UNIVERSITY OF CALIFORNIA, SAN DIEGO SCRIPPS INSTITUTION OF OCEANOGRAPHY

data report

CalCOFI Cruise 1110
16 October – 1 November 2011

CC Reference 12-05
5 November 2012

UNIVERSITY OF CALIFORNIA, SAN DIEGO

SCRIPPS INSTITUTION OF OCEANOGRAPHY

LA JOLLA, CALIFORNIA 92093-0227

PHYSICAL, CHEMICAL AND BIOLOGICAL DATA

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CONTENTS

INTRODUCTION

The data presented in this report were collected during cruise 1110* 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 P149. Salinity values were calculated using the algorithms for the Practical Salinity Scale, 1978 (UNESCO, 1981a) and are reported to three decimal places, provided that accepted standards were met.

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

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

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

Nutrient samples were analyzed at sea by the Scripps Ocean Data Facility for dissolved silicate, phosphate, nitrate, nitrite, and ammonium using procedures similar to those described in Gordon et al. (1993) and Koroleff (1969, 1970). Samples were collected in 45 ml high-density polypropylene screw-capped tubes which were 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 11.16 µCi of ^{14}C as $NaHCO_3$ (40µl of stock solution) prepared in a 0.3 g/liter solution of sodium carbonate (Fitzwater *et al*., 1982). Samples were incubated from LAN to civil twilight in seawater-cooled incubators with neutral-density screens which simulate *in situ* light levels. At the end of the incubation, the samples were filtered onto Millipore HA filters and placed in scintillation vials. One half ml of 10% HCl was added to each sample. The sample was then allowed to sit, without a cap, at room temperature for 12 hours (after Lean and Burnison, 1979). Following this, 10 ml of scintillation cocktail were added to each sample and the samples were returned to SIO where the radioactivity was determined with a scintillation counter. Salinity, oxygen, nutrients, chlorophyll-*a* and phaeopigments were determined from all rosette productivity bottles.

Macrozooplankton Net Tows

Macrozooplankton was sampled with a 71 cm mouth diameter paired net (bongo net) equipped with 0.505mm plankton mesh. Bottom depth permitting, the nets were towed obliquely from 210 meters to the surface. The tow time for a standard tow was 21.5 minutes. Volumes filtered were determined from flowmeter readings and the mouth area of the net. Only one sample of each pair was retained and preserved. The biomass, as wet displacement volume, after removal of large (>5 ml) organisms, was determined in the laboratory ashore. These procedures are summarized in greater detail in Kramer *et al*. (1972).

Avifauna Observations (Farallon Institute of Advanced Ecosystem Research)

Sea birds were counted within a 300-meter wide strip off to one side of the ship. Counts were made while underway between stations during periods of daylight. These counts were summed over 20 nautical mile (nm) intervals, or the distance between consecutive stations, whichever was less.

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) *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)

4) *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)

5) *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)

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

7) *Nitrate isotope:* Seawater samples are acquired using the CTD-rosette and shipped frozen to Princeton University. The nitrogen and oxygen isotopic composition of nitrate is measured using strains of denitrifying bacteria that reduce nitrate to N2O. (P. Rafter, Princeton University).

8) *Micronekton trawling*: A Matsuda-Oozeki-Hu trawl (MOHT) with 5 m^2 mouth opening and 1.77 mm mesh is used to sample the micronekton (krill, small pelagic fishes, squids, etc) within the epipelagic (upper 200 m) and mesopelagic (200 - 500 m) depth horizons. The samples provide size- and species composition data on the pelagic community, which is combined with Ek-60 multi-frequency acoustic data to estimate the distribution and abundance of the micronekton. (T. Koslow, SIO)

