

data report

CalCOFI Cruise 1411
8 – 23 November 2014

CC Reference 15 - 03
12 Sept 2015

UNIVERSITY OF CALIFORNIA, SAN DIEGO
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PHYSICAL, CHEMICAL AND BIOLOGICAL DATA

CalCOFI Cruise 1411
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INTRODUCTION

The data presented in this report were collected during cruise 1411* 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 Wildlife, 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 cruise 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 this cruise. 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 515 meters, bottom depth permitting. Occasional stations have multiple bottles tripped at the same depth to provide more water for ancillary programs. Additional bottle depths also appear in combined hydrographic and primary productivity casts. 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 were 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 QuAAstro continuous flow analyzer (SEAL Analytical). Dissolved silicate, nitrate, and nitrite were analyzed using a modification of the method described by Armstrong (1967) and Gordon et al. (1992). Phosphate was measured with a modification of the Murphy and Riley (1962) protocol and ammonium is 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 and baseline corrections were performed in each run using a high standard and blank respectively inserted before and after sample sets. A sample of reference material for nutrients in seawater (RMNS), produced by KANSO technos (www.kanso.co.jp) was included in every run and those data were monitored throughout the cruise and available to adjust values for nitrate, nitrite, phosphate, and silicate if appropriate. A separate reference sample was used to monitor ammonium stability throughout the cruise. 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 10.21 μCi of ^{14}C as NaHCO_3 (200 μl of stock solution) prepared in a 0.3 g/liter solution of sodium carbonate (Fitzwater *et al.*, 1982). Samples were incubated from LAN to civil twilight in seawater-cooled incubators with neutral-density screens which simulate *in situ* light levels. At the end of the incubation, the samples were filtered onto Millipore HA filters and placed in scintillation vials. One half ml of 10% HCl was added to each sample. The sample was then allowed to sit, without a cap, at room temperature for 12 hours (after Lean and Burnison, 1979). Following this, 10 ml of scintillation cocktail were added to each sample and the samples were returned to SIO where the radioactivity was determined with a scintillation counter. Salinity, oxygen, nutrients, chlorophyll-*a* and phaeopigments were determined from all rosette productivity bottles.

Macrozooplankton Net Tows

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

Avifauna Observations (Farallon Institute of Advanced Ecosystem Research)

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

Ancillary Programs

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

- 1) *Underway Data:* Continuous near surface measurements of temperature, salinity and *in vivo* chlorophyll fluorescence were recorded from seawater pumped through the ship's uncontaminated seawater system. Water was drawn from a depth of approximately 3 meters. The data were logged in one-minute averages using a Sea-Bird Electronics, Inc., SBE 45 MicroTSG Thermosalinograph and a Wetlabs Wetstar fluorometer.
- 2) *ADCP:* Continuous profiles of ocean currents and acoustic backscatter between 20 and 500 meters deep were measured along the shiptrack from a hull-mounted 150 kHz Acoustic Doppler Current Profiler (ADCP). The ADCP raw data are collected and archived for potential data processing ashore. The National Centers for Environmental Information (NCEI) in collaboration with the E.Firing Acoustic Doppler Current Profiler (ADCP) Laboratory at the University of Hawaii have established the Joint Archive for Shipboard ADCP (JASADCP). The JASADCP is responsible for the acquisition, review, documentation, archival, and distribution of shipboard ADCP data sets, data may be accessed through their website (<http://ilikai.soest.hawaii.edu/sadcp/index.html>). Shipboard ADCP data is acquired by University of Hawaii Data Acquisition System (UDHAS) and uses Common Ocean Data Access System (CODAS) processing to incrementally build a dataset of averaged, edited ocean velocities for each ADCP and ping type specified. Processed data and plots are served on the shipboard network, and daily status summaries are emailed and available online (http://currents.soest.hawaii.edu/uhdas_fromships.html).
- 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. Measurements of particulate organic carbon and nitrogen, dissolved organic carbon and nitrogen, taxon-specific phytoplankton pigments, flow-cytometric counts of bacteria and picoautotrophs and the determination of mesozooplankton size structure using a Laser Optical Plankton Counter are sampled for all CalCOFI stations. On CalCOFI lines 90 and 80 measurements also include microscopic counts of heterotrophic and autotrophic phytoplankton for biomass and abundance and mesozooplankton community structure sampled with the Planktonic Rate Processes in Oligotrophic Ocean Systems (PRPOOS) tow net. (M. Ohman, SIO)
- 4) *Advanced Laser Fluorometer Analyzer (ALFA):* Continuous underway analysis of phytoplankton pigment groups and variable fluorescence (F_v/F_m). ALFA, 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 ALFA 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. (R. Goericke, SIO)
- 5) *Southern California Coastal Ocean Observing System (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 hydrographic observations as well as a CalBOBL net tow, particulate organic carbon and nitrogen, dissolved organic carbon and nitrogen and taxon-specific phytoplankton pigments data. (R. Goericke, SIO)
- 6) *Inorganic Carbon System:* The CalCOFI group collected samples for the characterization of the inorganic carbon system at selected locations along the cruise track with 14 profile and 8 additional surface water stations. Total inorganic carbon and alkalinity will be measured which will allow the calculation of pH and pCO₂. The objectives of these measurements are first the long-term characterization of the inorganic carbon system and its

response to changing ocean climate and second measurements of pH in the coastal zone in order to monitor the impact of ‘corrosive’ waters on benthic ecosystems in the Southern California Bight. (R. Goericke, SIO)

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

8) *Microbial Diversity and Gene Expression:* Samples suitable for purification of DNA and RNA from bacterial and microbial eukaryotic biomass are collected for molecular diversity assays targeted to various genetic marker loci (16S and 18S rRNA). DNA samples are collected at every station, in parallel with particulate organic matter (POM) samples, on Whatman GF/F filters. RNA samples are collected in parallel with primary productivity samples on 0.2 μ M sterivex filters with a maximum filtration time of 30 min. Additional samples from the mixed layer, chlorophyll max, and two depths below the euphotic zone are collected along lines 80 and 90. (A. Allen, SIO and JCVI)

9) *APEX Profiling Float:* NAVOCEANO (Naval Oceanographic Office) maintains operational ocean circulation models worldwide. Ocean conditions in the Southern California region can be extracted from the global HYCOM (Hybrid Coordinate Model) or the RNCOM-SOCAL (Regional Navy Coastal Ocean Model for the Southern California area). Output from public domain versions of the various NAVOCEANO models are available at http://www.opc.ncep.noaa.gov/newNCOM/NCOM_currents.shtml. NAVOCEANO uses real-time temperature and temperature-salinity profile data in various ways: Profiles are 1) assimilated into model nowcasts to make them more realistic, 2) used to assess ocean model forecasts, 3) stored in historical observation databases such as the Master Oceanographic Observation Data Set (MOODS), and 4) used in the construction of ocean climatologies such as the Generalized Digital Environmental Model (GDEM). Profiling float data has become a primary source of profile data because it is so well-distributed spatially around the world, provides data on a continuing basis, provides salinity as well as temperature data, and is of high quality. Profiling float trajectories are used to assess the depiction of fronts and eddies in ocean models (e.g., positioning, size, and associated current velocities). NAVOCEANO provided three APEX profiling floats for deployment on this cruise at stations 93.3 45, 90.0 53, and 86.7 45.

10) *Fukushima Cesium Radionuclides Sampled.* From surface waters, 3 meter uncontaminated underway and 20 meter CTD bottle waters were collected in 2.5 liter and 5 liter cubiccontainers. Samples were to be analyzed by both Scripps Oceanography and Woods Hole for cesium radionuclides originating from Fukushima Nuclear facility seawater discharge. Results are posted <http://ourradioactiveocean.org/results.html>. (G. Mitchell, E. Terrill, SIO; K. Buesseler, WHOI, CMER)

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 ($\text{cm}^3/1000\text{m}^3$ 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 1411

1. CalCOFI Cruise 1411 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.

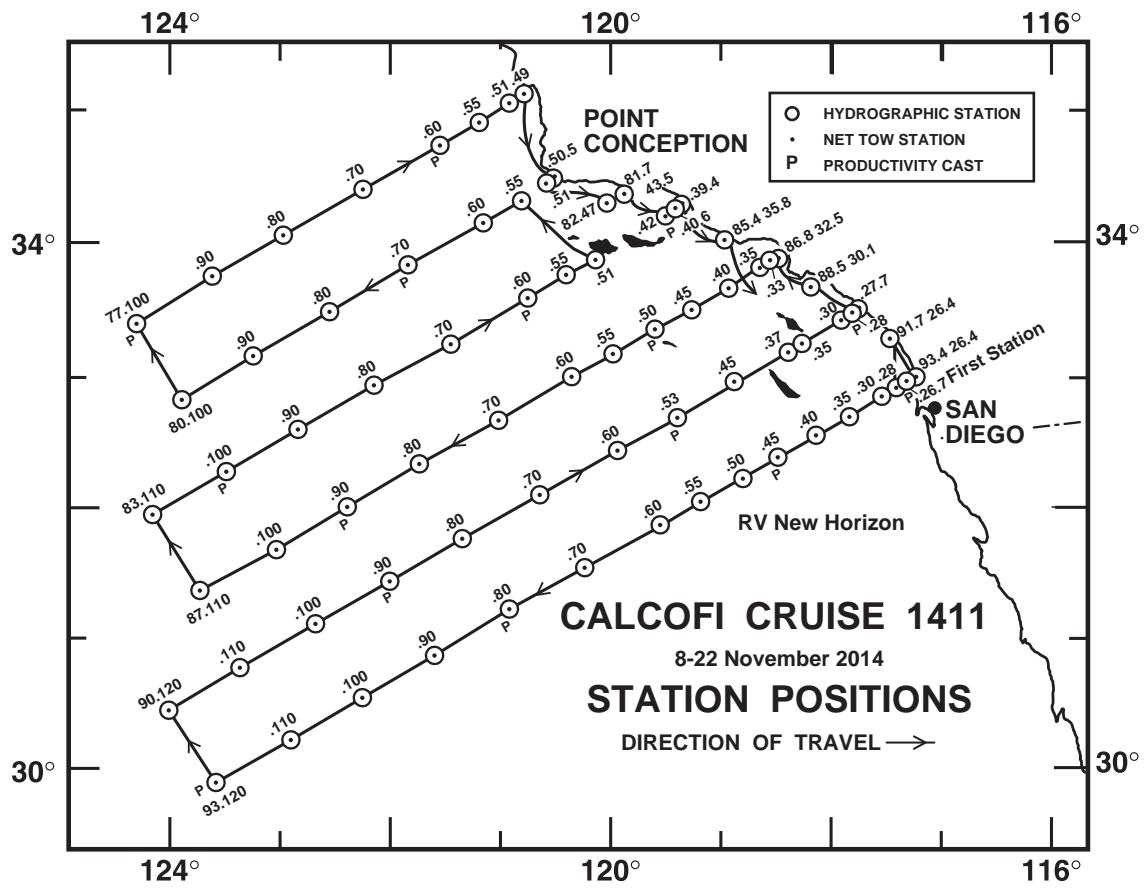


FIGURE 1

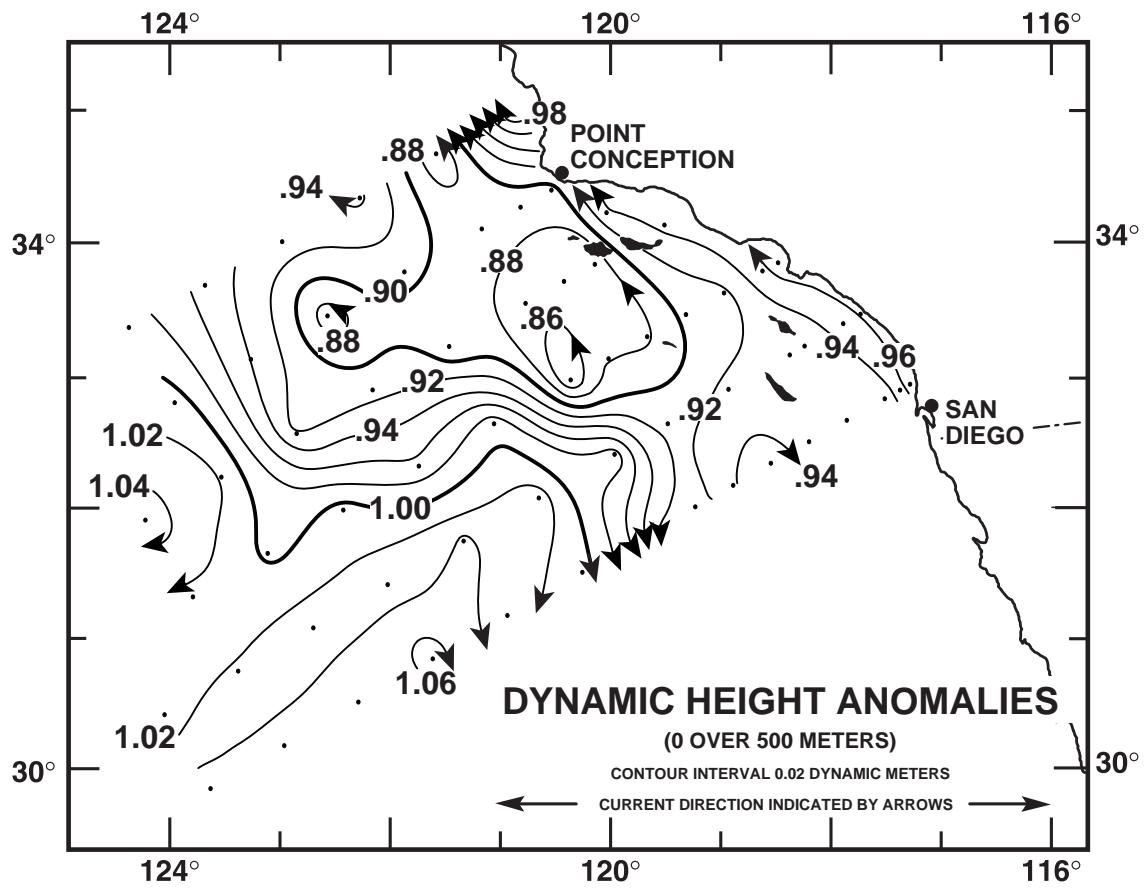


FIGURE 2

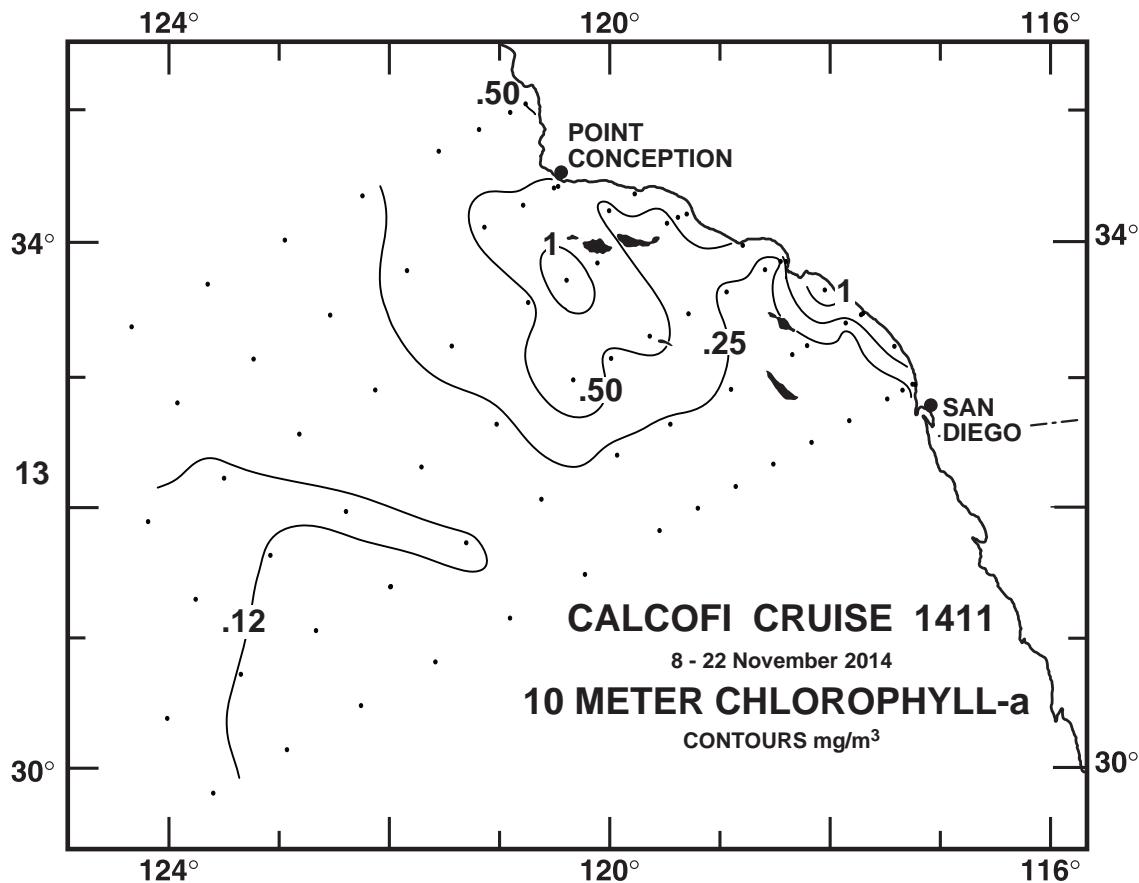


FIGURE 3A

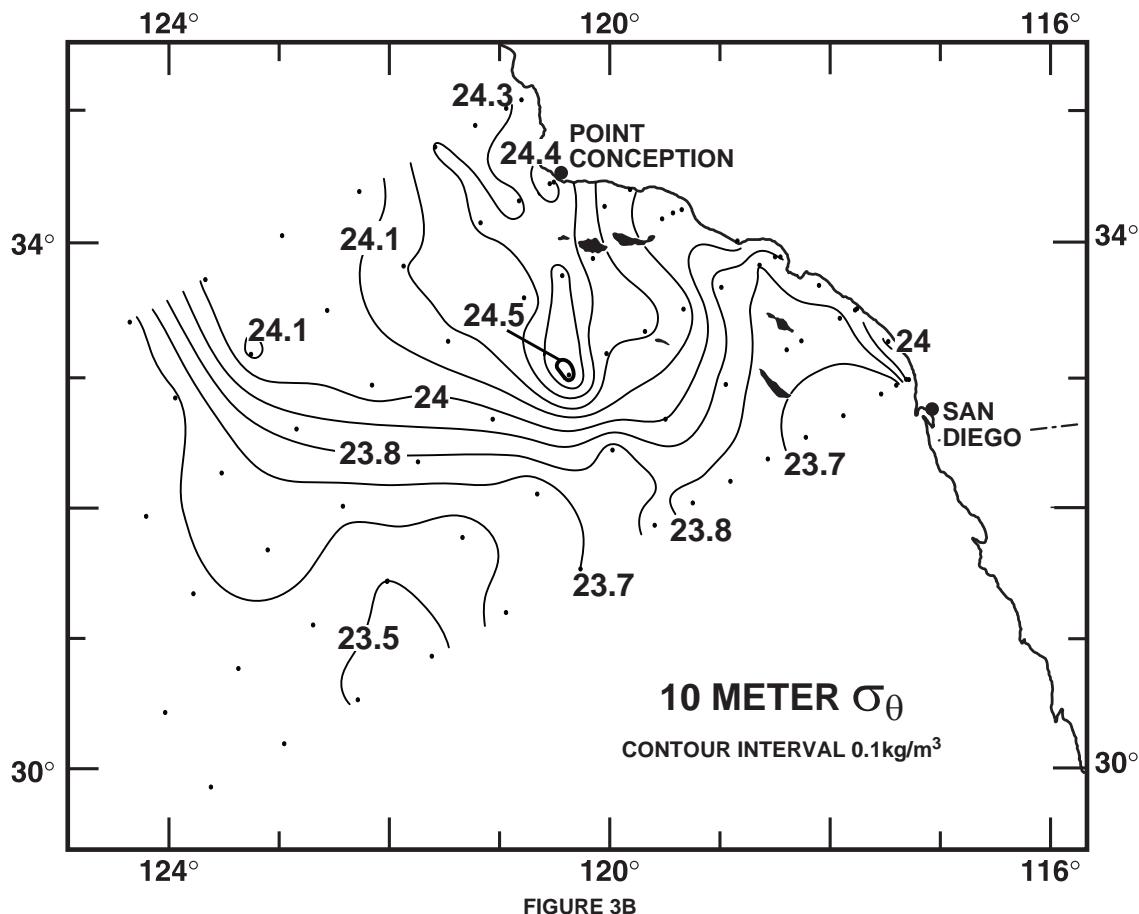


FIGURE 3B

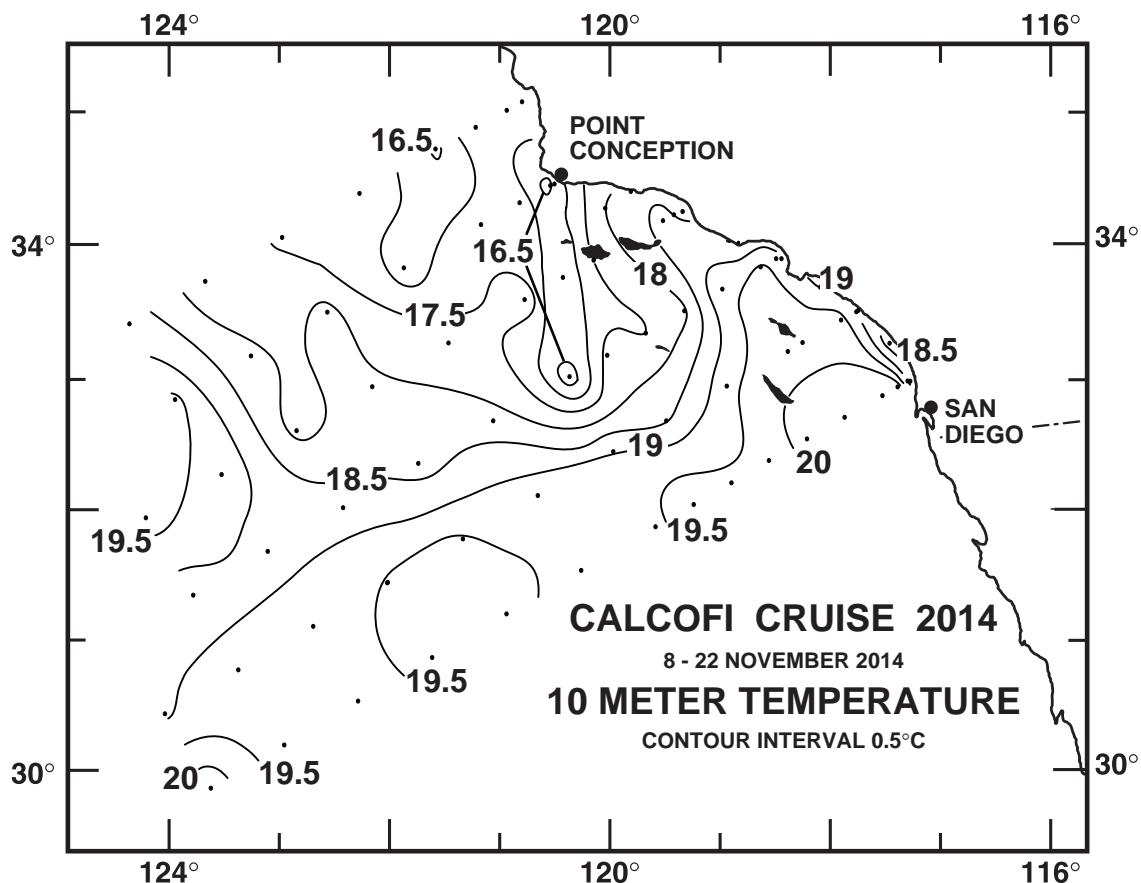


FIGURE 3C

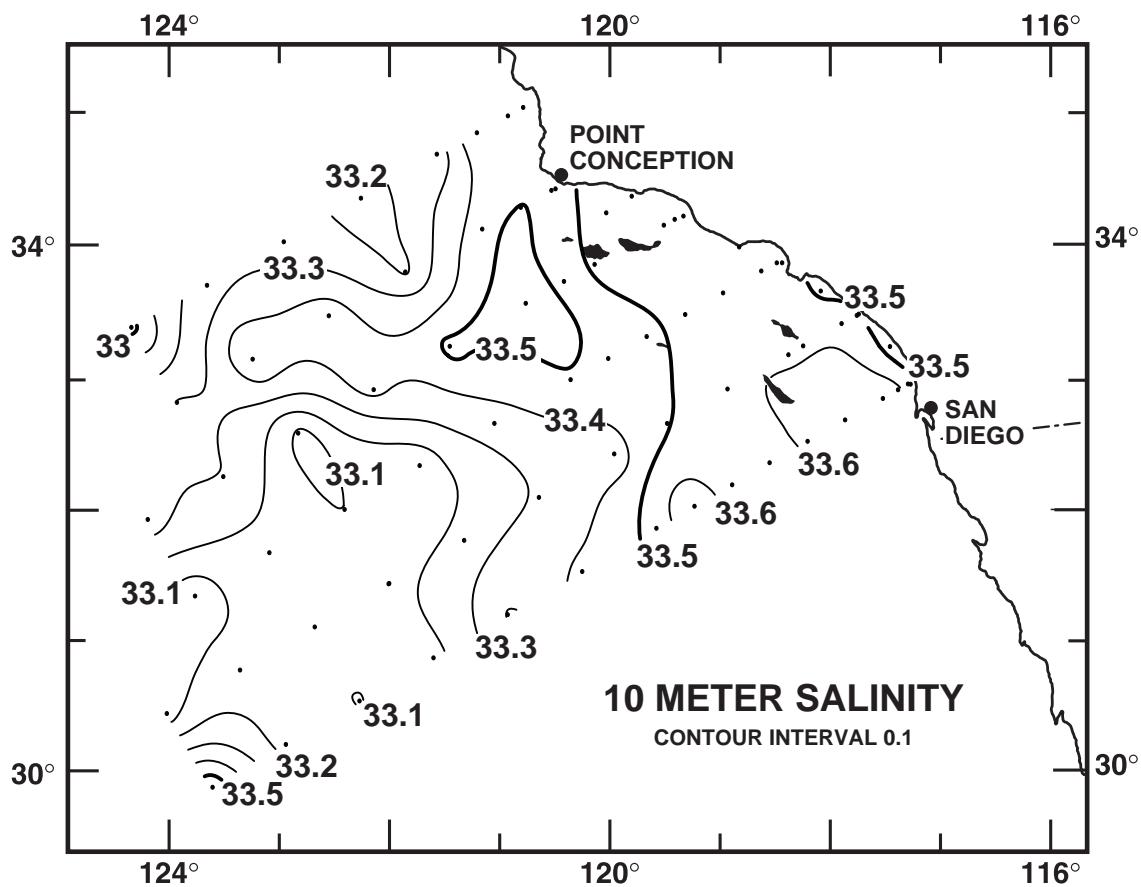


FIGURE 3D

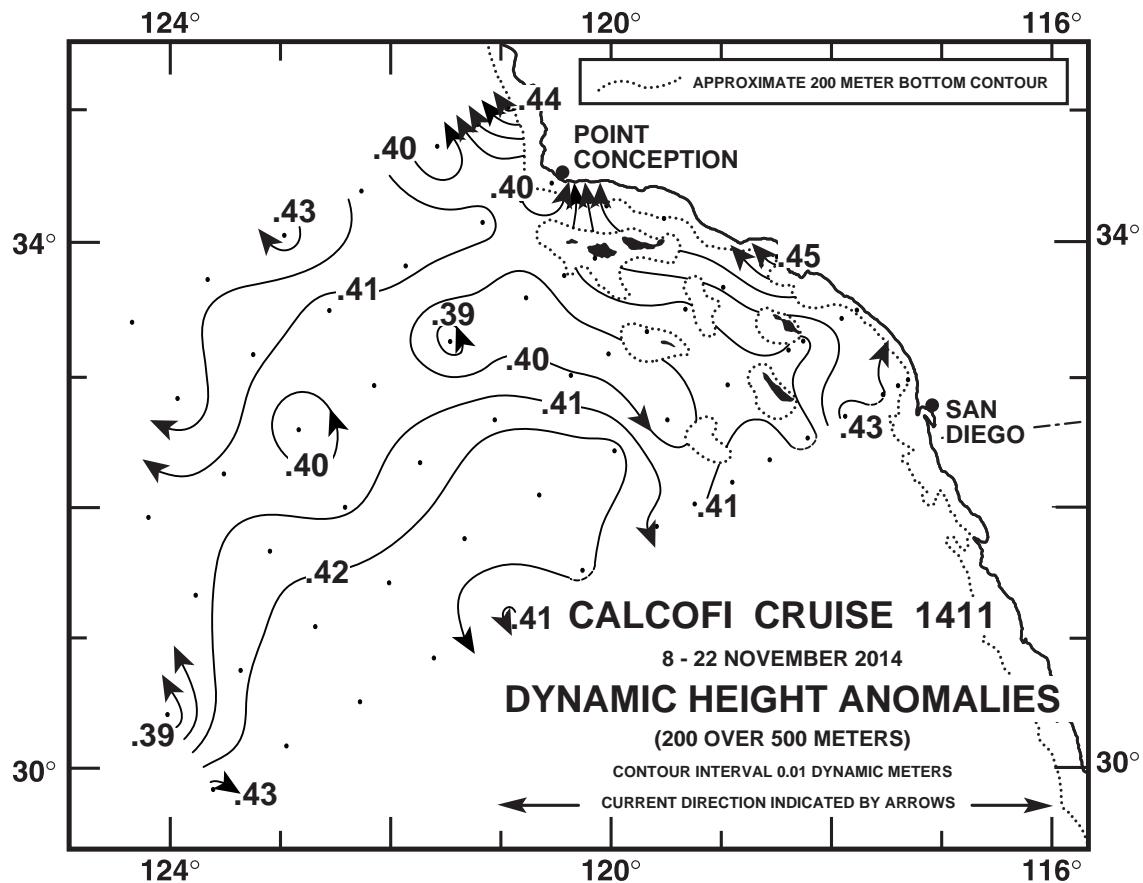


FIGURE 4A

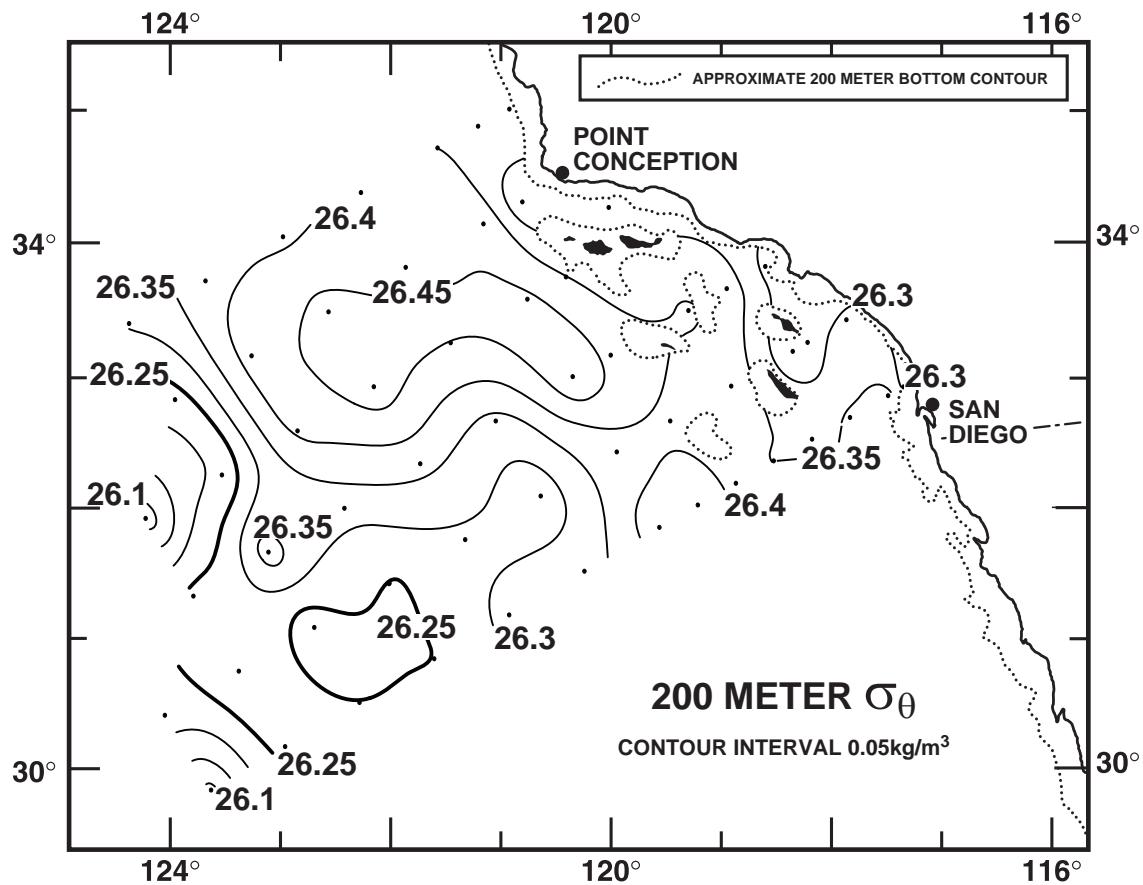


FIGURE 4B

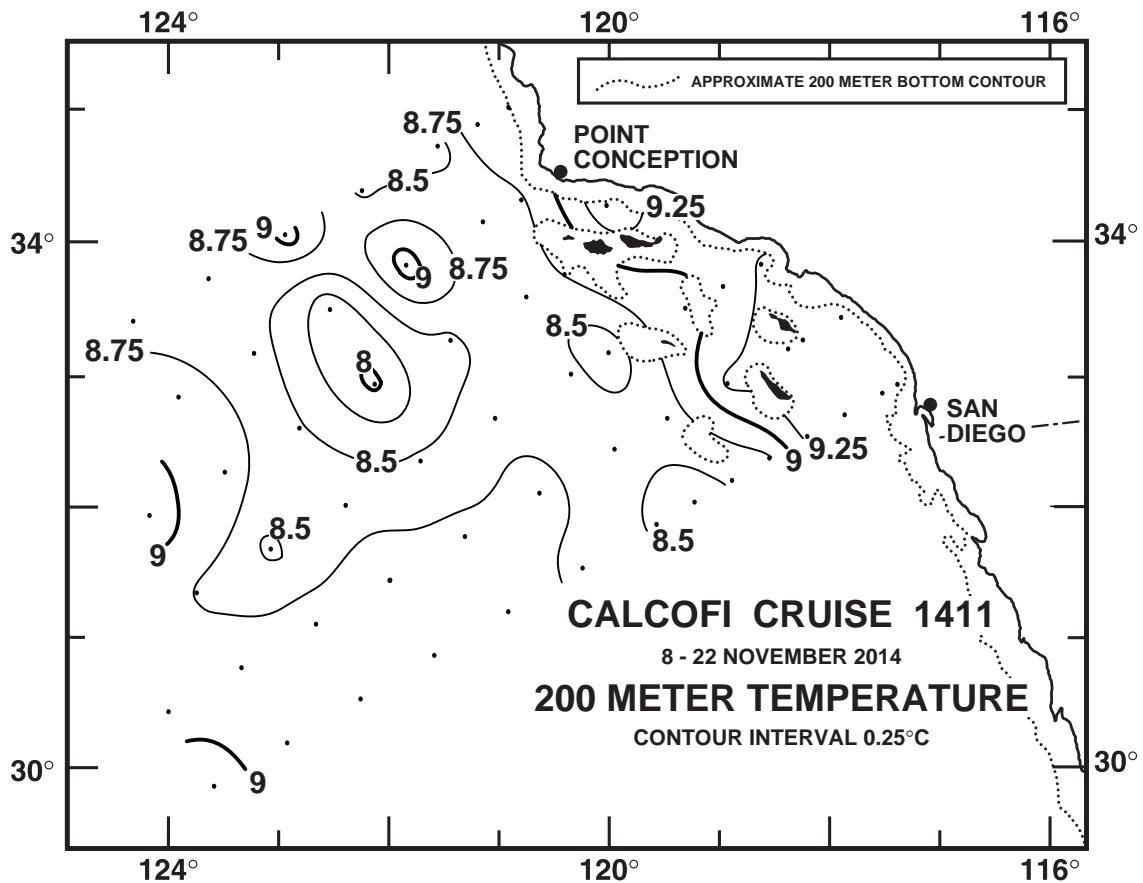


FIGURE 4C

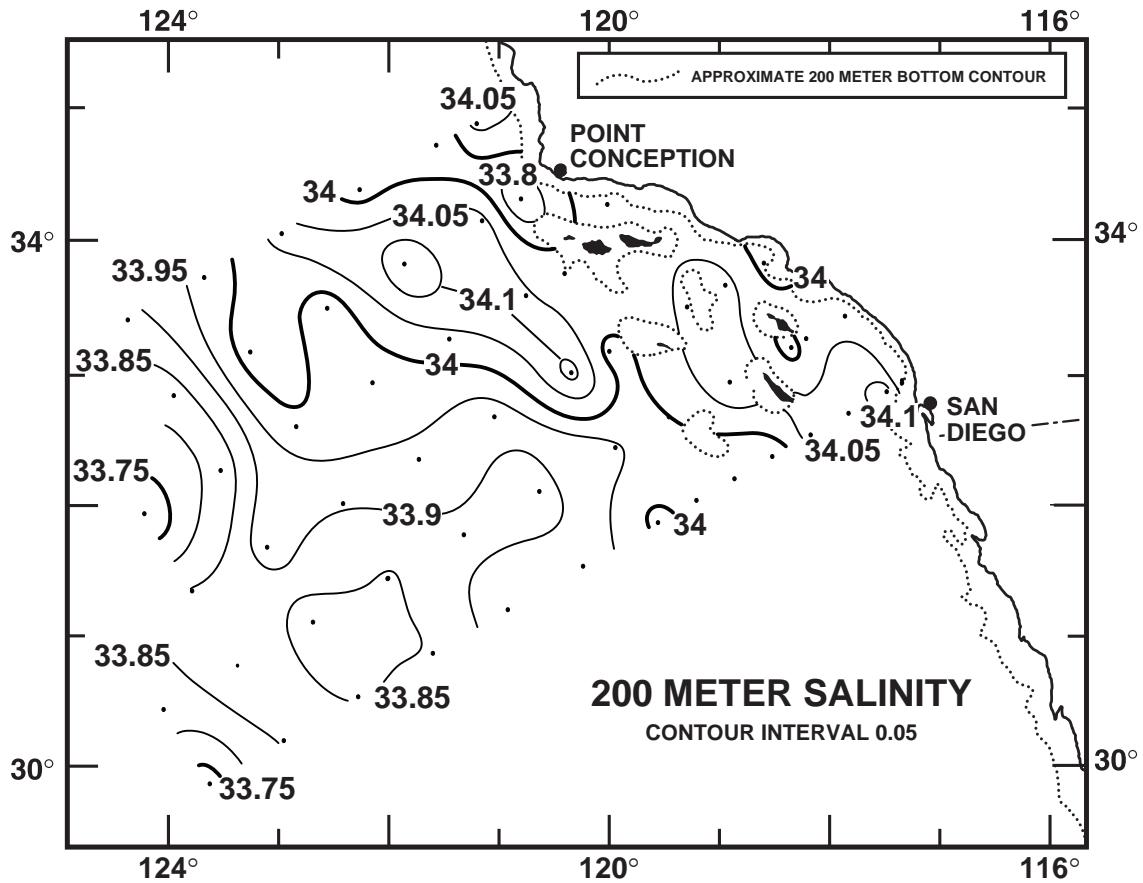
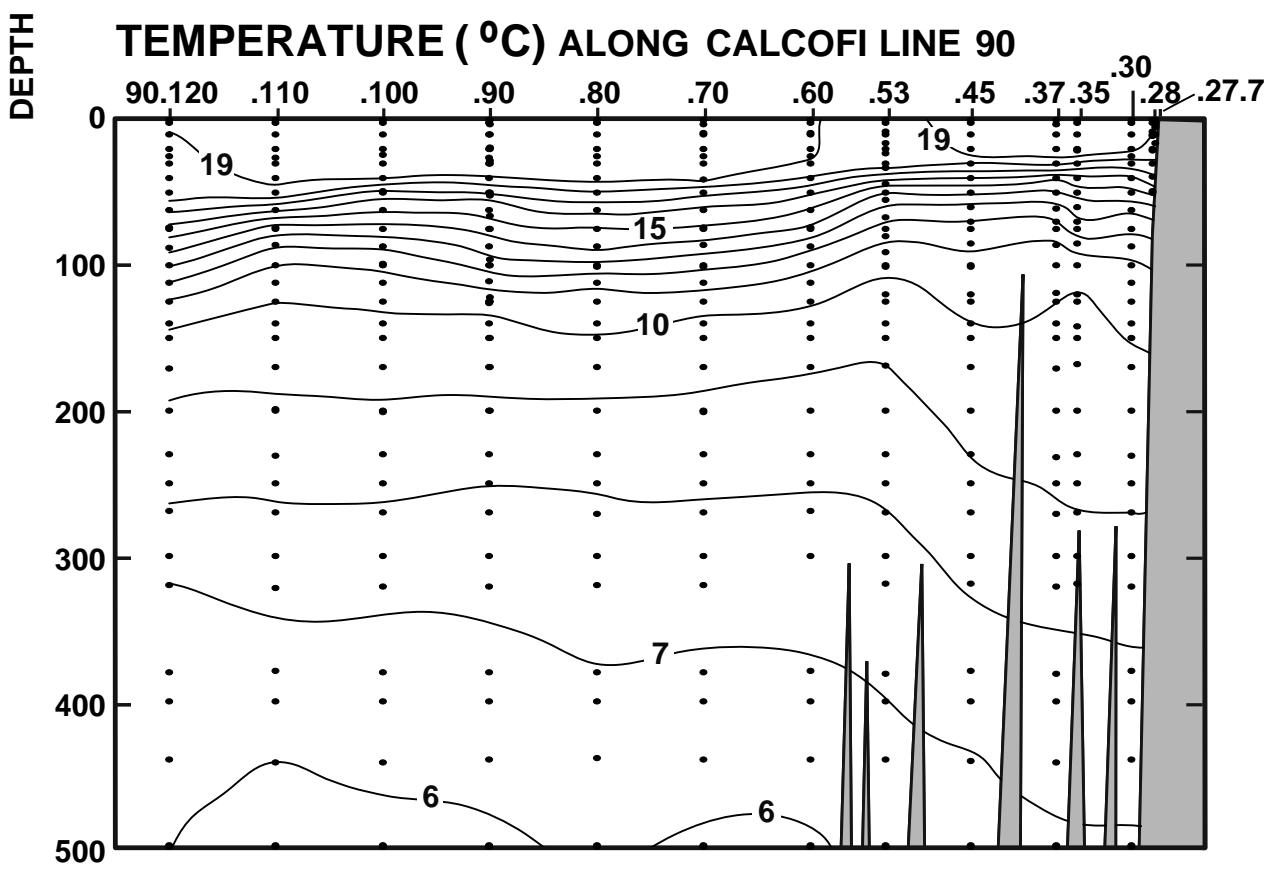
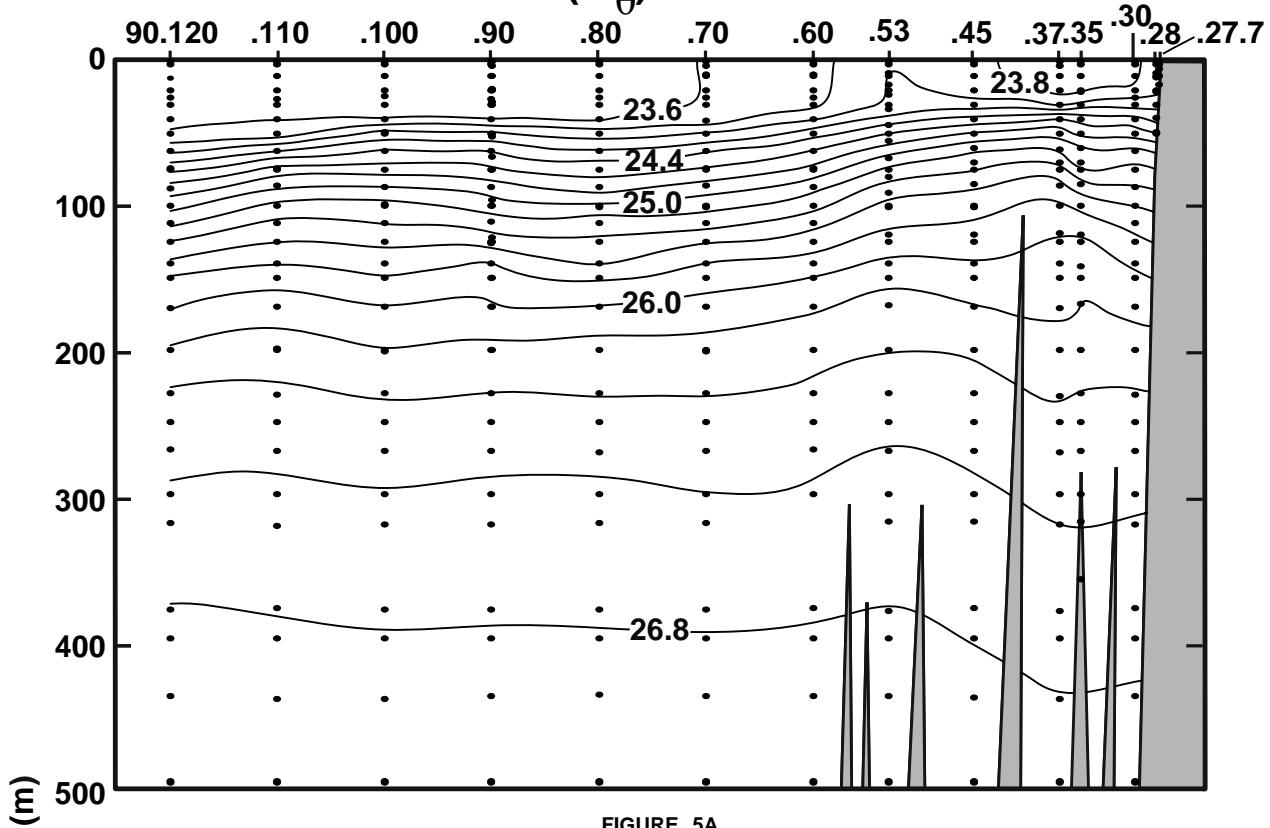


FIGURE 4D

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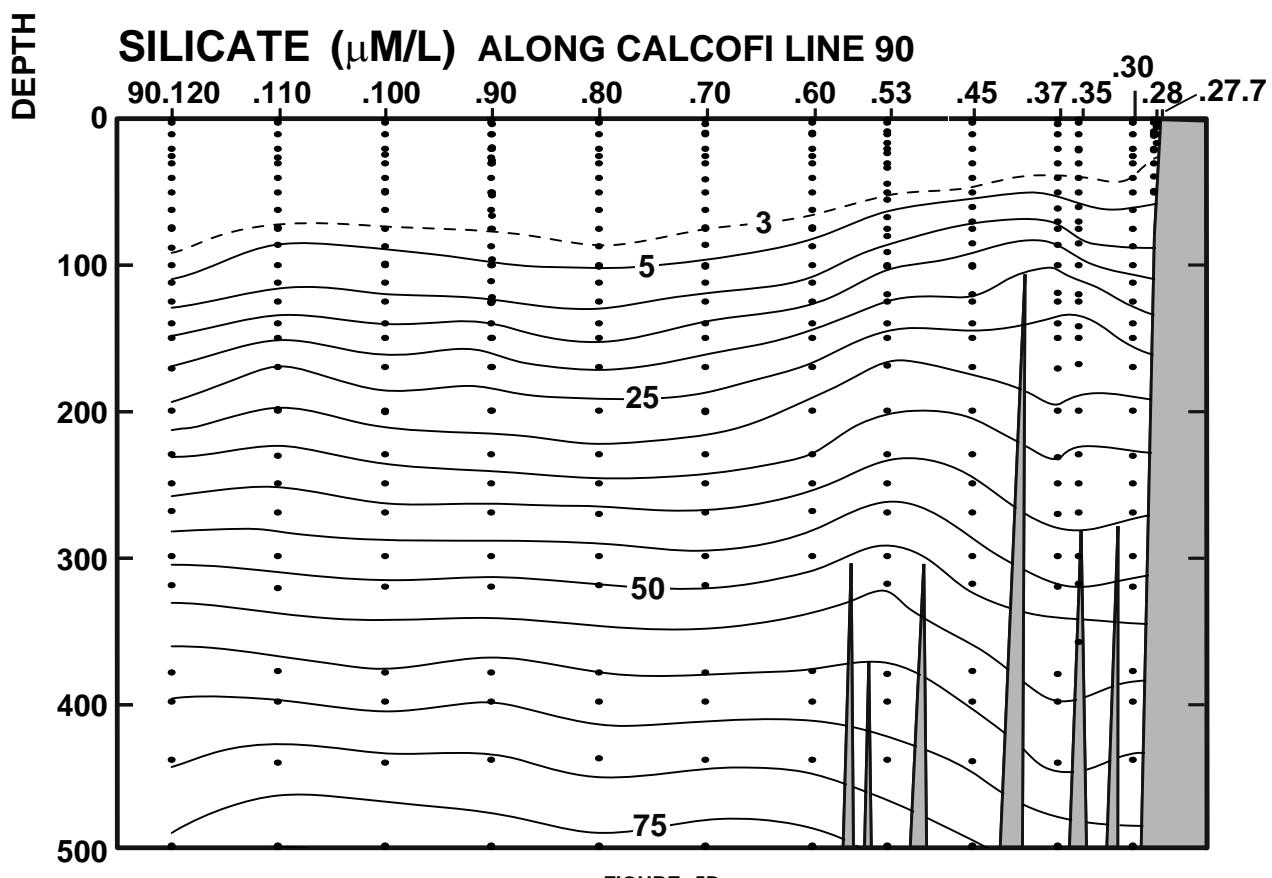
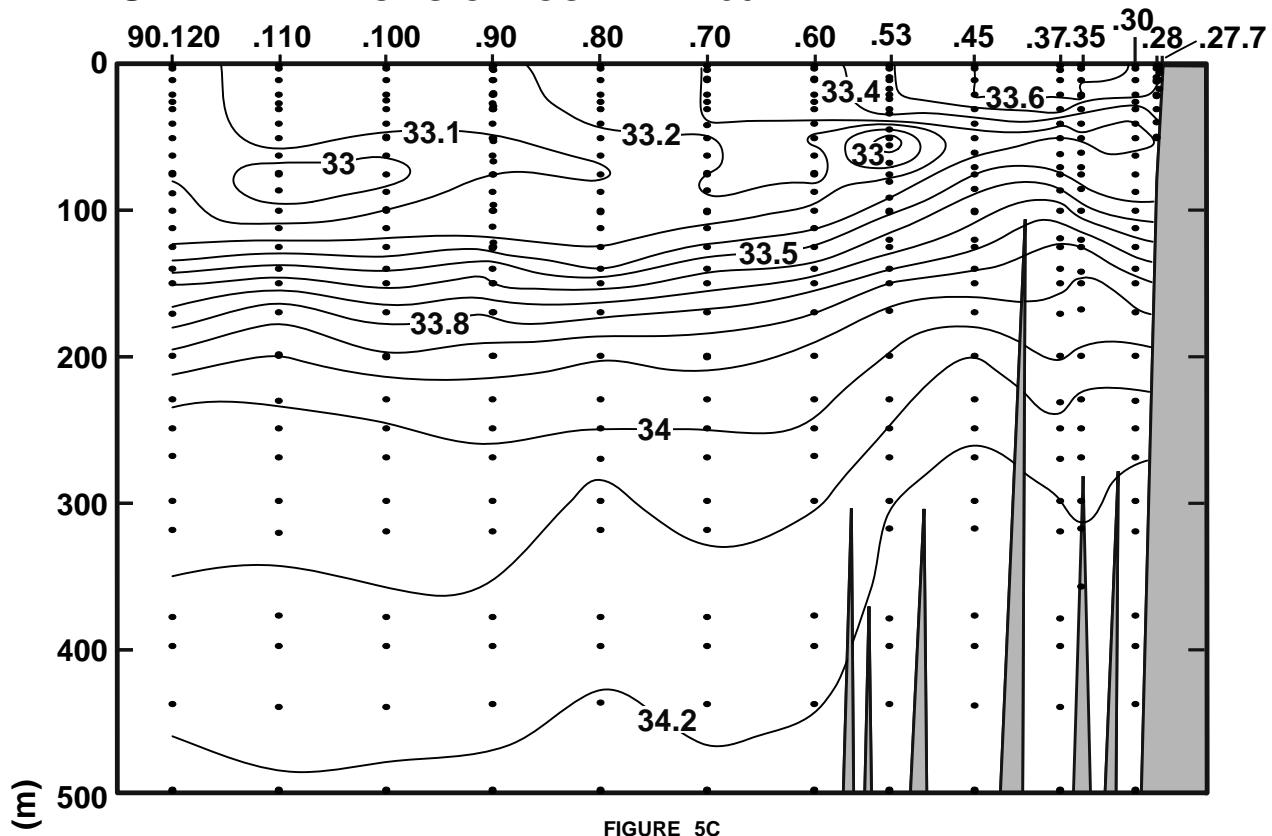
POTENTIAL DENSITY (σ_0) ALONG CALCOFI LINE 90



