	194.7	0.360	3.08	47.9	24.6	1.84	24.1	0.00	0.00	0.02	0.05	126	
140	9.44	9.42	33.894	26.184	185.1	0.388	2.81	43.6	27.3	1.93	25.4	0.00	0.00	0.01	0.05	141	209
150 ISL	9.31 D	9.29	33.921 D	26.227	181.3	0.407	2.71	41.9	28.6	1.97	25.9	0.00	0.00	0.01	0.04	151	
169	9.10	9.08	33.983	26.309	173.8	0.440	2.57	39.6	30.8	2.04	26.7	0.00	0.00	0.00	0.03	170	208
200	8.75	8.73	34.046	26.414	164.3	0.493	2.17	33.2	35.2	2.18	29.0	0.00	0.00	0.00	0.03	201	207
230	8.21	8.19	34.055	26.504	156.1	0.541	2.16	32.6	38.8	2.24	30.3	0.00	0.00			231	206
250 ISL	7.80 D	7.78	34.044 D	26.556	151.3	0.572	2.06	30.8	42.0	2.30	31.4	0.00	0.00			251	
270	7.64	7.61	34.062	26.594	148.0	0.602	1.92	28.6	45.4	2.38	32.6	0.00	0.00			272	205
300 ISL	7.46 D	7.43	34.110 D	26.658	142.4	0.645	1.65	24.5	50.6	2.50	34.1	0.00	0.00			302	
319	7.08	7.05	34.093	26.698	138.7	0.672	1.47	21.6	53.8	2.58	35.0	0.00	0.00			321	204
379	6.47	6.44	34.114	26.797	129.7	0.752	1.13	16.4	63.2	2.77	37.5	0.00	0.00			381	203
400 ISL	6.26 D	6.22	34.129 D	26.836	126.1	0.779	1.03	14.9	66.0	2.82	38.1	0.00	0.00			402	
442	6.05	6.01	34.148	26.878	122.6	0.831	0.83	11.9	71.1	2.92	39.2	0.00	0.00			445	202
500 ISL	5.83 D	5.79	34.212 D	26.957	115.7	0.900	0.56	8.0	78.2	3.05	40.5	0.00	0.00			503	
516	5.72	5.68	34.223	26.979	113.7	0.919	0.48	6.8	80.1	3.08	40.9	0.00	0.00			519	201

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

RV NEW HORIZON CALCOFI CRUISE 0911 STATION 93.3 90.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
30 50.7 N	121 35.5 W	09/11/09	0453 UTC	4100 m	010 09 kn			1013.8 mb	17.0 C	14.7 C			

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	18.29	18.29	33.528	24.075	382.9	0.000	5.47	101.7	1.9	0.32	0.1	0.00	0.00	0.10	0.03	0	
2	18.29	18.29	33.528	24.075	383.0	0.008	5.47	101.7	1.9	0.32	0.1	0.00	0.00	0.10	0.03	2	220
10	18.29	18.29	33.530	24.077	383.1	0.038	5.47	101.7	1.9	0.31	0.1	0.00	0.00	0.10	0.02	10	219
20 ISL	18.29 D	18.29	33.527 D	24.075	383.6	0.077	5.47	101.6	1.9	0.31	0.0	0.00	0.00	0.10	0.02	20	
25	18.29	18.29	33.526	24.074	383.8	0.096	5.47	101.6	1.9	0.31	0.0	0.00	0.00	0.10	0.02	25	218
30 ISL	18.30 D	18.29	33.528 D	24.074	384.1	0.115	5.47	101.7	1.8	0.31	0.0	0.00	0.00	0.10	0.02	30	
40	18.30	18.29	33.529	24.075	384.3	0.153	5.46	101.5	1.7	0.30	0.0	0.00	0.00	0.10	0.03	40	217
50	18.28	18.27	33.528	24.079	384.2	0.192	5.47	101.6	1.9	0.30	0.0	0.00	0.00	0.10	0.03	50	216
64	16.09	16.08	33.344	24.457	348.5	0.243	5.94	105.6	2.0	0.30	0.0	0.00	0.00	0.21	0.08	64	215
74	14.62	14.61	33.249	24.707	324.9	0.277	5.99	103.4	2.1	0.33	0.0	0.00	0.00	0.27	0.19	74	214
75 ISL	14.40 D	14.39	33.267 D	24.767	319.1	0.280	5.98	102.7	2.1	0.34	0.0	0.01	0.00	0.27	0.19	75	
88	13.53	13.52	33.213	24.906	306.2	0.321	5.72	96.5	3.2	0.49	1.3	0.18	0.00	0.28	0.25	88	213
100	12.43	12.42	33.126	25.055	292.1	0.357	5.59	92.1	4.9	0.67	4.5	0.13	0.00	0.19	0.18	100	212
112	11.73	11.72	33.175	25.225	276.1	0.391	5.34	86.7	7.0	0.86	7.9	0.01	0.00	0.13	0.14	112	211
125 ISL	11.26 D	11.24	33.230 D	25.354	264.0	0.426	5.19	83.5	7.8	0.93	9.4	0.01	0.00	0.09	0.11	126	
126	11.26	11.24	33.232	25.356	263.9	0.428	5.18	83.3	7.9	0.93	9.5	0.01	0.00	0.09	0.11	127	210
139	10.67	10.65	33.323	25.531	247.4	0.462	4.90	77.8	11.1	1.10	12.6	0.00	0.00	0.05	0.08	140	209
150 ISL	10.18 D	10.16	33.501 D	25.755	226.3	0.488	4.53	71.3	14.5	1.29	15.7	0.00	0.00	0.03	0.06	151	
171	9.67	9.65	33.677	25.978	205.4	0.533	3.79	59.0	20.9	1.62	21.2	0.00	0.00	0.01	0.03	172	208
200 ISL	9.11 D	9.09	33.895 D	26.239	181.0	0.589	3.18	49.0	27.1	1.83	24.9	0.00	0.00	0.00	0.03	201	
201	9.10	9.08	33.900	26.245	180.5	0.591	3.16	48.7	27.3	1.83	25.0	0.00	0.00	0.00	0.03	202	207
231	8.75	8.73	33.988	26.369	169.2	0.643	2.75	42.0	31.7	1.98	27.1	0.00	0.00			232	206
250 ISL	8.32 D	8.29	34.046 D	26.481	158.8	0.674	2.38	36.0	36.2	2.13	29.0	0.00	0.00			251	
272	8.08	8.05	34.083	26.546	152.9	0.709	1.94	29.2	41.9	2.31	31.3	0.00	0.00			273	205
300 ISL	7.81 D	7.78	34.145 D	26.635	144.8	0.750	1.46	21.9	47.8	2.51	33.4	0.00	0.00			302	
320	7.58	7.55	34.166	26.685	140.2	0.779	1.18	17.6	51.4	2.64	34.5	0.00	0.00			322	204
381	7.21	7.17	34.235	26.792	130.9	0.862	0.70	10.3	59.3	2.86	36.5	0.00	0.00			383	203
400 ISL	7.06 D	7.02	34.256 D	26.830	127.5	0.886	0.62	9.1	62.0	2.91	37.1	0.00	0.00			402	
440	6.67	6.63	34.266	26.891	122.0	0.936	0.49	7.2	67.7	3.00	38.3	0.00	0.00			443	202
500 ISL	6.13 D	6.09	34.286 D	26.978	114.1	1.007	0.35	5.0	75.7	3.11	39.9	0.00	0.00			503	
514	6.08	6.03	34.295	26.991	113.0	1.023	0.32	4.6	77.6	3.13	40.3	0.00	0.00			517	201