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 1110

1. CalCOFI Cruise 1110 track and station positions.

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

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

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

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

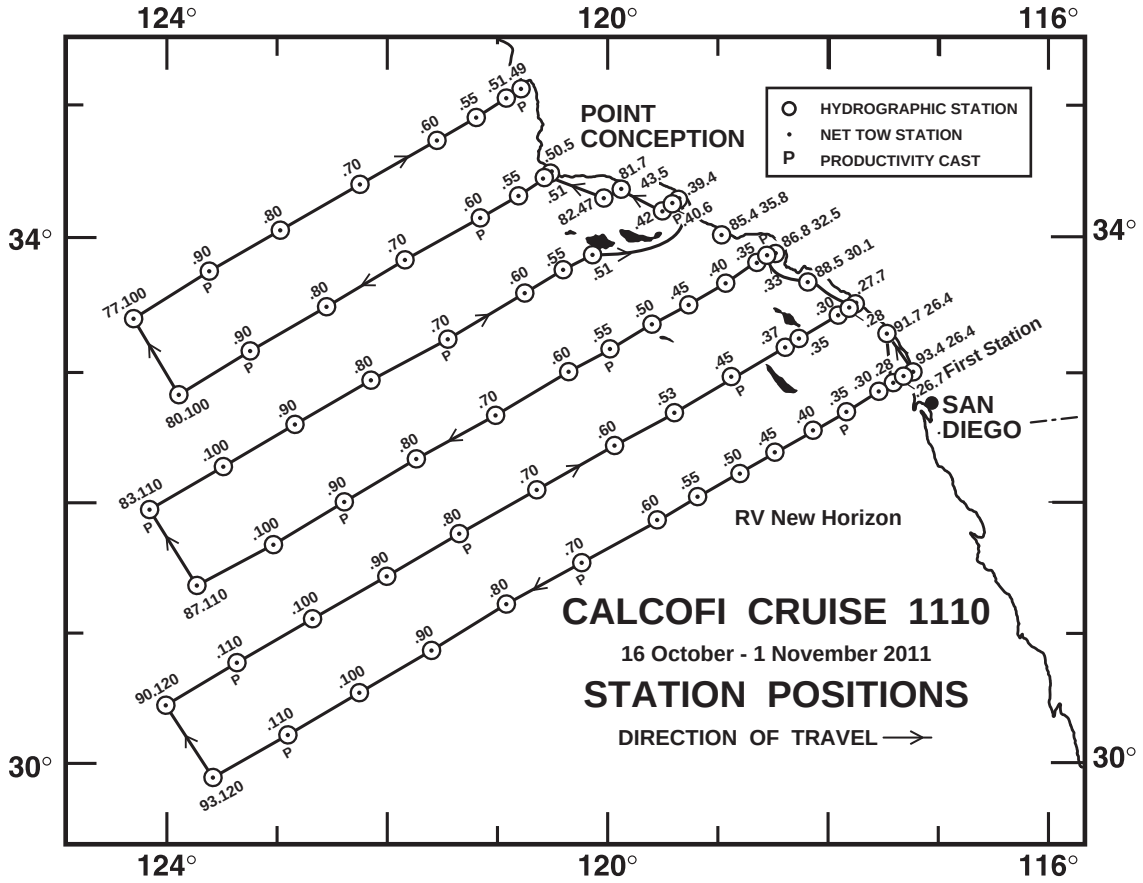

FIGURE 1

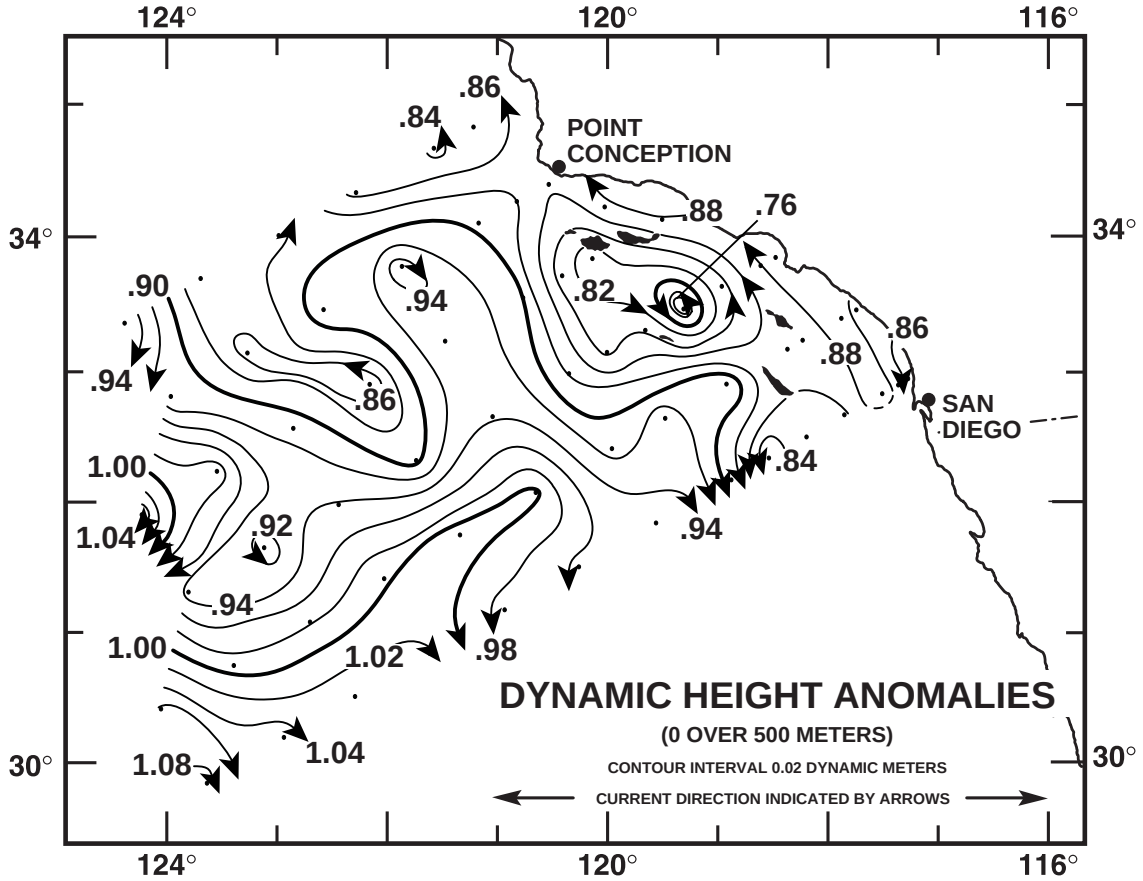

FIGURE 2

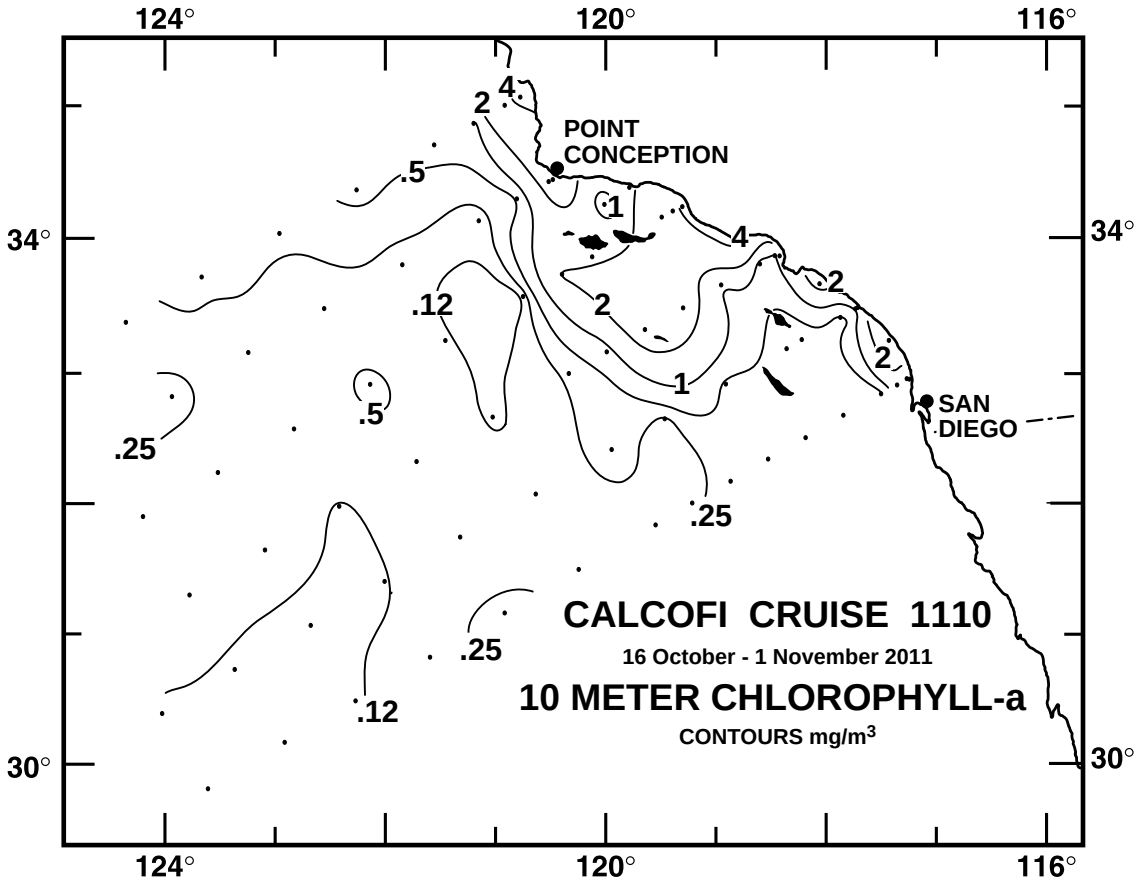

FIGURE 3A

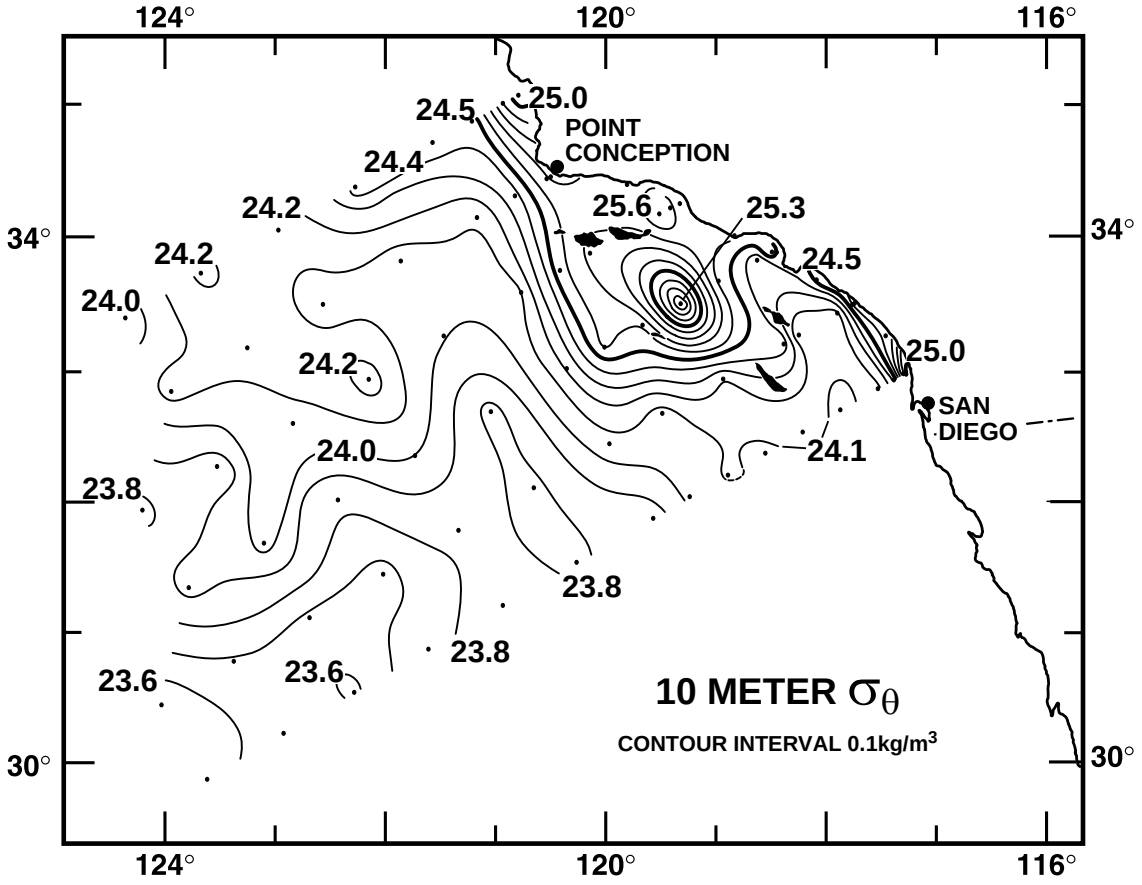

FIGURE 3B

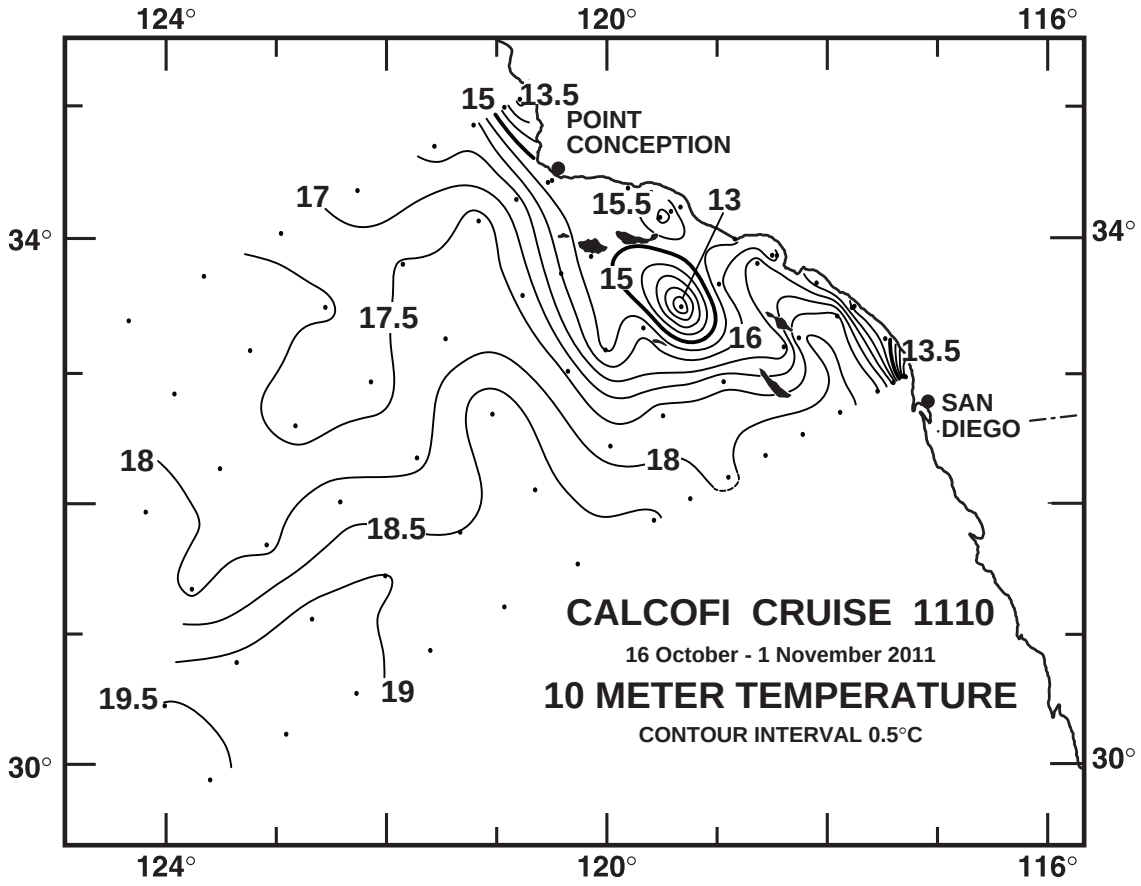

FIGURE 3C

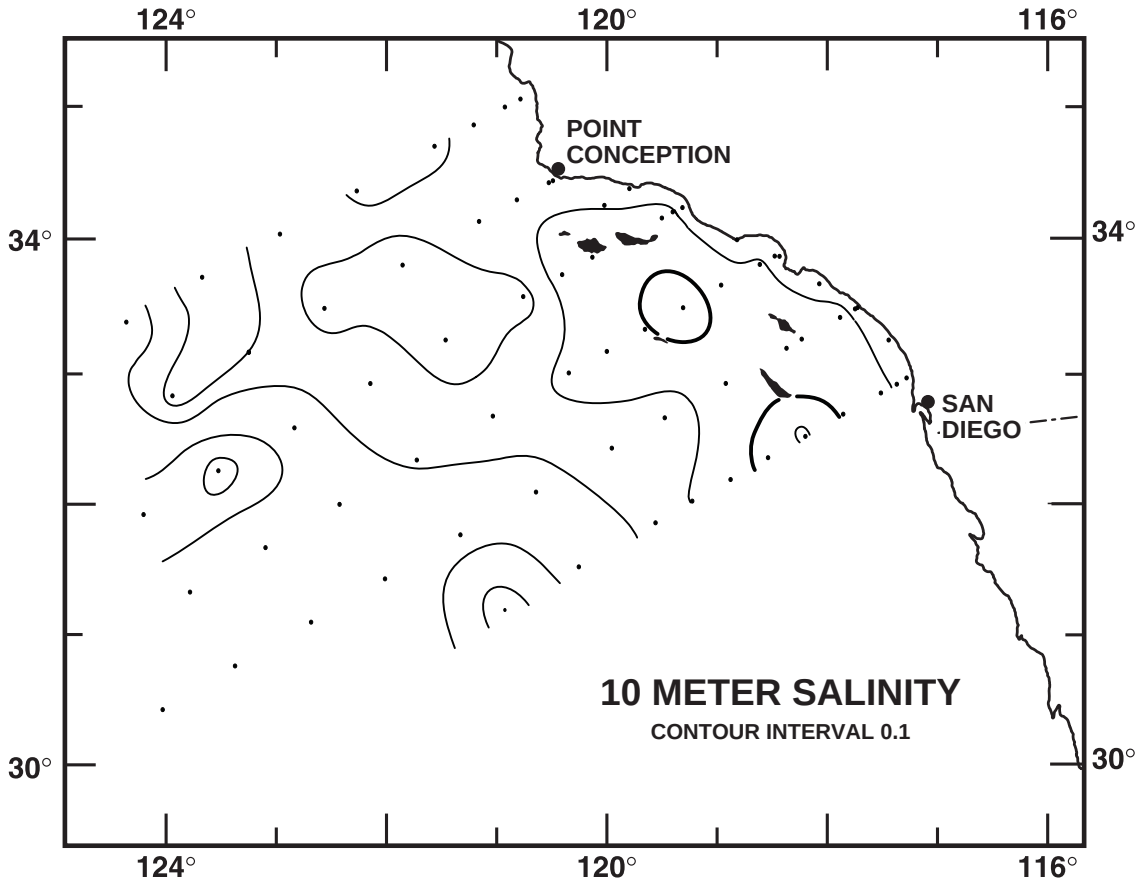

FIGURE 3D

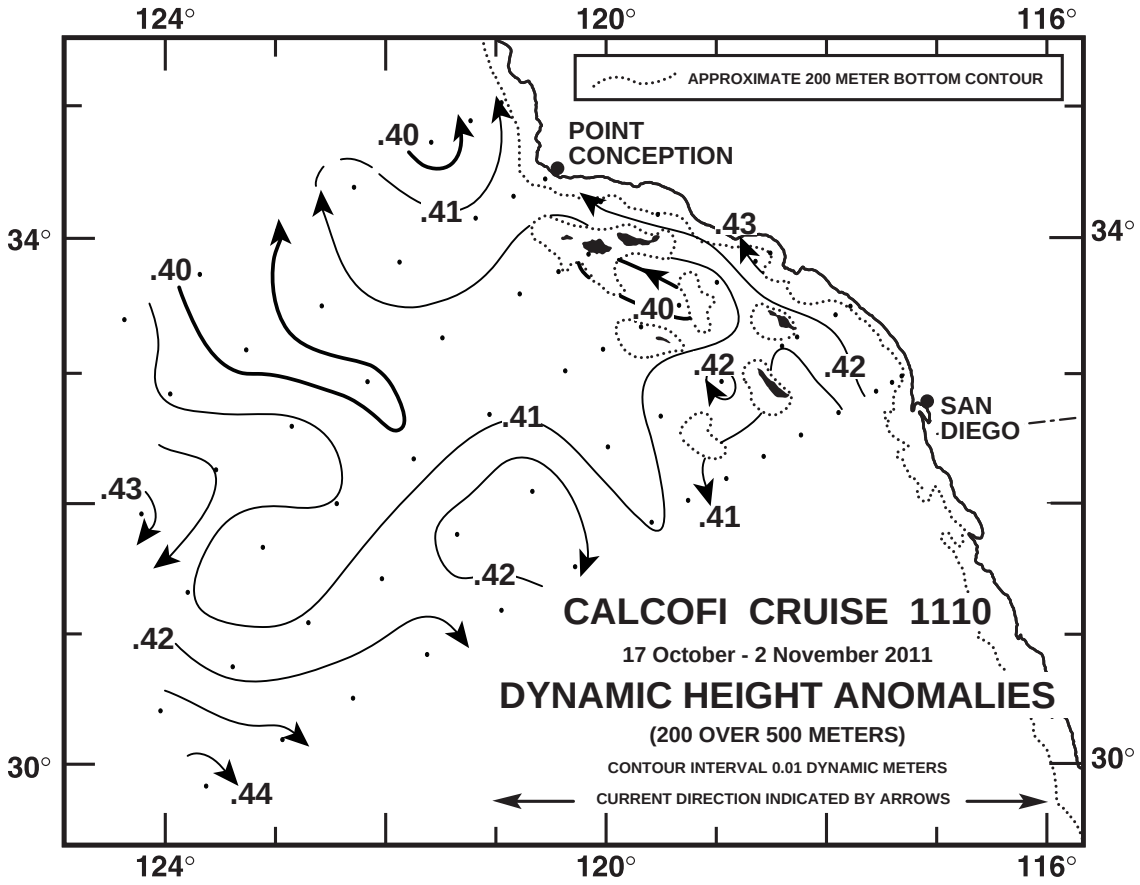

FIGURE 4A

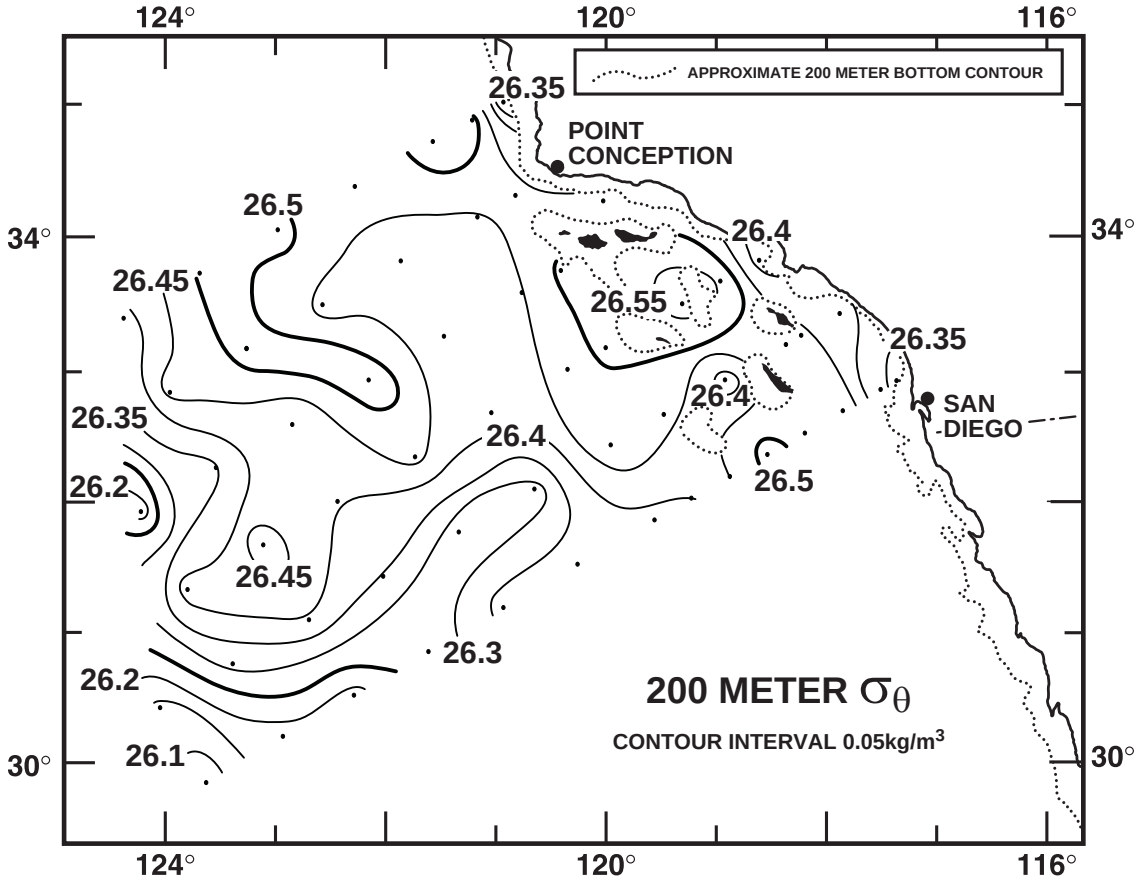

FIGURE 4B

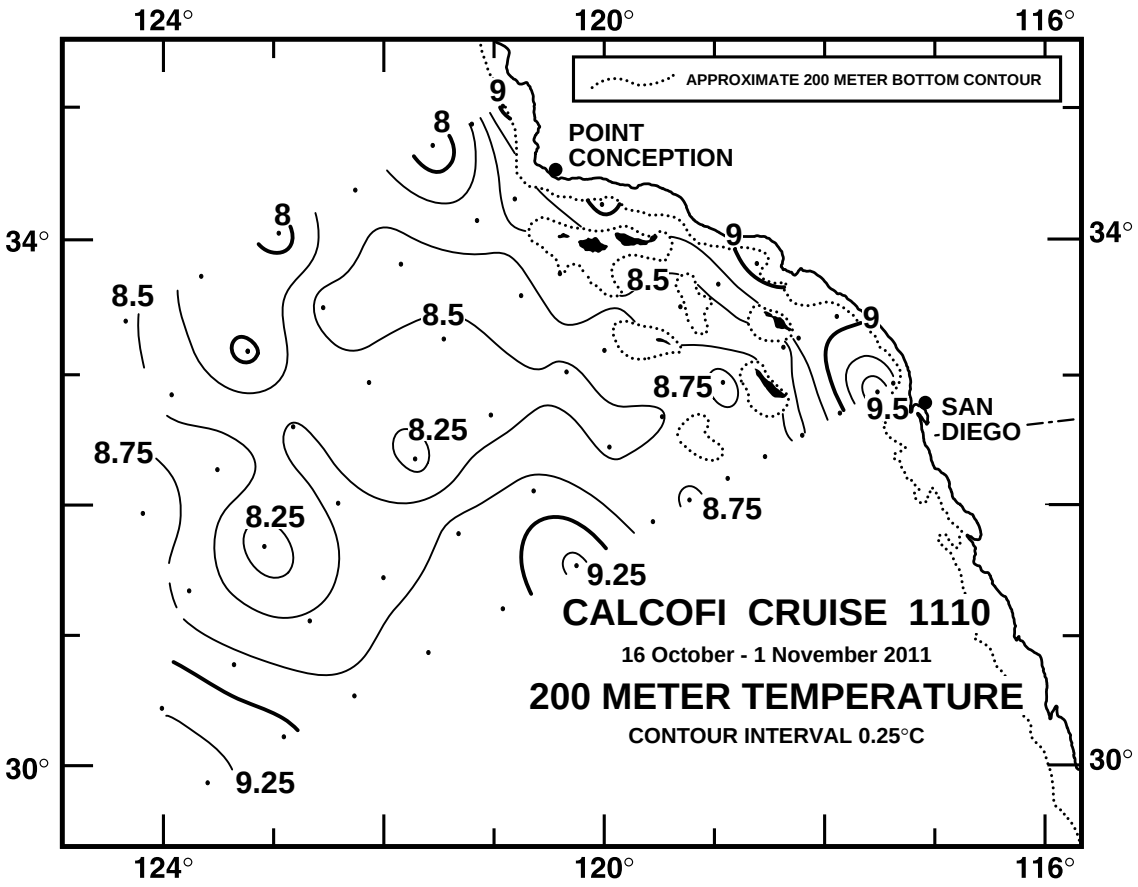

FIGURE 4C

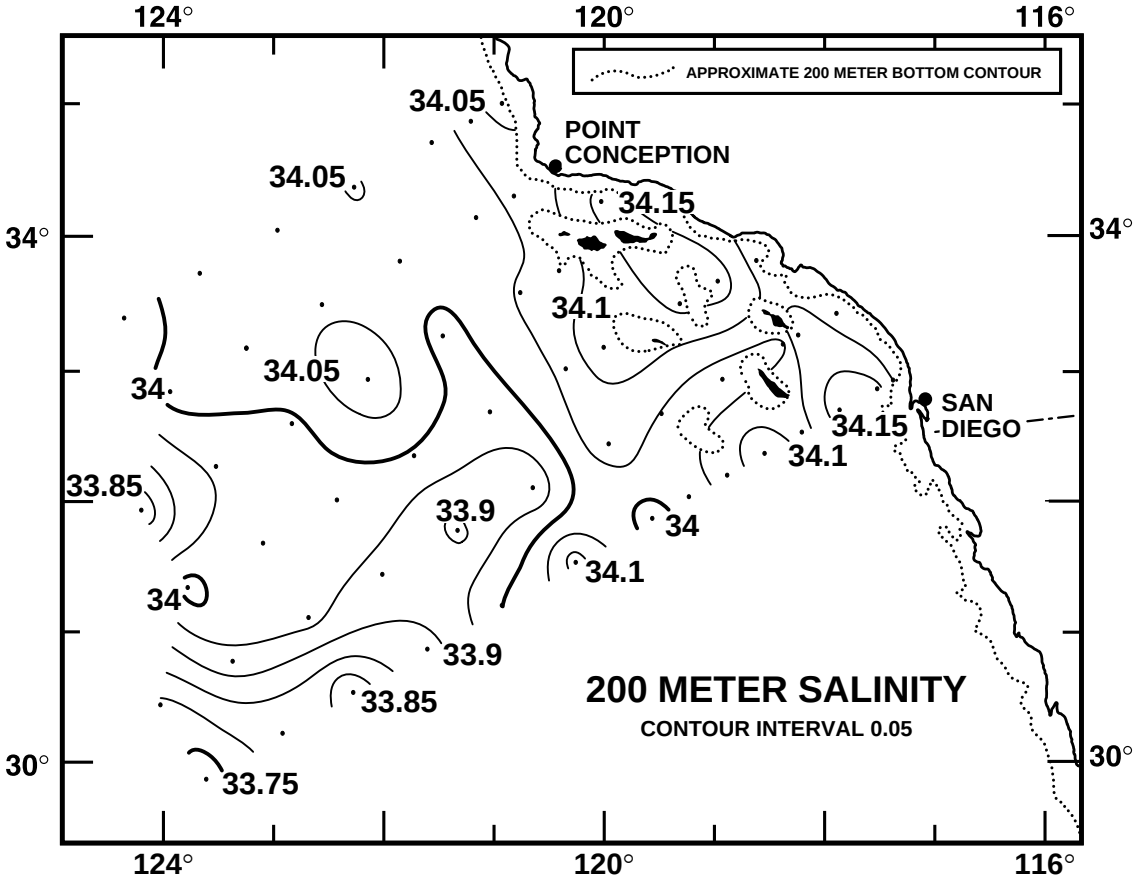

FIGURE 4D

CALCOFI CRUISE 1110

20 - 23 October 2011

POTENTIAL DENSITY (σ_θ) ALONG CALCOFI LINE 90

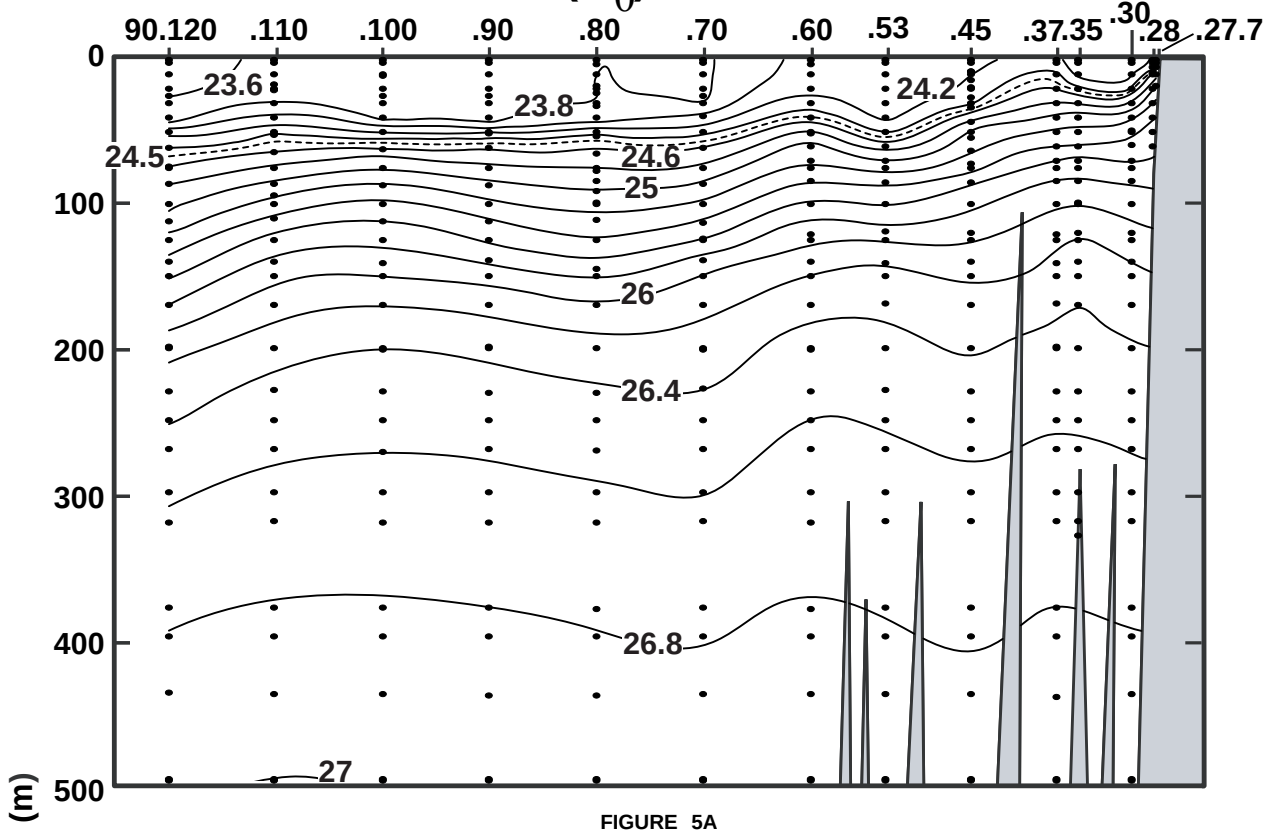

FIGURE 5A

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

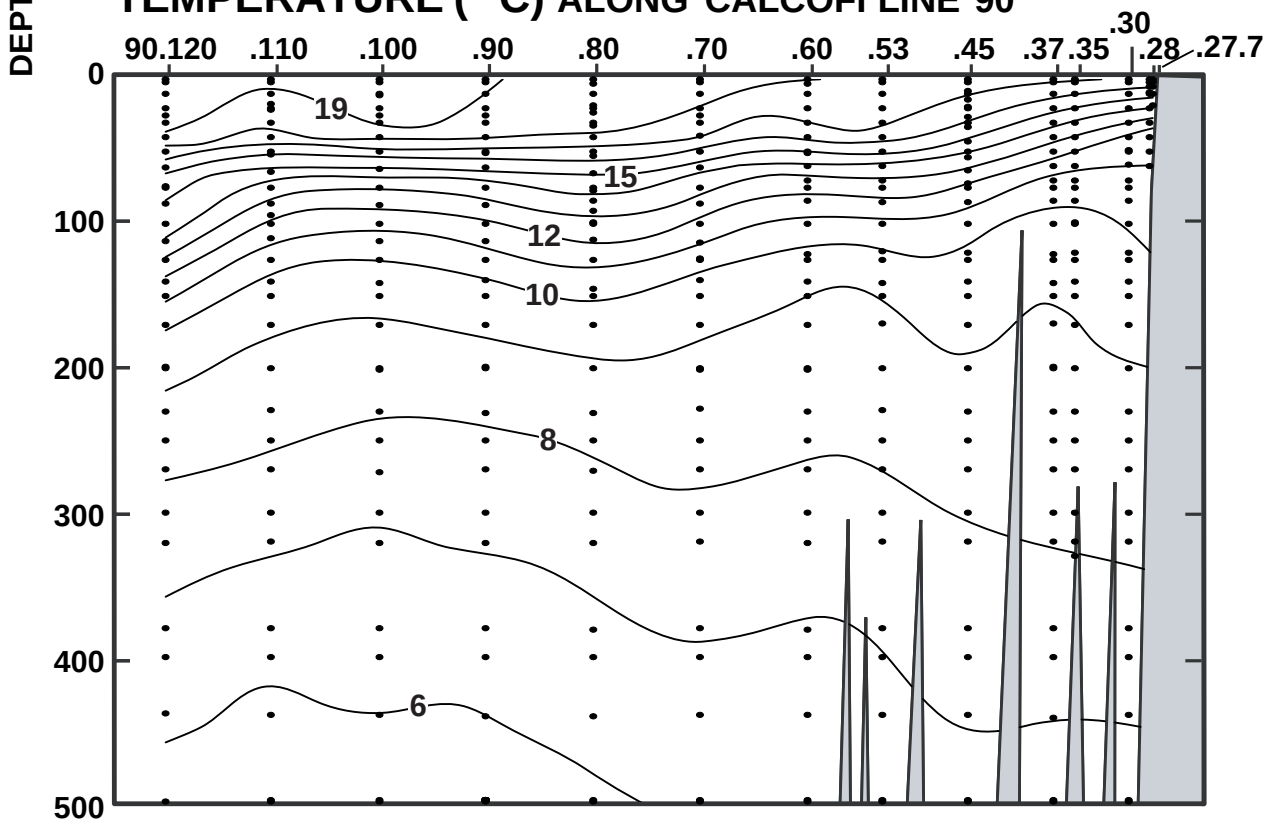

FIGURE 5B

CALCOFI CRUISE 1110

20 - 23 October 2011

SALINITY ALONG CALCOFI LINE 90

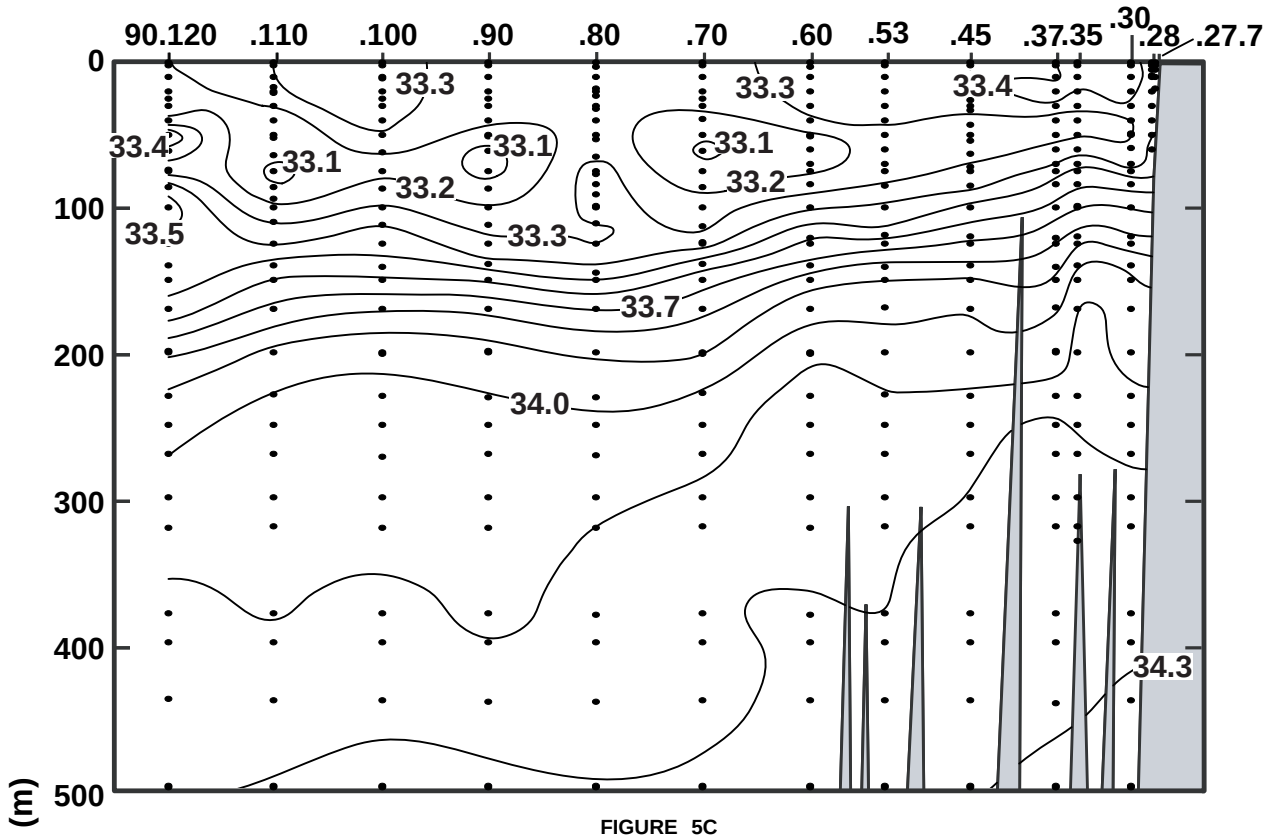

FIGURE 5C

SILICATE (μM/L) ALONG CALCOFI LINE 90

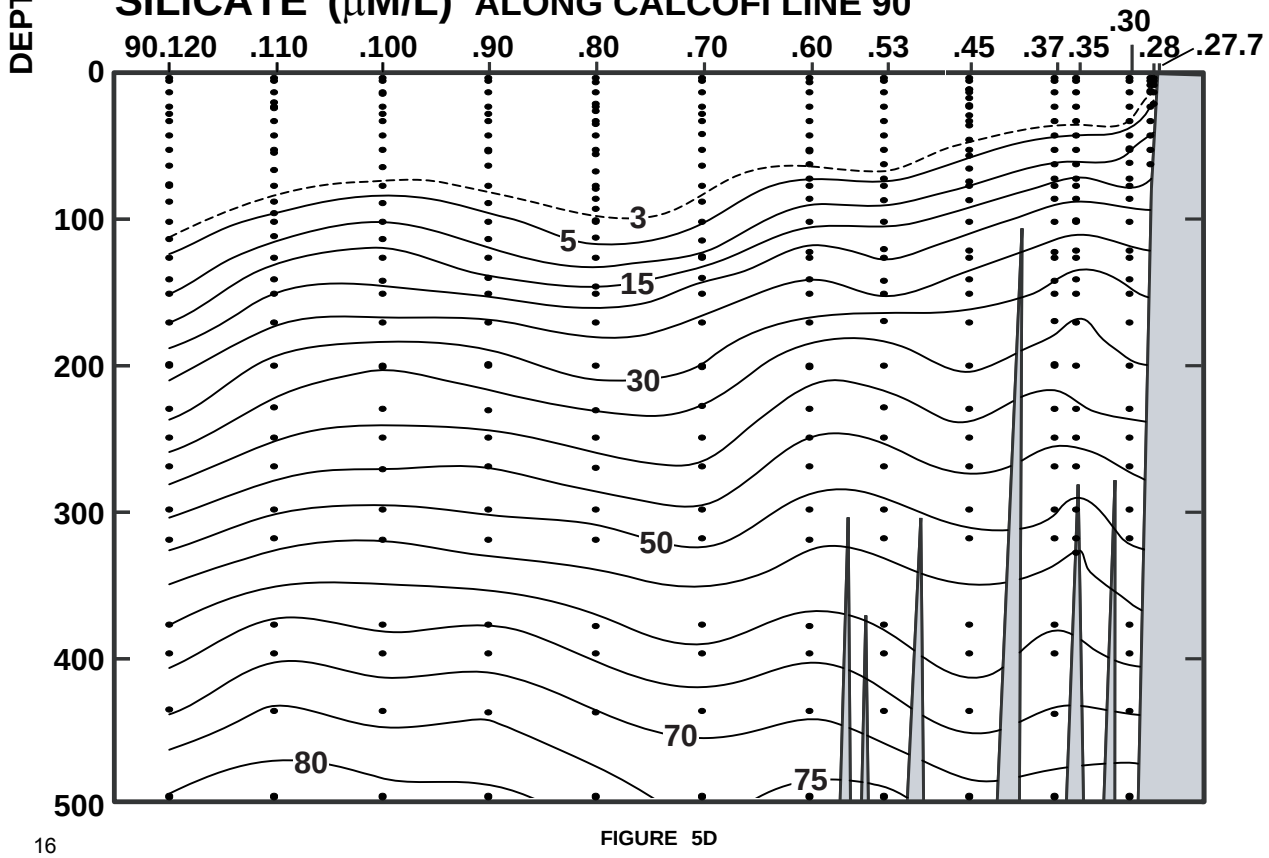

FIGURE 5D

CALCOFI CRUISE 1110

20 - 23 October 2011

NITRATE (μM/L) ALONG CALCOFI LINE 90

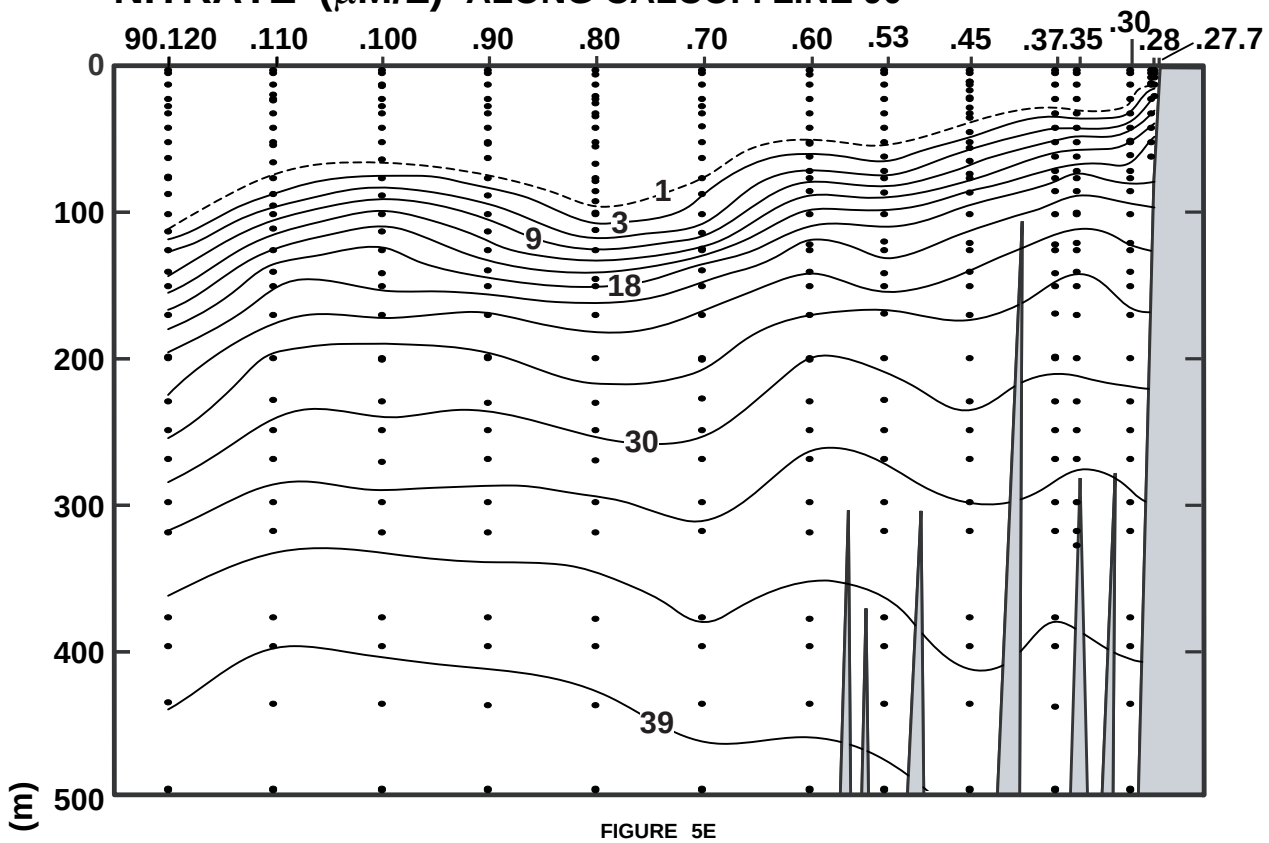

FIGURE 5E

PHOSPHATE (μM/L) ALONG CALCOFI LINE 90

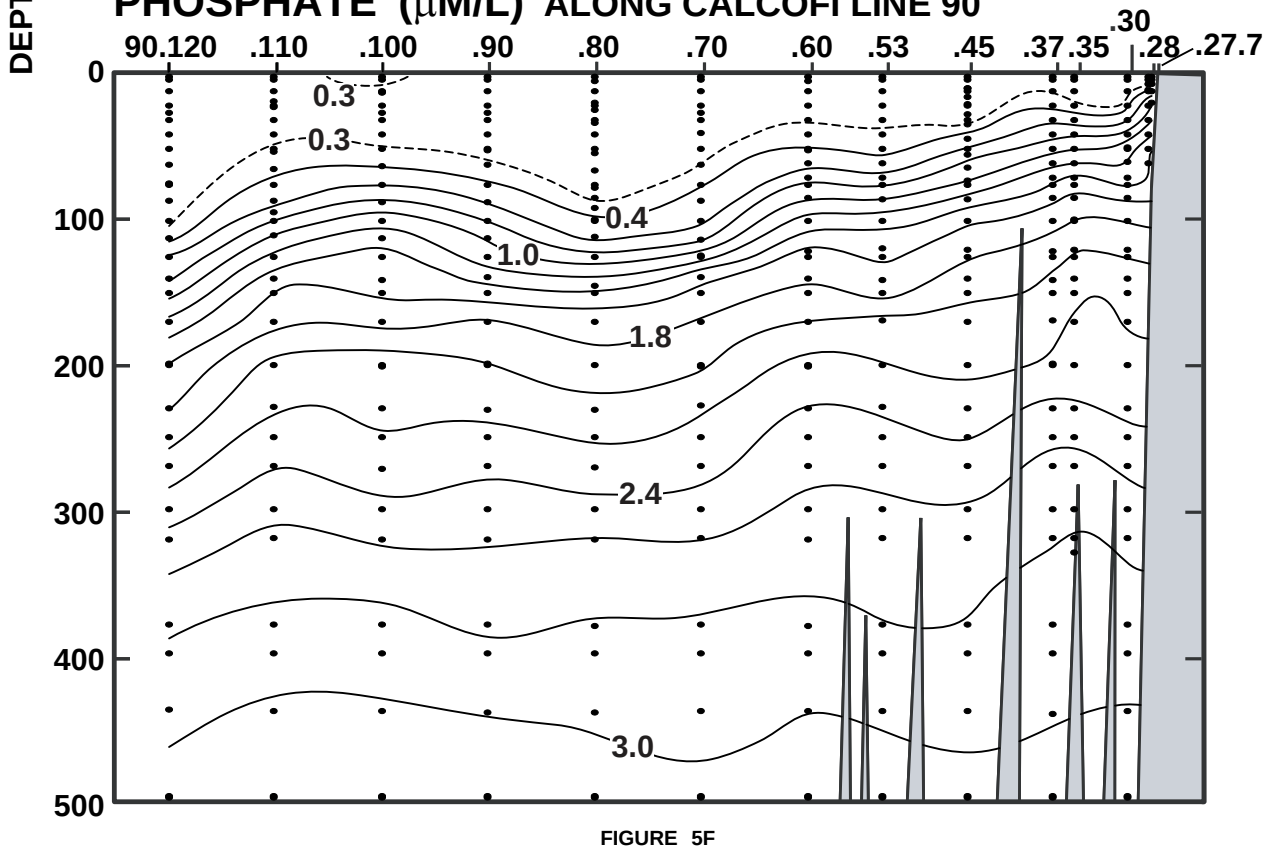

FIGURE 5F

CALCOFI CRUISE 1110

20 - 23 October 2011

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

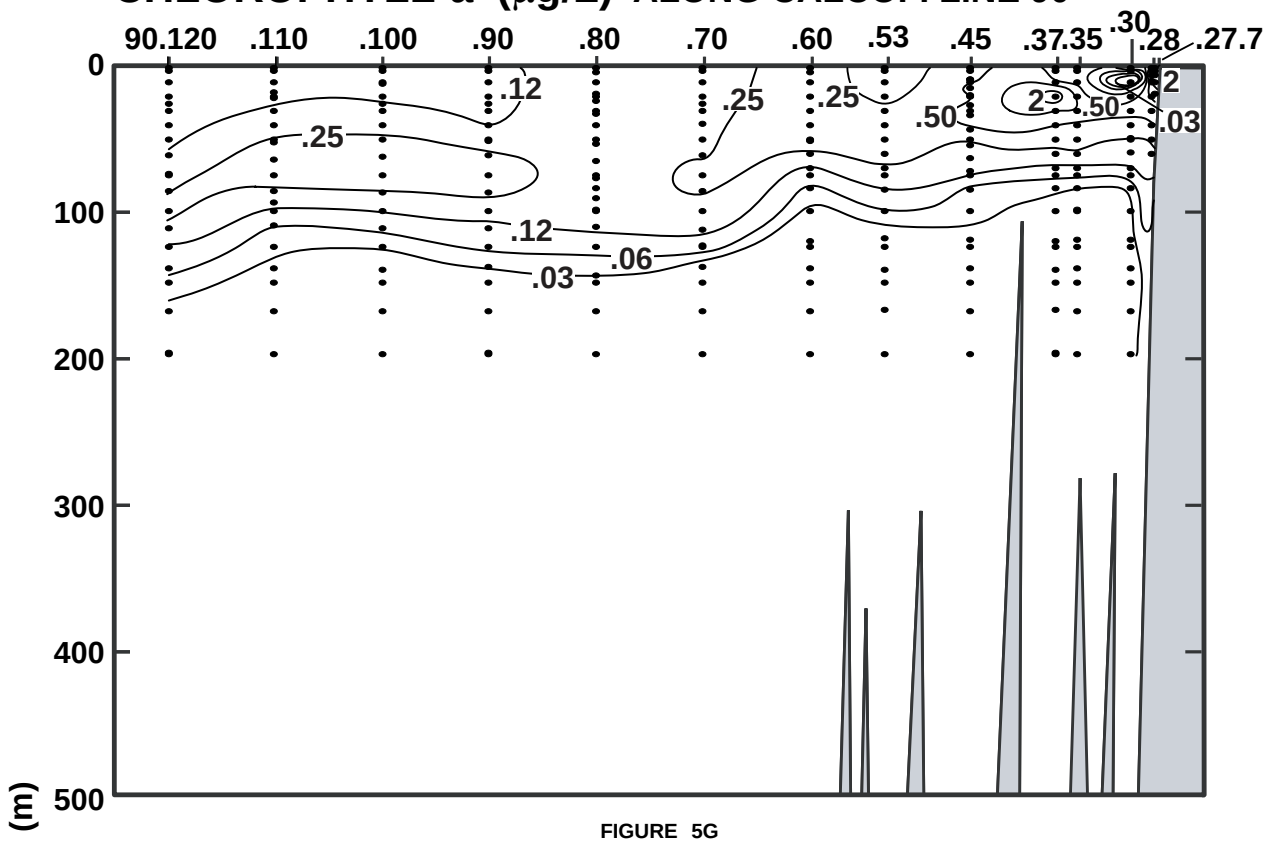

FIGURE 5G

OXYGEN SATURATION (%) ALONG CALCOFI LINE 90

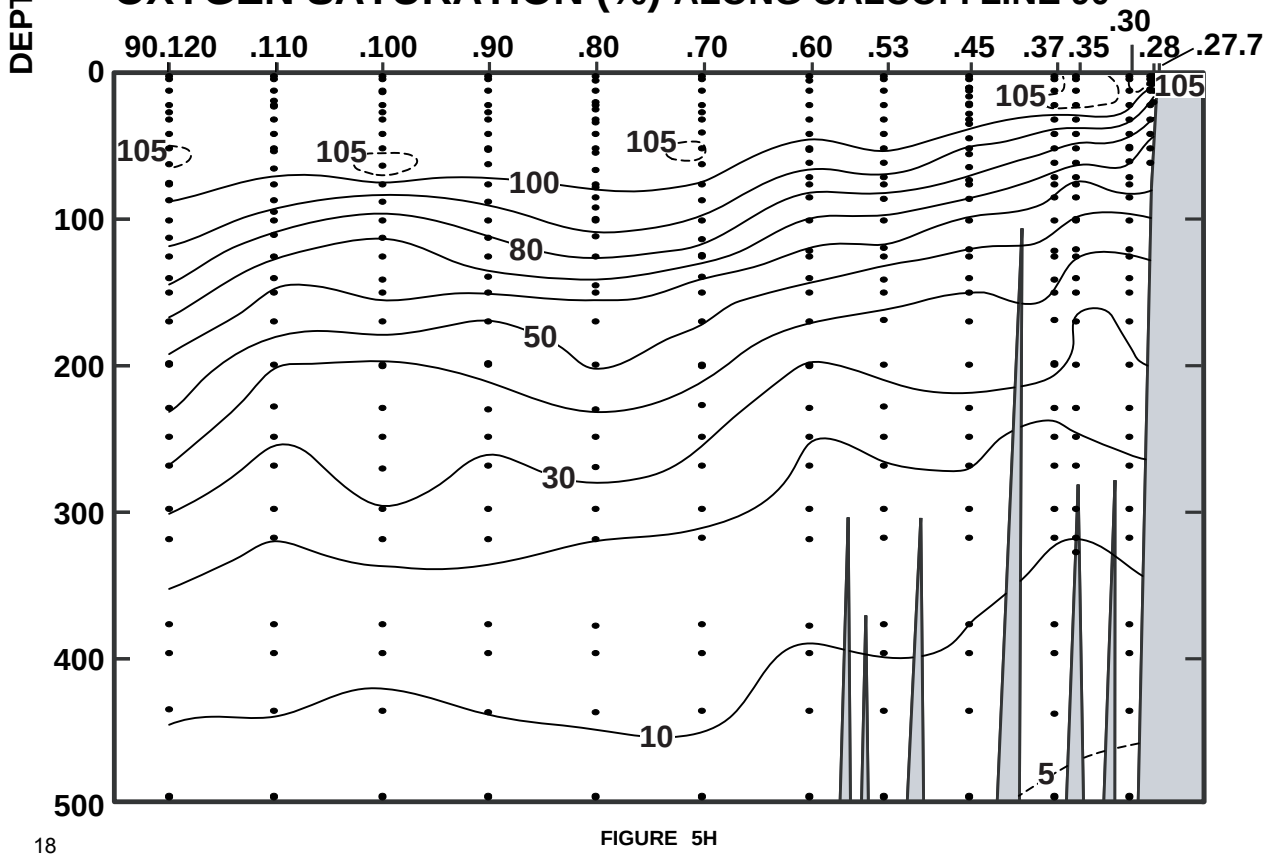

FIGURE 5H

CALCOFI CRUISE 1110

20 - 23 October 2011

OXYGEN (mL/L) ALONG CALCOFI LINE 90

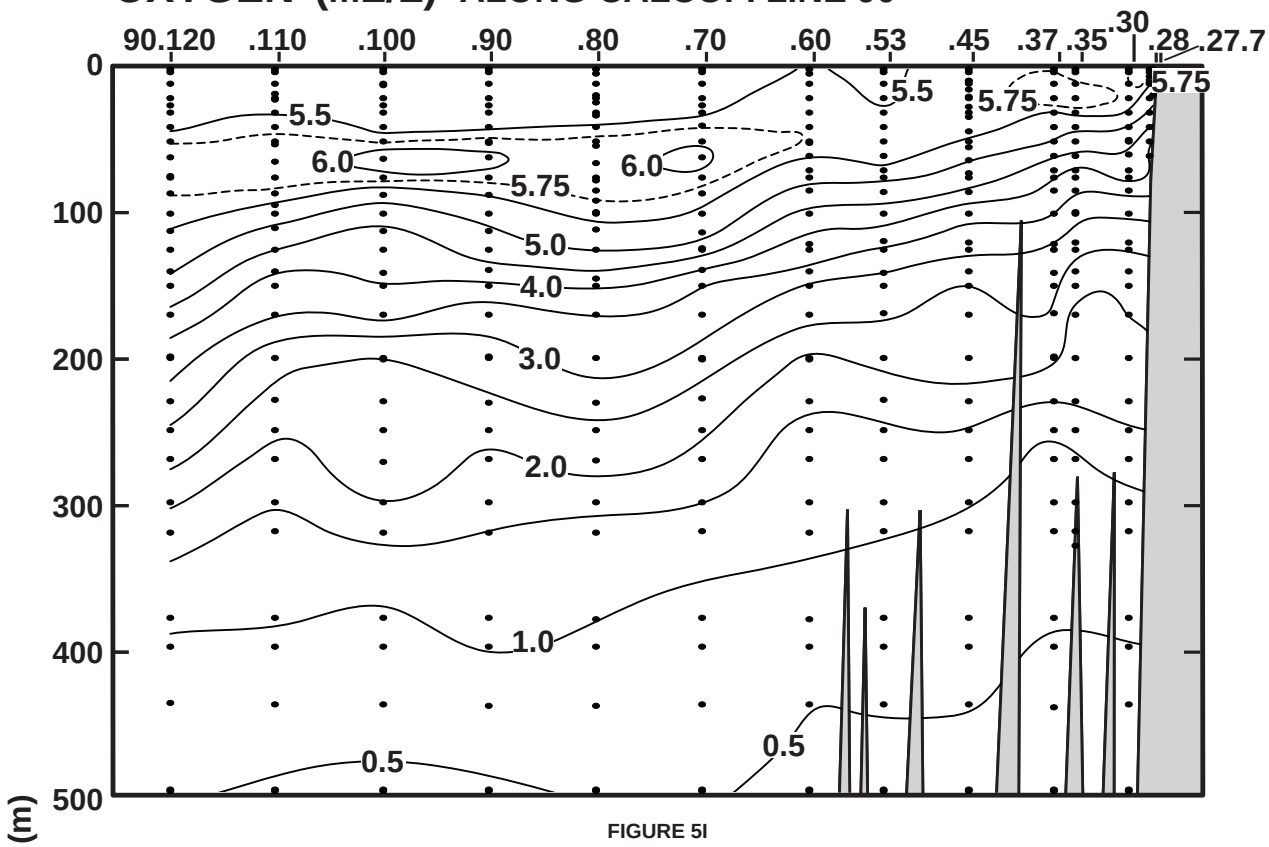

FIGURE 5I

NITRITE (μM/L) ALONG CALCOFI LINE 90

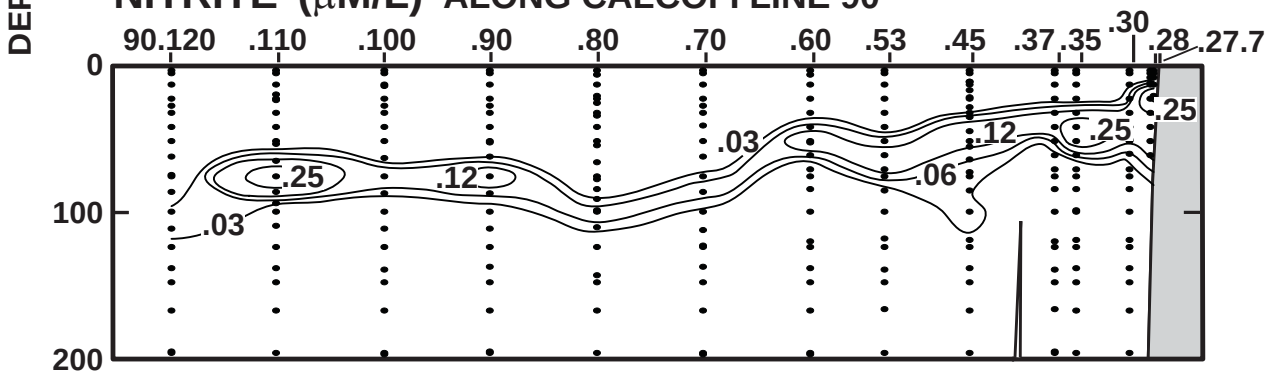

FIGURE 5J

PHAEOPIGMENTS (μg/L) ALONG CALCOFI LINE 90

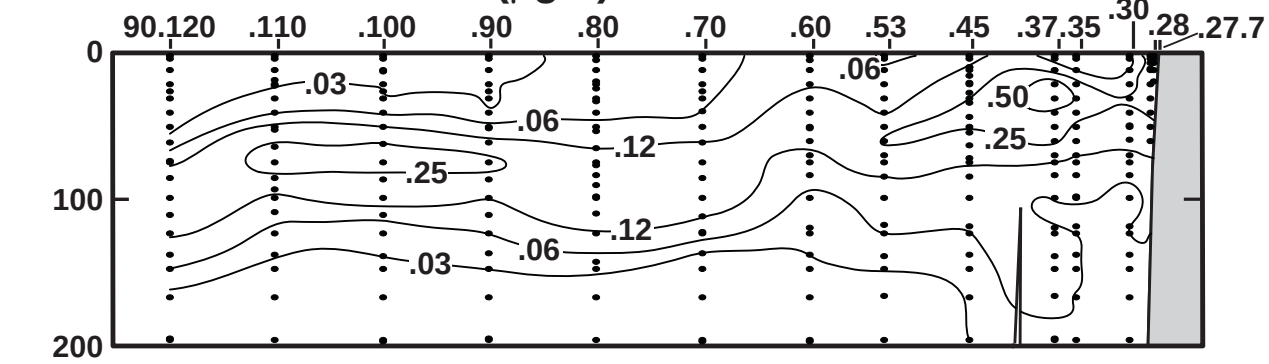

FIGURE 5K

PERSONNEL

CalCOFI Cruise 1110

SHIP'S CAPTAIN

Ian Lawrence, R/V *New Horizon*

PERSONNEL PARTICIPATING IN THE COLLECTION OF DATA

		Participating (Leg)
Wilkinson, James (Chief Scientist)	Programmer Analyst, SIO	1
Abramenkoff, Dimitry	Fishery Biologist, NMFS	1
Dovel, Shonna	Staff Research Associate, SIO	1
Faber, David	Staff Research Associate, SIO	1
Hays, Amy	Fishery Biologist, NMFS	1
Kieckhefer, Thomas	Marine Mammal Observer, MPL	1
Liu, Jian	Staff Research Associate, SIO	1
Nalley, Eileen	Volunteer,SIO	1
Roadman, Megan	Staff Research Associate, SIO	1
Roche, Lauren	Marine Mammal Acoustician, MPL	1
Schuller, Danial	Staff Research Associate, SIO	1
Shiosaka, Lauren	Volunteer, SIO	1
Susner, Michael	Staff Research Associate, SIO	1
Whitaker, Katherine	Marine Mammal Observer, MPL	1
Wolgast, David	Staff Research Associate, SIO	1
Zolkos, Scott	Volunteer, SIO	1

San Diego to San Diego, California, 16 Oct. – 1 Nov., 2011

RV NEW HORIZON CALCOFI CRUISE 1110 STATION 76.7 49.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
35 5.3 N	120 46.8 W	02/11/2011	0319	UTC	70 m	300	06 kn	300 05 07	4	1013.0 mb	13.5 C	12.6 C	13 m	8/8	ST	075

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		14.01	14.01	33.369	24.926	301.9	0.000	5.75		98.1	3.9	0.57	3.7	0.17	0.05	2.06	0.42	0	
2	A	14.01	14.01	33.369	24.926	301.9	0.006	5.75		98.1	3.9	0.57	3.7	0.17	0.05	2.06	0.42	2	11
5		13.71	13.71	33.369	24.988	296.1	0.015	5.54		94.0	4.4	0.65	4.6	0.21	0.12	2.41	0.34	5	10
8	A	13.43	13.42	33.371	25.047	290.5	0.024	5.31		89.5	5.2	0.73	5.9	0.25	0.28	1.66	0.40	8	08
9		13.43	13.42	33.376	25.051	290.2	0.025											8	09
10	ISL	13.24	D 13.23	33.367	D 25.084	287.1	0.030	5.17	D	86.8	5.5	0.77	6.3	0.27	0.33	1.39	0.38	10	
12	A	13.10	13.10	33.359	25.102	285.4	0.035	5.15		86.2	5.8	0.80	6.7	0.28	0.38	1.13	0.36	12	07
20	ISL	12.70	D 12.69	33.388	D 25.207	275.7	0.058	4.84	D	80.3	7.8	0.93	8.3	0.29	0.55	0.80	0.39	20	
22	A	12.66	12.65	33.392	25.216	274.8	0.063	4.82		79.9	8.3	0.96	8.7	0.29	0.59	0.72	0.40	22	06
30		12.39	12.39	33.376	25.256	271.3	0.085	4.68		77.2	8.7	1.03	9.8	0.34	0.52	0.40	0.23	30	05
39	A	11.94	11.94	33.389	25.351	262.4	0.109	4.49		73.3	10.1	1.12	11.4	0.31	0.42	0.26	0.18	39	04
45	A	11.41	11.40	33.431	25.483	250.0	0.124	4.17		67.3	12.8	1.29	14.2	0.27	0.18	0.18	0.17	45	03
50	ISL	11.22	D 11.21	33.438	D 25.524	246.3	0.138	4.01	D	64.5	14.0	1.35	15.2	0.26	0.11	0.12	0.13	50	
52		11.19	11.19	33.445	25.533	245.4	0.142	4.00		64.4	14.5	1.37	15.6	0.25	0.08	0.10	0.12	52	02
61		10.85	10.84	33.506	25.643	235.1	0.163	3.71		59.2	18.2	1.52	17.6	0.23	0.20	0.09	0.22	62	01

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.
D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1110 STATION 76.7 51.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
35 1.6 N	120 55.2 W	02/11/2011	0031	UTC	240 m	340	10 kn	330 10 07	1	1013.0 mb	15.7 C	14.6 C		5/8	ST	074

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		14.21	14.21	33.387	24.898	304.6	0.000	5.84		100.0	2.4	0.46	2.3	0.09	0.06	4.20	0.45	0	
3		14.21	14.21	33.387	24.898	304.6	0.009	5.84		100.0	2.4	0.46	2.3	0.09	0.06	4.20	0.45	3	16
10		14.21	14.20	33.389	24.901	304.5	0.029											10	15
10		14.21	14.20	33.386	24.899	304.7	0.030	5.84		99.9	2.2	0.48	2.3	0.09	0.05	4.13	0.32	10	14
20	ISL	14.14	D 14.13	33.385	D 24.913	303.7	0.061	5.76	D	98.5	2.3	0.47	2.5	0.09	0.07	4.29	0.48	20	
21		14.14	14.14	33.387	24.913	303.7	0.064	5.81		99.4	2.4	0.47	2.5	0.09	0.07	4.31	0.50	21	13
30		13.98	13.97	33.392	24.952	300.3	0.091	5.75		98.0	3.1	0.52	3.0	0.11	0.13	4.23	0.45	30	12
40		12.09	12.08	33.372	25.311	266.3	0.119	4.89		80.2	7.3	0.99	10.0	0.14	0.20	0.82	0.31	40	11
50		10.93	10.92	33.474	25.602	238.8	0.145	3.88		62.1	16.3	1.45	16.6	0.20	0.19	0.11	0.31	50	10
60		10.60	10.59	33.541	25.714	228.4	0.168	3.60		57.2	19.1	1.59	18.9	0.17	0.06	0.06	0.17	60	09
70		10.49	10.48	33.564	25.750	225.1	0.191	3.47		55.0	20.5	1.63	19.5	0.19	0.07	0.09	0.21	71	08
75	ISL	10.32	D 10.33	33.592	D 25.799	220.6	0.203	3.39	D	53.6	21.0	1.66	20.0	0.18	0.05	0.07	0.19	76	
85		10.21	10.20	33.613	25.837	217.2	0.224	3.34		52.6	21.9	1.72	21.0	0.16	0.00	0.05	0.15	86	07
100		10.06	10.04	33.659	25.900	211.6	0.256	3.16		49.6	23.2	1.79	22.1	0.12	0.00	0.03	0.12	101	06
120		9.82	9.81	33.741	26.004	202.2	0.297	2.92		45.6	25.7	1.89	23.6	0.12	0.00	0.03	0.13	121	05
125	ISL	9.82	D 9.80	33.747	D 26.010	201.7	0.309	2.73	D	42.7	26.4	1.92	24.0	0.12	0.01	0.03	0.13	126	
141		9.55	9.53	33.823	26.114	192.1	0.339	2.59		40.3	28.7	2.02	25.2	0.11	0.04	0.03	0.16	142	04
150	ISL	9.47	D 9.46	33.883	D 26.173	186.6	0.358	2.35	D	36.5	30.2	2.08	25.9	0.11	0.07	0.03	0.16	151	
170		9.28	9.26	33.949	26.258	179.0	0.393	2.11		32.6	33.5	2.20	27.4	0.11	0.14	0.03	0.17	171	03
199		9.10	9.08	34.019	26.341	171.7	0.444	1.84		28.4	36.9	2.32	28.7	0.11	0.17	0.03	0.17	201	02
200	ISL	9.08	D 9.06	34.018	D 26.343	171.5	0.448	1.82	D	28.0	37.1	2.32	28.8	0.11	0.17	0.03	0.17	202	
231		8.70	8.68	34.100	26.468	160.2	0.497	1.50		22.9	42.0	2.46	30.5	0.13	0.17			233	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1110 STATION 76.7 55.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
34 53.4 N	121 12.0 W	01/11/2011	2049	UTC	572 m	330	22 kn			1013.0 mb	15.0 C	13.5 C				073

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		16.35	16.35	33.391	24.431	349.1	0.000	5.67		101.5	1.3	0.31	0.6	0.04	0.05	0.75	0.29	0	
3		16.35	16.35	33.391	24.431	349.1	0.011	5.67		101.5	1.3	0.31	0.6	0.04	0.05	0.75	0.29	3	21
10		16.34	16.34	33.390	24.434	349.0	0.034											10	20
10		16.34	16.34	33.390	24.434	349.0	0.035	5.67		101.4	1.3	0.31	0.5	0.04	0.05	0.77	0.24	10	19
20	ISL	15.90	D 15.89	33.385	D 24.532	340.0	0.070	5.75	D	101.9	1.4	0.33	0.6	0.04	0.08	1.28	0.45	20	
21		15.85	15.84	33.389	24.546	338.7	0.073	5.76		101.9	1.4	0.33	0.6	0.04	0.08	1.33	0.47	21	18
29		15.22	15.21	33.388	24.685	325.7	0.099	5.72		99.9	1.9	0.44	2.1	0.12	0.08	1.43	0.53	29	17
30	ISL	15.23	D 14.94	33.387	D 24.744	320.2	0.103	5.59	D	97.2	2.0	0.47	2.6	0.12	0.07	1.36	0.53	30	
40		13.77	13.77	33.385	24.989	297.0	0.134	5.25		89.0	3.8	0.78	7.4	0.14	0.02	0.70	0.51	40	16
50		11.10	11.10	33.341	25.468	251.6	0.161	4.58		73.4	10.0	1.20	14.0	0.00	0.00	0.24	0.21	50	15
60		10.77	10.77	33.418	25.586	240.5	0.186	4.18		66.6	13.8	1.39	16.8	0.00	0.00	0.13	0.13	60	14
71		10.21	10.20	33.480	25.733	226.8	0.212	3.91		61.5	16.9	1.53	19.3	0.00	0.00	0.06	0.09	72	13
75	ISL	9.94	D 9.91	33.540	D 25.829	217.7	0.222	3.68	D	57.6	18.1	1.58	20.1	0.00	0.00	0.05	0.08	76	
86		9.33	9.32	33.601	25.974	204.0	0.244	3.57		55.2	21.4	1.70	22.3	0.00	0.00	0.02	0.07	87	12
99		9.08	9.07	33.702	26.093	193.0	0.269	3.40		52.3	24.8	1.79	24.0	0.00	0.00	0.01	0.06	100	11
100	ISL	9.08	D 9.07	33.705	D 26.095	192.8	0.273	3.39	D	52.1	25.1	1.80	24.2	0.00	0.00	0.01	0.06	101	
121		8.79	8.78	33.903	26.297	174.0	0.310	2.61		40.0	31.2	2.05	27.5	0.00	0.00	0.00	0.05	122	10
125	ISL	8.78	D 8.76	33.931	D 26.321	171.9	0.318	2.43	D	37.2	31.9	2.08	27.8	0.00	0.00	0.00	0.05	126	
140		8.66	8.65	33.987	26.383	166.3	0.342	2.22		33.8	34.6	2.18	29.1	0.00	0.00	0.01	0.05	141	09
150	ISL	8.57	D 8.55	34.024	D 26.426	162.4	0.360	2.13	D	32.4	35.9	2.21	29.4	0.00	0.00	0.01	0.05	151	
170		8.39	8.37	34.045	26.471	158.5	0.391	2.03		30.7	38.5	2.27	30.0	0.00	0.00	0.00	0.04	171	08
200		8.25	8.23	34.080	26.520	154.3	0.438	1.85		28.0	40.1	2.33	30.6	0.00	0.00	0.00	0.04	202	07
231		8.06	8.04	34.131	26.590	148.3	0.484	1.45		21.9	45.3	2.48	32.4	0.00	0.00			233	06
250	ISL	7.81	D 7.78	34.129	D 26.626	145.1	0.515	1.32	D	19.8	47.7	2.54	33.2	0.00	0.00			252	
270		7.51	7.49	34.146	26.682	140.0	0.541	1.21		17.9	50.3	2.60	34.1	0.00	0.00			272	05
300	ISL	7.30	D 7.27	34.131	D 26.701	138.6	0.586	1.13	D	16.7	54.4	2.71	35.2	0.00	0.00			302	
320		7.20	7.17	34.177	26.751	134.1	0.610	0.87		12.9	57.1	2.79	35.9	0.00	0.00			323	04
382		6.68	6.65	34.177	26.823	127.9	0.691	0.76		11.1	65.0	2.88	37.7	0.00	0.00			385	03
400	ISL	6.71	D 6.67	34.220	D 26.854	125.3	0.718	0.61	D	8.9	66.3	2.91	37.8	0.00	0.00			403	
441		6.53	6.49	34.226	26.883	123.1	0.765	0.55		7.9	69.2	2.98	38.1	0.00	0.00			445	02
500	ISL	6.02	D 5.98	34.272	D 26.986	113.7	0.840	0.35	D	5.0	79.3	3.12	39.2	0.04	0.00			504	
515		5.99	5.95	34.287	27.001	112.5	0.852	0.31		4.4	81.8	3.15	39.5	0.05	0.00			519	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1110 STATION 76.7 60.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
34 43.6 N	121 33.2 W	01/11/2011	1621	UTC	920 m	330	20 kn			1014.0 mb	15.4 C	13.8 C				072

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		16.18		16.18		33.406		24.482	344.2	0.000	5.76		102.7	1.3	0.28	0.1	0.00	0.05	0.66	0.22	0	
3		16.18		16.18		33.406		24.482	344.2	0.010	5.76		102.7	1.3	0.28	0.1	0.00	0.05	0.66	0.22	3	20
10		16.19		16.19		33.405		24.480	344.7	0.034	5.76		102.6	1.4	0.28	0.1	0.00	0.05	0.66	0.21	10	19
20		15.95		15.95		33.395		24.526	340.6	0.069	5.78		102.5	1.4	0.27	0.1	0.00	0.03	0.73	0.25	20	18
30		15.53		15.53		33.381		24.610	333.0	0.102	5.74		101.0	1.7	0.38	0.7	0.10	0.19	0.95	0.44	30	17
40		13.02		13.02		33.368		25.128	283.8	0.133	5.09		85.1	4.3	0.81	7.5	0.34	0.14	0.52	0.35	40	16
49		11.68		11.67		33.355		25.375	260.5	0.158	4.56		74.1	9.0	1.17	13.3	0.08	0.01	0.27	0.26	49	15
50	ISL	11.46	D	11.47		33.359	D	25.414	256.7	0.162	4.53	D	73.3	9.2	1.18	13.5	0.08	0.01	0.27	0.26	50	
62		10.81		10.80		33.374		25.546	244.4	0.190	4.36		69.6	12.0	1.31	15.6	0.03	0.01	0.18	0.21	63	14
70		10.21		10.20		33.428		25.693	230.6	0.209	4.13		65.0	14.6	1.45	18.0	0.03	0.03	0.12	0.19	71	13
75	ISL	10.12	D	10.11		33.481	D	25.750	225.2	0.222	3.76	D	59.1	16.7	1.54	19.5	0.02	0.02	0.09	0.15	76	
85		9.58		9.57		33.588		25.922	209.0	0.242	3.55		55.2	21.1	1.72	22.5	0.01	0.01	0.03	0.08	86	12
100	ISL	9.11	D	9.09		33.725	D	26.107	191.7	0.274	3.30	D	50.8	24.8	1.81	24.1	0.00	0.00	0.01	0.10	101	
101		9.11		9.10		33.724		26.105	191.9	0.274	3.32		51.0	25.1	1.82	24.2	0.00	0.00	0.01	0.10	102	11
120		8.88		8.86		33.824		26.221	181.2	0.310	2.95		45.2	28.7	1.97	26.3	0.00	0.00	0.00	0.05	121	10
125	ISL	8.86	D	8.84		33.846	D	26.242	179.4	0.321	2.81	D	43.0	29.4	1.99	26.6	0.00	0.00	0.00	0.05	126	
141		8.66		8.64		33.904		26.319	172.4	0.347	2.72		41.4	31.6	2.04	27.5	0.00	0.00	0.01	0.05	142	09
150	ISL	8.62	D	8.61		33.922	D	26.338	170.7	0.364	2.65	D	40.4	33.0	2.09	28.1	0.00	0.00	0.01	0.04	151	
170		8.48		8.46		34.008		26.428	162.6	0.396	2.22		33.8	36.2	2.20	29.5	0.00	0.00	0.00	0.04	171	08
200	ISL	7.74	D	7.73		34.015	D	26.543	151.9	0.446	2.22	D	33.2	41.2	2.27	30.9	0.00	0.00	0.00	0.03	202	
201		7.76		7.74		34.021		26.546	151.6	0.444	2.20		33.0	41.4	2.27	30.9	0.00	0.00	0.00	0.03	203	07
229		7.29		7.26		34.039		26.628	144.2	0.486	1.77		26.2	48.6	2.45	33.7	0.00	0.03			231	06
250	ISL	7.13	D	7.11		34.062	D	26.668	140.7	0.519	1.48	D	21.8	51.2	2.52	34.6	0.00	0.04			252	
271		7.05		7.03		34.072		26.687	139.2	0.545	1.39		20.5	53.8	2.59	35.4	0.00	0.04			273	05
300	ISL	6.80	D	6.78		34.076	D	26.725	135.9	0.589	1.24	D	18.1	57.2	2.67	36.3	0.00	0.06			302	
320		6.70		6.67		34.091		26.752	133.7	0.612	1.11		16.2	59.5	2.73	37.0	0.00	0.08			323	04
380		6.14		6.11		34.119		26.847	125.1	0.690	0.83		12.0	69.1	2.90	39.0	0.00	0.00			383	03
400	ISL	6.06	D	6.02		34.153	D	26.885	121.7	0.719	0.69	D	9.9	71.4	2.94	39.2	0.00	0.00			403	
441		5.94		5.90		34.194		26.932	117.8	0.763	0.55		7.9	76.0	3.03	39.7	0.00	0.00			445	02
500	ISL	5.62	D	5.59		34.238	D	27.007	111.2	0.837	0.40	D	5.7	82.5	3.12	40.7	0.00	0.00			504	
515		5.57		5.52		34.247		27.021	110.0	0.847	0.37		5.2	84.2	3.14	41.0	0.00	0.00			519	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1110 STATION 76.7 70.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
34 23.1 N	122 15.1 W	01/11/2011	1026	UTC	4018 m	330	24 kn			1015.0 mb	16.0 C	14.3 C				071

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		16.44		16.44		33.422		24.434	348.8	0.000	5.72		102.4	1.2	0.30	0.1	0.00	0.07	0.63	0.18	0	
2		16.44		16.44		33.422		24.434	348.8	0.007	5.72		102.4	1.2	0.30	0.1	0.00	0.07	0.63	0.18	2	20
10		16.46		16.45		33.420		24.430	349.4	0.035	5.73		102.6	1.1	0.29	0.1	0.00	0.02	0.60	0.19	10	19
20		15.61		15.60		33.384		24.595	334.0	0.069	5.79		102.0	1.6	0.31	0.2	0.02	0.12	0.78	0.31	20	18
30		14.26		14.26		33.371		24.877	307.5	0.101	5.41		92.8	2.5	0.54	3.0	0.34	0.40	0.56	0.29	30	17
40		12.24		12.23		33.287		25.217	275.3	0.130	4.98		81.9	6.0	0.93	9.6	0.11	0.03	0.32	0.28	40	16
50		11.34		11.33		33.342		25.426	255.5	0.157	4.60		74.2	9.1	1.15	13.3	0.03	0.02	0.22	0.28	50	15
59		10.67		10.66		33.442		25.624	236.9	0.179	4.09		65.0	14.3	1.45	17.9	0.00	0.01	0.12	0.14	59	14
70		10.05		10.05		33.473		25.754	224.7	0.204	3.96		62.1	17.3	1.53	19.5	0.00	0.01	0.06	0.09	71	13
75	ISL	9.94	D	9.93		33.499	D	25.793	221.1	0.217	3.86	D	60.4	18.3	1.57	20.2	0.00	0.01	0.05	0.08	76	
85		9.68		9.67		33.578		25.899	211.2	0.237	3.59		55.9	20.4	1.65	21.5	0.00	0.00	0.02	0.05	86	12
100		9.32		9.31		33.682		26.039	198.2	0.268	3.33		51.5	23.6	1.76	23.4	0.00	0.00	0.01	0.05	101	11
120		9.00		8.99		33.820		26.199	183.4	0.306	3.03		46.6	27.8	1.89	25.6	0.00	0.00	0.01	0.04	121	10
125	ISL	9.05	D	9.04		33.907	D	26.259	177.8	0.316	2.57	D	39.5	28.8	1.92	26.1	0.00	0.00	0.01	0.04	126	
141		8.84		8.83		33.943		26.320	172.3	0.343	2.53		38.8	32.0	2.02	27.5	0.00	0.00	0.01	0.04	142	09
150	ISL	8.74	D	8.72		33.983	D	26.368	167.9	0.360	2.32	D	35.5	32.8	2.05	27.8	0.00	0.00	0.01	0.04	151	
170		8.55		8.53		33.996		26.409	164.4	0.392	2.34		35.6	34.5	2.11	28.6	0.00	0.00	0.00	0.04	171	08
200		8.41		8.39		34.058		26.479	158.4	0.440	1.91		29.0	38.5	2.26	30.2	0.00	0.00	0.00	0.03	202	07
230		8.07		8.04		34.087		26.554	151.7	0.486	1.71		25.7	42.7	2.33	31.6	0.00	0.00			232	06
250	ISL	7.71	D	7.68		34.060	D	26.586	148.8	0.520	1.64	D	24.5	45.2	2.45	32.4	0.00	0.00			252	
270		8.15		8.12		34.199		26.630	145.3	0.546	1.02		15.4	47.8	2.57	33.1	0.00	0.00			272	05
300	ISL	7.71	D	7.68		34.174	D	26.677	141.1	0.593	0.97	D	14.5	50.7	2.64	34.1	0.00	0.00			302	
320		7.57		7.54		34.170		26.694	139.8	0.617	0.95		14.2	52.7	2.68	34.8	0.00	0.00			323	04
381		7.00		6.97		34.196		26.795	130.9	0.700	0.71		10.4	61.5	2.84	36.5	0.00	0.00			384	03
400	ISL	6.91	D	6.87		34.214	D	26.823	128.5	0.729	0.64	D	9.4	63.5	2.87	36.9	0.00	0.00			403	
441		6.59		6.55		34.220		26.871	124.3	0.776	0.55		8.0	67.9	2.95	37.9	0.00	0.00			445	02
500	ISL	6.20	D	6.15		34.228	D	26.930	119.3	0.854	0.47	D	6.8	75.2	3.05	39.1	0.00	0.00			504	
515		6.17		6.12		34.259		26.958	116.8	0.866	0.37		5.4	77.0	3.07	39.4	0.00	0.00			519	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1110 STATION 76.7 80.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
34 3.3 N	122 56.6 W	01/11/2011	0450 UTC	4238 m	350 29 kn	340 08 05	2	1016.0 mb	17.0 C	15.9 C		8/8	ST	070

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		17.44		17.44		33.362		24.154	375.4	0.000	5.59		102.1		0.8	0.27	0.1	0.00	0.00	0.30	0.09	0	
2		17.44		17.44		33.362		24.154	375.4	0.008	5.59		102.1		0.8	0.27	0.1	0.00	0.00	0.30	0.09	2	20
10		17.45		17.45		33.363		24.154	375.8	0.038	5.56		101.6		1.0	0.27	0.0	0.00	0.00	0.28	0.08	10	19
20	ISL	17.45	D	17.44		33.363	D	24.154	376.1	0.076	5.54	D	101.2		0.7	0.27	0.0	0.00	0.03	0.28	0.07	20	
21		17.45		17.45		33.366		24.156	376.0	0.079	5.58		101.9		0.7	0.27	0.0	0.00	0.03	0.28	0.07	21	18
30		17.37		17.36		33.363		24.174	374.6	0.113	5.58		101.8		0.8	0.28	0.1	0.00	0.06	0.30	0.08	30	17
41		14.66		14.56		33.328	D	24.780	317.1	0.152	5.81		100.4		1.6	0.41	1.5	0.20	0.02	0.64	0.24	41	16
50		13.25		13.25		33.377		25.088	287.9	0.178	5.09		85.4		4.3	0.90	9.0	0.12	0.00	0.57	0.37	50	15
61		12.43		12.42		33.421		25.285	269.4	0.209	4.79		79.0		6.1	1.09	12.0	0.03	0.00	0.44	0.41	61	14
69		11.92		11.91		33.403		25.368	261.6	0.230	4.58		74.9		8.8	1.24	14.2	0.01	0.00	0.33	0.34	70	13
75	ISL	11.35	D	11.34		33.459	D	25.516	247.6	0.247	4.23	D	68.3		11.6	1.38	16.4	0.01	0.00	0.24	0.26	76	
85		10.51		10.50		33.524		25.716	228.8	0.269	3.84		60.8		16.2	1.61	20.1	0.00	0.00	0.09	0.11	86	12
100	ISL	9.77	D	9.78		33.647	D	25.935	208.2	0.304	3.27	D	51.1		21.3	1.81	23.4	0.00	0.00	0.04	0.06	101	
102		9.78		9.77		33.644		25.935	208.3	0.306	3.27		51.1		21.9	1.84	23.8	0.00	0.00	0.03	0.06	103	11
120		9.23		9.21		33.747		26.105	192.4	0.342	3.00		46.3		26.0	1.94	25.6	0.00	0.00	0.01	0.05	121	10
125	ISL	9.07	D	9.06		33.805	D	26.175	185.7	0.354	2.84	D	43.7		27.4	1.98	26.2	0.00	0.00	0.01	0.05	126	
140		8.88		8.87		33.916		26.293	174.9	0.378	2.43		37.3		31.3	2.11	28.0	0.00	0.00	0.01	0.04	141	09
150	ISL	8.72	D	8.70		33.972	D	26.363	168.4	0.398	2.23	D	34.1		33.0	2.16	28.7	0.00	0.00	0.00	0.04	151	
170		8.48		8.46		34.029		26.445	161.0	0.429	2.07		31.4		36.5	2.27	30.0	0.00	0.00	0.00	0.04	171	08
200		7.82		7.80		34.004		26.525	153.7	0.476	2.25		33.7		39.5	2.25	30.7	0.00	0.00	0.00	0.03	202	07
229		7.54		7.52		34.034		26.588	148.1	0.520	1.89		28.1		44.7	2.41	32.8	0.00	0.00			231	06
250	ISL	7.88	D	7.85		34.153	D	26.635	144.3	0.554	1.14	D	17.1		47.5	2.55	33.6	0.00	0.00			252	
270		7.67		7.64		34.176		26.683	140.0	0.579	1.01		15.1		50.1	2.68	34.4	0.00	0.00			272	05
300	ISL	7.05	D	7.02		34.115	D	26.723	136.3	0.625	1.09	D	16.0		54.8	2.73	35.7	0.00	0.00			302	
320		6.93		6.90		34.128		26.749	134.1	0.647	1.02		15.0		57.9	2.77	36.6	0.00	0.00			323	04
379		6.63		6.60		34.203		26.850	125.3	0.724	0.62		9.1		65.2	2.94	38.0	0.00	0.00			382	03
400	ISL	6.54	D	6.50		34.214	D	26.872	123.5	0.756	0.56	D	8.1		67.5	2.97	38.4	0.00	0.00			403	
439		6.33		6.29		34.230		26.913	120.0	0.797	0.48		7.0		71.8	3.03	39.1	0.00	0.00			443	02
500	ISL	6.07	D	6.03		34.279	D	26.985	113.9	0.875	0.34	D	4.9		77.9	3.13	40.0	0.00	0.00			504	
515		5.99		5.94		34.289		27.004	112.2	0.885	0.30		4.3		79.4	3.15	40.2	0.00	0.00			519	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1110 STATION 76.7 90.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
33 43.5 N	123 38.6 W	31/10/2011	2314 UTC	4215 m	350 25 kn	330 09 06	2	1018.0 mb	17.4 C	16.0 C	17 m	8/8	ST	069

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		17.54		17.54		33.485		24.225	368.7	0.000	5.51		100.9		1.0	0.29	0.2	0.00	0.05	0.28	0.08	0	
2	A	17.54		17.54		33.485		24.225	368.7	0.007	5.51		100.9		1.0	0.29	0.2	0.00	0.05	0.28	0.08	2	20
10	ISL	17.54	D	17.54		33.485	D	24.224	369.1	0.037	5.47	D	100.2		0.9	0.29	0.1	0.00	0.04	0.26	0.07	10	
11	A	17.54		17.54		33.485		24.224	369.1	0.041	5.52		101.0		0.9	0.29	0.1	0.00	0.04	0.25	0.07	11	19
15	A	17.55		17.55		33.486		24.224	369.2	0.055	5.51		100.9		0.9	0.28	0.1	0.00	0.04	0.26	0.07	15	18
20	ISL	17.55	D	17.55		33.485	D	24.224	369.5	0.074	5.47	D	100.2		0.8	0.28	0.1	0.00	0.05	0.26	0.07	20	
26	A	17.55		17.55		33.486		24.225	369.6	0.096	5.51		100.9		0.8	0.28	0.1	0.00	0.07	0.26	0.07	26	17
30	ISL	17.55	D	17.54		33.487	D	24.226	369.6	0.112	5.46	D	100.0		1.2	0.31	0.3	0.03	0.08	0.54	0.19	30	
39		15.19		15.19		33.297		24.621	332.2	0.143	5.81		101.4		2.3	0.38	0.8	0.10	0.10	1.17	0.47	39	16
50	A	11.89		11.88		33.283		25.279	269.5	0.176	5.04		82.1		7.0	1.00	10.4	0.06	0.00	0.56	0.50	50	15
59	A	11.36		11.35		33.327		25.411	257.2	0.199	4.64		74.8		10.3	1.22	13.9	0.02	0.00	0.31	0.40	59	14
71		10.52		10.51		33.523		25.713	228.7	0.229	3.85		61.0		15.1	1.59	19.5	0.00	0.00	0.20	0.23	72	13
75	ISL	10.52	D	10.54		33.549	D	25.730	227.2	0.239	3.56	D	56.5		16.3	1.63	20.2	0.00	0.00	0.16	0.18	76	
85		10.24		10.23		33.580		25.807	220.0	0.260	3.50		55.2		19.3	1.74	21.9	0.00	0.00	0.06	0.08	86	12
100		9.65		9.64		33.648		25.959	205.9	0.292	3.26		50.8		23.2	1.83	23.9	0.00	0.00	0.02	0.05	101	11
119		9.23		9.22		33.791		26.140	189.0	0.329	2.84		43.9		28.0	2.00	26.2	0.00	0.00	0.01	0.04	120	10
125	ISL	9.19	D	9.18		33.810	D	26.161	187.2	0.342	2.79	D	43.0		28.8	2.01	26.5	0.00	0.00	0.01	0.04	126	
140		8.86		8.84		33.871		26.262	177.8	0.368	2.72		41.6		30.7	2.04	27.2	0.00	0.00	0.00	0.04	141	09
150	ISL	8.64	D	8.62		33.884	D	26.306	173.8	0.388	2.79	D	42.5		32.8	2.09	28.0	0.00	0.00	0.00	0.04	151	
170		8.39		8.37		33.979		26.419	163.4	0.419	2.32		35.1		36.9	2.19	29.5	0.00	0.00	0.00	0.03	171	08
199		8.11		8.08		34.032		26.504	155.8	0.466	2.01		30.3		40.5	2.31	30.9	0.00	0.00	0.00	0.03	201	07
200	ISL	8.11	D	8.09		34.042	D	26.512	155.1	0.470	1.78	D	26.8		40.7	2.32	31.0	0.00	0.00	0.00	0.03	202	
232		7.94		7.91		34.153		26.625	144.9	0.515	1.31		19.6		47.4	2.54	32.6	0.00	0.00			234	06
250	ISL	7.71	D	7.69		34.149	D	26.655	142.3	0.545	1.15	D	17.2		50.2	2.62	33.3	0.00	0.00			252	
270		7.71		7.68		34.192		26.690	139.3	0.569	0.96		14.4		53.3	2.71	34.1	0.00	0.00			272	05
300	ISL	7.44	D	7.41		34.215	D	26.747	134.3	0.615	0.75	D	11.1		57.4	2.80	35.1	0.00	0.00			302	
320		7.28		7.25		34.219		26.773	132.1	0.637	0.69		10.2		60.1	2.86	35.8	0.00	0.00			323	04
381		6.80		6.77		34.246		26.861	124.5	0.715	0.50		7.3		67.3	2.97	37.4	0.00	0.00			384	03
400	ISL	6.62	D	6.59		34.244	D	26.885	122.4	0.744	0.49	D	7.1		69.6	3.00	37.9	0.00	0.00			403	
440		6.32		6.28		34.251		26.930	118.4	0.787	0.42		6.1		74.4	3.05	38.9	0.00	0.00			444	02
500	ISL	5.99	D	5.94		34.271	D	26.989	113.4	0.863	0.35	D	5.0		80.1	3.13	40.0	0.00	0.00			504	
516		5.85		5.80		34.270		27.006	111.9	0.874	0.33		4.7		81.6	3.15	40.3	0.00	0.00			520	01

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.
D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1110 STATION 76.7 100.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
33 22.9 N	124 19.5 W	31/10/2011	1523	UTC	4616 m	360	21 kn			1019.0 mb	17.7 C	16.0 C				068

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		17.95		17.95		33.210		23.916	398.2	0.000	5.52		101.8		1.7	0.25	0.0	0.00	0.00	0.14	0.02	0	
2		17.95		17.95		33.210		23.916	398.2	0.008	5.52		101.8		1.7	0.25	0.0	0.00	0.00	0.14	0.02	2	20
10		17.95		17.95		33.210		23.916	398.4	0.040	5.53		101.8		1.8	0.24	0.0	0.00	0.00	0.14	0.00	10	19
20	ISL	17.79	D	17.79		33.213	D	23.956	395.0	0.080	5.59	D	102.7		1.8	0.23	0.0	0.00	0.00	0.14	0.01	20	
25		17.38		17.37		33.216		24.059	385.4	0.099	5.67		103.3		1.7	0.23	0.0	0.00	0.00	0.15	0.01	25	18
30	ISL	16.95	D	16.94		33.225	D	24.168	375.1	0.119	5.88	D	106.3		1.8	0.22	0.0	0.00	0.00	0.17	0.02	30	
41		15.96		15.96		33.328		24.473	346.4	0.157	6.03		106.9		1.9	0.19	0.0	0.00	0.00	0.20	0.03	41	17
50		15.45		15.44		33.428		24.665	328.4	0.188	6.04		106.0		1.9	0.17	0.0	0.00	0.00	0.26	0.02	50	16
62		13.64		13.63		33.211		24.882	307.9	0.226	6.07		102.6		2.2	0.23	0.0	0.00	0.00	0.33	0.08	63	15
75	ISL	13.35	D	13.32		33.282	D	25.001	297.0	0.267	5.94	D	99.8		2.3	0.25	0.0	0.00	0.00	0.36	0.15	76	
76		13.23		13.22		33.251		24.998	297.2	0.268	5.99		100.5		2.3	0.25	0.0	0.00	0.00	0.37	0.15	77	14
88		11.95		11.94		33.221		25.222	276.1	0.303	5.67		92.5		3.1	0.43	2.4	0.03	0.00	0.24	0.24	89	13
100		11.49		11.48		33.298		25.367	262.5	0.335	5.40		87.3		5.4	0.62	5.8	0.00	0.00	0.14	0.12	101	12
112		10.73		10.72		33.370		25.559	244.3	0.365	5.09		81.0		8.5	0.83	9.3	0.00	0.00	0.10	0.06	113	11
125		10.04		10.02		33.373		25.681	232.9	0.396	4.70		73.7		12.9	1.16	14.3	0.00	0.00	0.05	0.03	126	10
140		9.62		9.61		33.521		25.865	215.6	0.430	4.02		62.5		19.0	1.52	19.7	0.00	0.00	0.02	0.03	141	09
150	ISL	9.41	D	9.38		33.679	D	26.025	200.6	0.454	3.15	D	48.8		22.0	1.68	22.0	0.00	0.00	0.02	0.04	151	
170		9.02		9.00		33.799		26.180	186.3	0.490	2.76		42.5		28.0	1.99	26.7	0.00	0.00	0.01	0.05	171	08
200		8.62		8.60		33.954		26.365	169.2	0.543	2.31		35.1		33.6	2.14	28.8	0.00	0.00	0.00	0.05	202	07
229		8.22		8.20		33.993		26.458	160.8	0.591	2.30		34.7		37.1	2.18	29.9	0.00	0.00			231	06
250	ISL	8.01	D	7.99		34.020	D	26.510	156.2	0.628	2.16	D	32.5		40.4	2.28	31.1	0.00	0.00			252	
270		7.83		7.80		34.059		26.568	150.9	0.655	1.78		26.6		43.6	2.37	32.2	0.00	0.00			272	05
300	ISL	7.34	D	7.31		34.076	D	26.653	143.1	0.703	1.40	D	20.7		49.4	2.52	34.0	0.00	0.00			302	
320		7.18		7.15		34.093		26.688	140.1	0.727	1.26		18.6		53.3	2.62	35.2	0.00	0.00			323	04
380		7.01		6.97		34.186		26.786	131.7	0.809	0.77		11.3		60.1	2.83	36.6	0.00	0.00			383	03
400	ISL	6.58	D	6.56		34.148	D	26.812	129.2	0.840	0.81	D	11.8		63.0	2.89	37.1	0.00	0.00			403	
441		6.55		6.51		34.237		26.889	122.6	0.886	0.50		7.2		68.9	3.00	38.1	0.00	0.00			445	02
500	ISL	6.07	D	6.02		34.243	D	26.957	116.5	0.963	0.43	D	6.2		76.2	3.07	39.7	0.00	0.00			504	
519		5.92		5.87		34.238		26.973	115.1	0.979	0.39		5.6		78.5	3.09	40.2	0.00	0.00			523	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1110 STATION 80.0 50.5

