

UNIVERSITY OF CALIFORNIA, SAN DIEGO SCRIPPS INSTITUTION OF OCEANOGRAPHY

data report

**CalCOFI Cruise 1011
28 October – 12 November 2010**

**CC Reference 12-01
17 January 2012**

**UNIVERSITY OF CALIFORNIA, SAN DIEGO
SCRIPPS INSTITUTION OF OCEANOGRAPHY
LA JOLLA, CALIFORNIA 92093-0227**

PHYSICAL, CHEMICAL AND BIOLOGICAL DATA

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INTRODUCTION

The data presented in this report were collected during cruise 1011* of the California Cooperative Oceanic Fisheries Investigations (CalCOFI) program aboard the RV *New Horizon* of Scripps Institution of Oceanography, University of California, San Diego. The CalCOFI program was organized in the late 1940's to study the causes of variations in population size of fishes of importance to the State of California. It is carried out by NOAA's National Marine Fisheries Service Southwest Fisheries Science Center, the California Department of Fish and Game, and the Integrative Oceanography Division (IOD) at Scripps Institution of Oceanography (SIO). IOD contributes to this program by investigations of the physical, chemical and biological structure of the California Current. Data from the cruises were collected and processed by personnel of the Integrative Oceanography Division and the Southwest Fisheries Science Center. SIO staff members from the Ocean Data Facility participate in the chemical analysis of nutrient samples at sea. CalCOFI data presented in this report and collected on previous cruises can be accessed at <http://www.calcofi.org>.

STANDARD PROCEDURES

CTD/Rosette Cast Data

A Sea-Bird Electronics, Inc., Conductivity-Temperature-Depth (CTD) instrument (Seabird 911, Serial number 1049) with a rosette was deployed at each station on these cruises. The rosette was equipped with 24 ten-liter plastic (PVC) bottles equipped with epoxy-coated springs and Viton O-rings. Each CTD/rosette cast usually sampled 20 depths to a maximum sampling depth of 525 meters, bottom depth permitting. Occasional stations have multiple bottles tripped at the same depth to provide more water for ancillary programs. The sample spacing was designed to sample depth intervals as close as 10 meters around the sharp upper thermocline features such as the chlorophyll, oxygen, nitrite maxima and the shallow salinity minimum. Salinity, oxygen and nutrients were determined at sea for all depths sampled. Chlorophyll-*a* and phaeopigments were determined at sea on samples from the top 200 meters, bottom depth permitting.

Pressures and temperatures assigned to the water sample data were derived from the CTD signals recorded just prior to the bottle trip. Pressures have been converted to depths by the Saunders (1981) pressure-to-depth conversion technique. CTD temperatures reported with the bottle data have been rounded to the nearest hundredth of a degree Celsius.

Salinity samples were collected from all rosette bottles and analyzed at sea using a Guildline model 8410 Portasal salinometer. Salinity samples were drawn into 200 ml Kimax high-alumina borosilicate bottles that were rinsed three times with sample prior to filling. The results were compared with the CTD salinity to verify that the rosette bottle did not mis-trip or leak. The salinometer was standardized before and after each group of samples with standardized seawater. Periodic checks on the conductivity of the standardized seawater were made by comparison with IAPSO Standard Seawater batch P149. Salinity values were calculated using the algorithms for the Practical Salinity Scale, 1978 (UNESCO, 1981a) and are reported to three decimal places, provided that accepted standards were met.

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

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

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

Nutrient samples were analyzed at sea by the Scripps Ocean Data Facility for dissolved silicate, phosphate, nitrate, nitrite, and ammonium using procedures similar to those described in Gordon et al. (1993) and Koroleff (1969, 1970). Samples were collected in 45 ml high-density polypropylene screw-capped tubes which were acid washed and rinsed with sample three times prior to filling. Daily standardizations and drift corrections were accomplished by running freshly prepared mid-range standards at the beginning and end of each group of samples. Samples not analyzed immediately after collection were refrigerated and run the following day. In addition to daily standardizations, periodic full calibrations were performed with sets of six different concentration standards.

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

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

Primary Productivity Sampling

Primary productivity samples were taken each day shortly before local apparent noon (LAN). Primary production was estimated from ^{14}C uptake using a simulated *in situ* technique. Light penetration was estimated from the Secchi depth (assuming that the 1% light level is three times the Secchi depth). The depths with ambient light intensities corresponding to light levels simulated by the on-deck incubators were identified and sampled on the rosette up-cast. Occasionally an extra bottle or two were tripped in addition to the usual 20 levels sampled in the combined rosette-productivity cast in order to maintain the normal sampling depth resolution. Triplicate samples (two light and one dark control) were drawn from each productivity sample depth into 250 ml polycarbonate incubation bottles. Samples were inoculated with 50.64 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).

Ancillary Programs

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

- 1) *Underway Data:* Continuous near surface measurements of temperature, salinity and *in vivo* chlorophyll fluorescence were recorded from seawater pumped through the ship's uncontaminated seawater system. Water was drawn from a depth of approximately 3 meters. The data were logged in one-minute averages using a Sea-Bird Electronics, Inc., SBE 45 MicroTSG Thermosalinograph and a Wetlabs Wetstar fluorometer.
- 2) *ADCP.* Continuous profiles of ocean currents and acoustic backscatter between 20 and 500 meters deep were measured along the shiptrack from a hull-mounted 150 kHz Acoustic Doppler Current Profiler (ADCP). The ADCP data were averaged over 3-minute intervals. Sixty 8-meter depth bins were recorded. (T. Chereskin, SIO)
- 3) *California Current Ecosystem Long Term Ecological Research Program:* The CCE-LTER program augments standard CalCOFI measurements to further characterize the lower trophic levels as well as the carbon system. These additional samples, taken at all CalCOFI stations, are for measurements of particulate organic carbon and nitrogen, dissolved organic carbon and nitrogen, taxon-specific phytoplankton pigments, flow-cytometric counts of bacteria and picoautotrophs, microscopic counts of nano- microplankton, determination of mesozooplankton size structure using a Laser Optical Plankton Counter, and mesozooplankton community structure. (M. Ohman, SIO)
- 4) *SCCOOS Nearshore Observations:* The objective of these observations is to extend CalCOFI time series to the nearshore. Nearshore observations consist of 9 stations at the ends and interspersed with current CalCOFI lines on the 20 m isobath with a standard set of CalCOFI observations. (R. Goericke, SIO)
- 5) *Inorganic Carbon System:* The CalCOFI group collected samples for the characterization of the inorganic carbon system at selected locations along the cruise track. Total inorganic carbon and alkalinity will be measured which will allow the calculation of pH and 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)
- 6) *Marine mammal observations.* During daylight transits, visual line-transect surveys were conducted by marine mammal observers focusing on cetaceans. Acoustic line-transect surveys were performed using a towed hydrophone array which consists of multiple hydrophone elements that sample sounds up to 100 kHz allowing for localization of calling animals. Acoustic monitoring also takes place on individual stations using sonobuoys. (J. Hildebrand, SIO)
- 7) *Lagrangian Drifter Buoys.* Surface Velocity Program (SVP) drifters, drogued at 15 meters depth, were deployed at 7 stations. The drifter observations of position and SST approximately every hour following the 15-meter currents supplement Eulerian current profiles. This will provide new insight into the connection between continental shelf flows and the larger scale California Current located further offshore. Drifter pairs were deployed at 6 of the 7 stations to assess the relative motion of drifter pairs which gives an understanding of energy as a function of spatial scale. Drifter tracks are displayed in near real-time on the web (<http://www.icesc.ucsb.edu/drifter realtime-SVP/index.php>). (C. Ohlmann, UCSB)
- 8) *Nitrate isotope:* Seawater samples are acquired using the CTD-rosette and shipped frozen to Princeton University. The nitrogen and oxygen isotopic composition of nitrate is measured using strains of denitrifying bacteria that reduce nitrate to N₂O. (P. Rafter, Princeton University).

9) *Micronekton trawling:* A Matsuda-Oozeki-Hu trawl (MOHT) with 5 m² mouth opening and 1.77 mm mesh is used to sample the micronekton (krill, small pelagic fishes, squids, etc) within the epipelagic (upper 200 m) and mesopelagic (200 - 500 m) depth horizons. The samples provide size- and species composition data on the pelagic community, which is combined with Ek-60 multi-frequency acoustic data to estimate the distribution and abundance of the micronekton. (T. Koslow, SIO)

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 (cm³/1000m³ 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.

LITERATURE CITED

- Anderson, G. C., compiler, 1971. "Oxygen Analysis," Marine Technician's Handbook, SIO Ref. No. 71-8, Sea Grant Pub. No. 9.
- Carpenter, J. H., 1965. The Chesapeake Bay Institute technique for the Winkler dissolved oxygen method. *Limnol. Oceanogr.*, 10: 141-143.
- Carter, D. J. T., 1980. Echo-sounding correction tables. Third Edition. Hydrographic Department, Ministry of Defence, Taunton, U.K., NP 139: 150 pp.
- Culberson, C. H. 1991. Dissolved oxygen. WHP Operations and Methods -- July 1991.
- Fitzwater, S. E., G. A. Knauer and J. H. Martin, 1982. Metal contamination and its effect on primary production measurements. *Limnol. Oceanogr.*, 27: 544-551.
- Gordon, L. I., J. C. Jennings, Jr., A. A. Ross, and J. M. Krest, 1993. A suggested protocol for continuous flow automated analysis of seawater nutrients (phosphate, nitrate, nitrite and silicic acid) in the WOCE Hydrographic Program and the Joint Global Ocean Fluxes Study. WOCE Operations Manual, Part 3.1.3 "WHP Operations and Methods," *WHP Office Report WHPO 91-1*.
- Holm-Hansen, O., C. J. Lorenzen, R. W. Holmes and J. D. H. Strickland, 1965. Fluorometric determination of chlorophyll. *J. Cons. perm. int. Explor. Mer.*, 30: 3-15.
- Klein, H. T., 1973. A new technique for processing physical oceanographic data. SIO Ref. No. 73-14.
- Koroleff, F. 1969. Direct determination of ammonia in natural waters as Indophenol Blue. Int. Con. Explor. Sea, C.M. C: 9.
- Koroleff, F. 1970. The above paper revised, Int. Con. Explor. Sea, Information on techniques and methods for sea water analysis. Interlab Report No. 3, 19-22.
- Kramer, D., M. J. Kalin, E. G. Stevens, J. R. Threlkill and J. R. Zweifel, 1972. Collecting and processing data on fish eggs and larvae in the California Current region. *NOAA Technical Report NMFS CIRC-370*: 38 pp.
- Lean, D. R. S. and B. K. Burnison, 1979. An evaluation of errors in the ^{14}C method of primary production measurement. *Limnol. Oceanogr.*, 24: 917-928.
- Reid, J. L. and A. W. Mantyla, 1976. The effect of the geostrophic flow upon coastal sea elevations in the northern North Pacific Ocean. *J. Geophys. Res.*, 81: 3100-3110.
- Parsons, T. R., Y. Maita, C. M. Lalli, 1984. *A Manual of Chemical and Biological Methods for Seawater Analysis*. Pergamon Press Ltd., 3-28.
- Saunders, P. M., 1981. Practical conversion of pressure to depth. *J. Phys. Oceanogr.*, 11: 573-574.
- Scripps Institution of Oceanography, University of California, 1991. Physical, Chemical and Biological Data, CalCOFI Cruises 9003 and 9004. SIO Ref. 91-4, 96 pp.
- UNESCO, 1981, a. Background papers and supporting data on the Practical Salinity Scale, 1978. *UNESCO Tech. Pap. in Mar. Sci.*, No. 37.
- UNESCO, 1981, b. Background papers and supporting data on the International Equation of State 1980. *UNESCO Tech. Pap. in Mar. Sci.*, No. 38.

- Venrick, E. L. and T. L. Hayward, 1984. Determining chlorophyll on the 1984 CalCOFI surveys. *CalCOFI Rep.*, Vol. XXV: 74-79.
- Weiss, R. F., 1970. The solubility of nitrogen, oxygen and argon in water and seawater. *Deep-Sea Res.*, 17: 721-735.
- Yentsch, C. S. and D. W. Menzel, 1963. A method for the determination of phytoplankton, chlorophyll and phaeophytin by fluorescence. *Deep-Sea Res.*, 10: 221-231.

FIGURES

Cruise 1011

1. CalCOFI Cruise 1011 track and station positions.
2. Horizontal distribution of dynamic height anomaly (0 over 500m). In areas shallower than 500 m, the dynamic heights were extrapolated on the basis of the offshore deeper steric height as described in Reid and Mantyla (1976).
3. Horizontal distributions at 10 meters: A) chlorophyll-*a*; B) potential density; C) temperature; and D) salinity.
4. Horizontal distributions at 200 meters: A) dynamic height anomaly (200 over 500 m); B) potential density; C) temperature; and D) salinity.
5. Sections along CalCOFI line 90 (vertical exaggeration, 1000): A) potential density; B) temperature; C) salinity; D) silicate; E) nitrate; F) phosphate; G) chlorophyll-*a*; H) oxygen saturation; I) oxygen; J) nitrite; and K) phaeopigments.