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

RV NEW HORIZON CALCOFI CRUISE 0911 STATION 93.3 100.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
30 30.8 N	122 15.5 W	09/11/09	1056 UTC	4170 m	340 08 kn			1015.0 mb	16.1 C	13.3 C			

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	18.25	18.25	33.418	24.001	390.0	0.000	5.49	101.9	1.8	0.34	0.1	0.00	0.00	0.16	0.02	0	
2	18.25	18.25	33.418	24.001	390.1	0.008	5.49	101.9	1.8	0.34	0.1	0.00	0.00	0.16	0.02	2	220
10	18.25	18.25	33.420	24.003	390.2	0.039	5.50	102.1	1.8	0.34	0.1	0.00	0.00	0.17	0.02	10	219
20 ISL	18.26 D	18.26	33.419 D	24.000	390.8	0.078	5.51	102.3	1.7	0.33	0.0	0.00	0.00	0.14	0.03	20	
25	18.26	18.26	33.420	24.001	390.9	0.098	5.51	102.3	1.7	0.33	0.0	0.00	0.00	0.13	0.04	25	218
30 ISL	18.26 D	18.25	33.419 D	24.000	391.1	0.117	5.51	102.3	1.7	0.33	0.0	0.00	0.00	0.14	0.04	30	
40	18.25	18.24	33.419	24.003	391.2	0.156	5.50	102.1	1.8	0.33	0.0	0.00	0.00	0.16	0.02	40	217
49	18.26	18.25	33.419	24.001	391.7	0.191	5.50	102.1	1.8	0.32	0.0	0.00	0.00	0.18	0.01	49	216
50 ISL	18.25 D	18.24	33.419 D	24.004	391.5	0.195	5.53	102.6	1.8	0.32	0.0	0.00	0.00	0.18	0.02	50	
63	16.41	16.40	33.242	24.306	363.0	0.244	5.93	106.1	1.7	0.33	0.0	0.00	0.00	0.26	0.12	63	215
75 ISL	13.89 D	13.88	33.064 D	24.717	323.8	0.286	6.15	104.4	2.2	0.36	0.0	0.00	0.00	0.34	0.14	75	
76	13.99	13.98	33.067	24.699	325.6	0.289	6.15	104.6	2.3	0.37	0.0	0.00	0.00	0.35	0.14	76	214
87	12.76	12.75	33.022	24.911	305.5	0.324	5.87	97.3	3.3	0.49	1.0	0.22	0.00	0.34	0.17	87	213
100 ISL	12.15 D	12.14	33.014 D	25.022	295.2	0.363	5.69	93.1	4.4	0.63	3.5	0.08	0.00	0.23	0.20	100	
101	12.09	12.08	33.014	25.033	294.1	0.366	5.68	92.9	4.5	0.64	3.7	0.06	0.00	0.22	0.20	101	212
112	11.50	11.49	33.041	25.163	281.9	0.397	5.58	90.1	5.8	0.78	6.4	0.02	0.00	0.16	0.12	112	211
125	10.80	10.79	33.171	25.390	260.5	0.433	5.24	83.4	9.6	1.04	11.1	0.01	0.00	0.07	0.06	126	210
140	10.41	10.39	33.326	25.579	242.8	0.470	4.86	76.8	13.6	1.27	15.1	0.00	0.00	0.02	0.03	141	209
150 ISL	10.19 D	10.17	33.451 D	25.714	230.2	0.494	4.57	71.9	16.0	1.40	17.3	0.00	0.00	0.02	0.03	151	
170	9.81	9.79	33.611	25.903	212.5	0.538	4.00	62.5	20.4	1.61	20.9	0.00	0.00	0.01	0.02	171	208
200 ISL	9.15 D	9.13	33.857 D	26.203	184.5	0.598	3.30	50.9	26.6	1.84	24.9	0.00	0.00	0.00	0.02	201	
202	9.15	9.13	33.859	26.205	184.4	0.601	3.26	50.2	27.0	1.85	25.1	0.00	0.00	0.00	0.02	203	207
231	8.69	8.67	33.976	26.369	169.2	0.653	2.64	40.3	33.0	2.04	28.0	0.00	0.00			232	206
250 ISL	8.35 D	8.32	34.004 D	26.443	162.3	0.684	2.51	38.0	36.1	2.10	29.1	0.00	0.00			251	
269	8.06	8.03	34.022	26.501	157.0	0.715	2.43	36.6	39.0	2.16	30.0	0.00	0.00			270	205
300 ISL	7.69 D	7.66	34.049 D	26.577	150.2	0.762	2.05	30.6	44.7	2.32	32.2	0.00	0.00			302	
322	7.34	7.31	34.060	26.636	144.8	0.795	1.75	25.9	48.9	2.45	33.8	0.00	0.00			324	204
380	6.74	6.70	34.104	26.753	134.1	0.875	1.21	17.7	59.6	2.71	36.9	0.00	0.00			382	203
400 ISL	6.42 D	6.38	34.105 D	26.796	130.0	0.902	1.09	15.8	63.3	2.78	37.7	0.00	0.00			402	
441	6.08	6.04	34.138	26.866	123.7	0.954	0.90	12.9	70.4	2.89	39.1	0.00	0.00			444	202
500 ISL	5.66 D	5.62	34.200 D	26.968	114.4	1.024	0.60	8.5	79.1	3.04	40.7	0.00	0.00			503	
519	5.59	5.55	34.211	26.985	113.0	1.046	0.50	7.1	81.9	3.09	41.2	0.00	0.00			522	201

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

RV NEW HORIZON CALCOFI CRUISE 0911 STATION 93.3 110.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
30 10.9 N	122 55.3 W	09/11/09	1711 UTC	3978 m	060 16 kn	350 06 07	1	1017.5 mb	17.5 C	14.4 C	22m	5/8	SC