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
34 27.8 N	120 29.3 W	29/10/2011	1420	UTC	26 m	320	05 kn			1016.0 mb	16.4 C	13.8 C				060

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	15.03	15.03	33.394	24.728	320.8	0.000	5.98	104.2	3.1	0.38	0.8	0.04	0.03	3.23	0.66	0	
2	15.03	15.03	33.394	24.728	320.8	0.006	5.98	104.2	3.1	0.38	0.8	0.04	0.03	3.23	0.66	2	06
5	15.04	15.04	33.392	24.725	321.1	0.016	5.98	104.2	3.2	0.37	0.7	0.04	0.01	3.10	0.63	5	05
10	15.03	15.03	33.384	24.721	321.7	0.031										10	04
10	15.03	15.03	33.384	24.721	321.7	0.032	5.98	104.1	3.2	0.38	0.8	0.04	0.01	3.30	0.61	10	03
14	14.70	14.70	33.381	24.790	315.2	0.045	5.74	99.3	4.1	0.46	2.0	0.11	0.07	3.01	0.65	14	02
19	14.15	14.15	33.370	24.898	305.1	0.060	5.46	93.4	4.8	0.58	3.6	0.17	0.14	2.60	0.58	19	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1110 STATION 80.0 51.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
34 26.9 N	120 31.5 W	29/10/2011	1516	UTC	72 m	310	09 kn			1016.0 mb	16.0 C	13.7 C				061

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	15.23	15.23	33.388	24.680	325.3	0.000	6.00	105.0	1.5	0.33	0.5	0.07	0.01	2.54	0.43	0	
2	15.23	15.23	33.388	24.680	325.3	0.007	6.00	105.0	1.5	0.33	0.5	0.07	0.01	2.54	0.43	2	09
5	15.23	15.23	33.391	24.683	325.2	0.016	6.01	105.1	1.5	0.33	0.6	0.07	0.01	2.49	0.48	5	08
10	15.19	15.19	33.387	24.690	324.7	0.032										10	07
10	15.19	15.19	33.387	24.689	324.7	0.033	5.99	104.7	1.6	0.35	0.5	0.07	0.01	2.47	0.44	10	06
20	14.34	14.34	33.369	24.858	308.9	0.064	5.82	100.0	2.2	0.46	1.6	0.15	0.14	4.19	0.60	20	05
30	12.57	12.56	33.340	25.194	277.2	0.094	4.39	72.7	10.2	1.06	9.9	0.47	0.32	0.35	0.25	30	04
40	12.14	12.14	33.357	25.289	268.4	0.121	4.22	69.3	12.1	1.15	11.2	0.36	0.32	0.34	0.25	40	03
50	12.02	12.01	33.360	25.315	266.2	0.148	4.12	67.3	12.9	1.20	12.0	0.33	0.25	0.24	0.30	50	02
60	12.00	12.00	33.368	25.325	265.5	0.174	4.11	67.3	13.0	1.22	12.2	0.34	0.28	0.20	0.25	60	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1110 STATION 80.0 55.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
34 19.0 N	120 48.7 W	29/10/2011	1816 UTC	828 m	330	18 kn			1015.0 mb	16.5 C	15.1 C				062

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		16.84		16.84		33.392		24.319	359.8	0.000	5.68		102.6		0.8		0.1	0.03	0.10	0.38	0.14	0	
3		16.84		16.84		33.392		24.319	359.8	0.011	5.68		102.6		0.8		0.1	0.03	0.10	0.38	0.14	3	22
10		16.72		16.72		33.389		24.346	357.5	0.036												10	21
10		16.72		16.72		33.388		24.345	357.5	0.036	5.71		102.9		1.0	0.29	0.1	0.03	0.02	0.45	0.15	10	20
20		16.19		16.19		33.410		24.483	344.7	0.071	5.90		105.2		1.1	0.32	0.1	0.00	0.01	1.06	0.35	20	19
25		16.18		16.18		33.412		24.488	344.4	0.088	5.91		105.3		1.2	0.35	0.1	0.00	0.00	1.17	0.44	25	18
30		16.10		16.09		33.415		24.510	342.5	0.105	5.89		104.8		1.3	0.34	0.1	0.00	0.01	1.31	0.52	30	17
40		14.79		14.78		33.406		24.792	315.9	0.138	5.57		96.5		1.8	0.49	1.6	0.18	0.32	0.69	0.39	40	16
50	ISL	13.51	D	13.40		33.389	D	25.067	289.9	0.170	5.06	D	85.2		4.0	0.78	6.0	0.23	1.06	0.20	0.30	50	
51		13.33		13.33		33.383		25.077	289.0	0.172	5.10		85.7		4.2	0.81	6.4	0.24	1.13	0.15	0.29	51	15
60		12.37		12.36		33.335		25.230	274.6	0.197	4.89		80.6		6.5	0.95	9.4	0.18	0.18	0.15	0.24	60	14
70		11.08		11.07		33.473		25.577	241.7	0.223	3.98		63.9		14.7	1.41	16.6	0.08	0.02	0.06	0.13	71	13
75	ISL	10.96	D	10.94		33.474	D	25.599	239.7	0.237	3.95	D	63.2		15.7	1.46	17.5	0.07	0.01	0.05	0.12	76	
85		10.25		10.24		33.534		25.769	223.7	0.258	3.73		58.8		17.8	1.56	19.3	0.04	0.00	0.05	0.10	86	12
99		9.97		9.96		33.650		25.907	210.9	0.288	3.25		51.0		22.0	1.77	22.3	0.02	0.00	0.02	0.09	100	11
100	ISL	9.87	D	9.85		33.696	D	25.960	205.8	0.292	3.11	D	48.7		22.2	1.78	22.4	0.02	0.00	0.02	0.09	101	
120		9.48		9.47		33.786		26.094	193.4	0.330	2.90		45.0		26.3	1.92	24.9	0.01	0.01	0.01	0.08	121	10
125	ISL	9.32	D	9.29		33.806	D	26.139	189.2	0.342	2.89	D	44.7		27.4	1.96	25.4	0.01	0.01	0.01	0.08	126	
140		9.15		9.14		33.906		26.243	179.7	0.368	2.51		38.7		30.5	2.07	27.0	0.00	0.00	0.01	0.06	141	09
150	ISL	9.12	D	9.11		33.948	D	26.281	176.3	0.388	2.31	D	35.6		31.7	2.12	27.6	0.00	0.00	0.01	0.06	151	
170		8.98		8.96		34.024		26.363	168.9	0.420	2.06		31.6		34.2	2.22	28.7	0.00	0.00	0.01	0.06	171	08
200		8.62		8.60		34.069		26.456	160.6	0.469	1.89		28.7		38.0	2.31	30.0	0.00	0.00	0.01	0.05	202	07
228		8.06		8.04		34.064		26.537	153.2	0.513	1.87		28.2		42.2	2.36	31.3	0.00	0.00			230	06
250	ISL	7.72	D	7.70		34.079	D	26.599	147.6	0.550	1.65	D	24.7		44.8	2.43	32.2	0.00	0.02			252	
270		7.75		7.73		34.094		26.607	147.2	0.576	1.52		22.8		47.2	2.50	33.1	0.00	0.03			272	05
300	ISL	7.72	D	7.69		34.156	D	26.660	142.7	0.624	1.19	D	17.8		50.3	2.60	34.0	0.00	0.01			302	
319		7.57		7.53		34.156		26.683	140.8	0.646	1.11		16.5		52.3	2.67	34.6	0.00	0.00			322	04
380		6.73		6.70		34.182		26.821	128.2	0.728	0.80		11.6		63.3	2.88	37.4	0.00	0.00			383	03
400	ISL	6.74	D	6.70		34.184	D	26.822	128.4	0.760	0.74	D	10.8		65.3	2.91	37.7	0.00	0.00			403	
440		6.53		6.49		34.224		26.882	123.1	0.804	0.55		8.1		69.2	2.98	38.4	0.00	0.00			444	02
500	ISL	6.02	D	5.97		34.250	D	26.969	115.3	0.883	0.42	D	6.0		77.1	3.10	39.9	0.00	0.00			504	
515		5.90		5.86		34.268		26.997	112.7	0.893	0.36		5.2		79.1	3.13	40.3	0.00	0.00			519	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1110 STATION 80.0 60.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
34 9.1 N	121 9.2 W	30/10/2011	0139 UTC	2168 m	330	17 kn	340 05 05	1	1016.0 mb	19.3 C	16.8 C	20 m	1/8	CI	063

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		17.74		17.73		33.387		24.103	380.4	0.000	5.52		101.5		1.1	0.27	0.1	0.00	0.00	0.16	0.04	0	
3	A	17.74		17.73		33.387		24.103	380.4	0.011	5.52		101.5		1.1	0.27	0.1	0.00	0.00	0.16	0.04	3	23
10		17.72		17.72		33.383		24.104	380.6	0.038	5.51		101.2		1.0	0.27	0.1	0.00	0.00	0.17	0.05	10	22
13	A	17.72		17.72		33.384		24.104	380.7	0.049	5.51		101.2		1.0	0.27	0.1	0.00	0.00	0.17	0.04	13	21
17	A	17.71		17.71		33.387		24.110	380.2	0.065	5.53		101.5		1.1	0.27	0.1	0.00	0.00	0.18	0.04	17	20
20	ISL	17.71	D	17.71		33.383	D	24.107	380.6	0.076	5.48	D	100.6		1.0	0.27	0.1	0.00	0.00	0.18	0.05	20	
30	ISL	17.69	D	17.68		33.389	D	24.119	379.9	0.115	5.47	D	100.4		0.9	0.27	0.1	0.00	0.00	0.20	0.05	30	
31	A	17.65		17.64		33.393		24.131	378.7	0.118	5.53		101.3		0.9	0.27	0.1	0.00	0.00	0.20	0.05	31	19
41		15.88		15.87		33.347		24.508	343.1	0.154	5.74		101.6		1.3	0.32	0.5	0.07	0.01	0.55	0.21	41	18
50		14.17		14.16		33.354		24.883	307.5	0.183	5.53		94.6		2.4	0.60	4.3	0.50	0.01	0.56	0.35	50	17
60	A	12.13		12.12		33.215		25.182	279.2	0.213	5.37		88.0		4.5	0.76	6.9	0.06	0.00	0.37	0.39	60	16
69	A	11.44		11.43		33.338		25.406	257.9	0.237	4.70		76.0		9.1	1.13	12.9	0.00	0.00	0.19	0.22	70	15
75	ISL	10.74	D	10.71		33.411	D	25.591	240.4	0.254	4.29	D	68.3		12.4	1.33	16.1	0.00	0.00	0.12	0.15	76	
77		10.68		10.67		33.411		25.599	239.7	0.257	4.29		68.2		13.5	1.40	17.1	0.00	0.00	0.10	0.13	78	14
84		10.20		10.19		33.520		25.766	223.9	0.273	3.83		60.4		17.4	1.61	20.5	0.00	0.00	0.04	0.07	85	13
94		9.50		9.50		33.572	D	25.923	209.1	0.294	3.90		60.5		20.1	1.58	20.7	0.00	0.00	0.02	0.04	95	12
100	ISL	9.50	D	9.49		33.699	D	26.023	199.8	0.309	3.24	D	50.3		22.3	1.73	22.5	0.00	0.00	0.02	0.04	101	
110		9.58		9.57		33.762		26.059	196.6	0.327	2.78		43.3		26.0	1.97	25.5	0.00	0.00	0.01	0.05	111	11
125		9.30		9.28		33.790		26.128	190.3	0.356	2.81		43.4		27.3	1.98	26.2	0.00	0.00	0.01	0.05	126	10
140		8.88		8.86		33.866		26.254	178.5	0.383	2.94		45.1		29.4	1.94	26.3	0.00	0.00	0.00	0.02	141	09
150	ISL	8.70	D	8.68		33.910	D	26.318	172.7	0.403	2.86	D	43.7		30.5	1.97	26.7	0.00	0.00	0.00	0.02	151	
169		8.59		8.57		33.940		26.358	169.2	0.433	2.72		41.3		32.7	2.03	27.6	0.00	0.00	0.00	0.02	170	08
200		8.40		8.38		34.007		26.441	161.9	0.485	2.45		37.1		35.7	2.12	28.9	0.00	0.00	0.00	0.02	202	07
230		8.18		8.16		34.044		26.504	156.5	0.532	2.10		31.7		39.3	2.27	30.7	0.00	0.00			232	06
250	ISL	7.93	D	7.91		34.049	D	26.544	152.9	0.567	2.00	D	30.0		42.3	2.33	31.7	0.00	0.00			252	
270		7.50		7.48		34.023		26.587	149.0	0.594	1.98		29.4		45.3	2.38	32.7	0.00	0.00			272	05
300	ISL	7.30	D	7.27		34.083	D	26.664	142.1	0.642	1.45	D	21.5		51.5	2.55	34.7	0.00	0.00			302	
322		6.80		6.77		34.083		26.731	135.7	0.668	1.30		18.9		56.0	2.67	36.2	0.00	0.00			325	04
381		6.78		6.74		34.161		26.798	130.4	0.746	0.77		11.3		62.7	2.88	37.7	0.00	0.00			384	03
400	ISL	6.49	D	6.45		34.154	D	26.831	127.3	0.776	0.78	D	11.3		66.0	2.91	38.4	0.00	0.00			403	
440		5.89		5.85		34.135		26.893	121.4	0.821	0.77		11.0		73.0	2.97	40.0	0.00	0.00			444	02
500	ISL	5.61	D	5.57		34.187	D	26.969	114.8	0.898	0.53	D	7.5		79.4	3.07	40.9	0.00	0.00			504	
515		5.59		5.54		34.196		26.979	114.0	0.909	0.49		7.0		81.0	3.09	41.1	0.00	0.00			519	01

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.
D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1110 STATION 80.0 70.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
33 49.1 N	121 50.4 W	30/10/2011	0811 UTC	3633 m	330	20 kn	330 05 05	1	1015.0 mb	17.6 C	15.1 C	23 m	1/8	CS	064

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		17.56		17.56		33.228		24.023	387.9	0.000	5.54		101.4	1.3	0.27	0.2	0.00	0.04	0.15	0.03	0	
1		17.56		17.56		33.228		24.023	387.9	0.004	5.54		101.4	1.3	0.27	0.2	0.00	0.04	0.15	0.03	1	20
10		17.57		17.56		33.229		24.023	388.2	0.039	5.55		101.5	1.2	0.27	0.1	0.00	0.02	0.14	0.03	10	19
20		17.53		17.53		33.233		24.035	387.5	0.078	5.54		101.3	1.4	0.27	0.1	0.00	0.00	0.15	0.04	20	18
30		16.82		16.81		33.289		24.248	367.5	0.115	5.74		103.5	0.8	0.27	0.1	0.00	0.00	0.31	0.10	30	17
40		15.87		15.86		33.305		24.478	345.9	0.151	5.85		103.5	0.6	0.28	0.1	0.00	0.00	0.56	0.23	40	16
50		14.09		14.08		33.178		24.765	318.7	0.184	5.87		100.1	1.6	0.28	0.1	0.00	0.01	0.44	0.26	50	15
60		12.95		12.94		33.183		24.999	296.6	0.215	5.75		95.9	2.7	0.40	1.3	0.14	0.03	0.31	0.30	60	14
70		12.59		12.58		33.195		25.080	289.1	0.244	5.66		93.6	3.2	0.46	2.3	0.13	0.00	0.28	0.24	71	13
75	ISL	12.17	D	12.16		33.198	D	25.162	281.5	0.261	5.53	D	90.7	3.7	0.51	3.2	0.09	0.00	0.24	0.22	76	
85		11.73		11.72		33.226		25.267	271.6	0.286	5.40		87.7	4.8	0.62	5.1	0.02	0.00	0.17	0.19	86	12
100		10.94		10.93		33.289		25.458	253.7	0.326	5.05		80.7	8.3	0.88	9.7	0.00	0.00	0.09	0.10	101	11
121		9.93		9.92		33.441		25.752	226.1	0.376	4.32		67.6	15.8	1.35	17.1	0.00	0.00	0.03	0.04	122	10
125	ISL	9.71	D	9.69		33.509	D	25.842	217.5	0.388	4.01	D	62.4	17.1	1.41	18.0	0.00	0.00	0.02	0.04	126	
140		9.32		9.31		33.624		25.994	203.3	0.417	3.78		58.4	21.7	1.63	21.5	0.00	0.00	0.01	0.03	141	09
150	ISL	9.28	D	9.27		33.781	D	26.124	191.2	0.439	2.97	D	45.9	24.4	1.77	23.4	0.00	0.00	0.01	0.03	151	
170		8.98		8.97		33.885		26.254	179.3	0.474	2.57		39.5	29.9	2.04	27.2	0.00	0.00	0.00	0.04	171	08
200		8.65		8.63		34.021		26.413	164.7	0.525	2.14		32.7	35.5	2.20	29.0	0.00	0.00	0.00	0.03	202	07
231		8.67		8.65		34.120		26.488	158.3	0.575	1.65		25.1	39.1	2.36	30.3	0.00	0.00			233	06
250	ISL	8.37	D	8.34		34.141	D	26.552	152.4	0.609	1.49	D	22.6	41.6	2.41	31.2	0.00	0.00			252	
270		8.00		7.97		34.115		26.587	149.2	0.635	1.54		23.2	44.3	2.47	32.1	0.00	0.00			272	05
300	ISL	7.68	D	7.65		34.136	D	26.651	143.6	0.683	1.26	D	18.8	50.0	2.59	33.9	0.00	0.00			302	
319		7.17		7.14		34.124		26.714	137.6	0.706	1.17		17.2	53.6	2.66	35.1	0.00	0.00			322	04
380		6.74		6.70		34.157		26.800	130.1	0.787	0.86		12.6	61.8	2.84	37.4	0.00	0.00			383	03
400	ISL	6.46	D	6.43		34.132	D	26.817	128.6	0.819	0.89	D	12.9	64.1	2.87	37.8	0.00	0.00			403	
439		6.37		6.33		34.166		26.857	125.4	0.863	0.72		10.5	68.5	2.94	38.5	0.00	0.00			443	02
500	ISL	5.86	D	5.82		34.189	D	26.940	117.9	0.944	0.57	D	8.2	76.7	3.03	40.1	0.00	0.00			504	
515		5.75		5.70		34.189		26.954	116.5	0.954	0.53		7.6	78.7	3.05	40.5	0.00	0.00			519	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1110 STATION 80.0 80.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
33 29.1 N	122 32.5 W	30/10/2011	1609 UTC	3985 m	350	18 kn			1016.0 mb	17.0 C	15.5 C				065

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		17.55		17.55		33.243		24.038	386.5	0.000	5.54		101.3	1.3	0.28	0.1	0.00	0.01	0.11	0.03	0	
2		17.55		17.55		33.243		24.038	386.5	0.008	5.54		101.3	1.3	0.28	0.1	0.00	0.01	0.11	0.03	2	20
10		17.55		17.55		33.243		24.038	386.8	0.039	5.53		101.2	1.2	0.26	0.0	0.00	0.01	0.11	0.03	10	19
20		17.55		17.55		33.244		24.039	387.1	0.077	5.52		101.0	1.2	0.26	0.1	0.00	0.01	0.12	0.03	20	18
30		16.33		16.33		33.265		24.341	358.6	0.115	5.58		99.7	1.3	0.25	0.1	0.00	0.00	0.15	0.05	30	17
40		15.35		15.34		33.361		24.636	330.8	0.149	5.80		101.7	1.2	0.34	0.8	0.07	0.19	1.11	0.55	40	16
50	ISL	14.89	D	14.83		33.356	D	24.743	320.9	0.183	5.50	D	95.4	2.1	0.45	1.8	0.16	0.84	0.47	0.34	50	
51		14.74		14.73		33.349		24.759	319.4	0.185	5.54		95.9	2.2	0.46	1.9	0.17	0.91	0.41	0.32	51	15
60		13.27		13.26		33.243		24.982	298.3	0.213	5.57		93.4	3.0	0.51	2.9	0.24	0.43	0.25	0.27	60	14
69		12.17		12.16		33.277		25.223	275.5	0.239	5.00		82.0	6.4	0.85	8.6	0.22	0.05	0.12	0.17	70	13
75	ISL	12.09	D	12.08		33.285	D	25.245	273.5	0.256	4.98	D	81.6	7.2	0.91	9.8	0.14	0.04	0.11	0.17	76	
85		11.59		11.58		33.311		25.358	263.0	0.282	4.77		77.3	8.3	1.01	11.7	0.00	0.01	0.11	0.17	86	12
100		10.35		10.33		33.348		25.608	239.4	0.320	4.63		73.1	12.3	1.17	14.2	0.00	0.00	0.06	0.07	101	11
120		9.31		9.29		33.598		25.976	204.6	0.364	3.73		57.5	21.5	1.61	21.8	0.00	0.00	0.01	0.06	121	10
125	ISL	9.27	D	9.25		33.646	D	26.021	200.4	0.376	3.51	D	54.2	22.6	1.66	22.5	0.00	0.00	0.01	0.06	126	
140		9.29		9.27		33.773		26.117	191.7	0.403	3.03		46.8	26.0	1.82	24.7	0.00	0.00	0.01	0.06	141	09
150	ISL	9.08	D	9.05		33.828	D	26.195	184.5	0.425	2.98	D	45.8	27.6	1.87	25.5	0.00	0.00	0.00	0.05	151	
171		8.76		8.74		33.932		26.325	172.4	0.460	2.66		40.7	31.1	1.98	27.3	0.00	0.00	0.00	0.05	172	08
200		8.61		8.58		34.037		26.433	162.8	0.508	2.04		31.1	36.6	2.21	29.6	0.00	0.00	0.00	0.05	202	07
230		8.39		8.37		34.114		26.527	154.4	0.556	1.62		24.6	41.2	2.36	31.1	0.00	0.00			232	06
250	ISL	8.08	D	8.05		34.135	D	26.591	148.5	0.590	1.42	D	21.4	44.3	2.44	32.1	0.00	0.00			252	
280		7.74		7.72		34.140		26.644	143.9	0.630	1.27		18.9	49.0	2.55	33.7	0.00	0.00			282	05
300	ISL	7.63	D	7.60		34.160	D	26.676	141.2	0.663	1.13	D	16.9	51.7	2.62	34.6	0.00	0.00			302	
320		7.33		7.30		34.154		26.716	137.6	0.687	1.04		15.4	54.3	2.69	35.4	0.00	0.00			323	04
382		6.71		6.68		34.196		26.835	126.9	0.769	0.69		10.1	64.1	2.87	37.7	0.00	0.00			385	03
400	ISL	6.49	D	6.45		34.195	D	26.864	124.2	0.796	0.65	D	9.4	66.4	2.91	38.1	0.00	0.00			403	
438		6.32		6.28		34.229		26.912	120.1	0.838	0.49		7.1	71.3	2.98	39.0	0.00	0.00			442	02
500	ISL	5.69	D	5.65		34.219	D	26.984	113.5	0.916	0.46	D	6.6	79.7	3.08	40.6	0.00	0.00			504	
515		5.64		5.59		34.232		27.002	112.0	0.927	0.40		5.6	81.7	3.10	41.0	0.00	0.00			519	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1110 STATION 80.0 90.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
33 9.2 N	123 13.4 W	30/10/2011	2317 UTC	4472 m	350 21 kn	340 07 07	2	1019.0 mb	17.6 C	15.7 C		8/8	ST	066

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		17.68		17.68		33.412		24.135	377.3	0.000	5.53		101.5	0.6	0.27	0.1	0.00	0.03	0.22	0.05	0	
2		17.68		17.68		33.412		24.135	377.3	0.008	5.53		101.5	0.6	0.27	0.1	0.00	0.03	0.22	0.05	2	24
10		17.69		17.68		33.415		24.137	377.4	0.038	5.55		101.9	0.5	0.27	0.1	0.00	0.03	0.22	0.05	10	23
20		17.69		17.68		33.411		24.134	378.0	0.076	5.52		101.3	0.6	0.26	0.1	0.00	0.06	0.22	0.05	20	22
30		17.69		17.69		33.429		24.148	377.1	0.113	5.51		101.2	0.4	0.26	0.0	0.00	0.05	0.21	0.05	30	21
40		15.00		15.00		33.315		24.676	327.0	0.149	5.68		98.8	1.1	0.31	0.5	0.04	0.06	0.59	0.15	40	20
50		12.99		12.98		33.412		25.169	280.2	0.179	5.04		84.2	4.9	0.91	9.4	0.26	0.00	0.64	0.40	50	19
60		12.02		12.02		33.370		25.322	265.7	0.206	4.73		77.4	7.8	1.14	13.0	0.04	0.00	0.41	0.43	60	18
70		10.91		10.90		33.478		25.609	238.6	0.231	3.99		63.8	14.0	1.51	18.6	0.00	0.00	0.16	0.22	71	17
75	ISL	10.10	D	10.08		33.519	D	25.783	222.0	0.244	3.75	D	58.9	16.3	1.58	20.0	0.00	0.00	0.11	0.16	76	
85		9.64		9.63		33.596		25.919	209.3	0.265	3.51		54.6	21.0	1.73	22.8	0.00	0.00	0.02	0.05	86	16
100		9.22		9.18		33.770	D	26.130	189.6	0.295	2.88	D	44.4								101	15
120		8.88		8.87		33.889		26.271	176.5	0.331	2.61		40.0	30.6	2.05	27.6	0.00	0.00	0.01	0.04	121	14
125	ISL	8.88	D	8.86		33.902	D	26.283	175.5	0.341	2.52	D	38.6	31.1	2.07	27.8	0.00	0.00	0.00	0.04	126	
139		8.75		8.73		33.933		26.327	171.6	0.364	2.41		36.8	32.4	2.11	28.5	0.00	0.00	0.00	0.04	140	13
150	ISL	8.62	D	8.61		33.955	D	26.364	168.3	0.385	2.37	D	36.1	33.7	2.14	29.0	0.00	0.00	0.00	0.03	151	
170		8.30		8.29		34.001		26.449	160.5	0.416	2.21		33.5	36.1	2.20	30.0	0.00	0.00	0.00	0.03	171	12
200		7.97		7.95		34.018		26.514	154.8	0.463	1.94		29.1	40.4	2.31	31.7	0.00	0.00	0.00	0.02	202	11
230		7.62		7.60		34.031		26.575	149.4	0.509	1.97		29.4	44.1	2.33	32.0	0.00	0.00			232	10
250	ISL	7.36	D	7.34		34.044	D	26.622	145.2	0.541	1.50	D	22.2	48.0	2.50	33.3	0.00	0.00			252	
271		7.59		7.57		34.179		26.696	138.7	0.568	1.03		15.4	52.1	2.67	34.7	0.00	0.00			273	09
300	ISL	7.22	D	7.19		34.160	D	26.735	135.3	0.611	1.03	D	15.2	57.5	2.73	36.2	0.00	0.00			302	
320		6.63		6.60		34.097		26.765	132.3	0.635	1.05		15.3	61.2	2.77	37.3	0.00	0.00			323	08
381		6.62		6.59		34.231		26.873	123.1	0.713	0.52		7.6	67.4	2.97	38.0	0.00	0.00			384	07
400	ISL	6.49	D	6.45		34.251	D	26.908	120.1	0.740	0.46	D	6.7	70.0	3.00	38.5	0.00	0.00			403	
440		6.15		6.11		34.261		26.960	115.4	0.783	0.37		5.3	75.6	3.07	39.6	0.00	0.00			444	06
500	ISL	5.54	D	5.49		34.245	D	27.024	109.6	0.855	0.35	D	5.0	83.4	3.13	40.9	0.00	0.00			504	
514		5.55		5.50		34.264		27.038	108.4	0.866	0.32		4.6	85.2	3.15	41.2	0.00	0.00			518	05
600	ISL	5.13	D	5.08		34.317	D	27.130	100.3	0.961	0.25	D	3.5	95.2	3.21	42.6	0.00	0.00			605	
650		4.75		4.70		34.319		27.175	96.1	1.004	0.20		2.8	101.0	3.25	43.4	0.00	0.00			656	04
700	ISL	4.61	D	4.55		34.340	D	27.209	93.3	1.059	0.24	D	3.3								706	
800	ISL	4.25	D	4.18		34.394	D	27.291	86.0	1.150	0.28	D	3.9								807	
900	ISL	3.98	D	3.91		34.444	D	27.360	80.0	1.233	0.41	D	5.6								908	
1000	ISL	3.73	D	3.65		34.467	D	27.405	76.1	1.312	0.52	D	7.1								1010	
1100	ISL	3.53	D	3.45		34.494	D	27.447	72.5	1.388	0.65	D	8.8								1111	
1200	ISL	3.37	D	3.28		34.512	D	27.479	70.0	1.460	0.75	D	10.1								1212	
1300	ISL	3.12	D	3.02		34.531	D	27.518	66.4	1.529	0.87	D	11.7								1313	
1400	ISL	2.93	D	2.83		34.547	D	27.548	63.7	1.595	0.99	D	13.2								1415	
1500	ISL	2.73	D	2.63		34.561	D	27.577	60.9	1.658	1.12	D	14.9								1516	
1600	ISL	2.57	D	2.45		34.573	D	27.602	58.7	1.719	1.23	D	16.3								1618	
1800	ISL	2.28	D	2.15		34.600	D	27.649	54.3	1.833	1.52	D	19.9								1821	
2000	ISL	2.09	D	1.95		34.617	D	27.680	51.6	1.941	1.78	D	23.2								2024	
2200	ISL	1.96	D	1.80		34.631	D	27.703	49.8	2.044	2.01	D	26.1								2227	
2400	ISL	1.85	D	1.67		34.642	D	27.723	48.3	2.144	2.20	D	28.5								2431	
2600	ISL	1.76	D	1.57		34.650	D	27.737	47.3	2.242	2.33	D	30.1								2635	
2800	ISL	1.68	D	1.47		34.657	D	27.751	46.5	2.337	2.48	D	32.0								2839	
3000	ISL	1.61	D	1.39		34.663	D	27.763	45.7	2.431	2.62	D	33.7								3043	
3200	ISL	1.56	D	1.32		34.668	D	27.773	45.3	2.524	2.76	D	35.4								3248	
3400	ISL	1.54	D	1.28		34.672	D	27.780	45.2	2.617	2.85	D	36.6								3452	
3500		1.53		1.25		34.674		27.784	45.1	3.016	2.89		37.0	174.0	2.69	38.6	0.00	0.00			3555	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1110 STATION 80.0 90.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
33 9.0 N	123 13.4 W	31/10/2011	0249 UTC	4472 m	350 21 kn	340 07 07	2	1019.0 mb	17.6 C	15.7 C	16 m	8/8	ST	666

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		17.62		17.62		33.379		24.124	378.3	0.000	5.54		101.6	0.9	0.29	0.1	0.00	0.00	0.25	0.05	0	
2	A	17.62		17.62		33.379		24.124	378.3	0.008	5.54		101.6	0.9	0.29	0.1	0.00	0.00	0.25	0.05	2	07
10	ISL	17.62	D	17.62		33.373	D	24.119	379.1	0.038	5.52	D	101.2	1.0	0.28	0.1	0.00	0.00	0.26	0.05	10	
12	A	17.63		17.62		33.375		24.121	379.0	0.046	5.55		101.7	1.0	0.28	0.1	0.00	0.00	0.26	0.05	12	06
14	A	17.63		17.62		33.375		24.121	379.1	0.053	5.53		101.3	0.3	0.27	0.1	0.00	0.00	0.24	0.06	14	05
20	ISL	17.63	D	17.62		33.372	D	24.119	379.4	0.076	5.52	D	101.2	0.4	0.27	0.1	0.00	0.01	0.25	0.06	20	
25	A	17.62		17.62		33.383		24.128	378.8	0.095	5.54		101.6	0.5	0.27	0.1	0.00	0.01	0.25	0.06	25	04
30	ISL	17.61	D	17.61		33.367	D	24.119	379.8	0.115	5.50	D	100.8	1.2	0.38	1.6	0.07	0.01	0.35	0.12	30	
49	A	13.29		13.28		33.399		25.099	286.9	0.177	5.26		88.3	3.5	0.80	7.4	0.32	0.00	0.71	0.35	49	03
50	ISL	13.07	D	13.07		33.387	D	25.131	283.8	0.182	5.02	D	84.0	3.9	0.84	8.0	0.29	0.00	0.70	0.36	50	
55	A	12.72		12.71		33.410		25.220	275.5	0.194	4.90		81.5	5.9	1.02	10.9	0.15	0.00	0.64	0.40	55	02
75	ISL	10.48	D	10.48		33.488	D	25.692	230.8	0.247	3.89	D	61.6	10.9	1.20	13.8	0.13	0.00	0.55	0.34	76	
100	ISL	9.51	D	9.50		33.810	D	26.108	191.7	0.300	2.55	D	39.6	17.1	1.43	17.5	0.10	0.00	0.44	0.28	101	
125	ISL	8.86	D	8.84		33.891	D	26.277	176.0	0.346	2.83	D	43.3	23.3	1.66	21.1	0.08	0.00	0.33	0.21	126	
150	ISL	8.52	D	8.50		33.999	D	26.415	163.4	0.389	2.27	D	34.5	29.4	1.88	24.8	0.05	0.00	0.22	0.15	151	
200		7.90		7.88		34.035		26.537	152.6	0.465	1.91		28.6	41.8	2.34	32.1	0.00	0.00	0.00	0.02	202	01

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.
D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1110 STATION 80.0 100.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
32 49.1 N	123 54.6 W	31/10/2011	0737 UTC	4480 m	360	20 kn	340 07 07	2	1017.0 mb	17.2 C	16.0 C	16 m	8/8	ST	067

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		17.71		17.70	33.427	24.141	376.7	0.000	5.54		101.8	0.8	0.27	0.0	0.00	0.02	0.25	0.06	0	
2		17.71		17.70	33.427	24.141	376.7	0.008	5.54		101.8	0.8	0.27	0.0	0.00	0.02	0.25	0.06	2	20
10		17.71		17.71	33.425	24.138	377.3	0.038	5.54		101.8	0.9	0.26	0.1	0.00	0.03	0.28	0.03	10	19
20	ISL	17.71	D	17.71	33.423 D	24.138	377.7	0.076	5.50	D	101.0	0.8	0.27	0.0	0.00	0.01	0.27	0.05	20	
21		17.71		17.71	33.424	24.138	377.7	0.079	5.54		101.8	0.8	0.27	0.0	0.00	0.01	0.26	0.05	21	18
29		17.68		17.68	33.429	24.149	376.9	0.109	5.54		101.7	0.9	0.27	0.0	0.00	0.03	0.25	0.07	29	17
30	ISL	17.68	D	17.67	33.424 D	24.148	377.1	0.114	5.52	D	101.3	0.9	0.27	0.0	0.00	0.03	0.26	0.07	30	
40		17.44		17.43	33.417	24.200	372.5	0.151	5.56		101.6	0.9	0.27	0.1	0.00	0.04	0.38	0.07	40	16
50		14.96		14.95	33.255	24.640	330.7	0.186	5.78		100.3	1.8	0.40	1.2	0.18	0.21	0.75	0.31	50	15
60		13.26		13.25	33.255	24.994	297.2	0.217	5.58		93.6	2.5	0.58	3.3	0.54	0.23	0.69	0.34	60	14
69		11.83		11.83	33.435	25.409	257.8	0.242	4.45		72.6	9.1	1.25	14.5	0.02	0.00	0.23	0.29	70	13
75	ISL	11.24	D	11.23	33.446 D	25.526	246.7	0.258	4.13	D	66.5	11.3	1.35	16.2	0.01	0.00	0.18	0.23	76	
86		10.45		10.44	33.458	25.675	232.7	0.284	4.00		63.2	15.4	1.52	19.2	0.00	0.00	0.08	0.11	87	12
100		9.65		9.64	33.632	25.946	207.1	0.315	3.23		50.3	22.6	1.86	24.3	0.00	0.00	0.02	0.07	101	11
120		9.29		9.27	33.752	26.100	192.9	0.355	2.79		43.1	26.8	2.01	26.8	0.00	0.00	0.01	0.06	121	10
125	ISL	9.20	D	9.19	33.770 D	26.127	190.3	0.366	2.75	D	42.4	27.7	2.03	27.1	0.00	0.00	0.01	0.06	126	
141		9.03		9.01	33.854	26.221	181.7	0.394	2.48		38.1	30.3	2.10	28.1	0.00	0.00	0.01	0.06	142	09
150	ISL	9.00	D	8.99	33.894 D	26.257	178.5	0.412	2.42	D	37.2	31.2	2.11	28.3	0.00	0.00	0.01	0.06	151	
169		8.69		8.68	33.950	26.349	170.1	0.443	2.41		36.8	32.9	2.13	28.6	0.00	0.00	0.01	0.05	170	08
200		8.31		8.29	34.025	26.468	159.3	0.494	2.08		31.5	37.6	2.27	30.2	0.00	0.00	0.00	0.05	202	07
231		7.87		7.85	34.024	26.533	153.5	0.543	2.03		30.5	41.3	2.30	31.4	0.00	0.00			233	06
250	ISL	7.72	D	7.69	34.076 D	26.597	147.7	0.574	1.62	D	24.2	45.1	2.42	32.7	0.00	0.00			252	
269		7.53		7.51	34.087	26.632	144.7	0.599	1.47		21.8	48.9	2.53	33.9	0.00	0.00			271	05
300	ISL	6.96	D	6.94	34.058 D	26.689	139.4	0.647	1.53	D	22.5	53.8	2.60	35.2	0.00	0.00			302	
320		6.77		6.74	34.073	26.728	135.9	0.671	1.38		20.2	57.0	2.65	36.0	0.00	0.00			323	04
381		6.25		6.21	34.098	26.817	128.0	0.751	0.97		14.1	66.2	2.84	38.6	0.00	0.00			384	03
400	ISL	6.16	D	6.13	34.121 D	26.847	125.4	0.780	0.85	D	12.3	69.2	2.89	39.1	0.00	0.00			403	
441		5.77		5.73	34.144	26.915	119.2	0.826	0.69		9.9	75.6	2.99	40.3	0.00	0.00			445	02
500	ISL	5.57	D	5.53	34.205 D	26.988	112.9	0.900	0.45	D	6.4	82.5	3.11	41.2	0.00	0.00			504	
516		5.52		5.48	34.239	27.021	110.0	0.912	0.35		5.0	84.4	3.14	41.4	0.00	0.00			520	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1110 STATION 81.7 43.5

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
34 24.2 N	119 48.0 W	29/10/2011	0646 UTC	21 m	250	08 kn	280 01 05	1	1015.0 mb	18.2 C	15.5 C		3/8	CS	058

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	15.62	15.62	33.371	24.580	334.8	0.000	5.78	101.9	6.2	0.46	0.8	0.10	0.30	3.34	0.70	0	
2	15.62	15.62	33.371	24.580	334.8	0.007	5.78	101.9	6.2	0.46	0.8	0.10	0.30	3.34	0.70	2	04
5	15.26	15.26	33.360	24.652	328.1	0.017	5.63	98.5	6.6	0.51	1.0	0.13	0.54	2.96	0.67	5	03
10	14.92	14.92	33.352	24.720	321.8	0.033	5.30	92.1	7.2	0.60	1.7	0.19	1.01	1.77	0.59	10	02
16	14.22	14.22	33.345	24.864	308.2	0.052	4.80	82.2	9.4	0.79	3.1	0.29	1.82	1.04	0.58	16	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1110 STATION 81.8 46.9

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
34 16.5 N	120 1.5 W	29/10/2011	0846 UTC	582 m	240	09 kn	260 01 07	1	1015.0 mb	17.9 C	14.9 C		1/8	CS	059

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		16.06		16.05	33.391	24.499	342.6	0.000	6.08		108.0	0.0	0.24	0.2	0.00	0.14	0.37	0.08	0	
2		16.06		16.05	33.391	24.499	342.6	0.007	6.08		108.0	0.0	0.24	0.2	0.00	0.14	0.37	0.08	2	24
10		15.49		15.49	33.379	24.616	331.7	0.034	6.23		109.5	0.0	0.22	0.2	0.00	0.00	0.65	0.14	10	23
19		14.89		14.88	33.356	24.732	321.0	0.063	6.34		110.1	0.2	0.26	0.4	0.02	0.00	1.78	0.47	19	22
20	ISL	14.71	D	14.68	33.364 D	24.781	316.3	0.067	6.14	D	106.2	0.3	0.28	0.6	0.03	0.02	1.95	0.52	20	
30		13.69		13.68	33.317	24.953	300.1	0.097	5.79		98.0	1.1	0.49	2.6	0.18	0.24	3.67	1.02	30	21
40		13.00		12.99	33.288	25.070	289.3	0.127	5.41		90.3	3.4	0.70	5.2	0.25	0.45	1.73	1.08	40	20
50		12.18		12.18	33.288	25.228	274.4	0.155	4.98		81.7	6.8	0.92	8.5	0.27	0.33	0.47	0.53	50	19
60		11.39		11.38	33.363	25.434	255.0	0.182	4.28		69.0	11.8	1.25	14.3	0.14	0.00	0.13	0.24	60	18
70		10.98		10.97	33.424	25.555	243.8	0.206	4.06		64.9	13.9	1.36	16.1	0.12	0.02	0.07	0.15	71	17
75	ISL	10.92	D	10.91	33.447 D	25.585	241.1	0.220	3.85	D	61.6	14.9	1.41	17.0	0.09	0.01	0.07	0.15	76	
85		10.62		10.61	33.508	25.685	231.8	0.242	3.71		58.9	17.0	1.52	18.8	0.03	0.00	0.05	0.14	86	16
100		10.05		10.04	33.650	25.893	212.2	0.275	3.20		50.2	22.3	1.75	22.2	0.07	0.00	0.04	0.17	101	15
120		9.66		9.64	33.800	26.077	195.1	0.316	2.74		42.7	26.6	1.93	24.8	0.05	0.00	0.03	0.14	121	14
125	ISL	9.57	D	9.56	33.840 D	26.122	191.0	0.328	2.54	D	39.5	27.6	1.97	25.4	0.05	0.00	0.03	0.14	126	
140		9.31		9.30	33.929	26.234	180.6	0.354	2.33		36.0	30.8	2.09	27.0	0.03	0.00	0.02	0.14	141	13
150	ISL	9.21	D	9.19	33.971 D	26.284	176.0	0.374	2.19	D	33.8	32.5	2.15	27.6	0.02	0.00	0.02	0.13	151	
170		9.05		9.03	34.045	26.368	168.5	0.406	1.84		28.4	35.8	2.26	28.9	0.01	0.00	0.01	0.11	171	12
200		9.10		9.08	34.169	26.459	160.6	0.455	0.99		15.3	41.0	2.54	31.3	0.00	0.00	0.01	0.09	202	11
230		8.87		8.85	34.206	26.525	154.9	0.503	0.69		10.5	45.5	2.68	32.6	0.00	0.00			232	10
250	ISL	8.70	D	8.68	34.218 D	26.561	151.8	0.537	0.57	D	8.7	48.1	2.73	33.1	0.00	0.00			252	
269		8.48		8.45	34.213	26.593	149.0	0.562	0.60		9.1	50.6	2.77	33.5	0.00	0.00			271	09
300	ISL	8.01	D	7.97	34.219 D	26.669	142.1	0.611	0.37	D	5.6	56.3	2.89	34.1	0.00	0.00			302	
320		7.98		7.94	34.220	26.675	141.9	0.635	0.34		5.1	60.1	2.96	34.5	0.00	0.00			323	08
380		7.42		7.38	34.225	26.760	134.6	0.718	0.25		3.7	68.0	3.09	34.6	0.00	0.00			383	07
400	ISL	7.26	D	7.22	34.230 D	26.788	132.1	0.751	0.22	D	3.3	74.0	3.19	33.6	0.00	0.00			403	
440		6.87		6.83	34.243	26.852	126.4	0.797	0.06		0.9	86.0	3.40	31.6	0.00	0.00			444	06
480		6.55		6.51	34.247	26.898	122.4	0.847	0.01		0.1	107.7	3.92	21.0	1.58	0.00			484	05
500	ISL	6.53	D	6.48	34.247 D	26.902	122.3	0.878	0.04	D	0.6	114.1	4.13	14.7	4.21	0.00			504	
515		6.51		6.46	34.246	26.904	122.3	0.889	0.03		0.5	118.9	4.28	10.0	6.19	0.00			519	04
540		6.50		6.45	34.246	26.906	122.5	0.920	0.04		0.5	121.3	4.35	8.1	7.15	0.00			545	03
560		6.48		6.43	34.247	26.910	122.4	0.944	0.05		0.7	120.8	4.36	7.9	7.44	0.00			565	02
566		6.48		6.43	34.250	26.912	122.3	0.952	0.05		0.8	120.5	4.35	8.3	7.27	0.00			571	01

A) SANTA BARBARA BASIN STATION.
D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1110 STATION 83.3 39.4

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
34 15.5 N	119 19.4 W	29/10/2011	0039	UTC	24 m	010	11 kn	290 01 02	0	1016.0 mb	19.5 C	12.8 C		0/8		055

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	15.11	15.11	33.359	24.683	325.0	0.000	5.47	95.4	6.6	0.55	1.1	0.14	0.26	6.98	0.88	0	
2	15.11	15.11	33.359	24.683	325.0	0.007	5.47	95.4	6.6	0.55	1.1	0.14	0.26	6.98	0.88	2	05
5	15.12	15.12	33.369	24.690	324.4	0.016	5.47	95.4	6.7	0.57	1.1	0.15	0.24	7.11	0.86	5	04
10	14.88	14.87	33.355	24.732	320.6	0.032										10	03
10	14.88	14.87	33.354	24.731	320.7	0.032	5.37	93.1	6.9	0.62	1.4	0.16	0.29	5.49	0.79	10	02
19	14.15	14.15	33.356	24.888	306.1	0.061	4.57	78.2	10.6	1.27	5.4	0.50	1.77	0.87	0.98	19	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1110 STATION 83.3 40.6

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
34 13.5 N	119 24.6 W	29/10/2011	0228	UTC	33 m	260	04 kn	300 01 05	1	1016.0 mb	18.0 C	16.0 C	16 m	4/8	CI	056

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	16.49	16.49	33.454	24.447	347.5	0.000	5.92	106.2	1.0	0.31	0.1	0.00	0.03	0.75	0.14	0	
2 A	16.49	16.49	33.454	24.447	347.5	0.007	5.92	106.2	1.0	0.31	0.1	0.00	0.03	0.75	0.14	2	07
5	16.39	16.39	33.444	24.464	346.0	0.017	5.96	106.7	1.0	0.30	0.2	0.00	0.04	0.77	0.15	5	06
10 A	15.97	15.97	33.423	24.543	338.7	0.034	5.84	103.7	2.0	0.38	0.9	0.04	0.07	1.04	0.25	10	04
11	15.97	15.97	33.423	24.543	338.7	0.037										11	05
14 A	15.94	15.94	33.423	24.550	338.1	0.048	5.82	103.2	2.0	0.39	1.0	0.04	0.05	0.98	0.24	14	03
20 ISL	14.88 D	14.81	33.392 D	24.775	316.9	0.068	5.46 D	94.7	3.5	0.56	3.2	0.17	0.25	0.85	0.25	20	
25 A	14.01	14.01	33.367	24.925	302.7	0.083	5.22	89.1	4.7	0.70	5.1	0.27	0.42	0.74	0.26	25	02
30 A	13.72	13.71	33.354	24.975	298.1	0.098	5.04	85.5	5.9	0.78	6.2	0.30	0.53	0.61	0.33	30	01

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.
D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1110 STATION 83.3 42.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
34 10.7 N	119 30.5 W	29/10/2011	0328	UTC	143 m	230	03 kn	350 01 05	1	1016.0 mb	19.1 C	17.0 C	14 m	4/8	CI	057

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	16.42	16.42	33.397	24.420	350.0	0.000	6.26	112.0	2.4	0.28	0.1	0.00	0.03	2.79	0.16	0	
2	16.42	16.42	33.397	24.420	350.0	0.007	6.26	112.0	2.4	0.28	0.1	0.00	0.03	2.79	0.16	2	12
10	16.19	16.19	33.410	24.482	344.4	0.033										10	11
10	16.19	16.19	33.403	24.477	344.9	0.035	6.23	111.0	2.2	0.29	0.1	0.00	0.01	3.57	0.27	10	10
20	15.30	15.29	33.364	24.648	328.9	0.068	5.88	102.9	3.5	0.39	1.0	0.07	0.15	1.09	0.31	20	09
30	12.56	12.55	33.365	25.215	275.2	0.099	4.69	77.6	9.0	0.98	9.8	0.33	0.38	0.52	0.43	30	08
40	11.96	11.95	33.407	25.363	261.3	0.125	4.37	71.5	11.9	1.16	13.0	0.24	0.25	0.25	0.19	40	07
50	11.88	11.87	33.397	25.370	260.9	0.152	4.31	70.3	11.8	1.20	13.7	0.16	0.11	0.22	0.22	50	06
60	11.31	11.30	33.377	25.460	252.6	0.177	4.31	69.5	11.6	1.21	14.1	0.12	0.03	0.17	0.16	60	05
70	10.74	10.73	33.456	25.623	237.2	0.202	4.01	63.8	14.6	1.40	16.9	0.04	0.00	0.09	0.15	71	04
75 ISL	10.65 D	10.62	33.505 D	25.680	232.0	0.215	3.65 D	58.0	16.3	1.49	18.1	0.03	0.00	0.08	0.13	76	
86	10.38	10.37	33.607	25.804	220.4	0.238	3.31	52.3	19.9	1.68	20.6	0.00	0.00	0.04	0.08	87	03
100	10.26	10.25	33.661	25.867	214.7	0.269	3.15	49.6	21.5	1.75	21.7	0.00	0.00	0.02	0.06	101	02
120	10.21	10.20	33.670	25.883	213.7	0.312	3.12	49.2	22.0	1.77	21.9	0.00	0.00	0.03	0.08	121	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1110 STATION 83.3 51.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
33 52.7 N	120 8.0 W	28/10/2011	1823	UTC	103 m	110	04 kn			1014.0 mb	16.6 C	15.0 C				054

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	15.92	15.92	33.430	24.560	336.8	0.000	5.87	104.0	1.9	0.40	0.4	0.00	0.00	1.12	0.34	0	
2	15.92	15.92	33.430	24.560	336.8	0.007	5.87	104.0	1.9	0.40	0.4	0.00	0.00	1.12	0.34	2	11
5	15.60	15.59	33.421	24.625	330.6	0.017	5.79	102.0	2.5	0.44	1.0	0.03	0.01	1.55	0.48	5	10
10	15.07	15.07	33.418	24.738	320.0	0.032										10	09
10	15.07	15.07	33.410	24.732	320.6	0.033	5.62	97.9	3.6	0.55	2.3	0.07	0.15	1.76	0.51	10	08
20	13.88	13.88	33.394	24.972	298.1	0.064	5.19	88.3	6.0	0.76	5.8	0.15	0.18	1.08	0.39	20	07
30	12.96	12.96	33.330	25.110	285.2	0.093	5.00	83.5	6.3	0.87	7.5	0.30	0.27	0.57	0.28	30	06
40	12.39	12.39	33.343	25.230	274.0	0.121	4.74	78.1	8.6	1.02	10.2	0.22	0.05	0.39	0.19	40	05
50	11.63	11.63	33.435	25.445	253.8	0.147	4.31	70.0	12.5	1.25	13.6	0.12	0.11	0.28	0.19	50	04
60	10.93	10.92	33.467	25.597	239.5	0.172	4.08	65.3	14.6	1.37	15.6	0.11	0.06	0.16	0.16	60	03
75	10.65	10.64	33.562	25.721	228.1	0.207	3.68	58.5	18.4	1.55	18.4	0.08	0.06	0.12	0.15	76	02
89	9.96	9.95	33.728	25.970	204.7	0.238	3.05	47.8	24.6	1.85	22.7	0.06	0.07	0.05	0.17	90	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1110 STATION 83.3 55.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
33 44.7 N	120 24.3 W	28/10/2011	1434 UTC	982 m	330 17 kn			1015.0 mb	17.1 C	14.2 C				053