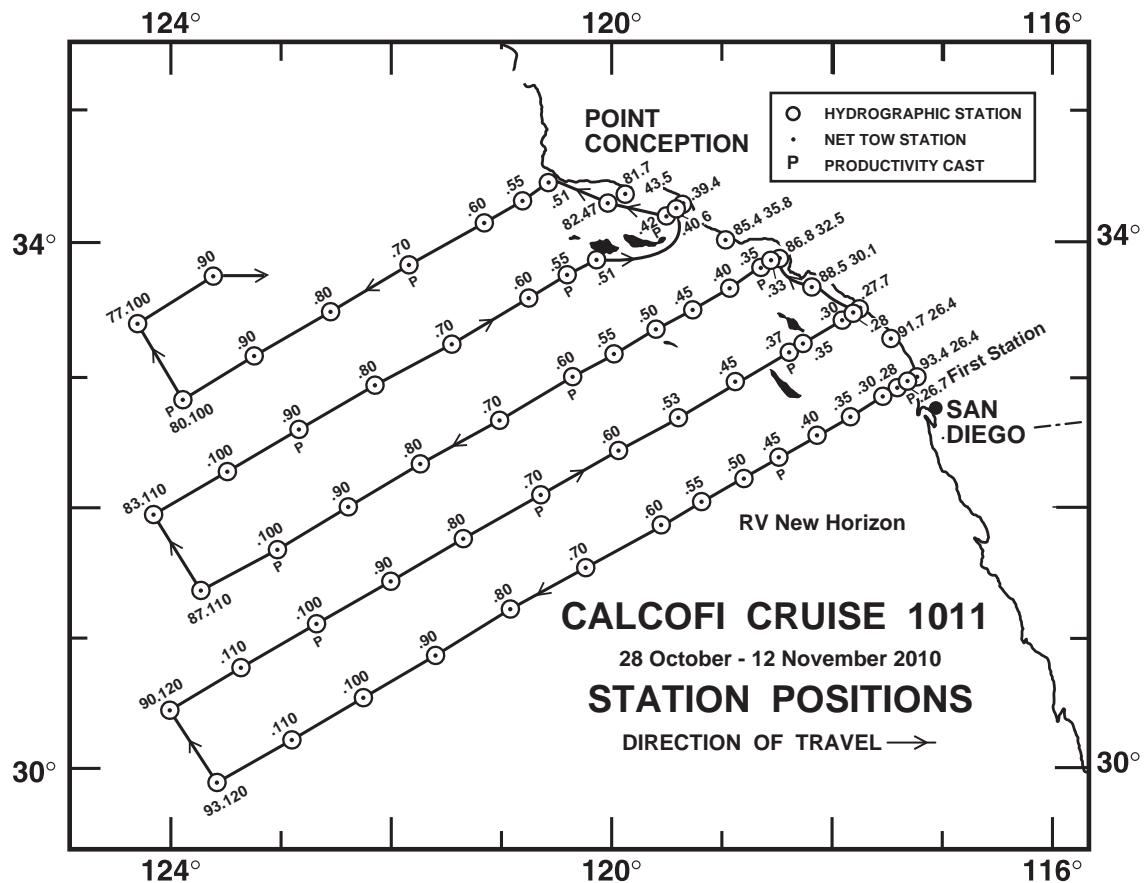


FIGURE 1

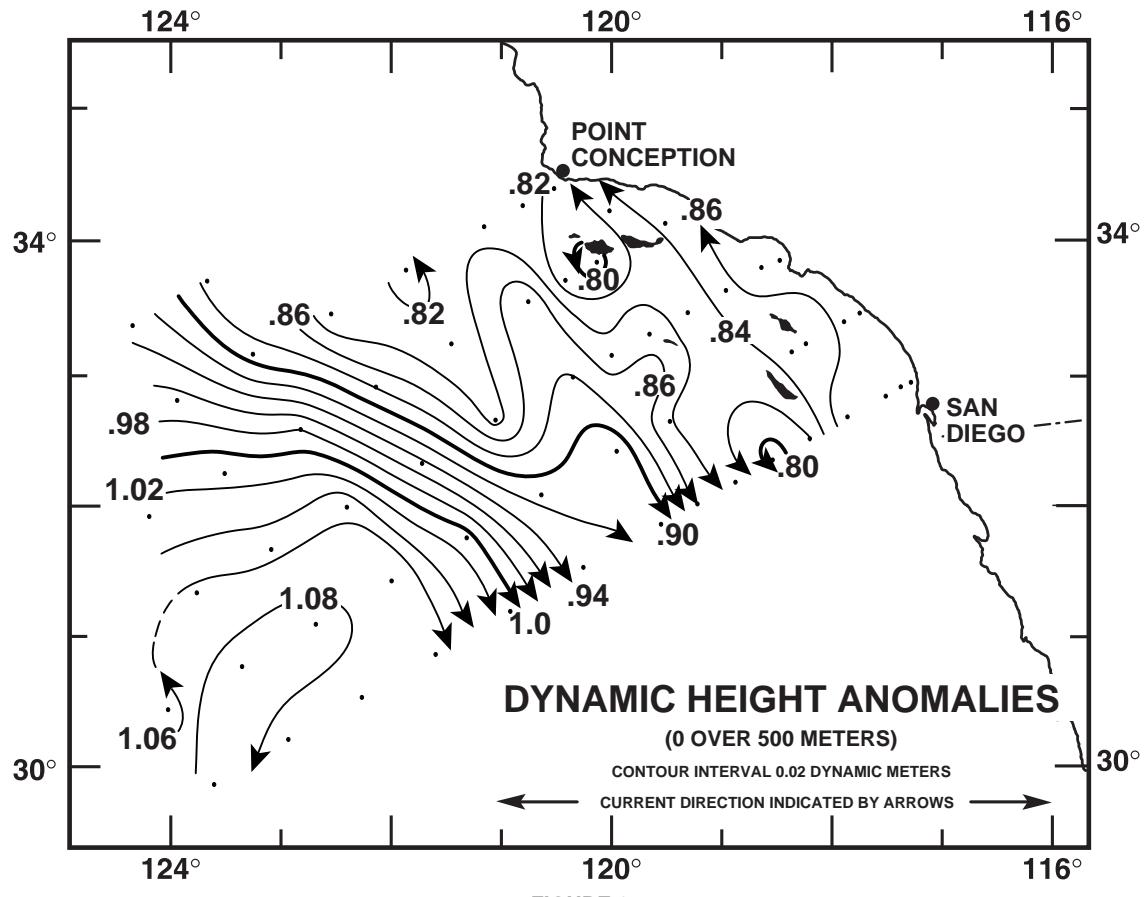


FIGURE 2

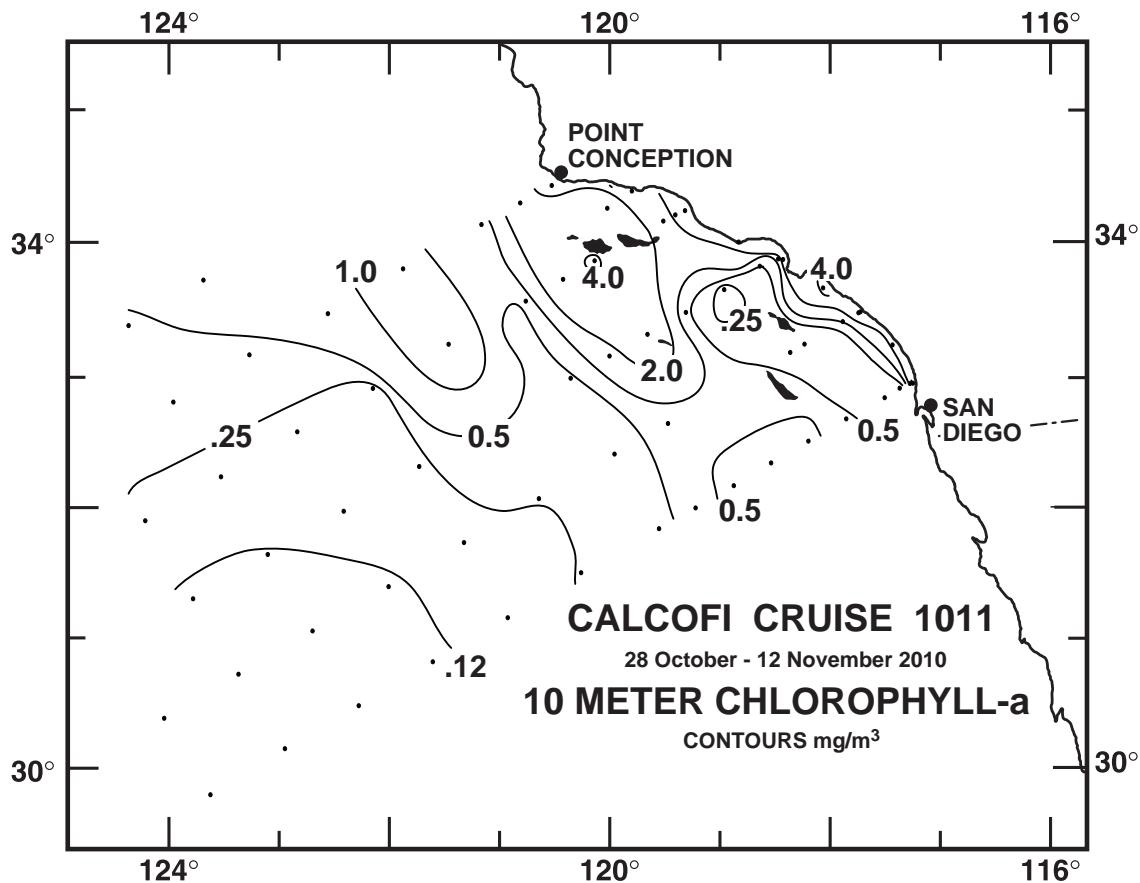


FIGURE 3A

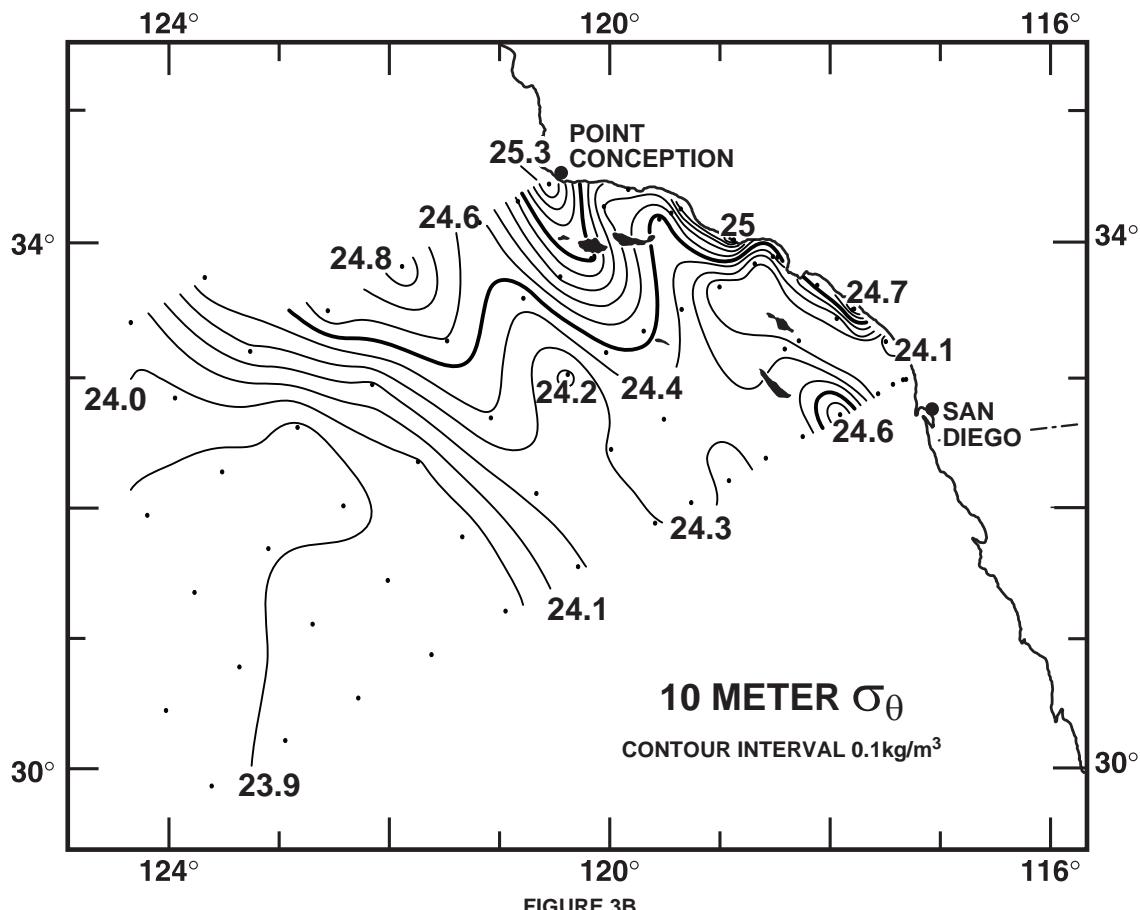


FIGURE 3B

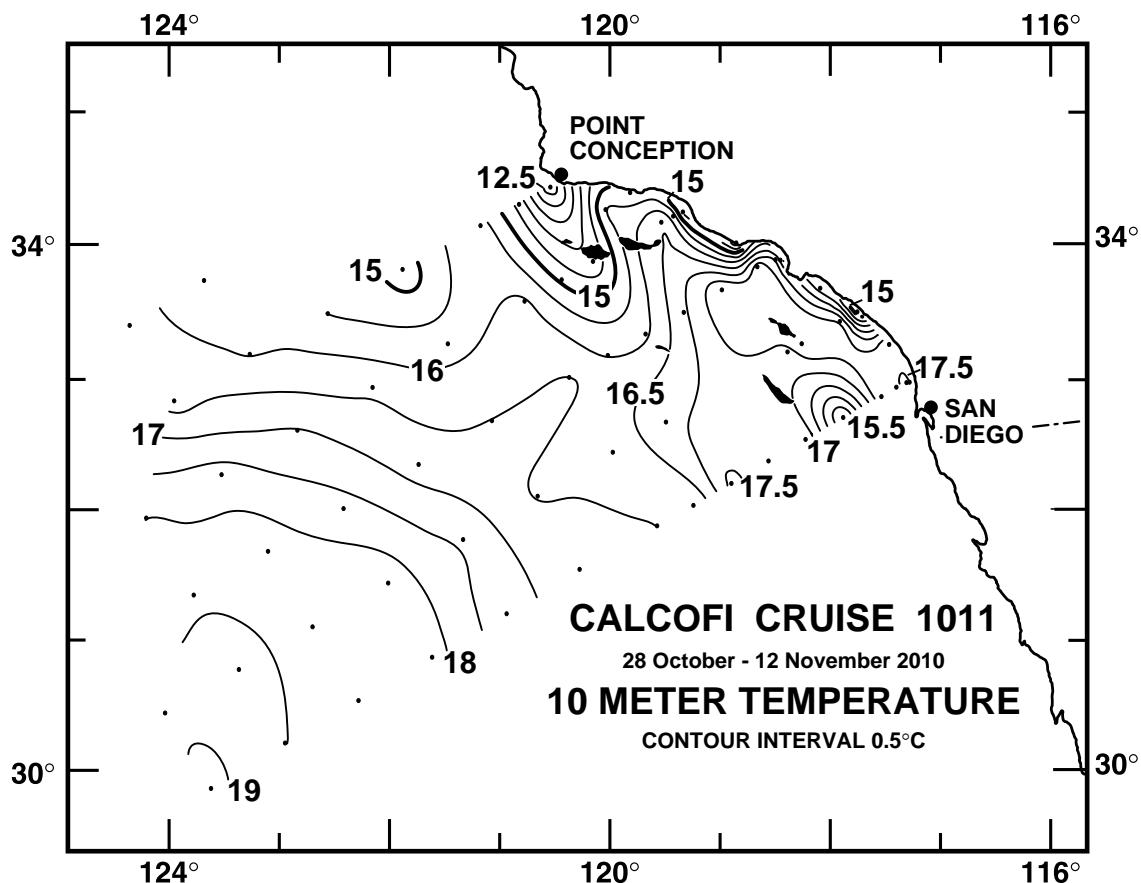


FIGURE 3C

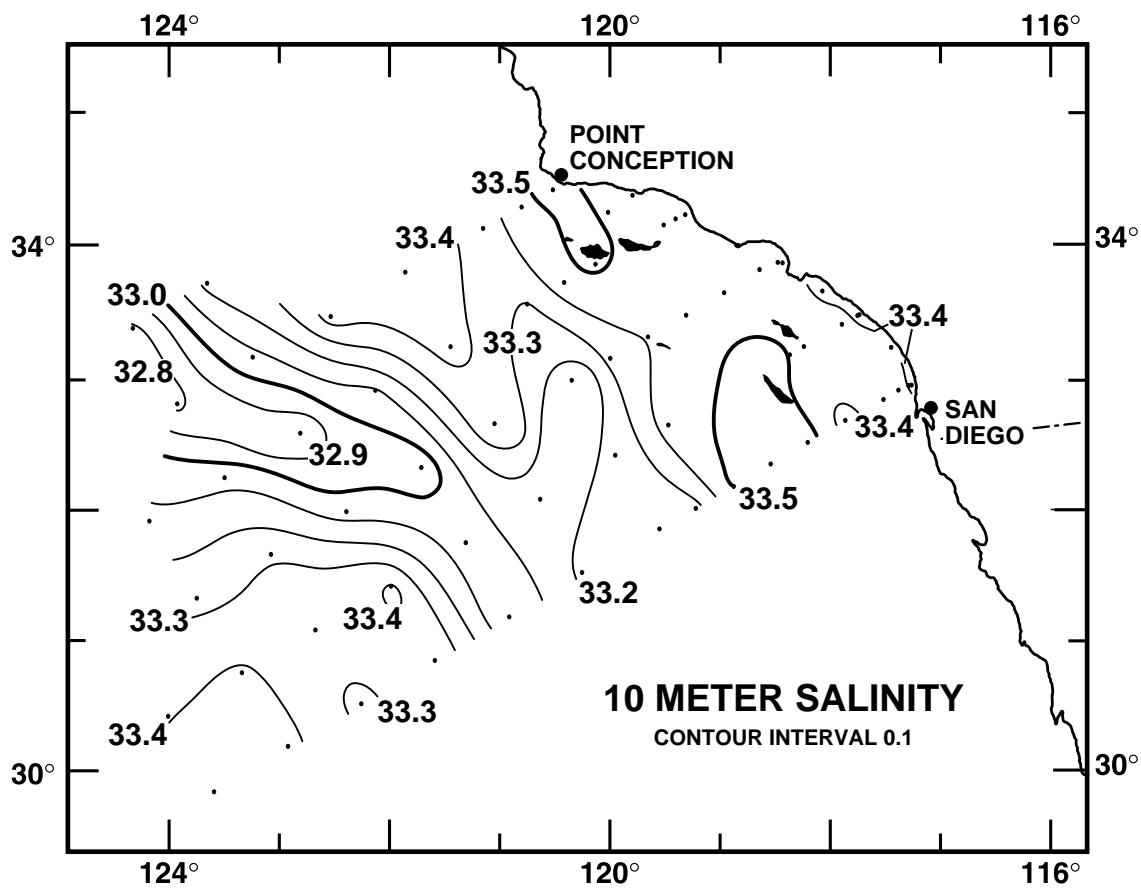


FIGURE 3D

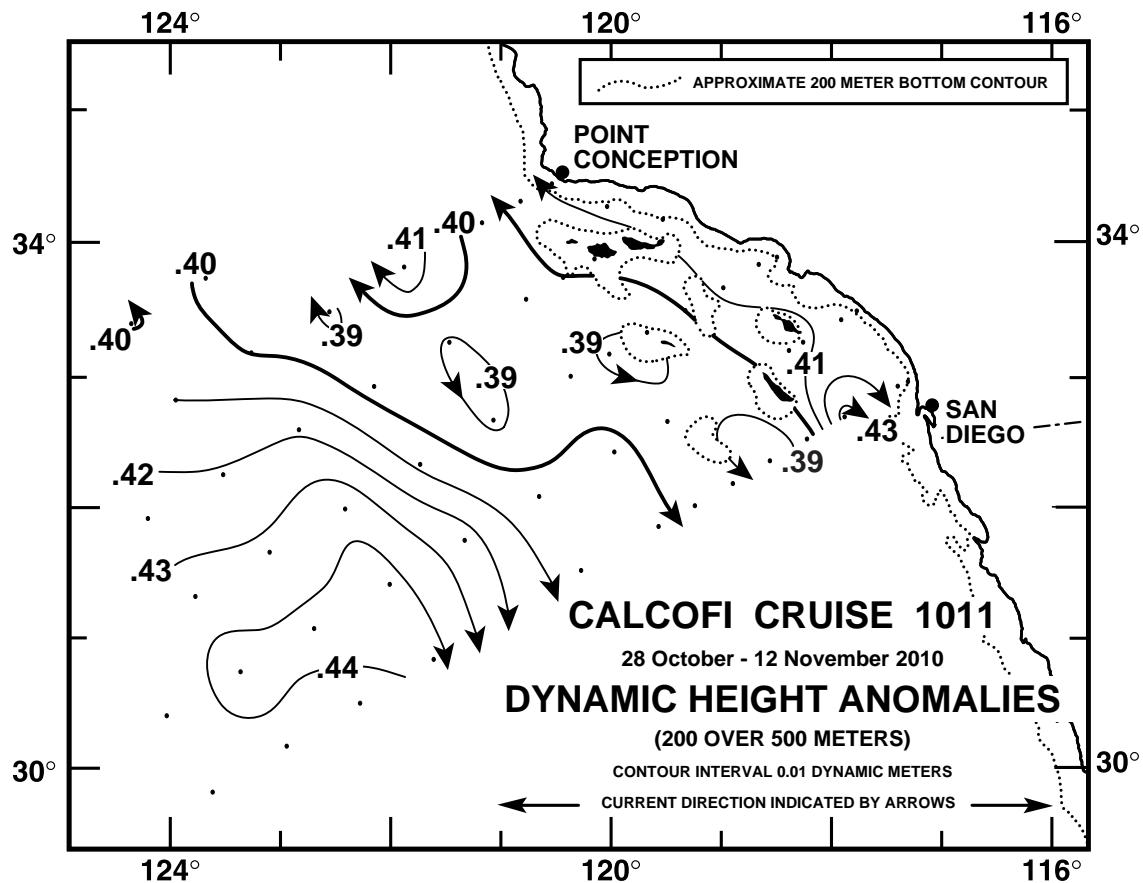


FIGURE 4A

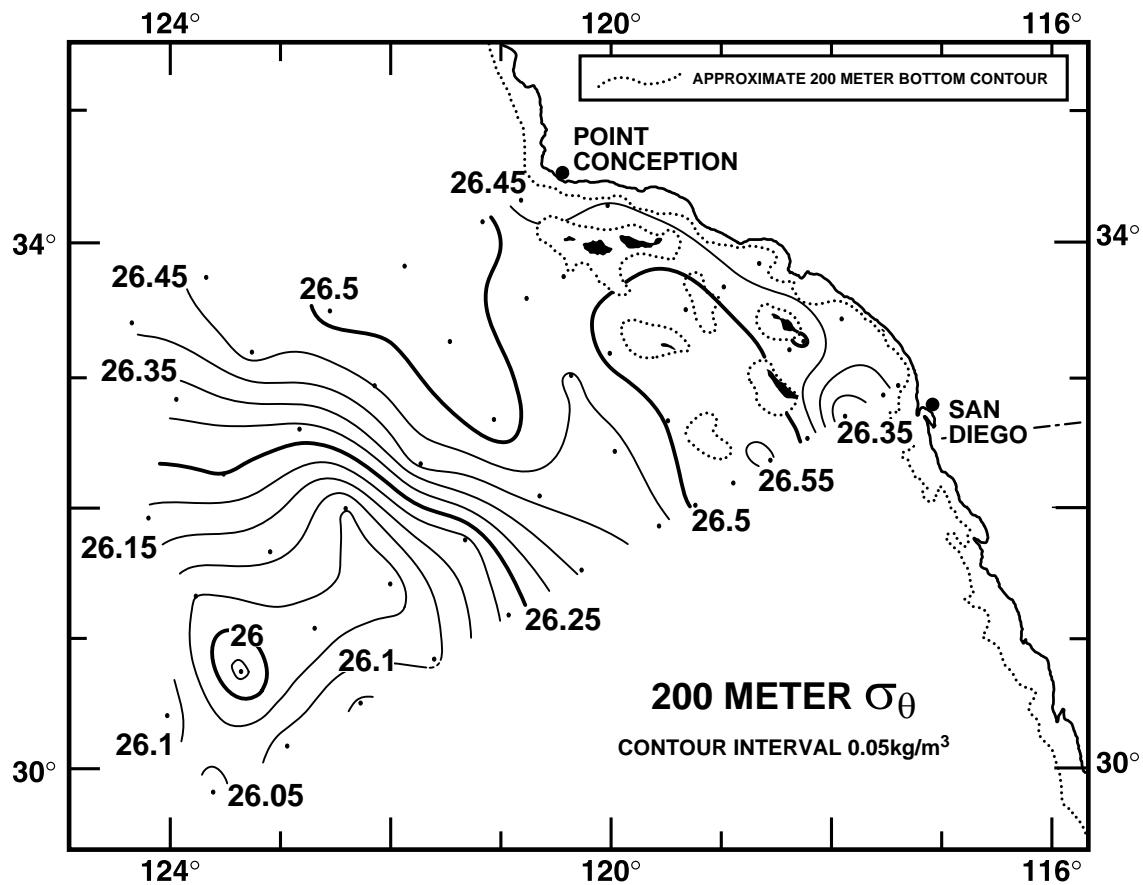


FIGURE 4B

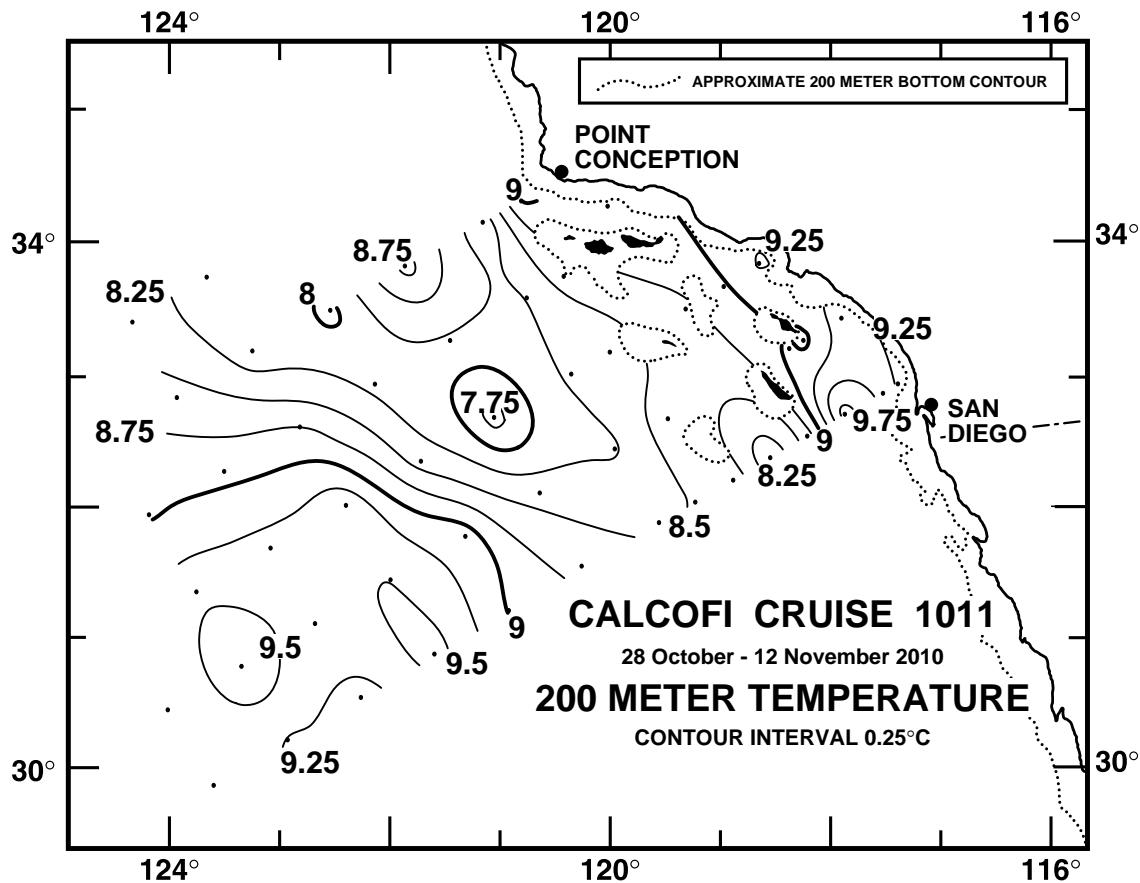


FIGURE 4C

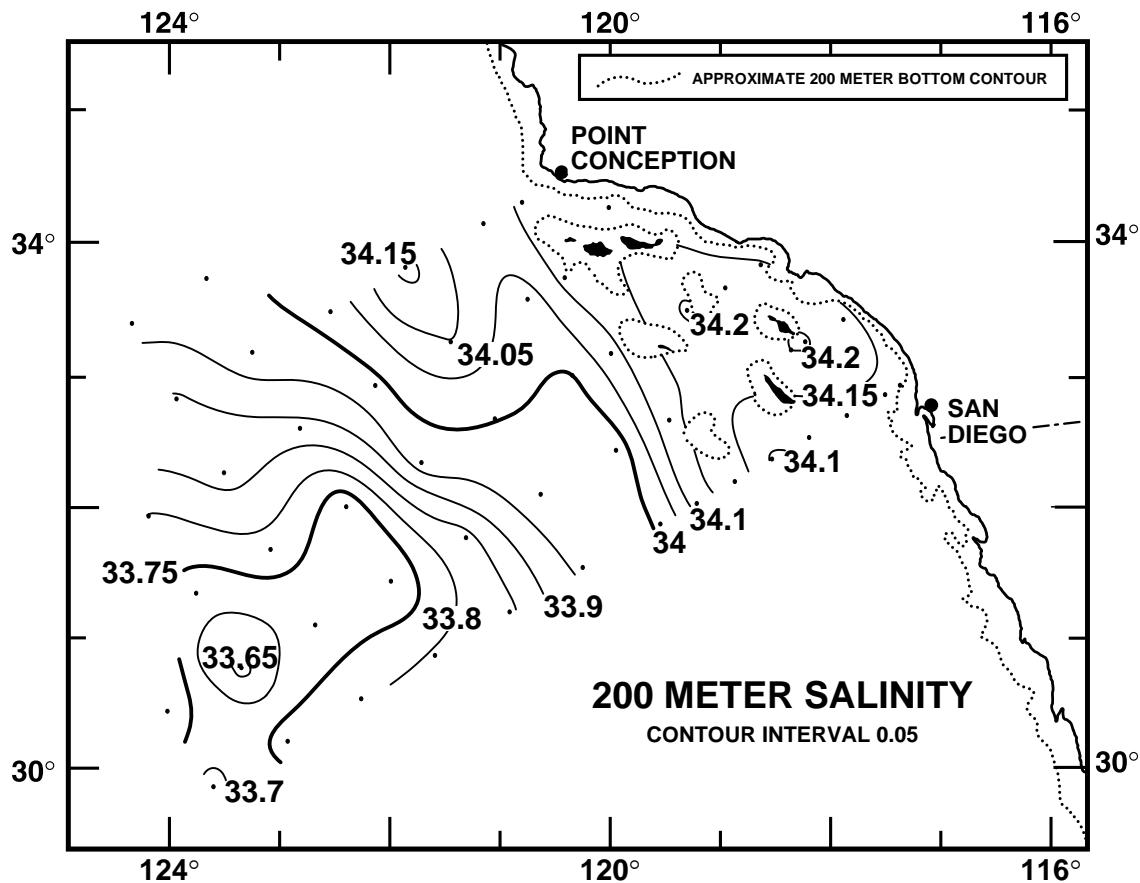


FIGURE 4D

CALCOFI CRUISE 1011

1 - 4 November 2010

POTENTIAL DENSITY (σ_0) ALONG CALCOFI LINE 90

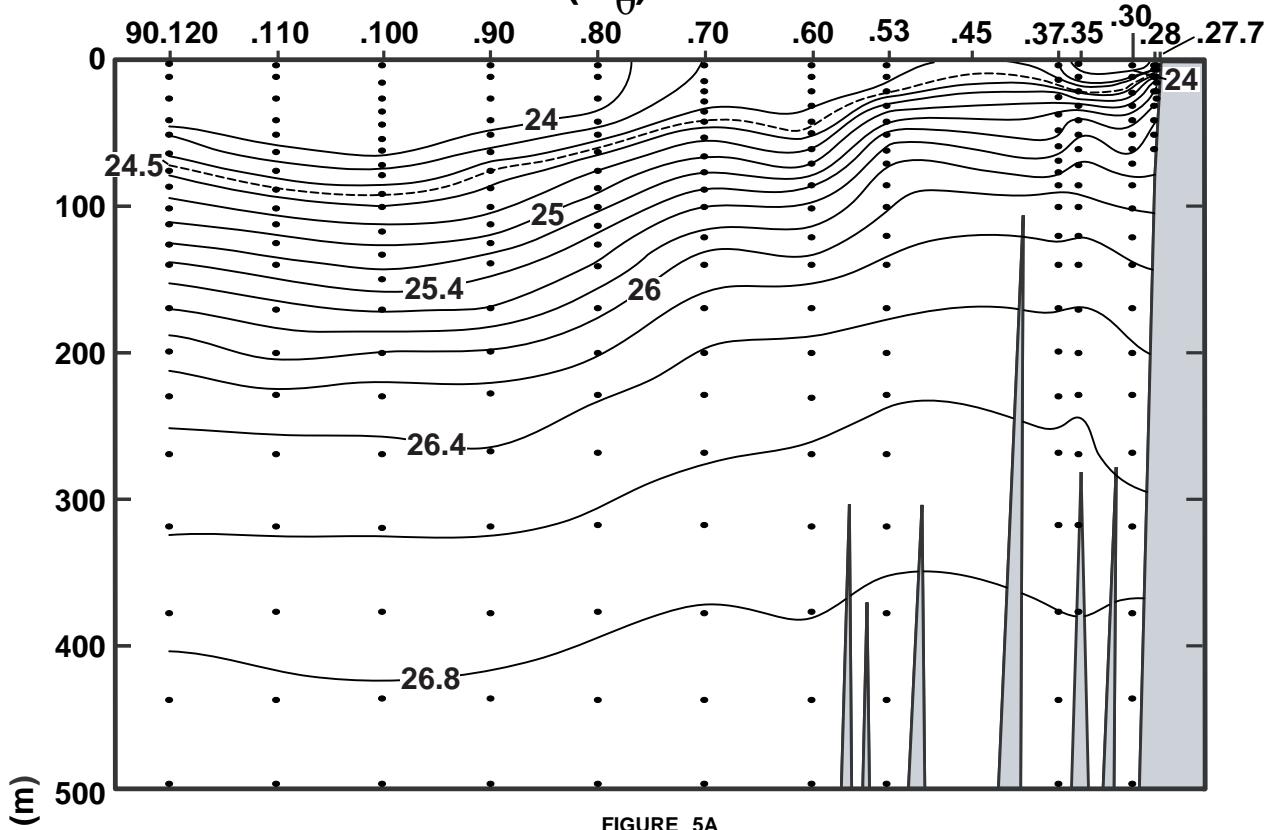


FIGURE 5A

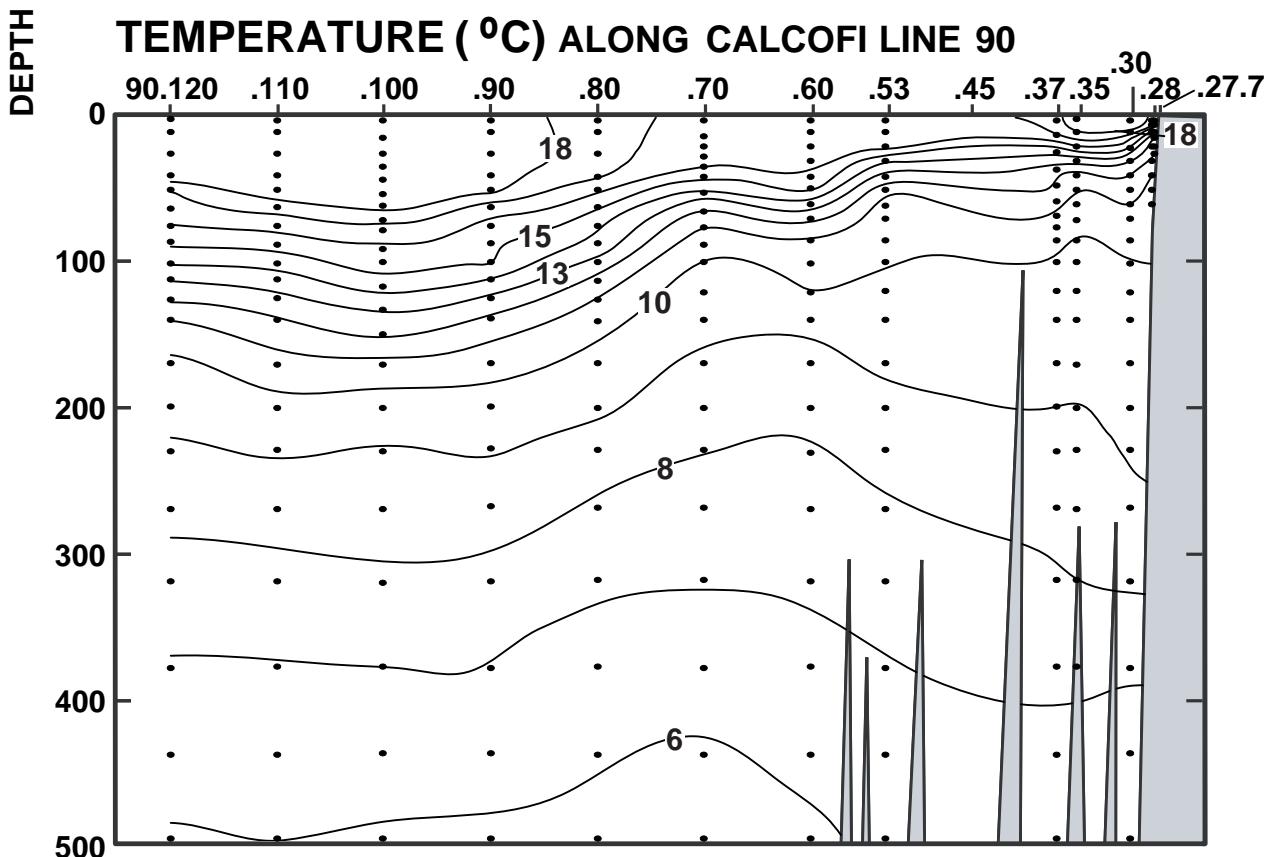
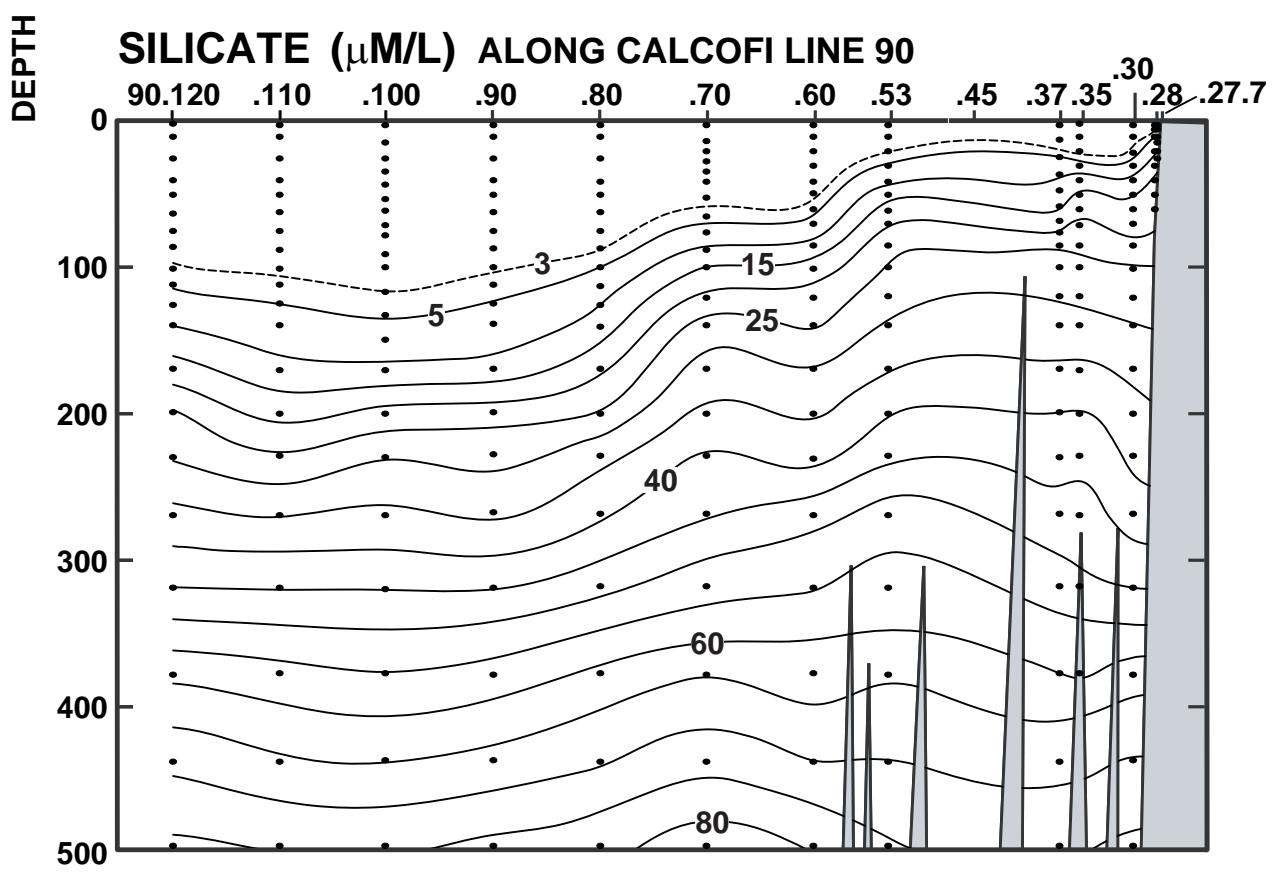
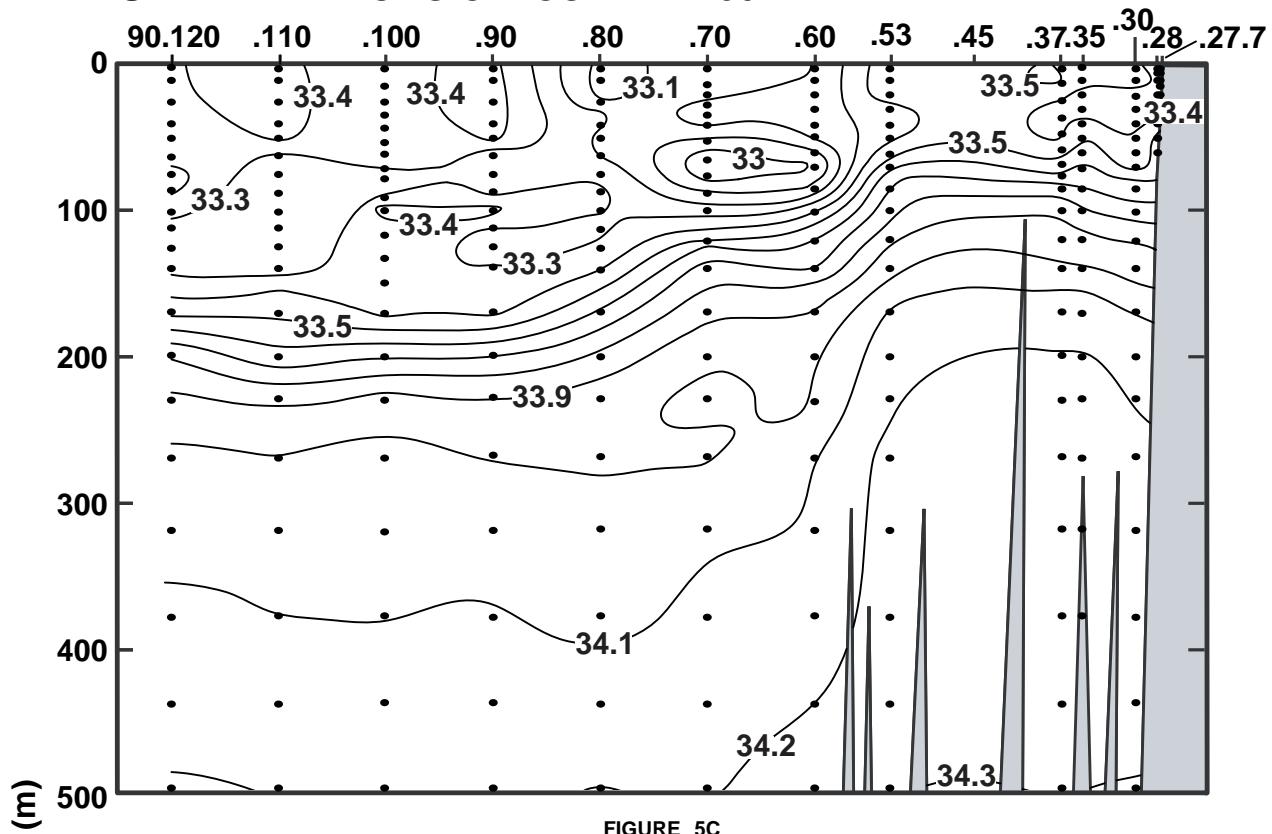


FIGURE 5B

CALCOFI CRUISE 1011

1- 4 November 2010

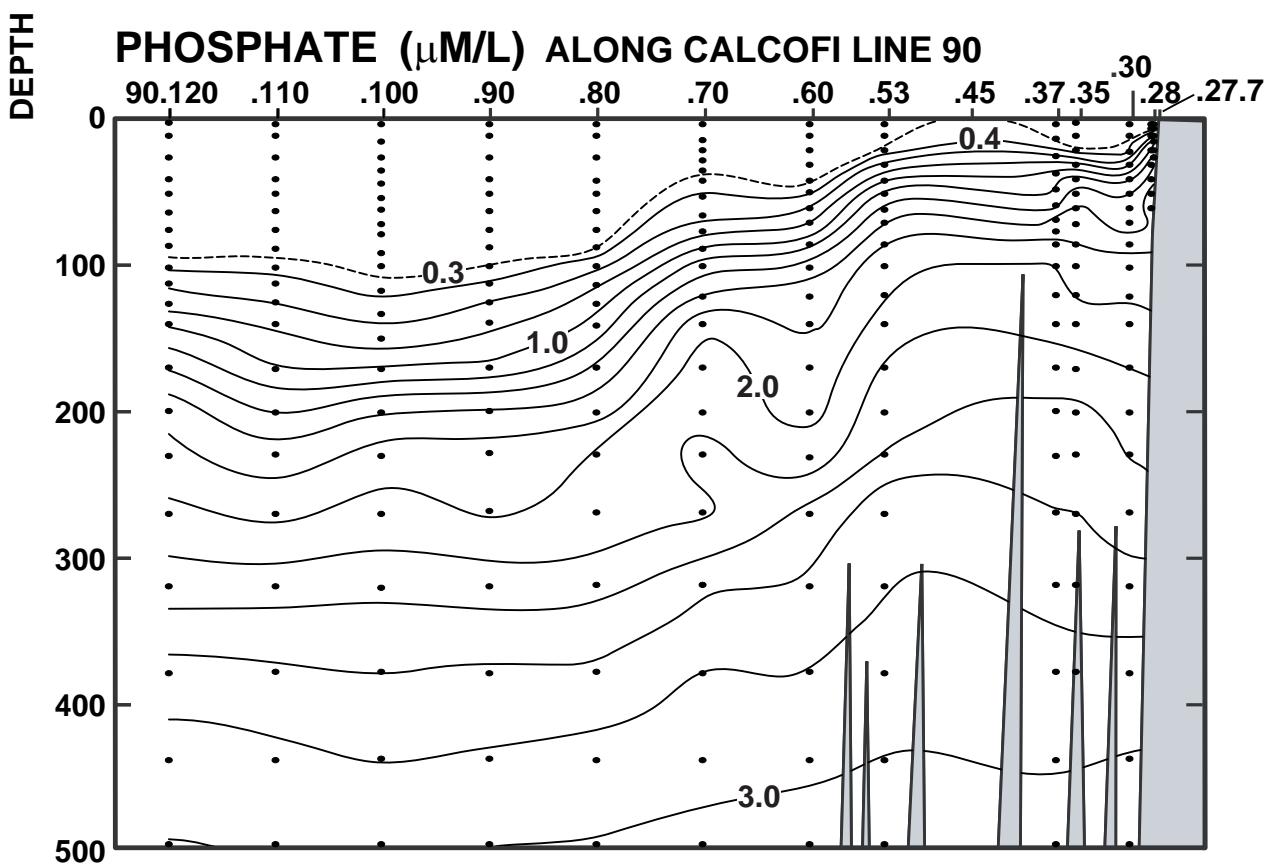
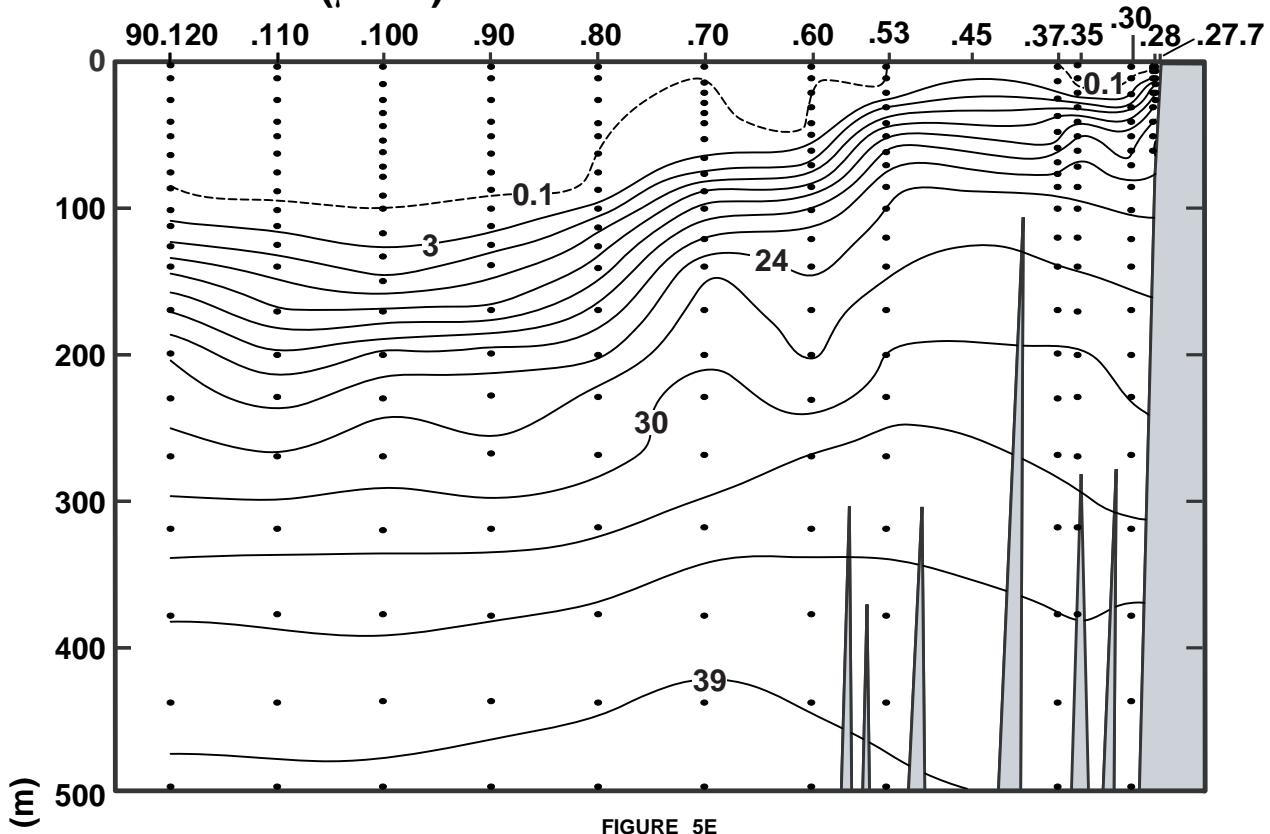
SALINITY ALONG CALCOFI LINE 90



CALCOFI CRUISE 1011

1 - 4 November 2010

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



CALCOFI CRUISE 1011

1 - 4 November 2010

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

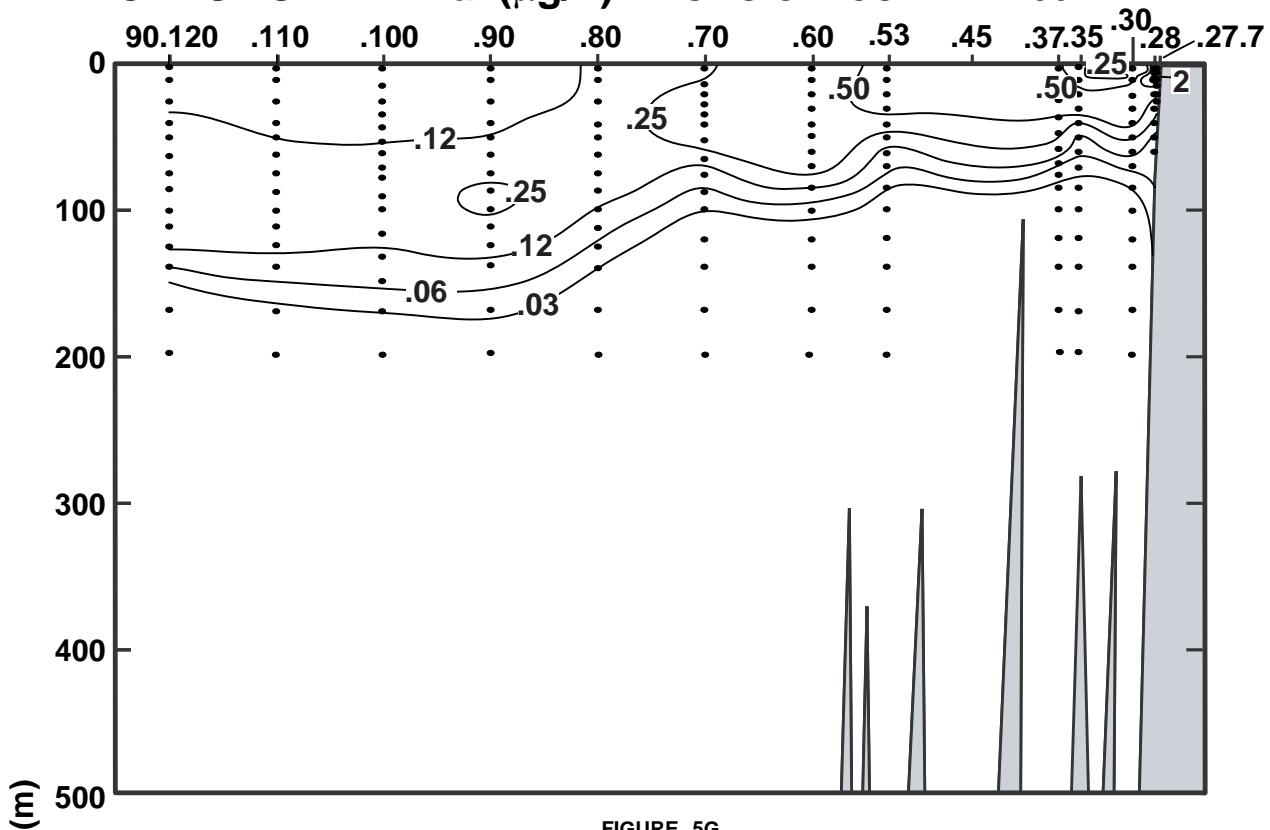


FIGURE 5G

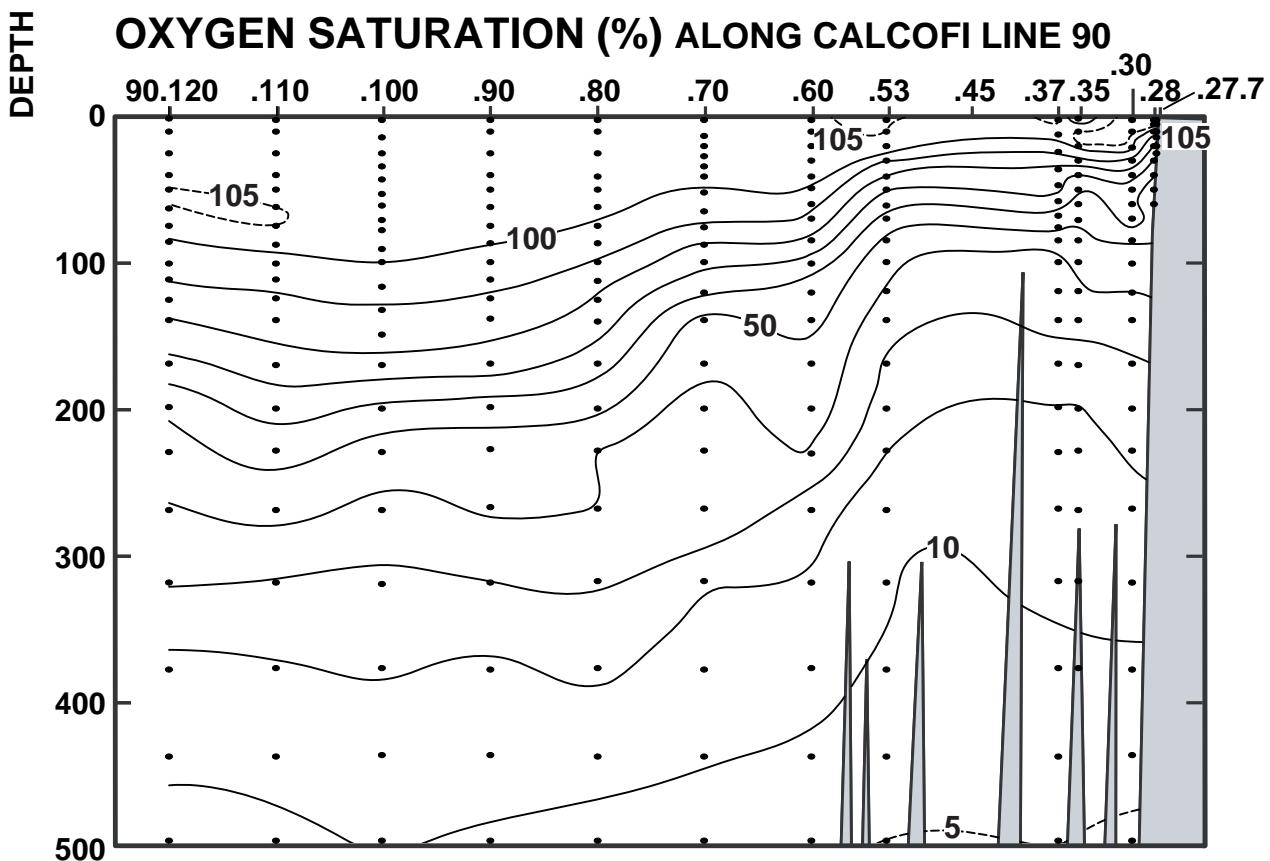


FIGURE 5H

CALCOFI CRUISE 1011

1 - 4 November 2010

OXYGEN (mL/L) ALONG CALCOFI LINE 90

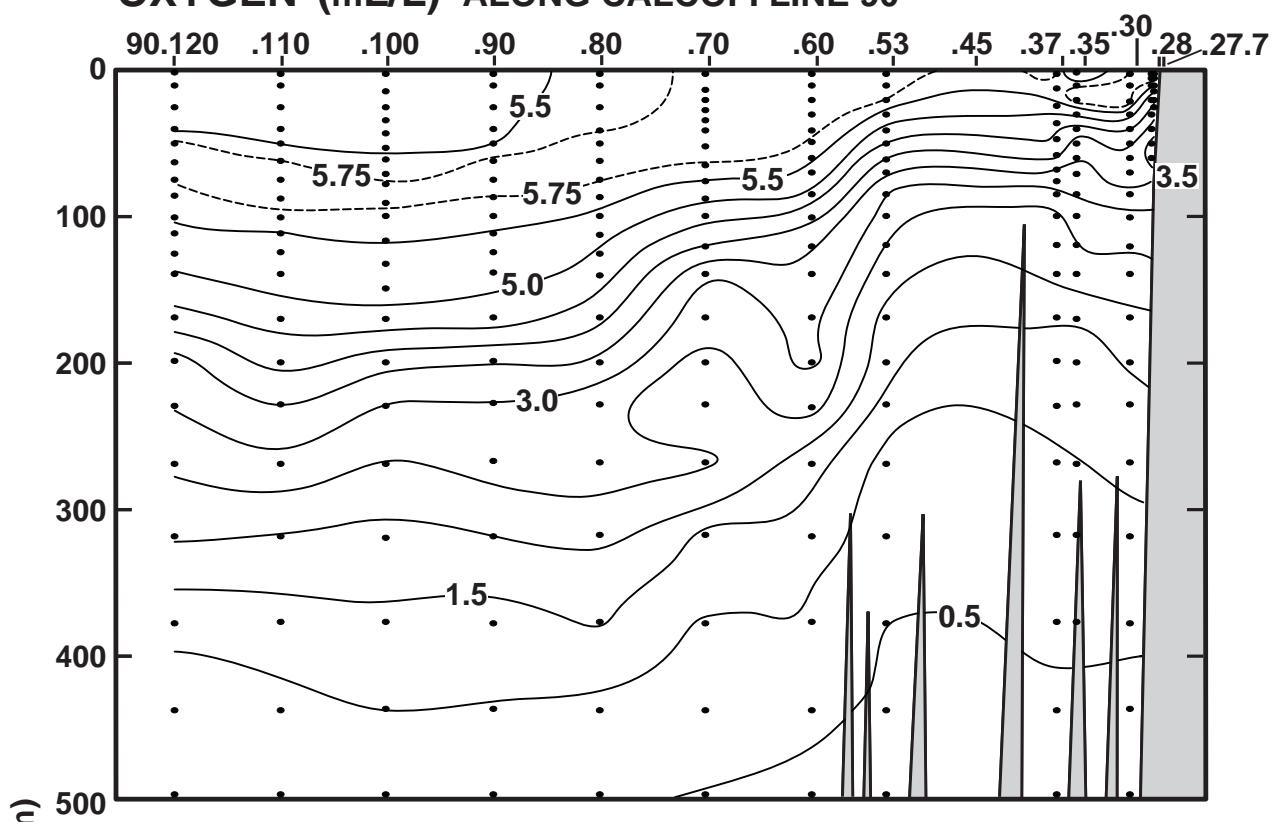


FIGURE 5I

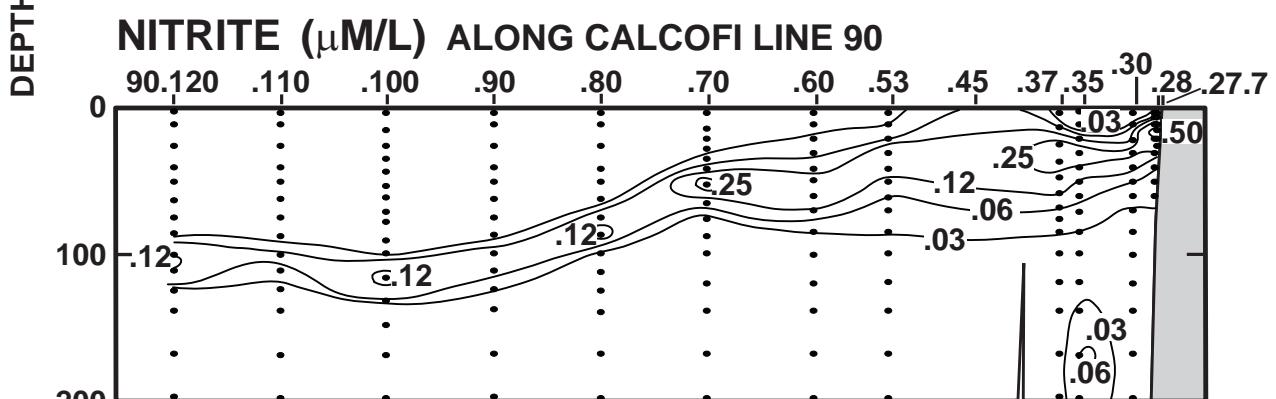


FIGURE 5J

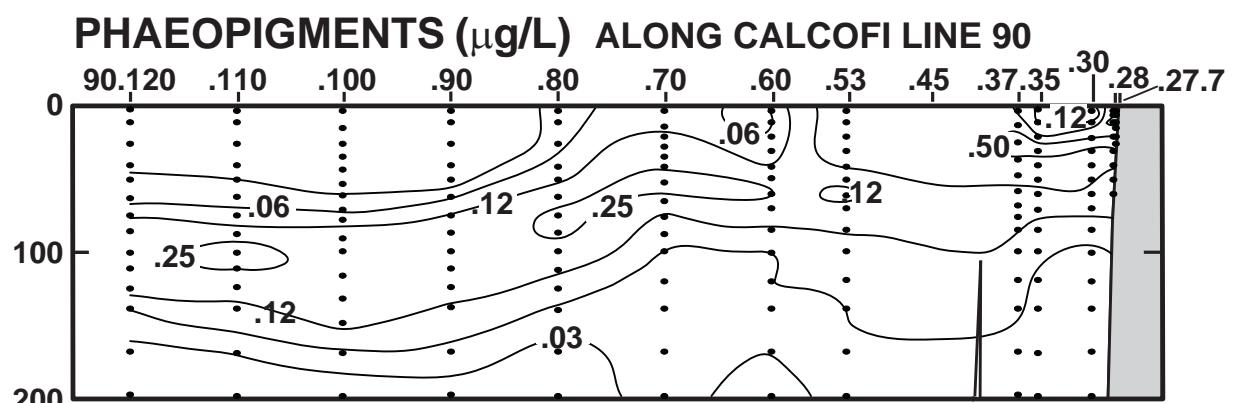


FIGURE 5K

PERSONNEL

CalCOFI Cruise 1011

SHIP'S CAPTAIN

David Murline, RV *New Horizon*

PERSONNEL PARTICIPATING IN THE COLLECTION OF DATA

Wilkinson, James R. (Chief Scientist)	Programmer Analyst, SIO
Abramenkoff, Dimitry	Fishery Biologist, NMFS
Allen, Caitlin	SIO
Bonito, Lindsay	Volunteer, SIO
Breese, Dawn	Bird Observer, FIAER
Camacho-Wiley Dominique	Marine Mammal Observer, MPL
Dovel, Shonna	Staff Research Associate, SIO
Faber, David	Staff Research Associate, SIO
Hays, Amy	Fishery Biologist, NMFS
Liu, Jian	Staff Research Associate, SIO
Miller, Melissa	Staff Research Associate, SIO
Overcash, Bryan	Staff Research Associate, SIO
Roadman, Megan	Staff Research Associate, SIO
Roache, Lauren	Staff Research Associate, MPL
Rodgers-Wolgast, Jennifer	Staff Research Associate, SIO
Sayre, Colin	Volunteer, SIO
Susner, Grant M.	Staff Research Associate, SIO
Whitaker, Katherine	Marine Mammal Observer, MPL

