UNIVERSITY OF CALIFORNIA, SAN DIEGO SCRIPPS INSTITUTION OF OCEANOGRAPHY

data report

CalCOFI Cruise 1210
19 October – 4 November 2012

CC Reference 14 -04
2 June 2014

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 1210* of the California Cooperative Oceanic Fisheries Investigations (CalCOFI) program aboard the RV *New Horizon.* The CalCOFI program was organized in the late 1940's to study the causes of variations in population size of fishes of importance to the State of California. It is carried out by NOAA's National Marine Fisheries Service Southwest Fisheries Science Center, the California Department of Fish and Game, and the Integrative Oceanography Division (IOD) at Scripps Institution of Oceanography (SIO). IOD contributes to this program by investigations of the physical, chemical and biological structure of the California Current. Data from the cruises were collected and processed by personnel of the Integrative Oceanography Division and the Southwest Fisheries Science Center. 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 3161-936) 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 P152. Salinity values were calculated using the algorithms for the Practical Salinity Scale, 1978 (UNESCO, 1981a) and are reported to three decimal places, provided that accepted standards were met.

Dissolved oxygen analyses were performed with an Ocean Data Facility of Scripps Institution of Oceanography designed automated oxygen titrator using photometric end-point detection based on the absorption of 365nm wavelength ultra-violet light. A computer using PC software controlled the titration of the samples and the data logging. The method used a modified Winkler titration following the technique of Carpenter (1965) with modifications by Culberson (1991), but with higher concentrations of thiosulfate solution (50 g/l). Standard KIO3 solutions prepared ashore were run at the beginning of each run. Reagent and sea water blanks were determined to account for presence of oxidizing or reducing materials.

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

Nutrient samples were analyzed at sea using a QuAAtro continuous flow analyzer (SEAL Analytical). Dissolved silicate, nitrate, and nitrite were analyzed using a modification of the method described by Armstrong et al. (1967) and Gordon et al. (1992). Phosphate was measured with a modification of the *Murphy* and *Riley* (1962) protocol and ammonium was analyzed using a modified fluorometric method described by Kerouel and Aminot (1997). Samples were collected in 45ml high-density polypropylene screw top tubes which were acid washed and rinsed with sample three times prior to filling. Standardizations and cadmium-reduction coil efficiency determinations were performed at the beginning of every run. Drift corrections were performed in each run using a high standard inserted before and after sample sets. Samples not analyzed immediately after collection were refrigerated and run the following day.

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 the following µCi; 10.68(Prodo stations 7-38), 9.24(Prodo stations 42, 46), 8.74(Prodo station 50), 7.72(Prodo station 55), 6.86(Prodo stations 62, 66), or 6.64(Prodo station 70) 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). The varied µCi values were due to a constant degradation of specific activity observed throughout the cruise. 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).

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 with a Planktonic Rate Processes in Oligotrophic Ocean Systems (PRPOOS) net. (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.

10) *Lagrangian Drifter Buoys*: Surface Velocity Program (SVP) drifters, drogued at 15 meters depth, were deployed at 4 stations. The drifter observations of position and SST approximately every hour following the 15-meter currents supplement Eulerian current profiles. This will provide new insight into the connection between continental shelf flows and the larger scale California Current located further offshore. Drifter pairs were deployed at 3 of the 4 stations to assess the relative motion of drifter pairs which gives an understanding of energy as a function of spatial scale, 1 station had 3 drifters deployed. Drifter tracks are displayed in near real-time on the web (http://www.icess.ucsb.edu/drifter/realtime-SVP/index.php). (C. Ohlmann, UCSB)