CALCOFI CRUISE 1411

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SALINITY ALONG CALCOFI LINE 90



CALCOFI CRUISE 1411

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

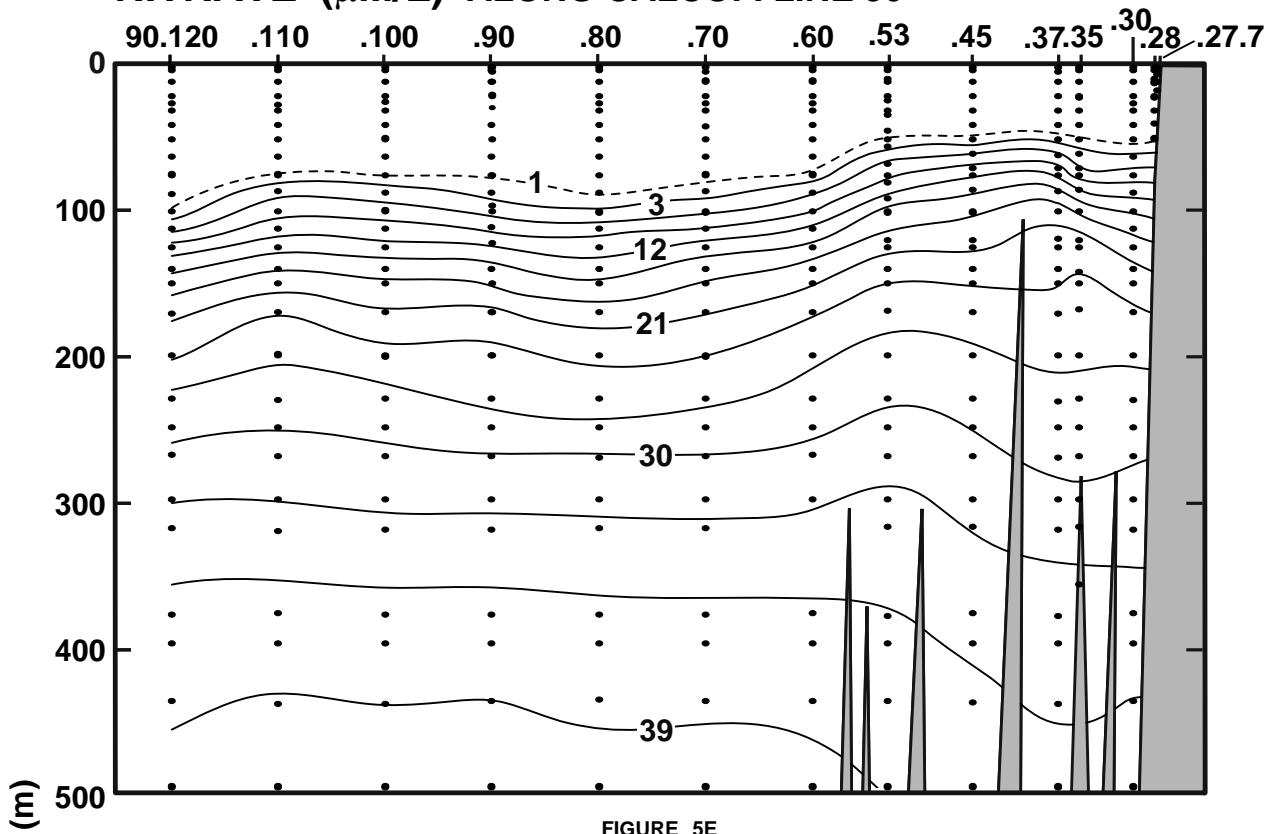


FIGURE 5E

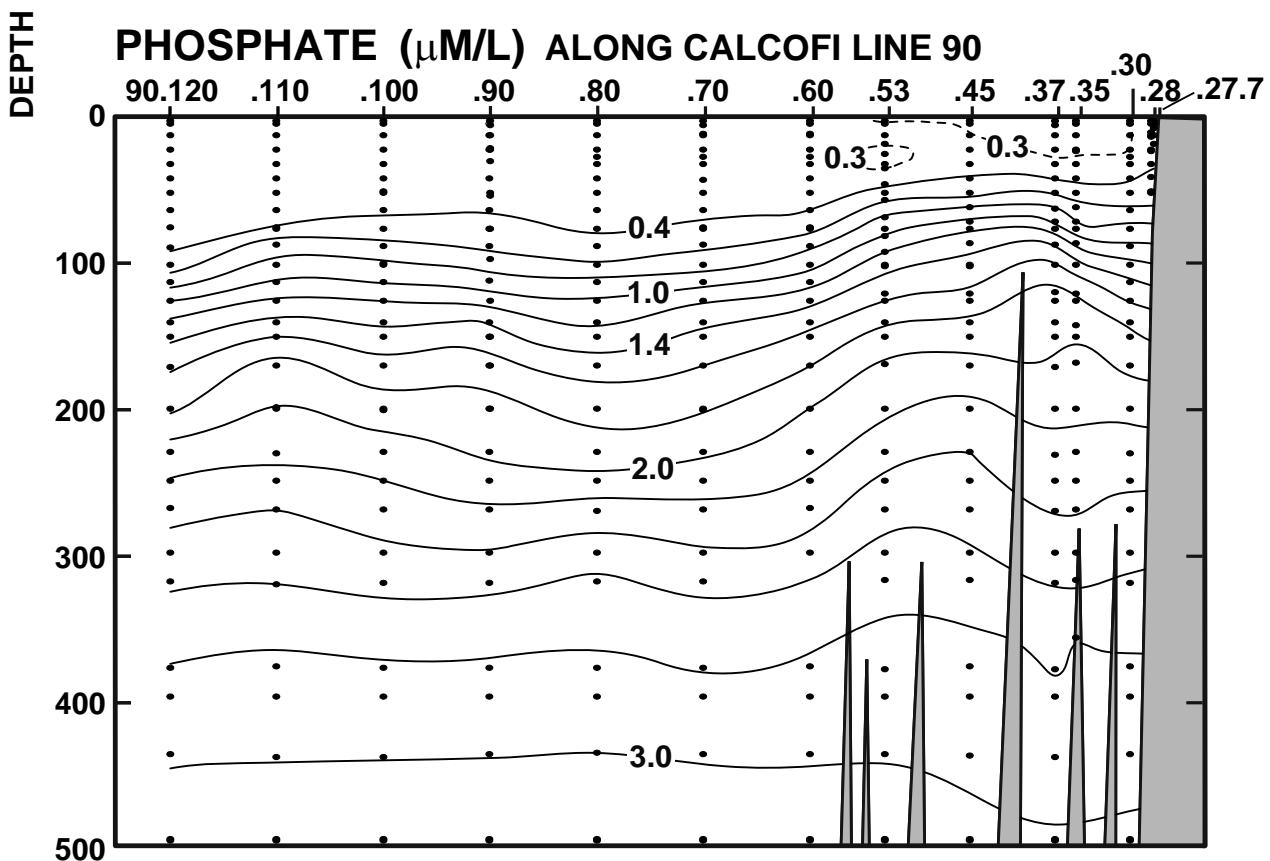


FIGURE 5F

CALCOFI CRUISE 1411

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

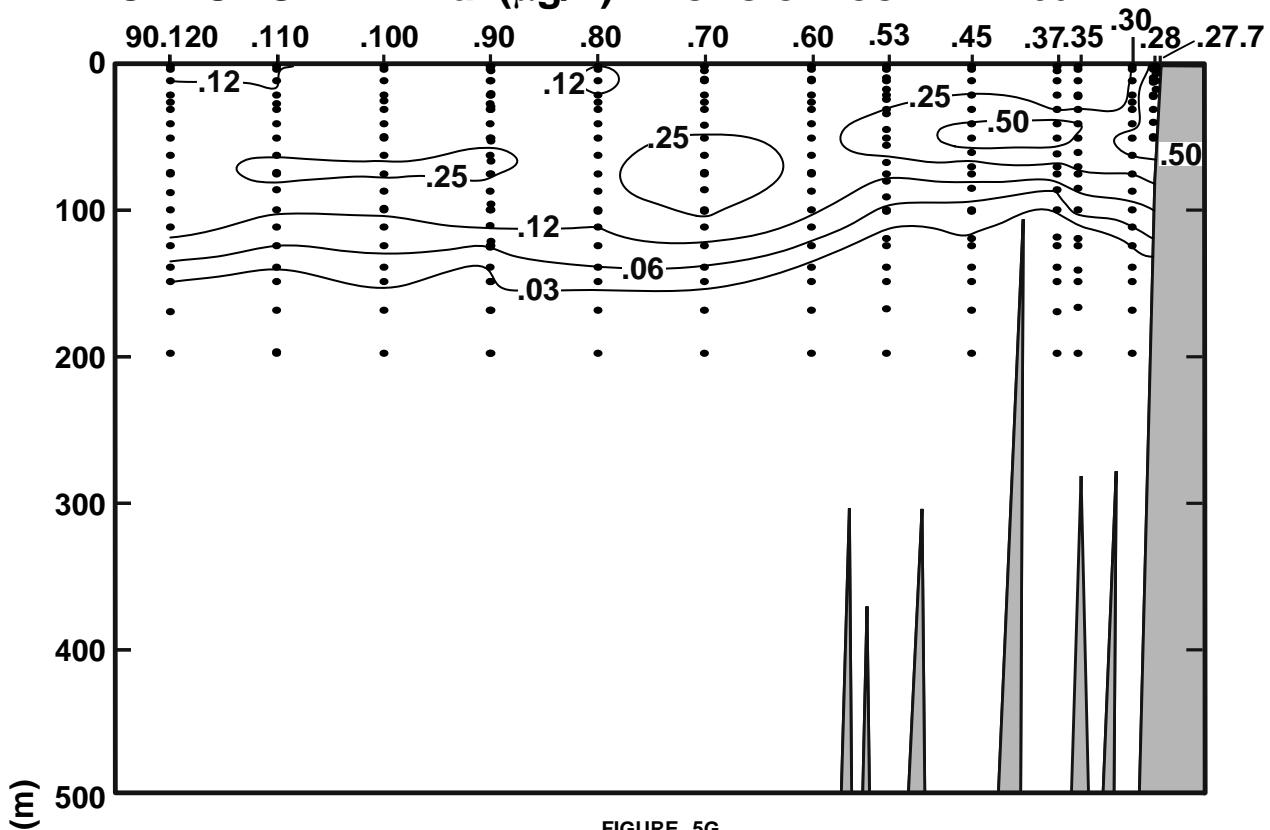


FIGURE 5G

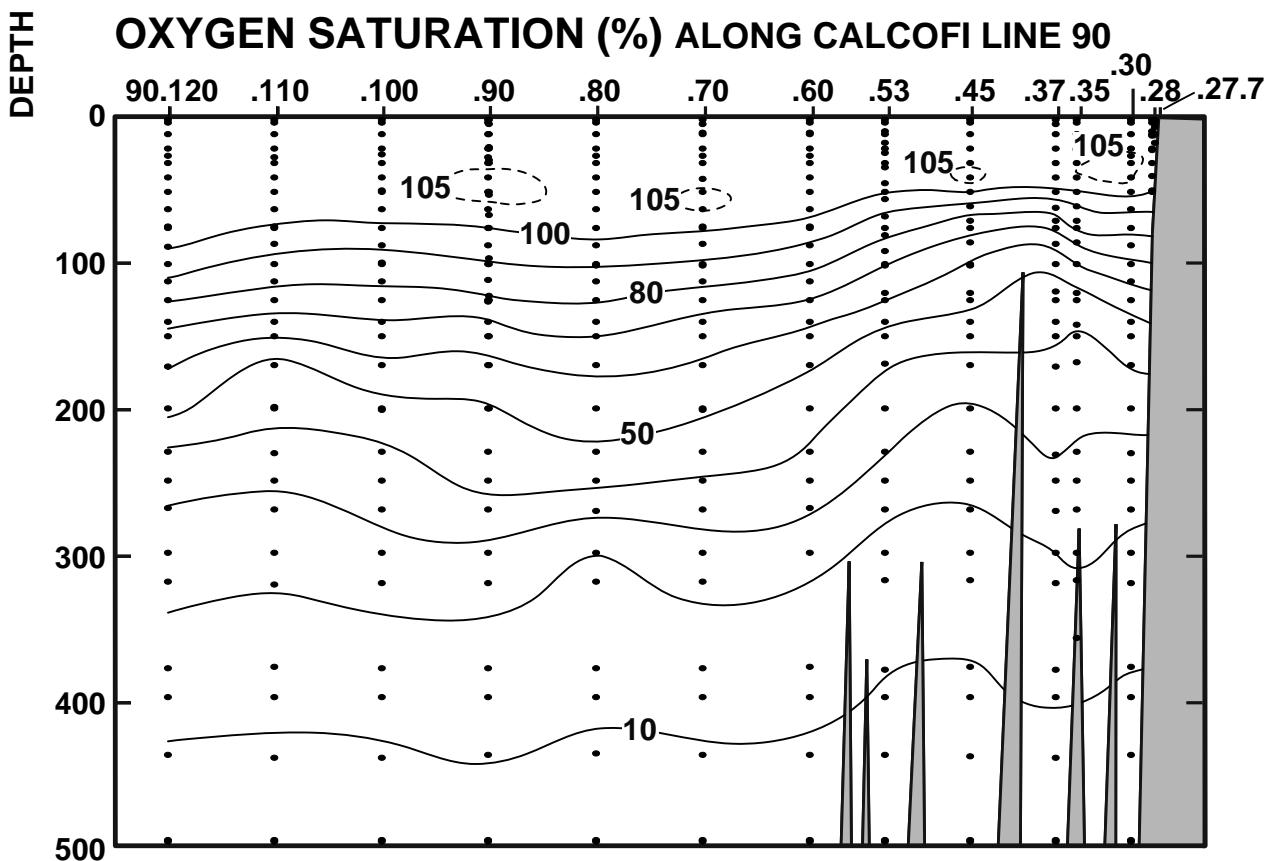
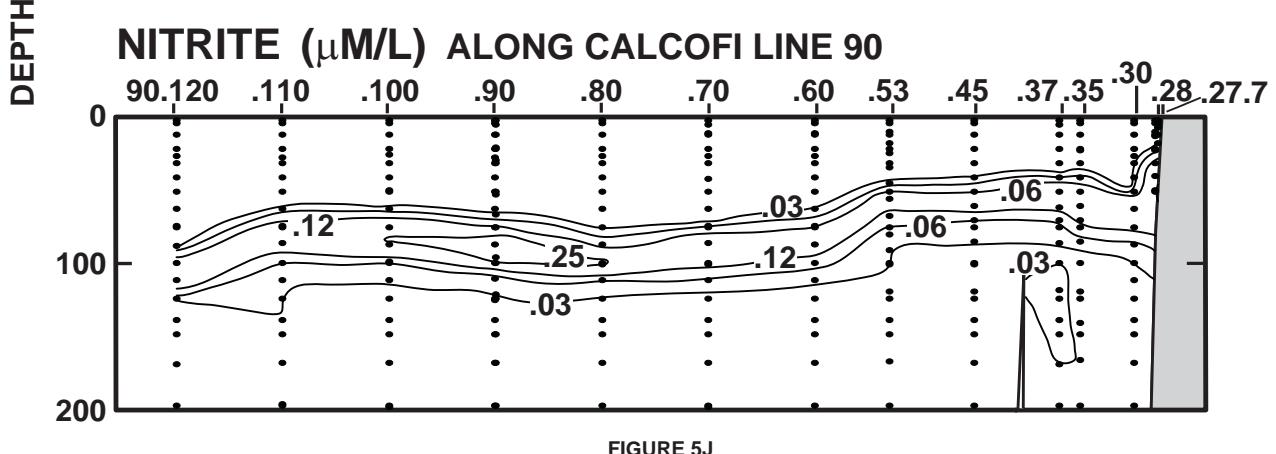
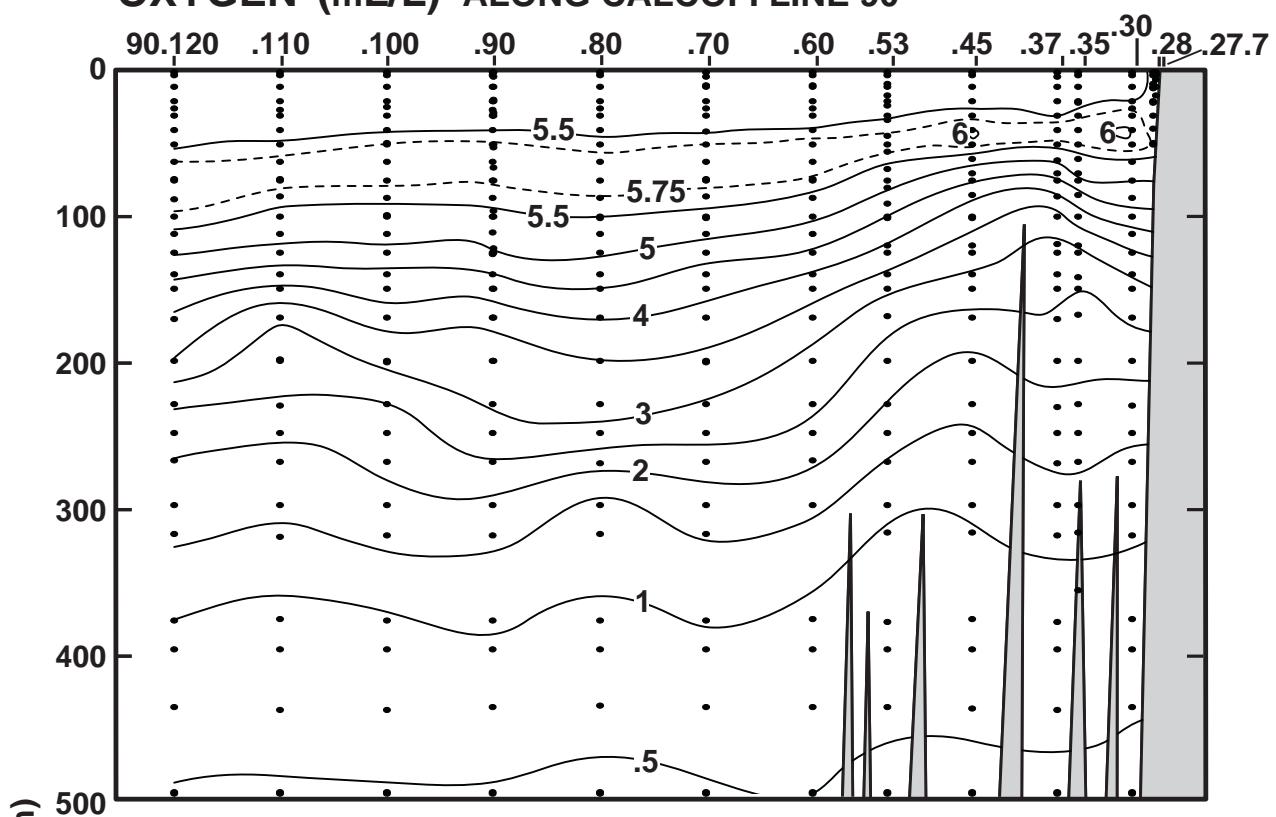


FIGURE 5H

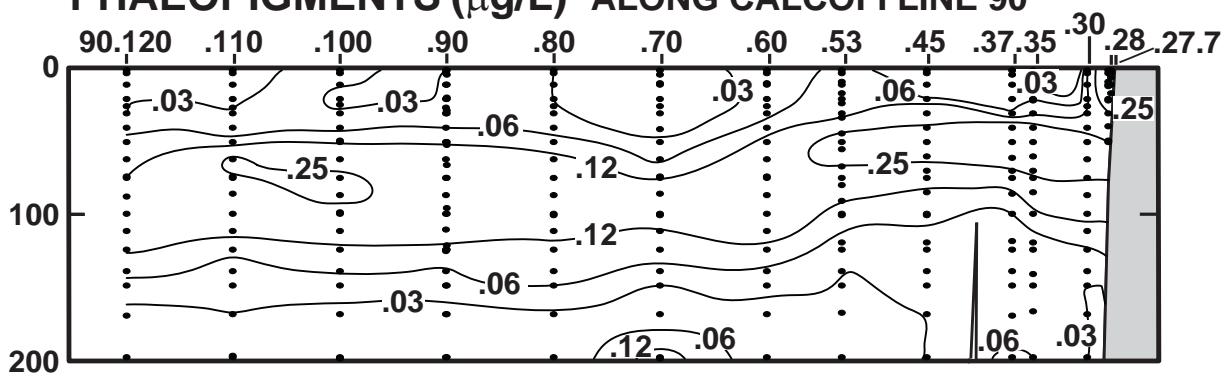
CALCOFI CRUISE 1411

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OXYGEN (mL/L) ALONG CALCOFI LINE 90



PHAEOPIGMENTS (μg/L) ALONG CALCOFI LINE 90



PERSONNEL

CalCOFI Cruise 1411

SHIP'S CAPTAIN

Ian Lawrence, RV *New Horizon*

PERSONNEL PARTICIPATING IN THE COLLECTION OF DATA

		Participating (Legs)
Wilkinson, James (Chief Scientist)	Programmer Analyst, SIO	1,2
Borowicz, Alex	Volunteer	1,2
Dovel, Shonna	Staff Research Associate, SIO	1,2
Ekern, Lindsey	Staff Research Associate, SIO	1,2
Faber, David	Staff Research Associate, SIO	1,2
Griffith, David	Fishery Biologist, NMFS	1
Guazzo, Regina	Marine Mammal Observer, MPL	1,2
Hays, Amy	Fishery Biologist, NMFS	1,2
Jiorle, Ralph	Staff Research Associate, SIO	1,2
Johnson, Tom	Bird Observer Trainee, FIAER	1,2
Manion, Sue	Fisheries Biologist, NMFS	2
Morales, Michael	Volunteer	1,2
Schlatter, Emma	Volunteer	1,2
Simonis, Anne	Acoustic Technician, SIO	1,2
Webb, Sophie	Bird Observer, FIAER	1,2
Whitaker, Katherine	Marine Mammal Observer, MPL	1,2
Wolgast, David	Staff Research Associate, SIO	1,2

Leg 1: San Diego to Dana Point, California, 8-14 November, 2014

Leg 2: Dana Point to San Diego, California, 14-22 November, 2014

RV NEW HORIZON

CALCOFI CRUISE 1411

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		
DEPTH	TEMP	POTTEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXYGEN	OXY	SI03*	P04*	N03*	N02*	NH4*	CHL-A	PHAEAO	PRES SAMP
m	DEG C	DEG C	THETA			ml/L	μmol/Kg	PCT	μM	μM	μM	μM	μM	μM	μg/L	μg/L	db
35	5.2 N	120 46.8 W	22/11/2014	0217	UTC	69 m	330	16 kn									068
0	17.07	17.07	33.475	24.330	358.6	0.000	5.62	245.7	102.0	1.9	0.40	0.3	0.05	0.12	0.51	0.21	0
3	17.07	17.06	33.475	24.330	358.7	0.011	5.62	245.7	102.0	1.9	0.40	0.3	0.05	0.12	0.51	0.21	3 09
5	17.07	17.07	33.470	24.325	359.2	0.018	5.64	246.2	102.3	1.9	0.37	0.3	0.05	0.12	0.50	0.19	5 08
10	17.07	17.07	33.471	24.326	359.4	0.036	5.65	246.8	102.5	1.8	0.38	0.2	0.05	0.12	0.51	0.19	10 06
10	17.07	17.07	33.471	24.326	359.4	0.035											10 07
19	17.04	17.04	33.470	24.333	359.0	0.068	5.65	247.0	102.5	1.9	0.38	0.3	0.05	0.05	0.50	0.19	19 05
20	ISL	17.06 D	17.05 33.468	24.327	359.6	0.056	5.61	244.6	D101.8	1.9	0.38	0.3	0.05	0.05	0.50	0.19	20
30	16.83	16.83	33.468	24.381	354.8	0.108	5.63	246.0	101.7	1.9	0.35	0.3	0.06	0.02	0.50	0.19	30 04
40	14.99	14.98	33.381	24.730	321.8	0.141	5.39	235.6	93.8	5.2	0.60	3.0	0.38	0.14	0.67	0.42	40 03
50	14.44	14.43	33.397	24.861	309.6	0.173	5.08	222.1	87.5	7.7	0.75	4.6	0.41	0.26	0.54	0.50	50 02
60	14.24	14.23	33.405	24.910	305.2	0.204	4.92	214.8	84.2	9.3	0.85	5.6	0.41	0.43	0.42	0.62	60 01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED 02;

RV NEW HORIZON

CALCOFI CRUISE 1411

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		
DEPTH	TEMP	POTTEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXYGEN	OXY	SI03*	P04*	N03*	N02*	NH4*	CHL-A	PHAEAO	PRES SAMP
m	DEG C	DEG C	THETA			ml/L	μmol/Kg	PCT	μM	μM	μM	μM	μM	μM	μg/L	μg/L	db
35	1.3 N	120 55.1 W	21/11/2014	2349	UTC	236 m	330	16 kn	310 04 06	1	1017.0 mb	17.0	C 14.7	C 14 m	2/8	CS 067	
0	17.29	17.29	33.487	24.285	362.8	0.000	5.68	248.3	103.6	0.7	0.34	0.0	0.03	0.06	0.35	0.13	0
2	17.29	17.29	33.487	24.285	362.9	0.007	5.68	248.3	103.6	0.7	0.34	0.0	0.03	0.06	0.35	0.13	2 16
10	17.29	17.29	33.486	24.285	363.2	0.036	5.67	247.4	103.2	0.7	0.32	0.0	0.04	0.13	0.36	0.13	10 14
10	17.29	17.29	33.487	24.286	363.1	0.036											10 15
19	17.04	17.04	33.478	24.339	358.5	0.069	5.73	250.3	103.9	0.7	0.34	0.0	0.03	0.07	0.46	0.18	19 13
20	ISL	16.82 D	33.453 D	24.371	355.4	0.057	5.70	248.7	D103.0	1.0	0.36	0.2	0.06	0.08	0.57	0.23	20
30	14.64	14.64	33.381	24.804	314.5	0.106	5.50	240.3	95.1	3.9	0.59	2.1	0.37	0.19	1.77	0.78	30 12
40	14.09	14.09	33.350	24.896	305.9	0.137	5.18	226.1	88.4	6.3	0.74	4.9	0.33	0.14	0.76	0.48	40 11
50	12.64	12.63	33.366	25.200	277.1	0.166	4.83	211.0	80.1	8.6	0.96	8.4	0.09	0.28	0.37	0.50	10 10
60	11.87	11.86	33.398	25.373	260.9	0.193	4.53	197.8	73.9	11.1	1.10	11.0	0.07	0.05	0.21	0.24	60 09
69	11.31	11.30	33.470	25.533	245.9	0.216	4.09	178.8	66.0	14.9	1.30	14.3	0.08	0.03	0.12	0.24	70 08
75	ISL	11.07 D	11.06 33.528 D	25.621	237.6	0.216	3.87	D168.6 D	62.1	16.0	1.37	15.3	0.07	0.06	0.11	0.21	76
85	10.96	10.95	33.551	25.658	234.4	0.254	3.71	162.2	59.5	17.8	1.48	17.0	0.05	0.11	0.09	0.17	86 07
100	10.62	10.61	33.615	25.768	224.2	0.288	3.44	150.3	54.7	20.2	1.60	18.9	0.05	0.02	0.06	0.14	101 06
124	10.35	10.34	33.670	25.859	216.1	0.341	3.20	139.9	50.6	22.2	1.70	20.4	0.05	0.06	0.06	0.14	125 05
125	ISL	10.37 D	10.35 33.683 D	25.867	215.4	0.329	3.15	D137.0 D	49.8	22.4	1.71	20.5	0.05	0.00	0.06	0.14	126
140	10.17	10.16	33.736	25.942	208.6	0.375	2.95	129.0	46.5	24.6	1.81	22.0	0.04	0.00	0.05	0.13	141 04
150	ISL	9.84 D	9.82 33.832 D	26.073	196.2	0.382	2.83	D123.3 D	44.3	26.9	1.92	23.6	0.03	0.00	0.04	0.11	151
170	9.46	9.44	33.951	26.230	181.7	0.433	2.25	98.2	34.9	31.3	2.13	26.8	0.02	0.04	0.03	0.08	171 03
200	8.88	8.86	34.057	26.406	165.5	0.485	1.80	78.5	27.6	38.1	2.33	29.4	0.03	0.02	0.03	0.09	202 02
229	8.14	8.12	34.126	26.574	149.8	0.531	1.38	60.4	20.9	47.6	2.56	32.5	0.06	0.07			231 01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED 02;

RV NEW HORIZON

CALCOFI CRUISE 1411

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		
DEPTH	TEMP	POTTEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXYGEN	OXY	SI03*	P04*	N03*	N02*	NH4*	CHL-A	PHAEAO	PRES SAMP
m	DEG C	DEG C	THETA			ml/L	μmol/Kg	PCT	μM	μM	μM	μM	μM	μM	μg/L	μg/L	db
34	53.5 N	121 11.9 W	21/11/2014	2020	UTC	567 m	010 09 kn	330 03 06	1	1018.0 mb	18.1	C 15.9	C 20 m	2/8	CS 066		
0	17.44	17.44	33.490	24.252	366.1	0.000	5.63	245.8	102.8	0.8	0.39	0.0	0.02	0.17	0.36	0.14	0
3	17.44	17.44	33.490	24.252	366.1	0.011	5.63	245.8	102.8	0.8	0.39	0.0	0.02	0.17	0.36	0.14	3 21
9	17.41	17.41	33.491	24.260	365.6	0.033	5.62	245.5	102.7	0.7	0.34	0.0	0.02	0.03	0.35	0.14	9 19
9	17.41	17.41	33.490	24.259	365.7	0.032											9 20
10	ISL	17.38 D	17.38 33.486 D	24.265	365.1	0.035	5.64	D246.0	D103.0	0.7	0.34	0.0	0.01	0.03	0.36	0.14	10
20	17.26	17.25	33.494	24.301	362.1	0.073	5.64	246.3	102.7	0.7	0.34	0.0	0.01	0.07	0.45	0.18	20 18
30	16.94	16.94	33.496	24.377	355.2	0.109	5.66	247.0	102.4	0.4	0.32	0.0	0.02	0.06	0.49	0.19	30 17
40	16.54	16.54	33.468	24.449	348.7	0.144	5.59	244.1	100.4	0.7	0.36	0.1	0.04	0.16	0.77	0.37	40 16
50	15.46	15.45	33.404	24.645	330.3	0.178	5.36	233.9	94.1	2.7	0.54	2.1	0.25	0.20	0.83	0.65	50 15
59	15.13	15.12	33.388	24.707	324.7	0.208	5.29	230.9	92.3	3.3	0.59	2.9	0.30	0.10	0.86	0.70	59 14
69	13.03	13.02	33.292	25.068	290.4	0.238	5.10	222.6	85.1	6.4	0.86	7.3	0.22	0.03	0.50	0.60	70 13
75	ISL	12.11 D	12.10 33.274 D	25.233	274.7	0.256	5.05	D219.9 D	82.7	7.8	0.97	9.0	0.16	0.05	0.38	0.49	76
85	11.60	11.59	33.330	25.371</													

RV NEW HORIZON

CALCOFI CRUISE 1411

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		
DEPTH	TEMP	POTTEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXYGEN	OXY	SI03*	P04*	N03*	N02*	NH4*	CHL-A	PHAEAO	PRES SAMP
m	DEG C	DEG C		THETA		ml/L	μmol/Kg	PCT	μM	μM	μM	μM	μM	μM	μg/L	μg/L	db
34	43.6 N	121 33.6 W	21/11/2014	1719	UTC	905 m	350 09 kn	310 05 07	1	1018.0 mb	17.0 C	15.2 C	17 m	1/8	CU	065	
0	16.35	16.35	33.237	24.312	360.3	0.000	5.70	249.0	101.8	1.4	0.31	0.0	0.01	0.06	0.39	0.12	0
2 A	16.35	16.35	33.237	24.313	360.3	0.007	5.70	249.0	101.8	1.4	0.31	0.0	0.01	0.06	0.39	0.12	2 22
9 A	16.36	16.35	33.238	24.313	360.5	0.032	5.72	250.0	102.3	1.4	0.32	0.0	0.02	0.08	0.40	0.12	9 20
9	16.36	16.35	33.238	24.313	360.5	0.031											9 21
10 ISL	16.36 D	16.35	33.237 D	24.312	360.6	0.035	5.71	D249.0	D102.0	1.4	0.32	0.0	0.02	0.08	0.40	0.12	10
14 A	16.34	16.34	33.239	24.318	360.2	0.050	5.71	249.3	101.9	1.4	0.34	0.0	0.02	0.09	0.39	0.12	14 19
20 ISL	16.37 D	16.37	33.293 D	24.353	357.1	0.071	5.70	D248.5	D101.9	1.2	0.35	0.0	0.02	0.10	0.53	0.19	20
25 A	15.83	15.82	33.319	24.497	343.6	0.089	5.77	252.0	102.1	1.0	0.35	0.0	0.02	0.11	0.64	0.24	25 18
30 ISL	13.65 D	13.65	32.987 D	24.705	323.7	0.105	5.75	D250.4	D97.1	3.0	0.55	2.5	0.20	0.11	0.53	0.29	30
36	12.10	12.10	32.912	24.951	300.4	0.125	5.72	249.9	93.5	5.5	0.79	5.4	0.42	0.11	0.40	0.35	36 16
36	12.10	12.10	32.912	24.951	300.4	0.126											36 17
47 A	11.33	11.33	32.920	25.100	286.5	0.157	5.51	240.7	88.6	7.1	0.96	8.4	0.22	0.10	0.23	0.31	47 15
50 ISL	11.25 D	11.24	32.927 D	25.119	284.7	0.149	5.45	D237.4	D87.4	7.6	1.00	9.1	0.18	0.14	0.21	0.28	50
59 A	10.66	10.65	32.987	25.271	270.4	0.191	5.30	231.7	84.1	9.2	1.12	11.2	0.05	0.27	0.15	0.19	59 14
69	10.77	10.76	33.183	25.404	258.0	0.217	4.86	212.3	77.3	10.9	1.25	13.0	0.03	0.29	0.10	0.14	70 13
75 ISL	10.62 D	10.61	33.376 D	25.583	241.2	0.215	4.30	D187.2	D68.2	12.7	1.33	14.5	0.03	0.20	0.08	0.12	76
85	10.49	10.48	33.443	25.657	234.3	0.256	4.00	174.7	63.3	15.7	1.47	17.0	0.02	0.05	0.04	0.08	86 12
100	10.02	10.01	33.574	25.839	217.3	0.290	3.60	157.3	56.5	19.7	1.67	20.6	0.02	0.26	0.02	0.07	101 11
120	9.32	9.30	33.700	26.054	197.2	0.331	3.35	146.2	51.8	23.9	1.79	23.2	0.02	0.09	0.01	0.05	121 10
125 ISL	9.27 D	9.25	33.728 D	26.084	194.4	0.325	3.35	D145.8	D51.7	24.9	1.83	23.7	0.02	0.12	0.01	0.05	126
139	9.03	9.02	33.814	26.189	184.8	0.368	3.07	133.9	47.1	27.8	1.94	24.9	0.02	0.21	0.00	0.04	140 09
150 ISL	8.90 D	8.89	33.852 D	26.240	180.1	0.372	3.03	D131.7	D46.4	28.9	1.96	25.4	0.02	0.19	0.00	0.04	151
170	8.65	8.63	33.901	26.319	172.9	0.423	2.87	125.1	43.7	30.8	2.00	26.3	0.02	0.14	0.00	0.03	171 08
200	8.38	8.36	33.951	26.400	165.8	0.474	2.82	122.9	42.7	33.9	2.06	27.7	0.02	0.28	0.00	0.03	202 07
230	8.05	8.02	34.025	26.508	156.0	0.522	2.19	95.4	32.9	40.6	2.30	30.6	0.01	0.17			232 06
250 ISL	7.82 D	7.79	34.049 D	26.561	151.2	0.538	1.90	D82.4	D28.4	44.3	2.41	31.9	0.01	0.16			252
271	7.55	7.52	34.071	26.618	146.1	0.584	1.62	70.8	24.2	48.2	2.53	33.3	0.01	0.14			273 05
300 ISL	7.01 D	6.98	34.089 D	26.707	137.8	0.611	1.36	D59.2	D20.0	54.7	2.68	35.3	0.01	0.09			302
320	6.88	6.85	34.111	26.744	134.5	0.652	1.07	46.8	15.7	59.2	2.79	36.7	0.01	0.06			323 04
380	6.37	6.34	34.159	26.850	125.1	0.730	0.69	30.2	10.0	68.7	2.99	38.8	0.01	0.11			383 03
400 ISL	6.23 D	6.19	34.164 D	26.872	123.1	0.742	0.64	D28.0	D9.3	70.7	3.03	38.9	0.01	0.12			403
441	6.14	6.10	34.207	26.919	119.3	0.805	0.48	20.8	6.9	74.8	3.10	39.1	0.01	0.13			445 02
500 ISL	5.66 D	5.62	34.234 D	27.001	111.9	0.861	0.36	D15.7	D5.2	82.5	3.20	41.1	0.01	0.11			504
516	5.62	5.57	34.249	27.017	110.5	0.891	0.33	14.3	4.7	84.6	3.23	41.7	0.01	0.11			520 01

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

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

RV NEW HORIZON

CALCOFI CRUISE 1411

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		
DEPTH	TEMP	POTTEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXYGEN	OXY	SI03*	P04*	N03*	N02*	NH4*	CHL-A	PHAEAO	PRES SAMP
m	DEG C	DEG C		THETA		ml/L	μmol/Kg	PCT	μM	μM	μM	μM	μM	μM	μg/L	μg/L	db
34	23.3 N	122 14.7 W	21/11/2014	1007	UTC	4017 m	340 13 kn										064
0	17.32	17.32	33.144	24.015	388.6	0.000	5.56	242.3	101.1	1.3	0.33	0.0	0.01	0.22	0.05	0	
2	17.32	17.32	33.144	24.015	388.7	0.008	5.56	242.3	101.1	1.3	0.33	0.0	0.01	0.22	0.05	2 20	
10	17.33	17.33	33.143	24.013	389.2	0.039	5.54	241.7	100.9	1.3	0.34	0.0	0.01	0.19	0.05	10 19	
19	17.33	17.33	33.143	24.013	389.5	0.074	5.55	241.9	100.9	1.3	0.34	0.0	0.02	0.10	0.21	0.05	19 18
20 ISL	17.33 D	17.33	33.141 D	24.012	389.7	0.078	5.53	D241.4	D100.7	1.3	0.34	0.0	0.02	0.10	0.21	0.05	20
30	17.26	17.25	33.144	24.032	388.1	0.117	5.56	242.3	101.0	1.3	0.34	0.0	0.02	0.14	0.22	0.06	30 17
40	16.27	16.26	33.177	24.288	364.0	0.154	5.73	249.8	102.2	1.2	0.34	0.0	0.03	0.06	0.48	0.15	40 16
50	14.48	14.47	33.073	24.602	334.3	0.189	5.92	258.2	101.8	1.5	0.38	0.2	0.05	0.17	0.69	0.29	50 15
60	13.53	13.52	33.178	24.879	308.1	0.221	5.47	238.1	92.2	4.4	0.73	5.0	0.21	0.08	0.43	0.39	60 14
70	12.76	12.75	33.233	25.077	289.5	0.251	5.19	226.0	86.1	5.9	0.88	7.7	0.10	0.07	0.31	0.29	71 13
75 ISL	12.13 D	12.12	33.267 D	25.222	275.7	0.268	5.02	D218.6	D82.3	7.0	0.96	9.0	0.08	0.05	0.26	0.25	76
85	11.20	11.19	33.222	25.360	262.7	0.292	4.91	214.0	78.9	9.2	1.11	11.7	0.05	0.02	0.17	0.18	86 12
99	10.71	10.70	33.384	25.573	242.7	0.328	4.29	186.9	68.3	13.3	1.36	15.5	0.04	0.01	0.10	0.12	100 11
100 ISL	10.67 D	10.66	33.394 D	25.588	241.3	0.333	4.27	D186.1	D67.9	13.6	1.37	15.6	0.04	0.01	0.09	0.11	101
120	9.23	9.21	33.418	25.848	216.7	0.376	4.25	185.2	65.5	18.8	1.57	19.5	0.03	0.03	0.01	0.04	121 10
125 ISL	9.09 D	9.07	33.526 D	25.955	206.6	0.390	4.27	D185.8	D65.6	19.9	1.61	20.3	0.03	0.00	0.01	0.04	126
140	8.97	8.95	33.628	26.055	197.5	0.417	3.72	162.1	57.1	23.4	1.73	22.6	0.03	0.00	0.00	0.04	141 09
150 ISL	8.93 D	8.91	33.697 D	26.115	191.9	0.440	3.65	D159.0	D56.0	24.9	1.79	23.4	0.03	0.00	0.00	0.03	151

RV NEW HORIZON

CALCOFI CRUISE 1411

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 3.1 N	122 56.5 W	21/11/2014	0408	UTC	4229 m	300 18 kn			1016.0 mb	17.5 C	15.3 C					063	
0	17.37	17.37	33.216	24.059	384.5	0.000	5.58	243.9	101.7	1.2	0.43	0.0	0.00	0.19	0.20	0.04	0
2	17.37	17.37	33.216	24.059	384.5	0.008	5.58	243.9	101.7	1.2	0.43	0.0	0.00	0.19	0.20	0.04	2 20
10	17.37	17.37	33.220	24.062	384.5	0.039	5.57	243.3	101.5	1.2	0.32	0.0	0.00	0.09	0.20	0.05	10 19
20	17.38	17.37	33.215	24.059	385.2	0.077	5.55	242.5	101.2	1.2	0.34	0.0	0.00	0.11	0.20	0.04	20 18
29	17.19	17.19	33.205	24.095	382.1	0.112	5.60	244.7	101.7	1.2	0.33	0.0	0.01	0.20	0.27	0.07	29 17
30	ISL 17.14 D	17.13	33.201	D 24.105	381.1	0.116	5.58	D 243.4	D 101.3	1.2	0.34	0.0	0.01	0.20	0.29	0.08	30
40	16.22	16.22	33.205	24.321	360.9	0.152	5.78	252.7	103.1	1.3	0.39	0.0	0.01	0.21	0.48	0.16	40 16
50	ISL 13.70 D	13.69	33.156	D 24.828	312.7	0.187	5.80	252.9	98.2	3.0	0.62	2.5	0.19	0.39	0.75	0.40	50
51	13.60	13.59	33.149	24.843	311.3	0.189	5.81	253.7	98.1	3.2	0.64	2.8	0.21	0.41	0.77	0.43	51 15
60	11.62	11.61	33.162	25.237	273.8	0.216	5.14	224.6	83.3	7.6	1.04	10.0	0.06	0.25	0.38	0.28	60 14
69	10.71	10.71	33.235	25.455	253.2	0.239	4.75	207.7	75.5	11.2	1.25	13.7	0.02	0.11	0.16	0.15	70 13
75	ISL 10.58 D	10.57	33.421	D 25.623	237.4	0.256	4.09	D 178.1	D 64.9	13.6	1.38	15.6	0.02	0.11	0.12	0.12	76
85	10.39	10.38	33.530	25.742	226.2	0.277	3.70	161.5	58.5	17.6	1.59	18.9	0.02	0.10	0.05	0.07	86 12
100	ISL 10.22 D	10.21	33.649	D 25.865	214.9	0.312	3.20	D 139.2	D 50.4	20.7	1.73	21.1	0.02	0.03	0.05	0.08	101
101	10.22	10.21	33.649	25.864	215.0	0.312	3.19	139.3	50.3	21.0	1.74	21.2	0.02	0.02	0.05	0.08	102 11
120	9.83	9.82	33.797	26.045	198.2	0.352	2.76	120.4	43.1	25.3	1.94	24.1	0.02	0.11	0.01	0.05	121 10
125	ISL 9.77 D	9.75	33.820	D 26.075	195.5	0.364	2.73	D 118.7	D 42.6	26.1	1.97	24.5	0.02	0.11	0.01	0.05	126
140	9.57	9.55	33.900	26.171	186.7	0.390	2.46	107.5	38.3	28.3	2.04	25.7	0.02	0.12	0.00	0.05	141 09
150	ISL 9.48 D	9.47	33.929	D 26.207	183.4	0.411	2.42	D 105.1	D 37.5	29.5	2.09	26.1	0.02	0.10	0.00	0.04	151
170	9.30	9.28	34.008	26.299	175.1	0.445	2.13	93.2	33.0	31.9	2.18	27.0	0.01	0.07	0.00	0.04	171 08
200	9.07	9.05	34.076	26.390	167.1	0.496	1.89	82.5	29.1	35.2	2.30	28.5	0.01	0.23	0.00	0.04	202 07
229	8.85	8.83	34.117	26.458	161.2	0.543	1.66	72.6	25.5	38.1	2.37	29.4	0.02	0.09	0.23	0.06	231 06
250	ISL 8.79 D	8.77	34.140	D 26.486	158.9	0.581	1.59	D 69.3	D 24.4	40.2	2.44	30.2	0.02	0.10		252	
271	8.55	8.52	34.157	26.538	154.3	0.610	1.39	60.6	21.1	42.2	2.50	31.1	0.02	0.11		273 05	
300	ISL 8.38 D	8.35	34.188	D 26.589	150.0	0.659	1.24	D 53.9	D 18.8	45.2	2.59	32.0	0.02	0.16		302	
321	8.19	8.15	34.202	26.630	146.4	0.685	1.04	45.3	15.7	47.4	2.66	32.7	0.02	0.19		324 04	
379	7.69	7.65	34.235	26.730	137.6	0.768	0.72	31.3	10.7	54.6	2.82	34.7	0.02	0.01		382 03	
400	ISL 7.53 D	7.49	34.239	D 26.756	135.4	0.802	0.71	D 31.0	D 10.6	57.1	2.87	35.4	0.02	0.03		403	
440	7.10	7.06	34.238	26.816	130.0	0.849	0.57	24.8	8.4	62.0	2.96	36.8	0.02	0.06		444 02	
500	ISL 6.53 D	6.48	34.243	D 26.898	122.7	0.932	0.47	D 20.6	D 6.9	69.7	3.06	38.6	0.02	0.08		504	
515	6.41	6.36	34.242	26.914	121.3	0.943	0.41	18.0	6.0	71.6	3.08	39.1	0.02	0.09		519 01	

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

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE	ORD	
33 43.0 N	123 38.1 W	20/11/2014	2211	UTC	4270 m	270 11 kn	270 05 06	1	1018.0 mb	19.7 C	16.4 C	23 m	3/8	ST	062		
0	17.80	17.80	33.192	23.938	395.9	0.000	5.51	240.7	101.2	1.3	0.39	0.0	0.01	0.08	0.17	0.04	0
3	17.80	17.80	33.192	23.939	396.0	0.012	5.51	240.7	101.2	1.3	0.39	0.0	0.01	0.08	0.17	0.04	3 20
10	17.54	17.54	33.223	24.025	388.1	0.039	5.56	242.7	101.6	1.2	0.33	0.0	0.01	0.08	0.18	0.04	10 19
20	ISL 17.51 D	17.51	33.300	D 24.091	382.1	0.078	5.52	D 240.7	D 100.9	1.1	0.32	0.0	0.01	0.12	0.22	0.07	20
21	17.55	17.55	33.305	24.085	382.8	0.082	5.57	243.4	102.0	1.1	0.32	0.0	0.01	0.12	0.23	0.07	21 18
29	17.62	17.62	33.363	24.113	380.3	0.112	5.53	241.5	101.4	1.1	0.29	0.0	0.01	0.06	0.27	0.09	29 17
30	ISL 17.66 D	17.66	33.393	D 24.126	379.1	0.117	5.49	D 239.3	D 100.7	1.1	0.29	0.0	0.01	0.06	0.28	0.09	30
40	17.81	17.80	33.458	24.142	378.0	0.154	5.49	239.9	101.1	1.1	0.29	0.0	0.01	0.09	0.34	0.12	40 16
49	17.09	17.08	33.397	24.269	366.2	0.187	5.59	244.1	101.4	1.0	0.29	0.0	0.01	0.04	0.52	0.20	49 15
50	ISL 16.80 D	16.80	33.362	D 24.308	362.5	0.193	5.57	D 242.8	D 100.4	1.2	0.31	0.1	0.03	0.06	0.53	0.23	50
59	13.59	13.58	33.081	24.792	316.4	0.221	5.75	251.0	97.0	2.8	0.52	1.4	0.18	0.22	0.61	0.43	59 14
70	12.23	12.22	33.030	25.019	294.9	0.255	5.52	241.1	90.5	5.3	0.81	6.5	0.16	0.08	0.31	0.34	71 13
75	ISL 11.43 D	11.42	33.058	D 25.190	278.6	0.272	5.43	D 236.5	D 87.5	6.5	0.91	8.3	0.12	0.07	0.25	0.29	76
84	11.00	10.99	33.074	25.280	270.2	0.294	5.16	225.6	82.5	8.8	1.10	11.5	0.04	0.04	0.14	0.20	85 12
100	10.55	10.54	33.292	25.529	246.9	0.335	4.57	199.6	72.4	12.2	1.30	15.0	0.03	0.04	0.09	0.13	101 11
121	9.77	9.75	33.530	25.848	216.9	0.384	3.78	165.0	58.9	18.3	1.58	19.8	0.02	0.04	0.03	0.06	122 10
125	ISL 9.66 D	9.65	33.576	D 25.902	211.8	0.395	3.70	D 161.2	D 57.6	19.6	1.64	20.8	0.02	0.04	0.02	0.05	126
140	9.41	9.39	33.722	26.057	197.4	0.423	3.16	138.1	49.0	24.5	1.86	24.5	0.02	0.03	0.01	0.03	141 09
150	ISL 9.27 D	9.25	33.773	D 26.120	191.6	0.446	2.98	D 129.8	D 46.1	26.0	1.90	25.3	0.02	0.04	0.00	0.03	151
172	8.93	8.91	33.871	26.252	179.5	0.484	2.77	121.0	42.5	29.4	2.00	27.1	0.02	0.05	0.00	0.03	173 08
200	8.57	8.54	33.962	26.380	167.8	0.532	2.74	119.7	41.7	32.7	2.04	27.7	0.02	0.07	0.00	0.03	202 07
229	8.57	8.55	34.068	26.463	160.5	0.580	1.94	84.7	29.6	38.2	2.30	30.3	0.01	0.10		231 06	
250	ISL 8.44 D	8.41	34.120	D 26.525	155.0	0.618	1.81	D 78.6	D 27.4	41.2	2.39	31.3	0.01	0.08		252	
270	8.20	8.17	34.136	26.573	150.7	0.644	1.50	65.3	22.6	44.0	2.48	32.2	0.01	0.06		272 05	
300	ISL 7.63 D	7.60	34.100	D 26.630	145.5	0.693	1.42	D 61.6	D 21.1	48.6	2.55	33.9	0.01	0.15		302	
319	7.44	7.41															