San Diego to San Diego, California, 28 Oct. – 15 Nov., 2010

RV NEW HORIZON

CALCOFI CRUISE 1011

STATION 76.7 90.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE		
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SV	DYN	HT	OXYGEN	OXY	S103	P04	N03	N02	NH4	CHL-A	PHAEAO	PRES	SAMP
m	DEG C	DEG C	THETA		ml/l	PCT		uM/l	uM/l	uM/l	uM/l	uM/l	uM/l	ug/l	ug/l	db		
0 ISL	15.57	15.57	33.233	24.486	343.7	0.000	5.83	102.6	1.6	0.32	0.8	0.07	0.08	0.58	0.20	0		
2	15.57	15.57	33.233	24.486	343.8	0.007	5.83	102.6	1.6	0.32	0.8	0.07	0.08	0.58	0.20	2	220	
10	15.57	15.57	33.232	24.485	344.1	0.034	5.84	102.7	1.6	0.33	0.8	0.07	0.10	0.68	0.12	10	219	
20	15.57	15.57	33.233	24.486	344.3	0.069	5.82	102.4	1.5	0.32	0.8	0.07	0.10	0.61	0.17	20	218	
30 ISL	15.52	15.52	33.233 D	24.498	343.5	0.103	5.82	102.3	1.4	0.34	0.8	0.07	0.10	0.63	0.17	30		
31	15.53	15.53	33.235	24.497	343.6	0.107	5.82	102.3	1.4	0.34	0.8	0.07	0.10	0.63	0.17	31	217	
40	13.33	13.32	33.086	24.847	310.5	0.136	5.77	96.9	2.9	0.58	3.4	0.43	0.21	0.53	0.34	40	216	
50 ISL	12.75	12.74	33.133 D	24.998	296.3	0.166	5.52	91.6	4.2	0.75	6.4	0.48	0.10	0.36	0.35	50		
51	12.81	12.80	33.138	24.990	297.1	0.169	5.49	91.2	4.4	0.76	6.7	0.49	0.08	0.34	0.35	51	215	
60	11.89	11.88	33.093	25.131	283.8	0.196	5.30	86.3	6.5	0.88	9.2	0.03	0.05	0.24	0.22	60	214	
71	10.84	10.83	33.105	25.330	265.0	0.226	5.12	81.5	9.9	1.05	12.1	0.02	0.05	0.14	0.12	71	213	
75 ISL	10.45	10.44	33.128 D	25.416	256.8	0.236	4.87	76.9	12.0	1.18	14.3	0.02	0.04	0.11	0.10	75		
85	10.20	10.19	33.413	25.681	231.9	0.261	4.21	66.2	17.2	1.50	19.6	0.01	0.00	0.04	0.07	85	212	
100	9.24	9.23	33.498	25.906	210.6	0.294	3.92	60.4	21.2	1.60	21.7	0.00	0.00	0.01	0.05	100	211	
120	9.25	9.24	33.681	26.048	197.6	0.335	3.24	50.0	26.1	1.87	25.8	0.01	0.00	0.01	0.04	121	210	
125 ISL	9.23	9.22	33.733 D	26.092	193.5	0.344	3.09	47.7	27.0	1.91	26.5	0.01	0.00	0.01	0.04	126		
140	9.08	9.06	33.800	26.168	186.5	0.373	2.75	42.3	29.2	2.00	27.8	0.00	0.00	0.01	0.03	141	209	
150 ISL	8.86	8.84	33.861 D	26.251	178.8	0.391	2.73	41.8	30.8	2.00	28.1	0.00	0.02	0.01	0.03	151		
171	8.31	8.29	33.919	26.381	166.7	0.427	2.69	40.7	33.7	2.01	28.6	0.00	0.05	0.00	0.03	172	208	
200	8.03	8.01	33.983	26.474	158.3	0.475	2.74	41.2	36.0	2.00	28.6	0.00	0.00	0.00	0.02	201	207	
231	7.77	7.75	34.014	26.537	152.8	0.523	2.30	34.4	41.0	2.17	30.7	0.00	0.00			232	206	
250 ISL	7.64	7.62	34.054 D	26.587	148.3	0.551	1.90	28.3	44.5	2.31	32.4	0.00	0.00			251		
271	7.50	7.47	34.072	26.622	145.3	0.582	1.50	22.3	48.3	2.46	34.2	0.00	0.00			273	205	
300 ISL	7.05	7.02	34.069 D	26.683	139.8	0.623	1.42	20.9	52.3	2.53	35.3	0.00	0.00			302		
320	6.87	6.84	34.068	26.707	137.7	0.651	1.37	20.1 D	55.0	2.56	35.8	0.00	0.00			322	204	
381	6.12	6.09	34.089	26.822	127.1	0.732	1.06	15.3	66.1	2.74	38.6	0.00	0.00			383	203	
400 ISL	5.87	5.84	34.088 D	26.853	124.2	0.756	1.02	14.6	69.0	2.77	39.1	0.00	0.00			403		
440	5.55	5.51	34.097	26.899	120.0	0.805	0.92	13.1	74.8	2.84	40.1	0.00	0.00			443	202	
500 ISL	5.24	5.20	34.167 D	26.992	111.7	0.874	0.57	8.0	84.1	2.98	41.7	0.00	0.00			503		
516	5.15	5.11	34.183	27.015	109.6	0.892	0.48	6.8	86.6	3.02	42.1	0.00	0.00			520	201	

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

RV NEW HORIZON

CALCOFI CRUISE 1011

STATION 76.7 100.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE		
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SV	DYN	HT	OXYGEN	OXY	S103	P04	N03	N02	NH4	CHL-A	PHAEAO	PRES	SAMP
m	DEG C	DEG C	THETA		ml/l	PCT		uM/l	uM/l	uM/l	uM/l	uM/l	uM/l	ug/l	ug/l	db		
0 ISL	16.14	16.14	32.768	24.001	390.0	0.000	5.81	103.1	0.5	0.29	0.0	0.00	0.17	0.43	0.13	0		
2	16.14	16.14	32.768	24.001	390.1	0.008	5.81	103.1	0.5	0.29	0.0	0.00	0.17	0.43	0.13	2	220	
10	16.15	16.15	32.769	23.999	390.4	0.039	5.79	102.7	0.5	0.28	0.0	0.00	0.15	0.44	0.13	10	219	
20	16.15	16.15	32.771	24.001	390.5	0.078	5.80	102.9	0.5	0.28	0.0	0.00	0.11	0.44	0.14	20	218	
30 ISL	15.64	15.64	32.912 D	24.224	369.6	0.116	5.89	103.5	1.4	0.32	0.1	0.01	0.17	0.74	0.32	30		
31	15.64	15.64	32.922	24.232	368.9	0.120	5.90	103.7	1.5	0.32	0.1	0.01	0.18	0.76	0.34	31	217	
40	14.20	14.19	32.863	24.496	343.9	0.152	5.91	100.9	2.3	0.45	1.0	0.14	0.35	0.40	0.31	40	216	
50 ISL	13.13	13.12	32.818 D	24.679	326.6	0.185	5.96	99.5	2.4	0.42	0.8	0.21	0.16	0.31	0.27	50		
51	13.14	13.13	32.813	24.673	327.2	0.189	5.96	99.5	2.4	0.42	0.8	0.21	0.14	0.30	0.27	51	215	
60	12.93	12.92	32.824	24.724	322.7	0.218	5.93	98.6	2.5	0.44	0.9	0.23	0.10	0.26	0.23	60	214	
69	12.18	12.17	32.818	24.863	309.5	0.246	5.88	96.2	3.1	0.51	2.4	0.02	0.10	0.19	0.21	69	213	
75 ISL	11.75	11.74	32.861 D	24.977	298.8	0.265	5.85	94.9	3.4	0.53	3.0	0.02	0.09	0.14	0.17	75		
85	11.18	11.17	32.905	25.115	285.8	0.294	5.71	91.5	4.4	0.61	4.5	0.01	0.08	0.06	0.09	85	212	
100	10.55	10.54	33.104	25.381	260.8	0.335	5.15	81.5	8.8	0.93	10.4	0.01	0.08	0.03	0.06	100	211	
120	9.56	9.55	33.290	25.692	231.4	0.384	4.61	71.5	15.2	1.29	16.6	0.00	0.08	0.02	0.03	121	210	
125 ISL	9.22	9.21	33.429 D	25.856	215.9	0.395	4.38	67.4	17.5	1.40	18.4	0.00	0.08	0.02	0.03	126		
141	8.91	8.89	33.637	26.068	196.0	0.428	3.62	55.4	24.7	1.72	23.7	0.00	0.07	0.01	0.02	142	209	
150 ISL	8.91	8.89	33.737 D	26.146	188.8	0.445	3.31	50.7	27.1	1.82	25.4	0.00	0.06	0.01	0.02	151		
170	8.71	8.69	33.845	26.262	178.1	0.482	2.85	43.5	30.5	1.95	27.4	0.00	0.05	0.00	0.02	171	208	
200	8.35	8.33	33.968	26.414	164.1	0.533	2.68	40.6	34.2	1.99	28.2	0.00	0.04	0.00	0.01	201	207	
230	7.86	7.84	33.991	26.506	155.8	0.581	2.69	40.3	38.2	2.02	29.1	0.00	0.05			231	206	
250 ISL	7.59	7.57	34.008 D	26.558	151.0	0.612	2.45	36.5	42.1	2.14	30.6	0.00	0.07			251		
271	7.28	7.25	34.021	26.613	146.0	0.643	2.11	31.2	46.7	2.29	32.5	0.00	0.09			273	205	
300 ISL	6.87	6.84	34.036 D	26.681	139.7	0.685	1.74	25.5	52.9	2.45	34.6	0.00	0.04			302		
320	6.68	6.65	34.055	26.722	136.1	0.712	1.51	22.0	57.1	2.54	35.8	0.00	0.00			322	204	
381	6.03	6.00	34.08															

RV NEW HORIZON

CALCOFI CRUISE 1011

STATION 80.0 51.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE		
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SV	DYN	HT	OXYGEN	OXY	SI03	P04	N03	N02	NH4	CHL-A	PHAEAO	PRES	SAMP
m	DEG C	DEG C	THETA		m/s	260	20 kn	ml/l	PCT	uM/L	uM/L	uM/L	uM/L	uM/L	ug/l	ug/l	db	
0 ISL	12.11	12.11	33.535	25.431	253.8	0.000	4.11	67.5	15.3	1.40	15.6	0.29	0.20	1.09	0.52	0		
2	12.11	12.11	33.535	25.431	253.8	0.005	4.11	67.5	15.3	1.40	15.6	0.29	0.20	1.09	0.52	2	209	
5	12.10	12.10	33.536	25.434	253.6	0.013	4.09	67.1	15.2	1.40	15.5	0.29	0.22	1.26	0.44	5	208	
10 ISL	12.04 D	12.04	33.538 D	25.447	252.5	0.025	4.07	66.7	15.2	1.42	15.7	0.29	0.20	1.28	0.43	10		
11	12.07	12.07	33.546	25.448	252.5	0.028	4.06	66.6	15.2	1.42	15.7	0.29	0.20	1.28	0.43	11	207	
20	11.53	11.53	33.577	25.572	240.8	0.050	3.50	56.7	18.2	1.59	18.2	0.22	0.12	0.80	0.46	20	206	
30	10.56	10.56	33.669	25.818	217.7	0.073	2.80	44.5	23.1	1.85	22.4	0.06	0.07	0.30	0.28	30	205	
41	10.27	10.27	33.771	25.948	205.6	0.096	2.56	40.4	26.3	1.96	24.1	0.06	0.00	0.24	0.24	41	204	
50	10.26	10.25	33.772	25.950	205.5	0.115	2.45	38.7	26.7	1.98	24.2	0.06	0.07	0.23	0.26	50	203	
61	10.10	10.09	33.839	26.030	198.2	0.137	2.26	35.6	29.0	2.06	25.1	0.08	0.00	0.21	0.34	61	202	
70	10.04	10.03	33.868	26.063	195.3	0.155	2.15	33.8	30.2	2.11	25.7	0.08	0.10	0.23	0.46	70	201	

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

RV NEW HORIZON

CALCOFI CRUISE 1011

STATION 80.0 55.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE		
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SV	DYN	HT	OXYGEN	OXY	SI03	P04	N03	N02	NH4	CHL-A	PHAEAO	PRES	SAMP
m	DEG C	DEG C	THETA		833 m	280	24 kn	ml/l	PCT	uM/L	uM/L	uM/L	uM/L	uM/L	ug/l	ug/l	db	
0 ISL	14.34	14.34	33.412	24.890	305.3	0.000	5.67	97.4	2.5	0.58	3.4	0.13	0.43	2.96	0.73	0		
2	14.34	14.34	33.412	24.890	305.3	0.006	5.67	97.4	2.5	0.58	3.4	0.13	0.43	2.96	0.73	2	221	
10	14.35	14.35	33.416	24.891	305.4	0.031	5.67	97.4	2.4	0.57	3.3	0.13	0.37	3.04	0.87	10	220	
20	14.34	14.34	33.414	24.890	305.5	0.031	5.67	97.4										
30 ISL	14.07 D	14.07	33.406 D	24.943	301.1	0.091	5.54	94.6	3.0	0.64	4.2	0.15	0.42	2.72	0.87	30	218	
31	14.09	14.09	33.403	24.936	301.7	0.094	5.53	94.5	3.1	0.65	4.3	0.16	0.42	2.69	0.88	31	217	
40	12.93	12.92	33.366	25.143	282.3	0.121	4.99	83.2	6.8	0.98	8.6	0.25	0.63	1.53	0.58	40	216	
50 ISL	11.11 D	11.10	33.262 D	25.404	257.5	0.148	4.70	75.4	11.5	1.22	14.0	0.11	0.11	0.42	0.27	50	215	
51	11.11	11.10	33.259	25.402	257.7	0.150	4.67	74.9	12.1	1.25	14.6	0.09	0.05	0.34	0.24	51	215	
60	10.09	10.08	33.471	25.745	225.3	0.172	4.01	63.0	19.4	1.60	20.7	0.02	0.00	0.07	0.14	60	214	
70	9.73	9.72	33.567	25.880	212.6	0.194	3.68	57.4	22.6	1.72	22.9	0.01	0.00	0.04	0.10	70	213	
75 ISL	9.67 D	9.66	33.583 D	25.902	210.5	0.204	3.63	56.5	23.1	1.74	23.2	0.01	0.00	0.03	0.10	75		
85	9.61	9.60	33.600	25.926	208.5	0.225	3.56	55.4	23.7	1.78	23.6	0.01	0.00	0.03	0.09	85	212	
100	9.26	9.25	33.733	26.087	193.5	0.256	3.11	48.0	27.7	1.93	26.1	0.00	0.00	0.01	0.08	101	211	
120	9.48	9.47	33.879	26.166	186.5	0.294	2.58	40.1	29.0	1.98	26.1	0.00	0.00	0.01	0.08	121	210	
125 ISL	9.61 D	9.60	33.933 D	26.187	184.6	0.303	2.40	37.4	29.9	2.03	26.5	0.00	0.00	0.01	0.08	126		
140	9.48	9.46	34.021	26.277	176.4	0.330	1.96	30.5	32.7	2.16	27.7	0.00	0.00	0.01	0.07	141	209	
150 ISL	9.37 D	9.35	34.032 D	26.304	174.0	0.347	2.04	31.6	33.3	2.15	28.0	0.00	0.00	0.01	0.07	151		
170	8.81	8.79	33.992	26.362	168.7	0.382	2.30	35.2	34.0	2.11	28.4	0.00	0.00	0.01	0.06	171	208	
199	8.98	8.96	34.102	26.422	163.7	0.430	1.76	27.1	36.9	2.28	29.4	0.00	0.00	0.00	0.06	200	207	
200 ISL	9.03 D	9.01	34.116 D	26.425	163.4	0.432	1.74	26.8	37.0	2.29	29.4	0.00	0.00			201		
230	8.74	8.72	34.171	26.514	155.5	0.479	1.33	20.3	41.2	2.43	31.0	0.00	0.00			231	206	
250 ISL	8.36 D	8.33	34.194 D	26.591	148.4	0.510	1.15	17.4	44.3	2.51	32.0	0.00	0.00			252		
270	8.21	8.18	34.205	26.623	145.7	0.539	1.06	16.0	47.4	2.58	32.9	0.00	0.00			272	205	
300 ISL	7.80 D	7.77	34.209 D	26.687	139.9	0.582	1.15	17.2	51.6	2.63	34.3	0.00	0.00			302		
320	7.36	7.33	34.157	26.709	137.8	0.610	1.21	17.9	54.3	2.66	35.2	0.00	0.00			322	204	
382	6.87	6.83	34.206	26.816	128.3	0.692	1.04	10.8	62.7	2.82	37.1	0.00	0.00			385	203	
400 ISL	6.86 D	6.82	34.241 D	26.845	125.9	0.715	0.66	9.7	64.9	2.86	37.6	0.00	0.00			403		
441	6.42	6.38	34.230	26.896	121.3	0.766	0.53	7.7	69.8	2.93	38.6	0.00	0.00			444	202	
500 ISL	6.05 D	6.01	34.253 D	26.962	115.5	0.836	0.40	5.8	76.1	3.02	39.7	0.00	0.00			504		
517	6.03	5.98	34.279	26.985	113.5	0.855	0.36	5.2	77.9	3.05	40.0	0.00	0.00			521	201	

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

RV NEW HORIZON

CALCOFI CRUISE 1011

STATION 80.0 60.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE		
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SV	DYN	HT	OXYGEN	OXY	SI03	P04	N03	N02	NH4	CHL-A	PHAEAO	PRES	SAMP
m	DEG C	DEG C	THETA		2227 m	250	17 kn	ml/l	PCT	uM/L	uM/L	uM/L	uM/L	uM/L	ug/l	ug/l	db	
0 ISL	15.70	15.70	33.392	24.579	334.8	0.000	5.70	100.6	1.5	0.31	1.0	0.10	0.18	0.55	0.16	0		
2	15.70	15.70	33.392	24.579	334.9	0.007	5.70	100.6	1.5	0.31	1.0	0.10	0.18	0.55	0.16	2	220	
10	15.70	15.70	33.391	24.579	335.2	0.034	5.70	100.6	1.5	0.30	1.0	0.10	0.16	0.49	0.20	10	219	
20	15.70	15.70	33.392	24.580	335.4	0.067	5.69	100.4	1.4	0.30	1.0	0.10	0.19	0.59	0.13	20	218	
30	15.53	15.53	33.393	24.619	332.0	0.100	5.63	99.0	1.8	0.34	1.6	0.13	0.18	0.57	0.15	30	217	
40	12.42	12.41	33.429	25.291	268.1	0.130	4.55	75.1	9.2	1.09	12.4	0.27						

RV NEW HORIZON

CALCOFI CRUISE 1011

STATION 80.0 70.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE	
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SIO3	P04	N03	N02	NH4	CHL-A	PHAEAO	PRES	SAMP
m	DEG C	DEG C	THETA			ml/l	PCT	uM/l	uM/l	uM/l	uM/l	uM/l	ug/l	ug/l	db		
0 ISL	14.62	14.62	33.491	24.891	305.1	0.000	5.74	99.2	2.2	0.46	3.5	0.15	0.12	1.24	0.47	0	
2 A	14.62	14.62	33.491	D 24.891	305.2	0.006	5.74	99.2	2.2	0.46	3.5	0.15	0.12	1.24	0.47	2	222
8 A	14.62	14.62	33.491	24.892	305.3	0.024	5.79	100.1	2.1	0.47	3.5	0.15	0.14	1.28	0.48	8	221
10 ISL	14.62	D 14.62	33.491	D 24.892	305.4	0.031	5.78	99.9	2.1	0.47	3.5	0.15	0.14	1.28	0.48	10	
16 A	14.60	14.60	33.491	24.896	305.1	0.049	5.73	99.0	2.0	0.46	3.5	0.15	0.15	1.30	0.48	16	220
20 ISL	14.59	D 14.59	33.491	D 24.898	305.0	0.061	5.70	98.5	2.2	0.48	3.7	0.16	0.16	1.22	0.46	20	
23 A	14.53	14.53	33.491	24.911	303.9	0.070	5.68	98.0	2.4	0.49	3.9	0.16	0.16	1.16	0.45	23	219
30 A	11.22	11.22	33.442	25.524	245.6	0.089	4.16	66.9	14.4	1.43	17.8	0.15	0.00	0.23	0.23	30	218
37	10.31	10.31	33.475	25.710	228.1	0.106	3.99	63.0	18.3	1.58	20.5	0.07	0.00	0.10	0.12	37	217
45 A	10.04	10.03	33.586	25.842	215.6	0.124	3.50	54.9	21.2	1.72	22.6	0.05	0.00	0.06	0.10	45	216
50 ISL	10.00	D 9.99	33.692	D 25.932	207.2	0.134	3.22	50.5	22.7	1.81	23.8	0.04	0.00	0.05	0.11	50	
52	10.00	9.99	33.689	25.930	207.5	0.138	3.11	48.8	23.2	1.85	24.2	0.04	0.00	0.05	0.11	52	215
60	9.85	9.84	33.772	26.020	199.1	0.155	2.67	41.8	25.2	1.95	25.5	0.03	0.00	0.03	0.10	60	214
70	9.67	9.66	33.879	26.134	188.5	0.174	2.31	36.0	28.0	2.06	26.8	0.02	0.00	0.01	0.10	70	213
75 ISL	9.61	D 9.60	33.911	D 26.168	185.3	0.183	2.19	34.1	29.0	2.10	27.2	0.02	0.00	0.00	0.10	75	
85	9.53	9.52	33.968	26.226	180.0	0.202	2.04	31.7	30.4	2.14	27.8	0.02	0.00	0.00	0.09	85	212
100	9.29	9.28	34.007	26.296	173.6	0.228	2.05	31.7	32.0	2.16	28.2	0.02	0.00	0.00	0.08	101	211
119	9.27	9.26	34.072	26.351	168.9	0.261	1.78	27.5	34.0	2.24	28.9	0.01	0.00	0.00	0.06	120	210
125 ISL	9.27	D 9.26	34.076	D 26.354	168.7	0.271	1.72	26.6	34.5	2.26	29.1	0.01	0.00	0.00	0.06	126	
140	9.18	9.16	34.108	26.394	165.2	0.296	1.61	24.9	35.7	2.31	29.6	0.01	0.00	0.00	0.06	141	209
150 ISL	9.13	D 9.11	34.113	D 26.406	164.3	0.312	1.54	23.8	36.5	2.34	29.9	0.01	0.00	0.00	0.06	151	
169	9.00	8.98	34.138	26.446	160.7	0.343	1.42	21.9	38.0	2.40	30.5	0.01	0.00	0.00	0.06	170	208
200	8.83	8.81	34.174	26.502	156.1	0.392	1.27	19.5	40.3	2.45	31.2	0.01	0.00	0.01	0.04	201	207
230	8.63	8.61	34.196	26.551	151.9	0.439	1.10	16.8	42.8	2.53	32.0	0.00	0.00	0.00	0.06	231	206
250 ISL	8.46	D 8.43	34.211	D 26.589	148.6	0.469	1.01	15.4	44.6	2.58	32.5	0.00	0.00	0.00	0.06	252	
270	8.36	8.33	34.213	26.606	147.3	0.498	0.94	14.3								272	205
300 ISL	8.14	D 8.11	34.225	D 26.649	143.7	0.542	0.87	13.1	49.1	2.67	33.8	0.00	0.00	0.00	0.06	302	
320	8.00	7.97	34.228	26.673	141.7	0.570	0.84	D 12.6	D 50.9	2.70	34.3	0.00	0.00	0.00	0.06	322	204
380	7.54	7.50	34.229	26.741	136.0	0.654	0.72	10.7	55.4	2.77	35.5	0.00	0.00	0.00	0.06	383	203
400 ISL	7.39	D 7.35	34.232	D 26.765	133.9	0.681	0.68	10.1	57.2	2.80	35.9	0.00	0.00	0.00	0.06	403	
440	7.11	7.07	34.235	26.807	130.4	0.734	0.61	9.0	60.8	2.86	36.8	0.00	0.00	0.00	0.06	443	202
500 ISL	6.82	D 6.77	34.262	D 26.869	125.2	0.810	0.54	7.9	65.9	2.93	37.8	0.00	0.00	0.00	0.06	504	
517	6.66	6.61	34.249	26.880	124.2	0.831	0.52	7.6	67.3	2.95	38.1	0.00	0.00	0.00	0.06	521	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

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

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE	
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SIO3	P04	N03	N02	NH4	CHL-A	PHAEAO	PRES	SAMP
m	DEG C	DEG C	THETA			ml/l	PCT	uM/l	uM/l	uM/l	uM/l	uM/l	ug/l	ug/l	db		
0 ISL	15.39	15.39	33.450	24.693	324.0	0.000	5.84	102.5	0.9	0.28	1.6	0.12	0.16	0.81	0.21	0	
2	15.39	15.39	33.450	24.693	324.1	0.006	5.84	102.5	0.9	0.28	1.6	0.12	0.16	0.81	0.21	2	220
10	15.40	15.40	33.450	24.691	324.5	0.032	5.85	102.7	0.9	0.29	1.6	0.12	0.16	0.76	0.21	10	219
20	15.38	15.38	33.450	24.695	324.4	0.065	5.84	102.5	0.8	0.29	1.6	0.12	0.15	0.83	0.24	20	218
30 ISL	14.10	D 14.10	33.401	D 24.932	302.1	0.096	5.36	91.6	3.6	0.56	6.3	0.14	0.10	0.64	0.43	30	
31	14.01	14.01	33.396	24.947	300.7	0.099	5.30	90.4						0.61	0.44	31	217
40	12.03	12.02	33.256	25.231	273.8	0.125	4.80	78.5	7.4	0.90	11.8	0.15	0.07	0.23	0.26	40	216
50 ISL	11.34	D 11.33	33.269	D 25.368	260.9	0.152	4.62	74.5	10.1	1.10	14.3	0.03	0.10	0.15	0.17	50	
51	11.35	11.34	33.269	25.366	261.1	0.154	4.62	74.5	10.4	1.11	14.5	0.02	0.10	0.14	0.16	51	215
60	10.05	10.04	33.216	25.552	243.5	0.177	4.65	72.8	14.2	1.17	15.9	0.02	0.10	0.06	0.07	60	214
70	9.65	9.64	33.345	25.719	227.8	0.201	4.29	66.7	17.6	1.31	19.0	0.01	0.05	0.03	0.05	70	213
75 ISL	9.50	D 9.49	33.432	D 25.812	219.1	0.212	4.10	63.5	19.6	1.40	20.5	0.01	0.05	0.02	0.05	75	
84	9.26	9.25	33.523	25.922	208.8	0.231	3.81	58.8	22.8	1.54	22.8	0.00	0.05	0.01	0.04	84	212
100	8.96	8.95	33.642	26.063	195.7	0.263	3.52	54.0	25.9	1.63	24.7	0.00	0.06	0.01	0.03	101	211
120	8.83	8.82	33.821	26.224	180.8	0.301	3.18	48.7	27.6	1.65	25.6	0.00	0.00	0.00	0.03	121	210
125 ISL	8.79	D 8.78	33.876	D 26.273	176.2	0.310	3.03	46.3	28.6	1.69	26.2	0.00	0.01	0.00	0.03	126	
141	8.69	8.68	33.928	26.330	171.1	0.338	2.57	39.2	32.1	1.81	28.2	0.00	0.05	0.00	0.03	142	209
150 ISL	8.55	D 8.53	33.969	D 26.384	166.1	0.353	2.44	37.1	33.5	1.85	28.8	0.00	0.04	0.00	0.03	151	
170	8.30	8.28	34.015	26.458	159.4	0.386	2.28	34.5	36.1	1.90	29.6	0.00	0.00	0.00	0.03	171	208
200	7.92	7.90	34.023	26.521	153.8	0.433	2.15	32.3	40.1	1.97	30.8	0.00	0.00	0.01	0.02	201	207
230	7.63	7.61	34.054	26.589	147.8	0.478	1.81	27.0	45.0	2.09	32.5	0.00	0.00	0.00	0.06	231	206
250 ISL	7.43	D 7.41	34.078	D 26.636	143.6	0.507	1.59	23.6	48.1	2.18	33.6	0.00	0.00	0.00	0.06	252	
270	7.29	7.26	34.095	26.669	140.7												

RV NEW HORIZON

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LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE		
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	sva	DYN	HT	OXYGEN	OXY	SI03	P04	N03	N02	NH4	CHL-A	PHAEAO	PRES	SAMP
m	DEG C	DEG C	THETA		ml/l	PCT		uM/L	uM/L	uM/L	uM/L	uM/L	uM/L	ug/l	ug/l	db		
0 ISL	15.96	15.96	33.076	24.278	363.5	0.000	5.78	102.4	1.2	0.28	0.1	0.02	0.17	0.37	0.13	0		
2	15.96	15.96	33.076	24.278	363.6	0.007	5.78	102.4	1.2	0.28	0.1	0.02	0.17	0.37	0.13	2	224	
10 ISL	15.96 D	15.96	33.076 D	24.278	363.8	0.036	5.79	102.5	1.1	0.28	0.1	0.02	0.16	0.42	0.16	10		
11	15.95	15.95	33.076	24.281	363.6	0.040	5.79	102.5	1.1	0.28	0.1	0.02	0.16	0.43	0.16	11	223	
20	15.97	15.97	33.075	24.276	364.4	0.073	5.79	102.6	1.1	0.27	0.1	0.02	0.14	0.38	0.13	20	222	
30	14.37	14.37	33.025	24.586	335.1	0.108	6.02	103.2	1.8	0.49	2.1	0.27	0.26	1.40	0.47	30	221	
41	14.41	14.40	33.276	24.771	317.7	0.144	5.71	98.1	2.4	0.58	3.2	0.38	0.59	0.47	0.31	41	220	
50	12.02	12.01	33.000	25.034	292.8	0.171	5.67	92.6	4.4	0.69	5.4	0.31	0.09	0.27	0.21	50	219	
61	11.01	11.00	32.878	25.123	284.4	0.203	5.68	90.7	5.2	0.69	5.6	0.02	0.10	0.18	0.13	61	218	
72	10.68	10.67	33.070	25.331	264.9	0.233	5.28	83.8	10.0	1.00	11.2	0.01	0.10	0.07	0.10	72	217	
75 ISL	10.69 D	10.68	33.087 D	25.343	263.9	0.241	5.24	83.2	10.5	1.03	11.8	0.01	0.10	0.07	0.09	75		
86	10.36	10.35	33.153	25.451	253.7	0.269	5.10	80.4	12.2	1.12	13.2	0.01	0.10	0.05	0.07	86	216	
100 ISL	9.40 D	9.39	33.333 D	25.751	225.3	0.303	4.57	70.6	1.41	18.0	0.00	0.09	0.02	0.04	100			
101	9.38	9.37	33.340	25.760	224.5	0.305	4.52	69.8	18.0	1.43	18.4	0.00	0.09	0.02	0.04	101	215	
121	8.98	8.97	33.618	26.042	198.1	0.348	3.65	56.0	24.2	1.71	23.3	0.01	0.09	0.01	0.04	122	214	
125 ISL	8.97 D	8.96	33.651 D	26.069	195.6	0.355	3.51	53.8	25.3	1.75	24.0	0.01	0.08	0.01	0.04	126		
140	8.79	8.78	33.820	26.230	180.6	0.384	3.04	46.5	29.0	1.90	26.4	0.00	0.05	0.00	0.04	141	213	
150 ISL	8.70 D	8.68	33.853 D	26.270	177.0	0.401	2.62	40.0	31.4	2.01	27.8	0.00	0.03	0.00	0.04	151		
171	8.77	8.75	34.007	26.380	167.0	0.438	1.94	29.7	35.6	2.18	30.0	0.00	0.00	0.00	0.04	172	212	
200 ISL	8.07 D	8.05	33.989 D	26.473	158.5	0.485	2.20	33.1	38.2	2.18	30.4	0.00	0.07	0.00	0.03	201		
202	8.06	8.04	33.989	26.474	158.4	0.488	2.23	33.6	38.4	2.18	30.4	0.00	0.08	0.00	0.03	203	211	
228	7.72	7.70	34.013	26.543	152.1	0.528	2.03	30.3	42.2	2.27	31.9	0.00	0.07			229	210	
250 ISL	7.27 D	7.25	33.995 D	26.593	147.5	0.561	1.97	29.1	45.8	2.32	32.9	0.00	0.06			251		
270	7.01	6.98	34.004	26.636	143.6	0.590	1.92	28.2	49.1	2.37	33.8	0.00	0.05			272	209	
300 ISL	6.87 D	6.84	34.055 D	26.696	138.3	0.633	1.64	24.0	54.2	2.49	35.5	0.00	0.02			302		
321	6.55	6.52	34.038	26.726	135.6	0.661	1.41	20.5	57.5	2.58	36.6	0.00	0.00			323	208	
380	6.31	6.28	34.098	26.805	128.8	0.739	1.01	14.6	64.3	2.76	38.2	0.00	0.05			382	207	
400 ISL	6.17 D	6.13	34.115 D	26.836	126.0	0.765	0.91	13.1	67.3	2.80	38.7	0.00	0.04			403		
441	5.81	5.77	34.135	26.898	120.4	0.815	0.74	10.6	73.7	2.88	39.6	0.00	0.00			444	206	
500 ISL	5.40 D	5.36	34.192 D	26.993	111.8	0.884	0.51	7.2	82.7	2.99	41.1	0.00	0.00			503		
520	5.26	5.22	34.196	27.013	110.0	0.906	0.44	6.2	85.6	3.03	41.6	0.00	0.00			524	205	
600 CSL	4.85	4.80	34.268	27.118	100.5	0.925										604	200	
700 CSL	4.49	4.44	34.337	27.213	92.1	1.022										705	200	
800 CSL	4.17	4.11	34.393	27.292	85.1	1.110										806	200	
900 CSL	3.94	3.87	34.443	27.356	79.6	1.193										907	200	
1000 CSL	3.67	3.60	34.475	27.409	74.9	1.270										1009	200	
1100 CSL	3.46	3.38	34.497	27.448	71.6	1.343										1110	200	
1200 CSL	3.24	3.15	34.515	27.484	68.4	1.413										1211	200	
1251	3.15	3.06	34.525	27.500	67.0	1.448	0.83	11.1	138.1	3.08	43.5	0.00	0.00			1263	204	
1300 CSL	3.07	2.98	34.534	27.515	65.7	1.480										1312	200	
1400 CSL	2.87	2.77	34.548	27.545	62.9	1.544										1413	200	
1500 CSL	2.72	2.61	34.564	27.572	60.6	1.606										1515	200	
1600 CSL	2.56	2.45	34.577	27.596	58.3	1.666										1616	200	
1800 CSL	2.29	2.16	34.600	27.638	54.4	1.778										1819	200	
2000 CSL	2.07	1.93	34.620	27.673	51.2	1.884										2022	200	
2011	2.06	1.92	34.620	27.674	51.1	1.890	1.80	23.5	162.9	2.85	41.4	0.00	0.05			2033	203	
2200 CSL	1.92	1.77	34.633	27.696	49.2	1.984										2226	200	
2400 CSL	1.82	1.65	34.642	27.712	48.0	2.082										2429	200	
2600 CSL	1.74	1.55	34.651	27.726	47.0	2.177										2633	200	
2754	1.68	1.48	34.652	27.732	46.7	2.249	2.48	32.0	168.7	2.70	39.4	0.00	0.00			2790	202	
2800 CSL	1.67	1.46	34.657	27.738	46.3	2.270										2837	200	
3000 CSL	1.61	1.39	34.663	27.748	45.7	2.362										3041	200	
3200 CSL	1.56	1.32	34.667	27.756	45.3	2.453										3245	200	
3400 CSL	1.53	1.27	34.671	27.763	45.1	2.543										3450	200	
3510	1.52	1.25	34.679	27.771	44.7	2.593	2.91	37.3	170.8	2.60	38.2	0.00	0.00			3562	201	
3600 CSL	1.51	1.23	34.676	27.770	45.0	2.633										3654	200	

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

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE		
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	sva	DYN	HT	OXYGEN	OXY	SI03	P04	N03	N02	NH4	CHL-A	PHAEAO	PRES	SAMP
m	DEG C	DEG C	THETA		ml/l	PCT		uM/L	uM/L	uM/L	uM/L	uM/L	uM/L	ug/l	ug/l	db		
0 ISL	16.27	16.27	32.774	23.976	392.4	0.000	5.78	102.8	0.9	0.27	0.0	0.00	0.00	0.37	0.17	0		
2 A	16.27	16.27	32.774	23.976	392.4	0.008	5.78	102.8	0.9	0.27	0.0	0.00	0.00	0.37	0.17	2	220	
10 ISL	16.26 D	16.26	32.774 D	23.978	392.4	0.039	5.76	102.4	0.9	0.27	0.0	0.00	0.00	0.37	0.16	10		
12 A	16.26	16.26	32.778	23.982	392.2	0.047	5.75	102.3	0.9	0.27	0.0	0.00	0.00	0.37	0.16	12	219	
20 ISL	16.26 D	16.26	32.776 D	23.980	392.6	0.078	5.75	102.3	0.9	0.28	0.0	0.00	0.00	0.36	0.16	20		
26 A	16.26	16.26	32.777	23.981	392.7	0.102	5.75	102.3	0.9	0.28	0.0	0.00	0.00	0.36	0.17	26	218	
30 ISL	16.26 D	16.26	32.779 D	23.983	392.6	0.118	5.77</td											

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LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE		
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SV	DYN	HT	OXYGEN	OXY	SIO3	P04	N03	N02	NH4	CHL-A	PHAEAO	PRES	SAMP
m	DEG C	DEG C	THETA		ml/l	PCT	uM/L	uM/L	uM/L	uM/L	uM/L	uM/L	uM/L	ug/l	ug/l	db		
0 ISL	15.39	15.39	33.475	24.712	322.2	0.000	5.44	95.5	4.2	0.59	1.4	0.26	0.69	2.18	0.49	0		
2	15.39	15.39	33.475	24.712	322.3	0.006	5.44	95.5	4.2	0.59	1.4	0.26	0.69	2.18	0.49	2	204	
5	15.30	15.30	33.463	24.723	321.3	0.016	5.25	92.0	5.3	0.66	2.0	0.36	0.93	1.36	0.61	5	203	
10	14.99	14.99	33.458	24.787	315.4	0.032	4.91	85.5	7.1	0.82	3.0	0.49	1.36	1.10	0.69	10	202	
16	14.77	14.77	33.458	24.834	311.0	0.051	4.71	81.6	8.7	0.93	3.8	0.59	1.66	0.92	0.87	16	201	

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

RV NEW HORIZON

CALCOFI CRUISE 1011

STATION 81.8 46.9

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE		
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SV	DYN	HT	OXYGEN	OXY	SIO3	P04	N03	N02	NH4	CHL-A	PHAEAO	PRES	SAMP
m	DEG C	DEG C	THETA		ml/l	PCT	uM/L	uM/L	uM/L	uM/L	uM/L	uM/L	uM/L	ug/l	ug/l	db		
0 ISL	15.74	15.74	33.492	24.647	328.4	0.000	5.91	104.5	1.0	0.31	0.8	0.06	0.13	3.17	0.66	0		
1 A	15.74	15.74	33.492	24.647	328.4	0.003	5.91	104.5	1.0	0.31	0.8	0.06	0.13	3.17	0.66	1	224	
10	15.62	15.62	33.486	24.670	326.5	0.033	5.92	104.4	0.8	0.31	0.8	0.06	0.11	3.35	0.77	10	223	
20	12.34	12.34	33.471	25.338	263.1	0.062	4.10	67.6	11.0	1.31	14.0	0.47	0.15	2.67	0.82	20	222	
30	11.73	11.73	33.438	25.428	254.8	0.088	4.21	68.5	11.5	1.29	14.9	0.20	0.09	0.82	0.37	30	221	
40	11.56	11.55	33.582	25.571	241.4	0.113	3.34	54.2	20.6	1.61	18.4	0.26	0.05	1.80	0.77	40	220	
50	10.83	10.82	33.610	25.725	227.0	0.136	3.14	50.2	20.3	1.73	20.8	0.07	0.06	1.20	0.51	50	219	
60	10.50	10.49	33.637	25.804	219.7	0.159	2.98	47.3	21.6	1.78	22.0	0.04	0.06	0.57	0.28	60	218	
70	10.30	10.29	33.702	25.889	211.8	0.180	2.75	43.4	23.6	1.87	23.2	0.02	0.00	0.38	0.23	70	217	
75 ISL	10.25 D	10.24	33.737 D	25.925	208.5	0.191	2.68	42.3	24.4	1.90	23.7	0.02	0.00	0.33	0.23	75		
85	10.08	10.07	33.779	25.987	202.8	0.211	2.60	40.9	25.7	1.93	24.4	0.02	0.00	0.27	0.22	85	216	
100	9.79	9.78	33.830	26.076	194.6	0.241	2.60	40.6	26.8	1.94	25.1	0.01	0.00	0.14	0.15	101	215	
121	9.67	9.66	33.915	26.163	186.8	0.281	2.36	36.8	28.7	2.01	26.1	0.01	0.00	0.09	0.12	122	214	
125 ISL	9.63 D	9.62	33.914 D	26.168	186.4	0.289	2.26	35.2	29.4	2.04	26.3	0.01	0.00	0.09	0.12	126		
140	9.71	9.69	34.009	26.230	180.9	0.316	1.85	28.9	32.2	2.18	27.3	0.02	0.00	0.08	0.13	141	213	
150 ISL	9.62 D	9.60	34.025 D	26.257	178.5	0.334	1.68	26.2	33.9	2.24	27.9	0.02	0.00	0.07	0.15	151		
170	9.41	9.39	34.100	26.351	170.0	0.369	1.47	22.8	36.9	2.32	29.0	0.01	0.00	0.06	0.17	171	212	
200 ISL	9.00 D	8.98	34.147 D	26.454	160.7	0.419	1.35	20.8	40.5	2.41	30.2	0.01	0.00	0.02	0.09	202	211	
201	9.00	8.98	34.153	26.459	160.2	0.420	1.34	20.6	40.6	2.41	30.2	0.01	0.00	0.02	0.09	231	210	
230	8.69	8.67	34.187	26.534	153.5	0.466	0.73	11.2	47.9	2.69	32.5	0.00	0.00			252		
250 ISL	8.36 D	8.33	34.195 D	26.592	148.3	0.496	0.56	8.5	51.7	2.80	33.7	0.00	0.00			403		
270	8.13	8.10	34.205	26.635	144.5	0.525	0.49	7.4	54.6	2.86	34.5	0.00	0.00			443	206	
300 ISL	7.91 D	7.88	34.202 D	26.665	142.0	0.568	0.40	6.0	57.6	2.93	34.8	0.00	0.00			484	205	
320	7.82	7.79	34.212	26.687	140.3	0.596	0.37	5.5	59.4	2.97	35.0	0.00	0.00			504		
379	7.30	7.26	34.225	26.772	132.8	0.677	0.26	3.8	68.3	3.08	35.2	0.00	0.00			519	204	
400 ISL	7.20 D	7.16	34.221 D	26.783	132.0	0.705	0.25	3.7	71.5	3.12	34.8	0.00	0.00			537	203	
440	6.76	6.72	34.234	26.854	125.6	0.756	0.20	2.9	80.0	3.25	34.1	0.00	0.00			565	202	
481	6.62	6.58	34.254	26.889	122.8	0.807	0.01	0.1	95.0	3.52	29.0	0.00	0.00			570	201	
500 ISL	6.59 D	6.54	34.247 D	26.887	123.2	0.831	0.00	0.0	98.5	3.58	27.4	0.08	0.00					
515	6.58	6.53	34.258	26.898	122.4	0.849	0.00	0.0	101.6	3.63	25.5	0.21	0.00					
533	6.55	6.50	34.259	26.903	122.2	0.871	0.00	0.0	108.5	4.03	20.8	0.47	0.09					
561	6.42	6.37	34.251	26.914	121.4	0.905	0.12	1.7	99.1	3.79	26.8	0.05	0.00					
566	6.40	6.35	34.252	26.917	121.1	0.911	0.12	1.7	98.1	3.71	27.6	0.12	0.00					

A) SANTA BARBARA BASIN STATION.