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	17.95	17.95	33.219	23.922	397.5	0.000	5.50	101.4	1.4	0.36	0.1	0.00	0.00	0.18	0.01	0	
2 A	17.95	17.95	33.219	23.922	397.6	0.008	5.50	101.4	1.4	0.36	0.1	0.00	0.00	0.18	0.01	2	222
10 ISL	17.95 D	17.95	33.220 D	23.923	397.7	0.040	5.50	101.4	1.3	0.35	0.0	0.00	0.00	0.16	0.03	10	
16 A	17.96	17.96	33.244	23.939	396.4	0.064	5.51	101.6	1.3	0.35	0.0	0.00	0.00	0.15	0.04	16	221
20 ISL	17.96 D	17.96	33.223 D	23.923	398.1	0.079	5.51	101.6	1.3	0.35	0.0	0.00	0.00	0.16	0.03	20	
30 ISL	17.96 D	17.95	33.229 D	23.928	397.9	0.119	5.52	101.7	1.4	0.35	0.0	0.00	0.00	0.19	0.02	30	
34 A	17.99	17.98	33.323	23.993	391.9	0.135	5.52	101.9	1.5	0.35	0.0	0.00	0.00	0.20	0.01	34	220
42	17.81	17.80	33.329	24.042	387.5	0.166	5.53	101.7	1.6	0.34	0.0	0.00	0.00	0.26	0.06	42	219
50 A	14.66	14.65	33.117	24.596	334.7	0.195	6.18	106.6	2.4	0.35	0.0	0.00	0.05	0.28	0.18	50	218
57	13.90	13.89	33.117 D	24.755	319.7	0.218	5.98D	101.6 D								57	217
62 A	13.59	13.58	33.097	24.803	315.2	0.234	5.96	100.6	2.9	0.40	0.1	0.05	0.04	0.29	0.19	62	216
71	13.04	13.03	33.061	24.886	307.5	0.262	5.86	97.8	3.3	0.48	0.8	0.18	0.00	0.23	0.18	71	215
75 ISL	12.82 D	12.81	33.060 D	24.928	303.6	0.274	5.82	96.7	3.5	0.50	1.1	0.18	0.00	0.22	0.19	75	
80	12.74	12.73	33.061	24.945	302.1	0.289	5.77	95.7	3.8	0.54	1.7	0.18	0.00	0.21	0.20	80	214
89 A	11.99	11.98	33.031	25.065	290.8	0.316	5.64	92.0	5.2	0.70	4.6	0.04	0.00	0.15	0.14	89	213
98	11.38	11.37	33.049	25.191	278.9	0.342	5.48	88.3	6.8	0.86	7.4	0.01	0.00	0.10	0.12	98	212
100 ISL	11.34 D	11.33	33.057 D	25.205	277.7	0.347	5.45	87.7	7.1	0.88	7.8	0.01	0.00	0.10	0.11	100	
110	10.92	10.91	33.122	25.330	265.9	0.374	5.34	85.2	8.6	0.97	9.6	0.00	0.00	0.08	0.08	110	211
124	10.53	10.52	33.176	25.441	255.6	0.411	5.18	82.0	10.7	1.10	11.7	0.00	0.00	0.04	0.05	125	210
125 ISL	10.28 D	10.27	33.280 D	25.565	243.8	0.413	5.15	81.1	11.0	1.12	12.0	0.00	0.00	0.04	0.05	126	
145	10.03	10.01	33.473	25.758	225.8	0.460	4.41	69.1	17.4	1.45	17.9	0.00	0.00	0.01	0.02	146	209
150 ISL	10.01 D	9.99	33.545 D	25.818	220.3	0.471	4.24	66.5	18.5	1.51	18.9	0.00	0.00	0.01	0.02	151	
169	9.70	9.68	33.692	25.984	204.8	0.512	3.68	57.4	22.1	1.69	21.7	0.00	0.00	0.00	0.02	170	208
200 ISL	9.03 D	9.01	33.899 D	26.255	179.5	0.571	3.06	47.0	28.3	1.90	25.3	0.00	0.00	0.00	0.02	201	
201	9.11	9.09	33.883	26.230	181.9	0.573	3.05	47.0	28.5	1.90	25.4	0.00	0.00	0.00	0.02	202	207
230	8.52	8.50	33.981	26.399	166.2	0.624	2.77	42.1	33.7	2.01	27.3	0.00	0.00			231	206
250 ISL	8.14 D	8.11	34.012 D	26.481	158.6	0.656	2.69	40.6	37.1	2.07	28.3	0.00	0.00			251	
270	7.86	7.83	34.022	26.531	154.1	0.687	2.58	38.7	40.4	2.15	29.3	0.00	0.00			271	205
300 ISL	7.48 D	7.45	34.044 D	26.603	147.6	0.733	2.10	31.2	45.7	2.33	31.7	0.00	0.00			302	
320	7.36	7.33	34.060	26.633	145.0	0.762	1.75	25.9	49.4	2.46	33.3	0.00	0.00			322	204
382	6.61	6.58	34.106	26.772	132.2	0.848	1.21	17.6	61.4	2.72	36.5	0.00	0.00			384	203
400 ISL	6.47 D	6.43	34.115 D	26.798	130.0	0.872	1.15	16.7	64.2	2.77	37.1	0.00	0.00			402	
440	6.09	6.05	34.126	26.856	124.7	0.922	1.03	14.8	69.9	2.86	38.4	0.00	0.00			443	202
500 ISL	5.68 D	5.64	34.174 D	26.945	116.6	0.995	0.62	8.8	79.2	3.02	40.3	0.00	0.00			503	
517	5.59	5.55	34.196	26.974	114.1	1.014	0.51	7.3	81.8	3.06	40.9	0.00	0.00			520	201

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

RV NEW HORIZON CALCOFI CRUISE 0911 STATION 93.3 120.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
29 50.5 N	123 35.4 W	09/11/09	2314 UTC	4020 m	040 08 kn	350 05 06	1	1015.4 mb	18.0 C	15.3 C	26m	6/8	SC

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	19.21	19.21	33.777	24.034	386.8	0.000	5.37	101.7	1.9	0.30	0.0	0.00	0.00	0.11	0.03	0	
2	19.21	19.21	33.777	24.035	386.8	0.008	5.37	101.7	1.9	0.30	0.0	0.00	0.00	0.11	0.03	2	220
10	19.21	19.21	33.778	24.036	387.0	0.039	5.37	101.7	2.0	0.29	0.0	0.00	0.00	0.14	0.03	10	219
20 ISL	19.22 D	19.22	33.781 D	24.036	387.4	0.077	5.37	101.7	2.0	0.28	0.0	0.00	0.00	0.12	0.03	20	
25	19.22	19.22	33.785	24.039	387.2	0.097	5.37	101.7	1.9	0.28	0.0	0.00	0.00	0.11	0.03	25	218
30 ISL	19.21 D	19.20	33.803 D	24.056	385.9	0.116	5.37	101.7	1.9	0.28	0.0	0.00	0.00	0.11	0.03	30	
39	19.20	19.19	33.807	24.062	385.6	0.151	5.36	101.5	1.8	0.27	0.0	0.00	0.00	0.11	0.02	39	217
50	19.20	19.19	33.808	24.063	385.9	0.193	5.36	101.5	1.9	0.28	0.0	0.00	0.00	0.10	0.03	50	216
63	18.48	18.47	33.713	24.172	375.9	0.243	5.51	102.9	1.9	0.27	0.0	0.00	0.00	0.14	0.04	63	215
75 ISL	15.91 D	15.90	33.483 D	24.605	334.8	0.285	5.85	103.7	1.9	0.27	0.0	0.00	0.00	0.20	0.11	75	
76	15.92	15.91	33.482	24.602	335.1	0.289	5.87	104.1	1.9	0.27	0.0	0.00	0.00	0.20	0.12	76	214
87	15.47	15.46	33.530	24.740	322.3	0.325	5.70	100.2	2.2	0.29	0.0	0.00	0.00	0.22	0.16	87	213
100	13.96	13.95	33.341	24.917	305.5	0.366	5.56	94.7	3.1	0.45	1.0	0.20	0.00	0.20	0.15	100	212
113	13.51	13.49	33.363	25.027	295.4	0.405	5.42	91.5	3.5	0.54	2.7	0.12	0.00	0.22	0.12	113	211
125 ISL	12.65 D	12.63	33.329 D	25.171	281.8	0.439	5.31	88.0	4.5	0.64	4.6	0.03	0.00	0.15	0.14	125	
126	12.69	12.67	33.328	25.162	282.6	0.442	5.30	87.9	4.7	0.65	4.8	0.02	0.00	0.14	0.14	126	210
140	11.40	11.38	33.376	25.443	256.0	0.480	4.91	79.3	9.0	0.96	10.1	0.00	0.00	0.07	0.08	141	209
150 ISL	11.04 D	11.02	33.463 D	25.575	243.6	0.505	4.59	73.6	11.9	1.13	13.1	0.00	0.00	0.04	0.06	151	
171	10.23	10.21	33.672	25.880	214.9	0.553	3.98	62.7	17.5	1.41	18.0	0.00	0.00	0.01	0.03	172	208
200 ISL	9.56 D	9.54	33.834 D	26.119	192.6	0.612	3.49	54.3	23.3	1.65	22.0	0.00	0.00	0.00	0.02	201	
201	9.54	9.52	33.843	26.129	191.7	0.614	3.48	54.1	23.5	1.66	22.1	0.00	0.00	0.00	0.02	202	207
232	9.08	9.05	33.953	26.290	176.9	0.671	3.12	48.0	28.3	1.82	24.5	0.00	0.00			233	206
250 ISL	8.73 D	8.70	33.992 D	26.376	168.9	0.702	2.93	44.8	31.3	1.91	25.9	0.00	0.00			251	
272	8.44	8.41	34.015	26.439	163.2	0.739	2.66	40.4	35.3	2.04	27.7	0.00	0.00			273	205
300 ISL	8.01 D	7.98	34.097 D	26.568	151.2	0.783	2.12	31.9	41.4	2.27	30.2	0.00	0.00			302	
321	7.81	7.78	34.111	26.609	147.7	0.814	1.70	25.5	46.1	2.45	32.1	0.00	0.00			323	204
381	7.12	7.08	34.178	26.760	133.8	0.899	0.92	13.6	58.0	2.77	36.1	0.00	0.00			383	203
400 ISL	6.92 D	6.88	34.186 D	26.794	130.8	0.924	0.81	11.9	60.6	2.82	36.7	0.00	0.00			402	
442	6.67	6.63	34.208	26.845	126.3	0.978	0.67	9.8	65.7	2.91	37.7	0.00	0.00			445	202
500 ISL	6.19 D	6.15	34.261 D	26.950	116.7	1.048	0.43	6.2	74.0	3.05	39.2	0.00	0.00			503	
517	6.12	6.07	34.269	26.966	115.5	1.068	0.36	5.2	76.4	3.09	39.7	0.00	0.00			520	201