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		16.45		16.45		33.461		24.463	346.0	0.000	6.07		108.9	0.6	0.31	0.1	0.00	0.00	1.02	0.18	0	
3		16.45		16.45		33.461		24.463	346.0	0.010	6.07		108.9	0.6	0.31	0.1	0.00	0.00	1.02	0.18	3	21
10		15.99		15.99		33.454		24.562	336.9	0.033											10	20
10		15.99		15.99		33.455		24.563	336.8	0.034	6.06		107.6	1.2	0.35	0.1	0.00	0.01	2.07	0.42	10	19
20		14.77		14.77		33.461		24.837	311.0	0.067	5.47		94.8	3.4	0.59	3.0	0.14	0.22	2.16	0.65	20	18
30		13.09		13.08		33.422		25.155	280.9	0.096	4.82		80.8	7.3	0.91	8.1	0.27	0.21	0.89	0.52	30	17
40		11.78		11.78		33.404		25.393	258.4	0.123	4.36		71.0	11.2	1.20	13.3	0.14	0.00	0.20	0.29	40	16
49		11.57		11.56		33.422		25.447	253.5	0.146	4.29		69.5	11.9	1.24	13.9	0.15	0.01	0.15	0.20	49	15
50	ISL	11.45	D	11.44		33.443	D	25.486	249.8	0.150	4.09	D	66.1	12.3	1.26	14.2	0.14	0.01	0.14	0.19	50	
60		10.66		10.65		33.496		25.668	232.7	0.173	3.87		61.6	15.9	1.48	17.7	0.09	0.00	0.06	0.13	60	14
70		9.98		9.97		33.619		25.880	212.7	0.195	3.39		53.2	20.5	1.72	21.5	0.04	0.00	0.04	0.08	71	13
75	ISL	9.91	D	9.90		33.630	D	25.900	210.9	0.207	3.39	D	53.1	22.2	1.78	22.5	0.03	0.00	0.03	0.09	76	
85		9.57		9.56		33.767		26.064	195.6	0.226	2.91		45.3	25.4	1.91	24.4	0.02	0.00	0.01	0.10	86	12
100		9.45		9.44		33.856		26.155	187.3	0.255	2.60		40.3	28.2	2.03	25.9	0.01	0.00	0.01	0.08	101	11
120		9.18		9.17		33.875		26.213	182.1	0.292	2.71		41.8	28.9	2.01	26.1	0.00	0.00	0.01	0.10	121	10
125	ISL	9.13	D	9.12		33.896	D	26.236	180.0	0.303	2.70	D	41.6	29.5	2.03	26.4	0.00	0.00	0.01	0.10	126	
140		9.06		9.04		33.936		26.281	176.1	0.330	2.51		38.6						0.01	0.06	141	09
150	ISL	8.88	D	8.87		33.969	D	26.335	171.1	0.347	2.45	D	37.6	32.9	2.14	28.0	0.00	0.00	0.01	0.08	151	
170		8.53		8.51		34.013		26.425	162.8	0.378	2.23		33.9	35.6	2.22	29.2	0.00	0.00	0.01	0.07	171	08
200		8.19		8.17		34.061		26.515	154.8	0.426	1.92		29.0	40.7	2.35	30.9	0.00	0.00	0.01	0.04	202	07
230		7.78		7.75		34.092		26.600	147.1	0.471	1.64		24.6	46.3	2.49	32.8	0.00	0.00			232	06
250	ISL	7.81	D	7.78		34.131	D	26.627	144.9	0.504	1.36	D	20.4	48.1	2.57	33.3	0.00	0.00			252	
270		7.79		7.76		34.166		26.658	142.4	0.529	1.17		17.5	50.0	2.65	33.7	0.00	0.00			272	05
300	ISL	7.65	D	7.62		34.177	D	26.688	140.1	0.575	1.04	D	15.5	52.6	2.71	34.5	0.00	0.00			302	
320		7.46		7.42		34.171		26.711	138.1	0.599	0.99		14.8	54.3	2.75	35.1	0.00	0.00			323	04
380		6.79		6.75		34.216		26.840	126.4	0.679	0.64		9.4	65.5	2.95	37.6	0.00	0.00			383	03
400	ISL	6.73	D	6.69		34.246	D	26.872	123.7	0.708	0.54	D	7.9	67.5	2.99	37.9	0.00	0.00			403	
440		6.51		6.47		34.268		26.920	119.6	0.752	0.43		6.3	71.6	3.07	38.6	0.00	0.00			444	02
500	ISL	6.19	D	6.14		34.284	D	26.975	115.0	0.828	0.36	D	5.2	76.3	3.13	39.6	0.00	0.00			504	
515		6.13		6.09		34.283		26.981	114.6	0.840	0.35		5.0	77.5	3.15	39.9	0.00	0.00			519	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1110 STATION 83.3 60.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
33 34.6 N	120 45.3 W	28/10/2011	0904 UTC	1360 m	320 06 kn	310 04 07	0	1014.0 mb	18.1 C	15.4 C		0/8		052

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		17.60		17.60		33.264		24.040	386.3	0.000	5.58		102.2	1.2	0.27	0.1	0.00	0.00	0.11	0.03	0	
2		17.60		17.60		33.264		24.040	386.3	0.008	5.58		102.2	1.2	0.27	0.1	0.00	0.00	0.11	0.03	2	21
9		17.47		17.47		33.260		24.069	383.8	0.036											9	20
10		17.40		17.40		33.261		24.087	382.1	0.039	5.56		101.4	1.1	0.26	0.1	0.00	0.00	0.12	0.03	10	19
20		16.24		16.24		33.242		24.343	358.1	0.076	5.70		101.7	1.2	0.26	0.1	0.00	0.00	0.23	0.09	20	18
30		14.58		14.58		33.223		24.694	324.9	0.110	5.98		103.2	1.8	0.27	0.2	0.04	0.00	0.42	0.18	30	17
40		13.96		13.95		33.243		24.841	311.2	0.141	5.89		100.3	2.0	0.31	0.7	0.10	0.00	0.41	0.21	40	16
50		12.88		12.88		33.229		25.048	291.7	0.172	5.70		94.9	2.8	0.37	1.4	0.13	0.00	0.35	0.29	50	15
60		12.23		12.22		33.210		25.160	281.2	0.200	5.58		91.5	3.7	0.47	3.1	0.08	0.00	0.29	0.30	60	14
70		11.75		11.74		33.222		25.259	272.0	0.228	5.36		87.0	5.2	0.63	6.0	0.03	0.00	0.19	0.23	71	13
75	ISL	11.64	D	11.63		33.230	D	25.286	269.6	0.243	5.32	D	86.3	5.5	0.66	6.5	0.02	0.00	0.18	0.21	76	
85		11.14		11.13		33.242		25.386	260.3	0.268	5.24		84.0	6.3	0.72	7.5	0.01	0.00	0.16	0.19	86	12
100		10.64		10.63		33.326		25.540	245.9	0.306	4.79		76.0	10.7	1.02	12.3	0.00	0.00	0.09	0.10	101	11
121		9.83		9.82		33.608		25.898	212.2	0.354	3.56		55.6	20.8	1.62	21.3	0.01	0.00	0.02	0.07	122	10
125	ISL	9.74	D	9.73		33.640	D	25.938	208.4	0.364	3.40	D	53.0	21.9	1.67	22.0	0.01	0.00	0.02	0.07	126	
140		9.49		9.47		33.785		26.093	194.0	0.393	2.86		44.4	26.1	1.88	24.8	0.01	0.00	0.01	0.09	141	09
150	ISL	9.30	D	9.28		33.881	D	26.200	184.1	0.414	2.41	D	37.3	28.7	1.97	26.0	0.01	0.00	0.01	0.08	151	
170		9.06		9.04		34.013		26.342	170.9	0.447	2.09		32.2	33.9	2.16	28.4	0.00	0.00	0.01	0.08	171	08
200		8.65		8.63		34.058		26.442	161.9	0.497	2.10		32.0	36.5	2.19	29.2	0.00	0.00	0.00	0.05	202	07
229		8.46		8.43		34.112		26.516	155.5	0.543	1.73		26.3	40.5	2.35	30.7	0.00	0.00			231	06
250	ISL	8.10	D	8.08		34.135	D	26.587	149.0	0.578	1.55	D	23.4	44.6	2.46	32.1	0.00	0.00			252	
269		7.81		7.79		34.147		26.639	144.2	0.603	1.34		20.1	48.3	2.55	33.4	0.00	0.00			271	05
300	ISL	7.33	D	7.30		34.133	D	26.698	138.9	0.651	1.21	D	17.9	52.4	2.66	34.6	0.00	0.00			302	
320		7.42		7.38		34.173		26.718	137.4	0.674	0.97		14.5	55.0	2.73	35.4	0.00	0.00			323	04
381		6.80		6.76		34.201		26.827	127.7	0.755	0.69		10.2	63.7	2.90	37.5	0.00	0.00			384	03
400	ISL	6.53	D	6.49		34.191	D	26.854	125.1	0.784	0.69	D	10.0	66.8	2.94	38.2	0.00	0.00			403	
440		6.10		6.06		34.201		26.919	119.3	0.828	0.57		8.2	73.4	3.02	39.6	0.00	0.00			444	02
500	ISL	5.73	D	5.69		34.235	D	26.992	112.7	0.904	0.43	D	6.1	80.4	3.11	40.7	0.00	0.00			504	
515		5.70		5.65		34.253		27.011	111.2	0.914	0.39		5.6	82.2	3.13	41.0	0.00	0.00			519	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1110 STATION 83.3 70.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
33 14.7 N	121 27.2 W	28/10/2011	0230 UTC	3806 m	330 08 kn	270 05 06	0	1016.0 mb	19.2 C	16.8 C	28 m	0/8		051

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		17.65	17.65	33.220	D	23.995	390.6	0.000	5.60		102.6	1.5	0.28	0.0	0.00	0.00	0.12	0.04	0	
2	A	17.65	17.65	33.220	D	23.995	390.6	0.008	5.60		102.6	1.5	0.28	0.0	0.00	0.00	0.12	0.04	2	22
10		17.60	17.59	33.225		24.013	389.2	0.039	5.54		101.4	1.5	0.27	0.0	0.00	0.00	0.13	0.04	10	21
19	A	17.59	17.58	33.222		24.014	389.4	0.074	5.54		101.4	1.3	0.27	0.0	0.00	0.00	0.14	0.04	19	20
20	ISL	17.58	D 17.58	33.223	D	24.015	389.4	0.078	5.52	D	101.0	1.3	0.27	0.0	0.00	0.00	0.14	0.04	20	
25	A	17.53	17.53	33.226		24.030	388.1	0.097	5.55		101.4	1.3	0.27	0.0	0.00	0.01	0.15	0.04	25	19
30	ISL	17.52	D 17.51	33.238	D	24.043	387.1	0.118	5.56	D	101.6	1.3	0.28	0.0	0.00	0.01	0.19	0.07	30	
35		16.64	16.63	33.203		24.224	370.0	0.136	5.75		103.2	1.4	0.28	0.0	0.00	0.00	0.23	0.10	35	18
45	A	13.89	13.88	33.121		24.761	318.9	0.170	6.10		103.6	1.9	0.30	0.0	0.00	0.00	0.38	0.26	45	17
50	ISL	13.58	D 13.57	33.124	D	24.829	312.6	0.187	5.99	D	101.1	2.0	0.32	0.2	0.03	0.00	0.40	0.29	50	
58		13.31	13.30	33.166		24.915	304.6	0.211	5.89		98.9	2.3	0.34	0.4	0.07	0.00	0.44	0.35	58	16
71		13.21	13.20	33.189		24.954	301.3	0.250	5.82		97.5	2.5	0.38	0.9	0.16	0.00	0.36	0.30	72	15
75	ISL	12.81	D 12.80	33.218	D	25.055	291.7	0.264	5.67	D	94.2	2.8	0.41	1.5	0.15	0.00	0.32	0.29	76	
84	A	12.44	12.43	33.228		25.134	284.4	0.288	5.57		91.9	3.5	0.49	2.9	0.14	0.00	0.24	0.26	85	14
90		12.24	12.22	33.217		25.165	281.5	0.305	5.55		91.1	3.9	0.54	3.6	0.08	0.00	0.22	0.22	91	13
98	A	10.82	10.81	33.243		25.444	255.0	0.326	5.36		85.4	5.4	0.68	5.9	0.03	0.00	0.16	0.17	99	12
100	ISL	10.93	D 10.93	33.302	D	25.469	252.7	0.334	4.87	D	77.8	6.2	0.74	6.9	0.03	0.00	0.14	0.16	101	
111		10.56	10.55	33.322		25.551	245.0	0.359	4.78		75.7	10.7	1.08	12.5	0.00	0.00	0.07	0.08	112	11
125		9.91	9.89	33.470		25.778	223.6	0.392	4.14		64.7	17.0	1.45	18.2	0.00	0.00	0.02	0.04	126	10
140		9.07	9.06	33.675		26.074	195.6	0.423	3.69		56.7	23.3	1.68	22.4	0.00	0.00	0.01	0.03	141	09
150	ISL	8.95	D 8.93	33.747	D	26.150	188.6	0.445	3.54	D	54.3	25.1	1.73	23.3	0.00	0.00	0.01	0.02	151	
170		8.60	8.58	33.854		26.290	175.7	0.479	3.37		51.4	28.9	1.83	25.2	0.00	0.00	0.00	0.01	171	08
200	ISL	8.42	D 8.40	33.985	D	26.421	163.9	0.533	2.47	D	37.5	35.2	2.10	28.6	0.00	0.00	0.00	0.02	202	
201		8.34	8.32	33.983		26.430	163.0	0.531	2.54		38.4	35.4	2.11	28.7	0.00	0.00	0.00	0.02	203	07
231		8.27	8.25	34.098		26.532	153.9	0.579	1.75		26.4	41.4	2.38	31.2	0.00	0.00			233	06
250	ISL	8.09	D 8.06	34.115	D	26.574	150.2	0.612	1.54	D	23.2	44.4	2.47	32.2	0.00	0.00			252	
270		7.86	7.84	34.137		26.625	145.6	0.637	1.37		20.5	47.7	2.56	33.3	0.00	0.00			272	05
300	ISL	7.56	D 7.53	34.173	D	26.698	139.1	0.685	1.04	D	15.5	52.7	2.67	34.8	0.00	0.00			302	
320		7.31	7.28	34.171		26.732	136.0	0.707	0.97		14.3	56.0	2.74	35.8	0.00	0.00			323	04
380		6.91	6.87	34.236		26.840	126.6	0.786	0.63		9.2	64.4	2.93	37.5	0.00	0.00			383	03
400	ISL	6.90	D 6.86	34.270	D	26.868	124.2	0.817	0.48	D	7.0	66.6	2.97	37.9	0.00	0.00			403	
441		6.56	6.52	34.282		26.924	119.3	0.861	0.40		5.9	71.2	3.06	38.7	0.00	0.00			445	02
500	ISL	6.22	D 6.18	34.288	D	26.973	115.2	0.937	0.35	D	5.1	76.1	3.11	39.8	0.00	0.00			504	
516		6.16	6.12	34.284		26.978	114.9	0.949	0.36		5.2	77.5	3.12	40.1	0.00	0.00			520	01

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.
D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1110 STATION 83.3 80.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
32 54.7 N	122 7.7 W	27/10/2011	2006 UTC	4184 m	340 13 kn			1015.5 mb	16.0 C	14.0 C				050

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		17.25	17.25	33.443		24.262	365.1	0.000	5.61		102.2	0.7	0.29	0.1	0.00	0.00	0.29	0.09	0	
2		17.25	17.25	33.443		24.262	365.1	0.007	5.61		102.2	0.7	0.29	0.1	0.00	0.00	0.29	0.09	2	21
10		17.24	17.24	33.439		24.260	365.6	0.037	5.57		101.4	0.7	0.29	0.0	0.00	0.00	0.28	0.09	10	19
10		17.24	17.24	33.438		24.260	365.6	0.037											10	20
20		17.25	17.25	33.439		24.260	366.1	0.073	5.57		101.4	0.5	0.28	0.0	0.00	0.00	0.30	0.11	20	18
30		16.29	16.28	33.426		24.475	345.9	0.109	5.57		99.4	1.2	0.38	0.8	0.14	0.05	0.83	0.32	30	17
40		13.10	13.10	33.395		25.132	283.4	0.140	4.90		82.0	5.4	0.87	8.2	0.04	0.00	0.47	0.30	40	16
50		11.92	11.91	33.447		25.401	258.0	0.167	4.30		70.2	10.6	1.24	14.0	0.00	0.00	0.14	0.13	50	15
59		11.07	11.06	33.467		25.573	241.8	0.190	4.03		64.6	14.0	1.40	16.8	0.00	0.00	0.05	0.09	59	14
70		10.44	10.44	33.520		25.724	227.6	0.216	3.77		59.6	17.0	1.55	19.3	0.00	0.03	0.03	0.05	71	13
75	ISL	10.12	D 10.13	33.598	D	25.837	217.0	0.228	3.48	D	54.8	18.6	1.63	20.5	0.00	0.02	0.03	0.05	76	
85		10.00	9.99	33.639		25.893	211.9	0.248	3.32		52.1	21.6	1.80	23.0	0.00	0.00	0.01	0.04	86	12
100		9.37	9.36	33.775		26.103	192.1	0.278	2.79		43.2	27.1	1.98	26.0	0.00	0.00	0.01	0.05	101	11
120		9.03	9.01	33.837		26.208	182.6	0.316	2.75		42.3	29.3	2.01	26.6	0.00	0.00	0.00	0.04	121	10
125	ISL	9.01	D 9.00	33.861	D	26.229	180.6	0.327	2.68	D	41.2	30.0	2.03	26.9	0.00	0.01	0.00	0.04	126	
141		8.88	8.87	33.932		26.306	173.7	0.353	2.47		37.8	32.2	2.11	27.7	0.00	0.03	0.00	0.05	142	09
150	ISL	8.75	D 8.74	33.991	D	26.372	167.6	0.371	2.23	D	34.1	33.9	2.16	28.3	0.00	0.02	0.00	0.04	151	
170		8.62	8.60	34.054		26.444	161.1	0.402	1.96		29.9	37.6	2.27	29.7	0.00	0.00	0.00	0.03	171	08
198		8.42	8.39	34.109		26.518	154.6	0.446	1.70		25.8	41.0	2.38	30.8	0.00	0.00	0.00	0.02	200	07
200	ISL	8.42	D 8.40	34.111	D	26.519	154.5	0.452	1.57	D	23.8	41.3	2.39	30.9	0.00	0.00	0.00	0.02	202	
230		8.20	8.18	34.149		26.583	149.0	0.494	1.39		21.0	45.0	2.50	32.1	0.00	0.00			232	06
250	ISL	7.90	D 7.88	34.127	D	26.611	146.6	0.528	1.36	D	20.4	48.1	2.57	33.2	0.00	0.00			252	
270		7.67	7.65	34.152		26.664	141.8	0.553	1.14		17.0	51.2	2.64	34.2	0.00	0.00			272	05
300	ISL	7.41	D 7.38	34.190	D	26.732	135.7	0.599	0.87	D	12.9	55.5	2.74	35.3	0.00	0.00			302	
320		7.29	7.26	34.199		26.756	133.7	0.621	0.79		11.8	58.3	2.80	36.0	0.00	0.00			323	04
380		6.59	6.56	34.195		26.850	125.3	0.699	0.67		9.8	67.2	2.91	38.1	0.00	0.00			383	03
400	ISL	6.49	D 6.45	34.203	D	26.869	123.7	0.730	0.65	D	9.4	69.2	2.95	38.5	0.00	0.00			403	
442		6.19	6.15	34.212		26.916	119.6	0.775	0.53		7.7	73.5	3.02	39.3	0.00	0.00			446	02
500	ISL	5.80	D 5.76	34.241	D	26.989	113.2	0.849	0.42	D	6.0	81.6	3.10	40.7	0.00	0.00			504	
516		5.58	5.53	34.223		27.002	111.9	0.861	0.41		5.8	83.8	3.12	41.1	0.00	0.00			520	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
32 34.4 N	122 48.8 W	27/10/2011	1359 UTC	4046 m	340 16 kn			1017.4 mb	16.9 C	14.9 C				049

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		17.29	17.29		33.206	24.072	383.3	0.000	5.62		102.3	1.2	0.29	0.1	0.00	0.00	0.14	0.03	0	
2		17.29	17.29		33.206	24.072	383.3	0.008	5.62		102.3	1.2	0.29	0.1	0.00	0.00	0.14	0.03	2	21
10		17.29	17.29		33.207	24.072	383.5	0.037											10	20
10		17.29	17.29		33.204	24.070	383.8	0.038	5.62		102.3	1.1	0.29	0.0	0.00	0.00	0.14	0.03	10	19
20		17.20	17.19		33.202	24.090	382.2	0.077	5.62		102.1	1.2	0.29	0.0	0.00	0.00	0.15	0.04	20	18
30	ISL	14.94	15.00	D	33.209	24.592	334.6	0.113	6.04	D	105.0	1.7	0.34	0.2	0.02	0.01	0.77	0.33	30	
31		14.62	14.62		33.156	24.635	330.6	0.116	5.95		102.6	1.7	0.35	0.2	0.02	0.01	0.83	0.36	31	17
40		12.71	12.70		33.016	24.917	303.9	0.144	6.10		101.1	2.4	0.43	0.8	0.17	0.13	0.44	0.36	40	16
49		12.29	12.28		33.094	25.058	290.7	0.171	6.16		101.1	2.4	0.40	0.4	0.12	0.04	0.29	0.27	49	15
50	ISL	12.25	12.25	D	33.106	25.074	289.1	0.175	5.94	D	97.5	2.4	0.40	0.5	0.12	0.04	0.28	0.26	50	
60		12.03	12.02		33.131	25.136	283.5	0.203	5.88		96.0	2.8	0.45	1.2	0.16	0.00	0.22	0.20	60	14
70		11.59	11.58		33.183	25.258	272.1	0.231	5.81		94.0	3.0	0.49	2.2	0.06	0.00	0.16	0.14	71	13
75	ISL	11.57	11.56	D	33.311	25.361	262.4	0.245	5.58	D	90.4	3.8	0.57	3.5	0.04	0.00	0.13	0.12	76	
85		10.80	10.79		33.201	25.415	257.4	0.270	5.51		87.7	5.3	0.72	6.1	0.00	0.00	0.08	0.08	86	12
100		9.94	9.93		33.303	25.641	236.1	0.307	4.73		73.9	12.6	1.24	14.4	0.00	0.00	0.05	0.06	101	11
120		9.65	9.64		33.567	25.895	212.4	0.352	3.82		59.4	19.6	1.65	20.7	0.00	0.00	0.02	0.03	121	10
125	ISL	9.47	9.47	D	33.620	25.964	205.9	0.363	3.70	D	57.4	21.0	1.70	21.6	0.00	0.00	0.02	0.03	126	
141		9.06	9.05		33.734	26.122	191.2	0.394	3.35		51.5	25.6	1.88	24.4	0.00	0.00	0.00	0.03	142	09
150	ISL	9.10	9.07	D	33.804	26.173	186.6	0.412	2.83	D	43.5	27.0	1.93	25.1	0.00	0.00	0.00	0.03	151	
170		8.76	8.74		33.891	26.294	175.4	0.447	2.83		43.2	30.1	2.05	26.7	0.00	0.00	0.00	0.05	171	08
200		8.53	8.51		33.990	26.408	165.1	0.498	2.41		36.6	34.5	2.19	28.7	0.00	0.00	0.00	0.03	202	07
232		8.28	8.26		34.064	26.504	156.5	0.550	1.92		29.0	40.4	2.37	30.8	0.00	0.00			234	06
250	ISL	8.24	8.21	D	34.100	26.540	153.5	0.580	1.40	D	21.2	42.8	2.48	31.7	0.00	0.00			252	
270		8.29	8.26		34.180	26.596	148.7	0.608	1.16		17.6	45.4	2.61	32.8	0.00	0.00			272	05
300	ISL	7.82	7.79	D	34.161	26.651	143.7	0.655	1.19	D	17.8	49.6	2.66	34.1	0.00	0.00			302	
320		7.44	7.41		34.140	26.688	140.3	0.680	1.16		17.2	52.5	2.69	35.0	0.00	0.00			323	04
378		6.65	6.62		34.131	26.791	130.9	0.759	0.97		14.1	62.2	2.84	37.5	0.00	0.00			381	03
400	ISL	6.65	6.62	D	34.179	26.829	127.6	0.791	0.79	D	11.5	65.4	2.89	38.1	0.00	0.00			403	
439		6.12	6.08		34.161	26.885	122.4	0.836	0.72		10.4	71.1	2.99	39.2	0.00	0.00			443	02
500	ISL	5.88	5.84	D	34.228	26.968	115.2	0.914	0.46	D	6.6	78.6	3.11	40.4	0.00	0.00			504	
515		5.72	5.68		34.234	26.993	112.9	0.925	0.43		6.1	80.5	3.14	40.7	0.00	0.00			519	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
32 14.7 N	123 29.8 W	27/10/2011	0625 UTC	4170 m	350 19 kn	350 06 07	1	1018.7 mb	18.2 C	15.8 C	24 m	4/8	SC	048

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		17.80	17.80		33.049	23.829	406.4	0.000	5.55		101.9	1.8	0.28	0.1	0.00	0.01	0.15	0.04	0	
1		17.80	17.80		33.049	23.829	406.4	0.004	5.55		101.9	1.8	0.28	0.1	0.00	0.01	0.15	0.04	1	22
10		17.77	17.76		33.051	23.839	405.8	0.041	5.55		101.8	1.7	0.28	0.1	0.00	0.04	0.16	0.03	10	20
11		17.77	17.76		33.049	23.837	406.0	0.043											10	21
20	ISL	17.68	17.68	D	33.031	23.844	405.7	0.082	5.56	D	101.8	1.8	0.28	0.1	0.00	0.02	0.16	0.04	20	
26		17.62	17.61		33.026	23.856	404.7	0.106	5.57		101.9	1.9	0.28	0.1	0.00	0.00	0.16	0.04	26	19
30	ISL	17.52	17.53	D	33.018	23.870	403.6	0.123	5.64	D	103.0	1.9	0.28	0.1	0.00	0.01	0.21	0.06	30	
41		17.21	17.20		33.053	23.975	393.9	0.166	5.68		103.1	1.9	0.28	0.0	0.00	0.02	0.37	0.12	41	18
50		16.36	16.36		33.107	24.214	371.4	0.200	5.81		103.7	1.8	0.28	0.0	0.00	0.02	0.31	0.11	50	17
62		14.79	14.78		33.273	24.691	326.3	0.242	6.07		105.1	2.0	0.23	0.0	0.00	0.01	0.25	0.24	62	16
75		13.07	13.06		33.242	25.021	294.9	0.282	5.91		98.8	2.5	0.31	0.1	0.01	0.02	0.19	0.19	76	15
87		13.47	13.46		33.463	25.114	286.6	0.317	5.72		96.5	2.7	0.31	0.7	0.09	0.00			88	14
100		12.70	12.68		33.503	25.299	269.2	0.353	5.58		92.7	3.2	0.38	2.2	0.02	0.00	0.12	0.16	101	13
113		11.92	11.90		33.414	25.379	261.8	0.388	5.40		88.2	4.8	0.56	4.8	0.00	0.00	0.10	0.11	114	12
125	ISL	10.25	10.23	D	33.259	25.556	244.8	0.421	4.80	D	75.5	9.2	0.95	10.5	0.00	0.00	0.07	0.08	126	
126		10.23	10.21		33.224	25.533	247.1	0.421	5.05		79.4	9.5	0.98	11.0	0.00	0.00	0.07	0.08	127	11
141		9.71	9.69		33.468	25.810	221.0	0.456	4.46		69.4	15.8	1.32	16.7	0.00	0.00	0.02	0.04	142	10
150	ISL	9.64	9.62	D	33.610	25.933	209.4	0.478	3.71	D	57.7	19.1	1.50	19.4	0.00	0.00	0.02	0.03	151	
170		9.28	9.26		33.781	26.125	191.6	0.515	2.98		46.0	26.4	1.90	25.3	0.00	0.00	0.00	0.03	171	09
200	ISL	8.76	8.73	D	33.952	26.343	171.4	0.573	2.57	D	39.3	32.1	2.05	27.7	0.00	0.00	0.00	0.02	202	
201		8.75	8.73		33.952	26.344	171.3	0.571	2.56		39.1	32.3	2.06	27.8	0.00	0.00	0.00	0.02	203	08
230		8.34	8.32		34.006	26.449	161.7	0.620	2.40		36.4	35.8	2.13	29.3	0.00	0.00			232	07
250	ISL	8.25	8.22	D	34.049	26.498	157.4	0.655	2.00	D	30.2	39.3	2.26	30.6	0.00	0.00			252	
270		8.05	8.02		34.086	26.557	152.1	0.683	1.77		26.6	42.8	2.38	31.9	0.00	0.00			272	06
300	ISL	7.71	7.67	D	34.109	26.626	145.9	0.732	1.46	D	21.8	47.9	2.51	33.5	0.00	0.00			302	
319		7.53	7.50		34.132	26.670	142.1	0.755	1.31		19.5	51.2	2.60	34.5	0.00	0.00			322	05
380		7.09	7.06		34.188	26.777	132.7	0.838	0.84		12.4	58.7	2.80	36.5	0.00	0.00			383	04
400	ISL	6.88	6.84	D	34.203	26.819	128.9	0.870	0.73	D	10.7	61.8	2.86	37.2	0.00	0.00			403	
420		6.75	6.71		34.224	26.852	125.9	0.890	0.64	D	9.4	64.9	2.92	37.9	0.00	0.00			423	03
440		6.55	6.50		34.219	26.876	123.8	0.915	0.61		8.9	67.3	2.95	38.4	0.00	0.00			444	02
500	ISL	6.08	6.04	D	34.242	26.955	116.7	0.994	0.45	D	6.5	75.6	3.06	40.1	0.00	0.00			504	
516		5.97	5.93		34.256	26.980	114.5	1.006	0.39		5.6	77.8	3.09	40.5	0.00	0.00			520	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1110 STATION 83.3 110.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
31 54.6 N	124 10.2 W	27/10/2011	0114	UTC	3850 m	340	18 kn	340 06 06	1	1021.1 mb	18.0 C	14.6 C	24 m	7/8	SC	047

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		18.47	18.47	33.171	23.759	413.2	0.000	5.44	101.2	1.4	0.29	0.0	0.00	0.00	0.13	0.04	0	
3	A	18.47	18.47	33.171	23.759	413.2	0.012	5.44	101.2	1.4	0.29	0.0	0.00	0.00	0.13	0.04	3	22
10		18.47	18.47	33.169	23.757	413.6	0.041	5.47	101.8	1.3	0.28	0.0	0.00	0.00	0.13	0.04	10	21
16	A	18.47	18.47	33.169	23.757	413.9	0.066	5.44	101.3	1.3	0.28	0.0	0.00	0.00	0.14	0.04	16	20
20	ISL	18.47 D	18.47	33.167 D	23.756	414.1	0.083	5.42 D	100.9	1.3	0.28	0.0	0.00	0.00	0.14	0.04	20	
22	A	18.47	18.47	33.171	23.759	413.9	0.091	5.44	101.2	1.3	0.28	0.0	0.00	0.00	0.13	0.03	22	19
30	ISL	18.47 D	18.47	33.166 D	23.756	414.5	0.125	5.42 D	100.9	1.3	0.28	0.0	0.00	0.00	0.14	0.04	30	
38	A	18.47	18.47	33.177	23.765	414.0	0.157	5.45	101.4	1.3	0.28	0.0	0.00	0.00	0.14	0.04	38	18
49		18.08	18.08	33.169	23.855	405.8	0.202	5.44	100.5	1.2	0.28	0.0	0.00	0.00	0.14	0.04	49	17
50	ISL	18.20 D	18.20	33.158 D	23.815	409.7	0.209	5.50 D	101.8	1.2	0.28	0.0	0.00	0.00	0.15	0.05	50	
60		15.97	15.96	33.083	24.285	365.0	0.245	5.96	105.5	1.1	0.30	0.0	0.00	0.00	0.24	0.12	60	16
72	A	14.23	14.22	33.035	24.626	332.7	0.287	6.06	103.5	1.5	0.32	0.0	0.00	0.00	0.28	0.19	73	15
75	ISL	14.16 D	14.15	33.040 D	24.644	331.0	0.299	5.98 D	102.1	1.5	0.33	0.1	0.01	0.01	0.28	0.21	76	
84	A	13.64	13.63	33.037	24.749	321.2	0.326	5.96	100.6	1.6	0.36	0.2	0.04	0.03	0.30	0.28	85	14
89		13.28	13.26	33.053	24.836	313.0	0.342	5.82	97.5	2.1	0.43	1.0	0.26	0.00	0.29	0.25	90	13
94		13.04	13.03	33.073	24.899	307.2	0.358	5.71	95.3	2.6	0.49	2.0	0.24	0.00	0.24	0.26	95	12
100	ISL	12.93 D	12.92	33.106 D	24.944	303.0	0.379	5.58 D	92.9	3.2	0.56	3.2	0.15	0.00	0.20	0.22	101	
110		12.18	12.16	33.156	25.130	285.4	0.405	5.42	88.9	4.1	0.67	5.3	0.01	0.00	0.14	0.17	111	11
125		11.53	11.51	33.225	25.304	269.1	0.447	5.08	82.1	7.1	0.88	9.1	0.00	0.00	0.08	0.17	126	10
140		10.64	10.62	33.325	25.541	246.7	0.486	4.68	74.3	11.5	1.15	13.5	0.00	0.00	0.03	0.04	141	09
150	ISL	10.22 D	10.20	33.385 D	25.660	235.6	0.514	4.39 D	69.1	14.4	1.30	15.9	0.00	0.00	0.02	0.03	151	
170		9.51	9.49	33.555	25.912	211.9	0.555	3.87	59.9	20.2	1.60	20.7	0.00	0.00	0.00	0.02	171	08
200		9.04	9.01	33.808	26.186	186.4	0.614	3.05	46.9	27.5	1.90	25.4	0.00	0.00	0.00	0.02	202	07
230		8.72	8.69	33.981	26.373	169.2	0.668	2.31	35.3	34.0	2.14	28.7	0.00	0.00			232	06
250	ISL	8.51 D	8.48	34.035 D	26.448	162.3	0.706	1.97 D	30.0	37.0	2.23	29.8	0.00	0.00			252	
270		8.19	8.16	34.062	26.518	156.0	0.733	1.93	29.1	39.9	2.31	30.8	0.00	0.00			272	05
300	ISL	7.86 D	7.83	34.092 D	26.590	149.5	0.784	1.54 D	23.1	45.0	2.45	32.4	0.00	0.00			302	
321		7.74	7.71	34.129	26.638	145.3	0.809	1.36	20.3	48.6	2.55	33.6	0.00	0.00			324	04
380		6.87	6.83	34.149	26.777	132.5	0.891	0.98	14.4	58.7	2.77	36.5	0.00	0.00			383	03
400	ISL	6.86 D	6.82	34.177 D	26.800	130.6	0.925	0.81 D	11.9	61.4	2.82	37.2	0.00	0.00			403	
441		6.39	6.35	34.167	26.855	125.6	0.970	0.75	10.8	66.8	2.91	38.5	0.00	0.00			445	02
500	ISL	6.03 D	5.98	34.214 D	26.939	118.1	1.050	0.50 D	7.2	74.7	3.05	39.9	0.00	0.00			504	
515		5.94	5.89	34.230	26.964	115.9	1.059	0.46	6.5	76.7	3.08	40.3	0.00	0.00			519	01

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.
D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1110 STATION 85.4 35.8

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
34 0.7 N	118 49.9 W	24/10/2011	0631	UTC	25 m	270	04 kn	090 01 06	4	1012.6 mb	15.2 C	14.8 C		8/8	ST	035

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		15.76	15.76	33.358	24.539	338.7	0.000	6.60	116.7	3.7	0.33	0.1	0.00	0.00	6.00	0.33	0	
2		15.76	15.76	33.358	24.539	338.7	0.007	6.60	116.7	3.7	0.33	0.1	0.00	0.00	6.00	0.33	2	05
5		15.71	15.71	33.352	24.547	338.1	0.017	6.60	116.6	3.6	0.32	0.1	0.00	0.00	4.89	0.30	5	04
10		15.25	15.25	33.346	24.644	329.0	0.034										10	03
10		15.25	15.25	33.344	24.642	329.2	0.034	6.07	106.1	4.2	0.43	0.4	0.01	0.02	4.86	0.32	10	02
18		13.21	13.21	33.291	25.029	292.6	0.059	4.78	80.2	7.9	0.89	6.6	0.31	1.00	0.58	0.33	18	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1110 STATION 86.7 33.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
33 53.2 N	118 29.6 W	24/10/2011	0151	UTC	70 m	180	03 kn	310 01 04	4	1014.6 mb	16.1 C	15.1 C	11 m	8/8	ST	033

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		16.78	16.77	33.369	24.316	360.0	0.000	6.61	119.2	1.0	0.22	0.1	0.00	0.00	2.88	0.15	0	
2	A	16.78	16.77	33.369	24.316	360.0	0.007	6.61	119.2	1.0	0.22	0.1	0.00	0.00	2.88	0.15	2	12
5		16.64	16.64	33.365	24.345	357.4	0.018	6.58	118.2	0.9	0.19	0.1	0.00	0.00	1.42	0.16	5	11
8	A	16.14	16.14	33.358	24.454	347.0	0.029	6.31	112.4	1.2	0.25	0.1	0.00	0.00	0.86	0.21	8	10
10		15.51	15.51	33.351	24.591	334.1	0.034										10	13
10	A	15.51	15.51	33.350	24.590	334.1	0.035	6.09	107.1	1.5	0.29	0.1	0.00	0.00	0.94	0.26	10	08
18	A	12.87	12.86	33.286	25.093	286.4	0.060	5.28	87.9	3.9	0.56	0.8	0.10	0.00	1.81	0.51	18	07
20	ISL	12.74 D	12.71	33.289 D	25.126	283.3	0.066	4.72 D	78.3	5.1	0.69	3.5	0.17	0.02	1.52	0.50	20	
26		11.93	11.92	33.304	25.288	268.1	0.082	4.58	74.7	8.7	1.07	11.7	0.38	0.08	0.65	0.46	26	06
30	ISL	11.56 D	11.55	33.346 D	25.389	258.5	0.094	4.32 D	70.0	10.0	1.15	13.1	0.24	0.15	0.50	0.37	30	
33	A	11.50	11.49	33.354	25.406	257.0	0.101	4.33	70.0	10.9	1.21	14.1	0.14	0.20	0.38	0.31	33	05
38	A	11.34	11.34	33.377	25.453	252.7	0.113	4.21	67.9	11.6	1.27	14.9	0.02	0.00	0.26	0.25	38	04
44		11.07	11.06	33.411	25.528	245.7	0.128	4.06	65.2	13.4	1.36	16.3	0.04	0.04	0.19	0.21	44	03
50		11.00	10.99	33.417	25.547	244.0	0.143	4.00	64.1	13.8	1.38	16.6	0.11	0.45	0.20	0.20	50	02
55		10.91	10.90	33.436	25.577	241.3	0.155	3.83	61.2	15.6	1.47	17.6	0.25	1.26	0.16	0.55	55	01

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.
D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1110 STATION 86.7 35.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
33 49.4 N	118 37.6 W	24/10/2011	0837 UTC	646 m	290 10 kn	290 01 07	2	1012.6 mb	15.7 C	14.1 C		8/8	ST	036

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		17.50		17.50		33.434		24.195	371.5	0.000	5.94		108.6	0.4	0.27	0.1	0.00	0.00	0.52	0.11	0	
2		17.50		17.50		33.434		24.195	371.5	0.007	5.94		108.6	0.4	0.27	0.1	0.00	0.00	0.52	0.11	2	21
10		16.96		16.96		33.417		24.310	360.9	0.037											10	20
10		16.96		16.96		33.419		24.311	360.7	0.037	5.96		107.9	0.5	0.27	0.1	0.00	0.00	0.58	0.22	10	19
20		14.32		14.32		33.333		24.834	311.2	0.070	5.43		93.1	3.0	0.59	3.3	0.30	0.26	0.64	0.42	20	18
30		12.59		12.59		33.281		25.144	281.9	0.100	4.86		80.4	7.1	0.94	9.4	0.55	0.20	0.49	0.34	30	17
40		11.54		11.53		33.339		25.387	259.0	0.127	4.35		70.4	10.7	1.18	13.7	0.33	0.54	0.34	0.29	40	16
49		10.64		10.63		33.517		25.687	230.6	0.149	3.67		58.4						0.08	0.11	49	15
50	ISL	10.60	D	10.60		33.525	D	25.699	229.5	0.152	3.54	D	56.2	15.6	1.44	17.7	0.13	0.33	0.07	0.11	50	
60		10.37		10.36		33.600		25.800	220.2	0.174	3.33		52.6	20.0	1.66	20.7	0.00	0.00	0.04	0.09	60	14
70		10.32		10.31		33.691		25.878	213.0	0.196	3.08		48.7	22.3	1.79	21.8	0.00	0.00	0.03	0.11	71	13
75	ISL	10.32	D	10.31		33.687	D	25.875	213.4	0.208	2.96	D	46.8	22.7	1.81	22.0	0.00	0.00	0.03	0.10	76	
85		10.23		10.22		33.724		25.921	209.3	0.227	2.88		45.4	23.5	1.84	22.5	0.00	0.00	0.02	0.07	86	12
100		9.95		9.94		33.755		25.993	202.7	0.258	2.87		45.0	24.5	1.87	23.4	0.00	0.00	0.02	0.07	101	11
120		9.81		9.80		33.820		26.067	196.2	0.298	2.66		41.7	26.2	1.94	24.5	0.00	0.00	0.02	0.07	121	10
125	ISL	9.78	D	9.76		33.843	D	26.091	194.0	0.310	2.59	D	40.5	26.7	1.96	24.7	0.00	0.00	0.02	0.07	126	
140		9.70		9.69		33.889		26.140	189.6	0.337	2.47		38.6	28.1	2.02	25.4	0.00	0.00	0.01	0.06	141	09
150	ISL	9.67	D	9.65		33.908	D	26.161	187.9	0.358	2.41	D	37.6	28.9	2.05	25.8	0.00	0.00	0.01	0.06	151	
169		9.53		9.51		33.980		26.240	180.7	0.391	2.21		34.3	30.5	2.12	26.6	0.00	0.00	0.01	0.06	170	08
199		9.16		9.14		34.078		26.378	168.3	0.443	1.94		29.9	34.5	2.23	28.2	0.00	0.00	0.01	0.06	201	07
200	ISL	9.18	D	9.16		34.079	D	26.376	168.5	0.448	1.96	D	30.3	34.6	2.23	28.2	0.00	0.00	0.01	0.05	202	
230		8.93		8.91		34.098		26.431	163.8	0.494	1.87		28.8	36.1	2.27	29.1	0.00	0.00			232	06
250	ISL	8.69	D	8.67		34.093	D	26.465	160.9	0.531	1.85	D	28.3	38.1	2.33	29.9	0.00	0.00			252	
270		8.59		8.56		34.140		26.518	156.2	0.559	1.57		24.0	40.2	2.39	30.6	0.00	0.00			272	05
300	ISL	8.43	D	8.40		34.185	D	26.579	151.0	0.609	1.26	D	19.1	44.1	2.53	31.9	0.00	0.00			302	
320		8.29		8.25		34.224		26.632	146.3	0.634	0.97		14.8	46.7	2.63	32.8	0.00	0.00			323	04
380		7.77		7.73		34.277		26.751	135.8	0.719	0.71		10.7	55.0	2.82	34.6	0.00	0.00			383	03
400	ISL	7.66	D	7.62		34.284	D	26.773	134.0	0.752	0.55	D	8.2	57.2	2.86	35.1	0.00	0.00			403	
440		7.35		7.31		34.303		26.833	128.7	0.799	0.42		6.3	61.6	2.95	36.0	0.00	0.00			444	02
500	ISL	6.79	D	6.74		34.316	D	26.921	120.8	0.880	0.32	D	4.7	71.1	3.06	37.6	0.00	0.00			504	
515		6.58		6.53		34.324		26.956	117.5	0.891	0.27		3.9	73.5	3.09	38.0	0.00	0.00			519	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1110 STATION 86.7 40.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
33 39.9 N	118 58.5 W	24/10/2011	1403 UTC	821 m	100 01 kn			1015.0 mb	15.8 C	14.6 C				037

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		16.36		16.36		33.436		24.464	345.9	0.000	5.96		106.6	0.6	0.28	0.1	0.00	0.00	0.65	0.12	0	
2		16.36		16.36		33.436		24.464	345.9	0.007	5.96		106.6	0.6	0.28	0.1	0.00	0.00	0.65	0.12	2	24
10		15.96		15.95		33.448		24.565	336.5	0.034	6.21		110.2	0.7	0.29	0.0	0.00	0.00	0.97	0.47	10	23
19		15.05		15.05		33.456		24.773	317.0	0.064	5.54		96.6	3.2	0.55	2.6	0.09	0.66	2.44	0.45	19	22
20	ISL	14.88	D	14.89		33.468	D	24.817	312.8	0.067	5.26	D	91.4	3.5	0.58	3.0	0.10	0.65	2.22	0.52	20	
30		13.55		13.54		33.451		25.085	287.6	0.097	4.88		82.5	7.0	0.85	7.4	0.21	0.56	0.02	1.18	30	21
40		12.60		12.59		33.509		25.319	265.5	0.124	4.28		71.0	11.7	1.15	12.5	0.28	0.18	0.31	0.50	40	20
49		11.74		11.73		33.521		25.492	249.3	0.148	3.99		64.9	14.2	1.30	15.4	0.20	0.00	0.26	0.33	49	19
50	ISL	11.65	D	11.66		33.534	D	25.516	247.1	0.151	3.90	D	63.4	14.6	1.33	15.8	0.19	0.00	0.25	0.33	50	
60		10.81		10.80		33.598		25.720	227.8	0.174	3.47		55.4	18.8	1.59	19.9	0.09	0.00	0.17	0.29	60	18
70		9.87		9.87		33.553		25.847	215.9	0.196	3.69		57.6	19.5	1.58	20.3	0.03	0.00	0.12	0.34	71	17
75	ISL	9.81	D	9.80		33.610	D	25.902	210.7	0.208	3.47	D	54.2	20.7	1.62	21.2	0.03	0.00	0.10	0.26	76	
84		9.54		9.53		33.650		25.978	203.7	0.225	3.41		52.9	22.8	1.70	22.7	0.02	0.00	0.05	0.12	85	16
99		9.18		9.17		33.745		26.110	191.4	0.255	3.17		48.9	25.9	1.82	24.5	0.00	0.00	0.03	0.13	100	15
100	ISL	9.16	D	9.15		33.756	D	26.123	190.2	0.259	3.11	D	47.9	26.0	1.83	24.6	0.00	0.00	0.03	0.13	101	
120		9.03		9.02		33.864		26.228	180.7	0.294	2.71		41.6	29.8	1.97	26.5	0.00	0.00	0.02	0.14	121	14
125	ISL	9.01	D	9.00		33.880	D	26.243	179.3	0.305	2.62	D	40.3	30.6	1.99	26.9	0.00	0.00	0.02	0.13	126	
140		8.79		8.77		33.951		26.335	170.9	0.329	2.44		37.3	33.1	2.05	28.0	0.00	0.00	0.02	0.10	141	13
150	ISL	8.67	D	8.66		33.985	D	26.380	166.8	0.349	2.34	D	35.7	34.3	2.09	28.4	0.00	0.00	0.02	0.10	151	
170		8.43		8.41		34.024		26.448	160.6	0.379	2.25		34.2	36.5	2.16	29.2	0.00	0.00	0.01	0.09	171	12
200		8.60		8.58		34.187		26.551	151.6	0.426	1.32		20.2	42.2	2.46	31.1	0.00	0.00	0.01	0.07	202	11
230		8.30		8.27		34.160		26.577	149.6	0.471	1.35		20.5	44.3	2.48	32.0	0.00	0.00			232	10
250	ISL	8.15	D	8.13		34.223	D	26.649	143.1	0.504	1.00	D	15.1	46.6	2.55	32.6	0.00	0.00			252	
269		8.02		7.99		34.234	D	26.678	140.7	0.531	0.89	D	13.4								271	09
300	ISL	7.86	D	7.83		34.262	D	26.724	136.8	0.574	0.67	D	10.1	52.1	2.72	34.0	0.00	0.00			302	
320		7.82		7.79		34.265		26.733	136.4	0.597	0.63		9.5	54.4	2.79	34.6	0.00	0.00			323	08
380		7.41		7.37		34.296		26.818	129.1	0.677	0.45		6.7	60.6	2.90	35.9	0.00	0.00			383	07
400	ISL	7.30	D	7.26		34.302	D	26.839	127.4	0.708	0.43	D	6.4	62.0	2.92	36.1	0.00	0.00			403	
440		7.12		7.08		34.307		26.867	125.2	0.753	0.37		5.5	64.8	2.96	36.6	0.00	0.00			444	06
480		6.72		6.68		34.313		26.927	119.8	0.802	0.31		4.6	70.9	3.04	37.8	0.00	0.00			484	05
500	ISL	6.47	D	6.43		34.319	D	26.966	116.2	0.832	0.29	D	4.2	74.0	3.07	38.2	0.00	0.00			504	
515		6.42		6.37		34.321		26.975	115.5	0.843	0.26		3.7	76.3	3.10	38.5	0.00	0.00			519	04
600	ISL	5.85	D	5.80		34.348	D	27.069	107.2	0.946	0.20	D	2.9	87.2	3.19	39.3	0.00	0.00			605	
665		5.53		5.48		34.372		27.128	102.1	1.006	0.15		2.2	95.5	3.25	39.9	0.00	0.00			671	03
700	ISL	5.44	D	5.38		34.378	D	27.145	100.8	1.050	0.10	D	1.4	98.1	3.28	39.4	0.00	0.07			706	
800	ISL	5.27	D	5.20		34.392	D	27.178	98.7	1.151	0.10	D	1.4	105.5	3.36	37.9	0.00	0.28			807	
815		5.23		5.16		34.394		27.184	98.3	1.156	0.11		1.5	106.6	3.37	37.7	0.00	0.31			823	02
820		5.23		5.16		34.394		27.184	98.3	1.161	0.11		1.5	106.4	3.35	37.5	0.00	0.00			828	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1110 STATION 86.7 45.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
33 29.5 N	119 19.0 W	24/10/2011	1837 UTC	1650 m	260	03 kn			1014.6 mb	16.0 C	14.3 C				038

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		16.02		16.02		33.580	24.653	327.9	0.000	6.97		124.0	3.7	0.26	0.1	0.00	0.00	2.82	0.20	0	
2		16.02		16.02		33.580	24.653	327.9	0.007	6.97		124.0	3.7	0.26	0.1	0.00	0.00	2.82	0.20	2	22
9		12.61		12.60		33.588	25.378	259.1	0.028											9	21
10		12.39		12.38		33.589	25.421	255.0	0.030	4.69		77.5	11.1	1.03	10.6	0.15	0.13	2.82	0.59	10	20
20		10.72		10.72		33.637	25.765	222.5	0.054	3.37		53.7	18.6	1.62	19.8	0.21	0.00	0.45	0.30	20	19
30		10.39		10.38		33.676	25.854	214.3	0.076	3.06		48.5	21.6	1.77	22.4	0.11	0.00	0.31	0.18	30	18
39		9.90		9.90		33.738	25.985	202.0	0.094	2.82		44.2	24.5	1.90	24.2	0.12	0.01	0.22	0.13	39	17
49		9.61		9.60		33.797	26.080	193.2	0.114	2.68		41.7	26.5	1.97	25.4	0.08	0.05	0.12	0.11	49	16
50	ISL	9.51	D	9.50		33.829	D 26.122	189.3	0.116	2.59	D	40.2	26.7	1.98	25.5	0.08	0.05	0.12	0.11	50	
60		9.46		9.45		33.851	26.147	187.1	0.135	2.50		38.9	28.7	2.03	26.4	0.07	0.00	0.08	0.11	60	15
70		9.31		9.31		33.889	26.201	182.2	0.153	2.40		37.1	30.0	2.09	27.2	0.08	0.00	0.05	0.05	71	14
75	ISL	9.23	D	9.22		33.927	D 26.244	178.2	0.163	2.26	D	34.9	31.0	2.12	27.5	0.07	0.00	0.04	0.05	76	
86		9.13		9.12		33.963	26.289	174.1	0.182	2.14		32.9	33.2	2.17	28.2	0.06	0.00	0.03	0.06	87	13
100		8.97		8.96		34.018	26.358	167.9	0.206	1.98		30.5	35.0	2.25	29.0	0.00	0.00	0.02	0.05	101	12
119		8.88		8.87		34.021	26.374	166.7	0.237	1.98		30.4	35.1	2.25	29.0	0.00	0.00	0.02	0.04	120	11
125	ISL	8.85	D	8.83		34.052	D 26.404	164.0	0.248	1.89	D	29.0	35.7	2.27	29.3	0.00	0.00	0.02	0.05	126	
140		8.78		8.76		34.079	26.437	161.2	0.272	1.80		27.5	37.4	2.33	29.9	0.00	0.00	0.01	0.05	141	10
150	ISL	8.57	D	8.56		34.080	D 26.469	158.3	0.289	1.86	D	28.3	38.5	2.34	30.2	0.00	0.00	0.01	0.05	151	
170		8.32		8.30		34.087	26.514	154.3	0.319	1.82		27.6	40.6	2.35	30.8	0.00	0.00	0.02	0.04	171	08
199		8.23		8.21		34.172	26.596	147.1	0.363	1.27		19.2	45.4	2.55	32.5	0.00	0.00	0.01	0.06	201	07
200	ISL	8.23	D	8.21		34.168	D 26.593	147.5	0.366	1.30	D	19.7	45.5	2.55	32.5	0.00	0.00	0.01	0.06	202	
229		8.07		8.05		34.198	26.641	143.4	0.406	1.05		15.8	48.6	2.63	33.4	0.00	0.00			231	06
250	ISL	7.93	D	7.90		34.221	D 26.681	140.0	0.439	0.89	D	13.4	50.6	2.69	34.0	0.00	0.00			252	
269		7.86		7.84		34.232	26.699	138.6	0.463	0.80		12.0	52.3	2.74	34.5	0.00	0.00			271	05
300	ISL	7.74	D	7.71		34.263	D 26.742	135.1	0.508	0.64	D	9.6	55.2	2.82	35.1	0.00	0.00			302	
319		7.58		7.54		34.268	26.771	132.6	0.530	0.57		8.5	57.0	2.87	35.5	0.00	0.00			322	04
380		7.17		7.13		34.287	26.844	126.4	0.609	0.45		6.6	62.4	2.96	36.7	0.00	0.00			383	03
400	ISL	7.12	D	7.08		34.291	D 26.855	125.7	0.639	0.44	D	6.5	64.3	2.99	37.1	0.00	0.00			403	
440		6.78		6.74		34.303	26.910	120.8	0.684	0.35		5.1	68.3	3.05	37.8	0.00	0.00			444	02
500	ISL	6.37	D	6.32		34.316	D 26.977	115.1	0.760	0.30	D	4.4	75.5	3.12	38.9	0.00	0.00			504	
515		6.29		6.25		34.324	26.993	113.7	0.772	0.26		3.7	77.3	3.14	39.2	0.00	0.00			519	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1110 STATION 86.7 50.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
33 19.6 N	119 39.6 W	24/10/2011	2250 UTC	79 m	020	03 kn	360 01 07	2	1015.5 mb	16.5 C	14.9 C		8/8	SC	039