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

RV NEW HORIZON

CALCOFI CRUISE 1011

STATION 83.3 39.4

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE		
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SV	DYN	HT	OXYGEN	OXY	SIO3	P04	N03	N02	NH4	CHL-A	PHAEAO	PRES	SAMP
m	DEG C	DEG C	THETA		ml/l	PCT	uM/L	uM/L	uM/L	uM/L	uM/L	uM/L	uM/L	ug/l	ug/l	db		
0 ISL	15.52	15.52	33.455	24.668	326.4	0.000	5.40	95.0	4.6	0.69	1.5	0.19	0.93	3.06	1.31	0		
2	15.52	15.52	33.455	24.668	326.5	0.007	5.40	95.0	4.6	0.69	1.5	0.19	0.93	3.06	1.31	2	205	
5	14.81	14.81	33.447	24.817	312.4	0.016	5.12	88.8	6.4	0.91	3.0	0.27	1.13	2.38	1.41	5	204	
10	14.17	14.17	33.438	24.946	300.2	0.031	4.68	80.1	10.0	1.28	5.9	0.39	1.53	1.75	1.47	10	202	
10	14.18	14.18	33.438	24.944	300.4	0.031										10	203	
15	13.62	13.62	33.439	25.060	289.5	0.046	4.58	77.5	11.1	1.32	7.5	0.41	1.37	1.46	1.40	15	201	

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

RV NEW HORIZON

CALCOFI CRUISE 1011

STATION 83.3 40.6

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE		
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SV	DYN	HT	OXYGEN	OXY	SIO3	P04	N03	N02	NH4	CHL-A	PHAEAO	PRES	SAMP
m	DEG C	DEG C	THETA		ml/l	PCT	uM/L	ug/l	ug/l	db								

<tbl_r cells="18" ix="4" maxcspan="1

RV NEW HORIZON

CALCOFI CRUISE 1011

STATION 83.3 42.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE	
					163 m	050	08 kn	270 02	05	1016.7 mb	16.0 C	11.7 C	12m	0/8			
34 10.7 N	119 31.2 W	09/11/10	1608	UTC													
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SI03	PO4	N03	N02	NH4	CHL-A	PHAEAO	PRES	SAMP
m	DEG C	DEG C	THETA		ml/l	PCT	uM/l	uM/l	uM/l	uM/l	uM/l	uM/l	uM/l	ug/l	ug/l	db	
0 ISL	16.56	16.56	33.480	24.451	347.0	0.000	5.85	105.1	0.0	0.23	0.0	0.01	0.06	1.56	0.46	0	
2 A	16.56	16.56	33.480	24.452	347.1	0.007	5.85	105.1	0.0	0.23	0.0	0.01	0.06	1.56	0.46	2	215
8 A	16.56	16.56	33.482	24.453	347.1	0.028	5.86	105.3	0.0	0.23	0.0	0.01	0.00	1.54	0.41	8	213
8	16.56	16.56	33.481	24.453	347.2	0.028											8 214
10 ISL	16.56 D	16.56	33.471 D	24.445	348.0	0.035	5.85	105.1	0.2	0.25	0.2	0.01	0.02	1.73	0.42	10	
17 A	16.21	16.21	33.475	24.529	340.2	0.059	5.80	103.5	0.8	0.33	0.7	0.02	0.07	2.55	0.59	17	212
20 ISL	15.29 D	15.29	33.461 D	24.724	321.7	0.069	5.41	94.8	3.7	0.59	3.8	0.09	0.16	2.76	0.78	20	
25 A	13.15	13.15	33.470	25.179	278.4	0.084	4.74	79.5	8.5	1.01	9.3	0.21	0.27	3.11	1.00	25	211
30 ISL	12.61 D	12.61	33.447 D	25.268	270.1	0.097	4.63	76.7	9.7	1.09	11.3	0.25	0.19	2.06	0.79	30	
33 A	12.26	12.26	33.431	25.323	264.9	0.105	4.56	75.0	9.9	1.13	12.0	0.28	0.12	1.31	0.59	33	210
40	11.49	11.49	33.384	25.430	254.8	0.124	4.40	71.2	11.8	1.27	14.3	0.17	0.05	0.57	0.28	40	209
48 A	11.17	11.16	33.414	25.512	247.2	0.144	4.20	67.5	13.7	1.36	15.9	0.12	0.00	0.36	0.21	48	208
50 ISL	11.04 D	11.03	33.441 D	25.556	243.0	0.149	4.05	64.9	14.9	1.42	16.7	0.12	0.00	0.36	0.20	50	
54	10.88	10.87	33.537	25.659	233.3	0.158	3.75	59.9	17.3	1.54	18.5	0.12	0.00	0.33	0.19	54	207
60	10.31	10.30	33.566	25.781	221.8	0.172	3.55	56.0	19.3	1.64	20.5	0.05	0.00	0.09	0.15	60	206
70	10.22	10.21	33.631	25.848	215.7	0.194	3.21	50.6	21.7	1.77	22.0	0.03	0.00	0.06	0.10	70	205
75 ISL	10.24 D	10.23	33.666 D	25.871	213.6	0.204	3.00	47.3	23.3	1.85	22.9	0.03	0.00	0.04	0.10	75	
85	10.10	10.09	33.804	26.003	201.3	0.225	2.59	40.8	26.4	1.99	24.6	0.02	0.00	0.02	0.09	85	204
100	9.89	9.88	33.918	26.128	189.7	0.255	2.21	34.6	29.2	2.09	25.8	0.03	0.00	0.02	0.08	101	203
120	9.65	9.64	34.019	26.247	178.8	0.291	1.96	30.6	31.7	2.18	27.0	0.03	0.00	0.01	0.08	121	202
125 ISL	9.64 D	9.63	34.026 D	26.254	178.2	0.300	1.91	29.8	32.4	2.20	27.4	0.03	0.00	0.01	0.08	126	
141	9.40	9.38	34.093	26.346	169.8	0.328	1.76	27.3	34.8	2.28	28.5	0.03	0.00	0.01	0.08	142	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

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

RV NEW HORIZON

CALCOFI CRUISE 1011

STATION 83.3 51.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE	
					104 m	250	29 kn	300 08	07	1015.0 mb	15.0 C	12.0 C	12m	0/8			
33 52.7 N	120 8.2 W	08/11/10	2336	UTC													
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SI03	PO4	N03	N02	NH4	CHL-A	PHAEAO	PRES	SAMP
m	DEG C	DEG C	THETA		ml/l	PCT	uM/l	uM/l	uM/l	uM/l	uM/l	uM/l	uM/l	ug/l	ug/l	db	
0 ISL	14.02	14.02	33.513	25.035	291.5	0.000	5.29	90.3	6.5	0.81	6.7	0.14	0.25	4.24	0.60	0	
2 A	14.02	14.02	33.513	25.035	291.5	0.006	5.29	90.3	6.5	0.81	6.7	0.14	0.25	4.24	0.60	2	213
10	14.05	14.05	33.516	25.031	292.1	0.029	5.28	90.2	6.2	0.79	6.5	0.14	0.31	4.17	0.73	10	211
10	14.03	14.03	33.521	25.039	291.3	0.029											10 212
20 ISL	13.62 D	13.62	33.495 D	25.104	285.5	0.058	5.07	85.9	7.0	0.88	8.0	0.17	0.24	3.91	1.01	20	
21	13.59	13.59	33.497	25.111	284.8	0.061	5.04	85.3	7.1	0.90	8.3	0.17	0.23	3.88	1.03	21	210
30	12.95	12.95	33.489	25.234	273.3	0.086	4.69	78.3	9.1	1.11	11.1	0.20	0.27	3.56	0.90	30	209
40	11.59	11.58	33.547	25.539	244.5	0.112	3.93	63.8	14.7	1.46	16.9	0.19	0.00	1.89	0.69	40	208
50 ISL	10.23 D	10.22	33.705 D	25.903	210.0	0.135	3.15	49.7	22.2	1.78	22.3	0.08	0.00	0.41	0.38	50	
51	10.25	10.24	33.670	25.872	212.9	0.137	3.09	48.8	22.9	1.81	22.7	0.07	0.00	0.30	0.35	51	207
60	10.12	10.11	33.731	25.942	206.5	0.156	2.86	45.0	25.0	1.88	23.5	0.08	0.00	0.23	0.31	60	206
70	10.16	10.15	33.736	25.940	207.0	0.176	2.86	45.1	24.7	1.88	23.3	0.08	0.00	0.25	0.34	70	205
75 ISL	10.14 D	10.13	33.731 D	25.939	207.1	0.187	2.78	43.8	25.5	1.91	23.7	0.07	0.00	0.22	0.33	75	
86	9.89	9.88	33.805	26.039	197.8	0.209	2.62	41.0	27.2	1.97	24.7	0.06	0.00	0.15	0.31	86	201

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

RV NEW HORIZON

CALCOFI CRUISE 1011

STATION 83.3 55.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE	
					1174 m	260	24 kn	250 06	07	1018.0 mb	16.1 C	13.0 C	5m	1/8			
33 44.3 N	120 25.2 W	08/11/10	1912	UTC													
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SI03	PO4	N03	N02	NH4	CHL-A	PHAEAO	PRES	SAMP
m	DEG C	DEG C	THETA		ml/l	PCT	uM/l	uM/l	uM/l	uM/l	uM/l	uM/l	uM/l	ug/l	ug/l	db	
0 ISL	15.05	15.05	33.484	24.793	314.5	0.000	5.99	104.4	0.9	0.38	1.7	0.06	0.23	3.52	1.11	0	
2 A	15.05	15.05	33.484	24.793	314.5	0.006	5.99	104.4	0.9	0.38	1.7	0.06	0.23	3.52	1.11	2	224
3 A	15.05	15.05	33.483	24.793	314.6	0.009	5.95	103.7	0.8	0.38	1.8	0.06	0.22	3.42	1.21	3	223
8 A	15.00	15.00	33.484	24.804	313.6	0.025	5.93	103.3	0.9	0.43	1.9	0.06	0.25	3.47	1.13	8	222
10 ISL	14.89 D	14.89	33.483 D	24.827	311.5	0.031	5.91	102.7	1.1	0.43	2.1	0.06	0.24	3.72	1.13	10	220
11 A	14.89	14.89	33.488	24.831	311.1	0.035	5.90	102.5	1.2	0.43	2.3	0.06	0.24	3.86	1.13	11	220
11	14.91	14.91	33.483	24.823	311.9	0.035											11 221
15 A	14.26	14.26	33.489	24.966	298.4	0.047	5.56	95.4	3.4	0.62	4.8	0.09	0.25	4.18	1.29	15	219
20 ISL	12.92 D	12.92	33.511 D	25.256	270.9	0.061	4.91	82.0	7.9	0.99	9.7	0.16	0.33	4.58	1.39	20	
21 A	12.95	12.95	33.515	25.254	271.2	0.064	4.79	80.0	8.8	1.06	10.6	0.17	0.35	4.62	1.40	21	218
30	12.39	12.39	3														

RV NEW HORIZON

CALCOFI CRUISE 1011

STATION 83.3 60.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE	
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SV	DYN HT	OXYGEN	OXY	SIO3	P04	N03	N02	NH4	CHL-A	PHAEAO	PRES	SAMP
m	DEG C	DEG C	THETA		ml/l	PCT	uM/l	uM/l	uM/l	uM/l	uM/l	uM/l	ug/l	ug/l	db		
0 ISL	16.07	16.07	33.296	24.422	349.8	0.000	5.75	102.2	1.6	0.29	0.3	0.05	0.12	0.40	0.16	0	
2	16.07	16.07	33.296	24.422	349.9	0.007	5.75	102.2	1.6	0.29	0.3	0.05	0.12	0.40	0.16	2 221	
10	16.07	16.07	33.292	24.420	350.4	0.035	5.74	102.0	1.6	0.28	0.3	0.05	0.10	0.43	0.14	10 219	
10	16.08	16.08	33.292	24.417	350.6	0.035										10 220	
20	16.06	16.06	33.292	24.422	350.4	0.070	5.74	102.0	1.4	0.29	0.4	0.06	0.10	0.42	0.16	20 218	
30	15.95	15.95	33.288	24.444	348.7	0.105	5.72	101.4	1.5	0.32	0.5	0.08	0.08	0.45	0.17	30 217	
40	13.77	13.76	33.115	24.780	316.8	0.138	5.51	93.4	3.2	0.55	3.5	0.25	0.09	0.39	0.27	40 216	
50	13.48	13.47	33.088	24.818	313.4	0.170	5.48	92.3	3.6	0.59	4.1	0.24	0.08	0.40	0.22	50 215	
60	11.72	11.71	33.076	25.149	282.1	0.200	5.13	83.2	7.7	0.93	9.5	0.02	0.05	0.23	0.17	60 214	
70	10.99	10.98	33.210	25.385	259.7	0.227	4.83	77.2	11.4	1.16	13.6	0.01	0.05	0.08	0.13	70 213	
75 ISL	10.80 D	10.79	33.226 D	25.432	255.4	0.240	4.76	75.8	12.5	1.22	14.7	0.01	0.05	0.07	0.12	75	
85	10.45	10.44	33.301	25.551	244.2	0.265	4.56	72.1	14.5	1.34	16.5	0.01	0.06	0.05	0.10	85 212	
100	10.13	10.12	33.522	25.778	222.9	0.300	3.79	59.6	20.1	1.66	21.4	0.01	0.05	0.02	0.09	100 211	
120	9.52	9.51	33.627	25.962	205.8	0.342	3.50	54.3	23.6	1.78	23.7	0.00	0.00	0.01	0.05	121 210	
125 ISL	9.25 D	9.24	33.679 D	26.046	197.8	0.353	3.39	52.3	24.7	1.82	24.3	0.00	0.02	0.01	0.05	126	
140	9.02	9.00	33.786	26.167	186.6	0.381	3.12	47.9	27.9	1.90	25.9	0.00	0.08	0.01	0.05	141 209	
150 ISL	8.76 D	8.74	33.889 D	26.289	175.2	0.399	3.18	48.6	28.8	1.88	25.8	0.00	0.06	0.01	0.04	151	
170	8.48	8.46	33.943	26.375	167.4	0.434	3.24	49.2	30.6	1.85	25.5	0.00	0.00	0.00	0.03	171 208	
200	8.25	8.23	34.028	26.476	158.2	0.483	2.25	34.0	37.9	2.18	29.5	0.00	0.00	0.00	0.03	201 207	
230	7.75	7.73	34.031	26.553	151.2	0.529	2.17	32.4	42.6	2.25	31.0	0.00	0.00			231 206	
250 ISL	7.55 D	7.53	34.049 D	26.596	147.4	0.559	1.83	27.2	46.0	2.38	32.5	0.00	0.00			251	
270	7.53	7.50	34.093	26.634	144.2	0.588	1.46	21.7	49.3	2.52	33.9	0.00	0.00			272 205	
300 ISL	7.14 D	7.11	34.108 D	26.701	138.1	0.630	1.22	18.0	53.9	2.63	35.2	0.00	0.00			302	
321	7.01	6.98	34.125	26.733	135.4	0.659	1.12	16.5	56.9	2.69	35.9	0.00	0.00			323 204	
382	6.58	6.55	34.174	26.830	126.8	0.739	0.79	11.5	64.8	2.86	37.6	0.00	0.00			384 203	
400 ISL	6.42 D	6.38	34.184 D	26.859	124.2	0.762	0.72	10.4	66.8	2.90	38.0	0.00	0.00			403	
441	6.19	6.15	34.200	26.901	120.5	0.812	0.58	8.4	71.4	2.98	38.8	0.00	0.00			444 202	
500 ISL	5.77 D	5.73	34.261 D	27.003	111.3	0.880	0.38	5.4	80.1	3.09	40.3	0.00	0.00			503	
516	5.66	5.62	34.281	27.032	108.6	0.898	0.32	4.6	82.5	3.12	40.7	0.00	0.00			520 201	

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

RV NEW HORIZON

CALCOFI CRUISE 1011

STATION 83.3 70.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE	
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SV	DYN HT	OXYGEN	OXY	SIO3	P04	N03	N02	NH4	CHL-A	PHAEAO	PRES	SAMP
m	DEG C	DEG C	THETA		ml/l	PCT	uM/l	uM/l	uM/l	uM/l	uM/l	uM/l	ug/l	ug/l	db		
0 ISL	15.79	15.79	33.431	24.589	333.9	0.000	6.04	106.8	0.0	0.22	0.1	0.02	0.09	1.75	0.36	0	
2	15.79	15.79	33.431	24.589	334.0	0.007	6.04	106.8	0.0	0.22	0.1	0.02	0.09	1.75	0.36	2 221	
10 ISL	15.76 D	15.76	33.432 D	24.597	333.5	0.033	6.05	107.0	0.2	0.22	0.1	0.02	0.05	1.78	0.38	10	
11	15.74	15.74	33.433	24.602	333.0	0.037	6.05	106.9	0.2	0.22	0.1	0.02	0.05	1.79	0.38	11 219	
11	15.77	15.77	33.432	24.595	333.7	0.037										11 220	
20	15.68	15.68	33.435	24.617	331.8	0.067	6.05	106.8	0.2	0.23	0.2	0.02	0.15	1.89	0.52	20 218	
30 ISL	15.20 D	15.20	33.421 D	24.713	323.0	0.099	5.89	103.0	0.8	0.37	0.9	0.06	0.52	2.51	0.91	30	
31	15.21	15.21	33.423	24.712	323.1	0.103	5.87	102.6	0.9	0.38	1.0	0.06	0.54	2.57	0.93	31 217	
40	13.27	13.26	33.397	25.099	286.4	0.130	4.92	82.7	6.3	0.91	9.3	0.37	0.25	0.27	0.41	40 216	
50 ISL	11.80 D	11.79	33.397 D	25.383	259.5	0.157	4.44	72.3	10.6	1.22	14.4	0.09	0.01	0.14	0.25	50	
51	11.89	11.88	33.400	25.369	260.9	0.160	4.40	71.8	11.0	1.24	14.8	0.05	0.00	0.13	0.25	51 215	
61	10.66	10.65	33.476	25.651	234.3	0.185	3.80	60.4	17.2	1.58	19.9	0.01	0.00	0.06	0.20	61 214	
71	10.27	10.26	33.597	25.813	219.1	0.207	3.46	54.6	21.1	1.72	22.3	0.02	0.00	0.04	0.15	71 213	
75 ISL	10.17 D	10.16	33.633 D	25.858	214.9	0.216	3.40	53.5	22.1	1.75	23.0	0.02	0.00	0.04	0.14	75	
85	9.80	9.79	33.652	25.935	207.7	0.237	3.27	51.1	24.4	1.82	24.3	0.02	0.00	0.03	0.11	85 212	
100 ISL	9.38 D	9.37	33.836 D	26.148	187.7	0.267	2.74	42.4	28.6	1.96	26.3	0.02	0.00	0.02	0.08	100	
101	9.39	9.38	33.834	26.145	188.0	0.269	2.70	41.8	27.0	1.97	26.4	0.02	0.00	0.02	0.08	102 211	
120	9.00	8.99	33.932	26.284	175.1	0.303	2.47	38.0	32.4	2.04	27.7	0.01	0.00	0.01	0.07	121 210	
125 ISL	8.93 D	8.92	33.956 D	26.314	172.4	0.312	2.42	37.1	33.2	2.06	28.0	0.01	0.00	0.01	0.07	126	
140	8.71	8.70	33.988	26.374	166.9	0.337	2.27	34.7	35.4	2.13	28.9	0.01	0.00	0.01	0.06	141 209	
150 ISL	8.64 D	8.62	34.010 D	26.402	164.4	0.354	2.21	33.7	36.2	2.15	29.1	0.01	0.00	0.01	0.06	151	
170	8.53	8.51	34.037	26.441	161.1	0.386	2.07	31.5	37.8	2.19	29.6	0.01	0.00	0.00	0.05	171 208	
200	8.21	8.19	34.100	26.539	152.3	0.434	1.68	25.4	43.0	2.35	31.5	0.00	0.00	0.00	0.04	201 207	
230	8.00	7.98	34.151	26.611	145.9	0.478	1.26	19.0	47.7	2.52	33.2	0.00	0.00			231 206	
250 ISL	7.65 D	7.63	34.157 D	26.667	140.8	0.507	1.14	17.0	50.1	2.58	34.0	0.00	0.00			251	
270	7.58	7.55	34.161	26.680	139.8	0.535	1.06	15.8	52.5	2.63	34.7	0.00	0.00			272 205	
300 ISL	7.31 D	7.28	34.176 D	26.731	135.4	0.576	0.89	13.2	56.9	2.71	35.7	0.00	0.00			302	
322	7.10	7.07	34.193	26.774	131.5	0.606	0.78	11.5	60.2	2.77	36.4	0.00	0.00			324 204	
381	6.62	6.59															

RV NEW HORIZON

CALCOFI CRUISE 1011

STATION 83.3 80.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE	
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SV	DYN HT	OXYGEN	OXY	SIO3	P04	N03	N02	NH4	CHL-A	PHAEAO	PRES	SAMP
m	DEG C	DEG C	THETA		ml/l	PCT	uM/l	uM/l	uM/l	uM/l	uM/l	uM/l	ug/l	ug/l	db		
0 ISL	16.44	16.44	33.082	24.173	373.5	0.000	5.78	103.4	2.0	0.26	0.0	0.00	0.17	0.23	0.04	0	
2	16.44	16.44	33.082	24.173	373.6	0.007	5.78	103.4	2.0	0.26	0.0	0.00	0.17	0.23	0.04	2 221	
10	16.43	16.43	33.082	24.176	373.6	0.037	5.78	103.3	2.0	0.26	0.0	0.00	0.23	0.23	0.04	10 219	
10	16.44	16.44	33.082	24.174	373.8	0.037										10 220	
20	16.31	16.31	33.109	24.225	369.3	0.075	5.78	103.1	1.8	0.25	0.0	0.00	0.13	0.30	0.07	20 218	
30	13.28	13.28	32.910	24.720	322.2	0.109	6.00	100.5	3.1	0.43	1.1	0.17	0.23	0.41	0.29	30 217	
40	12.83	12.82	33.039	24.909	304.5	0.140	5.71	94.8	3.9	0.58	3.5	0.51	0.18	0.36	0.35	40 216	
50	12.24	12.23	32.997	24.990	297.0	0.170	5.63	92.3	4.5	0.61	4.4	0.30	0.06	0.29	0.28	50 215	
60	11.82	11.81	33.065	25.122	284.6	0.200	5.35	87.0	7.4	0.87	8.9	0.04	0.05	0.23	0.20	60 214	
70	10.69	10.68	33.159	25.399	258.4	0.227	4.91	78.0	11.9	1.15	13.7	0.02	0.06	0.09	0.14	70 213	
75 ISL	10.27 D	10.26	33.215 D	25.515	247.4	0.239	4.75	74.8	13.6	1.24	15.3	0.01	0.06	0.07	0.11	75	
86	9.69	9.68	33.317	25.691	230.8	0.266	4.39	68.3	16.9	1.42	18.2	0.01	0.05	0.03	0.06	86 212	
100	9.60	9.59	33.528	25.871	214.0	0.297	3.74	58.1	21.9	1.69	22.6	0.01	0.00	0.02	0.05	100 211	
120	9.19	9.18	33.630	26.018	200.4	0.338	3.48	53.6	24.8	1.79	24.3	0.00	0.00	0.01	0.05	121 210	
125 ISL	9.11 D	9.10	33.674 D	26.065	196.0	0.348	3.29	50.6	26.2	1.85	25.2	0.00	0.00	0.01	0.05	126	
140	9.04	9.02	33.809	26.182	185.2	0.377	2.73	42.0	30.4	2.03	27.9	0.00	0.00	0.01	0.04	141 209	
150 ISL	8.94 D	8.92	33.885 D	26.257	178.2	0.395	2.64	40.5	32.0	2.05	28.2	0.00	0.00	0.01	0.04	151	
171	8.59	8.57	33.921	26.340	170.7	0.432	2.46	37.5	33.9	2.09	28.9	0.00	0.00	0.00	0.03	172 208	
200	8.19	8.17	33.983	26.450	160.6	0.480	2.86	43.2	35.1	1.98	27.7	0.00	0.00	0.00	0.02	201 207	
230	7.68	7.66	33.998	26.537	152.7	0.527	2.64	39.4	40.4	2.09	29.7	0.00	0.00			231 206	
250 ISL	7.58 D	7.56	34.037 D	26.583	148.7	0.557	2.33	34.7	44.5	2.22	31.4	0.00	0.04			251	
271	7.21	7.18	34.029	26.629	144.5	0.588	1.96	28.9	48.7	2.37	33.2	0.00	0.07			273 205	
300 ISL	7.28 D	7.25	34.106 D	26.680	140.2	0.629	1.49	22.0	53.6	2.54	35.1	0.00	0.04			302	
321	6.93	6.90	34.110	26.732	135.4	0.658	1.19	17.5	56.9	2.64	36.2	0.00	0.00			323 204	
381	6.46	6.43	34.156	26.831	126.5	0.736	0.75	10.9	66.0	2.85	38.4	0.00	0.00			383 203	
400 ISL	6.37 D	6.33	34.191 D	26.871	123.0	0.760	0.65	9.4	69.0	2.90	38.9	0.00	0.00			403	
441	6.02	5.98	34.217	26.936	117.0	0.809	0.48	6.9	75.1	2.99	39.8	0.00	0.00			444 202	
500 ISL	5.63 D	5.59	34.252 D	27.013	110.2	0.876	0.34	4.8	82.5	3.09	40.8	0.00	0.00			503	
515	5.56	5.52	34.267	27.033	108.4	0.893	0.30	4.3	84.4	3.11	41.1	0.00	0.00			519 201	

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

RV NEW HORIZON

CALCOFI CRUISE 1011

STATION 83.3 90.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE	
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SV	DYN HT	OXYGEN	OXY	SIO3	P04	N03	N02	NH4	CHL-A	PHAEAO	PRES	SAMP
m	DEG C	DEG C	THETA		ml/l	PCT	uM/l	uM/l	uM/l	uM/l	uM/l	uM/l	ug/l	ug/l	db		
0 ISL	17.09	17.09	32.819	23.821	407.1	0.000	5.67	102.5	1.9	0.28	0.1	0.00	0.20	0.07	0		
1 A	17.09	17.09	32.819	23.821	407.2	0.004	5.67	102.5	1.9	0.28	0.1	0.00	0.20	0.07	1 222		
9	17.08	17.08	32.817	23.822	407.3	0.037	5.65	102.1	1.8	0.28	0.0	0.00	0.20	0.06	9 220		
9	17.08	17.08	32.825	23.828	406.7	0.037										9 221	
10 ISL	17.05 D	17.05	32.817 D	23.829	406.7	0.041	5.65	102.1	1.8	0.28	0.0	0.00	0.20	0.06	10		
17 A	16.99	16.99	32.818	23.844	405.5	0.069	5.69	102.7	1.8	0.27	0.0	0.00	0.20	0.07	17 219		
20 ISL	16.89 D	16.89	32.817 D	23.867	403.4	0.081	5.72	103.0	1.8	0.28	0.0	0.00	0.24	0.09	20		
26	16.45	16.45	32.857	23.999	390.9	0.105	5.80	103.6	1.9	0.29	0.0	0.00	0.31	0.15	26 218		
30 ISL	16.14 D	16.14	32.908 D	24.109	380.6	0.121	5.88	104.4	1.9	0.29	0.0	0.00	0.32	0.18	30		
35 A	15.62	15.61	32.929	24.242	368.0	0.139	5.97	104.9	1.9	0.28	0.0	0.00	0.33	0.23	35 217		
45	14.63	14.62	32.947	24.471	346.5	0.175	6.02	103.7	2.2	0.29	0.0	0.00	0.40	0.37	45 216		
50 ISL	13.98 D	13.97	32.992 D	24.642	330.3	0.192	5.96	101.4	2.7	0.37	0.8	0.08	0.19	0.36	0.35	50	
53 A	13.87	13.86	32.998	24.669	327.7	0.202	5.92	100.4	2.9	0.41	1.2	0.14	0.29	0.32	0.33	53 215	
60	13.51	13.50	33.001	24.745	320.7	0.224	5.86	98.7	2.9	0.40	1.0	0.21	0.26	0.29	60 214		
69 A	13.00	12.99	32.972	24.825	313.3	0.253	5.82	97.0	3.0	0.41	1.2	0.23	0.04	0.20	0.24	69 213	
75 ISL	12.77 D	12.76	32.956 D	24.857	310.3	0.272	5.77	95.7	3.2	0.43	1.6	0.17	0.02	0.17	0.21	75	
84	12.45	12.44	32.995	24.950	301.7	0.299	5.69	93.7	3.6	0.45	2.2	0.05	0.00	0.12	0.16	84 212	
100 A	11.14	11.13	32.988	25.187	279.3	0.346	5.55	88.9	6.9	0.75	7.1	0.01	0.05	0.06	0.09	100 211	
121	10.13	10.12	33.229	25.550	245.0	0.401	4.95	77.7	11.5	1.04	12.7	0.00	0.00	0.03	0.07	122 210	
125 ISL	9.73 D	9.72	33.301 D	25.673	233.4	0.410	4.82	75.0	12.8	1.12	14.0	0.00	0.00	0.03	0.06	126	
140	9.53	9.51	33.468	25.836	218.1	0.444	4.35	67.4	17.8	1.39	18.5	0.00	0.01	0.03	0.03	141 209	
150 ISL	9.40 D	9.38	33.532 D	25.908	211.5	0.466	4.10	63.4	20.3	1.51	20.4	0.00	0.00	0.00	0.03	151	
170	9.09	9.07	33.695	26.085	195.0	0.506	3.70	56.9	24.3	1.67	23.1	0.00	0.00	0.00	0.02	171 208	
200 ISL	8.74 D	8.72	33.877 D	26.283	176.7	0.562	3.21	49.0	29.2	1.84	25.8	0.00	0.00	0.00	0.02	201 207	
201	8.74	8.72	33.878	26.284	176.6	0.564	3.20	48.9	29.3	1.84	25.9	0.00	0.00	0.00	0.02	202 207	
229	8.29	8.27	33.921	26.387	167.2	0.612	2.83	42.8	34.0	2.00	28.2	0.00	0.00			230 206	
250 ISL	8.15 D	8.12	34.018 D	26.484	158.3	0.646	2.48	37.4	38.2	2.12	30.0	0.00	0.00			251	
270	7.74	7.71	34.007	26.536	153.5	0.677	2.17	32.4	42.2	2.23	31.5	0.00	0.00			271 205	
300 ISL	7.01 D	6.98	33.976 D	26.615	146.1	0.722	1.98	29.1	47.5	2.34	33						

RV NEW HORIZON

CALCOFI CRUISE 1011

STATION 83.3 100.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE		
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SV	DYN	HT	OXYGEN	OXY	SIO3	P04	N03	N02	NH4	CHL-A	PHAEAO	PRES	SAMP
m	DEG C	DEG C	THETA					ml/l	PCT	uM/L	uM/L	uM/L	uM/L	uM/L	ug/l	ug/l	db	
0 ISL	17.77	17.77	33.069	23.850	404.3	0.000	5.53	101.5	2.2	0.25	0.0	0.00	0.10	0.17	0.03	0		
2	17.77	17.77	33.069	23.851	404.4	0.008	5.53	101.5	2.2	0.25	0.0	0.00	0.10	0.17	0.03	2	221	
10	17.78	17.78	33.068	23.848	404.9	0.040	5.55	101.9	2.8	0.25	0.0	0.00	0.06	0.17	0.03	10	219	
10	17.78	17.78	33.068	23.848	404.9	0.040											10 220	
20 ISL	17.79	17.79	33.069	23.846	405.4	0.081	5.54	101.7	3.1	0.25	0.0	0.00	0.07	0.19	0.02	20		
25	17.79	17.79	33.070	23.847	405.5	0.101	5.53	101.5	3.1	0.25	0.0	0.00	0.07	0.20	0.02	25	218	
30 ISL	17.79	17.78	33.069	23.847	405.7	0.122	5.53	101.5	3.2	0.25	0.0	0.00	0.07	0.19	0.03	30		
40	17.78	17.77	33.068	23.849	405.8	0.162	5.52	101.3	3.4	0.25	0.0	0.00	0.06	0.18	0.04	40	217	
50	16.69	16.68	33.045	24.089	383.2	0.202	5.86	105.3	3.8	0.26	0.0	0.00	0.08	0.29	0.12	50	216	
62	15.35	15.34	33.191	24.504	343.9	0.245	5.95	104.2	4.2	0.26	0.2	0.01	0.09	0.34	0.14	62	215	
75	14.09	14.08	33.130	24.727	322.9	0.289	5.96	101.7	4.7	0.26	0.0	0.00	0.09	0.24	0.10	75	214	
87	13.61	13.60	33.205	24.883	308.3	0.326	5.75	97.2	5.5	0.31	0.7	0.08	0.06	0.23	0.12	87	213	
100	12.49	12.48	33.092	25.018	295.7	0.366	5.54	91.4	7.1	0.52	3.7	0.02	0.05	0.14	0.11	100	212	
112	11.62	11.61	33.078	25.170	281.3	0.400	5.35	86.6	9.8	0.75	7.4	0.00	0.08	0.07	0.07	112	211	
125 ISL	10.78	10.77	33.222	25.433	256.4	0.435	5.06	80.5	13.3	0.97	11.3	0.00	0.05	0.04	0.06	126		
126	10.75	10.73	33.224	25.440	255.8	0.438	5.04	80.2	13.5	0.98	11.5	0.00	0.05	0.04	0.06	127	210	
140	10.24	10.22	33.295	25.583	242.3	0.473	4.93	77.6	15.2	1.05	12.8	0.00	0.00	0.02	0.05	141	209	
150 ISL	9.52	9.50	33.425	25.805	221.3	0.496	4.55	70.5	16.8	1.12	14.2	0.00	0.01	0.04	151			
171	9.23	9.21	33.602	25.990	204.1	0.540	3.73	57.5									172 208	
200 ISL	8.91	8.89	33.872	26.253	179.6	0.596	3.71	56.9	28.0	1.60	22.5	0.00	0.00	0.00	0.02	201		
202	8.95	8.93	33.857	26.235	181.4	0.600	3.71	56.9	28.5	1.62	22.9	0.00	0.00	0.00	0.02	203	207	
231	8.30	8.28	33.973	26.426	163.5	0.650	2.93	44.3	36.6	1.92	27.2	0.00	0.00			232	206	
250 ISL	7.93	7.90	33.990	26.495	157.2	0.680	2.75	41.3	39.9	2.01	28.6	0.00	0.00			251		
271	7.71	7.68	33.996	26.532	153.9	0.713	2.64	39.4	43.0	2.08	29.7	0.00	0.00			272	205	
300 ISL	7.22	7.19	34.009	26.612	146.5	0.756	2.31	34.1	48.9	2.25	32.0	0.00	0.00			302		
320	7.02	6.99	34.023	26.651	143.0	0.785	2.06	30.3	53.0	2.37	33.6	0.00	0.00			322	204	
380	6.37	6.34	34.050	26.759	133.2	0.868	1.48	21.4	62.9	2.60	36.6	0.00	0.00			382	203	
400 ISL	6.17	6.13	34.064	26.796	129.8	0.895	1.31	18.9	66.4	2.68	37.5	0.00	0.02			402		
440	5.82	5.78	34.091	26.862	123.8	0.945	1.01	14.4	73.3	2.83	39.1	0.00	0.05			443	202	
500 ISL	5.45	5.41	34.148	26.952	115.7	1.017	0.73	10.3	81.7	2.94	40.7	0.00	0.01			503		
516	5.28	5.24	34.146	26.971	113.9	1.036	0.65	9.2	84.0	2.97	41.1	0.00	0.00			519	201	