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

RV NEW HORIZON CALCOFI CRUISE 0911 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 57.4 N	117 16.9 W	06/11/09	2120 UTC	23 m	290 05 kn	290 01 05	1	1014.3 mb	19.3 C	16.1 C		7/8	SC

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	16.36	16.36	33.341	24.391	352.8	0.000	6.12	109.4	2.8	0.32	0.0	0.00	0.00	0.77	0.31	0	
2	16.36	16.36	33.341	24.391	352.9	0.007	6.12	109.4	2.8	0.32	0.0	0.00	0.00	0.77	0.31	2	204
5	15.92	15.92	33.316	24.472	345.2	0.018	6.11	108.3	3.0	0.34	0.0	0.00	0.00	0.95	0.43	5	203
10 ISL	15.62 D	15.62	33.298 D	24.525	340.3	0.035	6.11	107.6	3.3	0.37	0.1	0.00	0.02	1.32	0.54	10	
11	15.60	15.60	33.301	24.532	339.7	0.038	6.11	107.6	3.3	0.37	0.1	0.00	0.02	1.38	0.55	11	202
16	15.11	15.11	33.287	24.629	330.6	0.055	6.05	105.5	3.6	0.40	0.2	0.02	0.12	1.33	0.64	16	201

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

PRIMARY PRODUCTIVITY CASTS

RV NEW HORIZON — CALCOFI CRUISE 0911 — STATION 76.7 51.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
35 1.4 N	120 55.1 W	22/11/09	1644 UTC	8 m	1140 - 1730 PST	1150 PST	1724 PST	902.4 mg C/m2

DEPTH m	TEMP DEG C	SALINITY	SIGMA THETA	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
3	13.42	33.370	25.047	6.12	103.1	3.7	0.46	1.2	0.08	4.33	0.73	56. A	44.5	55.2	49.8	0.24
6	13.42	33.369	25.046	6.13	103.3	3.7	0.46	1.2	0.11	4.96	0.66	32.	73.5	73.0	73.3	0.29
10	13.43	33.368	25.044	6.14	103.5	3.8	0.46	1.2	0.08	5.21	0.63					
12	13.42	33.368	25.046	6.11	103.0	3.9	0.47	1.3	0.08	5.06	0.60	10.	39.6	45.3	42.4	0.22
18	13.39	33.369	25.053	6.03	101.5	4.0	0.51	1.7	0.10	4.25	1.00	3.2	14.6	14.2	14.4	0.16
24	12.59	33.374	25.215	5.04	83.5	8.7	0.93	7.9	0.22	0.67	0.32	1.00	1.1	1.1	1.1	0.09
31	12.00	33.397	25.345	4.61	75.4	11.3	1.14	11.4	0.19	0.35	0.32	0.26	0.13	0.14	0.13	0.00

RV NEW HORIZON — CALCOFI CRUISE 0911 — STATION 76.7 70.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
34 23.4 N	122 15.0 W	21/11/09	1609 UTC	9 m	1154 - 1920 PST	1155 PST	1724 PST	186.5 mg C/m2

DEPTH m	TEMP DEG C	SALINITY	SIGMA THETA	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
2	13.86	33.363	24.952	5.85	99.5	2.9	0.52	2.1	0.16	0.69	0.35	71. A	2.2	0.81	1.5	0.06
7	13.86	33.363	24.952	5.84	99.3	2.9	0.52	2.1	0.16	0.68	0.34	30.	12.5	12.9	12.7	0.06
12	13.86	33.363	24.952	5.84	99.3	2.9	0.52	2.1	0.16	0.68	0.37	13.	8.8	9.3	9.0	0.06
20	13.86	33.362	24.952	5.86	99.6	2.9	0.52	2.1	0.16	0.70	0.36	3.3	5.4	5.3	5.4	0.07
26	13.86	33.362	24.952	5.85	99.5	2.7	0.51	2.1	0.17	0.70	0.38	1.2	2.6	1.8	2.2	0.05
37	13.86	33.362	24.952	5.85	99.5	2.9	0.51	2.1	0.17	0.69	0.32	0.18	0.20	0.24	0.22	0.05

RV NEW HORIZON — CALCOFI CRUISE 0911 — STATION 76.7 100.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
33 23.3 N	124 19.5 W	20/11/09	1930 UTC	22 m	1233 - 1730 PST	1203 PST	1736 PST	165.4 mg C/m2

DEPTH m	TEMP DEG C	SALINITY	SIGMA THETA	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
3	16.30	33.167	24.271	5.71	101.9	1.8	0.35	0.0	0.00	0.32	0.10	81. A	4.2	4.3	4.2	0.11
8	16.28	33.166	24.275	5.72	102.0	1.8	0.35	0.0	0.00	0.33	0.09					
16	16.25	33.165	24.281	5.71	101.8	1.8	0.35	0.0	0.00	0.30	0.10	33.	4.0	4.1	4.1	0.12
23	16.25	33.167	24.283	5.70	101.6	1.8	0.34	0.0	0.00	0.35	0.07					
33	16.25	33.169	24.285	5.79	103.2	1.7	0.34	0.0	0.00	0.36	0.10	10.	2.2	2.2	2.2	0.03
40	16.10	33.191	24.336	5.72	101.7	2.1	0.36	0.0	0.01	0.44	0.15					
49	16.00	33.199	24.365	5.75	102.0	2.1	0.37	0.1	0.02	0.49	0.14	3.3	1.2	1.3	1.2	0.02
57	15.88	33.191	24.386	5.74	101.6	2.1	0.39	0.2	0.03	0.43	0.24					
62	15.74	33.184	24.412	5.79	102.2	2.1	0.40	0.2	0.04	0.43	0.16	1.3	0.42	0.52	0.47	0.11
75	14.81	33.076	24.533	5.82	100.7	2.7	0.45	0.4	0.10	0.37	0.21					
89	11.66	32.852	24.987	6.00	97.1	4.7	0.66	2.9	0.33	0.20	0.14	0.20	0.11	0.02	0.07	0.02