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 1210

1. CalCOFI Cruise 1210 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.

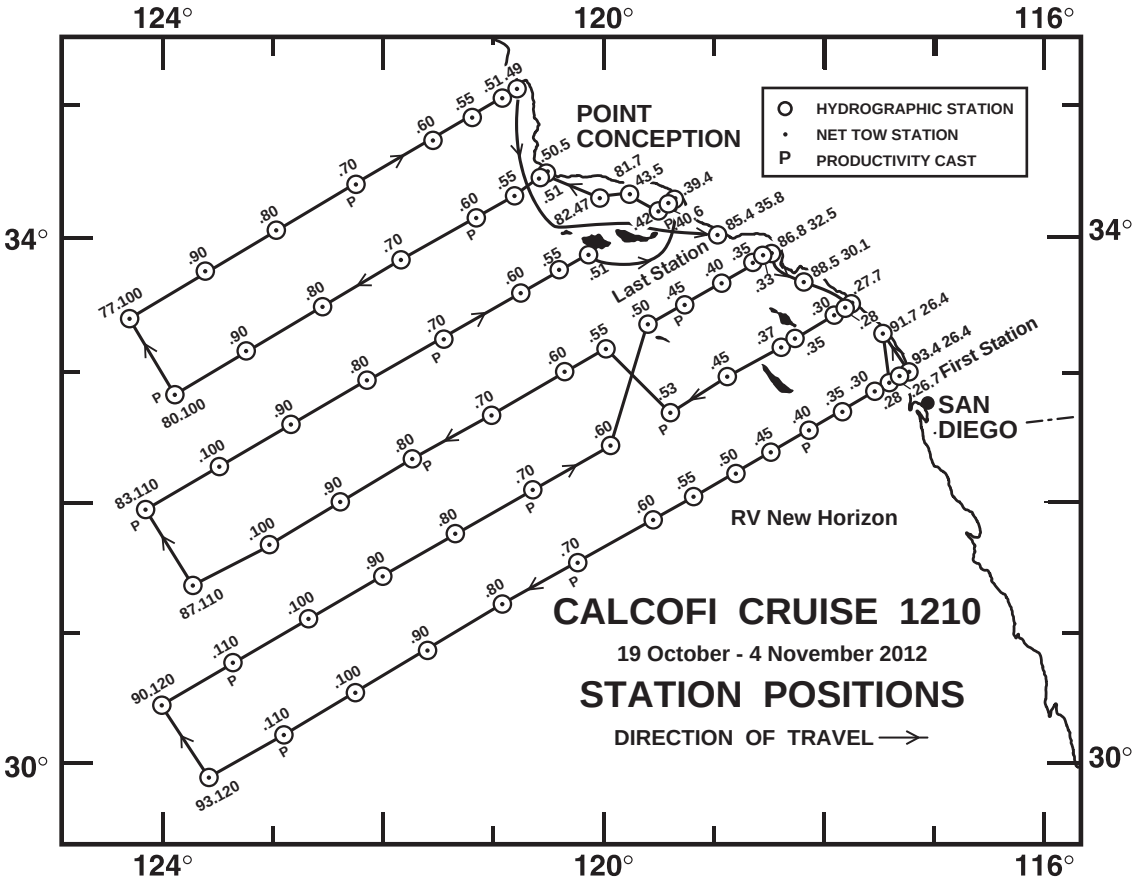

FIGURE 1

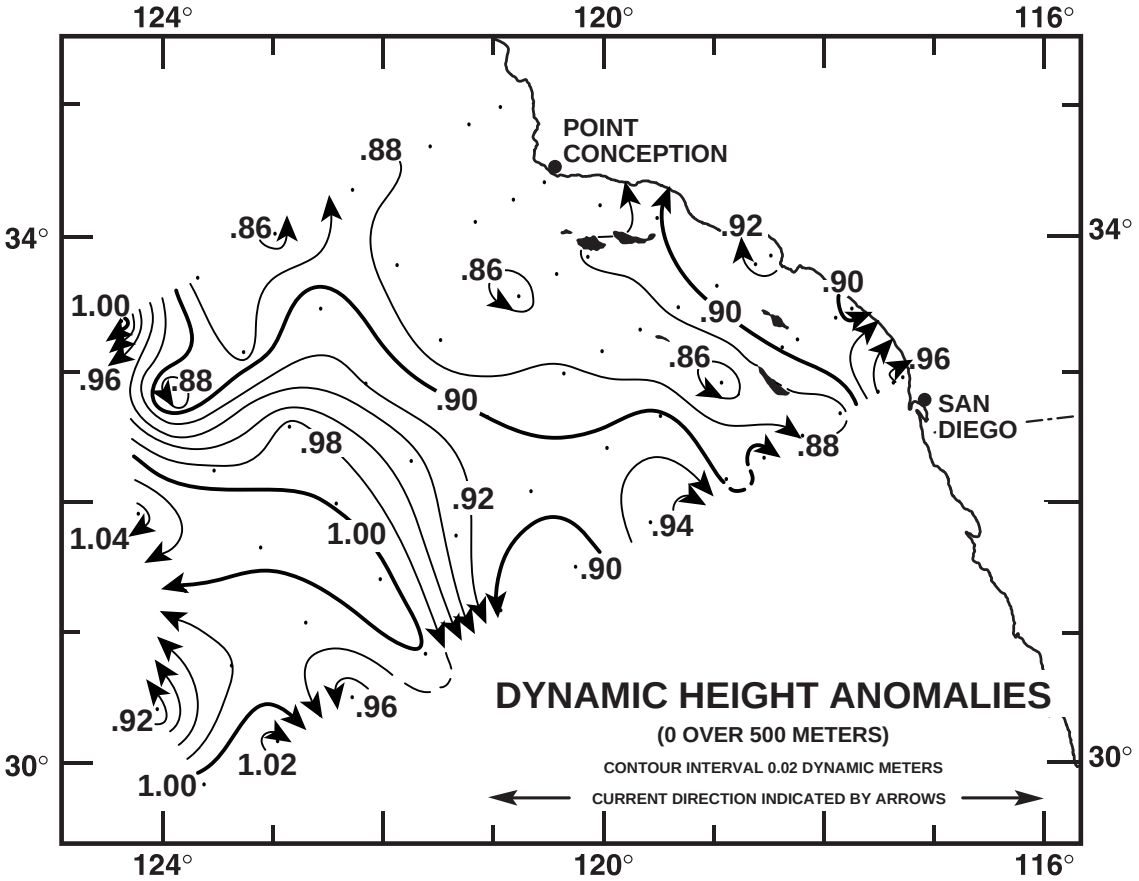

FIGURE 2

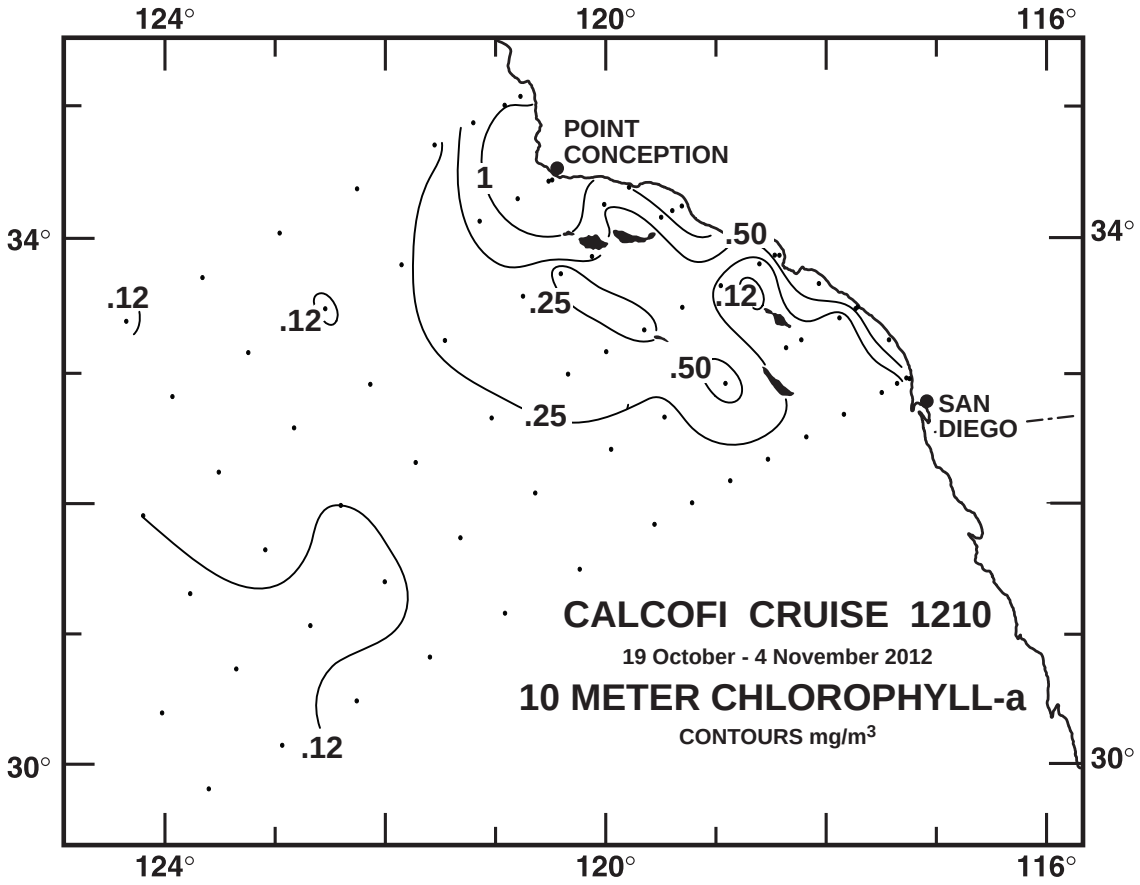

FIGURE 3A

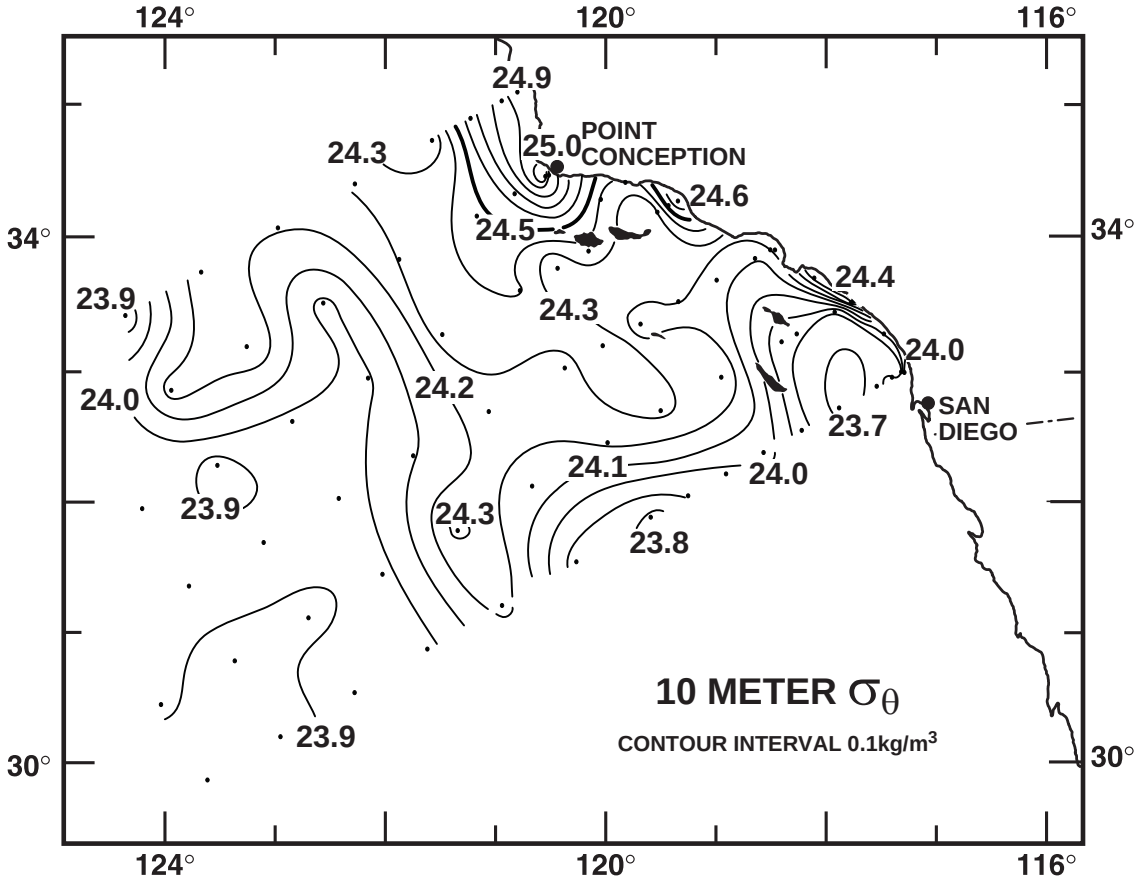

FIGURE 3B

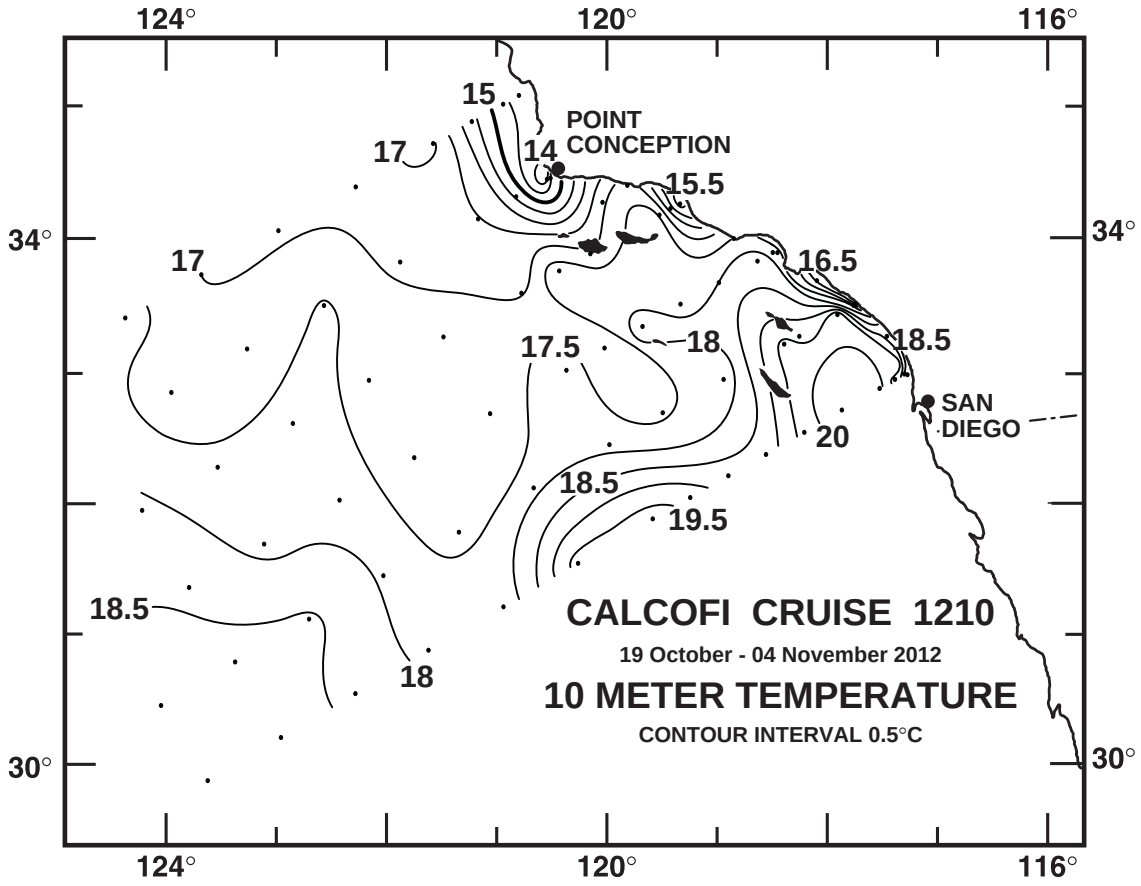

FIGURE 3C

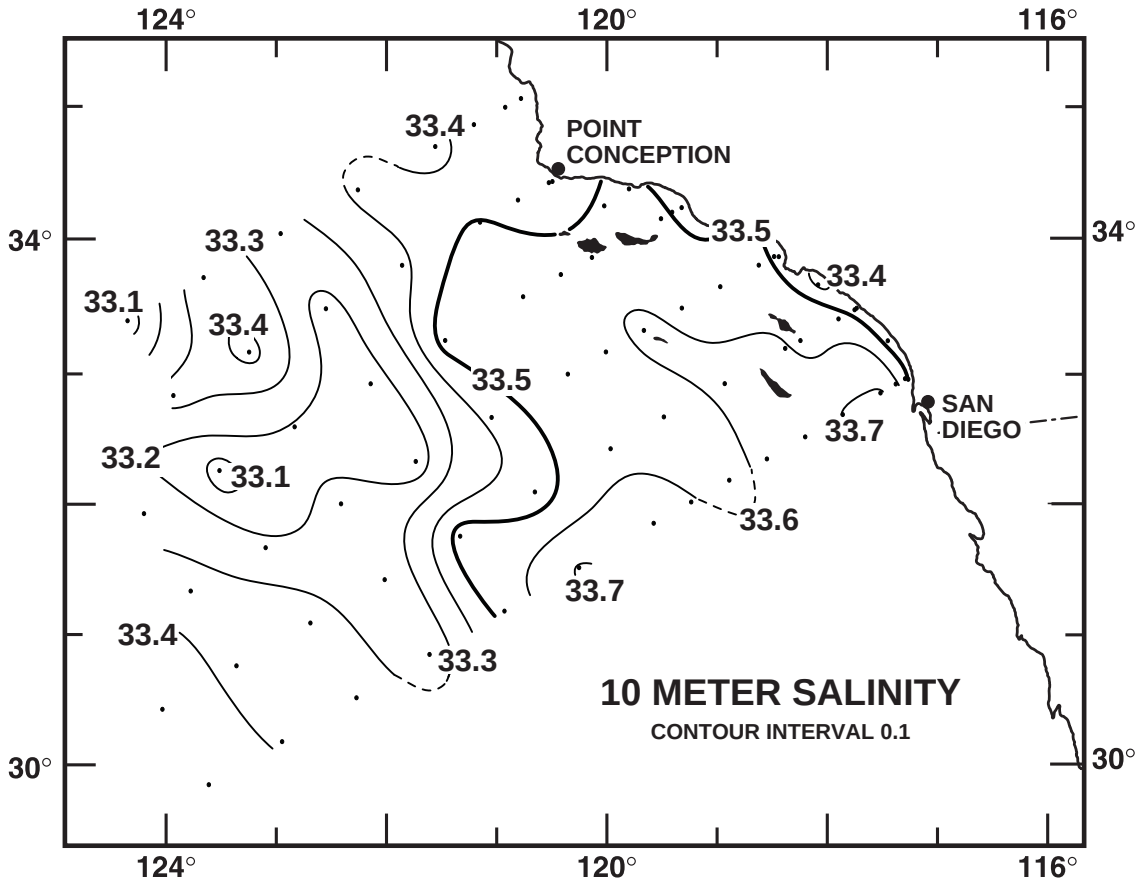

FIGURE 3D

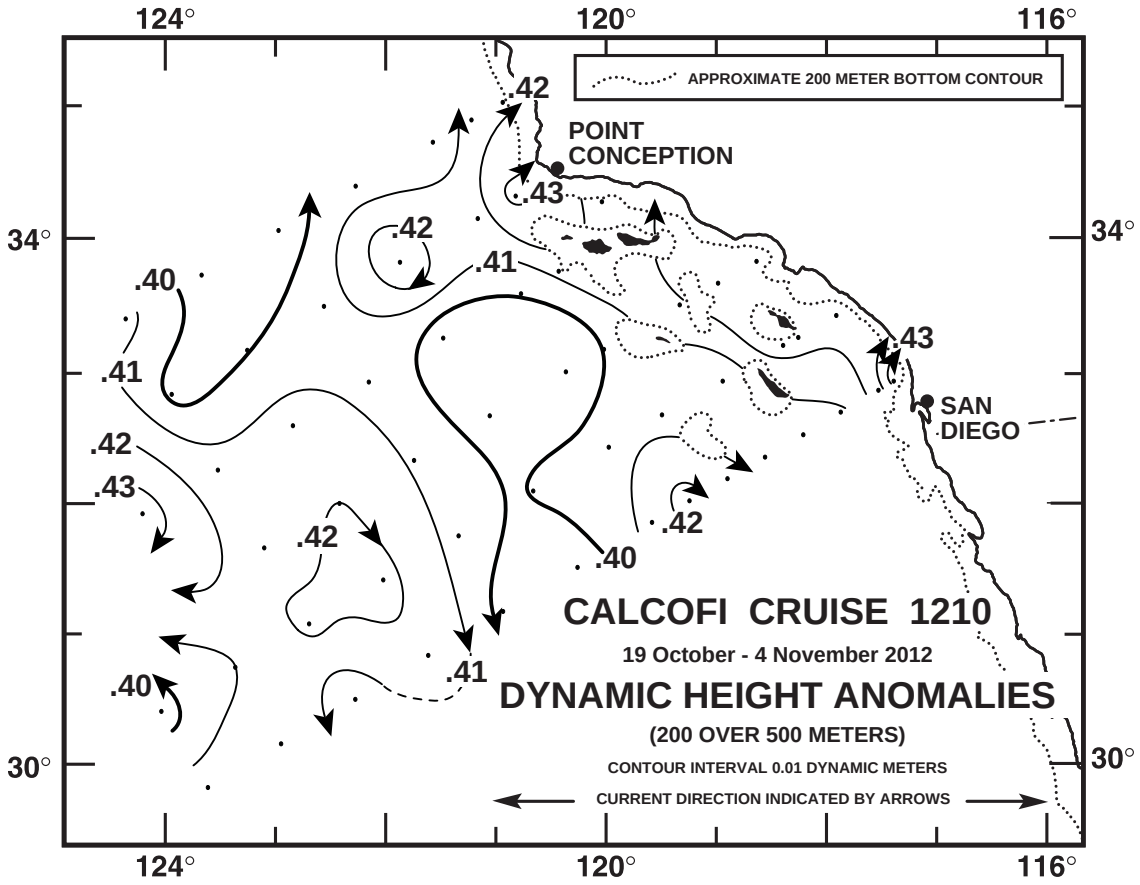

FIGURE 4A

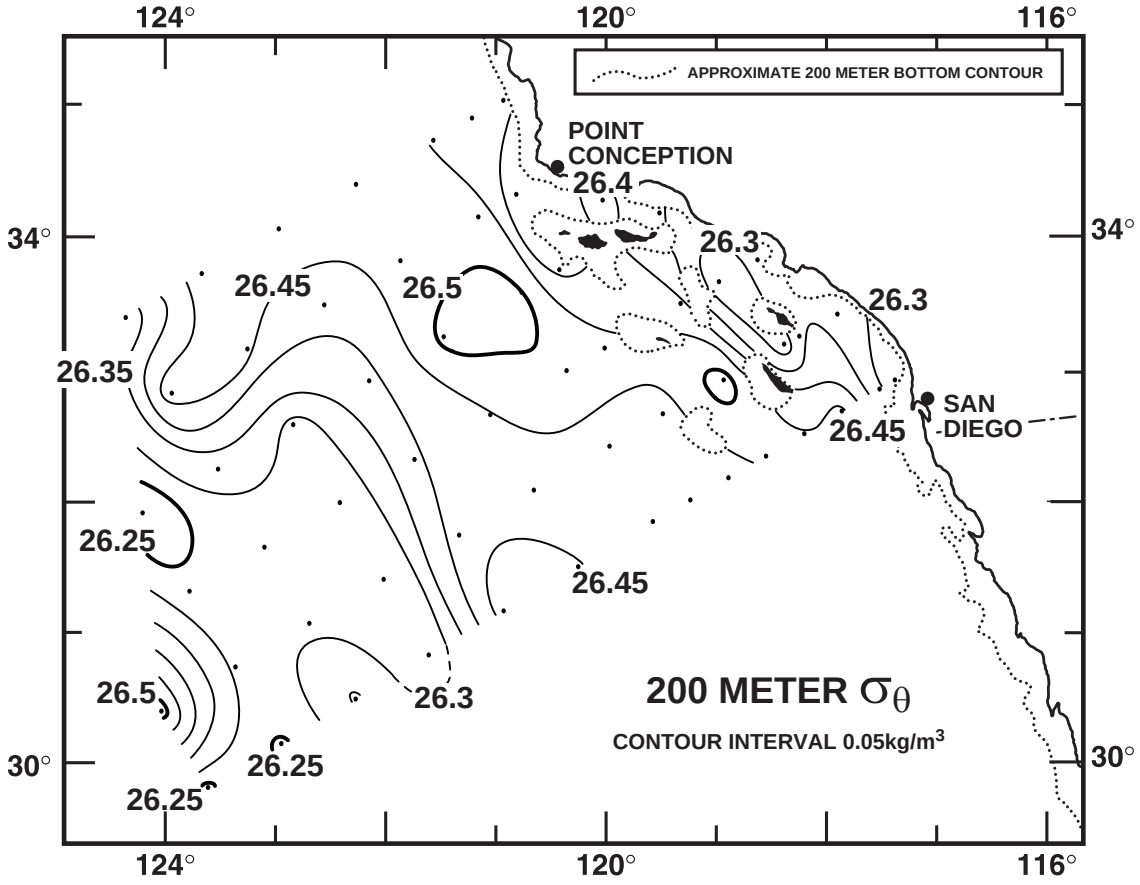

FIGURE 4B

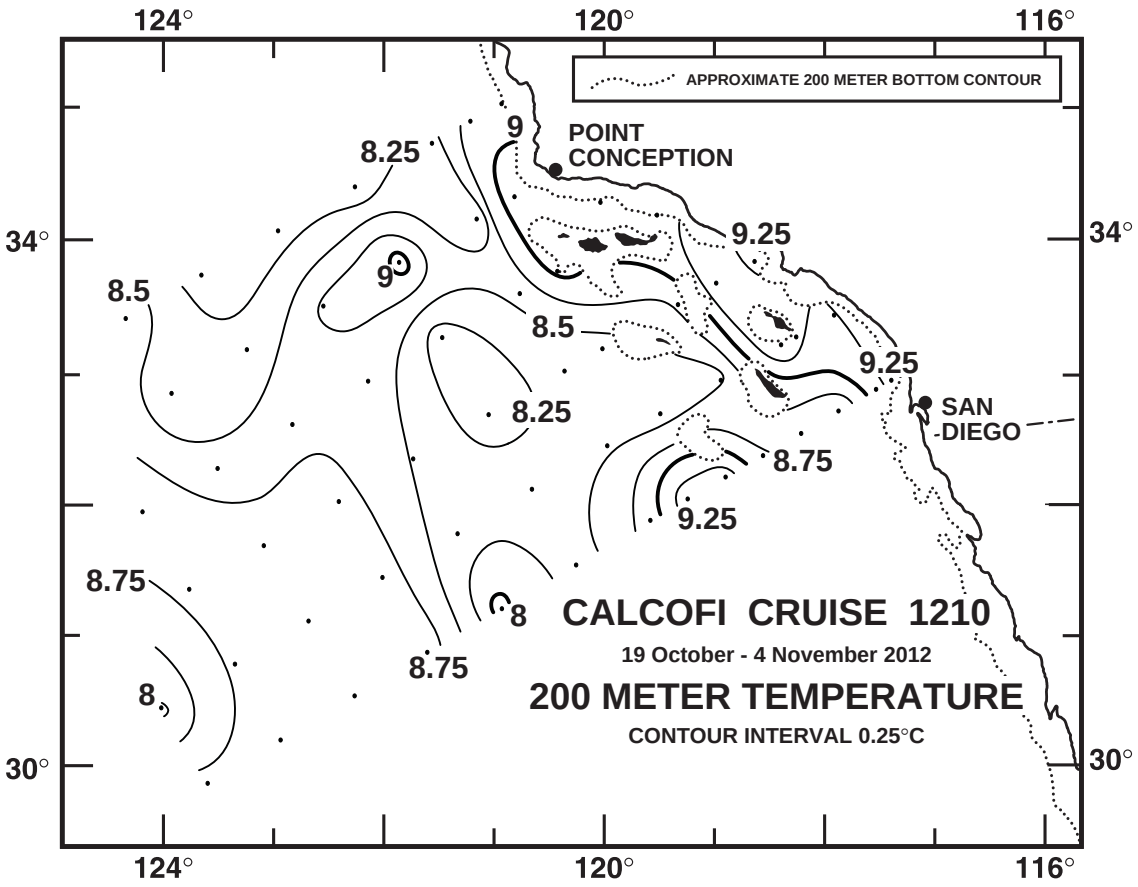

FIGURE 4C

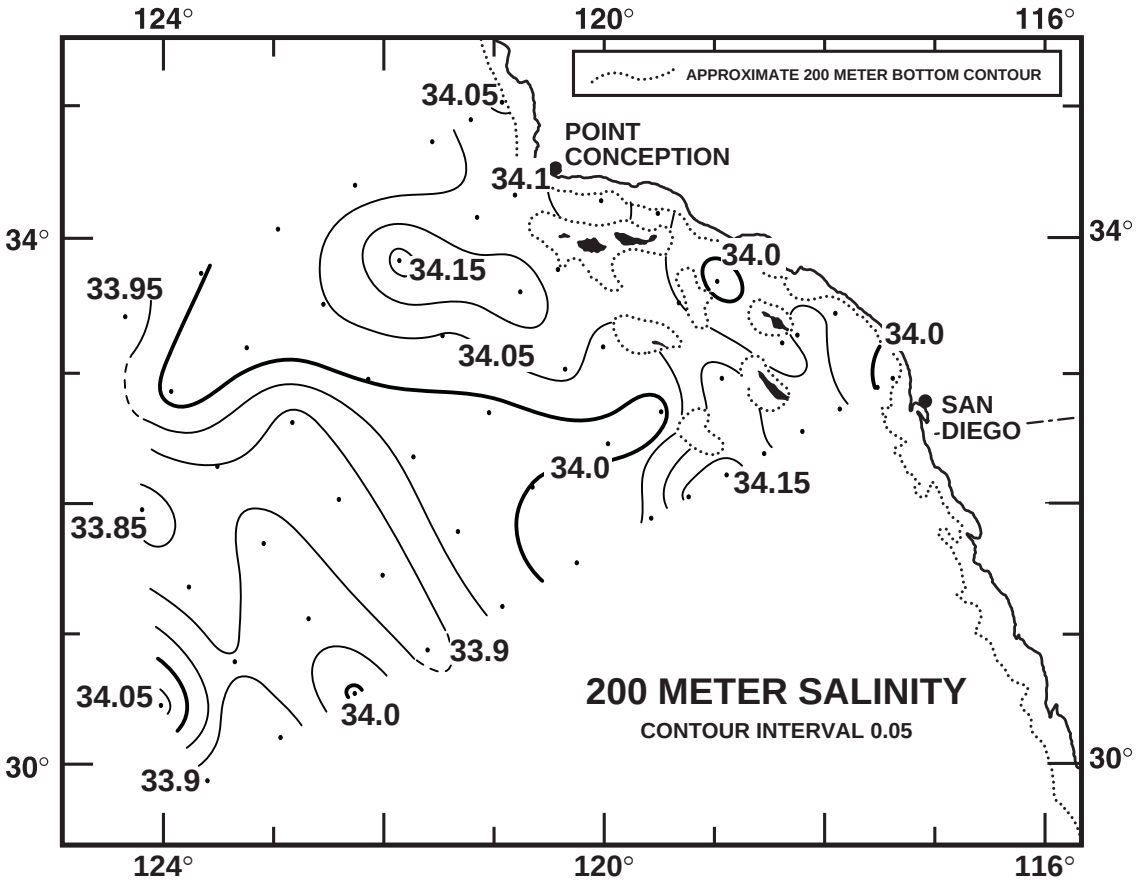

FIGURE 4D

CALCOFI CRUISE 1210

23 - 27 October 2012

POTENTIAL DENSITY (σ_θ) ALONG CALCOFI LINE 90

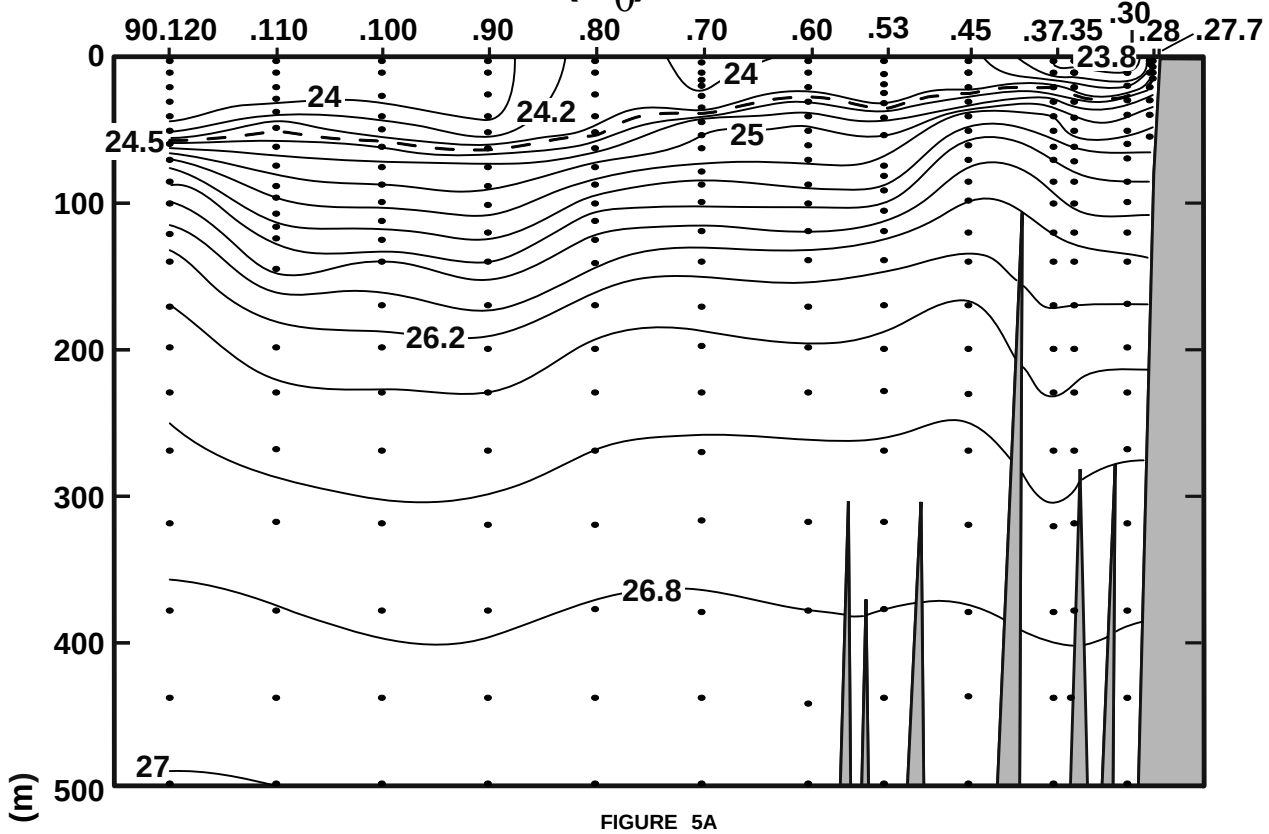

FIGURE 5A

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

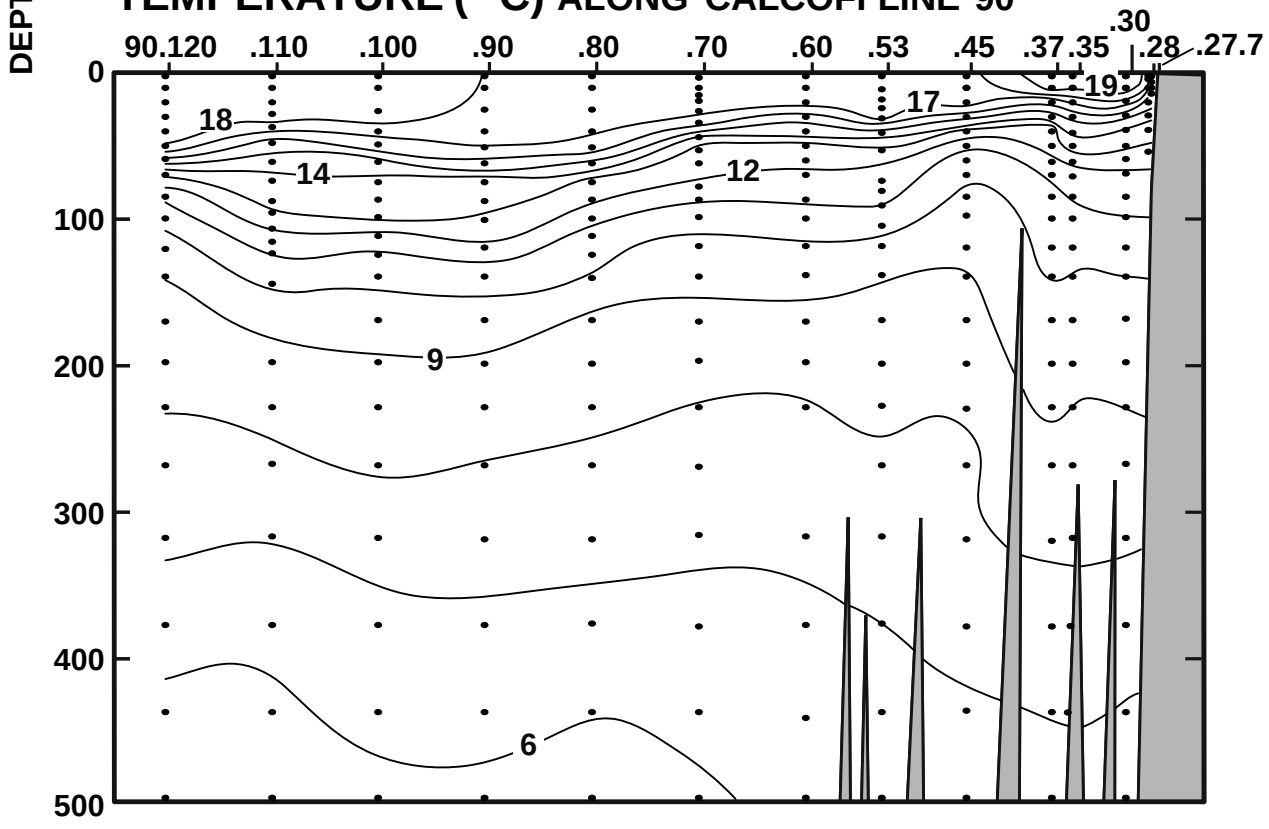

FIGURE 5B

CALCOFI CRUISE 1210

23 -27 October 2012

SALINITY ALONG CALCOFI LINE 90

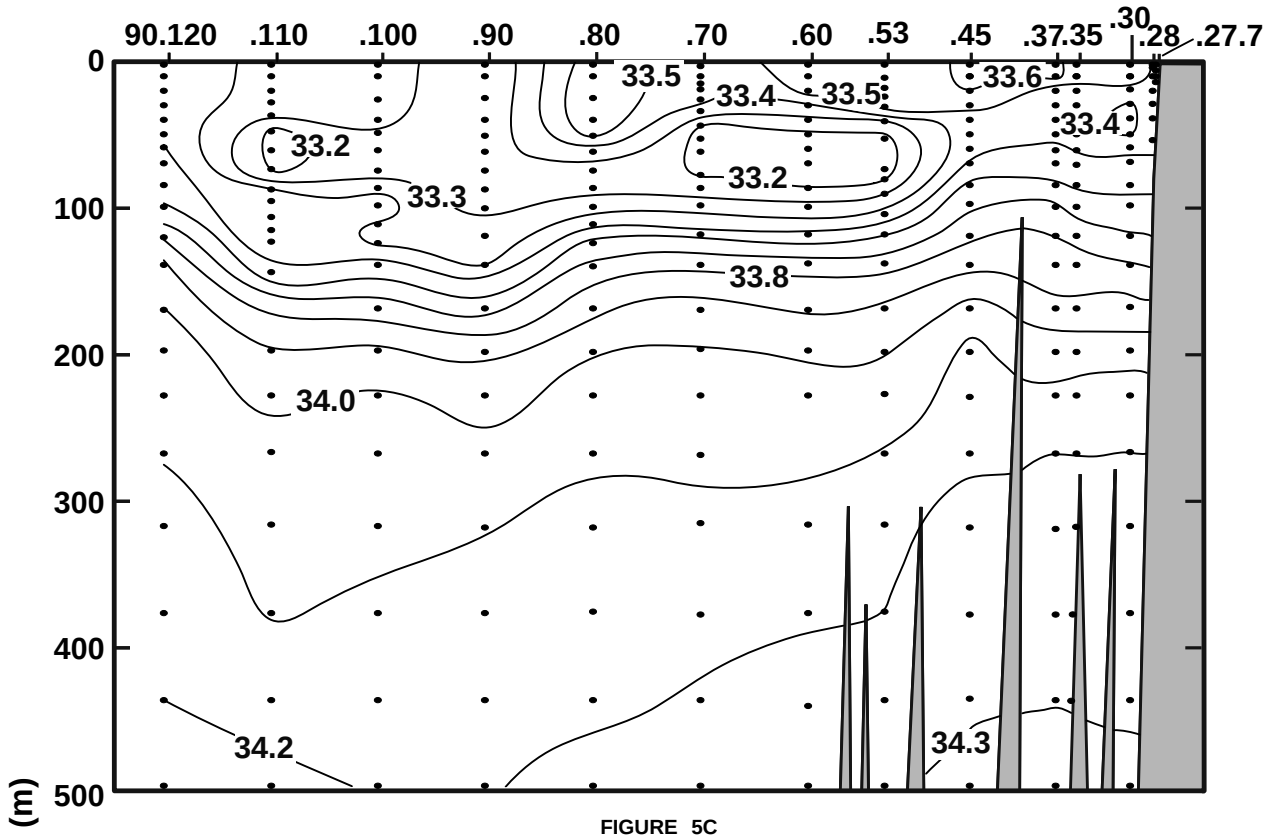

FIGURE 5C

SILICATE (μM/L) ALONG CALCOFI LINE 90

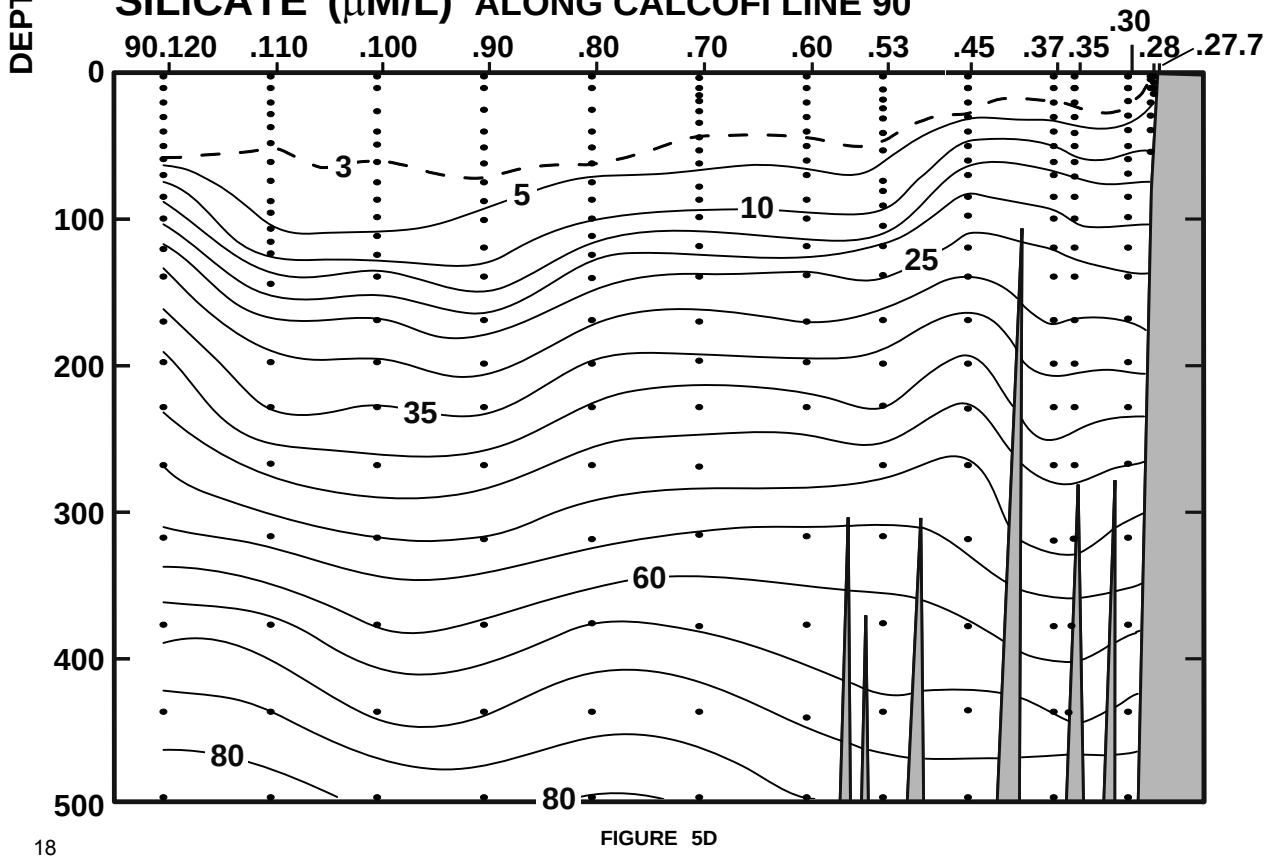

FIGURE 5D

CALCOFI CRUISE 1210

23 - 27 October 2012

NITRATE (μM/L) ALONG CALCOFI LINE 90

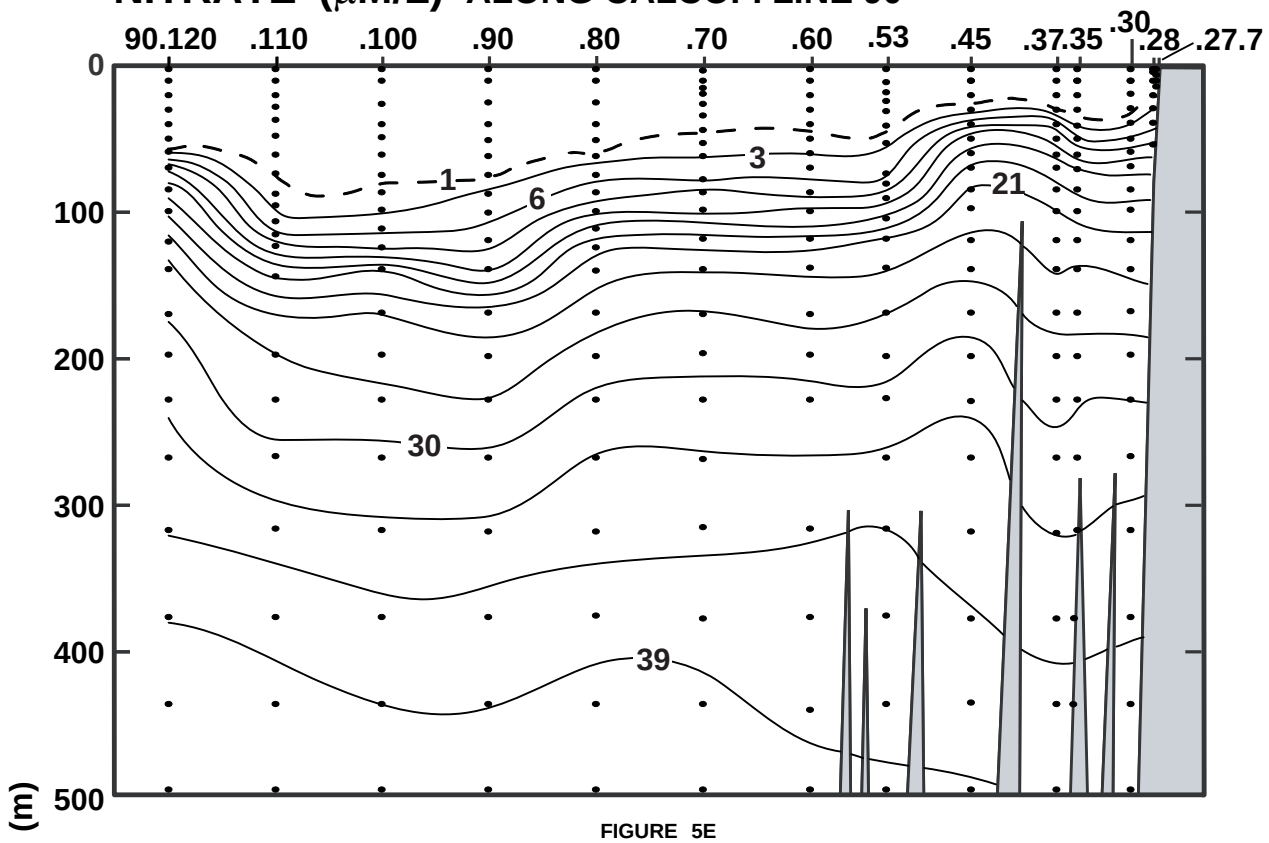

FIGURE 5E

PHOSPHATE (μM/L) ALONG CALCOFI LINE 90

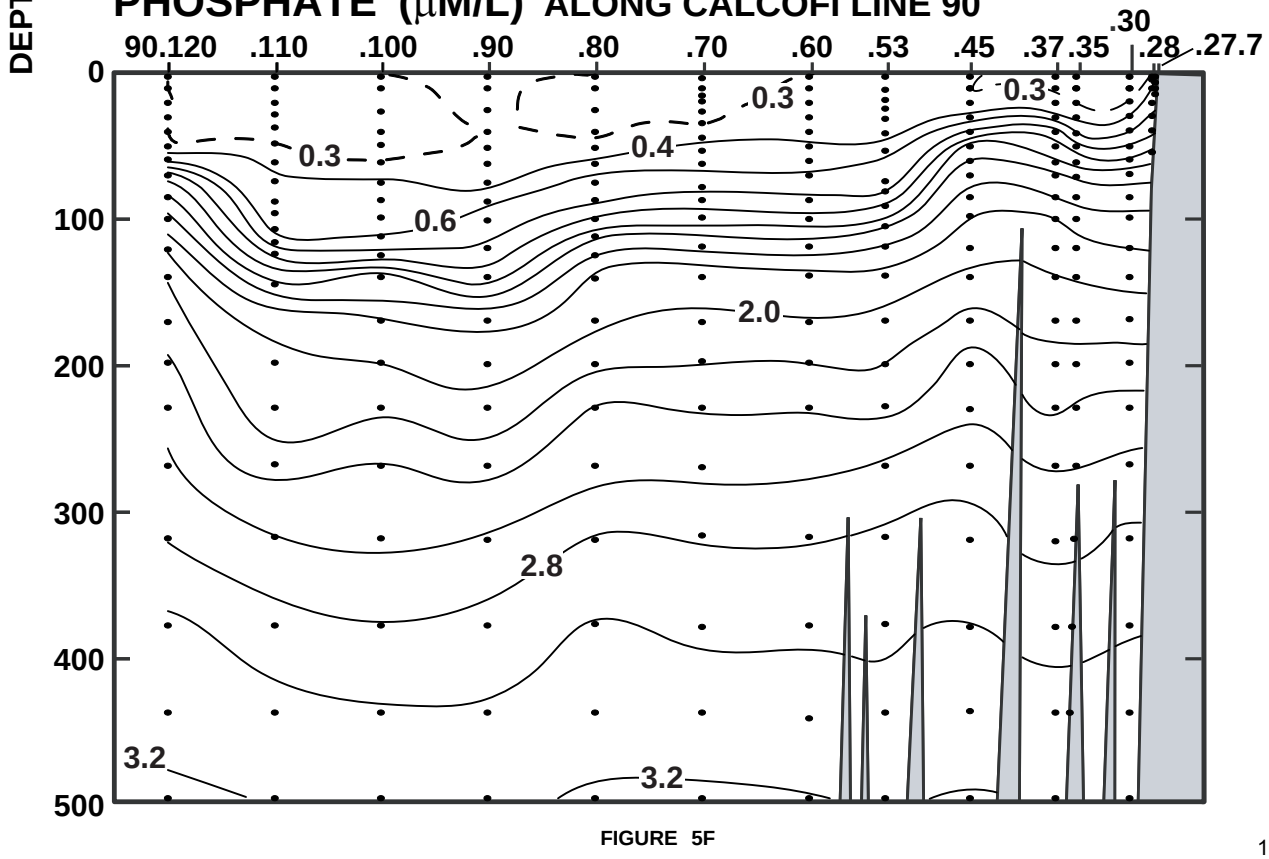

FIGURE 5F

CALCOFI CRUISE 1210

23 -27 October 2012

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

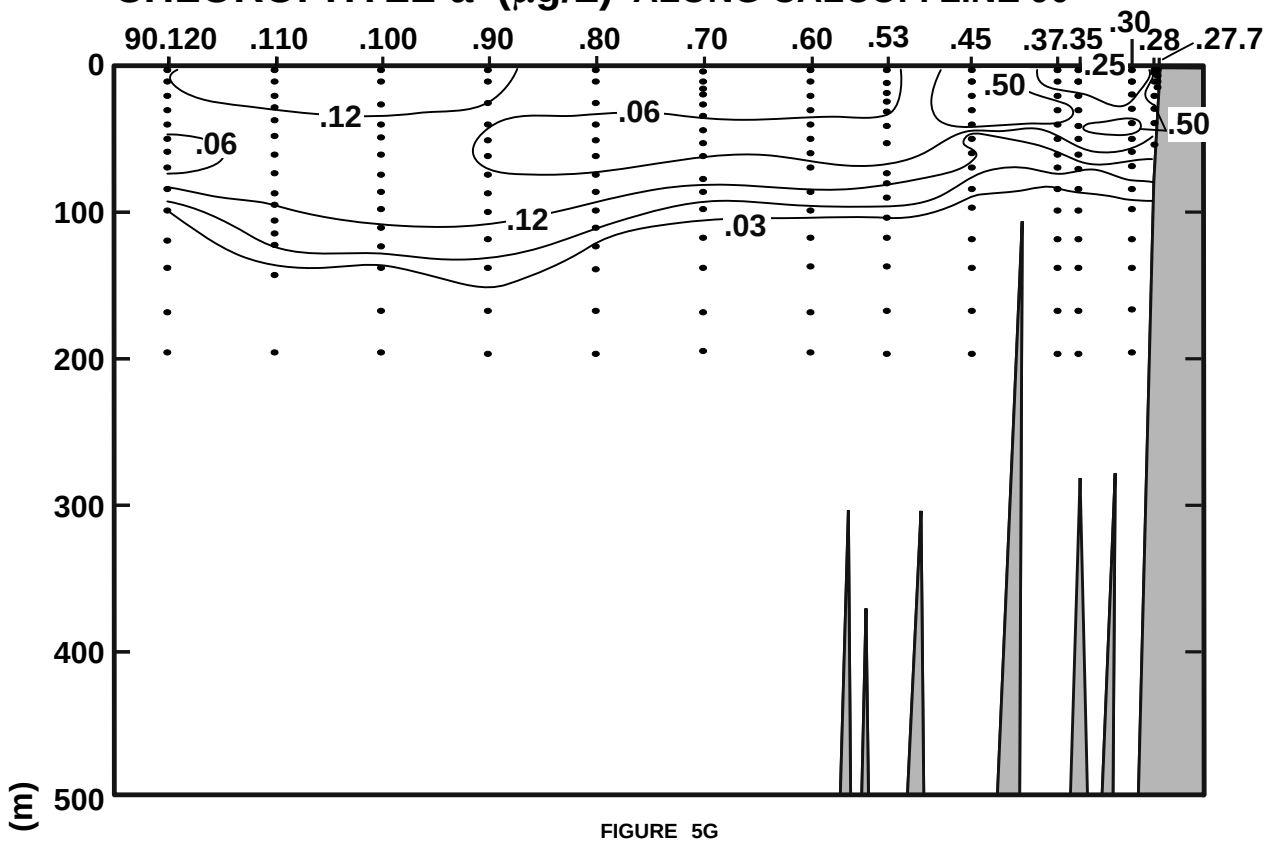

FIGURE 5G

OXYGEN SATURATION (%) ALONG CALCOFI LINE 90

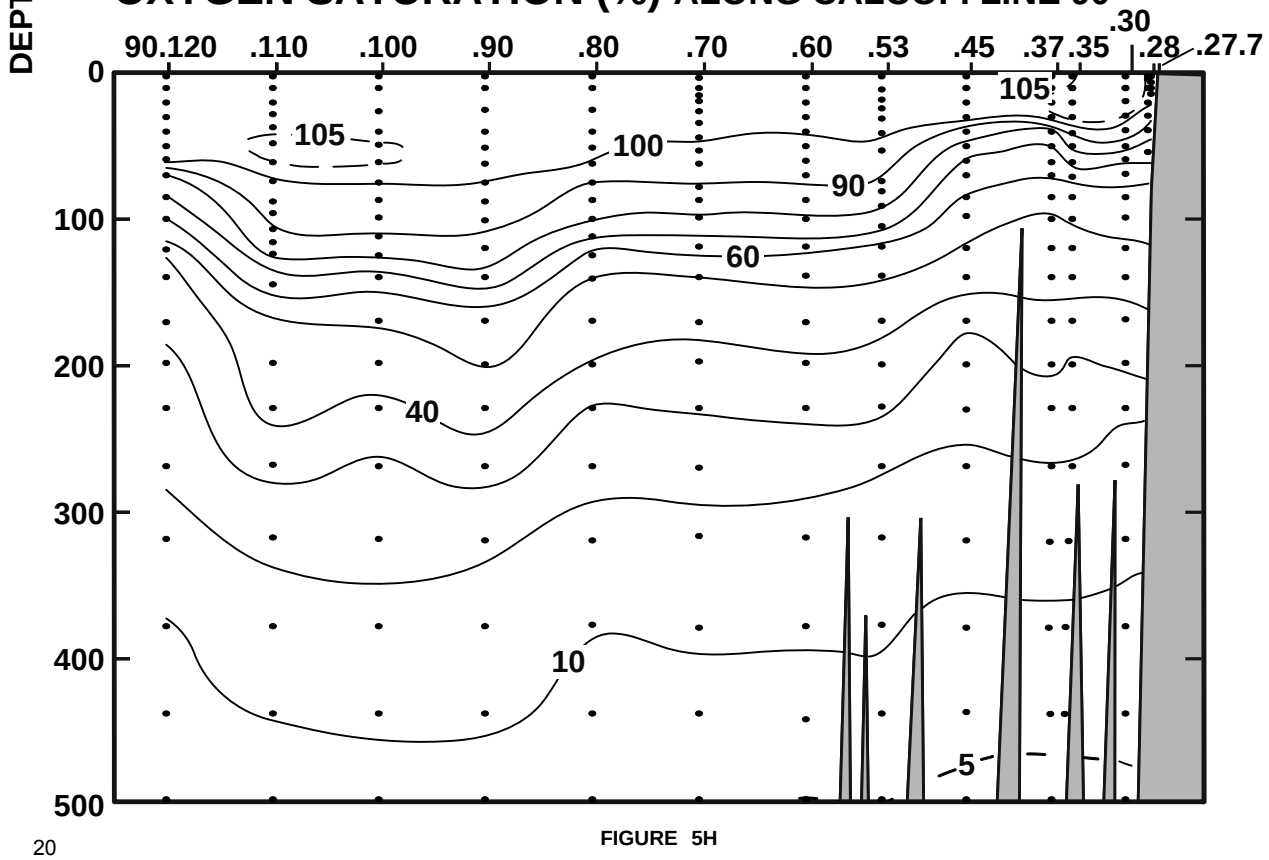

FIGURE 5H

CALCOFI CRUISE 1210

23 - 27 October 2012

OXYGEN (mL/L) ALONG CALCOFI LINE 90

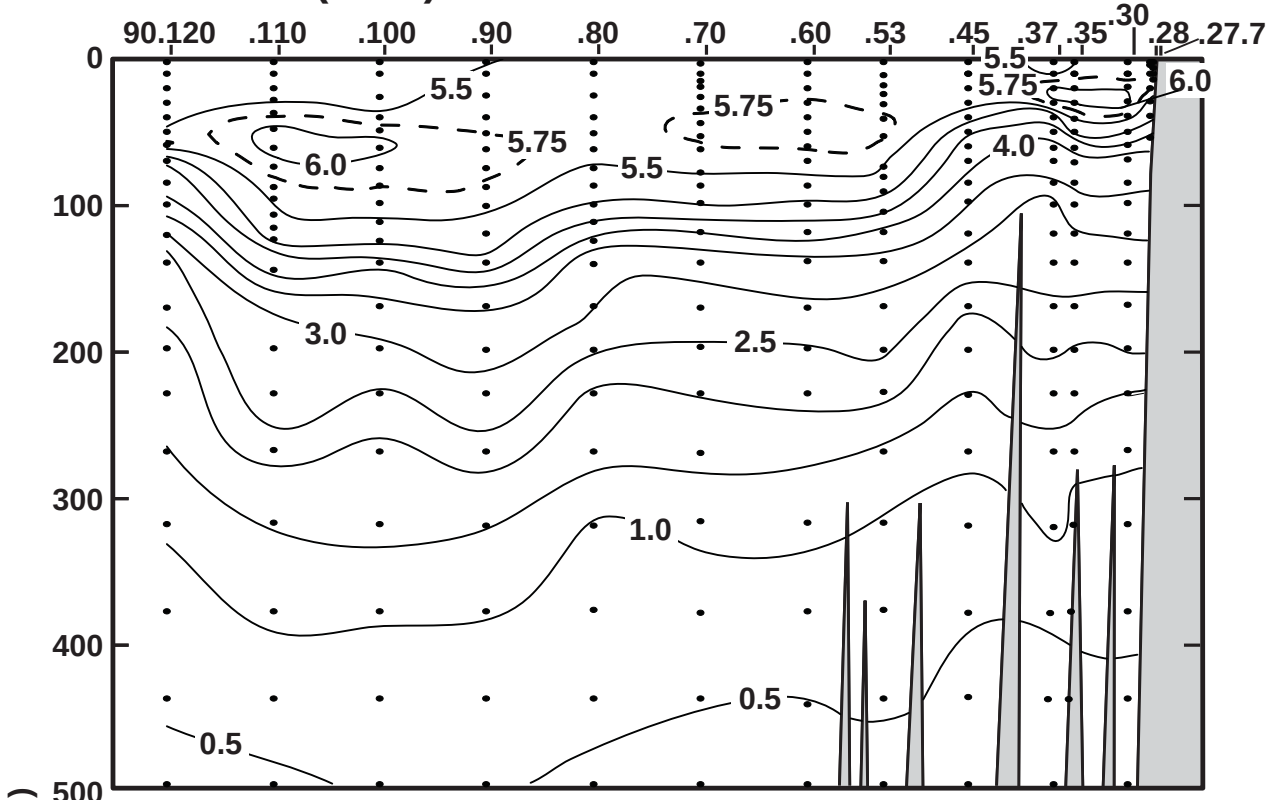

FIGURE 5I

NITRITE (μM/L) ALONG CALCOFI LINE 90

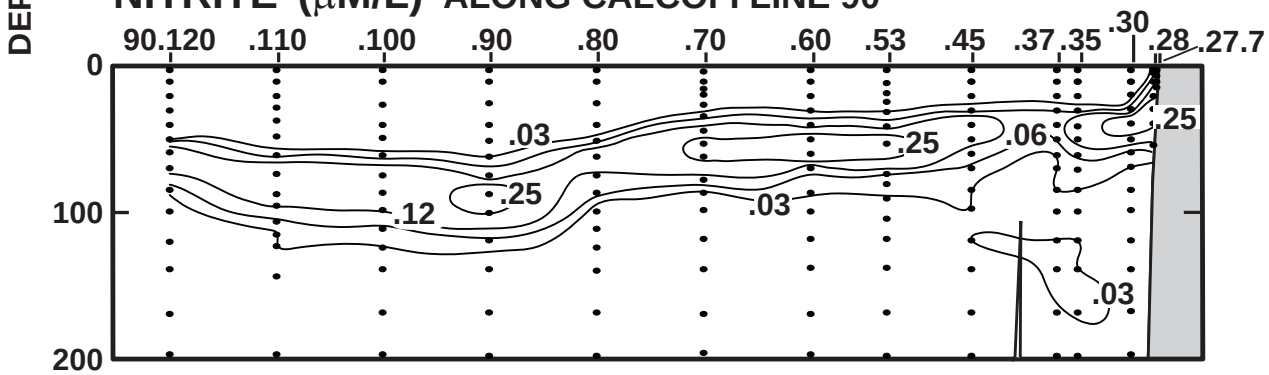

FIGURE 5J

PHAEOPIGMENTS (μg/L) ALONG CALCOFI LINE 90

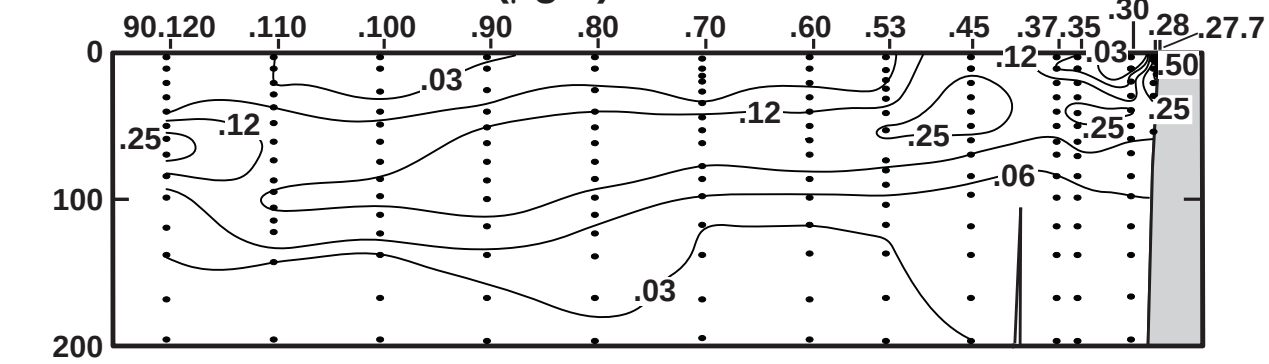

FIGURE 5K

PERSONNEL

CalCOFI Cruise 1210

SHIP'S CAPTAIN

Lawrence, Ian, R/V New Horizon

PERSONNEL PARTICIPATING IN THE COLLECTION OF DATA

Wilkinson, James (Chief Scientist)	Programmer Analyst, SIO
Bendin, Andrea	Marine Mammal Observer, MPL
Dovel, Shonna	Staff Research Associate, SIO
Hays, Amy	Fishery Biologist, NMFS
Jiorle, Ralph	Staff Research Associate, SIO
Liu, Jian	Staff Research Associate, SIO
Miller, Melissa	Staff Research Associate, SIO
Netburn, Amanda	Graduate Student, SIO
Overcash, Brian	Fishery Biologist, NMFS
Perez, Elena	Volunteer, SIO
Roadman, Megan	Staff Research Associate, SIO
Rodgers-Wolgast, Jennifer	Staff Research Associate, SIO
Sanchez, Tami	Volunteer, SIO
Vu, Elizabeth	Marine Mammal Acoustician, MPL
Whitaker, Katherine	Marine Mammal Observer, MPL
Wolgast, David	Staff Research Associate, SIO

San Diego to San Diego, California, 19 October – 5 November, 2012

RV NEW HORIZON CALCOFI CRUISE 1210 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 5.4 N	120 46.7 W	04/11/2012	1316	UTC	71 m	080	09 kn			1016.7 mb	16.8 C	13.8 C				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		14.09		14.09		33.464	24.983	296.5	0.000	5.40		92.4	5.0	0.64	4.0	0.19	0.33	0.73	0.21	0	
2		14.09		14.09		33.464	24.983	296.5	0.006	5.40		92.4	5.0	0.64	4.0	0.19	0.33	0.73	0.21	2	08
10		14.08		14.08		33.459	24.981	296.9	0.030	5.39		92.1	5.0	0.64	4.1	0.19	0.35	0.79	0.26	10	06
10		14.08		14.08		33.459	24.982	296.9	0.031											10	07
20	ISL	13.94	D	13.93		33.466	D 25.019	293.6	0.059	5.29	D	90.1	5.6	0.67	4.5	0.19	0.40	0.56	0.31	20	
21		13.89		13.88		33.464	25.026	292.9	0.062	5.29		90.1	5.7	0.67	4.5	0.19	0.41	0.53	0.32	21	05
30		13.32		13.33		33.475	D 25.148	281.6	0.089	4.94	D	83.2								30	04
39		12.88		12.87		33.479	25.241	273.0	0.113	4.67		77.9	9.9	0.99	8.9	0.25	0.31	0.20	0.24	39	03
50		12.11		12.10		33.510	25.415	256.7	0.142	4.24		69.6	14.6	1.25	12.4	0.27	0.27	0.13	0.27	50	02
58		12.02		12.01		33.512	25.434	255.1	0.162	4.11		67.3	15.5	1.28	12.7	0.26	0.34	0.11	0.33	58	01

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

RV NEW HORIZON CALCOFI CRUISE 1210 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 1.4 N	120 55.2 W	04/11/2012	1051	UTC	253 m	080	06 kn			1016.5 mb	16.9 C	14.0 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		15.16		15.16		33.462	24.752	318.5	0.000	5.72		99.9	1.4	0.36	0.8	0.07	0.26	0.97	0.22	0	
2		15.16		15.16		33.462	24.752	318.5	0.006	5.72		99.9	1.4	0.36	0.8	0.07	0.26	0.97	0.22	2	16
9		14.76		14.75		33.456	24.836	310.7	0.029											9	15
10		14.73		14.72		33.457	24.843	310.1	0.032	5.72		99.1	2.1	0.41	1.4	0.10	0.29	1.04	0.19	10	14
20		14.65		14.64		33.454	24.859	308.9	0.062	5.67		98.1	2.5	0.45	1.8	0.12	0.32	0.85	0.27	20	13
30		14.12		14.12		33.442	24.960	299.5	0.093	5.39		92.2	3.8	0.60	3.4	0.19	0.42	0.54	0.24	30	12
40		13.43		13.43		33.433	25.095	287.0	0.122	4.95		83.4	7.1	0.84	6.5	0.32	0.57	0.15	0.15	40	11
50		13.30		13.29		33.432	25.123	284.6	0.151	4.92		82.7	7.1	0.86	6.8	0.32	0.52	0.13	0.15	50	10
59		12.77		12.76		33.449	25.241	273.6	0.176	4.65		77.3	9.6	1.01	9.0	0.36	0.34	0.08	0.12	59	09
70		12.04		12.03		33.480	25.405	258.2	0.205	4.24		69.5	13.6	1.24	12.3	0.37	0.11	0.06	0.19	71	08
75	ISL	11.58	D	11.02		33.518	D 25.620	237.7	0.215	4.04		65.5	15.4	1.35	14.0	0.31	0.07	0.06	0.20	76	
85		10.98		10.97		33.579	25.677	232.5	0.242	3.63		58.2	18.9	1.56	17.3	0.18	0.00	0.05	0.23	86	07
100	ISL	10.30	D	10.08		33.711	D 25.934	208.4	0.271	3.10		49.0	24.3	1.82	21.1	0.16	0.00	0.04	0.21	101	
101		10.29		10.28		33.710	25.900	211.7	0.277	3.07		48.4	24.6	1.84	21.3	0.16	0.00	0.04	0.20	102	06
120		9.69		9.67		33.858	26.118	191.3	0.315	2.36		36.8	31.6	2.15	25.4	0.17	0.00	0.04	0.24	121	05
125	ISL	9.67	D	9.46		33.869	D 26.162	187.1	0.320	2.31		36.0	32.2	2.17	25.7	0.16	0.00	0.03	0.22	126	
139		9.45		9.43		33.937	26.219	182.0	0.351	2.16		33.5	33.7	2.23	26.7	0.14	0.00	0.02	0.16	140	04
150	ISL	9.26	D	9.15		33.998	D 26.313	173.3	0.365	2.07		32.0	34.9	2.28	27.1	0.14	0.08	0.03	0.20	151	
169		9.18		9.16		34.003	26.316	173.5	0.404	1.92		29.6	37.0	2.36	27.9	0.13	0.22	0.04	0.27	170	03
200		8.78		8.75		34.038	26.407	165.3	0.456	1.94		29.7	37.7	2.37	29.3	0.08	0.00	0.02	0.10	202	02
233		8.55		8.52		34.090	26.485	158.6	0.510	1.59		24.2	42.9	2.54	30.5	0.11	0.14			235	01

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

RV NEW HORIZON CALCOFI CRUISE 1210 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 12.1 W	04/11/2012	0704	UTC	562 m	360	11 kn			1016.9 mb	16.9 C	15.1 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		15.77		15.76		33.487	24.638	329.3	0.000	5.89		104.3	0.6	0.19	0.0	0.01	0.04	0.53	0.18	0	
2		15.77		15.76		33.487	24.638	329.3	0.007	5.89		104.3	0.6	0.19	0.0	0.01	0.04	0.53	0.18	2	21
10		15.70		15.70		33.485	24.652	328.2	0.033											10	20
10		15.70		15.70		33.484	24.651	328.4	0.033	5.93		104.8	0.6	0.19	0.0	0.01	0.00	0.61	0.20	10	19
20	ISL	15.06	D	15.05		33.473	D 24.785	315.9	0.065	5.89	D	102.7	1.3	0.27	0.3	0.06	0.15	0.86	0.31	20	
21		14.89		14.89		33.468	24.817	312.9	0.068	5.86		101.9	1.3	0.28	0.3	0.06	0.17	0.89	0.32	21	18
30	ISL	13.58	D	13.57		33.435	D 25.067	289.3	0.096	5.37	D	90.8	5.3	0.68	4.0	0.26	0.91	0.33	0.41	30	
31		13.61		13.61		33.434	25.060	290.0	0.098	5.30		89.7	5.7	0.72	4.4	0.28	0.99	0.27	0.42	31	17
40		13.37		13.36		33.434	25.109	285.6	0.124	5.16		87.0	6.7	0.80	5.5	0.30	0.82	0.28	0.41	40	16
50		12.51		12.51		33.437	25.280	269.6	0.152	4.65		77.0	10.2	1.05	9.7	0.27	0.08	0.23	0.33	50	15
61		11.87		11.86		33.453	25.415	256.9	0.181	4.47		72.9	11.4	1.14	11.3	0.21	0.05	0.28	0.27	62	14
70		11.37		11.36		33.498	25.543	244.9	0.204	4.01		64.8	14.3	1.34	14.5	0.15	0.09	0.08	0.17	71	13
75	ISL	11.06	D	11.06		33.553	D 25.640	235.8	0.217	3.74	D	60.1	15.9	1.43	15.9	0.13	0.06	0.08	0.18	76	
85		10.61		10.60		33.608	25.764	224.3	0.239	3.50		55.6	19.2	1.61	18.8	0.08	0.00	0.08	0.21	86	12
100		10.32		10.31		33.677	25.869	214.6	0.271	3.24		51.2	22.1	1.75	20.9	0.05	0.00	0.04	0.15	101	11
120		9.93		9.91		33.758	26.000	202.6	0.313	2.95		46.3	24.9	1.89	22.8	0.04	0.00	0.04	0.15	121	10
125	ISL	9.82	D	9.80		33.800	D 26.050	197.8	0.325	2.86	D	44.7	25.5	1.92	23.3	0.04	0.00	0.04	0.15	126	
140		9.65		9.63		33.819	26.094	194.0	0.353	2.78		43.3	27.2	2.00	24.6	0.04	0.00	0.03	0.14	141	09
150	ISL	9.48	D	9.46		33.856	D 26.151	188.8	0.374	2.81	D	43.6	28.6	2.03	25.3	0.04	0.00	0.04	0.14	151	
170		8.90		8.88		33.926	26.300	174.9	0.408	2.71		41.5	31.5	2.08	26.6	0.03	0.00	0.07	0.15	171	08
200		8.83		8.81		34.072	26.425	163.6	0.459	1.73		26.4	38.5	2.41	29.8	0.06	0.01	0.02	0.10	202	07
230		8.46		8.43		34.087	26.496	157.4	0.507	1.63		24.8	41.2	2.46	31.3	0.04	0.00			232	06
250	ISL	8.63	D	8.60		34.186	D 26.547	153.0	0.542	1.10	D	16.7	44.5	2.57	32.0	0.07	0.00			252	
270		8.28		8.25		34.177	26.594	148.8	0.568	1.05		15.9	47.8	2.68	32.7	0.09	0.00			272	05
300	ISL	7.82	D	7.78		34.154	D 26.646	144.2	0.616	1.15	D	17.3	51.4	2.74	34.1	0.08	0.00			302	
321		7.62		7.59		34.168	26.685	140.8	0.642	0.94		13.9	54.0	2.79	35.0	0.08	0.00			324	04
380		7.25		7.21		34.212	26.774	133.1	0.723	0.66		9.8	60.2	2.94	36.3	0.02	0.00			383	03
400	ISL	7.00	D	6.96		34.220	D 26.815	129.3	0.754	0.60	D	8.8	63.3	2.99	36.9	0.02	0.00			403	
440		6.70		6.66		34.247	26.877	123.8	0.800	0.45		6.5	69.5	3.08	38.0	0.02	0.00			444	02
500	ISL	6.13	D	6.09		34.289	D 26.985	113.9	0.877	0.28	D	4.1	82.3	3.24	39.0	0.10	0.01			504	
516		5.91		5.87		34.305	27.026	110.0	0.889	0.21		3.1	85.8	3.28	39.3	0.12	0.01			520	01

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

RV NEW HORIZON CALCOFI CRUISE 1210 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 43.3 N	121 33.0 W	04/11/2012	0226 UTC	948 m	340 19 kn			1016.5 mb	17.5 C	15.6 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		17.09		17.09		33.353		24.231	368.1	0.000	5.61		101.8		2.3	0.28	0.0	0.02	0.02	0.14	0.04	0	
2		17.09		17.09		33.353		24.231	368.1	0.007	5.61		101.8		2.3	0.28	0.0	0.02	0.02	0.14	0.04	2	20
10		17.09		17.09		33.355		24.232	368.3	0.037	5.58		101.1		2.3	0.28	0.0	0.01	0.00	0.14	0.04	10	19
20		17.07		17.07		33.358		24.239	368.0	0.074	5.58		101.1		2.3	0.28	0.0	0.02	0.01	0.14	0.04	20	18
30		15.76		15.76		33.403		24.576	336.2	0.109	5.77		102.1		2.2	0.32	0.2	0.07	0.03	0.40	0.20	30	17
40		12.69		12.69		33.119		24.998	296.1	0.141	5.93		98.2		4.1	0.48	1.7	0.22	0.00	0.42	0.30	40	16
50		11.38		11.38		32.960		25.121	284.5	0.170	5.95		95.8		5.0	0.53	2.2	0.26	0.04	0.26	0.24	50	15
60		10.97		10.96		32.988		25.218	275.5	0.198	5.79		92.4		5.9	0.63	4.0	0.13	0.01	0.20	0.20	60	14
70		10.63		10.62		33.131		25.389	259.5	0.224	5.37		85.1		8.3	0.88	8.3	0.05	0.04	0.11	0.14	71	13
75	ISL	10.53	D	10.52		33.179	D	25.444	254.3	0.239	5.09	D	80.5		9.5	0.99	10.0	0.04	0.04	0.09	0.12	76	
85		10.37		10.36		33.320		25.581	241.6	0.262	4.80		75.8		11.9	1.20	13.4	0.03	0.03	0.05	0.08	86	12
100		9.87		9.86		33.562		25.855	215.8	0.296	4.06		63.4		18.5	1.59	19.4	0.02	0.00	0.01	0.03	101	11
120		9.41		9.40		33.785		26.106	192.4	0.337	2.99		46.3		26.4	2.01	25.2	0.02	0.00	0.00	0.03	121	10
125	ISL	9.31	D	9.30		33.850	D	26.172	186.1	0.349	2.62	D	40.6		27.5	2.06	25.9	0.02	0.00	0.00	0.03	126	
140		9.19		9.17		33.898		26.230	180.9	0.374	2.41		37.2		31.0	2.21	27.8	0.01	0.00	0.00	0.03	141	09
150	ISL	8.99	D	8.97		33.923	D	26.282	176.1	0.394	2.59	D	39.8		32.2	2.23	28.3	0.01	0.00	0.00	0.03	151	
171		8.64		8.62		33.976		26.379	167.3	0.428	2.30		35.0		34.8	2.27	29.2	0.01	0.00	0.00	0.03	172	08
200	ISL	8.42	D	8.40		34.020	D	26.449	161.2	0.479	2.13	D	32.4		37.6	2.35	30.1	0.01	0.00	0.00	0.03	202	
201		8.43		8.40		34.020		26.447	161.4	0.477	2.13		32.3		37.7	2.35	30.1	0.01	0.00	0.00	0.03	203	07
230		8.21		8.19		34.050		26.504	156.5	0.523	1.97		29.7		40.2	2.41	30.9	0.01	0.00			232	06
250	ISL	7.91	D	7.89		34.057	D	26.554	152.0	0.558	1.83	D	27.5		44.1	2.51	32.3	0.01	0.00			252	
270		7.49		7.47		34.063		26.619	145.9	0.584	1.67		24.8		48.0	2.60	33.7	0.01	0.00			272	05
300	ISL	7.26	D	7.23		34.107	D	26.687	139.8	0.631	1.24	D	18.3		53.1	2.72	35.1	0.01	0.00			302	
321		6.95		6.92		34.091		26.718	137.0	0.656	1.26		18.4		56.6	2.80	36.1	0.01	0.00			324	04
380		6.44		6.41		34.140		26.825	127.5	0.734	0.84		12.2		66.4	3.02	38.4	0.01	0.00			383	03
400	ISL	6.19	D	6.16		34.141	D	26.858	124.4	0.765	0.74	D	10.7		69.0	3.05	39.0	0.01	0.00			403	
440		5.97		5.93		34.155		26.899	121.0	0.808	0.67		9.6		74.3	3.12	40.1	0.01	0.00			444	02
500	ISL	5.79	D	5.75		34.220	D	26.973	114.6	0.886	0.43	D	6.2		80.1	3.22	40.6	0.01	0.00			504	
515		5.72		5.67		34.232	D	26.992	113.0	0.903	0.40		5.6		81.6	3.25	40.7	0.01	0.00			519	01

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

RV NEW HORIZON CALCOFI CRUISE 1210 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 23.4 N	122 14.8 W	03/11/2012	1907 UTC	4005 m	330 15 kn	360 04 06	0	1018.5 mb	18.0 C	16.3 C	22 m	0/8		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		16.99		16.99		33.423		24.309	360.7	0.000	5.63		102.0		1.6	0.28	0.0	0.02	0.08	0.18	0.06	0	
2	A	16.99		16.99		33.423		24.309	360.7	0.007	5.63		102.0		1.6	0.28	0.0	0.02	0.08	0.18	0.06	2	22
8		16.97		16.96		33.423		24.314	360.4	0.029	5.60		101.5		1.6	0.27	0.0	0.01	0.04	0.18	0.05	8	21
10	ISL	16.97	D	16.97		33.426	D	24.315	360.4	0.036	5.61	D	101.5		1.6	0.27	0.0	0.01	0.03	0.19	0.05	10	
14	A	16.93		16.93		33.439		24.334	358.7	0.050	5.61		101.6		1.6	0.26	0.0	0.02	0.02	0.20	0.06	14	20
19	A	16.93		16.93		33.451		24.344	358.0	0.068	5.61		101.4		1.5	0.26	0.0	0.01	0.00	0.20	0.06	19	19
20	ISL	16.94	D	16.93		33.455	D	24.346	357.8	0.072	5.59	D	101.1		1.5	0.26	0.0	0.01	0.00	0.20	0.06	20	
26		16.94		16.94		33.475		24.361	356.6	0.093	5.59		101.2		1.5	0.25	0.0	0.01	0.00	0.22	0.06	26	18
30	ISL	16.95	D	16.95		33.474	D	24.358	357.0	0.108	5.59	D	101.2		1.5	0.25	0.0	0.01	0.00	0.23	0.07	30	
34	A	16.95		16.95		33.486		24.367	356.3	0.122	5.60		101.4		1.4	0.25	0.0	0.01	0.00	0.23	0.07	34	17
43		16.67		16.67		33.449		24.405	353.0	0.154	5.64		101.5		1.5	0.26	0.0	0.02	0.09	0.27	0.10	43	16
50	ISL	15.56	D	15.53		33.438	D	24.653	329.5	0.179	5.61	D	98.8		2.0	0.37	1.1	0.27	0.16	0.37	0.16	50	
52		14.83		14.82		33.432		24.805	315.1	0.184	5.57		96.7		2.1	0.40	1.4	0.34	0.18	0.39	0.18	52	15
60	A	13.10		13.09		33.404		25.141	283.2	0.208	5.07		84.9		4.4	0.78	7.3	0.26	0.00	0.35	0.21	60	14
75	A	11.66		11.65		33.432		25.439	255.0	0.249	4.59		74.5		9.0	1.19	13.4	0.03	0.00	0.14	0.14	76	13
87		10.72		10.70		33.584		25.728	227.8	0.278	3.85		61.3		16.3	1.61	19.4	0.02	0.00	0.02	0.04	88	12
100		10.09		10.08		33.706		25.930	208.7	0.306	3.23		50.7		22.4	1.91	23.8	0.02	0.00	0.01	0.05	101	11
120		9.48		9.47		33.835		26.133	189.8	0.346	2.58		40.1		28.5	2.12	27.0	0.02	0.00	0.00	0.04	121	10
125	ISL	9.29	D	9.27		33.875	D	26.196	183.9	0.357	2.54	D	39.2		29.0	2.12	27.1	0.02	0.00	0.00	0.03	126	
140		9.16		9.14		33.890		26.229	181.1	0.383	2.50		38.5		30.6	2.13	27.4	0.01	0.00	0.00	0.03	141	09
150	ISL	8.92	D	8.90		33.947	D	26.313	173.2	0.403	2.64	D	40.5		31.7	2.12	27.5	0.01	0.00	0.00	0.03	151	
170		8.49		8.47		33.958		26.388	166.3	0.434	2.71		41.2		33.9	2.09	27.8	0.01	0.00	0.00	0.02	171	08
200		8.07		8.04		34.001		26.486	157.5	0.483	2.47		37.2		38.4	2.20	29.4	0.01	0.00	0.00	0.02	202	07
230		7.70		7.67		34.013		26.550	151.8	0.529	2.30		34.3		42.7	2.30	30.8	0.01	0.00			232	06
250	ISL	7.61	D	7.58		34.057	D	26.598	147.6	0.563	1.81	D	27.0		45.9	2.43	32.1	0.01	0.00			252	
270		7.49		7.46		34.083		26.636	144.3	0.588	1.58		23.4		49.1	2.55	33.4	0.01	0.00			272	05
300	ISL	7.24	D	7.21		34.094	D	26.680	140.5	0.635	1.33	D	19.7		53.4	2.67	34.9	0.01	0.00			302	
319		7.05		7.02		34.102		26.713	137.6	0.657	1.19		17.5		56.1	2.74	35.9	0.01	0.00			322	04
380		6.61		6.58		34.131		26.796	130.4	0.739	0.90		13.1		63.6	2.90	37.8	0.01	0.00			383	03
400	ISL	6.58	D	6.55		34.156	D	26.820	128.5	0.770	0.75	D	10.9		65.8	2.95	38.1	0.01	0.00			403	
440		6.42		6.38		34.205		26.882	123.1	0.815	0.54		7.8		70.1	3.05	38.7	0.01	0.00			444	02
500	ISL	5.94	D	5.90		34.207	D	26.944	117.5	0.894	0.50	D	7.1		77.0	3.12	40.0	0.01	0.00			504	
515		5.85		5.81		34.211		26.959	116.3	0.905	0.45		6.4		78.7	3.14	40.3	0.01	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 STA-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1210 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	03/11/2012	1306 UTC	4234 m	330 16 kn			1017.8 mb	17.0 C	15.8 C				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		16.90		16.90		33.270		24.212	370.0	0.000	5.63		101.7		2.1	0.29	0.0	0.01	0.02	0.15	0.04	0	
3		16.90		16.90		33.270		24.212	370.0	0.011	5.63		101.7		2.1	0.29	0.0	0.01	0.02	0.15	0.04	3	20
10	ISL	16.90	D	16.90		33.273	D	24.214	370.1	0.037	5.67	D	102.4		2.1	0.29	0.0	0.01	0.02	0.14	0.04	10	
11		16.90		16.90		33.277		24.217	369.8	0.041	5.65		102.0		2.1	0.29	0.0	0.01	0.02	0.14	0.03	11	19
20	ISL	16.90	D	16.90		33.300	D	24.235	368.4	0.074	5.64	D	101.8		2.1	0.29	0.0	0.01	0.00	0.15	0.04	20	
21		16.91		16.90		33.290		24.227	369.2	0.078	5.62		101.6		2.1	0.29	0.0	0.01	0.00	0.15	0.04	21	18
30		16.97		16.97		33.438		24.326	360.1	0.110	5.66		102.5		1.6	0.28	0.0	0.01	0.00	0.24	0.09	30	17
40		13.70		13.69		33.309		24.945	301.2	0.144	5.72		97.0		3.1	0.55	2.5	0.43	0.31	0.56	0.26	40	16
50		11.89		11.88		33.244		25.249	272.4	0.172	5.32		86.7		5.9	0.87	7.7	0.21	0.00	0.27	0.17	50	15
60		10.77		10.76		33.229		25.441	254.3	0.199	5.03		80.1		9.6	1.09	11.5	0.03	0.00	0.12	0.11	60	14
70		10.03		10.02		33.246		25.581	241.2	0.223	5.05		79.1		11.0	1.11	12.0	0.03	0.00	0.08	0.08	71	13
75	ISL	9.68	D	9.67		33.282	D	25.666	233.1	0.237	4.85	D	75.3		12.8	1.25	14.0	0.03	0.00	0.07	0.07	76	
85		10.41		10.39		33.585	D	25.783	222.4	0.260	4.22		66.8		16.3	1.53	18.1	0.02	0.00	0.03	0.04	86	12
100		9.58		9.57		33.694		26.005	201.4	0.290	3.42		53.1		23.1	1.86	23.3	0.02	0.00	0.01	0.04	101	11
120		9.12		9.11		33.832		26.189	184.4	0.328	2.89		44.5		28.5	2.08	26.6	0.02	0.00	0.00	0.04	121	10
125	ISL	9.05	D	9.03		33.864	D	26.226	180.9	0.340	2.72	D	41.8		29.4	2.10	27.0	0.02	0.00	0.00	0.04	126	
139		8.80		8.79		33.914		26.304	173.8	0.362	2.57		39.3		32.1	2.17	28.1	0.01	0.00	0.00	0.04	140	09
150	ISL	8.68	D	8.67		33.956	D	26.355	169.1	0.384	2.50	D	38.2		33.3	2.18	28.3	0.01	0.00	0.00	0.03	151	
170		8.36		8.34		33.981		26.426	162.7	0.414	2.53		38.3		35.6	2.20	28.8	0.01	0.00	0.00	0.03	171	08
200	ISL	8.01	D	7.99		34.012	D	26.503	155.8	0.465	2.35	D	35.4		39.8	2.32	30.3	0.01	0.00	0.00	0.03	202	
201		8.00		7.98		34.011		26.503	155.9	0.464	2.29		34.4		40.0	2.32	30.4	0.01	0.00	0.00	0.03	203	07
230		8.16		8.13		34.138		26.581	149.2	0.508	1.23		18.6		46.3	2.66	33.3	0.01	0.00			232	06
250	ISL	7.98	D	7.96		34.184	D	26.642	143.7	0.541	0.97	D	14.7		49.2	2.76	34.0	0.01	0.00			252	
269		7.92		7.89		34.201		26.668	141.6	0.564	0.83		12.5		51.9	2.85	34.7	0.01	0.00			271	05
300	ISL	7.59	D	7.57		34.204	D	26.716	137.4	0.611	0.81	D	12.1		56.2	2.86	35.9	0.01	0.00			302	
320		6.86		6.83		34.137		26.766	132.4	0.635	1.02		14.9		59.0	2.87	36.7	0.01	0.00			323	04
379		6.08		6.05		34.099		26.839	125.8	0.711	0.92		13.2		69.7	3.00	39.2	0.01	0.00			382	03
400	ISL	6.20	D	6.16		34.170	D	26.881	122.3	0.742	0.64	D	9.3		72.3	3.06	39.6	0.01	0.00			403	
439		5.96		5.92		34.210		26.943	116.8	0.783	0.47		6.7		77.0	3.18	40.4	0.01	0.00			443	02
500	ISL	5.59	D	5.54		34.236	D	27.010	110.8	0.859	0.41	D	5.8		85.3	3.24	41.5	0.01	0.00			504	
516		5.33		5.29		34.212		27.022	109.6	0.870	0.40		5.7		87.5	3.25	41.8	0.01	0.00			520	01

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

RV NEW HORIZON CALCOFI CRUISE 1210 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 43.1 N	123 38.2 W	03/11/2012	0702 UTC	4277 m	310 13 kn			1017.6 mb	17.4 C	15.7 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		17.03		17.03		33.353		24.245	366.7	0.000	5.67		102.7		1.9	0.28	0.1	0.01	0.00	0.19	0.05	0	
2		17.03		17.03		33.353		24.245	366.7	0.007	5.67		102.7		1.9	0.28	0.1	0.01	0.00	0.19	0.05	2	20
10		16.99		16.99		33.345		24.248	366.8	0.037	5.63		101.9		1.9	0.28	0.1	0.01	0.00	0.19	0.05	10	19
20		16.97		16.96		33.378		24.280	364.1	0.073	5.63		101.9		1.8	0.27	0.1	0.01	0.00	0.22	0.06	20	18
30		16.89		16.88		33.467		24.367	356.2	0.109	5.61		101.4		1.5	0.27	0.1	0.01	0.01	0.44	0.18	30	17
40		16.62		16.61		33.482		24.443	349.3	0.144	5.58		100.3		1.6	0.31	0.3	0.07	0.14	0.53	0.20	40	16
50		14.48		14.48		33.455		24.895	306.4	0.177	5.43		93.6		2.6	0.53	2.9	0.39	0.08	0.51	0.21	50	15
61		12.08		12.07		33.396		25.332	264.9	0.209	4.75		77.8		7.7	1.09	11.5	0.04	0.00	0.23	0.17	61	14
70		10.69		10.68		33.282		25.496	249.4	0.232	4.90		77.8		10.8	1.19	13.0	0.04	0.00	0.14	0.09	71	13
75	ISL	10.77	D	10.73		33.427	D	25.601	239.5	0.246	4.45	D	70.8		12.8	1.34	15.2	0.03	0.00	0.10	0.08	76	
85		10.30		10.29		33.581		25.796	221.1	0.267	3.91		61.7		16.7	1.65	19.5	0.02	0.00	0.03	0.05	86	12
100		9.90		9.89		33.712		25.968	205.1	0.299	3.27		51.3		23.1	1.90	23.4	0.01	0.00	0.01	0.04	101	11
120		9.29		9.28		33.763		26.107	192.2	0.339	3.21		49.6		25.8	1.92	24.7	0.01	0.00	0.00	0.03	121	10
125	ISL	9.22	D	9.20		33.797	D	26.147	188.5	0.350	3.01	D	46.5		27.3	2.00	25.7	0.01	0.00	0.00	0.03	126	
141		9.11		9.09		33.913		26.254	178.6	0.378	2.23		34.3		32.2	2.27	28.9	0.01	0.00	0.00	0.04	142	09
150	ISL	8.89	D	8.87		33.945	D	26.315	173.0	0.396	2.53	D	38.8		33.1	2.26	29.0	0.01	0.00	0.00	0.04	151	
170		8.54		8.53		33.980		26.397	165.6	0.427	2.36		35.8		35.2	2.24	29.3	0.01	0.00	0.00	0.04	171	08
200		8.13		8.11		33.997		26.473	158.8	0.476	2.20		33.1		39.1	2.34	30.5	0.01	0.00	0.00	0.03	202	07
230		7.74		7.72		34.007		26.538	152.9	0.523	2.11		31.5		42.7	2.39	31.7	0.00	0.00			232	06
250	ISL	7.61	D	7.58		34.056	D	26.597	147.7	0.556	1.66	D	24.8		46.5	2.51	33.0	0.01	0.00			252	
270		7.31		7.29		34.054		26.638	144.0	0.582	1.58		23.4		50.3	2.63	34.3	0.01	0.00			272	05
300	ISL	6.78	D	6.75		34.067	D	26.722	136.2	0.628	1.31	D	19.1		56.4	2.76	36.2	0.00	0.00			302	
320		6.66		6.63		34.084		26.752	133.6	0.651	1.11		16.2		60.5	2.85	37.5	0.00	0.00			323	04
380		6.27		6.24		34.127		26.837	126.2	0.729	0.83		12.0		68.2	3.00	39.0	0.01	0.00			383	03
400	ISL	6.19	D	6.15		34.147	D	26.864	123.8	0.759	0.73	D	10.5		71.1	3.04	39.5	0.01	0.00			403	
439		5.81		5.77		34.153		26.917	119.0	0.801	0.62		8.8		76.7	3.13	40.6	0.01	0.00			443	02
500	ISL	5.35	D	5.31		34.178	D	26.993	112.2	0.878	0.51	D	7.2		85.2	3.21	42.0	0.01	0.00			504	
517		5.21		5.17		34.177		27.009	110.7	0.891	0.51		7.1		87.5	3.23	42.4	0.01	0.00			521	01

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

RV NEW HORIZON CALCOFI CRUISE 1210 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 23.2 N	124 19.3 W	03/11/2012	0010 UTC	4584 m	320 08 kn	340 06 08	1	1017.5 mb	18.2 C	15.8 C	31 m	4/8	SC	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		17.91	17.91	33.034	23.791	410.1	0.000	5.52		101.5	3.1	0.24	0.0	0.01	0.00	0.10	0.02	0	
2		17.91	17.91	33.034	23.791	410.1	0.008	5.52		101.5	3.1	0.24	0.0	0.01	0.00	0.10	0.02	2	20
10		17.82	17.82	33.041	23.818	407.8	0.041	5.53		101.5	3.1	0.25	0.0	0.01	0.00	0.09	0.02	10	19
20	ISL	17.79 D	17.79	33.035 D	23.822	407.8	0.082	5.49	D	100.7	3.1	0.25	0.0	0.01	0.00	0.10	0.03	20	
26		17.60	17.60	33.023	23.858	404.6	0.106	5.53		101.1	3.1	0.25	0.0	0.01	0.00	0.11	0.03	26	18
30	ISL	17.54 D	17.54	33.027 D	23.876	403.0	0.123	5.51	D	100.7	3.0	0.25	0.0	0.01	0.00	0.11	0.03	30	
40		17.32	17.31	33.029	23.931	398.1	0.162	5.59		101.6	2.9	0.25	0.0	0.01	0.00	0.12	0.02	40	17
50		17.16	17.15	33.028	23.968	395.0	0.202	5.60		101.4	2.8	0.26	0.0	0.01	0.00	0.14	0.02	50	16
62		15.96	15.95	33.095	24.296	364.0	0.248	5.91		104.6	2.9	0.25	0.0	0.01	0.00	0.23	0.07	63	15
75		13.94	13.93	33.132	24.762	319.8	0.292	6.16		104.7	3.1	0.26	0.0	0.01	0.00	0.23	0.18	76	14
87		12.60	12.59	33.080	24.988	298.4	0.329	6.11		100.9	3.5	0.32	0.2	0.06	0.05	0.23	0.17	88	13
100		11.95	11.94	33.001	25.051	292.6	0.368	6.10		99.4	4.0	0.36	0.5	0.16	0.03	0.17	0.15	101	12
112		10.80	10.79	33.023	25.276	271.2	0.401	5.71		90.9	6.5	0.62	4.9	0.04	0.00	0.08	0.08	113	11
125		10.78	10.77	33.303	25.499	250.4	0.435	5.15		82.0	9.4	0.91	10.0	0.03	0.01	0.06	0.06	126	10
140		10.23	10.21	33.411	25.679	233.6	0.472	4.78		75.2	13.0	1.14	13.8	0.02	0.00	0.03	0.03	141	09
150	ISL	9.66 D	9.66	33.567 D	25.894	213.2	0.497	4.20	D	65.4	17.2	1.37	17.3	0.02	0.00	0.02	0.03	151	
171		9.13	9.11	33.757	26.130	191.0	0.536	3.21		49.4	26.0	1.85	24.5	0.01	0.00	0.00	0.02	172	08
200		8.73	8.71	33.905	26.310	174.5	0.589	2.88		44.0	31.0	1.99	26.7	0.01	0.00	0.00	0.02	202	07
231		8.28	8.25	34.002	26.456	161.1	0.641	2.32		35.1	37.6	2.22	29.7	0.01	0.00			233	06
250	ISL	8.01 D	7.99	34.036 D	26.523	155.0	0.676	2.12	D	31.8	41.7	2.37	31.2	0.01	0.00			252	
270		7.91	7.88	34.098	26.587	149.2	0.702	1.54		23.0	46.1	2.52	32.8	0.01	0.00			272	05
300	ISL	7.41 D	7.38	34.092 D	26.655	143.0	0.750	1.48	D	22.0	50.1	2.60	33.9	0.01	0.00			302	
321		7.34	7.30	34.116	26.685	140.5	0.775	1.31		19.4	52.9	2.66	34.7	0.01	0.00			324	04
380		7.19	7.15	34.222	26.790	131.5	0.855	0.63		9.4	60.7	2.95	36.6	0.01	0.00			383	03
400	ISL	6.87 D	6.83	34.207 D	26.822	128.5	0.888	0.65	D	9.5	64.5	2.99	37.5	0.01	0.00			403	
440		6.25	6.21	34.190	26.892	122.0	0.932	0.58		8.4	72.0	3.06	39.3	0.01	0.00			444	02
500	ISL	5.56 D	5.52	34.171 D	26.963	115.3	1.010	0.56	D	8.0	80.6	3.13	40.9	0.01	0.00			504	
515		5.52	5.48	34.190	26.982	113.6	1.020	0.50		7.1	82.8	3.15	41.3	0.01	0.00			519	01