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

RV NEW HORIZON

CALCOFI CRUISE 1011

STATION 83.3 110.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE		
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SV	DYN	HT	OXYGEN	OXY	SIO3	P04	N03	N02	NH4	CHL-A	PHAEAO	PRES	SAMP
m	DEG C	DEG C	THETA					ml/l	PCT	uM/L	uM/L	uM/L	uM/L	uM/L	ug/l	ug/l	db	
0 ISL	18.02	18.02	33.121	23.830	406.3	0.000	5.50	101.4	1.9	0.25	0.0	0.00	0.04	0.11	0.03	0		
2	18.02	18.02	33.121	23.830	406.4	0.008	5.50	101.4	1.9	0.25	0.0	0.00	0.04	0.11	0.03	2	221	
10	18.02	18.02	33.121	23.830	406.6	0.041	5.51	101.6	1.8	0.24	0.0	0.00	0.07	0.11	0.03	10	219	
10	18.02	18.02	33.123	23.832	406.5	0.041											10 220	
20 ISL	18.03	18.03	33.120	23.827	407.2	0.081	5.50	101.4	1.7	0.24	0.0	0.00	0.06	0.12	0.02	20		
25	18.03	18.03	33.124	23.831	407.1	0.102	5.50	101.5	1.6	0.24	0.0	0.00	0.04	0.13	0.02	25	218	
30 ISL	18.04	18.03	33.123	23.828	407.5	0.122	5.50	101.5	1.6	0.24	0.0	0.00	0.03	0.13	0.02	30		
41	18.07	18.06	33.147	23.839	406.8	0.167	5.50	101.5	1.6	0.23	0.0	0.00	0.00	0.12	0.03	41	217	
49	18.08	18.07	33.152	23.841	406.9	0.199	5.50	101.6	1.8	0.23	0.0	0.00	0.05	0.15	0.03	49	216	
50 ISL	17.65	17.64	33.169	23.958	395.8	0.203	5.54	101.5	1.8	0.23	0.0	0.00	0.05	0.16	0.03	50		
62	15.61	15.60	33.081	24.362	357.4	0.249	6.01	105.7	2.0	0.24	0.0	0.00	0.00	0.23	0.05	62	215	
74	14.02	14.01	33.043	24.674	327.9	0.290	5.96	101.5	2.1	0.28	0.0	0.00	0.05	0.25	0.15	74	214	
75 ISL	13.93	13.92	33.033	24.685	326.9	0.293	5.96	101.3	2.1	0.28	0.0	0.00	0.05	0.26	0.15	75		
87	13.57	13.56	33.068	24.786	317.6	0.332	5.91	99.7	2.4	0.29	0.0	0.02	0.05	0.32	0.11	87	213	
100	12.58	12.57	33.060	24.975	299.7	0.372	5.65	93.4	3.2	0.41	1.8	0.03	0.04	0.20	0.16	100	212	
113	11.76	11.75	33.067	25.136	284.6	0.410	5.44	88.3	4.7	0.60	4.8	0.01	0.00	0.13	0.12	113	211	
125	10.83	10.82	33.127	25.350	264.3	0.443	5.17	82.3	8.0	0.85	9.2	0.00	0.00	0.07	0.10	126	210	
139	10.26	10.24	33.206	25.510	249.2	0.479	5.00	78.7	10.6	1.01	12.0	0.00	0.00	0.05	0.07	140	209	
150 ISL	10.11	10.09	33.426	25.708	230.7	0.505	4.73	74.3	13.8	1.18	14.9	0.00	0.00	0.03	0.05	151		
171	9.29	9.27	33.522	25.918	210.9	0.551	63.4	20.2	1.51	20.3	0.00	0.00	0.01	0.02	172	208		
200	8.97	8.95	33.795	26.183	186.3	0.609	3.37	51.7	26.8	1.79	24.6	0.00	0.00	0.00	0.03	201	207	
230	8.48	8.46	33.931	26.366	169.3	0.662	2.99	45.4	31.9	1.91	27.0	0.00	0.00			231	206	
250 ISL	8.01	7.98	33.949	26.451	161.4	0.695	2.68	40.3	36.1	2.03	28.7	0.00	0.00			251		
270	7.83	7.80	34.006	26.522	154.9	0.727	2.39	35.8	40.5	2.15	30.2	0.00	0.00			271	205	
300 ISL	7.47	7.44	34.035	26.597	148.1	0.772	2.15	31.9	46.0	2.28	32.0	0.00	0.00			302		

RV NEW HORIZON

CALCOFI CRUISE 1011

STATION 86.7 33.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE	
33 53.5 N	118 29.3 W	04/11/10	1432	UTC	59 m	160	03 kn	230 01 06	1	1014.1 mb	19.7 C	17.0 C	13m	4/8		CI	
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN	OXY	S103	PO4	N03	N02	NH4	CHL-A	PHAEAO	PRES	SAMP
m	DEG C	DEG C			ml/l	PCT	uM/l	uM/l	uM/l	uM/l	uM/l	uM/l	uM/l	ug/l	ug/l	db	
0 ISL	17.33	17.33	33.471	24.264	364.9	0.000	5.95	108.5	0.0	0.21	0.0	0.00	0.00	0.68	0.18	0	
2	17.33	17.33	33.471	24.264	364.9	0.007	5.95	108.5	0.0	0.21	0.0	0.00	0.00	0.68	0.18	2	208
5	17.32	17.32	33.471	24.266	364.8	0.018	5.95	108.5	0.1	0.20	0.0	0.00	0.00	0.68	0.16	5	207
10	17.18	17.18	33.470	24.299	361.9	0.036	5.93	107.8	0.2	0.21	0.0	0.00	0.00	0.65	0.17	10	205
11	17.22	17.22	33.470	24.290	362.8	0.040										11	206
20 ISL	13.07 D	13.07	33.376 D	25.122	283.7	0.069	5.48	91.7	3.8	0.63	5.3	0.30	0.06	0.81	0.47	20	
21	13.79	13.79	33.372	24.974	297.9	0.072	5.41	91.9	4.4	0.69	6.1	0.33	0.07	0.82	0.50	21	204
30	12.04	12.04	33.364	25.312	265.8	0.097	4.56	74.6	10.7	1.19	13.3	0.33	1.21	0.57	0.52	30	203
41	11.56	11.55	33.431	25.454	252.6	0.126	3.75	60.8	15.0	1.45	18.6	0.45	0.00	0.19	0.22	41	202
50	10.94	10.93	33.516	25.632	235.8	0.148	3.22	51.5	20.1	1.70	20.2	0.24	0.22	0.14	0.29	50	201

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

RV NEW HORIZON

CALCOFI CRUISE 1011

STATION 86.7 35.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE	
33 50.2 N	118 39.2 W	04/11/10	1809	UTC	660 m	050	06 kn	270 02 07	1	1014.9 mb	21.9 C	19.0 C	19m	3/8		CI	
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN	OXY	S103	PO4	N03	N02	NH4	CHL-A	PHAEAO	PRES	SAMP
m	DEG C	DEG C			ml/l	PCT	uM/l	uM/l	uM/l	uM/l	uM/l	uM/l	uM/l	ug/l	ug/l	db	
0 ISL	18.12	18.12	33.496	24.092	381.3	0.000	5.77	106.9	1.9	0.21	0.0	0.00	0.06	0.45	0.10	0	
2 A	18.12	18.12	33.496	24.092	381.3	0.008	5.77	106.9	1.9	0.21	0.0	0.00	0.06	0.45	0.10	2	223
10 ISL	17.94 D	17.94	33.494 D	24.135	377.5	0.038	5.78	106.7	1.8	0.21	0.0	0.00	0.07	0.35	0.10	10	
13 A	17.79	17.79	33.496	24.173	374.0	0.049	5.78	106.4	1.8	0.21	0.0	0.00	0.07	0.31	0.10	13	221
13	17.78	17.78	33.491	24.172	374.1	0.049										13	222
20	17.72	17.72	33.497	24.191	372.5	0.075	5.79	106.4	1.7	0.21	0.0	0.00	0.07	0.34	0.13	20	220
27 A	15.38	15.38	33.431	24.681	326.0	0.100	5.92	103.9	2.9	0.39	1.1	0.07	0.12	1.50	0.71	27	219
30 ISL	13.99 D	13.99	33.385 D	24.943	301.1	0.109	5.64	96.2	4.0	0.58	3.9	0.24	0.11	1.24	0.62	30	
34	13.34	13.34	33.347	25.046	291.3	0.121	5.19	87.3	5.8	0.83	8.0	0.43	0.10	0.70	0.40	34	218
40 A	12.19	12.18	33.325	25.254	271.6	0.138	4.85	79.6	8.6	1.03	11.3	0.25	0.11	0.47	0.27	40	217
50 ISL	11.19 D	11.18	33.368 D	25.472	251.0	0.164	4.41	70.9	12.7	1.28	15.5	0.08	0.05	0.27	0.14	50	
52 A	11.09	11.08	33.389	25.507	247.8	0.169	4.34	69.6	13.4	1.32	16.1	0.06	0.04	0.25	0.13	52	216
64	10.71	10.70	33.473	25.640	235.4	0.198	3.90	62.1	16.6	1.51	18.6	0.03	0.06	0.14	0.11	64	215
75 ISL	10.38 D	10.37	33.589 D	25.787	221.6	0.223	3.31	52.3	20.6	1.71	21.5	0.03	0.00	0.06	0.12	75	
76 A	10.39	10.38	33.606	25.799	220.5	0.225	3.25	51.4	21.0	1.73	21.8	0.03	0.00	0.05	0.12	76	214
88	10.35	10.34	33.712	25.889	212.2	0.251	2.63	41.6	24.5	1.92	23.9	0.02	0.25	0.02	0.09	88	213
100	10.12	10.11	33.803	25.999	202.0	0.276	2.49	39.2	26.7	1.98	24.7	0.01	0.00	0.01	0.06	100	212
120	9.94	9.93	33.936	26.134	189.6	0.315	2.16	33.9	29.7	2.10	25.9	0.01	0.00	0.01	0.06	121	211
125 ISL	9.91 D	9.90	33.960 D	26.158	187.4	0.323	2.12	33.3	30.1	2.11	26.1	0.01	0.00	0.01	0.06	126	
140	9.81	9.79	34.002	26.208	183.0	0.353	2.02	31.6	31.2	2.13	26.6	0.00	0.00	0.01	0.06	141	210
150 ISL	9.74 D	9.72	34.059 D	26.264	177.9	0.371	1.93	30.2	32.0	2.16	27.0	0.00	0.00	0.01	0.06	151	
170	9.56	9.54	34.107	26.332	171.8	0.406	1.77	27.6	33.8	2.24	27.8	0.00	0.00	0.01	0.05	171	209
200	9.28	9.26	34.155	26.415	164.4	0.456	1.60	24.8	36.6	2.32	29.0	0.00	0.00	0.00	0.04	201	208
230	8.89	8.87	34.196	26.510	155.9	0.504	1.26	19.3	41.3	2.45	30.8	0.01	0.00	0.01	0.06	231	206
250 ISL	8.72 D	8.69	34.212 D	26.550	152.5	0.535	1.18	18.0	43.2	2.51	31.4	0.01	0.00			251	
270	8.55	8.52	34.218	26.581	149.8	0.565	1.13	17.2	44.7	2.55	31.8	0.00	0.00			272	205
300 ISL	8.30 D	8.27	34.230 D	26.629	145.7	0.610	0.98	14.8	47.9	2.61	32.7	0.00	0.00			302	
321	8.11	8.08	34.237	26.663	142.7	0.640	0.87	13.1	50.3	2.66	33.4	0.00	0.00			323	204
380	7.61	7.57	34.255	26.752	135.1	0.722	0.69	10.3	57.3	2.82	34.9	0.01	0.06			382	203
400 ISL	7.37 D	7.33	34.261 D	26.791	131.5	0.748	0.63	9.3	60.4	2.87	35.6	0.01	0.04			403	
440	6.94	6.90	34.272	26.859	125.2	0.800	0.50	7.3	66.9	2.95	36.8	0.00	0.00			443	202
500 ISL	6.41 D	6.36	34.302 D	26.954	116.6	0.872	0.34	4.9	76.1	3.08	37.9	0.00	0.00			503	
516	6.29	6.24	34.311	26.977	114.6	0.891	0.30	4.3	78.5	3.11	38.2	0.00	0.00			520	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

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

RV NEW HORIZON

CALCOFI CRUISE 1011

STATION 86.7 40.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE	
33 39.6 N	118 58.4 W	04/11/10	2129	UTC	789 m	130	05 kn	250 02 07	1	1012.8 mb	22.8 C	19.8 C	17m	4/8		AS	
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN	OXY	S103	PO4	N03	N02	NH4	CHL-A	PHAEAO	PRES	SAMP
m	DEG C	DEG C			ml/l	PCT	uM/l	uM/l	uM/l	uM/l	uM/l	uM/l	uM/l	ug/l	ug/l	db	
0 ISL	18.19	18.19	33.479	24.062	384.1	0.000	5.71	105.9	1.2	0.21	0.0	0.00	0.28	0.36	0.31	0	
2	18.19	18.19	33.479	24.062	384.2	0.008	5.71	105.9	1.2	0.21							

RV NEW HORIZON

CALCOFI CRUISE 1011

STATION 86.7 45.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE		
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SV	DYN	HT	OXYGEN	OXY	SIO3	P04	N03	N02	NH4	CHL-A	PHAEAO	PRES	SAMP
m	DEG C	DEG C		THETA	ml/l	PCT	uM/l	uM/l	uM/l	uM/l	uM/l	uM/l	uM/l	ug/l	ug/l	db		
0 ISL	17.43	17.43	33.495	24.258	365.4	0.000	5.81	106.2	1.9	0.26	0.2	0.02	0.21	0.48	0.19	0		
2	17.43	17.43	33.495	24.258	365.5	0.007	5.81	106.2	1.9	0.26	0.2	0.02	0.21	0.48	0.19	2	221	
10	16.90	16.90	33.494	24.383	353.8	0.036	5.82	105.3	2.0	0.27	0.3	0.03	0.15	0.43	0.31	10	219	
10	16.93	16.93	33.493	24.376	354.6	0.036										10	220	
20	15.65	15.65	33.475	24.655	328.3	0.070	5.74	101.3	2.3	0.41	2.3	0.08	0.17	2.65	0.97	20	218	
30	14.51	14.51	33.484	24.910	304.2	0.102	5.24	90.4	5.3	0.71	6.4	0.16	0.28	2.96	0.94	30	217	
40	11.66	11.65	33.496	25.486	249.5	0.130	4.11	66.8	14.0	1.34	16.1	0.23	0.12	0.38	0.32	40	216	
50	10.57	10.56	33.559	25.731	226.4	0.153	3.66	58.1	18.6	1.57	20.0	0.09	0.07	0.09	0.12	50	215	
61	10.32	10.31	33.655	25.849	215.4	0.178	3.25	51.4	21.7	1.72	22.2	0.06	0.00	0.05	0.12	61	214	
70	9.90	9.89	33.720	25.971	204.0	0.196	3.03	47.5	24.5	1.82	23.8	0.03	0.00	0.04	0.12	70	213	
75 ISL	9.87	D 9.86	33.757	D 26.005	200.8	0.207	2.89	45.2	1.87	24.5	0.03	0.02	0.03	0.10	75			
85	9.60	9.59	33.855	26.126	189.5	0.226	2.60	40.5	28.2	1.97	25.7	0.02	0.06	0.02	0.07	85	212	
100	9.46	9.45	33.970	26.240	179.0	0.254	2.25	34.9	31.1	2.08	26.8	0.02	0.06	0.03	0.08	101	211	
120	9.33	9.32	34.021	26.301	173.6	0.289	2.11	32.7	32.5	2.13	27.4	0.01	0.00	0.01	0.06	121	210	
125 ISL	9.32	D 9.31	34.036	D 26.314	172.4	0.298	2.06	31.9	33.1	2.15	27.6	0.01	0.00	0.01	0.05	125		
140	9.11	9.09	34.088	26.389	165.6	0.323	1.89	29.1	35.2	2.21	28.4	0.01	0.00	0.01	0.04	141	209	
150 ISL	9.07	D 9.05	34.107	D 26.411	163.8	0.340	1.80	27.7	36.5	2.25	28.9	0.01	0.00	0.01	0.04	151		
170	8.78	8.76	34.137	26.480	157.5	0.372	1.62	24.8	39.1	2.33	29.8	0.01	0.00	0.01	0.04	171	208	
200	8.69	8.67	34.211	26.553	151.2	0.418	1.19	18.2	42.5	2.48	31.0	0.00	0.07	0.01	0.04	201	207	
230	8.46	8.44	34.235	26.608	146.5	0.463	1.04	15.8	45.8	2.55	32.1	0.01	0.00			231	206	
250 ISL	8.23	D 8.20	34.230	D 26.639	143.8	0.492	0.97	14.7	47.8	2.60	32.7	0.01	0.00			252		
270	8.09	8.06	34.242	26.669	141.2	0.520	0.92	13.9	49.7	2.64	33.2	0.01	0.00			272	205	
300 ISL	7.90	D 7.87	34.244	D 26.700	138.7	0.562	0.83	12.5	51.7	2.70	33.8	0.00	0.00			302		
321	7.81	7.78	34.250	26.718	137.3	0.591	0.77	D 11.5	53.2	2.74	34.2	0.00	0.00			323	204	
380	7.31	7.27	34.258	26.797	130.6	0.670	0.61	9.0	59.8	2.84	35.8	0.00	0.00			383	203	
400 ISL	7.10	D 7.06	34.274	D 26.839	126.7	0.696	0.56	8.3	62.0	2.88	36.3	0.00	0.00			403		
440	6.84	6.80	34.276	26.876	123.6	0.746	0.46	6.7	66.5	2.95	37.2	0.00	0.00			443	202	
500 ISL	6.42	D 6.37	34.291	D 26.944	117.6	0.818	0.36	5.2	73.0	3.03	38.5	0.00	0.00			503		
515	6.32	6.27	34.297	26.962	116.0	0.836	0.33	4.8	74.6	3.05	38.8	0.00	0.00			519	201	

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

RV NEW HORIZON

CALCOFI CRUISE 1011

STATION 86.7 50.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE		
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SV	DYN	HT	OXYGEN	OXY	SIO3	P04	N03	N02	NH4	CHL-A	PHAEAO	PRES	SAMP
m	DEG C	DEG C		THETA	ml/l	PCT	uM/l	uM/l	uM/l	uM/l	uM/l	uM/l	uM/l	ug/l	ug/l	db		
0 ISL	15.93	15.93	33.398	24.532	339.3	0.000	6.28	111.4	0.0	0.19	0.0	0.00	0.00	2.93	0.86	0		
2	15.93	15.93	33.398	24.532	339.4	0.007	6.28	111.4	0.0	0.19	0.0	0.00	0.00	2.93	0.86	2	210	
5	15.93	15.93	33.407	24.539	338.8	0.017	6.29	111.6	0.0	0.19	0.0	0.00	0.00	3.34	0.58	5	209	
10	15.91	15.91	33.400	24.539	339.0	0.034	6.29	111.5	0.0	0.19	0.0	0.01	0.00	3.59	0.46	10	207	
10	15.89	15.89	33.403	24.545	338.4	0.034										10	208	
20	15.67	15.67	33.405	24.597	333.8	0.068	6.32	111.5	0.2	0.20	0.0	0.01	0.00	5.03	0.11	20	206	
30	15.45	15.45	33.420	24.657	328.3	0.101	6.30	110.7	0.0	0.22	0.0	0.01	0.00	4.52	1.51	30	205	
41	14.13	14.12	33.464	24.975	298.3	0.135	5.16	88.3	5.6	0.77	5.8	0.23	0.74	4.97	1.02	41	204	
50	11.28	11.27	33.209	25.333	264.3	0.160	4.84	77.9	10.5	1.12	12.6	0.09	0.00	1.46	0.58	50	203	
60	9.83	9.82	33.479	25.794	220.5	0.185	3.97	62.0	20.3	1.60	20.8	0.05	0.00	0.19	0.24	60	202	
70	9.70	9.69	33.551	25.872	213.3	0.206	3.71	57.8	22.4	1.70	22.1	0.05	0.00	0.21	0.26	70	201	

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

RV NEW HORIZON

CALCOFI CRUISE 1011

STATION 86.7 55.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE		
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SV	DYN	HT	OXYGEN	OXY	SIO3	P04	N03	N02	NH4	CHL-A	PHAEAO	PRES	SAMP
m	DEG C	DEG C		THETA	ml/l	PCT	uM/l	uM/l	uM/l	uM/l	uM/l	uM/l	uM/l	ug/l	ug/l	db		
0 ISL	16.03	16.03	33.323	24.452	347.0	0.000	5.92	105.2	1.2	0.28	0.1	0.03	0.05	1.22	0.11	0		
2	16.03	16.03	33.323	24.452	347.0	0.007	5.92	105.2	1.2	0.28	0.1	0.03	0.05	1.22	0.11	2	222	
10	15.97	15.97	33.324	24.467	345.9	0.035	5.96	105.7	0.9	0.26	0.1	0.03	0.07	1.44	0.34	10	220	
10	16.01	16.01	33.320	24.455	347.0	0.035										10	221	
20	15.54	15.54	33.316	24.557	337.6	0.069	5.81	102.2	0.7	0.34	0.6	0.07	0.19	1.77	0.49	20	219	
25	14.98	14.98	33.277	24.650	328.9	0.086	5.63	97.9	1.2	0.46	1.7	0.14	0.34	1.74	0.74	25	218	
30	13.84	13.84	33.149	24.792	315.5	0.102	5.48	93.0	3.3	0.57	3.7	0.20	0.18	0.87	0.51	30	217	
41	11.77	11.76	33.038	25.110	285.3	0.135	5.24	85.1	7.2	0.87	8.5	0.04	0.00	0.26	0.17	41	216	
50	11.28	11.27	33.077	25.230	274.1	0.160	5.12	82.3	9.0	0.98	10.4	0.02						

RV NEW HORIZON

CALCOFI CRUISE 1011

STATION 86.7 60.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE	
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SV	DYN	HT	OXYGEN	OXY	S103	P04	N03	N02	NH4	CHL-A	PHAEAO	PRES SAMP
m	DEG C	DEG C	THETA		ml/l	PCT		uM/l	uM/l	uM/l	uM/l	uM/l	uM/l	ug/l	ug/l	db	
0 ISL	16.54	16.54	33.107	24.170	373.9	0.000	5.75	103.0	1.7	0.26	0.0	0.00	0.08	0.25	0.08	0	
2 A	16.54	16.54	33.107	24.170	373.9	0.007	5.75	103.0	1.7	0.26	0.0	0.00	0.08	0.25	0.08	2 223	
8	16.54	16.54	33.106	24.169	374.2	0.030	5.75	103.0	1.7	0.26	0.0	0.00	0.06	0.25	0.08	8 221	
8	16.54	16.54	33.107	24.170	374.1	0.030										8 222	
10 ISL	16.54 D	16.54	33.104 D	24.168	374.4	0.037	5.76	103.2	1.7	0.26	0.0	0.00	0.06	0.25	0.08	10	
15 A	16.52	16.52	33.114	24.180	373.4	0.056	5.77	103.4	1.7	0.26	0.0	0.00	0.07	0.27	0.08	15 220	
20 ISL	15.98 D	15.98	33.170 D	24.346	357.7	0.074	5.86	103.9	1.7	0.27	0.2	0.01	0.09	0.32	0.10	20	
23	15.81	15.81	33.185	24.396	353.0	0.085	5.90	104.2	1.7	0.27	0.3	0.02	0.11	0.35	0.13	23 219	
30 A	15.22	15.22	33.207	24.544	339.1	0.109	5.85	102.2	1.7	0.31	0.7	0.07	0.34	0.40	0.22	30 218	
38	14.13	14.12	33.116	24.706	323.8	0.136	5.76	98.3	2.2	0.41	1.2	0.27	0.49	0.35	0.25	38 217	
46 A	12.53	12.52	32.941	24.891	306.3	0.161	5.65	93.2	3.7	0.52	3.0	0.08	0.06	0.32	0.24	46 216	
50 ISL	12.42 D	12.41	32.936 D	24.909	304.7	0.173	5.65	93.0	3.6	0.54	3.2	0.07	0.03	0.29	0.21	50	
53	12.30	12.29	32.934	24.930	302.8	0.182	5.65	92.7	3.6	0.55	3.3	0.06	0.00	0.27	0.18	53 215	
60 A	12.02	12.01	32.937	24.985	297.6	0.203	5.59	91.2	4.2	0.59	4.1	0.05	0.00	0.23	0.15	60 214	
74	11.16	11.15	33.052	25.232	274.4	0.243	5.22	83.7	8.6	0.93	10.0	0.02	0.00	0.07	0.12	74 213	
75 ISL	10.76 D	10.75	33.096 D	25.337	264.4	0.246	5.19	82.5	9.0	0.96	10.4	0.02	0.00	0.06	0.12	75	
88 A	10.03	10.02	33.227	25.565	242.9	0.279	4.70	73.6	14.1	1.27	15.6	0.01	0.00	0.02	0.06	88 212	
100 ISL	9.44 D	9.43	33.436 D	25.825	218.3	0.307	4.19	64.8	19.0	1.51	19.6	0.01	0.00	0.01	0.05	100	
104	9.36	9.35	33.491	25.881	213.1	0.315	4.03	62.3	20.4	1.57	20.7	0.01	0.00	0.01	0.05	104 211	
120	9.18	9.17	33.641	26.028	199.5	0.348	3.63	55.9	23.4	1.70	22.8	0.00	0.00	0.00	0.04	121 210	
125 ISL	9.17 D	9.16	33.656 D	26.041	198.3	0.358	3.54	54.5	24.2	1.72	23.3	0.00	0.00	0.00	0.04	126	
140	8.99	8.97	33.824	26.202	183.3	0.387	3.27	50.2	26.6	1.79	24.6	0.00	0.00	0.00	0.04	141 209	
150 ISL	8.86 D	8.84	33.858 D	26.249	179.0	0.405	2.97	45.5	28.9	1.90	26.1	0.00	0.00	0.00	0.04	151	
171	8.63	8.61	33.948	26.355	169.2	0.442	2.39	36.4	33.4	2.11	28.9	0.00	0.00	0.00	0.04	172 208	
200 ISL	8.30 D	8.28	33.997 D	26.445	161.2	0.490	2.23	33.7	36.0	2.16	29.8	0.00	0.00	0.00	0.04	201	
202	8.31	8.29	33.996	26.442	161.5	0.493	2.23	33.8	36.2	2.16	29.8	0.00	0.00	0.00	0.04	203 207	
230	7.90	7.88	34.033	26.533	153.2	0.537	2.00	30.0	41.1	2.28	31.2	0.00	0.00			231 206	
250 ISL	7.50 D	7.48	34.022 D	26.582	148.7	0.567	1.87	27.8	44.8	2.36	32.1	0.00	0.00			251	
271	7.28	7.25	34.057	26.641	143.4	0.598	1.75	25.9	48.6	2.43	33.1	0.00	0.00			273 205	
300 ISL	6.98 D	6.95	34.068 D	26.691	138.9	0.639	1.60	23.5	53.5	2.54	34.5	0.00	0.00			302	
320	6.63	6.60	34.076	26.745	133.9	0.666	1.47	21.4	56.6	2.61	35.5	0.00	0.00			322 204	
381	6.51	6.48	34.169	26.835	126.2	0.745	0.74	10.8	64.8	2.86	37.7	0.00	0.00			383 203	
400 ISL	6.16 D	6.12	34.195 D	26.901	119.9	0.769	0.62	8.9	68.2	2.92	38.2	0.00	0.00			403	
441	5.94	5.90	34.231	26.958	115.0	0.817	0.45	6.5	75.4	3.03	39.3	0.00	0.00			444 202	
500 ISL	5.49 D	5.45	34.273 D	27.046	106.9	0.882	0.32	4.5	82.6	3.12	40.6	0.00	0.00			503	
516	5.45	5.41	34.278	27.055	106.2	0.899	0.29	4.1	84.6	3.14	41.0	0.00	0.00			520 201	

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

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

RV NEW HORIZON

CALCOFI CRUISE 1011

STATION 86.7 70.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE	
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SV	DYN	HT	OXYGEN	OXY	S103	P04	N03	N02	NH4	CHL-A	PHAEAO	PRES SAMP
m	DEG C	DEG C	THETA		ml/l	PCT		uM/l	uM/l	uM/l	uM/l	uM/l	uM/l	ug/l	ug/l	db	
0 ISL	16.70	16.70	33.401	24.358	355.9	0.000	5.77	103.9	1.4	0.23	0.3	0.04	0.14	0.47	0.18	0	
2	16.70	16.70	33.401	24.358	355.9	0.007	5.77	103.9	1.4	0.23	0.3	0.04	0.14	0.47	0.18	2 221	
10 ISL	16.53	16.53	33.405	24.401	352.1	0.035	5.77	103.6	1.3	0.23	0.3	0.04	0.15	0.51	0.21	10 219	
10 ISL	16.53	16.53	33.402	24.399	352.4	0.035										10 220	
20	16.35	16.35	33.410	24.447	348.1	0.070	5.72	102.3	1.2	0.25	0.6	0.06	0.33	0.63	0.30	20 218	
30	14.78	14.78	33.359	24.756	318.9	0.104	5.48	94.9	2.8	0.55	4.3	0.42	0.34	0.68	0.46	30 217	
40	12.46	12.45	33.263	25.154	281.1	0.134	5.02	82.9	7.4	0.98	11.0	0.13	0.06	0.38	0.38	40 216	
50	10.50	10.49	33.140	25.416	256.3	0.161	4.90	77.5	11.3	1.15	13.1	0.03	0.05	0.13	0.15	50 215	
60	10.29	10.28	33.267	25.552	243.6	0.186	4.58	72.1	14.9	1.35	16.8	0.02	0.00	0.08	0.11	60 214	
70	10.10	10.09	33.410	25.695	230.1	0.209	4.20	65.9	18.4	1.56	20.2	0.02	0.00	0.04	0.09	70 213	
75 ISL	9.96 D	9.95	33.469 D	25.765	223.6	0.221	4.04	63.3	19.6	1.63	21.3	0.02	0.00	0.03	0.08	75	
85	9.75	9.74	33.547	25.861	214.7	0.243	3.74	58.3	21.8	1.73	22.9	0.01	0.00	0.02	0.06	85 212	
100 ISL	9.29 D	9.28	33.700 D	26.056	196.4	0.273	3.25	50.2	25.7	1.89	25.5	0.01	0.09	0.01	0.05	100	
101	9.32	9.31	33.695	26.047	197.3	0.275	3.22	49.8	25.9	1.90	25.6	0.01	0.10	0.01	0.05	101 211	
120	8.97	8.96	33.821	26.202	182.9	0.312	2.94	45.1	28.9	1.98	27.0	0.00	0.00	0.00	0.04	121 210	
125 ISL	8.95 D	8.94	33.826 D	26.209	182.3	0.321	2.82	43.3	29.6	2.01	27.4	0.00	0.00	0.00	0.04	126	
140	8.80	8.79	33.906	26.296	174.4	0.347	2.54	38.9	31.3	2.07	28.2	0.00	0.00	0.00	0.04	141 209	
150 ISL	8.65 D	8.63	33.932 D	26.339	170.4	0.365	2.70	41.2	31.9	2.02	27.8	0.00	0.00	0.00	0.03	151	
170	8.10	8.08	33.965	26.449	160.2	0.398	3.09	46.5	33.4	1.93	27.0	0.01	0.00	0.00	0.02	171 208	
200	7.62	7.60	33.999	26.546	151.3	0.444	2.66	39.6	39.7	2.11	29.3	0.01	0.00	0.00	0.01	201 207	
230	7.27	7.25	34.018	26.611	145.5	0.489	2.15	31.8	45.7								

RV NEW HORIZON

CALCOFI CRUISE 1011

STATION 86.7 80.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE	
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SV	DYN HT	OXYGEN	OXY	SI03	P04	N03	N02	NH4	CHL-A	PHAEAO	PRES	SAMP
m	DEG C	DEG C		THETA		ml/l	PCT	uM/L	uM/L	uM/L	uM/L	uM/L	uM/L	ug/l	ug/l	db	
0 ISL	16.92	16.92	32.950	23.961	393.8	0.000	5.71	103.0	2.2	0.27	0.0	0.00	0.11	0.18	0.04	0	
2	16.92	16.92	32.950	23.961	393.8	0.008	5.71	103.0	2.2	0.27	0.0	0.00	0.11	0.18	0.04	2 221	
10	16.73	16.73	32.927	23.988	391.5	0.039	5.72	102.8	2.1	0.27	0.0	0.00	0.05	0.22	0.04	10 219	
10	16.73	16.73	32.925	23.986	391.7	0.039										10 220	
20	16.57	16.57	32.935	24.031	387.7	0.078	5.75	103.0	2.1	0.27	0.0	0.00	0.08	0.25	0.06	20 218	
30	16.17	16.17	32.990	24.166	375.2	0.116	5.87	104.3	2.0	0.28	0.0	0.00	0.08	0.34	0.10	30 217	
40	14.27	14.26	32.911	24.519	341.7	0.152	6.06	103.6	2.3	0.30	0.0	0.00	0.05	0.43	0.27	40 216	
50	13.34	13.33	32.918	24.715	323.3	0.185	5.93	99.5	2.8	0.37	0.5	0.14	0.08	0.43	0.29	50 215	
60	12.73	12.72	32.922	24.838	311.7	0.217	5.78	95.7	3.3	0.45	1.6	0.21	0.05	0.35	0.23	60 214	
70	12.34	12.33	32.951	24.936	302.6	0.248	5.70	93.6	3.7	0.48	2.4	0.04	0.00	0.22	0.13	70 213	
75 ISL	12.19 D	12.18	32.962 D	24.973	299.2	0.263	5.61	91.9	3.9	0.50	2.9	0.04	0.04	0.17	0.13	75	
86	11.87	11.86	33.086	25.130	284.5	0.295	5.38	87.6	5.4	0.62	5.2	0.03	0.13	0.10	0.12	86 212	
100	10.35	10.34	33.079	25.395	259.3	0.333	5.07	79.9	10.4	1.02	11.5	0.01	0.00	0.06	0.07	100 211	
120	9.66	9.65	33.342	25.716	229.1	0.382	4.53	70.4	16.1	1.32	16.9	0.00	0.00	0.02	0.04	121 210	
125 ISL	9.63 D	9.62	33.379 D	25.750	226.0	0.393	4.38	68.0	17.6	1.40	18.2	0.00	0.00	0.02	0.04	126	
140	9.28	9.26	33.526	25.922	209.9	0.426	3.92	60.5	21.9	1.63	21.7	0.00	0.00	0.01	0.03	141 209	
150 ISL	9.16 D	9.14	33.649 D	26.038	199.1	0.447	3.55	54.7	24.7	1.77	23.8	0.00	0.00	0.01	0.03	151	
170	8.98	8.96	33.784	26.172	186.7	0.485	2.98	45.7	29.3	1.96	26.8	0.00	0.00	0.00	0.03	171 208	
200	8.35	8.33	33.981	26.424	163.1	0.538	3.04	46.0	32.9	1.90	26.4	0.00	0.00	0.00	0.02	201 207	
230	8.10	8.08	33.989	26.469	159.4	0.586	2.93	44.1	35.8	1.95	27.4	0.00	0.00			231 206	
250 ISL	7.77 D	7.75	34.015 D	26.538	153.0	0.617	2.59	38.7	39.8	2.09	29.2	0.00	0.00			251	
271	7.52	7.49	34.033	26.588	148.5	0.649	2.16	32.1	44.9	2.26	31.4	0.00	0.00			273 205	
300 ISL	7.08 D	7.05	34.054 D	26.667	141.3	0.691	1.72	25.3	51.8	2.46	34.1	0.00	0.00			302	
320	6.82	6.79	34.062	26.709	137.4	0.719	1.46	21.4	56.2	2.58	35.6	0.00	0.00			322 204	
381	6.48	6.45	34.130	26.808	128.7	0.800	0.90	13.1	64.6	2.81	37.8	0.00	0.00			383 203	
400 ISL	6.30 D	6.26	34.119 D	26.823	127.4	0.824	0.81	11.7	66.6	2.85	38.2	0.00	0.00			402	
441	6.17	6.13	34.170	26.880	122.5	0.876	0.68	9.8	71.0	2.93	38.8	0.00	0.00			444 202	
500 ISL	5.75 D	5.71	34.240 D	26.989	112.6	0.945	0.42	6.0	79.9	3.05	40.3	0.00	0.00			503	
517	5.67	5.63	34.254	27.010	110.8	0.964	0.35	5.0	82.5	3.09	40.7	0.00	0.00			520 201	

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

RV NEW HORIZON

CALCOFI CRUISE 1011

STATION 86.7 90.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE	
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SV	DYN HT	OXYGEN	OXY	SI03	P04	N03	N02	NH4	CHL-A	PHAEAO	PRES	SAMP
m	DEG C	DEG C		THETA		ml/l	PCT	uM/L	uM/L	uM/L	uM/L	uM/L	uM/L	ug/l	ug/l	db	
0 ISL	17.64	17.64	33.038	23.858	403.6	0.000	5.56	101.7	1.9	0.26	0.0	0.00	0.08	0.18	0.02	0	
2	17.64	17.64	33.038	23.858	403.7	0.008	5.56	101.7	1.9	0.26	0.0	0.00	0.08	0.18	0.02	2 221	
10	17.69	17.69	33.047	23.853	404.4	0.040	5.55	101.7	1.9	0.26	0.0	0.00	0.06	0.17	0.02	10 219	
10	17.68	17.68	33.047	23.856	404.1	0.040										10 220	
20 ISL	18.25 D	18.25	33.238 D	23.864	403.7	0.081	5.48	101.6	2.0	0.25	0.0	0.00	0.07	0.14	0.03	20	
25	18.34	18.34	33.281	23.875	402.9	0.101	5.45	101.2	2.0	0.24	0.0	0.00	0.07	0.13	0.04	25 218	
30 ISL	18.40 D	18.39	33.302 D	23.876	402.9	0.121	5.45	101.3	2.0	0.24	0.0	0.00	0.09	0.14	0.04	30	
40	18.48	18.47	33.339	23.885	402.4	0.161	5.44	101.3	1.9	0.23	0.0	0.00	0.11	0.16	0.03	40 217	
50	16.74	16.73	33.209	24.204	372.3	0.200	5.83	104.9	2.0	0.24	0.0	0.00	0.08	0.19	0.09	50 216	
62	16.52	16.51	33.400	24.401	353.8	0.244	5.84	104.8	1.9	0.20	0.0	0.00	0.08	0.21	0.08	62 215	
75	15.35	15.34	33.313	24.599	335.3	0.288	5.81	101.8	2.0	0.24	0.0	0.00	0.09	0.28	0.16	75 214	
87	14.64	14.63	33.344	24.776	318.6	0.328	5.68	98.1	2.5	0.29	0.2	0.06	0.07	0.28	0.19	87 213	
100	13.95	13.94	33.331	24.911	306.0	0.368	5.51	93.8	3.2	0.38	1.3	0.08	0.09	0.24	0.21	100 212	
112	13.09	13.07	33.290	25.054	292.6	0.404	5.38	90.0	4.2	0.51	3.4	0.03	0.08	0.24	0.16	112 211	
125	12.02	12.00	33.273	25.248	274.3	0.441	5.19	84.8	6.2	0.70	6.7	0.01	0.08	0.12	0.24	126 210	
140	11.27	11.25	33.311	25.416	258.6	0.481	5.01	80.6	8.4	0.85	9.4	0.00	0.06	0.10	0.09	141 209	
150 ISL	10.84 D	10.82	33.350 D	25.523	248.5	0.506	4.86	77.5	10.2	0.97	11.4	0.00	0.06	0.07	0.07	151	
170	10.17	10.15	33.452	25.718	230.2	0.554	4.52	71.1	14.1	1.20	15.3	0.00	0.06	0.02	0.03	171 208	
200 ISL	9.43 D	9.41	33.707 D	26.041	200.0	0.619	4.03	62.4	20.0	1.47	19.8	0.00	0.04	0.00	0.03	201	
201	9.44	9.42	33.697	26.031	200.9	0.621	4.01	62.1	20.2	1.48	19.9	0.00	0.04	0.00	0.03	202 207	
230	8.89	8.87	33.902	26.280	177.7	0.676	3.68	56.4	26.0	1.62	22.9	0.00	0.05			231 206	
250 ISL	8.55 D	8.52	33.957 D	26.376	168.8	0.710	3.14	47.8	30.8	1.82	25.7	0.00	0.05			251	
271	8.30	8.27	34.013	26.458	161.3	0.745	2.53	38.3	35.9	2.05	28.5	0.00	0.04			272 205	
300 ISL	7.82 D	7.79	34.048 D	26.557	152.1	0.790	2.06	30.8	42.4	2.24	31.1	0.00	0.04			302	
319	7.61	7.58	34.068	26.604	147.9	0.819	1.83	27.3	46.3	2.34	32.4	0.00	0.04			321 204	
381	6.96	6.92	34.123	26.739	135.7	0.907	1.18	17.3	57.1	2.64	35.8	0.00	0.04			383 203	
400 ISL	6.77 D	6.73	34.129 D	26.769	132.9	0.932	1.06	15.5	60.1	2.70	36.5	0.00	0.04			402	
441	6.38	6.34	34.151	26.838	126.6	0.986	0.87	12.6	66.5	2.81	37.9	0.00	0.04			444 202	
500 ISL	5.77 D	5.73	34.179 D</														