RV NEW HORIZON — CALCOFI CRUISE 0911 — STATION 80.0 70.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
33 50.1 N	121 51.8 W	19/11/09	1632 UTC	9 m	1155 - 1738 PST	1153 PST	1735 PST	354.8 mg C/m2

DEPTH m	TEMP DEG C	SALINITY	SIGMA THETA	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
3	14.10	33.327	24.874	5.90	100.8	3.8	0.53	1.0	0.13	1.58	0.20	60. A	5.3	2.5	3.9	0.18
8	14.10	33.332	24.878	5.90	100.8	3.9	0.54	1.0	0.13	1.57	0.21	26.	24.6	25.8	25.2	0.13
14	14.10	33.333	24.879	5.89	100.6	3.9	0.53	1.0	0.13	1.71	0.09	9.2	18.7	19.4	19.1	0.09
20	14.10	33.337	24.883	5.92	101.1	3.7	0.53	1.0	0.13	1.37	0.41	3.3	9.0	9.4	9.2	0.10
25	14.10	33.332	24.879	5.89	100.6	3.8	0.52	1.0	0.13	1.35	0.40	1.4	3.3	3.4	3.3	0.07
37	14.10	33.336	24.882	5.90	100.8	3.8	0.53	1.0	0.13	1.52	0.26	0.18	0.19	0.31	0.25	0.08

A) INCUBATION LIGHT INTENSITIES WERE 92, 32, 10, 3.2, 1.3, 0.20 PERCENT RESPECTIVELY.

PRIMARY PRODUCTIVITY CASTS

RV NEW HORIZON — CALCOFI CRUISE 0911 — STATION 81.8 46.9

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
34 16.5 N	120 1.9 W	18/11/09	1747 UTC	12 m	1147 - 1750 PST	1145 PST	1724 PST	353.2 mg C/m2

DEPTH m	TEMP DEG C	SALINITY	SIGMA THETA	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
2	15.63	33.420	24.616	6.04	106.5	1.5	0.27	0.0	0.00	0.69	0.14	77. A	8.1	10.3	9.2	0.16
9	15.56	33.397	24.615	6.05	106.5	1.8	0.27	0.0	0.00	0.76	0.14	32.	14.2	15.4	14.8	0.16
18	14.04	33.347	24.903	5.63	96.1	4.6	0.58	2.8	0.16	2.78	0.23	10.	18.5	17.9	18.2	0.15
27	12.81	33.366	25.166	4.89	81.4	9.0	0.98	8.9	0.39	0.65	0.22	3.2	1.6	1.9	1.7	0.08
35	12.14	33.383	25.308	4.66	76.4	11.2	1.10	11.1	0.26	0.48	0.23	1.1	0.41	0.62	0.52	0.06
42	11.09	33.524	25.612	3.92	62.9	16.4	1.43	16.4	0.06	0.17	0.17					
50	10.59	33.638	25.789	3.45	54.8	19.2	1.61	19.8	0.03	0.06	0.09	0.17	0.00	0.00	0.00	0.04

RV NEW HORIZON — CALCOFI CRUISE 0911 — STATION 83.3 60.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
33 34.6 N	120 45.1 W	17/11/09	1738 UTC	14 m	1145 - 1725 PST	1148 PST	1721 PST	398.6 mg C/m2

DEPTH m	TEMP DEG C	SALINITY	SIGMA THETA	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
2	15.26	33.418	24.697	5.75	100.6	3.6	0.44	1.1	0.09	0.97	0.25	80. A	5.9	3.0	4.4	0.09
10	15.26	33.413D	24.693	5.74	100.5	3.5	0.44	1.1	0.09	1.01	0.30	33.	17.7	18.0	17.9	0.12
21	15.24	33.414	24.699	5.76	100.8	3.6	0.44	1.1	0.09	0.92	0.50	10.	12.0	11.5	11.7	0.20
31	15.23	33.413	24.700	5.80	101.4	3.6	0.44	1.1	0.09	0.82	0.30	3.3	5.9	6.6	6.3	0.08
40	14.65	33.413	24.826	5.28	91.3	6.0	0.69	4.8	0.17	0.44	0.23	1.2	1.2	1.5	1.4	0.05
48	12.91	33.420	25.189	4.66	77.7	10.6	1.06	11.0	0.13	0.29	0.24					
58	11.41	33.583	25.600	3.56	57.6	17.7	1.55	18.9	0.02	0.13	0.15	0.17	0.07	0.05	0.06	0.14

RV NEW HORIZON — CALCOFI CRUISE 0911 — STATION 83.3 100.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
32 14.7 N	123 29.5 W	16/11/09	1734 UTC	28 m	1155 - 1732 PST	1159 PST	1734 PST	179.9 mg C/m2

DEPTH m	TEMP DEG C	SALINITY	SIGMA THETA	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
2	16.88	33.074	24.066	5.60	101.0	1.5	0.33	0.0	0.00	0.17	0.06	90. A	0.63	0.50	0.56	0.05
11	16.86	33.076	24.072	5.60	101.0	1.5	0.33	0.0	0.00	0.18	0.06					
21	16.85	33.076	24.075	5.60	100.9	1.4	0.33	0.0	0.00	0.17	0.07	32.	3.0	3.0	3.0	0.06
32	16.83	33.075	24.079	5.62	101.3	1.5	0.33	0.0	0.00	0.19	0.07					
42	16.77	33.068	24.088	5.67	102.0	1.5	0.32	0.0	0.00	0.30	0.02	10.	2.6	2.6	2.6	0.04
53	16.73	33.063	24.094	5.61	100.9	1.4	0.33	0.0	0.00	0.22	0.09					
64	16.66	33.060	24.108	5.64	101.3	1.5	0.33	0.0	0.00	0.22	0.09	3.0	1.8	1.8	1.8	0.06
71	16.63	33.057	24.113	5.64	101.2	1.5	0.32	0.0	0.00	0.25	0.09					
79	15.77	33.119	24.356	5.92	104.5	2.0	0.31	0.0	0.00	0.28	0.11	1.3	0.86	0.94	0.90	0.05
90	14.61	33.226	24.692	6.01	103.7	2.5	0.29	0.0	0.00	0.22	0.14					
102	13.86	33.257	24.873	5.82	98.9	3.0	0.33	0.1	0.06	0.19	0.12					
114	13.01	33.179	24.984	5.76	96.1	3.6	0.43	1.0	0.17	0.16	0.13	0.19	0.09	0.11	0.10	0.03

RV NEW HORIZON — CALCOFI CRUISE 0911 — STATION 86.7 35.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
33 49.2 N	118 38.4 W	13/11/09	1804 UTC	23 m	1145 - 1750 PST	1138 PST	1726 PST	321.7 mg C/m2