RV NEW HORIZON

CALCOFI CRUISE 1411

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		
DEPTH m	TEMP DEG C	POTTEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/L	OXYGEN μmol/Kg	OXY PCT	SI03* μM	P04* μM	N03* μM	N02* μM	NH4* μM	CHL-A μg/L	PHAEAO μg/L	PRES db
33	23.6 N	124 19.1 W	20/11/2014	1643	UTC	4560 m	270	13 kn	280 06 09	1	1020.0 mb	18.1 C	15.0 C	31 m	7/8	SC	061
0	18.68	18.68	32.961	23.545	433.5	0.000	5.49	239.7	102.4	1.6	0.33	0.0	0.01	0.36	0.13	0.03	0
3 A	18.68	18.68	32.961	23.545	433.5	0.013	5.49	239.7	102.4	1.6	0.33	0.0	0.01	0.36	0.13	0.03	3 24
10	18.68	18.68	32.960	23.545	433.9	0.043	5.42	236.9	101.2	1.6	0.33	0.0	0.01	0.29	0.13	0.03	10 22
10	18.68	18.68	32.959	23.544	433.9	0.043											10 23
17 A	18.68	18.68	32.960	23.545	434.1	0.074	5.43	237.2	101.3	1.6	0.34	0.0	0.01	0.14	0.13	0.03	17 21
20 ISL	18.69 D	18.68	32.957	23.542	434.5	0.072	5.41	D236.1	D101.0	1.6	0.34	0.0	0.01	0.14	0.13	0.03	20
24 A	18.65	18.65	32.960	23.552	433.7	0.104	5.43	237.0	101.2	1.6	0.34	0.0	0.01	0.14	0.13	0.03	24 20
30 ISL	18.49 D	18.48	32.947	D 23.585	430.8	0.116	5.43	D237.1	D101.0	1.5	0.34	0.0	0.01	0.15	0.16	0.05	30
36	18.00	17.99	32.957	23.713	418.8	0.156	5.61	245.1	103.3	1.5	0.34	0.0	0.01	0.16	0.18	0.06	36 19
45 A	17.33	17.32	32.976	23.887	402.5	0.193	5.68	248.1	103.3	1.6	0.33	0.0	0.01	0.05	0.20	0.08	45 18
50 ISL	15.98 D	15.97	32.966	D 24.192	373.4	0.198	5.82	D253.7	D103.0	1.8	0.34	0.0	0.01	0.05	0.22	0.11	50
60	14.56	14.55	32.878	24.434	350.6	0.248	6.09	266.1	104.8	2.3	0.36	0.0	0.01	0.06	0.26	0.18	60 17
75	13.38	13.37	32.840	24.648	330.5	0.299	5.96	260.2	99.9	2.9	0.45	0.5	0.16	0.11	0.30	0.26	76 15
75	13.38	13.37	32.840	24.648	330.5	0.299											76 16
84 A	12.78	12.77	32.866	24.788	317.3	0.328	5.90	257.6	97.7	3.7	0.57	2.1	0.31	0.10	0.26	0.23	85 14
97	11.70	11.69	32.861	24.989	298.4	0.368	5.66	247.3	91.7	5.4	0.71	5.0	0.11	0.01	0.20	0.23	98 13
100 ISL	11.38 D	11.36	32.975	D 25.137	284.3	0.349	5.65	D246.3	D 91.0	6.2	0.79	6.3	0.08	0.02	0.18	0.21	101
107 A	10.83	10.81	32.976	25.235	275.0	0.397	5.48	239.1	87.1	7.9	0.96	9.3	0.03	0.03	0.12	0.15	108 12
116	10.01	10.00	33.056	25.437	255.8	0.421	5.28	230.6	82.5	9.4	1.12	11.6	0.03	0.05	0.11	0.12	117 11
125	9.66	9.64	33.104	25.533	246.8	0.443	5.20	226.9	80.6	11.8	1.22	13.7	0.02	0.07	0.05	0.07	126 10
140	9.58	9.57	33.394	25.773	224.4	0.479	4.60	201.0	71.4	15.8	1.42	17.2	0.02	0.04	0.03	0.04	141 09
150 ISL	9.41 D	9.40	33.491	D 25.877	214.7	0.473	4.42	D192.3	D 68.3	18.8	1.55	19.4	0.02	0.04	0.02	0.03	151
173	8.96	8.94	33.731	26.136	190.5	0.547	3.40	148.5	52.2	25.8	1.84	24.4	0.02	0.04	0.00	0.02	174 08
199	8.66	8.64	33.883	26.303	175.1	0.595	2.81	122.7	42.9	31.3	2.05	27.4	0.02	0.11	0.00	0.02	201 07
200 ISL	8.65 D	8.62	33.884	D 26.307	174.7	0.569	2.81	D122.4	D 42.9	31.3	2.05	27.4	0.02	0.11			202
229	8.22	8.20	33.956	26.428	163.6	0.645	3.01	131.5	45.5	33.8	1.99	27.4	0.02	0.05			231 06
250 ISL	7.87 D	7.85	33.980	D 26.499	157.1	0.653	2.82	D125.3	D 43.2	37.8	2.10	28.8	0.01	0.03			252
270	7.56	7.53	33.995	26.556	151.9	0.710	2.51	109.7	37.4	41.5	2.21	30.2	0.01	0.02			272 05
300 ISL	7.12 D	7.09	34.015	D 26.635	144.7	0.729	1.91	D 83.3	D 28.2	47.8	2.41	32.8	0.01	0.02			302
320	6.96	6.93	34.024	26.664	142.1	0.783	1.76	76.9	25.9	52.0	2.54	34.5	0.01	0.02			323 04
380	6.36	6.32	34.071	26.782	131.4	0.865	1.15	50.2	16.6	63.0	2.83	38.0	0.02	0.13			383 03
400 ISL	6.17 D	6.13	34.086	D 26.819	128.1	0.867	1.04	D 45.1	D 14.9	66.2	2.89	38.7	0.01	0.12			403
439	5.91	5.87	34.122	26.880	122.6	0.940	0.75	32.7	10.7	72.4	3.02	39.9	0.01	0.10			443 02
500 ISL	5.46 D	5.42	34.174	D 26.976	113.9	0.989	0.54	D 23.4	D 7.6	81.4	3.15	41.6	0.01	0.12			504
518	5.41	5.36	34.188	26.994	112.4	1.033	0.44	19.1	6.2	84.0	3.19	42.1	0.02	0.13			522 01

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

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

RV NEW HORIZON

CALCOFI CRUISE 1411

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		
DEPTH m	TEMP DEG C	POTTEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/L	OXYGEN μmol/Kg	OXY PCT	SI03* μM	P04* μM	N03* μM	N02* μM	NH4* μM	CHL-A μg/L	PHAEAO μg/L	PRES db
34	27.6 N	120 29.3 W	22/11/2014	0749	UTC	24 m	340	16 kn									069
0	16.81	16.81	33.469	24.385	353.4	0.000	5.42	237.0	97.9	4.1	0.50	1.0	0.19	0.62	0.50	0.40	0
2	16.81	16.81	33.469	24.385	353.4	0.007	5.42	237.0	97.9	4.1	0.50	1.0	0.19	0.62	0.50	0.40	2 05
5	16.81	16.81	33.468	24.385	353.5	0.018	5.43	237.1	98.0	4.1	0.49	1.0	0.19	0.62	0.58	0.47	5 04
10	16.72	16.72	33.470	24.406	351.7	0.035	5.43	237.1	97.8	4.2	0.50	1.1	0.19	0.65	0.51	0.45	10 02
10	16.72	16.72	33.467	24.404	351.9	0.035											10 03
15	16.64	16.64	33.463	24.421	350.4	0.053	5.40	236.0	97.2	4.5	0.51	1.3	0.21	0.62	0.46	0.43	15 01

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

RV NEW HORIZON

CALCOFI CRUISE 1411

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		
DEPTH m	TEMP DEG C	POTTEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/L	OXYGEN μmol/Kg	OXY PCT	SI03* μM	P04* μM	N03* μM	N02* μM	NH4* μM	CHL-A μg/L	PHAEAO μg/L	PRES db
34	26.9 N	120 31.5 W	22/11/2014	0849	UTC	74 m	340	16 kn									070
0	16.19	16.19	33.417	24.489	343.4	0.000	5.43	237.1	96.8	4.5	0.55	1.6	0.24	0.65	0.50	0.29	0
2	16.19	16.18	33.417	24.489	343.5	0.007	5.43	237.1	96.8	4.5	0.55	1.6	0.24	0.65	0.50	0.29	2 10
5	16.15	16.15	33.417	24.497	342.9	0.017	5.44	237.6	96.9	4.5	0.53	1.6	0.24	0.54	0.49	0.30	5 09
5	16.15	16.15	33.415	24.496	343.0	0.017											5 08
10	16.17	16.17	33.416	24.493	343.4	0.034	5.44	237.8	97.0	4.6	0.52	1.6	0.24	0.51	0.52	0.32	10 07
10	16.17	16.17	33.416	24.493	343.4	0.033	5.44	237.5	96.9	4.6	0.52	1.6	0.24	0.57	0.54	0.31	10 06
20	16.13	16.12	33.414	24.501	343.0	0.069	5.43	237.3	96.7	4.6	0.52	1.6	0.25	0.46	0.51	0.33	20 05
29	16.12	16.1															

RV NEW HORIZON

CALCOFI CRUISE 1411

STATION 80.0 55.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE	ORD	
34 19.0 N	120 48.1 W	19/11/2014	0451	UTC	830 m	200 04 kn			1019.0 mb	17.7 C	15.1 C					055	
0	17.37	17.37	33.501	24.277	363.7	0.000	5.68	247.8	103.6	0.4	0.32	0.1	0.00	0.29	0.55	0.25	0
2	17.37	17.37	33.501	24.277	363.7	0.007	5.68	247.8	103.6	0.4	0.32	0.1	0.00	0.29	0.55	0.25	2 23
10	17.37	17.37	33.500	24.276	364.1	0.036	5.74	250.5	104.8	0.4	0.34	0.1	0.00	0.30	0.54	0.24	10 20
10	17.37	17.37	33.504	24.280	363.8	0.035											10 22
20	17.38	17.38	33.500	24.276	364.7	0.073	5.69	248.5	103.9	0.4	0.35	0.1	0.00	0.12	0.53	0.24	20 19
30	16.41	16.40	33.454	24.469	346.4	0.108	5.51	240.4	98.6	1.8	0.45	0.9	0.09	0.21	1.16	0.61	30 18
40	13.28	13.28	33.264	24.994	296.5	0.141	5.34	233.3	89.7	5.8	0.79	5.6	0.31	0.42	0.84	0.66	40 16
40	13.28	13.28	33.265	24.995	296.4	0.140											40 17
50	12.04	12.04	33.282	25.249	272.4	0.169	4.95	216.3	81.0	8.5	0.99	9.6	0.16	0.07	0.28	0.30	50 15
60	11.56	11.55	33.355	25.397	258.6	0.196	4.62	201.9	74.9	10.9	1.15	12.2	0.07	0.07	0.17	0.23	60 14
70	11.23	11.22	33.416	25.504	248.6	0.221	4.34	189.5	69.8	13.0	1.29	14.1	0.03	0.09	0.14	0.18	71 13
75 ISL	11.19 D	11.18	33.472	D 25.555	243.9	0.202	4.22	D 183.6	D 67.8	14.2	1.35	15.0	0.03	0.08	0.13	0.18	76
85	10.70	10.69	33.518	25.678	232.4	0.257	3.90	170.4	62.1	16.7	1.46	16.8	0.04	0.07	0.10	0.17	86 12
99	10.56	10.55	33.588	25.759	225.1	0.289	3.61	157.5	57.3	19.3	1.57	18.4	0.06	0.07	0.09	0.16	100 11
100 ISL	10.56 D	10.55	33.591	D 25.761	224.9	0.260	3.62	D 157.8	D 57.5	19.4	1.57	18.5	0.05	0.07	0.09	0.16	101
120	10.14	10.13	33.636	25.871	214.8	0.335	3.44	150.3	54.2	20.5	1.66	20.2	0.01	0.06	0.06	0.12	121 10
125 ISL	10.06 D	10.04	33.681	D 25.918	210.4	0.315	3.37	D 146.7	D 52.9	21.2	1.70	20.7	0.01	0.09	0.06	0.11	126
140	9.87	9.85	33.735	25.992	203.7	0.377	3.11	135.8	48.7	23.5	1.83	22.2	0.00	0.19	0.04	0.09	141 09
150 ISL	9.83 D	9.81	33.772	D 26.028	200.5	0.366	3.04	D 132.2	D 47.5	24.8	1.88	23.1	0.00	0.21	0.04	0.08	151
170	9.24	9.22	33.840	26.178	186.6	0.436	2.86	124.6	44.1	27.4	1.98	24.9	0.00	0.25	0.02	0.06	171 08
200	8.70	8.68	33.890	26.302	175.2	0.490	2.95	128.6	44.9	30.0	1.98	26.0	0.00	0.11	0.02	0.04	202 07
230	8.46	8.44	34.001	26.427	163.9	0.541	2.41	105.3	36.7	35.7	2.17	28.5	0.00	0.04			232 06
250 ISL	8.66 D	8.63	34.104	D 26.479	159.6	0.544	1.78	D 77.4	D 27.2	39.3	2.29	29.7	0.00	0.04			252
270	8.09	8.07	34.090	26.553	152.5	0.605	1.81	79.1	27.3	42.8	2.41	30.9	0.00	0.04			272 05
300 ISL	7.85 D	7.82	34.115	D 26.610	147.6	0.621	1.56	D 67.8	D 23.4	47.1	2.58	32.2	0.00	0.05			302
320	7.89	7.86	34.191	26.665	142.8	0.679	1.07	46.9	16.1	49.9	2.69	33.0	0.00	0.06			323 04
380	7.43	7.39	34.199	26.738	136.7	0.762	0.87	37.8	12.8	55.8	2.80	35.1	0.00	0.04			383 03
400 ISL	7.13 D	7.09	34.182	D 26.768	133.9	0.762	0.86	D 37.4	D 12.7	59.0	2.85	36.0	0.00	0.05			403
440	6.59	6.55	34.166	26.828	128.3	0.842	0.75	32.5	10.9	65.6	2.95	38.0	0.00	0.07			444 02
500 ISL	6.23 D	6.19	34.228	D 26.925	119.8	0.890	0.48	D 20.9	D 6.9	74.9	3.10	39.5	0.00	0.04			504
515	6.01	5.96	34.237	26.960	116.3	0.934	0.39	17.1	5.6	77.2	3.14	39.9	0.00	0.03			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 1411

STATION 80.0 60.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE	ORD	
34 9.0 N	121 9.0 W	19/11/2014	0849	UTC	2181 m	150 03 kn			1018.0 mb	17.1 C	16.4 C					056	
0	17.13	17.13	33.489	24.324	359.1	0.000	5.76	251.3	104.6	0.3	0.33	0.0	0.01	0.09	0.57	0.26	0
2	17.13	17.13	33.489	24.324	359.2	0.007	5.76	251.3	104.6	0.3	0.33	0.0	0.01	0.09	0.57	0.26	2 21
9	17.14	17.14	33.488	24.323	359.6	0.032	5.73	250.4	104.2	0.3	0.33	0.1	0.01	0.24	0.58	0.26	9 19
9	17.14	17.14	33.489	24.323	359.6	0.033											9 20
10 ISL	17.14 D	17.14	33.486	D 24.321	359.8	0.035	5.71	D 248.8	D 103.7	0.3	0.33	0.1	0.01	0.22	0.58	0.26	10
19	17.14	17.14	33.487	24.323	360.0	0.068	5.74	250.8	104.3	0.3	0.31	0.1	0.00	0.05	0.61	0.28	19 18
20 ISL	17.12 D	17.11	33.483	D 24.325	359.8	0.071	5.72	D 249.2	D 103.8	0.3	0.31	0.1	0.00	0.05	0.64	0.29	20
30	16.85	16.85	33.471	24.379	355.0	0.108	5.71	249.2	103.1	0.5	0.33	0.1	0.01	0.07	1.00	0.45	30 17
40	15.72	15.71	33.427	24.605	333.8	0.142	5.45	238.1	96.3	2.0	0.49	1.5	0.17	0.26	1.40	0.69	40 16
50	12.40	12.39	33.220	25.134	283.4	0.173	5.12	223.5	84.3	6.8	0.92	7.9	0.22	0.10	0.50	0.55	50 15
60	11.61	11.61	33.318	25.358	262.3	0.200	4.63	D 201.6	D 75.1	9.5	1.17	11.8	0.06	0.11	0.18	0.35	60 14
70	10.83	10.83	33.346	25.521	247.0	0.226	4.48	195.7	71.5	12.1	1.30	14.5	0.04	0.04	0.13	0.20	71 13
75 ISL	10.45 D	10.44	33.400	D 25.630	236.7	0.238	4.38	D 190.5	D 69.2	13.7	1.38	15.8	0.04	0.04	0.10	0.17	76
85	10.07	10.06	33.477	25.755	225.0	0.261	4.02	175.6	63.1	16.9	1.53	18.3	0.03	0.04	0.04	0.09	86 12
100	9.80	9.78	33.542	25.852	216.1	0.294	3.85	168.0	60.1	19.0	1.60	19.7	0.02	0.04	0.02	0.07	101 11
120	9.65	9.64	33.802	26.080	194.9	0.335	2.82	123.0	43.9	25.9	1.93	23.9	0.02	0.01	0.06	121 10	
125 ISL	9.60 D	9.59	33.857	D 26.130	190.2	0.346	2.69	D 117.1	D 41.9	27.1	1.97	24.4	0.02	0.02	0.01	0.06	126
139	9.40	9.39	33.935	26.225	181.5	0.371	2.37	103.4	36.7	30.2	2.10	26.0	0.02	0.05	0.01	0.05	140 09
150 ISL	9.25 D	9.23	33.960	D 26.270	177.4	0.392	2.35	D 102.2	D 36.3	31.6	2.14	26.6	0.01	0.05	0.01	0.05	151
170	8.98	8.96	34.022	26.362	169.0	0.425	2.12	92.7	32.6	34.1	2.21	27.7	0.01	0.04	0.00	0.04	171 08
200	8.69	8.67	34.069	26.445	161.7	0.475	1.90	83.1	29.1	37.5	2.31	29.1	0.01	0.06	0.01	0.03	202 07
230	8.42	8.40	34.121	26.528	154.4	0.522	1.58	68.9	24.0	42.0	2.47	30.5	0.01	0.03			232 06
250 ISL	8.40 D	8.37	34.185	D 26.582	149.6	0.555	1.28	D 55.6	D 19.4	44.4	2.56	31.3	0.01	0.04			252
270	8.28	8.25	34.199	26.611	147.2	0.582	1.13	49.4	17.1	46.7	2.65	32.0	0.01	0.04			272 05
300 ISL	8.10 D	8.07	34.211	D 26.648	144.2	0.629	1.02	D 44.3	D 15.4	49.0	2.70	32.9	0.00	0.03			302
319	7.97	7.94	34.214	26.670	142.4	0.653	0.95	41.3	14.2	50.4	2.73						

RV NEW HORIZON

CALCOFI CRUISE 1411

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				
DEPTH	TEMP	POTTEMP	SALINITY	SIGMA	SV	DYN HT	OXYGEN	OXYGEN	OXY	SI03*	P04*	N03*	N02*	NH4*	CHL-A	PHAEAO	PRES SAMP		
m	DEG C	DEG C	THETA			ml/L	μmol/Kg	PCT	μM	μM	μM	μM	μM	μM	μg/L	μg/L	db		
33	49.2 N	121 50.7 W	19/11/2014	1642	UTC	3634 m	180	07 kn	250	04	08	1	1018.0	mb	18.0	C	17.5	C	
0	16.68	16.68	33.184	24.197	371.3	0.000	5.68	248.0	102.1	1.4	0.32	0.1	0.00	0.16	0.28	0.07	0		
2	A	16.68	16.68	33.184	24.197	371.3	0.007	5.68	248.0	102.1	1.4	0.32	0.1	0.00	0.16	0.28	0.07	2	24
10	ISL	16.65 D	16.65	33.184 D	24.204	370.9	0.038	5.69	0248.1	0102.2	1.4	0.36	0.1	0.00	0.49	0.29	0.08	10	
12		16.64	16.64	33.186	24.207	370.7	0.045											12	23
13	A	16.65	16.64	33.186	24.207	370.8	0.048	5.68	248.2	102.0	1.4	0.37	0.1	0.00	0.61	0.29	0.08	13	22
17	A	16.64	16.63	33.188	24.211	370.6	0.063	5.68	248.3	102.1	1.4	0.33	0.1	0.00	0.06	0.30	0.09	17	21
20	ISL	16.62 D	16.62	33.192 D	24.218	370.0	0.069	5.69	0247.9	0102.1	1.4	0.33	0.1	0.00	0.09	0.34	0.10	20	
25		16.58	16.58	33.199	24.233	368.7	0.093	5.71	249.2	102.4	1.4	0.34	0.1	0.00	0.13	0.41	0.12	25	20
30	ISL	16.39 D	16.39	33.174 D	24.257	366.6	0.106	5.73	0249.9	0102.4	1.4	0.33	0.1	0.00	0.13	0.45	0.13	30	
33		16.34	16.33	33.176	24.272	365.3	0.122											33	19
34	A	16.32	16.31	33.181	24.279	364.6	0.126	5.74	250.5	102.4	1.5	0.33	0.1	0.00	0.13	0.48	0.14	34	18
44		13.32	13.31	32.926	24.726	322.1	0.160	6.00	262.1	100.6	2.8	0.47	0.6	0.04	0.18	1.02	0.47	44	17
50	ISL	12.57 D	12.56	32.847 D	24.812	314.0	0.168	5.86	0255.6	096.8	3.9	0.60	2.4	0.17	0.20	0.70	0.43	50	
54		12.20	12.19	32.844	24.881	307.6	0.192	5.79	253.1	94.8	4.5	0.69	3.6	0.27	0.22	0.50	0.41	54	16
63	A	11.89	11.88	33.123	25.156	281.6	0.218	5.18	226.5	84.5	7.2	1.00	9.5	0.04	0.07	0.25	0.29	64	15
72		11.00	11.00	33.243	25.410	257.5	0.242	4.79	209.2	76.6	9.7	1.18	12.3	0.01	0.09	0.19	0.22	73	14
75	ISL	10.87 D	10.86	33.272 D	25.457	253.2	0.239	4.79	0208.7	076.4	11.0	1.25	13.4	0.01	0.07	0.16	0.19	76	
80	A	10.56	10.55	33.347	25.570	242.5	0.262	4.38	191.3	69.4	13.2	1.36	15.3	0.00	0.04	0.11	0.14	81	13
90		10.43	10.42	33.445	25.669	233.3	0.286	4.01	175.2	63.4	15.7	1.49	17.4	0.00	0.10	0.07	0.10	91	12
100		10.08	10.07	33.643	25.884	213.1	0.309	3.31	144.7	52.0	20.8	1.73	20.9	0.00	0.08	0.02	0.06	101	11
120		9.63	9.62	33.828	26.103	192.7	0.349	2.72	118.7	42.4	26.1	1.96	24.1	0.00	0.06	0.01	0.05	121	10
125	ISL	9.60 D	9.58	33.857 D	26.132	190.0	0.347	2.69	0117.3	041.9	26.9	1.99	24.5	0.00	0.06	0.01	0.05	126	
140		9.45	9.43	33.924	26.209	183.1	0.387	2.45	106.9	38.0	29.1	2.07	25.4	0.00	0.06	0.01	0.04	141	09
150	ISL	9.45 D	9.43	34.007 D	26.274	177.1	0.393	2.24	097.7	034.9	30.7	2.14	26.1	0.00	0.05	0.00	0.04	151	
169		9.36	9.34	34.079	26.345	170.8	0.438	1.86	81.1	28.8	33.8	2.28	27.5	0.00	0.03	0.00	0.03	170	08
200		9.16	9.14	34.164	26.445	161.9	0.489	1.46	63.8	22.6	37.5	2.42	28.9	0.00	0.03	0.00	0.03	202	07
230		8.87	8.85	34.196	26.517	155.6	0.537	1.27	55.4	19.5	40.9	2.53	30.2	0.00	0.25			232	06
250	ISL	8.65 D	8.62	34.201 D	26.556	152.2	0.558	1.20	52.1	18.3	42.9	2.58	30.8	0.00	0.18			252	
270		8.49	8.47	34.219	26.595	148.9	0.598	1.08	47.1	16.4	44.9	2.63	31.5	0.00	0.11			272	05
300	ISL	8.28 D	8.25	34.225 D	26.633	145.8	0.633	0.97	042.0	014.6	47.3	2.68	32.3	0.00	0.15			302	
320		8.14	8.11	34.228	26.657	143.8	0.671	0.91	39.6	13.7	48.9	2.72	32.8	0.00	0.18			323	04
380		7.77	7.73	34.248	26.729	137.8	0.756	0.72	31.2	10.7	53.9	2.83	34.0	0.00	0.05			383	03
400	ISL	7.64 D	7.60	34.257 D	26.755	135.6	0.774	0.66	28.5	9.8	55.6	2.86	34.5	0.00	0.08			403	
440		7.40	7.36	34.264	26.795	132.3	0.836	0.55	24.2	8.2	59.1	2.93	35.5	0.00	0.14			444	02
500	ISL	6.82 D	6.77	34.256 D	26.870	125.7	0.907	0.48	020.7	07.0	66.2	3.03	36.9	0.00	0.05			504	
516		6.73	6.68	34.268	26.892	123.7	0.934	0.44	19.1	6.4	68.2	3.06	37.3	0.00	0.03			520	01

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

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

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD				
DEPTH	TEMP	POTTEMP	SALINITY	SIGMA	SV	DYN HT	OXYGEN	OXYGEN	OXY	SI03*	P04*	N03*	N02*	NH4*	CHL-A	PHAEAO	PRES SAMP		
m	DEG C	DEG C	THETA			ml/L	μmol/Kg	PCT	μM	μM	μM	μM	μM	μM	μg/L	μg/L	db		
33	28.9 N	122 32.1 W	19/11/2014	2152	UTC	3988 m	270	10 kn	250	05	07	1	1018.0	mb	19.0	C	18.0	C	
0	18.42	18.42	33.457	23.989	391.1	0.000	5.49	239.7	102.2	0.8	0.27	0.1	0.00	0.15	0.19	0.05	0		
2	A	18.42	18.41	33.457	23.989	391.2	0.008	5.49	239.7	102.2	0.8	0.27	0.1	0.00	0.15	0.19	0.05	2	22
10		18.12	18.11	33.455	24.062	384.5	0.039	5.47	238.9	101.3	0.8	0.32	0.1	0.00	0.08	0.21	0.05	10	20
10		18.12	18.11	33.454	24.062	384.5	0.037											10	21
20		18.10	18.09	33.463	24.075	383.7	0.077	5.49	239.9	101.7	0.8	0.28	0.0	0.00	0.03	0.25	0.06	20	19
30		18.10	18.09	33.489	24.095	382.2	0.116	5.46	238.6	101.1	0.9	0.30	0.0	0.00	0.10	0.32	0.09	30	18
40		18.07	18.06	33.532	24.137	378.6	0.154	5.44	237.6	100.6	1.0	0.31	0.0	0.00	0.10	0.41	0.15	40	17
49		15.77	15.76	33.389	24.566	337.8	0.187	5.47	238.9	94.7	2.0	0.51	1.5	0.19	0.13	0.53	0.38	49	16
50		14.72	14.71	33.379	24.787	316.7	0.189	5.47	238.9	94.7	2.0	0.51	1.5	0.19	0.13	0.53	0.38	50	15
60		13.13	13.12	33.320	25.069	290.0	0.220	5.02	219.4	84.1	5.6	0.89	7.6	0.04	0.04	0.31	0.35	60	14
70		10.95	10.94	33.307	25.471	251.8	0.247	4.59	200.4	73.3	10.9	1.24	13.0	0.01	0.08	0.15	0.16	71	13
75	ISL	10.79 D	10.78	33.328 D	25.514	247.7	0.225	4.59	0199.9	073.1	12.1	1.29	14.1	0.01	0.06	0.12	0.14	76	
85		10.21	10.20	33.357	25.637	236.2	0.283	4.37	190.8	68.7	14.6	1.40	16.3	0.00	0.03	0.06	0.09	86	12
99		9.42	9.41	33.491	25.874	213.9	0.315	4.00	174.7	61.9	19.0	1.58	19.3	0.00	0.06	0.02	0.05	100	11
100	ISL	9.34 D	9.33	33.															

RV NEW HORIZON

CALCOFI CRUISE 1411

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		
DEPTH	TEMP	POTTEMP	SALINITY	SIGMA	SV	DYN HT	OXYGEN	OXYGEN	OXY	SI03*	P04*	N03*	N02*	NH4*	CHL-A	PHAEAO	PRES	SAMP
m	DEG C	DEG C	THETA			ml/L	μmol/Kg	μM	μM	μM	μM	μM	μM	μM	μg/L	μg/L	db	
33	8.9 N	123 13.4 W	20/11/2014	0341	UTC	4231 m	320	09 kn		1020.0	mb	18.1	C	16.1	C		059	
0	18.10	18.10	33.524	24.117	378.8	0.000	5.50	240.4	101.9	1.2	0.29	0.1	0.02	0.18	0.25	0.07	0	
2	18.10	18.10	33.524	24.118	378.9	0.008	5.50	240.4	101.9	1.2	0.29	0.1	0.02	0.18	0.25	0.07	2	
10	18.10	18.10	33.526	24.120	379.0	0.038	5.50	240.3	101.9	1.2	0.32	0.1	0.02	0.41	0.24	0.07	10	
20	ISL	18.05 D	18.05	33.508	D 24.119	379.5	0.076	5.49	D 239.6	D 101.6	1.2	0.31	0.1	0.01	0.27	0.27	0.08	20
25	18.03	18.02	33.506	24.124	379.2	0.095	5.51	240.4	101.8	1.2	0.30	0.1	0.01	0.20	0.28	0.08	25	
30	ISL	18.02 D	18.02	33.506	D 24.126	379.2	0.115	5.47	D 238.7	D 101.2	1.2	0.30	0.1	0.01	0.19	0.31	0.09	30
40	18.03	18.02	33.511	24.129	379.3	0.152	5.50	240.1	101.7	1.2	0.30	0.1	0.01	0.18	0.35	0.11	40	
50	18.02	18.01	33.513	24.133	379.3	0.190	5.51	240.7	101.9	1.2	0.28	0.1	0.02	0.17	0.37	0.13	50	
62	16.44	16.43	33.477	24.482	346.3	0.233	5.35	233.4	95.8	2.2	0.44	1.3	0.29	0.11	0.50	0.23	63	
75	13.12	13.11	33.407	25.141	283.6	0.274	4.80	209.5	80.3	7.5	1.03	9.6	0.08	0.32	0.24	0.25	76	
86	11.07	11.06	33.435	25.549	244.8	0.303	4.22	184.1	67.6	13.6	1.39	16.0	0.05	0.15	0.13	0.15	87	
100	ISL	10.31 D	10.30	33.523	D 25.751	225.8	0.339	3.75	D 163.4	D 59.2	17.6	1.58	19.0	0.03	0.08	0.05	0.08	101
101	10.30	10.29	33.530	25.758	225.1	0.338	3.77	164.4	59.4	17.9	1.59	19.3	0.03	0.08	0.05	0.08	102	
111	9.92	9.90	33.542	25.833	218.2	0.361	3.73	163.1	58.4	19.2	1.68	20.1	0.04	0.22	0.03	0.06	112	
124	9.85	9.83	33.684	25.955	206.8	0.388	3.24	141.4	50.7	22.4	1.79	22.2	0.03	0.13	0.01	0.05	125	
125	ISL	9.84 D	9.83	33.695	D 25.965	206.0	0.393	3.24	D 140.9	D 50.6	22.6	1.80	22.3	0.03	0.13	0.01	0.05	126
140	9.49	9.47	33.788	26.096	193.7	0.420	2.92	127.4	45.3	25.7	1.91	24.2	0.04	0.08	0.01	0.04	141	
150	ISL	9.37 D	9.35	33.858	D 26.170	186.9	0.442	2.80	D 121.6	D 43.3	27.9	1.99	25.2	0.03	0.10	0.01	0.04	151
170	8.96	8.95	33.967	26.321	172.9	0.475	2.33	101.7	35.8	32.3	2.16	27.3	0.03	0.14	0.01	0.04	171	
200	8.61	8.59	34.039	26.433	162.8	0.526	2.09	91.3	31.9	36.5	2.27	28.8	0.03	0.28	0.00	0.03	202	
232	8.26	8.23	34.111	26.545	152.6	0.576	1.68	73.2	25.4	42.0	2.54	30.8	0.02	0.17			234	
250	ISL	8.06 D	8.03	34.113	D 26.577	149.9	0.607	1.63	D 71.0	D 24.6	44.5	2.55	31.6	0.02	0.15			252
269	7.85	7.82	34.136	26.626	145.5	0.631	1.41	61.5	21.1	47.2	2.57	32.5	0.02	0.13			271	
300	ISL	7.39 D	7.36	34.125	D 26.684	140.3	0.680	1.29	D 55.9	D 19.1	51.3	2.68	33.8	0.03	0.14			302
321	7.45	7.42	34.170	26.711	138.1	0.704	1.02	44.6	15.2	54.0	2.76	34.7	0.03	0.15			324	
379	7.17	7.13	34.227	26.797	130.8	0.782	0.68	29.6	10.0	59.8	2.91	36.0	0.03	0.06			382	
400	ISL	6.97 D	6.93	34.223	D 26.822	128.7	0.816	0.66	D 28.8	D 9.7	62.3	2.95	36.7	0.02	0.09			403
440	6.61	6.57	34.223	26.871	124.3	0.860	0.54	23.7	7.9	67.2	3.03	37.9	0.02	0.15			444	
500	ISL	6.23 D	6.19	34.252	D 26.944	117.9	0.940	0.44	D 19.2	D 6.4	73.4	3.11	39.1	0.02	0.11			504
515	6.20	6.15	34.266	26.960	116.7	0.950	0.37	16.0	5.3	74.9	3.13	39.4	0.03	0.10			519	

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

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE	ORD		
DEPTH	TEMP	POTTEMP	SALINITY	SIGMA	SV	DYN HT	OXYGEN	OXYGEN	OXY	SI03*	P04*	N03*	N02*	NH4*	CHL-A	PHAEAO	PRES	SAMP
m	DEG C	DEG C	THETA			ml/L	μmol/Kg	μM	μM	μM	μM	μM	μM	μM	μg/L	μg/L	db	
32	48.9 N	123 54.4 W	20/11/2014	0949	UTC	4456 m	310	12 kn		1020.0	mb	19.4	C	18.6	C		060	
0	19.61	19.61	33.313	23.577	430.4	0.000	5.31	231.7	101.1	2.1	0.30	0.0	0.01	0.13	0.13	0.03	0	
4	19.61	19.61	33.313	23.578	430.5	0.017	5.31	231.7	101.1	2.1	0.30	0.0	0.01	0.13	0.13	0.03	4	
10	19.61	19.61	33.312	23.579	430.7	0.043	5.33	232.3	101.3	2.3	0.31	0.0	0.00	0.10	0.13	0.03	10	
10	19.61	19.61	33.314	23.580	430.5	0.044											23	
20	19.61	19.61	33.310	D 23.577	431.3	0.065	5.32	D 232.3	D 101.3								20	
20	19.61	19.61	33.320	23.584	430.6	0.088											21	
25	19.61	19.60	33.312	23.580	431.2	0.108	5.33	232.7	101.5	2.3	0.32	0.0	0.00	0.03	0.13	0.03	25	
30	ISL	19.61 D	19.60	33.308	D 23.578	431.6	0.098	5.33	D 232.6	D 101.4	2.3	0.32	0.0	0.00	0.04	0.13	0.03	30
40	19.61	19.60	33.312	23.581	431.7	0.172	5.33	D 232.4	D 101.3	2.3	0.31	0.0	0.01	0.05	0.13	0.03	40	
50	19.61	19.60	33.312	23.581	432.1	0.216	5.32	231.9	101.1	2.2	0.32	0.0	0.01	0.05	0.13	0.03	50	
61	19.55	19.54	33.304	23.591	431.6	0.263	5.36	233.8	101.8	2.3	0.31	0.0	0.01	0.04	0.15	0.04	61	
75	16.09	16.08	33.188	24.340	360.3	0.318	5.98	260.9	106.3	2.6	0.34	0.0	0.01	0.07	0.23	0.15	76	
87	14.79	14.77	33.128	24.581	337.5	0.360											88	
88	14.68	14.67	33.129	24.605	335.3	0.364	6.00	261.4	103.5	2.7	0.38	0.0	0.03	0.06	0.25	0.18	89	
100	12.64	12.63	33.214	25.085	289.5	0.401	5.85	255.0	96.9	4.0	0.52	1.0	0.08	0.13	0.24	0.15	101	
112	11.85	11.83	33.156	25.191	279.6	0.435	5.41	235.7	88.1	5.9	0.79	5.9	0.16	0.05	0.16	0.14	113	
125	10.70	10.69	33.196	25.429	257.0	0.470	5.06	220.6	80.4	9.0	1.03	10.8	0.02	0.03	0.10	0.10	126	
140	10.04	10.03	33.297	25.620	239.0	0.507	4.74	206.2	74.2	11.9	1.19	13.7	0.02	0.02	0.07	0.08	141	
150	ISL	9.71 D	9.70	33.452	D 25.797	222.4	0.480	4.38	D 190.5	D 68.1	15.0	1.35	16.1	0.01	0.03	0.05	0.06	151
170	9.28	9.27	33.606	25.988	204.6	0.574	3.77	164.0	58.1	21.2	1.66	21.0	0.01	0.04	0.01	0.02	171	
199	8.90	8.88	33.806	26.205	184.4	0.630	3.32	144.4	50.9	26.4	1.83	23.9	0.01	0.08	0.00	0.02	201	
200	ISL	8.88 D	8.86	33.815	D 26.216	183.4	0.581	3.35	D 145.8	D 51.3	26.6	1.84	24.0	0.01	0.08			202
230	8.42	8.39	33.945	26.390	167.3	0.685	2.87	124.8	43.5	32.5	1.99	26.8	0.01	0.01			232	
250	ISL	8.18 D	8.15	33.9														

RV NEW HORIZON

CALCOFI CRUISE 1411

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		
DEPTH	TEMP	POTTEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXYGEN	OXY	SI03*	P04*	N03*	N02*	NH4*	CHL-A	PHAEAO	PRES SAMP
m	DEG C	DEG C	THETA			ml/L	μmol/Kg	PCT	μM	μM	μM	μM	μM	μM	μg/L	μg/L	db
0	18.19	18.19	33.538	24.107	379.8	0.000	5.46	238.3	101.2	2.3	0.32	0.0	0.04	0.11	0.76	0.27	0
2	18.19	18.19	33.538	24.107	379.9	0.008	5.46	238.3	101.2	2.3	0.32	0.0	0.04	0.11	0.76	0.27	2 04
5	18.19	18.19	33.534	24.104	380.3	0.019	5.45	238.1	101.1	2.3	0.33	0.0	0.04	0.06	0.71	0.33	5 03
10	18.12	18.12	33.531	24.120	379.0	0.038	5.42	236.9	100.5	2.5	0.35	0.1	0.05	0.16	0.74	0.35	10 02
14	18.05	18.05	33.524	24.132	378.0	0.053	5.36	234.1	99.2	2.9	0.39	0.3	0.07	0.21	0.77	0.40	14 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 1411

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		
DEPTH	TEMP	POTTEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXYGEN	OXY	SI03*	P04*	N03*	N02*	NH4*	CHL-A	PHAEAO	PRES SAMP
m	DEG C	DEG C	THETA			ml/L	μmol/Kg	PCT	μM	μM	μM	μM	μM	μM	μg/L	μg/L	db
0	18.03	18.03	33.553	24.157	375.0	0.000	5.51	240.5	101.8	1.7	0.30	0.0	0.02	0.02	0.46	0.14	0
2	18.03	18.03	33.553	24.158	375.1	0.008	5.51	240.5	101.8	1.7	0.30	0.0	0.02	0.02	0.46	0.14	2 24
10	18.03	18.02	33.553	24.159	375.2	0.038	5.51	240.8	101.9	1.7	0.30	0.0	0.03	0.09	0.46	0.14	10 23
20	18.02	18.02	33.548	24.158	375.7	0.075	5.51	240.8	101.9	1.7	0.30	0.0	0.03	0.07	0.45	0.14	20 22
30	14.47	14.47	33.272	24.755	319.0	0.110	5.72	249.7	98.4	4.1	0.54	1.6	0.52	0.35	0.36	0.25	30 21
40	13.86	13.85	33.284	24.894	306.1	0.141	5.58	243.7	94.8	5.1	0.61	3.1	0.45	0.02	0.33	0.26	40 20
50	13.13	13.13	33.287	25.043	292.2	0.171	5.26	230.0	88.1	6.8	0.77	5.4	0.29	0.02	0.22	0.22	50 19
62	12.32	12.31	33.395	25.286	269.3	0.205	4.60	200.9	75.7	9.4	0.99	9.4	0.08	0.06	0.16	0.18	63 18
68	11.51	11.50	33.336	25.391	259.3	0.221	4.74	207.1	76.7	9.9	1.06	11.2	0.05	0.10	0.12	0.15	69 17
75 ISL	11.27 D	11.26	33.380	25.470	252.0	0.241	4.68	d203.7	75.3	11.5	1.16	12.8	0.05	0.06	0.10	0.13	76
84	10.87	10.86	33.415	25.569	242.8	0.261	4.33	189.1	69.1	13.4	1.28	14.8	0.04	0.01	0.08	0.11	85 16
100 ISL	10.67 D	10.66	33.477	25.653	235.2	0.301	4.09	d178.2	65.1	15.0	1.36	16.1	0.03	0.06	0.06	0.10	101
101	10.62	10.61	33.475	25.659	234.6	0.301	4.09	178.6	64.9	15.1	1.37	16.2	0.03	0.06	0.06	0.10	102 15
119	10.49	10.48	33.529	25.725	228.8	0.343	3.86	168.8	61.2	16.8	1.48	17.7	0.03	0.14	0.05	0.08	120 14
125 ISL	10.41 D	10.40	33.598	d 25.792	222.5	0.359	3.66	d159.1	57.8	18.2	1.55	18.7	0.03	0.11	0.05	0.08	126
141	10.07	10.05	33.708	25.938	209.0	0.391	3.21	140.0	50.4	22.0	1.73	21.3	0.03	0.02	0.02	0.06	142 13
150 ISL	9.86 D	9.84	33.799	d 26.044	199.1	0.412	2.97	d129.2	46.5	23.8	1.80	22.4	0.03	0.00	0.02	0.06	151
168	9.59	9.57	33.861	26.137	190.5	0.444	2.72	118.9	42.4	27.2	1.94	24.6	0.03	0.00	0.02	0.05	169 12
200	9.48	9.46	34.050	26.304	175.4	0.503	1.75	76.3	27.2	34.2	2.26	28.0	0.03	0.04	0.01	0.05	202 11
230	9.26	9.23	34.117	26.394	167.4	0.554	1.28	56.0	19.9	38.7	2.44	30.1	0.02	0.02		232 10	
250 ISL	8.99 D	8.96	34.141	d 26.456	161.9	0.592	1.05	d45.6	16.1	43.9	2.56	31.1	0.02	0.02		252	
273	8.68	8.65	34.171	26.529	155.3	0.624	0.74	32.5	11.4	50.0	2.69	32.2	0.02	0.03		275 09	
300 ISL	8.36 D	8.33	34.195	d 26.597	149.2	0.670	0.60	d26.2	9.1	53.5	2.77	33.1	0.03	0.02		302	
318	8.16	8.13	34.204	26.634	145.9	0.691	0.51	22.4	7.7	55.8	2.83	33.8	0.03	0.01		321 08	
380	7.37	7.34	34.219	26.762	134.3	0.778	0.34	14.8	5.0	69.1	3.02	33.8	0.03	0.01		383 07	
400 ISL	7.19 D	7.15	34.220	d 26.789	132.0	0.812	0.39	d16.9	5.7	74.0	3.10	33.1	0.03	0.03		403	
440	6.82	6.77	34.239	26.856	126.0	0.857	0.19	8.1	2.7	83.7	3.25	31.7	0.03	0.07		444 06	
483	6.69	6.65	34.245	26.878	124.4	0.910	0.24	10.5	3.5	98.4	3.54	25.1	0.03	0.05		487 05	
500 ISL	6.65 D	6.60	34.249	d 26.887	123.8	0.939	0.06	d 2.7	d 0.9	103.8	3.70	21.3	0.43	0.06		504	
514	6.63	6.58	34.251	26.892	123.6	0.949	0.01	0.4	0.1	108.4	3.83	18.2	0.75	0.06		518 04	
543	6.59	6.54	34.251	26.897	123.5	0.985	0.01	0.4	0.1	115.7	3.99	12.2	1.69	0.03		548 03	
570	6.55	6.50	34.249	26.902	123.5	1.018	0.06	2.7	0.9	104.0	3.72	22.6	0.06	0.04		575 01	
573	6.55	6.50	34.250	26.902	123.5	1.022	0.06	2.5	0.8	104.8	3.73	22.2	0.06	0.03		578 02	

A) SANTA BARBARA BASIN STATION.