RV NEW HORIZON

CALCOFI CRUISE 1011

STATION 86.7 100.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE	
31 39.5 N	123 4.3 W	06/11/10	1736	UTC	4144 m	240	14 kn	270 05 06	1	1016.7 mb	19.0 C	16.0 C	35m	3/8	AC		
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SIO3	P04	N03	N02	NH4	CHL-A	PHAEAO	PRES	SAMP
m	DEG C	DEG C	THETA			ml/l	PCT	uM/l	uM/l	uM/l	uM/l	uM/l	uM/l	ug/l	ug/l	db	
0 ISL	18.32	18.32	33.296	23.890	400.5	0.000	5.47	101.6	2.2	0.25	0.0	0.00	0.00	0.12	0.03	0	
2 A	18.32	18.32	33.296	23.890	400.6	0.008	5.47	101.6	2.2	0.25	0.0	0.00	0.00	0.12	0.03	2	223
10 ISL	18.30	18.30	33.294 D	23.894	400.5	0.040	5.48	101.7	2.2	0.26	0.0	0.00	0.00	0.11	0.03	10	
14	18.30	18.30	33.296	23.896	400.5	0.056	5.49	101.9	2.2	0.26	0.0	0.00	0.00	0.11	0.03	14	221
14	18.30	18.30	33.294	23.894	400.6	0.056										14	222
20 ISL	18.30	18.30	33.293 D	23.893	400.9	0.080	5.48	101.7	2.1	0.25	0.0	0.00	0.00	0.11	0.03	20	
24 A	18.29	18.29	33.305	23.905	399.9	0.096	5.48	101.7	2.1	0.24	0.0	0.00	0.00	0.11	0.03	24	220
30 ISL	18.30	18.29	33.293 D	23.894	401.2	0.120	5.49	101.9	2.0	0.24	0.0	0.00	0.00	0.11	0.03	30	
33	18.30	18.29	33.295	23.896	401.2	0.132	5.50	102.1	2.0	0.24	0.0	0.00	0.00	0.11	0.03	33	219
42	18.28	18.27	33.296	23.902	400.9	0.168	5.48	101.7	2.0	0.25	0.0	0.00	0.00	0.13	0.04	42	218
50 A	17.41	17.40	33.252	24.079	384.2	0.200	5.77	105.2	2.2	0.24	0.0	0.00	0.00	0.18	0.07	50	217
62	16.80	16.79	33.409	24.344	359.3	0.244	5.83	105.2	2.2	0.20	0.0	0.00	0.00	0.19	0.09	62	216
74 A	15.80	15.79	33.370	24.542	340.7	0.286	5.87	103.8	2.3	0.22	0.0	0.00	0.07	0.22	0.14	74	215
75 ISL	15.66	15.65	33.368 D	24.572	337.8	0.290	5.86	103.3	2.3	0.22	0.0	0.00	0.07	0.22	0.14	75	
86	15.33	15.32	33.397	24.668	329.0	0.326	5.79	101.4	2.4	0.21	0.0	0.00	0.00	0.21	0.16	86	214
96 A	14.58	14.57	33.336	24.783	318.2	0.359	5.75	99.2	2.5	0.26	0.1	0.05	0.00	0.21	0.19	96	213
100 ISL	14.17	14.16	33.327 D	24.863	310.7	0.371	5.66	96.8	2.9	0.34	1.0	0.05	0.00	0.20	0.21	100	
111	12.91	12.90	33.193	25.015	296.3	0.405	5.39	89.7	4.5	0.60	4.5	0.04	0.00	0.16	0.25	111	212
125 ISL	11.63	11.61	33.216 D	25.276	271.5	0.444	5.19	84.1	7.2	0.81	8.2	0.01	0.00	0.09	0.14	126	
126	11.62	11.60	33.214	25.276	271.5	0.447	5.18	83.9	7.4	0.82	8.4	0.01	0.00	0.09	0.13	127	211
140 A	10.75	10.73	33.266	25.473	253.0	0.484	4.91	78.1	10.5	1.02	11.9	0.00	0.00	0.05	0.07	141	210
150 ISL	10.34	10.32	33.333 D	25.596	241.4	0.509	4.71	74.3	12.4	1.14	13.9	0.00	0.00	0.04	0.05	151	
156	10.27	10.25	33.350	25.621	239.1	0.523	4.59	72.3	13.6	1.21	15.1	0.00	0.00	0.03	0.05	157	209
170	9.89	9.87	33.477	25.785	223.7	0.555	4.26	66.6	16.7	1.37	17.9	0.00	0.00	0.01	0.03	171	208
200	9.35	9.33	33.783	26.113	193.1	0.618	3.31	51.2	25.1	1.74	23.9	0.00	0.00	0.00	0.02	201	207
230	8.77	8.75	33.939	26.328	173.1	0.673	2.96	45.2	29.8	1.87	26.2	0.00	0.00			231	206
250 ISL	8.46	8.43	33.972 D	26.401	166.3	0.707	2.76	41.9	33.2	1.96	27.5	0.00	0.00			251	
270	8.20	8.17	34.016	26.476	159.5	0.739	2.54	38.3	36.9	2.06	28.9	0.00	0.00			271	205
300 ISL	7.81	7.78	34.051 D	26.561	151.8	0.786	2.07	31.0	43.0	2.25	31.3	0.00	0.00			302	
320	7.52	7.49	34.071	26.619	146.4	0.816	1.75	26.0	47.2	2.38	32.9	0.00	0.00			322	204
380	6.75	6.71	34.107	26.754	134.0	0.900	1.17	17.1	59.1	2.66	36.7	0.00	0.00			382	203
400 ISL	6.43	6.39	34.104 D	26.794	130.2	0.926	1.03	14.9	62.2	2.73	37.4	0.00	0.00			402	
441	6.26	6.22	34.155	26.857	124.8	0.979	0.81	11.7	68.0	2.85	38.6	0.00	0.00			444	202
500 ISL	5.90	5.86	34.214 D	26.950	116.5	1.050	0.55	7.9	76.6	3.00	40.1	0.00	0.00			503	
516	5.79	5.75	34.223	26.971	114.6	1.068	0.48	6.9	78.9	3.04	40.5	0.00	0.00			519	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

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

RV NEW HORIZON

CALCOFI CRUISE 1011

STATION 86.7 110.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE	
31 19.4 N	123 44.6 W	06/11/10	2333	UTC	4022 m	260	14 kn	320 06 09	1	1017.6 mb	18.8 C	16.0 C	23m	3/8	SC		
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SIO3	P04	N03	N02	NH4	CHL-A	PHAEAO	PRES	SAMP
m	DEG C	DEG C	THETA			ml/l	PCT	uM/l	uM/l	uM/l	uM/l	uM/l	uM/l	ug/l	ug/l	db	
0 ISL	18.47	18.47	33.271	23.834	405.9	0.000	5.46	101.7	1.9	0.25	0.0	0.00	0.00	0.11	0.03	0	
2	18.47	18.47	33.271	23.834	406.0	0.008	5.46	101.7	1.9	0.25	0.0	0.00	0.00	0.11	0.03	2	221
10	18.43	18.43	33.265	23.840	405.7	0.041	5.47	101.8	2.0	0.25	0.0	0.00	0.00	0.10	0.02	10	219
10	18.42	18.42	33.262	23.840	405.7	0.041										10	220
20 ISL	18.31	18.31	33.254 D	23.861	404.0	0.081	5.48	101.7	2.1	0.24	0.0	0.00	0.00	0.11	0.02	20	
25	18.32	18.32	33.256	23.860	404.2	0.101	5.48	101.7	2.1	0.24	0.0	0.00	0.00	0.12	0.03	25	218
30 ISL	18.32	18.31	33.263 D	23.866	403.9	0.121	5.48	101.7	2.1	0.24	0.0	0.00	0.00	0.13	0.03	30	
40	18.33	18.32	33.277	23.875	403.4	0.162	5.49	101.9	2.1	0.24	0.0	0.00	0.00	0.15	0.04	40	217
50 ISL	17.21	17.20	33.098 D	24.008	390.9	0.202	5.70	103.5	2.1	0.26	0.0	0.00	0.00	0.21	0.08	50	
51	17.33	17.32	33.114	23.992	392.5	0.205	5.72	104.1	2.1	0.26	0.0	0.00	0.00	0.22	0.09	51	216
63	16.27	16.26	33.149	24.266	366.7	0.251	5.91	105.3	2.1	0.26	0.0	0.00	0.00	0.29	0.14	63	215
75 ISL	16.19	16.18	33.429 D	24.500	344.8	0.294	5.86	104.5	2.1	0.20	0.0	0.00	0.05	0.24	0.12	75	
76	16.23	16.22	33.427	24.489	345.9	0.297	5.86	104.5	2.1	0.19	0.0	0.00	0.05	0.23	0.12	76	214
89	15.64	15.63	33.494	24.674	328.6	0.341	5.69	100.4	2.1	0.21	0.0	0.00	0.00	0.19	0.21	89	213
100 ISL	14.33	14.32	33.333 D	24.834	313.5	0.376	5.62	96.4	2.7	0.31	0.5	0.07	0.08	0.20	0.23	100	
101	14.35	14.34	33.345	24.839	313.0	0.379	5.61	96.3	2.8	0.32	0.6	0.08	0.09	0.20	0.23	101	212
114	13.42	13.40	33.347	25.032	294.8	0.419	5.41	91.1	4.0	0.45	2.7	0.03	0.00	0.15	0.25	114	211
125	12.62	12.60	33.348	25.192	279.8	0.451	5.30	87.8	5.1	0.57	4.8	0.01	0.00	0.10	0.		

RV NEW HORIZON

CALCOFI CRUISE 1011

STATION 86.8 32.5

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE	
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SIO3	P04	N03	N02	NH4	CHL-A	PHAEAO	PRES	SAMP
m	DEG C	DEG C	THETA			ml/l	PCT	uM/L	uM/L	uM/L	uM/L	uM/L	uM/L	ug/l	ug/l	db	
0 ISL	17.46	17.46	33.471	24.233	367.8	0.000	6.11	111.7	0.0	0.16	0.0	0.00	0.06	1.38	0.28	0	
1	17.46	17.46	33.471	24.233	367.9	0.004	6.11	111.7	0.0	0.16	0.0	0.00	0.06	1.38	0.28	1	205
5	17.17	17.17	33.470	24.301	361.5	0.018	6.17	112.2	0.0	0.15	0.0	0.00	0.04	1.43	0.24	5	204
10	16.01	16.01	33.446	24.551	337.8	0.036	6.01	106.8	0.4	0.29	0.4	0.04	0.35	3.95	0.50	10	203
15	15.64	15.64	33.452	24.639	329.6	0.052	5.73	101.1	1.7	0.44	1.9	0.15	0.53	6.56	0.56	15	202
20	14.71	14.71	33.428	24.824	312.1	0.068	5.25	90.9	4.6	0.70	4.7	0.39	1.03	5.35	0.90	20	201

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

RV NEW HORIZON

CALCOFI CRUISE 1011

STATION 88.5 30.1

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE	
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SIO3	P04	N03	N02	NH4	CHL-A	PHAEAO	PRES	SAMP
m	DEG C	DEG C	THETA			ml/l	PCT	uM/L	uM/L	uM/L	uM/L	uM/L	uM/L	ug/l	ug/l	db	
0 ISL	17.41	17.41	33.151	24.000	390.1	0.000	6.09	111.0	6.0	0.37	0.3	0.08	0.20	6.47	1.30	0	
2	17.41	17.41	33.151	24.000	390.2	0.008	6.09	111.0	6.0	0.37	0.3	0.08	0.20	6.47	1.30	2	204
5	16.54	16.54	33.328	24.340	357.8	0.019	5.92	106.2	3.3	0.29	0.3	0.05	0.23	6.76	1.60	5	203
10 ISL	15.71	D 15.71	33.357	D 24.550	337.9	0.036	5.37	94.8	5.3	0.55	1.3	0.18	0.89	4.07	1.40	10	
11	15.81	15.81	33.378	24.544	338.5	0.040	5.20	92.0	5.7	0.60	1.5	0.21	1.06	3.33	1.38	11	202
14	13.97	13.97	33.377	24.940	300.8	0.049	4.45	75.8	10.8	1.19	7.7	0.85	1.41	1.79	1.83	14	201

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

RV NEW HORIZON

CALCOFI CRUISE 1011

STATION 90.0 27.7

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE	
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SIO3	P04	N03	N02	NH4	CHL-A	PHAEAO	PRES	SAMP
m	DEG C	DEG C	THETA			ml/l	PCT	uM/L	uM/L	uM/L	uM/L	uM/L	uM/L	ug/l	ug/l	db	
0 ISL	17.33	17.33	33.327	24.153	375.4	0.000	5.99	109.1	2.7	0.23	0.2	0.05	0.16	1.82	0.71	0	
2	17.33	17.33	33.327	24.154	375.5	0.008	5.99	109.1	2.7	0.23	0.2	0.05	0.16	1.82	0.71	2	206
5	16.91	16.91	33.332	24.257	365.7	0.019	5.87	106.1	3.2	0.28	0.5	0.08	0.23	2.90	0.59	5	205
10	14.26	14.26	33.365	24.870	307.4	0.035	5.52	94.6	5.3	0.59	3.5	0.38	0.47	3.26	0.69	10	204
14	12.84	12.84	33.360	25.155	280.4	0.047	5.00	83.2	8.0	0.95	9.3	0.83	0.21	1.03	0.26	14	203
20	12.32	12.32	33.363	25.258	270.7	0.064	4.65	76.6	9.7	1.10	11.9	0.39	0.14	0.57	0.42	20	202
25	12.12	12.12	33.380	25.310	265.9	0.077	4.36	71.5	12.0	1.27	13.1	0.51	0.35	0.40	0.68	25	201

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

RV NEW HORIZON

CALCOFI CRUISE 1011

STATION 90.0 28.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE	
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SIO3	P04	N03	N02	NH4	CHL-A	PHAEAO	PRES	SAMP
m	DEG C	DEG C	THETA			ml/l	PCT	uM/L	uM/L	uM/L	uM/L	uM/L	uM/L	ug/l	ug/l	db	
0 ISL	18.29	18.29	33.302	23.902	399.4	0.000	6.08	112.8	2.1	0.15	0.0	0.00	0.05	0.90	0.33	0	
2	18.29	18.29	33.302	23.902	399.5	0.008	6.08	112.8	2.1	0.15	0.0	0.00	0.05	0.90	0.33	2	208
5	17.53	17.53	33.380	24.147	376.2	0.020	5.99	109.6	1.9	0.18	0.0	0.00	0.05	0.72	0.25	5	207
10	14.83	14.83	33.368	24.752	318.7	0.037	5.73	99.4	4.8	0.48	2.2	0.26	0.07	2.96	0.88	10	206
20	12.36	12.36	33.365	25.252	271.3	0.066	4.63	76.3	9.6	1.11	11.8	0.55	0.07	0.55	0.38	20	205
30	11.51	11.51	33.397	25.436	254.0	0.093	4.18	67.7	13.3	1.36	15.6	0.13	0.18	0.23	0.31	30	204
40	10.93	10.93	33.460	25.590	239.6	0.117	3.76	60.1	16.7	1.52	18.4	0.03	0.00	0.15	0.21	40	203
50	10.65	10.64	33.540	25.702	229.1	0.141	3.31	52.6	19.9	1.71	20.7	0.04	0.11	0.07	0.22	50	202
60	10.58	10.57	33.561	25.731	226.6	0.164	3.25	51.6	20.6	1.73	21.3	0.04	0.00	0.06	0.18	60	201

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

RV NEW HORIZON

CALCOFI CRUISE 1011

STATION 90.0 30.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE
33 25.1 N	117 54.5 W	04/11/10	0134	UTC	620 m	290	07 kn	310 01 07	1	1013.3 mb	20.2 C	18.0 C	1/8			CS
0 ISL	18.79	18.79	33.452	23.892	400.3	0.000	5.72	107.3	1.8	0.19	0.0	0.00	0.10	0.39	0.10	0
2	18.79	18.79	33.452	23.893	400.4	0.008	5.72	107.3	1.8	0.19	0.0	0.00	0.10	0.39	0.10	2 220
10	17.68	17.68	33.476	24.184	372.8	0.039	5.82	106.9	1.6	0.19	0.0	0.00	0.10	0.28	0.10	10 219
20 ISL	15.10 D	15.10	33.337 D	24.470	326.8	0.074	5.95	103.7	2.7	0.35	1.5	0.09	0.15	0.94	0.47	20
21	15.12	15.12	33.353	24.478	326.1	0.077	5.96	104.0	2.9	0.38	1.6	0.11	0.15	1.01	0.51	21 218
30	13.04	13.04	33.278	25.052	290.6	0.105	5.29	88.4	6.4	0.76	7.0	0.31	0.11	0.85	0.49	30 217
40	12.18	12.17	33.353	25.278	269.4	0.133	4.59	75.3	10.5	1.12	12.4	0.16	0.06	0.65	0.47	40 216
50	11.39	11.38	33.404	25.464	251.8	0.159	4.09	66.0	14.3	1.37	16.1	0.04	0.07	0.29	0.26	50 215
60	11.13	11.12	33.409	25.515	247.2	0.184	3.96	63.6	15.8	1.43	17.0	0.03	0.08	0.15	0.24	60 214
70	10.45	10.44	33.436	25.656	233.9	0.208	4.09	64.7	16.5	1.45	18.3	0.03	0.05	0.08	0.15	70 213
75 ISL	10.44 D	10.43	33.578 D	25.769	223.4	0.219	3.83	60.6	18.2	1.55	19.6	0.02	0.05	0.06	0.12	75
85	10.26	10.25	33.625	25.836	217.1	0.241	3.19	50.3	22.2	1.76	22.1	0.01	0.05	0.03	0.08	85 212
100 ISL	9.97 D	9.96	33.750 D	25.983	203.5	0.273	2.93	46.0	25.3	1.86	23.5	0.01	0.06	0.01	0.05	100
101	9.96	9.95	33.758	25.991	202.7	0.275	2.92	45.8	25.4	1.86	23.6	0.01	0.06	0.01	0.05	102 211
121	9.68	9.67	33.888	26.140	189.0	0.314	2.54	39.6	28.7	1.98	25.5	0.01	0.07	0.01	0.04	122 210
125 ISL	9.70 D	9.69	33.921 D	26.162	187.0	0.322	2.49	38.9	29.0	2.00	25.7	0.01	0.06	0.01	0.04	126
140	9.62	9.60	33.956	26.203	183.4	0.349	2.34	36.5	30.1	2.05	26.1	0.00	0.00	0.01	0.05	141 209
150 ISL	9.52 D	9.50	33.996 D	26.251	179.0	0.368	2.18	33.9	31.2	2.10	26.6	0.00	0.00	0.01	0.04	151
170	9.50	9.48	34.093	26.331	171.9	0.403	1.86	28.9	33.4	2.19	27.7	0.00	0.00	0.00	0.03	171 208
200 ISL	9.35 D	9.33	34.168 D	26.414	164.6	0.453	1.58	24.5	36.2	2.31	28.8	0.00	0.00	0.00	0.03	201
201	9.36	9.34	34.170	26.414	164.6	0.455	1.57	24.4	36.3	2.31	28.8	0.00	0.00	0.00	0.03	202 207
230	9.11	9.08	34.193	26.473	159.5	0.502	1.39	21.4	38.8	2.39	29.8	0.00	0.00			231 206
250 ISL	8.97 D	8.94	34.208 D	26.507	156.6	0.533	1.27	19.5	40.5	2.44	30.5	0.00	0.00			251
270	8.78	8.75	34.218	26.545	153.3	0.564	1.15	17.6	42.5	2.50	31.2	0.00	0.00			272 205
300 ISL	8.43 D	8.40	34.233 D	26.612	147.4	0.610	0.97	14.7	46.5	2.60	32.4	0.01	0.03			302
321	8.11	8.08	34.243	26.668	142.3	0.640	0.85	12.8	50.0	2.68	33.4	0.01	0.06			323 204
381	7.08	7.04	34.264	26.833	126.9	0.721	0.57	8.4	63.0	2.91	36.6	0.00	0.07			383 203
400 ISL	6.93 D	6.89	34.268 D	26.857	124.8	0.745	0.51	7.5	65.7	2.95	37.1	0.00	0.05			403
440	6.64	6.60	34.281	26.907	120.5	0.794	0.40	5.8	70.4	3.01	37.8	0.00	0.00			443 202
500 ISL	6.23 D	6.19	34.304 D	26.979	114.1	0.864	0.30	4.3	76.6	3.09	39.0	0.00	0.00			503
515	6.17	6.12	34.313	26.994	112.8	0.881	0.28	4.0	78.2	3.11	39.3	0.00	0.00			519 201

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

RV NEW HORIZON

CALCOFI CRUISE 1011

STATION 90.0 35.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE
33 14.9 N	118 15.1 W	03/11/10	2113	UTC	395 m	220	12 kn	260 01 06	1	1014.1 mb	23.2 C	20.2 C	14m	1/8		CS
0 ISL	18.79	18.79	33.458	23.897	399.9	0.000	5.02	94.1	1.6	0.19	0.0	0.00	0.08	0.28	0.10	0
1	18.79	18.79	33.458	23.897	399.9	0.004	5.02	94.1	1.6	0.19	0.0	0.00	0.08	0.28	0.10	1 219
10	18.03	18.03	33.457	24.085	382.3	0.039	5.70	105.4	1.6	0.19	0.0	0.00	0.04	0.29	0.10	10 217
10	18.02	18.02	33.457	24.087	382.1	0.039										10 218
20	16.11	16.11	33.327	24.438	349.0	0.076	5.95	105.9	1.9	0.28	0.4	0.07	0.04	0.60	0.24	20 216
30	13.16	13.16	33.388	25.114	284.7	0.107	5.09	85.3	7.1	0.90	8.7	0.42	0.25	0.72	0.57	30 215
40	11.57	11.56	33.432	25.453	252.7	0.134	4.23	68.6	12.7	1.31	15.1	0.21	0.19	0.17	0.27	40 214
50	10.92	10.91	33.517	25.636	235.4	0.159	3.66	58.5	16.9	1.54	18.9	0.09	0.05	0.09	0.33	50 213
60	10.62	10.61	33.560	25.723	227.4	0.182	3.46	55.0	18.8	1.63	20.3	0.07	0.04	0.06	0.18	60 212
71	10.30	10.29	33.634	25.836	216.8	0.206	3.15	49.7	21.7	1.76	22.1	0.06	0.13	0.04	0.15	71 211
75 ISL	10.12 D	10.11	33.662 D	25.889	211.9	0.215	3.13	49.2	22.3	1.77	22.5	0.05	0.10	0.03	0.13	75
85	9.92	9.91	33.707	25.958	205.5	0.236	3.10	48.6	23.5	1.79	23.2	0.03	0.00	0.02	0.08	85 210
100	9.81	9.80	33.805	26.053	196.8	0.266	2.77	43.3	26.2	1.90	24.4	0.03	0.00	0.01	0.08	101 209
120	9.47	9.46	33.926	26.204	182.8	0.304	2.55	39.6	29.0	1.98	25.9	0.03	0.00	0.00	0.04	121 208
125 ISL	9.45 D	9.44	33.938 D	26.217	181.7	0.313	2.48	38.5	29.6	2.00	26.1	0.03	0.00	0.00	0.04	126
140	9.45	9.43	34.010	26.273	176.7	0.340	2.23	34.6	31.3	2.09	26.8	0.04	0.00	0.00	0.04	141 207
150 ISL	9.43 D	9.41	34.085 D	26.335	171.0	0.357	1.98	30.8	33.0	2.17	27.5	0.05	0.00	0.00	0.04	151
171	9.27	9.25	34.164	26.423	163.1	0.392	1.49	23.1	36.9	2.33	29.0	0.08	0.00	0.00	0.04	172 206
200 ISL	8.91 D	8.89	34.206 D	26.514	154.9	0.438	1.27	19.5	40.9	2.45	30.4	0.07	0.00	0.00	0.05	201
201	8.91	8.89	34.205	26.514	155.0	0.440	1.27	19.5	41.0	2.45	30.4	0.07	0.00	0.00	0.05	202 205
230	8.60	8.58	34.231	26.583	148.9	0.484	1.09	16.6	44.4	2.54	31.5	0.01	0.00			231 204
250 ISL	8.39 D	8.36	34.235 D	26.619	145.8	0.514	1.01	15.3	46.1	2.58	32.1	0.01	0.00			251
271	8.31	8.28	34.238	26.633	144.7	0.544	0.95	14.4	47.6	2.61	32.6	0.01	0.00			273 203
300 ISL	8.15 D	8.12	34.241 D	26.660	142.6	0.586	0.86	13.0	49.5	2.66	33.2	0.01	0.00			302
320	8.01	7.98	34.247	26.686	140.5	0.614	0.80	12.0	51.0	2.69	33.6	0.01	0.00			322 202
380	7.37	7.33	34.257	26.787	131.5	0.696	0.66	9.8	58.9	2.82	35.6	0.01	0.00			382 201

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

RV NEW HORIZON

CALCOFI CRUISE 1011

STATION 90.0 37.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE	
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SI03	P04	N03	N02	NH4	CHL-A	PHAEAO	PRES	SAMP
m	DEG C	DEG C		THETA		ml/l	PCT	uM/l	uM/l	uM/l	uM/l	uM/l	uM/l	ug/l	ug/l	db	
33 11.1 N	118 22.8 W	03/11/10	1815	UTC	1180 m	150	05 kn	250 02 05	0	1016.2 mb	20.5	C 19.2	C 17m	17m	0/8		
0 ISL	17.62	17.62	33.497	24.214	369.6	0.000	5.76	105.7	1.5	0.22	0.1	0.02	0.06	0.56	0.23	0	
2 A	17.62	17.62	33.497	24.214	369.7	0.007	5.76	105.7	1.5	0.22	0.1	0.02	0.06	0.56	0.23	2 220	
10 ISL	17.29	17.29	33.503 D	24.298	361.9	0.037	5.73	104.4	1.7	0.26	0.5	0.04	0.09	0.77	0.32	10	
12 A	16.92	16.92	33.497	24.381	354.1	0.044	5.72	103.5	1.8	0.27	0.6	0.05	0.10	0.83	0.36	12 219	
20 ISL	15.01 D	15.01	33.449 D	24.776	316.8	0.071	5.47	95.3	3.7	0.52	3.7	0.23	0.10	0.82	0.50	20	
24 A	14.25	14.25	33.376	24.881	306.7	0.083	5.30	90.9	5.0	0.67	5.8	0.32	0.10	0.81	0.54	24 218	
30 ISL	13.49 D	13.49	33.367 D	25.031	292.6	0.101	4.97	83.9	7.5	0.89	9.1	0.31	0.09	0.65	0.48	30	
36 A	12.32	12.32	33.363	25.259	271.1	0.118	4.66	76.7	9.7	1.08	11.9	0.30	0.08	0.47	0.38	36 217	
47 A	11.98	11.97	33.390	25.344	263.2	0.147	4.47	73.1	11.2	1.19	13.5	0.23	0.00	0.31	0.32	47 216	
50 ISL	11.82 D	11.81	33.399 D	25.381	259.7	0.155	4.41	71.9	11.7	1.22	14.0	0.20	0.00	0.27	0.28	50	
58 A	11.46	11.45	33.426	25.469	251.6	0.176	4.15	67.1	13.6	1.34	15.9	0.13	0.00	0.17	0.19	58 215	
68 A	10.81	10.80	33.553	25.684	231.2	0.200	3.53	56.3	18.2	1.59	19.6	0.04	0.00	0.07	0.14	68 214	
75 ISL	10.69 D	10.68	33.602 D	25.744	225.8	0.216	3.32	52.9	19.6	1.66	20.7	0.04	0.00	0.05	0.15	75	
76	10.67	10.66	33.606	25.750	225.1	0.218	3.29	52.4	19.8	1.67	20.8	0.04	0.00	0.05	0.15	76 213	
85	10.17	10.16	33.760	25.957	205.7	0.237	2.73	43.0	24.5	1.88	23.7	0.03	0.00	0.02	0.13	85 212	
100	9.98	9.97	33.880	26.083	194.0	0.267	2.35	36.9	27.6	2.01	25.4	0.02	0.00	0.01	0.11	100 211	
120	9.73	9.72	33.958	26.186	184.6	0.305	2.24	35.0	29.6	2.06	26.3	0.01	0.00	0.01	0.09	121 210	
125 ISL	9.62 D	9.61	33.952 D	26.200	183.4	0.315	2.23	34.8	30.1	2.07	26.5	0.01	0.00	0.01	0.09	126	
140	9.44	9.42	34.022	26.284	175.7	0.341	2.16	33.5	31.7	2.11	27.0	0.01	0.00	0.01	0.07	141 209	
150 ISL	9.40 D	9.38	34.053 D	26.315	172.9	0.359	2.00	31.0	32.9	2.17	27.4	0.01	0.00	0.01	0.06	151	
170	9.46	9.44	34.152	26.383	166.9	0.393	1.62	25.2	35.4	2.29	28.4	0.00	0.00	0.00	0.04	171 208	
200	9.04	9.02	34.201	26.490	157.3	0.441	1.30	20.0	39.7	2.42	30.1	0.00	0.00	0.00	0.04	201 207	
231	8.74	8.72	34.224	26.556	151.5	0.489	1.16	17.8	42.9	2.51	31.2	0.01	0.00		0.00	232 206	
250 ISL	8.60 D	8.57	34.236 D	26.587	148.9	0.518	1.06	16.2	44.6	2.55	31.8	0.01	0.00		0.00	251	
270	8.41	8.38	34.238	26.618	146.2	0.547	0.96	14.6	46.5	2.60	32.4	0.01	0.00		0.00	272 205	
300 ISL	8.04 D	8.01	34.246 D	26.681	140.6	0.590	0.86	13.0	50.1	2.68	33.5	0.00	0.00		0.00	302	
320	7.89	7.86	34.258	26.712	137.9	0.618	0.80	12.0	52.7	2.74	34.2	0.00	0.00		0.00	322 204	
380	7.25	7.21	34.263	26.809	129.3	0.698	0.58	8.6	60.4	2.87	36.2	0.00	0.00		0.00	382 203	
400 ISL	7.08 D	7.04	34.261 D	26.831	127.4	0.724	0.54	8.0	62.9	2.91	36.8	0.00	0.00		0.00	403	
441	6.71	6.67	34.273	26.891	122.0	0.775	0.48	7.0	67.7	2.98	37.9	0.00	0.00		0.00	444 202	
500 ISL	6.37 D	6.32	34.297 D	26.956	116.5	0.846	0.35	5.1	73.4	3.05	38.8	0.00	0.00		0.00	503	
516	6.30	6.25	34.307	26.973	115.0	0.864	0.31	4.5	75.0	3.07	39.1	0.00	0.00		0.00	520 201	

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

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

RV NEW HORIZON

CALCOFI CRUISE 1011

STATION 90.0 53.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE	
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SI03	P04	N03	N02	NH4	CHL-A	PHAEAO	PRES	SAMP
m	DEG C	DEG C		THETA		ml/l	PCT	uM/l	uM/l	uM/l	uM/l	uM/l	uM/l	ug/l	ug/l	db	
32 38.9 N	119 28.7 W	03/11/10	0815	UTC	1319 m	230	09 kn										
0 ISL	16.88	16.88	33.468	24.368	355.0	0.000	5.82	105.2	1.5	0.26	0.1	0.02	0.11	0.58	0.39	0	
2	16.88	16.88	33.468	24.368	355.0	0.007	5.82	105.2	1.5	0.26	0.1	0.02	0.11	0.58	0.39	2 220	
10	16.87	16.87	33.468	24.370	355.1	0.036	5.81	105.0	1.6	0.26	0.1	0.03	0.13	0.63	0.31	10 219	
20	16.70	16.70	33.473	24.414	351.2	0.071	5.79	104.3	2.0	0.28	0.2	0.04	0.13	0.65	0.37	20 218	
30	14.05	14.05	33.345	24.900	305.2	0.104	5.23	89.3	5.6	0.71	6.3	0.24	0.13	0.55	0.41	30 217	
41	12.60	12.59	33.321	25.172	279.5	0.136	4.84	80.1	8.9	0.99	10.6	0.21	0.00	0.38	0.25	41 216	
50	11.26	11.25	33.381	25.470	251.3	0.160	4.35	70.0	13.7	1.30	15.5	0.07	0.00	0.17	0.14	50 215	
61	10.59	10.58	33.476	25.663	233.1	0.186	3.94	62.6	17.3	1.49	18.6	0.04	0.00	0.08	0.10	61 214	
70	10.50	10.49	33.562	25.746	225.4	0.207	3.60	57.1	19.4	1.61	20.1	0.05	0.00	0.07	0.13	70 213	
75 ISL	10.25 D	10.24	33.663 D	25.867	214.0	0.218	3.36	53.0	21.0	1.69	21.2	0.04	0.00	0.06	0.13	75	
85	10.14	10.13	33.715	25.927	208.5	0.239	2.94	46.3	24.0	1.84	23.2	0.03	0.00	0.03	0.13	85 212	
100	10.07	10.06	33.774	25.985	203.3	0.270	2.69	42.3	25.4	1.91	24.1	0.03	0.00	0.02	0.09	100 211	
120	9.76	9.75	33.870	26.113	191.6	0.309	2.50	39.1	28.1	1.99	25.3	0.03	0.00	0.01	0.07	121 210	
125 ISL	9.65 D	9.64	33.910 D	26.162	187.0	0.319	2.44	38.0	28.7	2.01	25.6	0.03	0.00	0.01	0.07	126	
140	9.51	9.49	33.972	26.234	180.5	0.346	2.24	34.8	30.6	2.09	26.6	0.02	0.00	0.01	0.06	141 209	
150 ISL	9.21 D	9.19	34.008 D	26.311	173.3	0.364	2.10	32.4	31.9	2.14	27.2	0.02	0.00	0.01	0.06	151	
170	9.25	9.23	34.100	26.377	167.5	0.398	1.84	28.5	34.7	2.24	28.3	0.01	0.00	0.01	0.05	171 208	
200 ISL	8.66 D	8.64	34.141 D	26.503	155.9	0.447	1.62	24.7	39.9	2.36	30.1	0.02	0.00	0.00	0.04	201 207	
201	8.67	8.65	34.140	26.500	156.2	0.448	1.61	24.6	40.1	2.36	30.2	0.02	0.00	0.00	0.04	202 207	
230	8.38	8.36	34.188 D	26.583	148.8	0.493	1.25	19.0 D								231 206	
250 ISL	8.19 D	8.16	34.207 D	26.627	144.9	0.522	1.03	15.6	48.9	2.61	33.1	0.08	0.00		0.00	251	
271	7.85	7.82	34.234	26.699	138.3	0.552	0.85	12.7	52.2	2.71	34.1	0.09	0.00		0.00	273 205	
300 ISL</td																	

RV NEW HORIZON

CALCOFI CRUISE 1011

STATION 90.0 60.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE	
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SI03	P04	N03	N02	NH4	CHL-A	PHAEAO	PRES	SAMP
m	DEG C	DEG C	THETA		ml/l	PCT	uM/l	uM/l	uM/l	uM/l	uM/l	uM/l	ug/l	ug/l	db		
0	ISL	16.36	16.36	33.198	24.281	363.3	0.000	5.83	104.2	1.7	0.30	0.1	0.03	0.07	0.29	0.06	0
2		16.36	16.36	33.198	24.281	363.3	0.007	5.83	104.2	1.7	0.30	0.1	0.03	0.07	0.29	0.06	2 220
10		16.31	16.31	33.220	24.310	360.8	0.036	5.84	104.2	1.6	0.28	0.1	0.03	0.07	0.27	0.05	10 219
20		16.17	16.17	33.255	24.369	355.5	0.072	5.84	104.0	1.6	0.28	0.1	0.03	0.07	0.44	0.07	20 218
30		16.16	16.16	33.260	24.375	355.2	0.108	5.82	103.6	1.6	0.28	0.1	0.04	0.13	0.42	0.09	30 217
41		15.89	15.88	33.271	24.445	348.9	0.146	5.78	102.3	1.6	0.30	0.3	0.08	0.11	0.44	0.12	41 216
49		15.48	15.47	33.231	24.506	343.4	0.174	5.73	100.6	1.8	0.36	0.7	0.17	0.20	0.41	0.15	49 215
50	ISL	15.16	D 15.15	33.215	D 24.564	337.8	0.177	5.71	99.6	2.0	0.38	1.0	0.19	0.19	0.42	0.16	50
60		13.51	13.50	33.078	24.805	315.0	0.210	5.47	92.2	4.0	0.63	4.3	0.29	0.04	0.47	0.26	60 214
70		12.34	12.33	32.994	24.969	299.5	0.241	5.38	88.4	6.0	0.76	6.5	0.08	0.00	0.34	0.25	70 213
75	ISL	11.89	D 11.88	33.043	D 25.092	287.8	0.255	5.26	85.6	7.7	0.88	8.5	0.06	0.00	0.25	0.20	75
85		10.82	10.81	33.133	25.356	262.8	0.283	4.92	78.3	11.7	1.14	13.0	0.02	0.00	0.10	0.09	85 212
100	ISL	10.29	D 10.28	33.397	D 25.654	234.8	0.320	4.22	66.5	17.0	1.46	18.1	0.02	0.00	0.04	0.06	100
101		10.30	10.29	33.398	25.653	234.9	0.323	4.17	65.7	17.3	1.48	18.4	0.02	0.00	0.04	0.06	101 211
121		10.06	10.05	33.608	25.858	215.9	0.368	3.45	54.2	21.9	1.72	22.0	0.01	0.00	0.02	0.06	122 210
125	ISL	9.73	D 9.72	33.633	D 25.932	208.8	0.376	3.45	53.8	22.5	1.73	22.3	0.01	0.00	0.02	0.06	126
140		9.39	9.37	33.688	26.031	199.6	0.407	3.45	53.4	24.4	1.76	23.3	0.01	0.00	0.01	0.04	141 209
150	ISL	9.02	D 9.00	33.809	D 26.185	185.1	0.426	3.31	50.9	26.3	1.81	24.3	0.01	0.00	0.01	0.04	151
170		8.79	8.77	33.900	26.293	175.2	0.462	3.04	46.5	30.1	1.89	26.0	0.00	0.00	0.00	0.03	171 208
200	ISL	8.22	D 8.20	33.965	D 26.432	162.4	0.513	3.14	47.4	33.8	1.90	26.6	0.00	0.00	0.00	0.02	201
201		8.16	8.14	33.972	26.446	161.0	0.514	3.14	47.4	33.9	1.90	26.6	0.00	0.00	0.00	0.02	202 207
232		7.91	7.89	33.998	26.504	156.0	0.564	2.69	40.3	38.4	2.08	28.8	0.00	0.05		233 206	
250	ISL	7.62	D 7.60	34.020	D 26.563	150.5	0.591	2.18	32.5	42.8	2.26	30.9	0.00	0.03		251	
271		7.58	7.55	34.082	26.618	145.7	0.622	1.61	24.0	48.0	2.46	33.2	0.00	0.00		273 205	
300	ISL	7.29	D 7.26	34.098	D 26.672	140.9	0.664	1.43	21.2	52.2	2.58	34.6	0.00	0.00		302	
321		7.12	7.09	34.107	26.703	138.2	0.693	1.30	19.2	54.5	2.62	35.1	0.00	0.00		323 204	
380		6.63	6.60	34.127	26.786	130.9	0.772	1.00	14.6	62.2	2.79	37.2	0.00	0.00		382 203	
400	ISL	6.40	D 6.36	34.144	D 26.830	126.9	0.798	0.87	12.6	64.6	2.85	37.8	0.00	0.00		403	
441		6.27	6.23	34.197	26.889	121.8	0.849	0.62	9.0	69.9	2.96	38.8	0.00	0.00		444 202	
500	ISL	5.78	D 5.74	34.248	D 26.991	112.4	0.918	0.41	5.9	79.2	3.08	40.2	0.00	0.00		503	
517		5.69	5.65	34.253	27.007	111.1	0.937	0.35	5.0	81.9	3.12	40.6	0.00	0.00		520 201	