DEPTH m	TEMP DEG C	SALINITY	SIGMA THETA	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
2	17.36	33.432D	24.227	5.76D	105.1D											
9	17.34	33.421	24.224	5.75	104.9	1.9	0.30	0.0	0.00	0.40	0.05	88. A	4.8	3.9	4.3	0.09
17	17.31	33.422	24.232	5.76	105.0	1.6	0.30	0.0	0.00	0.35	0.08	32.	8.0	7.6	7.8	0.12
26	16.38	33.349	24.393	6.03	107.9	2.1	0.32	0.0	0.00	0.52	0.16					
34	14.35	33.242	24.757	6.17	105.9	3.3	0.42	0.1	0.01	0.95	0.26	10.	6.2	6.8	6.5	3.0
43	13.13	33.241	25.006	5.60	93.7	5.0	0.63	3.0	0.15	1.04	0.59					
52	12.56	33.274	25.144	5.08	84.0	6.9	0.86	7.4	0.04	0.52	0.34	3.1	2.0	2.0	2.0	0.24
57	12.09	33.296	25.251	4.89	80.1	8.3	1.00	9.9	0.03	0.27	0.30					
65	11.67	33.351	25.372	4.46	72.4	11.1	1.19	13.0	0.03	0.17	0.21	1.3	0.52	0.53	0.53	0.06
79	11.43	33.403	25.457	4.22	68.2	12.4	1.29	14.7	0.02	0.12	0.14					
93	11.22	33.465	25.543	4.01	64.5	14.3	1.39	16.2	0.01	0.06	0.11	0.20	0.02	0.04	0.03	0.05

A) INCUBATION LIGHT INTENSITIES WERE 92, 32, 10, 3.2, 1.3, 0.20 PERCENT RESPECTIVELY.

PRIMARY PRODUCTIVITY CASTS

RV NEW HORIZON — CALCOFI CRUISE 0911 — STATION 86.7 55.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
33 9.9 N	120 1.5 W	14/11/09	1659 UTC	0 m	1126 - 1730 PST	1126 PST	1746 PST	172.5 mg C/m2

DEPTH m	TEMP DEG C	SALINITY	SIGMA THETA	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
3	15.55	33.334	24.568	5.68	99.9	2.3	0.43	0.7	0.07	0.65	0.16	0.92	0.88	0.39	0.64	0.38
6	15.55	33.335	24.569	5.68	99.9	1.8	0.42	0.7	0.07	0.62	0.19	0.32	10.7	10.7	10.7	0.13
15	15.54	33.347	24.581	5.68	99.9	1.9	0.41	0.7	0.06	0.66	0.17	0.10	8.2	8.0	8.1	0.20
22	15.55	33.335	24.569	5.68	99.9	1.8	0.41	0.7	0.07	0.59	0.21	0.03	3.4	3.2	3.3	0.51
29	15.55	33.334	24.569	5.67	99.8	1.9	0.41	0.7	0.07	0.67	0.19	0.01	2.0	1.8	1.9	0.09
40	15.55	33.335	24.570	5.67	99.8	2.1	0.40	0.7	0.07	0.70	0.14	0.00	0.08	0.07	0.08	0.06

RV NEW HORIZON — CALCOFI CRUISE 0911 — STATION 86.7 90.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
32 0.0 N	122 24.3 W	15/11/09	1704 UTC	24 m	1150 - 1740 PST	1154 PST	1743 PST	153.3 mg C/m2

DEPTH m	TEMP DEG C	SALINITY	SIGMA THETA	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
2	17.27	33.339	24.177	5.54	100.8	1.9	0.32	0.0	0.00	0.16	0.06	88. A	0.36	0.21	0.28	0.05
11	17.28	33.341	24.177	5.54	100.9	1.9	0.32	0.0	0.00	0.15	0.07					
18	17.27	33.345	24.182	5.54	100.8	1.7	0.31	0.0	0.00	0.16	0.05	32.	2.4	2.5	2.4	0.10
27	17.27	33.353	24.189	5.55	101.0	2.0	0.32	0.0	0.00	0.17	0.05					
37	17.25	33.340	24.184	5.53	100.6	1.8	0.31	0.0	0.00	0.17	0.06	9.4	2.1	2.2	2.1	0.07
45	16.84	33.303	24.252	5.67	102.3	1.9	0.32	0.0	0.00	0.31	0.17					
55	14.57	33.075	24.583	6.09	104.9	2.7	0.35	0.0	0.00	0.44	0.36	3.0	3.0	2.9	3.0	0.04
62	13.38	33.002	24.772	6.17	103.6	3.0	0.39	0.1	0.03	0.40	0.31					
67	12.82	33.014	24.892	6.00	99.6	3.5	0.46	0.8	0.11	0.27	0.32	1.4	1.0	1.1	1.1	0.03
78	11.93	32.992	25.045	5.76	93.8	4.9	0.61	3.2	0.12	0.20	0.26					
88	11.32	32.957	25.130	5.63	90.5	6.3	0.77	5.8	0.05	0.18	0.19					
97	11.04	33.029	25.236	5.48	87.6	6.7	0.84	7.4	0.02	0.14	0.19	0.20	0.09	0.12	0.10	0.03

RV NEW HORIZON — CALCOFI CRUISE 0911 — STATION 90.0 35.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
33 15.2 N	118 15.2 W	12/11/09	1752 UTC	35 m	1138 - 1725 PST	1137 PST	1720 PST	450.1 mg C/m2

DEPTH m	TEMP DEG C	SALINITY	SIGMA THETA	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
2	17.74	33.458	24.156	5.63	103.5	1.6	0.30	0.1	0.00	0.28	0.08	92. A	8.0	8.0	8.0	0.13
14	17.69	33.458	24.168	5.63	103.4	1.6	0.29	0.0	0.00	0.26	0.07					
26	17.29	33.426	24.240	5.72	104.2	1.7	0.32	0.0	0.00	0.33	0.13	32.	7.6	7.7	7.7	0.07
36	15.91	33.306	24.467	5.86	103.8	2.0	0.36	0.0	0.00	0.43	0.16					
44	14.56	33.276	24.740	5.95	102.6	3.6	0.47	1.0	0.09	0.70	0.26					
52	13.35	33.256	24.974	5.64	94.8	5.3	0.66	3.8	0.27	0.49	0.25	10.	5.0	4.7	4.9	0.19
65	11.85	33.330	25.322	4.73	77.1	9.7	1.09	11.3	0.07	0.23	0.23					
78	11.29	33.346	25.438	4.60	74.1	11.3	1.20	13.3	0.02	0.14	0.23	3.3	0.73	0.62	0.67	0.04
88	11.05	33.449	25.561	4.24	68.0	13.7	1.35	15.6	0.01	0.09	0.15					
99	10.78	33.555	25.692	3.76	60.0	17.0	1.52	18.4	0.01	0.04	0.08	1.3	0.07	0.08	0.07	0.04
113	10.60	33.682	25.823	3.36	53.4	19.6	1.66	20.2	0.02	0.03	0.06					
127	10.20	33.797	25.982	2.89	45.6	23.7	1.84	22.8	0.01	0.01	0.05					
142	10.08	33.921	26.099	2.41	37.9	27.5	2.02	24.6	0.01	0.00	0.04	0.20	0.01	0.02	0.01	0.02

RV NEW HORIZON — CALCOFI CRUISE 0911 — STATION 90.0 70.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
32 5.3 N	120 39.0 W	11/11/09	1709 UTC	32 m	1149 - 1750 PST	1146 PST	1728 PST	291.8 mg C/m2