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

RV NEW HORIZON

CALCOFI CRUISE 1411

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		
DEPTH	TEMP	POTTEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXYGEN	OXY	SI03*	P04*	N03*	N02*	NH4*	CHL-A	PHAEAO	PRES SAMP
m	DEG C	DEG C	THETA			ml/L	μmol/Kg	PCT	μM	μM	μM	μM	μM	μM	μg/L	μg/L	db
0	18.65	18.65	33.559	24.010	389.1	0.000	5.45	237.7	101.9	2.4	0.44	0.1	0.07	0.28	0.49	0.18	0
2	18.65	18.65	33.559	24.010	389.2	0.008	5.45	237.7	101.9	2.4	0.44	0.1	0.07	0.28	0.49	0.18	2 04
5	18.53	18.53	33.560	24.039	386.5	0.019	5.43	237.0	101.4	2.5	0.42	0.1	0.08	0.18	0.50	0.18	5 03
10	18.44	18.44	33.563	24.066	384.1	0.039	5.36	234.0	99.9	3.1	0.52	0.1	0.09	0.30	0.91	0.27	10 02
14	18.42	18.41	33.564	24.073	383.7	0.054	5.27	229.9	98.1	3.3	0.56	0.1	0.10	0.43	0.98	0.33	14 01
D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;																	
34 13.5 N	119 24.7 W	22/11/2014	2125	UTC	32 m	210 03 kn	270 02 07	1	1016.0 mb	20.0 C	16.0 C	09 m	2/8	AS	074		
DEPTH	TEMP	POTTEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXYGEN	OXY	SI03*	P04*	N03*	N02*	NH4*	CHL-A	PHAEAO	PRES SAMP
m	DEG C	DEG C	THETA			ml/L	μmol/Kg	PCT	μM	μM	μM	μM	μM	μM	μg/L	μg/L	db
0	18.72	18.72	33.563	23.995	390.6	0.000	5.50	240.2	103.1	1.9	0.35	0.0	0.02	0.09	1.40		

RV NEW HORIZON

CALCOFI CRUISE 1411

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		
DEPTH m	TEMP DEG C	POTTEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/L	OXYGEN $\mu\text{mol/Kg}$	OXY PCT	SI03* μM	P04* μM	N03* μM	N02* μM	NH4* μM	CHL-A $\mu\text{g/L}$	PHAEAO $\mu\text{g/L}$	PRES db
34 10.8 N	119 30.6 W	22/11/2014	1935	UTC	121 m	270 08 kn	290 03 06	1	1018.0 mb	18.9 C	16.0 C	30 m	1/8	AS	073		
0	18.81	18.81	33.579	23.984	391.6	0.000	5.44	237.8	102.2	1.9	0.28	0.0	0.00	0.00	0.22	0.06	0
2 A	18.81	18.81	33.579	23.984	391.7	0.008	5.44	237.8	102.2	1.9	0.28	0.0	0.00	0.00	0.22	0.06	2 14
9	18.77	18.77	33.580	23.996	390.8	0.035	5.45	237.9	102.2	1.9	0.31	0.0	0.00	0.15	0.22	0.06	9 12
9	18.77	18.77	33.577	23.993	391.1	0.035											9 13
10 ISL	18.78 D	18.78	33.575	23.990	391.4	0.038	5.46	D238.0	D102.4	1.9	0.31	0.0	0.00	0.16	0.22	0.06	10
17 A	18.56	18.56	33.568	24.039	387.0	0.066	5.49	239.7	102.5	1.9	0.32	0.0	0.00	0.22	0.26	0.08	17 11
20 ISL	18.38 D	18.38	33.536 D	24.061	385.1	0.077	5.52	D240.7	D102.7	2.2	0.32	0.0	0.00	0.17	0.27	0.10	20
24 A	16.76	16.76	33.361 D	24.315	360.9	0.092	5.89	257.1	106.1	2.6	0.32	0.0	0.00	0.11	0.28	0.14	24 10
30 ISL	15.99 D	15.99	33.336 D	24.472	346.1	0.113	5.99	D261.3	D106.4	3.2	0.38	0.0	0.02	0.09	0.46	0.24	30
34	14.78	14.77	33.317	24.726	322.0	0.127	5.87	256.6	101.7	3.6	0.42	0.1	0.04	0.07	0.58	0.31	34 08
34	14.78	14.77	33.322	24.729	321.7	0.126											34 09
44 A	14.26	14.26	33.301	24.823	313.1	0.159	5.63	246.0	96.5	4.4	0.54	1.8	0.40	0.09	0.58	0.36	44 07
50 ISL	13.38 D	13.37	33.321 D	25.020	294.4	0.161	5.25	D228.8	D88.4	5.9	0.68	4.4	0.44	0.08	0.41	0.30	50
58	13.09	13.09	33.325	25.080	288.9	0.201	4.94	216.0	82.7	7.9	0.87	7.8	0.50	0.07	0.19	0.23	58 06
71	12.21	12.20	33.337	25.262	271.8	0.237	4.80	209.5	78.8	8.5	0.93	9.0	0.13	0.04	0.15	0.18	72 05
75 ISL	12.01 D	12.00	33.376 D	25.330	265.5	0.232	4.68	D203.9	D76.6	9.3	1.00	10.0	0.10	0.05	0.13	0.16	76
83 A	11.52	11.51	33.404	25.444	254.8	0.269	4.43	193.5	71.7	11.1	1.13	12.1	0.03	0.06	0.10	0.12	84 04
93	11.32	11.31	33.466	25.527	247.1	0.294	4.10	179.1	66.1	13.4	1.28	14.5	0.03	0.02	0.07	0.11	94 03
100 ISL	11.02 D	11.01	33.498 D	25.607	239.6	0.295	4.01	D174.7	D64.3	14.5	1.34	15.5	0.02	0.06	0.09	0.10	101
104 A	10.98	10.97	33.504	25.618	238.6	0.320	3.95	172.7	63.3	15.1	1.38	16.1	0.02	0.08	0.05	0.08	105 02
110	10.92	10.91	33.509	25.633	237.3	0.335	3.93	171.9	62.9	15.3	1.38	16.3	0.02	0.11	0.06	0.09	111 01

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED 02;

RV NEW HORIZON

CALCOFI CRUISE 1411

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		
DEPTH m	TEMP DEG C	POTTEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/L	OXYGEN $\mu\text{mol/Kg}$	OXY PCT	SI03* μM	P04* μM	N03* μM	N02* μM	NH4* μM	CHL-A $\mu\text{g/L}$	PHAEAO $\mu\text{g/L}$	PRES db
33 52.7 N	120 8.1 W	18/11/2014	2320	UTC	96 m	100 06 kn	060 02 07	1	1018.0 mb	18.9 C	17.0 C	18 m	3/8	CS	054		
0	17.99	17.99	33.526	24.146	376.1	0.000	5.54	241.8	102.4	1.4	0.35	0.1	0.00	0.14	0.47	0.14	0
2	17.99	17.99	33.526	24.147	376.2	0.008	5.54	241.8	102.4	1.4	0.35	0.1	0.00	0.14	0.47	0.14	2 12
5	17.82	17.82	33.527	24.189	372.2	0.019	5.54	241.9	102.1	1.4	0.37	0.1	0.00	0.27	0.58	0.18	5 11
10	17.62	17.62	33.514	24.227	368.8	0.037	5.56	242.8	102.0	1.5	0.36	0.2	0.00	0.22	0.69	0.22	10 09
10	17.62	17.62	33.515	24.228	368.7	0.035											10 10
20	15.31	15.30	33.401	24.675	326.4	0.072	5.44	237.4	95.3	3.7	0.56	2.6	0.09	0.21	0.74	0.34	20 08
24	14.74	14.73	33.328	24.741	320.2	0.085	5.56	242.9	96.3	3.8	0.56	2.7	0.15	0.10	0.88	0.47	24 07
30	12.94	12.94	33.253	25.054	290.5	0.103	5.27	230.2	87.9	6.6	0.81	6.4	0.24	0.16	0.51	0.42	30 06
40	12.53	12.53	33.294	25.165	280.2	0.132	5.07	221.4	83.9	7.9	0.91	8.0	0.18	0.23	0.40	0.35	40 05
50	11.88	11.87	33.282	25.281	269.4	0.159	4.93	215.2	80.4	9.0	1.02	9.9	0.13	0.19	0.25	0.24	50 04
60	11.75	11.75	33.303	25.320	265.9	0.186	4.83	210.8	78.5	9.7	1.07	10.7	0.12	0.21	0.24	0.25	60 03
75	11.01	11.00	33.383	25.518	247.4	0.224	4.44	193.7	71.1	12.6	1.26	14.0	0.05	0.19	0.14	0.18	76 02
89	10.66	10.65	33.481	25.658	234.4	0.258	4.05	176.7	64.4	15.8	1.43	16.7	0.07	0.16	0.10	0.19	90 01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED 02;

RV NEW HORIZON

CALCOFI CRUISE 1411

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		
DEPTH m	TEMP DEG C	POTTEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/L	OXYGEN $\mu\text{mol/Kg}$	OXY PCT	SI03* μM	P04* μM	N03* μM	N02* μM	NH4* μM	CHL-A $\mu\text{g/L}$	PHAEAO $\mu\text{g/L}$	PRES db
33 44.8 N	120 24.7 W	18/11/2014	2003	UTC	985 m	150 10 kn	070 02 05	1	1019.0 mb	18.9 C	18.1 C	09 m	5/8	ST	053		
0	16.67	16.67	33.460	24.409	351.0	0.000	5.98	261.1	107.7	0.2	0.39	0.1	0.00	0.17	1.40	0.61	0
2	16.67	16.67	33.460	24.409	351.1	0.007	5.98	261.1	107.7	0.2	0.39	0.1	0.00	0.17	1.40	0.61	2 21
10	16.60	16.60	33.471	24.436	349.8	0.035	5.96	260.1	107.1	0.2	0.30	0.0	0.00	0.00	1.57	0.67	10 19
10	16.60	16.60	33.459	24.426	349.8	0.033											10 20
20	16.35	16.34	33.472	24.495	343.5	0.070	5.84	254.8	104.4	0.4	0.34	0.1	0.00	0.05	2.67	0.96	20 18
30	15.75	15.74	33.443	24.610	333.0	0.104	5.62	245.2	99.3	1.8	0.45	1.3	0.04	0.18	2.64	0.81	30 17
39	12.75	12.75	33.347	25.163	280.3	0.131	4.92	214.9	81.8	8.3	0.97	9.2	0.27	0.06	0.43	0.34	39 16
50	11.13	11.13	33.244	25.387	259.2	0.161	4.79	209.2	76.8	10.5	1.18	12.7	0.03	0.12	0.20	0.25	50 15
60	10.38	10.37	33.311	25.572	241.8	0.186	4.51	197.1	71.2	13.2	1.35	15.3	0.01	0.06	0.10	0.16	60 14
69	10.07	10.06	33.436	25.722	227.8	0.207	4.09	178.6	64.2	16.4	1.50	18.1	0.00	0.06	0.11	0.17	76 13
75 ISL	10.02 D	10.01	33.523 D	25.799	220.6	0.204	3.87	D168.7	D60.8	17.9	1.56	19.0	0.00	0.05	0.04	0.09	

RV NEW HORIZON

CALCOFI CRUISE 1411

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		
DEPTH m	TEMP DEG C	POTTEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/L	OXYGEN μmol/Kg	OXY PCT	SI03* μM	P04* μM	N03* μM	N02* μM	NH4* μM	CHL-A μg/L	PHAEAO μg/L	PRES db
33 34.7 N	120 45.4 W	18/11/2014	1719	UTC	1346 m	140 10 kn	100 02 07	2	1019.0 mb	18.7 C	16.0 C	18 m	8/8	ST	052		
0	17.81	17.81	33.578	24.231	368.1	0.000	5.47	238.9	100.7	1.1	0.28	0.1	0.00	0.17	0.36	0.13	0
2 A	17.81	17.81	33.578	24.231	368.1	0.007	5.47	238.9	100.7	1.1	0.28	0.1	0.00	0.17	0.36	0.13	2 24
9 A	17.81	17.81	33.573	24.228	368.6	0.033	5.48	239.4	101.0	1.1	0.27	0.1	0.00	0.42	0.36	0.13	9 22
9	17.81	17.81	33.577	24.231	368.4	0.035											9 23
10 ISL	17.81 D	17.81	33.572	24.227	368.8	0.035	5.50	d239.9	d101.3	1.1	0.27	0.1	0.00	0.43	0.36	0.13	10
13 A	17.81	17.80	33.574	24.229	368.7	0.048	5.46	238.5	100.6	1.1	0.28	0.1	0.00	0.47	0.36	0.13	13 21
20	17.80	17.80	33.579	24.234	368.5	0.074	5.46	238.4	100.5	1.1	0.28	0.1	0.00	0.17	0.38	0.15	20 20
27 A	17.80	17.79	33.573	24.231	369.0	0.100	5.45	237.9	100.3	1.1	0.28	0.1	0.00	0.17	0.37	0.14	27 19
30 ISL	17.71 D	17.70	33.570	d 24.252	367.2	0.110	5.47	d238.5	d100.5	1.7	0.39	1.2	0.04	0.17	0.38	0.19	30
37	14.71	14.70	33.298	24.726	322.1	0.135	5.37	234.4	92.8	3.2	0.63	3.8	0.14	0.16	0.39	0.29	37 17
37	14.71	14.70	33.321	24.744	320.4	0.133											37 18
50 A	11.13	11.12	33.114	25.288	268.7	0.173	5.13	224.0	82.2	8.6	1.08	10.9	0.03	0.17	0.15	0.23	50 16
56	11.06	11.05	33.113	25.298	267.8	0.189	5.14	224.4	82.2	8.8	1.08	11.0	0.03	0.11	0.17	0.19	56 15
63 A	10.43	10.42	33.144	25.434	255.0	0.207	5.00	218.6	79.0	10.8	1.20	13.1	0.01	0.11	0.12	0.14	64 14
75	9.81	9.80	33.213	25.592	240.2	0.237	4.82	210.7	75.2	14.0	1.35	15.6	0.01	0.08	0.07	0.08	76 13
86	10.04	10.03	33.398	25.699	230.3	0.263	4.24	185.3	66.5	15.8	1.48	17.8	0.00	0.14	0.05	0.07	87 12
100	9.60	9.58	33.551	25.892	212.2	0.294	3.74	163.4	58.2	20.2	1.68	20.7	0.00	0.10	0.02	0.04	101 11
119	9.52	9.51	33.796	26.096	193.3	0.332	2.91	127.2	45.3	25.8	1.92	24.1	0.00	0.09	0.01	0.04	120 10
125 ISL	9.46 D	9.45	33.820	d 26.125	190.7	0.323	2.88	d125.5	d44.7	26.6	1.95	24.6	0.00	0.08	0.01	0.04	126
140	9.36	9.35	33.923	26.222	181.7	0.372	2.62	114.3	40.6	28.8	2.04	25.6	0.00	0.06	0.01	0.04	141 09
150 ISL	9.33 D	9.32	33.952	d 26.250	179.3	0.369	2.44	d106.2	d 37.8	30.0	2.07	26.3	0.00	0.08	0.01	0.04	151
169	8.92	8.90	33.963	26.325	172.5	0.423	2.45	107.0	37.6	32.5	2.14	27.5	0.00	0.11	0.01	0.04	170 08
200	8.51	8.49	34.050	26.458	160.4	0.475	2.09	91.2	31.8	37.8	2.36	29.3	0.00	0.11	0.00	0.03	202 07
230	8.51	8.49	34.138	26.527	154.4	0.522	1.54	67.3	23.5	41.6	2.49	30.7	0.00	0.10			232 06
250 ISL	8.51 D	8.48	34.176	d 26.559	151.9	0.533	1.32	d 57.3	d 20.0	43.6	2.55	31.4	0.00	0.08			252
270	8.34	8.31	34.197	26.601	148.1	0.583	1.18	51.4	17.9	45.6	2.61	32.1	0.00	0.05			272 05
300 ISL	8.01 D	7.97	34.207	d 26.660	143.0	0.607	1.00	d 43.5	d 15.0	49.7	2.68	33.3	0.00	0.06			302
320	7.67	7.64	34.190	26.696	139.7	0.655	0.97	42.3	14.5	52.5	2.73	34.0	0.00	0.06			323 04
381	7.05	7.01	34.203	26.795	131.0	0.737	0.74	32.2	10.9	60.7	2.89	36.7	0.00	0.02			384 03
400 ISL	6.91 D	6.87	34.211	d 26.821	128.7	0.744	0.70	d 30.3	d 10.2	63.1	2.93	37.1	0.00	0.03			403
441	6.64	6.60	34.246	26.885	123.0	0.814	0.49	21.2	7.1	68.2	3.03	38.1	0.00	0.05			445 02
500 ISL	6.18 D	6.14	34.270	d 26.964	116.0	0.867	0.37	d 16.1	d 5.3	75.4	3.14	39.6	0.00	0.03			504
516	6.12	6.07	34.279	26.979	114.7	0.903	0.34	14.7	4.8	77.4	3.17	40.0	0.00	0.02			520 01

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

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

RV NEW HORIZON

CALCOFI CRUISE 1411

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		
DEPTH m	TEMP DEG C	POTTEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/L	OXYGEN μmol/Kg	OXY PCT	SI03* μM	P04* μM	N03* μM	N02* μM	NH4* μM	CHL-A μg/L	PHAEAO μg/L	PRES db
33 14.8 N	121 26.6 W	18/11/2014	1017	UTC	3797 m	080 04 kn				1017.0 mb	17.2 C	15.2 C					051
0	18.18	18.18	33.350	23.965	393.4	0.000	5.42	236.7	100.4	1.2	0.31	0.1	0.00	0.28	0.15	0.03	0
2	18.18	18.18	33.350	23.965	393.4	0.008	5.42	236.7	100.4	1.2	0.31	0.1	0.00	0.28	0.15	0.03	2 21
10 ISL	17.85 D	17.84	33.535	24.189	372.4	0.039	5.49	239.8	101.2						0.33	0.09	10 19
10	17.85	17.84	33.538	24.192	372.1	0.037											10 20
19	17.80	17.79	33.547	24.212	370.6	0.072	5.50	239.9	101.2	1.2	0.30	0.1	0.01	0.17	0.44	0.15	19 18
20 ISL	17.76 D	17.76	33.543	d 24.216	370.2	0.059	5.49	d239.3	d 101.0	1.2	0.30	0.1	0.01	0.16	0.44	0.15	20
30	17.46	17.45	33.516	24.270	365.4	0.112	5.53	241.3	101.1	0.9	0.29	0.1	0.01	0.06	0.40	0.15	30 17
40	16.88	16.87	33.498	24.395	353.9	0.148	5.41	236.3	97.9	1.6	0.39	1.0	0.08	0.14	0.40	0.21	40 16
50	13.76	13.76	33.407	25.009	295.5	0.181	5.17	225.6	87.7	4.1	0.68	4.9	0.18	0.13	0.34	0.25	50 15
59	12.89	12.88	33.327	25.123	284.8	0.207	4.92	214.9	82.0	7.0	0.99	9.1	0.05	0.13	0.22	0.27	59 14
70	11.06	11.05	33.180	25.352	263.1	0.237	4.96	216.6	79.4	9.3	1.12	11.8	0.03	0.07	0.14	0.19	71 13
75 ISL	10.86 D	10.85	33.234	d 25.428	255.9	0.235	4.80	d208.9	d 76.5	10.6	1.19	13.1	0.03	0.05	0.12	0.16	76
85	10.53	10.52	33.354	25.580	241.7	0.275	4.43	193.6	70.2	13.2	1.34	15.7	0.01	0.01	0.07	0.10	86 12
100	9.93	9.92	33.464	25.769	224.0	0.310	4.06	177.4	63.5	16.9	1.53	18.6	0.01	0.04	0.03	0.05	101 11
119	9.38	9.37	33.652	26.006	201.7	0.350	3.65	159.4	56.5	21.9	1.70	22.0	0.01	0.08	0.01	0.03	120 10
125 ISL	9.33 D	9.31	33.691	d 26.046	198.1	0.348	3.57	d155.4	d 55.2	23.2	1.75	22.7	0.01	0.07	0.01	0.03	126
141	8.99	8.97	33.803	26.188	184.9	0.393	3.20	139.5	49.1	26.6	1.87	24.8	0.01	0.06	0.00	0.02	142 09
150 ISL	8.90 D	8.88	33.870	d 26.255	178.7	0.395	3.05	d132.9	d 46.8	28.5	1.94	25.7	0.01	0.05	0.00	0.02	151
170	8.66	8.64	33.952	26.357	169.3	0.444	2.64	d114.8	d 40.2	32.5	2.08	27.7	0.01	0.03	0.00	0.03	171 08
200	8.44	8.42	34.035	26.456	160.5	0.494	2.10	91.5	31.8	37.3	2.29	29.7	0.01	0.04	0.00	0.03	202 07
230	8.07	8.05	34.092	26.557	151.3	0.540	1.70	74.3	25.7	43.1	2.45	31.7	0.00	0.03			232 06
250 ISL	7.69 D	7.66	34.081</td														

RV NEW HORIZON

CALCOFI CRUISE 1411

STATION 83.3 80.0

DEPTH m	TEMP DEG C	POTTEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	WIND SPEED ml/L μmol/Kg	WAVES PCT	WEA	BAROMETER 1018.0 mb	DRY 17.9 C	WET 15.1 C	SECCHI	CLD AMT	TYPE	ORD	
																050	
0	18.03	18.03	33.421	24.058	384.5	0.000	5.49	239.4	101.4	1.0	0.35	0.1	0.00	0.10	0.18	0.05	0
2	18.03	18.02	33.421	24.058	384.6	0.008	5.49	239.4	101.4	1.0	0.35	0.1	0.00	0.10	0.18	0.05	2 21
9	18.03	18.03	33.433	24.067	384.0	0.035	5.48	239.2	101.3	1.0	0.31	0.1	0.00	0.15	0.19	0.05	9 19
9	18.03	18.03	33.427	24.063	384.4	0.036											9 20
10	ISL	18.03 D	18.03	33.432 D	24.066	384.2	0.037	5.48	D239.0 D101.3	1.0	0.31	0.1	0.00	0.15	0.19	0.05	10
20	ISL	18.03 D	18.03	33.439 D	24.072	384.0	0.075	5.45	D237.8 D100.8	0.9	0.30	0.1	0.00	0.14	0.22	0.06	20
25	18.03	18.03	33.442	24.075	383.9	0.096	5.46	238.2	100.8	0.9	0.30	0.1	0.00	0.14	0.24	0.06	25 18
30	ISL	18.03 D	18.03	33.442 D	24.074	384.2	0.114	5.47	D238.5 D101.1	0.9	0.30	0.1	0.00	0.12	0.25	0.07	30
40	17.91	17.90	33.416	24.086	383.4	0.154	5.50	240.0	101.4	1.0	0.29	0.1	0.00	0.07	0.28	0.09	40 17
50	14.30	14.29	33.026	24.603	334.2	0.190	5.94	259.2	101.6	2.3	0.41	0.1	0.01	0.19	0.57	0.29	50 16
62	13.12	13.11	33.096	24.899	306.2	0.228	5.63	245.9	94.1	3.7	0.68	3.6	0.27	0.19	0.44	0.29	62 15
75	11.42	11.41	33.156	25.269	271.1	0.266	5.08	221.6	81.9	8.0	1.08	10.5	0.03	0.15	0.17	0.20	76 14
86	10.81	10.80	33.359	25.536	245.9	0.294	4.47	195.1	71.2	12.6	1.31	15.0	0.02	0.07	0.08	0.12	87 13
100	9.74	9.73	33.384	25.737	226.9	0.327	4.41	192.7	68.7	16.0	1.47	17.9	0.01	0.10	0.03	0.04	101 12
111	9.61	9.60	33.465	25.823	219.0	0.352	4.12	179.8	64.0	19.1	1.59	19.8	0.01	0.08	0.01	0.04	112 11
125	9.28	9.27	33.687	26.049	197.8	0.381	3.37	147.2	52.1	23.9	1.81	23.3	0.01	0.10	0.01	0.04	126 10
140	8.98	8.97	33.788	26.177	185.9	0.410	3.04	132.7	46.7	26.7	1.95	25.1	0.01	0.20	0.00	0.03	141 09
150	ISL	8.91 D	8.89	33.861 D	26.246	179.5	0.428	2.97	D129.1 D 45.5	28.4	1.95	25.6	0.01	0.16	0.00	0.03	151
170	8.35	8.34	33.926	26.383	166.8	0.463	3.11	135.7	47.1	31.9	1.95	26.5	0.01	0.08	0.00	0.02	171 08
199	7.92	7.90	33.972	26.485	157.5	0.510	2.80	122.1	42.0	36.9	2.08	28.6	0.01	0.08	0.00	0.02	201 07
200	ISL	7.93 D	7.91	33.976 D	26.486	157.5	0.511	2.79	D121.3 D 41.8	37.1	2.09	28.7	0.01	0.08			202
230	7.49	7.47	33.993	26.564	150.4	0.558	2.39	104.3	35.5	43.0	2.27	30.9	0.01	0.08			232 06
250	ISL	7.30 D	7.27	34.007 D	26.602	147.0	0.588	2.14	D 93.1 D 31.7	46.0	2.37	32.1	0.01	0.10			252
270	7.14	7.11	34.019	26.634	144.2	0.616	1.92	83.7	28.2	49.0	2.47	33.3	0.01	0.11			272 05
300	ISL	6.90 D	6.87	34.039 D	26.683	139.9	0.660	1.63	D 70.7 D 23.8	53.7	2.58	34.9	0.01	0.12			302
320	6.70	6.67	34.049	26.718	136.8	0.687	1.40	61.2	20.5	56.8	2.66	36.0	0.01	0.12			323 04
380	6.21	6.18	34.095	26.819	127.8	0.766	0.97	42.2	14.0	66.8	2.90	39.0	0.01	0.20			383 03
400	ISL	6.11 D	6.08	34.121 D	26.853	124.8	0.793	0.80	D 37.5 D 12.4	69.4	2.95	39.4	0.01	0.21			403
440	5.89	5.85	34.155	26.909	119.9	0.840	0.62	27.1	8.9	74.6	3.05	40.3	0.01	0.23			444 02
500	ISL	5.67 D	5.62	34.229 D	26.996	112.4	0.913	0.45	D 19.4 D 6.4	82.8	3.19	41.1	0.01	0.16			504
515	5.51	5.47	34.243	27.025	109.6	0.927	0.34	14.7	4.8	84.9	3.23	41.3	0.02				519 01

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

DEPTH m	TEMP DEG C	POTTEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	WIND SPEED ml/L μmol/Kg	WAVES PCT	WEA	BAROMETER 1018.0 mb	DRY 18.3 C	WET 16.7 C	SECCHI	CLD AMT	TYPE	ORD	
																049	
0	18.22	18.22	33.037	23.717	417.0	0.000	5.49	239.7	101.6	1.5	0.37	0.0	0.01	0.11	0.12	0.02	0
2	18.22	18.22	33.037	23.717	417.1	0.008	5.49	239.7	101.6	1.5	0.37	0.0	0.01	0.11	0.12	0.02	2 21
10	17.81	17.81	33.067	23.839	405.7	0.041	5.56	242.7	102.1	1.4	0.38	0.0	0.01	0.08	0.13	0.03	10 19
10	17.81	17.81	33.076	23.846	405.1	0.041											10 20
20	ISL	17.19 D	17.18	33.006 D	23.943	396.2	0.062	5.75	D250.7 D104.2	1.7	0.36	0.0	0.01	0.05	0.15	0.05	20
25	16.46	16.46	32.909	24.038	387.4	0.101	5.95	259.9	106.3	1.8	0.35	0.0	0.00	0.04	0.17	0.06	25 18
30	ISL	15.87 D	15.86	32.870 D	24.143	377.5	0.101	6.05	D263.9 D106.9	1.9	0.35	0.0	0.00	0.04	0.17	0.08	30
39	15.59	15.59	32.884	24.215	370.9	0.154	6.09	266.1	107.0	2.1	0.35	0.0	0.01	0.04	0.19	0.10	39 17
50	14.40	14.39	32.887	24.476	346.2	0.193	6.11	266.7	104.7	2.4	0.38	0.1	0.01	0.13	0.27	0.18	50 16
62	12.84	12.83	32.861	24.771	318.3	0.233	5.91	258.2	98.1	3.5	0.53	1.4	0.19	0.07	0.37	0.34	62 15
75	11.99	11.98	33.238	25.226	275.3	0.272	4.96	216.5	81.0	7.9	1.04	10.0	0.04	0.09	0.22	0.24	76 14
87	11.21	11.20	33.324	25.438	255.3	0.303	4.56	199.0	73.3	11.3	1.25	13.6	0.03	0.07	0.11	0.15	88 13
100	10.73	10.71	33.385	25.571	242.9	0.336	4.30	187.8	68.5	13.5	1.37	15.7	0.02	0.07	0.07	0.11	101 12
112	9.98	9.97	33.550	25.828	218.6	0.364	3.69	160.9	57.8	18.6	1.59	19.3	0.02	0.12	0.03	0.06	113 11
125	9.71	9.69	33.693	25.986	203.9	0.391	3.24	141.2	50.4	22.7	1.76	22.0	0.01	0.05	0.02	0.05	126 10
140	9.34	9.33	33.773	26.108	192.5	0.421	2.99	130.6	46.3	25.7	1.89	24.1	0.01	0.08	0.01	0.04	141 09
150	ISL	9.03 D	9.01	33.838 D	26.209	183.1	0.422	2.95	D128.3 D 45.3	27.5	1.94	25.0	0.01	0.08	0.01	0.04	151
170	8.78	8.76	33.921	26.313	173.6	0.475	2.67	116.4	40.8	31.1	2.04	26.8	0.01	0.07	0.00	0.03	171 08
200	8.52	8.50	33.996	26.414	164.5	0.526	2.34	101.9	35.5	35.7	2.17	28.5	0.01	0.03	0.00	0.02	202 07
230	8.24	8.22	34.070	26.515	155.4	0.574	1.94	84.4	29.3	40.4	2.34	30.1	0.01	0.11			232 06
250	ISL	7.90 D	7.87	34.041 D	26.544	152.9	0.587	2.10	D 91.3 D 31.5	43.2	2.39	31.2	0.01	0.07			252
270	7.52	7.49															

RV NEW HORIZON

CALCOFI CRUISE 1411

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		
DEPTH	TEMP	POTTEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXYGEN	OXY	SI03*	P04*	N03*	N02*	NH4*	CHL-A	PHAEAO	PRES SAMP
m	DEG C	DEG C	THETA			ml/L $\mu\text{mol/Kg}$	ml/L $\mu\text{mol/Kg}$	PCT	μM	μM	μM	μM	μM	$\mu\text{g/L}$	$\mu\text{g/L}$	db	
32	14.6 N	123 29.3 W	17/11/2014	1759	UTC	4169 m	050 06 kn	060 03 06	1	1021.0 mb	19.9 C	16.9 C	43 m	7/8	ST	048	
0	19.47	19.47	33.302	D 23.606	427.6	0.000	5.32	232.2	101.0	2.3	0.32	0.1	0.00	1.03	0.11	0.04	0
2	19.47	19.47	33.302	D 23.606	427.7	0.009	5.32	232.2	101.0	2.3	0.32	0.1	0.00	1.03	0.11	0.04	2 24
10 ISL	19.43	D 19.43	33.301	D 23.615	427.2	0.043	5.34	D 233.0	D 101.3	2.3	0.31	0.1	0.00	0.35	0.11	0.03	10
13	19.43	19.43	33.303	23.616	427.2	0.056	5.30	231.5	100.6	2.3	0.31	0.1	0.00	0.10	0.11	0.03	13 21
13	19.43	19.43	33.302	23.616	427.2	0.054											13 23
13	19.43	19.43	33.302	23.616	427.2	0.055											13 22
20 ISL	19.44	D 19.43	33.302	D 23.616	427.5	0.071	5.36	D 233.7	D 101.6	2.3	0.32	0.1	0.00	0.21	0.12	0.04	20
24 A	19.44	19.44	33.312	23.623	427.0	0.103	5.30	231.3	100.5	2.3	0.33	0.1	0.00	0.27	0.12	0.04	24 20
30 ISL	19.43	D 19.43	33.302	D 23.617	427.8	0.114	5.34	D 233.0	D 101.3	2.3	0.32	0.1	0.00	0.17	0.12	0.04	30
34 A	19.44	19.43	33.303	23.618	427.9	0.145	5.32	232.1	100.8	2.2	0.32	0.1	0.00	0.10	0.12	0.05	34 19
44	19.44	19.43	33.305	23.621	428.1	0.188	5.32	232.4	100.9	2.3	0.32	0.1	0.00	0.23	0.13	0.04	44 18
50 ISL	19.34	D 19.33	33.314	D 23.652	425.3	0.201	5.37	D 234.1	D 101.6	2.3	0.31	0.1	0.00	0.22	0.18	0.06	50
54	19.14	19.13	33.283	23.681	422.7	0.231	5.43	237.0	102.3	2.3	0.31	0.1	0.00	0.21	0.08	0.04	54 17
63	16.30	16.29	33.073	24.204	372.9	0.268											64 16
64 A	16.15	16.14	33.075	24.239	369.5	0.270	5.92	258.3	105.1	2.2	0.35	0.1	0.00	0.19	0.22	0.17	65 15
75 ISL	14.85	D 14.84	33.133	D 24.571	338.1	0.277	5.93	D 258.3	D 102.7	2.8	0.41	0.3	0.06	0.17	0.21	0.18	76
81	13.85	13.84	33.085	24.744	321.6	0.329	5.81	253.6	98.5	3.1	0.44	0.4	0.10	0.16	0.21	0.18	82 14
100	12.25	12.23	33.115	25.084	289.5	0.387	5.51	240.7	90.5	5.0	0.68	4.4	0.15	0.09	0.16	0.18	101 13
118 A	11.01	11.00	33.164	25.349	264.5	0.437	5.23	228.2	83.6	7.4	0.90	8.5	0.02	0.27	0.10	0.13	119 12
125 ISL	10.79	D 10.77	33.220	D 25.433	256.6	0.424	5.14	D 224.0	D 81.9	8.9	1.01	10.4	0.01	0.13	0.09	0.12	126
130	10.59	10.57	33.228	25.474	252.8	0.468	4.94	215.5	78.2	10.0	1.09	11.8	0.01	0.03	0.08	0.11	131 11
140	9.88	9.86	33.364	25.700	231.4	0.492	4.59	200.3	71.6	13.9	1.28	15.3	0.01	0.08	0.04	0.06	141 10
150 A	9.71	9.69	33.429	25.780	223.9	0.515	4.43	193.4	68.9	15.8	1.37	16.7	0.01	0.07	0.03	0.04	151 09
169	9.24	9.22	33.604	25.994	204.0	0.556	3.96	173.0	61.1	21.0	1.61	20.6	0.00	0.07	0.01	0.02	170 08
200	8.92	8.90	33.809	26.205	184.5	0.616	3.36	146.7	51.5	26.5	1.81	24.3	0.00	0.05	0.00	0.01	202 07
229	8.59	8.56	33.916	26.341	172.0	0.668	3.03	132.4	46.2	30.8	1.93	26.0	0.00	0.05			231 06
250 ISL	8.25	D 8.22	33.967	D 26.433	163.6	0.674	2.83	D 123.0	D 42.7	34.6	2.03	27.5	0.00	0.06			252
270	7.93	7.90	33.988	26.498	157.7	0.735	2.60	113.4	39.0	38.2	2.12	28.9	0.00	0.06			272 05
300 ISL	7.56	D 7.53	34.015	D 26.573	150.8	0.753	2.18	D 94.9	D 32.5	44.2	2.32	31.3	0.00	0.05			302
320	7.36	7.33	34.045	26.625	146.2	0.811	1.76	76.9	26.1	48.2	2.45	32.9	0.00	0.05			323 04
379	6.74	6.70	34.079	26.738	135.9	0.894	1.29	56.3	18.8	57.8	2.68	35.7	0.00	0.06			382 03
400 ISL	6.55	D 6.51	34.092	D 26.774	132.7	0.895	1.18	D 51.4	D 17.2	61.5	2.75	36.6	0.00	0.11			403
439	6.19	6.15	34.118	26.842	126.5	0.973	0.89	38.8	12.8	68.3	2.88	38.1	0.01	0.21			443 02
500 ISL	5.73	D 5.69	34.166	D 26.938	117.9	1.021	0.62	D 26.8	D 8.8	77.3	3.02	39.8	0.00	0.06			504
517	5.63	5.58	34.182	26.964	115.5	1.067	0.53	23.1	7.5	79.9	3.06	40.3	0.00	0.02			521 01

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

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

RV NEW HORIZON

CALCOFI CRUISE 1411

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		
DEPTH	TEMP	POTTEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXYGEN	OXY	SI03*	P04*	N03*	N02*	NH4*	CHL-A	PHAEAO	PRES SAMP
m	DEG C	DEG C	THETA			ml/L $\mu\text{mol/Kg}$	ml/L $\mu\text{mol/Kg}$	PCT	μM	μM	μM	μM	μM	$\mu\text{g/L}$	$\mu\text{g/L}$	db	
31	54.8 N	124 10.2 W	17/11/2014	1208	UTC	4226 m	050 06 kn	060 03 06	1	1020.0 mb	18.2 C	15.9 C	42 m	7/8	ST	047	
0	19.76	19.76	33.368	23.582	430.0	0.000	5.28	230.5	100.7	2.2	0.30	0.0	0.01	0.09	0.09	0.03	0
2	19.76	19.76	33.368	23.582	430.0	0.009	5.28	230.5	100.7	2.2	0.30	0.0	0.01	0.09	0.09	0.03	2 23
10	19.77	19.77	33.368	23.580	430.5	0.043	5.31	231.7	101.3	2.2	0.30	0.0	0.01	0.05	0.10	0.02	10 21
10	19.77	19.77	33.370	23.582	430.4	0.043											10 22
19	19.77	19.77	33.369	23.581	430.8	0.083											19 19
20 ISL	19.77	D 19.77	33.366	D 23.579	431.0	0.046	5.30	D 231.4	D 101.3	2.2	0.30	0.0	0.01	0.09	0.10	0.03	20
20	19.77	19.77	33.368	23.581	430.9	0.085											20 20
24	19.77	19.77	33.372	23.584	430.7	0.103	5.30	231.2	101.1	2.2	0.30	0.0	0.01	0.11	0.10	0.03	24 18
30 ISL	19.77	D 19.76	33.365	D 23.579	431.4	0.081	5.30	D 231.3	D 101.2	2.2	0.30	0.0	0.01	0.07	0.10	0.03	30
40	19.78	19.78	33.369	23.579	431.9	0.172	5.30	231.2	101.1	2.2	0.30	0.0	0.01	0.10	0.02	40 17	
50	19.81	19.80	33.379	23.581	432.1	0.216	5.28	230.4	100.8	2.2	0.29	0.0	0.01	0.06	0.11	0.03	50 16
62	18.37	18.36	33.353	23.926	399.5	0.265	5.76	251.6	107.1	2.3	0.25	0.0	0.01	0.06	0.19	0.06	62 15
75	16.78	16.77	33.250	24.229	371.0	0.316	5.84	255.8	105.5	2.2	0.27	0.0	0.01	0.03	0.18	0.11	76 14
86	16.00	15.99	33.221	24.386	356.3	0.356	5.77	252.1	102.4	2.3	0.29	0.0	0.02	0.05	0.20	0.17	87 13
100	14.87	14.85	33.263	24.669	329.6	0.404	5.73	250.2	99.4	2.5	0.31	0.0	0.02	0.05	0.18	0.17	101 12
112	12.94	12.93	33.164	24.988	299.1	0.441	5.65	246.7	94.1	3.5	0.46	0.8	0.21	0.05	0.18	0.15	113 11
125	11.69	11.68															

RV NEW HORIZON

CALCOFI CRUISE 1411

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		
DEPTH	TEMP	POTTEMP	SALINITY	SIGMA	THETA	SVA	DYN HT	OXYGEN	OXYGEN	OXY	N03*	N02*	NH4*	CHL-A	PHAEAO	PRES	SAMP	
m	DEG C	DEG C				ml/L	μmol/Kg	μM	μM	μM	μM	μM	μM	μg/L	μg/L	db		
0	19.72	19.72	33.593	23.763	412.6	0.000	5.41	236.4	103.4	1.7	0.41	0.1	0.02	0.22	0.21	0.05	0	
2	19.72	19.72	33.593	23.764	412.7	0.008	5.41	236.4	103.4	1.7	0.41	0.1	0.02	0.22	0.21	0.05	2	
5	19.63	19.63	33.595	23.789	410.4	0.021	5.38	234.8	102.5	1.8	0.36	0.1	0.02	0.21	0.21	0.05	5	
10	19.19	19.19	33.585	23.894	400.6	0.041	5.42	236.7	102.5	1.7	0.28	0.1	0.04	0.22	0.07	10		
10	19.19	19.19	33.563	23.877	402.2	0.040											05	
20	ISL	18.61	D 18.61	33.526	D 23.995	391.3	0.061	5.60	D 244.4	D 104.8	2.6	0.36	0.4	0.18	0.52	0.65	0.25	20
30	A	16.33	16.32	33.351	24.408	352.2	0.118	5.97	260.5	106.6	3.5	0.44	0.7	0.35	0.99	1.08	0.44	30
40	A	15.85	15.84	33.331	24.502	343.6	0.153	5.90	257.5	104.4	3.8	0.46	0.9	0.52	1.58	0.97	0.45	40
50	A	14.84	14.83	33.295	24.697	325.2	0.186	5.59	244.0	96.9	5.2	0.63	2.4	1.22	2.92	0.55	0.41	50
																	01	

A) UNUSUAL HIGH NUTRIENT CONCENTRATIONS MAY BE DUE TO THE PROXIMITY OF THIS STATION TO THE HYPERION WASTE-WATER OUTFALL;

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

RV NEW HORIZON

CALCOFI CRUISE 1411

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		
DEPTH	TEMP	POTTEMP	SALINITY	SIGMA	THETA	SVA	DYN HT	OXYGEN	OXYGEN	OXY	N03*	N02*	NH4*	CHL-A	PHAEAO	PRES	SAMP	
m	DEG C	DEG C				ml/L	μmol/Kg	μM	μM	μM	μM	μM	μM	μg/L	μg/L	db		
0	19.66	19.66	33.602	23.786	410.4	0.000	5.35	233.7	102.1	1.7	0.31	0.1	0.01	0.23	0.17	0.06	0	
2	19.66	19.66	33.602	23.786	410.5	0.008	5.35	233.7	102.1	1.7	0.31	0.1	0.01	0.23	0.17	0.06	2	
10	19.65	19.64	33.599	23.788	410.7	0.041	5.39	235.4	102.8	1.7	0.28	0.0	0.01	0.17	0.11	10		
10	19.65	19.64	33.604	23.792	410.3	0.040											20	
20	19.40	19.40	33.581	23.838	406.3	0.082	5.42	236.8	103.0	1.7	0.29	0.0	0.01	0.13	0.20	0.06	20	
30	A	17.20	17.20	33.398	24.240	368.2	0.121	5.82	256.9	107.0	2.3	0.35	0.1	0.03	0.28	0.45	0.16	30
40	A	15.60	15.59	33.327	24.554	338.6	0.156	5.82	254.2	102.5	3.7	0.46	0.9	0.72	1.22	1.11	0.43	40
50	A	14.30	14.29	33.304	24.817	313.8	0.189	5.66	247.3	97.1	4.4	0.56	2.1	0.99	0.35	0.70	0.37	50
60	A	13.19	13.18	33.269	25.018	294.8	0.219	5.39	235.4	90.4	5.7	0.77	5.0	0.39	0.23	0.35	0.37	60
70	A	12.05	12.04	33.303	25.265	271.5	0.247	5.02	219.2	82.1	7.6	0.92	8.1	0.08	0.15	0.22	0.25	71
75	ISL	11.55	D 11.54	33.313	D 25.366	261.9	0.242	4.87	D 212.0	D 78.8	8.7	1.00	9.6	0.07	0.15	0.19	0.22	76
85		11.25	11.24	33.366	25.463	253.0	0.286	4.56	199.0	73.3	11.1	1.16	12.5	0.04	0.16	0.14	0.17	86
100		10.92	10.91	33.477	25.608	239.5	0.323	4.08	178.1	65.2	14.3	1.36	15.6	0.03	0.11	0.09	0.14	101
120		10.25	10.24	33.560	25.790	222.5	0.369	3.72	162.5	58.7	17.5	1.54	18.4	0.03	0.16	0.05	0.10	121
125	ISL	10.23	D 10.21	33.589	D 25.818	220.0	0.362	3.71	D 161.3	D 58.4	18.5	1.59	19.1	0.02	0.17	0.05	0.09	126
140		9.95	9.93	33.753	25.993	203.7	0.395	3.27	142.9	51.3	21.6	1.75	21.3	0.02	0.21	0.02	0.06	141
150	ISL	9.97	D 9.95	33.827	D 26.048	198.7	0.415	2.89	D 125.6	D 45.3	23.3	1.82	22.3	0.02	0.18	0.02	0.06	151
169		9.86	9.84	33.905	26.128	191.6	0.469	2.61	113.8	40.8	26.7	1.96	24.1	0.02	0.11	0.01	0.05	170
199		9.25	9.23	33.982	26.289	176.7	0.525	2.37	103.2	36.6	30.9	2.10	26.5	0.02	0.09	0.01	0.04	201
200	ISL	9.27	D 9.25	33.985	D 26.288	176.8	0.509	2.35	D 102.4	D 36.4	31.1	2.11	26.5	0.02	0.09			202
230		8.99	8.96	34.081	26.409	165.9	0.578	1.94	84.9	29.9	35.0	2.26	28.1	0.02	0.07			232
250	ISL	8.96	D 8.94	34.126	D 26.448	162.6	0.594	1.74	D 75.5	D 26.7	37.0	2.34	28.8	0.01	0.09			252
270		8.96	8.93	34.160	26.476	160.5	0.643	1.53	66.9	23.6	39.0	2.41	29.5	0.01	0.10			272
300	ISL	8.94	D 8.91	34.230	D 26.535	155.5	0.674	1.16	D 50.6	D 17.9	41.9	2.54	30.4	0.01	0.14			302
320		8.74	8.70	34.261	26.592	150.4	0.721	0.99	43.2	15.2	43.8	2.62	31.0	0.01	0.16			323
380		8.14	8.10	34.267	26.690	141.9	0.809	0.73	31.9	11.0	51.3	2.79	33.1	0.02	0.28			383
400	ISL	8.04	D 8.00	34.269	D 26.707	140.6	0.822	0.73	D 31.8	D 11.0	53.2	2.82	33.7	0.01	0.22			403
441		7.57	7.53	34.272	26.777	134.3	0.893	0.61	26.4	9.0	57.1	2.89	34.8	0.01	0.10			445
500	ISL	6.86	D 6.82	34.298	D 26.897	123.2	0.955	0.40	D 17.4	D 5.9	67.8	3.04	37.1	0.02	0.04			504
515		6.70	6.65	34.303	26.924	120.7	0.987	0.32	14.0	4.7	70.5	3.08	37.6	0.02	0.02			519
																	01	

A) UNUSUAL HIGH NUTRIENT CONCENTRATIONS MAY BE DUE TO THE PROXIMITY OF THIS STATION TO THE HYPERION WASTE-WATER OUTFALL;

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

RV NEW HORIZON

CALCOFI CRUISE 1411

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		
DEPTH	TEMP	POTTEMP	SALINITY	SIGMA	THETA	SVA	DYN HT	OXYGEN	OXYGEN	OXY	N03*	N02*	NH4*	CHL-A	PHAEAO	PRES	SAMP	
m	DEG C	DEG C				ml/L	μmol/Kg	μM	μM	μM	μM	μM	μM	μg/L	μg/L	db		
0	19.46	19.46	33.603	23.837	405.6	0.000	5.37	234.4	102.1	1.5	0.38	0.1	0.01	0.51	0.18	0.04	0	
3	19.46	19.46	33.603	23.838	405.7	0.012	5.37	234.4	102.1	1.5	0.38	0.1	0.01	0.51	0.18	0.04	3	
10	19.46	19.46	33.601	23.838	406.0	0.041	5.36	234.0	101.9	1.4	0.29	0.1	0.01	0.14	0.20	0.07	10	
11	19.46	19.46	33.595	23.834	406.3	0.043											23	
20	19.28	19.28	33.568	23.859	404.4	0.081	5.41	236.2	102.5	1.5	0.30	0.1	0.01	0.13	0.40	0.17	20	
30	A	18.12	18.12	33.413	24.031	388.3	0.121	5.74	250.4	106.2	1.9	0.34	0.1	0.01	0.16	0.33	0.13	30
40		15.23	15.23	33.308	24.621	332.2	0.157	6.04	263.9	105.6	3.0	0.38	0.1	0.01	0.08	0		

RV NEW HORIZON

CALCOFI CRUISE 1411

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			
DEPTH	TEMP	POTTEMP	SALINITY	SIGMA THETA	SV	DYN HT	OXYGEN ml/L	OXYGEN $\mu\text{mol}/\text{kg}$	OXY PCT	SiO3* μM	Po4* μM	N03* μM	N02* μM	NH4* μM	CHL-A $\mu\text{g}/\text{L}$	PHAE0 $\mu\text{g}/\text{L}$	PRES db	SAMP
m	DEG C	DEG C																
0	17.86	17.86	33.531	24.182	372.7	0.000	5.48	239.3	101.0	0.8	0.26	0.0	0.01	0.04	0.43	0.14	0	
2	17.86	17.86	33.531	24.182	372.8	0.008	5.48	239.3	101.0	0.8	0.26	0.0	0.01	0.04	0.43	0.14	2	
10	17.87	17.87	33.531	24.181	373.2	0.037	5.49	239.6	101.2	0.8	0.27	0.0	0.01	0.04	0.42	0.14	10	
10	17.87	17.87	33.532	24.181	373.1	0.036											20	
19	17.86	17.86	33.540	24.190	372.7	0.071	5.53	241.5	101.9	0.8	0.26	0.0	0.01	0.00	0.43	0.15	19	
20	ISL	17.87 D	17.87	33.529	24.180	373.6	0.058	5.49	239.4	101.2	0.8	0.26	0.0	0.01	0.00	0.45	0.15	
30	17.71	17.70	33.519	24.213	370.9	0.112	5.52	240.8	101.4	0.8	0.27	0.1	0.02	0.00	0.62	0.21	30	
40	15.31	15.30	33.341	24.630	331.4	0.147	5.45	237.8	95.4	2.5	0.47	2.1	0.15	0.09	0.47	0.35	40	
50	13.67	13.66	33.236	24.895	306.3	0.179	5.36	233.9	90.6	4.9	0.72	5.3	0.21	0.07	0.61	0.48	50	
60	12.33	12.32	33.217	25.146	282.5	0.208	5.09	222.1	83.7	7.2	0.92	8.6	0.13	0.02	0.31	0.35	60	
70	11.57	11.56	33.342	25.386	259.9	0.235	4.67	203.8	75.6	10.3	1.09	11.7	0.08	0.00	0.18	0.22	71	
75	ISL	11.19 D	11.18	33.362	25.470	252.0	0.234	4.51	196.6	72.6	11.7	1.17	13.0	0.07	0.00	0.15	0.19	
85	10.81	10.80	33.453	25.609	239.0	0.273	4.17	182.1	66.5	14.6	1.34	15.7	0.05	0.00	0.10	0.14	86	
100	10.09	10.08	33.515	25.781	222.8	0.307	3.89	170.0	61.2	17.3	1.49	18.3	0.03	0.01	0.17	101	11	
119	9.70	9.69	33.651	25.953	206.9	0.348	3.51	153.2	54.7	21.4	1.66	21.1	0.02	0.00	0.02	0.12	120	
125	ISL	9.64 D	9.63	33.672	25.980	204.5	0.346	3.44	1049.7	53.5	22.3	1.69	21.7	0.02	0.00	0.02	0.10	
140	9.44	9.42	33.771	26.091	194.2	0.390	3.19	139.0	49.4	24.6	1.78	23.0	0.02	0.03	0.01	0.04	141	
150	ISL	9.30 D	9.29	33.820	26.152	188.6	0.396	3.07	133.4	47.4	26.6	1.85	24.0	0.02	0.03	0.01	0.04	
169	9.02	9.00	33.927	26.281	176.7	0.444	2.68	117.0	41.2	30.2	1.98	25.8	0.02	0.03	0.00	0.03	170	
200	8.86	8.84	34.056	26.407	165.3	0.497	2.03	88.7	31.2	35.6	2.23	28.2	0.01	0.01	0.00	0.04	202	
230	8.60	8.57	34.115	26.496	157.4	0.546	1.78	77.8	27.2	38.4	2.30	29.1	0.02	0.04		232		
250	ISL	8.63 D	8.60	34.154	26.522	155.4	0.565	1.60	69.5	24.4	41.2	2.40	30.1	0.01	0.03		252	
269	8.35	8.33	34.151	26.562	151.8	0.606	1.35	59.0	20.5	43.8	2.49	31.0	0.01	0.02		271		
300	ISL	7.94 D	7.90	34.164	26.636	145.2	0.640	1.31	57.1	19.7	47.7	2.58	32.3	0.01	0.01		302	
319	7.86	7.83	34.200	26.676	141.7	0.679	1.03	45.1	15.5	50.1	2.64	33.1	0.02	0.01		322		
380	7.32	7.28	34.237	26.784	132.2	0.763	0.69	30.2	10.2	58.0	2.82	35.2	0.02	0.01		383		
400	ISL	7.24 D	7.20	34.268	26.820	129.1	0.778	0.58	25.4	8.6	59.9	2.86	35.6	0.02	0.01		403	
439	7.04	7.00	34.282	26.859	125.9	0.839	0.47	20.6	6.9	63.7	2.94	36.4	0.02	0.02		443		
500	ISL	6.76 D	6.71	34.301	26.914	121.4	0.904	0.39	17.0	5.7	68.1	3.01	37.3	0.02	0.01		504	
516	6.67	6.62	34.300	26.925	120.6	0.934	0.33	14.6	4.9	69.2	3.03	37.5	0.02	0.01		520		