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

RV NEW HORIZON

CALCOFI CRUISE 1011

STATION 90.0 70.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE	
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SI03	P04	N03	N02	NH4	CHL-A	PHAEAO	PRES	SAMP
m	DEG C	DEG C	THETA		ml/l	PCT	uM/l	uM/l	uM/l	uM/l	uM/l	uM/l	ug/l	ug/l	db		
0	ISL	16.55	16.55	33.161	24.209	370.1	0.000	5.83	104.5	1.6	0.27	0.1	0.01	0.39	0.24	0.08	0
2	A	16.55	16.55	33.161	24.209	370.2	0.007	5.83	104.5	1.6	0.27	0.1	0.01	0.39	0.24	0.08	2 221
10	ISL	16.45	D 16.45	33.160	D 24.231	368.3	0.037	5.80	103.8	1.8	0.27	0.1	0.01	0.31	0.25	0.10	10
13	A	16.44	16.44	33.161	24.235	368.1	0.048	5.79	103.6	1.9	0.27	0.1	0.01	0.28	0.26	0.11	13 222
20		16.34	16.34	33.181	24.273	364.6	0.074	5.80	103.6	1.6	0.27	0.2	0.01	0.27	0.31	0.13	20 219
27	A	16.09	16.09	33.220	24.360	356.6	0.099	5.84	103.8	1.4	0.28	0.3	0.02	0.30	0.38	0.17	27 218
30	ISL	16.13	D 16.13	33.267	D 24.387	354.1	0.110	5.82	103.5	1.4	0.28	0.4	0.03	0.34	0.38	0.19	30
34		16.11	16.10	33.292	24.411	351.9	0.124	5.81	103.3	1.4	0.28	0.5	0.04	0.39	0.39	0.22	34 217
41	A	15.43	15.42	33.201	24.494	344.3	0.148	5.89	103.3	1.8	0.33	0.6	0.07	0.32	0.42	0.24	41 216
50	ISL	14.01	D 14.00	33.116	D 24.732	321.7	0.178	5.84	99.5	2.3	0.41	1.2	0.26	0.44	0.35	0.34	50
52	A	13.47	13.46	33.065	24.802	315.0	0.184	5.82	98.0	2.5	0.43	1.4	0.29	0.46	0.32	0.35	52 215
65		11.79	11.78	32.931	25.024	294.1	0.224	5.73	93.0	4.1	0.53	3.2	0.05	0.04	0.14	0.18	65 214
75	ISL	11.01	D 11.00	32.954	D 25.183	279.1	0.253	5.54	88.5	6.1	0.71	6.2	0.02	0.06	0.08	0.11	75
76	A	11.00	10.99	32.956	25.186	278.8	0.255	5.51	88.0	6.4	0.73	6.6	0.02	0.06	0.08	0.11	76 213
88		10.35	10.34	33.123	25.429	255.8	0.287	5.01	78.9	11.0	1.06	12.3	0.02	0.00	0.05	0.07	88 212
100		9.95	9.94	33.259	25.603	239.5	0.317	4.63	72.4	15.3	1.32	16.4	0.01	0.05	0.03	0.06	100 211
121		9.41	9.40	33.494	25.876	213.9	0.365	3.99	61.7	21.6	1.63	21.5	0.01	0.00	0.01	0.03	122 210
125	ISL	9.40	D 9.39	33.614	D 25.971	205.0	0.373	3.78	58.5	22.9	1.70	22.5	0.01	0.00	0.01	0.04	126
140		9.29	9.27	33.743	26.090	194.0	0.403	3.05	47.1	27.3	1.93	26.0	0.00	0.00	0.01	0.06	141 209
150	ISL	9.17	D 9.15	33.787	D 26.144	189.0	0.422	2.85	43.9	29.3	2.00	27.1	0.00	0.00	0.01	0.06	151
170		8.79	8.77	33.877	26.275	176.9	0.459	2.68	41.0	32.4	2.06	28.3	0.00	0.00	0.00	0.04	171 208
200	ISL	8.41	D 8.39	33.988	D 26.421	163.5	0.510	2.29	34.7	36.5	2.16	29.9	0.00	0.00	0.00	0.04	201
201		8.41	8.39	33.988	26.421	163.5	0.512	2.28	34.6	36.6	2.16	29.9	0.00	0.00	0.00	0.04	202 207
230		8.12	8.10	34.026	26.495	156.9	0.558	2.00	30.1	40.8	2.27	31.3	0.00	0.00		231 206	
250	ISL	7.53	D 7.5														

RV NEW HORIZON

CALCOFI CRUISE 1011

STATION 90.0 80.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE		
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SV	DYN	HT	OXYGEN	OXY	S103	P04	N03	N02	NH4	CHL-A	PHAEAO	PRES	SAMP
m	DEG C	DEG C		THETA	ml/l	PCT	uM/l	uM/l	uM/l	uM/l	uM/l	uM/l	uM/l	ug/l	ug/l	db		
31 44.9 N	121 18.6 W	02/11/10	1301	UTC	3607 m	270	18 kn											
0 ISL	17.48	17.48	33.076	23.925	397.2	0.000	5.58	101.8	2.1	0.25	0.0	0.00	0.07	0.13	0.04	0.04	0	
2	17.48	17.48	33.076	23.925	397.2	0.008	5.58	101.8	2.1	0.25	0.0	0.00	0.07	0.13	0.04	0.04	2 221	
10	17.48	17.48	33.069	23.920	398.0	0.040	5.57	101.6	2.1	0.25	0.0	0.00	0.04	0.13	0.04	0.04	10 219	
20 ISL	17.56 D	17.56	33.091 D	23.919	398.5	0.080	5.57	101.8	2.0	0.26	0.0	0.00	0.04	0.13	0.04	0.04	20 218	
25	17.54	17.54	33.081	23.916	398.9	0.100	5.57	101.8	2.0	0.26	0.0	0.00	0.04	0.13	0.04	0.04	25 218	
30 ISL	17.88 D	17.87	33.214 D	23.936	397.2	0.119	5.59	102.9	2.0	0.25	0.0	0.00	0.04	0.15	0.05	0.05	30	
41	17.12	17.11	33.202	24.109	381.0	0.162	5.71	103.5	2.1	0.25	0.0	0.00	0.04	0.19	0.08	0.19	217	
50	16.13	16.12	33.183	24.324	360.8	0.196	5.94	105.6	2.2	0.27	0.0	0.00	0.00	0.16	0.09	0.09	50 216	
62	15.14	15.13	33.195	24.553	339.2	0.238	5.89	102.7	2.4	0.28	0.0	0.00	0.00	0.20	0.20	0.20	62 215	
75	14.10	14.09	33.276	24.837	312.4	0.280	5.74	98.0	2.8	0.29	0.5	0.10	0.00	0.20	0.27	0.27	75 214	
87	13.82	13.81	33.320	24.929	304.0	0.317	5.73	97.3	2.7	0.27	0.3	0.15	0.00	0.19	0.28	0.28	87 213	
100	12.67	12.66	33.304	25.147	283.4	0.355	5.38	89.2	4.7	0.53	4.2	0.02	0.00	0.10	0.17	0.17	100 212	
113	11.55	11.54	33.284	25.343	264.9	0.391	5.10	82.6	7.9	0.80	8.5	0.01	0.00	0.08	0.13	0.13	113 211	
125 ISL	10.85 D	10.83	33.315 D	25.493	250.7	0.422	4.96	79.1	9.7	0.93	10.6	0.00	0.00	0.05	0.09	0.09	126	
126	10.90	10.88	33.316	25.485	251.5	0.424	4.95	79.0	9.8	0.94	10.7	0.00	0.00	0.05	0.09	0.09	127 210	
141	10.43	10.41	33.399	25.632	237.8	0.461	4.74	74.9	12.4	1.08	13.2	0.00	0.00	0.03	0.05	0.05	142 209	
150 ISL	10.09 D	10.07	33.470 D	25.745	227.1	0.482	4.57	71.7	14.3	1.18	14.9	0.00	0.00	0.02	0.04	0.04	151	
170	9.69	9.67	33.617	25.927	210.2	0.526	4.14	64.5	18.8	1.42	18.7	0.00	0.00	0.01	0.02	0.02	171 208	
200 ISL	9.16 D	9.14	33.828 D	26.179	186.8	0.585	3.44	53.0	25.0	1.71	23.3	0.00	0.00	0.00	0.02	0.02	201	
201	9.20	9.18	33.820	26.166	188.0	0.587	3.42	52.8	25.2	1.72	23.4	0.00	0.00	0.00	0.02	0.02	202 207	
230	8.52	8.50	33.960	26.383	167.8	0.639	2.63	40.0	33.7	2.03	28.3	0.00	0.00				231 206	
250 ISL	8.18 D	8.15	33.995 D	26.462	160.5	0.671	2.65	40.0	36.7	2.05	28.8	0.00	0.00				251	
270	7.80	7.77	33.995	26.518	155.3	0.703	2.67	39.9	39.0	2.08	29.2	0.00	0.00				271 205	
300 ISL	7.38 D	7.35	34.006 D	26.587	149.0	0.749	2.43	36.0	44.4	2.21	30.9	0.00	0.00				302	
320	7.18	7.15	34.012	26.620	146.1	0.778	2.20	32.4	48.5	2.31	32.3	0.00	0.00				322 204	
380	6.31	6.28	34.043	26.761	132.9	0.862	1.55	22.4	61.3	2.62	36.4	0.00	0.00				382 203	
400 ISL	6.37 D	6.33	34.103 D	26.801	129.5	0.888	1.31	19.0	64.2	2.71	37.3	0.00	0.00				402	
441	6.10	6.06	34.129	26.857	124.6	0.940	0.87	12.5	69.3	2.87	38.7	0.00	0.00				444 202	
500 ISL	5.81 D	5.77	34.203 D	26.952	116.1	1.011	0.57	8.1	77.5	3.01	40.1	0.00	0.00				503	
515	5.69	5.65	34.204	26.968	114.7	1.028	0.50	7.1	79.6	3.05	40.4	0.00	0.00				518 201	

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

RV NEW HORIZON

CALCOFI CRUISE 1011

STATION 90.0 90.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE		
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SV	DYN	HT	OXYGEN	OXY	S103	P04	N03	N02	NH4	CHL-A	PHAEAO	PRES	SAMP
m	DEG C	DEG C		THETA	ml/l	PCT	uM/l	uM/l	uM/l	uM/l	uM/l	uM/l	uM/l	ug/l	ug/l	db		
31 24.9 N	121 59.2 W	02/11/10	0330	UTC	3924 m	290	15 kn											
0 ISL	18.39	18.39	33.422	23.969	393.0	0.000	5.43	101.0	2.1	0.24	0.0	0.00	0.07	0.10	0.02	0.02	0	
2	18.39	18.39	33.422	23.969	393.1	0.008	5.43	101.0	2.1	0.24	0.0	0.00	0.07	0.10	0.02	0.02	2 224	
10	18.39	18.39	33.421	23.969	393.4	0.039	5.47	101.8	2.2	0.23	0.0	0.00	0.05	0.11	0.01	0.10	223	
20 ISL	18.40 D	18.40	33.420 D	23.966	394.0	0.079	5.46	101.6	2.1	0.23	0.0	0.00	0.05	0.11	0.01	0.01	20	
25	18.40	18.40	33.421	23.967	394.1	0.098	5.45	101.4	2.1	0.23	0.0	0.00	0.05	0.11	0.01	0.01	222	
30 ISL	18.40 D	18.39	33.420 D	23.966	394.3	0.118	5.45	101.4	2.1	0.23	0.0	0.00	0.05	0.11	0.01	0.01	30	
40	18.39	18.38	33.420	23.969	394.4	0.158	5.46	101.6	2.2	0.24	0.0	0.00	0.04	0.11	0.01	0.01	40 221	
50	18.39	18.38	33.421	23.970	394.6	0.197	5.46	101.6	2.1	0.23	0.0	0.00	0.08	0.11	0.01	0.01	50 220	
62	16.44	16.43	33.233	24.292	364.2	0.243	5.88	105.2	2.1	0.25	0.0	0.00	0.05	0.18	0.05	0.05	62 219	
75	15.62	15.61	33.278	24.512	343.6	0.289	5.81	102.3	2.1	0.25	0.0	0.00	0.05	0.19	0.13	0.13	75 218	
87	15.13	15.12	33.267	24.612	334.4	0.329	5.75	100.3	2.4	0.28	0.0	0.00	0.00	0.30	0.16	0.16	87 217	
100	15.09	15.07	33.436	24.751	321.5	0.372	5.55	96.8	2.7	0.29	0.4	0.11	0.00	0.26	0.18	0.18	100 216	
112	13.93	13.91	33.293	24.887	308.8	0.410	5.49	93.4	3.6	0.42	2.1	0.08	0.00	0.23	0.22	0.22	112 215	
125 ISL	12.70 D	12.68	33.225	25.081	290.4	0.449	5.34	88.5	5.3	0.62	5.2	0.01	0.00	0.15	0.16	0.16	125 214	
139	11.85	11.83	33.314	25.312	268.6	0.488	5.13	83.6	7.2	0.75	7.7	0.00	0.00	0.10	0.11	0.11	140 211	
150 ISL	11.15 D	11.13	33.314 D	25.440	256.5	0.517	5.05	81.1	8.3	0.84	9.2	0.00	0.04	0.07	0.08	0.08	151	
170	10.51	10.49	33.374	25.599	241.6	0.566	4.79	75.8	11.5	1.05	12.7	0.00	0.10	0.04	0.05	0.05	171 212	
200	9.50	9.48	33.695	26.020	201.9	0.633	3.54	54.9	22.9	1.65	22.4	0.00	0.00	0.00	0.02	0.02	201 211	
229	9.09	9.07	33.895	26.243	181.3	0.688	3.00	46.2	28.2	1.86	25.3	0.00	0.00				230 210	
269	8.57	8.54	33.992	26.401	166.8	0.758	2.73	41.6	33.6	1.97	27.4	0.00	0.00				270 209	
300 ISL	8.01 D	7.98	34.033 D	26.518	156.0	0.808	2.31	34.7	40.0	2.16	30.0	0.00	0.00				302	
321	7.70	7.67	34.056	26.581	150.1	0.840	1.99	29.7	44.7	2.31	31.8	0.00	0.00				323 208	
381	6.99	6.95	34.117	26.730														

RV NEW HORIZON

CALCOFI CRUISE 1011

STATION 90.0 100.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE	
31 4.8 N	122 40.2 W	01/11/10	1946	UTC	3960 m	280	17 kn	340 03 04	1	1023.6 mb	19.0 C	16.7 C	37m	2/8	AC		
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN	HT	OXYGEN	OXY	S103	P04	N03	N02	NH4	CHL-A	PHAEAO	PRES SAMP
m	DEG C	DEG C	THETA			ml/l	PCT	uM/l	uM/l	uM/l	uM/l	uM/l	uM/l	uM/l	ug/l	ug/l	db
0 ISL	18.35	18.35	33.346	23.921	397.6	0.000	5.46	101.5	2.0	0.24	0.0	0.00	0.02	0.08	0.02	0	
2 A	18.35	18.35	33.346	23.921	397.7	0.008	5.46	101.5	2.0	0.24	0.0	0.00	0.02	0.08	0.02	2 222	
10 ISL	18.36 D	18.36	33.348 D	23.920	398.0	0.040	5.47	101.7	1.9	0.26	0.0	0.00	0.03	0.08	0.01	10	
14	18.36	18.36	33.348	23.920	398.1	0.056	5.47	101.7	1.9	0.27	0.0	0.00	0.03	0.08	0.01	14 221	
20 ISL	18.36 D	18.36	33.356 D	23.927	397.7	0.080	5.48	101.9	1.8	0.25	0.0	0.00	0.03	0.09	0.01	20	
25 A	18.34	18.34	33.359	23.934	397.2	0.099	5.49	102.0	1.8	0.24	0.0	0.00	0.03	0.09	0.01	25 220	
30 ISL	18.33 D	18.32	33.356 D	23.935	397.3	0.119	5.48	101.8	1.8	0.24	0.0	0.00	0.03	0.09	0.01	30	
34	18.32	18.31	33.368	23.947	396.3	0.135	5.47	101.6	1.9	0.25	0.0	0.00	0.03	0.09	0.01	34 219	
43	18.21	18.20	33.326	23.942	397.1	0.171	5.48	101.5	2.0	0.24	0.0	0.00	0.02	0.11	0.02	43 218	
50 ISL	18.27 D	18.26	33.348 D	23.944	397.1	0.199	5.47	101.5	2.0	0.23	0.0	0.00	0.02	0.11	0.01	50	
53 A	18.27	18.26	33.354	23.949	396.8	0.211	5.47	101.5	2.0	0.23	0.0	0.00	0.02	0.11	0.01	53 217	
61	18.27	18.26	33.360	23.954	396.6	0.242	5.48	101.7	2.0	0.24	0.0	0.00	0.01	0.13	0.03	61 216	
71	17.62	17.61	33.308	24.073	385.6	0.281	5.60	102.6	2.0	0.23	0.0	0.00	0.02	0.17	0.05	71 215	
75 ISL	16.50 D	16.49	33.248 D	24.290	364.8	0.296	5.72	102.5	2.0	0.24	0.0	0.00	0.06	0.17	0.07	75	
78 A	16.43	16.42	33.246	24.305	363.5	0.307	5.80	103.8	2.0	0.24	0.0	0.00	0.08	0.17	0.09	78 214	
91	15.80	15.79	33.308	24.495	345.7	0.353	5.82	102.9	1.9	0.23	0.0	0.00	0.03	0.18	0.18	91 213	
100 A	15.74	15.72	33.434	24.606	335.4	0.384	5.67	100.2	2.1	0.27	0.0	0.02	0.05	0.19	0.22	100 212	
117	14.25	14.23	33.371	24.880	309.6	0.439	5.54	94.9	3.0	0.34	1.0	0.16	0.03	0.16	0.24	117 211	
125 ISL	13.87 D	13.85	33.373 D	24.961	302.0	0.463	5.40	91.8	3.9	0.44	2.6	0.10	0.03	0.12	0.20	125	
133	13.06	13.04	33.365	25.119	287.1	0.487	5.27	88.1	4.9	0.55	4.4	0.02	0.03	0.09	0.16	134 210	
150 A	12.28	12.26	33.334	25.247	275.1	0.535	5.21	85.7	6.2	0.68	6.5	0.02	0.03	0.07	0.14	151 209	
171	10.65	10.63	33.379	25.579	243.6	0.589	4.80	76.2	11.4	1.04	12.6	0.01	0.03	0.03	0.05	172 208	
200 ISL	9.48 D	9.46	33.701 D	26.028	201.2	0.654	3.69	57.2	21.8	1.60	21.6	0.00	0.01	0.00	0.01	201	
201	9.48	9.46	33.702	26.029	201.1	0.656	3.65	56.6	22.2	1.62	21.9	0.00	0.01	0.00	0.01	202 207	
231	8.89	8.87	33.940	26.310	174.9	0.712	2.93	44.9	29.8	1.89	26.1	0.00	0.01	0.00	0.01	232 206	
250 ISL	8.70 D	8.67	33.990 D	26.379	168.6	0.745	2.68	40.9	33.2	1.99	27.5	0.00	0.01	0.00	0.01	251	
271	8.36	8.33	34.023	26.457	161.4	0.779	2.47	37.4	36.4	2.08	28.7	0.00	0.02	0.00	0.02	272 205	
300 ISL	8.06 D	8.03	34.067 D	26.537	154.2	0.825	2.09	31.5	41.3	2.24	30.6	0.00	0.02	0.00	0.02	302	
322	7.86	7.83	34.093	26.587	149.7	0.859	1.83 D	27.4 D	45.0	2.36	32.0	0.00	0.02	0.00	0.02	324 204	
380	6.98	6.94	34.085	26.706	138.8	0.942	1.44	21.1	55.1	2.59	35.3	0.00	0.01	0.00	0.02	382 203	
400 ISL	6.88 D	6.84	34.126 D	26.752	134.7	0.970	1.29	18.9	58.3	2.66	36.2	0.00	0.02	0.00	0.02	402	
440	6.45	6.41	34.136	26.818	128.7	1.022	1.02	14.8	64.6	2.79	37.7	0.00	0.05	0.00	0.05	443 202	
500 ISL	5.87 D	5.83	34.175 D	26.923	119.0	1.097	0.74	10.6	73.8	2.93	39.5	0.00	0.01	0.00	0.01	503	
516	5.82	5.78	34.183	26.935	117.9	1.116	0.66	9.4	76.2	2.97	40.0	0.00	0.00	0.00	0.00	519 201	

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

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

RV NEW HORIZON

CALCOFI CRUISE 1011

STATION 90.0 110.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE	
30 45.2 N	123 20.1 W	01/11/10	1257	UTC	4039 m	290	17 kn			1022.8 mb	18.1 C	15.4 C	37m	2/8	AC		
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN	HT	OXYGEN	OXY	S103	P04	N03	N02	NH4	CHL-A	PHAEAO	PRES SAMP
m	DEG C	DEG C	THETA			ml/l	PCT	uM/l	uM/l	uM/l	uM/l	uM/l	uM/l	uM/l	ug/l	ug/l	db
0 ISL	18.79	18.79	33.417	23.866	402.9	0.000	5.41	101.4	2.1	0.23	0.0	0.00	0.00	0.09	0.02	0	
2	18.79	18.79	33.417	23.866	402.9	0.008	5.41	101.4	2.1	0.23	0.0	0.00	0.00	0.09	0.02	2 221	
10	18.80	18.80	33.417	23.864	403.4	0.040	5.42	101.6	2.0	0.23	0.0	0.00	0.00	0.09	0.02	10 220	
20 ISL	18.80 D	18.80	33.416 D	23.863	403.8	0.081	5.41	101.4	2.0	0.23	0.0	0.00	0.00	0.09	0.02	20	
25	18.80	18.80	33.418	23.865	403.8	0.101	5.41	101.4	2.0	0.23	0.0	0.00	0.00	0.09	0.02	25 219	
30 ISL	18.81 D	18.80	33.418 D	23.863	404.2	0.121	5.41	101.5	2.0	0.23	0.0	0.00	0.00	0.09	0.02	30	
40	18.80	18.79	33.422	23.869	404.0	0.161	5.42	101.6	2.0	0.23	0.0	0.00	0.00	0.09	0.02	40 218	
50	18.79	18.78	33.426	23.875	403.8	0.202	5.41	101.4	2.0	0.24	0.0	0.00	0.00	0.11	0.03	50 217	
62	17.43	17.42	33.280	24.096	383.0	0.249	5.77	105.3	2.2	0.23	0.0	0.00	0.00	0.17	0.05	62 216	
75	16.27	16.26	33.237	24.334	360.6	0.297	5.90	105.2	2.2	0.23	0.0	0.00	0.00	0.17	0.07	75 215	
88	15.39	15.38	33.213	24.513	343.8	0.343	5.81	101.8	2.1	0.27	0.0	0.00	0.00	0.18	0.15	88 214	
100 ISL	14.38 D	14.37	33.199 D	24.720	324.3	0.383	5.71	98.0	2.5	0.33	0.2	0.07	0.00	0.25	0.37	100	
101	14.42	14.41	33.200	24.712	325.1	0.387	5.70	97.9	2.6	0.34	0.2	0.07	0.00	0.25	0.38	101 213	
112	13.45	13.43	33.212	24.922	305.3	0.421	5.47	92.1	3.8	0.48	2.6	0.04	0.00	0.18	0.25	112 212	
125	12.78	12.76	33.215	25.057	292.6	0.460	5.35	88.8	4.9	0.59	4.5	0.02	0.00	0.14	0.16	125 211	
140	11.72	11.70	33.225	25.267	272.8	0.502	5.21	84.6	7.2	0.77	7.7	0.01	0.00	0.09	0.10	141 210	
150 ISL	11.45 D	11.43	33.380 D	25.437	256.8	0.529	5.08	82.1	8.4	0.85	9.2	0.01	0.00	0.06	0.07	151	
171	10.680	10.660	33.483	25.655	236.4	0.581	4.75	75.5	11.4	1.01	12.3	0.00	0.00	0.02	0.03	172 208	
171	10.63	10.61	33.483	25.664	235.5	0.581	4.74	75.3	11.6	1.02	12.6	0.00	0.00	0.02	0.03		

RV NEW HORIZON

CALCOFI CRUISE 1011

STATION 90.0 120.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE		
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN	HT	OXYGEN	OXY	SIO3	P04	N03	N02	NH4	CHL-A	PHAEAO	PRES	SAMP
m	DEG C	DEG C	THETA		ml/l	PCT		uM/l	uM/l	uM/l	uM/l	uM/l	uM/l	ug/l	ug/l	db		
0 ISL	18.88	18.88	33.396	23.827	406.5	0.000	5.42	101.8	2.0	0.23	0.0	0.00	0.00	0.08	0.02	0		
1	18.88	18.88	33.396	23.827	406.6	0.004	5.42	101.8	2.0	0.23	0.0	0.00	0.00	0.08	0.02	1	220	
10	18.89	18.89	33.395	23.824	407.2	0.041	5.42	101.8	2.0	0.23	0.0	0.00	0.00	0.11	0.01	10	219	
20 ISL	18.89	D 18.89	33.393	D 23.823	407.6	0.081	5.42	101.8	2.0	0.23	0.0	0.00	0.00	0.10	0.02	20		
25	18.88	18.88	33.392	23.825	407.6	0.102	5.42	101.8	2.0	0.23	0.0	0.00	0.00	0.09	0.02	25	218	
30 ISL	18.88	D 18.87	33.391	D 23.825	407.9	0.122	5.42	101.8	2.0	0.23	0.0	0.00	0.02	0.11	0.02	30		
40	18.81	18.80	33.385	23.838	407.0	0.163	5.43	101.8	2.1	0.23	0.0	0.00	0.05	0.15	0.01	40	217	
50	16.99	16.98	33.302	24.217	371.1	0.202	5.85	105.9	2.1	0.22	0.0	0.00	0.00	0.15	0.05	50	216	
63	16.49	16.48	33.350	24.370	356.8	0.249	5.84	104.7	2.1	0.20	0.0	0.00	0.00	0.18	0.04	63	215	
75	15.97	15.96	33.448	24.564	338.6	0.291	5.77	102.4	2.1	0.19	0.0	0.00	0.00	0.23	0.10	75	214	
86	15.27	15.26	33.415	24.695	326.5	0.327	5.68	99.4	2.3	0.24	0.1	0.01	0.27	0.23	0.21	86	213	
100 ISL	14.14	D 14.13	33.348	D 24.885	308.6	0.372	5.55	94.9	3.2	0.35	1.1	0.12	0.02	0.21	0.21	100		
101	14.16	14.15	33.349	24.882	308.9	0.375	5.54	94.8	3.3	0.36	1.2	0.13	0.00	0.21	0.21	101	212	
112	13.06	13.04	33.235	25.018	296.1	0.408	5.41	90.4	4.7	0.57	3.9	0.12	0.00	0.17	0.25	112	211	
125 ISL	12.17	D 12.15	33.254	D 25.205	278.4	0.446	5.25	86.1	6.2	0.69	6.4	0.02	0.00	0.13	0.16	125		
126	12.19	12.17	33.257	25.203	278.6	0.448	5.24	86.0	6.3	0.70	6.6	0.01	0.00	0.13	0.15	126	210	
140	11.03	11.01	33.276	25.431	257.0	0.486	4.96	79.4	9.9	0.97	10.8	0.00	0.00	0.06	0.06	141	209	
150 ISL	10.50	D 10.48	33.333	D 25.569	244.0	0.511	4.77	75.5	12.3	1.12	13.3	0.00	0.00	0.03	0.05	151		
170	9.80	9.78	33.470	25.794	222.8	0.558	4.31	67.2	17.3	1.38	17.8	0.00	0.00	0.01	0.02	171	208	
200	9.28	9.26	33.791	26.131	191.4	0.620	3.30	51.0	25.5	1.76	23.8	0.00	0.00	0.00	0.02	201	207	
231	8.86	8.84	33.924	26.302	175.6	0.677	3.03	46.4	29.6	1.86	25.6	0.00	0.00		232	206		
250 ISL	8.59	D 8.56	33.983	D 26.390	167.5	0.709	2.82	42.9	32.8	1.95	26.9	0.00	0.00		251			
271	8.30	8.27	34.014	26.459	161.2	0.744	2.58	39.0	36.5	2.06	28.3	0.00	0.00		272	205		
300 ISL	7.86	D 7.83	34.049	D 26.552	152.6	0.789	2.29	34.3	41.3	2.20	30.1	0.00	0.00		302			
321	7.68	7.65	34.056	26.584	149.9	0.821	2.06	30.7	45.0	2.30	31.5	0.00	0.00		323	204		
381	6.89	6.85	34.129	26.753	134.3	0.906	1.16	17.0	58.9	2.68	35.8	0.00	0.05		383	203		
400 ISL	6.72	D 6.68	34.145	D 26.788	131.1	0.931	1.00	14.6	62.4	2.76	36.7	0.00	0.05		402			
441	6.30	6.26	34.170	26.864	124.2	0.984	0.77	11.1	69.0	2.89	38.2	0.00	0.05		444	202		
500 ISL	5.91	D 5.87	34.209	D 26.945	117.0	1.055	0.54	7.7	76.2	3.01	39.6	0.00	0.01		503			
517	5.81	5.77	34.223	26.968	114.9	1.075	0.48	6.9	78.3	3.04	40.0	0.00	0.00		520	201		

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

RV NEW HORIZON

CALCOFI CRUISE 1011

STATION 91.7 26.4

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE		
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN	HT	OXYGEN	OXY	SIO3	P04	N03	N02	NH4	CHL-A	PHAEAO	PRES	SAMP
m	DEG C	DEG C	THETA		ml/l	PCT		uM/l	uM/l	uM/l	uM/l	uM/l	uM/l	ug/l	ug/l	db		
0 ISL	18.50	18.50	33.427	23.946	395.2	0.000	5.93	110.6	1.7	0.16	0.0	0.00	0.00	1.09	0.34	0		
1	18.50	18.50	33.427	23.946	395.3	0.004	5.93	110.6	1.7	0.16	0.0	0.00	0.00	1.09	0.34	1	204	
5	18.55	18.55	33.428	23.934	396.5	0.020	5.93	110.7	1.7	0.17	0.0	0.00	0.00	1.42	0.29	5	203	
10	18.05	18.05	33.419	24.051	385.5	0.039	6.05	111.8	2.1	0.21	0.0	0.02	0.05	1.71	0.73	10	202	
19	15.02	15.02	33.393	24.730	321.0	0.071	5.57	97.0	4.8	0.58	2.0	0.15	0.31	2.25	1.21	19	201	

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

RV NEW HORIZON

CALCOFI CRUISE 1011

STATION 93.3 26.7

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE		
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN	HT	OXYGEN	OXY	SIO3	P04	N03	N02	NH4	CHL-A	PHAEAO	PRES	SAMP
m	DEG C	DEG C	THETA		ml/l	PCT		uM/l	uM/l	uM/l	uM/l	uM/l	uM/l	ug/l	ug/l	db		
0 ISL	18.57	18.57	33.476	23.966	393.3	0.000	5.65	105.5	1.8	0.21	0.0	0.00	0.10	0.34	0.13	0		
2 A	18.57	18.57	33.476	23.966	393.4	0.008	5.65	105.5	1.8	0.21	0.0	0.00	0.10	0.34	0.13	2	210	
8	18.00	18.00	33.483	24.112	379.7	0.031	5.73	105.9	1.8	0.24	0.0	0.00	0.73	0.33	0.15	8	209	
10 ISL	16.94	D 16.94	33.436	D 24.330	359.0	0.038	5.93	107.3	2.1	0.27	0.2	0.02	0.55	0.91	0.36	10		
14 A	14.95	14.95	33.362	24.721	321.7	0.052	6.21	108.0	3.1	0.37	0.7	0.05	0.12	1.97	0.76	14	208	
20 ISL	13.27	D 13.27	33.310	D 25.031	292.3	0.070	5.56	93.4	5.6	0.75	5.6	0.33	0.33	1.26	0.59	20		
21	13.21	13.21	33.310	25.043	291.2	0.073	5.42	90.9	6.0	0.81	6.5	0.38	0.38	1.05	0.56	21	207	
28 A	12.54	12.54	33.323	25.185	277.9	0.093	5.14	85.0	7.1	0.93	8.7	0.48	0.00	0.71	0.51	28	206	
30 ISL	12.30	D 12.30	33.330	D 25.237	273.0	0.099	5.04	82.9	7.7	0.98	9.6	0.41	0.00	0.62	0.47	30		
36	11.78	11.78	33.362	25.360	261.5	0.115	4.66	75.9	10.2	1.17	12.7	0.19	0.00	0.39	0.34	36	205	
42 A	11.21	11.20	33.422	25.511	247.2	0.130	4.18	67.2	13.9	1.40	16.1	0.18	0.00	0.20	0.24	42	204	
48	11.07	11.06	33.450	25.558	242.8	0.145	3.88	62.2	16.3	1.51	17.7	0.13	0.05	0.12	0.23	48	203	
50 ISL	10.98	D 10.97	33.456	D 25.578	240.9	0.150	3.75	60.0	17.2	1.56	18.3	0.12	0.04	0.10	0.22	50		
55 A	10.79	10.78																

RV NEW HORIZON

CALCOFI CRUISE 1011

STATION 93.3 28.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE	
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	S103	P04	N03	N02	NH4	CHL-A	PHAEAO	PRES	SAMP
m	DEG C	DEG C	THETA				ml/l	PCT	uM/l	uM/l	uM/l	uM/l	uM/l	ug/l	ug/l	db	
0 ISL	18.816	18.816	33.464	23.895	400.1	0.000	5.65	106.0	2.1	0.28	0.0	0.00	0.13	0.22	0.07	0	
2	18.816	18.816	33.464	23.895	400.1	0.008	5.65	106.0	2.1	0.28	0.0	0.00	0.13	0.22	0.07	2 220	
10	17.94	17.94	33.454	24.104	380.4	0.039	5.88	108.5	2.2	0.29	0.0	0.00	0.07	0.28	0.17	10 219	
20	13.667	13.664	33.400	25.021	293.4	0.073	6.09	103.2	5.0	0.64	3.7	0.03	0.22	1.24	1.18	20 218	
30 ISL	12.05	12.05	33.357 D	25.305	266.5	0.101	4.97	81.4	9.1	1.10	10.8	0.24	0.20	0.99	0.52	30	
31	12.03	12.03	33.359	25.310	266.0	0.104	4.84	79.2	9.5	1.14	11.5	0.26	0.20	0.96	0.42	31 217	
41	11.43	11.42	33.400	25.454	252.6	0.130	4.34	70.1	12.4	1.37	14.9	0.06	0.00	0.35	0.26	41 216	
50	11.22	11.21	33.473	25.549	243.8	0.152	4.01	64.5	13.9	1.48	16.3	0.15	0.06	0.29	0.26	50 215	
61	10.60	10.59	33.456	25.646	234.8	0.178	3.99	63.3	16.1	1.56	17.9	0.02	0.00	0.14	0.17	61 214	
71	10.17	10.16	33.510	25.762	223.9	0.201	3.85	60.6	18.9	1.66	19.9	0.01	0.00	0.04	0.07	71 213	
75 ISL	9.93 D	9.92	33.566 D	25.846	216.0	0.210	3.76	58.9	19.8	1.70	20.5	0.01	0.01	0.03	0.06	75	
85	9.91	9.90	33.620	25.892	211.8	0.231	3.48	54.5	21.7	1.79	21.8	0.00	0.05	0.02	0.05	85 212	
100 ISL	9.87 D	9.86	33.741 D	25.993	202.5	0.262	3.06	47.9	24.4	1.91	23.3	0.00	0.12	0.01	0.05	101	
101	9.85	9.84	33.730	25.988	203.0	0.264	3.03	47.4	24.6	1.92	23.4	0.00	0.12	0.01	0.05	102 211	
120	9.93	9.92	33.907	26.113	191.6	0.302	2.26	35.5	29.1	2.15	25.3	0.00	0.12	0.01	0.04	121 210	
125 ISL	9.89 D	9.88	33.927 D	26.135	189.6	0.311	2.28	35.7	29.2	2.14	25.5	0.00	0.09	0.01	0.04	126	
141	9.61	9.59	33.946	26.197	184.0	0.341	2.36	36.8	29.7	2.12	25.9	0.00	0.00	0.00	0.04	142 209	
150 ISL	9.34 D	9.32	33.976 D	26.265	177.7	0.358	2.33	36.1	30.4	2.14	26.3	0.00	0.01	0.00	0.04	151	
170	9.29	9.27	34.037	26.321	172.8	0.393	2.16	33.4	32.5	2.22	27.2	0.00	0.05	0.00	0.03	171 208	
200 ISL	9.22 D	9.20	34.147 D	26.419	164.1	0.443	1.72	26.6	36.0	2.37	28.5	0.00	0.00	0.00	0.04	201	
201	9.21	9.19	34.139	26.414	164.5	0.445	1.70	26.3	36.1	2.37	28.5	0.00	0.00	0.00	0.04	202 207	
230	9.12	9.09	34.195	26.473	159.5	0.492	1.39	21.5	38.8	2.48	29.6	0.00	0.00			231 206	
250 ISL	8.96 D	8.93	34.216 D	26.515	155.9	0.523	1.24	19.1	40.8	2.51	30.3	0.00	0.00			251	
271	8.69	8.66	34.237	26.574	150.5	0.555	1.13	17.3	43.3	2.52	31.0	0.00	0.00			273 205	
300 ISL	8.14 D	8.11	34.220 D	26.645	144.1	0.598	1.06	16.0	47.7	2.57	32.4	0.01	0.00			302	
320	7.88	7.85	34.213	26.678	141.1	0.627	1.01	15.2	50.9	2.62	33.3	0.01	0.00			322 204	
381	7.47	7.43	34.270	26.783	132.0	0.710	0.62	9.2	58.2	2.82	35.2	0.00	0.00			383 203	
400 ISL	7.18 D	7.14	34.270 D	26.824	128.1	0.735	0.55	8.1	61.2	2.84	35.9	0.00	0.02			403	
441	6.76	6.72	34.276	26.887	122.5	0.785	0.45	6.6	67.7	2.89	37.4	0.00	0.05			443 202	
500 ISL	6.23 D	6.19	34.303 D	26.978	114.2	0.856	0.31	4.5	76.7	3.24	39.1	0.00	0.01			503	
516	6.07	6.02	34.314	27.008	111.5	0.874	0.27	3.9	79.1	3.33	39.5	0.00	0.00			520 201	