DEPTH m	TEMP DEG C	SALINITY	SIGMA THETA	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
2	17.32	33.321	24.151	5.57	101.5	1.5	0.36	0.1	0.00	0.17	0.05	91. A	2.1	2.1	2.1	0.09
13	17.30	33.320	24.156	5.58	101.6	1.5	0.36	0.0	0.00	0.18	0.05					
24	17.23	33.310	24.165	5.59	101.6	1.4	0.36	0.0	0.00	0.19	0.07	32.	3.3	3.0	3.1	0.28
35	17.10	33.292	24.182	5.61	101.7	1.4	0.36	0.0	0.00	0.22	0.07					
49	15.04	33.215	24.590	5.87	102.1	2.2	0.45	0.4	0.05	0.54	0.31	9.5	6.3	6.1	6.2	0.04
60	14.68	33.222	24.673	5.84	100.9	2.1	0.48	0.8	0.09	0.48	0.29					
72	12.06	32.917	24.963	5.89	96.2	4.5	0.68	3.4	0.20	0.29	0.25	3.2	1.6	1.7	1.6	0.03
82	10.70	33.003	25.276	5.42	86.0	8.5	1.01	9.7	0.03	0.13	0.16					
92	10.29	32.993	25.338	5.39	84.7	9.5	1.07	10.8	0.02	0.10	0.11	1.2	0.28	0.27	0.27	0.01
105	9.96	33.173	25.535	5.00	78.1	13.6	1.30	14.9	0.01	0.05	0.06					
116	9.81	33.264	25.631	4.76	74.2	15.9	1.42	16.8	0.01	0.03	0.05					
130	10.05	33.507	25.781	4.22	66.2	18.2	1.55	19.2	0.01	0.02	0.05	0.20	0.04	0.03	0.03	0.10

A) INCUBATION LIGHT INTENSITIES WERE 92, 32, 10, 3.2, 1.3, 0.20 PERCENT RESPECTIVELY.

PRIMARY PRODUCTIVITY CASTS

RV NEW HORIZON — CALCOFI CRUISE 0911 — STATION 93.3 26.7

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
32 57.4 N	117 18.4 W	06/11/09	1932 UTC	15 m	1210 - 1725 PST	1133 PST	1749 PST	609.0 mg C/m2

DEPTH m	TEMP DEG C	SALINITY	SIGMA THETA	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
2	16.78	33.369	24.315	6.02	108.6	2.8	0.34	0.2	0.00	0.66	0.16	81. A	19.7	17.1	18.4	0.30
6	16.69	33.362	24.331	6.06	109.1	2.6	0.34	0.2	0.00	0.65	0.21					
11	15.91	33.348	24.499	6.08	107.8	2.7	0.34	0.1	0.00	0.79	0.44	32.	24.5	26.7	25.6	0.35
22	14.72	33.266	24.697	6.12	105.8	3.4	0.39	0.2	0.03	1.04	0.47	11.	15.8	16.5	16.1	0.33
34	13.49	33.242	24.935	5.55	93.6	5.5	0.65	3.1	0.25	0.60	0.25	3.1	3.5	3.2	3.3	0.09
42	13.17	33.260	25.013	5.19	86.9	7.1	0.80	5.4	0.39	0.55	0.29	1.4	1.2	0.87	1.0	0.09
52	12.86	33.271	25.083	5.06	84.2	7.8	0.87	7.0	0.38	0.41	0.28					
62	12.76	33.273	25.105	4.93	81.9	8.3	0.92	7.5	0.38	0.35	0.28	0.18	0.12	0.13	0.12	0.05

RV NEW HORIZON — CALCOFI CRUISE 0911 — STATION 93.3 45.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
32 21.0 N	118 33.6 W	07/11/09	1903 UTC	22 m	1215 - 1730 PST	1138 PST	1728 PST	330.8 mg C/m2

DEPTH m	TEMP DEG C	SALINITY	SIGMA THETA	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
1	18.41	33.505	24.028	5.51	102.6	1.4	0.32	0.1	0.00	0.35	0.02	93. A	3.8	3.5	3.7	0.11
8	18.40	33.505	24.030	5.52	102.8	1.5	0.31	0.0	0.00	0.35	0.00					
16	18.38	33.504	24.035	5.52	102.7	1.4	0.29	0.0	0.00	0.35	0.07	33.	5.6	5.9	5.8	0.13
24	18.38	33.504	24.035	5.53	102.9	1.3	0.29	0.0	0.00	0.33	0.05					
33	18.37	33.505	24.039	5.52	102.7	1.3	0.29	0.0	0.00	0.37	0.05	10.	3.9	4.1	4.0	0.13
41	18.09	33.488	24.095	5.57	103.1	1.4	0.28	0.0	0.00	0.44	0.12					
49	14.09	33.247	24.816	6.27	107.0	3.2	0.42	0.1	0.00	1.42	0.46	3.3	7.9	7.4	7.7	0.20
57	12.28	33.283	25.205	5.16	84.8	7.2	0.90	8.2	0.12	0.51	0.44					
63	11.89	33.325	25.311	4.89	79.8	9.1	1.04	10.7	0.07	0.30	0.40	1.2	1.2	1.1	1.2	0.06
77	11.05	33.452	25.563	4.33	69.4	13.5	1.31	15.5	0.01	0.14	0.14					
90	10.67	33.562	25.716	3.87	61.6	16.7	1.51	18.6	0.00	0.06	0.08	0.19	0.03	0.04	0.03	0.03

RV NEW HORIZON — CALCOFI CRUISE 0911 — STATION 93.3 70.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
31 30.8 N	120 15.0 W	08/11/09	1635 UTC	10 m	1150 - 1750 PST	1145 PST	1738 PST	221.9 mg C/m2

DEPTH m	TEMP DEG C	SALINITY	SIGMA THETA	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
2	16.27	33.418	24.471	5.73	102.3	1.6	0.37	0.2	0.01	0.70	0.22	74. A	0.98	0.50	0.74	0.09
8	16.27	33.418	24.471	5.74	102.5	1.6	0.37	0.1	0.01	0.71 B	0.23 B	29.	13.3	13.0	13.1	0.09
15	16.27	33.418	24.471	5.76	102.9	1.6	0.36	0.1	0.00	0.74	0.24	10.	10.6	9.9	10.2	0.09
22	16.27	33.420	24.473	5.74	102.5	1.5	0.36	0.1	0.00	0.74	0.19	3.4	6.0	5.4	5.7	0.10
29	16.27	33.426	24.478	5.73	102.3	1.5	0.35	0.1	0.00	0.79	0.16	1.2	2.4	2.5	2.4	0.07
39	16.27	33.422	24.475	5.72	102.1	1.6	0.35	0.1	0.01	0.70	0.21	0.25	0.20	0.31	0.26	0.08

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

RV NEW HORIZON — CALCOFI CRUISE 0911 — STATION 93.3 110.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
30 10.9 N	122 55.3 W	09/11/09	1711 UTC	22 m	1157 - 1749 PST	1155 PST	1748 PST	121.1 mg C/m2

DEPTH m	TEMP DEG C	SALINITY	SIGMA THETA	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
2	17.95	33.219	23.922	5.50	101.4	1.4	0.36	0.1	0.00	0.18	0.01	87. A	1.4	1.6	1.5	0.17
16	17.96	33.244	23.939	5.51	101.6	1.3	0.35	0.0	0.00	0.15	0.04	33.	2.5	2.3	2.4	0.19
34	17.99	33.323	23.993	5.52	101.9	1.5	0.35	0.0	0.00	0.20	0.01	9.3	1.8	1.7	1.8	0.08
42	17.81	33.329	24.042	5.53	101.7	1.6	0.34	0.0	0.00	0.26	0.06					
50	14.66	33.117	24.596	6.18	106.6	2.4	0.35	0.0	0.00	0.28	0.18	3.1	1.4	1.7	1.5	0.05
57	13.90			5.98												
62	13.59	33.097	24.803	5.96	100.6	2.9	0.40	0.1	0.05	0.29	0.19	1.3	0.78	0.75	0.77	0.21
71	13.04	33.061	24.886	5.86	97.8	3.3	0.48	0.8	0.18	0.23	0.18					
80	12.74	33.061	24.945	5.77	95.7	3.8	0.54	1.7	0.18	0.21	0.20					
89	11.99	33.031	25.065	5.64	92.0	5.2	0.70	4.6	0.04	0.15	0.14	0.20	0.27	0.10	0.19	0.02

A) INCUBATION LIGHT INTENSITIES WERE 92, 32, 10, 3.2, 1.3, 0.20 PERCENT RESPECTIVELY.