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

RV NEW HORIZON

CALCOFI CRUISE 1411

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			
DEPTH	TEMP	POTTEMP	SALINITY	SIGMA THETA	SV	DYN HT	OXYGEN ml/L	OXYGEN $\mu\text{mol}/\text{kg}$	OXY PCT	SiO3* μM	Po4* μM	N03* μM	N02* μM	NH4* μM	CHL-A $\mu\text{g}/\text{L}$	PHAE0 $\mu\text{g}/\text{L}$	PRES db	SAMP
m	DEG C	DEG C																
0	17.47	17.47	33.472	24.232	367.9	0.000	5.49	239.6	100.3	1.2	0.32	0.3	0.03	0.21	0.57	0.22	0	
3	A	17.47	17.47	33.472	24.232	368.0	0.011	5.49	239.6	100.3	1.2	0.32	0.3	0.03	0.21	0.57	0.22	
10	A	17.46	17.46	33.471	24.234	368.1	0.037	5.48	239.3	100.2	1.2	0.32	0.3	0.04	0.15	0.62	0.23	
11	17.46	17.46	33.472	24.234	368.0	0.039											11	
10	17.46	17.46	33.474	24.237	367.9	0.038											11	
14	A	17.45	17.44	33.471	24.237	368.0	0.052	5.48	239.2	100.1	1.2	0.32	0.3	0.03	0.11	0.62	0.21	
20	17.40	17.39	33.468	24.247	367.3	0.074	5.49	239.6	100.2	1.3	0.32	0.3	0.03	0.12	0.63	0.22		
27	A	16.96	16.96	33.442	24.331	359.5	0.099	5.47	238.9	99.1	1.4	0.35	0.4	0.05	0.16	0.68	0.27	
30	ISL	16.91 D	16.90	33.400	24.312	361.4	0.105	5.44	0237.1	98.3	1.6	0.36	0.5	0.05	0.15	0.67	0.31	
40	15.32	15.31	33.202	24.520	341.9	0.145	5.69	248.5	99.6	2.1	0.39	0.6	0.08	0.13	0.64	0.42		
40	15.32	15.31	33.206	24.523	341.6	0.145											40	
49	A	14.00	13.99	33.205	24.804	315.0	0.175	5.42	236.6	92.3	4.9	0.70	4.7	0.20	0.12	0.46	0.38	
50	ISL	13.98 D	13.97	33.242	24.836	312.0	0.158	5.32	0231.8	90.6	5.0	0.71	4.9	0.20	0.13	0.45	0.38	
55	13.96	13.95	33.307	24.892	306.8	0.193	5.22	228.0	88.9	5.7	0.76	5.8	0.21	0.17	0.45	0.41		
63	A	12.68	12.67	33.269	25.118	285.3	0.198	5.23	228.2	86.6	6.0	0.85	7.0	0.11	0.08	0.27	0.32	
70	12.40	12.39	33.311	25.206	277.2	0.237	4.83	211.0	79.7	9.0	1.04	10.1	0.15	0.24	0.21	0.26		

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

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

RV NEW HORIZON

CALCOFI CRUISE 1411

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			
DEPTH	TEMP	POTTEMP	SALINITY	SIGMA THETA	SV	DYN HT	OXYGEN ml/L	OXYGEN $\mu\text{mol}/\text{kg}$	OXY PCT	SiO3* μM	Po4* μM	N03* μM	N02* μM	NH4* μM	CHL-A $\mu\text{g}/\text{L}$	PHAE0 $\mu\text{g}/\text{L}$	PRES db	SAMP
m	DEG C	DEG C																
0	17.71	17																

RV NEW HORIZON

CALCOFI CRUISE 1411

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			
DEPTH	TEMP	POTTEMP	SALINITY	SIGMA	SV	DYN HT	OXYGEN	OXYGEN	OXY	SIO3*	P04*	N03*	N02*	NH4*	CHL-A	PHAEAO	PRES	SAMP
m	DEG C	DEG C		THETA		ml/L	μmol/Kg	PCT	μM	μM	μM	μM	μM	μM	μg/L	μg/L	db	
0	16.11	16.11	33.486	24.559	336.8	0.000	5.74	250.7	102.2	4.1	0.52	1.3	0.07	0.18	0.93	0.30	0	
3	16.11	16.11	33.486	24.559	336.9	0.010	5.74	250.7	102.2	4.1	0.52	1.3	0.07	0.18	0.93	0.30	3 20	
10	16.11	16.11	33.494	24.566	336.5	0.034	5.75	251.1	102.4	4.1	0.47	1.3	0.07	0.10	0.89	0.29	10 19	
20	16.07	16.06	33.485	24.570	336.4	0.067	5.74	250.5	102.1	4.2	0.51	1.3	0.07	0.24	0.97	0.29	20 18	
30	13.77	13.76	33.434	25.028	293.0	0.099	5.09	222.4	86.5	7.2	0.85	6.9	0.24	0.36	0.88	0.42	30 17	
40	12.63	12.62	33.439	25.259	271.2	0.127	4.67	204.1	77.5	10.0	1.14	10.6	0.32	0.96	0.49	0.25	40 16	
50	11.59	11.58	33.480	25.489	249.6	0.153	4.22	184.1	68.4	13.4	1.36	14.5	0.24	0.24	0.22	0.18	50 15	
60	10.68	10.67	33.542	25.699	229.8	0.177	3.80	165.8	60.4	16.8	1.55	17.9	0.12	0.16	0.13	0.12	60 14	
70	10.40	10.39	33.566	25.768	223.5	0.200	3.66	159.7	57.8	18.2	1.61	19.1	0.06	0.16	0.10	0.13	71 13	
75 ISL	10.29 D	10.28	33.599 D	25.813	219.3	0.212	3.51	0152.9 D	55.4	19.4	1.66	19.8	0.05	0.12	0.08	0.12	76	
86	9.94	9.93	33.686	25.939	207.5	0.234	3.25	141.8	50.9	22.1	1.76	21.6	0.05	0.04	0.03	0.09	87 12	
100	9.82	9.81	33.730	25.994	202.6	0.263	3.11	135.9	48.7	23.6	1.83	22.5	0.04	0.07	0.03	0.08	101 11	
121	9.42	9.41	33.859	26.161	187.1	0.304	2.68	117.2	41.6	28.0	2.00	25.0	0.03	0.14	0.02	0.07	122 10	
125 ISL	9.39 D	9.37	33.887 D	26.190	184.5	0.313	2.63	0114.4 D	40.7	28.7	2.03	25.4	0.03	0.13	0.02	0.07	126	
140	9.17	9.16	33.955	26.278	176.4	0.338	2.42	105.6	37.3	31.4	2.12	26.7	0.03	0.10	0.01	0.07	141 09	
150 ISL	9.10 D	9.08	33.968 D	26.300	174.5	0.358	2.36	0102.9 D	36.4	32.9	2.17	27.4	0.02	0.09	0.01	0.06	151	
170	8.81	8.79	34.051	26.410	164.4	0.390	2.02	88.1	30.9	36.0	2.28	28.6	0.02	0.07	0.01	0.05	171 08	
199	8.57	8.55	34.119	26.502	156.2	0.436	1.66	72.3	25.2	40.4	2.45	30.3	0.02	0.07	0.01	0.04	201 07	
200 ISL	8.56 D	8.54	34.124 D	26.507	155.7	0.440	1.68	72.9 D	25.5	40.6	2.45	30.4	0.02	0.07			202	
231	7.76	7.74	34.087	26.599	147.3	0.485	1.73	75.7	25.9	45.0	2.49	31.8	0.02	0.07			233 06	
250 ISL	7.81 D	7.78	34.115 D	26.615	146.2	0.516	1.55	67.6 D	23.3	47.7	2.54	32.7	0.02	0.09			252	
271	7.40	7.37	34.090	26.654	142.5	0.543	1.50	65.6	22.3	50.7	2.59	33.7	0.02	0.11			273 05	
300 ISL	7.16 D	7.13	34.136 D	26.724	136.3	0.587	1.19	51.9 D	17.6	54.6	2.71	34.9	0.02	0.10			302	
321	7.14	7.11	34.169	26.754	133.9	0.612	0.98	43.0	14.5	57.4	2.79	35.7	0.02	0.10			324 04	
380	6.84	6.81	34.222	26.837	126.7	0.689	0.60	26.1	8.8	64.3	2.97	37.4	0.02	0.11			383 03	
400 ISL	6.72 D	6.68	34.220 D	26.852	125.5	0.719	0.62 D	27.0 D	9.1	66.6	3.00	38.0	0.02	0.12			403	
440	6.23	6.19	34.192	26.895	121.6	0.763	0.59	25.5	8.5	71.3	3.05	39.1	0.02	0.14			444 02	
500 ISL	6.03 D	5.98	34.292 D	27.001	112.3	0.840	0.33 D	14.4 D	4.7	78.6	3.17	40.0	0.02	0.15			504	
515	5.96	5.92	34.308	27.022	110.5	0.850	0.26	11.4	3.8	80.4	3.20	40.2	0.02	0.15			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 1411

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			
DEPTH	TEMP	POTTEMP	SALINITY	SIGMA	SV	DYN HT	OXYGEN	OXYGEN	OXY	SIO3*	P04*	N03*	N02*	NH4*	CHL-A	PHAEAO	PRES	SAMP
m	DEG C	DEG C		THETA		ml/L	μmol/Kg	PCT	μM	μM	μM	μM	μM	μM	μg/L	μg/L	db	
0	18.13	18.13	33.331	23.963	393.6	0.000	5.46	238.4	101.0	0.8	0.29	0.1	0.03	0.13	0.19	0.06	0	
3	18.13	18.13	33.331	23.963	393.7	0.012	5.46	238.4	101.0	0.8	0.29	0.1	0.03	0.13	0.19	0.06	3 20	
10	18.14	18.13	33.334	23.965	393.7	0.039	5.46	238.2	101.0	1.0	0.29	0.0	0.02	0.04	0.18	0.06	10 19	
20 ISL	18.14 D	18.13	33.329 D	23.962	394.5	0.079	5.45	0237.8 D	100.9	1.1	0.29	0.0	0.02	0.05	0.19	0.06	20	
24	18.14	18.13	33.343	23.973	393.5	0.095	5.46	238.7	101.1	1.1	0.29	0.0	0.02	0.06	0.19	0.06	24 18	
30 ISL	18.14 D	18.13	33.327 D	23.962	394.8	0.119	5.46	0238.3 D	101.1	1.1	0.30	0.0	0.02	0.08	0.20	0.06	30	
40	18.10	18.10	33.326	23.970	394.5	0.158	5.48	239.3	101.3	1.1	0.31	0.0	0.02	0.11	0.20	0.06	40 17	
50	18.03	18.02	33.393	24.039	388.2	0.197	5.55	242.2	102.5	1.0	0.28	0.0	0.02	0.06	0.28	0.10	50 16	
62	16.63	16.62	33.210	24.234	370.0	0.242	5.76	251.7	103.5	1.6	0.32	0.1	0.02	0.10	0.38	0.20	62 15	
74	13.19	13.18	32.896	24.730	322.6	0.284	5.78	252.6	96.7	3.7	0.59	2.2	0.30	0.08	0.27	0.19	75 14	
75 ISL	12.92 D	12.91	32.901 D	24.787	317.2	0.289	5.77	0251.5 D	95.9	3.9	0.61	2.6	0.28	0.08	0.26	0.19	76	
86	11.74	11.73	32.906	25.016	295.5	0.321	5.54	241.9	89.8	6.0	0.84	6.8	0.11	0.09	0.17	0.19	87 13	
100 ISL	10.75 D	10.74	32.968 D	25.242	274.2	0.363	5.38	0234.3 D	85.4	7.9	1.00	9.6	0.06	0.06	0.13	0.18	101	
101	10.52	10.51	32.993 D	25.301	268.5	0.366	5.42	236.9	85.7	8.0	1.01	9.8	0.06	0.06	0.13	0.18	102 12	
112	10.60	10.58	33.306	25.533	246.8	0.392	4.59	200.3	72.7	12.1	1.28	14.6	0.05	0.04	0.07	0.10	113 11	
124	10.06	10.05	33.457	25.742	227.1	0.421	4.08	178.1	64.0	16.6	1.52	18.4	0.04	0.06	0.06	0.06	125 10	
125 ISL	10.04 D	10.02	33.474 D	25.760	225.5	0.425	4.06	0176.6 D	63.6	16.8	1.53	18.6	0.04	0.06	0.04	0.06	126	
141	9.54	9.52	33.577	25.923	210.1	0.458	3.70	161.8	57.5	20.9	1.70	21.5	0.04	0.06	0.02	0.04	142 09	
150 ISL	9.31 D	9.29	33.688 D	26.047	198.5	0.479	3.55	0154.6 D	54.9	22.5	1.75	22.3	0.04	0.06	0.01	0.04	151	
169	9.03	9.01	33.766	26.153	188.8	0.513	3.32	144.9	51.0	25.9	1.84	24.2	0.04	0.07	0.00	0.03	170 08	
200 ISL	8.65 D	8.63	33.916 D	26.331	172.4	0.572	2.84	0123.5 D	43.3	31.2	2.01	26.9	0.02	0.04	0.00	0.02	202	
201	8.63	8.61	33.916	26.334	172.1	0.571	2.84	124.1	43.3	31.4	2.02	27.0	0.02	0.04	0.00	0.02	203 07	
231	8.23	8.20	33.987	26.452	161.4	0.621	2.67	116.7	40.4	35.7	2.10	28.1	0.02	0.02			233 06	
250 ISL	7.99 D	7.96	34.012 D	26.508	156.4	0.655	2.44	0106.1 D	36.6	39.0	2.19	29.4	0.02	0.02			252	
270	7.74	7.71																

RV NEW HORIZON

CALCOFI CRUISE 1411

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		
DEPTH	TEMP	POTTEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXYGEN	OXY	SI03*	P04*	N03*	N02*	NH4*	CHL-A	PHAEAO	PRES	SAMP
m	DEG C	DEG C		THETA			ml/L	μmol/Kg	PCT	μM	μM	μM	μM	μM	μg/L	μg/L	db	
32	19.7 N	121 42.9 W	16/11/2014	1258	UTC	4022 m	340	20 kn		1020.0	mb	17.5	C	0.0	C		043	
0	18.21	18.21	33.096	23.765	412.5	0.000	5.45	237.9	100.8	1.4	0.32	0.0	0.03	0.02	0.14	0.05	0	
3	18.21	18.21	33.096	23.765	412.6	0.012	5.45	237.9	100.8	1.4	0.32	0.0	0.03	0.02	0.14	0.05	3 21	
10	18.21	18.21	33.102	23.770	412.4	0.041	5.45	238.1	100.9	1.4	0.33	0.0	0.03	0.05	0.19	0.00	10 19	
10	18.21	18.21	33.099	23.767	412.7	0.041											10 20	
20	ISL	18.21 D	18.21	33.093	D 23.764	413.4	0.062	5.46	D 238.3	D 101.1	1.4	0.32	0.0	0.03	0.04	0.16	0.03	20
25	18.21	18.20	33.098	23.768	413.1	0.103	5.45	238.3	100.9	1.4	0.32	0.0	0.03	0.04	0.15	0.04	25 18	
30	ISL	18.01 D	18.01	33.109	D 23.825	407.9	0.104	5.52	D 240.7	D 101.7	1.4	0.31	0.0	0.03	0.00	0.18	0.07	30
40	17.33	17.32	33.187	24.050	386.8	0.164	5.63	246.1	102.5	1.3	0.30	0.0	0.03	0.00	0.26	0.12	40 17	
50	ISL	15.89 D	15.88	33.051	D 24.278	365.3	0.182	5.88	D 256.4	D 104.0	1.8	0.35	0.0	0.03	0.00	0.43	0.19	50
51	15.56	15.55	33.050	24.352	358.3	0.205	5.90	257.8	103.6	1.8	0.36	0.0	0.03	0.06	0.45	0.20	51 16	
62	13.96	13.95	32.930	24.600	334.8	0.243	6.01	262.6	102.1	2.3	0.39	0.0	0.03	0.05	0.44	0.31	62 15	
75	12.83	12.82	32.920	24.820	314.1	0.285	5.79	253.1	96.1	3.4	0.52	1.3	0.19	0.00	0.30	0.32	76 14	
87	11.78	11.77	32.935	25.031	294.2	0.322	5.56	243.1	90.3	5.6	0.80	6.0	0.12	0.00	0.19	0.26	88 13	
99	11.15	11.14	33.132	D 25.298	268.9	0.337	5.38	235.0	86.2	6.8	0.90	8.1	0.06	0.00	0.13	0.19	100 12	
100	ISL	11.12 D	11.11	33.151	D 25.320	266.9	0.339	5.12	D 223.2	D 82.1	7.2	0.93	8.6	0.06	0.00	0.13	0.18	101
112	10.20	10.18	33.295	25.592	241.1	0.389	4.70	205.3	73.9	11.9	1.26	14.1	0.03	0.00	0.06	0.09	113 11	
125	9.80	9.78	33.345	D 25.698	231.2	0.401	4.52	197.5	70.5	15.3	1.44	17.2	0.02	0.00	0.03	0.04	126 10	
139	9.19	9.18	33.474	25.898	212.4	0.451	4.15	181.1	63.8	19.7	1.59	20.0	0.04	0.00	0.01	0.03	140 09	
150	ISL	9.03 D	9.01	33.586	D 26.201	201.8	0.455	3.96	D 172.5	D 60.8	22.6	1.70	21.8	0.03	0.00	0.01	0.03	151
170	8.96	8.94	33.820	26.207	183.7	0.512	3.19	139.2	48.9	27.7	1.89	25.0	0.03	0.01	0.00	0.02	171 08	
200	ISL	8.55 D	8.53	33.944	D 26.369	168.8	0.548	2.70	D 117.5	D 41.1	32.7	2.06	27.6	0.03	0.00	0.00	0.02	202
201	8.53	8.51	33.945	26.372	168.5	0.566	2.67	116.5	40.6	32.9	2.07	27.7	0.03	0.00	0.00	0.02	203 07	
230	8.19	8.16	33.994	26.463	160.3	0.614	2.62	114.3	39.5	36.5	2.12	28.4	0.03	0.00			232 06	
250	ISL	8.04 D	8.02	34.015	D 26.502	157.0	0.629	2.46	D 106.9	D 37.0	39.1	2.21	29.4	0.03	0.00			252
270	7.87	7.84	34.036	26.544	153.3	0.677	2.17	94.9	32.6	41.8	2.29	30.5	0.03	0.00			272 05	
300	ISL	7.60 D	7.57	34.069	D 26.611	147.3	0.706	1.83	D 79.6	D 27.3	46.4	2.45	32.1	0.03	0.00			302
320	7.49	7.46	34.100	26.650	143.9	0.751	1.53	66.8	22.7	49.4	2.55	33.3	0.03	0.01			323 04	
379	6.95	6.91	34.176	26.786	131.6	0.832	0.88	37.5	12.6	60.4	2.85	36.5	0.03	0.00			382 03	
400	ISL	6.72 D	6.69	34.218	D 26.851	125.7	0.845	0.67	D 29.0	D 9.7	64.7	2.92	37.5	0.03	0.00			403
439	6.22	6.18	34.224	26.922	119.0	0.907	0.48	20.9	6.9	72.7	3.06	39.2	0.03	0.00			443 02	
500	ISL	5.88 D	5.84	34.279	D 27.009	111.4	0.964	0.34	D 15.0	D 4.9	80.6	3.18	40.5	0.03	0.00			504
514	5.76	5.72	34.286	27.029	109.6	0.993	0.27	12.0	3.9	82.5	3.21	40.8	0.03	0.12			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 1411

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		
DEPTH	TEMP	POTTEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXYGEN	OXY	SI03*	P04*	N03*	N02*	NH4*	CHL-A	PHAEAO	PRES	SAMP
m	DEG C	DEG C		THETA			ml/L	μmol/Kg	PCT	μM	μM	μM	μM	μM	μg/L	μg/L	db	
31	59.4 N	122 23.6 W	16/11/2014	1909	UTC	4083 m	020	14 kn	010 04 05	1	1022.0	mb	18.2	C	0.0	C	7/8	ST 044
0	18.80	18.80	33.103	23.624	425.9	0.000	5.44	237.7	101.8	2.0	0.35	0.0	0.02	0.12	0.11	0.03	0	
3 A	18.80	18.80	33.103	23.624	426.0	0.013	5.44	237.7	101.8	2.0	0.35	0.0	0.02	0.12	0.11	0.03	3 24	
10	18.80	18.79	33.097	23.621	426.6	0.043	5.39	235.5	100.9	2.0	0.34	0.1	0.01	0.12	0.11	0.03	10 22	
10	18.80	18.79	33.106	23.627	426.0	0.043											10 23	
16 A	18.77	18.76	33.106	23.635	425.5	0.068	5.40	235.7	100.9	2.0	0.35	0.0	0.02	0.12	0.11	0.03	16 21	
20	ISL	18.76 D	18.76	33.096	D 23.629	426.3	0.073	5.41	D 236.0	D 101.2	2.0	0.34	0.0	0.02	0.13	0.11	0.03	20
22 A	18.76	18.76	33.107	23.638	425.5	0.094	5.40	236.1	101.1	2.0	0.33	0.0	0.02	0.13	0.11	0.03	22 20	
30	ISL	18.75 D	18.74	33.095	D 23.632	426.3	0.116	5.41	D 236.0	D 101.1	1.9	0.35	0.0	0.02	0.12	0.13	0.04	30
32	18.63	18.63	33.079	23.650	424.7	0.136	5.40	235.9	100.7	1.9	0.35	0.1	0.02	0.12	0.14	0.04	32 19	
42 A	17.66	17.65	33.056	23.871	404.0	0.178	5.59	244.3	102.4	1.5	0.33	0.0	0.02	0.08	0.21	0.07	42 18	
50	ISL	17.05 D	17.04	33.057	D 24.018	390.2	0.199	5.75	D 250.7	D 104.0	1.8	0.34	0.1	0.02	0.11	0.23	0.10	50
54	16.63	16.62	33.026	24.092	383.2	0.225	5.86	256.0	105.1	2.0	0.35	0.1	0.02	0.13	0.24	0.11	54 17	
65	15.58	15.57	32.989	24.301	363.5	0.266	5.97	260.8	104.9	2.2	0.37	0.1	0.01	0.19	0.25	0.16	66 16	
75	ISL	14.09 D	14.08	32.912	D 24.560	339.0	0.291	6.03	D 262.8	D 102.7	2.5	0.42	0.1	0.02	0.15	0.22	0.15	77 15
77	13.90	13.89	32.899	24.590	336.3	0.308	5.95	259.8	100.9	2.5	0.43	0.1	0.02	0.14	0.22	0.15	78 14	
87	12.72	12.70	32.907	24.832	313.2	0.340	5.76	251.7	95.4	3.5	0.55	1.4	0.18	0.11	0.22	0.17	88 13	
97 A	12.16	12.15	33.044	D 25.045	293.1	0.357	5.63	245.7	92.1	4.4	0.63	2.9	0.26	0.03	0.19	0.19	98 12	
100	ISL	11.73 D	11.72	33.064	D 25.141	284.0	0.366	5.54	D 241.5	D 90.0	5.0	0.69	4.1	0.22	0.04	0.18	0.19	101
110	11.20	11.19	33.087	25.255	273.3	0.407	5.36	234.0	86.0	6.8	0.91	7.9	0.06	0.07	0.14	0.18	111 11	
125	10.24	10.23																

RV NEW HORIZON

CALCOFI CRUISE 1411

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			
DEPTH	TEMP	POTTEMP	SALINITY	SIGMA	SV	DYN HT	OXYGEN	OXYGEN	OXY	SI03*	P04*	N03*	N02*	NH4*	CHL-A	PHAEAO	PRES SAMP	
m	DEG C	DEG C		THETA			ml/L	μmol/Kg	PCT	μM	μM	μM	μM	μM	μg/L	μg/L	db	
0	18.74	18.74	33.148	23.672	421.4	0.000	5.42	236.6	101.3	1.6	0.39	0.0	0.01	0.10	0.12	0.03	0	
2	18.74	18.74	33.148	23.672	421.4	0.008	5.42	236.6	101.3	1.6	0.39	0.0	0.01	0.10	0.12	0.03	2 21	
10	18.73	18.73	33.148	23.676	421.3	0.042	5.41	236.3	101.2	1.5	0.34	0.0	0.01	0.07	0.12	0.03	10 19	
10	18.73	18.73	33.144	23.673	421.6	0.043											10 20	
20	ISL	18.64 D	18.64	33.131 D	23.685	420.8	0.064	5.43	D237.0	D101.4	1.5	0.34	0.0	0.01	0.04	0.13	0.03	20
25	18.59	18.59	33.120	23.691	420.5	0.105	5.43	237.3	101.3	1.5	0.34	0.0	0.01	0.03	0.13	0.03	25 18	
30	ISL	18.66 D	18.65	33.136 D	23.688	421.0	0.106	5.43	D236.7	D101.3	1.5	0.34	0.0	0.01	0.03	0.16	0.04	30
40	18.57	18.57	33.143	23.714	419.0	0.168	5.45	237.9	101.5	1.4	0.33	0.0	0.01	0.03	0.21	0.07	40 17	
49	18.42	18.41	33.137	23.748	416.0	0.206	5.46	238.5	101.5	1.4	0.33	0.0	0.01	0.11	0.26	0.08	49 16	
50	ISL	18.28 D	18.27	33.131 D	23.778	413.1	0.191	5.51	D240.4	D102.1	1.4	0.33	0.0	0.01	0.11	0.26	0.09	50
62	15.94	15.93	33.014	24.239	369.4	0.257	5.93	259.0	104.9	1.9	0.34	0.0	0.01	0.05	0.30	0.20	62 15	
75	13.94	13.93	32.871	24.560	338.9	0.303	6.00	262.3	101.9	2.6	0.44	0.1	0.05	0.06	0.34	0.25	76 14	
87	12.62	12.61	32.924	24.864	310.1	0.342	5.68	248.2	93.9	4.1	0.69	3.6	0.25	0.13	0.22	0.21	88 13	
100	11.59	11.58	33.009	25.124	285.5	0.381	5.47	239.0	88.5	6.0	0.86	7.1	0.06	0.04	0.15	0.16	101 12	
112	10.42	10.41	33.042	25.356	263.5	0.414	5.31	232.1	83.8	8.3	1.03	10.2	0.03	0.00	0.12	0.12	113 11	
124	9.91	9.90	33.173	25.545	245.7	0.444	5.04	219.9	78.6	11.7	1.23	13.5	0.03	0.15	0.06	0.07	125 10	
125	ISL	9.81 D	9.79	33.196 D	25.581	242.3	0.429	4.95	D215.6	D 77.1	12.0	1.24	13.8	0.02	0.14	0.06	0.07	126
140	9.61	9.59	33.411	25.782	223.5	0.481	4.40	192.0	68.3	16.1	1.43	17.3	0.02	0.02	0.03	0.04	141 09	
150	ISL	9.44 D	9.42	33.550 D	25.918	210.8	0.485	3.98	D173.3	D 61.6	19.2	1.56	19.4	0.02	0.03	0.02	0.03	151
170	8.99	8.97	33.777 D	26.168	187.3	0.525	3.44	150.1	52.8	25.3	1.83	23.7	0.02	0.06	0.00	0.02	171 08	
199	8.40	8.38	33.927	26.377	167.9	0.594	3.17	138.5	48.1	30.9	1.91	25.6	0.02	0.02	0.00	0.02	201 07	
200	ISL	8.41 D	8.39	33.934 D	26.382	167.5	0.579	3.18	D138.5	D 48.3	31.0	1.91	25.7	0.01	0.02			202
230	8.14	8.11	33.963	26.446	161.9	0.646	2.99	130.7	45.1	34.1	2.01	26.9	0.01	0.13			232 06	
250	ISL	7.86 D	7.83	33.988 D	26.508	156.3	0.661	2.71	D118.0	D 40.6	37.8	2.12	28.3	0.01	0.08			252
271	7.61	7.58	34.000	26.553	152.2	0.710	2.47	108.0	36.9	41.6	2.23	29.8	0.02	0.02			273 05	
300	ISL	7.20 D	7.17	34.030 D	26.635	144.7	0.737	1.97	D 85.9	D 29.1	48.3	2.44	32.5	0.01	0.02			302
320	7.00	6.97	34.052	26.681	140.6	0.781	1.60	69.7	23.5	52.9	2.59	34.3	0.01	0.02			323 04	
379	6.81	6.78	34.179	26.807	129.5	0.861	0.77	33.6	11.3	62.1	2.91	36.8	0.01	0.02			382 03	
400	ISL	6.65 D	6.61	34.173 D	26.825	128.0	0.873	0.77	D 33.6	D 11.3	65.0	2.95	37.5	0.01	0.02			403
440	6.13	6.10	34.176	26.894	121.6	0.938	0.61	26.6	8.8	70.4	3.03	38.8	0.01	0.02			444 02	
500	ISL	5.85 D	5.81	34.228 D	26.972	114.8	0.995	0.44	D 19.2	D 6.3	77.9	3.14	40.0	0.02	0.04			504
515	5.79	5.74	34.239	26.989	113.4	1.026	0.37	15.9	5.2	79.8	3.17	40.4	0.02	0.04			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 1411

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			
DEPTH	TEMP	POTTEMP	SALINITY	SIGMA	SV	DYN HT	OXYGEN	OXYGEN	OXY	SI03*	P04*	N03*	N02*	NH4*	CHL-A	PHAEAO	PRES SAMP	
m	DEG C	DEG C		THETA			ml/L	μmol/Kg	PCT	μM	μM	μM	μM	μM	μg/L	μg/L	db	
0	18.68	18.68	33.013	23.584	429.7	0.000	5.42	236.5	101.1	1.8	0.35	0.1	0.01	0.06	0.10	0.02	0	
2	18.68	18.68	33.013	23.585	429.8	0.009	5.42	236.5	101.1	1.8	0.35	0.1	0.01	0.06	0.10	0.02	2 21	
10	18.68	18.68	33.010	23.583	430.3	0.043	5.42	236.5	101.2	1.8	0.36	0.1	0.01	0.12	0.10	0.02	10 19	
10	18.68	18.68	33.012	23.584	430.1	0.043											10 20	
20	ISL	18.51 D	18.51	32.987 D	23.608	428.2	0.065	5.43	237.1	101.1	1.7	0.35	0.1	0.01	0.10	0.11	0.03	20
26	18.47	18.46	32.990	23.622	427.1	0.112	5.44	237.5	101.2	1.7	0.35	0.1	0.01	0.08	0.11 A	0.03 A	26 18	
30	ISL	18.39 D	18.39	32.985 D	23.637	425.8	0.108	5.46	D238.2	D101.3	1.7	0.35	0.1	0.01	0.08	0.12	0.03	30
40	18.05	18.05	32.928	23.677	422.4	0.171	5.50	240.2	101.5	1.6	0.34	0.1	0.01	0.07	0.15	0.04	40 17	
50	17.67	17.66	33.160	23.949	396.8	0.212	5.71	249.3	104.7	2.0	0.31	0.1	0.01	0.20	0.20	0.08	50 16	
62	16.22	16.21	33.084	24.230	370.3	0.258	5.92	258.5	105.5	2.1	0.33	0.1	0.01	0.12	0.25	0.17	62 15	
75	14.56	14.55	33.005	24.535	341.5	0.304	5.94	259.2	102.2	2.5	0.38	0.1	0.04	0.15	0.24	0.19	76 14	
87	13.45	13.44	32.923	24.700	325.9	0.344	5.86	255.5	98.4	3.1	0.51	1.0	0.21	0.13	0.25	0.20	88 13	
99	12.21	12.20	32.971	24.979	299.4	0.382	5.72	249.8	93.8	4.3	0.65	3.1	0.21	0.15	0.18	0.14	100 12	
100	ISL	12.24 D	12.23	32.990 D	24.988	298.6	0.366	5.62	D244.8	D 92.1	4.6	0.68	3.6	0.20	0.14	0.17	0.14	101
112	10.74	10.72	33.075	25.329	266.2	0.419	5.29	230.7	84.0	8.4	1.01	10.1	0.03	0.05	0.11	0.13	113 11	
125	10.19	10.17	33.192	25.514	248.8	0.452	5.01	218.7	78.7	10.2	1.11	12.1	0.03	0.06	0.09	0.10	126 10	
140	9.89	9.88	33.409	25.734	228.2	0.488	4.32	188.6	67.5	15.5	1.41	17.0	0.03	0.08	0.04	0.06	141 09	
150	ISL	9.57 D	9.56	33.541 D	25.889	213.6	0.491	4.02	D175.2	D 62.5	18.0	1.51	18.8	0.02	0.07	0.03	0.05	151
170	9.00	8.98	33.676	26.088	195.0	0.551	3.61	157.6	55.4	22.9	1.72	22.3	0.02	0.06	0.01	0.02	171 08	
200	8.73	8.71	33.855	26.271	178.1	0.607	3.31	144.3	50.5	28.0	1.83	24.7	0.02	0.04	0.00	0.02	202 07	
229	8.32	8.29	33.949	26.408	165.5	0.657	3.15	137.2	47.6	32.1	1.92	26.0	0.02	0.07			231 06	
250	ISL	8.06 D	8.04	33.974 D	26.467	160.3	0.672	3.										

RV NEW HORIZON

CALCOFI CRUISE 1411

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		
DEPTH	TEMP	POTTEMP	SALINITY	SIGMA	SV	DYN HT	OXYGEN	OXYGEN	OXY	SI03*	P04*	N03*	N02*	NH4*	CHL-A	PHAEAO	PRES SAMP
m	DEG C	DEG C	THETA			ml/L	μmol/Kg	PCT	μM	μM	μM	μM	μM	μM	μg/L	μg/L	db
0	19.15	19.15	33.553	23.878	401.7	0.000	5.52	241.1	104.3	1.7	0.33	0.1	0.02	0.07	0.37	0.13	0
2	19.15	19.15	33.553	23.878	401.7	0.008	5.52	241.1	104.3	1.7	0.33	0.1	0.02	0.07	0.37	0.13	2 04
5	19.13	19.13	33.552	23.884	401.4	0.020	5.54	242.0	104.7	1.8	0.38	0.1	0.02	0.19	0.43	0.17	5 03
10	19.00	19.00	33.544	23.911	399.0	0.040	5.55	242.3	104.5	1.8	0.30	0.1	0.02	0.12	0.53	0.18	10 02
15	18.96	18.96	33.530	23.911	399.2	0.060	5.57	243.3	104.9	1.9	0.29	0.0	0.02	0.08	0.61	0.23	15 01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED 02;

RV NEW HORIZON

CALCOFI CRUISE 1411

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		
DEPTH	TEMP	POTTEMP	SALINITY	SIGMA	SV	DYN HT	OXYGEN	OXYGEN	OXY	SI03*	P04*	N03*	N02*	NH4*	CHL-A	PHAEAO	PRES SAMP
m	DEG C	DEG C	THETA			ml/L	μmol/Kg	PCT	μM	μM	μM	μM	μM	μM	μg/L	μg/L	db
0	19.16	19.16	33.505	23.841	405.3	0.000	5.70	248.7	107.6	1.2	0.29	0.0	0.03	0.21	0.85	0.22	0
2	19.16	19.16	33.505	23.841	405.3	0.008	5.70	248.7	107.6	1.2	0.29	0.0	0.03	0.21	0.85	0.22	2 04
5	19.16	19.16	33.493	23.831	406.3	0.020	5.75	250.8	108.5	1.1	0.26	0.0	0.03	0.12	0.92	0.26	5 03
10	18.94	18.94	33.469	23.869	402.9	0.041	5.81	253.7	109.3	0.8	0.25	0.0	0.03	0.24	1.67	0.51	10 02
15	18.82	18.82	33.470	23.901	400.1	0.061	5.76	251.3	108.0	1.1	0.27	0.2	0.03	0.26	1.95	0.58	15 01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED 02;

RV NEW HORIZON

CALCOFI CRUISE 1411

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		
DEPTH	TEMP	POTTEMP	SALINITY	SIGMA	SV	DYN HT	OXYGEN	OXYGEN	OXY	SI03*	P04*	N03*	N02*	NH4*	CHL-A	PHAEAO	PRES SAMP
m	DEG C	DEG C	THETA			ml/L	μmol/Kg	PCT	μM	μM	μM	μM	μM	μM	μg/L	μg/L	db
0	19.21	19.21	33.514	23.834	405.8	0.000	5.58	243.6	105.5	2.0	0.36	0.0	0.02	0.17	0.63	0.14	0
2	19.21	19.21	33.514	23.835	405.9	0.008	5.58	243.6	105.5	2.0	0.36	0.0	0.02	0.17	0.63	0.14	2 04
5	19.07	19.07	33.511	23.867	403.0	0.020	5.56	242.6	104.8	2.0	0.36	0.0	0.03	0.21	0.67	0.17	5 03
10	18.92	18.92	33.499	23.897	400.3	0.040	5.59	244.0	105.1	2.0	0.32	0.0	0.03	0.09	0.70	0.22	10 02
15	18.68	18.67	33.487	23.949	395.5	0.064	5.61	245.0	105.0	2.2	0.34	0.0	0.03	0.16	0.83	0.31	16 01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED 02;

RV NEW HORIZON

CALCOFI CRUISE 1411

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		
DEPTH	TEMP	POTTEMP	SALINITY	SIGMA	SV	DYN HT	OXYGEN	OXYGEN	OXY	SI03*	P04*	N03*	N02*	NH4*	CHL-A	PHAEAO	PRES SAMP
m	DEG C	DEG C	THETA			ml/L	μmol/Kg	PCT	μM	μM	μM	μM	μM	μM	μg/L	μg/L	db
0	18.95	18.95	33.508	23.895	400.0	0.000	5.56	242.7	104.6	2.1	0.35	0.0	0.02	0.13	0.57	0.45	0
2	18.95	18.95	33.508	23.896	400.1	0.008	5.56	242.7	104.6	2.1	0.35	0.0	0.02	0.13	0.57	0.45	2 09
8	18.93	18.92	33.507	23.901	399.8	0.032	5.57	243.1	104.7	2.1	0.34	0.1	0.02	0.24	0.72	0.47	8 08
10 ISL	18.92 D	18.92	33.505 D	23.901	399.9	0.040	5.59	0243.8	0105.1	2.1	0.37	0.0	0.02	0.20	0.79	0.47	10
11 A	18.91	18.91	33.506	23.904	399.6	0.044	5.56	242.9	104.6	2.1	0.38	0.0	0.02	0.18	0.83	0.46	11 06
11	18.91	18.91	33.507	23.905	399.5	0.043											11 07
20 ISL	18.67 D	18.67	33.488 D	23.951	395.5	0.062	5.58	0243.4	0104.4	2.3	0.33	0.0	0.04	0.10	1.05	0.38	20
21 A	18.70	18.70	33.494	23.948	395.8	0.084	5.57	243.1	104.2	2.4	0.32	0.0	0.04	0.09	1.08	0.37	21 05
30	17.73	17.73	33.438	24.145	377.4	0.119	5.56	242.6	102.1	3.5	0.38	0.3	0.16	0.34	0.82	0.25	30 03
30	17.73	17.73	33.443	24.148	377.1	0.118											30 04
39 A	17.04	17.03	33.409	24.289	363.9	0.152	5.53	241.4	100.2	3.9	0.43	0.5	0.24	0.42	0.73	0.23	39 02
49 A	15.61	15.60	33.311	24.541	340.2	0.187	5.73	250.3	100.9	4.0	0.46	0.6	0.26	0.13	0.68	0.20	49 01
50 ISL	15.28 D	15.27	33.299 D	24.605	334.1	0.157	5.75	0250.8	0100.6								50

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED 02;

RV NEW HORIZON

CALCOFI CRUISE 1411

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		
DEPTH	TEMP	POTTEMP	SALINITY	SIGMA	SV	DYN HT	OXYGEN	OXYGEN	OXY	SI03*	P04*	N03*	N02*	NH4*	CHL-A	PHAEAO	PRES SAMP
m	DEG C	DEG C	THETA			ml/L	μmol/Kg	PCT	μM	μM	μM	μM	μM	μM	μg/L	μg/L	db
0	19.76	19.76	33.591	23.750	413.9	0.000	5.36	234.1	102.5	1.9	0.29	0.1	0.01	0.16	0.24	0.06	0
2	19.76	19.76	33.591	23.750	414.0	0.008	5.36	234.1	102.5	1.9	0.29	0.1	0.01	0.16	0.24	0.06	2 21
10	19.75	19.75	33.592	23.756	413.7	0.041	5.38	235.0	102.8	1.9	0.28	0.1	0.01	0.12	0.23	0.06	10 19
10	19.75	19.75	33.590	23.755	413.9	0.041											10 20
20 ISL	19.41 D	19.41	33.546 D	23.809	409.1	0.062	5.45	0237.9	0103.5	1.9	0.30	0.1	0.01	0.14	0.29	0.08	20
25	18.21	18.20	33.423	24.018	389.4</td												

RV NEW HORIZON

CALCOFI CRUISE 1411

STATION 90.0 35.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE	ORD		
33 15.0 N	118 15.1 W	14/11/2014	1154	UTC	374 m	290 10 kn			1014.0 mb	18.0 C	16.7 C					029		
DEPTH	TEMP	POTTEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXYGEN	OXY	SI03*	P04*	N03*	N02*	NH4*	CHL-A	PHAEAO	PRES	SAMP
m	DEG C	DEG C		THETA			ml/L	μmol/Kg	PCT	μM	μM	μM	μM	μM	μg/L	μg/L	db	
0	19.71	19.71	33.600	23.772	411.8	0.000	5.34	233.3	102.0	1.8	0.29	0.1	0.02	0.21	0.17	0.05	0	
2	19.71	19.71	33.600	23.772	411.9	0.008	5.34	233.3	102.0	1.8	0.29	0.1	0.02	0.21	0.17	0.05	2 19	
10	19.72	19.72	33.596	23.766	412.8	0.041	5.35	233.4	102.1	1.8	0.30	0.1	0.01	0.28	0.17	0.05	10 17	
10	19.72	19.72	33.599	23.769	412.5	0.040											10 18	
20	ISL	19.72 D	19.72	33.593	23.764	413.4	0.062	5.34	0232.7	0101.9	1.8	0.30	0.1	0.01	0.33	0.17	0.06	20
21	19.73	19.72	33.597	23.767	413.2	0.087	5.35	233.3	102.1	1.8	0.30	0.1	0.01	0.33	0.17	0.06	21 16	
30	17.68	17.67	33.402	D 24.130	378.8	0.102	5.70	248.7	104.6	2.2	0.31	0.1	0.01	0.10	0.26	0.13	30 14	
40	15.73	15.73	33.317	24.517	342.1	0.158	5.92	258.5	104.5	3.3	0.38	0.2	0.08	0.14	0.52	0.30	40 13	
50	14.84	14.83	33.302	24.701	324.9	0.191	5.79	252.7	100.3	3.8	0.46	0.8	0.17	0.07	0.44	0.25	50 12	
60	13.31	13.30	33.316	25.031	293.7	0.222	5.27	230.2	88.6	5.6	0.69	4.4	0.20	0.03	0.32	0.28	60 11	
70	13.10	13.09	33.327	25.081	289.1	0.251	5.17	225.8	86.5	6.2	0.75	5.3	0.14	0.05	0.27	0.27	71 10	
75	ISL	12.67 D	12.66	33.349	D 25.183	279.5	0.247	4.99	0217.3	D 82.7	7.7	0.86	7.3	0.11	0.07	0.23	0.25	76
85	11.63	11.62	33.412	25.430	256.2	0.292	4.46	194.8	72.4	10.6	1.09	11.2	0.04	0.10	0.15	0.21	86 15	
100	10.53	10.51	33.522	25.713	229.4	0.329	3.88	169.5	61.6	16.0	1.44	16.9	0.03	0.02	0.08	0.11	101 09	
120	9.94	9.93	33.753	25.993	203.2	0.372	3.06	133.7	48.0	23.1	1.79	22.1	0.02	0.10	0.01	0.04	121 08	
125	ISL	9.94 D	9.92	33.805	D 26.035	199.3	0.364	2.94	0128.1	D 46.2	23.9	1.83	22.5	0.02	0.09	0.01	0.04	126
142	9.82	9.80	33.885	26.117	191.9	0.416	2.62	114.2	41.0	26.5	1.96	24.0	0.02	0.07	0.01	0.04	143 07	
150	ISL	9.74 D	9.72	33.932	D 26.168	187.3	0.413	2.47	0107.5	D 38.6	27.4	2.00	24.4	0.03	0.05	0.01	0.04	151
168	9.66	9.64	33.976	26.215	183.2	0.464	2.30	100.4	35.9	29.4	2.08	25.4	0.03	0.01	0.04	0.04	169 06	
200	9.49	9.47	34.030	26.287	177.0	0.522	2.15	93.7	33.4	31.5	2.16	26.4	0.03	0.05	0.00	0.06	202 05	
230	9.19	9.16	34.124	26.411	165.8	0.573	1.76	76.6	27.1	36.0	2.32	28.2	0.03	0.05			232 04	
250	ISL	9.16 D	9.13	34.153	D 26.439	163.6	0.590	1.68	D 73.0	D 25.9	37.1	2.35	28.6	0.03	0.03			252
270	8.99	8.96	34.152	26.465	161.5	0.638	1.60	69.7	24.6	38.1	2.38	29.0	0.03	0.01			272 03	
300	ISL	8.80 D	8.77	34.170	D 26.510	157.8	0.671	1.51	D 65.5	D 23.1	41.9	2.49	30.3	0.03	0.03			302
319	8.49	8.46	34.198	26.581	151.2	0.716	1.22	53.3	18.6	44.3	2.56	31.1	0.03	0.05			322 02	
359	7.92	7.89	34.258	26.713	139.0	0.774	0.73	31.8	11.0	53.2	2.80	33.7	0.03	0.15			362 01	

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED 02;

RV NEW HORIZON

CALCOFI CRUISE 1411

STATION 90.0 37.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE	ORD		
33 10.9 N	118 23.1 W	14/11/2014	0841	UTC	1180 m	250 13 kn			1015.0 mb	18.1 C	17.5 C					028		
DEPTH	TEMP	POTTEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXYGEN	OXY	SI03*	P04*	N03*	N02*	NH4*	CHL-A	PHAEAO	PRES	SAMP
m	DEG C	DEG C		THETA			ml/L	μmol/Kg	PCT	μM	μM	μM	μM	μM	μg/L	μg/L	db	
0	19.84	19.84	33.594	23.733	415.6	0.000	5.35	233.4	102.3	1.9	0.27	0.1	0.02	0.26	0.20	0.04	0	
3	19.84	19.84	33.594	23.733	415.7	0.013	5.35	233.4	102.3	1.9	0.27	0.1	0.02	0.26	0.20	0.04	3 22	
10	19.84	19.84	33.594	23.734	415.8	0.042	5.33	232.8	102.1	1.9	0.29	0.1	0.02	0.16	0.20	A 0.04 A	10 20	
10	19.84	19.84	33.594	23.734	415.8	0.042											10 21	
20	19.79	19.78	33.597	23.751	414.7	0.083	5.33	232.7	101.9	1.9	0.29	0.1	0.02	0.24	0.19	0.05	20 19	
30	19.00	19.00	33.563	23.927	398.2	0.124	5.42	236.6	102.1	1.9	0.31	0.2	0.03	0.30	0.23	0.06	30 18	
40	14.97	14.97	33.284	24.659	328.6	0.160	6.03	263.3	104.8	3.2	0.38	0.1	0.03	0.13	0.59	0.36	40 16	
40	14.97	14.97	33.283	24.658	328.7	0.160											40 17	
50	13.78	13.77	33.309	24.929	303.0	0.192	5.59	244.2	94.9	4.8	0.59	2.3	0.28	0.29	0.70	0.43	50 15	
61	12.61	12.60	33.328	25.178	279.6	0.224	5.04	220.0	83.4	7.2	0.83	6.8	0.14	0.23	0.35	0.33	61 14	
70	12.04	12.03	33.363	25.314	266.8	0.248	4.68	204.4	76.6	9.3	1.01	10.0	0.06	0.07	0.21	0.24	71 13	
75	ISL	11.26 D	11.25	33.429	D 25.510	248.2	0.226	4.40	0191.5	D 70.8	11.3	1.14	12.1	0.05	0.07	0.16	0.19	76
86	10.75	10.74	33.521	25.672	233.0	0.288	3.86	168.4	61.5	15.6	1.42	16.5	0.03	0.08	0.06	0.09	87 12	
100	10.43	10.41	33.674	25.849	216.5	0.319	3.28	143.0	51.9	19.9	1.64	19.7	0.03	0.06	0.03	0.06	101 11	
119	10.14	10.13	33.776	25.977	204.7	0.359	2.86	125.0	45.1	23.3	1.87	22.4	0.04	0.20	0.01	0.05	120 10	
125	ISL	10.01 D	10.00	33.814	D 26.029	199.9	0.336	2.88	D 125.3	D 45.2	23.9	1.88	22.7	0.03	0.17	0.01	0.05	126
140	9.92	9.91	33.844	26.069	195.5	0.401	2.71	118.4	42.5	25.4	1.90	23.4	0.03	0.10	0.01	0.04	141 09	
150	ISL	9.88 D	9.86	33.860	D 26.088	194.9	0.386	2.70	D 117.3	D 42.2	26.1	1.93	23.8	0.03	0.11	0.01	0.04	151
171	9.73	9.71	33.911	26.154	189.1	0.461	2.51	109.4	39.1	27.6	1.99	24.6	0.03	0.12	0.00	0.03	172 08	
200	9.48	9.46	33.974	26.245	181.0	0.515	2.35	102.7	36.6	30.0	2.08	25.9	0.03	0.14	0.01	0.07	202 07	
232	9.09	9.07	34.069	26.382	168.5	0.570	2.01	87.8	31.0	34.6	2.23	27.9	0.03	0.16			234 06	
250	ISL	9.02 D	8.99	34.110	D 26.427	164.6	0.567	1.84	D 80.2	D 28.4	36.5	2.30	28.6	0.02	0.10			252
271	8.93	8.90	34.154	26.476	160.4	0.635	1.57	68.5	24.1	38.6	2.39	29.4	0.02	0.04			273 05	
300	ISL	8.65 D	8.61	34.206	D 26.563	152.7	0.648	1.28	D 55.7	D 19.6	42.5	2.50	30.6	0.02	0.06			302
321	8.44	8.41	34.214	26.600	149.4	0.712	1.25	54.4	18.9	45.3	2.58	31.6	0.02	0.08			324 04	
381	7.84	7.80	34.247	26.718	139.0	0.798	0.77	33.7	11.6</									