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

RV NEW HORIZON CALCOFI CRUISE 1210 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 27.4 N	120 29.6 W	01/11/2012	0649 UTC	34 m	020 04 kn			1014.4 mb	15.5 C	13.2 C				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	14.83	14.83	33.458	24.820	311.9	0.000	5.71	99.0	5.9	0.63	2.1	0.16	0.24	2.00	0.43	0	
2	14.83	14.83	33.458	24.820	311.9	0.006	5.71	99.0	5.9	0.63	2.1	0.16	0.24	2.00	0.43	2	06
5	14.75	14.74	33.458	24.840	310.2	0.016	5.69	98.6	5.9	0.60	2.2	0.15	0.14	2.18	0.43	5	05
10	14.57	14.57	33.450	24.870	307.4	0.031										10	04
10	14.57	14.57	33.454	24.873	307.2	0.031	5.64	97.3	6.1	0.63	2.7	0.16	0.12	2.04	0.42	10	03
15	14.48	14.48	33.450	24.891	305.6	0.046	5.64	97.3	6.2	0.66	2.9	0.17	0.13	2.50	0.45	15	02
20 ISL	13.81 D	13.81	33.442 D	25.024	293.1	0.062	5.36	D	91.1	7.2	0.73	4.2	0.20	0.11	2.54	0.46	20	
21	13.80	13.79	33.446	25.030	292.6	0.064	5.38	91.4	7.4	0.74	4.5	0.21	0.11	2.55	0.47	21	01

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

RV NEW HORIZON CALCOFI CRUISE 1210 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	01/11/2012	0734 UTC	77 m	320 15 kn			1014.8 mb	14.0 C	13.2 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	14.29	14.29	33.435	24.918	302.6	0.000	5.79	99.4	5.0	0.55	2.1	0.10	0.01	3.14	0.45	0	
2	14.29	14.29	33.435	24.918	302.6	0.006	5.79	99.4	5.0	0.55	2.1	0.10	0.01	3.14	0.45	2	10
5	14.24	14.24	33.435	24.928	301.8	0.015	5.79	99.3	5.0	0.56	2.2	0.11	0.03	3.34	0.52	5	09
10	13.45	13.45	33.428	25.086	286.9	0.030	5.26	88.7	7.5	0.82	5.9	0.17	0.02	2.59	0.32	10	07
10	13.45	13.45	33.428	25.085	287.0	0.031										10	08
20	12.08	12.08	33.436	25.361	261.0	0.057	4.43	72.6	11.6	1.18	11.7	0.09	0.00	0.31	0.25	20	06
30	12.00	12.00	33.449	25.386	258.8	0.083	4.39	71.8	12.0	1.21	12.0	0.08	0.00	0.21	0.16	30	05
41	11.88	11.87	33.452	25.412	256.7	0.112	4.32	70.4	12.4	1.22	12.3	0.09	0.00	0.15	0.14	41	04
50	11.71	11.70	33.490	25.474	251.1	0.135	4.12	66.9	14.9	1.33	13.7	0.17	0.14	0.15	0.24	50	03
58	11.74	11.73	33.490	25.469	251.8	0.155	4.09	66.6	15.1	1.33	13.3	0.19	0.19	0.16	0.25	58	02
70	11.12	11.11	33.587	25.657	234.1	0.184	3.57	57.3	20.2	1.62	17.1	0.17	0.28	0.11	0.36	71	01

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

RV NEW HORIZON CALCOFI CRUISE 1210 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 18.9 N	120 48.2 W	01/11/2012	1042 UTC	814 m	330	14 kn			1015.2 mb	15.8 C	14.8 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		15.56		15.56		33.452		24.657	327.5	0.000	5.96		105.0	0.9	0.26	0.1	0.02	0.04	1.45	0.18	0	
2		15.56		15.56		33.452		24.657	327.5	0.007	5.96		105.0	0.9	0.26	0.1	0.02	0.04	1.45	0.18	2	22
10		15.55		15.55		33.447		24.655	328.0	0.033	5.97		105.2	0.9	0.26	0.1	0.02	0.06	1.56	0.27	10	20
10		15.55		15.55		33.446		24.654	328.1	0.034											10	21
15		15.45		15.45		33.440		24.672	326.5	0.049	5.98		105.0	0.9	0.27	0.1	0.02	0.00	1.43	0.19	15	19
20	ISL	15.34	D	15.35		33.418	D	24.678	326.1	0.066	5.85	D	102.5	1.1	0.31	0.2	0.04	0.03	1.31	0.20	20	
21		15.26		15.25		33.424		24.703	323.8	0.069	5.91		103.4	1.1	0.32	0.2	0.04	0.04	1.29	0.20	21	18
30		13.19		13.19		33.378		25.101	286.1	0.096	5.13		86.1	5.8	0.80	6.1	0.34	0.08	0.42	0.25	30	17
40		11.94		11.93		33.467		25.413	256.6	0.123	4.49		73.4	11.2	1.17	11.8	0.27	0.04	0.24	0.20	40	16
50		11.02		11.01		33.541		25.638	235.4	0.148	3.86		61.8	15.8	1.48	16.8	0.11	0.13	0.13	0.17	50	15
61		10.73		10.72		33.582		25.722	227.6	0.173	3.65		58.1	17.3	1.56	18.1	0.08	0.04	0.10	0.22	61	14
71		10.39		10.38		33.654		25.838	216.8	0.196	3.36		53.2	20.4	1.72	19.7	0.04	0.00	0.06	0.12	72	13
75	ISL	10.24	D	10.22		33.696	D	25.899	211.1	0.206	3.19	D	50.3	21.9	1.79	20.8	0.04	0.00	0.05	0.12	76	
86		9.84		9.83		33.797		26.043	197.6	0.227	2.81		44.0	25.8	1.97	23.9	0.03	0.00	0.02	0.10	87	12
100		9.63		9.62		33.891		26.152	187.6	0.254	2.55		39.7	28.4	2.09	25.3	0.02	0.00	0.02	0.08	101	11
120		9.51		9.49		33.955		26.223	181.3	0.291	2.31		35.8	30.5	2.17	26.6	0.01	0.00	0.02	0.08	121	10
125	ISL	9.48	D	9.47		33.969	D	26.238	180.0	0.301	2.26	D	35.1	30.9	2.19	26.8	0.01	0.00	0.02	0.08	126	
138		9.44		9.42		33.991		26.263	177.9	0.323	2.17		33.7	31.9	2.23	27.2	0.01	0.00	0.01	0.09	139	09
150	ISL	9.40	D	9.39		34.010	D	26.284	176.1	0.346	2.10	D	32.6	32.6	2.25	27.5	0.01	0.00	0.01	0.08	151	
169		9.33		9.32		34.039		26.318	173.3	0.377	1.98		30.7	33.7	2.29	28.0	0.01	0.00	0.01	0.07	170	08
200	ISL	9.23	D	9.21		34.084	D	26.371	168.9	0.433	1.81	D	27.9	35.4	2.37	28.7	0.01	0.00	0.01	0.06	202	
202		9.23		9.20		34.097		26.382	167.9	0.434	1.80		27.9	35.5	2.37	28.7	0.01	0.00	0.01	0.06	204	07
229		9.14		9.12		34.111		26.408	166.1	0.479	1.68		25.9	36.9	2.42	28.9	0.01	0.00			231	06
250	ISL	9.00	D	8.98		34.150	D	26.461	161.5	0.517	1.47	D	22.6	38.8	2.49	29.9	0.01	0.00			252	
269		8.94		8.91		34.167		26.485	159.5	0.544	1.34		20.6	40.5	2.56	30.8	0.01	0.00			271	05
300	ISL	8.78	D	8.74		34.203	D	26.540	154.9	0.597	1.08	D	16.5	43.2	2.64	31.4	0.01	0.00			302	
319		8.68		8.65		34.216		26.565	152.8	0.622	1.03		15.7	44.8	2.69	31.7	0.01	0.00			322	04
380		7.69		7.65		34.218		26.717	138.9	0.711	0.84		12.5	53.6	2.86	34.6	0.01	0.00			383	03
400	ISL	6.99	D	6.95		34.139	D	26.753	135.2	0.743	0.92	D	13.5	57.8	2.91	35.7	0.01	0.00			403	
441		6.51		6.47		34.160		26.834	127.7	0.792	0.74		10.8	66.5	3.02	38.1	0.00	0.00			445	02
500	ISL	5.98	D	5.93		34.191	D	26.927	119.2	0.871	0.56	D	8.0	73.8	3.13	39.4	0.01	0.00			504	
516		6.07		6.02		34.216		26.937	118.6	0.884	0.49		7.0	75.7	3.16	39.8	0.01	0.00			520	01

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

RV NEW HORIZON CALCOFI CRUISE 1210 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 8.7 N	121 8.7 W	01/11/2012	1701 UTC	2144 m	330	04 kn	290 06 10	2	1016.1 mb	16.5 C	16.0 C	14 m	8/8	ST	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		16.54		16.54		33.512		24.482	344.2	0.000	5.89		105.7	0.2	0.19	0.2	0.01	0.05	0.49	0.08	0	
2	A	16.54		16.54		33.512		24.482	344.2	0.007	5.89		105.7	0.2	0.19	0.2	0.01	0.05	0.49	0.08	2	23
9	A	16.51		16.51		33.514		24.490	343.7	0.031	5.90		105.9	0.2	0.16	0.1	0.01	0.00	0.61	0.11	9	21
10		16.51		16.51		33.514		24.489	343.8	0.033											10	22
10	ISL	16.51	D	16.51		33.514	D	24.489	343.8	0.035	5.96	D	107.0	0.2	0.16	0.1	0.01	0.00	0.62	0.10	10	
12	A	16.50		16.50		33.514		24.492	343.6	0.041	5.95		106.8	0.2	0.15	0.0	0.01	0.00	0.64	0.08	12	20
20	ISL	16.39	D	16.38		33.495	D	24.506	342.6	0.069	5.83	D	104.4	0.7	0.20	0.0	0.01	0.00	0.48	0.09	20	
22	A	16.26		16.25		33.486		24.528	340.5	0.076	5.76		102.8	0.8	0.21	0.0	0.01	0.00	0.44	0.09	22	19
30		16.13		16.13		33.464		24.539	339.7	0.103	5.71		101.8	1.0	0.25	0.0	0.01	0.00	0.41	0.14	30	18
38	A	15.07		15.06		33.427		24.748	320.0	0.129	5.65		98.5	1.5	0.36	0.6	0.17	0.10	0.61	0.24	38	17
48	A	12.59		12.58		33.396		25.234	273.9	0.159	4.97		82.4	5.0	0.89	8.6	0.16	0.02	0.29	0.22	48	16
50	ISL	12.12	D	12.10		33.381	D	25.314	266.3	0.166	4.93	D	80.8	6.0	0.96	9.6	0.13	0.01	0.25	0.19	50	
54		11.80		11.79		33.386		25.377	260.4	0.175	4.77		77.7	8.0	1.11	11.7	0.06	0.00	0.17	0.12	54	15
59		11.76		11.75		33.474		25.452	253.4	0.188	4.49		73.0	9.2	1.27	14.0	0.04	0.00	0.13	0.12	59	14
69		11.08		11.07		33.492		25.591	240.4	0.212	4.30		69.0	12.1	1.40	16.2	0.04	0.00	0.08	0.07	70	13
75	ISL	10.46	D	10.45		33.544	D	25.740	226.3	0.228	4.13	D	65.4	14.3	1.51	17.7	0.04	0.00	0.06	0.07	76	
85		10.22		10.21		33.609		25.833	217.6	0.249	3.83		60.3	17.8	1.68	20.3	0.03	0.00	0.03	0.05	86	12
100		9.66		9.64		33.745		26.033	198.8	0.280	3.12		48.6	24.7	1.97	24.8	0.02	0.00	0.01	0.04	101	11
119		9.26		9.25		33.835		26.168	186.3	0.316	2.76		42.6	28.6	2.12	27.1	0.02	0.00	0.01	0.04	120	10
125	ISL	9.08	D	9.08		33.867	D	26.222	181.4	0.330	2.78	D	42.8	29.1	2.12	27.2	0.02	0.00	0.01	0.04	126	
140		8.96		8.95		33.889		26.259	178.1	0.354	2.69		41.2	30.5	2.12	27.4	0.02	0.00	0.01	0.04	141	09
150	ISL	8.88	D	8.86		33.942	D	26.314	173.1	0.374	2.45	D	37.5	32.4	2.20	28.4	0.02	0.00	0.01	0.04	151	
170		8.76		8.74		34.012		26.388	166.5	0.406	1.94		29.7	36.1	2.36	30.3	0.02	0.00	0.01	0.04	171	08
199		8.39		8.36		34.055		26.480	158.2	0.453	1.82		27.7	39.6	2.42	31.3	0.02	0.00	0.01	0.03	201	07
200	ISL	8.36	D	8.36		34.056	D	26.482	158.0	0.458	1.87	D	28.4	39.6	2.42	31.3	0.02	0.00	0.01	0.03	202	
229		8.10		8.07		34.058		26.527	154.2	0.500	1.93		29.0	42.0	2.42	31.6	0.02	0.00			231	06
250	ISL	7.74	D	7.71		34.032	D	26.559	151.3	0.536	2.20	D	32.8	44.3	2.44	32.2	0.02	0.00			252	
270		7.36		7.33		34.013		26.599	147.7	0.562	2.05		30.3	46.5	2.45	32.8	0.02	0.00			272	05
300	ISL	7.29	D	7.26		34.064	D	26.649	143.5	0.610	1.59	D	23.5	50.1	2.58	34.3	0.02	0.00			302	
319		7.22		7.19		34.070		26.664	142.3	0.633	1.51	D	22.3	52.3	2.66	35.2	0.02	0.00			322	04
380		6.68		6.64		34.120		26.779	132.1	0.716	0.97		14.2	61.6	2.89	37.2	0.01	0.00			383	03
400	ISL	6.60	D	6.56		34.138	D	26.804	129.9	0.748	0.85	D	12.4	63.8	2.93	37.8	0.01	0.00			403	
440		6.33		6.29		34.152		26.851	125.9	0.794	0.74		10.7	68.2	3.02	39.0	0.02	0.00			444	02
500	ISL	6.19	D	6.15		34.207	D	26.913	120.8	0.874	0.53	D	7.7	74.2	3.11	39.5	0.01	0.00			504	
516		6.01		5.96		34.205		26.935	118.7	0.887	0.51		7.3	75.8	3.14	39.6	0.01	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 STA-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1210 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 48.9 N	121 50.8 W	01/11/2012	2312	UTC	3629 m	340	09 kn	300 04 07	1	1014.6 mb	18.0 C	16.7 C	19 m	7/8	SC	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		16.91		16.91		33.371		24.286	362.9	0.000	5.65		8.8	2.2	0.29	0.0	0.01	0.00	0.21	0.05	0	
3		16.91		16.91		33.371		24.286	362.9	0.011	5.65		102.2	2.2	0.29	0.0	0.01	0.00	0.21	0.05	3	20
10	ISL	16.85	D	16.85		33.372	D	24.301	361.7	0.037	5.64		101.9	2.2	0.30	0.0	0.01	0.00	0.20	0.05	10	
11		16.76		16.76		33.377		24.327	359.2	0.040	5.64		101.7	2.2	0.30	0.0	0.01	0.00	0.20	0.05	11	19
20		16.62		16.61		33.405		24.382	354.3	0.072	5.65		101.5	2.1	0.29	0.0	0.01	0.00	0.34	0.10	20	18
30		15.61		15.61		33.401		24.608	333.1	0.106	5.72		100.7	2.5	0.35	0.5	0.06	0.01	0.72	0.23	30	17
41		12.01		12.00		33.344		25.305	266.9	0.139	5.55		90.7	4.4	0.59	3.6	0.26	0.00	0.75	0.29	41	16
50		11.42		11.41		33.288		25.370	260.9	0.163	5.14		83.0	8.4	0.93	9.0	0.06	0.00	0.42	0.24	50	15
60		11.04		11.04		33.431		25.550	244.0	0.188	4.47		71.6	12.5	1.25	13.7	0.04	0.00	0.24	0.18	60	14
71		9.94		9.93		33.737		25.979	203.3	0.213	3.07		48.1	24.3	1.90	23.2	0.02	0.00	0.04	0.06	72	13
75	ISL	9.85	D	9.84		33.757	D	26.011	200.4	0.222	2.96	D	46.3	24.9	1.93	23.6	0.02	0.00	0.03	0.06	76	
86		9.76		9.75		33.808		26.066	195.4	0.243	2.72		42.5	26.8	2.01	24.7	0.02	0.00	0.02	0.05	87	12
100		9.62		9.61		33.890		26.153	187.4	0.270	2.37		36.9	29.5	2.14	26.0	0.02	0.00	0.01	0.03	101	11
119		9.45		9.44		33.993		26.262	177.5	0.304	1.99		30.8	32.8	2.28	27.3	0.02	0.00	0.00	0.03	120	10
125	ISL	9.41	D	9.40		34.015	D	26.286	175.4	0.317	1.91	D	29.7	33.4	2.30	27.5	0.02	0.00	0.00	0.04	126	
139		9.31		9.29		34.056		26.335	171.0	0.339	1.84		28.5	34.8	2.34	28.1	0.02	0.00	0.00	0.04	140	09
150	ISL	9.33	D	9.31		34.091	D	26.359	169.0	0.360	1.65	D	25.6	35.6	2.38	28.5	0.02	0.00	0.00	0.03	151	
169		9.23		9.21		34.130		26.406	165.0	0.390	1.53		23.6	37.1	2.45	29.2	0.02	0.00	0.00	0.02	170	08
200		9.15		9.13		34.178		26.458	160.7	0.440	1.35		20.9	38.9	2.52	29.5	0.02	0.00	0.00	0.03	202	07
229		8.99		8.96		34.198		26.500	157.3	0.486	1.18		18.1	41.0	2.59	30.6	0.02	0.00			231	06
250	ISL	8.88	D	8.86		34.218	D	26.533	154.5	0.522	1.05	D	16.2	42.4	2.63	30.9	0.02	0.00			252	
270		8.80		8.77		34.228		26.555	152.8	0.550	1.01		15.5	43.7	2.67	31.2	0.02	0.00			272	05
300	ISL	8.68	D	8.65		34.245	D	26.588	150.3	0.599	0.89	D	13.7	45.3	2.71	31.8	0.02	0.00			302	
320		8.56		8.53		34.257		26.616	148.0	0.625	0.86	D	13.1	46.3	2.73	32.2	0.02	0.00			323	04
380		8.18		8.14		34.288		26.699	141.0	0.712	0.71		10.7	51.2	2.84	33.5	0.01	0.00			383	03
400	ISL	8.03	D	7.99		34.272	D	26.710	140.3	0.745	0.64	D	9.6	53.1	2.88	34.0	0.01	0.00			403	
439		7.67		7.63		34.268		26.761	135.9	0.794	0.58		8.7	57.0	2.95	35.0	0.02	0.00			443	02
500	ISL	6.98	D	6.93		34.269	D	26.859	126.9	0.881	0.47	D	7.0	64.4	3.06	36.6	0.01	0.00			504	
514		6.93		6.88		34.269		26.866	126.4	0.891	0.47		6.9	66.1	3.08	37.0	0.01	0.00			518	01

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

RV NEW HORIZON CALCOFI CRUISE 1210 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 28.9 N	122 32.0 W	02/11/2012	0519	UTC	3979 m	360	13 kn			1016.9 mb	16.9 C	15.0 C				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		17.54		17.54		33.163		23.977	392.3	0.000	5.55		101.5	2.9	0.30	0.0	0.01	0.00	0.11	0.02	0	
2		17.54		17.54		33.163		23.977	392.3	0.008	5.55		101.5	2.9	0.30	0.0	0.01	0.00	0.11	0.02	2	20
10		17.56		17.55		33.164		23.975	392.8	0.039	5.55		101.5	2.9	0.30	0.0	0.01	0.00	0.11	0.02	10	19
20		17.49		17.48		33.188		24.011	389.8	0.078	5.56		101.5	2.8	0.30	0.0	0.01	0.00	0.12	0.03	20	18
30		16.49		16.49		33.209		24.261	366.3	0.116	5.80		103.8	2.5	0.30	0.0	0.01	0.00	0.21	0.08	30	17
42		14.21		14.20		33.164		24.729	321.9	0.157	6.19		105.8	3.3	0.35	0.0	0.01	0.00	0.40	0.21	42	16
50	ISL	12.92	D	12.91		33.073	D	24.920	303.9	0.184	6.14	D	102.2	3.6	0.38	0.2	0.05	0.02	0.45	0.28	50	
51		12.89		12.88		33.049		24.908	305.0	0.185	6.18		102.8	3.6	0.38	0.2	0.06	0.02	0.45	0.29	51	15
60		11.88		11.88		33.018		25.075	289.2	0.212	6.03		98.2	4.2	0.45	0.8	0.22	0.01	0.24	0.22	60	14
70		11.31		11.30		33.014		25.178	279.7	0.241	5.81		93.4	5.4	0.59	3.2	0.08	0.00	0.15	0.13	71	13
75	ISL	11.10	D	11.09		33.112	D	25.292	268.8	0.256	5.50	D	88.1	6.4	0.69	5.0	0.06	0.00	0.13	0.12	76	
86		11.08		11.07		33.248		25.401	258.8	0.283	5.28		84.6	8.4	0.91	8.8	0.01	0.00	0.09	0.09	87	12
100		10.38		10.37		33.391		25.636	236.7	0.318	4.65		73.5	13.2	1.26	14.5	0.01	0.00	0.04	0.04	101	11
122		9.80		9.79		33.590		25.889	213.0	0.367	3.97		61.9	19.2	1.60	19.9	0.01	0.00	0.01	0.03	123	10
125	ISL	9.73	D	9.72		33.632	D	25.934	208.8	0.376	3.72	D	58.0	20.2	1.65	20.6	0.01	0.00	0.01	0.03	126	
140		9.35		9.33		33.728		26.072	195.9	0.404	3.36		52.0	24.9	1.87	23.9	0.01	0.00	0.00	0.03	141	09
150	ISL	9.09	D	9.08		33.849	D	26.207	183.3	0.425	2.95	D	45.4	27.3	1.97	25.1	0.01	0.00	0.00	0.04	151	
170		8.99		8.97		33.949		26.303	174.6	0.459	2.46		37.7	32.2	2.16	27.4	0.01	0.00	0.00	0.06	171	08
200		8.80		8.78		34.041		26.406	165.4	0.510	2.04		31.3	36.4	2.32	29.2	0.01	0.00	0.00	0.02	202	07
230		8.10		8.08		34.035		26.508	156.1	0.558	2.16		32.5	40.0	2.34	30.5	0.01	0.00			232	06
250	ISL	7.97	D	7.95		34.076	D	26.560	151.5	0.592	1.71	D	25.7	43.7	2.49	31.8	0.01	0.00			252	
270		8.03		8.00		34.139		26.601	147.9	0.619	1.34		20.2	47.4	2.63	33.1	0.00	0.00			272	05
300	ISL	7.92	D	7.89		34.225	D	26.686	140.4	0.666	0.80	D	12.0	51.7	2.78	34.2	0.00	0.00			302	
320		7.73		7.69		34.231		26.720	137.5	0.690	0.74		11.1	54.5	2.88	34.9	0.00	0.00			323	04
382		7.15		7.11		34.224		26.798	130.8	0.773	0.64		9.4	61.3	2.98	36.9	0.00	0.00			385	03
400	ISL	7.04	D	7.00		34.244	D	26.829	128.0	0.801	0.54	D	7.9	63.6	3.02	37.3	0.00	0.00			403	
439		6.72		6.68		34.269		26.892	122.4	0.845	0.42		6.2	68.6	3.11	38.3	0.00	0.00			443	02
500	ISL	6.22	D	6.18		34.293	D	26.977	114.8	0.923	0.31	D	4.5	76.1	3.21	39.3	0.00	0.01			504	
515		6.13		6.09		34.290		26.987	114.0	0.935	0.30		4.4	77.9	3.24	39.6	0.00	0.01			519	01

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

RV NEW HORIZON CALCOFI CRUISE 1210 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 13.5 W	02/11/2012	1127 UTC	4241 m	010 07 kn			1016.5 mb	16.9 C	14.9 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		17.07		17.07		33.431	24.295	362.0	0.000	5.62		101.9		1.7	0.30	0.0	0.03	0.00	0.25	0.06	0	
3		17.07		17.07		33.431	24.295	362.0	0.011	5.62		101.9		1.7	0.30	0.0	0.03	0.00	0.25	0.06	3	20
10		17.08		17.08		33.445	24.304	361.4	0.036	5.63		102.2		1.7	0.31	0.0	0.03	0.00	0.25	0.06	10	19
20	ISL	17.20	D	17.19		33.497	D 24.316	360.6	0.073	5.62	D	102.2		1.4	0.28	0.0	0.03	0.00	0.27	0.07	20	
21		17.22		17.22		33.496	24.311	361.2	0.076	5.60		101.8		1.4	0.28	0.0	0.03	0.00	0.28	0.07	21	18
30		17.19		17.19		33.539	24.351	357.7	0.108	5.55		101.0		1.4	0.31	0.0	0.05	0.03	0.33	0.10	30	17
40		17.17		17.16		33.543	24.361	357.2	0.144	5.54		100.8		1.4	0.29	0.1	0.06	0.10	0.35	0.11	40	16
50		13.34		13.33		33.487	25.156	281.4	0.176	4.82		81.1		4.0	0.88	8.4	0.27	0.00	0.29	0.19	50	15
59		12.57		12.56		33.490	25.312	266.8	0.201	4.59		76.0		6.3	1.08	11.5	0.08	0.00	0.22	0.17	59	14
71		11.87		11.86		33.517	25.465	252.5	0.232	4.36		71.1		8.8	1.30	14.6	0.06	0.00	0.15	0.11	72	13
75	ISL	11.43	D	11.40		33.576	D 25.596	240.0	0.243	4.09	D	66.1		10.3	1.37	15.6	0.06	0.00	0.13	0.10	76	
85		10.63		10.62		33.616	D 25.767	224.0	0.266	3.89	D	61.8									86	12
100		10.08		10.06		33.649	25.889	212.6	0.298	3.57		56.1		19.8	1.81	21.9	0.04	0.00	0.02	0.04	101	11
120		9.44		9.43		33.705	26.038	198.7	0.339	3.40		52.7		24.2	1.91	23.8	0.04	0.00	0.01	0.03	121	10
125	ISL	9.30	D	9.28		33.707	D 26.063	196.4	0.350	3.60	D	55.6		25.5	1.95	24.5	0.04	0.00	0.00	0.03	126	
139		9.10		9.08		33.843	26.202	183.5	0.375	2.85		43.8		28.9	2.06	26.5	0.04	0.00	0.00	0.04	140	09
150	ISL	8.79	D	8.78		33.890	D 26.287	175.7	0.397	3.06	D	46.9		30.9	2.12	27.4	0.04	0.00	0.00	0.03	151	
170		8.74		8.72		33.976	26.364	168.8	0.429	2.31		35.4		34.5	2.24	28.9	0.03	0.01	0.00	0.03	171	08
200	ISL	8.31	D	8.28		34.017	D 26.463	159.8	0.481	2.23		33.7		38.3	2.30	30.2	0.03	0.00	0.00	0.03	202	
201		8.25		8.23		34.023	26.476	158.6	0.480	2.22		33.6		38.4	2.30	30.2	0.03	0.00	0.00	0.03	203	07
230		7.55		7.53		33.974	26.540	152.7	0.525	2.69		40.0		41.6	2.22	30.0	0.02	0.00			232	06
250	ISL	7.37	D	7.34		33.997	D 26.585	148.7	0.559	2.34	D	34.7		45.1	2.41	31.7	0.02	0.00			252	
270		7.69		7.66		34.078	26.604	147.5	0.585	1.62		24.2		48.5	2.59	33.3	0.02	0.00			272	05
300	ISL	7.55	D	7.52		34.169	D 26.696	139.3	0.631	1.01	D	15.0		53.7	2.74	35.0	0.02	0.00			302	
319		7.16		7.13		34.148	26.734	135.7	0.654	1.01		14.9		57.0	2.84	36.1	0.02	0.00			322	04
380		6.23		6.19		34.106	26.826	127.2	0.734	0.94		13.5		67.4	2.97	38.8	0.02	0.00			383	03
400	ISL	6.06	D	6.02		34.121	D 26.860	124.1	0.764	0.81	D	11.6		70.7	3.02	39.5	0.02	0.00			403	
440		5.70		5.67		34.135	26.915	119.1	0.808	0.70		10.0		77.1	3.11	40.8	0.02	0.00			444	02
500	ISL	5.47	D	5.42		34.204	D 26.999	111.7	0.883	0.44	D	6.2		84.8	3.23	41.8	0.01	0.00			504	
515		5.37		5.33		34.212	27.017	110.1	0.894	0.39		5.5		86.8	3.26	42.1	0.01	0.00			519	01

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

RV NEW HORIZON CALCOFI CRUISE 1210 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 49.0 N	123 54.4 W	02/11/2012	1753 UTC	4106 m	350 08 kn	290 08 10	2	1019.0 mb	19.8 C	17.2 C	19 m	5/8	SC	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		17.07		17.07		33.350	24.232	368.1	0.000	5.66		102.6		1.9	0.25	0.0	0.02	0.04	0.25	0.07	0	
4	A	17.07		17.07		33.350	24.232	368.1	0.015	5.66		102.6		1.9	0.25	0.0	0.02	0.04	0.25	0.07	4	20
10	ISL	17.00	D	16.99		33.353	D 24.253	366.3	0.037	5.63		102.0		1.9	0.25	0.0	0.02	0.03	0.25	0.06	10	
12	A	16.99		16.99		33.352	24.253	366.4	0.044	5.62		101.8		1.9	0.25	0.0	0.02	0.03	0.26	0.06	12	19
18	A	16.96		16.96		33.366	24.272	364.8	0.066	5.61		101.6		1.9	0.25	0.0	0.02	0.03	0.31	0.08	18	18
20	ISL	16.98	D	16.98		33.402	D 24.295	362.6	0.074	5.61		101.5		1.9	0.25	0.0	0.02	0.03	0.34	0.10	20	
28	A	16.93		16.92		33.415	24.319	360.7	0.102	5.59		101.1		1.8	0.25	0.0	0.02	0.04	0.45	0.16	28	17
30	ISL	16.43	D	16.40		33.518	D 24.518	341.7	0.110	5.60	D	100.3		1.9	0.29	0.3	0.06	0.11	0.47	0.18	30	
41		13.57		13.57		33.310	24.973	298.6	0.144	5.81		98.1		3.0	0.48	1.8	0.29	0.51	0.56	0.32	41	16
50	ISL	12.08	D	12.05		33.196	D 25.181	279.0	0.172	5.49	D	89.8		5.0	0.68	5.1	0.42	0.13	0.33	0.23	50	
52	A	11.76		11.76		33.185	25.227	274.5	0.176	5.51		89.5		5.5	0.73	5.8	0.45	0.04	0.28	0.21	52	15
64	A	11.39		11.38		33.474	25.520	247.0	0.207	4.37		70.7		11.6	1.36	15.6	0.03	0.02	0.10	0.08	65	14
74		10.79		10.78		33.505	25.653	234.5	0.231	4.25		67.8		13.5	1.39	16.5	0.04	0.02	0.06	0.06	75	13
75	ISL	10.95	D	10.94		33.520	D 25.636	236.2	0.235	4.22	D	67.5		13.8	1.40	16.7	0.04	0.02	0.05	0.06	76	
85		10.29		10.28		33.546	25.771	223.4	0.257	4.06		64.1		16.8	1.51	18.4	0.03	0.00	0.03	0.11	86	12
100		9.98		9.97		33.672	25.923	209.3	0.289	3.43		53.7		21.7	1.81	22.5	0.03	0.00	0.01	0.04	101	11
120		9.45		9.43		33.749	26.071	195.6	0.330	3.22		49.9		24.9	1.90	24.2	0.02	0.00	0.01	0.03	121	10
125	ISL	9.32	D	9.31		33.781	D 26.116	191.4	0.341	3.14	D	48.6		25.4	1.90	24.2	0.02	0.00	0.01	0.03	126	
140		9.05		9.02		33.840	D 26.210	182.8	0.369	3.31		50.9		27.0	1.88	24.3	0.02	0.00	0.00	0.03	141	09
150	ISL	9.07	D	9.05		33.893	D 26.246	179.6	0.388	2.51	D	38.6		29.2	1.99	25.8	0.02	0.00	0.00	0.03	151	
170		8.81		8.79		33.953	26.335	171.6	0.421	2.36		36.2		33.7	2.20	28.7	0.02	0.01	0.00	0.04	171	08
200		8.26		8.24		34.036	26.484	157.8	0.470	1.98		29.9		39.4	2.34	30.6	0.02	0.00	0.00	0.03	202	07
230		7.73		7.71		34.037	26.564	150.5	0.516	1.91		28.5		44.4	2.44	32.3	0.02	0.02			232	06
250	ISL	7.53	D	7.51		34.054	D 26.606	146.8	0.549	1.74	D	25.9		47.0	2.50	33.2	0.02	0.01			252	
270		7.33		7.30		34.057	26.637	144.1	0.575	1.66		24.6		49.6	2.56	34.0	0.02	0.00			272	05
300	ISL	6.96	D	6.93		34.076	D 26.705	137.9	0.621	1.32	D	19.3		55.7	2.70	35.9	0.02	0.00			302	
319		6.72		6.69		34.081	26.741	134.7	0.643	1.18		17.2		59.5	2.79	37.1	0.02	0.00			322	04
380		6.15		6.12		34.100	26.831	126.6	0.723	0.93		13.4		67.7	2.94	38.9	0.02	0.00			383	03
400	ISL	6.04	D	6.01		34.113	D 26.856	124.5	0.752	0.82	D	11.8		70.5	2.99	39.3	0.02	0.00			403	
439		5.88		5.84		34.165	26.918	119.1	0.796	0.60	D	8.6		75.9	3.08	40.2	0.02	0.00			443	02
500	ISL	5.78	D	5.74		34.276	D 27.019	110.3	0.871	0.31	D	4.4		84.1	3.20	41.2	0.02	0.00			504	
514		5.51		5.47		34.253	27.033	108.8	0.881	0.33		4.6		86.0	3.23	41.4	0.02	0.00			518	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 CTD O2;

RV NEW HORIZON CALCOFI CRUISE 1210 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 24.1 N	119 48.1 W	31/10/2012	2322	UTC	25 m	260	06 kn	240 01 08	1	1014.4 mb	16.9 C	15.1 C		6/8	CS	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	17.69	17.69	33.556	24.243	367.0	0.000	5.85	107.4	1.5	0.19	0.0	0.01	0.00	0.52	0.09	0	
2	17.69	17.69	33.556	24.243	367.0	0.007	5.85	107.4	1.5	0.19	0.0	0.01	0.00	0.52	0.09	2	05
5	17.69	17.69	33.557	24.243	367.1	0.018	5.86	107.7	1.5	0.18	0.0	0.02	0.00	0.50	0.08	5	04
10	17.32	17.32	33.542	24.322	359.7	0.037	5.97	109.0	1.4	0.18	0.0	0.02	0.04	1.00	0.18	10	03
16	16.10	16.10	33.504	24.576	335.7	0.057	5.92	105.4	2.3	0.27	0.3	0.04	0.15	2.51	0.34	16	02
20	15.22	15.22	33.479	24.753	319.0	0.071	5.78	101.1	3.4	0.34	1.1	0.09	0.24	3.82	0.44	20	01

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

RV NEW HORIZON CALCOFI CRUISE 1210 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 16.3 N	120 1.5 W	01/11/2012	0127	UTC	580 m	280	11 kn	280 02 08	1	1014.2 mb	16.4 C	14.7 C		4/8	CC	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	17.89	17.89	33.570	24.206	370.5	0.000	5.68	104.7	2.1	0.24	0.0	0.01	0.00	0.34	0.06	0	
2	17.89	17.89	33.570	24.206	370.5	0.007	5.68	104.7	2.1	0.24	0.0	0.01	0.00	0.34	0.06	2	24
10	16.92	16.92	33.511	24.393	353.0	0.036	5.92	107.2	2.6	0.27	0.0	0.01	0.01	0.47	0.11	10	23
20	13.48	13.48	33.432	25.084	287.4	0.068	5.44	91.9	5.6	0.64	3.5	0.28	0.14	2.43	0.72	20	22
30 ISL	12.74 D	12.74	33.430 D	25.229	273.9	0.097	4.69 D	77.9	9.1	0.94	8.9	0.25	0.01	0.63	0.26	30	
31	12.60	12.60	33.433	25.260	271.0	0.099	4.73	78.4	9.5	0.97	9.4	0.25	0.00	0.45	0.22	31	21
40	11.65	11.65	33.493	25.486	249.6	0.123	4.20	68.2	13.3	1.22	13.8	0.07	0.01	0.19	0.18	40	20
50	11.13	11.13	33.546	25.622	236.9	0.147	3.87	62.3	15.8	1.36	16.0	0.05	0.00	0.14	0.13	50	19
60	11.05	11.04	33.589	25.671	232.5	0.170	3.59	57.6	18.3	1.47	17.5	0.08	0.00	0.09	0.12	60	18
70	10.79	10.78	33.625	25.746	225.6	0.193	3.43	54.7	19.5	1.54	18.7	0.07	0.00	0.09	0.12	71	17
75 ISL	10.76 D	10.75	33.635 D	25.759	224.5	0.206	3.36 D	53.5	20.0	1.56	19.1	0.06	0.00	0.08	0.11	76	
85	10.56	10.55	33.673	25.824	218.5	0.227	3.28	52.0	21.0	1.61	19.9	0.05	0.00	0.06	0.11	86	16
100	10.47	10.45	33.682	25.848	216.6	0.259	3.23	51.2	21.6	1.64	20.5	0.04	0.00	0.05	0.09	101	15
120	9.85	9.83	33.845	26.081	194.9	0.300	2.62	41.1	27.2	1.90	24.3	0.02	0.00	0.02	0.07	121	14
125 ISL	9.78 D	9.77	33.869 D	26.110	192.2	0.312	2.45 D	38.4	28.3	1.95	24.9	0.02	0.00	0.02	0.06	126	
140	9.62	9.60	33.956	26.206	183.3	0.338	2.12	33.1	31.6	2.09	26.7	0.01	0.00	0.02	0.06	141	13
150 ISL	9.50 D	9.48	34.014 D	26.272	177.3	0.359	1.84 D	28.7	33.2	2.15	27.3	0.01	0.00	0.02	0.05	151	
171	9.37	9.35	34.075	26.341	171.2	0.393	1.59	24.6	36.7	2.29	28.7	0.01	0.00	0.01	0.05	172	12
200	9.22	9.20	34.141	26.417	164.6	0.442	1.22	18.9	40.5	2.42	30.0	0.00	0.00	0.01	0.06	202	11
230	8.90	8.87	34.198	26.515	155.8	0.490	0.78	12.0	46.9	2.60	31.5	0.00	0.00			232	10
250 ISL	8.69 D	8.66	34.217 D	26.562	151.6	0.524	0.62 D	9.4	49.7	2.68	32.3	0.00	0.00			252	
270	8.43	8.40	34.227	26.611	147.3	0.550	0.54	8.2	52.5	2.75	33.0	0.00	0.00			272	09
300 ISL	8.15 D	8.12	34.226 D	26.654	143.7	0.598	0.45 D	6.7	55.9	2.83	33.3	0.00	0.00			302	
320	8.02	7.98	34.224	26.672	142.2	0.622	0.44	6.6	58.2	2.88	33.5	0.00	0.00			323	08
381	7.37	7.33	34.239	26.778	132.8	0.706	0.25	3.7	71.1	3.08	33.6	0.03	0.00			384	07
400 ISL	7.22 D	7.18	34.246 D	26.806	130.4	0.737	0.18 D	2.6	75.3	3.15	32.9	0.03	0.00			403	
440	6.94	6.90	34.249	26.847	127.0	0.783	0.09	1.3	84.1	3.30	31.4	0.03	0.00			444	06
480	6.72	6.67	34.247	26.876	124.6	0.833	0.03	0.5	95.1	3.54	27.0	0.02	0.00			484	05
500 ISL	6.61 D	6.56	34.248 D	26.892	123.3	0.865	0.03 D	0.4	101.7	3.68	22.4	1.07	0.00			504	
517	6.57	6.52	34.245	26.896	123.2	0.879	0.02	0.3	107.2	3.80	18.4	1.96	0.00			521	04
540	6.51	6.46	34.249	26.906	122.5	0.907	0.04	0.6	116.5	3.98	9.2	4.84	0.00			545	03
565	6.50	6.45	34.248	26.907	122.8	0.938	0.05	0.7	122.4	4.11	2.3	7.21	0.00			570	02
570	6.50	6.45	34.245	26.905	123.1	0.944	0.04 D	0.5	122.6	4.11	2.3	7.21	0.00			575	01

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

RV NEW HORIZON CALCOFI CRUISE 1210 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 15.6 N	119 19.6 W	31/10/2012	1623	UTC	23 m	070	02 kn	280 02 09	1	1016.6 mb	16.0 C	14.0 C		4/8	CS	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	17.04	17.04	33.492	24.348	356.9	0.000	5.81	105.3	3.8	0.29	0.1	0.02	0.06	0.51	0.12	0	
2	17.04	17.04	33.492	24.348	356.9	0.007	5.81	105.3	3.8	0.29	0.1	0.02	0.06	0.51	0.12	2	05
5	16.20	16.20	33.488	24.541	338.7	0.018	5.81	103.6	3.9	0.30	0.1	0.03	0.03	0.58	0.15	5	04
10	15.22	15.21	33.410	24.701	323.6	0.034	5.54	96.9	6.4	0.58	1.3	0.28	0.16	2.26	0.70	10	02
11	15.22	15.21	33.414	24.704	323.3	0.036										10	03
15	15.38	15.38	33.414	24.667	327.0	0.050	5.53	96.9	6.4	0.58	1.3	0.29	0.16	1.92	0.68	15	01

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

RV NEW HORIZON CALCOFI CRUISE 1210 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 24.8 W	31/10/2012	1741 UTC	36 m	040 02 kn	280 02 09	1	1017.0 mb	16.1 C	14.9 C	09 m	5/8	CS	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	17.30	17.30	33.535	24.320	359.6	0.000	5.83	106.3	11.7	1.11	8.5	0.38	0.83	1.09	0.18	0	
2 A	17.30	17.30	33.535	24.320	359.6	0.007	5.83	106.3	11.7	1.11	8.5	0.38	0.83	1.09	0.18	2	07
7 A	16.61	16.60	33.519	24.471	345.4	0.025	5.95	107.0	8.4	0.73	3.5	0.46	0.43	0.78	0.17	7	06
8 A	16.65	16.65	33.523	24.464	346.1	0.028	6.13	110.3	1.3	0.20	0.1	0.05	0.00	1.07	0.19	8	04
8	16.65	16.65	33.518	24.460	346.5	0.029										8	05
10 ISL	16.28 D	16.27	33.510 D	24.541	338.9	0.036	6.17 D	110.2	1.0	0.17	0.1	0.03	0.01	1.72	0.27	10	
13 A	15.81	15.81	33.488	24.630	330.5	0.045	6.08	107.6	0.7	0.13	0.0	0.01	0.02	2.71	0.39	13	03
20 ISL	15.00 D	14.96	33.442 D	24.781	316.3	0.068	5.51 D	95.8	1.2	0.17	0.0	0.02	0.01	2.39	0.44	20	
26 A	13.29	13.29	33.407	25.104	285.7	0.086	5.25	88.2	1.5	0.20	0.0	0.02	0.00	2.12	0.49	26	02
30 A	12.98	12.98	33.446	25.195	277.2	0.097	4.47	74.7	2.4	0.22	0.0	0.02	0.01	0.43	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 CTD O2;

RV NEW HORIZON CALCOFI CRUISE 1210 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 10.5 N	119 30.8 W	31/10/2012	1928 UTC	161 m	110 02 kn	290 02 10	1	1015.9 mb	17.8 C	15.4 C	22 m	5/8	ST	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	17.88	17.88	33.569	24.208	370.3	0.000	5.69	104.9	2.0	0.19	0.0	0.01	0.04	0.36	0.08	0	
2	17.88	17.88	33.569	24.208	370.3	0.007	5.69	104.9	2.0	0.19	0.0	0.01	0.04	0.36	0.08	2	15
10	17.54	17.54	33.544	24.270	364.7	0.037										10	14
10	17.54	17.54	33.543	24.269	364.8	0.037	5.79	106.1	2.0	0.21	0.0	0.01	0.02	0.59	0.11	10	13
20	16.84	16.84	33.507	24.408	351.9	0.073	5.85	105.8	2.1	0.20	0.0	0.02	0.02	0.70	0.22	20	12
30	15.29	15.29	33.477	24.737	320.9	0.106	5.77	101.0	2.5	0.25	0.5	0.07	0.07	7.95	0.45	30	11
40	13.92	13.91	33.477	25.031	293.1	0.137	4.94	84.2	8.0	0.73	6.6	0.30	0.28	0.82	0.37	40	10
50 ISL	13.42 D	13.45	33.467 D	25.117	285.2	0.167	4.81 D	81.2	8.8	0.78	7.6	0.32	0.23	0.53	0.34	50	
51	13.19	13.19	33.468	25.171	280.0	0.169	4.83	81.1	8.9	0.79	7.7	0.32	0.22	0.50	0.33	51	09
60	12.34	12.33	33.442	25.318	266.2	0.193	4.47	73.6	10.7	1.00	11.0	0.16	0.04	0.29	0.21	60	08
70	12.01	12.00	33.502	25.428	256.0	0.219	3.99	65.3	14.3	1.26	13.2	0.19	0.18	0.27	0.26	71	07
75 ISL	11.49 D	11.48	33.548 D	25.560	243.5	0.234	3.88	62.8	15.4	1.30	14.6	0.14	0.10	0.20	0.20	76	
81	11.24	11.23	33.556	25.612	238.7	0.246	3.74	60.3	16.6	1.35	16.2	0.07	0.00	0.12	0.12	82	06
100 ISL	10.73 D	10.72	33.639 D	25.767	224.3	0.293	3.34 D	53.3	20.0	1.56	19.2	0.04	0.00	0.10	0.11	101	
101	10.62	10.61	33.639	25.787	222.5	0.293	3.32	52.8	20.1	1.57	19.4	0.04	0.00	0.10	0.11	102	05
120	10.07	10.06	33.763	25.979	204.5	0.333	2.94	46.3	24.2	1.79	22.5	0.03	0.00	0.04	0.06	121	04
125 ISL	10.01 D	10.00	33.797 D	26.016	201.2	0.346	2.81 D	44.1	25.1	1.83	23.0	0.04	0.01	0.04	0.07	126	
140	9.81	9.80	33.847	26.089	194.6	0.373	2.64	41.2	27.6	1.93	24.4	0.05	0.02	0.05	0.08	141	03
150	9.67	9.66	33.887	26.144	189.5	0.392	2.51	39.1	29.2	2.00	25.2	0.05	0.00	0.04	0.07	151	02
160	9.48	9.46	33.956	26.229	181.6	0.411	2.25	34.9	32.3	2.13	26.3	0.10	0.02	0.06	0.13	161	01

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

RV NEW HORIZON CALCOFI CRUISE 1210 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 8.1 W	31/10/2012	0941 UTC	101 m	330 07 kn			1014.9 mb	15.0 C	13.8 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	17.24	17.24	33.535	24.334	358.3	0.000	5.65	103.0	3.1	0.31	0.5	0.03	0.07	0.55	0.16	0	
2	17.24	17.24	33.535	24.334	358.3	0.007	5.65	103.0	3.1	0.31	0.5	0.03	0.07	0.55	0.16	2	11
10	17.15	17.15	33.537	24.357	356.4	0.036										10	10
10	17.15	17.15	33.530	24.352	356.9	0.036	5.66	102.9	3.1	0.30	0.5	0.03	0.11	0.54	0.17	10	09
20	15.44	15.50	33.430 D	24.653	328.5	0.071	5.87	103.0	4.0	0.35	1.0	0.05	0.01	0.75	0.25	20	08
30	14.36	14.35	33.398	24.877	307.5	0.102	5.84	100.3	5.0	0.47	2.5	0.09	0.01	0.83	0.25	30	07
40	13.87	13.86	33.389	24.973	298.6	0.132	5.69	96.8	5.7	0.54	3.7	0.13	0.03	0.79	0.25	40	06
50	12.94	12.93	33.439	25.200	277.3	0.161	5.05	84.2	9.0	0.84	8.3	0.18	0.07	0.56	0.23	50	05
60	12.02	12.02	33.513	25.434	255.2	0.187	4.41	72.2	13.1	1.11	12.4	0.14	0.06	0.42	0.21	60	04
71	11.31	11.30	33.579	25.618	237.9	0.214	3.87	62.4	17.0	1.39	16.4	0.11	0.03	0.20	0.14	72	03
75 ISL	11.24 D	11.23	33.587 D	25.636	236.2	0.226	3.83 D	61.6	17.0	1.39	16.4	0.11	0.05	0.19	0.14	76	
80	11.26	11.25	33.584	25.631	236.9	0.236	3.84	61.8	17.2	1.39	16.5	0.11	0.08	0.19	0.15	81	02
90	11.14	11.12	33.599	25.665	233.8	0.259	3.76	60.4	17.8	1.45	17.1	0.11	0.01	0.17	0.15	91	01