MACROZOOPLANKTON BIOMASS
Net Mesh Size: 0.505mm

Line	Sta.	Latitude N	Longitude W	Date Mo/Day	Time (PST) Start	Time (PST) End	Water Volume Strained (m^3)	Max. Tow Depth (m)	Volume per 1000 m^3 Strained Total (cm^3)	Volume per 1000 m^3 Strained Small (cm^3)
93.3	26.7	32 57.5	117 18.2	11/06	1235	1243	133	71	45	45
93.4	26.4	32 57.2	117 16.9	11/06	1325	1327	45	13	22	22
91.7	26.4	33 14.8	117 27.8	11/06	1615	1617	39	13	26	26
93.3	28.0	32 54.8	117 23.6	11/06	2005	2029	468	203	47	47
93.3	30.0	32 50.8	117 31.8	11/06	2342	0003	433	198	51	51
93.3	35.0	32 40.6	117 52.2	11/07	0346	0407	387	215	49	49
93.3	40.0	32 31.0	118 12.4	11/07	0759	0822	450	215	22	22
93.3	45.0	32 20.8	118 33.4	11/07	1215	1238	474	213	21	21
93.3	50.0	32 10.9	118 53.3	11/07	1646	1707	434	211	83	21
93.3	55.0	32 00.7	119 14.1	11/07	2123	2146	493	208	45	45
93.3	60.0	31 51.0	119 34.3	11/08	0154	0217	482	208	50	50
93.3	70.0	31 30.7	120 14.8	11/08	0716	0737	482	208	54	54
93.3	80.0	31 10.8	120 55.0	11/08	1550	1612	484	209	66	66
93.3	90.0	30 50.7	121 35.3	11/08	2156	2218	461	209	30	30
93.3	100.0	30 30.7	122 15.3	11/09	0403	0424	480	212	40	40
93.3	110.0	30 10.8	122 55.2	11/09	1016	1040	468	212	38	38
93.3	120.0	29 50.6	123 35.0	11/09	1627	1648	433	212	18	18
90.0	120.0	30 25.0	123 59.8	11/09	2305	2327	467	202	30	30
90.0	110.0	30 45.0	123 20.2	11/10	0522	0543	457	206	35	35
90.0	100.0	31 05.0	122 39.8	11/10	1353	1415	432	215	28	28
90.0	90.0	31 24.6	121 59.5	11/10	2015	2037	442	204	54	54
90.0	80.0	31 44.9	121 19.1	11/11	0245	0307	452	193	86	86
90.0	70.0	32 05.4	120 39.0	11/11	0808	0830	432	207	35	35
90.0	60.0	32 25.0	119 57.5	11/11	1554	1615	421	215	74	59
90.0	53.0	32 38.9	119 28.8	11/11	2100	2122	423	208	135	104
90.0	45.0	32 55.0	118 56.1	11/12	0239	0301	436	210	57	57
90.0	37.0	33 10.9	118 23.0	11/12	0800	0822	417	211	60	60
90.0	35.0	33 15.2	118 15.0	11/12	1116	1137	401	212	30	30
90.0	27.7	33 29.6	117 44.9	11/12	1505	1507	45	14	22	22
90.0	28.0	33 29.1	117 45.9	11/12	1639	1645	117	56	34	34
90.0	30.0	33 25.0	117 53.8	11/12	1920	1941	403	215	60	60
88.5	30.1	33 40.4	118 05.5	11/12	2205	2207	55	13	18	18
86.8	32.5	33 53.1	118 26.7	11/13	0150	0153	60	23	34	34
86.7	33.0	33 53.4	118 29.5	11/13	0326	0332	127	51	16	16
85.4	35.8	34 00.6	118 49.8	11/13	0637	0639	54	20	18	18
86.7	35.0	33 49.2	118 38.3	11/13	0906	0928	414	213	46	29
86.7	40.0	33 39.4	118 58.4	11/13	1505	1526	425	207	42	42
86.7	60.0	32 58.9	120 20.7	11/14	1425	1447	434	213	48	48
86.7	70.0	32 39.2	121 01.5	11/14	2052	2114	438	214	78	46
86.7	80.0	32 19.3	121 42.7	11/15	0302	0324	452	219	31	31
86.7	90.0	31 59.9	122 24.1	11/15	0804	0826	458	212	26	26
86.7	100.0	31 39.1	123 03.9	11/15	1613	1634	436	209	48	48
86.7	110.0	31 19.3	123 44.6	11/15	2206	2228	449	211	27	27
83.3	110.0	31 54.3	124 10.1	11/16	0419	0440	421	219	38	38
83.3	100.0	32 14.7	123 29.5	11/16	1034	1055	422	210	24	24
83.3	90.0	32 34.3	122 48.8	11/16	1630	1651	410	217	19	19
83.3	80.0	32 54.6	122 07.6	11/16	2219	2241	443	212	77	77
83.3	70.0	33 14.6	121 26.6	11/17	0435	0456	390	215	128	128
83.3	60.0	33 34.6	120 45.1	11/17	1101	1122	405	214	49	49
83.3	55.0	33 44.4	120 24.6	11/17	1542	1603	432	211	23	23
83.3	51.0	33 52.5	120 07.8	11/17	1915	1924	178	94	45	45
83.3	42.0	34 10.4	119 30.5	11/18	0137	0152	279	140	36	36
83.3	40.6	34 13.4	119 24.8	11/18	0349	0351	57	20	18	18
83.3	39.4	34 15.5	119 19.5	11/18	0447	0449	47	17	42	42
81.7	43.5	34 24.3	119 47.8	11/18	0746	0748	45	13	45	45
81.8	46.9	34 16.5	120 01.6	11/18	1113	1135	436	211	55	55
80.0	51.0	34 26.8	120 31.3	11/18	1548	1557	194	86	10	10
80.0	70.0	33 49.9	121 51.6	11/19	0727	0748	433	214	58	58
80.0	80.0	33 29.1	122 31.9	11/19	1609	1630	433	214	18	18
80.0	90.0	33 08.9	123 13.1	11/19	2214	2236	475	207	34	34
80.0	100.0	32 48.9	123 54.1	11/20	0618	0639	439	211	46	46
76.7	100.0	33 23.3	124 19.3	11/20	1242	1303	468	215	15	15
76.7	90.0	33 43.1	123 38.2	11/20	1850	1912	488	207	49	49
76.7	80.0	34 03.1	122 56.4	11/21	0124	0147	475	210	70	70
76.7	70.0	34 23.4	122 14.7	11/21	0653	0714	472	207	42	42
76.7	55.0	34 53.5	121 12.0	11/22	0556	0617	447	212	49	49
76.7	51.0	35 01.3	120 55.2	11/22	0942	1004	445	207	40	40
76.7	49.0	35 05.3	120 47.0	11/22	1208	1215	142	65	1208	70
80.0	50.5	34 27.5	120 29.3	11/22	1721	1723	51	14	19	19