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		16.03		16.03		33.506	24.594	333.5	0.000	6.13		109.0	2.2	0.34	0.1	0.00	0.01	2.94	0.46	0	
2		16.03		16.03		33.506	24.594	333.5	0.007	6.13		109.0	2.2	0.34	0.1	0.00	0.01	2.94	0.46	2	10
4		16.03		16.02		33.503	24.592	333.8	0.013	6.15		109.4	2.2	0.35	0.1	0.00	0.01	3.04	0.38	4	11
10		15.97		15.97		33.507	24.608	332.5	0.033	6.12		108.6	2.1	0.36	0.2	0.00	0.04	2.81	0.49	10	07
10		15.97		15.97		33.506	24.607	332.6	0.034											10	08
20		13.32		13.32		33.526	25.188	277.5	0.064	4.87		81.9	8.2	0.89	8.1	0.15	0.34	1.21	0.43	20	06
30		11.13		11.12		33.504	25.590	239.5	0.090	3.90		62.6	15.0	1.43	16.9	0.10	0.00	0.24	0.18	30	05
40		10.65		10.65		33.567	25.724	227.0	0.113	3.59		57.2	18.1	1.58	19.4	0.07	0.00	0.13	0.12	40	04
50	ISL	10.48	D	10.48		33.635	D 25.805	219.4	0.137	3.34	D	53.0	20.1	1.66	20.7	0.08	0.00	0.09	0.11	50	
51		10.51		10.50		33.632	25.800	220.0	0.138	3.35		53.2	20.3	1.67	20.8	0.08	0.00	0.08	0.11	51	03
60		10.17		10.16		33.702	25.912	209.5	0.157	3.05		48.1	23.2	1.81	22.8	0.10	0.03	0.06	0.12	60	02
70		9.79		9.78		33.778	26.037	197.9	0.177	2.80		43.8	26.0	1.94	24.6	0.08	0.05	0.04	0.11	71	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1110 STATION 86.7 55.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
33 9.5 N	120 0.2 W	25/10/2011	0318 UTC	1202 m	070	04 kn	170 02 08	1	1016.6 mb	18.2 C	16.3 C	16 m	7/8	AC	040

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		15.61		15.61		33.354	24.571	335.7	0.000	5.96		105.0	0.3	0.26	0.1	0.00	0.22	0.52	0.17	0	
2	A	15.61		15.61		33.354	24.571	335.7	0.007	5.96		105.0	0.3	0.26	0.1	0.00	0.22	0.52	0.17	2	22
10	ISL	15.30	D	15.29		33.334	D 24.625	330.8	0.034	5.99	D	104.9	0.1	0.28	0.1	0.00	0.02	0.72	0.22	10	
11	A	15.24		15.24		33.335	24.638	329.6	0.037	6.00		104.8	0.1	0.28	0.1	0.00	0.00	0.75	0.23	11	20
12		15.23		15.23		33.335	24.641	329.4	0.039											12	21
14	A	15.12		15.12		33.329	24.660	327.7	0.047	6.00		104.6	0.1	0.27	0.1	0.00	0.00	0.93	0.34	14	19
20	ISL	14.96	D	14.96		33.330	D 24.694	324.6	0.067	5.81	D	101.0	1.0	0.38	1.1	0.07	0.31	0.88	0.45	20	
24	A	13.90		13.89		33.284	24.885	306.5	0.079	5.72		97.3	1.6	0.45	1.7	0.12	0.51	0.85	0.52	24	18
30	ISL	13.09	D	13.08		33.264	D 25.034	292.4	0.098	5.34	D	89.3	3.4	0.61	3.9	0.17	0.55	0.61	0.46	30	
36		12.53		12.52		33.251	25.133	283.2	0.114	5.26		86.9	5.2	0.76	6.1	0.21	0.59	0.38	0.41	36	17
48	A	10.98		10.97		33.208	25.386	259.2	0.147	5.04		80.6	8.9	1.01	11.0	0.04	0.00	0.15	0.27	48	16
50	ISL	10.85	D	10.84		33.245	D 25.439	254.3	0.153	4.79	D	76.4	10.0	1.09	12.2	0.05	0.00	0.13	0.25	50	
54	A	10.95		10.94		33.355	25.507	247.9	0.162	4.47		71.5	12.4	1.25	14.6	0.06	0.00	0.10	0.22	54	15
62		10.89		10.89		33.548	25.667	232.9	0.181	3.69		59.0	17.1	1.51	18.5	0.11	0.00	0.11	0.16	63	14
70		10.24		10.23		33.624	25.840	216.5	0.199	3.38		53.3	20.3	1.67	21.0	0.07	0.00	0.07	0.14	71	13
75	ISL	9.98	D	9.97		33.697	D 25.941	207.1	0.211	3.08	D	48.3	21.6	1.73	22.0	0.06	0.00	0.07	0.26	76	
85		9.69		9.68		33.735	26.020	199.7	0.230	3.00		46.8	24.3	1.85	24.0	0.03	0.00	0.07	0.50	86	12
100		9.45		9.44		33.840	26.141	188.6	0.259	2.68		41.6	27.9	1.97	25.8	0.02	0.00	0.03	0.13	101	11
121		9.27		9.26		33.929	26.240	179.6	0.298	2.38		36.9	30.9	2.06	27.2	0.00	0.00	0.01	0.08	122	10
125	ISL	9.20	D	9.19		33.951	D 26.269	176.9	0.307	2.26	D	34.9	31.4	2.09	27.5	0.00	0.00	0.01	0.08	126	
140		9.13		9.12		34.004	26.322	172.2	0.331	2.09		32.3	33.5	2.18	28.4	0.00	0.00	0.01	0.08	141	09
150	ISL	9.04	D	9.02		34.042	D 26.367	168.1	0.350	1.93	D	29.7	34.7	2.22	28.8	0.00	0.00	0.01	0.07	151	
169		8.92		8.90		34.081	D 26.418	163.7	0.382	1.74	D	26.7								170	08
200		8.66		8.63		34.150	26.513	155.2	0.429	1.50		23.0	40.8	2.40	30.9	0.00	0.00	0.01	0.04	202	07
229		8.45		8.43		34.184	D 26.573	150.1	0.473	1.22		18.6	44.2	2.50	32.2	0.00	0.00			231	06
250	ISL	8.12	D	8.09		34.183	D 26.623	145.6	0.508	1.15	D	17.4	47.2	2.56	33.1	0.00	0.00			252	
270		7.86		7.84		34.178	26.657	142.6	0.533	1.10		16.4	50.0	2.62	33.9	0.00	0.00			272	05
300	ISL	7.65	D	7.62		34.196	D 26.703	138.6	0.579	0.91	D	13.6	53.2	2.70	34.7	0.00	0.00			302	
320		7.60		7.56		34.230	26.738	135.7	0.603	0.75		11.2	55.3	2.76	35.2	0.00	0.00			323	04
379		7.06		7.02		34.240	26.822	128.3	0.680	0.60		8.9	62.4	2.88	37.0	0.00	0.00			382	03
400	ISL	6.92	D	6.88		34.245	D 26.846	126.3	0.713	0.56	D	8.2	65.3	2.91	37.7	0.00	0.00			403	
440		6.41		6.37		34.239	26.910	120.4	0.757	0.51		7.4	70.8	2.98	38.9	0.00	0.00			444	02
500	ISL	6.14	D	6.09		34.276	D 26.975	114.9	0.834	0.37	D	5.3	76.9	3.07	39.8	0.00	0.05			504	
516		6.05		6.01		34.293	26.999	112.8	0.845	0.44		6.3	78.5	3.10	40.1	0.00	0.06			520	01

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.
D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
32 59.6 N	120 20.7 W	25/10/2011	0729 UTC	718 m	120 04 kn	040 03 06	1	1015.5 mb	18.0 C	16.1 C	16 m	4/8	CS	041

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		17.63		17.62		33.445		24.174	373.6	0.000	5.56		102.0	0.8	0.30	0.0	0.00	0.00	0.30	0.09	0	
2		17.63		17.62		33.445		24.174	373.6	0.008	5.56		102.0	0.8	0.30	0.0	0.00	0.00	0.30	0.09	2	21
10		17.47		17.47		33.445		24.210	370.4	0.037	5.57		101.9	0.7	0.28	0.0	0.00	0.00	0.29	0.09	10	19
10		17.47		17.47		33.444		24.210	370.4	0.038											10	20
20		17.22		17.22		33.485		24.302	362.0	0.074	5.60		101.8	0.7	0.28	0.0	0.00	0.00	0.39	0.13	20	18
30		17.08		17.08		33.483		24.334	359.4	0.110	5.55		100.8	0.7	0.29	0.1	0.00	0.07	0.45	0.18	30	17
40		16.78		16.77		33.475		24.400	353.4	0.146	5.52		99.6	0.8	0.33	0.3	0.05	0.14	0.48	0.21	40	16
50		12.62		12.62		33.327		25.174	279.6	0.177	4.91		81.3	6.2	0.91	9.0	0.00	0.00	0.16	0.16	50	15
61		11.71		11.71		33.355		25.368	261.4	0.207	4.57		74.2	9.9	1.12	12.5	0.00	0.00	0.08	0.12	61	14
70		11.37		11.37		33.376		25.447	254.1	0.230	4.44		71.7	11.3	1.20	13.7	0.00	0.00	0.07	0.11	71	13
75	ISL	10.87	D	10.80		33.455	D	25.610	238.7	0.244	3.98	D	63.5	14.2	1.36	16.3	0.00	0.00	0.05	0.09	76	
86		10.02		10.01		33.587		25.850	216.0	0.268	3.45		54.1	20.5	1.72	21.9	0.00	0.00	0.01	0.06	87	12
100		9.44		9.43		33.660		26.003	201.7	0.297	3.35		51.9	23.7	1.78	23.3	0.00	0.00	0.01	0.05	101	11
120		9.19		9.18		33.842		26.186	184.7	0.336	2.71		41.7	29.0	2.02	26.5	0.00	0.00	0.00	0.04	121	10
125	ISL	9.18	D	9.16		33.875	D	26.214	182.1	0.347	2.61	D	40.3	29.6	2.03	26.7	0.00	0.00	0.00	0.04	126	
140		8.90		8.88		33.917		26.292	175.0	0.372	2.62		40.1	31.6	2.06	27.3	0.00	0.00	0.00	0.04	141	09
150	ISL	8.80	D	8.78		33.947	D	26.331	171.5	0.392	2.57	D	39.3	32.9	2.12	28.0	0.00	0.00	0.00	0.04	151	
170		8.76		8.74		34.008		26.386	166.7	0.423	2.07		31.7	35.7	2.24	29.4	0.00	0.00	0.00	0.04	171	08
200		8.48		8.46		34.063		26.472	159.0	0.472	1.88		28.5	39.4	2.32	30.5	0.00	0.00	0.00	0.04	202	07
230		7.96		7.93		34.098		26.579	149.2	0.518	1.72		25.8	43.7	2.43	32.0	0.00	0.00			232	06
250	ISL	7.83	D	7.80		34.114	D	26.611	146.5	0.552	1.45	D	21.7	46.9	2.52	33.0	0.00	0.00			252	
270		7.68		7.65		34.150		26.661	142.0	0.576	1.20		18.0	50.0	2.61	33.9	0.00	0.00			272	05
300	ISL	7.17	D	7.14		34.113	D	26.705	138.1	0.623	1.25	D	18.4	55.2	2.68	35.4	0.00	0.00			302	
319		6.96		6.93		34.123		26.742	134.8	0.644	1.09		16.0	58.4	2.73	36.3	0.00	0.00			322	04
380		6.55		6.52		34.161		26.828	127.3	0.724	0.80		11.6	65.5	2.88	38.0	0.00	0.00			383	03
400	ISL	6.37	D	6.33		34.174	D	26.862	124.2	0.755	0.72	D	10.4	68.0	2.92	38.5	0.00	0.00			403	
441		6.13		6.09		34.198		26.912	119.9	0.799	0.57		8.2	73.3	3.00	39.5	0.00	0.00			445	02
500	ISL	5.71	D	5.67		34.250	D	27.006	111.4	0.875	0.39	D	5.6	81.5	3.13	40.7	0.00	0.00			504	
516		5.68		5.64		34.270		27.027	109.7	0.885	0.33		4.7	83.8	3.16	41.0	0.00	0.00			520	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
32 39.8 N	121 1.7 W	25/10/2011	1354 UTC	3782 m	220 04 kn			1017.4 mb	18.8 C	16.4 C				042

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		19.17		19.16		33.353		23.723	416.6	0.000	5.37		101.3	1.5	0.28	0.1	0.00	0.00	0.10	0.03	0	
2		19.17		19.16		33.353		23.723	416.6	0.008	5.37		101.3	1.5	0.28	0.1	0.00	0.00	0.10	0.03	2	21
10		19.02		19.01		33.345		23.755	413.9	0.040											10	20
10		19.02		19.01		33.349		23.758	413.6	0.042	5.38		101.2	1.4	0.28	0.0	0.00	0.00	0.10	0.02	10	19
20	ISL	18.97	D	18.97		33.344	D	23.766	413.1	0.083	5.41	D	101.7	1.3	0.27	0.1	0.00	0.00	0.13	0.04	20	
25		17.76		17.75		33.301		24.034	387.8	0.102	5.51		101.2	1.3	0.27	0.1	0.00	0.00	0.14	0.06	25	18
30	ISL	16.81	D	16.87		33.196	D	24.162	375.7	0.123	5.80	D	104.7	1.2	0.27	0.1	0.00	0.00	0.21	0.09	30	
40		15.97		15.96		33.254		24.416	351.8	0.157	5.91		104.8	1.0	0.27	0.0	0.00	0.00	0.36	0.16	40	17
50		14.47		14.47		33.108		24.630	331.6	0.191	6.05		104.1	1.8	0.30	0.0	0.00	0.00	0.44	0.26	50	16
62		12.92		12.91		33.145		24.976	298.9	0.229	5.73		95.4	2.6	0.42	1.5	0.17	0.00	0.26	0.27	62	15
75		12.28		12.27		33.289		25.212	276.7	0.266	5.44		89.4	4.1	0.51	3.8	0.04	0.00	0.18	0.19	76	14
86		11.50		11.49		33.269		25.343	264.4	0.296	5.19		83.9	6.5	0.75	7.6	0.02	0.00	0.11	0.13	87	13
100		10.40		10.39		33.310		25.568	243.1	0.332	4.68		73.8	11.7	1.13	13.7	0.00	0.00	0.04	0.08	101	12
111		9.77		9.76		33.426		25.766	224.5	0.357	4.26		66.3	16.2	1.37	17.7	0.00	0.00	0.02	0.07	112	11
125		9.48		9.46		33.540		25.903	211.7	0.388	3.88		60.1	20.1	1.56	20.7	0.00	0.00	0.01	0.04	126	10
141		9.32		9.30		33.705		26.059	197.2	0.421	3.22		49.7	24.7	1.80	24.4	0.00	0.00	0.01	0.04	142	09
150	ISL	9.51	D	9.49		33.833	D	26.128	190.9	0.441	2.63	D	40.9	26.5	1.86	25.3	0.00	0.00	0.00	0.04	151	
171		8.83		8.81		33.886		26.280	176.8	0.477	2.70		41.3	30.7	1.99	27.3	0.00	0.00	0.00	0.05	172	08
200	ISL	8.36	D	8.34		33.989	D	26.432	162.8	0.530	2.58	D	39.1	34.7	2.02	28.0	0.00	0.00	0.00	0.02	202	
201		8.37		8.35		33.990		26.432	162.8	0.528	2.69		40.8	34.8	2.02	28.0	0.00	0.00	0.00	0.02	203	07
231		8.00		7.98		34.035		26.523	154.5	0.575	2.20		33.1	40.6	2.21	30.5	0.00	0.00			233	06
250	ISL	7.82	D	7.79		34.067	D	26.576	149.8	0.608	1.83	D	27.4	43.9	2.33	31.8	0.00	0.00			252	
270		7.73		7.70		34.101		26.616	146.4	0.634	1.54		22.9	47.5	2.45	33.2	0.00	0.00			272	05
300	ISL	7.49	D	7.46		34.124	D	26.670	141.7	0.682	1.31	D	19.5	51.1	2.56	34.3	0.00	0.00			302	
320		7.34		7.31		34.140		26.703	138.8	0.705	1.17		17.3	53.5	2.63	35.1	0.00	0.00			323	04
380		6.48		6.45		34.147		26.826	127.4	0.785	0.87		12.6	65.1	2.83	38.2	0.00	0.00			383	03
400	ISL	6.32	D	6.28		34.137	D	26.840	126.3	0.817	0.84	D	12.2	68.0	2.87	38.7	0.00	0.00			403	
441		6.00		5.96		34.166		26.903	120.6	0.861	0.66		9.5	73.8	2.95	39.6	0.00	0.00			445	02
500	ISL	5.77	D	5.72		34.232	D	26.986	113.4	0.937	0.42	D	6.0	80.3	3.07	40.6	0.00	0.00			504	
515		5.71		5.66		34.255		27.011	111.1	0.947	0.36		5.1	81.9	3.10	40.9	0.00	0.00			519	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1110 STATION 86.7 80.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
32 19.6 N	121 42.7 W	25/10/2011	2050 UTC	4028 m	360 07 kn			1016.8 mb	17.9 C	16.6 C				043

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		17.92		17.92		33.311		24.001	390.0	0.000	5.55		102.2		0.7	0.28	0.0	0.00	0.02	0.19	0.05	0	
1		17.92		17.92		33.311		24.001	390.0	0.004	5.55		102.2		0.7	0.28	0.0	0.00	0.02	0.19	0.05	1	21
10		17.90		17.90		33.310		24.005	390.0	0.039	5.52		101.7		0.9	0.28	0.0	0.00	0.01	0.19	0.05	10	19
10		17.90		17.90		33.308		24.003	390.1	0.039												10	20
20	ISL	17.61	D	17.61		33.287	D	24.057	385.4	0.078	5.57	D	102.0		1.0	0.27	0.0	0.00	0.01	0.24	0.08	20	
21		17.61		17.61		33.290		24.060	385.1	0.082	5.57		102.0		1.0	0.27	0.0	0.00	0.01	0.24	0.09	21	18
30		17.31		17.30		33.303		24.143	377.6	0.116	5.63		102.5		0.8	0.29	0.0	0.00	0.02	0.34	0.14	30	17
39		15.82		15.81		33.390		24.554	338.6	0.148	5.53		97.8		1.0	0.42	1.0	0.25	0.26	0.63	0.32	39	16
50		13.84		13.83		33.423		25.006	295.7	0.183	4.97		84.5		3.3	0.77	6.8	0.02	0.00	0.28	0.22	50	15
60		13.01		13.00		33.348		25.115	285.6	0.212	4.83		80.7		5.7	0.92	9.0	0.00	0.01	0.20	0.18	60	14
70		12.08		12.08		33.380		25.319	266.3	0.240	4.51		73.8		8.8	1.14	12.5	0.00	0.00	0.09	0.11	71	13
75	ISL	11.42	D	11.41		33.363	D	25.430	255.8	0.254	4.06	D	65.6		10.8	1.26	14.4	0.00	0.00	0.07	0.09	76	
85		10.85		10.84		33.513		25.649	235.2	0.278	3.84		61.3		14.8	1.50	18.1	0.00	0.00	0.03	0.07	86	12
100		9.96		9.95		33.633		25.896	212.0	0.311	3.29		51.6		21.2	1.76	22.5	0.00	0.01	0.01	0.06	101	11
121		9.09		9.07		33.679		26.075	195.2	0.354	3.44		52.9		24.3	1.80	23.8	0.00	0.02	0.00	0.04	122	10
125	ISL	9.18	D	9.15		33.793	D	26.151	188.1	0.363	3.00	D	46.2		25.3	1.83	24.3	0.00	0.02	0.00	0.04	126	
140		8.76		8.74		33.828		26.244	179.5	0.389	2.98		45.6		29.1	1.96	26.4	0.00	0.04	0.00	0.03	141	09
150	ISL	8.74	D	8.73		33.898	D	26.301	174.3	0.409	2.73	D	41.7		30.6	2.00	27.0	0.00	0.03	0.00	0.03	151	
171		8.44		8.42		33.944		26.384	166.7	0.443	2.62		39.8		33.7	2.09	28.3	0.00	0.01	0.00	0.03	172	08
199		8.14		8.12		33.992		26.467	159.3	0.488	2.39		36.0		37.2	2.18	29.7	0.00	0.00	0.00	0.03	201	07
200	ISL	8.12	D	8.10		33.993	D	26.472	158.9	0.493	2.40	D	36.2		37.4	2.19	29.8	0.00	0.00	0.00	0.03	202	
230		7.98		7.95		34.067		26.552	151.8	0.536	1.87		28.0		42.0	2.36	31.7	0.00	0.00			232	06
250	ISL	7.85	D	7.83		34.094	D	26.592	148.4	0.570	1.62	D	24.3		45.2	2.46	32.7	0.00	0.00			252	
270		7.59		7.56		34.110		26.643	143.7	0.596	1.43		21.2		48.4	2.55	33.7	0.00	0.00			272	05
300	ISL	7.39	D	7.36		34.136	D	26.691	139.6	0.642	1.22	D	18.1		52.6	2.64	35.0	0.00	0.00			302	
321		7.01		6.98		34.115		26.728	136.1	0.667	1.17		17.2		55.6	2.70	35.9	0.00	0.00			324	04
381		6.39		6.35		34.148		26.839	126.2	0.746	0.89		12.9		65.9	2.89	38.3	0.00	0.00			384	03
400	ISL	6.36	D	6.32		34.184	D	26.872	123.3	0.775	0.69	D	10.0		68.3	2.94	38.7	0.00	0.00			403	
441		6.06		6.02		34.218		26.937	117.4	0.819	0.51		7.4		73.5	3.05	39.6	0.00	0.00			445	02
500	ISL	5.51	D	5.47		34.223	D	27.009	110.8	0.893	0.41	D	5.8		82.5	3.14	41.0	0.00	0.00			504	
516		5.45		5.41		34.242		27.031	108.9	0.904	0.35		5.0		84.9	3.16	41.4	0.00	0.00			520	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1110 STATION 86.7 90.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
31 59.3 N	122 24.4 W	26/10/2011	0304 UTC	4020 m	300 09 kn	290 05 06	1	1019.0 mb	19.8 C	16.9 C	28 m	4/8	AC	044

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		18.50		18.50		33.200		23.773	411.8	0.000	5.45		101.5		1.4	0.28	0.1	0.00	0.34	0.14	0.03	0	
2	A	18.50		18.50		33.200		23.773	411.8	0.008	5.45		101.5		1.4	0.28	0.1	0.00	0.34	0.14	0.03	2	23
10		18.31		18.30		33.205		23.825	407.1	0.040	5.50	D	98.4									10	22
10		18.31		18.30		33.198		23.819	407.7	0.041	5.47		101.5		1.2	0.28	0.0	0.00	0.00	0.11	0.02	10	21
19	A	18.04		18.04		33.195		23.882	402.1	0.077	5.51		101.7		1.2	0.28	0.0	0.00	0.00	0.12	0.04	19	20
20	ISL	18.07	D	18.07		33.201	D	23.880	402.2	0.082	5.53	D	102.1		1.2	0.28	0.0	0.00	0.00	0.12	0.04	20	
25	A	17.71		17.70		33.219		23.983	392.7	0.101	5.59		102.5		1.2	0.27	0.0	0.00	0.00	0.13	0.03	25	19
30	ISL	17.51	D	17.51		33.222	D	24.032	388.1	0.122	5.58	D	102.0		1.1	0.28	0.0	0.00	0.00	0.15	0.04	30	
35		17.39		17.38		33.234		24.071	384.6	0.140	5.61		102.3		1.0	0.28	0.0	0.00	0.00	0.16	0.05	35	18
45	A	14.42		14.41		33.082		24.622	332.2	0.176	6.10		104.7		1.5	0.32	0.0	0.00	0.00	0.21	0.14	45	17
50	ISL	13.90	D	13.88		33.065	D	24.718	323.2	0.194	5.93	D	100.7		1.7	0.35	0.2	0.02	0.00	0.26	0.21	50	
58		13.55		13.54		33.086		24.805	315.1	0.218	5.94		100.1		2.1	0.39	0.4	0.05	0.00	0.35	0.33	58	16
71		12.35		12.34		33.181		25.114	285.9	0.257	5.41		89.0		4.2	0.66	5.1	0.05	0.00	0.22	0.28	72	15
75	ISL	12.26	D	12.25		33.192	D	25.141	283.4	0.270	5.29	D	86.9		4.6	0.69	5.7	0.03	0.00	0.20	0.26	76	
84	A	11.75		11.74		33.196		25.240	274.2	0.293	5.26		85.5		5.5	0.76	6.9	0.00	0.00	0.16	0.22	85	14
90		11.38		11.37		33.285		25.376	261.4	0.309	4.95		79.8		8.0	0.98	10.5	0.00	0.00	0.10	0.18	91	13
98	A	10.83		10.82		33.308		25.492	250.4	0.330	4.89		77.9		9.5	1.04	11.6	0.00	0.00	0.07	0.11	99	12
100	ISL	10.69	D	10.67		33.306	D	25.517	248.1	0.337	4.81	D	76.4		10.1	1.07	12.1	0.00	0.00	0.07	0.11	101	
112		10.22		10.21		33.373		25.649	235.7	0.364	4.55		71.6		13.3	1.24	15.1	0.00	0.00	0.04	0.06	113	11
125		9.88		9.87		33.643		25.917	210.5	0.393	3.35		52.4		21.4	1.74	22.4	0.00	0.00	0.02	0.04	126	10
140		9.49		9.47		33.734	D	26.054	197.7	0.426	3.06	D	47.5									141	09
150	ISL	9.10	D	9.08		33.773	D	26.147	189.0	0.445	3.11	D	47.9		26.2	1.87	24.6	0.00	0.00	0.01	0.03	151	
172		8.76		8.74		33.906		26.305	174.4	0.483	2.82		43.1		30.4	1.98	26.6	0.00	0.00	0.00	0.02	173	08
200		8.54		8.52		33.986		26.402	165.7	0.531	2.46		37.4		34.3	2.11	28.4	0.00	0.00	0.00	0.02	202	07
230		8.11		8.08		34.053		26.522	154.7	0.579	2.00		30.1		40.6	2.25	30.9	0.00	0.00			232	06
250	ISL	7.89	D	7.86		34.072	D	26.569	150.5	0.613	1.80	D	27.0		43.5	2.36	31.9	0.00	0.00			252	
271		7.67		7.65		34.086		26.612	146.7	0.640	1.64		24.4		46.5	2.47	32.9	0.00	0.00			273	05
300	ISL	7.34	D	7.31		34.114	D	26.682	140.4	0.686	1.32	D	19.6		51.6	2.60	34.4	0.00	0.00			302	
322		7.16		7.12		34.128		26.720	137.1	0.713	1.15		17.0		55.5	2.69	35.5	0.00	0.00			325	04
381		6.64		6.60		34.163		26.818	128.3	0.791	0.84	D	12.2		63.1	2.86	37.5	0.00	0.00			384	03
400	ISL	6.48	D	6.44		34.173	D	26.847	125.8	0.820	0.76	D	11.0		65.5	2.90	37.9	0.00	0.00			403	
442		6.21		6.17		34.201		26.905	120.7	0.867	0.60		8.7		70.6	2.98	38.9	0.00	0.00			446	02
500	ISL	6.15	D	6.10		34.289	D	26.984	114.1	0.941	0.31	D	4.5		76.1	3.11	39.6	0.00	0.00			504	
516		6.08		6.03		34.299		27.000	112.7	0.953	0.29		4.2		77.6	3.15	39.8	0.00	0.00			520	01

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.
D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1110 STATION 86.7 100.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
31 39.4 N	123 4.4 W	26/10/2011	1027	UTC	4130 m	340	15 kn			1018.1 mb	17.0 C	13.3 C				045

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		17.87		17.87		33.341	24.034	386.9	0.000	5.58		102.7	1.0	0.28	0.2	0.00	0.03	0.21	0.05	0	
2		17.87		17.87		33.341	24.034	386.9	0.008	5.58		102.7	1.0	0.28	0.2	0.00	0.03	0.21	0.05	2	21
10		17.85		17.85		33.342	24.041	386.5	0.039	5.57		102.6	0.8	0.28	0.2	0.00	0.01	0.20	0.05	10	19
10		17.85		17.85		33.346	24.044	386.2	0.039											10	20
20		17.65		17.64		33.364	24.108	380.5	0.077	5.60		102.7	1.0	0.29	0.2	0.00	0.03	0.28	0.10	20	18
30		17.28		17.27		33.416	24.237	368.6	0.115	5.61		102.2	0.6	0.30	0.2	0.00	0.01	0.45	0.22	30	17
40		16.32		16.31		33.438	24.478	345.9	0.150	5.57		99.6	1.3	0.40	0.8	0.12	0.22	0.63	0.33	40	16
50		14.94		14.93		33.368	24.731	322.1	0.184	5.45		94.7	2.0	0.53	2.2	0.38	0.23	0.57	0.34	50	15
60		13.60		13.59		33.429	25.059	291.0	0.214	4.87		82.5	4.2	0.85	8.0	0.02	0.00	0.24	0.23	60	14
70		12.87		12.86		33.460	25.230	275.0	0.243	4.62		77.0	6.7	1.03	10.7	0.00	0.00	0.15	0.18	71	13
75	ISL	12.43	D	12.43		33.446	D 25.304	268.0	0.258	4.44	D	73.3	8.3	1.12	12.1	0.00	0.00	0.12	0.15	76	
85		11.60		11.59		33.427	25.447	254.5	0.282	4.28		69.5	11.5	1.29	15.0	0.00	0.00	0.05	0.10	86	12
100		10.71		10.69		33.510	25.672	233.3	0.319	3.78		60.2	16.6	1.54	18.9	0.00	0.00	0.03	0.07	101	11
120		9.48		9.47		33.636	25.978	204.5	0.363	3.36		52.0	23.0	1.79	23.3	0.00	0.00	0.01	0.08	121	10
125	ISL	9.29	D	9.27		33.681	D 26.044	198.2	0.375	3.29	D	50.8	24.0	1.81	23.7	0.00	0.00	0.01	0.08	126	
141		9.02		9.00		33.785	D 26.169	186.7	0.406	2.95	D	45.3								142	09
150	ISL	8.88	D	8.86		33.851	D 26.243	179.8	0.423	2.82	D	43.2	28.9	1.92	25.7	0.00	0.00	0.01	0.06	151	
170		8.42		8.40		33.919	26.367	168.3	0.455	2.92		44.3	32.8	2.00	27.3	0.00	0.00	0.00	0.04	171	08
200		8.00		7.98		33.986	26.484	157.6	0.504	2.45		36.8	38.1	2.17	29.8	0.00	0.00	0.00	0.03	202	07
230		7.53		7.51		34.017	26.577	149.2	0.550	2.04		30.4	44.5	2.33	32.3	0.00	0.00			232	06
250	ISL	7.32	D	7.30		34.037	D 26.622	145.1	0.583	1.78	D	26.3	48.1	2.43	33.5	0.00	0.00			252	
271		7.11		7.08		34.054	26.666	141.2	0.609	1.59		23.4	51.8	2.53	34.7	0.00	0.00			273	05
300	ISL	6.94	D	6.91		34.093	D 26.720	136.5	0.654	1.25	D	18.3	55.7	2.66	35.9	0.00	0.00			302	
320		6.85		6.82		34.120	26.755	133.5	0.677	1.07		15.7	58.4	2.75	36.7	0.00	0.00			323	04
381		6.44		6.40		34.154	26.837	126.4	0.756	0.81		11.8	67.2	2.90	38.4	0.00	0.00			384	03
400	ISL	6.21	D	6.17		34.160	D 26.872	123.2	0.785	0.73	D	10.5	69.6	2.93	38.9	0.00	0.00			403	
440		6.00		5.96		34.177	26.912	119.7	0.828	0.62		8.8	74.8	3.00	39.8	0.00	0.00			444	02
500	ISL	5.57	D	5.52		34.216	D 26.997	112.1	0.904	0.44	D	6.3	83.1	3.12	41.1	0.00	0.00			504	
516		5.51		5.47		34.231	27.016	110.5	0.916	0.38		5.4	85.3	3.15	41.5	0.00	0.00			520	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1110 STATION 86.7 110.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
31 19.0 N	123 45.1 W	26/10/2011	1718	UTC	4175 m	350	13 kn			1019.5 mb	17.7 C	14.6 C				046

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		17.90		17.90		33.211	23.927	397.1	0.000	5.51		101.4	2.1	0.28	0.0	0.00	0.00	0.13	0.03	0	
2		17.90		17.90		33.211	23.927	397.1	0.008	5.51		101.4	2.1	0.28	0.0	0.00	0.00	0.13	0.03	2	21
10		17.88		17.87		33.213	23.936	396.6	0.039											10	20
10		17.88		17.87		33.215	23.937	396.4	0.040	5.52		101.6	2.6	0.28	0.1	0.00	0.00	0.13	0.04	10	19
20		17.57		17.57		33.247	24.036	387.3	0.079	5.58		102.0	2.1	0.28	0.1	0.00	0.00	0.16	0.05	20	18
30		17.38		17.37		33.362	24.171	374.8	0.117	5.59		101.9	1.4	0.28	0.1	0.00	0.00	0.26	0.09	30	17
38		16.89		16.89		33.291	24.232	369.3	0.147	5.69		102.8	1.6	0.28	0.1	0.00	0.00	0.39	0.13	38	16
49		14.57		14.56		33.089	24.596	334.8	0.185	6.09		104.8	2.3	0.30	0.1	0.00	0.01	0.34	0.20	49	15
50	ISL	14.28	D	14.27		33.099	D 24.664	328.4	0.190	6.02	D	103.1	2.3	0.31	0.2	0.01	0.01	0.34	0.21	50	
60		13.45		13.44		33.127	24.856	310.2	0.221	5.82		98.0	2.9	0.41	0.8	0.09	0.02	0.36	0.26	60	14
70		12.98		12.97		33.245	25.043	292.8	0.251	5.70		95.1	3.2	0.39	1.0	0.08	0.03	0.26	0.22	71	13
75	ISL	12.66	D	12.65		33.212	D 25.080	289.3	0.267	5.57	D	92.3	5.0	0.56	3.9	0.06	0.02	0.21	0.19	76	
86		11.63		11.61		33.287	25.333	265.4	0.296	4.98		80.7						0.11	0.13	87	12
99		10.72		10.71		33.339	D 25.536	246.2	0.329	4.69	D	74.6						0.11	0.14	100	11
100	ISL	10.72	D	10.69		33.340	D 25.541	245.8	0.334	4.62	D	73.5	9.1	0.96	10.2	0.01	0.00	0.10	0.13	101	
121		9.96		9.95		33.558	25.837	218.0	0.380	3.68		57.7	19.8	1.61	20.6	0.00	0.00	0.02	0.07	122	10
125	ISL	9.85	D	9.83		33.651	D 25.929	209.3	0.391	3.22	D	50.3	21.4	1.68	21.7	0.00	0.00	0.02	0.06	126	
141		9.30		9.28		33.791	26.129	190.6	0.421	2.77		42.7	27.7	1.98	26.2	0.00	0.00	0.00	0.05	142	09
150	ISL	9.16	D	9.14		33.863	D 26.208	183.2	0.440	2.66	D	41.0	29.4	2.02	26.7	0.00	0.00	0.00	0.05	151	
170		8.96		8.94		33.956	26.313	173.6	0.473	2.34		35.9	33.0	2.12	27.9	0.00	0.00	0.00	0.05	171	08
200		8.57		8.55		34.024	26.428	163.2	0.524	2.13		32.4	36.9	2.22	29.5	0.00	0.00	0.00	0.04	202	07
230		8.20		8.18		34.063	26.515	155.5	0.572	1.86		28.1	41.4	2.34	31.2	0.00	0.00			232	06
250	ISL	7.86	D	7.84		34.073	D 26.574	150.0	0.606	1.74	D	26.1	44.9	2.42	32.4	0.00	0.00			252	
270		7.67		7.64		34.079	26.608	147.1	0.632	1.56		23.2	48.4	2.50	33.5	0.00	0.00			272	05
300	ISL	7.35	D	7.32		34.100	D 26.669	141.6	0.680	1.37	D	20.3	52.6	2.62	34.8	0.00	0.00			302	
322		7.19		7.16		34.123	26.711	138.0	0.706	1.14		16.9	55.7	2.71	35.8	0.00	0.00			325	04
380		6.45		6.41		34.141	26.825	127.5	0.783	1.12		16.3	66.5	2.89	38.1	0.00	0.00			383	03
400	ISL	6.04	D	6.00		34.104	D 26.849	125.1	0.814	0.94	D	13.5	70.0	2.93	38.8	0.00	0.00			403	
439		5.76		5.72		34.143	26.915	119.2	0.856	0.72		10.3	76.8	3.01	40.3	0.00	0.00			443	02
500	ISL	5.72	D	5.68		34.254	D 27.009	111.2	0.933	0.37	D	5.3	83.2	3.14	41.0	0.00	0.00			504	
516		5.61		5.57		34.260	27.027	109.6	0.944	0.35		5.0	84.9	3.17	41.2	0.00	0.00			520	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1110 STATION 86.8 32.5

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
33 53.1 N	118 27.0 W	24/10/2011	0343	UTC	36 m	270	01 kn	150 01 07	4	1013.7 mb	16.2 C	15.2 C		8/8	ST	034

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		17.05		17.05		33.359	24.244	366.9	0.000	6.86		124.4	2.2	0.19	0.1	0.00	0.00	6.05	0.36	0	
2		17.05		17.05		33.359	24.244	366.9	0.007	6.86		124.4	2.2	0.19	0.1	0.00	0.00	6.05	0.36	2	05
5		16.92		16.92		33.361	24.277	363.9	0.018	6.58		119.0	2.1	0.19	0.1	0.00	0.00	4.17	0.28	5	04
10		16.32		16.31		33.349	24.408	351.5	0.036	6.13		109.5	1.7	0.26	0.1	0.00	0.08	1.73	0.32	10	03
20		13.43		13.43		33.285	24.980	297.3	0.069	4.88		82.3	5.6	0.70	3.7	0.23	0.72	1.14	0.41	20	02
25		12.15		12.14		33.287	25.233	273.3	0.083	4.62		75.8	8.9	1.06	11.0	0.38	2.06	0.76	0.35	25	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1110 STATION 88.5 30.1

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
33 40.5 N	118 5.5 W	23/10/2011	2221	UTC	24 m	030	03 kn	280 01 03	4	1013.2 mb	15.0 C	14.9 C		8/8	ST	032

DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SIO3	PO4	NO3	NO2	NH4	CHL-A	PHAEO	PRES	SAMP
m	DEG C	DEG C		THETA			ml/l	PCT	uM/l	uM/l	uM/l	uM/l	uM/l	ug/l	ug/l	db	
0	16.66	16.66	33.180	24.197	371.3	0.000	6.19	111.3	1.9	0.19	0.1	0.00	0.00	2.21	0.48	0	
2	16.66	16.66	33.180	24.197	371.3	0.007	6.19	111.3	1.9	0.19	0.1	0.00	0.00	2.21	0.48	2	04
4	16.63	16.63	33.239	24.250	366.3	0.015	6.16	110.7	1.4	0.22	0.0	0.00	0.00	2.55	0.41	4	03
10	15.69	15.69	33.324	24.530	339.9	0.036	6.00	105.8	1.1	0.30	0.0	0.00	0.00	2.47	0.37	10	02
15	15.01	15.01	33.306	24.665	327.2	0.053	5.42	94.3	2.1	0.40	0.2	0.02	0.07	1.80	0.51	15	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1110 STATION 90.0 27.7

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
33 29.6 N	117 44.9 W	23/10/2011	1937	UTC	28 m	310	03 kn			1012.7 mb	15.0 C	14.5 C				031

DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SIO3	PO4	NO3	NO2	NH4	CHL-A	PHAEO	PRES	SAMP
m	DEG C	DEG C		THETA			ml/l	PCT	uM/l	uM/l	uM/l	uM/l	uM/l	ug/l	ug/l	db	
0	16.79	16.79	33.289	24.252	366.1	0.000	6.00	108.2	1.7	0.26	0.2	0.00	0.11	1.62	0.44	0	
2	16.79	16.79	33.289	24.252	366.1	0.007	6.00	108.2	1.7	0.26	0.2	0.00	0.11	1.62	0.44	2	04
5	16.46	16.45	33.313	24.348	357.1	0.018	5.67	101.6	1.8	0.29	0.1	0.00	0.00	4.82	0.45	5	03
10	14.85	14.84	33.318	24.710	322.7	0.035	5.38	93.3	3.2	0.45	0.9	0.10	0.00	2.17	0.62	10	02
18	13.17	13.17	33.252	25.006	294.7	0.060	5.07	84.9	6.1	0.84	7.2	0.56	1.10	1.41	0.56	18	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1110 STATION 90.0 28.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
33 29.0 N	117 46.2 W	23/10/2011	1737	UTC	72 m	010	04 kn			1013.2 mb	16.2 C	15.2 C				030

DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SIO3	PO4	NO3	NO2	NH4	CHL-A	PHAEO	PRES	SAMP
m	DEG C	DEG C		THETA			ml/l	PCT	uM/l	uM/l	uM/l	uM/l	uM/l	ug/l	ug/l	db	
0	17.07	17.07	33.295	24.191	371.9	0.000	6.17	111.8	1.0	0.24	0.1	0.00	0.00	0.94	0.38	0	
2	17.07	17.07	33.295	24.191	371.9	0.007	6.17	111.8	1.0	0.24	0.1	0.00	0.00	0.94	0.38	2	08
5	16.94	16.93	33.339	24.256	365.8	0.019	6.11	110.5	0.5	0.26	0.1	0.00	0.00	0.95	0.22	5	07
9	15.68	15.68	33.351	24.553	337.7	0.033	6.00	105.9	1.4	0.34	0.1	0.00	0.00	0.76	0.35	9	06
10 ISL	15.44 D	15.47	33.345 D	24.595	333.7	0.036	5.98 D	105.1	1.7	0.38	0.6	0.05	0.00	0.78	0.36	10	
20	13.21	13.21	33.294	25.031	292.4	0.067	5.23	87.6	5.1	0.74	5.8	0.55	0.00	1.00	0.41	20	05
30	12.16	12.16	33.295	25.237	273.1	0.096	4.87	79.8	7.5	0.97	9.5	0.26	0.00	0.56	0.35	30	04
40	11.59	11.59	33.343	25.381	259.6	0.122	4.48	72.5	10.3	1.16	12.9	0.08	0.00	0.45	0.27	40	03
50	11.10	11.10	33.419	25.529	245.8	0.148	3.97	63.8	14.3	1.39	16.0	0.17	0.00	0.25	0.22	50	02
60	11.03	11.02	33.431	25.551	243.9	0.172	3.91	62.6	14.7	1.42	16.4	0.15	0.00	0.22	0.18	60	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1110 STATION 90.0 30.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
33 25.1 N	117 54.3 W	23/10/2011	1447	UTC	620 m	170	03 kn			1014.1 mb	16.1 C	15.1 C				029

DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SIO3	PO4	NO3	NO2	NH4	CHL-A	PHAEO	PRES	SAMP
m	DEG C	DEG C		THETA			ml/l	PCT	uM/l	uM/l	uM/l	uM/l	uM/l	ug/l	ug/l	db	
0	17.96	17.96	33.486	24.124	378.3	0.000	5.63	104.0	0.4	0.26	0.1	0.00	0.00	0.32	0.10	0	
2	17.96	17.96	33.486	24.124	378.3	0.008	5.63	104.0	0.4	0.26	0.1	0.00	0.00	0.32	0.10	2	21
10	17.84	17.84	33.471	24.143	376.8	0.036	5.65	104.0								10	20
10	17.84	17.84	33.470	24.142	376.9	0.038	5.65	104.1	0.4	0.29	0.1	0.00	0.00	0.32	0.09	10	19
20	17.01	17.01	33.451	24.326	359.7	0.075	5.72	103.7	0.6	0.31	0.1	0.00	0.00	0.39	0.14	20	18
30	14.80	14.79	33.400	24.785	316.2	0.108	5.51	95.4	2.7	0.53	2.2	0.16	0.10	0.69	0.27	30	17
40	12.52	12.51	33.287	25.163	280.4	0.138	4.95	81.8	6.4	0.88	7.8	0.20	0.00	0.34	0.22	40	16
49	11.68	11.67	33.284	25.320	265.7	0.163	4.74	77.0						0.26	0.18	49	15
50 ISL	11.51 D	11.48	33.267 D	25.341	263.7	0.167	4.75 D	76.8	9.1	1.08	11.6	0.12	0.00	0.25	0.17	50	
59	11.10	11.09	33.337	25.467	251.9	0.189	4.41	70.7	11.0	1.19	13.8	0.03	0.00	0.19	0.16	59	14
70	10.59	10.58	33.363	25.576	241.7	0.216	4.34	68.9	12.8	1.28	15.3	0.01	0.00	0.11	0.10	71	13
75 ISL	10.52 D	10.51	33.421 D	25.635	236.2	0.229	4.16 D	65.9	14.6	1.38	16.7	0.01	0.00	0.08	0.09	76	
84	10.31	10.30	33.548	25.769	223.6	0.248	3.68	58.0	17.9	1.56	19.3	0.00	0.00	0.03	0.06	85	12
100	10.12	10.11	33.690	25.913	210.4	0.283	3.09	48.5	22.4	1.78	22.1	0.00	0.00	0.02	0.05	101	11
120	9.88	9.86	33.801	26.041	198.6	0.324	2.71	42.5	25.3	1.93	23.8	0.00	0.00	0.01	0.06	121	10
125 ISL	9.86 D	9.85	33.844 D	26.077	195.3	0.336	2.57 D	40.2	26.3	1.98	24.4	0.00	0.00	0.01	0.06	126	
140	9.77	9.75	33.982	26.202	183.8	0.362	2.19	34.3	29.4	2.13	26.0	0.00	0.00	0.00	0.05	141	09
150 ISL	9.66 D	9.65	34.005 D	26.238	180.6	0.383	2.14 D	33.4	30.3	2.15	26.4	0.00	0.00	0.00	0.05	151	
170	9.50	9.48	34.047	26.298	175.3	0.416	2.04	31.8	32.0	2.18	27.2	0.00	0.00	0.01	0.05	171	08
200	8.86	8.84	34.067	26.416	164.5	0.467	1.97	30.1	35.3	2.24	29.1	0.00	0.00	0.01	0.05	202	07
230	8.59	8.57	34.112	26.495	157.5	0.515	1.72	26.2	39.3	2.35	30.5	0.00	0.00			232	06
250 ISL	8.51 D	8.48	34.148 D	26.536	154.0	0.550	1.47 D	22.4	41.8	2.45	31.5	0.00	0.00			252	
270	8.31	8.28	34.182	26.594	148.8	0.577	1.24	18.8	44.4	2.55	32.4	0.00	0.00			272	05
300 ISL	8.30 D	8.26	34.237 D	26.640	145.1	0.625	0.90 D	13.6	47.1	2.66	33.1	0.00	0.00			302	
320	8.21	8.18	34.265	26.675	142.2	0.650	0.76	11.4	48.9	2.73	33.6	0.00	0.00			323	04
380	7.69	7.65	34.284	26.769	134.0	0.732	0.57	8.5	55.8	2.87	35.1	0.00	0.00			383	03
400 ISL	7.47 D	7.43	34.294 D	26.808	130.5	0.765	0.49 D	7.3	58.7	2.92	35.7	0.00	0.00			403	
440	7.09	7.05	34.306	26.872	124.8	0.810	0.38	5.5	64.7	3.01	36.9	0.00	0.00			444	02
500 ISL	6.43 D	6.38	34.319 D	26.971	115.7	0.889	0.28 D	4.1	73.6	3.11	38.7	0.00	0.00			504	
515	6.32	6.27	34.323	26.989	114.1	0.899	0.27	4.0	75.8	3.14	39.2	0.00	0.00			519	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1110 STATION 90.0 35.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
33 15.1 N	118 15.0 W	23/10/2011	1050 UTC	350 m	240 06 kn			1013.3 mb	16.1 C	15.1 C				028

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	18.05	18.05	33.491	24.105	380.1	0.000	5.73	106.0	0.6	0.29	0.1	0.00	0.00	0.37	0.08	0	
2	18.05	18.05	33.491	24.105	380.1	0.008	5.73	106.0	0.6	0.29	0.1	0.00	0.00	0.37	0.08	2	19
9	18.00	18.00	33.493	24.119	379.0	0.035										9	18
10	18.04	18.04	33.487	24.105	380.4	0.038	5.73	106.0	0.6	0.28	0.0	0.00	0.00	0.37	0.09	10	17
20	16.17	16.16	33.365	24.455	347.4	0.074	5.99	106.8	0.8	0.32	0.1	0.00	0.00	0.70	0.29	20	16
30	14.45	14.45	33.304	24.784	316.3	0.108	5.63	96.9	2.5	0.47	1.0	0.12	0.07	0.95	0.51	30	15
40	12.68	12.68	33.271	25.118	284.7	0.138	5.10	84.5	5.4	0.79	6.5	0.46	0.24	0.40	0.31	40	14
50	12.10	12.09	33.300	25.254	272.0	0.166	4.66	76.3	8.2	1.04	10.9	0.43	0.00	0.31	0.22	50	13
60	11.53	11.52	33.354	25.401	258.2	0.192	4.43	71.7	10.5	1.18	13.2	0.04	0.00	0.24	0.20	60	12
70	10.61	10.60	33.485	25.668	232.9	0.217	3.87	61.4	16.0	1.48	17.9	0.02	0.00	0.09	0.12	71	11
75 ISL	10.45 D	10.44	33.537 D	25.737	226.5	0.230	3.63 D	57.5	17.3	1.54	18.9	0.02	0.00	0.07	0.11	76	
84	10.23	10.22	33.591	25.816	219.2	0.248	3.48	54.8	19.6	1.65	20.6	0.01	0.00	0.03	0.11	85	10
99	9.79	9.77	33.701	25.978	204.1	0.280	3.15	49.2	23.2	1.81	23.1	0.00	0.00	0.02	0.07	100	09
100 ISL	9.78 D	9.76	33.727 D	26.001	201.9	0.284	3.05 D	47.6	23.4	1.82	23.2	0.00	0.00	0.02	0.07	101	
120	9.42	9.41	33.860	26.163	186.9	0.321	2.69	41.8	28.0	1.99	25.5	0.01	0.00	0.01	0.05	121	08
125 ISL	9.31 D	9.29	33.918 D	26.227	181.0	0.332	2.57 D	39.8	28.9	2.03	25.9	0.01	0.00	0.01	0.06	126	
140	9.25	9.23	33.999	26.300	174.3	0.357	2.26	35.0	31.7	2.14	27.0	0.00	0.00	0.01	0.06	141	07
150 ISL	9.23 D	9.21	34.045 D	26.339	170.9	0.376	2.07 D	32.0	33.1	2.19	27.5	0.00	0.00	0.01	0.06	151	
170	9.22	9.20	34.132	26.410	164.6	0.407	1.70	26.4	35.9	2.29	28.4	0.01	0.00	0.01	0.05	171	06
200	8.93	8.90	34.139	26.463	160.1	0.456	1.66	25.5	37.7	2.35	29.4	0.00	0.00	0.01	0.06	202	05
230	8.61	8.59	34.136	26.511	156.1	0.504	1.55	23.7	40.0	2.43	30.4	0.03	0.02			232	04
250 ISL	8.49 D	8.47	34.166 D	26.553	152.4	0.538	1.33 D	20.2	43.8	2.56	31.7	0.02	0.01			252	
270	8.26	8.23	34.222	26.633	145.1	0.564	0.96	14.5	47.6	2.68	32.9	0.01	0.00			272	03
300 ISL	8.07 D	8.04	34.250 D	26.684	140.8	0.611	0.77 D	11.6	52.1	2.77	34.1	0.00	0.00			302	
320	7.74	7.71	34.257	26.738	135.9	0.635	0.67	10.0	55.0	2.83	34.9	0.00	0.00			323	02
330	7.70	7.67	34.264	26.750	134.8	0.648	0.63	9.4	55.5	2.86	35.0	0.00	0.00			333	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1110 STATION 90.0 37.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
33 10.9 N	118 23.2 W	23/10/2011	0745 UTC	1177 m	310 16 kn	290 02 06	4	1012.7 mb	16.2 C	15.1 C	15 m	8/8	ST	027