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

RV NEW HORIZON CALCOFI CRUISE 1210 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 44.8 N	120 24.9 W	31/10/2012	0552 UTC	993 m	320 10 kn			1015.4 mb	15.2 C	13.7 C				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		17.92		17.92		33.558		24.189	372.1	0.000	5.65		104.2		2.5	0.30	0.0	0.01	0.03	0.17	0.10	0	
2		17.92		17.92		33.558		24.189	372.1	0.007	5.65		104.2		2.5	0.30	0.0	0.01	0.03	0.17	0.10	2	21
10		17.91		17.91		33.559		24.191	372.2	0.037	5.67		104.6		2.5	0.28	0.0	0.01	0.00	0.19	0.07	10	19
11		17.91		17.91		33.557		24.190	372.3	0.039												10	20
20		17.69		17.68		33.555		24.245	367.5	0.074	5.71		104.8		2.7	0.28	0.0	0.01	0.00	0.28	0.14	20	18
30		15.85		15.84		33.489		24.624	331.7	0.109	5.77		102.3		3.9	0.39	1.5	0.05	0.07	0.95	0.37	30	17
41		13.07		13.06		33.429		25.165	280.3	0.143	5.20		87.1		7.2	0.78	7.5	0.20	0.06	0.65	0.24	41	16
50		11.71		11.70		33.436		25.432	255.0	0.167	4.71		76.5		11.3	1.11	12.8	0.20	0.00	0.36	0.15	50	15
61		10.62		10.61		33.542		25.710	228.8	0.194	4.07		64.6		17.2	1.43	17.9	0.08	0.00	0.16	0.10	61	14
70		10.33		10.32		33.574		25.786	221.7	0.214	3.91		61.8		18.9	1.52	19.4	0.05	0.00	0.11	0.10	71	13
75	ISL	10.22	D	10.22		33.599	D	25.824	218.2	0.226	3.83	D	60.3		19.3	1.55	19.7	0.05	0.00	0.10	0.09	76	
85		10.13		10.12		33.606		25.844	216.5	0.247	3.76		59.1		20.1	1.61	20.4	0.05	0.00	0.07	0.07	86	12
100	ISL	9.63	D	9.62		33.790	D	26.073	195.1	0.279	2.97	D	46.2		26.0	1.84	24.0	0.03	0.00	0.03	0.08	101	
101		9.58		9.57		33.775		26.070	195.3	0.280	3.00		46.7		26.4	1.85	24.2	0.03	0.00	0.03	0.08	102	11
119		9.32		9.30		33.937		26.240	179.6	0.313	2.41		37.3		31.4	2.08	26.9	0.04	0.00	0.01	0.04	120	10
125	ISL	9.30	D	9.28		33.945	D	26.250	178.8	0.326	2.41	D	37.3		31.8	2.10	27.1	0.04	0.00	0.01	0.08	126	
140		9.27		9.25		33.986		26.286	175.6	0.351	2.22		34.3		32.9	2.15	27.5	0.03	0.00	0.01	0.17	141	09
150	ISL	9.15	D	9.14		34.007	D	26.321	172.5	0.370	2.15	D	33.1		33.7	2.18	27.8	0.03	0.00	0.01	0.12	151	
170		9.15		9.13		34.048		26.356	169.7	0.402	1.97		30.4		35.2	2.24	28.5	0.03	0.00	0.00	0.04	171	08
200		9.07		9.04		34.072		26.388	167.3	0.453	1.89		29.0		36.4	2.29	29.0	0.03	0.00	0.00	0.04	202	07
230		8.89		8.87		34.126		26.459	161.1	0.502	1.64		25.2		39.2	2.39	30.0	0.02	0.00			232	06
250	ISL	8.71	D	8.69		34.172	D	26.524	155.3	0.537	1.27	D	19.4		41.8	2.49	30.9	0.02	0.00			252	
270		8.62		8.59		34.209		26.567	151.6	0.564	1.12		17.1		44.5	2.59	31.8	0.01	0.00			272	05
300	ISL	8.15	D	8.10		34.216	D	26.648	144.2	0.612	1.00	D	15.1		49.3	2.72	33.3	0.02	0.00			302	
320		7.97		7.93		34.237		26.689	140.6	0.637	0.78		11.7		52.6	2.80	34.3	0.02	0.00			323	04
380		7.49		7.45		34.262		26.779	132.8	0.719	0.61		9.1		58.9	2.93	35.9	0.01	0.00			383	03
400	ISL	6.91	D	6.87		34.206	D	26.817	129.1	0.750	0.75	D	11.0		62.1	2.98	36.6	0.01	0.00			403	
440		6.84		6.80		34.263		26.872	124.5	0.796	0.46		6.7		68.5	3.07	37.9	0.01	0.00			444	02
500	ISL	6.41	D	6.36		34.280	D	26.944	118.2	0.875	0.35	D	5.1		75.0	3.17	39.3	0.01	0.00			504	
515		6.28		6.23		34.284		26.963	116.4	0.887	0.33		4.8		76.7	3.19	39.6	0.01	0.00			519	01

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

RV NEW HORIZON CALCOFI CRUISE 1210 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	31/10/2012	0107 UTC	1372 m	310 10 kn	300 03 08	1	1014.7 mb	15.3 C	13.8 C		7/8	SC	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		16.97		16.97		33.551		24.410	351.0	0.000	5.89		106.7		2.1	0.26	0.0	0.01	0.00	0.42	0.11	0	
2		16.97		16.97		33.551		24.410	351.0	0.007	5.89		106.7		2.1	0.26	0.0	0.01	0.00	0.42	0.11	2	21
10	ISL	16.98	D	16.98		33.549	D	24.408	351.5	0.036	5.86	D	106.2		2.1	0.27	0.0	0.01	0.00	0.42	0.11	10	
11		16.99		16.98		33.549		24.407	351.7	0.037												11	20
11		16.99		16.98		33.551		24.408	351.6	0.039	5.90		107.0		2.1	0.27	0.0	0.01	0.00	0.42	0.11	11	19
20		16.29		16.28		33.511		24.540	339.3	0.070	6.12		109.4		1.0	0.17	0.0	0.01	0.00	0.93	0.18	20	18
30	ISL	15.79	D	15.81		33.480	D	24.623	331.7	0.104	6.13	D	108.4		0.9	0.17	0.0	0.01	0.00	8.61	0.54	30	
31		16.04		16.03		33.489		24.580	335.9	0.107	6.19		110.1		0.8	0.17	0.0	0.01	0.00	9.38	0.58	31	17
41		14.58		14.57		33.440		24.864	309.1	0.139	5.85		101.0		2.4	0.31	1.0	0.04	0.05	9.75	0.84	41	16
50		12.77		12.76		33.414		25.214	275.9	0.165	5.14		85.5		7.7	0.91	8.0	0.24	0.23	1.23	0.31	50	15
60		11.48		11.47		33.446		25.481	250.6	0.191	4.58		74.1		11.9	1.24	13.4	0.23	0.01	0.30	0.27	60	14
70		10.75		10.74		33.525		25.675	232.3	0.215	4.09		65.1		16.1	1.49	17.3	0.10	0.00	0.18	0.15	71	13
75	ISL	10.47	D	10.46		33.575	D	25.763	224.0	0.229	3.82	D	60.6		17.6	1.57	18.5	0.09	0.03	0.14	0.13	76	
85		10.06		10.05		33.640		25.884	212.7	0.249	3.54		55.6		20.7	1.73	21.0	0.06	0.09	0.07	0.10	86	12
100		9.82		9.81		33.731		25.995	202.5	0.280	3.20		50.1		23.7	1.88	22.9	0.04	0.00	0.03	0.13	101	11
120		9.42		9.41		33.840		26.147	188.4	0.319	2.77		43.0		28.7	2.06	25.3	0.04	0.00	0.01	0.06	121	10
125	ISL	9.37	D	9.35		33.864	D	26.175	185.9	0.330	2.63	D	40.7		29.5	2.09	25.7	0.04	0.00	0.01	0.05	126	
140		9.18		9.17		33.948		26.271	177.1	0.355	2.41		37.1		31.7	2.18	27.0	0.03	0.00	0.01	0.05	141	09
150	ISL	9.06	D	9.04		34.014	D	26.342	170.5	0.375	2.14	D	32.9		33.4	2.24	27.7	0.03	0.00	0.01	0.04	151	
170		8.92		8.90		34.076		26.413	164.1	0.406	1.92		29.5		36.7	2.37	29.1	0.02	0.00	0.00	0.04	171	08
200		8.62		8.60		34.138		26.510	155.5	0.454	1.53		23.4		41.1	2.53	30.8	0.02	0.02	0.01	0.03	202	07
230		8.53		8.51		34.165		26.545	152.7	0.500	1.33		20.3		43.5	2.59	31.5	0.03	0.00			232	06
250	ISL	8.29	D	8.27		34.174	D	26.589	148.9	0.534	1.16	D	17.6		45.7	2.68	32.2	0.03	0.00			252	
270		8.33		8.30		34.228		26.628	145.7	0.560	0.96		14.6		47.9	2.76	32.9	0.02	0.00			272	05
300	ISL	8.05	D	8.02		34.259	D	26.693	139.9	0.607	0.70	D	10.6		51.7	2.85	33.8	0.04	0.00			302	
320		7.92		7.88		34.266		26.720	137.6	0.631	0.63		9.5		54.3	2.91	34.4	0.05	0.00			323	04
380		7.39		7.36		34.283		26.810	129.9	0.711	0.49		7.3		61.3	3.04	36.1	0.02	0.07			383	03
400	ISL	6.95	D	6.91		34.257	D	26.852	125.8	0.742	0.51	D	7.4		64.6	3.08	37.0	0.02	0.05			403	
441		6.51		6.47		34.274		26.923	119.3	0.787	0.40		5.8		71.3	3.16	38.7	0.01	0.00			445	02
500	ISL	6.23	D	6.19		34.310	D	26.989	113.7	0.862	0.30	D	4.3		77.1	3.23	39.7	0.01	0.00			504	
514		6.15		6.10		34.325		27.012	111.7	0.871	0.30		4.3		78.5	3.25	39.9	0.01	0.00			518	01

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

RV NEW HORIZON CALCOFI CRUISE 1210 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 14.5 N	121 27.4 W	30/10/2012	1835 UTC	3809 m	350 10 kn	290 05 11	2	1017.8 mb	17.5 C	15.0 C	26 m	8/8	ST	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		17.26		17.26		33.546	24.339	357.8	0.000	5.58		101.7	1.7	0.33	0.0	0.01	0.10	0.30	0.10	0	
2	A	17.26		17.26		33.546	24.339	357.8	0.007	5.58		101.7	1.7	0.33	0.0	0.01	0.10	0.30	0.10	2	23
10		17.25		17.25		33.547	24.341	357.9	0.036											10	22
10		17.25		17.25		33.546	24.340	358.0	0.036	5.56		101.3	1.7	0.35	0.0	0.01	0.04	0.31	0.10	10	21
15	A	17.25		17.25		33.551	24.345	357.7	0.054	5.56		101.3	1.7	0.35	0.0	0.01	0.10	0.30	0.11	15	20
20	A	17.24		17.24		33.549	24.347	357.7	0.072	5.56		101.2	1.7	0.35	0.0	0.01	0.05	0.33	0.11	20	19
27		17.24		17.23		33.544	24.344	358.3	0.097	5.55		101.1	1.7	0.33	0.0	0.01	0.03	0.33	0.12	27	18
30	ISL	17.24	D	17.23		33.545	D 24.345	358.3	0.108	5.51	D	100.3	1.7	0.36	0.0	0.01	0.06	0.44	0.13	30	
34	A	17.18		17.17		33.541	24.357	357.3	0.122	5.55		101.0	1.7	0.40	0.0	0.01	0.11	0.57	0.14	34	17
45		16.47		16.46		33.497	24.489	345.1	0.160	5.62		100.8	1.7	0.41	0.0	0.02	0.10	0.56	0.25	45	16
50	ISL	14.11	D	14.10		33.479	D 24.993	297.0	0.178	5.17	D	88.5	5.0	0.76	4.9	0.23	0.06	0.52	0.30	50	
55		12.48		12.48		33.454	25.300	267.8	0.191	4.85		80.2	8.3	1.11	9.8	0.43	0.02	0.48	0.34	55	15
64	A	11.55		11.54		33.475	25.492	249.7	0.214	4.41		71.5	11.8	1.35	13.7	0.10	0.00	0.25	0.31	65	14
75	ISL	11.05	D	11.04		33.520	D 25.618	238.0	0.242	4.07	D	65.2	14.4	1.52	16.6	0.05	0.03	0.12	0.15	76	
78	A	10.72		10.71		33.524	25.679	232.1	0.248	4.06		64.6	15.1	1.57	17.4	0.04	0.04	0.08	0.11	79	13
88		10.13		10.12		33.547	25.800	220.8	0.270	4.09		64.3	17.1	1.63	18.8	0.03	0.00	0.03	0.06	89	12
99		9.72		9.71		33.640	25.942	207.5	0.294	3.66		57.1	21.1	1.79	21.4	0.03	0.00	0.01	0.05	100	11
100	ISL	9.72	D	9.69		33.647	D 25.950	206.7	0.298	3.71	D	57.8	21.5	1.80	21.6	0.03	0.00	0.01	0.05	101	
119		9.38		9.36		33.826	26.142	188.8	0.334	2.83		43.8	27.6	2.07	25.3	0.02	0.00	0.01	0.05	120	10
125	ISL	9.37	D	9.35		33.854	D 26.167	186.6	0.347	2.75	D	42.6	28.3	2.11	25.7	0.02	0.00	0.01	0.04	126	
139		9.16		9.15		33.882	26.222	181.7	0.371	2.65		40.8	30.1	2.20	26.7	0.02	0.00	0.00	0.04	140	09
150	ISL	8.99	D	8.97		33.987	D 26.332	171.5	0.392	2.18	D	33.5	32.8	2.29	27.8	0.02	0.00	0.00	0.04	151	
170		8.69		8.67		34.057	26.434	162.0	0.424	1.89		28.8	37.9	2.46	29.9	0.02	0.00	0.00	0.03	171	08
200		8.08		8.05		34.039	26.514	154.8	0.471	1.91		28.7	42.0	2.51	31.7	0.02	0.00	0.00	0.03	202	07
230		7.98		7.96		34.129	26.600	147.3	0.516	1.40		21.0	46.6	2.62	32.8	0.02	0.00			232	06
250	ISL	7.47	D	7.44		34.076	D 26.633	144.2	0.549	1.60	D	23.8	49.3	2.64	33.7	0.01	0.00			252	
269		7.28		7.26		34.079	26.661	141.7	0.573	1.48		21.8	51.8	2.66	34.6	0.01	0.00			271	05
300	ISL	7.61	D	7.58		34.202	D 26.714	137.6	0.620	0.89	D	13.2	56.0	2.75	35.6	0.01	0.00			302	
320		6.84		6.81		34.120	26.756	133.3	0.643	1.09		15.9	58.7	2.80	36.2	0.01	0.00			323	04
381		6.42		6.39		34.166	26.849	125.3	0.722	0.72		10.5	67.3	3.01	38.3	0.01	0.01			384	03
400	ISL	6.40	D	6.37		34.194	D 26.873	123.2	0.750	0.58	D	8.4	69.1	3.05	38.6	0.01	0.01			403	
440		6.36		6.32		34.263	26.934	118.1	0.794	0.41		5.9	73.0	3.12	39.2	0.01	0.00			444	02
500	ISL	6.13	D	6.08		34.283	D 26.982	114.3	0.870	0.32	D	4.7								504	
517		6.09		6.04		34.300	D 27.000	112.7	0.889	0.29	D	4.2								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 CTD O2;

RV NEW HORIZON CALCOFI CRUISE 1210 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 54.6 N	122 7.7 W	30/10/2012	1242 UTC	4182 m	330 09 kn			1016.6 mb	15.5 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		17.41		17.41		33.142	23.993	390.8	0.000	5.57		101.5	3.0	0.31	0.0	0.01	0.01	0.14	0.04	0	
2		17.41		17.41		33.142	23.993	390.8	0.008	5.57		101.5	3.0	0.31	0.0	0.01	0.01	0.14	0.04	2	21
10		17.41		17.41		33.143	23.994	391.0	0.039											10	20
10		17.41		17.41		33.142	23.994	391.0	0.039	5.57		101.5	3.0	0.31	0.0	0.01	0.00	0.13	0.04	10	19
20		16.97		16.96		33.161	24.114	379.9	0.078	5.65	D	102.1	2.7	0.31	0.0	0.01	0.00	0.21	0.06	20	18
30	ISL	16.56	D	16.55		33.259	D 24.285	364.0	0.116	5.71	D	102.4	2.3	0.29	0.0	0.01	0.00	0.28	0.09	30	
31		16.56		16.56		33.268	24.291	363.4	0.118	5.74		102.9	2.3	0.29	0.0	0.01	0.00	0.29	0.10	31	17
40		16.53		16.52		33.360	24.369	356.3	0.151	5.70		102.3	2.1	0.30	0.0	0.01	0.04	0.27	0.09	40	16
50		14.34		14.33		33.182	24.716	323.4	0.185	6.11		104.7	3.4	0.35	0.1	0.03	0.00	0.37	0.21	50	15
60		12.83		12.82		33.220	25.052	291.6	0.216	5.65		94.0	5.1	0.61	3.8	0.28	0.02	0.24	0.26	60	14
70		11.87		11.86		33.246	25.256	272.3	0.244	5.39		87.9	7.3	0.81	7.5	0.04	0.00	0.17	0.17	71	13
75	ISL	11.58	D	11.52		33.269	D 25.337	264.7	0.259	5.27	D	85.3	8.0	0.87	8.4	0.04	0.00	0.15	0.15	76	
85		11.17		11.16		33.304	25.429	256.2	0.283	5.13		82.4	9.3	0.98	10.1	0.03	0.00	0.10	0.10	86	12
100		10.48		10.47		33.339	25.579	242.1	0.321	4.84		76.5	11.9	1.16	13.0	0.02	0.00	0.05	0.05	101	11
120		9.83		9.82		33.652	25.933	208.8	0.366	3.52		55.0	21.5	1.72	21.6	0.02	0.00	0.02	0.04	121	10
125	ISL	9.80	D	9.78		33.685	D 25.964	206.0	0.378	3.33	D	52.0	22.9	1.78	22.5	0.02	0.00	0.01	0.04	126	
140		9.33		9.32		33.812	26.140	189.5	0.406	2.99		46.2	27.0	1.97	25.1	0.02	0.00	0.01	0.03	141	09
150	ISL	9.23	D	9.21		33.862	D 26.196	184.4	0.427	2.61	D	40.3	28.9	2.06	26.3	0.02	0.00	0.00	0.03	151	
170		9.01		8.99		33.944	26.296	175.3	0.461	2.24		34.4	32.7	2.24	28.7	0.02	0.00	0.00	0.04	171	08
200		8.68		8.66		34.008	26.398	166.1	0.512	2.30		35.2	35.5	2.24	28.7	0.01	0.00	0.00	0.03	202	07
230		8.08		8.06		33.992	26.477	158.9	0.561	2.57		38.6	37.9	2.22	29.3	0.02	0.18			232	06
250	ISL	7.87	D	7.84		34.030	D 26.539	153.3	0.594	2.10	D	31.4	41.9	2.35	31.0	0.02	0.09			252	
272		7.62		7.60		34.057	26.596	148.2	0.625	1.83		27.3	46.2	2.50	32.8	0.01	0.00			274	05
300	ISL	7.32	D	7.28		34.093	D 26.670	141.5	0.669	1.39	D	20.6	52.1	2.66	34.7	0.01	0.00			302	
320		7.09		7.06		34.111	26.715	137.5	0.694	1.17		17.2	56.3	2.78	36.0	0.01	0.00			323	04
379		6.67		6.63		34.174	26.822	128.0	0.772	0.73		10.7	65.5	3.00	38.2	0.01	0.00			382	03
400	ISL	6.66	D	6.62		34.208	D 26.851	125.6	0.803	0.60	D	8.8	67.4	3.03	38.6	0.01	0.00			403	
440		6.28		6.24		34.194	26.890	122.2	0.848	0.58		8.3	71.1	3.09	39.3	0.01	0.00			444	02
500	ISL	5.94	D	5.89		34.249	D 26.978	114.4	0.924	0.37	D	5.4	78.5	3.20	40.4	0.01	0.00			504	
515		5.93		5.88		34.260	26.989	113.6	0.936	0.34		4.9	80.3	3.23	40.7	0.01	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 1210 STATION 83.3 90.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
32 34.8 N	122 48.8 W	30/10/2012	0644 UTC	4277 m	010	10 kn			1018.7 mb	16.3 C	15.0 C				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		17.79		17.79		33.185	23.934	396.4	0.000	5.52		101.5	3.1	0.31	0.0	0.02	0.14	0.14	0.01	0	
2		17.79		17.79		33.185	23.934	396.4	0.008	5.52		101.5	3.1	0.31	0.0	0.02	0.14	0.14	0.01	2	21
10		17.79		17.79		33.178	23.929	397.2	0.040	5.56		102.0	3.0	0.30	0.0	0.01	0.02	0.13	0.02	10	19
10		17.79		17.79		33.178	23.929	397.2	0.041											10	20
20		17.80		17.79		33.177	23.928	397.7	0.079	5.53		101.5	3.0	0.29	0.0	0.01	0.00	0.14	0.02	20	18
30		17.79		17.78		33.176	23.931	397.8	0.119	5.52		101.4	3.0	0.30	0.0	0.01	0.00	0.14	0.03	30	17
40		16.95		16.95		33.128	24.093	382.6	0.158	5.69		102.8	2.7	0.30	0.0	0.01	0.00	0.31	0.05	40	16
50		15.87		15.87		33.150	24.358	357.7	0.195	6.02		106.4	2.9	0.30	0.0	0.01	0.00	0.49	0.01	50	15
60		14.54		14.53		33.168	24.663	328.8	0.230	6.18		106.4	3.3	0.35	0.0	0.02	0.08	0.45	0.06	60	14
70		14.03		14.02		33.254	24.836	312.6	0.262	5.99		102.2	3.3	0.34	0.2	0.04	0.02	0.27	0.18	71	13
75	ISL	13.34	D	13.35		33.234	D 24.958	301.0	0.279	5.82	D	97.8	3.6	0.40	0.9	0.13	0.01	0.27	0.17	76	
85		13.05		13.04		33.220	25.010	296.3	0.307	5.76		96.3	4.4	0.51	2.3	0.30	0.00	0.26	0.16	86	12
100		11.98		11.96		33.238	25.230	275.6	0.350	5.45		89.1	6.9	0.78	6.8	0.04	0.00	0.19	0.11	101	11
120		11.11		11.09		33.311	25.447	255.3	0.403	5.16		82.7	9.5	1.01	10.4	0.02	0.00	0.11	0.05	121	10
125	ISL	10.89	D	10.87		33.338	D 25.508	249.6	0.418	5.03	D	80.3	10.6	1.08	11.6	0.02	0.00	0.09	0.05	126	
140		10.25		10.23		33.431	25.691	232.4	0.451	4.60		72.5	14.0	1.29	15.3	0.02	0.00	0.04	0.03	141	09
150	ISL	9.90	D	9.88		33.538	D 25.833	219.0	0.477	4.02	D	62.8	17.5	1.47	18.1	0.02	0.00	0.02	0.02	151	
170		9.27		9.25		33.717	26.077	196.2	0.516	3.42		52.9	24.4	1.82	23.7	0.01	0.00	0.00	0.01	171	08
200		8.70		8.68		33.873	26.290	176.4	0.571	3.26		49.8	29.1	1.91	25.7	0.01	0.00	0.00	0.01	202	07
230		8.34		8.31		33.992	26.440	162.6	0.622	2.41		36.5	36.9	2.23	29.7	0.01	0.00			232	06
250	ISL	8.09	D	8.07		34.011	D 26.491	158.0	0.659	2.39	D	36.0	40.0	2.28	30.6	0.01	0.00			252	
271		7.55		7.53		34.002	26.563	151.3	0.687	2.33		34.6	43.2	2.34	31.5	0.01	0.00			273	05
300	ISL	7.19	D	7.16		34.020	D 26.628	145.4	0.735	2.03	D	29.9	48.4	2.48	33.5	0.01	0.00			302	
320		7.02		6.99		34.031	26.662	142.4	0.759	1.80		26.4	52.0	2.58	34.8	0.01	0.00			323	04
380		6.36		6.32		34.079	26.788	130.9	0.841	1.12		16.3	64.4	2.90	38.5	0.01	0.00			383	03
400	ISL	6.21	D	6.17		34.086	D 26.813	128.7	0.873	1.03	D	14.8	67.2	2.97	39.0	0.01	0.00			403	
440		6.20		6.16		34.183	26.892	121.8	0.917	0.58		8.3	72.7	3.10	40.1	0.01	0.00			444	02
500	ISL	5.73	D	5.69		34.204	D 26.968	115.0	0.995	0.47	D	6.7	80.7	3.20	41.4	0.01	0.00			504	
515		5.60		5.56		34.209	26.988	113.2	1.005	0.44		6.3	82.7	3.23	41.7	0.01	0.00			519	01

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

RV NEW HORIZON CALCOFI CRUISE 1210 STATION 83.3 100.0

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 29.4 W	30/10/2012	0010 UTC	4168 m	360	15 kn	360 03 06	1	1017.7 mb	17.0 C	15.7 C	20 m	6/8	ST	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		17.72		17.71		33.044	23.845	404.9	0.000	5.56		101.8	3.0	0.33	0.0	0.01	0.00	0.13	0.03	0	
2		17.72		17.71		33.044	23.845	404.9	0.008	5.56		101.8	3.0	0.33	0.0	0.01	0.00	0.13	0.03	2	21
10		17.72		17.72		33.050	23.849	404.9	0.040											10	20
10		17.72		17.72		33.049	23.848	405.0	0.041	5.57		102.1	3.0	0.30	0.0	0.01	0.00	0.13	0.03	10	19
20	ISL	17.73	D	17.73		33.070	D 23.862	404.0	0.081	5.53	D	101.4	3.0	0.29	0.0	0.01	0.00	0.14	0.03	20	
25		17.75		17.74		33.079	23.865	403.9	0.101	5.54		101.7	3.1	0.29	0.0	0.01	0.00	0.15	0.03	25	18
30	ISL	17.76	D	17.76		33.082	D 23.864	404.1	0.122	5.52	D	101.2	3.1	0.29	0.0	0.01	0.00	0.16	0.03	30	
40		17.79		17.78		33.098	23.871	403.9	0.162	5.54		101.7	3.0	0.29	0.0	0.01	0.00	0.17	0.04	40	17
50		17.23		17.22		33.188	24.076	384.7	0.201	5.73		104.1	3.0	0.29	0.0	0.01	0.00	0.25	0.09	50	16
62		14.70		14.69		33.134	24.604	334.5	0.244	6.20		107.0	3.3	0.31	0.0	0.01	0.00	0.27	0.15	62	15
75		13.77		13.75		33.231	24.874	309.1	0.286	5.99		101.5	3.3	0.34	0.3	0.07	0.03	0.23	0.15	76	14
88		13.24		13.23		33.268	25.009	296.6	0.326	5.75		96.5	4.2	0.44	1.7	0.19	0.00	0.22	0.16	89	13
100		12.17		12.16		33.254	25.206	277.9	0.360	5.55		91.0	5.9	0.64	4.9	0.06	0.00	0.15	0.12	101	12
112		11.34		11.32		33.314	25.408	258.9	0.392	5.30		85.5	8.4	0.88	8.7	0.02	0.00	0.07	0.07	113	11
125	ISL	10.58	D	10.57		33.359	D 25.576	243.1	0.428	5.02	D	79.6	10.6	1.05	11.4	0.02	0.00	0.05	0.06	126	
126		10.63		10.62		33.357	25.566	244.0	0.427	5.02		79.7	10.8	1.06	11.6	0.02	0.00	0.05	0.06	127	10
140		10.05		10.04		33.444	25.734	228.2	0.460	4.62		72.4	14.5	1.29	15.4	0.02	0.00	0.02	0.02	141	09
150	ISL	9.90	D	9.88		33.539	D 25.834	218.9	0.486	3.98	D	62.2	17.5	1.45	17.9	0.02	0.00	0.01	0.02	151	
170		9.39		9.37		33.689	26.036	200.1	0.525	3.46		53.5	23.5	1.78	22.9	0.01	0.00	0.00	0.02	171	08
200		8.59		8.57		33.892	26.321	173.4	0.581	3.09		47.1	29.9	1.96	25.8	0.01	0.00	0.00	0.01	202	07
230		8.27		8.25		33.975	D 26.436	162.9	0.635	2.64	D	39.9								232	06
250	ISL	7.95	D	7.93		34.012	D 26.512	155.9	0.668	2.31	D	34.6	39.6	2.25	29.8	0.01	0.00			252	
271		7.68		7.65		34.026	26.564	151.3	0.695	2.14		31.9	43.6	2.37	31.5	0.01	0.00			273	05
300	ISL	7.38	D	7.36		34.057	D 26.631	145.3	0.743	1.71	D	25.4	48.8	2.52	33.2	0.01	0.00			302	
320		7.28		7.25		34.073	26.658	143.0	0.767	1.53		22.7	52.4	2.62	34.4	0.01	0.00			323	04
380		6.71		6.68		34.136	26.787	131.4	0.849	0.91		13.3	62.8	2.91	37.4	0.01	0.00			383	03
400	ISL	6.61	D	6.56		34.155	D 26.817	128.7	0.881	0.78	D	11.3	65.5	2.96	38.0	0.01	0.00			403	
440		6.26		6.22		34.181	26.883	122.8	0.926	0.58		8.4	71.1	3.07	39.2	0.01	0.00			444	02
500	ISL	5.97	D	5.93		34.244	D 26.970	115.2	1.004	0.39	D	5.6	78.3	3.18	40.2	0.01	0.00			504	
515		5.87		5.82		34.246	26.985	113.8	1.014	0.37		5.3	80.1	3.21	40.5	0.01	0.00			519	01

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

RV NEW HORIZON CALCOFI CRUISE 1210 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 54.9 N	124 10.2 W	29/10/2012	1820 UTC	4242 m	030 14 kn	360 03 07	2	1019.7 mb	18.0 C	16.1 C	26 m	7/8	ST	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		18.11	18.11	33.241	23.899	399.8	0.000	5.50	101.6	3.0	0.31	0.0	0.01	0.05	0.12	0.03	0	
2	A	18.11	18.11	33.241	23.899	399.8	0.008	5.50	101.6	3.0	0.31	0.0	0.01	0.05	0.12	0.03	2	23
10		18.12	18.11	33.245	23.902	399.8	0.040	5.49	101.5	3.0	0.29	0.0	0.01	0.00	0.12	0.03	10	21
10		18.12	18.11	33.248	23.904	399.6	0.040										10	22
17	A	18.11	18.11	33.244	23.903	399.9	0.068	5.48	101.3	3.0	0.30	0.0	0.01	0.02	0.12	0.03	17	20
20	ISL	18.11 D	18.11	33.240 D	23.900	400.3	0.080	5.44 D	100.7	3.0	0.30	0.0	0.01	0.01	0.12	0.03	20	
23	A	18.12	18.11	33.244	23.902	400.3	0.092	5.50	101.6	3.0	0.30	0.0	0.01	0.00	0.12	0.03	23	19
30	ISL	18.11 D	18.11	33.241 D	23.901	400.7	0.121	5.44 D	100.5	3.0	0.30	0.0	0.01	0.00	0.12	0.03	30	
40	A	18.11	18.11	33.241	23.902	400.9	0.160	5.47	101.2	3.0	0.30	0.0	0.01	0.00	0.13	0.03	40	18
50	ISL	18.09 D	18.08	33.240 D	23.909	400.6	0.202	5.48 D	101.2	3.0	0.30	0.0	0.01	0.00	0.13	0.04	50	
51		18.02	18.01	33.241	23.925	399.1	0.204	5.48	101.2	3.0	0.30	0.0	0.01	0.00	0.13	0.04	51	17
61		16.38	16.37	33.116	24.218	371.4	0.243	5.93	105.9	3.1	0.31	0.0	0.01	0.00	0.21	0.11	61	16
70	A	14.98	14.96	33.120	24.534	341.5	0.275	6.06	105.3	3.2	0.32	0.0	0.01	0.00	0.23	0.15	71	15
75	ISL	14.59 D	14.56	33.142 D	24.636	331.8	0.293	6.04 D	104.0	3.3	0.34	0.1	0.04	0.02	0.23	0.18	76	
79		14.33	14.32	33.181	24.718	324.2	0.305	5.95	102.0	3.4	0.36	0.1	0.07	0.03	0.22	0.21	80	14
87	A	14.04	14.02	33.165	24.768	319.6	0.331	5.97	101.7	3.4	0.37	0.3	0.11	0.01	0.23	0.21	88	13
97		13.34	13.32	33.172	24.916	305.7	0.362	5.86	98.5	3.7	0.43	1.0	0.39	0.00	0.20	0.18	98	12
100	ISL	13.18 D	13.17	33.189 D	24.960	301.5	0.373	5.78 D	96.8	4.0	0.47	1.7	0.31	0.00	0.18	0.17	101	
110		12.43	12.42	33.186	25.105	287.9	0.400	5.63	92.8	5.1	0.60	4.0	0.05	0.00	0.12	0.12	111	11
125		11.65	11.63	33.215	25.275	271.9	0.442	5.48	88.9	6.5	0.71	6.0	0.03	0.00	0.08	0.08	126	10
145		10.72	10.70	33.366	25.560	245.1	0.494	4.97	79.1	10.8	1.06	11.7	0.02	0.00	0.03	0.04	146	09
150	ISL	10.38 D	10.35	33.390 D	25.639	237.6	0.510	4.76 D	75.2	11.9	1.13	12.8	0.02	0.00	0.02	0.03	151	
170		9.79	9.77	33.507	25.829	219.9	0.552	4.31	67.2	16.7	1.41	17.4	0.01	0.00	0.01	0.02	171	08
199		8.99	8.96	33.804	26.191	185.8	0.611	3.14	48.2	27.3	1.91	25.1	0.01	0.00	0.00	0.01	201	07
200	ISL	8.99 D	8.97	33.821 D	26.203	184.7	0.616	3.10 D	47.5	27.5	1.92	25.2	0.01	0.00	0.00	0.01	202	
229		8.60	8.58	33.951	26.367	169.6	0.664	2.59	39.5	33.5	2.14	28.2	0.01	0.00			231	06
250	ISL	8.38 D	8.35	33.991 D	26.433	163.7	0.703	2.43 D	36.9	36.1	2.21	29.2	0.01	0.00			252	
270		8.19	8.16	34.010	26.477	159.8	0.731	2.27	34.3	38.5	2.27	30.1	0.01	0.00			272	05
300	ISL	7.95 D	7.92	34.050 D	26.545	153.8	0.783	1.92 D	28.8	43.1	2.41	31.7	0.01	0.00			302	
320		7.75	7.72	34.075	26.594	149.4	0.809	1.71	25.6	46.1	2.50	32.8	0.01	0.00			323	04
382		6.72	6.69	34.063	26.728	136.9	0.898	1.34	19.6	58.0	2.74	36.5	0.01	0.00			385	03
400	ISL	6.54 D	6.50	34.075 D	26.762	133.9	0.928	1.18 D	17.2	60.9	2.80	37.2	0.01	0.00			403	
441		6.20	6.16	34.100	26.826	128.1	0.976	0.94	13.5	67.4	2.95	38.8	0.01	0.00			445	02
500	ISL	5.84 D	5.79	34.160 D	26.920	119.6	1.056	0.60 D	8.6	77.5	3.13	40.6	0.01	0.00			504	
515		5.65	5.61	34.175	26.955	116.4	1.066	0.54	7.6	80.1	3.17	41.0	0.01	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 CTD O2;

RV NEW HORIZON CALCOFI CRUISE 1210 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 0.6 N	118 50.1 W	05/11/2012	0426 UTC	34 m	250 03 kn			1015.6 mb	21.5 C	15.7 C				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	17.54	17.54	33.529	24.258	365.5	0.000	5.77	105.6	2.3	0.36	0.0	0.02	0.06	0.33	0.09	0	
2	17.54	17.54	33.529	24.258	365.5	0.007	5.77	105.6	2.3	0.36	0.0	0.02	0.06	0.33	0.09	2	05
5	17.52	17.52	33.532	24.266	364.9	0.018	5.78	105.8	2.3	0.32	0.0	0.02	0.03	0.36	0.14	5	04
10	17.51	17.50	33.525	24.264	365.3	0.037	5.77	105.7	2.4	0.32	0.0	0.02	0.03	0.49	0.15	10	03
15	16.18	16.17	33.496	24.553	337.9	0.054	5.85	104.2	2.8	0.36	0.2	0.06	0.10	0.82	0.26	15	02
20	16.05	16.05	33.458	24.552	338.1	0.071	5.85	104.0	3.7	0.42	0.5	0.11	0.20	1.07	0.38	20	01

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

RV NEW HORIZON CALCOFI CRUISE 1210 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 53.3 N	118 29.5 W	26/10/2012	0848 UTC	57 m	350 04 kn			1013.2 mb	21.0 C	14.0 C				030

DEPTH m	TEMP DEG C	POT TEMP DEG 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	18.07	18.07	33.513	24.117	378.9	0.000	5.69	105.4	2.8	0.30	0.1	0.04	0.19	0.56	0.20	0	
2	18.07	18.07	33.513	24.117	378.9	0.008	5.69	105.4	2.8	0.30	0.1	0.04	0.19	0.56	0.20	2	08
5	18.06	18.06	33.520	24.126	378.3	0.019	5.69	105.3	2.8	0.31	0.2	0.04	0.24	0.55	0.20	5	07
10	17.96	17.96	33.519	24.150	376.2	0.038										10	06
10	17.96	17.96	33.516	24.147	376.4	0.038	5.69	105.1	2.8	0.30	0.1	0.04	0.16	0.58	0.18	10	05
20	16.03	16.02	33.400	24.513	341.9	0.074	6.04	107.3	3.5	0.42	0.3	0.10	2.28	0.48	0.15	20	04
30	14.55	14.54	33.332	24.786	316.1	0.107	5.92	102.0	5.1	0.61	1.6	0.36	5.64	1.57	0.47	30	03
40	13.57	13.56	33.360	25.012	294.9	0.137	5.19	87.7	8.1	0.84	4.8	0.65	2.85	0.32	0.27	40	02
50	12.57	12.56	33.427	25.262	271.3	0.166	4.32	71.5	13.0	1.24	10.5	0.50	1.24	0.23	0.30	50	01

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

RV NEW HORIZON CALCOFI CRUISE 1210 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 49.3 N	118 37.8 W	26/10/2012	0339 UTC	648 m	330	17 kn			1013.0 mb	20.9 C	15.9 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		18.31		18.31		33.569	24.103	380.3	0.000	5.63		104.6	2.4	0.32	0.0	0.01	0.00	0.14	0.04	0	
2		18.31		18.31		33.569	24.103	380.3	0.008	5.63		104.6	2.4	0.32	0.0	0.01	0.00	0.14	0.04	2	21
10		18.29		18.29		33.570	24.107	380.3	0.038	5.67		105.5	2.4	0.31	0.0	0.01	0.00	0.13	0.04	10	19
11		18.29		18.29		33.570	24.107	380.2	0.040											10	20
20		16.84		16.84		33.530	24.427	350.1	0.075	5.78		104.4	2.7	0.33	0.0	0.01	0.00	0.14	0.05	20	18
30		14.42		14.41		33.425	24.885	306.7	0.107	5.85		100.6	5.0	0.48	0.3	0.09	0.00	1.03	0.44	30	17
40		13.24		13.23		33.419	25.124	284.2	0.137	5.27		88.5	6.5	0.71	4.4	0.24	0.00	0.70	0.45	40	16
50		12.69		12.68		33.443	25.251	272.3	0.165	4.62		76.6	9.0	0.99	9.1	0.07	0.00	0.39	0.27	50	15
61		12.35		12.34		33.494	25.356	262.6	0.194	4.19		69.1	11.3	1.17	11.6	0.05	0.00	0.17	0.20	61	14
71		12.14		12.13		33.512	25.411	257.6	0.220	3.98		65.4	12.8	1.26	13.0	0.04	0.00	0.13	0.15	72	13
75	ISL	11.87	D	11.88		33.536	D 25.477	251.5	0.232	3.84	D	62.7	13.3	1.30	13.6	0.04	0.00	0.11	0.14	76	
85		11.76		11.75		33.550	25.513	248.3	0.255	3.73		60.8	14.8	1.40	15.0	0.04	0.00	0.08	0.12	86	12
100	ISL	11.46	D	11.44		33.577	D 25.590	241.3	0.294	3.54	D	57.3	16.3	1.49	16.4	0.03	0.00	0.06	0.09	101	
101		11.43		11.42		33.577	25.595	240.8	0.294	3.56		57.7	16.4	1.50	16.5	0.03	0.00	0.06	0.09	102	11
117		11.14		11.12		33.617	25.680	233.1	0.332	3.41		54.9	17.9	1.59	18.0	0.03	0.00	0.03	0.11	118	10
125	ISL	10.97	D	10.96		33.663	D 25.744	227.2	0.353	3.16	D	50.6	19.4	1.67	19.0	0.03	0.00	0.02	0.09	126	
139		10.70		10.69		33.719	25.837	218.7	0.382	2.94		46.9	21.9	1.80	20.7	0.02	0.00	0.02	0.06	140	09
150	ISL	10.23	D	10.21		33.795	D 25.978	205.4	0.408	2.78	D	43.8	24.4	1.90	22.5	0.02	0.00	0.01	0.05	151	
170		9.58		9.56		33.914	26.181	186.4	0.444	2.52		39.2	28.9	2.08	25.7	0.02	0.00	0.00	0.03	171	08
200		9.18		9.16		34.023	26.331	172.7	0.498	2.18		33.6	33.4	2.23	27.7	0.02	0.00	0.00	0.03	202	07
230		8.92		8.90		34.079	26.418	165.0	0.549	1.92		29.5	36.6	2.35	29.0	0.02	0.00			232	06
250	ISL	8.72	D	8.69		34.174	D 26.524	155.3	0.584	1.37	D	21.0	40.3	2.47	30.4	0.02	0.00			252	
270		8.50		8.47		34.182	26.565	151.7	0.612	1.31		20.0	43.9	2.59	31.7	0.02	0.00			272	05
300	ISL	8.40	D	8.37		34.235	D 26.622	146.8	0.660	0.95	D	14.5	46.9	2.70	32.5	0.03	0.00			302	
318		8.30		8.27		34.250	26.650	144.6	0.683	0.85		12.9	48.7	2.77	33.0	0.03	0.00			321	04
380		7.68		7.64		34.281	26.767	134.2	0.769	0.58		8.7	56.9	2.95	35.3	0.02	0.00			383	03
400	ISL	7.53	D	7.49		34.289	D 26.795	131.7	0.801	0.52	D	7.7	59.5	2.99	35.8	0.02	0.00			403	
440		7.15		7.11		34.301	26.859	126.1	0.847	0.40		5.9	64.8	3.08	36.8	0.02	0.00			444	02
500	ISL	6.58	D	6.53		34.319	D 26.952	117.6	0.926	0.27	D	3.9	73.5	3.19	38.1	0.03	0.00			504	
515		6.48		6.44		34.324	26.968	116.2	0.938	0.24		3.5	75.7	3.22	38.4	0.03	0.00			519	01

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

RV NEW HORIZON CALCOFI CRUISE 1210 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 39.4 N	118 58.6 W	25/10/2012	2255 UTC	753 m	290	20 kn	280 06 06	0	1013.6 mb	19.9 C	16.8 C	18 m	0/8		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		18.03		18.03		33.546	24.152	375.7	0.000	5.63		104.1	2.4	0.35	0.1	0.02	0.34	0.16	0.05	0	
2		18.03		18.03		33.546	24.152	375.7	0.008	5.63		104.1	2.4	0.35	0.1	0.02	0.34	0.16	0.05	2	24
10		18.02		18.02		33.547	24.156	375.6	0.036											10	23
10		18.02		18.02		33.546	24.156	375.6	0.038	5.68		105.0	2.4	0.33	0.0	0.01	0.04	0.16	0.04	10	22
20		17.26		17.25		33.540	24.336	358.7	0.074	5.72		104.2	2.5	0.34	0.0	0.01	0.04	0.19	0.06	20	21
30		14.05		14.04		33.456	24.987	297.0	0.107	5.52		94.3	6.2	0.60	1.8	0.18	0.04	0.87	0.47	30	20
40		12.87		12.86		33.458	25.227	274.3	0.136	4.70		78.4	8.8	0.96	8.1	0.11	0.00	0.39	0.25	40	19
50		12.17		12.17		33.476	25.376	260.4	0.162	4.31		70.8	11.1	1.18	11.9	0.04	0.01	0.15	0.15	50	18
60		11.87		11.86		33.509	25.460	252.7	0.188	3.98		64.9	13.2	1.31	13.8	0.04	0.00	0.09	0.12	60	17
74		11.46		11.45		33.548	25.565	243.0	0.223	3.74		60.5	15.3	1.46	15.7	0.03	0.00	0.05	0.11	75	16
75	ISL	11.44	D	11.43		33.548	D 25.569	242.6	0.226	3.66	D	59.2	15.5	1.47	15.9	0.03	0.00	0.05	0.11	76	
85		11.36		11.35		33.611	25.634	236.8	0.249	3.35		54.2	18.0	1.61	17.5	0.03	0.00	0.03	0.07	86	15
99		11.05		11.04		33.649	25.719	229.0	0.282	3.22		51.7	19.5	1.69	18.9	0.03	0.00	0.02	0.07	100	14
100	ISL	10.99	D	10.97		33.648	D 25.731	227.8	0.285	3.30	D	52.9	19.5	1.69	19.0	0.03	0.00	0.02	0.07	101	
120		10.69		10.67		33.701	25.825	219.3	0.329	3.07		48.9	21.4	1.79	20.5	0.03	0.00	0.02	0.06	121	13
125	ISL	10.66	D	10.64		33.696	D 25.827	219.3	0.341	3.14	D	49.9	21.7	1.80	20.8	0.03	0.00	0.02	0.05	126	
140		10.46		10.45		33.733	25.889	213.7	0.372	2.99		47.3	22.7	1.84	21.6	0.02	0.00	0.01	0.05	141	12
150	ISL	10.28	D	10.26		33.757	D 25.940	209.1	0.395	2.89	D	45.6	24.3	1.92	22.6	0.02	0.00	0.01	0.04	151	
169		9.99		9.97		33.887	26.091	195.1	0.432	2.52		39.5	27.5	2.07	24.5	0.02	0.00	0.00	0.04	170	11
200		9.42		9.40		33.975	26.256	179.9	0.490	2.40		37.2	30.8	2.16	26.5	0.02	0.00	0.00	0.04	202	10
229		8.98		8.95		34.049	26.385	168.1	0.540	2.09		32.1	35.2	2.31	28.6	0.03	0.00			231	09
250	ISL	8.62	D	8.59		34.082	D 26.468	160.5	0.578	1.83	D	27.8	38.5	2.42	29.8	0.03	0.01			252	
269		8.40		8.38		34.106	D 26.519	155.9	0.609	1.70	D	25.7								271	08
300	ISL	8.30	D	8.26		34.205	D 26.615	147.4	0.656	1.09	D	16.5	46.5	2.70	32.5	0.02	0.05			302	
321		8.15		8.11		34.237	26.663	143.2	0.683	0.89		13.4	49.8	2.81	33.7	0.02	0.06			324	07
379		7.72		7.69		34.284	26.764	134.5	0.763	0.56		8.4	56.6	2.98	35.4	0.01	0.01			382	06
400	ISL	7.43	D	7.39		34.290	D 26.811	130.2	0.796	0.49	D	7.2	59.4	3.02	36.0	0.01	0.01			403	
440		7.13		7.08		34.302	26.863	125.6	0.842	0.41		6.0	64.7	3.11	37.1	0.01	0.02			444	05
500	ISL	6.62	D	6.58		34.320	D 26.946	118.2	0.922	0.29	D	4.2	73.2	3.21	38.5	0.01	0.00			504	
515		6.53		6.48		34.324	26.963	116.8	0.933	0.25		3.6	75.3	3.24	38.8	0.01	0.00			519	04
600	ISL	5.88	D	5.83		34.354	D 27.071	107.1	1.036	0.15	D	2.1	86.8	3.35	39.1	0.01	0.00			605	
649		5.67		5.62		34.369	27.109	103.9	1.080	0.12		1.7	93.4	3.41	39.3	0.01	0.00			655	03
700	ISL	5.56	D	5.50		34.375	D 27.129	102.5	1.141	0.13	D	1.9	96.9	3.44	39.1	0.02	0.03			706	
745		5.47		5.41		34.383	27.146	101.4	1.178	0.09		1.3	100.0	3.46	38.9	0.03	0.06			752	02
748		5.47		5.41		34.384	27.147	101.3	1.181	0.10		1.5	99.8	3.46	38.9	0.03	0.00			755	01

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

RV NEW HORIZON CALCOFI CRUISE 1210 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 29.6 N	119 19.4 W	25/10/2012	1803 UTC	1644 m	310	22 kn	330 05 06	0	1017.5 mb	19.9 C	16.0 C	15 m	0/8		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		17.82	17.82	33.548	24.205	370.6	0.000	5.60		103.1	2.5	0.34	0.3	0.02	0.00	0.41	0.17	0	
2	A	17.82	17.82	33.548	24.205	370.6	0.007	5.60		103.1	2.5	0.34	0.3	0.02	0.00	0.41	0.17	2	22
9		17.83	17.83	33.553	24.207	370.7	0.034											9	21
10	A	17.83	17.83	33.548	24.204	370.9	0.037	5.63		103.6	2.5	0.33	0.3	0.02	0.00	0.42	0.14	10	20
12	A	17.83	17.82	33.549	24.206	370.9	0.045	5.59		102.9	2.5	0.33	0.3	0.02	0.00	0.42	0.14	12	19
20	ISL	17.81	D 17.80	33.551	D 24.213	370.5	0.075	5.56	D	102.4	2.5	0.34	0.3	0.02	0.00	0.44	0.15	20	
22	A	17.77	17.77	33.552	24.222	369.8	0.082	5.59		102.8	2.5	0.34	0.3	0.02	0.00	0.45	0.15	22	18
30	ISL	17.62	D 17.62	33.548	D 24.256	366.8	0.112	5.58	D	102.4	2.6	0.35	0.3	0.02	0.00	0.42	0.16	30	
32		17.19	17.18	33.549	24.360	357.0	0.118	5.58		101.4	2.6	0.35	0.3	0.02	0.00	0.41	0.16	32	17
40	A	13.21	13.20	33.407	25.120	284.6	0.144	5.56		93.3	6.8	0.77	6.1	0.14	0.33	0.72	0.38	40	16
49	A	12.41	12.40	33.395	25.268	270.6	0.169	5.09		84.0	8.7	0.97	9.5	0.22	0.00	0.39	0.31	49	15
50	ISL	12.36	D 12.33	33.405	D 25.290	268.6	0.173	5.07	D	83.4	9.1	1.00	10.0	0.21	0.01	0.37	0.30	50	
59		11.42	11.41	33.470	25.512	247.6	0.195	4.42		71.4	12.9	1.30	14.4	0.09	0.07	0.21	0.20	59	14
70		11.05	11.04	33.507	25.607	238.8	0.222	4.16		66.8	14.8	1.43	16.5	0.05	0.02	0.14	0.15	71	13
75	ISL	10.57	D 10.56	33.563	D 25.737	226.6	0.235	3.96	D	62.9	16.4	1.51	17.9	0.04	0.01	0.11	0.12	76	
84		10.26	10.25	33.609	25.825	218.3	0.253	3.73		58.8	19.3	1.66	20.3	0.02	0.00	0.05	0.08	85	12
100		9.71	9.70	33.718	26.003	201.7	0.287	3.23		50.4	23.7	1.85	23.4	0.02	0.00	0.02	0.04	101	10
120		9.35	9.33	33.838	26.157	187.5	0.326	2.78		43.0	28.2	2.03	26.0	0.02	0.00	0.02B	0.03B	121	11
125	ISL	9.27	D 9.25	33.862	D 26.190	184.4	0.337	2.73	D	42.1	28.5	2.04	26.2	0.02	0.00	0.01	0.03	126	
141		9.23	9.22	33.882	26.211	182.8	0.365	2.65		40.9	29.7	2.08	26.7	0.01	0.00	0.00	0.03	142	09
150	ISL	9.16	D 9.14	33.930	D 26.260	178.3	0.383	2.52	D	38.9	31.0	2.12	27.2	0.01	0.00	0.00	0.03	151	
169		8.97	8.95	33.998	26.345	170.7	0.414	2.28		35.0	33.7	2.21	28.1	0.02	0.00	0.00	0.03	170	08
200	ISL	8.77	D 8.75	34.051	D 26.418	164.3	0.469	2.01	D	30.7	36.9	2.32	29.7	0.03	0.00	0.00	0.03	202	
201		8.77	8.75	34.051	26.419	164.2	0.467	1.99		30.4	37.0	2.32	29.7	0.03	0.00	0.00	0.03	203	07
231		8.65	8.63	34.106	26.481	158.9	0.516	1.72		26.3	39.8	2.43	30.5	0.03	0.00			233	06
250	ISL	8.62	D 8.60	34.142	D 26.514	156.2	0.549	1.50	D	22.9	41.3	2.49	30.9	0.03	0.00			252	
274		8.51	8.48	34.160	26.546	153.6	0.583	1.38		21.0	43.3	2.56	31.4	0.04	0.00			276	05
300	ISL	8.32	D 8.29	34.234	D 26.633	145.8	0.626	0.94	D	14.3	46.5	2.67	32.5	0.03	0.00			302	
321		8.26	8.23	34.240	26.649	144.7	0.652	0.89		13.4	49.0	2.75	33.4	0.02	0.00			324	04
381		7.72	7.68	34.277	26.758	135.1	0.736	0.62		9.3	56.0	2.92	35.1	0.01	0.00			384	03
400	ISL	7.53	D 7.49	34.295	D 26.800	131.3	0.767	0.47	D	6.9	59.0	2.97	35.8	0.01	0.00			403	
442		7.10	7.06	34.305	26.869	125.1	0.815	0.38		5.6	65.4	3.08	37.2	0.01	0.00			446	02
500	ISL	6.60	D 6.56	34.322	D 26.950	117.9	0.892	0.27	D	4.0	72.6	3.17	38.5	0.01	0.00			504	
515		6.55	6.50	34.321	26.957	117.4	0.903	0.27		3.9	74.5	3.19	38.8	0.01	0.00			519	01