RV NEW HORIZON

CALCOFI CRUISE 1411

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		
DEPTH	TEMP	POTTEMP	SALINITY	SIGMA	SV	DYN HT	OXYGEN	OXYGEN	OXY	SI03*	P04*	N03*	N02*	NH4*	CHL-A	PHAEAO	PRES	SAMP
m	DEG C	DEG C	THETA			ml/L	μmol/Kg	μM	PCT	μM	μM	μM	μM	μM	μg/L	μg/L	db	
0	19.37	19.37	33.598	23.856	403.8	0.000	5.36	234.1	101.7	1.8	0.30	0.1	0.02	0.18	0.22	0.05	0	
2	19.37	19.37	33.598	23.856	403.8	0.008	5.36	234.1	101.7	1.8	0.30	0.1	0.02	0.18	0.22	0.05	2	
10	19.37	19.37	33.598	23.857	404.1	0.040	5.37	234.4	101.9	1.8	0.30	0.1	0.02	0.05	0.22	0.05	10	
10	19.37	19.37	33.598	23.857	404.1	0.040											20	
20	19.37	19.36	33.597	23.859	404.3	0.081	5.38	234.9	102.1	1.8	0.32	0.1	0.01	0.11	0.25	0.05	20	
30	18.13	18.12	33.499	24.094	382.2	0.120	5.61	245.1	104.0	2.1	0.31	0.0	0.02	0.02	0.32	0.23	30	
40	15.99	15.98	33.329	24.470	346.7	0.157	6.05	264.0	107.3	2.3	0.40	0.1	0.02	0.12	0.51	0.23	40	
50	14.10	14.09	33.268	24.831	312.4	0.190	5.95	259.8	101.6	3.2	0.52	0.9	0.12	0.17	0.81	0.48	50	
60	12.71	12.70	33.294	25.132	283.9	0.219	5.23	228.2	86.7	6.4	0.79	6.0	0.19	0.03	0.35	0.28	60	
70	11.96	11.95	33.382	25.344	263.9	0.247	4.62	201.8	75.5	9.7	1.08	10.3	0.04	0.10	0.18	0.16	71	
75	ISL	11.90	D 11.89	33.401	D 25.370	261.6	0.242	4.60	D 200.2	D 75.0	11.0	1.15	11.6	0.04	0.08	0.15	0.14	76
85	11.26	11.25	33.476	25.547	245.0	0.285	4.10	179.1	66.1	1.5	1.30	14.3	0.03	0.04	0.09	0.11	86	
100	ISL	10.70	D 10.69	33.566	D 25.717	229.1	0.303	3.71	D 161.7	D 59.1	16.6	1.47	17.2	0.03	0.04	0.05	0.07	101
101	10.64	10.63	33.564	25.725	228.3	0.323	3.73	162.7	59.3	16.8	1.48	17.4	0.03	0.04	0.05	0.07	102	
120	10.38	10.37	33.642	25.831	218.6	0.366	3.42	149.2	54.1	19.5	1.62	19.5	0.02	0.04	0.03	0.06	121	
125	ISL	10.25	D 10.24	33.686	D 25.888	213.4	0.359	3.39	D 147.4	D 53.4	20.6	1.68	20.3	0.02	0.04	0.03	0.05	126
140	10.00		9.98	33.793	26.016	201.5	0.407	2.88	125.8	45.2	24.1	1.85	22.8	0.02	0.02	0.01	0.04	141
150	ISL	9.88	D 9.86	33.852	D 26.082	195.5	0.410	2.73	D 119.9	D 43.1	25.8	1.92	23.7	0.02	0.03	0.01	0.04	151
170	9.61	9.59	33.953	26.207	184.0	0.465	2.40	104.6	37.3	29.0	2.05	25.4	0.02	0.04	0.00	0.03	171	
200	9.30	9.27	34.107	26.379	168.2	0.518	1.85	80.6	28.6	34.4	2.27	27.6	0.02	0.03	0.00	0.03	202	
230	9.04	9.01	34.172	26.472	159.9	0.567	1.54	67.1	23.7	38.4	2.40	29.1	0.02	0.07			232	
250	ISL	8.89	D 8.86	34.189	D 26.510	156.8	0.583	1.46	D 63.6	D 22.4	40.5	2.46	29.9	0.02	0.06			252
270	8.71	8.68	34.218	26.561	152.3	0.630	1.27	55.3	19.4	42.7	2.52	30.6	0.02	0.04			272	
300	ISL	8.30	D 8.27	34.231	D 26.634	145.7	0.659	1.07	D 46.4	D 16.2	46.5	2.62	31.9	0.02	0.08			302
319	8.14	8.11	34.232	26.659	143.5	0.702	0.97	42.3	14.6	48.9	2.69	32.7	0.02	0.10			322	
379	7.56	7.53	34.263	26.770	133.8	0.785	0.64	28.1	9.6	56.8	2.87	34.9	0.02	0.03			382	
400	ISL	7.40	D 7.36	34.262	D 26.792	131.9	0.799	0.64	D 27.9	D 9.5	59.5	2.90	35.6	0.02	0.03			403
441	6.90	6.86	34.254	26.856	126.1	0.866	0.53	23.2	7.8	64.7	2.97	37.0	0.02	0.02			445	
500	ISL	6.47	D 6.43	34.278	D 26.933	119.3	0.925	0.43	D 18.9	D 6.3	70.6	3.06	38.2	0.02	0.05			504
515	6.46	6.41	34.284	26.941	118.8	0.956	0.38	16.4	5.5	72.1	3.08	38.5	0.02	0.06			519	

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

RV NEW HORIZON

CALCOFI CRUISE 1411

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		
DEPTH	TEMP	POTTEMP	SALINITY	SIGMA	SV	DYN HT	OXYGEN	OXYGEN	OXY	SI03*	P04*	N03*	N02*	NH4*	CHL-A	PHAEAO	PRES	SAMP
m	DEG C	DEG C	THETA			ml/L	μmol/Kg	μM	PCT	μM	μM	μM	μM	μM	μg/L	μg/L	db	
0	18.54	18.54	33.491	23.984	391.6	0.000	5.44	237.5	101.5	1.2	0.29	0.1	0.02	0.24	0.21	0.07	0	
2	A	18.54	18.54	33.491	23.984	391.6	0.008	5.44	237.5	101.5	1.2	0.29	0.1	0.02	0.24	0.21	0.07	
8	18.44	18.44	33.489	24.008	389.6	0.031	5.44	237.4	101.3	1.2	0.37	0.1	0.02	0.38	0.22	0.07	8	
8	18.44	18.44	33.488	24.007	389.7	0.030											22	
10	ISL	18.44	D 18.44	33.488	D 24.008	389.6	0.036	5.46	D 238.3	D 101.8	1.2	0.35	0.1	0.01	0.34	0.22	0.07	10
16	A	18.43	18.43	33.489	24.011	389.6	0.062	5.44	237.4	101.3	1.2	0.30	0.1	0.01	0.23	0.23	0.08	16
20	ISL	18.43	D 18.42	33.487	D 24.012	389.7	0.075	5.44	D 237.2	D 101.3	1.2	0.29	0.1	0.01	0.27	0.24	0.08	20
23	A	18.42	18.41	33.488	24.015	389.5	0.090	5.43	237.3	101.2	1.2	0.28	0.1	0.02	0.30	0.24	0.08	23
30	ISL	18.41	D 18.40	33.482	D 24.014	389.9	0.114	5.44	D 237.3	D 101.3	1.2	0.29	0.1	0.01	0.23	0.25	0.09	30
33	18.37	18.36	33.480	24.022	389.3	0.129	5.45	237.7	101.3	1.2	0.30	0.1	0.01	0.20	0.25	0.09	33	
43	16.04	16.04	33.134	24.307	363.2	0.167											43	
44	A	15.29	15.29	33.072	D 24.426	350.9	0.147	5.81	253.6	101.5	1.8	0.34	0.1	0.02	0.13	0.37	0.26	44
50	ISL	13.86	D 13.86	32.952	D 24.636	330.9	0.168	5.96	D 259.6	D 101.0	2.7	0.47	1.3	0.12	0.14	0.37	0.31	50
55	13.42	13.41	32.946	24.723	322.8	0.207	5.81	253.7	97.6	3.5	0.58	2.3	0.21	0.15	0.38	0.36	55	
67	12.21	12.20	33.078	25.061	290.8	0.244	5.34	233.5	87.6	5.8	0.85	7.1	0.08	0.05	0.17	0.24	68	
75	ISL	11.65	D 11.64	33.187	D 25.251	272.9	0.244	5.20	D 226.3	D 84.2	7.1	0.94	8.6	0.06	0.15	0.13	0.21	76
80	A	11.41	11.40	33.215	25.317	266.7	0.280	5.07	221.6	81.8	7.9	1.00	9.6	0.04	0.21	0.11	0.20	81
91	10.39	10.38	33.313	25.572	242.5	0.308	4.71	205.5	74.3	11.6	1.20	13.5	0.03	0.13	0.08	0.12	92	
100	ISL	10.26	D 10.25	33.352	D 25.625	237.7	0.307	4.51	D 196.4	D 71.0	14.5	1.35	16.0	0.03	0.09	0.05	0.08	101
101	A	10.18	10.17	33.395	25.673	233.2	0.332	4.43	193.4	69.7	14.8	1.37	16.3	0.03	0.08	0.05	0.08	102
120	9.66	9.65	33.539	25.873	214.5	0.374	3.98	173.7	61.9	18.8	1.54	19.4	0.03	0.05	0.02	0.04	121	
125	ISL	9.65	D 9.63	33.552	D 25.885	213.5	0.364	3.93	D 171.0	D 61.1	20.1	1.60	20.3	0.02	0.05	0.02	0.04	126
140	9.42	9.40	33.712	26.048	198.2	0.416	3.30	144.1	51.1	23.9	1.79	23.0	0.02	0.06	0.01	0.03	141	
150	ISL	9.27	D 9.25	33.803	D 26.144	189.3	0.414	3.08	D 134.0	D 47.6	26.3	1.88	2					

RV NEW HORIZON

CALCOFI CRUISE 1411

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			
DEPTH	TEMP	POTTEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXYGEN	OXY	SI03*	P04*	N03*	N02*	NH4*	CHL-A	PHAEAO	PRES	SAMP
m	DEG C	DEG C	THETA			ml/L	μmol/Kg	PCT	μM	μM	μM	μM	μM	μM	μg/L	μg/L	db	
0	19.05	19.05	33.337	23.739	415.0	0.000	5.37	234.5	101.2	2.1	0.32	0.1	0.02	0.10	0.15	0.04	0	
2	19.05	19.05	33.337	23.739	415.0	0.008	5.37	234.5	101.2	2.1	0.32	0.1	0.02	0.10	0.15	0.04	2 20	
9	19.06	19.06	33.337	23.738	415.5	0.037	5.34	233.3	100.6	2.1	0.32	0.1	0.01	0.07	0.15	0.05	9 19	
10 ISL	19.06	19.06	33.334 D	23.734	415.8	0.042	5.34	D233.1	D100.6	2.1	0.32	0.1	0.01	0.07	0.15	0.05	10	
20 ISL	19.07	19.06	33.334 D	23.735	416.2	0.084	5.34	D232.8	D100.5	2.0	0.32	0.0	0.02	0.04	0.15	0.04	20	
25	19.06	19.06	33.338	23.740	415.9	0.104	5.34	D233.2	100.6	2.0	0.32	0.0	0.02	0.02	0.15	0.04	25 18	
30 ISL	18.98	18.98	33.324 D	23.749	415.2	0.126	5.35	D233.3	D100.6	2.0	0.32	0.0	0.02	0.04	0.16	0.05	30	
40	17.99	17.99	33.280	23.961	395.3	0.165	5.49	239.7	101.3	1.8	0.33	0.0	0.02	0.09	0.19	0.08	40 17	
50	16.10	16.09	33.170	24.324	361.0	0.203	5.96	260.2	105.8	2.3	0.35	0.0	0.02	0.03	0.21	0.14	50 16	
62	14.93	14.92	33.238	24.633	331.8	0.245	5.90	257.5	102.4	2.7	0.39	0.1	0.02	0.07	0.23	0.19	62 15	
74	13.91	13.90	33.216	24.833	313.0	0.283	5.75	251.2	97.8	3.5	0.50	0.9	0.11	0.23	0.22	75 14		
75 ISL	13.86	13.86	33.219 D	24.845	311.8	0.289	5.70	D248.3	D96.8	3.7	0.52	1.3	0.12	0.12	0.23	0.22	76	
87	12.21	12.19	33.184	25.145	283.4	0.322	5.39	235.5	88.4	5.8	0.79	6.0	0.20	0.21	0.18	0.24	88 13	
100	11.34	11.33	33.207	25.323	266.6	0.358	5.15	225.1	83.0	7.5	0.92	8.8	0.07	0.01	0.14	0.23	101 12	
112	10.53	10.51	33.302	25.541	246.0	0.389	4.77	208.3	75.5	11.0	1.14	12.7	0.03	0.02	0.09	0.16	113 11	
125	10.13	10.12	33.400	25.685	232.5	0.420	4.45	194.5	70.0	14.2	1.32	15.7	0.03	0.02	0.05	0.10	126 10	
140	9.66	9.65	33.537	25.871	215.1	0.453	3.96	172.8	61.6	18.7	1.55	19.4	0.02	0.01	0.02	0.05	141 09	
150 ISL	9.35 D	9.34	33.656 D	26.015	201.5	0.477	3.70	D161.1	D57.2	21.0	1.63	20.7	0.02	0.01	0.02	0.04	151	
170	9.09	9.07	33.788	26.161	188.1	0.513	3.35	146.2	51.5	25.5	1.79	23.4	0.02	0.02	0.00	0.02	171 08	
200	8.63	8.61	33.939	26.352	170.4	0.567	2.82	123.2	43.0	31.7	2.01	26.6	0.02	0.07	0.00	0.02	202 07	
230	8.39	8.36	33.980	26.422	164.3	0.617	2.61	114.1	39.6	34.8	2.10	27.8	0.02	0.02			232 06	
250 ISL	8.10 D	8.07	34.008 D	26.488	158.3	0.654	2.42	D105.4	D36.5	38.8	2.21	29.3	0.02	0.03			252	
269	7.82	7.79	34.034	26.550	152.7	0.679	2.11	92.1	31.6	42.6	2.31	30.8	0.02	0.03			271 05	
300 ISL	7.66 D	7.63	34.083 D	26.612	147.2	0.730	1.68	D73.1	D25.1	47.6	2.45	32.3	0.02	0.02			302	
320	7.58	7.55	34.126 D	26.658	143.3	0.760	1.34	D58.4	D20.0	21.3	2.4	23.4	0.02	0.02			323 04	
379	6.87	6.84	34.152	26.778	132.3	0.837	0.91	39.8	13.4	60.1	2.82	36.3	0.02	0.01			382 03	
400 ISL	6.68 D	6.65	34.172 D	26.820	128.5	0.869	0.80	D34.6	D11.6	63.1	2.88	37.1	0.02	0.01			403	
440	6.25	6.21	34.178	26.881	123.0	0.915	0.64	28.0	9.3	68.9	2.98	38.6	0.02	0.01			444 02	
500 ISL	5.84 D	5.80	34.206 D	26.957	116.2	0.992	0.52	D22.4	D7.4	76.9	3.10	39.9	0.02	0.00			504	
513	5.83	5.79	34.220	26.969	115.3	1.002	0.42	18.4	6.0	78.6	3.13	40.2	0.02	0.00			517 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 1411

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			
DEPTH	TEMP	POTTEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXYGEN	OXY	SI03*	P04*	N03*	N02*	NH4*	CHL-A	PHAEAO	PRES	SAMP
m	DEG C	DEG C	THETA			ml/L	μmol/Kg	PCT	μM	μM	μM	μM	μM	μM	μg/L	μg/L	db	
0	19.45	19.45	33.303	23.612	427.1	0.000	5.31	231.9	100.8	2.4	0.33	0.2	0.02	0.22	0.15	0.02	0	
3	19.45	19.45	33.303	23.612	427.2	0.013	5.31	231.9	100.8	2.4	0.33	0.2	0.02	0.22	0.15	0.02	3 20	
9	19.45	19.45	33.303	23.612	427.4	0.038	5.31	231.9	100.8	2.3	0.32	0.1	0.02	0.21	0.17	0.02	9 19	
10 ISL	19.46 D	19.45	33.302 D	23.610	427.6	0.043	5.30	D231.2	D100.6	2.3	0.32	0.1	0.02	0.22	0.17	0.02	10	
20 ISL	19.46 D	19.46	33.302 D	23.610	428.0	0.086	5.29	D230.9	D100.4	2.3	0.33	0.1	0.02	0.29	0.17	0.01	20	
25	19.46	19.46	33.305	23.612	428.1	0.107	5.32	232.3	100.9	2.3	0.34	0.1	0.02	0.32	0.17	0.00	25 18	
30 ISL	19.46 D	19.45	33.306 D	23.614	428.1	0.129	5.28	D230.3	D100.2	2.3	0.34	0.1	0.02	0.31	0.18	0.00	30	
41	19.37	19.36	33.310	23.640	426.1	0.175	5.33	232.9	101.0	2.3	0.34	0.1	0.02	0.29	0.20	0.00	41 17	
50	17.14	17.14	33.141	24.059	386.3	0.212	5.89	257.3	106.8	2.4	0.34	0.2	0.02	0.18	0.27	0.05	50 16	
62	15.74	15.73	33.161	24.396	354.4	0.256	5.97	260.7	105.3	2.5	0.37	0.2	0.02	0.19	0.38	0.04	62 15	
74	14.95	14.94	33.203	24.603	335.0	0.298	5.87	256.4	101.9	2.9	0.43	0.2	0.03	0.17	0.34	0.11	75 14	
75 ISL	14.92 D	14.91	33.206 D	24.611	334.3	0.303	5.84	D254.6	D101.4	3.0	0.44	0.3	0.05	0.17	0.33	0.12	76	
86	13.65	13.64	33.213	24.884	308.4	0.336	5.65	246.6	95.5	3.8	0.54	1.6	0.23	0.14	0.29	0.16	87 13	
100 ISL	12.15 D	12.14	33.172 D	25.146	283.6	0.381	5.35	D232.9	D87.6	5.6	0.75	5.6	0.15	0.16	0.28	0.12	101	
101	12.14	12.13	33.176	25.152	283.1	0.381	5.37	234.4	87.9	5.7	0.76	5.9	0.14	0.16	0.28	0.12	102 12	
112	11.42	11.41	33.203	25.306	268.6	0.411	5.15	224.7	83.0	7.5	0.92	8.8	0.04	0.17	0.19	0.12	113 11	
125	10.40	10.38	33.328	25.585	242.1	0.444	4.64	202.8	73.3	12.2	1.24	14.1	0.02	0.32	0.08	0.09	126 10	
140	9.81	9.79	33.488 D	25.809	221.0	0.482	4.35	190.2	67.9	15.3	1.38	16.8	0.02	0.20	0.06	0.04	141 09	
150 ISL	9.58 D	9.57	33.555 D	25.899	212.6	0.504	4.06	D176.5	D63.0	17.5	1.45	18.2	0.02	0.17	0.04	0.03	151	
170	9.23	9.21	33.718	26.083	195.5	0.541	3.85	168.1	59.4	21.9	1.60	21.0	0.02	0.11	0.01	0.02	171 08	
200 ISL	8.85 D	8.83	33.867 D	26.261	179.2	0.599	3.37	147.0	51.5	27.1	1.79	24.0	0.01	0.05	0.01	0.16	203 07	
230	8.47	8.45	33.956	26.391	167.3	0.649	2.95	128.6	44.7	32.3	1.97	26.5	0.01	0.08			232 06	
250 ISL	8.15 D	8.13	34.000 D	26.473	159.7	0.687	2.60	D113.2	D39.2	36.3	2.11	28.3	0.02	0.07			252	
270	7.89	7.86	34.025	26.533	1													

RV NEW HORIZON

CALCOFI CRUISE 1411

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			
DEPTH	TEMP	POTTEMP	SALINITY	SIGMA	SV	DYN HT	OXYGEN	OXYGEN	OXY	SI03*	P04*	N03*	N02*	NH4*	CHL-A	PHAEAO	PRES SAMP	
m	DEG C	DEG C	THETA			ml/L	μmol/Kg	PCT	μM	μM	μM	μM	μM	μM	μg/L	μg/L	db	
31	45.1 N	121 18.8 W	13/11/2014	0241	UTC	3675 m	330	13 kn		1017.0 mb	18.7 C	15.8 C					023	
0	19.58	19.58	33.232	23.525	435.4	0.000	5.30	231.4	100.7	2.0	0.32	0.1	0.01	0.13	0.12	0.03	0	
2	19.58	19.57	33.232	23.525	435.5	0.009	5.30	231.4	100.7	2.0	0.32	0.1	0.01	0.13	0.12	0.03	2 20	
10	19.58	19.58	33.233	23.526	435.7	0.044	5.30	231.5	100.8	2.0	0.33	0.1	0.01	0.05	0.11	0.03	10 19	
20	ISL	19.58 D	19.57	33.229	23.524	436.3	0.088	5.32	0232.0	0101.1	2.0	0.32	0.1	0.01	0.07	0.12	0.03	20
25	19.56	19.55	33.228	23.529	436.0	0.109	5.30	231.5	100.7	2.0	0.32	0.1	0.01	0.08	0.13	0.03	25 18	
30	ISL	19.55 D	19.54	33.225	23.529	436.2	0.132	5.33	0232.6	0101.3	2.0	0.32	0.1	0.01	0.07	0.13	0.04	30
40	19.48	19.47	33.221	23.545	435.1	0.174	5.32	232.5	101.0	2.0	0.32	0.1	0.01	0.06	0.15	0.04	40 17	
50	17.87	17.86	33.163	23.902	401.3	0.216	5.64	246.3	103.7	2.1	0.33	0.1	0.02	0.31	0.19	0.08	50 16	
62	16.26	16.25	33.128	24.254	368.0	0.262	5.91	258.2	105.3	2.2	0.34	0.1	0.01	0.11	0.21	0.14	62 15	
75	14.80	14.79	33.069	24.531	341.9	0.308	5.90	257.5	102.0	2.5	0.36	0.1	0.02	0.11	0.23	76 14		
87	14.41	14.40	33.157	24.683	327.7	0.349	5.77	252.0	99.1	2.9	0.43	0.3	0.08	0.14	0.24	0.21	88 13	
100	ISL	12.72 D	12.71	33.175	24.040	293.8	0.392	5.48	0238.5	090.8	4.5	0.63	3.4	0.29	0.06	0.20	0.19	101
101	12.60	12.58	33.176	25.065	291.5	0.392	5.50	240.0	90.9	4.6	0.64	3.7	0.31	0.05	0.20	0.19	102 12	
112	11.15	11.14	33.173	25.331	266.1	0.423	5.20	227.0	83.4	7.4	0.89	8.5	0.03	0.11	0.12	0.13	113 11	
125	10.68	10.67	33.188	25.426	257.3	0.457	5.09	222.4	80.8	9.0	1.01	10.7	0.03	0.05	0.09	0.11	126 10	
140	10.37	10.35	33.295	25.565	244.4	0.494	4.77	208.2	75.2	11.6	1.16	13.3	0.02	0.03	0.06	0.09	141 09	
150	ISL	9.88 D	9.87	33.468	25.781	223.9	0.521	4.48	0195.0	070.0	14.2	1.27	15.3	0.02	0.06	0.04	0.06	151
170	9.49	9.47	33.675	26.008	202.7	0.560	4.05	177.0	62.9	19.4	1.49	19.2	0.02	0.12	0.01	0.02	171 08	
200	8.81	8.79	33.892	26.287	176.7	0.617	3.48	152.1	53.3	27.2	1.74	23.4	0.02	0.08	0.00	0.01	202 07	
230	8.46	8.43	33.945	26.384	167.9	0.669	3.26	142.1	49.4	30.7	1.86	25.1	0.02	0.06			232 06	
250	ISL	8.04 D	8.01	33.999	26.490	158.1	0.706	2.83	0123.2	042.6	35.9	2.07	27.7	0.02	0.09			252
271	7.94	7.91	34.047	26.542	153.5	0.734	2.11	92.0	31.6	41.4	2.30	30.4	0.02	0.12			273 05	
300	ISL	7.86 D	7.83	34.154	26.640	144.8	0.783	1.33	057.6	019.9	46.5	2.50	32.2	0.02	0.08			302
320	7.71	7.67	34.157	26.664	142.7	0.806	1.20	52.5	18.0	50.1	2.64	33.5	0.02	0.06			323 04	
380	6.98	6.95	34.176	26.782	132.1	0.889	0.84	36.8	12.4	59.9	2.86	36.4	0.02	0.17			383 03	
400	ISL	6.82 D	6.78	34.184	26.812	129.4	0.921	0.78	34.1 D	11.5	62.6	2.91	37.0	0.02	0.18			403
439	6.52	6.48	34.212	26.873	124.0	0.964	0.57	25.1	8.3	67.7	3.00	38.3	0.02	0.20			443 02	
500	ISL	6.13 D	6.08	34.269	26.971	115.3	1.045	0.39	17.0 D	5.6	75.7	3.14	39.8	0.02	0.39			504
516	6.01	5.96	34.268	26.985	114.0	1.056	0.34	14.7	4.8	77.8	3.18	40.2	0.02	0.44			520 01	

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED 02;

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD			
DEPTH	TEMP	POTTEMP	SALINITY	SIGMA	SV	DYN HT	OXYGEN	OXYGEN	OXY	SI03*	P04*	N03*	N02*	NH4*	CHL-A	PHAEAO	PRES SAMP	
m	DEG C	DEG C	THETA			ml/L	μmol/Kg	PCT	μM	μM	μM	μM	μM	μM	μg/L	μg/L	db	
31	25.0 N	121 59.7 W	12/11/2014	2102	UTC	3857 m	350	06 kn	330 03 06	2	1016.0 mb	19.8 C	16.1 C		8/8	ST	022	
0	19.58	19.58	33.187	23.491	438.7	0.000	5.30	231.4	100.7	2.0	0.34	0.1	0.01	0.14	0.03	0		
2	19.58	19.57	33.187	23.491	438.7	0.009	5.30	231.4	100.7	2.0	0.34	0.1	0.01	0.14	0.03	2 24		
10	19.57	19.56	33.186	23.494	438.8	0.044	5.28	230.7	100.3	2.0	0.33	0.1	0.01	0.05	0.14	0.03	10 23	
20	ISL	19.53 D	19.53	33.183	23.501	438.5	0.088	5.30	0231.2	0100.6	2.0	0.33	0.1	0.01	0.03	0.14	0.03	20
26	19.53	19.52	33.188	23.506	438.2	0.114	5.30	231.6	100.7	2.0	0.33	0.1	0.01	0.02	0.15	0.04	26 22	
30	ISL	19.53 D	19.52	33.182	23.502	438.8	0.133	5.30	0231.3	0100.6	2.0	0.33	0.1	0.01	0.02	0.15	0.04	30
40	19.47	19.46	33.178	23.516	437.9	0.175	5.30	0231.4	0100.5	1.9	0.33	0.1	0.01	0.01	0.17	0.04	40 21	
50	16.76	16.75	33.067	24.092	383.1	0.216	5.99	261.7	107.8	2.2	0.35	0.1	0.01	0.09	0.23	0.12	50 20	
62	15.21	15.20	33.028	24.411	352.9	0.261	5.95	260.0	103.8	2.3	0.40	0.2	0.01	0.09	0.27	0.20	62 19	
75	14.23	14.22	33.108	24.683	327.3	0.305	5.78	252.3	98.8	2.9	0.44	0.4	0.09	0.08	0.27	0.22	76 18	
87	13.35	13.34	33.190	24.926	304.4	0.343	5.58	243.6	93.7	3.9	0.56	2.7	0.39	0.14	0.22	0.18	88 17	
100	12.30	12.29	33.165	25.113	286.8	0.381	5.39	235.6	88.6	5.3	0.75	5.7	0.15	0.11	0.17	0.16	101 16	
111	11.43	11.41	33.168	25.278	271.2	0.412	5.25	229.3	84.7	6.9	0.87	8.1	0.03	0.07	0.13	0.15	112 15	
125	ISL	10.30 D	10.28	33.285	25.568	243.7	0.451	4.80	0208.9	075.6	10.4	1.12	12.2	0.02	0.04	0.06	0.12	126
126	10.38	10.37	33.273	25.545	246.0	0.453	4.88	213.1	77.0	10.7	1.14	12.5	0.02	0.04	0.06	0.11	127 14	
140	9.71	9.69	33.475	25.815	220.4	0.486	4.43	193.7	69.0	15.3	1.40	16.8	0.01	0.08	0.03	0.05	141 13	
150	ISL	9.62 D	9.60	33.519	25.865	215.9	0.508	4.17	0181.7	064.9	18.0	1.52	18.7	0.01	0.07	0.02	0.04	151
170	9.20	9.18	33.701	26.076	196.2	0.546	3.57	155.8	55.0	23.4	1.75	22.7	0.01	0.06	0.00	0.02	171 12	
200	8.85	8.83	33.856	26.252	180.0	0.603	3.19	139.4	48.9	27.9	1.89	25.0	0.01	0.06	0.00	0.02	202 11	
230	8.38	8.36	33.955	26.403	166.1	0.654	3.07	134.0	46.5	32.5	1.96	26.3	0.01	0.04			232 10	
250	ISL	8.02 D	8.00	33.987	26.483	158.8	0.691	2.93	0127.3	044.0	36.9	2.09	28.2	0.01	0.06			252
270	7.67	7.65	34.008	26.551	0.718	2.47	107.7	36.8	41.4	2.22	30.1	0.02	0.08			272 09		
300	ISL	7.33 D	7.30	34.050	26.633	145.1	0.768	1.90	82.5 D	28.1	47.2	2.41	32.3	0.02	0.07			

RV NEW HORIZON

CALCOFI CRUISE 1411

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		
DEPTH	TEMP	POTTEMP	SALINITY	SIGMA	THETA	SVA	DYN HT	OXYGEN	OXYGEN	OXY	N03*	N02*	NH4*	CHL-A	PHAEAO	PRES SAMP	
m	DEG C	DEG C				ml/L	μmol/Kg	μM	μM	μM	μM	μM	μM	μg/L	μg/L	db	
0	19.54	19.54	33.184	23.498	437.9	0.000	5.30	231.6	100.7	2.0	0.35	0.1	0.01	0.15	0.15	0.04	0
3 A	19.54	19.54	33.184	23.498	438.0	0.013	5.30	231.6	100.7	2.0	0.35	0.1	0.01	0.15	0.15	0.04	3 11
10	19.54	19.54	33.183	23.498	438.4	0.044	5.31	231.8	100.8	2.0	0.34	0.1	0.02	0.10	0.15	0.04	10 10
19 A	19.53	19.53	33.186	23.502	438.3	0.083	5.29	231.0	100.4	2.0	0.37	0.1	0.02	0.34	0.16	0.04	19 09
20 ISL	19.53 D	19.53	33.181 D	23.500	438.6	0.088	5.32	D232.3	D101.1	2.0	0.37	0.1	0.02	0.31	0.16	0.04	20
28 A	19.53	19.53	33.184	23.502	438.7	0.123	5.29	231.1	100.4	1.9	0.34	0.0	0.02	0.06	0.16	0.04	28 08
30 ISL	19.53 D	19.52	33.179 D	23.499	439.0	0.132	5.32	D232.1	D101.0	2.0	0.34	0.0	0.02	0.07	0.17	0.04	30
50 ISL	16.99 D	16.98	33.099 D	24.062	386.0	0.216	5.99	D261.0	D108.2	2.3	0.34	0.1	0.02	0.12	0.23	0.11	50
52 A	16.31	16.30	33.050 D	24.182	374.5	0.223	5.94	259.4	105.9	2.3	0.34	0.1	0.02	0.13	0.23	0.11	52 07
66	15.18	15.17	33.031	24.421	352.1	0.273	5.92	258.5	103.1	2.3	0.41	0.1	0.03	0.13	0.29	0.23	67
75 ISL	14.57 D	14.56	33.113 D	24.616	333.8	0.305	5.85	D254.9 D	D100.7	3.0	0.49	1.1	0.13	0.13	0.25	0.23	76
96 A	12.85	12.84	33.189	25.026	295.1	0.369	5.48	239.3	91.1	4.5	0.66	3.4	0.37	0.12	0.16	0.21	97 05
100	12.60	12.58	33.178	25.066	291.3	0.381	5.41	236.3	89.5	5.1	0.71	4.8	0.22	0.07	0.13	0.17	101 04
122 A	10.61	10.60	33.213	25.457	254.2	0.441	5.03	219.6	79.7	9.3	1.04	11.0	0.03	0.07	0.08	0.11	123 03
125 ISL	10.52 D	10.51	33.235 D	25.491	251.1	0.452	5.00	D217.5 D	D79.1	10.1	1.08	11.6	0.03	0.07	0.08	0.11	126
150 ISL	9.70 D	9.68	33.485 D	25.826	219.7	0.511	4.35	D189.4 D	D67.7	16.5	1.41	17.1	0.02	0.06	0.04	0.06	151
170	9.38	9.36	33.643	26.001	203.3	0.550	3.72	162.6	57.6	21.7	1.68	21.5	0.02	0.06	0.01	0.02	171 02
200	8.88	8.86	33.840	26.236	181.6	0.608	3.22	140.8	49.4	27.5	1.88	25.0	0.02	0.11	0.00	0.02	202 01

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

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

RV NEW HORIZON

CALCOFI CRUISE 1411

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		
DEPTH	TEMP	POTTEMP	SALINITY	SIGMA	THETA	SVA	DYN HT	OXYGEN	OXYGEN	OXY	N03*	N02*	NH4*	CHL-A	PHAEAO	PRES SAMP	
m	DEG C	DEG C				ml/L	μmol/Kg	μM	μM	μM	μM	μM	μM	μg/L	μg/L	db	
0	19.39	19.39	33.172	23.527	435.2	0.000	5.32	232.2	100.6	1.9	0.33	0.1	0.02	0.14	0.13	0.04	0
2	19.39	19.39	33.172	23.527	435.2	0.009	5.32	232.2	100.6	1.9	0.33	0.1	0.02	0.14	0.13	0.04	2 20
10	19.39	19.39	33.174	23.530	435.3	0.044	5.31	231.9	100.5	1.8	0.33	0.1	0.02	0.04	0.13	0.03	10 19
20 ISL	19.39 D	19.39	33.170 D	23.527	436.0	0.088	5.33	D232.4	D100.9	1.8	0.33	0.0	0.02	0.02	0.14	0.03	20
24	19.39	19.38	33.173	23.530	435.9	0.105	5.31	232.0	100.6	1.8	0.33	0.0	0.02	0.01	0.14	0.03	24 18
30 ISL	19.39 D	19.38	33.170 D	23.528	436.3	0.132	5.31	D231.8	D100.6	1.9	0.33	0.0	0.02	0.05	0.14	0.03	30
40	19.39	19.38	33.173	23.532	436.3	0.174	5.31	231.7	100.4	1.9	0.32	0.0	0.02	0.12	0.13	0.04	40 17
49	16.79	16.78	33.081	24.096	382.6	0.211	5.89	257.5	106.1	2.2	0.32	0.0	0.02	0.21	0.21	0.10	49 16
50 ISL	16.48 D	16.48	33.023 D	24.122	380.2	0.217	5.85	D255.1 D	D104.6	2.2	0.32	0.0	0.02	0.21	0.21	0.11	50
62	15.08	15.07	33.013	24.428	351.3	0.259	5.98	261.0	103.9	2.3	0.35	0.1	0.02	0.18	0.24	0.17	62 15
75	13.68	13.67	32.946	24.671	328.4	0.303	5.84	255.2	98.7	2.9	0.46	0.7	0.22	0.09	0.27	0.28	76 14
87	12.14	12.13	33.026	25.034	293.9	0.340	5.57	243.3	91.1	4.6	0.66	4.4	0.27	0.08	0.19	0.30	88 13
99	11.38	11.37	33.110	25.241	274.4	0.375	5.35	233.6	86.2	6.5	0.83	7.4	0.05	0.01	0.14	0.20	100 12
100 ISL	11.14 D	11.12	33.125 D	25.297	269.1	0.380	5.24	D228.4 D	D84.0	6.6	0.84	7.6	0.05	0.01	0.13	0.20	101
112	10.73	10.71	33.139	25.380	261.4	0.409	5.19	226.6	82.4	8.3	0.98	9.9	0.03	0.02	0.10	0.16	113 11
125	10.19	10.17	33.238	25.550	245.4	0.442	4.88	213.0	76.6	11.1	1.20	13.0	0.03	0.07	0.07	0.11	126 10
140	9.87	9.86	33.390 D	25.721	229.4	0.481	4.44	193.8	69.3	14.8	1.37	16.4	0.03	0.04	0.05	0.06	141 09
150 ISL	9.69 D	9.67	33.461 D	25.808	221.3	0.503	4.27	D186.1 D	D65.5	17.1	1.46	18.0	0.03	0.05	0.04	0.05	151
170	9.29	9.27	33.630	26.006	202.9	0.542	3.79	165.2	58.4	21.6	1.65	21.3	0.02	0.07	0.01	0.02	171 08
200 ISL	8.93 D	8.90	33.810 D	26.205	184.5	0.605	3.10	D134.8 D	D47.5	27.0	1.86	24.6	0.02	0.07	0.00	0.02	202
201	8.90	8.87	33.801	26.203	184.7	0.602	3.15	137.5	48.2	27.2	1.87	24.8	0.02	0.07	0.00	0.02	203 07
230	8.57	8.55	33.959	26.378	168.6	0.654	2.46	107.3	37.4	33.7	2.11	28.1	0.02	0.02	0.02	0.02	232 06
250 ISL	8.30 D	8.27	34.010 D	26.460	161.1	0.691	2.17	D94.2 D	D32.8	37.4	2.20	29.3	0.02	0.06	0.02	0.02	252
270	7.87	7.84	34.020 D	26.532	154.4	0.718	2.13	92.9	31.9	41.1	2.29	30.5	0.02	0.10	0.02	0.02	272 05
300 ISL	7.44 D	7.41	34.038 D	26.608	147.4	0.768	1.86	D81.1 D	D27.7	46.8	2.44	32.4	0.02	0.11	0.02	0.02	302
321	7.13	7.10	34.043	26.656	143.1	0.794	1.68	73.2	24.7	50.8	2.54	33.7	0.02	0.11	0.02	0.02	324 04
380	6.79	6.75	34.126	26.769	133.1	0.875	0.94	40.9	13.7	60.2	2.82	36.7	0.03	0.02	0.02	0.02	383 03
400 ISL	6.53 D	6.49	34.132 D	26.809	129.4	0.908	0.86	D37.5 D	D12.5	63.6	2.88	37.4	0.02	0.03	0.03	0.02	403
442	6.18	6.14	34.174	26.887	122.4	0.955	0.62	26.9	8.9	70.9	3.00	38.8	0.02	0.04	0.04	0.02	446 02
500 ISL	5.89 D	5.85	34.222 D	26.963	115.8	1.031	0.47	D20.4 D	D6.7	78.4	3.11	40.0	0.02	0.02	0.02	0.02	504
516	5.74	5.70	34.227	26.984	113.7	1.042	0.38	16.4	5.4	80.5	3.14	40.4	0.02	0.02	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 1411

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	
DEPTH	TEMP	POTTEMP	SALINITY	SIGMA	THETA	SVA	DYN HT	OXYGEN	OXYGEN	OXY	N03*	N02*	NH4*	CHL-A	PHAEAO	PRES SAMP
m	DEG C	DEG C				ml/L	μmol/Kg	μM	μM	μM	μM	μM	μM	μg/L	μg/L	db

<tbl_r cells="16

RV NEW HORIZON

CALCOFI CRUISE 1411

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			
DEPTH	TEMP	POTTEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXYGEN	OXY	SIO3*	P04*	N03*	N02*	NH4*	CHL-A	PHAEAO	PRES	SAMP
m	DEG C	DEG C	THETA			ml/L	μmol/Kg	PCT	μM	μM	μM	μM	μM	μM	μg/L	μg/L	db	
30 25.1 N	123 59.9 W	12/11/2014	0011	UTC	4323 m	340 08 kn	300 03 07	1	1013.0 mb	19.6 C	16.9 C	31 m	6/8	SC	018			
0	19.37	19.37	33.036	23.427	444.7	0.000	5.38	234.9	101.7	1.4	0.35	0.2	0.01	0.05	0.11	0.02	0	
2	19.37	19.37	33.036	23.427	444.8	0.009	5.38	234.9	101.7	1.4	0.35	0.2	0.01	0.05	0.11	0.02	2 22	
10	18.89	18.89	33.035	23.549	433.5	0.044	5.41	236.4	101.4	1.4	0.35	0.1	0.01	0.12	0.12	0.03	10 20	
10	18.89	18.89	33.036	23.550	433.4	0.044											10 21	
20 ISL	18.86 D	18.86	33.033 D	23.556	433.2	0.066	5.39	0235.3	0101.0	1.4	0.34	0.0	0.01	0.07	0.13	0.03	20	
25	18.86	18.85	33.034	23.559	433.2	0.109	5.40	235.9	101.2	1.4	0.34	0.0	0.02	0.05	0.14	0.03	25 19	
30 ISL	18.85 D	18.84	33.032 D	23.559	433.3	0.110	5.39	0235.4	0101.0	1.4	0.34	0.0	0.01	0.05	0.14	0.03	30	
40	18.84	18.84	33.034	23.563	433.3	0.174	5.39	235.3	100.8	1.4	0.33	0.0	0.01	0.04	0.16	0.04	40 18	
50	18.74	18.73	33.068	23.617	428.6	0.217	5.41	236.4	101.1	1.4	0.34	0.0	0.02	0.08	0.23	0.08	50 17	
62	17.17	17.16	33.021	23.961	396.0	0.267	5.76	251.5	104.4	2.0	0.33	0.1	0.02	0.17	0.22	0.10	62 16	
74	15.76	15.75	33.059	24.315	362.6	0.312	5.96	260.3	105.1	2.3	0.36	0.1	0.01	0.09	0.22	0.12	75 14	
75 ISL	15.56 D	15.54	33.077 D	24.374	356.9	0.296	5.96	0259.8	0104.7	2.3	0.36	0.1	0.01	0.09	0.22	0.12	76	
75	15.56	15.54	33.060	24.361	358.2	0.314											15	
88	14.36	14.34	33.146	24.687	327.4	0.360	5.86	256.2	100.6	2.7	0.37	0.1	0.02	0.07	0.19	0.13	89 13	
100	13.08	13.06	33.124	24.931	304.3	0.398	5.70	248.8	95.1	3.7	0.50	1.2	0.17	0.08	0.18	0.16	101 12	
112	11.99	11.97	33.135	25.150	283.6	0.433	5.43	237.3	88.7	5.3	0.71	5.0	0.20	0.05	0.16	0.17	113 11	
125	10.88	10.86	33.211	25.411	258.8	0.469	5.05	220.7	80.6	8.8	1.00	10.3	0.03	0.06	0.09	0.13	126 10	
140	10.23	10.22	33.362	25.639	237.3	0.506	4.60	201.0	72.4	12.9	1.24	14.4	0.03	0.06	0.05	0.07	141 09	
150 ISL	9.71 D	9.69	33.494 D	25.831	219.2	0.487	4.31	0187.5	067.1	15.3	1.35	16.3	0.02	0.05	0.03	0.05	151	
171	9.36	9.34	33.626	25.990	204.4	0.573	3.92	171.2	60.6	20.3	1.57	20.3	0.01	0.03	0.01	0.02	172 08	
200	8.88	8.86	33.825	26.224	182.7	0.629	3.48	151.7	53.2	26.0	1.76	23.5	0.02	0.07	0.00	0.01	202 07	
230	8.39	8.37	33.987	26.427	163.9	0.681	2.55	111.3	38.7	34.6	2.09	27.8	0.01	0.04			232 06	
250 ISL	8.21 D	8.18	34.031 D	26.490	158.2	0.673	2.24	097.4	033.8	38.3	2.21	29.2	0.01	0.04			252	
269	7.92	7.89	34.054	26.551	152.6	0.743	1.97	85.8	29.5	41.9	2.33	30.6	0.01	0.04			271 05	
300 ISL	7.28 D	7.25	34.028 D	26.622	146.0	0.749	1.95	084.8	028.8	48.7	2.48	32.8	0.02	0.00			302	
320	6.98	6.95	34.058	26.688	139.9	0.818	1.61	70.4	23.7	53.1	2.57	34.3	0.02	0.00			323 04	
380	6.53	6.49	34.134	26.809	129.1	0.899	0.99	43.4	14.5	63.2	2.81	36.9	0.01	0.03			383 03	
400 ISL	6.44 D	6.41	34.135 D	26.821	128.1	0.885	0.96	41.1	041.1 D	13.7	65.2	2.87	37.4	0.02	0.03			403
440	6.29	6.25	34.189	26.885	122.7	0.975	0.60	26.2	8.7	69.3	2.98	38.5	0.02	0.04			444 02	
500 ISL	6.01 D	5.97	34.237 D	26.960	116.2	1.008	0.43	018.8 D	6.2	75.7	3.10	39.7	0.01	0.10			504	
516	5.99	5.94	34.258	26.980	114.5	1.065	0.35	15.3	5.0	77.4	3.13	40.0	0.01	0.11			520 01	

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

A) INCUBATION LIGHT INTENSITIES WERE PERCENT RESPECTIVELY.

RV NEW HORIZON

CALCOFI CRUISE 1411

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			
DEPTH	TEMP	POTTEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXYGEN	OXY	SIO3*	P04*	N03*	N02*	NH4*	CHL-A	PHAEAO	PRES	SAMP
m	DEG C	DEG C	THETA			ml/L	μmol/Kg	PCT	μM	μM	μM	μM	μM	μM	μg/L	μg/L	db	
33 14.7 N	117 28.1 W	09/11/2014	0116	UTC	20 m	240 04 kn	220 01 06	0	1013.0 mb	20.2 C	19.4 C	003						
0	19.14	19.14	33.498	23.839	405.4	0.000	5.62	245.2	106.0	2.5	0.31	0.2	0.01	0.06	0.34	0.11	0	
2	19.14	19.14	33.498	23.839	405.5	0.008	5.62	245.2	106.0	2.5	0.31	0.2	0.01	0.06	0.34	0.11	2 04	
5	18.64	18.64	33.481	23.951	394.9	0.020	5.72	249.8	107.0	2.8	0.34	0.1	0.01	0.10	0.38	0.17	5 03	
10	18.19	18.19	33.452	24.041	386.5	0.040	5.64	246.3	104.6	3.2	0.35	0.1	0.03	0.14	0.69	0.31	10 02	
17	17.49	17.49	33.431	24.196	372.0	0.066	5.62	245.2	102.7	4.0	0.43	0.4	0.10	0.20	0.76	0.42	17 01	

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

RV NEW HORIZON

CALCOFI CRUISE 1411

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			
DEPTH	TEMP	POTTEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXYGEN	OXY	SIO3*	P04*	N03*	N02*	NH4*	CHL-A	PHAEAO	PRES	SAMP
m	DEG C	DEG C	THETA			ml/L	μmol/Kg	PCT	μM	μM	μM	μM	μM	μM	μg/L	μg/L	db	
32 57.4 N	117 18.3 W	08/11/2014	2032	UTC	60 m	310 04 kn	280 01 07	0	1014.8 mb	20.1 C	18.1 C	23 m	0/8	001				
0	19.60	19.60	33.576	23.781	411.0	0.000	5.44	237.7	103.7	2.2	0.30	0.1	0.02	0.29	0.20	0.04	0	
2 A	19.60	19.60	33.576	23.781	411.0	0.008	5.44	237.7	103.7	2.2	0.30	0.1	0.02	0.29	0.20	0.04	2 09	
10 ISL	18.89 D	18.89	33.524 D	23.924	397.7	0.041	5.58	0234.6	0105.0	2.7	0.31	0.1	0.02	0.20	0.30	0.11	10	
13 A	18.77	18.76	33.523	23.954	395.0	0.052	5.63	245.8	105.5	2.9	0.32	0.1	0.02	0.16	0.34	0.13	13 07	
13	18.77	18.76	33.524	23.955	394.9	0.052											13 08	
18 A	18.22	18.21	33.515	24.084	382.7	0.072	5.68	247.9	105.4	3.1	0.34	0.1	0.02	0.35	0.73	0.34	18 06	
20 ISL	17.03 D	17.03	33.377 D	24.264	365.6	0.070	5.82	0253.7	0105.5	3.3	0.37	0.2	0.06	0.33	0.81	0.39	20	
26	16.17	16.16	33.354	24.446	348.4	0.101	5.76	251.4	102.5	4.2	0.44	0.5	0.18	0.28	1.04	0.56	26 05	

RV NEW HORIZON

CALCOFI CRUISE 1411

STATION 93.3 28.0

DEPTH m	TEMP DEG C	POTTEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	WIND ml/L	SPEED μmol/Kg	WAVES PCT	WEA	BAROMETER μM	DRY 1015.0 mb	WET 19.2 C	SECCHI	CLD	AMT	TYPE	ORD	004
																			004
0	20.61	20.61	33.633	23.560	432.1	0.000	5.28	230.4	102.5	1.7	0.29	0.2	0.01	0.19	0.16	0.03	0		
2	20.61	20.61	33.633	23.560	432.1	0.009	5.28	230.4	102.4	1.7	0.29	0.2	0.01	0.19	0.16	0.03	2	20	
9	20.38	20.38	33.639	23.626	426.1	0.039	5.29	231.0	102.3	1.7	0.28	0.1	0.00	0.04	0.15	0.04	9	19	
10	ISL 20.39	D 20.39	33.635	D 23.621	426.7	0.043	5.31	D 231.8	D 102.7	1.7	0.28	0.1	0.00	0.04	0.15	0.04	10		
19	18.82	18.81	33.559	23.969	393.7	0.080	5.46	238.5	102.5	2.1	0.30	0.1	0.00	0.04	0.19	0.05	19	18	
20	ISL 19.10	D 19.10	33.533	D 23.924	398.1	0.084	5.48	D 239.0	D 103.4	2.2	0.31	0.1	0.00	0.04	0.19	0.05	20		
29	16.30	16.29	33.303	24.378	355.0	0.118	6.08	265.6	108.6	2.8	0.36	0.1	0.00	0.04	0.24	0.07	29	17	
30	ISL 15.61	D 15.61	33.308	D 24.537	339.9	0.122	6.04	D 263.3	D 106.4	2.9	0.37	0.1	0.01	0.05	0.29	0.10	30		
39	13.96	13.95	33.266	24.859	309.4	0.150	5.83	254.5	99.2	4.1	0.50	0.8	0.12	0.12	0.76	0.43	39	16	
49	13.68	13.68	33.286	24.931	302.8	0.181	5.70	249.0	96.5	4.5	0.55	1.8	0.19	0.09	0.68	0.43	49	15	
50	ISL 13.32	D 13.31	33.328	D 25.037	292.7	0.186	5.72	D 249.0	D 96.1	4.8	0.58	2.3	0.18	0.10	0.64	0.42	50		
60	12.50	12.49	33.369	25.230	274.6	0.212	4.97	217.2	82.2	7.5	0.86	7.4	0.10	0.20	0.31	0.30	60	14	
70	11.68	11.67	33.370	25.387	259.8	0.239	4.74	207.1	77.0	9.2	1.01	9.9	0.07	0.09	0.22	0.22	71	13	
75	ISL 11.63	D 11.62	33.364	D 25.392	259.5	0.254	4.76	D 207.2	D 77.2	9.8	1.06	10.8	0.06	0.10	0.19	0.20	76		
84	11.19	11.18	33.392	25.493	250.0	0.275	4.56	199.0	73.3	11.0	1.14	12.3	0.04	0.12	0.14	0.17	85	12	
99	10.82	10.80	33.480	25.629	237.4	0.312	4.06	177.3	64.8	14.9	1.40	16.2	0.02	0.05	0.10	0.15	100	11	
100	ISL 10.79	D 10.78	33.479	D 25.633	237.1	0.317	4.08	D 177.8	D 65.1	15.1	1.41	16.3	0.02	0.05	0.09	0.14	101		
119	10.41	10.40	33.612	25.803	221.3	0.358	3.58	156.2	56.6	18.8	1.61	19.3	0.02	0.05	0.05	0.07	120	10	
125	ISL 10.28	D 10.27	33.675	D 25.875	214.6	0.374	3.45	D 150.2	D 54.5	20.2	1.68	20.2	0.02	0.05	0.04	0.07	126		
140	10.08	10.06	33.779	25.991	203.9	0.402	2.94	128.5	46.3	23.7	1.86	22.6	0.02	0.06	0.01	0.05	141	09	
150	ISL 9.80	D 9.78	33.830	D 26.079	195.7	0.425	2.88	D 125.3	D 45.0	25.5	1.94	23.7	0.02	0.09	0.01	0.05	151		
170	9.66	9.64	33.943	26.190	185.6	0.460	2.43	106.1	37.9	29.1	2.10	25.9	0.02	0.14	0.00	0.05	171	08	
200	9.34	9.32	33.999	26.288	176.9	0.515	2.30	100.5	35.6	31.6	2.17	27.1	0.02	0.10	0.00	0.04	202	07	
230	9.05	9.03	34.161	26.461	161.0	0.565	1.63	71.0	25.1	38.5	2.45	29.9	0.02	0.08		232	06		
250	ISL 8.96	D 8.93	34.208	D 26.513	156.5	0.602	1.36	D 59.3	D 21.0	40.8	2.54	30.6	0.02	0.11		252			
270	8.82	8.79	34.226	26.550	153.4	0.628	1.17	51.2	18.0	43.1	2.63	31.4	0.02	0.14		272	05		
300	ISL 8.63	D 8.60	34.249	D 26.599	149.2	0.679	1.04	D 45.4	D 15.9	45.6	2.68	32.1	0.02	0.10		302			
320	8.44	8.41	34.238	26.619	147.6	0.703	1.01	44.2	15.4	47.3	2.72	32.7	0.02	0.08		323	04		
379	7.99	7.95	34.267	26.712	139.6	0.788	0.74	32.1	11.1	53.2	2.88	34.5	0.01	0.09		382	03		
400	ISL 7.73	D 7.69	34.269	D 26.751	136.1	0.823	0.70	D 30.6	D 10.5	56.6	2.95	35.3	0.02	0.10		403			
440	7.28	7.24	34.283	26.827	129.2	0.870	0.48	21.1	7.2	63.1	3.09	37.0	0.02	0.12		444	02		
500	ISL 6.63	D 6.58	34.308	D 26.936	119.2	0.952	0.36	D 15.4	D 5.2	73.3	3.22	39.2	0.02	0.09		504			
513	6.48	6.44	34.316	26.962	116.8	0.960	0.27	11.9	4.0	75.6	3.25	39.7	0.02	0.08		517	01		