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	17.16	17.16	33.393	24.244	366.9	0.000	5.74	104.3	0.7	0.29	0.1	0.00	0.06	0.43	0.09	0	
2	17.16	17.16	33.393	24.244	366.9	0.007	5.74	104.3	0.7	0.29	0.1	0.00	0.06	0.43	0.09	2	20
10	16.12	16.12	33.364	24.463	346.3	0.036	5.84	103.9	0.8	0.30	0.1	0.00	0.00	0.46	0.16	10	19
20	16.05	16.04	33.516	24.598	333.8	0.070	6.06	107.9	2.1	0.36	0.5	0.00	0.13	2.92	0.68	20	18
30	14.48	14.47	33.367	24.828	312.1	0.102	5.42	93.4	2.5	0.56	2.3	0.14	0.69	0.91	0.64	30	17
40	13.15	13.14	33.273	25.029	293.2	0.132	5.26	88.1	4.8	0.75	6.0	0.17	0.11	0.46	0.48	40	16
50	12.02	12.01	33.262	25.239	273.4	0.161	5.01	81.9	6.7	0.91	9.0	0.04	0.00	0.31	0.32	50	15
60	11.40	11.39	33.336	25.412	257.1	0.187	4.55	73.5	10.4	1.15	13.1	0.01	0.00	0.20	0.28	60	14
70	10.63	10.63	33.388	25.588	240.6	0.212	4.30	68.2	13.8	1.32	15.8	0.00	0.00	0.09	0.15	71	13
75 ISL	10.20 D	10.17	33.465 D	25.727	227.5	0.225	4.09 D	64.4	15.6	1.40	17.2	0.00	0.00	0.07	0.12	76	
84	9.86	9.85	33.521	25.825	218.3	0.244	3.86	60.3	18.9	1.55	19.7	0.00	0.00	0.04	0.07	85	12
100	9.49	9.48	33.623	25.965	205.3	0.278	3.54	54.9	22.5	1.69	21.9	0.00	0.00	0.02	0.06	101	11
121	9.17	9.16	33.750	26.117	191.3	0.319	3.11	47.9	26.2	1.87	24.6	0.00	0.00	0.02	0.07	122	10
125 ISL	9.15 D	9.13	33.795 D	26.156	187.7	0.329	2.97 D	45.8	26.9	1.90	25.0	0.00	0.00	0.02	0.07	126	
141	9.10	9.08	33.864	26.218	182.1	0.357	2.64	40.6	29.8	2.03	26.8	0.00	0.00	0.01	0.08	142	09
150 ISL	8.96 D	8.95	33.902 D	26.270	177.3	0.375	2.63 D	40.4	30.8	2.04	27.1	0.00	0.00	0.01	0.08	151	
169	8.70	8.68	33.952	26.350	170.0	0.406	2.55	38.9	33.1	2.07	27.7	0.00	0.00	0.01	0.10	170	08
199	8.31	8.29	34.023	26.466	159.5	0.455	2.22	33.7	37.9	2.21	29.6	0.00	0.00	0.01	0.04	201	07
200 ISL	8.32 D	8.30	34.034 D	26.473	158.8	0.459	2.20 D	33.3	38.1	2.22	29.7	0.00	0.00	0.01	0.04	202	
230	8.38	8.36	34.133	26.543	152.9	0.504	1.49	22.6	43.3	2.46	31.6	0.00	0.00			232	06
250 ISL	8.55 D	8.53	34.230 D	26.594	148.6	0.536	1.00 D	15.2	44.9	2.56	32.1	0.00	0.09			252	
270	8.48	8.45	34.244	26.616	146.8	0.563	0.86	13.0	46.5	2.66	32.5	0.00	0.17			272	05
300 ISL	8.27 D	8.24	34.265 D	26.666	142.6	0.610	0.75 D	11.4	49.2	2.71	33.3	0.00	0.07			302	
320	8.07	8.04	34.259	26.691	140.5	0.635	0.68	10.2	51.0	2.75	33.9	0.00	0.00			323	04
380	7.35	7.31	34.269	26.805	130.3	0.716	0.53	7.8	59.9	2.90	36.0	0.00	0.00			383	03
400 ISL	7.26 D	7.22	34.288 D	26.833	127.9	0.746	0.46 D	6.8	61.8	2.93	36.4	0.00	0.02			403	
442	6.95	6.91	34.289	26.877	124.1	0.795	0.39	5.8	65.9	2.99	37.2	0.00	0.05			446	02
500 ISL	6.48 D	6.44	34.314 D	26.960	116.7	0.869	0.31 D	4.5	72.9	3.09	38.6	0.00	0.01			504	
515	6.37	6.33	34.314	26.975	115.4	0.882	0.27	3.9	74.7	3.11	39.0	0.00	0.00			519	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1110 STATION 90.0 45.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
32 54.8 N	118 56.0 W	23/10/2011	0221	UTC	1474 m	220	04 kn	350 01 05	2	1016.5 mb	17.0 C	15.3 C	21 m	8/8	ST	026

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		17.60		17.60		33.383	24.132	377.5	0.000	5.56		101.8		0.8	0.28	0.1	0.00	0.03			0	
2	A	17.60		17.60		33.383	24.132	377.5	0.008	5.56		101.8		0.8	0.28	0.1	0.00	0.03			2	23
8		17.52		17.51		33.373	24.145	376.5	0.030												8	22
8		17.52		17.51		33.387	24.156	375.5	0.030	5.61		102.6		0.9	0.27	0.1	0.00	0.01	0.29	0.08	8	21
10	ISL	17.40	D	17.38		33.396	D 24.195	371.8	0.038	5.60	D	102.2		0.9	0.28	0.1	0.00	0.02	0.40	0.12	10	
14	A	17.19		17.19		33.377	24.226	369.0	0.053	5.62		102.2		0.9	0.29	0.1	0.00	0.04	0.63	0.21	14	20
19	A	17.16		17.16		33.390	24.244	367.5	0.071	5.65		102.6		0.9	0.27	0.1	0.00	0.00	0.44	0.17	19	19
20	ISL	17.10	D	17.08		33.400	D 24.269	365.1	0.075	5.66	D	102.7		0.9	0.27	0.1	0.00	0.00	0.45	0.17	20	
26		16.86		16.85		33.389	24.315	361.0	0.097	5.68		102.5		0.9	0.28	0.1	0.00	0.02	0.55	0.19	26	18
30	ISL	16.59	D	16.58		33.381	D 24.372	355.7	0.111	5.74	D	103.1		0.8	0.28	0.1	0.02	0.01	0.65	0.23	30	
33	A	16.11		16.10		33.340	24.450	348.3	0.121	5.80		103.2		0.7	0.28	0.1	0.03	0.00	0.73	0.26	33	17
43		13.78		13.78		33.185	24.832	312.1	0.154	5.67		96.2		2.5	0.46	1.9	0.34	0.00	0.42	0.33	43	16
50	ISL	12.80	D	12.78		33.224	D 25.062	290.3	0.177	5.28	D	87.7		4.2	0.64	4.6	0.19	0.00	0.28	0.27	50	
54		12.69		12.68		33.225	25.082	288.5	0.187	5.27		87.4		5.2	0.74	6.2	0.10	0.00	0.20	0.23	54	15
63	A	12.30		12.29		33.268	25.192	278.2	0.213	5.01		82.4		6.9	0.87	8.5	0.06	0.00	0.17	0.16	64	14
72	A	12.01		12.00		33.312	25.280	270.1	0.237	4.86		79.5		8.3	0.98	10.2	0.06	0.00	0.15	0.16	73	13
75	ISL	12.04	D	12.03		33.343	D 25.299	268.4	0.247	4.68	D	76.6		9.6	1.05	11.4	0.05	0.00	0.12	0.14	76	
85		10.40		10.39		33.365	25.612	238.6	0.271	4.42		69.8		13.9	1.29	15.6	0.03	0.00	0.04	0.06	86	12
100		10.30		10.29		33.531	25.758	225.1	0.306	3.62		57.1		18.3	1.57	19.7	0.04	0.00	0.05	0.07	101	11
120		9.94		9.93		33.671	25.929	209.2	0.349	3.17		49.6		22.5	1.75	22.2	0.03	0.00	0.01	0.06	121	10
125	ISL	9.86	D	9.85		33.725	D 25.985	204.0	0.361	3.03	D	47.4		23.4	1.79	22.7	0.02	0.00	0.01	0.06	126	
140		9.67		9.65		33.812	26.085	194.8	0.389	2.81		43.8		26.2	1.90	24.1	0.00	0.00	0.01	0.05	141	09
150	ISL	9.66	D	9.65		33.918	D 26.168	187.2	0.410	2.50	D	39.0		28.0	1.97	25.0	0.00	0.00	0.01	0.04	151	
170		9.41		9.39		33.999	26.275	177.4	0.445	2.27		35.3		31.6	2.11	26.7	0.00	0.00	0.01	0.03	171	08
200		8.88		8.86		34.019	26.376	168.3	0.497	2.32		35.5		34.0	2.13	28.0	0.00	0.00	0.00	0.03	202	07
230		8.78		8.75		34.116	26.469	160.1	0.546	1.81		27.7		38.2	2.30	29.5	0.00	0.00			232	06
250	ISL	8.53	D	8.50		34.164	D 26.545	153.2	0.580	1.49	D	22.7		40.9	2.39	30.5	0.00	0.00			252	
270		8.43		8.40		34.178	26.572	151.0	0.608	1.36		20.6		43.6	2.48	31.4	0.00	0.00			272	05
300	ISL	8.02	D	7.99		34.196	D 26.649	144.0	0.655	1.05	D	15.8		48.0	2.61	32.9	0.00	0.00			302	
320		7.90		7.87		34.221	26.687	140.7	0.680	0.91		13.7		51.0	2.69	33.9	0.00	0.00			323	04
380		7.65		7.61		34.259	26.755	135.2	0.763	0.66		9.9		55.5	2.80	34.8	0.00	0.00			383	03
400	ISL	7.50	D	7.46		34.261	D 26.778	133.3	0.795	0.62	D	9.2		57.3	2.84	35.3	0.00	0.00			403	
440		7.25		7.21		34.278	26.827	129.2	0.843	0.52		7.7		61.0	2.91	36.2	0.00	0.00			444	02
500	ISL	6.72	D	6.67		34.295	D 26.916	121.2	0.923	0.40	D	5.8		70.6	3.04	38.2	0.00	0.00			504	
515		6.49		6.44		34.304	26.952	117.8	0.936	0.33		4.8		73.0	3.07	38.7	0.00	0.00			519	01

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.
D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1110 STATION 90.0 53.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
32 39.0 N	119 28.9 W	22/10/2011	1819	UTC	1320 m	300	04 kn			1015.3 mb	15.4 C	14.2 C				025

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		17.87		17.87		33.333	24.028	387.5	0.000	5.48		100.8		0.8	0.29	0.1	0.00	0.06	0.19	0.06	0	
2		17.87		17.87		33.333	24.028	387.5	0.008	5.48		100.8		0.8	0.29	0.1	0.00	0.06	0.19	0.06	2	20
10		17.86		17.86		33.333	24.032	387.4	0.039	5.49		101.1		1.0	0.29	0.1	0.00	0.06	0.19	0.06	10	19
20		17.82		17.82		33.335	24.044	386.7	0.077	5.48		100.8		0.9	0.28	0.1	0.00	0.05	0.22	0.09	20	18
30		17.71		17.71		33.332	24.068	384.8	0.116	5.50		100.9		0.8	0.29	0.1	0.00	0.06	0.27	0.11	30	17
40		17.36		17.36		33.330	24.151	377.2	0.154	5.55		101.2		0.8	0.31	0.2	0.00	0.11	0.26	0.10	40	16
50		16.10		16.09		33.250	24.385	355.1	0.191	5.66		100.7		1.3	0.35	0.6	0.07	0.09	0.32	0.21	50	15
60		14.61		14.60		33.202	24.675	327.7	0.225	5.69		98.1		2.0	0.46	1.7	0.18	0.06	0.34	0.27	60	14
70		12.87		12.86		33.214	25.039	293.1	0.256	5.40		89.9		4.0	0.65	4.8	0.15	0.01	0.22	0.22	71	13
75	ISL	12.60	D	12.59		33.259	D 25.127	284.9	0.272	5.04	D	83.4		5.6	0.76	6.7	0.10	0.01	0.19	0.19	76	
85		11.53		11.52		33.309	25.367	262.1	0.298	4.82		78.0		8.7	0.99	10.6	0.01	0.01	0.12	0.12	86	12
100		10.89		10.88		33.425	25.573	242.8	0.335	4.25		67.9		13.6	1.29	15.5	0.00	0.00	0.06	0.08	101	11
119		9.75		9.73		33.523	25.846	217.1	0.379	3.85		60.0		19.4	1.56	20.1	0.00	0.00	0.01	0.07	120	10
125	ISL	9.53	D	9.52		33.648	D 25.979	204.5	0.394	3.36	D	52.2		19.4	1.56	20.1	0.00	0.00	0.01	0.06	126	
141		9.12		9.11		33.834	D 26.191	184.6	0.423	3.04	D	46.8									142	09
150	ISL	8.87	D	8.86		33.897	D 26.280	176.3	0.441	2.79	D	42.8		23.9	1.72	22.5	0.00	0.00	0.01	0.03	151	
169		8.69		8.67		33.957	26.356	169.4	0.472	2.59		39.5		33.1	2.05	27.8	0.00	0.00	0.00	0.02	170	08
200		8.48		8.46		34.045	26.458	160.3	0.523	2.18		33.1		37.2	2.20	29.4	0.00	0.00	0.00	0.02	202	07
229		8.31		8.29		34.103	26.530	154.0	0.569	1.72		26.1		42.0	2.37	31.2	0.00	0.00			231	06
250	ISL	8.22	D	8.19		34.146	D 26.579	149.8	0.604	1.44	D	21.8		44.6	2.46	32.1	0.00	0.00			252	
270		7.95		7.92		34.158	26.629	145.3	0.630	1.32		19.8		47.2	2.54	32.9	0.00	0.00			272	05
300	ISL	7.73	D	7.70		34.186	D 26.684	140.5	0.677	1.10	D	16.5		51.1	2.63	34.0	0.00	0.05			302	
320		7.53		7.49		34.185	26.712	138.1	0.701	1.02		15.2		53.8	2.69	34.7	0.00	0.08			323	04
380		7.07		7.03		34.197	26.787	131.7	0.782	0.98		14.4		59.6	2.80	36.5	0.00	0.01			383	03
400	ISL	6.89	D	6.85		34.210	D 26.822	128.5	0.813	0.70	D	10.3		62.3	2.86	37.1	0.00	0.01			403	
440		6.61		6.57		34.242	26.886	122.9	0.858	0.53		7.7		67.6	2.98	38.3	0.00	0.00			444	02
500	ISL	6.18	D	6.13		34.285	D 26.977	114.7	0.936	0.35	D	5.1		76.5	3.10	39.8	0.00	0.00			504	
516		6.04		5.99		34.299	27.006	112.1	0.947	0.31		4.4		78.8	3.13	40.2	0.00	0.00			520	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1110 STATION 90.0 60.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
32 25.1 N	119 57.5 W	22/10/2011	1144 UTC	884 m	330 09 kn			1016.5 mb	16.7 C	15.0 C				024

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		17.72		17.72		33.352	24.080	382.5	0.000	5.51		101.2	0.7	0.28	0.1	0.00	0.01	0.32	0.09	0	
3		17.72		17.72		33.352	24.080	382.5	0.012	5.51		101.2	0.7	0.28	0.1	0.00	0.01	0.32	0.09	3	20
10		17.72		17.72		33.353	24.081	382.7	0.038	5.52		101.4	0.7	0.28	0.1	0.00	0.01	0.33	0.08	10	19
20		17.70		17.70		33.353	24.087	382.6	0.077	5.53		101.5	0.8	0.26	0.1	0.00	0.01	0.31	0.10	20	18
30		16.50		16.49		33.311	24.339	358.8	0.114	5.74		102.8	0.8	0.28	0.1	0.00	0.10	0.43	0.20	30	17
40		15.80		15.79		33.309	24.496	344.2	0.149	5.74		101.4	1.2	0.36	0.5	0.06	0.26	0.34	0.17	40	16
50	ISL	13.89	D	13.77		33.172	D 24.824	313.1	0.183	5.74	D	97.3	1.9	0.40	0.9	0.24	0.14	0.35	0.23	50	
51		13.58		13.57		33.164	24.858	309.9	0.185	5.78		97.6	2.0	0.40	0.9	0.26	0.13	0.35	0.24	51	15
60		12.55		12.54		33.177	25.073	289.5	0.212	5.50		90.9	2.9	0.54	3.6	0.04	0.01	0.22	0.16	60	14
70		12.00		11.99		33.184	25.183	279.3	0.240	5.26		85.8	5.2	0.74	6.9	0.00	0.00	0.10	0.09	71	13
75	ISL	11.88	D	11.84		33.192	D 25.217	276.2	0.256	5.14	D	83.7	6.6	0.83	8.4	0.00	0.00	0.08	0.08	76	
84		11.07		11.06		33.249	25.404	258.4	0.278	4.85		77.8	8.9	0.99	11.2	0.00	0.00	0.05	0.07	85	12
100		10.37		10.36		33.387	25.635	236.8	0.318	4.33		68.4	13.7	1.29	16.1	0.00	0.01	0.02	0.05	101	11
121		9.28		9.27		33.608	25.988	203.5	0.364	3.69		57.0	22.1	1.65	22.1	0.00	0.00	0.01	0.03	122	10
125	ISL	9.21	D	9.19		33.609	D 26.001	202.4	0.375	3.73	D	57.5	22.7	1.68	22.5	0.00	0.00	0.01	0.03	126	
140		9.08		9.07		33.710	26.100	193.2	0.402	3.41		52.4	25.0	1.77	23.9	0.00	0.00	0.00	0.03	141	09
150	ISL	9.15	D	9.13		33.864	D 26.211	183.0	0.423	2.91	D	44.9	27.0	1.85	25.0	0.00	0.00	0.00	0.03	151	
170		8.87		8.85		33.956	26.327	172.3	0.456	2.64		40.4	31.2	2.01	27.1	0.00	0.00	0.00	0.03	171	08
200	ISL	8.45	D	8.43		34.093	D 26.501	156.3	0.509	1.91	D	29.0	38.9	2.29	30.1	0.00	0.00	0.00	0.02	202	
201		8.44		8.42		34.094	26.503	156.1	0.507	1.89		28.7	39.2	2.30	30.2	0.00	0.00	0.00	0.02	203	07
230		8.30		8.27		34.139	26.561	151.2	0.552	1.60		24.2	42.1	2.41	31.4	0.00	0.00			232	06
250	ISL	8.16	D	8.14		34.172	D 26.608	147.1	0.585	1.33	D	20.1	45.2	2.49	32.4	0.00	0.00			252	
270		7.83		7.81		34.165	26.651	143.1	0.611	1.27		19.1	48.2	2.57	33.3	0.00	0.00			272	05
300	ISL	7.48	D	7.45		34.157	D 26.697	139.1	0.657	1.17	D	17.4	52.0	2.65	34.5	0.00	0.00			302	
321		7.29		7.26		34.160	26.725	136.6	0.682	1.06		15.7	54.6	2.70	35.4	0.00	0.00			324	04
381		6.90		6.86		34.214	26.824	128.0	0.761	0.82		12.0	62.0	2.88	37.1	0.00	0.00			384	03
400	ISL	6.73	D	6.69		34.233	D 26.862	124.6	0.791	0.59	D	8.6	64.5	2.92	37.6	0.00	0.00			403	
440		6.44		6.40		34.241	26.907	120.8	0.834	0.50		7.3	69.7	3.00	38.6	0.00	0.00			444	02
500	ISL	5.99	D	5.94		34.264	D 26.984	113.8	0.912	0.37	D	5.3	76.8	3.10	40.0	0.00	0.00			504	
515		5.92		5.88		34.275	27.001	112.5	0.922	0.33		4.7	78.6	3.13	40.3	0.00	0.00			519	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1110 STATION 90.0 70.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
32 4.9 N	120 38.5 W	22/10/2011	0527 UTC	3831 m	340 20 kn	320 05 07	2	1017.3 mb	17.4 C	15.9 C	21 m	8/8	SC	023

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		18.62		18.62		33.242	23.775	411.6	0.000	5.42		101.1	1.5	0.29	0.1	0.00	0.01	0.16	0.04	0	
2		18.62		18.62		33.242	23.775	411.6	0.008	5.42		101.1	1.5	0.29	0.1	0.00	0.01	0.16	0.04	2	20
10		18.62		18.62		33.245	23.777	411.7	0.041	5.41		101.0	1.4	0.29	0.1	0.00	0.01	0.16	0.04	10	19
20	ISL	18.62	D	18.62		33.240	D 23.774	412.4	0.083	5.39	D	100.6	1.4	0.28	0.2	0.00	0.00	0.16	0.04	20	
25		18.62		18.62		33.241	23.776	412.4	0.103	5.41		101.0	1.4	0.28	0.2	0.00	0.00	0.16	0.05	25	18
30	ISL	18.62	D	18.61		33.241	D 23.777	412.5	0.124	5.40	D	100.8	1.4	0.28	0.2	0.00	0.00	0.19	0.05	30	
39		17.21		17.20		33.161	24.058	386.0	0.159	5.72		103.9	1.4	0.28	0.1	0.00	0.00	0.24	0.06	39	17
50		15.99		15.98		33.113	24.303	362.9	0.201	5.96		105.6	1.9	0.27	0.1	0.00	0.00	0.24	0.07	50	16
61		14.38		14.37		33.081	24.631	331.9	0.239	6.09		104.5	1.9	0.30	0.1	0.00	0.01	0.24	0.12	61	15
75		13.33		13.32		33.127	24.881	308.3	0.284	5.93		99.6	2.5	0.37	0.7	0.04	0.04	0.29	0.20	76	14
86		12.74		12.72		33.155	25.020	295.3	0.317	5.66		93.8	3.3	0.53	2.9	0.11	0.07	0.26	0.22	87	13
100		12.17		12.15		33.291	25.236	275.1	0.357	5.43		89.1	4.5	0.55	4.1	0.02	0.00	0.19	0.19	101	12
113		11.06		11.05		33.276	25.428	256.9	0.391	5.20		83.3	6.7	0.76	7.5	0.00	0.00	0.14	0.12	114	11
124		10.57		10.55		33.350	25.572	243.4	0.419	4.77		75.7	10.9	1.08	12.6	0.00	0.00	0.08	0.09	125	10
125	ISL	10.55	D	10.54		33.356	D 25.580	242.7	0.424	4.74	D	75.1	11.5	1.11	13.1	0.00	0.00	0.08	0.08	126	
139		9.65		9.63		33.557	25.889	213.4	0.453	3.90		60.6	19.5	1.56	20.1	0.00	0.00	0.01	0.02	140	09
150	ISL	9.34	D	9.33		33.658	D 26.018	201.3	0.479	3.51	D	54.3	21.7	1.65	21.6	0.00	0.00	0.01	0.02	151	
170		9.11		9.09		33.768	26.142	189.9	0.515	3.30		50.7	25.8	1.82	24.3	0.00	0.00	0.00	0.02	171	08
200	ISL	8.86	D	8.84		33.895	D 26.281	177.3	0.574	2.84	D	43.5	30.0	1.97	26.2	0.00	0.00	0.00	0.02	202	
201		8.87		8.85		33.889	26.276	177.8	0.572	2.88		44.1	30.1	1.97	26.3	0.00	0.00	0.00	0.02	203	07
228		8.76		8.73		34.007	26.387	167.8	0.619	2.29		35.0	34.8	2.17	28.5	0.00	0.00			230	06
250	ISL	8.43	D	8.40		34.051	D 26.472	160.0	0.660	2.06	D	31.3	37.6	2.25	29.7	0.00	0.00			252	
270		8.18		8.15		34.068	26.524	155.3	0.686	1.91		28.8	40.1	2.32	30.7	0.00	0.00			272	05
300	ISL	8.03	D	8.00		34.125	D 26.592	149.5	0.738	1.51	D	22.7	45.1	2.48	32.2	0.00	0.00			302	
320		7.86		7.83		34.154	26.639	145.2	0.761	1.26		18.8	48.4	2.59	33.2	0.00	0.00			323	04
380		7.29		7.25		34.200	26.759	134.5	0.845	0.84		12.5	57.4	2.81	35.8	0.00	0.00			383	03
400	ISL	6.79	D	6.75		34.144	D 26.784	132.0	0.879	0.93	D	13.6	60.6	2.85	36.6	0.00	0.00			403	
440		6.43		6.39		34.161	26.845	126.6	0.924	0.78		11.3	67.0	2.92	38.1	0.00	0.00			444	02
500	ISL	6.14	D	6.10		34.212	D 26.922	119.9	1.006	0.56	D	8.1	73.2	3.02	39.3	0.00	0.00			504	
515		6.10		6.06		34.224	26.938	118.6	1.016	0.49		7.1	74.7	3.05	39.6	0.00	0.00			519	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1110 STATION 90.0 80.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
31 45.3 N	121 19.2 W	22/10/2011	0010 UTC	3753 m	350 18 kn	330 06 05	2	1019.0 mb	17.0 C	15.0 C	26 m	8/8	SC	022

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		18.51		18.51		33.244	23.803	408.9	0.000	5.42		101.0		1.7	0.29	0.0	0.00	0.00	0.15	0.04	0	
3	A	18.51		18.51		33.244	23.803	408.9	0.012	5.42		101.0		1.7	0.29	0.0	0.00	0.00	0.15	0.04	3	23
10		18.51		18.51		33.244	23.804	409.1	0.041	5.41		100.8		1.5	0.28	0.0	0.00	0.00	0.15	0.04	10	22
18	A	18.51		18.51		33.247	23.807	409.2	0.074	5.42		100.9		1.4	0.29	0.0	0.00	0.00	0.15	0.04	18	21
20	ISL	18.51	D	18.51		33.241	D 23.802	409.7	0.082	5.41	D	100.8		1.4	0.29	0.0	0.00	0.00	0.15	0.04	20	
23	A	18.51		18.51		33.243	23.804	409.6	0.094	5.42		100.9		1.4	0.29	0.0	0.00	0.00	0.16	0.04	23	20
30	ISL	18.51	D	18.50		33.240	D 23.804	409.9	0.124	5.42	D	101.0		1.4	0.28	0.1	0.00	0.00	0.16	0.04	30	
32		18.50		18.49		33.248	23.811	409.3	0.131	5.43		101.1		1.4	0.28	0.1	0.00	0.00	0.16	0.04	32	19
40	A	18.48		18.47		33.242	23.813	409.5	0.164	5.43		101.0		1.3	0.28	0.0	0.00	0.00	0.16	0.05	40	18
50	ISL	16.03	D	16.03		33.193	D 24.353	358.2	0.204	5.94	D	105.4		1.5	0.26	0.0	0.00	0.00	0.22	0.07	50	
53		15.66		15.66		33.206	24.448	349.2	0.213	5.94		104.6		1.6	0.26	0.0	0.00	0.00	0.24	0.08	53	17
65		14.90		14.89		33.283	24.675	327.9	0.253	5.96		103.5		2.1	0.25	0.0	0.00	0.00	0.24	0.11	66	16
75	ISL	14.37	D	14.36		33.348	D 24.840	312.5	0.288	5.87	D	100.8		2.1	0.27	0.1	0.00	0.00	0.21	0.19	76	
77	A	14.33		14.31		33.348	24.848	311.7	0.292	5.86		100.5		2.1	0.27	0.1	0.00	0.00	0.20	0.20	78	15
84		13.66		13.65		33.287	24.938	303.2	0.313	5.82		98.5		2.2	0.29	0.0	0.00	0.02	0.20	0.22	85	14
91	A	13.44		13.43		33.305	24.998	297.8	0.334	5.77		97.3		2.3	0.32	0.2	0.03	0.02	0.20	0.22	92	13
99		12.84		12.82		33.336	25.142	284.1	0.357	5.54		92.1		3.3	0.43	2.0	0.09	0.00	0.17	0.21	100	12
100	ISL	12.79	D	12.77		33.333	D 25.151	283.3	0.363	5.53	D	91.9		3.4	0.44	2.1	0.09	0.00	0.17	0.21	101	
111		12.22		12.21		33.300	25.233	275.7	0.391	5.47		89.8		3.8	0.51	3.5	0.04	0.00	0.14	0.19	112	11
125		11.16		11.14		33.293	25.424	257.6	0.428	5.06		81.2		7.7	0.88	9.2	0.00	0.00	0.07	0.11	126	10
145		10.34		10.32		33.443	25.685	233.1	0.477	4.32		68.2		14.7	1.33	16.5	0.00	0.00	0.03	0.04	146	09
150	ISL	10.05	D	10.02		33.501	D 25.781	224.0	0.492	3.99	D	62.6		16.4	1.41	17.8	0.00	0.00	0.02	0.03	151	
170		9.41		9.39		33.694	26.035	200.1	0.531	3.48		53.9		23.3	1.74	23.1	0.00	0.00	0.00	0.02	171	08
200		8.88		8.85		33.880	26.267	178.6	0.588	3.36		51.4		27.3	1.81	24.6	0.00	0.00	0.00	0.01	202	07
231		8.31		8.28		33.985	26.439	162.7	0.641	2.68		40.5		35.3	2.09	28.6	0.00	0.00			233	06
250	ISL	8.08	D	8.06		34.008	D 26.490	158.1	0.676	2.43	D	36.6		38.3	2.18	29.7	0.00	0.00			252	
271		7.84		7.81		34.024	26.540	153.7	0.704	2.28		34.1		41.6	2.27	30.9	0.00	0.00			273	05
300	ISL	7.55	D	7.52		34.077	D 26.623	146.1	0.753	1.62	D	24.1		47.9	2.47	33.4	0.00	0.00			302	
321		7.27		7.24		34.101	26.683	140.6	0.778	1.36		20.1		52.6	2.62	35.2	0.00	0.00			324	04
381		6.77		6.73		34.135	26.779	132.2	0.860	1.00		14.5		61.2	2.82	37.4	0.00	0.00			384	03
400	ISL	6.59	D	6.56		34.141	D 26.807	129.7	0.891	0.91	D	13.3		64.1	2.87	38.0	0.00	0.00			403	
441		6.25		6.21		34.167	26.873	123.8	0.936	0.73		10.6		70.2	2.98	39.4	0.00	0.00			445	02
500	ISL	5.89	D	5.85		34.204	D 26.948	117.1	1.015	0.52	D	7.5		77.5	3.07	40.8	0.00	0.00			504	
517		5.75		5.70		34.207	26.968	115.3	1.027	0.49		7.0		79.6	3.10	41.2	0.00	0.00			521	01

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.
D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1110 STATION 90.0 90.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
31 25.1 N	121 59.9 W	21/10/2011	1503 UTC	3936 m	340 15 kn			1019.1 mb	18.1 C	15.4 C				021

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		19.05		19.05		33.224	23.652	423.3	0.000	5.36		100.9		1.5	0.28	0.1	0.00	0.02	0.11	0.02	0	
2		19.05		19.05		33.224	23.652	423.3	0.009	5.36		100.9		1.5	0.28	0.1	0.00	0.02	0.11	0.02	2	24
10		19.05		19.05		33.225	23.654	423.5	0.042	5.38		101.2		1.6	0.28	0.1	0.00	0.02	0.11	0.03	10	23
20	ISL	19.06	D	19.06		33.223	D 23.652	424.1	0.085	5.35	D	100.7		1.5	0.27	0.1	0.00	0.02	0.11	0.03	20	
25		19.06		19.05		33.225	23.653	424.1	0.106	5.36		100.9		1.4	0.27	0.1	0.00	0.02	0.11	0.03	25	22
30	ISL	19.06	D	19.06		33.224	D 23.652	424.5	0.128	5.36	D	100.9		1.5	0.27	0.1	0.00	0.02	0.11	0.03	30	
40		19.05		19.04		33.231	23.663	423.9	0.170	5.39		101.4		1.5	0.27	0.1	0.00	0.01	0.11	0.03	40	21
50	ISL	17.09	D	17.11		33.162	D 24.082	384.1	0.212	5.89	D	106.8		1.4	0.28	0.1	0.00	0.03	0.21	0.07	50	
51		16.06		16.05		33.169	24.330	360.4	0.214	5.80		102.9		1.4	0.28	0.1	0.00	0.03	0.22	0.07	51	20
61		14.37		14.36		33.061	24.616	333.3	0.248	6.11		104.7		1.9	0.31	0.1	0.00	0.02	0.23	0.13	61	19
75		13.33		13.32		33.069	24.837	312.5	0.294	5.85		98.2		2.4	0.41	0.9	0.22	0.03	0.38	0.30	76	18
87		12.44		12.43		33.135	25.063	291.2	0.330	5.51		90.8		3.7	0.60	4.5	0.07	0.01	0.26	0.21	88	17
100		11.82		11.80		33.206	25.236	275.0	0.367	5.21		84.7		6.1	0.79	8.0	0.00	0.00	0.15	0.12	101	16
112		11.09		11.08		33.271	25.418	257.9	0.399	4.92		78.8		9.1	0.99	11.2	0.00	0.00	0.10	0.09	113	15
125		10.50		10.49		33.326	25.565	244.0	0.431	4.77		75.4		10.9	1.08	12.9	0.00	0.00	0.07	0.06	126	14
139		9.99		9.97		33.427	25.731	228.5	0.464	4.36		68.2		15.5	1.32	16.7	0.00	0.00	0.03	0.04	140	13
150	ISL	9.43	D	9.42		33.601	D 25.958	207.0	0.492	3.88	D	60.1		19.3	1.50	19.5	0.00	0.00	0.02	0.03	151	
170		9.21		9.19		33.779	26.135	190.6	0.528	3.17		48.9		26.2	1.83	24.6	0.00	0.00	0.00	0.02	171	12
199		8.66		8.64		33.934	26.343	171.3	0.580	2.78		42.4		32.0	2.00	27.3	0.00	0.00	0.00	0.02	201	11
200	ISL	8.62	D	8.62		33.942	D 26.353	170.4	0.587	2.77	D	42.2		32.2	2.01	27.4	0.00	0.00	0.00	0.02	202	
231		8.17		8.15		34.004	26.474	159.3	0.633	2.39		36.1		37.4	2.16	29.6	0.00	0.00			233	10
250	ISL	7.85	D	7.82		34.038	D 26.548	152.4	0.668	2.06	D	30.9		41.0	2.27	30.9	0.00	0.01			252	
270		7.68		7.65		34.051	26.584	149.4	0.693	1.93		28.8		44.9	2.38	32.3	0.00	0.03			272	09
300	ISL	7.36	D	7.33		34.066	D 26.642	144.2	0.743	1.66	D	24.6		49.4	2.49	33.7	0.00	0.01			302	
321		7.15		7.12		34.078	26.681	140.8	0.767	1.49		22.0		52.5	2.57	34.7	0.00	0.00			324	08
380		6.27		6.23		34.076	26.798	129.9	0.847	1.24		17.9		65.2	2.76	37.7	0.00	0.00			383	07
400	ISL	6.07	D	6.03		34.102	D 26.844	125.6	0.879	1.04	D	15.0		68.3	2.84	38.4	0.00	0.00			403	
441		5.93		5.89		34.157	26.905	120.3	0.923	0.71		10.2		74.6	2.99	39.9	0.00	0.00			445	06
500	ISL	5.69	D	5.65		34.216	D 26.982	113.7	0.999	0.48	D	6.8		81.2	3.12	40.9	0.00	0.00			504	
515		5.66		5.62		34.239	27.005	111.7	1.009	0.39		5.5		82.9	3.15	41.2	0.00	0.00			519	05
600	ISL	5.16	D	5.11		34.295	D 27.109	102.3	1.108	0.27	D	3.8		91.3	3.23	42.3	0.00	0.00			605	
650		5.02		4.97		34.317	27.144	99.5	1.150	0.23		3.2		96.3	3.27	43.0	0.00	0.00			656	04
700	ISL	4.76	D	4.71		34.349	D 27.198	94.5	1.208	0.25	D	3.5									706	
800	ISL	4.44	D	4.38		34.417	D 27.289	86.6	1.300	0.35	D	4.8									807	
900	ISL	4.16	D	4.10		34.457	D 27.352	81.2	1.385	0.46	D	6.3									908	
1000	ISL	3.84	D	3.77		34.478	D 27.403	76.7	1.464	0.58	D	7.9									1009	
1100	ISL	3.62	D	3.54		34.505	D 27.446	72.9	1.540	0.69	D	9.4									1111	
1200	ISL	3.37	D	3.29		34.518	D 27.481	69.8	1.612	0.80	D	10.8									1212	
1300	ISL	3.10	D	3.01		34.533	D 27.520	66.1	1.681	0.93	D	12.5									1313	
1400	ISL	2.91	D	2.81		34.548	D 27.550	63.4	1.747	1.03	D	13.7									1415	
1500	ISL	2.77	D	2.66		34.562	D 27.575	61.3	1.810	1.13	D	15.0									1516	
1600	ISL	2.57	D	2.46		34.579	D 27.606	58.3	1.871	1.28	D	16.9									1617	
1800	ISL	2.26	D	2.14		34.604	D 27.654	53.8	1.984	1.58	D	20.7									1820	
2000	ISL	2.07	D	1.93		34.623	D 27.685	51.0	2.091	1.86	D	24.3									2024	
2200	ISL	1.96	D	1.80		34.635	D 27.707	49.4	2.193	2.05	D	26.6									2227	
2400	ISL	1.86	D	1.69		34.646	D 27.725	48.2	2.292	2.25	D	29.2									2431	
2600	ISL	1.76	D	1.57		34.655	D 27.742	46.9	2.389	2.43	D	31.4									2635	
2800	ISL	1.70	D	1.49		34.660	D 27.753	46.4	2.485	2.55	D	32.9									2839	
3000	ISL	1.63	D	1.41		34.666	D 27.764	45.8	2.579	2.68	D	34.5									3043	
3200	ISL	1.58	D	1.34		34.670	D 27.773	45.4	2.672	2.79	D	35.8									3247	
3400	ISL	1.55	D	1.29		34.674	D 27.781	45.3	2.765	2.88	D	37.0									3452	
3499		1.55		1.28		34.674	27.783	45.5	3.215	2.88		37.0		174.5	2.72	38.7	0.00	0.00			3553	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1110 STATION 90.0 100.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
31 5.2 N	122 39.8 W	21/10/2011	0752 UTC	4018 m	330	20 kn	330 05 06	2	1017.0 mb	18.3 C	16.0 C	27 m	8/8	SC	020

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		19.34		19.34		33.347		23.674	421.3	0.000	5.33		100.9		1.4	0.31	0.1	0.00	0.01	0.12	0.02	0	
2		19.34		19.34		33.347		23.674	421.3	0.008	5.33		100.9		1.4	0.31	0.1	0.00	0.01	0.12	0.02	2	20
10	ISL	19.34	D	19.34		33.343	D	23.670	421.9	0.043	5.34	D	101.1		1.4	0.29	0.1	0.00	0.00	0.11	0.02	10	
11		19.35		19.34		33.344		23.671	421.9	0.046	5.34		101.1		1.4	0.29	0.1	0.00	0.00	0.11	0.02	11	19
20	ISL	19.35	D	19.35		33.343	D	23.670	422.4	0.085	5.33	D	100.9		1.3	0.29	0.1	0.00	0.00	0.11	0.03	20	
25		19.35		19.34		33.344		23.671	422.5	0.105	5.39		102.0		1.2	0.29	0.1	0.00	0.00	0.12	0.03	25	18
30	ISL	19.34	D	19.34		33.343	D	23.672	422.6	0.127	5.34	D	101.1		1.2	0.29	0.1	0.00	0.00	0.13	0.03	30	
40		19.11		19.10		33.307		23.706	419.8	0.169	5.37		101.2		1.3	0.29	0.1	0.00	0.00	0.16	0.05	40	17
50		17.13		17.12		33.306		24.189	373.9	0.208	5.64		102.4		1.3	0.30	0.1	0.00	0.00	0.28	0.10	50	16
62		14.49		14.48		33.197		24.696	325.7	0.250	6.46		111.1		2.1	0.37	0.1	0.00	0.00	0.41	0.26	62	15
75		13.17		13.16		33.202		24.971	299.7	0.291	5.91		99.0		3.3	0.59	3.1	0.11	0.02	0.39	0.32	76	14
87		11.81		11.80		33.218		25.245	273.8	0.325	5.17		84.1		6.3	0.86	8.4	0.01	0.00	0.23	0.20	88	13
100		11.13		11.11		33.314		25.445	255.0	0.360	4.76		76.4		10.1	1.13	12.9	0.00	0.00	0.11	0.17	101	12
112		10.47		10.46		33.398		25.626	238.0	0.389	4.40		69.6		13.8	1.33	16.2	0.00	0.00	0.07	0.07	113	11
125		10.04		10.03		33.472		25.757	225.8	0.420	4.11		64.4		16.6	1.47	18.4	0.00	0.00	0.03	0.04	126	10
141		9.43		9.41		33.538		25.911	211.3	0.455	4.13		63.9		18.8	1.49	19.3	0.00	0.00	0.02	0.03	142	09
150	ISL	9.29	D	9.26		33.609	D	25.990	203.9	0.477	3.99	D	61.6		20.9	1.56	20.5	0.00	0.00	0.01	0.03	151	
170		8.87		8.85		33.786		26.195	184.8	0.512	3.69		56.5		25.7	1.72	23.3	0.00	0.00	0.00	0.02	171	08
200	ISL	8.54	D	8.52		33.987	D	26.403	165.6	0.568	2.48	D	37.7		34.6	2.12	28.5	0.00	0.00	0.00	0.02	202	
201		8.52		8.50		33.987		26.406	165.3	0.566	2.42		36.8		34.9	2.13	28.7	0.00	0.00	0.00	0.02	203	07
230		8.11		8.08		34.002		26.481	158.5	0.613	2.51		37.8		38.0	2.15	29.4	0.00	0.00			232	06
250	ISL	7.75	D	7.73		34.016	D	26.545	152.7	0.648	2.29	D	34.2		41.3	2.21	30.3	0.00	0.00			252	
272		7.40		7.37		34.015		26.596	148.1	0.678	2.39		35.4		44.9	2.27	31.3	0.00	0.00			274	05
300	ISL	7.00	D	6.97		34.024	D	26.659	142.3	0.723	2.05	D	30.1		50.6	2.44	33.5	0.00	0.00			302	
321		6.87		6.84		34.061		26.705	138.2	0.748	1.63		23.9		54.9	2.57	35.1	0.00	0.00			324	04
380		6.53		6.50		34.141		26.815	128.6	0.827	0.89		12.9		64.0	2.87	38.1	0.00	0.00			383	03
400	ISL	6.39	D	6.36		34.148	D	26.839	126.5	0.858	0.79	D	11.5		66.9	2.92	38.7	0.00	0.00			403	
440		6.09		6.05		34.194		26.914	119.6	0.901	0.60		8.7		72.7	3.02	39.8	0.00	0.00			444	02
500	ISL	5.75	D	5.70		34.231	D	26.988	113.2	0.978	0.42	D	6.0		81.0	3.13	41.1	0.00	0.00			504	
516		5.66		5.62		34.248		27.012	111.1	0.989	0.36		5.1		83.2	3.16	41.4	0.00	0.00			520	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1110 STATION 90.0 110.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
30 45.1 N	123 20.8 W	21/10/2011	0122 UTC	4271 m	350	14 kn	300 05 06	2	1019.1 mb	18.9 C	15.9 C	25 m	8/8	SC	019

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		19.19	19.19	33.301	23.676	421.0	0.000	5.37		101.4		1.1	0.30	0.1	0.00	0.00	0.10	0.03	0	
2	A	19.19	19.19	33.301	23.676	421.0	0.008	5.37		101.4		1.1	0.30	0.1	0.00	0.00	0.10	0.03	2	23
10		19.19	19.19	33.301	23.676	421.4	0.042	5.35		101.0		1.3	0.29	0.1	0.00	0.00	0.10	0.03	10	22
17	A	19.20	19.19	33.300	23.675	421.7	0.072	5.47		103.3		1.2	0.30	0.1	0.00	0.00	0.10	0.02	17	21
20	ISL	19.20	D 19.19	33.298	D 23.675	421.9	0.085	5.35	D	101.0		1.2	0.29	0.1	0.00	0.02	0.10	0.03	20	
21	A	19.18	19.18	33.300	23.679	421.5	0.089	5.36		101.2		1.1	0.29	0.1	0.00	0.03	0.10	0.03	21	19
30		18.36	18.35	33.192	23.804	409.9	0.126	5.48		101.8		1.3	0.28	0.1	0.00	0.00	0.14	0.04	30	18
40	A	17.25	17.24	33.163	24.051	386.7	0.166	5.61		101.9		1.1	0.29	0.1	0.00	0.00	0.18	0.05	40	17
50	ISL	15.86	D 15.89	33.123	D 24.332	360.2	0.205	5.89	D	104.2		1.3	0.31	0.1	0.00	0.00	0.24	0.13	50	
52		15.33	15.33	33.129	24.461	347.8	0.210	5.92		103.6		1.4	0.31	0.1	0.00	0.00	0.26	0.15	52	16
64		14.73	14.72	33.119	24.585	336.4	0.251	5.91		102.1		1.4	0.36	0.5	0.09	0.09	0.38	0.28	65	15
75	A	13.23	13.21	33.076	24.863	310.1	0.287	5.80		97.2		2.2	0.44	1.2	0.53	0.00	0.36	0.35	76	14
86	A	12.53	12.51	33.103	25.021	295.2	0.320	5.73		94.6		2.9	0.49	2.3	0.15	0.00	0.21	0.21	87	13
94		11.86	11.85	33.185	25.210	277.3	0.343	5.43		88.4		4.8	0.67	5.5	0.01	0.00	0.14	0.13	95	12
100	ISL	11.78	D 11.76	33.211	D 25.247	274.0	0.362	5.29	D	86.0		6.4	0.80	7.6	0.01	0.00	0.11	0.11	101	
110		11.02	11.01	33.295	25.449	254.8	0.386	4.91		78.6		9.0	1.01	11.2	0.00	0.00	0.06	0.07	111	11
125		10.16	10.15	33.387	25.671	233.9	0.423	4.52		71.0		13.3	1.25	15.1	0.00	0.00	0.04	0.05	126	10
140		9.67	9.66	33.539	25.872	215.1	0.456	3.99		62.1		18.5	1.54	19.7	0.00	0.00	0.02	0.03	141	09
150	ISL	9.52	D 9.50	33.609	D 25.951	207.7	0.481	3.79	D	58.8		20.5	1.61	20.9	0.00	0.00	0.01	0.02	151	
170		9.07	9.05	33.729	26.118	192.2	0.517	3.56		54.7		24.5	1.74	23.2	0.00	0.00	0.00	0.02	171	08
200		8.83	8.80	33.934	26.318	173.8	0.572	2.61		40.0		31.7	2.07	27.6	0.00	0.00	0.00	0.01	202	07
229		8.39	8.36	34.006	26.443	162.3	0.621	2.36		35.8		36.1	2.18	29.2	0.00	0.00			231	06
250	ISL	8.10	D 8.08	34.039	D 26.512	156.1	0.659	2.02	D	30.4		39.8	2.29	30.6	0.00	0.00			252	
270		7.86	7.84	34.073	26.574	150.4	0.685	1.85		27.7		43.3	2.40	32.0	0.00	0.00			272	05
300	ISL	7.48	D 7.45	34.088	D 26.643	144.2	0.735	1.53	D	22.7		49.4	2.55	34.0	0.00	0.00			302	
320		7.13	7.10	34.096	26.697	139.2	0.758	1.36		20.0		53.5	2.65	35.3	0.00	0.00			323	04
380		6.23	6.20	34.092	26.815	128.3	0.838	1.08		15.6		66.2	2.86	38.4	0.00	0.00			383	03
400	ISL	6.08	D 6.05	34.116	D 26.853	124.8	0.869	0.91	D	13.1		69.4	2.92	39.0	0.00	0.00			403	
440		5.75	5.71	34.144	26.917	119.0	0.912	0.73		10.4		75.8	3.03	40.3	0.00	0.00			444	02
500	ISL	5.46	D 5.41	34.203	D 27.000	111.6	0.988	0.47	D	6.7		84.8	3.15	41.6	0.00	0.00			504	
516		5.31	5.26	34.221	27.032	108.6	0.999	0.42		5.9		87.2	3.18	41.9	0.00	0.00			520	01

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.
D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1110 STATION 90.0 120.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
30 25.1 N	123 59.9 W	20/10/2011	1653	UTC	4233 m	340	11 kn			1017.7 mb	19.9 C	18.0 C				018

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		19.60	19.60		33.198	23.493	438.5	0.000	5.34		101.5	1.7	0.28	0.0	0.00	0.00	0.08	0.02	0	
2		19.60	19.60		33.198	23.493	438.5	0.009	5.34		101.5	1.7	0.28	0.0	0.00	0.00	0.08	0.02	2	20
10		19.58	19.58		33.197	D 23.496	438.5	0.044	5.34		101.5	1.6	0.30	0.1	0.00	0.05	0.08	0.01	10	21
20	ISL	19.14	D 19.14		33.167	D 23.588	430.2	0.088	5.39	D	101.6	1.6	0.29	0.0	0.00	0.02	0.08	0.01	20	
25		19.12	19.12		33.176	23.600	429.2	0.109	5.39		101.5	1.6	0.28	0.0	0.00	0.00	0.08	0.02	25	18
30	ISL	19.11	D 19.11		33.180	D 23.606	428.8	0.131	5.39	D	101.5	1.6	0.28	0.0	0.00	0.00	0.08	0.02	30	
40		19.09	19.08		33.204	23.632	426.8	0.173	5.40		101.7	1.6	0.27	0.0	0.00	0.00	0.09	0.02	40	17
50		18.05	18.04		33.508	24.124	380.2	0.214	5.73		106.0	1.9	0.20	0.1	0.00	0.13	0.10	0.02	50	16
61		16.36	16.35		33.362	24.411	353.0	0.254	5.90		105.5	1.8	0.23	0.0	0.00	0.02	0.13	0.04	61	15
74		15.13	15.12		33.250	24.600	335.4	0.299	5.92		103.2	2.0	0.27	0.0	0.00	0.00	0.18	0.08	75	14
75	ISL	15.14	D 15.13		33.245	D 24.593	336.0	0.304	5.94	D	103.6	2.0	0.27	0.0	0.00	0.00	0.19	0.09	76	
86		14.94	14.93		33.455	24.800	316.7	0.338	5.76		100.2	2.2	0.24	0.0	0.00	0.00	0.25	0.21	87	13
100		14.51	14.50		33.560	24.973	300.6	0.381	5.60		96.6	2.6	0.28	0.4	0.04	0.02	0.26	0.23	101	12
112		14.06	14.04		33.514	25.034	295.1	0.417	5.50		94.0	2.9	0.34	0.9	0.07	0.00	0.24	0.21	113	11
125		12.37	12.36		33.432	25.308	269.0	0.454	5.18		85.4	5.5	0.63	5.7	0.00	0.03	0.10	0.13	126	10
140		11.73	11.72		33.441	25.435	257.1	0.493	5.04		82.0	7.4	0.77	8.2	0.00	0.08	0.07	0.08	141	09
150	ISL	11.05	D 11.02		33.462	D 25.579	243.5	0.522	4.85	D	77.7	9.9	0.93	10.7	0.00	0.05	0.05	0.06	151	
170		10.05	10.03		33.525	25.799	222.8	0.565	4.39		68.9	14.8	1.25	15.8	0.00	0.00	0.02	0.02	171	08
199		9.28	9.26		33.766	26.114	193.3	0.625	3.76		58.1	22.7	1.60	21.5	0.00	0.00	0.00	0.01	201	07
200	ISL	9.25	D 9.22		33.782	D 26.133	191.4	0.631	3.78	D	58.4	22.9	1.61	21.6	0.00	0.00	0.00	0.01	202	
230		8.74	8.72		33.916	26.318	174.3	0.682	3.34		51.0	28.2	1.79	24.3	0.00	0.00			232	06
250	ISL	8.54	D 8.52		33.964	D 26.386	168.2	0.721	2.94	D	44.7	32.7	1.94	26.4	0.00	0.00			252	
270		8.08	8.05		33.998	26.483	159.1	0.749	2.66		40.1	37.1	2.08	28.4	0.00	0.00			272	05
300	ISL	7.65	D 7.62		34.034	D 26.575	150.7	0.800	2.08	D	31.0	43.7	2.30	31.2	0.00	0.00			302	
321		7.44	7.41		34.063	26.628	145.9	0.827	1.72		25.5	48.3	2.46	33.1	0.00	0.00			324	04
380		6.81	6.78		34.131	26.770	133.1	0.909	1.12		16.4	59.9	2.77	36.8	0.00	0.00			383	03
400	ISL	6.60	D 6.57		34.143	D 26.807	129.7	0.941	0.90	D	13.1	63.1	2.83	37.5	0.00	0.00			403	
439		6.25	6.21		34.166	26.872	123.8	0.985	0.72		10.4	69.2	2.94	38.8	0.00	0.00			443	02
500	ISL	5.61	D 5.56		34.187	D 26.969	114.7	1.065	0.55	D	7.8	80.3	3.06	40.7	0.00	0.00			504	
514		5.54	5.49		34.204	26.991	112.8	1.073	0.48		6.8	82.9	3.09	41.1	0.00	0.00			518	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1110 STATION 91.7 26.4

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
33 14.7 N	117 28.1 W	17/10/2011	1220	UTC	25 m	330	08 kn			1015.3 mb	18.0 C	16.8 C				003

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		17.62	17.62		33.322	24.106	380.0	0.000	6.52		119.5	3.8	0.15	0.0	0.00	0.03	1.85	0.20	0	
2		17.62	17.62		33.355	D 24.106	380.0	0.008	6.52		119.5	3.8	0.15	0.0	0.00	0.03	1.85	0.20	2	05
5		17.52	17.53		33.353	D 24.126	378.2	0.019	6.42		117.4	3.8	0.16	0.0	0.00	0.01	1.71	0.17	5	04
10		15.24	15.24		33.342	24.642	329.2	0.037	5.26		91.9	4.3	0.39	0.0	0.00	0.09	3.19	0.25	10	03
15		13.31	13.29		33.317	D 25.032	292.2	0.052	4.65		78.1	7.7	0.72	0.7	0.10	0.07	2.17	0.33	15	02
17		12.94	12.94		33.317	D 25.103	285.4	0.058	4.39		73.3	8.6	0.78	0.6	0.08	0.06	2.83	0.32	17	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1110 STATION 93.3 26.7