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.
B) FIRST FLUOROMETER READING NOT RECORDED CHLOROPHYLL AND PHAEOPIGMENT CALCULATED WITH ASSUMED ACID RATIO INTERPOLATED FROM ADJACENT LEVELS
D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CTD O2;

RV NEW HORIZON CALCOFI CRUISE 1210 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 19.3 N	119 39.9 W	25/10/2012	1331 UTC	83 m	320	30 kn			1017.5 mb	18.8 C	14.9 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		18.28	18.28	33.636	24.160	375.0	0.000	5.46		101.4	2.1	0.33	0.4	0.03	0.02	0.06	0.09	0	
4		18.28	18.28	33.636	24.160	375.0	0.015	5.46		101.4	2.1	0.33	0.4	0.03	0.02	0.06	0.09	4	10
6		18.29	18.29	33.631	24.155	375.6	0.023	5.44		101.2	2.2	0.32	0.4	0.03	0.00	0.13	0.13	6	09
10		18.28	18.28	33.632	24.157	375.4	0.038	5.45		101.3	2.2	0.33	0.4	0.03	0.03	0.18	0.16	10	07
10		18.28	18.28	33.632	24.157	375.5	0.038											10	08
20		17.44	17.43	33.616	24.352	357.3	0.074	5.42		99.2	2.5	0.37	0.9	0.04	0.02	0.22	0.18	20	06
30	ISL	14.96	D 14.94	33.497	D 24.829	312.1	0.108	5.14	D	89.4	5.2	0.66	4.8	0.18	0.07	0.33	0.17	30	
31		14.19	14.02	33.495	D 25.021	293.7	0.111	5.02	D	85.7	5.5	0.69	5.2	0.19	0.08	0.35	0.17	31	05
40		11.57	11.57	33.447	25.464	251.7	0.135	4.59		74.4	12.0	1.21	13.5	0.08	0.00	0.35	0.13	40	04
50		11.27	11.26	33.461	25.533	245.4	0.160	4.51		72.6	13.0	1.27	14.4	0.07	0.00	0.32	0.12	50	03
60		10.80	10.79	33.511	25.654	234.1	0.184	4.27		68.1	15.5	1.40	16.5	0.08	0.17	0.34	0.11	60	02
70		10.27	10.26	33.559	25.784	221.9	0.207	3.99		62.9	18.6	1.56	18.9	0.07	0.00	0.32	0.11	71	01

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

RV NEW HORIZON CALCOFI CRUISE 1210 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 9.4 N	120 0.4 W	27/10/2012	2213 UTC	1204 m	320	10 kn	320 04 06	0	1009.9 mb	18.9 C	17.0 C	22 m	0/8		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		17.09	17.09	33.554	24.384	353.5	0.000	5.60		101.8	2.6	0.36	0.6	0.05	0.08	0.38	0.10	0	
2		17.09	17.09	33.554	24.384	353.5	0.007	5.60		101.8	2.6	0.36	0.6	0.05	0.08	0.38	0.10	2	21
10	ISL	16.92	D 16.92	33.544	D 24.418	350.6	0.036	5.60	D	101.4	2.6	0.36	0.5	0.04	0.09	0.40	0.13	10	
11		16.90	16.90	33.551	24.429	349.6	0.039											11	20
11		16.90	16.90	33.542	24.422	350.3	0.039	5.63		101.8	2.6	0.36	0.5	0.04	0.09	0.40	0.13	11	19
20		16.87	16.86	33.542	24.430	349.8	0.070	5.61		101.4	2.6	0.37	0.6	0.04	0.10	0.48	0.14	20	18
30		16.80	16.80	33.547	24.448	348.4	0.105	5.57		100.5	2.6	0.39	0.9	0.05	0.10	0.53	0.24	30	17
40		16.06	16.06	33.532	24.608	333.5	0.139	5.44		96.8	3.5	0.48	2.3	0.11	0.17	0.48	0.19	40	16
49		13.37	13.36	33.471	25.139	283.1	0.167	4.92		82.9	8.4	0.96	9.3	0.20	0.03	0.35	0.18	49	15
50	ISL	12.64	D 12.67	33.475	D 25.278	269.7	0.171	4.70	D	78.0	8.9	1.00	9.9	0.19	0.03	0.34	0.18	50	
60		11.34	11.33	33.495	25.545	244.5	0.196	4.31		69.6	13.7	1.35	15.5	0.08	0.00	0.20	0.15	60	14
75		10.53	10.52	33.529	25.716	228.5	0.231	4.09		64.8	15.7	1.48	17.5	0.06	0.00	0.14	0.12	76	13
86		9.99	9.98	33.618	25.878	213.3	0.255	3.66		57.4	20.4	1.71	21.1	0.05	0.00	0.04	0.06	87	12
100		9.64	9.63	33.677	25.983	203.6	0.285	3.49		54.3	22.8	1.79	22.6	0.03	0.00	0.02	0.04	101	11
119		9.21	9.20	33.768	26.124	190.5	0.322	3.21		49.6	26.1	1.90	24.4	0.02	0.00	0.01	0.03	120	10
125	ISL	8.94	D 8.93	33.862	D 26.240	179.6	0.335	2.97	D	45.6	27.3	1.94	25.0	0.02	0.00	0.01	0.03	126	
139		8.88	8.87	33.877	26.262	177.7	0.358	2.85		43.7	30.1	2.04	26.5	0.02	0.00	0.00	0.03	140	09
150	ISL	8.73	D 8.71	33.926	D 26.326	171.9	0.380	2.70	D	41.2	31.6	2.09	27.2	0.02	0.00	0.00	0.03	151	
170		8.60	8.58	33.982	26.390	166.2	0.411	2.46		37.5	34.4	2.19	28.4	0.02	0.00	0.00	0.03	171	08
200	ISL	8.37	D 8.35	34.035	D 26.468	159.4	0.463	2.11	D	32.0	38.1	2.32	30.1	0.02	0.00	0.00	0.03	202	
201		8.38	8.36	34.028	26.460	160.1	0.461	2.12		32.1	38.3	2.32	30.2	0.02	0.00	0.00	0.03	203	07
229		8.10	8.07	34.084	26.547	152.3	0.505	1.70		25.6	43.0	2.49	32.1	0.02	0.00			231	06
250	ISL	7.88	D 7.85	34.124	D 26.612	146.5	0.540	1.39	D	20.9	46.0	2.58	33.0	0.04	0.00			252	
269		7.78	7.75	34.129	26.630	145.0	0.564	1.30		19.4	48.8	2.66	33.9	0.05	0.00			271	05
300	ISL	7.56	D 7.53	34.185	D 26.706	138.3	0.612	0.97	D	14.5	53.0	2.77	34.8	0.07	0.00			302	
319		7.41	7.38	34.191	26.733	136.0	0.634	0.90		13.3	55.5	2.84	35.4	0.08	0.00			322	04
381		7.13	7.09	34.264	26.832	127.6	0.716	0.54		7.9	62.7	3.02	37.0	0.02	0.00			384	03
400	ISL	7.05	D 7.01	34.279	D 26.855	125.6	0.745	0.48	D	7.1	64.9	3.05	37.4	0.02	0.00			403	
439		6.74	6.69	34.291	26.907	121.0	0.788	0.41		5.9	69.3	3.11	38.3	0.01	0.00			443	02
500	ISL	6.30	D 6.25	34.313	D 26.983	114.3	0.866	0.31	D	4.5	75.5	3.19	39.2	0.01	0.00			504	
515		6.28	6.23	34.320	26.991	113.8	0.877	0.31		4.4	77.0	3.21	39.4	0.01	0.00			519	01

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

RV NEW HORIZON CALCOFI CRUISE 1210 STATION 86.7 60.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
32 59.2 N	120 21.0 W	28/10/2012	0241 UTC	722 m	320 13 kn			1010.3 mb	18.2 C	16.5 C				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		17.79		17.79		33.603		24.255	365.8	0.000	5.63		103.6	2.5	0.30	0.0	0.01	0.00	0.50	0.12	0	
2		17.79		17.79		33.603		24.255	365.8	0.007	5.63		103.6	2.5	0.30	0.0	0.01	0.00	0.50	0.12	2	21
10		17.79		17.79		33.604		24.257	366.0	0.037	5.62		103.5	2.5	0.30	0.0	0.01	0.00	0.49	0.13	10	19
10		17.79		17.79		33.608		24.259	365.7	0.037											10	20
20		17.74		17.73		33.605		24.270	365.1	0.073	5.65		103.9	2.4	0.30	0.0	0.01	0.00	0.47	0.15	20	18
30		17.12		17.11		33.547		24.375	355.5	0.109	5.64		102.5	2.2	0.31	0.0	0.01	0.00	0.60	0.21	30	17
40		14.55		14.54		33.332		24.787	316.4	0.143	5.77		99.4	3.1	0.43	1.4	0.21	0.00	0.66	0.28	40	16
50		13.21		13.20		33.223		24.979	298.3	0.174	5.68		95.1	4.2	0.56	3.0	0.39	0.01	0.58	0.21	50	15
61		12.03		12.02		33.178		25.173	280.0	0.205	5.48		89.6	5.5	0.71	5.7	0.15	0.00	0.33	0.20	61	14
70		11.76		11.75		33.324		25.336	264.7	0.230	5.07		82.4	7.6	0.98	10.1	0.03	0.00	0.20	0.12	71	13
75	ISL	11.29	D	11.26		33.383	D	25.472	251.8	0.245	4.79	D	77.1	9.4	1.10	11.8	0.03	0.00	0.16	0.10	76	
85		10.84		10.83		33.450		25.602	239.7	0.267	4.47		71.4	13.1	1.33	15.2	0.02	0.00	0.07	0.06	86	12
100	ISL	10.18	D	10.17		33.559	D	25.800	221.1	0.304	3.99	D	62.8	17.8	1.57	19.0	0.02	0.00	0.03	0.04	101	
101		10.18		10.17		33.566		25.806	220.5	0.304	3.95		62.2	18.1	1.59	19.3	0.02	0.00	0.03	0.04	102	11
120		9.54		9.53		33.711		26.026	199.9	0.344	3.35		52.0	23.9	1.86	23.4	0.01	0.00	0.02	0.04	121	10
125	ISL	9.41	D	9.40		33.770	D	26.094	193.6	0.356	3.07	D	47.5	25.0	1.90	24.0	0.01	0.00	0.02	0.04	126	
141		9.24		9.22		33.816		26.158	187.8	0.384	2.90		44.8	28.2	2.02	25.8	0.01	0.00	0.01	0.03	142	09
150	ISL	9.23	D	9.22		33.827	D	26.168	187.0	0.404	2.89	D	44.7	29.7	2.07	26.5	0.01	0.00	0.01	0.03	151	
170		8.79		8.77		33.937		26.325	172.4	0.437	2.51		38.3	32.9	2.17	28.0	0.01	0.00	0.01	0.03	171	08
200		8.36		8.34		34.069		26.495	156.8	0.487	1.82		27.6	40.6	2.43	31.2	0.01	0.00	0.01	0.02	202	07
230		8.16		8.14		34.096		26.547	152.4	0.533	1.67		25.2	43.0	2.50	32.2	0.01	0.00			232	06
250	ISL	7.98	D	7.95		34.109	D	26.586	149.0	0.567	1.47	D	22.1	45.8	2.59	33.0	0.02	0.00			252	
270		7.86		7.83		34.144		26.631	145.0	0.592	1.29		19.3	48.7	2.67	33.8	0.03	0.00			272	05
300	ISL	7.39	D	7.36		34.165	D	26.716	137.3	0.640	0.98	D	14.5	53.8	2.78	35.3	0.02	0.00			302	
320		7.24		7.21		34.176		26.746	134.7	0.662	0.91		13.4	57.3	2.86	36.3	0.02	0.00			323	04
380		6.96		6.92		34.248		26.842	126.4	0.740	0.57		8.4	64.0	3.03	37.6	0.01	0.00			383	03
400	ISL	6.89	D	6.86		34.271	D	26.870	124.1	0.771	0.46	D	6.8	65.6	3.06	37.9	0.01	0.00			403	
441		6.73		6.69		34.284		26.903	121.5	0.816	0.42		6.1	68.8	3.11	38.4	0.01	0.00			445	02
500	ISL	6.28	D	6.23		34.309	D	26.983	114.3	0.893	0.30	D	4.3	77.3	3.21	39.9	0.01	0.00			504	
515		6.13		6.08		34.323		27.014	111.5	0.902	0.28		4.1	79.5	3.24	40.3	0.01	0.00			519	01

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

RV NEW HORIZON CALCOFI CRUISE 1210 STATION 86.7 70.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
32 39.3 N	121 2.2 W	28/10/2012	0944 UTC	3427 m	340 14 kn			1011.9 mb	17.9 C	16.5 C				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		17.27		17.27		33.422		24.240	367.3	0.000	5.57		101.4	1.9	0.28	0.0	0.02	0.00	0.11	0.03	0	
2		17.27		17.27		33.422		24.240	367.3	0.007	5.57		101.4	1.9	0.28	0.0	0.02	0.00	0.11	0.03	2	22
9		17.28		17.27		33.423		24.241	367.5	0.034											9	21
10		17.28		17.27		33.424		24.241	367.4	0.037	5.57	D	101.4	1.9	0.28	0.0	0.02	0.00	0.12	0.04	10	20
20		17.27		17.26		33.424		24.245	367.5	0.073	5.58		101.6	1.9	0.27	0.2	0.01	0.00	0.12	0.03	20	19
30		17.19		17.19		33.440		24.276	364.9	0.110	5.60		101.7	1.8	0.26	0.1	0.01	0.00	0.15	0.07	30	18
40		17.04		17.03		33.437		24.311	361.9	0.146	5.60		101.5	1.9	0.27	0.2	0.01	0.02	0.22	0.07	40	17
50		14.84		14.83		33.353		24.742	321.0	0.180	5.86		101.6	2.7	0.33	0.5	0.13	0.00	0.55	0.18	50	16
60		13.33		13.32		33.226		24.956	300.7	0.212	5.72		96.1	4.4	0.49	2.5	0.42	0.00	0.46	0.25	60	14
70		12.75		12.74		33.251		25.092	288.1	0.241	5.47		90.9	5.4	0.65	5.1	0.22	0.00	0.39	0.24	71	13
75	ISL	12.64	D	12.63		33.311	D	25.159	281.8	0.257	5.06	D	83.9	7.7	0.84	8.1	0.16	0.00	0.30	0.20	76	
85		11.27		11.26		33.452		25.526	246.9	0.282	4.48		72.2	12.1	1.22	14.2	0.04	0.00	0.11	0.11	86	12
100		10.39		10.38		33.568		25.772	223.8	0.317	3.87		61.2	18.0	1.55	19.1	0.03	0.00	0.03	0.05	101	11
120		9.47		9.46		33.636		25.979	204.3	0.360	3.73		57.9	22.1	1.69	21.8	0.04	0.00	0.01	0.04	121	10
125	ISL	9.40	D	9.39		33.643	D	25.997	202.8	0.372	3.74	D	57.9	23.4	1.74	22.6	0.04	0.00	0.01	0.03	126	
140		9.06		9.05		33.784		26.162	187.4	0.399	3.23		49.6	27.3	1.88	25.1	0.03	0.00	0.00	0.03	141	09
150	ISL	9.10	D	9.09		33.824	D	26.187	185.2	0.421	3.05	D	46.9	28.9	1.94	26.0	0.03	0.00	0.00	0.03	151	
170		8.74		8.72		33.906		26.308	174.1	0.454	2.73		41.6	32.2	2.06	27.7	0.02	0.00	0.00	0.03	171	08
200	ISL	8.13	D	8.11		33.967	D	26.449	161.0	0.508	2.68	D	40.3	36.5	2.12	29.0	0.02	0.18	0.00	0.02	202	
201		8.11		8.09		33.966		26.451	160.8	0.506	2.71		40.8	36.7	2.12	29.0	0.02	0.19	0.00	0.02	203	07
230		7.87		7.85		34.014		26.526	154.2	0.551	2.23		33.4	41.6	2.28	31.1	0.02	0.00			232	06
250	ISL	7.61	D	7.58		34.052	D	26.594	147.9	0.586	1.86	D	27.7	46.4	2.42	32.8	0.02	0.00			252	
271		7.27		7.24		34.065		26.653	142.6	0.612	1.62		23.9	51.4	2.56	34.5	0.02	0.00			273	05
300	ISL	7.13	D	7.10		34.109	D	26.708	137.8	0.657	1.26	D	18.5	55.7	2.70	35.7	0.02	0.00			302	
320		7.01		6.98		34.132		26.743	134.8	0.680	1.04		15.2	58.7	2.79	36.6	0.02	0.00			323	04
380		6.53		6.49		34.190		26.853	124.9	0.758	0.66		9.6	67.9	3.00	38.6	0.01	0.00			383	03
400	ISL	6.39	D	6.36		34.198	D	26.878	122.7	0.788	0.60	D	8.7	70.3	3.04	39.1	0.01	0.00			403	
441		6.11		6.07		34.219		26.931	118.1	0.832	0.49		7.0	75.2	3.11	40.2	0.01	0.00			445	02
500	ISL	5.83	D	5.79		34.264	D	27.002	111.9	0.906	0.36	D	5.1	81.2	3.21	41.0	0.02	0.00			504	
515		5.82		5.78		34.288		27.023	110.2	0.917	0.29		4.2	82.7	3.24	41.2	0.02	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 1210 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 19.1 N	121 43.2 W	28/10/2012	1659 UTC	4065 m	350 19 kn	350 05 06	2	1013.7 mb	16.7 C	15.9 C	18 m	8/8	ST	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		16.99		16.99		33.141	24.091	381.5	0.000	5.66		102.3	2.7	0.29	0.0	0.01	0.05	0.18	0.06	0	
3	A	16.99		16.99		33.141	24.091	381.5	0.011	5.66		102.3	2.7	0.29	0.0	0.01	0.05	0.18	0.06	3	24
10		16.99		16.99		33.135	24.088	382.0	0.037											10	23
10		16.99		16.99		33.132	24.086	382.2	0.038	5.66		102.2	2.7	0.28	0.0	0.01	0.03	0.19	0.06	10	22
12	A	16.98		16.98		33.132	24.087	382.2	0.046	5.65		102.1	2.7	0.28	0.0	0.01	0.01	0.19	0.05	12	21
16	A	16.98		16.98		33.132	24.088	382.3	0.061	5.66		102.4	2.7	0.27	0.0	0.01	0.00	0.19	0.05	16	20
20	ISL	16.98	D	16.97		33.137	D 24.092	382.0	0.077	5.64	D	101.9	2.7	0.27	0.0	0.01	0.00	0.19	0.05	20	
27	A	16.97		16.96		33.147	24.103	381.2	0.103	5.66		102.4	2.7	0.27	0.0	0.01	0.00	0.19	0.05	27	19
30	ISL	16.97	D	16.96		33.164	D 24.117	380.0	0.115	5.64	D	102.0	2.7	0.27	0.0	0.01	0.00	0.19	0.05	30	
38		16.95		16.94		33.206	24.153	376.9	0.145	5.67		102.4	2.6	0.26	0.0	0.01	0.00	0.20	0.05	38	18
49	A	16.82		16.82		33.250	24.217	371.1	0.186	5.68		102.4	2.4	0.25	0.0	0.01	0.00	0.21	0.06	49	17
50	ISL	16.32	D	16.27		33.229	D 24.327	360.7	0.191	5.80	D	103.4	2.5	0.25	0.0	0.01	0.00	0.22	0.07	50	
60	A	14.83		14.82		33.156	24.592	335.6	0.225	6.16		106.6	3.3	0.30	0.0	0.01	0.03	0.33	0.18	60	16
67		13.79		13.78		33.093	24.762	319.5	0.247	6.22		105.4	3.4	0.30	0.0	0.02	0.00	0.44	0.23	68	15
75		12.12		12.11		33.006	25.023	294.6	0.272	6.16		100.7	3.9	0.34	0.3	0.07	0.06	0.26	0.22	76	14
84		11.74		11.73		33.160	25.213	276.8	0.298	5.60		90.9	6.1	0.62	4.9	0.12	0.00	0.14	0.13	85	13
95		10.54		10.53		33.046	25.338	264.8	0.328	5.62		88.8	7.2	0.70	6.2	0.03	0.00	0.09	0.10	96	12
100	ISL	10.28	D	10.27		33.106	D 25.430	256.2	0.343	5.43	D	85.4	8.6	0.83	8.3	0.03	0.00	0.07	0.08	101	
109		10.64		10.72		33.392	D 25.576	242.7	0.366	4.94		78.4	11.2	1.06	12.2	0.02	0.00	0.04	0.04	110	11
124		10.27		10.26		33.529	25.763	225.2	0.398	4.08		64.3	16.7	1.41	17.8	0.02	0.00	0.01	0.03	125	10
125	ISL	10.24	D	10.22		33.550	D 25.786	223.1	0.403	3.99	D	62.9	17.0	1.43	18.1	0.02	0.00	0.01	0.03	126	
146		9.41		9.40		33.733	26.065	196.7	0.444	3.31		51.3	24.6	1.78	23.6	0.01	0.00	0.00	0.02	147	09
150	ISL	9.34	D	9.34		33.755	D 26.092	194.3	0.456	3.31	D	51.2	25.2	1.80	24.0	0.01	0.00	0.00	0.02	151	
170		8.92		8.91		33.832	26.221	182.3	0.490	3.11		47.7	28.4	1.90	25.7	0.01	0.00	0.00	0.02	171	08
200		8.47		8.45		33.959	26.393	166.5	0.542	2.64		40.0	34.5	2.09	28.3	0.01	0.00	0.00	0.02	202	07
228		7.96		7.94		34.003	26.503	156.4	0.587	2.41		36.2	40.0	2.21	30.2	0.01	0.00			230	06
250	ISL	7.91	D	7.89		34.051	D 26.549	152.4	0.626	1.87	D	28.0	43.6	2.37	31.8	0.01	0.00			252	
270		7.73		7.70		34.083	26.601	147.8	0.651	1.62		24.2	46.9	2.51	33.2	0.01	0.00			272	05
300	ISL	7.43	D	7.39		34.121	D 26.676	141.0	0.700	1.25	D	18.6	52.4	2.67	34.8	0.01	0.00			302	
320		7.33		7.30		34.163	26.723	136.9	0.722	1.01		14.9	56.0	2.78	35.8	0.01	0.00			323	04
380		6.96		6.93		34.213	26.814	129.0	0.802	0.70		10.3	62.6	2.93	37.1	0.01	0.00			383	03
400	ISL	6.79	D	6.76		34.195	D 26.823	128.4	0.835	0.67	D	9.7	65.4	2.97	37.8	0.01	0.00			403	
440		6.36		6.32		34.197	26.882	123.0	0.878	0.57		8.3	71.0	3.06	39.2	0.01	0.00			444	02
500	ISL	5.99	D	5.95		34.230	D 26.956	116.5	0.958	0.43	D	6.2	77.4	3.17	40.3	0.01	0.00			504	
514		5.96		5.91		34.240	26.969	115.5	0.966	0.41		5.8	78.8	3.19	40.5	0.01	0.00			518	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 CTD O2;

RV NEW HORIZON CALCOFI CRUISE 1210 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 59.6 N	122 23.6 W	29/10/2012	0010 UTC	4120 m	010 15 kn	360 05 05	2	1013.8 mb	17.1 C	16.0 C	25 m	8/8	ST	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		17.91		17.91		33.230	23.941	395.8	0.000	5.52		101.6	2.9	0.35	0.0	0.04	0.08	0.11	0.03	0	
2		17.91		17.91		33.230	23.941	395.8	0.008	5.52		101.6	2.9	0.35	0.0	0.04	0.08	0.11	0.03	2	21
10		17.91		17.91		33.232	23.943	395.9	0.040	5.54		102.1	2.9	0.30	0.0	0.03	0.01	0.12	0.03	10	19
10		17.91		17.91		33.229	23.941	396.1	0.041											10	20
20	ISL	17.91	D	17.91		33.216	D 23.931	397.4	0.080	5.48	D	100.9	2.9	0.30	0.0	0.03	0.02	0.12	0.03	20	
26		17.91		17.90		33.215	23.932	397.6	0.103	5.51		101.4	2.9	0.30	0.0	0.03	0.02	0.12	0.03	26	18
30	ISL	17.90	D	17.89		33.219	D 23.936	397.3	0.120	5.47	D	100.7	2.9	0.31	0.0	0.03	0.02	0.13	0.03	30	
41		17.89		17.88		33.221	23.941	397.2	0.163	5.51		101.4	2.9	0.32	0.0	0.03	0.02	0.14	0.03	41	17
50		17.57		17.50		33.329	D 24.117	380.7	0.199	5.52		101.0	2.8	0.30	0.0	0.03	0.05	0.18	0.05	50	16
62		14.91		14.90		33.224	24.628	332.3	0.241	6.20		107.6	3.2	0.35	0.0	0.03	0.03	0.32	0.20	62	15
75		13.83		13.82		33.219	24.851	311.3	0.283	5.91		100.3	4.2	0.51	1.7	0.34	0.08	0.29	0.23	76	14
88		12.85		12.83		33.266	25.085	289.2	0.322	5.62		93.4	5.2	0.63	4.1	0.37	0.00	0.21	0.17	89	13
100		12.49		12.48		33.299	25.180	280.5	0.356	5.52		91.2	5.6	0.65	4.8	0.09	0.01	0.16	0.15	101	12
112		11.55		11.53		33.332	25.383	261.3	0.388	5.18		83.9	8.6	0.97	9.5	0.05	0.03	0.09	0.08	113	11
125		11.16		11.14		33.402	25.509	249.6	0.421	4.81		77.3	11.1	1.18	12.8	0.04	0.00	0.04	0.05	126	10
140		10.42		10.41		33.497	25.712	230.4	0.457	4.17		65.9	15.0	1.39	16.2	0.04	0.02	0.02	0.04	141	09
150	ISL	10.20	D	10.20		33.564	D 25.800	222.3	0.483	3.91	D	61.6	17.9	1.54	18.4	0.04	0.01	0.02	0.03	151	
170		9.55		9.54		33.730	26.041	199.7	0.522	3.31		51.5	23.7	1.83	22.9	0.03	0.00	0.00	0.02	171	08
200	ISL	8.83	D	8.83		33.880	D 26.272	178.1	0.583	2.89	D	44.3	29.0	2.00	25.8	0.03	0.00	0.00	0.02	202	
201		8.81		8.79		33.873	26.273	178.1	0.581	2.94		44.9	29.2	2.01	25.9	0.03	0.00	0.00	0.02	203	07
230		8.48		8.46		33.953	26.387	167.7	0.631	2.85		43.3	33.3	2.08	27.3	0.03	0.00			232	06
250	ISL	8.19	D	8.16		34.022	D 26.487	158.5	0.668	2.36	D	35.7	37.2	2.21	28.9	0.03	0.01			252	
270		7.99		7.96		34.030	26.523	155.4	0.695	2.21		33.2	41.0	2.34	30.4	0.03	0.01			272	05
300	ISL	7.61	D	7.58		34.071	D 26.611	147.3	0.745	1.76	D	26.3	47.0	2.51	32.5	0.03	0.00			302	
320		7.28		7.25		34.072	26.658	143.0	0.769	1.60		23.7	51.1	2.62	33.9	0.03	0.00			323	04
380		6.58		6.54		34.121	26.793	130.6	0.851	1.00		14.5	63.7	2.92	37.5	0.03	0.00			383	03
400	ISL	6.50	D	6.47		34.133	D 26.812	129.1	0.883	0.90	D	13.1	66.3	2.99	38.1	0.03	0.00			403	
440		6.52		6.48		34.216	26.876	123.7	0.928	0.54		7.9	71.5	3.13	39.2	0.03	0.00			444	02
500	ISL	6.17	D	6.13		34.290	D 26.981	114.4	1.005	0.32	D	4.7	77.9	3.22	40.0	0.03	0.00			504	
515		6.06		6.01		34.295	27.000	112.7	1.016	0.30		4.3	79.5	3.24	40.2	0.03	0.00			519	01

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

RV NEW HORIZON CALCOFI CRUISE 1210 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 4.3 W	29/10/2012	0610 UTC	4129 m	010	18 kn			1016.6 mb	16.9 C	15.9 C				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		17.83		17.83		33.219	23.951	394.8	0.000	5.51		101.3	2.8	0.34	0.0	0.02	0.08	0.15	0.03	0	
2		17.83		17.83		33.219	23.951	394.8	0.008	5.51		101.3	2.8	0.34	0.0	0.02	0.08	0.15	0.03	2	21
10		17.83		17.83		33.222	23.954	394.8	0.039											10	20
10		17.83		17.83		33.219	23.952	395.0	0.040	5.53		101.6	2.9	0.36	0.0	0.01	0.03	0.15	0.03	10	19
20	ISL	17.84	D	17.83		33.219	D 23.951	395.5	0.079	5.47	D	100.6	2.8	0.35	0.0	0.01	0.02	0.15	0.03	20	
25		17.84		17.83		33.227	23.957	395.1	0.099	5.52		101.5	2.8	0.34	0.0	0.01	0.02	0.15	0.03	25	18
30	ISL	17.84	D	17.83		33.219	D 23.951	395.9	0.119	5.48	D	100.7	2.8	0.34	0.0	0.01	0.03	0.15	0.03	30	
40		17.84		17.83		33.221	23.954	396.0	0.158	5.53		101.6	2.8	0.33	0.0	0.01	0.04	0.15	0.03	40	17
50		17.77		17.76		33.219	23.969	394.9	0.198	5.53		101.5	2.9	0.32	0.0	0.01	0.07	0.18	0.03	50	16
62		14.54		14.53		33.132	24.636	331.5	0.241	6.09		104.8	3.3	0.36	0.0	0.01	0.03	0.30	0.17	62	15
75	ISL	13.77	D	13.77		33.199	D 24.847	311.7	0.285	5.93	D	100.6	3.6	0.44	0.9	0.26	0.06	0.22	0.13	76	
76		13.69		13.68		33.199	24.864	310.0	0.286	5.89		99.7	3.7	0.45	1.0	0.28	0.06	0.22	0.13	77	14
87		13.00		12.99		33.255	25.047	292.9	0.319	5.67		94.7	4.6	0.57	3.1	0.37	0.11	0.22	0.14	88	13
100	ISL	12.12	D	12.12		33.248	D 25.210	277.6	0.359	5.50	D	90.1	6.6	0.77	6.3	0.05	0.05	0.16	0.09	101	
101		12.05		12.04		33.251	25.227	275.9	0.359	5.46		89.3	6.8	0.78	6.5	0.03	0.04	0.16	0.09	102	12
113		11.52		11.51		33.283	25.350	264.5	0.392	5.30		85.8	8.2	0.89	8.4	0.02	0.00	0.08	0.07	114	11
125		10.97		10.95		33.350	25.502	250.2	0.423	5.04		80.5	10.1	1.07	11.0	0.02	0.11	0.05	0.04	126	10
140		10.40		10.38		33.433	25.667	234.7	0.459	4.61		72.8	13.8	1.31	15.0	0.01	0.05	0.02	0.03	141	09
150	ISL	9.99	D	9.97		33.525	D 25.808	221.4	0.485	4.18	D	65.5	17.5	1.51	17.9	0.01	0.03	0.02	0.03	151	
170		9.47		9.45		33.733	26.058	198.0	0.524	3.35		52.0	24.7	1.90	23.8	0.01	0.00	0.02	0.02	171	08
200		8.89		8.87		33.922	26.298	175.7	0.580	2.48		38.0	32.4	2.21	28.2	0.01	0.00	0.00	0.03	202	07
230		8.35		8.33		33.994	26.438	162.8	0.631	2.46		37.2	36.6	2.23	29.0	0.01	0.00			232	06
250	ISL	8.15	D	8.13		34.045	D 26.509	156.3	0.667	2.07	D	31.3	40.3	2.35	30.5	0.01	0.00			252	
270		7.85		7.82		34.049	26.557	152.0	0.693	1.93		28.9	43.9	2.46	31.9	0.01	0.00			272	05
300	ISL	7.62	D	7.59		34.105	D 26.635	145.0	0.743	1.46	D	21.8	48.9	2.63	33.6	0.00	0.00			302	
320		7.53		7.50		34.130	26.669	142.2	0.767	1.21		18.1	52.2	2.75	34.7	0.00	0.00			323	04
380		6.98		6.94		34.196	26.798	130.5	0.848	0.73		10.8	62.2	2.98	37.2	0.00	0.00			383	03
400	ISL	6.69	D	6.66		34.202	D 26.842	126.5	0.880	0.63	D	9.2	65.1	3.04	37.7	0.00	0.00			403	
440		6.52		6.48		34.261	26.913	120.3	0.923	0.42		6.1	71.1	3.16	38.8	0.00	0.00			444	02
500	ISL	6.13	D	6.08		34.294	D 26.990	113.5	1.001	0.32	D	4.5	77.3	3.23	39.9	0.00	0.00			504	
515		6.07		6.03		34.296	26.999	112.8	1.010	0.30		4.3	78.8	3.25	40.2	0.00	0.00			519	01

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

RV NEW HORIZON CALCOFI CRUISE 1210 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 19.5 N	123 44.8 W	29/10/2012	1159 UTC	4026 m	350	11 kn			1017.0 mb	16.9 C	15.9 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		18.40		18.40		33.392	23.945	395.4	0.000	5.43		101.1	2.7	0.31	0.0	0.01	0.02	0.12	0.03	0	
3		18.40		18.40		33.392	23.945	395.4	0.012	5.43		101.1	2.7	0.31	0.0	0.01	0.02	0.12	0.03	3	21
10		18.40		18.40		33.381	23.936	396.6	0.038											10	20
10		18.40		18.40		33.381	23.935	396.6	0.040	5.44		101.2	2.7	0.31	0.0	0.01	0.01	0.11	0.03	10	19
20	ISL	18.40	D	18.40		33.382	D 23.937	396.8	0.080	5.43		101.0	2.7	0.31	0.0	0.01	0.00	0.12	0.03	20	
24		18.40		18.40		33.381	23.936	397.1	0.095	5.43		101.0	2.7	0.31	0.0	0.01	0.00	0.12	0.03	24	18
30	ISL	18.40	D	18.40		33.382	D 23.938	397.2	0.120	5.43		101.0	2.7	0.31	0.0	0.01	0.00	0.12	0.02	30	
40		18.41		18.40		33.382	23.937	397.6	0.159	5.43		101.1	2.7	0.31	0.0	0.01	0.00	0.12	0.02	40	17
50		17.06		17.05		33.379	24.261	367.0	0.197	5.46		99.1	2.7	0.30	0.0	0.01	0.00	0.13	0.03	50	16
62		14.44		14.43		33.201	24.711	324.3	0.238	6.12		105.2	3.3	0.36	0.1	0.02	0.03	0.21	0.08	62	15
74		13.41		13.40		33.236	24.949	301.9	0.276	5.76		97.0	4.5	0.57	2.6	0.61	0.06	0.21	0.10	75	14
75	ISL	13.31	D	13.30		33.248	D 24.979	299.0	0.281	5.69	D	95.5	4.6	0.58	2.8	0.58	0.06	0.21	0.10	76	
87		12.85		12.84		33.269	25.087	289.1	0.314	5.56		92.5	5.5	0.66	4.8	0.23	0.00	0.17	0.10	88	13
100		12.02		12.01		33.337	25.299	269.0	0.351	5.21		85.2	8.2	0.96	9.5	0.03	0.00	0.10	0.10	101	12
112		11.72		11.70		33.367	25.379	261.7	0.382	5.10		83.0	9.3	1.06	11.0	0.02	0.00	0.08	0.07	113	11
124		11.11		11.09		33.376	25.498	250.6	0.413	4.82		77.2	10.7	1.14	12.5	0.02	0.00	0.05	0.07	125	10
125	ISL	11.13	D	11.10		33.383	D 25.501	250.3	0.419	4.79	D	76.8	10.9	1.15	12.7	0.02	0.00	0.05	0.07	126	
140		10.62		10.60		33.463	25.652	236.2	0.452	4.54		72.2	13.9	1.34	15.6	0.02	0.00	0.02	0.03	141	09
150	ISL	10.07	D	10.05		33.509	D 25.782	223.9	0.479	4.42	D	69.4	16.6	1.47	17.6	0.02	0.00	0.01	0.03	151	
170		9.57		9.55		33.652	25.978	205.6	0.518	3.68		57.1	21.8	1.72	21.7	0.02	0.00	0.01	0.02	171	08
200		8.81		8.79		33.870	26.270	178.3	0.576	3.33		50.9	28.1	1.87	24.7	0.01	0.00	0.00	0.02	202	07
230		8.39		8.37		33.962	26.408	165.7	0.627	3.12		47.3	32.5	1.97	26.3	0.01	0.00			232	06
250	ISL	8.04	D	8.01		33.998	D 26.489	158.2	0.664	2.72	D	40.9	37.5	2.14	28.5	0.01	0.00			252	
267		7.81		7.78		34.024	26.543	153.2	0.686	2.40		35.9	41.7	2.28	30.4	0.01	0.00			269	05
300	ISL	7.40	D	7.37		34.052	D 26.625	145.8	0.741	1.88	D	27.9	47.9	2.47	32.7	0.01	0.00			302	
320		7.17		7.14		34.063	26.665	142.2	0.764	1.72		25.3	51.6	2.58	34.1	0.01	0.00			323	04
381		6.62		6.59		34.120	26.786	131.3	0.848	1.07		15.6	62.0	2.86	37.4	0.01	0.00			384	03
400	ISL	6.60	D	6.56		34.148	D 26.812	129.2	0.879	0.83	D	12.1	64.2	2.92	37.9	0.01	0.00			403	
440		6.40		6.36		34.173	26.858	125.3	0.923	0.66		9.6	68.6	3.04	39.1	0.01	0.00			444	02
500	ISL	5.92	D	5.88		34.209	D 26.948	117.1	1.004	0.44	D	6.4	76.2	3.16	40.3	0.01	0.00			504	
516		6.01		5.97		34.262	26.979	114.6	1.014	0.36		5.1	78.2	3.19	40.6	0.01	0.00			520	01

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

RV NEW HORIZON CALCOFI CRUISE 1210 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 53.2 N	118 27.0 W	26/10/2012	0750 UTC	31 m	060 05 kn			1013.3 mb	20.1 C	15.1 C				029

DEPTH m	TEMP DEG C	POT TEMP DEG 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	17.93	33.500	24.141	376.7	0.000	5.68	104.9	3.1	0.34	0.3	0.08	0.32	0.82	0.28	0	
2	17.94	17.93	33.500	24.141	376.7	0.008	5.68	104.9	3.1	0.34	0.3	0.08	0.32	0.82	0.28	2	05
5	17.83	17.83	33.496	24.164	374.6	0.019	5.69	104.7	3.1	0.34	0.2	0.08	0.31	0.79	0.29	5	04
10	17.49	17.49	33.475	24.229	368.6	0.037	5.76	105.4	3.5	0.36	0.3	0.11	0.51	0.91	0.28	10	03
15	15.22	15.22	33.403	24.694	324.4	0.055	5.88	102.8	4.1	0.41	0.5	0.20	0.77	1.03	0.35	15	02
20	14.70	14.69	33.339	24.759	318.4	0.071	5.65	97.8	5.9	0.62	2.0	0.62	3.44	0.64	0.34	20	01

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

RV NEW HORIZON CALCOFI CRUISE 1210 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 40.4 N	118 5.7 W	26/10/2012	1303 UTC	22 m	200 08 kn			1013.1 mb	19.0 C	13.8 C				031

DEPTH m	TEMP DEG C	POT TEMP DEG 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	18.35	18.35	33.503	24.040	386.3	0.000	5.63	104.8	2.7	0.32	0.0	0.00	0.01	0.29	0.12	0	
2	18.35	18.35	33.503	24.040	386.3	0.008	5.63	104.8	2.7	0.32	0.0	0.00	0.01	0.29	0.12	2	04
5	18.11	18.11	33.498	24.097	381.0	0.019	5.66	104.8	2.8	0.32	0.0	0.01	0.02	0.36	0.15	5	03
10	16.23	16.23	33.383	24.452	347.3	0.037	5.78	103.2	5.1	0.45	0.7	0.27	2.69	0.97	0.47	10	02
15	15.02	15.01	33.407	24.742	319.8	0.054	5.36	93.3	7.8	0.69	2.2	0.49	1.69	0.61	0.44	15	01

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

RV NEW HORIZON CALCOFI CRUISE 1210 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 29.7 N	117 44.8 W	26/10/2012	1538 UTC	21 m	270 01 kn	250 02 07	0	1014.3 mb	18.9 C	14.2 C		0/8		032

DEPTH m	TEMP DEG C	POT TEMP DEG 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	17.76	17.76	33.467	24.158	375.1	0.000	5.63	103.5	3.4	0.39	0.1	0.06	0.20	0.96	0.53	0	
2	17.76	17.76	33.467	24.158	375.1	0.008	5.63	103.5	3.4	0.39	0.1	0.06	0.20	0.96	0.53	2	04
6	17.57	17.57	33.459	24.199	371.3	0.022	5.67	103.8	3.7	0.42	0.2	0.09	0.26	0.90	0.57	6	03
10	16.47	16.47	33.440	24.442	348.2	0.037	5.65	101.3	4.4	0.48	0.4	0.15	0.15	0.95	0.58	10	02
14	16.13	16.13	33.433	24.514	341.6	0.051	5.73	102.0	4.5	0.47	0.4	0.15	0.03	0.92	0.61	14	01

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

RV NEW HORIZON CALCOFI CRUISE 1210 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 45.9 W	26/10/2012	1619 UTC	63 m	350 02 kn	270 02 07	0	1014.6 mb	19.0 C	15.0 C	18 m	0/8		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	18.79	18.79	33.511	23.938	396.0	0.000	5.65	106.0	2.6	0.35	0.0	0.00	0.00	0.33	0.13	0	
2	18.79	18.79	33.511	23.938	396.0	0.008	5.65	106.0	2.6	0.35	0.0	0.00	0.00	0.33	0.13	2	07
4	18.78	18.78	33.515	23.943	395.7	0.016	5.64	105.8	2.6	0.35	0.0	0.01	0.00	0.38	0.13	4	06
10	18.16	18.15	33.490	24.080	382.9	0.039	5.70	105.6	2.7	0.33	0.0	0.01	0.00	0.33	0.16	10	05
20	15.99	15.99	33.422	24.538	339.5	0.075	5.79	102.9	4.7	0.47	0.5	0.18	0.00	0.80	0.43	20	04
29	14.18	14.17	33.428	24.938	301.6	0.104	5.32	91.1	6.3	0.67	2.9	0.56	0.00	0.40	0.28	29	03
30 ISL	14.34 D	14.34	33.428 D	24.902	305.1	0.108	5.35 D	91.9	6.4	0.68	3.1	0.53	0.00	0.39	0.27	30	
39	13.41	13.40	33.428	25.096	286.8	0.134	5.18	87.3	6.9	0.75	4.8	0.22	0.00	0.31	0.21	39	02
50 ISL	12.93 D	12.92	33.471 D	25.225	274.8	0.166	4.49 D	75.0	9.2	0.97	8.2	0.13	0.00	0.18	0.16	50	
54	12.85	12.84	33.475	25.245	273.1	0.176	4.44	73.9	10.1	1.05	9.4	0.10	0.00	0.14	0.15	54	01

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

RV NEW HORIZON CALCOFI CRUISE 1210 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 24.8 N	117 54.6 W	26/10/2012	2111 UTC	622 m	320 07 kn	270 02 07	0	1014.7 mb	20.9 C	18.9 C	26 m	0/8		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		19.91		19.91		33.591		23.712	417.6	0.000	5.44		104.2		1.9	0.29	0.0	0.01	0.00	0.16	0.04	0		
2		19.91		19.91		33.591		23.712	417.6	0.008	5.44		104.2		1.9	0.29	0.0	0.01	0.00	0.16	0.04	2		21
10		19.55		19.55		33.588		23.805	409.1	0.041												10		20
10		19.55		19.55		33.590		23.806	409.0	0.042	5.47		104.1		1.7	0.28	0.0	0.00	0.00	0.16	0.05	10		19
19		18.55		18.54		33.516		24.005	390.4	0.078	5.80		108.3		2.4	0.31	0.0	0.01	0.00	0.20	0.06	19		18
20	ISL	17.26	D	17.25	D	33.448	D	24.267	365.4	0.082	5.98	D	108.9	D	2.5	0.32	0.0	0.01	0.00	0.20	0.06	20		
29		15.71		15.70		33.389		24.577	336.1	0.113	6.14		108.4		3.6	0.36	0.0	0.01	0.00	0.25	0.09	29		17
30	ISL	15.12	D	14.98	D	33.397	D	24.742	320.4	0.117	6.15	D	107.1	D	3.8	0.38	0.2	0.06	0.00	0.29	0.11	30		
39		13.75		13.74		33.394		25.001	295.9	0.144	5.61		95.1		5.6	0.58	2.2	0.51	0.00	0.66	0.26	39		16
50		13.04		13.04		33.395		25.144	282.5	0.176	5.08		84.9		7.1	0.80	6.2	0.16	0.00	0.44	0.20	50		15
59		12.51		12.50		33.468		25.306	267.3	0.201	4.41		73.0		10.3	1.08	10.5	0.04	0.00	0.18	0.12	59		14
69		11.90		11.89		33.535		25.475	251.5	0.227	3.80		62.1		14.3	1.36	14.4	0.03	0.00	0.09	0.09	70		13
75	ISL	11.53	D	11.51	D	33.561	D	25.564	243.1	0.243	3.72	D	60.2		14.9	1.40	15.2	0.03	0.00	0.07	0.08	76		
85		11.34		11.33		33.567		25.602	239.7	0.265	3.67		59.2		16.0	1.47	16.4	0.02	0.00	0.05	0.08	86		12
99		10.95		10.94		33.642		25.731	227.8	0.298	3.30		52.9		19.2	1.65	18.8	0.02	0.00	0.02	0.06	100		11
100	ISL	10.90	D	10.88		33.632	D	25.733	227.6	0.302	3.35	D	53.6		19.4	1.66	18.9	0.02	0.00	0.02	0.06	101		
120		10.30		10.29		33.714		25.902	211.9	0.344	3.07		48.5		22.5	1.81	21.4	0.02	0.00	0.01	0.04	121		10
125	ISL	10.24	D	10.23		33.739	D	25.931	209.3	0.357	2.99	D	47.2		23.2	1.85	21.9	0.02	0.00	0.01	0.04	126		
140		10.00		9.99		33.803		26.023	200.8	0.386	2.77		43.5		25.4	1.95	23.3	0.02	0.00	0.01	0.04	141		09
150	ISL	9.86	D	9.85		33.849	D	26.082	195.4	0.408	2.64	D	41.3		26.8	2.01	24.1	0.02	0.00	0.01	0.04	151		
169		9.61		9.59		33.938		26.195	185.1	0.442	2.41		37.5		29.5	2.12	25.7	0.01	0.00	0.00	0.03	170		08
199		9.24		9.22		34.033		26.331	172.8	0.495	2.07		32.0		33.8	2.27	27.8	0.01	0.00	0.00	0.03	201		07
200	ISL	9.24	D	9.22		34.043	D	26.338	172.1	0.500	2.03	D	31.3		34.0	2.28	27.9	0.01	0.00	0.00	0.03	202		
230		9.03		9.00		34.162		26.466	160.5	0.547	1.48		22.8		39.0	2.49	29.9	0.02	0.00			232		06
250	ISL	8.88	D	8.85		34.210	D	26.528	155.0	0.582	1.16	D	17.8		42.1	2.57	31.0	0.02	0.00			252		
269		8.44		8.41		34.198		26.587	149.6	0.608	1.19		18.1		45.1	2.64	32.0	0.02	0.00			271		05
300	ISL	8.25	D	8.22		34.257	D	26.662	143.0	0.657	0.78	D	11.8		49.2	2.77	33.1	0.03	0.00			302		
320		8.06		8.03		34.267		26.699	139.7	0.681	0.68		10.2		51.8	2.85	33.8	0.03	0.00			323		04
380		7.52		7.48		34.288		26.796	131.3	0.762	0.53		7.8		59.2	2.99	35.4	0.02	0.00			383		03
400	ISL	7.25	D	7.21		34.277	D	26.827	128.5	0.794	0.53	D	7.8		61.8	3.02	36.1	0.02	0.00			403		
440		6.84		6.80		34.284		26.888	123.0	0.839	0.43		6.3		66.9	3.09	37.4	0.01	0.00			444		02
500	ISL	6.45	D	6.40		34.323	D	26.972	115.6	0.917	0.28	D	4.1		74.5	3.20	38.8	0.01	0.00			504		
515		6.34		6.29		34.326		26.988	114.2	0.928	0.24		3.5		76.4	3.23	39.2	0.01	0.00			519		01