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED 02;

RV NEW HORIZON

CALCOFI CRUISE 1411

STATION 93.3 30.0

DEPTH m	TEMP DEG C	POTTEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	WIND ml/L	SPEED μmol/Kg	WAVES PCT	WEA	BAROMETER μM	DRY 1015.0 mb	WET 19.2 C	SECCHI	CLD	AMT	TYPE	ORD	005
																			005
0	20.50	20.50	33.634	23.589	429.3	0.000	5.34	233.0	103.4	1.7	0.33	0.1	0.02	0.22	0.15	0.04	0		
2	20.50	20.50	33.634	23.589	429.3	0.009	5.34	233.0	103.4	1.7	0.33	0.1	0.02	0.22	0.15	0.04	2	20	
10	20.41	20.41	33.639	23.618	426.9	0.043	5.35	233.6	103.5	1.8	0.31	0.1	0.02	0.31	0.14	0.03	10	19	
20	17.11	17.10	33.434	24.290	363.1	0.082	5.92	258.5	107.5	2.4	0.34	0.1	0.02	0.10	0.24	0.06	20	18	
29	15.39	15.39	33.285	24.567	337.0	0.114	6.10	266.3	106.9	3.1	0.41	0.1	0.04	0.09	0.48	0.17	29	17	
30	ISL 14.85	D 14.84	33.248	D 24.657	328.4	0.118	6.10	D 266.0	D 105.8	3.2	0.43	0.4	0.04	0.10	0.49	0.18	30		
40	13.47	13.46	33.181	D 24.894	306.1	0.150	5.79	D 252.2	D 97.5								40	16	
50	12.37	12.36	33.136	25.075	289.1	0.179	5.49	239.7	90.4	5.6	0.78	5.9	0.15	0.35	0.54	0.42	50	15	
59	12.37	12.36	33.322	25.219	275.6	0.204	5.14	224.3	84.6	7.2	0.85	7.3	0.13	0.09	0.38	0.37	59	14	
69	11.29	11.28	33.373	25.460	252.8	0.230	4.77	208.4	76.9	9.4	1.03	10.5	0.06	0.09	0.23	0.29	70	13	
75	ISL 11.07	D 11.06	33.410	D 25.530	246.3	0.247	4.52	D 197.0	D 72.5	11.5	1.16	12.6	0.05	0.09	0.17	0.23	76		
85	10.73	10.72	33.497	25.657	234.4	0.269	4.13	180.3	65.8	14.9	1.37	16.0	0.04	0.09	0.13	0.36	86	12	
99	10.40	10.39	33.569	25.771	239.3	0.302	3.83	167.2	60.6	17.5	1.52	18.2	0.04	0.19	0.05	0.08	100	11	
100	ISL 10.37	D 10.35	33.583	D 25.787	222.3	0.306	3.77	D 164.1	D 59.6	17.8	1.53	18.3	0.03	0.19	0.05	0.08	101		
121	9.93	9.92	33.734	25.980	204.4	0.349	3.17	D 137.9	D 49.7	22.9	1.78	22.0	0.03	0.27	0.01	0.04	122	10	
125	ISL 9.90	D 9.89	33.781	D 26.022	200.6	0.359	3.08	D 133.9	D 48.2	23.7	1.82	22.5	0.03	0.27	0.01	0.04	126		
139	9.83	9.82	33.860	26.096	193.9	0.384	2.78	121.3	43.5	26.4	1.97	24.2	0.03	0.26	0.00	0.04	140	09	
150	ISL 9.90	D 9.88	33.934	D 26.143	189.7	0.409													

RV NEW HORIZON

CALCOFI CRUISE 1411

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			
DEPTH	TEMP	POTTEMP	SALINITY	SIGMA	SV	DYN HT	OXYGEN	OXYGEN	OXY	SI03*	P04*	N03*	N02*	NH4*	CHL-A	PHAE0	PRES	SAMP
m	DEG C	DEG C	THETA			ml/L	μmol/Kg	PCT	μM	μM	μM	μM	μM	μM	μg/L	μg/L	db	
0	20.25	20.25	33.606	23.636	424.8	0.000	5.34	233.3	103.1	1.6	0.28	0.1	0.01	0.11	0.17	0.04	0	
2	20.25	20.25	33.606	23.636	424.9	0.009	5.34	233.3	103.1	1.6	0.28	0.1	0.01	0.11	0.17	0.04	2	
10	20.23	20.23	33.610	23.644	424.4	0.043	5.35	233.4	103.1	1.6	0.26	0.1	0.01	0.10	0.17	0.04	10	
20	19.75	19.75	33.550	23.724	417.2	0.085	5.56	242.9	106.3	1.7	0.27	0.1	0.01	0.05	0.22	0.06	20	
30	15.02	15.01	33.305	24.664	327.7	0.122	6.29	274.9	109.5	2.7	0.39	0.1	0.01	0.09	0.34	0.11	30	
40	12.85	12.84	33.256	25.074	288.9	0.153	5.60	244.8	93.3	5.5	0.69	4.2	0.20	0.22	0.91	0.46	40	
50	11.74	11.73	33.330	25.344	263.4	0.180	4.77	208.4	77.6	9.4	1.06	10.7	0.09	0.21	0.32	0.26	50	
59	11.48	11.48	33.353	25.409	257.4	0.204	4.62	201.8	74.7	10.4	1.13	11.9	0.07	0.08	0.25	0.24	59	
70	11.27	11.26	33.396	25.482	250.7	0.232	4.39	191.8	70.7	12.0	1.24	13.8	0.05	0.15	0.18	0.18	71	
75	ISL	10.87	D 10.86	33.462	D 25.604	239.2	0.246	4.44	D 193.3	D 70.9	13.5	1.33	15.1	0.04	0.15	0.14	0.15	76
84	10.62	10.61	33.510	25.686	231.6	0.265	3.89	169.9	61.8	16.2	1.49	17.6	0.03	0.14	0.07	0.10	85	
100	10.29	10.28	33.603	25.816	219.6	0.301	3.58	156.3	56.5	18.0	1.66	18.6	0.04	0.07	0.10	0.11	101	
120	9.80	9.79	33.712	25.984	204.0	0.343	3.32	144.9	51.9	20.0	1.82	20.6	0.01	0.04	0.12	0.10	121	
125	ISL	9.69	D 9.68	33.795	D 26.068	196.2	0.356	3.23	D 140.4	D 50.3	21.5	1.97	21.5	0.01	0.04	0.12	0.12	126
140	9.62	9.60	33.899	D 26.161	187.6	0.385	2.73	119.1	42.5	22.2	2.01	24.7	0.02	0.17	0.00	0.05	141	
150	ISL	9.57	D 9.55	33.964	D 26.221	182.1	0.404	2.42	D 105.3	D 37.7	23.1	2.09	25.6	0.02	0.24	0.00	0.04	151
170	9.47	9.45	34.041	26.298	175.2	0.436	2.06	90.0	32.0	23.0	2.26	27.5	0.02	0.39	0.00	0.03	171	
200	9.34	9.31	34.086	26.356	170.5	0.488	1.89	82.6	29.3	24.8	2.33	28.2	0.02	0.15	0.00	0.03	202	
229	9.25	9.22	34.127	26.403	166.6	0.537	1.69	74.0	26.2	26.8	2.41	29.0	0.02	0.15	0.00	0.15	231	
250	ISL	9.18	D 9.15	34.172	D 26.450	162.6	0.576	1.56	D 67.7	D 24.0	29.4	2.50	29.9	0.02	0.15	0.00	0.15	252
269	8.93	8.90	34.207	26.518	156.4	0.602	1.29	56.1	19.8	41.8	2.58	30.8	0.02	0.15	0.00	0.15	271	
300	ISL	8.65	D 8.61	34.243	D 26.591	149.9	0.654	1.07	D 46.5	D 16.3	45.8	2.70	32.0	0.02	0.16	0.00	0.16	302
320	8.45	8.42	34.265	26.639	145.7	0.679	0.87	37.9	13.2	48.5	2.78	32.8	0.02	0.16	0.00	0.16	323	
379	7.65	7.61	34.275	26.767	134.1	0.762	0.60	26.1	8.9	57.8	2.97	35.6	0.02	0.14	0.00	0.14	382	
400	ISL	7.42	D 7.38	34.284	D 26.808	130.4	0.795	0.56	D 24.4	D 8.4	60.3	3.01	36.2	0.02	0.12	0.00	0.12	403
440	7.14	7.10	34.294	26.856	126.4	0.841	0.43	18.6	6.3	65.1	3.09	37.4	0.02	0.07	0.00	0.07	444	
500	ISL	6.83	D 6.79	34.304	D 26.906	122.3	0.923	0.40	D 17.2	D 5.8	70.3	3.16	38.7	0.02	0.09	0.00	0.09	504
515	6.71	6.66	34.306	26.925	120.6	0.934	0.33	14.3	4.8	71.6	3.18	39.0	0.02	0.09	0.00	0.09	519	

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

RV NEW HORIZON

CALCOFI CRUISE 1411

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			
DEPTH	TEMP	POTTEMP	SALINITY	SIGMA	SV	DYN HT	OXYGEN	OXYGEN	OXY	SI03*	P04*	N03*	N02*	NH4*	CHL-A	PHAE0	PRES	SAMP
m	DEG C	DEG C	THETA			ml/L	μmol/Kg	PCT	μM	μM	μM	μM	μM	μM	μg/L	μg/L	db	
0	20.32	20.32	33.634	23.638	424.6	0.000	5.29	230.9	102.2	1.6	0.27	0.1	0.01	0.18	0.04	0		
2	20.32	20.32	33.634	23.638	424.6	0.009	5.29	230.9	102.2	1.6	0.27	0.1	0.01	0.18	0.04	2		
10	20.29	20.29	33.625	23.638	425.0	0.043	5.28	230.7	102.0	1.6	0.27	0.1	0.01	0.18	0.04	10		
20	19.16	19.16	33.514	23.848	405.4	0.084	5.62	245.2	106.1	1.9	0.30	0.1	0.01	0.02	0.23	0.06	20	
30	ISL	16.36	D 16.35	33.320	D 24.377	355.2	0.102	6.06	D 264.3	D 108.4	2.6	0.35	0.0	0.01	0.30	0.10	30	
31	16.26	16.26	33.322	24.401	353.0	0.126	6.10	266.3	108.8	2.7	0.36	0.0	0.01	0.30	0.11	31		
40	15.31	15.31	33.293	24.591	355.1	0.157	6.09	266.0	106.6	3.1	0.39	0.1	0.02	0.03	0.50	0.20	40	
50	ISL	14.46	D 14.45	33.339	D 24.811	314.4	0.169	5.65	D 246.2	D 97.2	4.4	0.51	1.6	0.23	0.04	0.83	0.54	50
51	14.46	14.45	33.350	24.820	313.6	0.192	5.62	245.2	96.7	4.6	0.52	1.7	0.25	0.04	0.87	0.58	51	
60	13.48	13.47	33.323	25.002	296.4	0.220	5.39	235.5	91.0	5.6	0.66	3.8	0.22	0.03	0.67	0.48	60	
70	12.22	12.21	33.328	D 25.253	272.7	0.229	5.27	230.2	86.6	6.5	0.79	6.0	0.25	0.00	0.46	0.41	71	
75	ISL	11.95	D 11.94	33.352	D 25.322	266.2	0.242	4.84	D 210.8	D 79.1	7.9	0.91	8.1	0.18	0.00	0.36	0.35	76
85	11.47	11.46	33.377	25.431	256.0	0.288	4.54	198.4	73.5	10.8	1.15	12.3	0.04	0.00	0.15	0.23	86	
100	10.89	10.88	33.446	25.590	241.2	0.325	4.17	182.2	66.7	13.9	1.35	15.5	0.03	0.02	0.08	0.13	101	
120	10.25	10.24	33.659	D 25.867	215.3	0.352	3.52	153.8	55.6	19.8	1.65	20.0	0.02	0.00	0.03	0.06	121	
125	ISL	10.24	D 10.23	33.677	D 25.883	213.8	0.363	3.35	D 145.6	D 52.8	20.7	1.69	20.6	0.02	0.00	0.02	0.06	126
140	9.92	9.90	33.766	26.007	202.3	0.413	3.12	136.1	48.8	23.5	1.82	22.4	0.02	0.01	0.01	0.05	141	
150	ISL	9.71	D 9.69	33.812	D 26.079	195.6	0.414	3.09	D 134.7	D 48.3	25.2	1.90	23.4	0.02	0.01	0.01	0.05	151
170	9.66	9.64	33.942	26.189	185.6	0.471	2.55	111.4	39.8	28.7	2.06	25.3	0.02	0.01	0.00	0.03	171	
200	9.31	9.29	34.075	26.351	170.9	0.524	2.06	90.0	32.0	34.2	2.27	27.8	0.02	0.00	0.00	0.03	202	
230	8.94	8.92	34.151	26.471	160.0	0.574	1.67	73.0	25.7	38.6	2.43	29.5	0.02	0.00	0.00	0.03	232	
250	ISL	8.76	D 8.73	34.202	D 26.541	153.8	0.588	1.69	D 73.6	D 25.9	41.7	2.52	30.6	0.02	0.00	0.00	0.00	252
269	8.52	8.49	34.204	26.579	150.4	0.634	1.31	57.3	20.0	44.7	2.61	31.6	0.02	0.00	0.00	0.00	271	
300	ISL	8.31	D 8.27	34.232	D 26.635	145.6	0.664	1.04	D 45.3	D 15.8	48.4	2.71	32.7	0.02	0.00	0.00	0.00	302
320	8.12	8.09	34.249	D 26.676	142.0	0.693	0.92	D 39.9	D 13.9	34.2	2.77	33.8	0.02	0.00	0.00</td			

RV NEW HORIZON

CALCOFI CRUISE 1411

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		
DEPTH m	TEMP DEG C	POTTEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/L	OXYGEN $\mu\text{mol}/\text{Kg}$	OXY PCT	SI03* μM	P04* μM	N03* μM	N02* μM	NH4* μM	CHL-A $\mu\text{g}/\text{L}$	PHAEAO $\mu\text{g}/\text{L}$	PRES db
32 21.0 N	118 33.3 W	09/11/2014	1902	UTC	1328 m	320 04 kn	290 03 05	2	1013.0 mb	16.9 C	17.2 C	35 m	8/8	ST 008			
0	19.70	19.70	33.542	23.730	415.8	0.000	5.49	239.6	104.7	1.5	0.31	0.1	0.00	0.12	0.15	0.03	0
2	19.70	19.70	33.542	23.730	415.9	0.008	5.49	239.6	104.7	1.5	0.31	0.1	0.00	0.12	0.15	0.03	2 24
10 A	19.64	19.64	33.536	23.740	415.2	0.042	5.36	234.2	102.3	1.5	0.31	0.1	0.00	0.10	0.15	0.04	10 22
10	19.64	19.64	33.533	23.738	415.5	0.042											10 23
18	19.64	19.64	33.536	23.742	415.4	0.075	5.31	231.8	101.2	1.5	0.31	0.1	0.00	0.25	0.15	0.03	18 21
20 ISL	19.65 D	19.64	33.535 D	23.740	415.7	0.067	5.33	232.6	101.7	1.5	0.32	0.1	0.00	0.22	0.15	0.04	20
28 A	19.64	19.63	33.544	23.749	415.2	0.116	5.32	232.0	101.3	1.5	0.34	0.1	0.00	0.10	0.17	0.04	28 20
30 ISL	19.64 D	19.63	33.536 D	23.743	415.8	0.109	5.33	232.4	101.5	1.5	0.34	0.1	0.00	0.10	0.18	0.04	30
41 A	19.62	19.61	33.537	23.750	415.6	0.170	5.34	232.8	101.7	1.5	0.31	0.1	0.00	0.09	0.19	0.05	41 19
50 ISL	19.33 D	19.32	33.505 D	23.800	411.2	0.193	5.39	235.1	102.1	1.5	0.33	0.1	0.00	0.11	0.27	0.10	50
52 A	18.72	18.71	33.449	23.913	400.4	0.216	5.58	243.5	104.4	1.5	0.33	0.1	0.00	0.11	0.29	0.11	52 18
66	15.57	15.56	33.065	24.361	357.9	0.270											67 17
67	15.09	15.08	33.065	24.465	347.9	0.272	6.02	263.1	104.8	2.3	0.39	0.1	0.00	0.09	0.32	0.18	68 16
75 ISL	13.95 D	13.94	33.163 D	24.782	317.8	0.257	5.75	250.5	97.8	3.6	0.56	2.3	0.13	0.14	0.34	0.26	76
81	13.04	13.03	33.154	24.961	300.9	0.317	5.60	244.4	93.4	4.6	0.68	3.9	0.22	0.17	0.35	0.32	82 15
96 A	11.31	11.30	33.235	25.351	263.9	0.360	5.01	218.7	80.6	8.7	1.04	10.2	0.03	0.04	0.16	0.23	97 14
100 ISL	11.03 D	11.02	33.283 D	25.438	255.7	0.329	4.81	209.6 D	77.0	10.1	1.13	11.8	0.02	0.00	0.14	0.19	101
105	10.68	10.67	33.316	25.525	247.4	0.383	4.65	203.1	73.9	11.9	1.25	13.8	0.02	0.00	0.11	0.15	106 13
114	10.17	10.16	33.434	25.706	230.3	0.404	4.25	185.5	66.8	15.9	1.47	17.4	0.01	0.02	0.05	0.09	115 12
123 A	10.02	10.01	33.473	25.761	225.2	0.425	4.14	180.6	64.9	17.1	1.52	18.2	0.01	0.03	0.04	0.07	124 11
125 ISL	10.00 D	9.99	33.484 D	25.773	224.2	0.389	4.16	180.9 D	65.1	17.5	1.53	18.5	0.01	0.03	0.04	0.07	126
133	9.73	9.71	33.546	25.868	215.3	0.447	3.97	173.5	61.9	19.3	1.59	19.6	0.01	0.02	0.03	0.06	134 10
145	9.27	9.25	33.732	26.088	194.5	0.472	3.41	148.9	52.7	25.2	1.85	23.5	0.01	0.10	0.01	0.03	146 09
150 ISL	9.21 D	9.20	33.739 D	26.102	193.2	0.441	3.42	148.6 D	52.7	25.6	1.86	23.7	0.01	0.10	0.01	0.03	151
170	9.10	9.08	33.786	26.159	188.3	0.519	3.24	141.3	49.8	27.1	1.91	24.6	0.01	0.09	0.00	0.02	171 08
199	8.68	8.66	33.940	26.345	171.1	0.572	2.65	115.5	40.4	33.4	2.13	27.7	0.00	0.04	0.00	0.02	201 07
200 ISL	8.69 D	8.67	33.944 D	26.347	171.0	0.534	2.65	115.4 D	40.5	33.7	2.14	27.7	0.00	0.04			202
230	8.18	8.16	34.015	26.481	158.6	0.623	2.31	100.7	34.8	39.8	2.31	29.9	0.00	0.09			232 06
250 ISL	8.11 D	8.09	34.022 D	26.497	157.5	0.615	2.29	99.8 D	34.6	42.6	2.39	30.9	0.00	0.07			252
270	7.78	7.75	34.050	26.568	150.9	0.685	1.99	86.7	29.7	45.4	2.46	31.8	0.00	0.05			272 05
300 ISL	7.59 D	7.56	34.096 D	26.632	145.3	0.691	1.63	71.1 D	24.3	49.9	2.61	33.4	0.00	0.04			302
320	7.42	7.39	34.115	26.672	141.8	0.758	1.37	60.0	20.4	52.9	2.71	34.5	0.00	0.03			323 04
381	6.81	6.77	34.174	26.804	129.8	0.841	0.84	36.5	12.2	64.3	2.99	37.6	0.00	0.07			384 03
400 ISL	6.79 D	6.75	34.189 D	26.818	128.8	0.828	0.76	33.1 D	11.1	66.2	3.03	38.0	0.00	0.06			403
438	6.56	6.52	34.218	26.874	124.0	0.914	0.62	27.0	9.0	70.0	3.10	38.7	0.00	0.04			442 02
500 ISL	6.31 D	6.27	34.277 D	26.953	117.2	0.952	0.37	16.1 D	5.4	76.3	3.26	39.8	0.00	0.12			504
515	6.27	6.22	34.285	26.965	116.2	1.006	0.35	15.1	5.0	77.8	3.30	40.1	0.00	0.14			519 01

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

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

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD		
DEPTH m	TEMP DEG C	POTTEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/L	OXYGEN $\mu\text{mol}/\text{Kg}$	OXY PCT	SI03* μM	P04* μM	N03* μM	N02* μM	NH4* μM	CHL-A $\mu\text{g}/\text{L}$	PHAEAO $\mu\text{g}/\text{L}$	PRES db
32 10.8 N	118 53.6 W	09/11/2014	2302	UTC	1465 m	290 09 kn	270 03 07	2	1010.0 mb	18.0 C	16.0 C	27 m	5/8	SC 009			
0	19.63	19.63	33.543	23.748	414.1	0.000	5.29	230.9	100.9	1.5	0.29	0.1	0.00	0.14	0.13	0.03	0
2	19.63	19.63	33.543	23.748	414.2	0.008	5.29	230.9	100.9	1.5	0.29	0.1	0.00	0.14	0.13	0.03	2 20
10 A	19.63	19.63	33.538	23.745	414.8	0.042	5.29	231.0	100.9	1.5	0.29	0.1	0.00	0.06	0.13	0.03	10 19
20	19.58	19.58	33.534	23.756	414.1	0.083	5.29	231.0	100.8	1.5	0.29	0.1	0.00	0.05	0.15	0.04	20 18
30	19.34	19.34	33.522	23.809	409.5	0.124	5.35	233.3	101.3	1.5	0.29	0.1	0.00	0.05	0.18	0.04	30 17
40	16.99	16.98	33.253	24.180	374.3	0.163	5.81	253.4	105.0	2.2	0.36	0.1	0.00	0.18	0.32	0.15	40 16
50	15.27	15.26	33.194	24.526	341.6	0.199	5.96	260.1	104.2	2.6	0.39	0.2	0.01	0.22	0.42	0.19	50 15
60	12.87	12.86	33.279	25.088	288.1	0.231	5.67	247.6	94.5	5.2	0.67	4.3	0.11	0.12	0.36	0.18	60 14
70	11.44	11.43	33.250	25.337	264.5	0.258	4.99	218.0	80.6	9.0	1.08	11.2	0.08	0.09	0.24	0.17	71 13
75 ISL	11.36 D	11.35	33.252 D	25.354	263.0	0.273	5.02	218.7 D	80.9	10.3	1.15	12.5	0.06	0.08	0.21	0.16	76
85	10.60	10.59	33.348	25.564	243.2	0.297	4.52	199.1	72.4	12.8	1.29	15.0	0.03	0.06	0.13	0.14	86 12
100 ISL	10.20 D	10.18	33.450 D	25.713	229.3	0.334	4.21	183.2 D	66.2	15.9	1.45	17.5	0.01	0.04	0.07	0.09	101
101	10.18	10.17	33.461 D	25.724	228.3	0.337	4.18	182.6	65.8	16.1	1.46	17.6	0.01	0.04	0.06	0.09	102 11
120	9.82	9.80	33.578	25.877	214.1	0.376	3.74	163.1	58.4	20.0	1.64	20.7	0.01	0.08	0.03	0.05	121 10
125 ISL	9.77 D	9.75	33.613 D	25.913	210.8	0.390	3.66	159.1 D	57.0	21.2	1.69	21.5	0.01	0.07	0.03	0.05	126
140	9.25	9.23	33.715	26.078	195.3	0.418	3.32										

RV NEW HORIZON

CALCOFI CRUISE 1411

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° 0.9 N	119° 14.0 W	10/11/2014	0300	UTC	1584 m	270° 11 kn			1011.0 mb	17.3 C	15.5 C					010
DEPTH	TEMP	POTTEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXYGEN	OXY							
m	DEG C	DEG C	THETA			ml/L	μmol/Kg	PCT	μM	μM	μM	μM	μM	μg/L	μg/L	db
0	19.97	19.97	33.692	23.772	411.8	0.000	5.25	229.1	100.8	1.6	0.30	0.00	0.05	0.16	0.04	0
2	19.97	19.97	33.692	23.772	411.9	0.008	5.25	229.1	100.8	1.6	0.30	0.00	0.05	0.16	0.04	2 21
10	19.99	19.98	33.699	23.775	411.9	0.041	5.25	229.0	100.8	1.5	0.30	0.1	0.00	0.01	0.16	0.04
10	19.99	19.98	33.692	23.770	412.4	0.042										10 20
20	19.99	19.99	33.697	23.773	412.5	0.082	5.26	229.5	101.0	1.5	0.30	0.1	0.00	0.04	0.18	0.04
30	20.02	20.02	33.710	23.777	412.6	0.124	5.25	229.1	100.8	1.5	0.30	0.1	0.00	0.09	0.22	0.04
40	17.01	17.00	33.449	D 24.327	360.4	0.143	5.54	241.9	100.4	2.1	0.33	0.1	0.00	0.09	0.40	0.13
50	14.46	14.45	33.304	24.784	316.9	0.196	5.87	256.4	101.0	4.3	0.58	2.7	0.08	0.08	0.52	0.25
60	12.91	12.90	33.280	25.082	288.7	0.227	5.44	237.5	90.6	6.3	0.82	6.6	0.16	0.09	0.48	0.35
70	11.77	11.76	33.359	25.362	262.2	0.254	4.88	212.9	79.3	10.0	1.12	11.5	0.18	0.06	0.27	0.24
75 ISL	10.98	D 10.97	33.416	D 25.550	244.3	0.248	4.59	D 199.7	D 73.4	11.8	1.23	13.3	0.13	0.05	0.22	0.21
85	10.46	10.45	33.437	25.658	234.3	0.291	4.22	184.4	66.8	15.3	1.45	17.0	0.02	0.03	0.13	0.14
100	9.99	9.98	33.513	D 25.796	221.4	0.306	3.90	170.2	61.1	18.6	1.61	19.8	0.01	0.04	0.06	0.09
120	9.64	9.62	33.676	25.983	204.0	0.367	3.37	147.2	52.5	23.5	1.82	23.0	0.00	0.04	0.03	0.04
125 ISL	9.50 D	9.48	33.700	D 26.025	200.1	0.360	3.33	D 145.1	D 51.7	24.3	1.85	23.4	0.00	0.04	0.02	0.04
140	9.20	9.18	33.782	26.138	189.7	0.407	3.09	135.0	47.7	26.7	1.93	24.7	0.01	0.04	0.01	0.03
150 ISL	8.99 D	8.97	33.867	D 26.237	180.4	0.408	3.02	D 131.5	D 46.4	28.4	1.98	25.5	0.01	0.04	0.01	0.03
170	8.76	8.74	33.919	26.315	173.3	0.461	2.80	122.3	42.8	31.9	2.07	27.1	0.00	0.05	0.00	0.03
199	8.32	8.30	33.986	26.436	162.3	0.509	2.55	111.2	38.6	36.8	2.19	28.8	0.00	0.02	0.00	0.02
200 ISL	8.34 D	8.32	33.986	D 26.433	162.6	0.494	2.58	D 112.0	D 39.0	36.9	2.20	28.9	0.00	0.02		202
230	8.09	8.06	34.048	26.521	154.8	0.559	2.08	90.7	31.3	42.0	2.38	31.0	0.00	0.03		232 06
250 ISL	7.91 D	7.88	34.062	D 26.558	151.6	0.573	1.95	D 85.0	D 29.3	44.7	2.48	32.0	0.00	0.04		252
270	7.71	7.68	34.091	26.610	146.9	0.619	1.64	71.4	24.4	47.4	2.57	33.1	0.00	0.05		272 05
300 ISL	7.33 D	7.30	34.123	D 26.691	139.6	0.646	1.31	D 56.9	D 19.4	53.9	2.74	34.9	0.00	0.04		302
320	7.24	7.21	34.164	26.736	135.5	0.689	0.99	43.1	14.6	58.2	2.86	36.1	0.00	0.04		323 04
379	7.15	7.11	34.243	26.812	129.4	0.768	0.61	26.7	9.0	63.2	3.02	37.0	0.00	0.12		382 03
400 ISL	7.06 D	7.02	34.275	D 26.850	126.1	0.780	0.53	D 22.9	D 7.8	65.0	3.05	37.4	0.00	0.09		403
440	6.85	6.80	34.275	26.880	123.7	0.844	0.44	19.1	6.4	68.7	3.12	38.2	0.00	0.02		444 02
500 ISL	6.29 D	6.24	34.299	D 26.973	115.3	0.903	0.36	D 15.7	D 5.2	77.4	3.25	40.2	0.00	0.10		504
514	6.19	6.15	34.308	26.993	113.5	0.932	0.29	12.5	4.1	79.4	3.28	40.6	0.00	0.12		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 1411

STATION 93.3 60.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE	ORD	
31° 50.7 N	119° 34.6 W	10/11/2014	0645	UTC	1878 m	340° 10 kn			1010.0 mb	18.0 C	15.5 C					011	
DEPTH	TEMP	POTTEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXYGEN	OXY								
m	DEG C	DEG C	THETA			ml/L	μmol/Kg	PCT	μM	μM	μM	μM	μM	μg/L	μg/L	db	
0	19.36	19.36	33.570	23.837	405.6	0.000	5.44	237.3	103.1	1.7	0.30	0.1	0.00	0.06	0.20	0.06	0
2	19.36	19.36	33.570	23.837	405.6	0.008	5.44	237.3	103.1	1.7	0.30	0.1	0.00	0.06	0.20	0.06	2 20
9	19.36	19.36	33.570	23.838	405.8	0.037	5.37	D 234.3	D 101.9	1.7	0.30	0.1	0.01	0.16	0.19	0.06	9 19
10 ISL	19.37 D	19.37	33.568	D 23.836	406.1	0.041	5.36	D 233.6	D 101.6	1.7	0.30	0.1	0.01	0.15	0.19	0.06	10
20	19.10	19.09	33.539	23.883	402.0	0.081	5.38	234.9	101.5	1.5	0.29	0.1	0.01	0.05	0.21	0.07	20 18
29	19.01	19.00	33.509	23.884	402.3	0.117	5.38	234.8	101.3	1.2	0.29	0.1	0.00	0.10	0.20	0.06	29 17
30 ISL	18.97 D	18.96	33.502	D 23.890	401.8	0.122	5.37	D 234.3	D 101.1	1.2	0.29	0.1	0.00	0.12	0.21	0.07	30
40	15.56	15.55	33.353	24.583	335.8	0.158	5.62	245.3	98.9	1.5	0.34	0.1	0.01	0.30	0.35	0.18	40 16
50	13.78	13.77	33.092	24.762	319.0	0.191	5.76	251.6	97.6	3.6	0.59	2.3	0.21	0.26	0.49	0.44	50 15
60	12.70	12.70	33.161	25.030	293.6	0.221	5.52	241.2	91.5	5.1	0.71	4.4	0.19	0.16	0.26	0.33	60 14
70	11.06	11.05	33.248	25.404	258.1	0.249	4.90	214.0	78.5	10.1	1.13	12.0	0.03	0.18	0.12	0.16	71 13
75 ISL	11.03 D	11.02	33.244	D 25.406	258.0	0.265	4.89	D 213.2	D 78.3	11.0	1.19	13.0	0.02	0.19	0.11	0.14	76
84	10.60	10.59	33.324	25.545	244.9	0.285	4.60	201.0	73.0	12.7	1.30	14.8	0.02	0.22	0.08	0.12	85 12
100	9.94	9.93	33.446	25.752	225.6	0.322	4.16	181.5	65.1	17.2	1.53	18.7	0.02	0.19	0.04	0.07	101 11
120	9.36	9.34	33.644	26.004	202.0	0.365	3.67	160.0	56.7	22.6	1.73	22.3	0.01	0.13	0.01	0.02	121 10
125 ISL	9.27 D	9.26	33.705	D 26.066	196.2	0.379	3.56	D 154.8	D 54.9	24.1	1.80	23.3	0.01	0.13	0.01	0.02	126
139	9.07	9.06	33.824	26.190	184.6	0.402	3.01	131.2	46.2	28.5	1.98	25.9	0.01	0.12	0.00	0.02	140 09
150 ISL	8.97 D	8.95	33.864	D 26.239	180.2	0.426	2.94	D 127.8	D 45.1	30.0	2.02	26.6	0.01	0.17	0.00	0.02	151
169	8.75	8.74	33.926	26.322	172.7	0.455	2.73	119.3	41.8	32.5	2.10	27.7	0.01	0.26	0.00	0.02	170 08
199	8.46	8.44	34.020	26.441	161.9	0.505	2.38	103.8	36.1	37.2	2.24	29.4	0.01	0.10	0.00	0.02	201 07
200 ISL	8.44 D	8.42	34.018	D 26.444	161.7	0.512	2.40	D 104.4	D 36.4	37.3	2.24	29.5	0.01	0.10		202	
230	8.18	8.16	34.071	26.525	154.5	0.554	2.00	87.1	30.1	42.1	2.39	31.2	0.00	0.09		232 06	
250 ISL	7.98 D	7.96	34.102	D 26.579	149.6	0.590	1.74	D 75.7	D 26.1	45.3	2.51	32.3	0.00	0.18		252	
273	7.92	7.89	34.149	26.625	145.7	0.619	1.37	59.7	20.5	49.0	2.6						

RV NEW HORIZON

CALCOFI CRUISE 1411

STATION 93.3 70.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD		
31 30.7 N	120 14.8 W	10/11/2014	1219	UTC	3940 m	310 10 kn			1010.0 mb	17.7 C	17.7 C				012		
DEPTH	TEMP	POTTEMP	SALINITY	SIGMA	SV	DYN HT	OXYGEN	OXYGEN	OXY			NH4*	CHL-A	PHAEAO	PRES SAMP		
m	DEG C	DEG C	THETA			ml/L μ mol/Kg	PCT	μ M	μ M			μ M	μ g/L	μ g/L	db		
0	19.44	19.44	33.421	23.705	418.2	0.000	5.33	232.6	101.1	2.2	0.32	0.1	0.00	0.11	0.13	0.04	0
2	19.44	19.44	33.421	23.705	418.3	0.008	5.33	232.6	101.1	2.2	0.32	0.1	0.00	0.11	0.13	0.04	2 20
10	19.45	19.45	33.419	23.701	418.9	0.042	5.30	231.5	100.6	2.2	0.33	0.1	0.00	0.10	0.13	0.04	10 19
20 ISL	19.45 D	19.45	33.417 D	23.701	419.4	0.084	5.31	231.7 D	100.8	2.2	0.32	0.1	0.00	0.05	0.13	0.04	20
25	19.45	19.44	33.426	23.708	418.9	0.105	5.29	230.9	100.4	2.2	0.32	0.1	0.00	0.02	0.14	0.04	25 18
30 ISL	19.45 D	19.44	33.416 D	23.702	419.7	0.127	5.32	232.1	101.0	2.2	0.32	0.1	0.00	0.02	0.14	0.04	30
40	19.45	19.44	33.419	23.704	419.9	0.168	5.29	231.1	100.4	2.2	0.32	0.1	0.00	0.03	0.13	0.04	40 17
49	17.11	17.11	33.289	24.180	374.7	0.204	5.71	249.5	103.6	2.3	0.34	0.1	0.00	0.06	0.23	0.11	49 16
50 ISL	16.92 D	16.91	33.252 D	24.196	373.2	0.209	5.75	250.9 D	103.9	2.3	0.34	0.1	0.00	0.06	0.23	0.12	50
62	15.69	15.68	33.238	24.468	347.6	0.251	5.97	260.7	105.3	2.7	0.37	0.1	0.00	0.09	0.24	0.20	62 15
74	14.28	14.27	33.190	24.735	322.3	0.291	5.86	256.1	100.4	3.2	0.45	0.4	0.03	0.05	0.31	0.33	75 14
75 ISL	14.27 D	14.26	33.187 D	24.736	322.3	0.296	5.80	252.6 D	99.3	3.4	0.47	0.7	0.04	0.05	0.30	0.33	76
87	12.51	12.50	33.152	25.062	291.3	0.331	5.47	238.9	90.3	5.4	0.74	5.2	0.17	0.02	0.23	0.32	88 13
100 ISL	11.51 D	11.49	33.230 D	25.311	267.8	0.370	5.02	218.5 D	81.1	8.6	1.04	10.5	0.03	0.01	0.14	0.18	101
101	11.42	11.40	33.233	25.330	266.0	0.370	5.00	218.3	80.7	8.8	1.06	10.9	0.02	0.01	0.13	0.17	102 12
114	10.81	10.80	33.308	25.497	250.4	0.403	4.66	203.6	74.3	11.7	1.25	14.0	0.01	0.00	0.08	0.13	115 11
124	10.50	10.48	33.335	25.573	243.2	0.428	4.54	198.1	71.8	13.1	1.34	15.4	0.01	0.00	0.06	0.10	125 10
125 ISL	10.48 D	10.46	33.348 D	25.587	242.0	0.434	4.52	196.9 D	71.5	13.4	1.35	15.6	0.01	0.00	0.06	0.10	126
140	9.83	9.81	33.483	25.802	221.7	0.465	4.11	179.6	64.2	17.6	1.53	18.9	0.01	0.00	0.03	0.05	141 09
150 ISL	9.68 D	9.67	33.560 D	25.886	219.3	0.490	3.89	169.3 D	60.5	20.6	1.67	20.9	0.01	0.00	0.02	0.04	151
170	9.26	9.24	33.774	26.123	191.8	0.528	3.15	137.6	48.7	26.4	1.95	24.9	0.01	0.11	0.00	0.03	171 08
199	8.70	8.68	33.920	26.327	172.9	0.581	2.88	125.5	43.9	31.9	2.06	27.3	0.00	0.03	0.00	0.02	201 07
200 ISL	8.68 D	8.66	33.928 D	26.335	172.1	0.586	2.89	125.7 D	44.1	32.1	2.06	27.3	0.00	0.03	0.00	0.02	202
230	8.43	8.40	34.005	26.435	163.1	0.633	2.44	106.7	37.1	36.8	2.20	29.3	0.00	0.04	0.00	0.02	232 06
250 ISL	8.25 D	8.22	34.028 D	26.482	159.0	0.669	2.37	102.9 D	35.8	40.3	2.33	30.6	0.00	0.03	0.00	0.02	252
269	8.09	8.06	34.078	26.545	153.3	0.694	1.86	81.4	28.1	43.7	2.45	32.0	0.00	0.03	0.00	0.02	271 05
300 ISL	7.78 D	7.75	34.116 D	26.621	146.5	0.746	1.53	66.6 D	22.9	49.4	2.62	33.8	0.00	0.06	0.00	0.02	302
321	7.39	7.36	34.129	26.688	140.2	0.771	1.32	57.8	19.6	53.3	2.73	35.1	0.00	0.08	0.00	0.02	324 04
382	6.69	6.65	34.138	26.792	130.9	0.854	0.92	40.1	13.4	64.1	2.95	38.4	0.00	0.01	0.00	0.01	385 03
400 ISL	6.57 D	6.54	34.150 D	26.817	128.7	0.884	0.87	37.7 D	12.6	66.4	2.99	38.9	0.00	0.01	0.00	0.01	403
440	6.32	6.28	34.183	26.877	123.4	0.928	0.63	27.6	9.2	71.5	3.09	39.9	0.00	0.02	0.00	0.02	444 02
500 ISL	5.83 D	5.79	34.206 D	26.957	116.2	1.007	0.51	22.3 D	7.3	80.2	3.21	41.6	0.00	0.11	0.00	0.02	504
515	5.77	5.73	34.216	26.973	114.9	1.017	0.43	18.8	6.1	82.3	3.24	42.0	0.00	0.13	0.00	0.01	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 1411

STATION 93.3 80.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD	
31 10.8 N	120 55.2 W	10/11/2014	1820	UTC	3822 m	260 08 kn	270 02 05	2	1012.0 mb	18.0 C	16.2 C	36 m	8/8	ST	013	
DEPTH	TEMP	POTTEMP	SALINITY	SIGMA	SV	DYN HT	OXYGEN	OXYGEN	OXY			NH4*	CHL-A	PHAEAO	PRES SAMP	
m	DEG C	DEG C	THETA			ml/L μ mol/Kg	PCT	μ M	μ M			μ M	μ g/L	μ g/L	db	
0	19.61	19.61	33.414	23.555	423.0	0.000	5.33	232.8	101.5	2.5	0.33	0.1	0.00	0.12	0.03	0
2 A	19.61	19.61	33.414	23.655	423.0	0.009	5.33	232.8	101.5	2.5	0.33	0.1	0.00	0.12	0.03	2 24
10 ISL	19.61 D	19.61	33.410 D	23.652	423.6	0.043	5.30	231.1	100.9	2.5	0.33	0.1	0.00	0.13	0.04	10 23
10	19.61	19.61	33.412	23.654	423.5	0.042										10 23
11	19.61	19.61	33.413	23.654	423.5	0.047	5.31	231.7	101.0	2.5	0.33	0.1	0.00	0.13	0.04	11 22
20 A	19.62	19.61	33.412	23.654	423.9	0.085	5.30	231.4	100.9	2.5	0.33	0.1	0.00	0.13	0.03	20 21
29 A	19.62	19.61	33.412	23.654	424.3	0.123	5.31	231.8	101.1	2.5	0.34	0.1	0.00	0.13	0.04	29 20
30 ISL	19.62 D	19.61	33.410 D	23.652	424.5	0.126	5.29	230.8 D	100.7	2.5	0.34	0.1	0.00	0.13	0.04	30
37	19.62	19.61	33.416	23.657	424.3	0.157	5.30	231.5	100.9	2.5	0.33	0.1	0.00	0.12	0.03	37 19
45	19.62	19.61	33.412	23.656	424.8	0.191	5.29	231.2	100.8	2.5	0.32	0.1	0.00	0.13	0.03	45 18
50 ISL	19.62 D	19.61	33.410 D	23.653	425.2	0.212	5.30	231.1	100.8	2.5	0.32	0.1	0.00	0.13	0.04	50
53 A	19.35	19.34	33.410	23.724	418.5	0.225	5.28	230.7	101.0	2.5	0.32	0.1	0.00	0.13	0.04	53 17
69	16.25	16.24	33.164	24.285	365.4	0.288	5.91	258.1	105.3	2.4	0.31	0.1	0.00	0.19	0.12	70 16
75 ISL	15.83 D	15.82	33.181 D	24.392	355.2	0.309	5.91	257.5 D	104.4	2.5	0.34	0.1	0.00	0.19	0.14	76
85	15.14	15.13	33.219	24.575	338.1	0.344	5.78	252.6	100.8	2.6	0.39	0.1	0.00	0.19	0.17	86 14
86	14.77	14.76	33.219	24.654	330.5	0.346										87 15
100 A	12.96	12.95	33.145	24.969	300.6	0.391	5.64	246.5	94.0	3.8	0.52	1.2	0.15	0.17	0.19	101 13
108	12.02	12.01	33.156	25.158	282.7	0.415	5.44	237.7	88.9	5.3	0.70	4.9	0.11	0.16	0.21	109 12
117	11.43	11.41	33.175	25.283	270.9	0.439	5.31	232.0	85.7	6.6	0.82	7.2	0.02	0.12	0.20	118 11
125 A	11.08	11.07	33.224	25.384												

RV NEW HORIZON

CALCOFI CRUISE 1411

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		
DEPTH	TEMP	POTTEMP	SALINITY	SIGMA	SV	DYN HT	OXYGEN	OXYGEN	OXY	SI03*	P04*	N03*	N02*	NH4*	CHL-A	PHAEAO	PRES	SAMP
m	DEG C	DEG C		THETA			ml/L	μmol/Kg	PCT	μM	μM	μM	μM	μM	μg/L	μg/L	db	
30	50.8 N	121 35.4 W	11/11/2014	0005	UTC	4090 m	300	11 kn	300 03 06	2	1011.0 mb	19.0 C	15.8 C	31 m	8/8	ST	014	
0	19.72	19.72	33.166	23.438	443.6	0.000	5.30	231.3	100.9	2.1	0.32	0.1	0.00	0.13	0.04	0		
2	19.72	19.71	33.166	23.439	443.7	0.009	5.30	231.3	100.9	2.1	0.32	0.1	0.00	0.13	0.04	2	20	
10	19.71	19.71	33.164	23.439	444.0	0.044	5.30	231.3	100.9	2.1	0.32	0.1	0.00	0.13	0.03	10	19	
20	ISL	19.72 D	19.71	33.163 D	23.438	444.5	0.089	5.31	231.5 D	101.1	2.1	0.32	0.1	0.00	0.13	0.03	20	
24	19.72	19.71	33.170	23.444	444.1	0.107	5.28	230.7	100.6	2.1	0.32	0.1	0.00	0.13	0.03	24	18	
30	ISL	19.72 D	19.71	33.162 D	23.438	444.9	0.134	5.30	231.1 D	100.9	2.1	0.32	0.1	0.00	0.14	0.03	30	
40	19.73	19.72	33.169	23.441	445.0	0.178	5.29	231.0	100.7	2.1	0.32	0.1	0.00	0.15	0.04	40	17	
50	18.99	18.98	33.166	23.629	427.5	0.221	5.31	231.9	99.7	2.1	0.32	0.1	0.00	0.16	0.04	50	16	
63	17.24	17.23	33.174	24.063	386.4	0.274	5.88	256.8	106.8	2.4	0.31	0.1	0.00	0.23	0.09	63	15	
75	15.98	15.97	33.162	24.344	359.9	0.319	5.91	258.0	104.7	2.3	0.32	0.1	0.00	0.24	0.15	76	14	
87	15.06	15.04	33.193	24.574	338.2	0.361	5.86	255.9	102.0	2.5	0.37	0.1	0.00	0.24	0.17	88	13	
100	ISL	12.66 D	12.65	33.001 D	24.916	305.6	0.406	5.59	243.7 D	92.5	3.7	0.55	2.0	0.27	0.23	0.19	101	
101	12.66	12.65	33.027	24.937	303.6	0.406	5.70	248.8	94.3	3.8	0.56	2.2	0.29	0.23	0.19	102	12	
112	12.03	12.02	33.069	25.090	289.3	0.438	5.49	239.7	89.6	5.4	0.73	5.4	0.12	0.18	0.16	113	11	
125	10.83	10.81	33.102	25.335	266.0	0.475	5.27	230.0	83.8	7.8	0.96	9.5	0.01	0.11	0.12	126	10	
140	10.32	10.31	33.240	25.529	247.8	0.513	4.90	214.1	77.3	11.2	1.17	13.2	0.01	0.07	0.09	141	09	
150	ISL	10.21 D	10.20	33.352 D	25.635	237.9	0.541	4.69	204.2 D	73.8	13.8	1.29	15.3	0.01	0.05	0.07	151	
170	9.55	9.53	33.536	25.890	214.0	0.583	4.13	180.2	64.0	18.9	1.54	19.4	0.01	0.02	0.02	171	08	
199	8.89	8.87	33.833	26.229	182.2	0.640	3.16	137.8	48.3	28.3	1.92	25.5	0.00	0.00	0.01	201	07	
200	ISL	8.85 D	8.82	33.850 D	26.249	180.3	0.647	3.14	0136.5 D	48.0	28.5	1.93	25.6	0.00			202	
230	8.48	8.45	33.950	26.385	167.8	0.694	2.78	121.1	42.2	33.6	2.08	27.8	0.00			232	06	
250	ISL	8.13 D	8.11	33.992 D	26.470	160.0	0.732	2.52	0109.7 D	38.0	37.4	2.18	29.1	0.00			252	
269	7.88	7.85	34.012	26.523	155.2	0.757	2.37	103.6	35.6	41.0	2.27	30.5	0.00			271	05	
300	ISL	7.54 D	7.51	34.040 D	26.596	148.6	0.810	2.00	087.1 D	29.8	47.1	2.45	32.6	0.00			302	
320	7.19	7.16	34.055	26.657	143.0	0.833	1.70	74.4	25.1	51.1	2.56	34.0	0.00			323	04	
379	6.53	6.50	34.093	26.777	132.1	0.914	1.14	49.8	16.6	62.8	2.84	37.6	0.00			382	03	
400	ISL	6.40 D	6.37	34.111 D	26.808	129.4	0.949	1.03	045.0 D	15.0	65.7	2.91	38.3	0.00			403	
439	6.14	6.10	34.135	26.861	124.7	0.991	0.80	35.1	11.6	71.2	3.04	39.6	0.00			443	02	
500	ISL	5.75 D	5.71	34.197 D	26.960	115.8	1.073	0.57	024.7 D	8.1	79.6	3.17	40.9	0.00			504	
516	5.68	5.64	34.207	26.977	114.4	1.083	0.49	21.2	6.9	81.8	3.20	41.3	0.00			520	01	