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
32 57.3 N	117 18.4 W	17/10/2011	0745	UTC	73 m	310	08 kn	330 01 06	1	1013.8 mb	18.0 C	17.0 C	14 m	2/8	SC	001

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		18.05	18.05		33.391	24.029	387.3	0.000	6.63		122.5	1.6	0.24	0.1	0.00	0.18	1.66	0.11	0	
2		18.05	18.05		33.391	24.029	387.3	0.008	6.63		122.5	1.6	0.24	0.1	0.00	0.18	1.66	0.11	2	08
5		16.95	16.95		33.389	24.290	362.6	0.019	6.57		118.9	2.0	0.24	0.1	0.00	0.10	1.50	0.10	5	07
10		13.98	13.97		33.287	24.870	307.5	0.036	5.37		91.5	4.9	0.57	1.6	0.15	0.12	1.67	0.28	10	06
20		12.52	12.51		33.248	25.132	282.8	0.065	4.73		78.2	7.0	0.68	1.7	0.08	0.30	1.13	0.29	20	05
30		11.24	11.23		33.392	25.483	249.6	0.092	3.72		59.9	14.7	1.29	9.6	0.10	0.10	0.09	0.17	30	04
40		10.88	10.87		33.441	25.586	240.1	0.116	3.89		62.2	15.2	1.41	16.5	0.02	0.07	0.12	0.17	40	03
50		10.68	10.68		33.496	25.663	233.0	0.140	3.66		58.2	17.5	1.51	18.6	0.05	0.36	0.07	0.15	50	02
60		10.66	10.65		33.546	25.707	229.0	0.163	3.37		53.6	19.7	1.62	19.7	0.15	0.11	0.05	0.18	60	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1110 STATION 93.3 28.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE	ORD
32 54.4 N	117 23.7 W	17/10/2011	1629	UTC	606 m	280	04 kn			1015.0 mb	18.3 C	17.1 C					004

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		18.00		18.00		33.365		24.022	388.1	0.000	6.67		123.1	3.3	0.07	0.0	0.00	0.10	4.92	0.29	0	
2		18.00		18.00		33.365		24.022	388.1	0.008	6.67		123.1	3.3	0.07	0.0	0.00	0.10	4.92	0.29	2	20
10		16.50		16.50		33.383		24.391	353.2	0.037	5.96		106.8	1.5	0.30	0.0	0.00	0.02	1.96	0.19	10	19
20		13.71		13.71		33.259		24.904	304.5	0.070	5.41		91.7	4.2	0.63	4.2	0.32	0.18	1.04	0.40	20	18
30		12.50		12.50		33.257		25.142	282.1	0.100	5.04		83.2	6.6	0.87	8.0	0.40	0.01	0.60	0.28	30	17
40		11.27		11.26		33.236		25.356	261.9	0.127	4.87		78.3	9.3	1.01	10.5	0.07	0.01	0.34	0.31	40	16
50		11.18		11.17		33.337		25.451	253.1	0.153	4.52		72.5	11.7	1.18	13.2	0.04	0.01	0.28	0.20	50	15
60		10.74		10.74		33.570		25.710	228.7	0.177	3.26		52.0	20.6	1.66	19.5	0.16	0.00	0.05	0.12	60	14
70		10.62		10.61		33.687		25.824	218.1	0.199	2.72		43.3	25.1	1.88	21.4	0.17	0.00	0.03	0.18	71	13
75	ISL	10.57	D	10.56		33.695	D	25.840	216.8	0.211	2.75	D	43.7	25.0	1.88	21.8	0.15	0.00	0.02	0.15	76	
85		10.41		10.40		33.714		25.881	213.1	0.231	2.74		43.3	24.8	1.89	22.6	0.10	0.01	0.02	0.10	86	12
100		10.30		10.29		33.769		25.944	207.4	0.263	2.57		40.6	26.2	1.95	23.1	0.01	0.00	0.01	0.08	101	11
120		10.06		10.04		33.935		26.116	191.5	0.303	2.25		35.4	29.7	2.09	25.1	0.00	0.05	0.01	0.05	121	10
125	ISL	10.08	D	10.06		33.972	D	26.142	189.3	0.314	2.15	D	33.9	30.3	2.12	25.3	0.00	0.04	0.01	0.05	126	
140		10.03		10.01		34.037		26.201	184.0	0.340	1.92		30.2	32.1	2.21	26.0	0.00	0.01	0.01	0.06	141	09
150	ISL	10.02	D	10.00		34.054	D	26.217	182.7	0.361	1.84	D	28.9	32.6	2.23	26.4	0.00	0.05	0.01	0.06	151	
170		9.72		9.70		34.081		26.288	176.4	0.395	1.83		28.5	33.6	2.26	27.1	0.00	0.13	0.01	0.06	171	08
200	ISL	9.28	D	9.26		34.097	D	26.374	168.7	0.449	1.88	D	29.1	34.3	2.26	28.3	0.00	0.02	0.00	0.05	202	
201		9.29		9.26		34.095		26.371	169.0	0.448	1.86		28.8	34.3	2.26	28.3	0.00	0.02	0.00	0.05	203	07
232		8.99		8.97		34.138		26.453	161.8	0.499	1.68		25.8	36.8	2.34	29.4	0.00	0.01			234	06
250	ISL	8.78	D	8.74		34.177	D	26.519	155.8	0.531	1.44	D	22.0	40.2	2.44	30.5	0.00	0.01			252	
271		8.48		8.45		34.206		26.587	149.7	0.560	1.19		18.0	44.1	2.56	31.7	0.00	0.01			273	05
300	ISL	8.31	D	8.28		34.235	D	26.636	145.4	0.606	0.99	D	15.0	47.1	2.64	32.6	0.00	0.04			302	
321		8.06		8.02		34.231		26.672	142.3	0.633	0.94		14.1	49.2	2.69	33.3	0.00	0.06			324	04
381		7.69		7.66		34.278		26.763	134.6	0.716	0.59		8.9	55.6	2.86	34.9	0.00	0.02			384	03
400	ISL	7.56	D	7.52		34.288	D	26.791	132.2	0.746	0.54	D	8.1	58.3	2.90	35.5	0.00	0.02			403	
441		7.11		7.07		34.305		26.868	125.2	0.794	0.40		5.9	64.0	2.99	36.8	0.00	0.02			445	02
500	ISL	6.65	D	6.61		34.314	D	26.938	119.1	0.872	0.32	D	4.7	71.2	3.09	38.2	0.00	0.00			504	
515		6.52		6.47		34.317		26.958	117.2	0.884	0.28		4.1	73.0	3.11	38.5	0.00	0.00			519	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1110 STATION 93.3 30.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE	ORD
32 50.4 N	117 32.3 W	17/10/2011	1957	UTC	868 m	350	06 kn			1014.8 mb	18.0 C	16.7 C					005

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		17.99		17.98		33.423		24.069	383.5	0.000	5.69		105.1	1.3	0.30	0.1	0.00	0.18	0.31	0.06	0	
2		17.99		17.98		33.423		24.069	383.5	0.008	5.69		105.1	1.3	0.30	0.1	0.00	0.18	0.31	0.06	2	20
10		17.61		17.61		33.431		24.166	374.6	0.038	5.73		105.1	1.2	0.31	0.0	0.00	0.05	0.28	0.05	10	19
20		16.20		16.20		33.395		24.470	346.0	0.074	5.81		103.6	2.0	0.32	0.0	0.00	0.03	0.28	0.12	20	18
30		14.32		14.32		33.315		24.820	312.8	0.107	5.71		98.0	2.8	0.47	1.9	0.32	0.35	0.59	0.16	30	17
40		13.03		13.02		33.276		25.055	290.7	0.137	5.23		87.3	4.8	0.75	6.0	0.26	0.06	0.71	0.23	40	16
50		11.86		11.86		33.297		25.296	268.0	0.165	4.77		77.7	9.1	1.03	10.7	0.03	0.03	0.38	0.21	50	15
60		10.83		10.82		33.283		25.473	251.3	0.191	4.66		74.2	11.6	1.15	13.0	0.02	0.27	0.13	0.12	60	14
70		10.63		10.62		33.401		25.600	239.4	0.216	4.23		67.1	14.7	1.33	15.9	0.01	0.03	0.08	0.09	71	13
75	ISL	10.67	D	10.66		33.514	D	25.681	231.9	0.229	3.72	D	59.2	16.3	1.42	16.9	0.01	0.04	0.06	0.08	76	
85		10.69		10.68		33.658	D	25.789	221.9	0.252	2.88	D	45.9								86	12
100		10.45		10.43		33.782	D	25.929	208.9	0.285	2.65	D	42.0	24.2	1.87	21.8	0.00	0.09	0.03	0.08	101	11
120		10.27		10.25		33.906		26.058	197.1	0.323	2.25		35.5	28.8	2.07	24.2	0.00	0.12	0.01	0.05	121	10
125	ISL	10.22	D	10.16		33.933	D	26.094	193.8	0.335	2.20	D	34.7	29.2	2.09	24.5	0.00	0.18	0.01	0.05	126	
139		10.05		10.03		34.009		26.175	186.4	0.359	2.07		32.5	30.6	2.14	25.4	0.00	0.33	0.01	0.04	140	09
150	ISL	10.02	D	10.00		34.078	D	26.235	181.0	0.383	1.85	D	29.1	31.3	2.17	25.8	0.00	0.23	0.01	0.04	151	
170		9.93		9.91		34.101		26.269	178.3	0.416	1.82		28.6	32.6	2.23	26.4	0.00	0.06	0.00	0.04	171	08
200	ISL	9.80	D	9.78		34.166	D	26.343	171.9	0.472	1.65	D	25.9	34.6	2.30	27.4	0.00	0.05	0.00	0.04	202	
201		9.75		9.73		34.167		26.351	171.1	0.470	1.63		25.4	34.6	2.30	27.4	0.00	0.05	0.00	0.04	203	07
230		8.85		8.83		34.114		26.455	161.4	0.518	1.91		29.4	37.3	2.27	28.8	0.00	0.18			232	06
250	ISL	8.69	D	8.66		34.153	D	26.512	156.4	0.554	1.66	D	25.4	40.4	2.38	29.9	0.00	0.13			252	
270		8.54		8.51		34.179		26.556	152.5	0.581	1.38		21.0	43.5	2.48	31.0	0.00	0.07			272	05
300	ISL	8.37	D	8.34		34.212	D	26.610	148.0	0.631	1.15	D	17.5	46.9	2.58	32.1	0.00	0.09			302	
320		8.10		8.06		34.223		26.659	143.5	0.655	1.02		15.3	49.2	2.65	32.9	0.00	0.10			323	04
370		7.65		7.62		34.278		26.769	133.8	0.724	0.61		9.1	56.7	2.85	34.8	0.00	0.14			373	03
400	ISL	7.49	D	7.45		34.293	D	26.804	130.9	0.770	0.51	D	7.6	59.6	2.89	35.6	0.00	0.13			403	
440		7.18		7.14		34.291		26.847	127.2	0.816	0.45		6.7	63.6	2.95	36.6	0.00	0.11			444	02
500	ISL	6.72	D	6.67		34.310	D	26.927	120.2	0.897	0.34	D	5.0	71.1	3.05	38.2	0.00	0.02			504	
515		6.56		6.51		34.312		26.949	118.2	0.908	0.30		4.4	73.0	3.08	38.6	0.00	0.00			519	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1110 STATION 93.3 35.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
32 40.7 N	117 52.6 W	18/10/2011	0123 UTC	623 m	290 05 kn	310 01 05	2	1017.1 mb	18.8 C	16.9 C	18 m	8/8	SC	006

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		18.24		18.24		33.494		24.062	384.2	0.000	6.06		112.4		0.8	0.24	0.0	0.00	0.03	0.88	0.11	0		
2	A	18.24		18.24		33.494		24.062	384.2	0.008	6.06		112.4		0.8	0.24	0.0	0.00	0.03	0.88	0.11	2		22
10	ISL	18.18	D	18.17		33.490	D	24.075	383.3	0.039	5.99	D	111.1		0.7	0.26	0.0	0.00	0.20	0.47	0.10	10		
12	A	17.98		17.98		33.493		24.124	378.7	0.046	5.99		110.6		0.6	0.26	0.0	0.00	0.24	0.36	0.10	12		21
16	A	16.91		16.91		33.507		24.392	353.3	0.061	5.94		107.5		0.9	0.29	0.0	0.00	0.03	0.33	0.10	16		20
20	ISL	16.24	D	16.24		33.496	D	24.539	339.4	0.075	5.96	D	106.4		1.5	0.35	0.1	0.01	0.02	0.54	0.17	20		
22		16.10		16.10		33.488		24.565	337.0	0.081	5.92		105.3		1.7	0.38	0.2	0.01	0.02	0.64	0.21	22		19
29	A	13.94		13.94		33.400		24.965	299.0	0.104	5.30		90.2		2.8	0.65	4.1	0.40	0.32	0.78	0.32	29		18
30	ISL	13.87	D	13.83		33.375	D	24.969	298.7	0.107	5.16	D	87.7		3.1	0.67	4.5	0.38	0.28	0.76	0.32	30		
36		13.36		13.35		33.346		25.043	291.7	0.124	5.06		85.1		4.6	0.82	7.1	0.24	0.05	0.65	0.29	36		17
45		11.84		11.83		33.292		25.296	267.9	0.150	4.89		79.6		7.7	0.99	10.0	0.06	0.00	0.36	0.22	45		16
50	ISL	11.33	D	11.31		33.264	D	25.369	261.0	0.164	4.69	D	75.5		9.5	1.09	11.8	0.04	0.00	0.27	0.22	50		
54	A	11.04		11.03		33.294		25.443	254.0	0.173	4.56		73.0		11.0	1.17	13.2	0.03	0.00	0.19	0.22	54		15
62	A	10.72		10.71		33.348		25.541	244.8	0.193	4.34		69.1		13.0	1.29	15.0	0.02	0.01	0.14	0.13	62		14
70		10.48		10.47		33.418		25.639	235.7	0.212	4.08		64.6		15.1	1.42	17.1	0.02	0.00	0.10	0.14	71		13
75	ISL	10.32	D	10.28		33.526	D	25.755	224.8	0.225	3.71	D	58.5		17.3	1.52	18.7	0.01	0.01	0.08	0.12	76		
85		9.93		9.92		33.625		25.895	211.7	0.246	3.40		53.2		21.5	1.72	22.0	0.00	0.02	0.03	0.07	86		12
100		9.69		9.68		33.725		26.011	200.9	0.276	3.10		48.3		24.0	1.84	23.5	0.00	0.04	0.02	0.07	101		11
120		9.36		9.34		33.866		26.177	185.5	0.315	2.83		43.8		28.0	1.95	25.3	0.00	0.04	0.02	0.07	121		10
125	ISL	9.31	D	9.29		33.920	D	26.228	180.8	0.326	2.66	D	41.2		28.8	1.98	25.7	0.00	0.03	0.01	0.06	126		
140		9.07		9.05		33.963		26.301	174.2	0.351	2.52		38.8		31.3	2.06	27.0	0.00	0.00	0.01	0.04	141		09
150	ISL	8.92	D	8.90		33.976	D	26.335	171.1	0.370	2.43	D	37.3		32.8	2.12	27.6	0.00	0.01	0.01	0.04	151		
170		8.83		8.81		34.056		26.413	164.1	0.402	2.10		32.1		35.7	2.23	28.9	0.00	0.02	0.00	0.04	171		08
200		8.92		8.90		34.187		26.501	156.5	0.450	1.49		22.9		39.7	2.43	29.8	0.00	0.01	0.00	0.05	202		07
230		8.55		8.52		34.197		26.568	150.6	0.496	1.29		19.7		43.2	2.52	31.3	0.00	0.02			232		06
250	ISL	8.27	D	8.24		34.194	D	26.609	147.0	0.529	1.25	D	18.9		45.7	2.58	32.1	0.00	0.02			252		
271		8.16		8.13		34.221		26.647	143.7	0.556	1.05		15.8		48.3	2.65	32.9	0.00	0.03			273		05
300	ISL	7.90	D	7.87		34.245	D	26.704	138.7	0.601	0.83	D	12.5		51.5	2.73	33.9	0.00	0.01			302		
320		7.76		7.73		34.256		26.734	136.2	0.625	0.75		11.2		53.8	2.78	34.6	0.00	0.00			323		04
381		7.28		7.25		34.269		26.814	129.3	0.706	0.57		8.5		60.1	2.92	36.3	0.00	0.00			384		03
400	ISL	7.19	D	7.15		34.299	D	26.852	126.1	0.735	0.44	D	6.5		62.0	2.95	36.7	0.00	0.00			403		
440		6.94		6.90		34.302		26.889	123.0	0.780	0.40		5.8		66.0	3.02	37.4	0.00	0.00			444		02
500	ISL	6.56	D	6.51		34.310	D	26.948	118.0	0.858	0.33	D	4.8		71.6	3.09	38.6	0.00	0.00			504		
516		6.44		6.39		34.315		26.967	116.3	0.871	0.32		4.7		73.1	3.11	38.9	0.00	0.00			520		01

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.
D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1110 STATION 93.3 40.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
32 30.5 N	118 13.0 W	18/10/2011	0425 UTC	1657 m	310 13 kn	280 03 05	2	1015.8 mb	18.0 C	17.0 C	16 m	8/8	ST	007

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		18.47		18.47		33.619		24.099	380.7	0.000	5.58		104.0		0.9	0.29	0.0	0.00	0.00	0.34	0.06	0		
2		18.47		18.47		33.619		24.099	380.7	0.008	5.58		104.0		0.9	0.29	0.0	0.00	0.00	0.34	0.06	2		21
10		18.44		18.43		33.623		24.113	379.7	0.037												10		20
10		18.44		18.43		33.624		24.114	379.6	0.038	5.59		104.3		1.0	0.29	0.0	0.00	0.00	0.28	0.06	10		19
20		16.59		16.59		33.471		24.439	349.0	0.074	5.85		105.1		1.5	0.35	0.0	0.00	0.10	0.41	0.23	20		18
30		13.39		13.38		33.418		25.093	286.9	0.106	5.38		90.6		4.7	0.69	4.9	0.14	0.10	0.66	0.30	30		17
39		12.11		12.11		33.437		25.356	262.0	0.131	4.47		73.3		10.5	1.19	12.6	0.20	0.15	0.65	0.30	39		16
49		11.09		11.09		33.541		25.625	236.6	0.156	3.76		60.4		16.5	1.49	18.0	0.05	0.00	0.27	0.24	49		15
50	ISL	11.06	D	11.04		33.547	D	25.637	235.4	0.159	3.74	D	60.0		16.8	1.51	18.2	0.05	0.00	0.26	0.24	50		
60		10.63		10.63		33.604		25.756	224.3	0.181	3.40		54.1		19.5	1.66	20.6	0.03	0.01	0.17	0.19	60		14
71		10.05		10.04		33.645		25.888	212.0	0.205	3.27		51.4		21.8	1.75	22.2	0.02	0.00	0.07	0.13	72		13
75	ISL	9.93	D	9.89		33.665	D	25.930	208.1	0.215	3.21	D	50.3		22.7	1.79	22.7	0.02	0.00	0.06	0.13	76		
85		9.71		9.70		33.740		26.020	199.7	0.234	2.97		46.4		25.0	1.88	24.1	0.01	0.01	0.03	0.14	86		12
100		9.53		9.52		33.835		26.124	190.2	0.263	2.71		42.2		27.6	1.98	25.4	0.00	0.01	0.03	0.17	101		11
119		9.37		9.36		33.879		26.185	184.8	0.299	2.48		38.4		29.6	2.07	26.7	0.00	0.00	0.02	0.08	120		10
125	ISL	9.26	D	9.25		33.920	D	26.236	180.1	0.312	2.47	D	38.2		30.3	2.08	26.9	0.00	0.00	0.01	0.07	126		
141		9.13		9.12		33.966		26.292	175.1	0.338	2.37		36.5		32.2	2.12	27.3	0.00	0.00	0.01	0.07	142		09
150	ISL	9.03	D	9.01		33.998	D	26.335	171.1	0.356	2.17	D	33.4		33.6	2.16	27.9	0.00	0.00	0.01	0.06	151		
171		8.64		8.62		34.043		26.431	162.3	0.389	2.06		31.5		36.9	2.25	29.3	0.00	0.00	0.01	0.05	172		08
200		8.46		8.44		34.082		26.490	157.3	0.435	1.87		28.4		40.0	2.34	30.5	0.00	0.00	0.01	0.05	202		07
230		8.30		8.28		34.155		26.573	150.0	0.481	1.47		22.2		44.2	2.50	31.7	0.00	0.00			232		06
250	ISL	8.34	D	8.31		34.210	D	26.610	146.9	0.514	1.22	D	18.5		46.3	2.58	32.2	0.00	0.00			252		
271		8.15		8.12		34.234		26.659	142.6	0.541	0.99		15.0		48.5	2.66	32.7	0.00	0.00			273		05
300	ISL	7.89	D	7.86		34.230	D	26.695	139.6	0.586	0.89	D	13.4		51.9	2.73	33.8	0.00	0.00			302		
319		7.79		7.76		34.246		26.722	137.4	0.609	0.79		11.8		54.2	2.78	34.5	0.00	0.00			322		04
382		7.31		7.27		34.293		26.829	128.0	0.692	0.50	D	7.4		61.8	2.94	36.2	0.00	0.00			385		03
400	ISL	7.04	D	7.00		34.302	D	26.875	123.7	0.720	0.41	D	6.0		65.0	2.99	36.9	0.00	0.00			403		
439		6.62		6.58		34.315		26.942	117.7	0.762	0.33		4.8		71.9	3.09	38.4	0.00	0.00			443		02
500	ISL	6.27	D	6.23		34.326	D	26.997	113.0	0.839	0.27	D	3.9		77.9	3.15	39.4	0.00	0.00			504		
516		6.20		6.15		34.329		27.009	112.1	0.850	0.27		3.9		79.4	3.17	39.6	0.00	0.00			520		01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1110 STATION 93.3 45.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
32 20.7 N	118 33.2 W	18/10/2011	0820 UTC	1340 m	290 16 kn	310 03 06	2	1014.9 mb	17.8 C	16.8 C		8/8	ST	008

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	18.38	18.38	33.547		24.068	383.6	0.000	5.82		108.3	0.9	0.23	0.0	0.00	0.00	0.49	0.09	0	
2	18.38	18.38	33.547		24.068	383.6	0.008	5.82		108.3	0.9	0.23	0.0	0.00	0.00	0.49	0.09	2	21
9	18.18	18.18	33.527	D	24.101	380.7	0.035											9	20
10	18.29	18.29	33.544		24.087	382.1	0.038	5.83		108.3	0.9	0.24	0.0	0.00	0.00	0.44	0.12	10	19
20	14.72	14.72	33.402		24.803	314.2	0.073	5.69		98.4	2.1	0.48	1.6	0.19	0.03	1.08	0.33	20	18
30	12.71	12.71	33.327		25.156	280.8	0.103	4.95		82.1	6.8	0.90	8.9	0.16	0.03	0.62	0.31	30	17
40	11.05	11.04	33.443		25.557	242.8	0.129	4.04		64.7	14.0	1.36	16.5	0.03	0.00	0.20	0.16	40	16
50	10.63	10.62	33.520		25.691	230.3	0.153	3.72		59.1	16.9	1.52	19.2	0.02	0.00	0.09	0.15	50	15
59	10.28	10.27	33.562		25.784	221.6	0.173	3.56		56.1	18.9	1.60	20.5	0.03	0.03	0.07	0.12	59	14
70	10.04	10.04	33.634		25.881	212.6	0.197	3.32		52.2	21.0	1.70	21.7	0.01	0.00	0.04	0.07	71	13
75 ISL	9.97 D	9.96	33.655	D	25.910	210.0	0.209	3.29	D	51.6	21.5	1.72	22.0	0.01	0.00	0.03	0.06	76	
85	9.89	9.88	33.675		25.940	207.4	0.229	3.20		50.2	22.5	1.76	22.6	0.02	0.00	0.03	0.05	86	12
100	9.65	9.64	33.764		26.050	197.3	0.259	2.95		45.9	24.7	1.86	24.3	0.01	0.00	0.02	0.06	101	11
120	9.37	9.35	33.858		26.169	186.3	0.297	2.58		39.9	28.7	2.00	26.4	0.00	0.00	0.02	0.09	121	10
125 ISL	9.31 D	9.29	33.915	D	26.225	181.1	0.308	2.42	D	37.4	29.7	2.03	26.8	0.00	0.00	0.02	0.08	126	
139	9.08	9.06	33.998		26.326	171.8	0.331	2.29		35.3	32.4	2.11	27.8	0.00	0.00	0.01	0.05	140	09
150 ISL	8.81 D	8.79	33.993	D	26.365	168.2	0.352	2.34	D	35.8	33.7	2.15	28.2	0.00	0.00	0.01	0.04	151	
170	8.80	8.78	34.076		26.433	162.3	0.383	2.04		31.2	35.9	2.21	29.0	0.00	0.00	0.00	0.03	171	08
200	8.57	8.55	34.151		26.527	153.8	0.430	1.73		26.3	40.7	2.37	30.5	0.00	0.00	0.01	0.05	202	07
230	8.30	8.28	34.177		26.590	148.4	0.476	1.32		20.0	44.5	2.51	31.9	0.00	0.00			232	06
250 ISL	8.29 D	8.26	34.213	D	26.620	145.9	0.508	1.14	D	17.3	46.5	2.57	32.6	0.00	0.04			252	
270	8.04	8.02	34.212		26.656	142.8	0.534	1.02		15.3	48.4	2.63	33.2	0.00	0.08			272	05
300 ISL	7.81 D	7.78	34.224	D	26.702	138.9	0.580	0.87	D	13.0	52.5	2.73	34.3	0.00	0.04			302	
320	7.59	7.56	34.246		26.751	134.5	0.604	0.71		10.6	55.1	2.79	35.0	0.00	0.02			323	04
381	7.13	7.09	34.281		26.845	126.3	0.683	0.62		9.1	62.0	2.92	37.0	0.00	0.04			384	03
400 ISL	6.95 D	6.91	34.280	D	26.869	124.2	0.712	0.48	D	7.1	64.1	2.96	37.5	0.00	0.03			403	
440	6.69	6.64	34.301		26.922	119.6	0.756	0.36		5.2	68.6	3.03	38.4	0.00	0.00			444	02
500 ISL	6.22 D	6.18	34.310	D	26.991	113.5	0.831	0.31	D	4.5	75.0	3.10	39.6	0.00	0.00			504	
515	6.17	6.12	34.318	D	27.004	112.5	0.843	0.29	D	4.2	76.6	3.12	39.9	0.00	0.00			519	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1110 STATION 93.3 50.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
32 10.7 N	118 53.4 W	18/10/2011	1221 UTC	1461 m	330 17 kn			1016.0 mb	17.3 C	16.2 C				009

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	17.94	17.94	33.469		24.115	379.2	0.000	5.67		104.6	0.9	0.29	0.1	0.00	0.03	0.30	0.08	0	
2	17.94	17.94	33.469		24.115	379.2	0.008	5.67		104.6	0.9	0.29	0.1	0.00	0.03	0.30	0.08	2	20
10	17.93	17.93	33.459		24.112	379.8	0.038	5.66		104.5	0.9	0.28	0.1	0.00	0.00	0.30	0.08	10	19
20	16.61	16.61	33.363		24.352	357.2	0.075	5.76		103.5	1.0	0.31	0.3	0.00	0.01	0.44	0.17	20	18
30	16.19	16.18	33.350		24.440	349.2	0.110	5.80		103.3	0.9	0.34	0.3	0.01	0.03	1.07	0.39	30	17
40	15.35	15.34	33.314		24.600	334.2	0.144	5.68		99.6	1.4	0.43	1.2	0.14	0.09	1.06	0.44	40	16
50	12.95	12.95	33.256		25.054	291.1	0.176	5.36		89.4	4.2	0.70	5.5	0.15	0.02	0.44	0.33	50	15
59	12.03	12.02	33.220		25.205	276.9	0.201	5.15		84.2	6.4	0.90	8.2	0.03	0.05	0.23	0.22	59	14
70	11.25	11.24	33.229		25.355	262.8	0.231	4.93		79.2	9.0	1.03	11.0	0.01	0.01	0.12	0.12	71	13
75 ISL	10.89 D	10.82	33.267	D	25.460	252.9	0.246	4.80	D	76.5	10.0	1.08	12.0	0.01	0.01	0.10	0.10	76	
85	10.28	10.27	33.294		25.577	241.9	0.269	4.66		73.3	12.0	1.19	14.0	0.00	0.01	0.06	0.07	86	12
100	9.88	9.87	33.540		25.837	217.5	0.303	3.73		58.3	19.6	1.64	20.6	0.00	0.03	0.02	0.06	101	11
120	9.47	9.45	33.774		26.088	194.0	0.344	2.94		45.7	26.2	1.96	24.9	0.00	0.05	0.02	0.09	121	10
125 ISL	9.37 D	9.35	33.806	D	26.130	190.1	0.356	2.92	D	45.2	27.3	1.98	25.4	0.00	0.04	0.02	0.09	126	
140	9.11	9.10	33.915		26.256	178.5	0.382	2.56		39.4	30.8	2.05	26.9	0.00	0.00	0.01	0.07	141	09
150 ISL	9.03 D	9.01	33.964	D	26.308	173.7	0.401	2.36	D	36.3	32.1	2.11	27.5	0.00	0.00	0.01	0.06	151	
170	8.95	8.93	34.018		26.363	168.9	0.434	2.10		32.3	34.7	2.22	28.8	0.00	0.00	0.01	0.05	171	08
200	8.66	8.64	34.072		26.451	161.1	0.483	1.92		29.4	37.9	2.30	29.7	0.00	0.00	0.01	0.05	202	07
230	8.43	8.40	34.130		26.534	153.8	0.530	1.60		24.4	41.4	2.44	31.0	0.00	0.00			232	06
250 ISL	8.40 D	8.37	34.205	D	26.598	148.1	0.564	1.09	D	16.6	45.0	2.55	32.1	0.00	0.00			252	
270	8.09	8.06	34.209		26.648	143.6	0.590	1.05		15.8	48.6	2.65	33.1	0.00	0.00			272	05
300 ISL	7.69 D	7.66	34.188	D	26.690	139.9	0.636	1.07	D	16.0	52.3	2.71	34.1	0.00	0.00			302	
320	7.52	7.49	34.205		26.728	136.6	0.660	0.93		13.8	54.8	2.75	34.8	0.00	0.00			323	04
380	7.05	7.01	34.250		26.832	127.5	0.739	0.62		9.1	62.6	2.93	36.9	0.00	0.00			383	03
400 ISL	6.85 D	6.81	34.261	D	26.868	124.2	0.769	0.52	D	7.6	65.1	2.97	37.4	0.00	0.00			403	
440	6.59	6.55	34.292		26.927	119.0	0.813	0.39		5.7	70.3	3.06	38.3	0.00	0.00			444	02
500 ISL	6.19 D	6.14	34.307	D	26.992	113.3	0.889	0.31	D	4.5	77.3	3.14	39.7	0.00	0.00			504	
514	6.05	6.00	34.313		27.016	111.2	0.898	0.28		4.0	79.0	3.16	40.0	0.00	0.00			518	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1110 STATION 93.3 55.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
32 0.8 N	119 14.1 W	18/10/2011	1626 UTC	1592 m	320 11 kn			1016.3 mb	17.8 C	16.1 C				010

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	18.11	18.11	33.407		24.026	387.7	0.000	5.53		102.4	0.8	0.29	0.2	0.00	0.00	0.23	0.05	0	
2	18.11	18.11	33.407		24.026	387.7	0.008	5.53		102.4	0.8	0.29	0.2	0.00	0.00	0.23	0.05	2	21
10	18.12	18.11	33.409		24.027	387.9	0.038											10	20
10	18.12	18.11	33.407		24.026	388.0	0.039	5.54		102.5	0.8	0.29	0.2	0.00	0.00	0.23	0.04	10	19
19	18.10	18.09	33.404		24.029	388.0	0.074	5.54		102.5	0.9	0.28	0.2	0.00	0.00	0.22	0.06	19	18
20 ISL	18.07 D	18.06	33.397	D	24.031	387.9	0.078	5.54	D	102.4	0.9	0.28	0.2	0.00	0.00	0.23	0.06	20	
30	17.33	17.33	33.345		24.169	375.0	0.116	5.62		102.3	1.0	0.28	0.2	0.00	0.00	0.25	0.08	30	17
40	14.90	14.90	33.094		24.527	341.1	0.152	6.11		105.9	1.7	0.30	0.2	0.00	0.00	0.34	0.17	40	16
49	13.82	13.81	33.081		24.745	320.5	0.181	5.98		101.4	2.1	0.37	0.3	0.04	0.05	0.40	0.35	49	15
50 ISL	13.70 D	13.63	33.083	D	24.783	317.0	0.186	5.90	D	99.7	2.2	0.38	0.5	0.06	0.05	0.39	0.34	50	
60	12.95	12.95	33.103		24.936	302.6	0.216	5.71		95.1	2.8	0.49	2.1	0.25	0.00	0.27	0.26	60	14
70	12.31	12.30	33.106		25.064	290.6	0.245	5.55		91.2	3.6	0.59	4.0	0.00	0.00	0.15	0.15	71	13
75 ISL	12.11 D	12.10	33.114	D	25.109	286.4	0.261	5.53	D	90.5	4.0	0.62	4.5	0.00	0.00	0.13	0.13	76	
84	11.65	11.63	33.165		25.235	274.7	0.285	5.44		88.2	4.8	0.66	5.4	0.00	0.00	0.10	0.09	85	12
100 ISL	10.92 D	10.87	33.266	D	25.452	254.3	0.329	4.83	D	77.1	9.4	1.01	11.3	0.00	0.00	0.04	0.06	101	
101	10.84	10.82	33.264		25.458	253.7	0.330	4.87		77.6	9.7	1.03	11.7	0.00	0.00	0.04	0.06	102	11
120	10.06	10.05	33.452		25.738	227.4	0.376	4.19		65.7	16.1	1.41	17.6	0.00	0.00	0.02	0.03	121	10
125 ISL	9.89 D	9.87	33.473	D	25.785	223.0	0.389	4.07	D	63.6	17.4	1.47	18.6	0.00	0.00	0.01	0.03	126	
140	9.28	9.26	33.568		25.957	206.8	0.419	3.77		58.2	21.4	1.65	21.5	0.00	0.00	0.01	0.02	141	09
150 ISL	9.02 D	9.00	33.662	D	26.073	195.9	0.442	3.59	D	55.1	24.1	1.75	23.1	0.00	0.00	0.01	0.02	151	
170	8.82	8.80	33.883		26.277	177.0	0.477	2.99		45.7	29.5	1.94	26.2	0.00	0.00	0.00	0.02	171	08
200	8.79	8.76	34.027		26.397	166.3	0.528	2.30		35.2	34.6	2.15	28.4	0.00	0.00	0.00	0.02	202	07
231	8.30	8.28	34.063		26.500	156.9	0.578	2.07		31.3	39.5	2.26	30.3	0.00	0.00			233	06
250 ISL	8.04 D	8.00	34.111	D	26.579	149.6	0.611	1.68	D	25.3	43.2	2.39	31.6	0.00	0.04			252	
270	7.90	7.88	34.144		26.624	145.7	0.637	1.40		20.9	47.2	2.52	32.9	0.00	0.09			272	05
300 ISL	7.62 D	7.59	34.154	D	26.674	141.4	0.684	1.25	D	18.6	50.8	2.62	34.0	0.00	0.04			302	
320	7.53	7.50	34.177		26.706	138.7	0.708	1.06		15.8	53.2	2.68	34.8	0.00	0.00			323	04
381	6.79	6.75	34.142		26.781	131.9	0.790	0.97		14.2	62.3	2.80	37.3	0.00	0.00			384	03
400 ISL	6.55 D	6.51	34.157	D	26.826	127.8	0.820	0.84	D	12.2	65.5	2.86	38.0	0.00	0.00			403	
440	6.10	6.07	34.179		26.901	120.9	0.865	0.66		9.5	72.2	2.98	39.5	0.00	0.00			444	02
500 ISL	5.92 D	5.87	34.238	D	26.972	114.9	0.941	0.44	D	6.3	78.8	3.08	40.5	0.00	0.00			504	
515	5.81	5.77	34.251		26.995	112.8	0.953	0.37		5.3	80.4	3.11	40.8	0.00	0.00			519	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1110 STATION 93.3 60.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
31 50.8 N	119 33.9 W	18/10/2011	2031 UTC	1855 m	310 12 kn			1016.2 mb	17.5 C	16.0 C				011

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		18.62		18.62		33.315		23.830	406.4	0.000	5.42		101.2		1.2	0.29	0.0	0.00	0.01	0.18	0.04	0	
2		18.62		18.62		33.315		23.830	406.4	0.008	5.42		101.2		1.2	0.29	0.0	0.00	0.01	0.18	0.04	2	20
10		18.63		18.62		33.314		23.829	406.8	0.041	5.42		101.3		1.2	0.29	0.1	0.00	0.00	0.18	0.04	10	19
20		18.62		18.61		33.322		23.838	406.3	0.081	5.43		101.4		1.2	0.28	0.1	0.00	0.00	0.19	0.05	20	18
30		18.15		18.14		33.309		23.945	396.4	0.121	5.46		101.0		1.1	0.29	0.0	0.00	0.00	0.21	0.06	30	17
40		14.88		14.88		33.104		24.539	340.0	0.158	6.07		105.1		1.7	0.32	0.1	0.00	0.00	0.36	0.21	40	16
50		13.65		13.64		33.085		24.783	316.9	0.191	6.02		101.8		2.1	0.39	0.3	0.01	0.03	0.36	0.28	50	15
60		12.86		12.85		33.120		24.969	299.5	0.222	5.75		95.6		2.9	0.50	2.1	0.21	0.00	0.31	0.31	60	14
70		12.59		12.58		33.164		25.055	291.5	0.251	5.63		93.1		3.3	0.52	2.7	0.06	0.00	0.25	0.24	71	13
75	ISL	12.46	D	12.43		33.157	D	25.079	289.4	0.268	5.57	D	91.8		3.8	0.57	3.6	0.04	0.00	0.21	0.21	76	
84		12.14		12.13		33.191		25.163	281.6	0.292	5.40		88.5		4.5	0.67	5.3	0.00	0.00	0.14	0.15	85	12
100		11.17		11.16		33.282		25.412	258.1	0.335	4.97		79.8		8.2	0.94	9.9	0.00	0.00	0.08	0.11	101	11
120		10.01		10.00		33.433		25.732	228.0	0.383	4.18		65.5		16.2	1.42	17.6	0.00	0.00	0.02	0.04	121	10
125	ISL	9.85	D	9.83		33.491	D	25.805	221.1	0.397	3.94	D	61.5		17.6	1.49	18.7	0.00	0.00	0.01	0.04	126	
140		9.53		9.52		33.612		25.951	207.5	0.427	3.56		55.3		21.7	1.71	22.1	0.00	0.00	0.01	0.03	141	09
150	ISL	9.32	D	9.29		33.709	D	26.063	197.0	0.450	3.34	D	51.6		24.6	1.81	23.7	0.00	0.00	0.01	0.03	151	
170		8.89		8.87		33.875		26.261	178.5	0.484	2.81		43.0		30.3	2.01	26.8	0.00	0.00	0.00	0.02	171	08
200	ISL	8.61	D	8.59		33.972	D	26.381	167.7	0.540	2.29	D	34.9		34.6	2.19	29.3	0.00	0.00	0.01	0.04	202	
201		8.60		8.58		33.973		26.384	167.5	0.538	2.24		34.1		34.7	2.20	29.4	0.00	0.00	0.01	0.04	203	07
230		8.10		8.07		34.032		26.506	156.2	0.585	2.08		31.3		40.0	2.30	30.9	0.00	0.00			232	06
250	ISL	7.86	D	7.84		34.040	D	26.548	152.5	0.620	2.04	D	30.6		42.7	2.36	31.7	0.00	0.00			252	
270		7.69		7.66		34.058		26.588	148.9	0.646	1.85		27.7		45.3	2.41	32.5	0.00	0.00			272	05
300	ISL	7.34	D	7.31		34.086	D	26.661	142.4	0.695	1.49	D	22.1		51.1	2.56	34.3	0.00	0.00			302	
320		7.13		7.10		34.110		26.708	138.1	0.718	1.28		18.9		54.9	2.66	35.5	0.00	0.00			323	04
381		6.62		6.58		34.171		26.827	127.5	0.799	0.81		11.8		64.5	2.90	37.8	0.00	0.00			384	03
400	ISL	6.32	D	6.28		34.150	D	26.850	125.3	0.829	0.82	D	11.9		67.5	2.94	38.4	0.00	0.00			403	
440		6.02		5.98		34.179		26.912	119.8	0.872	0.62		8.9		73.8	3.02	39.7	0.00	0.00			444	02
500	ISL	5.66	D	5.62		34.227	D	26.995	112.4	0.949	0.43	D	6.1		80.5	3.12	40.8	0.00	0.00			504	
515		5.66		5.61		34.241		27.007	111.5	0.958	0.40		5.6		82.2	3.14	41.1	0.00	0.00			519	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1110 STATION 93.3 70.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
31 30.6 N	120 15.3 W	19/10/2011	0249 UTC	3942 m	330 18 kn	300 03 04	2	1017.7 mb	18.5 C	16.5 C	27 m	8/8	SC	012

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		18.67		18.66		33.245		23.766	412.5	0.000	5.45		101.8		1.4	0.30	0.0	0.00	0.18	0.13	0.03	0	
2	A	18.67		18.66		33.245		23.766	412.5	0.008	5.45		101.8		1.4	0.30	0.0	0.00	0.18	0.13	0.03	2	21
10		18.67		18.66		33.245		23.766	412.8	0.041	5.42		101.3		1.5	0.30	0.1	0.00	0.27	0.13	0.03	10	20
18	A	18.65		18.65		33.244		23.770	412.7	0.074	5.45		101.8		1.3	0.29	0.1	0.00	0.07	0.14	0.03	18	19
20	ISL	18.56	D	18.56		33.241	D	23.789	410.9	0.083	5.46	D	101.8		1.3	0.29	0.1	0.00	0.05	0.16	0.04	20	
24	A	18.20		18.20		33.247		23.884	402.1	0.099	5.51		102.1		1.2	0.29	0.0	0.00	0.00	0.22	0.06	24	18
30	ISL	17.96	D	17.95		33.233	D	23.933	397.6	0.124	5.58	D	102.9		1.2	0.29	0.0	0.00	0.07	0.25	0.07	30	
34		17.36		17.36		33.253		24.092	382.5	0.138	5.59		101.9		1.3	0.29	0.0	0.00	0.12	0.27	0.08	34	17
43	A	15.38		15.37		33.201		24.507	343.2	0.171	5.95		104.2		1.3	0.32	0.0	0.00	0.11	0.50	0.30	43	16
50	ISL	14.49	D	14.48		33.279	D	24.758	319.4	0.196	6.09	D	104.8		1.9	0.40	0.5	0.02	0.14	0.57	0.33	50	
56		14.13		14.12		33.279		24.835	312.3	0.213	6.02		102.9		2.4	0.46	1.0	0.03	0.16	0.63	0.36	56	15
69		13.08		13.07		33.294		25.061	291.0	0.252	5.33		89.1		4.7	0.74	5.9	0.25	0.05	0.40	0.42	70	14
75	ISL	12.65	D	12.63		33.326	D	25.171	280.6	0.271	4.98	D	82.5		6.6	0.88	8.4	0.13	0.05	0.28	0.31	76	
81	A	12.01		12.00		33.356		25.315	267.0	0.286	4.72		77.2		8.4	1.02	10.9	0.01	0.04	0.16	0.20	82	13
93	A	11.33		11.32		33.418		25.489	250.7	0.317	4.32		69.7		12.1	1.25	14.5	0.00	0.00	0.08	0.11	94	12
100	ISL	10.83	D	10.78		33.492	D	25.643	236.1	0.336	3.91	D	62.3		14.5	1.37	16.4	0.00	0.03	0.06	0.08	101	
106		10.58		10.57		33.523		25.704	230.4	0.348	3.83		60.8		16.5	1.48	18.1	0.00	0.06	0.03	0.06	107	11
120		10.19		10.17		33.678	D	25.893	212.7	0.381	3.23	D	50.9									121	10
125	ISL	10.13	D	10.11		33.720	D	25.936	208.8	0.392	3.07	D	48.3		21.5	1.73	21.1	0.00	0.05	0.00	0.03	126	
140		10.01		9.99		33.814		26.030	200.2	0.420	2.80		44.0		25.4	1.92	23.5	0.00	0.04	0.00	0.03	141	09
150	ISL	9.94	D	9.91		33.884	D	26.099	193.9	0.443	2.42	D	38.0		26.8	1.90	24.5	0.00	0.23	0.00	0.03	151	
170		9.72		9.70		34.041		26.258	179.2	0.477	2.10		32.8		29.5	1.86	26.4	0.00	0.60	0.00	0.03	171	08
200	ISL	9.36	D	9.33		34.131	D	26.388	167.4	0.533	1.88	D	29.2		34.4	2.25	28.0	0.00	0.02	0.00	0.03	202	
201		9.33		9.31		34.132		26.393	166.9	0.531	1.88		29.1		34.6	2.26	28.1	0.00	0.00	0.00	0.03	203	07
230		9.25		9.22		34.236		26.489	158.5	0.578	1.40		21.7		38.3	2.43	29.3	0.00	0.00			232	06
250	ISL	8.86	D	8.84		34.202	D	26.523	155.5	0.614	1.42	D	21.8		40.3	2.45	30.2	0.00	0.00			252	
269		8.50		8.48		34.179		26.562	152.0	0.639	1.52		23.1		42.1	2.46	31.0	0.00	0.00			271	05
300	ISL	8.16	D	8.13		34.187	D	26.620	146.8	0.690	1.14	D	17.2		46.2	2.58	32.2	0.00	0.00			302	
320		8.12		8.09		34.233		26.663	143.2	0.714	1.02		15.4		48.8	2.66	32.9	0.00	0.00			323	04
381		7.43		7.39		34.242		26.773	133.4	0.799	0.76		11.3		57.1	2.83	35.3	0.00	0.00			384	03
400	ISL	7.11	D	7.06		34.225	D	26.806	130.3	0.830	0.75	D	11.1		60.0	2.88	36.1	0.00	0.00			403	
442		6.75		6.71		34.251		26.874	124.2	0.877	0.55		8.0		66.3	2.98	37.9	0.00	0.00			446	02
500	ISL	6.40	D	6.35		34.288	D	26.951	117.5	0.954	0.37	D	5.4		72.8	3.08	39.0	0.00	0.00			504	
518		6.30		6.26		34.302		26.975	115.5	0.968	0.34		4.9		74.8	3.11	39.3	0.00	0.00			522	01

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.
D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1110 STATION 93.3 80.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
31 10.8 N	120 55.2 W	19/10/2011	1036 UTC	3856 m	340	18 kn			1016.0 mb	19.0 C	17.0 C				013

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		19.11		19.11		33.487	23.838	405.5	0.000	5.39		101.6	0.9	0.30	0.1	0.00	0.00	0.34	0.20	0	
2		19.11		19.11		33.487	23.838	405.5	0.008	5.39		101.6	0.9	0.30	0.1	0.00	0.00	0.34	0.20	2	20
10		19.12		19.11		33.479	23.831	406.5	0.041	5.40		101.8	0.8	0.29	0.1	0.00	0.00	0.26	0.07	10	19
20	ISL	19.12	D	19.11		33.478	23.832	406.9	0.082	5.38	D	101.5	0.8	0.30	0.1	0.00	0.00	0.18	0.05	20	
25		19.12		19.11		33.478	23.832	407.1	0.102	5.40		101.8	0.8	0.30	0.1	0.00	0.00	0.15	0.04	25	18
30	ISL	19.12	D	19.11		33.477	23.831	407.4	0.123	5.38	D	101.5	0.8	0.30	0.1	0.00	0.00	0.15	0.04	30	
40		18.05		18.05		33.409	24.045	387.3	0.162	5.54		102.4	0.9	0.30	0.1	0.00	0.00	0.15	0.03	40	17
50		15.26		15.25		33.176	24.513	342.8	0.198	5.96		104.1	1.1	0.33	0.0	0.00	0.01	0.15	0.04	50	16
62		14.09		14.09		33.086	24.693	325.9	0.238	5.92		101.0	1.6	0.40	0.2	0.10	0.22	0.05	0.06	62	15
74		12.97		12.96		33.051	24.893	307.1	0.276	5.81		96.8	2.3	0.47	1.2	0.39	0.00	0.09	0.08	75	14
75	ISL	12.91	D	12.89		33.054	24.909	305.6	0.281	5.70	D	94.8	2.5	0.49	1.5	0.36	0.00	0.09	0.08	76	
87		11.89		11.87		33.140	25.171	280.8	0.315	5.37		87.5	4.8	0.72	5.6	0.00	0.00	0.14	0.12	88	13
100		11.37		11.36		33.187	25.302	268.6	0.350	5.17		83.3	6.7	0.86	8.1	0.00	0.00	0.34	0.27	101	12
112		10.53		10.52		33.268	25.514	248.6	0.381	4.82		76.4	10.3	1.09	11.9	0.00	0.00	0.48	0.41	113	11
124		10.10		10.09		33.505	25.773	224.2	0.410	3.98		62.5	17.1	1.51	18.4	0.00	0.00	0.02	0.04	125	10
125	ISL	10.09	D	10.07		33.524	25.790	222.6	0.414	3.87	D	60.8	17.4	1.53	18.6	0.00	0.00	0.02	0.04	126	
139		10.02		10.01		33.695	25.935	209.1	0.442	3.30		51.8	21.6	1.78	21.8	0.00	0.00	0.02	0.03	140	09
150	ISL	9.72	D	9.70		33.814	26.079	195.7	0.467	2.92	D	45.6	23.9	1.85	23.1	0.00	0.00	0.01	0.03	151	
169		9.29		9.27		33.907	26.222	182.4	0.500	2.80		43.3	27.9	1.97	25.3	0.00	0.00	0.00	0.03	170	08
200	ISL	8.85	D	8.82		34.005	26.370	168.8	0.558	2.55	D	39.1	32.1	2.09	27.0	0.00	0.00	0.00	0.02	202	
201		8.84		8.82		34.003	26.370	168.9	0.557	2.55		39.1	32.2	2.09	27.1	0.00	0.00	0.00	0.02	203	07
231		8.75		8.72		34.129	26.485	158.6	0.606	1.83		28.1	38.0	2.35	29.5	0.00	0.00			233	06
250	ISL	8.63	D	8.60		34.180	26.544	153.4	0.639	1.50	D	22.9	41.0	2.44	30.5	0.00	0.00			252	
272		8.36		8.33		34.193	26.595	148.8	0.669	1.33		20.2	44.5	2.55	31.6	0.00	0.00			274	05
300	ISL	7.98	D	7.94		34.215	26.671	141.9	0.714	1.07	D	16.1	48.5	2.66	32.8	0.00	0.00			302	
320		7.80		7.77		34.222	26.701	139.3	0.737	0.98		14.6	51.4	2.73	33.7	0.00	0.00			323	04
382		7.20		7.16		34.246	26.808	129.8	0.821	0.68		10.0	60.2	2.91	36.3	0.00	0.00			385	03
400	ISL	6.98	D	6.94		34.242	26.835	127.4	0.850	0.64	D	9.4	62.2	2.94	36.7	0.00	0.00			403	
441		6.64		6.60		34.277	26.909	120.8	0.895	0.46		6.7	66.8	3.01	37.6	0.00	0.00			445	02
500	ISL	6.40	D	6.35		34.330	26.984	114.4	0.971	0.28	D	4.1	73.6	3.11	39.0	0.00	0.00			504	
515		6.29		6.24		34.326	26.995	113.4	0.981	0.26		3.8	75.3	3.14	39.3	0.00	0.00			519	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1110 STATION 93.3 90.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
30 50.7 N	121 35.5 W	19/10/2011	1626 UTC	4102 m	340	20 kn			1016.3 mb	18.8 C	16.6 C				014