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

RV NEW HORIZON CALCOFI CRUISE 1210 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 14.8 N	118 15.2 W	27/10/2012	0013 UTC	392 m	310 05 kn	300 02 06	0	1011.5 mb	22.1 C	16.1 C	22 m	0/8		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		19.56		19.56		33.528		23.755	413.5	0.000	5.51		104.9		1.9	0.30	0.0	0.01	0.05	0.19	0.06	0		
2		19.56		19.56		33.528		23.755	413.5	0.008	5.51		104.9		1.9	0.30	0.0	0.01	0.05	0.19	0.06	2		20
10		19.22		19.22		33.512		23.830	406.7	0.040												10		19
10		19.22		19.22		33.515		23.832	406.5	0.041	5.67		107.3		2.2	0.30	0.0	0.01	0.02	0.22	0.09	10		18
20		17.15		17.14		33.460		24.301	362.1	0.080	5.95		108.1		2.8	0.31	0.0	0.01	0.04	0.34	0.15	20		17
30		15.61		15.61		33.417		24.620	332.0	0.114	6.05		106.6		3.8	0.37	0.1	0.04	0.04	0.43	0.20	30		16
41		14.04		14.03		33.440		24.977	298.3	0.149	5.49		93.7		6.1	0.57	2.3	0.19	0.02	0.49	0.34	41		15
50		13.40		13.39		33.419		25.092	287.6	0.175	5.04		84.9		7.2	0.77	5.7	0.18	0.01	0.43	0.23	50		14
61		12.09		12.08		33.477		25.392	259.1	0.205	4.32		70.9		11.0	1.12	11.5	0.06	0.00	0.19	0.18	61		13
71		11.64		11.63		33.557		25.539	245.4	0.231	3.74		60.7		15.1	1.40	15.6	0.05	0.03	0.06	0.10	72		12
75	ISL	11.41	D	11.37		33.569	D	25.596	240.1	0.241	3.70	D	59.8		15.5	1.43	16.0	0.04	0.02	0.05	0.10	76		
85		11.17		11.15		33.572		25.638	236.3	0.264	3.64		58.5		16.5	1.49	17.1	0.03	0.00	0.04	0.08	86		11
100		10.74		10.73		33.621		25.753	225.7	0.299	3.42		54.6		18.8	1.62	19.1	0.03	0.00	0.02	0.05	101		10
120		10.23		10.22		33.769		25.956	206.7	0.342	2.91		45.9		23.7	1.86	22.5	0.03	0.00	0.01	0.04	121		09
125	ISL	10.16	D	10.14		33.779	D	25.979	204.7	0.354	2.87	D	45.2		24.4	1.89	23.0	0.03	0.00	0.01	0.04	126		
140		9.88		9.86		33.849		26.080	195.4	0.382	2.68		42.0		26.6	1.98	24.3	0.03	0.01	0.01	0.04	141		08
150	ISL	9.83	D	9.81		33.869	D	26.105	193.3	0.404	2.61	D	40.8		28.0	2.03	25.0	0.04	0.01	0.00	0.04	151		
170		9.55		9.53		33.963		26.224	182.3	0.439	2.30		35.7		30.6	2.13	26.5	0.05	0.01	0.00	0.04	171		07
200		9.26		9.24		34.075		26.360	170.0	0.492	1.84		28.4		35.1	2.32	28.4	0.03	0.07	0.00	0.05	202		06
230		8.87		8.85		34.135		26.470	160.1	0.542	1.61		24.6		39.0	2.45	30.1	0.06	0.00			232		05
250	ISL	8.81	D	8.78		34.156	D	26.496	158.0	0.577	1.49	D	22.8		41.3	2.52	30.9	0.07	0.00			252		
270		8.50		8.47		34.188		26.569	151.3	0.604	1.30		19.8		43.7	2.59	31.7	0.07	0.00			272		04
300	ISL	8.43	D	8.39		34.228	D	26.613	147.7	0.654	0.97	D	14.8		46.3	2.69	32.4	0.08	0.00			302		
320		8.32		8.29		34.239		26.638	145.7	0.679	0.91		13.7		48.0	2.75	32.9	0.09	0.00			323		03
380		7.70		7.67		34.280		26.763	134.6	0.763	0.57		8.5		56.7	2.95	35.2	0.03	0.00			383		02
400	ISL	7.59	D	7.55		34.285	D	26.783	132.9	0.795	0.55	D	8.2		58.6	2.99	35.7	0.03	0.00			403		
440		7.27		7.23		34.295		26.837	128.3	0.842	0.44		6.5		62.5	3.06	36.6	0.02	0.00			444		01

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

RV NEW HORIZON CALCOFI CRUISE 1210 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 11.2 N	118 23.4 W	27/10/2012	0309 UTC	1179 m	310 19 kn			1011.9 mb	20.5 C	17.4 C				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	19.72	19.72	33.638	23.797	409.5	0.000	5.39	102.9	1.5	0.28	0.0	0.01	0.00	0.13	0.07	0	
2	19.72	19.72	33.638	23.797	409.5	0.008	5.39	102.9	1.5	0.28	0.0	0.01	0.00	0.13	0.07	2	20
10	19.60	19.60	33.637	23.828	406.9	0.041	5.41	103.0	1.5	0.29	0.0	0.01	0.00	0.12	0.06	10	19
20	16.21	16.20	33.430	24.496	343.5	0.078	6.09	108.6	3.2	0.35	0.0	0.01	0.00	0.28	0.14	20	18
30	14.23	14.23	33.385	24.894	305.8	0.111	5.99	102.6	4.6	0.45	0.4	0.06	0.00	0.92	0.19	30	17
40	12.76	12.75	33.450	25.242	272.9	0.140	4.67	77.7	8.8	0.97	8.5	0.09	0.00	0.30	0.21	40	16
50	12.28	12.27	33.493	25.369	261.1	0.167	4.17	68.7	11.6	1.18	11.7	0.04	0.00	0.15	0.14	50	15
61	11.67	11.66	33.520	25.505	248.4	0.195	3.93	63.9	13.9	1.36	14.7	0.03	0.00	0.10	0.10	61	14
70	11.25	11.24	33.541	25.598	239.7	0.217	3.81	61.3	15.1	1.44	15.8	0.03	0.00	0.07	0.07	71	13
75 ISL	11.10 D	11.09	33.567 D	25.645	235.3	0.230	3.66 D	58.8	16.5	1.52	16.9	0.03	0.00	0.06	0.07	76	
85	10.60	10.59	33.638	25.790	221.7	0.251	3.36	53.4	19.4	1.67	19.2	0.03	0.00	0.03	0.06	86	12
100	10.45	10.44	33.747	25.901	211.5	0.284	2.94	46.7	23.1	1.85	21.4	0.03	0.00	0.01	0.05	101	11
120	10.24	10.22	33.803	25.982	204.3	0.325	2.72	42.9	25.1	1.95	22.6	0.03	0.00	0.01	0.04	121	10
125 ISL	10.12 D	10.11	33.815 D	26.011	201.6	0.337	2.74 D	43.1	25.5	1.96	22.9	0.03	0.00	0.01	0.04	126	
140	10.03	10.02	33.846	26.051	198.2	0.366	2.62	41.2	26.5	2.00	23.7	0.04	0.00	0.01	0.04	141	09
150 ISL	9.89 D	9.88	33.858 D	26.084	195.2	0.387	2.66 D	41.6	27.3	2.03	24.3	0.03	0.00	0.01	0.03	151	
170	9.64	9.62	33.917	26.173	187.2	0.423	2.50	39.0	29.0	2.08	25.4	0.02	0.00	0.01	0.03	171	08
200	9.52	9.49	34.007	26.265	179.1	0.478	2.23	34.7	31.5	2.19	26.7	0.02	0.00	0.00	0.03	202	07
230	9.28	9.25	34.107	26.383	168.5	0.530	1.84	28.5	35.3	2.34	28.4	0.02	0.00			232	06
250 ISL	9.01 D	8.99	34.140 D	26.452	162.3	0.568	1.60 D	24.6	38.8	2.46	29.7	0.02	0.00			252	
270	8.79	8.76	34.199	26.533	154.9	0.595	1.27	19.5	42.3	2.58	30.9	0.02	0.00			272	05
300 ISL	8.59 D	8.56	34.228 D	26.588	150.2	0.646	1.03 D	15.8	45.4	2.63	31.9	0.02	0.00			302	
322	8.18	8.15	34.194	26.624	147.0	0.674	1.15	17.4	47.7	2.67	32.7	0.02	0.00			325	04
381	7.78	7.74	34.274	26.749	136.0	0.757	0.62	9.3	55.6	2.90	34.6	0.01	0.00			384	03
400 ISL	7.49 D	7.43	34.294 D	26.808	130.5	0.788	0.48 D	7.2	58.8	2.95	35.3	0.01	0.00			403	
440	7.04	6.99	34.299	26.874	124.6	0.834	0.42	6.1	65.6	3.07	36.9	0.01	0.00			444	02
500 ISL	6.42 D	6.37	34.320 D	26.974	115.3	0.912	0.27 D	4.0	74.4	3.18	38.7	0.01	0.00			504	
514	6.34	6.30	34.325	26.987	114.2	0.922	0.26	3.8	76.4	3.21	39.1	0.01	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 1210 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 55.0 N	118 56.1 W	27/10/2012	0904 UTC	1701 m	320 12 kn			1010.8 mb	18.9 C	16.9 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	17.66	17.66	33.608	24.289	362.5	0.000	5.63	103.5	2.5	0.31	0.0	0.01	0.00	0.64	0.21	0	
2	17.66	17.66	33.608	24.289	362.5	0.007	5.63	103.5	2.5	0.31	0.0	0.01	0.00	0.64	0.21	2	21
10	17.59	17.59	33.606	24.305	361.3	0.036										10	20
10	17.59	17.59	33.605	24.304	361.4	0.036	5.67	104.0	2.6	0.30	0.0	0.01	0.00	0.65	0.21	10	19
20	17.43	17.42	33.605	24.345	357.9	0.072	5.67	103.6	2.7	0.31	0.1	0.01	0.01	0.73	0.28	20	18
30	15.67	15.66	33.546	24.708	323.6	0.106	5.70	100.6	3.0	0.37	0.8	0.03	0.06	0.76	0.33	30	17
40	12.30	12.30	33.418	25.306	266.8	0.136	5.25	86.5	7.1	0.87	7.8	0.27	0.13	0.56	0.29	40	16
50	11.20	11.20	33.432	25.521	246.5	0.162	4.55	73.2	12.3	1.27	14.2	0.14	0.00	0.06	0.41	50	15
60	10.68	10.68	33.478	25.649	234.5	0.186	4.32	68.8	14.9	1.41	16.4	0.08	0.00	0.15	0.14	60	14
70	10.14	10.13	33.517	25.774	222.8	0.209	4.18	65.8	17.2	1.53	18.4	0.04	0.00	0.08	0.12	71	13
75 ISL	10.02 D	10.01	33.557 D	25.825	218.1	0.221	4.00 D	62.8	18.4	1.60	19.3	0.04	0.01	0.06	0.11	76	
85	9.86	9.85	33.620	25.902	211.0	0.241	3.77	58.9	20.7	1.73	21.1	0.03	0.04	0.04	0.07	86	12
98	9.60	9.59	33.688	25.999	202.1	0.268	3.53	54.8	23.0	1.79	22.6	0.03	0.00	0.02	0.05	99	11
100 ISL	9.58 D	9.57	33.688 D	26.002	201.8	0.274	3.54 D	55.0	23.3	1.80	22.8	0.03	0.00	0.02	0.05	101	
120	9.19	9.17	33.777	26.136	189.4	0.311	3.21	49.5	26.3	1.91	24.6	0.03	0.00	0.01	0.03	121	10
125 ISL	9.18 D	9.17	33.824 D	26.173	186.0	0.323	3.06 D	47.2	27.2	1.94	25.0	0.03	0.00	0.01	0.03	126	
140	8.96	8.94	33.890	26.261	177.9	0.348	2.84	43.6	30.0	2.04	26.3	0.01	0.00	0.00	0.04	141	09
150 ISL	8.84 D	8.82	33.923 D	26.306	173.8	0.368	2.71 D	41.5	32.3	2.14	27.4	0.01	0.00	0.00	0.04	151	
170	8.77	8.75	34.051	26.418	163.6	0.399	2.01	30.7	36.9	2.33	29.5	0.02	0.00	0.01	0.04	171	08
200	8.48	8.46	34.135	26.529	153.7	0.447	1.56	23.7	42.1	2.52	31.2	0.03	0.00	0.00	0.03	202	07
231	8.05	8.02	34.125	26.587	148.6	0.493	1.49	22.4	45.8	2.58	32.6	0.03	0.00			233	06
250 ISL	7.99 D	7.96	34.147 D	26.614	146.4	0.526	1.34 D	20.1	48.3	2.65	33.5	0.03	0.00			252	
270	7.65	7.63	34.134	26.652	142.9	0.550	1.20	18.0	50.8	2.72	34.5	0.03	0.00			272	05
300 ISL	7.92 D	7.89	34.248 D	26.704	138.8	0.597	0.76 D	11.5	52.9	2.83	34.6	0.03	0.00			302	
321	7.82	7.79	34.264	26.732	136.5	0.622	0.67	10.0	54.4	2.91	34.7	0.03	0.00			324	04
381	7.29	7.25	34.279	26.821	128.7	0.701	0.52	7.7	61.0	3.02	36.4	0.01	0.00			384	03
400 ISL	7.15 D	7.12	34.287 D	26.846	126.5	0.731	0.46 D	6.8	63.2	3.06	36.9	0.01	0.00			403	
439	6.84	6.80	34.298	26.899	121.9	0.774	0.39	5.7	67.5	3.14	37.9	0.01	0.00			443	02
500 ISL	6.41 D	6.36	34.324 D	26.979	114.9	0.853	0.27 D	3.9	74.1	3.22	39.3	0.00	0.00			504	
515	6.35	6.30	34.328	26.989	114.1	0.863	0.26	3.7	75.8	3.24	39.6	0.00	0.00			519	01

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

RV NEW HORIZON CALCOFI CRUISE 1210 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 39.7 N	119 29.0 W	27/10/2012	1650 UTC	1322 m	340 08 kn	310 03 07	0	1011.6 mb	19.0 C	17.2 C	27 m	0/8		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		17.41		17.41		33.548		24.304	361.1	0.000	5.55		101.5		1.3	0.32	0.1	0.01	0.02	0.17	0.04	0	
2	A	17.41		17.41		33.548		24.304	361.1	0.007	5.55		101.5		1.3	0.32	0.1	0.01	0.02	0.17	0.04	2	21
10	ISL	17.35	D	17.35		33.548	D	24.318	360.1	0.036	5.54	D	101.1		1.3	0.33	0.1	0.01	0.05	0.19	0.05	10	
11		17.35		17.35		33.548		24.318	360.2	0.040	5.57		101.6		1.3	0.33	0.1	0.01	0.05	0.19	0.05	11	20
18	A	17.35		17.34		33.561		24.331	359.2	0.065	5.56		101.5		1.2	0.31	0.1	0.01	0.00	0.19	0.05	18	19
20	ISL	17.34	D	17.34		33.545	D	24.320	360.3	0.072	5.50	D	100.4		1.2	0.31	0.1	0.01	0.00	0.19	0.06	20	
24	A	17.33		17.33		33.544		24.322	360.3	0.087	5.55		101.2		1.2	0.31	0.0	0.01	0.00	0.21	0.07	24	18
30	ISL	17.22	D	17.24		33.531	D	24.334	359.4	0.109	5.51	D	100.3		1.2	0.32	0.0	0.01	0.00	0.24	0.07	30	
31		17.31		17.30		33.538		24.322	360.5	0.112	5.55		101.3		1.2	0.32	0.0	0.01	0.00	0.24	0.07	31	17
41	A	14.59		14.58		33.337		24.782	316.9	0.146	5.86		101.1		2.2	0.36	0.2	0.07	0.09	0.40	0.19	41	16
50	ISL	13.13	D	13.11		33.173	D	24.958	300.3	0.175	5.86	D	98.0		3.4	0.47	1.5	0.34	0.07	0.39	0.25	50	
53		12.86		12.85		33.170		25.006	295.7	0.182	5.80		96.4		3.8	0.51	1.9	0.43	0.06	0.39	0.27	53	15
74	A	11.62		11.61		33.157		25.233	274.6	0.242	5.51		89.3		6.0	0.71	5.5	0.05	0.00	0.20	0.16	75	14
75	ISL	11.56	D	11.54		33.166	D	25.251	272.8	0.247	5.50	D	88.9		6.1	0.72	5.7	0.05	0.00	0.19	0.15	76	
81		11.32		11.31		33.187		25.311	267.3	0.261	5.42		87.2		7.0	0.79	6.9	0.03	0.00	0.14	0.10	82	13
91	A	11.01		11.00		33.298		25.453	253.9	0.287	5.07		81.2		9.3	1.04	10.9	0.03	0.00	0.08	0.07	92	12
100	ISL	10.79	D	10.78		33.365	D	25.544	245.5	0.312	4.76	D	75.8		12.2	1.25	14.0	0.02	0.00	0.05	0.06	101	
105		10.36		10.35		33.439		25.676	233.0	0.322	4.59		72.4		13.8	1.36	15.7	0.02	0.00	0.03	0.05	106	11
119		9.56		9.55		33.622		25.953	206.8	0.353	3.78		58.8		21.0	1.68	21.1	0.02	0.00	0.01	0.03	120	10
125	ISL	9.47	D	9.45		33.653	D	25.993	203.1	0.367	3.69	D	57.2		22.1	1.73	21.8	0.02	0.00	0.01	0.03	126	
139		9.18		9.16		33.733		26.103	192.9	0.393	3.40		52.4		24.7	1.83	23.5	0.02	0.00	0.01	0.03	140	09
150	ISL	8.98	D	8.97		33.831	D	26.211	182.9	0.416	3.11	D	47.8		27.0	1.91	24.7	0.02	0.00	0.00	0.03	151	
170		8.74		8.72		33.905		26.308	174.1	0.449	2.87		43.9		31.1	2.06	26.8	0.02	0.00	0.00	0.02	171	08
200		8.33		8.31		33.985		26.434	162.5	0.499	2.54		38.4		36.0	2.20	28.8	0.02	0.00	0.00	0.02	202	07
229		8.07		8.05		34.026		26.505	156.3	0.546	2.23		33.5		39.5	2.31	30.3	0.02	0.00			231	06
250	ISL	8.06	D	8.04		34.087	D	26.555	151.9	0.581	1.64	D	24.7		43.9	2.48	32.0	0.01	0.00			252	
270		7.75		7.72		34.113		26.622	145.8	0.608	1.43		21.3		48.1	2.64	33.6	0.01	0.00			272	05
300	ISL	7.50	D	7.47		34.146	D	26.684	140.3	0.654	1.11	D	16.5		53.2	2.76	35.1	0.01	0.00			302	
319		7.27		7.24		34.163		26.731	136.1	0.677	0.96		14.1		56.4	2.84	36.1	0.01	0.00			322	04
379		6.97		6.94		34.200		26.802	130.1	0.757	0.74		10.8		62.1	2.97	37.3	0.01	0.00			382	03
400	ISL	6.91	D	6.87		34.209	D	26.818	128.9	0.789	0.68	D	10.0		63.1	2.99	37.5	0.01	0.00			403	
440		6.82		6.77		34.247		26.862	125.4	0.835	0.60		8.7		65.2	3.04	37.8	0.02	0.00			444	02
500	ISL	6.28	D	6.24		34.285	D	26.964	116.2	0.914	0.35	D	5.1		74.3	3.18	39.5	0.01	0.00			504	
515		6.22		6.18		34.296		26.980	114.8	0.925	0.31		4.5		76.5	3.21	39.9	0.01	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 CTD O2;

RV NEW HORIZON CALCOFI CRUISE 1210 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 57.8 W	25/10/2012	0213 UTC	880 m	330 27 kn			1017.8 mb	17.4 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		17.66		17.66		33.554		24.248	366.5	0.000	5.54		101.8		1.2	0.30	0.0	0.02	0.00	0.14	0.05	0	
2		17.66		17.66		33.554		24.248	366.5	0.007	5.54		101.8		1.2	0.30	0.0	0.02	0.00	0.14	0.05	2	21
10		17.67		17.66		33.555		24.248	366.8	0.037	5.56		102.1		1.2	0.32	0.0	0.01	0.00	0.13	0.05	10	20
20		17.68		17.67		33.556		24.248	367.2	0.073	5.54		101.7		1.1	0.31	0.0	0.01	0.02	0.13	0.04	20	19
30		15.39		15.38		33.384		24.644	329.7	0.108	5.83		102.3		1.9	0.33	0.1	0.03	0.07	0.23	0.10	30	18
40		14.25		14.25		33.315		24.836	311.7	0.140	5.91		101.3		2.3	0.34	0.2	0.04	0.10	0.26	0.12	40	17
50		12.56		12.56		33.124		25.028	293.5	0.171	5.88		97.2		4.1	0.50	1.8	0.38	0.19	0.32	0.21	50	16
60		12.26		12.26		33.097		25.065	290.2	0.200	5.79		95.0		4.7	0.56	2.8	0.46	0.00	0.31	0.26	60	15
70		11.66		11.65		33.115		25.193	278.3	0.228	5.59		90.7		5.5	0.64	4.5	0.06	0.00	0.17	0.16	71	14
75	ISL	11.54	D	11.51		33.124	D	25.226	275.2	0.245	5.58	D	90.1		6.1	0.70	5.5	0.05	0.00	0.16	0.14	76	
87		11.15		11.14		33.202		25.354	263.3	0.274	5.36		85.9		7.6	0.84	7.9	0.03	0.00	0.12	0.11	88	13
100		10.52		10.51		33.359		25.586	241.4	0.307	4.87		77.2		11.8	1.17	13.2	0.02	0.00	0.04	0.05	101	12
119		9.94		9.92		33.510		25.804	221.1	0.351	4.25		66.5		17.2	1.51	18.2	0.02	0.00	0.01	0.03	120	11
125	ISL	9.72	D	9.69		33.577	D	25.895	212.5	0.368	3.87	D	60.2		19.6	1.62	19.9	0.02	0.00	0.01	0.03	126	
139		9.21		9.19		33.759		26.118	191.5	0.392	3.32		51.1		25.3	1.86	23.8	0.02	0.00	0.01	0.03	140	10
150	ISL	9.12	D	9.10		33.812	D	26.175	186.3	0.417	3.17	D	48.8		26.9	1.91	24.6	0.02	0.00	0.00	0.03	151	
171		8.86		8.84		33.890		26.277	177.0	0.451	2.94		45.1		30.0	2.01	26.1	0.01	0.00	0.00	0.02	172	09
199		8.47		8.45		33.987		26.414	164.4	0.499	2.49		37.8		35.4	2.20	28.6	0.01	0.00	0.00	0.02	201	08
200	ISL	8.43	D	8.41		33.993	D	26.425	163.4	0.505	2.46	D	37.4		35.7	2.21	28.7	0.01	0.00	0.00	0.02	202	
230		7.91		7.88		34.048		26.547	152.2	0.548	2.07		31.1		42.5	2.39	31.2	0.01	0.00			232	07
250	ISL	7.69	D	7.67		34.056	D	26.585	148.9	0.583	1.92	D	28.6		45.5	2.48	32.2	0.01	0.00			252	
270		7.50		7.47		34.090	D	26.640	143.9	0.613	1.54	D	22.9									272	06
300	ISL	7.31	D	7.28		34.119	D	26.690	139.7	0.656	1.25	D	18.6		52.9	2.70	34.7	0.00	0.00			302	
319		7.16		7.13		34.129		26.720	137.1	0.676	1.13		16.7		55.8	2.79	35.7	0.00	0.00			322	04
380		6.91		6.88		34.188		26.801	130.2	0.758	0.78		11.5		61.8	2.96	37.2	0.00	0.00			383	03
400	ISL	6.84	D	6.81		34.209	D	26.827	128.0	0.791	0.65	D	9.5		64.1	3.01	37.5	0.00	0.00			403	
444		6.57		6.53		34.242		26.890	122.6	0.839	0.48		7.0		69.0	3.12	38.3	0.00	0.00			448	02
500	ISL	6.19	D	6.15		34.279	D	26.970	115.4	0.913	0.34	D	5.0		75.1	3.21	39.7	0.00	0.00			504	
516		6.18		6.13		34.288		26.980	114.8	0.924	0.32		4.6		76.9	3.23	40.1	0.00	0.00			520	01

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

RV NEW HORIZON CALCOFI CRUISE 1210 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 5.2 N	120 38.7 W	24/10/2012	1936 UTC	3816 m	340	20 kn	290 05 08	1	1019.3 mb	19.1 C	15.0 C		1/8	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		17.57		17.57		33.423	24.169	374.0	0.000	5.54		101.5		1.7	0.28	0.0	0.01	0.09	0.13	0.04	0	
3	A	17.57		17.57		33.423	24.169	374.0	0.011	5.54		101.5		1.7	0.28	0.0	0.01	0.09	0.13	0.04	3	22
10		17.57		17.57		33.423	24.170	374.2	0.037	5.56		101.9		1.7	0.28	0.1	0.01	0.11	0.14	0.03	10	21
15	A	17.54		17.54		33.423	24.178	373.7	0.056	5.56		101.8		1.7	0.28	0.0	0.01	0.00	0.14	0.03	15	20
19	A	17.52		17.51		33.417	24.179	373.7	0.071	5.59		102.3		1.7	0.30	0.0	0.01	0.03	0.13	0.03	19	19
20	ISL	17.51	D	17.51		33.416	D 24.181	373.6	0.075	5.58	D	102.2		1.7	0.30	0.0	0.01	0.03	0.14	0.03	20	
26		17.35		17.34		33.421	24.224	369.7	0.097	5.58		101.7		1.7	0.27	0.0	0.01	0.00	0.14	0.04	26	18
30	ISL	17.18	D	17.16		33.382	D 24.238	368.5	0.113	5.66	D	102.7		1.8	0.28	0.0	0.01	0.00	0.16	0.05	30	
34	A	17.03		17.02		33.378	24.267	365.9	0.127	5.65		102.3		1.9	0.29	0.0	0.01	0.00	0.17	0.06	34	17
44		13.76		13.75		33.205	24.853	310.1	0.160	5.95		100.9		3.1	0.37	0.5	0.16	0.05	0.40	0.14	44	16
50	ISL	13.04	D	13.02		33.178	D 24.979	298.2	0.180	5.86	D	97.8		3.8	0.46	1.6	0.27	0.02	0.35	0.15	50	
53		12.92		12.91		33.177	25.000	296.3	0.188	5.75		95.7		4.1	0.50	2.2	0.33	0.00	0.32	0.15	53	15
62	A	12.77		12.76		33.173	25.027	293.9	0.214	5.72		95.0		4.3	0.52	2.6	0.29	0.05	0.26	0.16	62	14
75	ISL	11.92	D	11.90		33.185	D 25.200	277.8	0.253	5.62	D	91.6		5.9	0.67	5.0	0.11	0.05	0.17	0.13	76	
78	A	11.50		11.49		33.187	25.279	270.3	0.260	5.52		89.2		6.2	0.70	5.5	0.07	0.05	0.15	0.12	79	13
87		11.09		11.08		33.283	25.427	256.4	0.283	5.19		83.2		9.0	0.94	9.4	0.01	0.01	0.07	0.08	88	12
99		10.69		10.67		33.327	25.533	246.5	0.313	5.01		79.6		10.4	1.04	11.3	0.01	0.01	0.04	0.06	100	11
100	ISL	10.59	D	10.59		33.336	D 25.555	244.5	0.318	5.02	D	79.6		10.8	1.07	11.7	0.01	0.01	0.04	0.06	101	
119		9.76		9.75		33.532	25.850	216.6	0.360	4.11		64.1		18.6	1.55	19.3	0.00	0.01	0.01	0.03	120	10
125	ISL	9.44	D	9.44		33.615	D 25.966	205.7	0.375	3.88	D	60.2		20.6	1.64	20.6	0.00	0.01	0.01	0.03	126	
140		9.31		9.29		33.772	26.113	192.0	0.402	3.23		49.9		25.6	1.87	23.9	0.00	0.00	0.00	0.03	141	09
150	ISL	9.03	D	9.01		33.848	D 26.217	182.3	0.424	3.04	D	46.7		27.5	1.93	24.9	0.00	0.00	0.00	0.03	151	
171		8.78		8.76		33.933	26.324	172.6	0.458	2.77		42.4		31.4	2.05	27.1	0.00	0.00	0.00	0.02	172	08
198		8.45		8.43		34.002	26.429	163.0	0.504	2.49		37.8		35.7	2.18	28.6	0.01	0.00	0.00	0.03	200	07
200	ISL	8.43	D	8.41		34.003	D 26.433	162.7	0.511	2.46	D	37.4		36.1	2.19	28.7	0.01	0.00	0.00	0.02	202	
230		7.98		7.96		34.048	26.536	153.3	0.554	2.07		31.1		41.9	2.37	30.8	0.03	0.00			232	06
250	ISL	7.76	D	7.74		34.070	D 26.586	148.9	0.589	1.82	D	27.3		44.7	2.45	32.0	0.03	0.00			252	
271		7.54		7.52		34.068	26.616	146.2	0.615	1.74		25.8		47.7	2.53	33.2	0.03	0.00			273	05
300	ISL	7.35	D	7.33		34.111	D 26.678	140.8	0.662	1.30	D	19.2		52.2	2.67	34.2	0.03	0.00			302	
318		7.20		7.17		34.123	26.710	138.0	0.682	1.19		17.6		54.9	2.76	34.9	0.03	0.00			321	04
381		6.55		6.52		34.168	26.833	126.8	0.766	0.82		11.9		64.7	2.95	37.5	0.02	0.00			384	03
400	ISL	6.48	D	6.44		34.181	D 26.854	125.2	0.796	0.69	D	10.1		67.3	3.00	38.2	0.02	0.03			403	
440		6.17		6.13		34.214	26.919	119.2	0.838	0.52		7.5		72.9	3.12	39.6	0.03	0.10			444	02
500	ISL	5.90	D	5.86		34.252	D 26.985	113.6	0.916	0.38	D	5.5		79.1	3.21	40.1	0.01	0.02			504	
517		5.79		5.75		34.261	27.006	111.8	0.927	0.34		4.9		80.9	3.23	40.3	0.01	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 CTD O2;

RV NEW HORIZON CALCOFI CRUISE 1210 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 44.9 N	121 19.1 W	24/10/2012	1258 UTC	3682 m	330	19 kn			1017.7 mb	17.0 C	14.1 C				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		17.40		17.40		33.547	24.305	361.0	0.000	5.54		101.2		1.2	0.30	0.2	0.01	0.00	0.19	0.05	0	
2		17.40		17.40		33.547	24.305	361.0	0.007	5.54		101.2		1.2	0.30	0.2	0.01	0.00	0.19	0.05	2	20
10		17.42		17.41		33.554	24.308	361.1	0.036	5.54		101.2		1.2	0.29	0.1	0.01	0.00	0.17	0.05	10	19
20	ISL	17.42	D	17.41		33.547	D 24.303	361.9	0.073	5.56	D	101.5		1.2	0.28	0.0	0.01	0.00	0.19	0.06	20	
25		17.27		17.27		33.573	24.358	356.8	0.090	5.56		101.3		1.2	0.28	0.0	0.01	0.00	0.20	0.06	25	18
30	ISL	17.26	D	17.25		33.573	D 24.361	356.8	0.109	5.56	D	101.4		1.2	0.28	0.0	0.01	0.00	0.24	0.08	30	
40		17.16		17.15		33.560	24.376	355.7	0.144	5.57		101.4		1.2	0.28	0.0	0.01	0.00	0.32	0.12	40	17
50	ISL	16.80	D	16.80		33.524	D 24.431	350.8	0.181	5.61	D	101.3		1.4	0.33	0.2	0.02	0.07	0.43	0.15	50	
51		16.82		16.81		33.526	24.431	350.9	0.183	5.60		101.2		1.4	0.33	0.2	0.02	0.08	0.44	0.16	51	16
62		14.65		14.64		33.329	24.765	319.2	0.219	5.76		99.5		2.8	0.42	0.9	0.21	0.19	0.39	0.23	62	15
75		12.51		12.50		33.241	25.131	284.4	0.259	5.45		90.1		6.0	0.73	5.8	0.10	0.00	0.17	0.19	76	14
87		12.04		12.03		33.250	25.226	275.6	0.292	5.42		88.7		6.6	0.78	6.7	0.07	0.00	0.16	0.15	88	13
100		11.17		11.16		33.339	25.456	254.0	0.327	5.00		80.2		9.6	1.04	11.0	0.02	0.00	0.09	0.09	101	12
112		10.65		10.64		33.467	25.648	235.9	0.356	4.46		70.9		13.3	1.35	15.5	0.02	0.00	0.06	0.07	113	11
125		10.17		10.15		33.614	25.847	217.2	0.386	3.69		58.1		19.8	1.70	20.8	0.01	0.00	0.02	0.05	126	10
141		9.95		9.94		33.726	25.971	205.7	0.419	3.11		48.8		23.6	1.86	22.9	0.01	0.00	0.02	0.05	142	09
150	ISL	9.39	D	9.37		33.811	D 26.130	190.7	0.441	3.03	D	46.9		25.4	1.89	23.6	0.01	0.00	0.02	0.05	151	
170		8.66		8.64		33.880	26.300	174.7	0.474	3.04		46.3		29.6	1.96	25.3	0.01	0.00	0.02	0.04	171	08
200		8.38		8.36		33.991	26.431	162.9	0.524	2.53		38.4		35.9	2.18	28.7	0.00	0.00	0.00	0.02	202	07
230		8.27		8.24		34.060	26.503	156.6	0.572	1.93		29.2		40.8	2.40	30.6	0.02	0.00			232	06
250	ISL	8.12	D	8.09		34.092	D 26.551	152.4	0.608	1.70	D	25.6		44.0	2.47	31.9	0.01	0.00			252	
270		7.62		7.59		34.069	26.606	147.2	0.633	1.69		25.2		47.3	2.54	33.2	0.00	0.00			272	05
300	ISL	7.68	D	7.65		34.135	D 26.651	143.6	0.682	1.20	D	18.0		51.2	2.71	34.3	0.00	0.00			302	
321		7.55		7.52		34.177	26.703	139.0	0.706	0.94		14.0		54.0	2.83	35.0	0.00	0.00			324	04
379		6.67		6.63		34.175	26.823	127.9	0.784	0.71		10.4		65.0	3.02	38.3	0.00	0.00			382	03
400	ISL	6.49	D	6.45		34.176	D 26.848	125.7	0.817	0.63	D	9.2		67.8	3.05	38.8	0.00	0.00			403	
440		6.03		5.99		34.171	26.904	120.5	0.860	0.63		9.0		73.1	3.11	39.7	0.01	0.00			444	02
500	ISL	5.73	D	5.69		34.243	D 26.999	112.1	0.937	0.39	D	5.5		80.5	3.23	40.6	0.01	0.02			504	
518		5.69		5.65		34.250	27.010	111.3	0.949	0.36		5.2		82.7	3.26	40.9	0.01	0.02			522	01

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

RV NEW HORIZON CALCOFI CRUISE 1210 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 24.9 N	121 59.9 W	24/10/2012	0536	UTC	3902 m	320	11 kn			1017.1 mb	17.6 C	15.0 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		17.97	17.97	33.207	23.908	398.9	0.000	5.49		101.2	2.9	0.31	0.1	0.01	0.25	0.10	0.02	0	
2		17.97	17.97	33.207	23.908	398.9	0.008	5.49		101.2	2.9	0.31	0.1	0.01	0.25	0.10	0.02	2	24
10		17.97	17.97	33.210	23.911	399.0	0.040	5.53		101.9	2.9	0.30	0.0	0.01	0.00	0.10	0.05	10	23
20	ISL	17.87 D	17.86	33.215 D	23.941	396.5	0.080	5.55	D	102.0	2.8	0.31	0.0	0.01	0.03	0.11	0.04	20	
25		17.86	17.86	33.217	23.943	396.4	0.100	5.53		101.7	2.8	0.31	0.0	0.01	0.04	0.12	0.03	25	22
30	ISL	17.87 D	17.86	33.215 D	23.942	396.8	0.120	5.51	D	101.4	2.8	0.31	0.0	0.01	0.03	0.14	0.05	30	
40		17.59	17.59	33.215	24.009	390.7	0.159	5.59		102.4	2.7	0.30	0.0	0.01	0.00	0.20	0.07	40	21
50	ISL	17.13 D	17.13	33.246 D	24.140	378.6	0.199	5.76	D	104.5	2.6	0.31	0.0	0.01	0.10	0.28	0.11	50	
51		16.95	16.94	33.241	24.182	374.6	0.201	5.73		103.6	2.5	0.31	0.0	0.01	0.11	0.29	0.12	51	20
62		15.88	15.87	33.295	24.470	347.4	0.241	5.91		104.6	2.4	0.33	0.0	0.02	0.16	0.26	0.18	62	19
75		13.95	13.94	33.251	24.851	311.3	0.284	5.82		99.1	3.2	0.37	0.3	0.09	0.11	0.23	0.12	76	18
88		13.30	13.29	33.252	24.984	298.9	0.323	5.70		95.8	4.8	0.59	3.2	0.42	0.02	0.23	0.21	89	17
100	ISL	12.92 D	12.91	33.268 D	25.074	290.7	0.360	5.66	D	94.3	5.5	0.68	4.8	0.25	0.00	0.16	0.16	101	
101		12.90	12.89	33.269	25.078	290.3	0.362	5.58		93.0	5.6	0.69	4.9	0.24	0.00	0.15	0.16	102	16
120		11.63	11.62	33.339	25.374	262.4	0.414	5.33		86.4	7.4	0.82	7.5	0.03	0.04	0.09	0.10	121	15
125	ISL	11.13 D	11.11	33.349 D	25.474	252.9	0.429	5.21	D	83.5	8.3	0.89	8.6	0.03	0.04	0.08	0.09	126	
140		10.63	10.61	33.400	25.602	241.0	0.464	4.93		78.2	11.1	1.08	11.9	0.02	0.05	0.05	0.05	141	14
150	ISL	10.20 D	10.18	33.522 D	25.771	225.1	0.490	4.21	D	66.3	14.7	1.31	15.3	0.02	0.05	0.04	0.04	151	
170		9.65	9.63	33.634	25.949	208.4	0.531	3.55		55.3	21.8	1.76	22.1	0.02	0.04	0.01	0.02	171	12
200		8.90	8.88	33.873	26.259	179.4	0.589	3.27		50.2	28.0	1.88	24.6	0.02	0.02	0.00	0.02	202	11
230		8.44	8.42	33.964	26.401	166.3	0.641	2.91		44.1	33.4	2.04	27.1	0.01	0.00			232	10
250	ISL	8.26 D	8.23	33.991 D	26.452	161.8	0.677	2.63	D	39.8	37.6	2.19	28.8	0.01	0.00			252	
270		7.87	7.85	34.031	26.540	153.6	0.705	2.21		33.2	41.9	2.33	30.5	0.01	0.00			272	09
300	ISL	7.65 D	7.62	34.057 D	26.593	149.0	0.755	1.85	D	27.7	47.1	2.49	32.5	0.01	0.00			302	
321		7.37	7.34	34.083	26.654	143.4	0.781	1.55		23.0	50.7	2.61	33.9	0.01	0.00			324	08
380		6.77	6.74	34.123	26.768	133.1	0.863	1.05		15.4	60.7	2.86	36.8	0.01	0.01			383	07
400	ISL	6.56 D	6.51	34.134 D	26.808	129.5	0.895	0.92	D	13.4	63.8	2.91	37.5	0.01	0.01			403	
440		6.24	6.20	34.166	26.873	123.7	0.940	0.75		10.8	69.9	3.02	38.9	0.01	0.00			444	06
500	ISL	5.90 D	5.86	34.192 D	26.937	118.1	1.019	0.56	D	8.0	77.3	3.14	40.3	0.01	0.01			504	
515		5.78	5.74	34.203	26.961	115.9	1.030	0.50		7.2	79.1	3.17	40.6	0.01	0.01			519	05
600	ISL	5.36 D	5.31	34.271 D	27.068	106.5	1.133	0.31	D	4.4	87.8	3.25	41.7	0.01	0.01			605	
700		5.00	4.95	34.353	27.175	97.1	1.226	0.23		3.2	97.9	3.35	42.9	0.01	0.00			706	04
800	ISL	4.68 D	4.61	34.420 D	27.266	89.2	1.329	0.30	D	4.2								807	
900	ISL	4.33 D	4.26	34.455 D	27.333	83.3	1.417	0.39	D	5.4								908	
1000	ISL	4.01 D	3.93	34.482 D	27.389	78.4	1.498	0.52	D	7.1								1009	
1100	ISL	3.71 D	3.63	34.507 D	27.440	73.8	1.575	0.64	D	8.8								1111	
1200	ISL	3.45 D	3.36	34.521 D	27.477	70.5	1.649	0.76	D	10.3								1212	
1300	ISL	3.23 D	3.13	34.535 D	27.510	67.5	1.718	0.88	D	11.9								1313	
1400	ISL	3.02 D	2.91	34.551 D	27.543	64.5	1.785	1.00	D	13.3								1415	
1500	ISL	2.83 D	2.72	34.562 D	27.570	62.0	1.849	1.13	D	15.1								1516	
1600	ISL	2.62 D	2.50	34.579 D	27.603	58.8	1.911	1.30	D	17.2								1617	
1800	ISL	2.31 D	2.18	34.603 D	27.650	54.3	2.025	1.58	D	20.7								1820	
2000	ISL	2.10 D	1.96	34.622 D	27.683	51.4	2.133	1.86	D	24.3								2024	
2200	ISL	1.94 D	1.78	34.638 D	27.710	49.0	2.235	2.10	D	27.3								2227	
2400	ISL	1.84 D	1.67	34.647 D	27.727	47.9	2.334	2.29	D	29.6								2431	
2600	ISL	1.75 D	1.56	34.656 D	27.743	46.7	2.430	2.49	D	32.1								2635	
2800	ISL	1.69 D	1.48	34.661 D	27.754	46.2	2.525	2.60	D	33.5								2839	
3000	ISL	1.65 D	1.43	34.665 D	27.762	46.1	2.619	2.70	D	34.8								3043	
3200	ISL	1.62 D	1.37	34.668 D	27.769	46.0	2.714	2.78	D	35.7								3247	
3400	ISL	1.58 D	1.31	34.672 D	27.778	45.8	2.807	2.88	D	37.0								3452	
3500		1.57	1.30	34.676	27.783	45.7	2.854				172.2	2.78	38.6	0.01	0.02			3554	02
3500		1.57	1.30	34.677	27.783	45.7	3.226	2.86		36.8	171.9	2.78	38.4	0.01	0.00			3554	01
3500		1.57	1.30	34.677	27.784	45.6	2.854				171.9	2.77	38.4	0.01	0.00			3554	03

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

RV NEW HORIZON CALCOFI CRUISE 1210 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 5.0 N	122 40.0 W	23/10/2012	2222	UTC	4017 m	340	10 kn	330 02 05	1	1016.0 mb	20.0 C	16.1 C	36 m	4/8	CS	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		18.72	18.72	33.370	23.847	404.7	0.000	5.43		101.7	2.7	0.30	0.0	0.01	0.01	0.09	0.02	0	
2		18.72	18.72	33.370	23.847	404.7	0.008	5.43		101.7	2.7	0.30	0.0	0.01	0.01	0.09	0.02	2	20
10		18.59	18.59	33.373	23.883	401.6	0.040	5.45		101.7	2.7	0.29	0.0	0.01	0.00	0.09	0.02	10	19
20	ISL	18.48 D	18.48	33.361 D	23.901	400.3	0.081	5.46	D	101.8	2.7	0.29	0.0	0.01	0.00	0.09	0.02	20	
26		18.48	18.47	33.363	23.904	400.2	0.105	5.44		101.4	2.7	0.29	0.0	0.01	0.00	0.09	0.02	26	18
30	ISL	18.47 D	18.47	33.362 D	23.905	400.3	0.121	5.44	D	101.4	2.7	0.29	0.0	0.01	0.00	0.10	0.03	30	
40		17.61	17.60	33.347	24.105	381.5	0.160	5.51		100.9	2.7	0.28	0.0	0.01	0.00	0.13	0.04	40	17
49		16.29	16.28	33.248	24.338	359.5	0.193	5.91		105.4	2.8	0.28	0.0	0.01	0.01	0.15	0.07	49	16
50	ISL	16.36 D	16.35	33.247 D	24.322	361.2	0.198	6.01	D	107.3	2.8	0.28	0.0	0.01	0.01	0.15	0.07	50	
61		14.97	14.96	33.202	24.598	335.1	0.235	6.06		105.3	3.1	0.30	0.0	0.01	0.00	0.16	0.09	61	15
75		13.93	13.92	33.237	24.844	311.9	0.280	5.88		100.1	3.7	0.41	0.9	0.23	0.09	0.17	0.09	76	14
87		13.61	13.64	33.368 D	25.003	297.1	0.319	5.76		97.5	3.9	0.43	1.4	0.22	0.03	0.16	0.12	88	13
99		13.22	13.21	33.461	25.163	282.3	0.351	5.58		93.7	4.1	0.43	2.1	0.12	0.00	0.15	0.14	100	12
100	ISL	12.95 D	12.91	33.453 D	25.216	277.1	0.357	5.62	D	93.8	4.2	0.44	2.3	0.11	0.00	0.15	0.13	101	
112		11.91	11.89	33.393	25.364	263.2	0.387	5.44		88.8	5.8	0.62	5.1	0.04	0.00	0.11	0.09	113	11
125		10.86	10.85	33.386	25.549	245.7	0.420	5.20		83.0	8.6	0.87	8.9	0.03	0.01	0.07	0.07	126	10
140		10.10	10.08	33.536	25.798	222.1	0.455	4.10		64.5	16.8	1.46	17.8	0.02	0.00	0.02	0.03	141	09
150	ISL	9.86 D	9.84	33.624 D	25.908	211.9	0.480	3.71	D	58.0	19.6	1.59	19.8	0.02	0.00	0.01	0.03	151	
170		9.26	9.24	33.760	26.112	192.8	0.517	3.27		50.6	25.3	1.85	23.9	0.02	0.00	0.00	0.02	171	08
199		8.94	8.92	33.934	26.300	175.5	0.570	2.86		43.9	30.1	2.00	26.1	0.02	0.00	0.00	0.02	201	07
200	ISL	8.93 D	8.92	33.923 D	26.292	176.3	0.576	2.84	D	43.6	30.2	2.01	26.2	0.02	0.00	0.00	0.02	202	
230		8.59	8.56	34.012	26.416	165.0	0.623	2.45		37.3	35.2	2.18	28.3	0.02	0.00			232	06
250	ISL	8.44 D	8.42	34.069 D	26.484	158.9	0.660	2.08	D	31.7	38.5	2.30	29.7	0.02	0.00			252	
270		8.22	8.19	34.089	26.534	154.5	0.687	1.87		28.3	41.7	2.41	31.0	0.01	0.00			272	05
300	ISL	7.55 D	7.51	34.062 D	26.612	147.1	0.737	1.81	D	26.9	46.6	2.50	32.6	0.02	0.00			302	
320		7.41	7.38	34.078	26.644	144.4	0.762	1.65		24.4	49.8	2.56	33.7	0.02	0.00			323	04
380		6.89	6.85	34.134	26.762	133.9	0.845	1.02		15.0	59.5	2.84	36.7	0.01	0.00			383	03
400	ISL	6.68 D	6.64	34.137 D	26.793	131.1	0.878	0.92	D	13.5	62.7	2.90	37.5	0.01	0.00			403	
440		6.29	6.25	34.160	26.863	124.7	0.923	0.75		10.9	69.2	3.02	39.0	0.02	0.00			444	02
500	ISL	5.83 D	5.79	34.191 D	26.945	117.3	1.003	0.55	D	7.9	78.4	3.14	40.6	0.01	0.00			504	
514		5.70	5.65	34.206	26.974	114.6	1.012	0.48		6.8	80.5	3.17	41.0	0.01	0.00			518	01

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

RV NEW HORIZON CALCOFI CRUISE 1210 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 45.3 N	123 20.0 W	23/10/2012	1713 UTC	4032 m	020 04 kn	300 02 06	1	1018.2 mb	19.9 C	15.4 C	32 m	4/8	CS	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		18.66		18.66		33.369	23.861	403.3	0.000	5.41		101.1	2.8	0.29	0.0	0.01	0.04	0.10	0.03	0	
2	A	18.66		18.66		33.369	23.861	403.3	0.008	5.41		101.1	2.8	0.29	0.0	0.01	0.04	0.10	0.03	2	22
10		18.64		18.64		33.369	23.866	403.2	0.040	5.41		101.0	2.8	0.27	0.0	0.01	0.02	0.10	0.03	10	21
20	A	18.62		18.62		33.385	23.884	401.9	0.081	5.42		101.2	2.8	0.26	0.0	0.01	0.00	0.10	0.03	20	20
28	A	18.60		18.60		33.368	23.878	402.8	0.113	5.43		101.4	2.8	0.27	0.0	0.01	0.02	0.11	0.04	28	19
30	ISL	18.57	D	18.56		33.370	D 23.887	402.0	0.122	5.42	D	101.1	2.7	0.27	0.0	0.01	0.02	0.12	0.04	30	
37		17.56		17.55		33.349	24.120	380.0	0.148	5.65		103.4	2.6	0.28	0.0	0.01	0.03	0.16	0.06	37	18
48	A	15.38		15.38		33.199	24.504	343.6	0.188	6.07		106.3	2.9	0.30	0.0	0.01	0.03	0.16	0.09	48	17
50	ISL	15.44	D	15.43		33.183	D 24.480	346.0	0.197	6.18	D	108.4	3.0	0.31	0.0	0.01	0.04	0.16	0.09	50	
61		14.45		14.44		33.195	24.704	324.9	0.232	6.10		104.9	3.3	0.35	0.2	0.02	0.09	0.18	0.11	61	16
74		13.40		13.39		33.185	24.912	305.3	0.273	5.89		99.0	3.8	0.44	1.1	0.27	0.35	0.18	0.11	75	15
75	ISL	13.45	D	13.44		33.173	D 24.894	307.1	0.278	5.87	D	98.8	3.8	0.44	1.2	0.27	0.33	0.18	0.11	76	
88	A	13.44		13.43		33.437	D 25.100	287.9	0.317	5.67		95.5	4.2	0.45	2.1	0.22	0.00	0.14	0.11	89	14
96		12.91		12.90		33.422	25.194	279.2	0.337	5.54		92.4	4.5	0.47	2.6	0.12	0.00	0.13	0.13	97	13
100	ISL	12.73	D	12.73		33.441	D 25.241	274.8	0.351	5.53	D	91.9	4.7	0.50	3.0	0.09	0.00	0.12	0.13	101	
107	A	12.23		12.21		33.437	25.339	265.6	0.367	5.42		89.1	5.1	0.54	3.8	0.05	0.00	0.11	0.13	108	12
116		11.65		11.63		33.410	25.426	257.4	0.391	5.26		85.4	6.6	0.69	6.4	0.03	0.00	0.06	0.07	117	11
124		11.14		11.12		33.386	25.501	250.3	0.411	5.07		81.4	9.1	0.92	9.8	0.03	0.00	0.07	0.10	125	10
125	ISL	10.92	D	10.92		33.444	D 25.580	242.7	0.417	4.75	D	75.9	9.5	0.95	10.2	0.03	0.00	0.07	0.09	126	
145		10.34		10.32		33.523	25.747	227.2	0.461	4.19		66.2	16.5	1.47	17.9	0.02	0.00	0.01	0.03	146	09
150	ISL	10.01	D	9.99		33.585	D 25.852	217.3	0.476	3.89	D	61.0	17.9	1.52	18.7	0.02	0.00	0.01	0.03	151	
170		9.41		9.39		33.716	D 26.054	198.3	0.518	3.44	D	53.3								171	08
199		8.83		8.80		33.905	26.295	175.9	0.568	2.77		42.4	31.0	2.04	27.0	0.01	0.00	0.00	0.02	201	07
200	ISL	8.81	D	8.79		33.902	D 26.295	175.9	0.574	2.84	D	43.4	31.1	2.04	27.0	0.01	0.00	0.00	0.02	202	
230		8.31		8.29		33.978	26.433	163.3	0.620	2.87		43.5	34.3	2.04	27.4	0.01	0.00			232	06
250	ISL	8.02	D	7.99		33.997	D 26.492	157.9	0.658	2.55	D	38.3	38.8	2.18	29.3	0.01	0.00			252	
269		7.73		7.70		34.031	26.561	151.5	0.682	2.23		33.3	43.1	2.32	31.1	0.01	0.00			271	05
300	ISL	7.28	D	7.25		34.055	D 26.644	143.9	0.734	1.79	D	26.5	49.7	2.51	33.4	0.01	0.00			302	
319		7.03		7.00		34.065	26.687	140.0	0.755	1.59		23.4	53.7	2.62	34.8	0.01	0.00			322	04
380		6.17		6.14		34.090	26.820	127.7	0.836	1.13		16.3	66.8	2.87	38.1	0.01	0.00			383	03
400	ISL	6.04	D	6.00		34.120	D 26.861	124.0	0.869	0.94	D	13.5	69.7	2.93	38.7	0.01	0.00			403	
440		5.85		5.82		34.165	26.921	118.8	0.910	0.74		10.5	75.5	3.06	40.0	0.01	0.00			444	02
500	ISL	5.62	D	5.58		34.234	D 27.005	111.4	0.987	0.42	D	6.0	82.9	3.19	41.1	0.01	0.00			504	
515		5.54		5.50		34.244	27.023	109.8	0.996	0.38		5.4	84.8	3.22	41.4	0.01	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 CTD O2;