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

RV NEW HORIZON

CALCOFI CRUISE 1411

STATION 93.3 100.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE	ORD			
DEPTH	TEMP	POTTEMP	SALINITY	SIGMA	SV	DYN HT	OXYGEN	OXYGEN	OXY	SI03*	P04*	N03*	N02*	NH4*	CHL-A	PHAEAO	PRES	SAMP	
m	DEG C	DEG C		THETA			ml/L	μmol/Kg	PCT	μM	μM	μM	μM	μM	μg/L	μg/L	db		
30	30.9 N	122 15.5 W	11/11/2014	0556	UTC	4156 m	020	02 kn		1012.0 mb	17.8 C	15.7 C	015						
0	19.33	19.33	33.084	23.475	440.1	0.000	5.31	231.8	100.4	1.7	0.35	0.1	0.02	0.14	0.15	0.04	0		
2	19.33	19.33	33.084	23.475	440.2	0.009	5.31	231.8	100.4	1.7	0.35	0.1	0.02	0.14	0.15	0.04	2	20	
10	19.33	19.33	33.088	23.479	440.2	0.044	5.32	232.3	100.6	1.7	0.35	0.1	0.02	0.09	0.14	0.03	10	19	
20	ISL	19.33 D	19.33	33.081 D	23.474	441.0	0.089	5.34	0232.8 D	100.8	1.7	0.35	0.1	0.02	0.12	0.15	0.03	20	
24	19.33	19.33	33.084	23.477	441.0	0.106	5.32	232.5	100.6	1.7	0.35	0.1	0.02	0.13	0.15	0.04	24	18	
30	ISL	19.33 D	19.33	33.081 D	23.475	441.4	0.133	5.33	0232.8	100.8	1.7	0.35	0.1	0.02	0.14	0.15	0.04	30	
39	19.34	19.33	33.084	23.477	441.5	0.172	5.32	232.3	100.5	1.7	0.35	0.1	0.03	0.16	0.15	0.04	39	17	
50	ISL	17.69 D	17.68	33.063 D	23.869	404.5	0.220	5.84	0254.5	106.9	1.8	0.34	0.1	0.02	0.12	0.21	0.07	50	
51	17.70	17.69	33.093	23.891	402.4	0.222	5.50	240.3	100.8	1.8	0.34	0.1	0.02	0.12	0.21	0.07	51	16	
62	16.01	16.00	32.991	24.207	372.5	0.265	5.93	259.0	105.1	2.2	0.35	0.1	0.03	0.16	0.21	0.12	62	15	
75	ISL	15.07 D	15.06	33.102 D	24.500	344.9	0.314	5.85	0254.8	0101.7	2.5	0.37	0.1	0.02	0.19	0.22	0.20	76	
76	14.58	14.56	33.095	24.600	335.3	0.315	5.92	258.5	102.0	2.5	0.37	0.1	0.02	0.19	0.23	0.20	77	14	
87	13.21	13.20	32.863	24.702	325.7	0.351	5.90	257.6	98.6	3.0	0.49	0.5	0.15	0.17	0.27	0.22	88	13	
100	12.50	12.49	33.102	25.026	295.1	0.392	5.57	243.3	91.9	4.8	0.69	3.8	0.28	0.22	0.17	0.24	101	12	
111	11.88	11.86	33.100	25.142	284.2	0.424	5.44	237.7	88.6	5.7	0.79	5.9	0.09	0.15	0.14	0.21	112	11	
124	10.73	10.72	33.110	25.357	263.9	0.459	5.25	229.4	83.5	8.6	1.04	10.5	0.04	0.13	0.09	0.15	125	10	
125	ISL	10.66 D	10.64	33.126 D	25.382	261.4	0.466	5.20	0226.7 D	82.5	8.8	1.05	10.7	0.03	0.13	0.09	0.15	126	
139	10.01	10.00	33.247	25.587	242.1	0.497	4.87	212.9	76.3	12.2	1.25	14.1	0.03	0.13	0.06	0.08	140	09	
150	ISL	9.87 D	9.86	33.442 D	25.763	225.6	0.527	4.54	0197.7 D	70.9	15.5	1.41	16.8	0.03	0.12	0.04	0.06	151	
169	9.32	9.30	33.588	25.967	206.5	0.564	3.85	168.2	59.5	21.2	1.68	21.4	0.03	0.10	0.01	0.02	170	08	
200	8.82	8.79	33.847	26.251	180.1	0.624	3.26	142.5	49.9	28.0	1.90	25.0	0.02	0.15	0.00	0.02	202	07	
229																			

RV NEW HORIZON

CALCOFI CRUISE 1411

STATION 93.3 110.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE	ORD		
DEPTH	TEMP	POTTEMP	SALINITY	SIGMA	SV	DYN HT	OXYGEN	OXYGEN	OXY	SI03*	P04*	N03*	N02*	NH4*	CHL-A	PHAEAO	PRES	SAMP
m	DEG C	DEG C	THETA				ml/L	μmol/Kg	PCT	μM	μM	μM	μM	μM	μg/L	μg/L	db	
30	10.8 N	122 55.4 W	11/11/2014	1152	UTC	3863 m	300	06 kn									016	
0	19.25	19.25	33.160	23.554	432.6	0.000	5.33	232.7	100.6	1.9	0.33	0.1	0.02	0.35	0.14	0.04	0	
2	19.25	19.25	33.160	23.554	432.7	0.009	5.33	232.7	100.6	1.9	0.33	0.1	0.02	0.35	0.14	0.04	2 20	
9	19.26	19.25	33.161	23.553	433.0	0.039	5.32	232.3	100.4	1.9	0.34	0.0	0.02	0.15	0.14	0.04	9 19	
10	ISL	19.25 D	19.25	33.157	23.551	433.3	0.044	5.31	D231.8	D100.3	1.9	0.34	0.0	0.02	0.15	0.14	0.04	10
20	ISL	19.26 D	19.25	33.157	23.552	433.6	0.087	5.32	D232.1	D100.4	1.9	0.35	0.0	0.02	0.14	0.14	0.04	20
24	19.26	19.25	33.161	23.554	433.6	0.104	5.34	232.2	100.8	1.9	0.35	0.0	0.02	0.13	0.14	0.04	24 18	
30	ISL	19.26 D	19.25	33.156	23.551	434.1	0.131	5.31	D231.5	D100.2	1.9	0.34	0.0	0.02	0.12	0.15	0.04	30
40	19.25	19.24	33.165	23.561	433.6	0.173	5.32	232.6	100.5	1.9	0.33	0.0	0.02	0.09	0.15	0.04	40 17	
50	19.11	19.10	33.159	23.592	431.0	0.217	5.33	232.7	100.3	1.9	0.33	0.0	0.02	0.10	0.17	0.05	50 16	
62	16.67	16.66	33.096	24.135	379.4	0.265	5.90	257.6	105.9	2.4	0.32	0.0	0.02	0.14	0.21	0.14	62 15	
74	15.50	15.49	33.094	24.400	354.4	0.309	5.90	257.9	103.6	2.5	0.33	0.0	0.02	0.05	0.22	0.23	75 14	
75	ISL	15.39 D	15.38	33.109	24.435	351.1	0.315	5.87	D255.7	D102.7	2.5	0.34	0.0	0.03	0.06	0.22	0.23	76
87	13.71	13.70	33.074	24.764	319.9	0.353	5.84	255.2	98.8	3.0	0.42	0.3	0.10	0.12	0.22	0.24	88 13	
100	12.23	12.22	33.077	25.057	292.1	0.393	5.64	246.3	92.5	4.3	0.62	2.7	0.34	0.05	0.18	0.26	101 12	
113	11.29	11.28	33.130	25.272	271.8	0.429	5.32	232.4	85.6	6.6	0.85	7.3	0.07	0.08	0.12	0.20	114 11	
125	10.56	10.55	33.146	25.414	258.4	0.461	5.13	224.3	81.3	9.5	1.07	11.2	0.03	0.07	0.08	0.12	126 10	
140	9.86	9.84	33.334	25.681	233.2	0.498	4.62	201.9	72.1	14.1	1.33	15.7	0.03	0.04	0.04	0.06	141 09	
150	ISL	9.66 D	9.64	33.444	D 25.800	222.0	0.524	4.38	D190.5	D 68.0	16.6	1.43	17.5	0.03	0.05	0.03	0.05	151
170	9.18	9.16	33.604	26.003	203.0	0.563	4.01	175.0	61.7	21.6	1.64	21.2	0.02	0.06	0.01	0.02	171 08	
200	8.74	8.71	33.853	26.268	178.4	0.621	3.27	143.0	50.0	28.5	1.91	25.2	0.02	0.14	0.00	0.01	202 07	
232	8.41	8.39	33.939	26.386	167.7	0.676	3.01	131.5	45.7	32.4	2.00	26.9	0.02	0.07			234 06	
250	ISL	8.24 D	8.21	33.981	D 26.446	162.4	0.710	2.66	D115.6	D 40.1	36.2	2.14	28.7	0.02	0.07			252
270	7.96	7.93	34.008	26.510	156.6	0.738	2.23	97.2	33.4	40.4	2.30	30.8	0.02	0.08			272 05	
300	ISL	7.63 D	7.60	34.047	D 26.589	149.4	0.788	1.81	D 78.7	D 26.9	46.0	2.47	32.9	0.02	0.06			302
320	7.25	7.22	34.055	26.648	143.9	0.813	1.65	71.9	24.4	49.7	2.58	34.3	0.03	0.04			322 04	
380	6.79	6.75	34.130	26.772	132.8	0.896	0.98	42.8	14.3	61.6	2.87	37.4	0.02	0.03			383 03	
400	ISL	6.60 D	6.56	34.146	D 26.811	129.3	0.927	0.89	D 38.6	D 12.9	65.0	2.94	38.1	0.02	0.03			403
439	6.34	6.30	34.195	26.884	122.8	0.971	0.58	25.2	8.4	71.5	3.08	39.5	0.02	0.04			443 02	
500	ISL	6.05 D	6.01	34.255	D 26.969	115.4	1.050	0.40	D 17.2	D 5.7	78.3	3.20	40.5	0.02	0.06			504
514	6.00	5.95	34.266	26.984	114.1	1.060	0.32	13.9	4.6	79.8	3.23	40.8	0.02	0.07			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 1411

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		
DEPTH	TEMP	POTTEMP	SALINITY	SIGMA	SV	DYN HT	OXYGEN	OXYGEN	OXY	SI03*	P04*	N03*	N02*	NH4*	CHL-A	PHAEAO	PRES	SAMP
m	DEG C	DEG C	THETA				ml/L	μmol/Kg	PCT	μM	μM	μM	μM	μM	μg/L	μg/L	db	
29	51.0 N	123 35.1 W	11/11/2014	1825	UTC	4078 m	270	08 kn	330	04	07	2	1015.0	mb	19.0	C 17.5	C 41 m	8/8 ST 017
0	20.35	20.35	33.516	23.540	434.0	0.000	5.19	226.7	100.2	2.4	0.30	0.1	0.01	0.57	0.09	0.02	0	
2	A	20.35	20.35	33.516	23.540	434.0	0.009	5.19	226.7	100.2	2.4	0.30	0.1	0.01	0.57	0.09	0.02	2 24
10	ISL	20.46 D	20.46	33.595	D 23.572	431.3	0.044	5.19	D226.5	D 100.5	2.3	0.29	0.2	0.01	0.43	0.09	0.02	10
12	20.52	20.51	33.614	23.571	431.5	0.052	5.18	226.0	100.3	2.3	0.29	0.2	0.01	0.39	0.09	0.02	12 22	
20	ISL	20.72 D	20.72	33.726	D 23.602	428.9	0.070	5.20	D226.8	D 101.0	2.3	0.27	0.1	0.01	0.29	0.10	0.02	20
22	A	20.77	20.76	33.749	23.608	428.4	0.095	5.19	D226.2	D 101.0	2.3	0.27	0.1	0.01	0.26	0.10	0.02	22 21
30	ISL	20.90 D	20.89	33.796	D 23.609	428.6	0.113	5.18	D225.9	D 101.2	2.3	0.27	0.1	0.01	0.11	0.03		30
33	A	20.90	20.89	33.806	23.618	428.0	0.142	5.23	228.3	102.2	2.3	0.27	0.1	0.01	0.05	0.11	0.03	33 20
42	21.19	21.18	33.913	23.622	428.0	0.181	5.11	223.0	100.4	2.2	0.26	0.1	0.01	0.06	0.12	0.03	42 19	
50	ISL	21.23 D	21.22	33.933	D 23.627	427.8	0.199	5.13	D223.9	D 101.0	2.2	0.26	0.1	0.01	0.07	0.14	0.03	50 18
51	21.23	21.22	33.936	23.629	427.7	0.219	5.09	222.4	100.2	2.2	0.26	0.1	0.01	0.07	0.14	0.03	51 18	
61	21.26	21.25	33.977	D 23.653	425.9	0.246	5.12	D223.5	D 100.8	2.3	0.27	0.1	0.01	0.13	0.17	0.08	61 17	
75	ISL	17.18 D	17.16	33.293	D 24.170	376.6	0.303	5.87	D255.9	D 106.6	2.3	0.31	0.1	0.01	0.13	0.17	0.09	78 16
77	A	17.05	17.04	33.296	24.202	373.6	0.325	5.82	D254.1	105.4	2.3	0.31	0.1	0.01	0.13	0.17	0.09	95 15
94	15.89	15.88	33.322	24.489	346.7	0.388	5.75	251.0	101.6	2.5	0.30	0.1	0.01	0.11	0.18	0.16	96 14	
95	15.79	15.77	33.321	24.512	344.6	0.390	5.71	D248.8	99.7	2.7	0.33	0.2	0.04	0.10	0.17	0.17	101	
100	ISL	15.20 D	15.18	33.281	D 24.611	351.5	0.361	5.71	D248.5	99.7	2.7	0.33	0.2	0.04	0.10	0.17	114 13	
113	A	13.82	13.80	33.269	24.895	308.3	0.449	5.63	245.8	95.5	3.2	0.41	0.4	0.13	0.06	0.17	0.19	124 12
123	13.07	13.05	33.259	25.038	294.8	0.479	5.56	242.6	92.8	4.0	0.50	1.9	0.24	0.05	0.16	0.19	126	
125	ISL	12.77 D	12.75	33.235	D 25.079	290.8	0.440	5.58	D243.2	D 92.7	4.2	0.53	2.4	0.20	0.05	0.16	0.19	132 11
131	12.08	12.06	33.253	25.226	276.9	0.502	5.42	236.8	88.7	4.9	0.61	3.9						

PRIMARY PRODUCTIVITY CASTS

RV NEW HORIZON

CALCOFI CRUISE 1411

STATION 76.7 60.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE	ORD
34 43.6 N	121 33.6 W	21/11/2014	1719 UTC	17 m	1152 - 1725 PST	1152 PST	1725 PST	250.6 mg C/m ²	065

DEPTH	TEMP	SALINITY	SIGMA	OXYGEN	OXY	SI03*	P04*	N03*	N02*	NH4*	CHL-A	PHAEOL	LIGHT	UPTAKE (mg C/m ³)
m	DEG C	THETA	mL/L	PCT	μM	μM	μM	μM	μM	μM	μg/L	μg/L	PCT	1 2 MEAN DARK
2	16.35	33.237	24.313	5.70	101.8	1.4	0.31	0.0	0.01	0.06	0.39	0.12	83. A	7.6 7.5 7.6 0.03
9	16.36	33.238	24.313	5.72	102.3	1.4	0.32	0.0	0.02	0.08	0.40	0.12	44.	6.3 6.8 6.5 0.30
14	16.34	33.239	24.318	5.71	101.9	1.4	0.34	0.0	0.02	0.09	0.39	0.12	28.	5.9 6.3 6.1 0.30
25	15.83	33.319	24.497	5.77	102.1	1.0	0.35	0.0	0.02	0.11	0.64	0.24	10.	6.8 6.7 6.8 0.25
36	12.10	32.912	24.951	5.72	93.5	5.5	0.79	5.4	0.42	0.11	0.40	0.35		
47	11.33	32.920	25.100	5.51	88.6	7.1	0.96	8.4	0.22	0.10	0.23	0.31	1.4	0.52 0.45 0.48 0.18
59	10.66	32.987	25.271	5.30	84.1	9.2	1.12	11.2	0.05	0.27	0.15	0.19	0.49	0.18 0.12 0.15 0.18

RV NEW HORIZON

CALCOFI CRUISE 1411

STATION 76.7 100.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE	ORD
33 23.6 N	124 19.1 W	20/11/2014	1643 UTC	31 m	1203 - 1741 PST	1203 PST	1739 PST	138.5 mg C/m ²	061

DEPTH	TEMP	SALINITY	SIGMA	OXYGEN	OXY	SI03*	P04*	N03*	N02*	NH4*	CHL-A	PHAEOL	LIGHT	UPTAKE (mg C/m ³)
m	DEG C	THETA	mL/L	PCT	μM	μM	μM	μM	μM	μM	μg/L	μg/L	PCT	1 2 MEAN DARK
3	18.68	32.961	23.545	5.49	102.4	1.6	0.33	0.0	0.01	0.36	0.13	0.03	86. A	1.9 2.1 2.0 0.03
10	18.68	32.960	23.545	5.42	101.2	1.6	0.33	0.0	0.01	0.29	0.13	0.03		
17	18.68	32.960	23.545	5.43	101.3	1.6	0.34	0.0	0.01	0.14	0.13	0.03	43.	2.0 1.9 2.0 0.15
24	18.65	32.960	23.552	5.43	101.2	1.6	0.34	0.0	0.01	0.14	0.13	0.03	30.	1.9 1.9 1.9 0.12
36	18.00	32.957	23.713	5.61	103.3	1.5	0.34	0.0	0.01	0.16	0.18	0.06		
45	17.33	32.976	23.887	5.68	103.3	1.6	0.33	0.0	0.01	0.05	0.20	0.08	11.	1.7 1.7 1.7 0.17
60	14.56	32.878	24.434	6.09	104.8	2.3	0.36	0.0	0.01	0.06	0.26	0.18		
75	13.38	32.840	24.648	5.96	99.9	2.9	0.45	0.5	0.16	0.11	0.30	0.26		
84	12.78	32.866	24.788	5.90	97.7	3.7	0.57	2.1	0.31	0.10	0.26	0.23	1.6	0.58 0.57 0.57 0.13
97	11.70	32.861	24.989	5.66	91.7	5.4	0.71	5.0	0.11	0.01	0.20	0.23		
107	10.83	32.976	25.235	5.48	87.1	7.9	0.96	9.3	0.03	0.03	0.12	0.15	0.50	0.13 0.14 0.14 0.15

RV NEW HORIZON

CALCOFI CRUISE 1411

STATION 80.0 70.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE	ORD
33 49.2 N	121 50.7 W	19/11/2014	1642 UTC	23 m	1153 - 1730 PST	1153 PST	1729 PST	269.2 mg C/m ²	057

DEPTH	TEMP	SALINITY	SIGMA	OXYGEN	OXY	SI03*	P04*	N03*	N02*	NH4*	CHL-A	PHAEOL	LIGHT	UPTAKE (mg C/m ³)
m	DEG C	THETA	mL/L	PCT	μM	μM	μM	μM	μM	μM	μg/L	μg/L	PCT	1 2 MEAN DARK
2	16.68	33.184	24.197	5.68	102.1	1.4	0.32	0.1	0.00	0.16	0.28	0.07	88. A	5.5 5.6 5.5 0.04
13	16.65	33.186	24.207	5.68	102.0	1.4	0.37	0.1	0.00	0.61	0.29	0.08	42.	5.5 5.8 5.6 0.20
17	16.64	33.188	24.211	5.68	102.1	1.4	0.33	0.1	0.00	0.06	0.30	0.09	32.	5.2 5.1 5.2 0.21
25	16.58	33.199	24.233	5.71	102.4	1.4	0.34	0.1	0.00	0.13	0.41	0.12		
34	16.32	33.181	24.279	5.74	102.4	1.5	0.33	0.1	0.00	0.13	0.48	0.14	10.	5.2 5.1 5.1 0.23
44	13.32	32.926	24.726	6.00	100.6	2.8	0.47	0.6	0.04	0.18	1.02	0.47		
54	12.20	32.844	24.881	5.79	94.8	4.5	0.69	3.6	0.27	0.22	0.50	0.41		
63	11.89	33.123	25.156	5.18	84.5	7.2	1.00	9.5	0.04	0.07	0.25	0.29	1.5	0.63 0.48 0.55 0.15
72	11.00	33.243	25.410	4.79	76.6	9.7	1.18	12.3	0.01	0.09	0.19	0.22		
80	10.56	33.347	25.570	4.38	69.4	13.2	1.36	15.3	0.00	0.04	0.11	0.14	0.48	0.14 0.12 0.13 0.14

RV NEW HORIZON

CALCOFI CRUISE 1411

STATION 83.3 42.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE	ORD
34 10.8 N	119 30.6 W	22/11/2014	1935 UTC	30 m	1222 - 1718 PST	1144 PST	1718 PST	237.1 mg C/m ²	073

DEPTH	TEMP	SALINITY	SIGMA	OXYGEN	OXY	SI03*	P04*	N03*	N02*	NH4*	CHL-A	PHAEOL	LIGHT	UPTAKE (mg C/m ³)
m	DEG C	THETA	mL/L	PCT	μM	μM	μM	μM	μM	μM	μg/L	μg/L	PCT	1 2 MEAN DARK
2	18.81	33.579	23.984	5.44	102.2	1.9	0.28	0.0	0.00	0.00	0.22	0.06	90. A	5.5 5.6 5.5 0.11
9	18.77	33.580	23.996	5.45	102.2	1.9	0.31	0.0	0.00	0.15	0.22	0.06		
17	18.56	33.568	24.039	5.49	102.5	1.9	0.32	0.0	0.00	0.22	0.26	0.08	42.	3.8 3.7 3.7 0.37
24	18.76	33.361	24.315	5.89	106.1	2.6	0.32	0.0	0.00	0.11	0.28	0.14	29.	3.4 3.3 3.3 0.42
34	14.78	33.317	24.726	5.87	101.7	3.6	0.42	0.1	0.04	0.07	0.58	0.31		
44	14.26	33.301	24.823	5.63	96.5	4.4	0.54	1.8	0.40	0.09	0.58	0.36	11.	3.7 4.0 3.8 0.37
58	13.09	33.325	25.080	4.94	82.7	7.9	0.87	7.8	0.50	0.07	0.19	0.23		
71	12.21	33.337	25.262	4.80	78.8	8.5	0.93	9.0	0.13	0.04	0.15	0.18		
83	11.52	33.404	25.444	4.43	71.7	11.1	1.13	12.1	0.03	0.06	0.10	0.12	1.4	0.19 0.19 0.19 0.25
93	11.32	33.466	25.527	4.10	66.1	13.4	1.28	14.5	0.03	0.02	0.07	0.11		
104	10.98	33.504	25.618	3.95	63.3	15.1	1.38	16.1	0.02	0.08	0.05	0.08	0.49	0.06 0.01 0.04 0.27

A) INCUBATION LIGHT INTENSITIES WERE 59.5; 42.6; 29.4; 10.1; 1.5; 0.48 PERCENT RESPECTIVELY.

RV NEW HORIZON

CALCOFI CRUISE 1411

STATION 83.3 60.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE	ORD
33 34.7 N	120 45.4 W	18/11/2014	1719 UTC	18 m	1148 - 1725 PST	1148 PST	1725 PST	237.2 mg C/m ²	052

DEPTH	TEMP	SALINITY	SIGMA	OXYGEN	OXY	SI03*	P04*	N03*	N02*	NH4*	CHL-A	PHAE0	LIGHT	UPTAKE (mg C/m ³)			
m	DEG C	THETA	ml/L	PCT	μM	μM	μM	μM	μM	μM	μg/L	μg/L	PCT	1	2	MEAN	DARK
2	17.81	33.578	24.231	5.47	100.7	1.1	0.28	0.1	0.00	0.17	0.36	0.13	84. A	6.9	6.7	6.8	0.08
9	17.81	33.573	24.228	5.48	101.0	1.1	0.27	0.1	0.00	0.42	0.36	0.13	46.	6.7	7.0	6.9	0.16
13	17.81	33.574	24.229	5.46	100.6	1.1	0.28	0.1	0.00	0.47	0.36	0.13	33.	6.4	6.2	6.3	0.17
20	17.80	33.579	24.234	5.46	100.5	1.1	0.28	0.1	0.00	0.17	0.38	0.15					
27	17.80	33.573	24.231	5.45	100.3	1.1	0.28	0.1	0.00	0.17	0.37	0.14	10.0	5.5	5.0	5.2	0.14
37	14.71	33.298	24.726	5.37	92.8	3.2	0.63	3.8	0.14	0.16	0.39	0.29					
50	11.13	33.114	25.288	5.13	82.2	8.6	1.08	10.9	0.03	0.17	0.15	0.23	1.4	0.45	0.35	0.40	0.09
56	11.06	33.113	25.298	5.14	82.2	8.8	1.08	11.0	0.03	0.11	0.17	0.19					
63	10.43	33.144	25.434	5.00	79.0	10.8	1.20	13.1	0.01	0.11	0.12	0.14	0.46	0.14	0.16	0.15	0.06

RV NEW HORIZON

CALCOFI CRUISE 1411

STATION 83.3 100.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE	ORD
32 14.6 N	123 29.3 W	17/11/2014	1759 UTC	43 m	1159 - 1739 PST	1159 PST	1739 PST	173.8 mg C/m ²	048

DEPTH	TEMP	SALINITY	SIGMA	OXYGEN	OXY	SI03*	P04*	N03*	N02*	NH4*	CHL-A	PHAE0	LIGHT	UPTAKE (mg C/m ³)			
m	DEG C	THETA	ml/L	PCT	μM	μM	μM	μM	μM	μM	μg/L	μg/L	PCT	1	2	MEAN	DARK
2	19.47	33.302D	23.606	5.32	101.6	2.3	0.32	0.1	0.00	1.03	0.11	0.04	93. A	1.6	1.7	1.6	0.04
13	19.43	33.303	23.616	5.30	100.6	2.3	0.31	0.1	0.00	0.10	0.11	0.03					
24	19.44	33.312	23.623	5.30	100.5	2.3	0.33	0.1	0.00	0.27	0.12	0.04	42.	1.8	2.1	2.0	0.10
34	19.44	33.303	23.618	5.32	100.8	2.2	0.32	0.1	0.00	0.10	0.12	0.05	30.	1.6	1.5	1.5	0.10
44	19.44	33.305	23.621	5.32	100.9	2.3	0.32	0.1	0.00	0.23	0.13	0.04					
54	19.14	33.283	23.681	5.43	102.3	2.3	0.31	0.1	0.00	0.21	0.21	0.08					
64	16.15	33.075	24.239	5.92	105.1	2.2	0.35	0.1	0.00	0.19	0.22	0.17	10.	1.8	2.1	2.0	0.08
81	13.85	33.085	24.744	5.81	98.5	3.1	0.44	0.4	0.10	0.16	0.21	0.18					
100	12.25	33.115	25.084	5.51	90.5	5.0	0.68	4.4	0.15	0.09	0.16	0.18					
118	11.01	33.164	25.349	5.23	83.6	7.4	0.90	8.5	0.02	0.27	0.10	0.13	1.5	0.17	0.20	0.19	0.09
130	10.59	33.228	25.474	4.94	78.2	10.0	1.09	11.8	0.01	0.03	0.08	0.11					
140	9.88	33.364	25.700	4.59	71.6	13.9	1.28	15.3	0.01	0.08	0.04	0.06					
150	9.71	33.429	25.780	4.43	68.9	15.8	1.37	16.7	0.01	0.07	0.03	0.04	0.47	0.01	0.00	0.01	0.10

RV NEW HORIZON

CALCOFI CRUISE 1411

STATION 86.7 50.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE	ORD
33 19.3 N	119 39.9 W	15/11/2014	1747 UTC	18 m	1145 - 1723 PST	1143 PST	1723 PST	444.4 mg C/m ²	039

DEPTH	TEMP	SALINITY	SIGMA	OXYGEN	OXY	SI03*	P04*	N03*	N02*	NH4*	CHL-A	PHAE0	LIGHT	UPTAKE (mg C/m ³)			
m	DEG C	THETA	ml/L	PCT	μM	μM	μM	μM	μM	μM	μg/L	μg/L	PCT	1	2	MEAN	DARK
3	17.47	33.472	24.232	5.49	100.3	1.2	0.32	0.3	0.03	0.21	0.57	0.22	77. A	12.8	12.8	12.8	0.05
10	17.46	33.471	24.234	5.48	100.2	1.2	0.32	0.3	0.04	0.15	0.62	0.23	43.	11.7	14.0	12.9	0.11
14	17.45	33.471	24.237	5.48	100.1	1.2	0.32	0.3	0.03	0.11	0.62	0.21	30.	11.6	11.7	11.7	0.12
20	17.40	33.468	24.247	5.49	100.2	1.3	0.32	0.3	0.03	0.12	0.63	0.22					
27	16.96	33.442	24.331	5.47	99.1	1.4	0.35	0.4	0.05	0.16	0.68	0.27	10.0	9.7	9.9	9.8	0.12
40	15.32	33.202	24.520	5.69	99.6	2.1	0.39	0.6	0.08	0.13	0.64	0.42					
49	14.00	33.205	24.804	5.42	92.3	4.9	0.70	4.7	0.20	0.12	0.46	0.38	1.5	1.0	0.89	0.97	0.07
55	13.96	33.307	24.892	5.22	88.9	5.7	0.76	5.8	0.21	0.17	0.45	0.41					
63	12.68	33.269D	25.118	5.23	86.6	6.0	0.85	7.0	0.11	0.08	0.27	0.32	0.46	0.38	0.37	0.37	0.07

RV NEW HORIZON

CALCOFI CRUISE 1411

STATION 86.7 90.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE	ORD
31 59.4 N	122 23.6 W	16/11/2014	1909 UTC	28 m	1725 - 1214 PST	1154 PST	1709 PST	128.7 mg C/m ²	044

DEPTH	TEMP	SALINITY	SIGMA	OXYGEN	OXY	SI03*	P04*	N03*	N02*	NH4*	CHL-A	PHAE0	LIGHT	UPTAKE (mg C/m ³)			
m	DEG C	THETA	ml/L	PCT	μM	μM	μM	μM	μM	μM	μg/L	μg/L	PCT	1	2	MEAN	DARK
3	18.80	33.103	23.624	5.44	101.8	2.0	0.35	0.0	0.02	0.12	0.11	0.03	85. A	1.9	1.9	1.9	0.04
10	18.80	33.097	23.621	5.39	100.9	2.0	0.34	0.1	0.01	0.12	0.11	0.03					
16	18.77	33.106	23.635	5.40	100.9	2.0	0.35	0.0	0.02	0.12	0.11	0.03	42.	1.6	1.6	1.6	0.11
22	18.76	33.107	23.638	5.40	101.1	2.0	0.33	0.0	0.02	0.13	0.11	0.03	30.	1.6	1.6	1.6	0.11
32	18.63	33.079	23.650	5.40	100.7	1.9	0.35	0.1	0.02	0.12	0.14	0.04					
42	17.66	33.056	23.871	5.59	102.4	1.5	0.33	0.0	0.02	0.08	0.21	0.07	10.0	2.3	2.0	2.1	0.17
54	16.63	33.026	24.092	5.86	105.1	2.0	0.35	0.1	0.02	0.13	0.24	0.11					
65	15.58	32.989	24.301	5.97	104.9	2.2	0.37	0.1	0.01	0.19	0.25	0.16					
77	13.90	32.897	24.588	5.95	100.9	2.5	0.43	0.1	0.02	0.14	0.22	0.15	1.5	0.54	0.46	0.50	0.06
87	12.72	32.907	24.832	5.76	95.4	3.5	0.55	1.4	0.18	0.11	0.22	0.17					
97	12.16	33.044D	25.045	5.63	92.1	4.4	0.63	2.9	0.26	0.03	0.19	0.19	0.49	0.30	0.28	0.29	0.05

A) INCUBATION LIGHT INTENSITIES WERE 59.5; 42.6; 29.4; 10.1; 1.5; 0.48 PERCENT RESPECTIVELY.

RV NEW HORIZON

CALCOFI CRUISE 1411

STATION 90.0 28.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE	ORD									
DEPTH	TEMP	SALINITY	SIGMA	OXYGEN	OXY	SI03*	P04*	N03*	N02*	NH4*	CHL-A	PHAEOL	LIGHT	UPTAKE (mg C/m3)	1	2	MEAN	DARK
m	DEG C	THETA	ml/L	PCT	μM	μM	μM	μM	μM	μM	μg/L	μg/L	PCT	1	2	MEAN	DARK	
2	18.95	33.508	23.896	5.56	104.6	2.1	0.35	0.0	0.02	0.13	0.57	0.45	80. A	17.6	16.4	17.0	0.08	
8	18.93	33.507	23.901	5.57	104.7	2.1	0.34	0.1	0.02	0.24	0.72	0.47	42.	17.5	19.0	18.2	0.13	
11	18.91	33.506	23.904	5.56	104.6	2.1	0.38	0.0	0.02	0.18	0.83	0.46	30.	16.7	17.8	17.2	0.16	
21	18.70	33.494	23.948	5.57	104.2	2.4	0.32	0.0	0.04	0.09	1.08	0.37	10.0	15.5	15.4	15.5	0.15	
30	17.73	33.438	24.145	5.56	102.1	3.5	0.38	0.3	0.16	0.34	0.82	0.25						
39	17.04	33.409	24.289	5.53	100.2	3.9	0.43	0.5	0.24	0.42	0.73	0.23	1.4	1.6	1.4	1.5	0.08	
49	15.61	33.311	24.541	5.73	100.9	4.0	0.46	0.6	0.26	0.13	0.68	0.20	0.46	0.64	0.61	0.62	0.05	

RV NEW HORIZON

CALCOFI CRUISE 1411

STATION 90.0 53.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE	ORD									
DEPTH	TEMP	SALINITY	SIGMA	OXYGEN	OXY	SI03*	P04*	N03*	N02*	NH4*	CHL-A	PHAEOL	LIGHT	UPTAKE (mg C/m3)	1	2	MEAN	DARK
m	DEG C	THETA	ml/L	PCT	μM	μM	μM	μM	μM	μM	μg/L	μg/L	PCT	1	2	MEAN	DARK	
2	18.54	33.491	23.984	5.44	101.5	1.2	0.29	0.1	0.02	0.24	0.21	0.07	90. A	4.3	4.2	4.3	0.04	
8	18.44	33.489	24.008	5.44	101.3	1.2	0.37	0.1	0.02	0.38	0.22	0.07						
16	18.43	33.489	24.011	5.44	101.3	1.2	0.30	0.1	0.01	0.23	0.23	0.08	43.	3.6	4.1	3.8	0.08	
23	18.42	33.488	24.015	5.43	101.2	1.2	0.28	0.1	0.02	0.30	0.24	0.08	30.	3.5	3.7	3.6	0.08	
33	18.37	33.480	24.022	5.45	101.3	1.2	0.30	0.1	0.01	0.20	0.25	0.09						
44	15.29	33.072D	24.426	5.81	101.5	1.8	0.34	0.1	0.02	0.13	0.37	0.26	9.7	3.0	2.7	2.8	0.09	
55	13.42	32.946	24.723	5.81	97.6	3.5	0.58	2.3	0.21	0.15	0.38	0.36						
67	12.21	33.078	25.061	5.34	87.6	5.8	0.85	7.1	0.08	0.05	0.17	0.24						
80	11.41	33.215	25.317	5.07	81.8	7.9	1.00	9.6	0.04	0.21	0.11	0.20	1.4	0.22	0.19	0.21	0.00	
91	10.39	33.313	25.572	4.71	74.3	11.6	1.20	13.5	0.03	0.13	0.08	0.12						
101	10.18	33.395	25.673	4.43	69.7	14.8	1.37	16.3	0.03	0.08	0.05	0.08	0.48	0.03	0.05	0.04	0.02	

RV NEW HORIZON

CALCOFI CRUISE 1411

STATION 90.0 90.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE	ORD									
DEPTH	TEMP	SALINITY	SIGMA	OXYGEN	OXY	SI03*	P04*	N03*	N02*	NH4*	CHL-A	PHAEOL	LIGHT	UPTAKE (mg C/m3)	1	2	MEAN	DARK
m	DEG C	THETA	ml/L	PCT	μM	μM	μM	μM	μM	μM	μg/L	μg/L	PCT	1	2	MEAN	DARK	
3	19.54	33.184	23.498	5.30	100.7	2.0	0.35	0.1	0.01	0.15	0.15	0.04	88. A	2.7	2.5	2.6	0.05	
10	19.54	33.183	23.498	5.31	100.8	2.0	0.34	0.1	0.02	0.10	0.15	0.04						
19	19.53	33.186	23.502	5.29	100.4	2.0	0.37	0.1	0.02	0.34	0.16	0.04	43.	2.4	2.3	2.3	0.07	
28	19.53	33.184	23.502	5.29	100.4	1.9	0.34	0.0	0.02	0.06	0.16	0.04	29.	2.1	2.2	2.1	0.08	
52	16.31	33.050D	24.182	5.94	105.9	2.3	0.34	0.1	0.02	0.13	0.23	0.11	10.	2.0	2.0	2.0	0.10	
66	15.18	33.031	24.421	5.92	103.1	2.3	0.41	0.1	0.03	0.13	0.29	0.23						
96	12.85	33.189	25.026	5.48	91.1	4.5	0.66	3.4	0.37	0.12	0.16	0.21	1.5	0.43	0.45	0.44	0.01	
100	12.60	33.178	25.066	5.41	89.5	5.1	0.71	4.8	0.22	0.07	0.13	0.17						
122	10.61	33.213	25.457	5.03	79.7	9.3	1.04	11.0	0.03	0.07	0.08	0.11	0.47	0.10	0.09	0.10	0.01	

RV NEW HORIZON

CALCOFI CRUISE 1411

STATION 93.3 26.7

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE	ORD									
DEPTH	TEMP	SALINITY	SIGMA	OXYGEN	OXY	SI03*	P04*	N03*	N02*	NH4*	CHL-A	PHAEOL	LIGHT	UPTAKE (mg C/m3)	1	2	MEAN	DARK
m	DEG C	THETA	ml/L	PCT	μM	μM	μM	μM	μM	μM	μg/L	μg/L	PCT	1	2	MEAN	DARK	
2	19.60	33.576	23.781	5.44	103.7	2.2	0.30	0.1	0.02	0.29	0.20	0.04	88. A	3.3	B	3.3	B	
13	18.77	33.523	23.954	5.63	105.5	2.9	0.32	0.1	0.02	0.16	0.34	0.13	42.	9.9	B	9.9	B	
18	18.22	33.515	24.084	5.68	105.4	3.1	0.34	0.1	0.02	0.35	0.73	0.34	30.	12.9	12.5	12.7	0.28	
26	16.17	33.354	24.446	5.76	102.5	4.2	0.44	0.5	0.18	0.28	1.04	0.56						
34	14.89	33.391	24.758	5.08	88.1	6.9	0.69	3.4	0.62	0.24	0.58	0.47	10.	5.9	5.5	5.7	0.05	
44	13.66	33.414	25.035	4.57	77.4	9.3	0.97	7.8	0.65	0.17	0.25	0.28						
55	13.24	33.419	25.123	4.39	73.7	10.5	1.08	9.3	0.76	0.81	0.16	0.22						
58	13.22	33.421	25.129	4.39	73.6	10.6	1.07	9.4	0.75	0.86	0.16	0.22	2.1	0.34	0.41	0.37	0.07	

B) PRODUCTIVITY REPLICATES POOR. UNCERTAIN VALUE ELIMINATED

RV NEW HORIZON

CALCOFI CRUISE 1411

STATION 93.3 45.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE	ORD									
DEPTH	TEMP	SALINITY	SIGMA	OXYGEN	OXY	SI03*	P04*	N03*	N02*	NH4*	CHL-A	PHAEOL	LIGHT	UPTAKE (mg C/m3)	1	2	MEAN	DARK
m	DEG C	THETA	ml/L	PCT	μM	μM	μM	μM	μM	μM	μg/L	μg/L	PCT	1	2	MEAN	DARK	
2	19.70	33.542	23.730	5.49	104.7	1.5	0.31	0.1	0.00	0.12	0.15	0.03						
10	19.64	33.536	23.740	5.36	102.3	1.5	0.31	0.1	0.00	0.10	0.15	0.04	64. A	3.2	3.3	3.3	0.08	
18	19.64	33.536	23.742	5.31	101.2	1.5	0.31	0.1	0.00	0.25	0.15	0.03						
28	19.64	33.544	23.749	5.32	101.3	1.5	0.34	0.1	0.00	0.10	0.17	0.04	29.	3.4	3.4	3.4	0.09	
41	19.62	33.537	23.750	5.34	101.7	1.5	0.31	0.1	0.00	0.09	0.19</							

RV NEW HORIZON

CALCOFI CRUISE 1411

STATION 93.3 80.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL	TWILIGHT	INTEGRATED	VALUE	ORD
31 10.8 N	120 55.2 W	10/11/2014	1820 UTC	36 m	1137 - 1738 PST	1148 PST	1734 PST		111.8 mg C/m ²	013	

DEPTH	TEMP	SALINITY	SIGMA	OXYGEN	OXY	SI03*	P04*	N03*	N02*	NH4*	CHL-A	PHAEAO	LIGHT	UPTAKE (mg C/m ³)			
m	DEG C	THETA	mL/L	PCT	μM	μM	μM	μM	μM	μM	μg/L	μg/L	PCT	1	2	MEAN	DARK
2	19.61	33.414	23.655	5.33	101.5	2.5	0.33	0.1	0.00		0.12	0.03	92. A	2.3	2.3	2.3	0.04
11	19.61	33.413	23.654	5.31	101.0	2.5	0.33	0.1	0.00		0.13	0.04					
20	19.62	33.412	23.654	5.30	100.9	2.5	0.33	0.1	0.00		0.13	0.03	43.	1.8	1.9	1.9	0.03
29	19.62	33.412	23.654	5.31	101.1	2.5	0.34	0.1	0.00		0.13	0.04	29.	1.7	1.7	1.7	0.04
37	19.62	33.416	23.657	5.30	100.9	2.5	0.33	0.1	0.00		0.12	0.03					
45	19.62	33.412	23.656	5.29	100.8	2.5	0.32	0.1	0.00		0.13	0.03					
53	19.35	33.410	23.724	5.28	100.1	2.5	0.32	0.1	0.00		0.13	0.04	10.	0.72	0.64	0.68	0.05
69	16.25	33.164	24.285	5.91	105.3	2.4	0.31	0.1	0.00		0.19	0.12					
85	15.14	33.219	24.575	5.78	100.8	2.6	0.39	0.1	0.00		0.19	0.17					
100	12.96	33.145	24.969	5.64	94.0	3.8	0.52	1.2	0.15		0.17	0.19	1.4	0.25	0.19	0.22	0.03
108	12.02	33.156	25.158	5.44	88.9	5.3	0.70	4.9	0.11		0.16	0.21					
117	11.43	33.175	25.283	5.31	85.7	6.6	0.82	7.2	0.02		0.12	0.20					
125	11.08	33.224	25.384	5.17	82.8	7.8	0.91	8.8	0.01		0.11	0.17	0.48	0.08	0.10	0.09	0.02

RV NEW HORIZON

CALCOFI CRUISE 1411

STATION 93.3 120.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL	TWILIGHT	INTEGRATED	VALUE	ORD
29 51.0 N	123 35.1 W	11/11/2014	1825 UTC	41 m	1156 - 1746 PST	1158 PST	1746 PST		205.4 mg C/m ²	017	

DEPTH	TEMP	SALINITY	SIGMA	OXYGEN	OXY	SI03*	P04*	N03*	N02*	NH4*	CHL-A	PHAEAO	LIGHT	UPTAKE (mg C/m ³)			
m	DEG C	THETA	mL/L	PCT	μM	μM	μM	μM	μM	μM	μg/L	μg/L	PCT	1	2	MEAN	DARK
2	20.35	33.516	23.540	5.19	100.2	2.4	0.30	0.1	0.01	0.57	0.09	0.02	93. A	1.9	1.6	1.7	0.02
12	20.52	33.614	23.571	5.18	100.3	2.3	0.29	0.2	0.01	0.39	0.09	0.02					
22	20.77	33.749	23.608	5.18D	101.0	2.3	0.27	0.1	0.01	0.26	0.10	0.02	44.	1.9	1.9	1.9	0.05
33	20.90	33.806	23.618	5.23	102.2	2.3	0.27	0.1	0.01	0.05	0.11	0.03	29.	1.8	2.0	1.9	0.06
42	21.19	33.913	23.622	5.11	100.4	2.2	0.26	0.1	0.01	0.06	0.12	0.03					
51	21.23	33.936	23.629	5.09	100.2	2.2	0.26	0.1	0.01	0.07	0.14	0.03					
77	17.05	33.296	24.202	5.82	105.4	2.3	0.31	0.1	0.01	0.13	0.17	0.09	5.6	2.0	2.0	2.0	0.03
95	15.79	33.321	24.512	5.75	101.6	2.5	0.30	0.1	0.01	0.11	0.18	0.16					
113	13.82	33.269	24.895	5.63	95.5	3.2	0.41	0.4	0.13	0.06	0.17	0.19	1.5	0.56	0.68	0.62	0.00
123	13.07	33.259	25.038	5.56	92.8	4.0	0.50	1.9	0.24	0.05	0.16	0.19					
131	12.08	33.253	25.226	5.42	88.7	4.9	0.61	3.9	0.09	0.04	0.14	0.18					
143	11.18	33.229	25.371	5.27	84.7	6.6	0.78	7.0	0.03	0.05	0.10	0.13	0.47	0.14	0.18	0.16	0.01

A) INCUBATION LIGHT INTENSITIES WERE 59.5; 42.6; 29.4; 10.1; 1.5; 0.48 PERCENT RESPECTIVELY.

MACROZOOPLANKTON BIOMASS

Net Mesh Size: 0.505mm

Line	Sta.	Latitude N	Longitude W	Date Mo/Day	Time (PST)		Water Volume Strained (m ³)	Max. Tow Depth (m)	Volume per 1000 m ³ Strained		
					Start	End			Total (cm ³)	Small (cm ³)	
76.7	49.0	35 05.2	120 46.8	11/21	1859	1905	125	58	144	144	
76.7	51.0	35 01.3	120 55.1	11/21	1645	1706	457	203	42	42	
76.7	55.0	34 53.3	121 11.9	11/21	1329	1350	412	212	75	53	
76.7	60.0	34 42.7	121 32.5	11/21	0827	0848	448	213	551	29	
76.7	70.0	34 23.3	122 14.7	11/21	0318	0339	422	207	47	47	
76.7	80.0	34 03.2	122 56.5	11/20	2107	2128	441	217	227	30	
76.7	90.0	33 43.2	123 38.0	11/20	1511	1533	469	211	60	15	
76.7	100.0	33 23.1	124 18.5	11/20	0759	0820	454	219	9	9	
80.0	50.5	34 27.7	120 29.2	11/22	0005	0007	57	12	70	70	
80.0	51.0	34 27.0	120 31.5	11/22	0148	0154	151	52	53	53	
80.0	55.0	34 18.9	120 48.1	11/18	2212	2233	431	208	107	93	
80.0	60.0	34 09.0	121 09.0	11/19	0212	0233	444	202	106	106	
80.0	70.0	33 49.9	121 51.3	11/19	0748	0809	460	212	30	30	
80.0	80.0	33 29.0	122 32.0	11/19	1510	1532	450	209	27	27	
80.0	90.0	33 08.9	123 13.3	11/19	2103	2124	418	219	120	96	
80.0	100.0	32 48.9	123 54.3	11/20	0313	0335	460	206	119	24	
81.7	43.5	34 24.2	119 48.0	11/22	0913	0914	42	13	48	48	
81.8	46.9	34 16.5	120 01.6	11/22	0655	0717	443	213	23	23	
83.3	39.4	34 15.1	119 20.1	11/22	1503	1505	50	14	40	40	
83.3	40.6	34 13.5	119 24.7	11/22	1412	1414	63	18	32	32	
83.3	42.0	34 10.7	119 30.6	11/22	1234	1242	190	65	147	63	
83.3	51.0	33 52.7	120 08.0	11/18	1621	1628	155	70	32	32	
83.3	55.0	33 44.7	120 24.6	11/18	1318	1338	400	210	57	57	
83.3	60.0	33 34.7	120 45.3	11/18	0830	0851	435	205	37	37	
83.3	70.0	33 14.7	121 26.5	11/18	0347	0409	439	209	55	55	
83.3	80.0	32 54.8	122 07.7	11/17	2150	2211	429	211	49	49	
83.3	90.0	32 34.7	122 48.6	11/17	1620	1644	469	210	19	19	
83.3	100.0	32 14.7	123 29.5	11/17	1059	1120	445	206	45	16	
83.3	110.0	31 54.8	124 10.1	11/17	0513	0535	417	214	43	14	
85.4	35.8	34 00.7	118 49.8	11/22	1827	1829	45	15	22	22	
86.7	33.0	33 53.4	118 29.4	11/14	2004	2009	107	47	56	56	
86.7	35.0	33 49.5	118 37.8	11/14	2238	2259	400	218	58	58	
86.7	40.0	33 39.4	118 58.5	11/15	0305	0326	423	211	109	85	
86.7	45.0	33 29.5	119 19.1	11/15	0700	0722	415	217	26	26	
86.7	80.0	32 19.5	121 42.9	11/16	0605	0629	487	213	16	16	
86.7	90.0	31 59.4	122 23.6	11/16	1212	1234	440	207	11	11	
86.7	100.0	31 39.4	123 04.2	11/16	1751	1815	497	213	32	32	
86.7	110.0	31 19.4	123 44.6	11/16	2323	2344	437	202	25	25	
86.8	32.5	33 53.4	118 26.5	11/14	1838	1840	43	14	70	70	
88.5	30.1	33 40.4	118 05.6	11/14	1524	1525	37	15	108	108	
90.0	27.7	33 29.7	117 44.9	11/14	1254	1256	47	13	43	43	
90.0	28.0	33 29.1	117 46.0	11/14	1210	1215	127	44	39	39	
90.0	30.0	33 25.2	117 54.3	11/14	0935	0956	416	212	10	10	
90.0	35.0	33 15.1	118 15.0	11/14	0517	0539	403	213	32	32	
90.0	37.0	33 11.1	118 23.1	11/14	0204	0225	440	207	207	57	
90.0	45.0	32 55.1	118 56.1	11/13	2042	2103	417	215	46	46	
90.0	53.0	32 39.2	119 28.9	11/13	1300	1321	445	199	76	70	
90.0	60.0	32 25.1	119 57.5	11/13	0741	0802	443	207	18	18	
90.0	70.0	32 05.0	120 38.3	11/13	0155	0217	440	206	16	16	
90.0	80.0	31 45.1	121 18.8	11/12	1957	2018	437	213	21	21	
90.0	90.0	31 25.1	121 59.3	11/12	1114	1135	447	211	11	11	
90.0	100.0	31 05.2	122 39.7	11/12	0531	0554	459	222	15	15	
90.0	110.0	30 45.2	123 20.0	11/11	2336	2357	451	201	42	35	
90.0	120.0	30 25.1	123 59.9	11/11	1732	1755	445	215	29	29	
91.7	26.4	33 14.7	117 27.9	11/08	1731	1733	55	12	54	54	
93.3	26.7	32 57.4	117 18.3	11/08	1332	1356	476	237	17	17	
93.3	28.0	32 54.7	117 23.8	11/08	2131	2152	430	208	44	44	
93.3	30.0	32 50.7	117 31.9	11/09	0013	0034	436	201	273	39	
93.3	35.0	32 40.8	117 52.4	11/09	0415	0437	422	213	135	59	
93.3	40.0	32 30.8	118 12.7	11/09	0817	0838	440	207	102	48	
93.3	45.0	32 20.9	118 33.4	11/09	1219	1241	449	207	60	36	
93.3	50.0	32 10.8	118 53.6	11/09	1618	1639	401	220	52	52	
93.3	55.0	32 00.9	119 14.0	11/09	2008	2029	432	213	151	118	
93.3	60.0	31 50.8	119 34.4	11/09	2357	0018	469	201	241	38	
93.3	70.0	31 30.8	120 14.7	11/10	0530	0552	436	212	25	25	
93.3	80.0	31 10.8	120 55.2	11/10	1122	1144	455	214	18	18	
93.3	90.0	30 50.9	121 35.4	11/10	1710	1732	468	214	30	30	
93.3	100.0	30 30.9	122 15.5	11/10	2259	2320	424	213	66	52	
93.3	110.0	30 10.8	122 55.3	11/11	0502	0524	461	213	24	24	
93.3	120.0	29 50.8	123 35.2	11/11	1131	1152	440	213	11	11	
93.4	26.4	32 57.2	117 16.9	11/08	1450	1453	66	13	45	45	