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		18.71		18.71		33.248	23.757	413.4	0.000	5.43		101.6	1.1	0.29	0.1	0.00	0.00	0.13	0.02	0	
3		18.71		18.71		33.248	23.757	413.4	0.012	5.43		101.6	1.1	0.29	0.1	0.00	0.00	0.13	0.02	3	20
10		18.71		18.71		33.248	23.758	413.5	0.041	5.44		101.7	0.9	0.29	0.1	0.00	0.00	0.13	0.03	10	19
20	ISL	18.70	D	18.70		33.245	23.758	413.9	0.083	5.44	D	101.7	1.1	0.29	0.1	0.00	0.00	0.13	0.03	20	
25		18.70		18.69		33.249	23.763	413.7	0.103	5.44		101.6	1.2	0.29	0.1	0.00	0.00	0.13	0.03	25	18
30	ISL	18.70	D	18.69		33.244	23.759	414.2	0.125	5.43	D	101.5	1.2	0.29	0.1	0.00	0.01	0.14	0.03	30	
39		18.38		18.37		33.238	23.835	407.3	0.161	5.47		101.6	1.2	0.29	0.1	0.00	0.03	0.14	0.03	39	17
50		16.82		16.81		33.153	24.145	378.1	0.204	5.86		105.5	1.5	0.27	0.1	0.00	0.00	0.15	0.04	50	16
62		15.74		15.66		33.245	24.477	346.7	0.250	5.98		105.5	1.8	0.27	0.0	0.00	0.01	0.16	0.05	62	15
75	ISL	14.56	D	14.55		33.250	24.722	323.7	0.294	5.97	D	102.9	1.9	0.28	0.0	0.00	0.00	0.18	0.11	76	
76		14.53		14.52		33.261	24.737	322.2	0.295	5.95		102.5	1.9	0.28	0.0	0.00	0.00	0.18	0.11	77	14
86		14.02		14.01		33.299	24.874	309.5	0.326	5.85		99.8	2.0	0.29	0.0	0.00	0.00	0.19	0.17	87	13
100		13.41		13.40		33.398	25.076	290.6	0.368	5.67		95.5	2.4	0.33	0.3	0.10	0.01	0.22	0.20	101	12
112		12.27		12.25		33.336	25.252	273.9	0.402	5.43		89.3	4.0	0.53	3.7	0.01	0.00	0.14	0.18	113	11
124		11.29		11.28		33.281	25.391	260.8	0.434	5.16		83.0	6.8	0.80	8.0	0.00	0.02	0.10	0.15	125	10
125	ISL	11.19	D	11.17		33.291	25.418	258.2	0.440	5.15	D	82.7	7.1	0.82	8.3	0.00	0.02	0.09	0.14	126	
141		10.30		10.29		33.368	25.632	238.0	0.477	4.76		75.0	11.6	1.10	13.1	0.00	0.00	0.05	0.07	142	09
150	ISL	10.05	D	10.02		33.415	25.714	230.4	0.501	4.45	D	69.8	14.5	1.26	15.6	0.00	0.00	0.03	0.05	151	
168		9.36		9.34		33.597	25.968	206.4	0.537	3.93		60.7	20.5	1.59	20.7	0.00	0.00	0.01	0.02	169	08
200		9.00		8.98		33.875	26.244	180.9	0.599	3.40		52.3	26.2	1.77	23.9	0.00	0.00	0.00	0.01	202	07
231		8.42		8.39		33.963	26.405	166.0	0.653	3.07		46.6	31.6	1.93	26.5	0.00	0.00			233	06
250	ISL	8.09	D	8.06		33.995	26.479	159.1	0.689	2.68	D	40.4	35.4	2.06	28.2	0.00	0.00			252	
267		7.91		7.88		34.008	26.516	155.8	0.711	2.51		37.6	38.8	2.17	29.8	0.00	0.00			269	05
300	ISL	7.49	D	7.46		34.056	26.616	146.8	0.766	1.83	D	27.2	46.5	2.41	32.8	0.00	0.00			302	
321		7.20		7.17		34.073	26.670	141.8	0.791	1.54		22.7	51.4	2.56	34.7	0.00	0.00			324	04
380		6.53		6.49		34.120	26.798	130.1	0.871	1.02		14.8	63.0	2.81	37.8	0.00	0.00			383	03
400	ISL	6.36	D	6.33		34.131	26.829	127.4	0.904	0.90	D	13.0	66.2	2.86	38.4	0.00	0.00			403	
441		5.95		5.92		34.156	26.901	120.7	0.948	0.71		10.2	72.9	2.97	39.7	0.00	0.00			445	02
500	ISL	5.69	D	5.65		34.222	26.987	113.2	1.025	0.44	D	6.3	80.9	3.10	41.0	0.00	0.00			504	
516		5.56		5.51		34.238	27.016	110.5	1.034	0.38		5.3	83.1	3.13	41.4	0.00	0.00			520	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1110 STATION 93.3 100.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
30 30.8 N	122 15.6 W	19/10/2011	2222 UTC	4119 m	340 18 kn	300 04 05	2	1017.1 mb	19.5 C	17.1 C		8/8	SC	015

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		19.30		19.30		33.199	23.571	431.1	0.000	5.35		101.1		1.7	0.29	0.1	0.00	0.03	0.09	0.02	0	
2		19.30		19.30		33.199	23.571	431.1	0.009	5.35		101.1		1.7	0.29	0.1	0.00	0.03	0.09	0.02	2	20
10		19.30		19.30		33.197	23.570	431.5	0.043	5.35		101.2		1.6	0.28	0.2	0.00	0.00	0.09	0.01	10	19
20	ISL	19.29	D	19.29		33.193	D 23.569	431.9	0.087	5.35	D	101.1		1.6	0.28	0.2	0.00	0.00	0.09	0.01	20	
25		19.28		19.27		33.194	23.574	431.7	0.108	5.37		101.4		1.6	0.28	0.2	0.00	0.00	0.09	0.01	25	18
30	ISL	19.12	D	19.12		33.176	D 23.601	429.4	0.130	5.39	D	101.5		1.7	0.27	0.2	0.00	0.00	0.11	0.02	30	
39		18.56		18.55		33.238	23.791	411.5	0.167	5.63		105.0		1.8	0.25	0.1	0.00	0.00	0.14	0.03	39	17
49		17.20		17.19		33.306	24.173	375.4	0.206	5.84		106.0		1.9	0.23	0.2	0.00	0.00	0.14	0.03	49	16
50	ISL	17.05	D	17.05		33.300	D 24.202	372.7	0.212	5.87	D	106.4		1.9	0.23	0.2	0.00	0.00	0.14	0.03	50	
62		15.60		15.59		33.303	24.537	341.0	0.253	5.95		104.8		2.0	0.24	0.1	0.00	0.00	0.17	0.05	62	15
75		14.54		14.53		33.304	24.769	319.2	0.296	5.92		102.0		2.0	0.26	0.1	0.00	0.01	0.21	0.12	76	14
86		14.54		14.53		33.409	24.850	311.8	0.331	5.74		99.0		2.3	0.27	0.0	0.00	0.02	0.22	0.22	87	13
100		14.01		14.00		33.500	25.032	294.9	0.373	5.57		95.0		2.8	0.32	0.6	0.06	0.00	0.21	0.25	101	12
112		13.14		13.12		33.441	25.164	282.5	0.408	5.36		89.8		3.9	0.51	3.5	0.01	0.00	0.13	0.21	113	11
125		12.03		12.02		33.439	25.377	262.4	0.443	5.23		85.7		5.4	0.62	5.7	0.00	0.00	0.08	0.15	126	10
139		11.15		11.15		33.434	D 25.533	247.6	0.483	5.01	D	80.5									140	09
150	ISL	10.62	D	10.60		33.454	D 25.646	237.0	0.509	4.78	D	75.9		11.3	0.99	11.8	0.00	0.00	0.04	0.07	151	
170		9.71		9.69		33.560	25.883	214.7	0.550	4.46		69.5		15.9	1.28	16.7	0.00	0.00	0.01	0.02	171	08
199		8.84		8.82		33.724	26.152	189.5	0.609	3.75		57.3		24.6	1.69	23.2	0.00	0.00	0.00	0.01	201	07
200	ISL	8.81	D	8.78		33.742	D 26.170	187.7	0.616	3.74	D	57.2		24.7	1.70	23.3	0.00	0.00	0.00	0.01	202	
231		8.31		8.28		33.894	26.367	169.5	0.666	3.31		50.1		30.7	1.87	26.0	0.00	0.00			233	06
250	ISL	8.14	D	8.11		33.977	D 26.458	161.2	0.703	2.86	D	43.1		34.5	2.00	27.7	0.00	0.00			252	
271		7.93		7.90		34.000	26.508	156.7	0.731	2.58		38.7		38.7	2.14	29.6	0.00	0.00			273	05
300	ISL	7.64	D	7.62		34.051	D 26.588	149.5	0.782	1.89	D	28.2		44.8	2.34	32.0	0.00	0.00			302	
321		7.37		7.34		34.065	26.639	144.8	0.806	1.70		25.2		49.2	2.48	33.7	0.00	0.00			324	04
380		6.70		6.66		34.110	26.768	133.1	0.888	1.14		16.6		59.3	2.74	37.0	0.00	0.00			383	03
400	ISL	6.54	D	6.50		34.130	D 26.805	129.7	0.922	0.94	D	13.7		63.2	2.80	37.8	0.00	0.00			403	
440		6.04		6.00		34.146	26.882	122.6	0.965	0.79		11.3		71.0	2.93	39.5	0.00	0.00			444	02
500	ISL	5.72	D	5.67		34.212	D 26.976	114.2	1.044	0.48	D	6.9		79.0	3.06	41.0	0.00	0.00			504	
516		5.65		5.61		34.228	26.997	112.4	1.054	0.43		6.2		81.2	3.10	41.4	0.00	0.00			520	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1110 STATION 93.3 110.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
30 12.0 N	122 53.8 W	20/10/2011	0410 UTC	4324 m	330 12 kn	330 03 07	1	1017.7 mb	21.1 C	18.0 C	29 m	4/8	CU	016

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		19.46		19.46		33.261	23.577	430.5	0.000	5.36		101.6		1.5	0.29	0.1	0.00	0.00	0.11	0.03	0	
2	A	19.46		19.46		33.261	23.577	430.5	0.009	5.36		101.6		1.5	0.29	0.1	0.00	0.00	0.11	0.03	2	23
10	ISL	19.36	D	19.36		33.256	D 23.600	428.6	0.043	5.36	D	101.5		1.4	0.29	0.1	0.00	0.02	0.10	0.02	10	
11		19.34		19.34		33.258	23.607	428.0	0.047	5.41		102.3		1.4	0.29	0.1	0.00	0.02	0.09	0.02	11	21
20	A	19.30		19.29		33.256	23.617	427.4	0.086	5.38		101.6		1.3	0.29	0.0	0.00	0.00	0.10	0.02	20	20
26	A	19.11		19.10		33.244	23.657	423.9	0.111	5.42		102.2		1.3	0.28	0.0	0.00	0.00	0.09	0.02	26	19
30	ISL	19.09	D	19.09		33.241	D 23.657	424.0	0.129	5.38	D	101.3		1.3	0.28	0.0	0.00	0.00	0.09	0.02	30	
37		19.06		19.05		33.245	23.670	423.1	0.158	5.44		102.4		1.4	0.28	0.0	0.00	0.00	0.10	0.02	37	18
46	A	18.09		18.08		33.240	23.907	400.7	0.195	5.42		100.2		1.2	0.29	0.0	0.00	0.00	0.14	0.04	46	17
50	ISL	17.73	D	17.71		33.364	D 24.092	383.2	0.213	5.78	D	106.1		1.4	0.27	0.0	0.00	0.00	0.16	0.04	50	
61		17.00		16.99		33.468	24.345	359.5	0.252	5.82		105.5		1.8	0.21	0.0	0.00	0.00	0.19	0.05	61	16
74		15.63		15.62		33.417	24.619	333.6	0.297	5.92		104.4		1.8	0.22	0.0	0.00	0.00	0.22	0.10	75	15
75	ISL	15.50	D	15.48		33.437	D 24.665	329.2	0.302	5.92	D	104.1		1.9	0.22	0.0	0.00	0.00	0.22	0.11	76	
87	A	15.02		15.01		33.462	24.788	317.9	0.339	5.90		102.7		2.1	0.22	0.0	0.00	0.00	0.22	0.16	88	14
94		14.48		14.47		33.462	24.904	307.0	0.361	5.82		100.2		2.3	0.25	0.0	0.00	0.00	0.19	0.21	95	13
100	A	14.26		14.24		33.511	24.990	299.0	0.379	5.70		97.7		2.5	0.30	0.1	0.03	0.06	0.22	0.18	101	12
112		13.16		13.14		33.440	25.159	282.9	0.414	5.54		92.8		3.2	0.39	1.8	0.04	0.00	0.17	0.20	113	11
125		12.14		12.12		33.399	25.326	267.2	0.450	5.34		87.6		5.0	0.58	5.0	0.00	0.00	0.10	0.10	126	10
140		11.56		11.55		33.450	25.473	253.5	0.489	5.11		82.9							0.07	0.09	141	09
150	ISL	11.00	D	10.98		33.435	D 25.565	244.9	0.517	4.85	D	77.6		11.2	1.04	12.2	0.00	0.00	0.05	0.06	151	
171		9.76		9.74		33.575	25.887	214.4	0.562	4.26		66.4		17.1	1.39	17.7	0.00	0.00	0.01	0.02	172	08
200		9.09		9.07		33.803	26.173	187.6	0.620	3.87		59.6		23.6	1.62	21.8	0.00	0.00	0.00	0.01	202	07
231		8.63		8.60		33.934	26.349	171.4	0.676	3.37		51.3		29.6	1.83	25.0	0.00	0.00			233	06
250	ISL	8.11	D	8.08		33.968	D 26.455	161.4	0.712	2.90	D	43.7		34.6	1.99	27.2	0.00	0.00			252	
271		7.79		7.76		33.991	26.521	155.4	0.741	2.62		39.1		40.1	2.17	29.7	0.00	0.00			273	05
300	ISL	7.48	D	7.45		34.025	D 26.592	149.0	0.790	2.12	D	31.5		46.7	2.38	32.4	0.00	0.00			302	
320		7.14		7.11		34.054	26.663	142.4	0.814	1.72		25.3		51.3	2.53	34.2	0.00	0.00			322	04
381		6.54		6.51		34.086	26.770	132.8	0.898	1.32		19.2		60.7	2.72	36.9	0.00	0.00			384	03
400	ISL	6.31	D	6.27		34.093	D 26.806	129.4	0.929	1.10	D	15.9		63.8	2.78	37.6	0.00	0.00			403	
441		6.02		5.98		34.113	26.860	124.7	0.975	0.95		13.6		70.5	2.92	39.1	0.00	0.00			445	02
500	ISL	5.60	D	5.56		34.163	D 26.951	116.5	1.053	0.62	D	8.8		80.3	3.07	40.9	0.00	0.00			504	
515		5.49		5.45		34.187	26.983	113.5	1.063	0.54		7.7		82.8	3.11	41.4	0.00	0.00			519	01

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.
D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1110 STATION 93.3 120.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
29 50.9 N	123 35.1 W	20/10/2011	0953 UTC	4130 m	360 15 kn	360 03 08	1	1016.9 mb	19.9 C	17.9 C		7/8	SC	017

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	19.76	19.76	33.308	23.536	434.4	0.000	5.32	101.5	1.6	0.26	0.1	0.00	0.00	0.07	0.02	0	
2	19.76	19.76	33.308	23.536	434.4	0.009	5.32	101.5	1.6	0.26	0.1	0.00	0.00	0.07	0.02	2	20
10	19.76	19.75	33.291	23.524	435.9	0.044	5.32	101.5	1.7	0.26	0.1	0.00	0.06	0.07	0.02	10	21
20 ISL	19.61 D	19.58	33.286 D	23.567	432.2	0.087	5.37 D	102.1	1.6	0.25	0.1	0.00	0.02	0.08	0.02	20	
25	19.34	19.33	33.274	23.621	427.2	0.108	5.37	101.6	1.6	0.25	0.1	0.00	0.00	0.08	0.02	25	18
30 ISL	19.31 D	19.31	33.274 D	23.628	426.8	0.131	5.38 D	101.8	1.6	0.25	0.1	0.00	0.00	0.08	0.02	30	
40	19.28	19.27	33.283	23.642	425.8	0.172	5.38	101.6	1.6	0.25	0.1	0.00	0.00	0.09	0.02	40	17
50	18.51	18.50	33.282	23.836	407.7	0.214	5.56	103.5	1.6	0.24	0.1	0.00	0.00	0.11	0.03	50	16
62	16.56	16.55	33.256	24.284	365.2	0.260	5.90	105.8	1.9	0.25	0.1	0.00	0.01	0.13	0.03	62	15
75	15.58	15.57	33.216	24.475	347.3	0.307	5.95	104.6	1.8	0.27	0.1	0.00	0.02	0.21	0.04	76	14
87	14.68	14.66	33.259	24.706	325.6	0.347	5.80	100.1	2.1	0.30	0.1	0.00	0.00	0.23	0.18	88	13
100	14.05	14.03	33.381	24.933	304.3	0.388	5.57	95.1	2.7	0.36	0.5	0.07	0.01	0.25	0.23	101	12
113	13.42	13.41	33.362	25.047	293.7	0.427	5.40	90.9	3.3	0.48	2.6	0.02	0.00	0.17	0.18	114	11
125	12.79	12.77	33.372	25.181	281.2	0.461	5.28	87.7	4.3	0.58	4.5	0.00	0.00	0.11	0.13	126	10
140	11.89	11.87	33.373	25.354	264.9	0.502	5.09	83.0	6.3	0.75	7.5	0.00	0.00	0.09	0.08	141	09
150 ISL	11.21 D	11.19	33.377 D	25.482	252.8	0.532	4.85 D	78.0	9.0	0.93	10.4	0.00	0.00	0.06	0.06	151	
170	10.13	10.11	33.472	25.744	228.0	0.576	4.37	68.6	14.4	1.30	16.1	0.00	0.00	0.01	0.02	171	08
200	9.40	9.37	33.710	26.052	199.2	0.641	4.14	64.1	19.3	1.47	19.4	0.00	0.00	0.00	0.01	202	07
229	8.80	8.78	33.910	26.304	175.7	0.695	3.60	55.0	26.8	1.73	23.7	0.00	0.00			231	06
250 ISL	8.45 D	8.43	33.955 D	26.393	167.5	0.736	3.31 D	50.2	30.7	1.86	25.6	0.00	0.00			252	
270	8.05	8.02	33.984	26.477	159.7	0.764	3.02	45.4	34.5	1.99	27.4	0.00	0.00			272	05
300 ISL	7.67 D	7.64	33.995 D	26.541	153.9	0.816	2.57 D	38.3	40.1	2.16	29.8	0.00	0.00			302	
320	7.43	7.39	34.007	26.587	149.8	0.841	2.35	34.8	43.8	2.28	31.4	0.00	0.00			322	04
381	6.62	6.58	34.051	26.732	136.4	0.928	1.54	22.4	56.9	2.64	36.1	0.00	0.00			384	03
400 ISL	6.48 D	6.44	34.075 D	26.770	133.1	0.961	1.24 D	18.0	60.2	2.72	37.0	0.00	0.00			403	
440	6.20	6.16	34.119	26.842	126.6	1.006	0.95	13.7	67.2	2.88	38.8	0.00	0.00			444	02
500 ISL	5.74 D	5.70	34.158 D	26.930	118.6	1.088	0.66 D	9.4	76.0	3.01	40.4	0.00	0.00			504	
516	5.62	5.58	34.167	26.952	116.6	1.098	0.60	8.5	78.4	3.05	40.8	0.00	0.00			520	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1110 STATION 93.4 26.4

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
32 57.1 N	117 17.0 W	17/10/2011	0925 UTC	24 m	310 08 kn	290 01 06	1	1014.1 mb	18.3 C	17.0 C		4/8	SC	002

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	16.23	16.23	33.330	24.412	350.8	0.000	5.79	103.3	4.0	0.20	0.1	0.00	0.10	14.35	0.88	0	
2	16.23	16.23	33.330	24.412	350.8	0.007	5.79	103.3	4.0	0.20	0.1	0.00	0.10	14.35	0.88	2	05
5	15.28	15.28	33.334	24.628	330.3	0.017	5.47 D	95.8	4.0	0.18	0.1	0.00	0.04	10.23	0.41	5	04
10	12.76	12.76	33.250	25.087	286.8	0.033	4.38	72.7	7.8	0.64	0.3	0.02	0.24	0.87	0.18	10	03
14	11.98	11.98	33.286	25.263	270.2	0.044	4.08	66.7	10.1	0.85	0.8	0.03	0.08	0.38	0.15	14	02
18	11.94	11.94	33.278	25.264	270.2	0.055	4.10	66.9	10.1	0.86	1.3	0.03	0.10	0.38	0.12	18	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

RV NEW HORIZON — CALCOFI CRUISE 1110 — STATION 76.7 49.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE	ORD
35 5.3 N	120 46.8 W	02/11/2011	0319 UTC	13 m	1158 - 1738 PST	1147 PST	1733 PST	139.9 mg C/m2	075

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	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
2	14.01	33.369	24.926	5.75	98.1	3.9	0.57	3.7	0.17	0.05	2.06	0.42	79. A	5.6	5.8	5.7	0.19
5	13.71	33.369	24.988	5.54	94.0	4.4	0.65	4.6	0.21	0.12	2.41	0.34					
8	13.43	33.371	25.047	5.31	89.5	5.2	0.73	5.9	0.25	0.28	1.66	0.40	39.	2.4	6.2	4.3	0.16
12	13.10	33.359	25.102	5.15	86.2	5.8	0.80	6.7	0.28	0.38	1.13	0.36	24.	5.2	4.9	5.0	0.14
22	12.66	33.392	25.216	4.82	79.9	8.3	0.96	8.7	0.29	0.59	0.72	0.40	7.4	3.2	2.8	3.0	0.76
30	12.39	33.376	25.256	4.68	77.2	8.7	1.03	9.8	0.34	0.52	0.40	0.23					
39	11.94	33.389	25.351	4.49	73.3	10.1	1.12	11.4	0.31	0.42	0.26	0.18	1.00	1.1	0.98	1.1	0.20
45	11.41	33.431	25.483	4.17	67.3	12.8	1.29	14.2	0.27	0.18	0.18	0.17	0.49	0.44	0.46	0.45	0.14

RV NEW HORIZON — CALCOFI CRUISE 1110 — STATION 76.7 90.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE	ORD
33 43.5 N	123 38.6 W	31/10/2011	2314 UTC	17 m	1158 - 1743 PST	1158 PST	1743 PST	831.7 mg C/m2	069

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	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
2	17.54	33.485	24.225	5.51	100.9	1.0	0.29	0.2	0.00	0.05	0.28	0.08	83. A	53.5	49.3	51.4	0.40
11	17.54	33.485	24.224	5.52	101.0	0.9	0.29	0.1	0.00	0.04	0.25	0.07	37.	34.5	13.5	24.0	0.25
15	17.55	33.486	24.224	5.51	100.9	0.9	0.28	0.1	0.00	0.04	0.26	0.07	26.	21.7	24.1	22.9	0.21
26	17.55	33.486	24.225	5.51	100.9	0.8	0.28	0.1	0.00	0.07	0.26	0.07	9.6	9.2	9.1	9.1	0.21
39	15.19	33.297	24.621	5.81	101.4	2.3	0.38	0.8	0.10	0.10	1.17	0.47					
50	11.89	33.283	25.279	5.04	82.1	7.0	1.00	10.4	0.06	0.00	0.56	0.50	1.1	0.61	0.55	0.58	0.15
59	11.36	33.327	25.411	4.64	74.8	10.3	1.22	13.9	0.02	0.00	0.31	0.40	0.49	0.12	0.09	0.10	0.15

RV NEW HORIZON — CALCOFI CRUISE 1110 — STATION 80.0 60.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE	ORD
34 9.1 N	121 9.2 W	30/10/2011	0139 UTC	20 m	1148 - 1743 PST	1148 PST	1743 PST	206.6 mg C/m2	063

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	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
3	17.74	33.387	24.103	5.52	101.5	1.1	0.27	0.1	0.00	0.00	0.16	0.04	79. A	4.6	4.9	4.7	0.14
10	17.72	33.383	24.104	5.51	101.2	1.0	0.27	0.1	0.00	0.00	0.17	0.05					
13	17.72	33.384	24.104	5.51	101.2	1.0	0.27	0.1	0.00	0.00	0.17	0.04	37.	2.3	4.5	3.4	0.16
17	17.71	33.387	24.110	5.53	101.5	1.1	0.27	0.1	0.00	0.00	0.18	0.04	27.	4.5	4.0	4.3	0.13
31	17.65	33.393	24.131	5.53	101.3	0.9	0.27	0.1	0.00	0.00	0.20	0.05	9.3	3.4	3.3	3.4	0.16
41	15.88	33.347	24.508	5.74	101.6	1.3	0.32	0.5	0.07	0.01	0.55	0.21					
50	14.17	33.354	24.883	5.53	94.6	2.4	0.60	4.3	0.50	0.01	0.56	0.35					
60	12.13	33.215	25.182	5.37	88.0	4.5	0.76	6.9	0.06	0.00	0.37	0.39	1.00	1.8	1.6	1.7	0.07
69	11.44	33.338	25.406	4.70	76.0	9.1	1.13	12.9	0.00	0.00	0.19	0.22	0.50	0.55	0.47	0.51	0.10

RV NEW HORIZON — CALCOFI CRUISE 1110 — STATION 80.0 90.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE	ORD
33 9.0 N	123 13.4 W	31/10/2011	0249 UTC	16 m	1157 - 1752 PST	1157 PST	1752 PST	162.0 mg C/m2	666

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	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
2	17.62	33.379	24.124	5.54	101.6	0.9	0.29	0.1	0.00	0.00	0.25	0.05	83. A	5.8	5.7	5.7	0.13
12	17.63	33.375	24.121	5.55	101.7	1.0	0.28	0.1	0.00	0.00	0.26	0.05	32.	2.6	5.2	3.9	0.13
14	17.63	33.375	24.121	5.53	101.3	0.3	0.27	0.1	0.00	0.00	0.24	0.06	26.	4.6	5.1	4.9	0.14
25	17.62	33.383	24.128	5.54	101.6	0.5	0.27	0.1	0.00	0.01	0.25	0.06	9.1	2.8	3.0	2.9	0.16
49	13.29	33.399	25.099	5.26	88.3	3.5	0.80	7.4	0.32	0.00	0.71	0.35	0.91	1.1	0.98	1.0	0.15
55	12.72	33.410	25.220	4.90	81.5	5.9	1.02	10.9	0.15	0.00	0.64	0.40	0.51	0.37	0.34	0.35	0.15

RV NEW HORIZON — CALCOFI CRUISE 1110 — STATION 83.3 40.6

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE	ORD
34 13.5 N	119 24.6 W	29/10/2011	0228 UTC	16 m	1141 - 1736 PST	1141 PST	1736 PST	644.3 mg C/m2	056

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	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
2	16.49	33.454	24.447	5.92	106.2	1.0	0.31	0.1	0.00	0.03	0.75	0.14	83. A	22.0	20.4	21.2	0.26
5	16.39	33.444	24.464	5.96	106.7	1.0	0.30	0.2	0.00	0.04	0.77	0.15					
10	15.97	33.423	24.543	5.84	103.7	2.0	0.38	0.9	0.04	0.07	1.04	0.25	38.	32.1	31.4	31.7	0.27
14	15.94	33.423	24.550	5.82	103.2	2.0	0.39	1.0	0.04	0.05	0.98	0.24	26.	34.6	30.6	32.6	0.26
25	14.01	33.367	24.925	5.22	89.1	4.7	0.70	5.1	0.27	0.42	0.74	0.26	9.1	12.9	11.9	12.4	0.21
30	13.72	33.354	24.975	5.04	85.5	5.9	0.78	6.2	0.30	0.53	0.61	0.33	5.6	2.0	1.3	1.7	0.18

A) INCUBATION LIGHT INTENSITIES WERE 55, 35, 25, 8.7, 1.0 AND 0.5 PERCENT RESPECTIVELY.

RV NEW HORIZON CALCOFI CRUISE 1110 STATION 83.3 70.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE	ORD
33 14.7 N	121 27.2 W	28/10/2011	0230 UTC	28 m	1149 - 1746 PST	1150 PST	1741 PST	278.2 mg C/m2	051

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	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
2	17.65	33.220D	23.995	5.60	102.6	1.5	0.28	0.0	0.00	0.00	0.12	0.04	90. A	2.6	2.6	2.6	0.14
10	17.60	33.225	24.013	5.54	101.4	1.5	0.27	0.0	0.00	0.00	0.13	0.04					
19	17.59	33.222	24.014	5.54	101.4	1.3	0.27	0.0	0.00	0.00	0.14	0.04	35.	2.9	3.0	3.0	0.17
25	17.53	33.226	24.030	5.55	101.4	1.3	0.27	0.0	0.00	0.01	0.15	0.04	25.	3.0	2.8	2.9	0.16
35	16.64	33.203	24.224	5.75	103.2	1.4	0.28	0.0	0.00	0.00	0.23	0.10					
45	13.89	33.121	24.761	6.10	103.6	1.9	0.30	0.0	0.00	0.00	0.38	0.26	8.5	4.8	5.2	5.0	0.13
58	13.31	33.166	24.915	5.89	98.9	2.3	0.34	0.4	0.07	0.00	0.44	0.35					
71	13.21	33.189	24.954	5.82	97.5	2.5	0.38	0.9	0.16	0.00	0.36	0.30					
84	12.44	33.228	25.134	5.57	91.9	3.5	0.49	2.9	0.14	0.00	0.24	0.26	1.00	1.2	0.96	1.1	0.10
90	12.24	33.217	25.165	5.55	91.1	3.9	0.54	3.6	0.08	0.00	0.22	0.22					
98	10.82	33.243	25.444	5.36	85.4	5.4	0.68	5.9	0.03	0.00	0.16	0.17	0.46	0.35	0.30	0.33	0.07

RV NEW HORIZON CALCOFI CRUISE 1110 STATION 83.3 110.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE	ORD
31 54.6 N	124 10.2 W	27/10/2011	0114 UTC	24 m	1200 - 1754 PST	1200 PST	1753 PST	130.6 mg C/m2	047

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	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
3	18.47	33.171	23.759	5.44	101.2	1.4	0.29	0.0	0.00	0.00	0.13	0.04	83. A	1.7	1.9	1.8	0.10
10	18.47	33.169	23.757	5.47	101.8	1.3	0.28	0.0	0.00	0.00	0.13	0.04					
16	18.47	33.169	23.757	5.44	101.3	1.3	0.28	0.0	0.00	0.00	0.14	0.04	36.	2.3	2.4	2.4	0.12
22	18.47	33.171	23.759	5.44	101.2	1.3	0.28	0.0	0.00	0.00	0.13	0.03	24.	2.3	2.4	2.3	0.12
38	18.47	33.177	23.765	5.45	101.4	1.3	0.28	0.0	0.00	0.00	0.14	0.04	8.8	1.8	1.7	1.7	0.11
49	18.08	33.169	23.855	5.44	100.5	1.2	0.28	0.0	0.00	0.00	0.14	0.04					
60	15.97	33.083	24.285	5.96	105.5	1.1	0.30	0.0	0.00	0.00	0.24	0.12					
72	14.23	33.035	24.626	6.06	103.5	1.5	0.32	0.0	0.00	0.00	0.28	0.19	1.00	0.87	0.81	0.84	0.05
84	13.64	33.037	24.749	5.96	100.6	1.6	0.36	0.2	0.04	0.03	0.30	0.28	0.46	0.41	0.37	0.39	0.07

RV NEW HORIZON CALCOFI CRUISE 1110 STATION 86.7 33.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE	ORD
33 53.2 N	118 29.6 W	24/10/2011	0151 UTC	11 m	1138 - 1738 PST	1138 PST	1737 PST	525.1 mg C/m2	033

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	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
2	16.78	33.369	24.316	6.61	119.2	1.0	0.22	0.1	0.00	0.00	2.88	0.15	76. A	35.0	43.2	39.1	0.39
5	16.64	33.365	24.345	6.58	118.2	0.9	0.19	0.1	0.00	0.00	1.42	0.16					
8	16.14	33.358	24.454	6.31	112.4	1.2	0.25	0.1	0.00	0.00	0.86	0.21	33.	16.3	15.8	16.0	0.30
10	15.51	33.350	24.590	6.09	107.1	1.5	0.29	0.1	0.00	0.00	0.94	0.26	25.	15.7	18.3	17.0	0.21
18	12.87	33.286	25.093	5.28	87.9	3.9	0.56	0.8	0.10	0.00	1.81	0.51	8.1	15.9	15.1	15.5	0.27
26	11.93	33.304	25.288	4.58	74.7	8.7	1.07	11.7	0.38	0.08	0.65	0.46					
33	11.50	33.354	25.406	4.33	70.0	10.9	1.21	14.1	0.14	0.20	0.38	0.31	1.00	0.22	0.15	0.19	0.44
38	11.34	33.377	25.453	4.21	67.9	11.6	1.27	14.9	0.02	0.00	0.26	0.25	0.50	0.17	0.19	0.18	0.07

RV NEW HORIZON CALCOFI CRUISE 1110 STATION 86.7 55.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE	ORD
33 9.5 N	120 0.2 W	25/10/2011	0318 UTC	16 m	1206 - 1745 PST	1144 PST	1743 PST	491.0 mg C/m2	040

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	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
2	15.61	33.354	24.571	5.96	105.0	0.3	0.26	0.1	0.00	0.22	0.52	0.17	83. A	13.6	13.9	13.7	0.21
11	15.24	33.335	24.638	6.00	104.8	0.1	0.28	0.1	0.00	0.00	0.75	0.23	35.	17.8	17.1	17.4	0.22
14	15.12	33.329	24.660	6.00	104.6	0.1	0.27	0.1	0.00	0.00	0.93	0.34	26.	18.2	19.0	18.6	0.22
24	13.90	33.284	24.885	5.72	97.3	1.6	0.45	1.7	0.12	0.51	0.85	0.52	10.0	9.9	10.0	10.0	0.13
36	12.53	33.251	25.133	5.26	86.9	5.2	0.76	6.1	0.21	0.59	0.38	0.41					
48	10.98	33.208	25.386	5.04	80.6	8.9	1.01	11.0	0.04	0.00	0.15	0.27	1.00	0.47	0.38	0.43	0.08
54	10.95	33.355	25.507	4.47	71.5	12.4	1.25	14.6	0.06	0.00	0.10	0.22	0.56	0.13	0.14	0.14	0.07

RV NEW HORIZON CALCOFI CRUISE 1110 STATION 86.7 90.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE	ORD
31 59.3 N	122 24.4 W	26/10/2011	0304 UTC	28 m	1205 - 1755 PST	1154 PST	1754 PST	180.4 mg C/m2	044

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	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
2	18.50	33.200	23.773	5.45	101.5	1.4	0.28	0.1	0.00	0.34	0.14	0.03	90. A	2.4	2.5	2.5	0.15
10	18.31	33.198	23.819	5.47	101.5	1.2	0.28	0.0	0.00	0.00	0.11	0.02					
19	18.04	33.195	23.882	5.51	101.7	1.2	0.28	0.0	0.00	0.00	0.12	0.04	35.	2.9	2.9	2.9	0.08
25	17.71	33.219	23.983	5.59	102.5	1.2	0.27	0.0	0.00	0.00	0.13	0.03	25.	2.7	2.9	2.8	0.14
35	17.39	33.234	24.071	5.61	102.3	1.0	0.28	0.0	0.00	0.00	0.16	0.05					
45	14.42	33.082	24.622	6.10	104.7	1.5	0.32	0.0	0.00	0.00	0.21	0.14	8.5	2.4	2.4	2.4	0.12
58	13.55	33.086	24.805	5.94	100.1	2.1	0.39	0.4	0.05	0.00	0.35	0.33					
71	12.35	33.181	25.114	5.41	89.0	4.2	0.66	5.1	0.05	0.00	0.22	0.28					
84	11.75	33.196	25.240	5.26	85.5	5.5	0.76	6.9	0.00	0.00	0.16	0.22	1.00	0.56	0.56	0.56	0.07
90	11.38	33.285	25.376	4.95	79.8	8.0	0.98	10.5	0.00	0.00	0.10	0.18					
98	10.83	33.308	25.492	4.89	77.9	9.5	1.04	11.6	0.00	0.00	0.07	0.11	0.46	0.13	0.13	0.13	0.08

A) INCUBATION LIGHT INTENSITIES WERE 55, 35, 25, 8.7, 1.0 AND 0.5 PERCENT RESPECTIVELY.

PRIMARY PRODUCTIVITY CASTS

RV NEW HORIZON — CALCOFI CRUISE 1110 — STATION 90.0 45.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE	ORD
32 54.8 N	118 56.0 W	23/10/2011	0221 UTC	21 m	1140 - 1738 PST	1140 PST	1737 PST	396.6 mg C/m2	026

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	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
2	17.60	33.383	24.132	5.56	101.8	0.8	0.28	0.1	0.00	0.03			86. A	5.6	5.3	5.5	0.16
8	17.52	33.387	24.156	5.61	102.6	0.9	0.27	0.1	0.00	0.01	0.29	0.08					
14	17.19	33.377	24.226	5.62	102.2	0.9	0.29	0.1	0.00	0.04	0.63	0.21	36.	7.6	8.2	7.9	0.21
19	17.16	33.390	24.244	5.65	102.6	0.9	0.27	0.1	0.00	0.00	0.44	0.17	25.	7.8	8.3	8.1	0.16
26	16.86	33.389	24.315	5.68	102.5	0.9	0.28	0.1	0.00	0.02	0.55	0.19					
33	16.11	33.340	24.450	5.80	103.2	0.7	0.28	0.1	0.03	0.00	0.73	0.26	9.0	9.4	8.6	9.0	0.14
43	13.78	33.185	24.832	5.67	96.2	2.5	0.46	1.9	0.34	0.00	0.42	0.33					
54	12.69	33.225	25.082	5.27	87.4	5.2	0.74	6.2	0.10	0.00	0.20	0.23					
63	12.30	33.268	25.192	5.01	82.4	6.9	0.87	8.5	0.06	0.00	0.17	0.16	1.00	0.50	0.47	0.48	0.00
72	12.01	33.312	25.280	4.86	79.5	8.3	0.98	10.2	0.06	0.00	0.15	0.16	0.52	0.16	0.14	0.15	0.06

RV NEW HORIZON — CALCOFI CRUISE 1110 — STATION 90.0 80.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE	ORD
31 45.3 N	121 19.2 W	22/10/2011	0010 UTC	26 m	1147 - 1747 PST	1148 PST	1747 PST	102.4 mg C/m2	022

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	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
3	18.51	33.244	23.803	5.42	101.0	1.7	0.29	0.0	0.00	0.00	0.15	0.04	84. A	2.7	2.8	2.7	0.10
10	18.51	33.244	23.804	5.41	100.8	1.5	0.28	0.0	0.00	0.00	0.15	0.04					
18	18.51	33.247	23.807	5.42	100.9	1.4	0.29	0.0	0.00	0.00	0.15	0.04	35.	2.2	2.2	2.2	0.13
23	18.51	33.243	23.804	5.42	100.9	1.4	0.29	0.0	0.00	0.00	0.16	0.04	26.	1.8	1.9	1.9	0.16
32	18.50	33.248	23.811	5.43	101.1	1.4	0.28	0.1	0.00	0.00	0.16	0.04					
40	18.48	33.242	23.813	5.43	101.0	1.3	0.28	0.0	0.00	0.00	0.16	0.05	9.4	0.95	0.90	0.93	0.09
53	15.66	33.206	24.448	5.94	104.6	1.6	0.26	0.0	0.00	0.00	0.24	0.08					
65	14.90	33.283	24.675	5.96	103.5	2.1	0.25	0.0	0.00	0.00	0.24	0.11					
77	14.33	33.348	24.848	5.86	100.5	2.1	0.27	0.1	0.00	0.00	0.20	0.20	1.1	0.27	0.19	0.23	0.08
84	13.66	33.287	24.938	5.82	98.5	2.2	0.29	0.0	0.00	0.02	0.20	0.22					
91	13.44	33.305	24.998	5.77	97.3	2.3	0.32	0.2	0.03	0.02	0.20	0.22	0.46	0.06	0.10	0.08	0.11

RV NEW HORIZON — CALCOFI CRUISE 1110 — STATION 90.0 110.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE	ORD
30 45.1 N	123 20.8 W	21/10/2011	0122 UTC	25 m	1156 - 1800 PST	1158 PST	1758 PST	98.7 mg C/m2	019

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	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
2	19.19	33.301	23.676	5.37	101.4	1.1	0.30	0.1	0.00	0.00	0.10	0.03	88. A	2.5	2.3	2.4	0.05
10	19.19	33.301	23.676	5.35	101.0	1.3	0.29	0.1	0.00	0.00	0.10	0.03					
17	19.20	33.300	23.675	5.47	103.3	1.2	0.30	0.1	0.00	0.00	0.10	0.02	35.	0.68	0.68	0.68	0.12
21	19.18	33.300	23.679	5.36	101.2	1.1	0.29	0.1	0.00	0.03	0.10	0.03	28.	1.6	1.5	1.6	0.18
30	18.36	33.192	23.804	5.48	101.8	1.3	0.28	0.1	0.00	0.00	0.14	0.04					
40	17.25	33.163	24.051	5.61	101.9	1.1	0.29	0.1	0.00	0.00	0.18	0.05	8.6	1.4	1.5	1.4	0.08
52	15.33	33.129	24.461	5.92	103.6	1.4	0.31	0.1	0.00	0.00	0.26	0.15					
64	14.73	33.119	24.585	5.91	102.1	1.4	0.36	0.5	0.09	0.09	0.38	0.28					
75	13.23	33.076	24.863	5.80	97.2	2.2	0.44	1.2	0.53	0.00	0.36	0.35	1.00	0.49	0.57	0.53	0.04
86	12.53	33.103	25.021	5.73	94.6	2.9	0.49	2.3	0.15	0.00	0.21	0.21	0.51	0.15	0.18	0.17	0.03

RV NEW HORIZON — CALCOFI CRUISE 1110 — STATION 93.3 35.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE	ORD
32 40.7 N	117 52.6 W	18/10/2011	0123 UTC	18 m	1139 - 1747 PST	1137 PST	1744 PST	518.9 mg C/m2	006

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	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
2	18.24	33.494	24.062	6.06	112.4	0.8	0.24	0.0	0.00	0.03	0.88	0.11	84. A	14.8	15.2	15.0	0.37
12	17.98	33.493	24.124	5.99	110.6	0.6	0.26	0.0	0.00	0.24	0.36	0.10	36.	10.8	11.7	11.2	0.30
16	16.91	33.507	24.392	5.94	107.5	0.9	0.29	0.0	0.00	0.03	0.33	0.10	26.	11.8	10.2	11.0	0.29
22	16.10	33.488	24.565	5.92	105.3	1.7	0.38	0.2	0.01	0.02	0.64	0.21					
29	13.94	33.400	24.965	5.30	90.2	2.8	0.65	4.1	0.40	0.32	0.78	0.32	8.4	11.5	13.0	12.3	0.22
36	13.36	33.346	25.043	5.06	85.1	4.6	0.82	7.1	0.24	0.05	0.65	0.29					
45	11.84	33.292	25.296	4.89	79.6	7.7	0.99	10.0	0.06	0.00	0.36	0.22					
54	11.04	33.294	25.443	4.56	73.0	11.0	1.17	13.2	0.03	0.00	0.19	0.22	1.00	0.42	0.55	0.49	0.11
62	10.72	33.348	25.541	4.34	69.1	13.0	1.29	15.0	0.02	0.01	0.14	0.13	0.51	0.23	0.29	0.26	0.05

A) INCUBATION LIGHT INTENSITIES WERE 55, 35, 25, 8.7, 1.0 AND 0.5 PERCENT RESPECTIVELY.

PRIMARY PRODUCTIVITY CASTS

RV NEW HORIZON CALCOFI CRUISE 1110 STATION 93.3 70.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE	ORD
31 30.6 N	120 15.3 W	19/10/2011	0249 UTC	27 m	1148 - 1150 PST	1146 PST	1753 PST	773.9 mg C/m2	012

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	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
2	18.67	33.245	23.766	5.45	101.8	1.4	0.30	0.0	0.00	0.18	0.13	0.03	89. A	14.7	15.2	15.0	0.30
10	18.67	33.245	23.766	5.42	101.3	1.5	0.30	0.1	0.00	0.27	0.13	0.03					
18	18.65	33.244	23.770	5.45	101.8	1.3	0.29	0.1	0.00	0.07	0.14	0.03	36.	10.7	11.6	11.2	0.30
24	18.20	33.247	23.884	5.51	102.1	1.2	0.29	0.0	0.00	0.00	0.22	0.06	26.	11.7	10.1	11.0	0.20
34	17.36	33.253	24.092	5.59	101.9	1.3	0.29	0.0	0.00	0.12	0.27	0.08					
43	15.38	33.201	24.507	5.95	104.2	1.3	0.32	0.0	0.00	0.11	0.50	0.30	8.7	11.5	12.9	12.3	0.20
56	14.13	33.279	24.835	6.02	102.9	2.4	0.46	1.0	0.03	0.16	0.63	0.36					
69	13.08	33.294	25.061	5.33	89.1	4.7	0.74	5.9	0.25	0.05	0.40	0.42					
81	12.01	33.356	25.315	4.72	77.2	8.4	1.02	10.9	0.01	0.04	0.16	0.20	1.00	0.40	0.50	0.49	0.10
93	11.33	33.418	25.489	4.32	69.7	12.1	1.25	14.5	0.00	0.00	0.08	0.11	0.51	0.20	0.20	0.26	

RV NEW HORIZON CALCOFI CRUISE 1110 STATION 93.3 110.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE	ORD
30 12.0 N	122 53.8 W	20/10/2011	0410 UTC	29 m	1253 - 1804 PST	1157 PST	1804 PST	108.4 mg C/m2	016

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	NH4 uM/l	CHL-A ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
2	19.46	33.261	23.577	5.36	101.6	1.5	0.29	0.1	0.00	0.00	0.11	0.03	90. A	1.8	1.6	1.7	0.06
11	19.34	33.258	23.607	5.41	102.3	1.4	0.29	0.1	0.00	0.02	0.09	0.02					
20	19.30	33.256	23.617	5.38	101.6	1.3	0.29	0.0	0.00	0.00	0.10	0.02	35.	1.7	1.7	1.7	0.12
26	19.11	33.244	23.657	5.42	102.2	1.3	0.28	0.0	0.00	0.00	0.09	0.02	25.	1.5	1.4	1.5	0.19
37	19.06	33.245	23.670	5.44	102.4	1.4	0.28	0.0	0.00	0.00	0.10	0.02					
46	18.09	33.240	23.907	5.42	100.2	1.2	0.29	0.0	0.00	0.00	0.14	0.04	8.8	1.2	1.2	1.2	0.15
61	17.00	33.468	24.345	5.82	105.5	1.8	0.21	0.0	0.00	0.00	0.19	0.05					
74	15.63	33.417	24.619	5.92	104.4	1.8	0.22	0.0	0.00	0.00	0.22	0.10					
87	15.02	33.462	24.788	5.90	102.7	2.1	0.22	0.0	0.00	0.00	0.22	0.16	1.00	0.53	0.37	0.45	0.05
94	14.48	33.462	24.904	5.82	100.2	2.3	0.25	0.0	0.00	0.00	0.19	0.21					
100	14.26	33.511	24.990	5.70	97.7	2.5	0.30	0.1	0.03	0.06	0.22	0.18	0.50	0.28	0.28	0.28	0.02

A) INCUBATION LIGHT INTENSITIES WERE 55, 35, 25, 8.7, 1.0 AND 0.5 PERCENT RESPECTIVELY.

CalCOFI Cruise 1110

MACROZOOPLANKTON BIOMASS
Net Mesh Size: 0.505mm

Line	Sta.	Latitude N	Longitude W	Date Mo/Day	Time (PST) Start	End	Water Volume Strained (m^3)	Max. Tow Depth (m)	Volume per 1000 m^3 Strained Total (cm^3)	Small (cm^3)
76.7	49.0	35 05.3	120 24.3	11/01	1204	1211	152	59	315	282
76.7	51.0	35 01.3	120 08.0	11/01	0933	0952	413	168	281	281
76.7	55.0	34 53.2	119 19.5	11/01	0604	0625	436	207	112	112
76.7	60.0	34 43.4	119 24.7	11/01	0141	0204	446	211	323	222
76.7	90.0	33 43.1	119 30.5	10/31	0623	0644	426	208	216	216
76.7	100.0	33 23.0	119 48.0	10/31	0034	0057	466	208	54	54
80.0	50.5	34 27.7	120 01.4	10/28	2234	2236	55	21	236	236
80.0	51.0	34 26.9	120 29.2	10/29	0014	0020	126	48	279	239
80.0	55.0	34 19.0	120 31.4	10/29	0406	0427	415	214	282	125
80.0	60.0	34 09.0	120 48.3	10/29	1102	1124	442	210	95	95
80.0	70.0	33 49.1	121 08.9	10/29	1734	1754	412	217	70	70
80.0	80.0	33 29.0	121 50.5	10/30	0137	0200	475	203	67	67
80.0	90.0	33 08.9	122 32.0	10/30	0930	0952	457	209	368	368
80.0	100.0	32 49.2	123 13.0	10/30	1650	1711	436	208	218	158
81.7	43.5	34 24.2	123 54.5	10/28	1458	1500	43	14	23	23
81.8	46.9	34 16.5	124 19.2	10/28	1811	1832	408	208	181	181
83.3	39.4	34 15.5	123 38.0	10/28	0848	0849	37	13	27	27
83.3	40.6	34 13.7	121 33.1	10/28	1004	1006	56	21	447	447
83.3	42.0	34 10.7	121 11.8	10/28	1228	1236	161	71	322	322
83.3	51.0	33 52.7	120 55.1	10/28	0327	0335	172	68	116	116
83.3	55.0	33 44.7	120 46.7	10/27	2359	0021	432	211	171	171
83.3	60.0	33 34.7	117 18.4	10/27	1829	1849	409	214	95	95
83.3	70.0	33 14.7	117 17.0	10/27	1150	1213	484	211	29	29
83.3	80.0	32 54.6	117 28.1	10/27	0514	0535	464	213	136	136
83.3	90.0	32 34.3	117 23.7	10/26	2306	2329	473	215	104	104
83.3	100.0	32 14.7	117 32.0	10/26	1531	1555	496	210	12	12
83.3	110.0	31 54.7	117 52.4	10/26	0801	0823	457	214	28	28
85.4	35.8	34 00.7	118 12.8	10/23	1443	1445	39	15	154	154
86.7	33.0	33 53.2	118 33.2	10/23	1055	1059	94	42	202	202
86.7	35.0	33 49.4	118 53.3	10/23	1754	1815	412	208	124	124
86.7	40.0	33 39.7	119 14.0	10/23	2338	0000	445	212	144	144
86.7	45.0	33 29.5	119 34.1	10/24	0412	0433	412	215	131	131
86.7	50.0	33 19.5	120 14.7	10/24	0752	0758	137	47	255	255
86.7	55.0	33 09.5	120 55.0	10/24	1231	1253	420	212	138	138
86.7	60.0	32 59.5	121 35.1	10/24	1655	1717	435	207	90	90
86.7	70.0	32 39.6	122 15.5	10/24	2318	2340	465	208	49	49
86.7	80.0	32 19.5	122 53.5	10/25	0557	0618	455	209	141	55
86.7	90.0	31 59.4	123 35.1	10/25	1205	1229	509	208	55	55
86.7	100.0	31 39.4	123 59.8	10/25	1931	1952	422	218	66	66
86.7	110.0	31 19.3	123 19.9	10/26	0231	0254	464	210	69	69
86.8	32.5	33 53.1	122 39.7	10/23	1205	1207	54	20	93	93
88.5	30.1	33 40.4	121 59.1	10/23	0637	0639	40	14	249	249
90.0	27.7	33 29.6	121 18.8	10/23	0354	0356	46	14	194	194
90.0	28.0	33 29.1	120 38.3	10/23	0258	0303	116	40	113	113
90.0	30.0	33 25.1	119 57.6	10/23	0015	0037	413	210	140	140
90.0	35.0	33 15.1	119 28.9	10/22	2005	2027	420	209	174	174
90.0	37.0	33 11.0	118 56.0	10/22	1706	1728	433	204	139	139
90.0	45.0	32 55.0	118 23.1	10/22	0925	0947	438	204	27	27
90.0	53.0	32 39.1	118 15.1	10/22	0351	0412	413	205	75	75
90.0	60.0	32 25.0	117 54.4	10/21	2111	2133	433	214	55	55
90.0	70.0	32 04.9	117 46.1	10/21	1442	1505	444	214	20	20
90.0	80.0	31 45.0	117 44.9	10/21	0700	0721	429	213	21	21
90.0	90.0	31 24.8	118 05.5	10/21	0134	0156	458	212	33	33
90.0	100.0	31 05.1	118 29.5	10/20	1719	1740	429	213	30	30
90.0	110.0	30 45.1	118 27.1	10/20	0828	0850	442	205	29	29
90.0	120.0	30 25.1	118 49.9	10/20	0224	0246	444	212	18	18
91.7	26.4	33 14.7	118 37.6	10/16	2041	2042	47	10	21	21
93.3	26.7	32 57.3	118 58.3	10/16	1645	1649	100	38	180	180
93.3	28.0	32 54.6	119 19.0	10/17	0215	0237	415	209	130	130
93.3	30.0	32 50.6	119 39.6	10/17	0522	0543	432	207	134	134
93.3	35.0	32 40.7	120 00.3	10/17	0814	0837	479	252	61	61
93.3	40.0	32 30.8	120 20.9	10/17	1341	1403	431	210	86	86
93.3	45.0	32 20.8	121 01.9	10/17	1738	1759	448	214	83	83
93.3	50.0	32 10.8	121 42.8	10/17	2133	2156	434	231	101	101
93.3	55.0	32 00.8	122 23.6	10/18	0145	0207	442	211	54	54
93.3	60.0	31 50.7	123 04.1	10/18	0549	0610	428	212	44	44
93.3	70.0	31 30.7	123 44.7	10/18	1158	1220	449	216	96	96
93.3	80.0	31 10.7	124 10.2	10/18	1944	2005	419	211	45	45
93.3	90.0	30 50.5	123 29.6	10/19	0136	0158	432	214	44	44
93.3	100.0	30 30.8	122 48.6	10/19	0723	0744	445	214	20	20
93.3	110.0	30 11.9	122 07.7	10/19	1301	1323	453	211	20	20
93.3	120.0	29 50.9	121 26.7	10/19	1903	1924	438	214	30	30
93.4	26.4	32 57.1	120 45.3	10/16	1743	1744	38	14	185	185