RV NEW HORIZON CALCOFI CRUISE 1210 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 25.3 N	124 0.0 W	23/10/2012	0942 UTC	4318 m	360 11 kn			1016.9 mb	18.0 C	15.7 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		18.77		18.76		33.477	23.918	397.9	0.000	5.40		101.3	2.3	0.30	0.2	0.02	0.01	0.13	0.05	0	
2		18.77		18.76		33.477	23.918	397.9	0.008	5.40		101.3	2.3	0.30	0.2	0.02	0.01	0.13	0.05	2	20
10		18.77		18.77		33.478	23.919	398.2	0.040	5.42		101.6	2.2	0.30	0.2	0.01	0.00	0.12	0.05	10	19
20		18.77		18.76		33.483	23.923	398.2	0.080	5.43		101.7	2.2	0.31	0.1	0.01	0.00	0.13	0.04	20	18
30		18.77		18.76		33.480	23.922	398.7	0.119	5.40		101.2	2.2	0.30	0.1	0.01	0.00	0.14	0.05	30	17
40		18.73		18.73		33.482	23.933	398.1	0.159	5.40		101.1	2.2	0.30	0.0	0.01	0.02	0.16	0.05	40	16
50		17.94		17.93		33.480	24.128	379.8	0.198	5.55		102.5	2.2	0.31	0.0	0.02	0.03	0.29	0.16	50	15
59		15.84		15.83		33.506	24.639	331.2	0.230	5.82		103.0	3.0	0.49	1.1	0.20	0.12	0.43	0.33	59	14
70		13.07		13.06		33.544	25.256	272.5	0.263	4.69		78.5	8.2	1.12	11.2	0.15	0.03	0.31	0.32	71	13
75	ISL	12.46	D	12.41		33.574	D 25.407	258.2	0.278	4.38	D	72.4	10.1	1.22	13.0	0.11	0.02	0.24	0.25	76	
85		11.23		11.22		33.534	25.597	240.2	0.302	4.32		69.5	14.0	1.43	16.6	0.03	0.00	0.11	0.09	86	12
100		10.30		10.29		33.614	25.822	219.0	0.336	3.79		59.9	18.8	1.67	20.4	0.02	0.00	0.03	0.04	101	11
121		9.47		9.46		33.775	26.088	194.1	0.379	2.94		45.6	26.4	1.98	25.2	0.02	0.08	0.01	0.03	122	10
125	ISL	9.37	D	9.36		33.838	D 26.153	188.0	0.389	2.61	D	40.5	27.5	2.02	25.8	0.02	0.06	0.01	0.03	126	
140		9.07		9.06		33.921	26.267	177.4	0.414	2.34		36.1	31.8	2.19	28.0	0.02	0.00	0.00	0.03	141	09
150	ISL	8.78	D	8.77		33.951	D 26.336	171.0	0.434	2.46	D	37.7	33.3	2.22	28.5	0.02	0.00	0.00	0.03	151	
171		8.59		8.58		34.006	26.409	164.4	0.467	2.14		32.7	36.5	2.29	29.7	0.02	0.00	0.00	0.03	172	08
199		8.23		8.20		34.071	26.517	154.6	0.512	1.82		27.6	41.4	2.43	31.4	0.01	0.00	0.00	0.03	201	07
200	ISL	8.21	D	8.19		34.082	D 26.528	153.6	0.516	1.78	D	26.8	41.5	2.43	31.4	0.01	0.00	0.00	0.02	202	
230		8.06		8.03		34.101	26.566	150.5	0.559	1.59		23.9	44.6	2.54	32.5	0.01	0.01			232	06
250	ISL	7.78	D	7.75		34.093	D 26.602	147.3	0.592	1.59	D	23.8	47.3	2.59	33.4	0.01	0.01			252	
270		7.52		7.49		34.093	26.640	144.0	0.618	1.47		21.8	50.0	2.63	34.2	0.01	0.00			272	05
300	ISL	7.31	D	7.29		34.126	D 26.695	139.1	0.664	1.20	D	17.8	53.5	2.73	35.2	0.01	0.00			302	
320		7.22		7.19		34.141	26.720	137.1	0.688	1.07		15.9	55.9	2.79	35.8	0.01	0.00			323	04
380		6.50		6.46		34.184	26.853	124.9	0.766	0.63		9.1	68.0	3.05	38.9	0.01	0.00			383	03
400	ISL	6.13	D	6.09		34.180	D 26.898	120.6	0.796	0.62	D	8.9	71.1	3.08	39.4	0.01	0.00			403	
440		5.89		5.85		34.201	26.945	116.5	0.838	0.56		8.0	77.1	3.15	40.4	0.01	0.00			444	02
500	ISL	5.73	D	5.68		34.264	D 27.016	110.5	0.912	0.35	D	5.0	83.5	3.23	41.3	0.01	0.00			504	
514		5.61		5.57		34.272	27.037	108.6	0.922	0.33	D	4.7	84.9	3.25	41.5	0.01	0.00			518	01

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

RV NEW HORIZON CALCOFI CRUISE 1210 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 14.8 N	117 27.9 W	20/10/2012	0253	UTC	21 m	310	11 kn			1011.7 mb	20.0 C	18.3 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	19.38	19.37	33.481	23.767	412.4	0.000	5.76	109.2	2.3	0.34	0.0	0.03	0.04	0.71	0.33	0	
2	19.38	19.37	33.481	23.767	412.4	0.008	5.76	109.2	2.3	0.34	0.0	0.03	0.04	0.71	0.33	2	04
5	19.63	19.63	33.481	23.702	418.6	0.021	5.79	110.2	2.4	0.34	0.0	0.03	0.05	0.85	0.33	5	03
10	19.05	19.05	33.474	23.845	405.2	0.041	5.80	109.3	2.5	0.35	0.0	0.04	0.07	0.88	0.36	10	02
15	18.70	18.70	33.472	23.932	397.2	0.061	5.79	108.4	2.5	0.35	0.1	0.05	0.20	0.96	0.36	15	01

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

RV NEW HORIZON CALCOFI CRUISE 1210 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 57.5 N	117 18.5 W	19/10/2012	2208	UTC	69 m	300	05 kn	280 02 07	2	1011.8 mb	21.1 C	19.7 C	18 m	8/8	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		20.48		20.48	33.565	23.543	433.7	0.000	5.53		107.1	1.7	0.29	0.1	0.02	0.12	0.23	0.06	0	
2		20.48		20.48	33.565	23.543	433.7	0.009	5.53		107.1	1.7	0.29	0.1	0.02	0.12	0.23	0.06	2	08
4		20.46		20.46	33.565	23.549	433.3	0.017	5.48		106.2	1.7	0.29	0.1	0.02	0.15	0.23	0.07	4	07
9		20.37		20.36	33.569	23.577	430.8	0.039	5.50		106.3	1.8	0.29	0.2	0.01	0.81	0.22	0.07	9	06
10	ISL	20.32	D	20.31	33.562	D 23.586	430.0	0.044	5.49	D	106.0	1.8	0.30	0.2	0.01	0.76	0.24	0.08	10	
19		18.63		18.62	33.476	23.954	395.2	0.080	5.85		109.3	2.7	0.37	0.1	0.01	0.29	0.42	0.18	19	05
20	ISL	17.56	D	17.53	33.454	D 24.204	371.3	0.085	5.99	D	109.7	2.9	0.38	0.1	0.02	0.31	0.48	0.21	20	
29		15.63		15.62	33.426	24.624	331.6	0.116	5.72		100.8	4.6	0.50	0.2	0.13	0.51	1.03	0.54	29	04
30	ISL	15.59	D	15.59	33.426	D 24.630	331.0	0.120	5.65	D	99.5	4.7	0.51	0.2	0.16	0.51	1.01	0.54	30	
40		15.07		15.07	33.433	24.752	319.7	0.152	5.52		96.2	5.3	0.59	0.6	0.42	0.47	0.80	0.53	40	03
49		14.51		14.50	33.441	24.879	307.9	0.180	5.27		90.9	6.2	0.70	2.1	0.71	0.28	0.37	0.35	49	02
50	ISL	14.54	D	14.53	33.441	D 24.874	308.4	0.184	5.22	D	90.1	6.3	0.70	2.2	0.71	0.29	0.36	0.36	50	
59		14.47		14.46	33.445	24.893	306.9	0.211	5.15		88.7	6.8	0.74	2.9	0.68	0.34	0.33	0.42	59	01

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

RV NEW HORIZON CALCOFI CRUISE 1210 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 55.0 N	117 23.5 W	20/10/2012	0702	UTC	652 m	230	01 kn			1011.6 mb	20.1 C	18.2 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		20.49		20.49	33.624	23.585	429.8	0.000	5.37		104.1	1.7	0.32	0.1	0.02	0.36	0.18	0.05	0	
2		20.49		20.49	33.624	23.585	429.8	0.009	5.37		104.1	1.7	0.32	0.1	0.02	0.36	0.18	0.05	2	24
10		19.34		19.34	33.605	23.871	402.7	0.042	5.50		104.3	1.8	0.30	0.0	0.01	0.04	0.19	0.06	10	23
20		16.41		16.41	33.441	24.458	347.2	0.079	6.02		107.9	3.0	0.37	0.0	0.01	0.13	0.43	0.14	20	22
30		15.02		15.02	33.397	24.734	321.1	0.113	5.98		104.2	4.0	0.43	0.2	0.05	0.12	0.83	0.35	30	21
40		14.23		14.22	33.421	24.923	303.4	0.144	5.53		94.8	5.6	0.59	1.9	0.24	0.23	0.80	0.40	40	20
50		13.47		13.46	33.452	25.103	286.5	0.174	4.87		82.2	8.2	0.85	5.8	0.37	0.09	0.47	0.28	50	19
60		13.14		13.13	33.442	25.163	281.1	0.202	4.76		79.7	8.3	0.92	7.3	0.12	0.04	0.35	0.23	60	18
70		12.52		12.51	33.417	25.265	271.5	0.230	4.80		79.3	8.5	0.98	9.0	0.07	0.05	0.21	0.16	71	17
75	ISL	12.31	D	12.30	33.418	D 25.306	267.8	0.245	4.80	D	79.1	9.4	1.05	10.0	0.06	0.12	0.18	0.15	76	
85		12.03		12.02	33.475	25.404	258.7	0.269	4.29		70.2	11.1	1.18	12.0	0.04	0.26	0.12	0.13	86	16
100		11.60		11.59	33.557	25.548	245.4	0.307	3.83		62.2	14.1	1.39	15.1	0.03	0.07	0.06	0.12	101	14
120		10.85		10.84	33.608	25.723	229.0	0.355	3.55		56.8	17.8	1.61	18.5	0.02	0.03	0.03	0.10	121	13
125	ISL	10.81	D	10.79	33.629	D 25.748	226.8	0.369	3.45	D	55.1	18.7	1.65	19.1	0.02	0.03	0.03	0.09	126	
140		10.47		10.45	33.703	25.865	216.0	0.399	3.17		50.3	21.2	1.78	20.8	0.02	0.02	0.02	0.07	141	12
150	ISL	10.21	D	10.19	33.783	D 25.974	205.8	0.423	2.72	D	42.9	23.0	1.86	21.9	0.02	0.03	0.02	0.07	151	
170		9.98		9.96	33.871	26.082	196.0	0.461	2.62		41.2	26.7	2.03	24.2	0.02	0.04	0.01	0.06	171	11
200	ISL	9.42	D	9.40	33.978	D 26.258	179.8	0.520	2.36	D	36.7	31.0	2.18	26.8	0.02	0.15	0.00	0.04	202	
201		9.38		9.35	33.978	26.265	179.1	0.519	2.32		36.0	31.1	2.19	26.9	0.02	0.15	0.00	0.04	203	10
231		9.17		9.14	34.055	26.360	170.6	0.571	2.09		32.2	34.4	2.29	28.1	0.02	0.13			233	09
250	ISL	8.91	D	8.88	34.078	D 26.420	165.3	0.607	1.94	D	29.8	36.6	2.36	29.1	0.02	0.07			252	
270		8.76		8.74	34.125	26.480	160.0	0.636	1.74		26.7	39.0	2.44	30.1	0.01	0.01			272	08
300	ISL	8.53	D	8.50	34.168	D 26.551	153.7	0.687	1.39	D	21.2	42.4	2.56	31.3	0.02	0.04			302	
319		8.41		8.37	34.191	26.588	150.5	0.712	1.29		19.5	44.6	2.64	32.1	0.02	0.06			322	07
380		7.96		7.92	34.254	26.706	140.2	0.800	0.74		11.1	52.6	2.87	34.3	0.03	0.01			383	06
400	ISL	7.78	D	7.74	34.262	D 26.739	137.3	0.834	0.64	D	9.6	55.2	2.92	34.9	0.02	0.01			403	
439		7.41		7.37	34.281	26.807	131.2	0.880	0.52		7.7	60.3	3.03	36.0	0.01	0.00			443	05
500	ISL	6.74	D	6.69	34.285	D 26.904	122.3	0.965	0.41	D	5.9	68.0	3.13	37.9	0.01	0.03			504	
515		6.68		6.63	34.297	26.921	120.9	0.976	0.38		5.5	69.8	3.16	38.4	0.01	0.04			519	04

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

RV NEW HORIZON CALCOFI CRUISE 1210 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 50.9 N	117 31.8 W	20/10/2012	1131	UTC	846 m	280	03 kn			1010.6 mb	19.1 C	17.8 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		20.20		20.20		33.702	23.721	416.7	0.000	5.32		102.5	1.5	0.28	0.1	0.01	0.08	0.18	0.04	0	
2		20.20		20.20		33.702	23.721	416.7	0.008	5.32		102.5	1.5	0.28	0.1	0.01	0.08	0.18	0.04	2	21
10		20.18		20.18		33.711	23.733	415.9	0.042	5.30	D	102.2	1.5	0.28	0.0	0.02	0.05	0.18	0.04	10	20
20		19.77		19.76		33.687	23.825	407.6	0.083	5.38		102.9	1.5	0.28	0.0	0.01	0.02	0.19	0.05	20	19
30		16.57		16.57		33.460	24.436	349.6	0.121	5.94		106.8	2.5	0.32	0.0	0.01	0.04	0.34	0.11	30	18
40		14.06		14.06		33.445	24.975	298.4	0.153	5.22		89.2	6.9	0.68	3.2	0.46	0.02	0.55	0.38	40	17
50		13.35		13.34		33.443	25.122	284.7	0.182	4.87		82.0	7.8	0.85	6.6	0.27	0.03	0.33	0.25	50	16
60		12.96		12.96		33.485	25.231	274.6	0.210	4.46		74.5	9.5	1.00	8.9	0.35	0.00	0.24	0.23	60	15
71		12.55		12.54		33.508	25.330	265.5	0.240	4.14		68.6	11.4	1.17	11.4	0.26	0.10	0.16	0.20	72	14
75	ISL	12.49	D	12.46		33.508	D 25.345	264.1	0.252	4.12		68.2	11.6	1.19	11.9	0.20	0.07	0.14	0.19	76	
84		12.07		12.06		33.507	25.421	257.0	0.274	4.08		66.9	12.2	1.23	12.9	0.05	0.01	0.09	0.16	85	12
100		11.31		11.30		33.587	25.624	238.0	0.314	3.57		57.7	16.4	1.50	16.9	0.04	0.00	0.04	0.10	101	11
120		10.78		10.77		33.719	25.822	219.6	0.360	2.92		46.7	21.7	1.79	20.6	0.05	0.02	0.02	0.08	121	10
125	ISL	10.78	D	10.76		33.722	D 25.826	219.4	0.373	2.84		45.3	22.5	1.83	21.1	0.05	0.02	0.02	0.08	126	
140		10.53		10.51		33.801	25.932	209.7	0.403	2.57		40.9	24.8	1.96	22.5	0.04	0.03	0.01	0.07	141	09
150	ISL	10.28	D	10.27		33.853	D 26.015	202.0	0.426	2.57	D	40.7	26.0	1.99	23.5	0.04	0.03	0.01	0.06	151	
170		9.58		9.56		33.917	26.184	186.2	0.462	2.52		39.2	28.4	2.06	25.4	0.03	0.02	0.00	0.05	171	08
200		9.15		9.12		33.992	26.313	174.4	0.516	2.45		37.7	31.9	2.14	27.2	0.03	0.00	0.00	0.04	202	07
230		8.77		8.74		34.086	26.447	162.2	0.567	1.94		29.6	37.3	2.34	29.6	0.02	0.01			232	06
250	ISL	8.65	D	8.62		34.125	D 26.497	157.8	0.603	1.76	D	26.8	39.3	2.41	30.4	0.02	0.01			252	
269		8.53		8.50		34.135	26.524	155.6	0.629	1.61		24.5	41.2	2.48	31.2	0.02	0.01			271	05
300	ISL	8.43	D	8.40		34.204	D 26.593	149.6	0.680	1.34		20.3	45.6	2.61	32.5	0.03	0.02			302	
320		8.04		8.01		34.203	26.652	144.2	0.705	1.16		17.5	48.4	2.70	33.4	0.04	0.02			323	04
379		7.53		7.50		34.233	26.751	135.6	0.788	0.80		11.9	55.9	2.87	35.6	0.02	0.00			382	03
400	ISL	7.21	D	7.17		34.231	D 26.795	131.4	0.822	0.68	D	10.0	58.2	2.93	36.1	0.02	0.00			403	
439		7.22		7.18		34.289	26.840	127.9	0.866	0.49		7.2	62.4	3.04	36.9	0.01	0.00			443	02
500	ISL	6.69	D	6.65		34.310	D 26.929	119.9	0.949	0.34	D	5.0	69.3	3.14	38.3	0.02	0.02			504	
516		6.61		6.57		34.309	26.940	119.1	0.961	0.35		5.0	71.2	3.17	38.7	0.02	0.02			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 1210 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 41.0 N	117 52.2 W	20/10/2012	1535	UTC	638 m	260	07 kn	270 02 05	2	1011.7 mb	19.0 C	16.5 C	24 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		20.40		20.40		33.700	D 23.666	422.0	0.000	5.39	D	104.2								0	
2		20.40		20.40		33.700	D 23.668	421.9	0.008	5.39	D	104.2								2	20
10		20.38		20.38		33.700	23.673	421.7	0.038	5.35		103.5	2.2	0.28	0.1	0.01	0.08	0.18	0.04	10	19
19		19.17		19.29		33.614	D 23.890	401.3	0.080	5.82		110.0	2.2	0.29	0.0	0.01	0.13	0.18	0.05	19	18
20	ISL	16.62	D	16.48		33.544	D 24.520	341.3	0.083	5.84		105.0	2.3	0.29	0.0	0.01	0.13	0.19	0.05	20	
30		13.53		13.50		33.374	D 25.034	292.5	0.115	5.88	D	99.3								30	17
40		12.53		12.53		33.369	25.224	274.6	0.139	5.35		88.6	5.9	0.62	4.3	0.11	0.08	0.72	0.43	40	16
49		12.47		12.46		33.355	25.226	274.7	0.164	5.23		86.4	6.8	0.80	6.9	0.20	0.02	0.56	0.36	49	15
50	ISL	12.47	D	12.43		33.387	D 25.256	271.8	0.172	5.25	D	86.6	7.0	0.81	7.1	0.20	0.02	0.57	0.37	50	
60		11.27		11.27		33.444	D 25.517	247.2	0.198	4.56	D	73.4	8.1	0.92	8.8	0.22	0.04	0.59	0.41	60	14
70		10.73		10.73		33.526	D 25.677	232.1	0.222	4.10	D	65.2	11.9	1.23	13.8	0.06	0.02	0.30	0.22	71	13
75	ISL	10.55	D	10.54		33.563	D 25.739	226.4	0.233	3.94	D	62.6	14.3	1.37	15.9	0.05	0.02	0.22	0.17	76	
85		10.30		10.29		33.614	25.822	218.6	0.251	3.63		57.3	19.3	1.64	20.1	0.03	0.01	0.05	0.06	86	12
100		9.77		9.76		33.746	D 26.015	200.6	0.288	3.33		52.0	22.4	1.79	22.3	0.02	0.02	0.02	0.04	101	11
120		9.24		9.23		33.844	26.179	185.4	0.321	2.75		42.5	28.6	2.05	26.3	0.02	0.05	0.01	0.04	121	10
125	ISL	9.17	D	9.16		33.880	D 26.219	181.7	0.336	2.65	D	40.9	29.2	2.07	26.6	0.02	0.05	0.01	0.04	126	
140		9.10		9.08		33.922	26.264	177.7	0.357	2.51		38.7	31.0	2.13	27.5	0.02	0.03	0.00	0.03	141	09
150	ISL	8.94	D	8.92		33.946	D 26.309	173.6	0.381	2.36	D	36.1	32.6	2.18	28.1	0.02	0.02	0.00	0.03	151	
170		8.75		8.74		34.004	26.383	166.9	0.409	2.12		32.4	35.7	2.28	29.4	0.02	0.01	0.00	0.03	171	08
200		8.53		8.51		34.066	26.468	159.5	0.458	1.95		29.7	39.3	2.39	30.8	0.02	0.00	0.00	0.03	202	07
230		8.11		8.09		34.096	26.554	151.6	0.504	1.66		25.0	42.1	2.48	31.7	0.02	0.00			232	06
250	ISL	8.05	D	8.02		34.093	D 26.562	151.2	0.542	1.67	D	25.1	44.8	2.54	32.5	0.02	0.00			252	
270		7.86		7.83		34.132	26.621	145.9	0.564	1.44		21.6	47.4	2.60	33.3	0.02	0.00			272	05
300	ISL	7.81	D	7.78		34.186	D 26.671	141.8	0.616	1.10	D	16.4	50.9	2.72	34.2	0.02	0.03			302	
320		7.63		7.60		34.210	26.716	137.8	0.636	1.02		15.3	53.2	2.80	34.8	0.02	0.05			323	04
379		7.21		7.17		34.242	26.803	130.3	0.715	0.69		10.2	59.7	2.94	36.5	0.02	0.01			382	03
400	ISL	7.10	D	7.06		34.243	D 26.819	129.0	0.752	0.61	D	8.9	61.5	2.98	36.9	0.02	0.02			403	
440		6.94		6.89		34.266	26.861	125.6	0.793	0.55		8.1	65.1	3.06	37.7	0.01	0.04			444	02
500	ISL	6.45	D	6.41		34.314	D 26.965	116.3	0.877	0.31	D	4.4	72.9	3.17	39.0	0.02	0.05			504	
516		6.37		6.33		34.319	26.978	115.2	0.884	0.29		4.2	75.0	3.20	39.4	0.02	0.05			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 1210 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 30.7 N	118 12.5 W	20/10/2012	1956 UTC	1672 m	270 09 kn	270 02 06	5	1010.6 mb	18.0 C	17.4 C	24 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		19.86		19.86		33.694		23.805	408.8	0.000	5.29		101.4		1.4	0.29	0.0	0.02	0.03	0.19	0.06	0		
2	A	19.86		19.86		33.694		23.805	408.8	0.008	5.29		101.4		1.4	0.29	0.0	0.02	0.03	0.19	0.06	2		23
9		19.80		19.80		33.688		23.816	408.0	0.037	5.35		102.4		1.3	0.29	0.0	0.01	0.01	0.19	0.06	9		21
10		19.72		19.72		33.687		23.837	406.1	0.040												10		22
10	ISL	19.72	D	19.74		33.690	D	23.834	406.4	0.041	5.37	D	102.7		1.3	0.29	0.0	0.01	0.02	0.19	0.06	10		
15	A	18.83		18.83		33.640		24.028	388.0	0.061	5.41		101.6		0.9	0.27	0.0	0.01	0.04	0.18	0.05	15		20
20	A	18.26		18.25		33.609		24.146	376.9	0.080	5.54		103.0		1.1	0.28	0.0	0.02	0.02	0.24	0.09	20		19
28		14.74		14.74		33.477		24.857	309.4	0.107	5.90		102.2		2.4	0.39	1.0	0.07	0.07	0.56	0.23	28		18
30	ISL	14.66	D	14.66		33.423	D	24.832	311.7	0.115	5.99	D	103.6		2.7	0.42	1.5	0.09	0.08	0.57	0.24	30		
36	A	14.17		14.16		33.423		24.937	302.0	0.132	5.88		100.6		3.3	0.51	2.8	0.13	0.12	0.61	0.29	36		17
46		12.09		12.08		33.368		25.308	266.7	0.160	5.34		87.6		6.3	0.82	7.5	0.25	0.06	0.37	0.18	46		16
50	ISL	11.50	D	11.50		33.385	D	25.430	255.2	0.173	4.91	D	79.5		8.2	0.96	9.7	0.18	0.04	0.33	0.17	50		
56		11.37		11.36		33.397		25.463	252.2	0.186	4.75		76.6		11.2	1.17	12.9	0.08	0.00	0.26	0.16	56		15
66	A	10.88		10.88		33.487		25.622	237.3	0.210	4.31		68.9		14.6	1.39	16.3	0.05	0.01	0.13	0.13	67		14
75	ISL	10.72	D	10.71		33.521	D	25.676	232.3	0.234	4.17	D	66.5		15.4	1.46	17.1	0.04	0.00	0.11	0.11	76		
81	A	10.72		10.71		33.523		25.679	232.2	0.245	4.10		65.3		15.9	1.51	17.6	0.04	0.00	0.10	0.10	82		13
90		10.43		10.42		33.572		25.768	223.9	0.266	3.86		61.1		17.6	1.57	19.1	0.03	0.00	0.06	0.08	91		12
100		10.19		10.17		33.630		25.855	215.9	0.288	3.60		56.6		19.9	1.69	20.7	0.03	0.02	0.04	0.06	101		11
119		9.66		9.65		33.750		26.038	198.9	0.327	3.16		49.3		24.4	1.88	23.6	0.03	0.00	0.01	0.03	120		10
125	ISL	9.60	D	9.59		33.768	D	26.062	196.7	0.342	3.14	D	48.8		25.3	1.91	24.1	0.03	0.00	0.01	0.03	126		
140		9.43		9.42		33.846		26.151	188.5	0.368	2.85		44.2		27.5	2.00	25.3	0.04	0.00	0.01	0.03	141		09
150	ISL	9.13	D	9.11		33.872	D	26.221	182.0	0.390	2.72	D	41.8		29.2	2.06	26.1	0.04	0.00	0.00	0.03	151		
170		9.02		9.00		33.981		26.323	172.7	0.422	2.38		36.6		32.6	2.17	27.7	0.04	0.00	0.00	0.03	171		08
200		8.67		8.65		34.079		26.456	160.6	0.472	2.06		31.5		37.3	2.31	29.1	0.02	0.00	0.00	0.02	202		07
230		8.42		8.40		34.147		26.548	152.4	0.519	1.70		25.9		41.7	2.46	30.9	0.02	0.00			232		06
250	ISL	8.24	D	8.21		34.166	D	26.593	148.5	0.554	1.47	D	22.2		44.4	2.55	31.7	0.02	0.00			252		
271		8.07		8.04		34.187		26.634	144.9	0.580	1.29		19.4		47.3	2.64	32.6	0.02	0.00			273		05
300	ISL	7.91	D	7.88		34.222	D	26.686	140.5	0.627	1.01	D	15.2		50.9	2.75	33.6	0.02	0.00			302		
320		7.71		7.68		34.223		26.716	137.8	0.649	0.93		13.8		53.3	2.82	34.3	0.02	0.00			323		04
380		7.36		7.33		34.268		26.803	130.5	0.730	0.62		9.2		59.5	2.97	36.0	0.02	0.00			383		03
400	ISL	7.27	D	7.23		34.282	D	26.827	128.5	0.762	0.53	D	7.8		61.7	3.00	36.6	0.02	0.02			403		
440		6.83		6.78		34.276		26.884	123.4	0.806	0.48		7.1		66.1	3.07	37.7	0.02	0.06			444		02
500	ISL	6.42	D	6.37		34.308	D	26.964	116.3	0.885	0.33	D	4.8		72.1	3.17	39.0	0.02	0.04			504		
516		6.37		6.32		34.309		26.972	115.8	0.896	0.31		4.6		73.7	3.20	39.3	0.02	0.04			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 CTD O2;

RV NEW HORIZON CALCOFI CRUISE 1210 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 20.6 N	118 33.2 W	21/10/2012	0006 UTC	1366 m	270 09 kn	270 02 07	5	1009.6 mb	17.9 C	17.0 C	19 m	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		19.52		19.51		33.649		23.858	403.6	0.000	5.39		102.6		1.2	0.28	0.0	0.01	0.04	0.15	0.04	0		
2		19.52		19.51		33.649		23.858	403.6	0.008	5.39		102.6		1.2	0.28	0.0	0.01	0.04	0.15	0.04	2		21
10		18.72		18.72		33.640		24.054	385.3	0.039												10		20
10		18.72		18.72		33.649		24.061	384.7	0.040	5.43		101.8		1.2	0.29	0.0	0.01	0.06	0.14	0.04	10		19
20		17.51		17.51		33.549		24.282	363.9	0.077	5.63		103.0		1.1	0.30	0.0	0.01	0.04	0.25	0.08	20		18
30		17.23		17.22		33.530		24.336	359.1	0.113	5.67		103.2		1.2	0.30	0.1	0.02	0.04	0.31	0.10	30		17
40		15.22		15.22		33.409		24.700	324.7	0.148	5.68		99.4		2.4	0.41	1.4	0.23	0.09	0.39	0.19	40		16
50		12.79		12.78		33.295		25.118	285.0	0.178	5.45		90.6		5.1	0.68	5.2	0.43	0.00	0.49	0.33	50		15
60		12.26		12.25		33.330		25.246	273.0	0.206	5.11		84.0		7.3	0.87	8.5	0.18	0.03	0.35	0.24	60		14
70		11.56		11.55		33.351		25.394	259.2	0.233	4.95		80.1		9.4	1.03	11.1	0.07	0.02	0.26	0.19	71		13
75	ISL	11.34	D	11.32		33.365	D	25.446	254.3	0.247	4.91	D	79.2		9.9	1.07	11.6	0.06	0.01	0.25	0.18	76		
85		11.13		11.12		33.367		25.485	250.8	0.271	4.84		77.7		10.9	1.14	12.7	0.04	0.00	0.22	0.15	86		12
100		10.42		10.41		33.465		25.687	231.9	0.307	4.41		69.8		15.1	1.40	16.6	0.03	0.02	0.10	0.10	101		11
120		10.11		10.10		33.662		25.893	212.7	0.351	3.45		54.2		21.6	1.74	21.6	0.03	0.02	0.08	0.09	121		10
125	ISL	10.00	D	9.99		33.680	D	25.927	209.6	0.365	3.42	D	53.6		22.8	1.79	22.4	0.03	0.02	0.06	0.08	126		
140		9.51		9.50		33.800		26.101	193.2	0.392	2.96		46.0		26.3	1.95	24.6	0.02	0.02	0.03	0.05	141		09
150	ISL	9.41	D	9.40		33.891	D	26.189	185.1	0.414	2.64	D	41.0		28.4	2.03	25.6	0.02	0.03	0.02	0.04	151		
170		9.12		9.10		33.994		26.318	173.2	0.447	2.34		36.0		32.5	2.18	27.6	0.02	0.06	0.01	0.03	171		08
200		8.76		8.74		34.103		26.461	160.2	0.497	1.83		27.9		38.1	2.38	29.8	0.02	0.07	0.01	0.05	202		07
230		8.52		8.50		34.155		26.539	153.3	0.544	1.49		22.6		42.1	2.52	31.2	0.01	0.37			232		06
250	ISL	8.46	D	8.43		34.174	D	26.565	151.3	0.578	1.35	D	20.5		43.9	2.58	31.7	0.01	0.20			252		
270		8.18		8.16		34.195		26.623	146.0	0.604	1.24		18.7		45.6	2.63	32.2	0.01	0.02			272		05
300	ISL	8.19	D	8.16		34.247	D	26.663	142.8	0.652	0.87	D	13.1		48.7	2.75	33.1	0.02	0.09			302		
320		8.14		8.10		34.261		26.683	141.3	0.676	0.78		11.8		50.7	2.83	33.7	0.02	0.14			323		04
380		7.52		7.48		34.278		26.788	132.0	0.758	0.58		8.7		57.9	2.97	35.7	0.02	0.09			383		03
400	ISL	7.32	D	7.28		34.287	D	26.824	128.8	0.790	0.48	D	7.1		60.7	3.02	36.3	0.02	0.08			403		
440		6.98		6.94		34.309		26.889	123.1	0.834	0.36		5.3		66.1	3.12	37.5	0.01	0.06			444		02
500	ISL	6.57	D	6.52		34.310	D	26.946	118.2	0.914	0.33	D	4.8		73.5	3.18	39.4	0.01	0.17			504		
514		6.23		6.18		34.274		26.962	116.5	0.923	0.36		5.2		75.2	3.19	39.8	0.01	0.20			518		01

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

RV NEW HORIZON CALCOFI CRUISE 1210 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 10.8 N	118 53.5 W	21/10/2012	0452 UTC	1463 m	270 06 kn			1010.9 mb	17.6 C	15.0 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		18.86		18.86		33.547		23.947	395.2	0.000	5.44		102.2		1.6	0.29	0.0	0.01	0.02	0.17	0.03	0	
2		18.86		18.86		33.547		23.947	395.2	0.008	5.44		102.2		1.6	0.29	0.0	0.01	0.02	0.17	0.03	2	20
10		18.87		18.87		33.547		23.945	395.7	0.040	5.44		102.2		1.6	0.29	0.0	0.01	0.00	0.16	0.03	10	19
20		18.84		18.84		33.552		23.958	394.9	0.079	5.44		102.2		1.6	0.28	0.0	0.01	0.00	0.17	0.04	20	18
30		16.90		16.90		33.482		24.375	355.4	0.117	5.66		102.4		1.9	0.29	0.0	0.01	0.00	0.26	0.07	30	17
40		13.89		13.88		33.306		24.905	305.1	0.150	6.04		102.7		3.8	0.42	0.6	0.04	0.01	0.90	0.29	40	16
50		12.88		12.87		33.358		25.148	282.1	0.179	5.35		89.2		6.4	0.73	5.4	0.21	0.02	0.56	0.38	50	15
60		12.44		12.43		33.334		25.215	276.0	0.207	5.25		86.6		6.9	0.83	7.3	0.13	0.00	0.34	0.23	60	14
70		11.89		11.88		33.429		25.393	259.3	0.234	4.67		76.1		10.2	1.07	10.9	0.09	0.00	0.22	0.18	71	13
75	ISL	11.41	D	11.40		33.503	D	25.541	245.3	0.248	4.21	D	68.0		12.5	1.23	13.2	0.07	0.00	0.18	0.16	76	
85		10.78		10.77		33.602		25.730	227.5	0.270	3.62		57.7		17.1	1.54	17.9	0.03	0.00	0.09	0.10	86	12
100		10.34		10.32		33.738		25.914	210.3	0.303	3.09		48.9		21.8	1.78	21.6	0.02	0.00	0.03	0.05	101	11
120		9.92		9.91		33.914		26.122	190.9	0.343	2.53		39.7		27.5	2.03	24.7	0.02	0.00	0.01	0.03	121	10
125	ISL	9.89	D	9.87		33.928	D	26.139	189.5	0.355	2.53	D	39.6		27.8	2.05	24.9	0.02	0.00	0.01	0.03	126	
140		9.75		9.74		33.965		26.191	184.9	0.380	2.43		38.0		29.0	2.09	25.4	0.02	0.00	0.01	0.02	141	09
150	ISL	9.61	D	9.59		34.010	D	26.251	179.4	0.401	2.31	D	36.1		30.8	2.17	26.3	0.02	0.00	0.01	0.03	151	
170		9.48		9.47		34.131		26.366	168.9	0.433	1.81		28.1		34.5	2.33	28.0	0.01	0.00	0.00	0.03	171	08
200		9.41		9.39		34.185		26.421	164.3	0.483	1.52		23.6		36.8	2.44	28.9	0.01	0.00	0.00	0.02	202	07
230		9.19		9.16		34.276		26.530	154.6	0.531	1.09		16.8		41.2	2.62	30.2	0.01	0.00			232	06
250	ISL	8.88	D	8.85		34.252	D	26.561	151.9	0.566	1.17	D	18.0		43.4	2.65	31.0	0.01	0.00			252	
269		8.57		8.54		34.260		26.614	147.1	0.590	1.07		16.3		45.4	2.68	31.7	0.01	0.00			271	05
300	ISL	8.36	D	8.32		34.286	D	26.670	142.3	0.640	0.79	D	12.0		49.2	2.80	32.7	0.01	0.02			302	
320		8.20		8.16		34.307		26.711	138.8	0.663	0.66		10.0		51.6	2.88	33.4	0.01	0.04			323	04
381		7.61		7.57		34.295		26.788	132.1	0.746	0.56		8.3		57.7	2.96	35.5	0.01	0.00			384	03
400	ISL	7.44	D	7.40		34.287	D	26.807	130.5	0.777	0.54	D	8.0		59.5	3.00	35.9	0.01	0.00			403	
441		7.21		7.17		34.316		26.863	125.8	0.823	0.40		5.9		63.4	3.08	36.7	0.01	0.00			445	02
500	ISL	6.67	D	6.62		34.325	D	26.945	118.4	0.903	0.31	D	4.5		70.5	3.18	38.5	0.01	0.00			504	
516		6.56		6.51		34.327		26.961	117.0	0.914	0.29		4.2		72.4	3.21	39.0	0.01	0.00			520	01

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

RV NEW HORIZON CALCOFI CRUISE 1210 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	21/10/2012	0858 UTC	1587 m	230 04 kn			1011.1 mb	17.9 C	16.9 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		19.22		19.22		33.611		23.905	399.2	0.000	5.40		102.1		2.2	0.29	0.0	0.01	0.08	0.14	0.04	0	
2		19.22		19.22		33.611		23.905	399.2	0.008	5.40		102.1		2.2	0.29	0.0	0.01	0.08	0.14	0.04	2	21
9		19.22		19.22		33.611		23.906	399.4	0.036												9	20
10		19.22		19.22		33.611		23.906	399.5	0.040	5.40		102.2		2.1	0.30	0.0	0.01	0.04	0.14	0.03	10	19
20	ISL	19.22	D	19.22		33.612	D	23.907	399.7	0.080	5.41	D	102.5		2.2	0.29	0.0	0.01	0.01	0.16	0.04	20	
25		19.02		19.01		33.595		23.946	396.2	0.100	5.45		102.7		2.2	0.29	0.0	0.01	0.00	0.16	0.05	25	18
30	ISL	18.88	D	18.87		33.592	D	23.981	393.1	0.120	5.57	D	104.7		2.3	0.30	0.0	0.01	0.00	0.22	0.07	30	
40		17.87		17.86		33.535		24.187	373.8	0.158	5.65		104.2		2.4	0.31	0.0	0.01	0.00	0.33	0.11	40	17
50		14.44		14.43		33.405		24.867	309.0	0.192	5.69		98.0		4.5	0.52	1.9	0.07	0.05	0.81	0.37	50	16
61		13.46		13.45		33.385		25.054	291.5	0.225	5.38		90.7		6.5	0.70	4.8	0.15	0.06	0.61	0.31	61	15
75		12.58		12.57		33.399		25.239	274.1	0.265	5.16		85.4		7.6	0.78	6.4	0.17	0.05	0.44	0.28	76	14
87		11.56		11.55		33.475		25.492	250.3	0.296	4.36		70.7		12.4	1.19	13.0	0.08	0.00	0.20	0.25	88	13
100		10.80		10.79		33.622		25.743	226.6	0.327	3.49		55.8		18.3	1.57	18.6	0.03	0.00	0.08	0.10	101	12
112		10.41		10.39		33.725		25.892	212.7	0.354	3.07		48.6		21.8	1.76	21.2	0.02	0.00	0.05	0.08	113	11
125		10.24		10.22		33.790		25.972	205.4	0.381	2.82		44.5		24.1	1.87	22.7	0.02	0.00	0.03	0.05	126	10
140		9.90		9.89		33.856		26.080	195.4	0.411	2.66		41.8		26.3	1.96	24.2	0.02	0.00	0.01	0.04	141	09
150	ISL	9.78	D	9.76		33.922	D	26.154	188.6	0.432	2.51	D	39.2		28.2	2.03	25.1	0.02	0.00	0.01	0.03	151	
170		9.54		9.52		34.021		26.272	177.8	0.467	2.13		33.2		31.8	2.18	26.8	0.02	0.00	0.00	0.03	171	08
200		9.44		9.41		34.169		26.404	165.9	0.518	1.60		24.9		36.0	2.36	28.5	0.02	0.00	0.00	0.02	202	07
230		9.14		9.12		34.199		26.477	159.6	0.567	1.44		22.3		39.0	2.45	29.5	0.02	0.00			232	06
250	ISL	9.09	D	9.06		34.254	D	26.529	155.1	0.602	1.16	D	17.8		41.3	2.53	30.2	0.02	0.00			252	
270		8.80		8.77		34.264		26.583	150.2	0.629	1.08		16.6		43.5	2.60	30.8	0.02	0.00			272	05
300	ISL	8.59	D	8.56		34.278	D	26.627	146.6	0.678	0.98	D	15.0		45.9	2.65	31.6	0.02	0.00			302	
320		8.43		8.39		34.271		26.647	144.9	0.703	0.96		14.6		47.5	2.69	32.1	0.02	0.00			323	04
380		7.80		7.76		34.264		26.737	137.1	0.787	0.76		11.3		54.1	2.83	34.3	0.01	0.00			383	03
400	ISL	7.68	D	7.64		34.270	D	26.759	135.3	0.820	0.67	D	10.0		56.6	2.88	35.0	0.01	0.00			403	
440		7.20		7.16		34.266		26.825	129.3	0.867	0.57		8.4		61.7	2.99	36.5	0.02	0.00			444	02
500	ISL	6.45	D	6.41		34.236	D	26.903	122.1	0.950	0.57	D	8.3		69.6	3.05	38.4	0.01	0.00			504	
516		6.32		6.27		34.234		26.919	120.6	0.962	0.54		7.8		71.8	3.07	38.9	0.01	0.00			520	01

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

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
31 51.0 N	119 34.4 W	21/10/2012	1257	UTC	1912 m	320	17 kn			1011.3 mb	18.3 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		19.98		19.98		33.680	23.761	412.9	0.000	5.27		101.3	1.8	0.23	0.0	0.01	0.04	0.18	0.06	0	
2		19.98		19.98		33.680	23.761	412.9	0.008	5.27		101.3	1.8	0.23	0.0	0.01	0.04	0.18	0.06	2	20
10		19.99		19.98		33.693	23.771	412.3	0.041	5.27		101.3	1.8	0.24	0.0	0.01	0.04	0.18	0.05	10	19
20		19.97		19.96		33.679	23.766	413.2	0.083	5.27		101.2	1.8	0.24	0.0	0.01	0.03	0.18	0.05	20	18
30		18.68		18.68		33.588	24.025	388.8	0.123	5.50		103.1	1.8	0.24	0.0	0.01	0.03	0.24	0.08	30	17
39		15.10		15.10		33.316	24.655	328.9	0.155	6.01		104.8	2.3	0.27	0.0	0.01	0.01	0.35	0.18	39	16
50		13.87		13.86		33.214	24.838	311.7	0.190	6.03		102.5	3.1	0.32	0.4	0.08	0.09	0.55	0.29	50	15
60		13.08		13.07		33.190	24.979	298.5	0.221	5.86		98.0	3.8	0.41	2.0	0.30	0.08	0.40	0.28	60	14
70		12.04		12.03		33.279	25.250	272.9	0.249	5.32		87.0	6.5	0.73	7.3	0.21	0.07	0.28	0.16	71	13
75	ISL	11.69	D	11.68		33.341	D 25.363	262.2	0.264	5.06	D	82.1	8.0	0.84	9.1	0.16	0.05	0.23	0.15	76	
85		11.27		11.26		33.404	25.489	250.5	0.288	4.68		75.3	11.1	1.07	12.6	0.05	0.00	0.15	0.12	86	12
100		10.77		10.76		33.520	25.668	233.7	0.325	4.06		64.7	15.3	1.32	16.6	0.03	0.00	0.08	0.08	101	11
120		10.32		10.30		33.679	25.872	214.8	0.370	3.33		52.7	20.5	1.59	20.4	0.03	0.00	0.03	0.05	121	10
125	ISL	10.21	D	10.20		33.726	D 25.927	209.6	0.383	3.20	D	50.4	21.5	1.64	21.0	0.03	0.00	0.03	0.05	126	
141		9.98		9.96		33.796	26.022	201.0	0.413	2.92		45.8	24.6	1.79	23.1	0.02	0.00	0.01	0.04	142	09
150	ISL	9.85	D	9.83		33.854	D 26.088	194.8	0.434	2.79	D	43.7	26.3	1.84	24.0	0.02	0.00	0.02	0.04	151	
170		9.60		9.57		33.912	D 26.177	186.8	0.472	2.78	D	43.3								171	08
200		8.85		8.82		34.056	26.411	165.0	0.522	2.19		33.5	35.4	2.15	28.7	0.02	0.00	0.00	0.02	202	07
230		8.68		8.66		34.084	26.459	161.0	0.571	2.01		30.6	37.8	2.23	29.5	0.02	0.00			232	06
250	ISL	8.49	D	8.47		34.110	D 26.509	156.6	0.607	1.86	D	28.3	40.6	2.32	30.5	0.02	0.02			252	
270		7.92		7.89		34.117	26.601	147.9	0.633	1.70		25.5	43.3	2.40	31.5	0.01	0.03			272	05
300	ISL	7.75	D	7.73		34.142	D 26.644	144.3	0.682	1.23	D	18.3	48.0	2.57	32.8	0.01	0.05			302	
319		7.89		7.86		34.212	26.681	141.3	0.704	1.03		15.4	51.0	2.68	33.7	0.01	0.06			322	04
380		7.60		7.56		34.283	26.781	132.8	0.787	0.61		9.1	57.3	2.89	35.3	0.01	0.15			383	03
400	ISL	7.43	D	7.39		34.287	D 26.808	130.4	0.820	0.55	D	8.2	60.3	2.94	36.1	0.01	0.14			403	
442		6.90		6.86		34.294	26.888	123.1	0.867	0.42		6.2	66.5	3.05	37.7	0.01	0.11			446	02
500	ISL	6.31	D	6.27		34.321	D 26.987	114.0	0.943	0.29	D	4.2								504	
521		6.19		6.14		34.328	D 27.010	112.1	0.967	0.27	D	3.9								525	01

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

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 14.7 W	21/10/2012	1922	UTC	3926 m	320	15 kn	350 05 08	2	1014.2 mb	17.3 C	14.9 C	26 m	8/8	ST	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		19.75		19.75		33.706	23.842	405.2	0.000	5.31		101.5	1.9	0.22	0.1	0.02	0.30	0.22	0.05	0	
2	A	19.75		19.75		33.706	23.842	405.2	0.008	5.31		101.5	1.9	0.22	0.1	0.02	0.30	0.22	0.05	2	20
10		19.75		19.75		33.714	23.849	404.8	0.041	5.30		101.3	1.9	0.22	0.0	0.01	0.08	0.21	0.05	10	19
17	A	19.75		19.75		33.722	23.855	404.6	0.069	5.30		101.3	1.9	0.22	0.1	0.01	0.30	0.22	0.06	17	18
20	ISL	19.73	D	19.73		33.704	D 23.845	405.6	0.082	5.30	D	101.4	1.9	0.21	0.0	0.01	0.24	0.23	0.06	20	
22	A	19.73		19.73		33.709	23.850	405.3	0.089	5.30		101.4	1.9	0.20	0.0	0.01	0.20	0.23	0.05	22	17
30	ISL	17.84	D	18.02		33.537	D 24.148	377.1	0.121	5.81	D	107.4	2.2	0.21	0.0	0.01	0.26	0.34	0.13	30	
31		16.27		16.27		33.563	24.584	335.5	0.124	5.68		101.6	2.2	0.21	0.0	0.01	0.27	0.35	0.14	31	16
39	A	14.52		14.52		33.344	24.801	315.0	0.150	6.22		107.2	3.1	0.25	0.0	0.01	0.10	0.60	0.26	39	15
50	ISL	13.26	D	13.23		33.308	D 25.039	292.6	0.186	5.71	D	95.7	5.6	0.55	4.6	0.13	0.13	0.54	0.33	50	
54		12.63		12.62		33.328	25.174	279.8	0.195	5.42		89.8	6.6	0.66	6.3	0.17	0.14	0.52	0.36	54	14
71	A	11.48		11.47		33.470	25.502	248.9	0.240	4.33		70.1	11.9	1.09	13.3	0.08	0.03	0.21	0.21	72	13
75	ISL	11.22	D	11.23		33.523	D 25.585	241.1	0.252	3.94	D	63.4	13.0	1.16	14.4	0.07	0.03	0.18	0.19	76	
87	A	10.73		10.71		33.579	25.722	228.3	0.277	3.66		58.3	16.4	1.37	17.6	0.04	0.01	0.11	0.13	88	12
100	ISL	10.32	D	10.30		33.685	D 25.877	213.8	0.309	3.25	D	51.4	20.5	1.57	20.7	0.02	0.03	0.05	0.06	101	
103		10.23		10.22		33.698	25.901	211.6	0.313	3.20		50.4	21.4	1.61	21.4	0.02	0.03	0.03	0.05	104	11
119		9.79		9.77		33.804	26.059	196.8	0.345	2.86		44.7	25.2	1.79	24.0	0.02	0.06	0.01	0.03	120	10
125	ISL	9.59	D	9.57		33.800	D 26.089	194.1	0.360	2.81		43.8	26.2	1.82	24.5	0.02	0.09	0.01	0.03	126	
139		9.41		9.40		33.884	26.184	185.4	0.384	2.70		41.8	28.4	1.90	25.6	0.02	0.16	0.00	0.03	140	09
150	ISL	9.00	D	8.98		33.902	D 26.264	177.9	0.407	2.64		40.6	30.3	1.94	26.5	0.02	0.19	0.00	0.02	151	
170		8.69		8.68		33.959	26.357	169.4	0.438	2.54		38.7	33.6	2.02	28.1	0.02	0.25	0.00	0.02	171	08
200		8.36		8.34		34.017	26.454	160.7	0.488	2.36		35.8	37.2	2.11	29.2	0.02	0.17	0.00	0.02	202	07
230		7.93		7.90		34.057	26.551	151.9	0.535	1.96		29.4	42.9	2.29	31.5	0.01	0.26			232	06
250	ISL	7.76	D	7.74		34.082	D 26.595	148.0	0.570	1.54	D	23.0	46.4	2.42	32.8	0.02	0.15			252	
269		7.60		7.58		34.113	26.643	143.7	0.592	1.37		20.5	49.8	2.54	34.1	0.02	0.04			271	05
300	ISL	7.28	D	7.25		34.138	D 26.710	137.7	0.642	1.13	D	16.7	54.7	2.65	35.5	0.01	0.04			302	
322		7.00		6.97		34.142	26.751	134.0	0.666	1.00		14.7	58.3	2.73	36.5	0.01	0.04			325	04
381		6.50		6.46		34.184	26.853	124.9	0.742	0.68		9.8	67.2	2.94	38.4	0.01	0.08			384	03
400	ISL	6.55	D	6.52		34.230	D 26.883	122.5	0.772	0.56	D	8.2	69.5	2.99	38.8	0.01	0.08			403	
441		6.28		6.24		34.257	26.939	117.5	0.815	0.41		5.9	74.6	3.09	39.6	0.01	0.09			445	02
500	ISL	5.83	D	5.79		34.280	D 27.015	110.7	0.890	0.32	D	4.6								504	
517		5.78		5.73		34.292	D 27.032	109.3	0.909	0.30	D	4.3								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 CTD O2;

RV NEW HORIZON CALCOFI CRUISE 1210 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 10.6 N	120 55.0 W	22/10/2012	0128 UTC	3848 m	330 13 kn	320 04 06	2	1013.4 mb	17.0 C	13.5 C		8/8	SC	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		17.64		17.64		33.533		24.238	367.4	0.000	5.55		101.9		1.0	0.24	0.0	0.01	0.05	0.19	0.05	0	
2		17.64		17.64		33.533		24.238	367.4	0.007	5.55		101.9		1.0	0.24	0.0	0.01	0.05	0.19	0.05	2	21
10		17.64		17.64		33.535		24.240	367.6	0.037	5.56		102.1		1.0	0.23	0.0	0.01	0.05	0.20	0.06	10	20
20		17.61		17.61		33.526		24.240	368.0	0.074	5.57		102.1		1.0		0.0	0.02	0.03	0.20	0.06	20	19
30		15.70		15.70		33.365		24.560	337.7	0.109	5.84		103.2		2.0	0.23	0.0	0.02	0.01	0.33	0.15	30	18
40		13.88		13.87		33.196		24.821	313.0	0.141	5.89		100.2		3.7	0.38	1.0	0.29	0.05	0.41	0.32	40	17
50		13.44		13.44		33.204		24.917	304.2	0.172	5.82		98.1		3.9	0.41	1.7	0.46	0.07	0.38	0.28	50	16
60		12.92		12.91		33.188		25.008	295.8	0.202	5.78		96.2		4.2	0.44	2.1	0.49	0.07	0.33	0.25	60	15
70		12.18		12.17		33.136		25.112	286.0	0.231	5.67		93.0		5.1	0.51	3.8	0.22	0.05	0.18	0.15	71	14
75	ISL	11.96	D	11.95		33.203	D	25.205	277.3	0.248	5.49	D	89.7		6.0	0.60	5.3	0.16	0.05	0.15	0.13	76	
84		11.57		11.56		33.240		25.306	267.8	0.270	5.34		86.5		7.5	0.75	8.0	0.04	0.05	0.09	0.09	85	13
100		10.64		10.62		33.476		25.658	234.6	0.310	4.38		69.6		13.3	1.20	15.1	0.03	0.00	0.04	0.06	101	12
119		9.72		9.71		33.554		25.875	214.3	0.353	4.06		63.2		18.7	1.47	19.7	0.03	0.00	0.01	0.03	120	11
125	ISL	9.38	D	9.36		33.662	D	26.015	201.0	0.369	3.70	D	57.3		20.5	1.54	20.9	0.03	0.00	0.01	0.03	126	
140		9.01		8.99		33.742		26.137	189.7	0.395	3.47		53.3		25.1	1.70	23.8	0.02	0.00	0.00	0.03	141	10
150	ISL	8.89	D	8.87		33.815	D	26.214	182.6	0.417	3.37	D	51.6		27.3	1.77	24.9	0.02	0.01	0.00	0.03	151	
170		8.41		8.39		33.919		26.369	168.1	0.448	3.02		45.7		31.8	1.90	27.0	0.02	0.02	0.00	0.03	171	09
200		7.96		7.94		33.969		26.475	158.4	0.497	2.78		41.8		37.1	2.03	28.8	0.02	0.00	0.00	0.02	202	08
230		7.59		7.56		33.988		26.546	152.1	0.544	2.52		37.6		42.0	2.16	30.5	0.02	0.00			232	07
250	ISL	7.45	D	7.41		34.028	D	26.599	147.4	0.579	2.02	D	30.0		45.8	2.32	32.3	0.02	0.02			252	
271		7.35		7.32		34.061		26.639	144.0	0.605	1.65		24.4		49.9	2.48	34.2	0.01	0.04			273	06
300	ISL	7.07	D	7.05		34.085	D	26.696	138.9	0.651	1.40	D	20.7		54.5	2.59	35.4	0.01	0.03			302	
321		6.86		6.83		34.096		26.734	135.5	0.674	1.26		18.4		57.8	2.67	36.3	0.01	0.03			324	05
380		6.35		6.32		34.139		26.837	126.3	0.752	0.88		12.8		67.1	2.88	38.5	0.01	0.00			383	04
400	ISL	6.18	D	6.15		34.154	D	26.870	123.3	0.783	0.77	D	11.1		69.8	2.93	39.1	0.01	0.00			403	
441		5.93		5.89		34.181		26.924	118.5	0.826	0.61		8.7		75.4	3.03	40.2	0.01	0.00			445	03
500	ISL	5.61	D	5.56		34.234	D	27.007	111.2	0.901	0.42	D	5.9		82.6	3.16	41.3	0.01	0.00			504	
515		5.55		5.50		34.248		27.025	109.6	0.911	0.37		5.3		84.5	3.19	41.6	0.01	0.00			519	01

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

RV NEW HORIZON CALCOFI CRUISE 1210 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	22/10/2012	0713 UTC	4093 m	340 09 kn			1014.1 mb	16.8 C	13.5 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		17.82		17.82		33.224		23.958	394.2	0.000	5.52		101.4		2.9	0.31	0.0	0.01	0.06	0.15	0.05	0	
2		17.82		17.82		33.224		23.958	394.2	0.008	5.52		101.4		2.9	0.31	0.0	0.01	0.06	0.15	0.05	2	20
10		17.82		17.82		33.227		23.959	394.3	0.039	5.53		101.7		2.9	0.30	0.0	0.01	0.02	0.14	0.04	10	19
20	ISL	17.76	D	17.75		33.232	D	23.980	392.7	0.079	5.58	D	102.4		2.8	0.30	0.0	0.01	0.01	0.20	0.06	20	
25		17.71		17.71		33.264		24.016	389.4	0.098	5.58		102.3		2.7	0.30	0.0	0.01	0.01	0.22	0.07	25	18
30	ISL	17.57	D	17.56		33.279	D	24.065	385.0	0.119	5.62	D	102.8		2.3	0.30	0.0	0.01	0.01	0.24	0.07	30	
39		17.62		17.61		33.479		24.204	372.1	0.152	5.57		102.2		1.5	0.29	0.0	0.01	0.00	0.26	0.09	39	17
50		17.52		17.51		33.503		24.247	368.5	0.193	5.57		101.9		1.5	0.29	0.0	0.01	0.03	0.33	0.13	50	16
62		15.68		15.67		33.241		24.472	347.2	0.236	5.91		104.1		2.8	0.34	0.1	0.02	0.08	0.30	0.21	62	15
74		14.19		14.18		33.206		24.767	319.3	0.276	5.85		100.0		3.7	0.45	1.0	0.34	0.21	0.26	0.27	75	14
75	ISL	14.13	D	14.11		33.211	D	24.785	317.6	0.281	5.86	D	100.0		3.8	0.46	1.2	0.33	0.19	0.25	0.26	76	
87		13.27		13.26		33.205		24.954	301.7	0.316	5.64		94.6		4.8	0.59	3.6	0.26	0.00	0.18	0.16	88	13
100		12.32		12.31		33.186		25.125	285.6	0.354	5.54		91.1		6.1	0.71	5.5	0.04	0.01	0.12	0.13	101	12
112		11.41		11.40		33.226		25.326	266.7	0.387	5.37		86.6		7.8	0.86	8.0	0.03	0.00	0.08	0.08	113	11
125		10.75		10.73		33.308		25.508	249.5	0.421	5.10		81.1		10.6	1.05	11.2	0.02	0.00	0.04	0.04	126	10
140		10.45		10.43		33.435		25.660	235.4	0.457	4.61		73.0		13.6	1.30	15.2	0.02	0.00	0.02	0.04	141	09
150	ISL	10.28	D	10.26		33.543	D	25.773	224.8	0.483	4.10	D	64.6		16.4	1.45	17.5	0.02	0.00	0.02	0.03	151	
170		9.67		9.65		33.645		25.956	207.7	0.524	3.57		55.5		22.0	1.74	22.1	0.01	0.00	0.01	0.02	171	08
200		8.90		8.87		33.878		26.263	179.0	0.582	2.89		44.2		30.0	2.04	26.8	0.01	0.00	0.00	0.02	202	07
229		8.37		8.35		33.967		26.415	165.0	0.631	2.65		40.1		34.8	2.15	28.5	0.01	0.00			231	06
250	ISL	8.12	D	8.09		34.013	D	26.490	158.1	0.670	2.30	D	34.7		39.1	2.28	30.2	0.01	0.00			252	
270		7.80		7.78		34.031		26.550	152.7	0.696	2.10		31.4		43.2	2.40	31.8	0.01	0.00			272	05
300	ISL	7.24	D	7.21		34.015	D	26.619	146.3	0.746	1.98	D	29.2		48.9	2.51	33.5	0.01	0.00			302	
320		6.93		6.90		34.026		26.669	141.7	0.770	1.84		27.0		52.7	2.58	34.6	0.01	0.00			323	04
381		6.65		6.61		34.131		26.792	130.9	0.853	1.00		14.6		62.7	2.91	37.8	0.01	0.00			384	03
400	ISL	6.59	D	6.55		34.153	D	26.817	128.7	0.884	0.85	D	12.3		65.5	2.96	38.4	0.01	0.00			403	
442		6.14		6.11		34.162		26.882	122.8	0.931	0.70		10.1		71.6	3.07	39.8	0.01	0.00			446	02
500	ISL	5.77	D	5.73		34.214	D	26.970	114.9	1.007	0.48	D	6.9		79.5	3.19	41.0	0.01	0.00			504	
515		5.70		5.66		34.229		26.992	113.0	1.017	0.46		6.6		81.6	3.22	41.3	0.01	0.00			519	01

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

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 15.0 W	22/10/2012	1300 UTC	4212 m	270 12 kn			1014.3 mb	17.1 C	14.0 C				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		18.31	18.31		33.394	23.967	393.2	0.000	5.44		101.0	2.4	0.27	0.0	0.01	0.00	0.17	0.05	0	
2		18.31	18.31		33.394	23.967	393.2	0.008	5.44		101.0	2.4	0.27	0.0	0.01	0.00	0.17	0.05	2	20
10		18.31	18.31		33.393	23.968	393.5	0.039	5.46		101.4	2.4	0.28	0.0	0.01	0.07	0.15	0.05	10	19
20	ISL	18.32	18.31	D	33.392	23.967	394.0	0.079	5.42	D	100.8	2.4	0.28	0.0	0.02	0.04	0.16	0.04	20	
25		18.32	18.32		33.395	23.967	394.2	0.099	5.43		100.9	2.3	0.28	0.0	0.02	0.03	0.16	0.04	25	18
30	ISL	18.32	18.31	D	33.399	23.973	393.8	0.119	5.45	D	101.3	2.4	0.29	0.0	0.02	0.03	0.20	0.09	30	
40		16.01	16.01		33.307	24.447	348.9	0.155	5.98		106.1	2.6	0.30	0.0	0.02	0.03	0.28	0.17	40	17
50		14.88	14.87		33.265	24.665	328.3	0.189	5.92		102.8	2.7	0.37	0.4	0.10	0.23	0.33	0.28	50	16
62		13.57	13.57		33.229	24.910	305.2	0.227	5.71		96.4	3.9	0.52	2.3	0.59	0.05	0.33	0.26	62	15
75		12.84	12.83		33.251	25.074	289.9	0.266	5.50		91.4	5.4	0.68	5.0	0.13	0.01	0.21	0.22	76	14
87		12.32	12.31		33.294	25.209	277.3	0.300	5.32		87.6	6.5	0.78	6.7	0.05	0.03	0.15	0.17	88	13
100	ISL	11.75	11.74	D	33.357	25.365	262.7	0.338	5.13	D	83.4	8.7	0.99	10.1	0.03	0.00	0.09	0.10	101	
101		11.69	11.68		33.356	25.376	261.7	0.338	5.08		82.4	8.9	1.01	10.4	0.03	0.00	0.09	0.10	102	12
112		11.28	11.27		33.406	25.489	251.1	0.366	4.67		75.2	10.8	1.11	12.2	0.02	0.00	0.07	0.08	113	11
125	ISL	10.63	10.61	D	33.490	25.673	233.9	0.400	4.27	D	67.8	14.4	1.33	15.8	0.02	0.00	0.04	0.06	126	
126		10.52	10.51		33.492	25.690	232.2	0.400	4.21		66.7	14.7	1.35	16.1	0.02	0.00	0.04	0.05	127	10
140		10.05	10.03		33.610	25.864	215.9	0.431	3.74		58.8	18.9	1.57	19.6	0.02	0.07	0.02	0.03	141	09
150	ISL	9.90	9.90	D	33.757	26.002	203.1	0.455	3.16	D	49.6	22.1	1.71	21.6	0.02	0.09	0.02	0.03	151	
170		9.18	9.16		33.878	26.218	182.7	0.491	2.81		43.3	28.6	1.99	25.7	0.01	0.14	0.00	0.02	171	08
199		8.96	8.94		34.000	26.348	171.0	0.542	2.41		37.0	33.2	2.16	27.9	0.01	0.03	0.00	0.02	201	07
200	ISL	8.95	8.93	D	34.015	26.361	169.7	0.547	2.40		36.8	33.4	2.17	28.0	0.01	0.03	0.00	0.02	202	
230		8.51	8.48		34.044	26.454	161.3	0.593	2.01		30.6	37.9	2.33	29.8	0.02	0.15			232	06
250	ISL	8.12	8.09	D	34.141	26.590	148.7	0.628	1.29	D	19.4	43.2	2.51	31.9	0.02	0.08			252	
270		8.00	7.97		34.167	26.628	145.4	0.654	1.16		17.4	48.5	2.69	33.9	0.01	0.01			272	05
300	ISL	7.74	7.71	D	34.220	26.708	138.2	0.700	0.83	D	12.5	52.9	2.82	35.0	0.01	0.00			302	
320		7.60	7.57		34.238	26.743	135.2	0.723	0.70		10.5	55.9	2.90	35.7	0.01	0.00			323	04
381		7.07	7.04		34.281	26.852	125.6	0.803	0.45		6.6	64.3	3.07	37.5	0.01	0.00			384	03
400	ISL	6.97	6.93	D	34.287	26.872	123.9	0.832	0.41	D	6.0	66.5	3.10	38.0	0.01	0.00			403	
441		6.63	6.59		34.303	26.931	118.8	0.876	0.32		4.6	71.3	3.16	39.1	0.01	0.00			445	02
500	ISL	6.36	6.31	D	34.319	26.981	114.7	0.951	0.28	D	4.0	75.9	3.22	39.7	0.01	0.02			504	
516		6.29	6.24		34.321	26.991	113.8	0.963	0.24		3.5	77.2	3.24	39.9	0.01	0.03			520	01

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

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
30 10.6 N	122 55.2 W	22/10/2012	1913 UTC	3715 m	250 06 kn	320 03 09	1	1016.7 mb	19.1 C	16.5 C	40 m	4/8	ST	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		18.88	18.87		33.379	23.815	407.7	0.000	5.49		103.1	2.9	0.28	0.0	0.01	0.15	0.10	0.03	0	
2	A	18.88	18.87		33.379	23.815	407.7	0.008	5.49		103.1	2.9	0.28	0.0	0.01	0.15	0.10	0.03	2	22
10		18.75	18.74		33.395	23.861	403.7	0.041	5.41		101.3	2.9	0.27	0.0	0.01	0.02	0.10	0.03	10	21
20	ISL	18.74	18.74	D	33.371	23.845	405.6	0.082	5.41	D	101.3	2.9	0.28	0.0	0.01	0.05	0.11	0.03	20	
27	A	18.74	18.73		33.383	23.856	404.9	0.110	5.40		101.2	2.9	0.28	0.0	0.01	0.07	0.11	0.03	27	20
30	ISL	18.73	18.73	D	33.370	23.846	405.9	0.123	5.39	D	100.9	2.9	0.28	0.0	0.01	0.06	0.11	0.03	30	
35	A	18.73	18.73		33.372	23.848	405.9	0.142	5.42		101.4	2.9	0.28	0.0	0.01	0.05	0.12	0.03	35	19
43		18.66	18.65		33.372	23.868	404.3	0.175	5.52		103.3	2.9	0.27	0.0	0.01	0.02	0.12	0.03	43	18
50	ISL	18.11	18.10	D	33.371	24.004	391.6	0.204	5.59	D	103.5	2.7	0.29	0.0	0.01	0.03	0.17	0.06	50	
52		17.98	17.97		33.370	24.034	388.8	0.210	5.55		102.4	2.6	0.29	0.0	0.01	0.03	0.19	0.06	52	17
59	A	17.39	17.38		33.401	24.201	373.1	0.237	5.78		105.5	2.7	0.26	0.0	0.01	0.03	0.21	0.08	59	16
75		15.49	15.48		33.330	24.584	337.0	0.294	5.97		104.9	2.9	0.28	0.0	0.01	0.03	0.21	0.13	76	15
95		13.52	13.50		33.256	24.945	302.9	0.358	5.75		97.1	4.5	0.56	2.6	0.59	0.17	0.19	0.14	96	14
100	ISL	13.19	13.16	D	33.258	25.015	296.4	0.375	5.67	D	94.9	5.3	0.66	4.4	0.40	0.11	0.16	0.13	101	
109	A	12.60	12.58		33.302	25.163	282.4	0.399	5.43		89.8	6.8	0.83	7.5	0.05	0.00	0.12	0.11	110	13
123		11.33	11.32		33.279	25.382	261.6	0.437	5.31		85.5	8.2	0.89	8.7	0.02	0.00	0.07	0.07	124	12
125	ISL	11.20	11.19	D	33.303	25.424	257.7	0.445	5.33	D	85.7	8.3	0.89	8.7	0.02	0.00	0.07	0.07	126	
136	A	10.84	10.82		33.350	25.525	248.2	0.470	5.20		83.0	8.7	0.89	9.0	0.02	0.00	0.06	0.08	137	11
150	ISL	10.39	10.37	D	33.479	25.705	231.4	0.506	4.90	D	77.4	11.4	1.05	12.1	0.02	0.00	0.03	0.04	151	
151		10.38	10.36		33.478	25.706	231.3	0.506	4.83		76.3	11.6	1.06	12.3	0.02	0.00	0.03	0.04	152	10
171		9.66	9.64		33.587	25.912	211.9	0.550	4.34		67.5	16.7	1.35	17.1	0.01	0.00	0.00	0.02	172	09
200		8.92	8.90		33.860	26.245	180.7	0.607	3.63		55.6	26.0	1.73	23.1	0.01	0.00	0.01	0.02	202	08
230		8.40	8.37		33.965	26.409	165.5	0.659	3.12		47.3	33.0	1.96	26.3	0.01	0.00			232	06
250	ISL	8.05	8.02	D	33.987	26.479	159.1	0.695	2.99	D	44.9	37.5	2.11	28.3	0.01	0.00			252	
270		7.77	7.74		34.017	26.544	153.2	0.723	2.42		36.2	41.9	2.26	30.3	0.01	0.00			272	05
300	ISL	7.38	7.35	D	34.044	26.621	146.2	0.772	1.98	D	29.3	47.6	2.42	32.4	0.01	0.00			302	
322		7.08	7.05		34.045	26.663	142.3	0.799	1.84		27.1	51.8	2.54	33.9	0.01	0.00			325	04
381		6.59	6.56		34.101	26.775	132.3	0.880	1.20		17.4	61.4	2.81	37.1	0.01	0.00			384	03
400	ISL	6.52	6.48	D	34.121	26.801	130.1	0.911	1.00	D	14.5	64.4	2.88	37.7	0.01	0.00			403	
441		6.21	6.17		34.166	26.878	123.2	0.957	0.72		10.3	70.8	3.04	39.1	0.01	0.01			445	02
500	ISL	5.84	5.80	D	34.231	26.976	114.4	1.034	0.44	D	6.3	78.9	3.17	40.6	0.01	0.00			504	
516		5.78	5.73		34.244	26.994	112.9	1.045	0.40		5.6	81.1	3.20	41.0	0.01	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 CTD O2;

RV NEW HORIZON CALCOFI CRUISE 1210 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 50.8 N	123 34.8 W	23/10/2012	0257 UTC	4097 m	260 07 kn			1015.7 mb	18.9 C	17.8 C				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	19.09	19.09	33.442	23.810	408.3	0.000	5.38	101.5	2.9	0.26	0.0	0.01	0.01	0.07	0.02	0	
2	19.09	19.09	33.442	23.810	408.3	0.008	5.38	101.5	2.9	0.26	0.0	0.01	0.01	0.07	0.02	2	20
10	18.96	18.96	33.414	23.822	407.5	0.041	5.41	101.7	2.9	0.26	0.0	0.01	0.01	0.08	0.02	10	19
20 ISL	18.58 D	18.58	33.321 D	23.846	405.5	0.082	5.43 D	101.3	2.9	0.27	0.0	0.01	0.00	0.10	0.03	20	
25	18.56	18.56	33.321	23.851	405.3	0.102	5.45	101.8	2.9	0.27	0.0	0.01	0.00	0.12	0.03	25	18
30 ISL	18.55 D	18.55	33.316 D	23.850	405.6	0.123	5.44 D	101.5	2.9	0.27	0.0	0.01	0.00	0.12	0.03	30	
40	18.51	18.50	33.313	23.860	405.0	0.163	5.46	101.7	2.9	0.27	0.0	0.01	0.00	0.12	0.03	40	17
50	18.33	18.32	33.523	24.065	385.8	0.202	5.66	105.3	2.7	0.21	0.0	0.01	0.00	0.14	0.04	50	16
63	16.23	16.22	33.472	24.527	342.1	0.249	5.91	105.5	2.7	0.21	0.0	0.01	0.00	0.22	0.09	63	15
75	15.47	15.46	33.554	24.760	320.3	0.289	5.91	103.9	2.8	0.20	0.0	0.01	0.01	0.22	0.11	76	14
86	15.10	15.08	33.621	24.894	307.8	0.324	5.83	101.9	2.8	0.20	0.0	0.01	0.07	0.20	0.15	87	13
100	14.15	14.13	33.537	25.033	294.8	0.366	5.71	97.7	3.3	0.28	0.2	0.09	0.00	0.19	0.21	101	12
112	12.85	12.83	33.444	25.224	276.8	0.400	5.52	92.0	4.5	0.45	2.6	0.08	0.00	0.15	0.21	113	11
125	11.73	11.71	33.403	25.407	259.5	0.435	5.40	87.7	5.9	0.60	5.0	0.03	0.00	0.12	0.12	126	10
140	10.48	10.46	33.381	25.612	240.0	0.472	4.95	78.4	11.0	1.03	11.8	0.01	0.00	0.05	0.05	141	09
150 ISL	10.15 D	10.13	33.489 D	25.753	226.7	0.499	4.68 D	73.6	13.9	1.21	14.5	0.01	0.00	0.04	0.04	151	
170	9.74	9.72	33.588	25.899	213.2	0.540	4.00	62.4	19.7	1.57	19.9	0.01	0.00	0.01	0.02	171	08
200	8.86	8.84	33.853	26.249	180.3	0.599	3.52	53.9	26.8	1.77	23.6	0.01	0.00	0.00	0.02	202	07
231	8.28	8.25	33.964	26.427	163.8	0.652	3.04	46.0	34.1	2.00	27.0	0.01	0.00			233	06
250 ISL	8.02 D	7.99	33.992 D	26.487	158.3	0.687	2.71 D	40.7	38.0	2.14	28.8	0.01	0.00			252	
270	7.75	7.73	34.014	26.543	153.2	0.714	2.37	35.4	42.1	2.29	30.6	0.01	0.00			272	05
300 ISL	7.34 D	7.32	34.037 D	26.621	146.2	0.763	2.00 D	29.6	48.7	2.48	33.0	0.01	0.00			302	
321	7.06	7.03	34.065	26.682	140.6	0.789	1.63	23.9	53.3	2.61	34.7	0.01	0.00			323	04
380	6.39	6.36	34.082	26.786	131.1	0.869	1.24	18.0	63.5	2.83	37.3	0.01	0.00			383	03
400 ISL	6.22 D	6.18	34.101 D	26.824	127.6	0.901	1.07 D	15.5	66.8	2.90	38.1	0.01	0.00			403	
440	5.92	5.88	34.138	26.891	121.6	0.945	0.80	11.5	73.5	3.05	39.7	0.01	0.00			444	02
500 ISL	5.62 D	5.58	34.184 D	26.965	115.1	1.023	0.56 D	8.0	81.7	3.18	41.0	0.01	0.00			504	
516	5.48	5.43	34.200	26.996	112.3	1.034	0.50	7.0	83.9	3.21	41.4	0.01	0.00			520	01

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

RV NEW HORIZON CALCOFI CRUISE 1210 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 57.2 N	117 16.8 W	20/10/2012	0020 UTC	20 m	320 06 kn	310 01 06	2	1011.2 mb	20.9 C	18.9 C		8/8	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	20.05	20.05	33.541	23.638	424.7	0.000	5.55	106.6	2.0	0.29	0.0	0.00	0.06	0.33	0.12	0	
2	20.05	20.05	33.541	23.638	424.7	0.009	5.55	106.6	2.0	0.29	0.0	0.00	0.06	0.33	0.12	2	04
5	19.75	19.75	33.538	23.713	417.6	0.021	5.57	106.4	2.0	0.29	0.0	0.00	0.05	0.36	0.12	5	03
10	18.08	18.07	33.470	24.084	382.4	0.041	5.64	104.4	3.1	0.39	0.1	0.03	0.13	0.77	0.51	10	02
15	17.60	17.59	33.461	24.194	372.2	0.060	5.67	103.9	3.3	0.41	0.1	0.03	0.18	0.83	0.38	15	01

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

RV NEW HORIZON CALCOFI CRUISE 1210 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 24.8 W	31/10/2012	1741 UTC	09 m	1143 - 1731 PST	1141 PST	1731 PST	720.3 mg C/m2	055

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	17.30	33.535	24.320	5.83	106.3	11.7	1.11	8.5	0.38	0.83	1.09	0.18	71. A	39.1	36.6	37.9	0.27
7	16.61	33.519	24.471	5.95	107.0	8.4	0.73	3.5	0.46	0.43	0.78	0.17	30.	24.9	27.8	26.4	0.29
8	16.65	33.523	24.464	6.13	110.3	1.3	0.20	0.1	0.05	0.00	1.07	0.19	26.	26.2	24.5	25.3	0.37
13	15.81	33.488	24.630	6.08	107.6	0.7	0.13	0.0	0.01	0.02	2.71	0.39	11.	36.8	36.2	36.5	0.59
26	13.29	33.407	25.104	5.25	88.2	1.5	0.20	0.0	0.02	0.00	2.12	0.49	1.2	7.8	7.5	7.6	0.23
30	12.98	33.446	25.195	4.47	74.7	2.4	0.22	0.0	0.02	0.01	0.43	0.33	0.60	0.69	0.57	0.63	0.16

RV NEW HORIZON CALCOFI CRUISE 1210 STATION 83.3 70.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE	ORD
33 14.5 N	121 27.4 W	30/10/2012	1835 UTC	26 m	1200 - 1743 PST	1149 PST	1741 PST	376.8 mg C/m2	050

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	17.26	33.546	24.339	5.58	101.7	1.7	0.33	0.0	0.01	0.10	0.30	0.10	89. A	10.1	9.6	9.8	0.14
10	17.25	33.546	24.340	5.56	101.3	1.7	0.35	0.0	0.01	0.04	0.31	0.10					
15	17.25	33.551	24.345	5.56	101.3	1.7	0.35	0.0	0.01	0.10	0.30	0.11	41.	9.5	9.1	9.3	0.16
20	17.24	33.549	24.347	5.56	101.2	1.7	0.35	0.0	0.01	0.05	0.33	0.11	31.	8.8	8.3	8.5	0.11
27	17.24	33.544	24.344	5.55	101.1	1.7	0.33	0.0	0.01	0.03	0.33	0.12					
34	17.18	33.541	24.357	5.55	101.0	1.7	0.40	0.0	0.01	0.11	0.57	0.14	13.	5.1	5.5	5.3	0.11
45	16.47	33.497	24.489	5.62	100.8	1.7	0.41	0.0	0.02	0.10	0.56	0.25					
55	12.48	33.454	25.300	4.85	80.2	8.3	1.11	9.8	0.43	0.02	0.48	0.34					
64	11.55	33.475	25.492	4.41	71.5	11.8	1.35	13.7	0.10	0.00	0.25	0.31	2.3	0.54	0.53	0.54	0.07
78	10.72	33.524	25.679	4.06	64.6	15.1	1.57	17.4	0.04	0.04	0.08	0.11	1.00	0.07	0.09	0.08	0.07

RV NEW HORIZON CALCOFI CRUISE 1210 STATION 83.3 110.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE	ORD
31 54.9 N	124 10.2 W	29/10/2012	1820 UTC	26 m	1210 - 1756 PST	1200 PST	1754 PST	107.8 mg C/m2	046

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	18.11	33.241	23.899	5.50	101.6	3.0	0.31	0.0	0.01	0.05	0.12	0.03	89. A	2.0	1.0	1.5	0.09
10	18.12	33.245	23.902	5.49	101.5	3.0	0.29	0.0	0.01	0.00	0.12	0.03					
17	18.11	33.244	23.903	5.48	101.3	3.0	0.30	0.0	0.01	0.02	0.12	0.03	37.	2.1	2.2	2.2	0.09
23	18.12	33.244	23.902	5.50	101.6	3.0	0.30	0.0	0.01	0.00	0.12	0.03	26.	2.0	2.2	2.1	0.08
40	18.11	33.241	23.902	5.47	101.2	3.0	0.30	0.0	0.01	0.00	0.13	0.03	9.4	1.3	1.4	1.3	0.07
51	18.02	33.241	23.925	5.48	101.2	3.0	0.30	0.0	0.01	0.00	0.13	0.04					
61	16.38	33.116	24.218	5.93	105.9	3.1	0.31	0.0	0.01	0.00	0.21	0.11					
70	14.98	33.120	24.534	6.06	105.3	3.2	0.32	0.0	0.01	0.00	0.23	0.15	1.6	0.54	0.57	0.55	0.06
79	14.33	33.181	24.718	5.95	102.0	3.4	0.36	0.1	0.07	0.03	0.22	0.21					
87	14.04	33.165	24.768	5.97	101.7	3.4	0.37	0.3	0.11	0.01	0.23	0.21	0.59	0.31	0.28	0.30	0.05

RV NEW HORIZON CALCOFI CRUISE 1210 STATION 86.7 45.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE	ORD
33 29.6 N	119 19.4 W	25/10/2012	1803 UTC	15 m	1130 - 1743 PST	1141 PST	1737 PST	433.3 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	17.82	33.548	24.205	5.60	103.1	2.5	0.34	0.3	0.02	0.00	0.41	0.17	81. A	15.2	15.3	15.2	0.16
10	17.83	33.548	24.204	5.63	103.6	2.5	0.33	0.3	0.02	0.00	0.42	0.14	36.	16.9	15.0	16.0	0.28
12	17.83	33.549	24.206	5.59	102.9	2.5	0.33	0.3	0.02	0.00	0.42	0.14	29.	14.3	14.6	14.4	0.35
22	17.77	33.552	24.222	5.59	102.8	2.5	0.34	0.3	0.02	0.00	0.45	0.15	11.	9.1	10.5	9.8	0.09
32	17.19	33.549	24.360	5.58	101.4	2.6	0.35	0.3	0.02	0.00	0.41	0.16					
40	13.21	33.407	25.120	5.56	93.3	6.8	0.77	6.1	0.14	0.33	0.72	0.38	1.7	2.6	2.7	2.6	0.08
49	12.41	33.395	25.268	5.09	84.0	8.7	0.97	9.5	0.22	0.00	0.39	0.31	0.66	0.64	0.62	0.63	0.06

RV NEW HORIZON CALCOFI CRUISE 1210 STATION 86.7 80.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE	ORD
32 19.1 N	121 43.2 W	28/10/2012	1659 UTC	18 m	1152 - 1753 PST	1151 PST	1745 PST	110.3 mg C/m2	042

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	16.99	33.141	24.091	5.66	102.3	2.7	0.29	0.0	0.01	0.05	0.18	0.06	77. A	3.6	4.1	3.9	0.11
10	16.99	33.132	24.086	5.66	102.2	2.7	0.28	0.0	0.01	0.03	0.19	0.06					
12	16.98	33.132	24.087	5.65	102.1	2.7	0.28	0.0	0.01	0.01	0.19	0.05	36.	5.5	3.3	4.4	0.11
16	16.98	33.132	24.088	5.66	102.4	2.7	0.27	0.0	0.01	0.00	0.19	0.05	26.	2.7	2.2	2.5	0.11
27	16.97	33.147	24.103	5.66	102.4	2.7	0.27	0.0	0.01	0.00	0.19	0.05	10.0	1.7	1.9	1.8	0.14
38	16.95	33.206	24.153	5.67	102.4	2.6	0.26	0.0	0.01	0.00	0.20	0.05					
49	16.82	33.250	24.217	5.68	102.4	2.4	0.25	0.0	0.01	0.00	0.21	0.06	1.5	0.25	0.21	0.23	0.09
60	14.83	33.156	24.592	6.16	106.6	3.3	0.30	0.0	0.01	0.03	0.33	0.18	0.60	0.14	0.11	0.12	0.12

A) INCUBATION LIGHT INTENSITIES WERE 58.1 ,37.5 ,26.0 ,10.0 ,1.5 ,0.58 PERCENT RESPECTIVELY.

RV NEW HORIZON CALCOFI CRUISE 1210 STATION 90.0 53.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE	ORD
32 39.7 N	119 29.0 W	27/10/2012	1650 UTC	27 m	1153 - 1743 PST	1142 PST	1737 PST	322.0 mg C/m2	038

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	17.41	33.548	24.304	5.55	101.5	1.3	0.32	0.1	0.01	0.02	0.17	0.04	89. A	3.7	3.9	3.8	0.11
11	17.35	33.548	24.318	5.57	101.6	1.3	0.33	0.1	0.01	0.05	0.19	0.05					
18	17.35	33.561	24.331	5.56	101.5	1.2	0.31	0.1	0.01	0.00	0.19	0.05	36.	5.1	5.4	5.2	0.08
24	17.33	33.544	24.322	5.55	101.2	1.2	0.31	0.0	0.01	0.00	0.21	0.07	26.	5.0	5.0	5.0	0.10
31	17.31	33.538	24.322	5.55	101.3	1.2	0.32	0.0	0.01	0.00	0.24	0.07					
41	14.59	33.337	24.782	5.86	101.1	2.2	0.36	0.2	0.07	0.09	0.40	0.19	9.7	5.8	5.7	5.8	0.12
53	12.86	33.170	25.006	5.80	96.4	3.8	0.51	1.9	0.43	0.06	0.39	0.27					
74	11.62	33.157	25.233	5.51	89.3	6.0	0.71	5.5	0.05	0.00	0.20	0.16	1.5	0.94	0.94	0.94	0.04
81	11.32	33.187	25.311	5.42	87.2	7.0	0.79	6.9	0.03	0.00	0.14	0.10					
91	11.01	33.298	25.453	5.07	81.2	9.3	1.04	10.9	0.03	0.00	0.08	0.07	0.57	0.17	0.20	0.18	0.07

RV NEW HORIZON CALCOFI CRUISE 1210 STATION 90.0 70.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE	ORD
32 5.2 N	120 38.7 W	24/10/2012	1936 UTC		1153 - 1755 PST	1147 PST	1745 PST	107.6 mg C/m2	023

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	17.57	33.423	24.169	5.54	101.5	1.7	0.28	0.0	0.01	0.09	0.13	0.04		2.5	1.5	2.0	0.08
10	17.57	33.423	24.170	5.56	101.9	1.7	0.28	0.1	0.01	0.11	0.14	0.03					
15	17.54	33.423	24.178	5.56	101.8	1.7	0.28	0.0	0.01	0.00	0.14	0.03		2.2	2.1	2.2	0.06
19	17.52	33.417	24.179	5.59	102.3	1.7	0.30	0.0	0.01	0.03	0.13	0.03		2.2	2.1	2.1	0.07
26	17.35	33.421	24.224	5.58	101.7	1.7	0.27	0.0	0.01	0.00	0.14	0.04					
34	17.03	33.378	24.267	5.65	102.3	1.9	0.29	0.0	0.01	0.00	0.17	0.06		1.6	1.9	1.7	0.07
44	13.76	33.205	24.853	5.95	100.9	3.1	0.37	0.5	0.16	0.05	0.40	0.14					
53	12.92	33.177	25.000	5.75	95.7	4.1	0.50	2.2	0.33	0.00	0.32	0.15					
62	12.77	33.173	25.027	5.72	95.0	4.3	0.52	2.6	0.29	0.05	0.26	0.16		0.70	0.59	0.64	0.04
78	11.50	33.187	25.279	5.52	89.2	6.2	0.70	5.5	0.07	0.05	0.15	0.12		0.15	0.14	0.15	0.04

RV NEW HORIZON CALCOFI CRUISE 1210 STATION 90.0 110.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE	ORD
30 45.3 N	123 20.0 W	23/10/2012	1713 UTC	32 m	1202 - 1757 PST	1156 PST	1757 PST	222.2 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	18.66	33.369	23.861	5.41	101.1	2.8	0.29	0.0	0.01	0.04	0.10	0.03	91. A	2.5	2.4	2.5	0.05
10	18.64	33.369	23.866	5.41	101.0	2.8	0.27	0.0	0.01	0.02	0.10	0.03					
20	18.62	33.385	23.884	5.42	101.2	2.8	0.26	0.0	0.01	0.00	0.10	0.03	38.	2.6	2.9	2.8	0.09
28	18.60	33.368	23.878	5.43	101.4	2.8	0.27	0.0	0.01	0.02	0.11	0.04	26.	3.2	3.3	3.3	0.06
37	17.56	33.349	24.120	5.65	103.4	2.6	0.28	0.0	0.01	0.03	0.16	0.06					
48	15.38	33.199	24.504	6.07	106.3	2.9	0.30	0.0	0.01	0.03	0.16	0.09	10.0	3.0	2.9	2.9	0.06
61	14.45	33.195	24.704	6.10	104.9	3.3	0.35	0.2	0.02	0.09	0.18	0.11					
74	13.40	33.185	24.912	5.89	99.0	3.8	0.44	1.1	0.27	0.35	0.18	0.11					
88	13.44	33.437D	25.100	5.67	95.5	4.2	0.45	2.1	0.22	0.00	0.14	0.11	1.5	0.75	0.74	0.75	0.02
96	12.91	33.422	25.194	5.54	92.4	4.5	0.47	2.6	0.12	0.00	0.13	0.13					
107	12.23	33.437	25.339	5.42	89.1	5.1	0.54	3.8	0.05	0.00	0.11	0.13	0.59	0.34	0.33	0.33	0.03

RV NEW HORIZON CALCOFI CRUISE 1210 STATION 93.3 40.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE	ORD
32 30.7 N	118 12.5 W	20/10/2012	1956 UTC	24 m	1238 - 1800 PST	1238 PST	1839 PST	283.5 mg C/m2	007

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	19.86	33.694	23.805	5.29	101.4	1.4	0.29	0.0	0.02	0.03	0.19	0.06	88. A	5.1	6.3	5.7	0.13
9	19.80	33.688	23.816	5.35	102.4	1.3	0.29	0.0	0.01	0.01	0.19	0.06					
15	18.83	33.640	24.028	5.41	101.6	0.9	0.27	0.0	0.01	0.04	0.18	0.05	38.	4.0	4.9	4.5	0.15
20	18.26	33.609	24.146	5.54	103.0	1.1	0.28	0.0	0.02	0.02	0.24	0.09	28.	4.9	5.2	5.1	0.12
28	14.74	33.477	24.857	5.90	102.2	2.4	0.39	1.0	0.07	0.07	0.56	0.23					
36	14.17	33.423	24.937	5.88	100.6	3.3	0.51	2.8	0.13	0.12	0.61	0.29	10.0	6.2	5.6	5.9	0.16
46	12.09	33.368	25.308	5.34	87.6	6.3	0.82	7.5	0.25	0.06	0.37	0.18					
56	11.37	33.397	25.463	4.75	76.6	11.2	1.17	12.9	0.08	0.00	0.26	0.16					
66	10.88	33.487	25.622	4.31	68.9	14.6	1.39	16.3	0.05	0.01	0.13	0.13	1.5	0.24	0.25	0.25	0.08
81	10.72	33.523	25.679	4.10	65.3	15.9	1.51	17.6	0.04	0.00	0.10	0.10	0.56	0.08	0.09	0.09	0.10

A) INCUBATION LIGHT INTENSITIES WERE 58.1 ,37.5 ,26.0 ,10.0 ,1.5 ,0.58 PERCENT RESPECTIVELY.

RV NEW HORIZON CALCOFI CRUISE 1210 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 14.7 W	21/10/2012	1922 UTC	26 m	1220 - 1757 PST	1148 PST	1749 PST	299.5 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	19.75	33.706	23.842	5.31	101.5	1.9	0.22	0.1	0.02	0.30	0.22	0.05	89. A	5.5	4.1	4.8	0.10
10	19.75	33.714	23.849	5.30	101.3	1.9	0.22	0.0	0.01	0.08	0.21	0.05					
17	19.75	33.722	23.855	5.30	101.3	1.9	0.22	0.1	0.01	0.30	0.22	0.06	37.	4.6	5.1	4.8	0.11
22	19.73	33.709	23.850	5.30	101.4	1.9	0.20	0.0	0.01	0.20	0.23	0.05	27.	3.7	4.5	4.1	0.15
31	16.27	33.563	24.584	5.68	101.6	2.2	0.21	0.0	0.01	0.27	0.35	0.14					
39	14.52	33.344	24.801	6.22	107.2	3.1	0.25	0.0	0.01	0.10	0.60	0.26	10.0	5.6	6.2	5.9	0.15
54	12.63	33.328	25.174	5.42	89.8	6.6	0.66	6.3	0.17	0.14	0.52	0.36					
71	11.48	33.470	25.502	4.33	70.1	11.9	1.09	13.3	0.08	0.03	0.21	0.21	1.5	0.72	0.55	0.63	0.06
87	10.73	33.579	25.722	3.66	58.3	16.4	1.37	17.6	0.04	0.01	0.11	0.13	0.59	0.10	0.11	0.11	0.10

RV NEW HORIZON CALCOFI CRUISE 1210 STATION 93.3 110.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE	ORD
30 10.6 N	122 55.2 W	22/10/2012	1913 UTC	40 m	1230 - 1800 PST	1156 PST	1757 PST	188.9 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	18.88	33.379	23.815	5.49	103.1	2.9	0.28	0.0	0.01	0.15	0.10	0.03	93. A	1.1	2.0	1.6	0.10
10	18.75	33.395	23.861	5.41	101.3	2.9	0.27	0.0	0.01	0.02	0.10	0.03				1.8	0.11
27	18.74	33.383	23.856	5.40	101.2	2.9	0.28	0.0	0.01	0.07	0.11	0.03	35.	2.3	2.3	2.3	0.13
35	18.73	33.372	23.848	5.42	101.4	2.9	0.28	0.0	0.01	0.05	0.12	0.03	26.	2.2	2.1	2.1	0.13
43	18.66	33.372	23.868	5.52	103.3	2.9	0.27	0.0	0.01	0.02	0.12	0.03					
52	17.98	33.370	24.034	5.55	102.4	2.6	0.29	0.0	0.01	0.03	0.19	0.06					
59	17.39	33.401	24.201	5.78	105.5	2.7	0.26	0.0	0.01	0.03	0.21	0.08	10.	2.1	2.1	2.1	0.08
75	15.49	33.330	24.584	5.97	104.9	2.9	0.28	0.0	0.01	0.03	0.21	0.13				1.5	0.07
95	13.52	33.256	24.945	5.75	97.1	4.5	0.56	2.6	0.59	0.17	0.19	0.14					
109	12.60	33.302	25.163	5.43	89.8	6.8	0.83	7.5	0.05	0.00	0.12	0.11	1.5	0.39	0.40	0.39	0.05
123	11.33	33.279	25.382	5.31	85.5	8.2	0.89	8.7	0.02	0.00	0.07	0.07					
136	10.84	33.350	25.525	5.20	83.0	8.7	0.89	9.0	0.02	0.00	0.06	0.08	0.54	0.09	0.10	0.10	0.06

A) INCUBATION LIGHT INTENSITIES WERE 58.1 ,37.5 ,26.0 ,10.0 ,1.5 ,0.58 PERCENT RESPECTIVELY.

CalCOFI Cruise 1210

MACROZOOPLANKTON BIOMASS
Net Mesh Size: 0.505mm

Line	Sta.	Latitude N	Longitude W	Date Mo/Day	Time (PST) Start	Time (PST) End	Water Volume Strained (m^3)	Max. Tow Depth (m)	Volume per 1000 m^3 Strained: Total (cm^3)	Volume per 1000 m^3 Strained: Small (cm^3)
76.7	49.0	35 05.4	120 46.7	11/04	0606	0613	146	61	440	440
76.7	51.0	35 01.4	120 55.1	11/04	0352	0410	360	175	4305	537
76.7	55.0	34 53.3	121 11.9	11/04	0016	0039	457	211	175	164
76.7	60.0	34 43.3	121 32.9	11/03	1934	1955	395	215	102	102
76.7	70.0	34 23.4	122 14.8	11/03	1215	1237	449	214	127	127
76.7	80.0	34 03.3	122 56.5	11/03	0610	0631	430	210	63	63
76.7	90.0	33 43.3	123 38.0	11/03	0001	0023	445	212	90	90
76.7	100.0	33 23.2	124 19.3	11/02	1716	1738	439	210	112	112
80.0	50.5	34 27.4	120 29.6	10/31	2303	2306	63	19	191	191
80.0	51.0	34 26.9	120 31.5	11/01	0036	0044	169	70	260	260
80.0	55.0	34 19.0	120 48.1	11/01	0411	0432	448	210	585	585
80.0	60.0	34 08.7	121 08.6	11/01	1031	1053	439	210	438	438
80.0	70.0	33 49.0	121 50.6	11/01	1648	1709	430	210	63	63
80.0	80.0	33 28.9	122 31.8	11/01	2237	2257	421	214	90	90
80.0	90.0	33 09.0	123 13.3	11/02	0452	0513	452	212	111	111
80.0	100.0	32 49.0	123 54.4	11/02	1109	1131	453	202	137	137
81.7	43.5	34 24.2	119 48.1	10/31	1539	1542	59	20	307	307
81.8	46.9	34 16.5	120 01.5	10/31	1851	1912	431	212	130	130
83.3	39.4	34 15.5	119 19.6	10/31	0848	0850	55	9	92	92
83.3	40.6	34 13.4	119 24.7	10/31	1033	1037	82	27	73	73
83.3	42.0	34 10.6	119 30.7	10/31	1251	1313	416	209	135	135
83.3	51.0	33 52.7	120 08.0	10/31	0240	0251	218	97	115	115
83.3	55.0	33 44.8	120 24.6	10/30	2312	2333	419	213	98	98
83.3	60.0	33 34.7	120 45.3	10/30	1827	1848	426	201	211	211
83.3	70.0	33 14.5	121 26.4	10/30	1204	1226	433	212	180	180
83.3	80.0	32 54.7	122 07.7	10/30	0537	0558	421	213	48	48
83.3	90.0	32 34.7	122 48.8	10/29	2347	0010	467	211	60	60
83.3	100.0	32 14.8	123 29.5	10/29	1713	1735	427	216	59	59
83.3	110.0	31 54.7	124 10.2	10/29	1123	1144	424	211	42	42
85.4	35.8	34 00.7	118 50.1	11/04	2039	2042	63	20	317	317
86.7	33.0	33 53.4	118 29.4	10/26	0143	0147	86	35	185	185
86.7	35.0	33 49.4	118 37.7	10/25	2105	2127	447	211	99	99
86.7	40.0	33 39.4	118 58.4	10/25	1637	1659	426	216	33	33
86.7	45.0	33 29.4	119 19.1	10/25	1132	1154	432	214	44	44
86.7	50.0	33 19.3	119 39.9	10/25	0630	0635	163	46	105	105
86.7	55.0	33 09.4	120 00.2	10/27	1544	1605	416	214	87	87
86.7	60.0	32 59.4	120 21.0	10/27	2009	2030	431	213	135	135
86.7	70.0	32 39.4	121 02.0	10/28	0306	0328	450	216	104	104
86.7	80.0	32 19.5	121 42.9	10/28	0748	0810	424	208	50	50
86.7	90.0	31 59.5	122 23.6	10/28	1715	1737	457	214	66	66
86.7	100.0	31 39.4	123 04.1	10/28	2310	2333	438	212	46	46
86.7	110.0	31 19.4	123 44.7	10/29	0458	0519	435	213	51	51
86.8	32.5	33 53.3	118 27.0	10/26	0006	0009	69	22	116	116
88.5	30.1	33 40.4	118 05.7	10/26	0516	0518	40	15	249	249
90.0	27.7	33 29.7	117 44.8	10/26	0749	0751	74	8	54	54
90.0	28.0	33 29.1	117 46.1	10/26	0916	0923	152	69	39	39
90.0	30.0	33 25.2	117 54.1	10/26	1216	1238	412	212	27	27
90.0	35.0	33 15.0	118 15.2	10/26	1733	1755	438	212	100	100
90.0	37.0	33 11.1	118 23.2	10/26	2029	2051	438	213	119	119
90.0	45.0	32 55.1	118 56.1	10/27	0229	0251	445	206	283	283
90.0	53.0	32 39.3	119 28.9	10/27	0657	0719	443	211	90	90
90.0	60.0	32 25.1	119 57.5	10/24	1928	1949	454	208	88	88
90.0	70.0	32 05.1	120 38.4	10/24	1303	1326	439	217	46	46
90.0	80.0	31 45.0	121 19.0	10/24	0624	0645	425	210	174	174
90.0	90.0	31 24.9	121 59.4	10/23	2347	0009	471	215	123	123
90.0	100.0	31 04.9	122 39.9	10/23	1552	1614	438	213	50	50
90.0	110	30 45.2	123 19.9	10/23	0815	0837	433	206	58	58
90.0	120.0	30 25.1	124 00.0	10/23	0305	0327	460	215	182	182
91.7	26.4	33 14.8	117 27.9	10/19	1908	1910	52	14	57	57
93.3	26.7	32 57.5	117 18.5	10/19	1511	1533	443	213	61	61
93.3	28.0	32 54.9	117 23.7	10/20	0036	0058	425	208	148	148
93.3	30.0	32 50.9	117 31.8	10/20	0440	0502	433	215	88	88
93.3	35.0	32 40.0	117 52.2	10/20	0852	0913	423	213	61	61
93.3	40.0	32 30.8	118 12.6	10/20	1311	1333	439	214	123	123
93.3	45.0	32 20.7	118 33.2	10/20	1717	1739	435	213	145	145
93.3	50.0	32 10.9	118 53.4	10/20	2208	2230	455	210	99	99
93.3	55.0	32 00.8	119 14.1	10/21	0209	0231	457	207	61	61
93.3	60.0	31 50.9	119 34.2	10/21	0605	0627	454	215	59	59
93.3	70.0	31 30.4	120 14.5	10/21	1230	1252	447	216	63	63
93.3	80.0	31 10.6	120 54.8	10/21	1827	1849	464	212	157	157
93.3	90.0	30 50.8	121 35.3	10/22	0021	0044	490	212	106	106
93.3	100.0	30 30.9	122 15.0	10/22	0601	0623	487	210	49	49
93.3	110.0	30 10.8	122 55.2	10/22	1221	1243	491	203	49	49
93.3	120.0	29 50.8	123 35.1	10/22	1959	2021	455	213	40	40
93.4	26.4	32 57.2	117 16.8	10/19	1636	1638	46	13	22	22