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

RV NEW HORIZON

CALCOFI CRUISE 1011

STATION 93.3 30.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE	
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	S103	P04	N03	N02	NH4	CHL-A	PHAEAO	PRES	SAMP
m	DEG C	DEG C	THETA				ml/l	PCT	uM/l	uM/l	uM/l	uM/l	uM/l	ug/l	ug/l	db	
0 ISL	18.43	18.43	33.489	24.010	389.1	0.000	5.63	104.9	1.8	0.22	0.0	0.00	0.00	0.26	0.09	0	
2	18.43	18.43	33.489	24.010	389.1	0.008	5.63	104.9	1.8	0.22	0.0	0.00	0.00	0.26	0.09	2 220	
10	17.92	17.92	33.482	24.131	377.9	0.038	5.79	106.8	2.0	0.23	0.0	0.00	0.06	0.32	0.17	10 219	
20	15.74	15.74	33.479	24.638	329.9	0.074	5.98	105.7	3.7	0.44	1.5	0.03	0.04	1.86	1.47	20 218	
30	13.88	13.88	33.325	24.919	303.3	0.106	5.58	94.9	4.3	0.65	4.8	0.29	0.11	1.30	0.76	30 217	
40	12.43	12.42	33.368	25.241	272.8	0.134	5.03	83.0	8.2	1.00	10.2	0.24	0.05	0.90	0.63	40 216	
50	11.21	11.20	33.406	25.498	248.6	0.160	4.27	68.7	13.4	1.37	15.9	0.06	0.00	0.26	0.21	50 215	
60	10.51	10.50	33.486	25.684	231.0	0.184	3.94	62.4	17.5	1.55	18.7	0.02	0.00	0.07	0.09	60 214	
71	10.18	10.17	33.602	25.832	217.2	0.209	3.47	54.6	21.0	1.70	21.0	0.02	0.00	0.02	0.08	71 213	
75 ISL	10.18 D	10.17	33.659 D	25.876	213.1	0.218	3.23	50.9	22.5	1.78	21.8	0.02	0.05	0.02	0.07	75	
85	10.18	10.17	33.729	25.931	208.1	0.239	2.72	42.9	25.7	1.95	23.5	0.02	0.16	0.02	0.06	85 212	
100	9.96	9.95	33.809	26.031	198.9	0.269	2.62	41.1	27.1	1.99	24.3	0.01	0.04	0.01	0.06	100 211	
120	10.17	10.16	33.964	26.117	191.3	0.308	1.90	30.0	31.0	2.20	25.7	0.01	0.00	0.01	0.09	121 210	
125 ISL	10.14 D	10.13	33.976 D	26.131	190.0	0.318	1.89	29.8	31.1	2.20	25.9	0.01	0.00	0.01	0.08	126	
141	10.05	10.03	34.015	26.177	186.0	0.348	1.86	29.3	31.4	2.21	26.3	0.01	0.00	0.00	0.04	142 209	
150 ISL	9.98 D	9.96	34.035 D	26.205	183.5	0.364	1.82	28.6	31.8	2.23	26.6	0.01	0.00	0.00	0.04	151	
171	9.83	9.81	34.091	26.274	177.4	0.402	1.73	27.1	33.0	2.28	27.2	0.01	0.00	0.00	0.03	172 208	
200 ISL	9.43 D	9.41	34.139 D	26.379	168.0	0.452	1.62	25.2	35.2	2.33	28.4	0.01	0.00	0.00	0.04	201	
201	9.44	9.42	34.138	26.376	168.3	0.454	1.62	25.2	35.3	2.33	28.4	0.01	0.00	0.00	0.04	202 207	
231	8.98	8.95	34.134	26.448	161.9	0.504	1.75	26.9	37.4	2.33	29.2	0.00	0.00			232 206	
250 ISL	9.01 D	8.98	34.210 D	26.503	157.1	0.534	1.50	23.1	39.5	2.42	30.0	0.00	0.00			251	
271	8.82	8.79	34.227	26.546	153.3	0.567	1.16	17.8	42.1	2.55	31.0	0.01	0.00			273 205	
300 ISL	8.39 D	8.36	34.204 D	26.595	149.0	0.610	0.96	14.6	45.5	2.65	32.1	0.01	0.00			302	
321	8.30	8.27	34.254	26.648	144.3	0.641	0.87	13.2	48.2	2.70	32.8	0.01	0.00			323 204	
381	7.52	7.48	34.263	26.771	133.2	0.724	0.65	9.7	57.4	2.87	35.2	0.00	0.09			383 203	
400 ISL	7.34 D	7.30	34.262 D	26.796	131.0	0.749	0.59	8.7	60								

RV NEW HORIZON

CALCOFI CRUISE 1011

STATION 93.3 35.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE	
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	S103	P04	N03	N02	NH4	CHL-A	PHAEAO	PRES	SAMP
m	DEG C	DEG C	THETA			ml/l	PCT	uM/l	uM/l	uM/l	uM/l	uM/l	ug/l	ug/l	db		
0 ISL	18.38	18.38	33.460	24.001	390.0	0.000	5.70	106.1	2.1	0.23	0.0	0.00	0.00	0.29	0.07	0	
2	18.38	18.38	33.460	24.001	390.1	0.008	5.70	106.1	2.1	0.23	0.0	0.00	0.00	0.29	0.07	2 220	
10	14.85	14.85	33.355 D	24.737	320.1	0.036	5.98	103.8	2.5	0.39	1.4	0.11	0.05	0.67	0.31	10 219	
20	12.69	12.69	33.311	25.147	281.4	0.066	5.19	86.1	6.9	0.93	8.8	0.28	0.04	1.00	0.42	20 218	
30	12.02	12.02	33.414	25.355	261.8	0.093	4.81	78.7	9.6	1.11	11.8	0.23	0.07	1.08	0.60	30 217	
40	11.23	11.23	33.425	25.509	247.3	0.119	4.23	68.1	13.3	1.38	15.9	0.08	0.00	0.90	0.27	40 216	
50	10.88	10.87	33.517	25.644	234.7	0.143	3.61	57.7	17.0	1.61	19.1	0.03	0.00	0.28	0.25	50 215	
60	10.54	10.53	33.550	25.729	226.8	0.166	3.46	54.9	19.1	1.70	20.3	0.01	0.00	0.13	0.13	60 214	
71	10.36	10.35	33.611 D	25.808	219.5	0.191	3.22	50.9 D	21.3	1.81	21.6	0.01	0.00	0.04	0.09	71 213	
75 ISL	10.34 D	10.33	33.617 D	25.816	218.8	0.199	3.13	49.5	21.7	1.84	22.0	0.01	0.00	0.04	0.09	75	
86	10.34	10.33	33.659	25.849	216.0	0.223	2.86	45.2	23.0	1.91	22.9	0.01	0.00	0.04	0.09	86 212	
100 ISL	10.22 D	10.21	33.795 D	25.976	204.2	0.253	2.44	38.5	26.3	2.04	24.3	0.01	0.00	0.01	0.06	101	
101	10.22	10.21	33.793	25.975	204.4	0.255	2.41	38.0	26.5	2.05	24.4	0.01	0.00	0.01	0.06	102 211	
121	10.18	10.17	33.936	26.093	193.5	0.295	1.96	30.9	29.3	2.19	25.9	0.00	0.00	0.00	0.05	122 210	
125 ISL	10.16 D	10.15	33.955 D	26.112	191.9	0.302	1.93	30.4	29.7	2.20	26.0	0.00	0.00	0.00	0.05	126	
140	10.12	10.10	33.997	26.151	188.4	0.331	1.87	29.5	30.7	2.22	26.2	0.00	0.00	0.00	0.04	141 209	
150 ISL	10.12 D	10.10	34.017 D	26.167	187.2	0.350	1.82	28.7	31.0	2.23	26.4	0.00	0.00	0.00	0.04	151	
170	10.07	10.05	34.055	26.206	183.9	0.387	1.71	26.9	31.3	2.26	26.8	0.00	0.00	0.00	0.04	171 208	
200	9.88	9.86	34.125	26.293	176.3	0.441	1.57	24.6	32.2	2.32	27.7	0.00	0.00	0.00	0.04	201 207	
231	9.65	9.62	34.183	26.377	168.9	0.494	1.41	22.0	34.2	2.38	28.5	0.00	0.00	0.00	0.04	232 206	
250 ISL	9.44 D	9.41	34.205 D	26.429	164.2	0.526	1.36	21.1	36.1	2.42	29.3	0.00	0.00	0.00	0.04	251	
270	9.08	9.05	34.210	26.492	158.6	0.558	1.30	20.0	38.3	2.47	30.2	0.00	0.00	0.00	0.04	272 205	
300 ISL	8.74 D	8.71	34.229 D	26.561	152.4	0.605	1.14	17.4	41.5	2.55	31.3	0.00	0.00	0.00	0.04	302	
321	8.57	8.54	34.243	26.598	149.2	0.636	1.02	15.5	43.9	2.61	32.0	0.00	0.00	0.00	0.04	323 204	
382	7.79	7.75	34.260	26.729	137.3	0.724	0.72	10.8	52.6	2.80	34.7	0.00	0.00	0.00	0.04	384 203	
400 ISL	7.61 D	7.57	34.262 D	26.757	134.9	0.748	0.67	10.0	54.6	2.84	35.3	0.00	0.00	0.00	0.04	403	
441	7.23	7.19	34.268	26.816	129.6	0.803	0.56	8.3	59.2	2.92	36.4	0.00	0.00	0.00	0.04	444 202	
500 ISL	6.52 D	6.47	34.290 D	26.931	119.0	0.876	0.39	5.7	68.2	3.05	38.4	0.00	0.00	0.00	0.04	503	
516	6.42	6.37	34.298	26.950	117.3	0.895	0.34	4.9	70.6	3.08	39.0	0.00	0.00	0.00	0.04	520 201	

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

RV NEW HORIZON

CALCOFI CRUISE 1011

STATION 93.3 40.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE	
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	S103	P04	N03	N02	NH4	CHL-A	PHAEAO	PRES	SAMP
m	DEG C	DEG C	THETA			ml/l	PCT	uM/l	uM/l	uM/l	uM/l	uM/l	ug/l	ug/l	db		
0 ISL	17.55	17.55	33.549	24.271	364.2	0.000	5.70	104.4	1.0	0.24	0.0	0.00	0.00	0.42	0.24	0	
2	17.55	17.55	33.549	24.271	364.3	0.007	5.70	104.4	1.0	0.24	0.0	0.00	0.00	0.42	0.24	2 221	
10	17.44	17.44	33.550	24.299	361.9	0.036	5.71	104.4	1.1	0.23	0.0	0.00	0.00	0.43	0.25	10 219	
10	17.45	17.45	33.549	24.295	362.2	0.036										10 220	
20	15.35	15.35	33.485	24.729	321.2	0.071	5.63	98.7	2.7	0.53	3.6	0.12	0.10	0.99	0.98	20 218	
30	13.33	13.33	33.449	25.127	283.5	0.101	4.81	80.9	7.3	1.02	9.8	0.43	0.79	0.59	0.57	30 217	
40	12.29	12.28	33.463	25.342	263.3	0.128	4.39	72.3	10.8	1.24	13.4	0.32	0.23	0.29	0.35	40 216	
50	10.79	10.78	33.522	25.663	232.8	0.153	3.75	59.8	17.5	1.59	19.4	0.04	0.00	0.11	0.17	50 215	
60	10.48	10.47	33.559	25.747	225.1	0.176	3.64	57.7	19.2	1.65	20.7	0.03	0.00	0.08	0.14	60 214	
70	10.04	10.03	33.633	25.880	212.6	0.198	3.33	52.3	22.1	1.78	22.7	0.02	0.00	0.04	0.10	70 213	
75 ISL	9.80 D	9.79	33.728 D	25.994	201.9	0.208	3.21	50.2	23.2	1.82	23.5	0.02	0.00	0.04	0.08	75	
85	9.66	9.65	33.757	26.040	197.7	0.228	3.00	46.7	25.1	1.89	24.7	0.01	0.00	0.03	0.06	85 212	
100	9.36	9.35	33.842	26.156	187.0	0.257	2.72	42.1	28.2	1.97	26.2	0.00	0.00	0.01	0.06	101 211	
120	9.15	9.14	33.924	26.254	178.0	0.293	2.46	37.9	30.4	2.08	27.4	0.00	0.00	0.01	0.05	121 210	
125 ISL	9.23 D	9.22	33.979 D	26.284	175.3	0.302	2.35	36.3	31.2	2.11	27.6	0.00	0.00	0.01	0.04	126	
140	9.22	9.20	34.057	26.347	169.6	0.328	2.06	31.8	35.5	2.18	27.9	0.00	0.00	0.00	0.03	141 209	
150 ISL	9.03 D	9.01	34.048 D	26.371	167.5	0.345	2.06	31.7	34.4	2.20	28.1	0.00	0.03	0.00	0.03	151	
171	8.83	8.81	34.078	26.426	162.6	0.380	2.06	31.6	35.9	2.24	28.7	0.00	0.09	0.00	0.02	172 208	
200 ISL	8.62 D	8.60	34.118 D	26.491	157.0	0.426	1.76	26.8	38.4	2.35	30.1	0.00	0.00	0.00	0.03	201	
201	8.63	8.61	34.118	26.489	157.2	0.427	1.75	26.7	38.5	2.35	30.2	0.00	0.00	0.00	0.03	202 207	
230	8.44	8.42	34.202	26.585	148.6	0.472	1.24	18.8	44.4	2.54	31.8	0.00	0.00	0.00	0.04	231 206	
250 ISL	8.21 D	8.18	34.228 D	26.640	143.6	0.501	0.98	14.8	47.6	2.65	32.8	0.00	0.00	0.00	0.04	251	
271	8.05	8.02	34.255	26.686	139.6	0.531	0.80	12.1	50.6	2.74	33.7	0.00	0.00	0.00	0.04	273 205	
300 ISL	7.54 D	7.51	34.224 D	26.736	135.1	0.571	0.80	11.9	54.3	2.79	34.7	0.00	0.00	0.00	0.04	302	
320	7.43	7.40	34.235	26.761	133.0	0.597	0.80	11.9	56.6	2.81	35.3	0.00	0.00	0.00	0.04	322 204	
381	7.06	7.02	34.249	26.824	127.7	0.677	0.61	9.0	62.0	2.89	36.6	0.00	0.00	0.00	0.04	383 203	
400 ISL	6.89 D	6.85	34.258 D	26.855	125.0	0.701	0.54	7.9	64.5	2.94	37.1	0.00	0.00	0.00	0.04	4	

RV NEW HORIZON

CALCOFI CRUISE 1011

STATION 93.3 45.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE
32 21.0 N	118 33.1 W	29/10/10	1750	UTC	1315 m	070	06 kn	280 03 10	1	1015.5 mb	18.8 C	17.1 C	12m	5/8	AS	
0 ISL	17.34	17.34	33.541	24.315	360.0	0.000	5.69	103.8	1.8	0.29	0.2	0.02	0.07	0.66	0.19	0
1 A	17.34	17.34	33.541	24.315	360.0	0.004	5.69	103.8	1.8	0.29	0.2	0.02	0.07	0.66	0.19	1 223
8 A	17.23	17.23	33.538	24.339	358.0	0.029	5.70	103.8	1.9	0.27	0.2	0.02	0.03	0.67	0.22	8 222
10 ISL	17.16 D	17.16	33.535 D	24.354	356.7	0.036	5.69	103.5	2.0	0.29	0.4	0.03	0.03	0.68	0.25	10
17 A	16.67	16.67	33.534	24.468	346.0	0.060	5.58	100.5	2.4	0.35	1.1	0.05	0.07	0.72	0.35	17 221
20 ISL	15.68 D	15.68	33.525 D	24.687	325.2	0.071	5.49	97.0	3.1	0.42	2.1	0.09	0.10	0.71	0.38	20
25 A	15.32	15.32	33.533	24.773	317.2	0.087	5.23	91.7	5.1	0.61	5.0	0.16	0.13	0.68	0.41	25 220
30 ISL	12.87 D	12.87	33.527 D	25.279	269.0	0.101	4.71	78.5	9.0	0.97	10.3	0.26	0.09	0.62	0.40	30
33 A	12.47	12.47	33.535	25.363	261.1	0.109	4.38	72.4	11.6	1.19	13.7	0.29	0.05	0.56	0.39	33 219
40	11.24	11.24	33.585	25.632	235.6	0.127	3.82	61.6	16.3	1.51	18.6	0.06	0.00	0.30	0.25	40 218
40	11.240	11.235	33.582	25.630	235.8	0.127	3.80	61.2	16.3	1.51	18.7	0.06	0.00	0.30	0.24	40 217
47 A	10.73	10.72	33.624	25.753	224.2	0.143	3.58	57.1	19.0	1.63	20.8	0.03	0.00	0.22	0.18	47 216
50 ISL	10.57 D	10.56	33.644 D	25.797	220.1	0.149	3.51	55.8	19.8	1.67	21.3	0.03	0.00	0.19	0.15	50
54	10.37	10.36	33.655	25.840	216.1	0.158	3.41	53.9	20.9	1.72	21.9	0.03	0.00	0.15	0.12	54 215
60	10.01	10.00	33.694	25.932	207.4	0.171	3.22	50.5	23.1	1.80	23.3	0.02	0.00	0.09	0.10	60 214
70	9.49	9.48	33.774	26.081	193.5	0.191	2.94	45.6	26.5	1.91	25.2	0.01	0.00	0.02	0.05	70 213
75 ISL	9.36 D	9.35	33.828 D	26.144	187.5	0.200	2.83	43.8	27.7	1.95	25.8	0.01	0.00	0.02	0.05	75
85	9.20	9.19	33.870	26.203	182.1	0.219	2.66	41.1	29.6	2.00	26.7	0.00	0.00	0.01	0.05	85 212
100	8.98	8.97	33.925	26.281	175.0	0.246	2.57	39.5	31.5	2.03	27.3	0.00	0.09	0.01	0.04	101 211
120	8.84	8.83	33.977	26.345	169.3	0.280	2.35	36.0	33.7	2.12	28.3	0.00	0.00	0.01	0.03	121 210
125 ISL	8.81 D	8.80	33.992 D	26.361	167.9	0.288	2.28	34.9	34.2	2.14	28.6	0.00	0.00	0.01	0.03	126
140	8.73	8.72	34.025	26.400	164.5	0.313	2.08	31.8	35.8	2.20	29.4	0.00	0.00	0.00	0.04	141 209
150 ISL	8.62 D	8.60	34.045 D	26.433	161.5	0.330	2.01	30.6	36.9	2.23	29.8	0.00	0.00	0.00	0.04	151
171	8.42	8.40	34.058	26.474	158.0	0.363	1.92	29.1	39.4	2.28	30.5	0.00	0.00	0.00	0.03	172 208
200	8.03	8.01	34.091	26.559	150.3	0.408	1.72	25.9	43.9	2.39	31.8	0.00	0.00	0.00	0.03	201 207
230	7.71	7.69	34.139	26.644	142.7	0.452	1.34	20.0	49.6	2.56	33.5	0.00	0.13			231 206
250 ISL	7.85 D	7.82	34.218 D	26.686	139.1	0.480	1.06	15.9	51.9	2.66	34.0	0.00	0.08			252
270	7.76	7.73	34.244	26.720	136.2	0.508	0.83	12.4	53.6	2.74	34.2	0.00	0.00			272 205
300 ISL	7.60 D	7.57	34.263 D	26.758	133.0	0.548	0.71	10.6	56.3	2.81	34.8	0.00	0.00			302
321	7.46	7.43	34.274	26.787	130.5	0.576	0.68	10.1	58.3	2.85	35.3	0.00	0.00			323 204
381	6.93	6.89	34.283	26.869	123.4	0.652	0.46	6.8	65.4	2.98	37.1	0.00	0.00			383 203
400 ISL	6.75 D	6.71	34.282 D	26.892	121.3	0.675	0.43	6.3	67.9	3.01	37.7	0.00	0.00			403
440	6.40	6.36	34.287	26.943	116.8	0.723	0.39	5.7	73.0	3.06	38.8	0.00	0.00			443 202
500 ISL	6.07 D	6.03	34.313 D	27.007	111.3	0.791	0.30	4.3	79.5	3.13	40.0	0.00	0.00			503
518	5.95	5.90	34.326	27.032	109.0	0.809	0.27	3.9	81.2	3.15	40.3	0.00	0.00			520 201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

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

RV NEW HORIZON

CALCOFI CRUISE 1011

STATION 93.3 50.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE
32 10.7 N	118 53.2 W	29/10/10	2209	UTC	1457 m	210	07 kn	230 03 08	1	1013.8 mb	17.4 C	15.4 C	14m	5/8	CS	
0 ISL	17.752	17.752	33.526	24.205	370.5	0.000	5.68	104.5	1.8	0.29	0.3	0.02	0.14	0.39	0.13	0
1	17.752	17.752	33.526	24.205	370.6	0.004	5.68	104.5	1.8	0.29	0.3	0.02	0.14	0.39	0.13	1 221
10	17.64	17.64	33.511	24.221	369.4	0.037	5.67	104.1	1.8	0.29	0.3	0.01	0.08	0.32	0.15	10 220
20	17.32	17.32	33.549	24.327	359.6	0.073	5.62	102.5	1.9	0.30	0.4	0.02	0.07	0.56	0.31	20 219
30 ISL	16.63 D	16.63	33.510 D	24.459	347.2	0.109	5.54	99.7	2.9	0.46	2.4	0.10	0.13	0.60	0.50	30
31	16.05	16.05	33.492	24.578	335.9	0.112	5.53	98.4	3.0	0.48	2.6	0.12	0.13	0.60	0.51	31 218
40	12.62	12.61	33.396	25.227	274.3	0.140	4.83	80.1	8.8	1.06	11.1	0.40	0.06	0.19	0.19	40 217
50 ISL	11.13 D	11.12	33.494 D	25.581	240.7	0.165	4.11	66.0	15.1	1.45	17.2	0.12	0.05	0.16	0.16	50
51	11.11	11.10	33.493	25.584	240.4	0.168	4.06	65.2	15.6	1.47	17.6	0.08	0.05	0.16	0.16	51 216
61	10.94	10.93	33.512	25.629	236.3	0.192	3.94	63.0	16.4	1.51	18.2	0.06	0.08	0.09	0.11	61 215
70	10.20	10.19	33.643	25.860	214.5	0.212	3.43	54.0	21.4	1.74	22.1	0.02	0.06	0.03	0.05	70 214
75 ISL	9.98 D	9.97	33.693 D	25.937	207.3	0.222	3.27	51.3	22.9	1.81	23.1	0.02	0.04	0.02	0.05	75
85	9.74	9.73	33.747	26.019	199.7	0.243	3.07	47.9	24.9	1.89	24.1	0.01	0.00	0.01	0.05	85 213
100 ISL	9.38 D	9.37	33.865	26.171	185.6	0.272	2.75	42.6	28.2	1.99	25.9	0.00	0.25	0.01	0.05	100
101	9.39	9.38	33.864	26.168	185.8	0.274	2.73	42.3	28.4	2.00	26.0	0.00	0.26	0.01	0.05	101 212
120	9.28	9.28	33.890	26.275	176.0	0.308	2.30	35.6	31.6	2.13	27.2	0.00	0.00	0.01	0.05	121 211
125 ISL	9.26 D	9.25	33.977 D	26.278	175.9	0.317	2.25	34.8	32.2	2.15	27.4	0.00	0.00	0.01	0.05	126
140	9.00	8.98	34.034	26.364	167.9	0.343	2.18	33.5	34.0	2.18	28.1	0.00	0.00	0.00	0.04	141 210
150 ISL	8.91 D	8.89	34.067 D	26.405	164.3	0.359	2.20	33.8	35.2	2.19	28.5	0.00	0.03	0.00	0.04	151
170	8.41	8.39	34.050	26.469	158.4	0.391	2.24	34.0	37.8	2.23	29.2	0.00	0.08	0.00	0.04	171 209
200	8.65	8.63	34.191	26.543	152.1	0.438	1.36	20.8	42.5	2.50	30.9	0.00	0.00	0.00	0.03	201 208
230	8.37	8.35	34.217	26.607	146.5	0.483	1.13	17.1	45.9	2.60	32.0	0.00	0.00			231 207
250 ISL	8.24 D	8.21	34.235 D	26.641	143.6	0.512	1.02	15.4	47.5	2.65	32.5	0.00	0.00			251
271	8.10	8.07	34.236	26.663	141.											

RV NEW HORIZON

CALCOFI CRUISE 1011

STATION 93.3 55.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE	
32 0.6 N	119 13.8 W	30/10/10	0224	UTC	1592 m	110	03 kn			1013.6 mb	16.4 C	15.0 C					
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	S103	P04	N03	N02	NH4	CHL-A	PHAEAO	PRES	SAMP
m	DEG C	DEG C	THETA			ml/l	pct	um/l	um/l	um/l	um/l	um/l	um/l	ug/l	ug/l	db	
0 ISL	16.44	16.44	33.253	24.305	361.0	0.000	5.80	103.8	1.7	0.31	0.2	0.04	0.06	0.56	0.11	0	
2	16.44	16.44	33.253	24.305	361.0	0.007	5.80	103.8	1.7	0.31	0.2	0.04	0.06	0.56	0.11	2	221
10	15.94	15.94	33.267	24.430	349.4	0.036	5.82	103.2	1.8	0.31	0.4	0.09	0.12	0.72	0.17	10	219
10	15.95	15.95	33.266	24.427	349.7	0.036										10	220
19	15.56	15.56	33.265	24.513	341.7	0.067	5.77	101.5	1.7	0.35	0.9	0.17	0.05	0.91	0.30	19	218
20 ISL	15.53 D	15.53	33.264 D	24.519	341.2	0.070	5.77	101.4	1.6	0.35	0.9	0.16	0.06	1.09	0.36	20	
30 ISL	15.34 D	15.34	33.314 D	24.600	333.8	0.104	5.77	101.1	0.7	0.38	1.0	0.10	0.13	2.25	0.80	30	
31	15.37	15.37	33.322	24.599	333.9	0.107	5.77	101.1	0.6	0.38	1.0	0.09	0.14	2.30	0.82	31	217
40	14.11	14.10	33.232	24.800	314.9	0.136	5.35	91.4	3.4	0.64	4.8	0.63	0.00	0.37	0.23	40	216
50	11.81	11.80	32.986	25.062	290.1	0.167	5.35	86.9	6.6	0.81	7.2	0.03	0.00	0.15	0.13	50	215
59	10.99	10.98	33.052	25.262	271.2	0.192	5.12	81.8	9.9	1.02	10.9	0.01	0.05	0.06	0.09	59	214
69	10.22	10.21	33.214	25.522	246.6	0.218	4.78	75.1	13.6	1.25	14.7	0.00	0.00	0.04	0.08	69	213
75 ISL	10.07 D	10.06	33.267 D	25.589	240.4	0.232	4.54	71.2	15.9	1.37	16.9	0.00	0.00	0.03	0.06	75	
85	9.68	9.67	33.440	25.789	221.5	0.256	4.20	65.3	19.0	1.51	19.6	0.00	0.00	0.02	0.04	85	212
100	9.57	9.56	33.524	25.873	213.8	0.288	4.10	63.7	19.8	1.52	19.9	0.00	0.00	0.01	0.05	100	211
120	9.17	9.16	33.758	26.121	190.6	0.329	3.50	53.9	24.9	1.75	23.3	0.00	0.00	0.00	0.03	121	210
125 ISL	9.16 D	9.15	33.768 D	26.130	189.8	0.338	3.40	52.4	25.8	1.79	23.9	0.00	0.00	0.00	0.03	126	
140	9.01	8.99	33.861	26.227	180.9	0.366	3.08	47.3	28.4	1.89	25.4	0.00	0.00	0.00	0.03	141	209
150 ISL	8.83 D	8.81	33.953 D	26.328	171.5	0.384	2.74	42.0	31.1	2.00	26.7	0.00	0.00	0.00	0.03	151	
171	8.69	8.67	34.059	26.433	161.9	0.419	2.06	31.5	36.7	2.22	29.2	0.00	0.00	0.00	0.03	172	208
200 ISL	8.51 D	8.49	34.124 D	26.512	154.9	0.465	1.72	26.2	40.5	2.35	30.5	0.00	0.00	0.00	0.02	201	
201	8.50	8.48	34.122	26.512	154.9	0.466	1.71	26.0	40.6	2.35	30.5	0.00	0.00	0.00	0.02	202	207
231	7.98	7.96	34.120	26.589	148.0	0.512	1.53	23.0	45.6	2.46	32.4	0.00	0.00		232	206	
250 ISL	7.89 D	7.86	34.172 D	26.644	143.1	0.539	1.30	19.5	48.4	2.55	33.2	0.00	0.00		251		
270	7.76	7.73	34.203	26.687	139.3	0.567	1.06	15.9	51.2	2.64	33.9	0.00	0.00		272	205	
300 ISL	7.49 D	7.46	34.209 D	26.731	135.5	0.609	0.85	12.6	55.1	2.74	35.0	0.00	0.00		302		
320	7.34	7.31	34.229	26.769	132.2	0.635	0.76	11.3	57.6	2.79	35.6	0.00	0.00		322	204	
380	6.85	6.81	34.253	26.856	124.5	0.712	0.54	7.9	65.0	2.93	37.3	0.00	0.00		382	203	
400 ISL	6.71 D	6.67	34.264 D	26.884	122.1	0.737	0.49	7.2	67.2	2.97	37.8	0.00	0.00		403		
441	6.46	6.42	34.276	26.927	118.4	0.786	0.40	5.8	71.4	3.03	38.6	0.00	0.00		444	202	
500 ISL	6.16 D	6.12	34.298 D	26.983	113.6	0.855	0.32	4.6	76.4	3.09	39.5	0.00	0.00		503		
516	6.11	6.06	34.308	26.998	112.4	0.873	0.30	4.3	77.8	3.11	39.7	0.00	0.00		520	201	

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

RV NEW HORIZON

CALCOFI CRUISE 1011

STATION 93.3 60.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE	
31 51.2 N	119 33.5 W	30/10/10	0751	UTC	2200 m	170	10 kn			1014.4 mb	17.2 C	16.1 C					
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	S103	P04	N03	N02	NH4	CHL-A	PHAEAO	PRES	SAMP
m	DEG C	DEG C	THETA			ml/l	pct	um/l	um/l	um/l	um/l	um/l	um/l	ug/l	ug/l	db	
0 ISL	16.51	16.51	33.236	24.276	363.8	0.000	5.78	103.6	1.7	0.33	0.0	0.01	0.00	0.36	0.07	0	
2	16.51	16.51	33.236	24.276	363.8	0.007	5.78	103.6	1.7	0.33	0.0	0.01	0.00	0.36	0.07	2	220
10	16.51	16.51	33.236	24.276	364.1	0.036	5.75	103.1	1.6	0.33	0.0	0.01	0.00	0.35	0.07	10	219
19	16.27	16.27	33.230	24.327	359.5	0.069	5.77	102.9	1.5	0.35	0.0	0.01	0.00	0.45	0.10	19	218
20 ISL	16.26 D	16.26	33.228 D	24.328	359.5	0.073	5.77	102.9	1.5	0.35	0.0	0.01	0.00	0.46	0.11	20	
30	16.23	16.23	33.228	24.335	359.1	0.108	5.74	102.3	1.5	0.36	0.1	0.02	0.00	0.53	0.20	30	217
40	14.41	14.40	33.087	24.625	331.6	0.143	5.79	99.4	2.4	0.46	0.7	0.20	0.30	0.49	0.27	40	216
50	13.03	13.02	32.931	24.786	316.4	0.175	5.67	94.5	3.7	0.58	2.5	0.27	0.00	0.47	0.28	50	215
60	12.67	12.66	32.952	24.873	308.4	0.207	5.55	91.8	4.4	0.65	4.0	0.08	0.00	0.36	0.29	60	214
71	11.89	11.88	33.028	25.081	288.8	0.239	5.34	86.9	7.0	0.83	7.6	0.01	0.00	0.14	0.14	71	213
75 ISL	11.67 D	11.66	33.051 D	25.139	283.3	0.251	5.29	85.7	7.7	0.88	8.5	0.01	0.00	0.12	0.13	75	
85	11.02	11.01	33.106	25.300	268.2	0.279	5.14	82.2	9.4	1.01	10.6	0.01	0.00	0.08	0.11	85	212
100 ISL	10.28 D	10.27	33.324 D	25.598	240.0	0.317	4.70	74.0	13.8	1.27	15.0	0.00	0.00	0.03	0.06	100	
101	10.27	10.26	33.328	25.603	239.6	0.319	4.67	73.5	14.1	1.29	15.3	0.00	0.00	0.03	0.06	101	211
120	9.64	9.63	33.543	25.877	213.9	0.362	3.99	62.1	19.8	1.57	20.3	0.00	0.00	0.01	0.04	121	210
125 ISL	9.45 D	9.44	33.621 D	25.969	205.2	0.373	3.84	59.5	21.2	1.63	21.2	0.00	0.00	0.01	0.04	126	
140	9.19	9.17	33.767	26.125	190.6	0.402	3.46	53.3	25.2	2.73	23.3	0.00	0.00	0.00	0.04	141	209
150 ISL	8.94 D	8.92	33.854 D	26.233	180.5	0.421	3.24	49.7	27.3	1.85	24.5	0.00	0.00	0.00	0.03	151	
170	8.78	8.76	33.920	26.310	173.6	0.456	2.87	43.9	31.0	1.97	26.4	0.00	0.00	0.00	0.02	171	208
200	8.45	8.43	34.007	26.430	162.7	0.507	2.44	37.1	35.9	2.13	28.4	0.00	0.00	0.00	0.02	201	207
230	8.23	8.21	34.032	26.483	158.1	0.555	2.26	34.1	38.5	2.19	29.6	0.00	0.00		231	206	
250 ISL	7.99 D	7.96	34.084 D	26.560	151.1	0.586	2.00	30.1	42.0	2.30	31.0	0.00					

RV NEW HORIZON

CALCOFI CRUISE 1011

STATION 93.3 70.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE
31 31.2 N	120 15.5 W	30/10/10	1716	UTC	3942 m	150	02 kn	270 08	10	1	1017.7 mb	18.1 C	16.7 C	22m	1/8	NS
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SIO3	P04	N03	N02	NH4	CHL-A	PHAEAO	PRES SAMP
m	DEG C	DEG C	THETA		ml/l	PCT	uM/l	uM/l	uM/l	uM/l	uM/l	uM/l	ug/l	ug/l	db	
0 ISL	16.98	16.98	33.223	24.156	375.1	0.000	5.73	103.6	1.8	0.29	0.0	0.02	0.00	0.25	0.09	0
2 A	16.98	16.98	33.223	24.156	375.2	0.008	5.73	103.6	1.8	0.29	0.0	0.02	0.00	0.25	0.09	2 223
8	16.84	16.84	33.222	24.189	372.3	0.030	5.71	103.0	1.9	0.29	0.0	0.02	0.00	0.25	0.09	8 222
10 ISL	16.83 D	16.83	33.221 D	24.190	372.2	0.037	5.71	103.0	1.8	0.29	0.0	0.01	0.00	0.25	0.09	10
15 A	16.73	16.73	33.221	24.214	370.2	0.056	5.73	103.1	1.6	0.29	0.0	0.00	0.00	0.28	0.11	15 221
20 ISL	16.56 D	16.56	33.221 D	24.253	366.6	0.074	5.75	103.1	1.7	0.29	0.0	0.00	0.00	0.34	0.16	20
23	16.51	16.51	33.219	24.263	365.7	0.085	5.76	103.2	1.7	0.29	0.0	0.00	0.00	0.38	0.20	23 220
23	16.512	16.508	33.219	24.263	365.7	0.085	5.77	103.4	1.7	0.28	0.0	0.00	0.00	0.37	0.18	23 219
30 ISL	16.47 D	16.47	33.218 D	24.272	365.1	0.111	5.73	102.6	1.9	0.30	0.0	0.01	0.00	0.48	0.27	30
31 A	16.47	16.47	33.221	24.274	364.9	0.115	5.73	102.6	1.9	0.30	0.0	0.01	0.00	0.49	0.28	31 218
38	16.42	16.41	33.217	24.283	364.3	0.140	5.73	102.5	1.9	0.30	0.0	0.02	0.00	0.48	0.28	38 217
46 A	14.91	14.90	33.080	24.514	342.5	0.168	5.79	100.4	2.5	0.40	0.4	0.14	0.20	0.48	0.39	46 216
50 ISL	13.51 D	13.50	33.001 D	24.745	320.4	0.182	5.70	96.0	3.4	0.54	2.1	0.39	0.07	0.38	0.39	50
52	13.27	13.26	32.973	24.771	317.9	0.188	5.64	94.5	3.9	0.61	3.1	0.48	0.00	0.32	0.39	52 215
60 A	12.64	12.63	32.983	24.903	305.5	0.213	5.46	90.3	5.2	0.71	5.4	0.05	0.00	0.22	0.31	60 214
74	11.72	11.71	33.011	25.099	287.1	0.254	5.28	85.6	7.3	0.88	8.3	0.03	0.00	0.12	0.17	74 213
75 ISL	11.52 D	11.51	33.035 D	25.154	281.9	0.257	5.27	85.1	7.5	0.89	8.5	0.03	0.00	0.11	0.16	75
88 A	11.01	11.00	33.127	25.318	266.6	0.293	5.04	80.6	10.5	1.07	11.7	0.03	0.00	0.05	0.10	88 212
100 ISL	10.55 D	10.54	33.266 D	25.507	248.8	0.324	4.75	75.2	13.8	1.23	14.6	0.02	0.00	0.03	0.07	100
104	10.23	10.22	33.346	25.624	237.7	0.334	4.65	73.2	14.8	1.28	15.5	0.02	0.00	0.03	0.07	104 211
120	9.92	9.91	33.450	25.758	225.2	0.371	4.35	68.0	17.2	1.39	17.7	0.02	0.00	0.02	0.05	121 210
125 ISL	9.88 D	9.87	33.544 D	25.838	217.8	0.382	4.20	65.7	18.5	1.45	18.7	0.02	0.00	0.01	0.04	126
140	9.40	9.38	33.664	26.011	201.5	0.413	3.73	57.7	22.6	1.66	21.8	0.02	0.00	0.00	0.03	141 209
150 ISL	9.24 D	9.22	33.745 D	26.100	193.2	0.433	3.43	52.9	25.3	1.77	23.5	0.02	0.00	0.00	0.03	151
170	8.96	8.94	33.892	26.260	178.4	0.470	2.94	45.1	29.7	1.93	26.0	0.02	0.00	0.00	0.02	171 208
200	8.68	8.66	33.961	26.358	169.6	0.522	2.69	41.0	32.7	2.02	27.5	0.03	0.00	0.00	0.03	201 207
231	8.19	8.17	34.022	26.481	158.3	0.573	2.39	36.1	38.1	2.17	29.4	0.03	0.00			232 206
250 ISL	7.90 D	7.87	34.048 D	26.545	152.5	0.603	2.05	30.7	42.6	2.32	31.1	0.03	0.00			251
270	7.73	7.70	34.095	26.607	146.8	0.632	1.69	25.3	47.3	2.47	32.9	0.03	0.00			272 205
300 ISL	7.34 D	7.31	34.109 D	26.674	140.8	0.676	1.35	20.0	52.3	2.61	34.4	0.02	0.00			302
320	7.22	7.19	34.134	26.711	137.6	0.703	1.19	17.6	55.3	2.67	35.2	0.02	0.00			322 204
381	6.50	6.47	34.159	26.828	126.8	0.784	0.86	12.5	65.8	2.85	37.9	0.02	0.00			383 203
400 ISL	6.34 D	6.30	34.181 D	26.867	123.3	0.808	0.76	11.0	69.1	2.90	38.7	0.02	0.00			402
441	5.92	5.88	34.191	26.928	117.7	0.857	0.58	8.3	75.5	3.00	40.0	0.02	0.00			444 202
500 ISL	5.76 D	5.72	34.258 D	27.002	111.4	0.925	0.42	6.0	81.0	3.09	40.8	0.02	0.00			503
517	5.70	5.66	34.262	27.012	110.5	0.944	0.38	5.4	82.6	3.12	41.0	0.02	0.00			520 201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

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

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE
31 10.8 N	120 55.0 W	30/10/10	2230	UTC	3852 m	220	04 kn	300 06	08	1	1017.3 mb	19.0 C	16.2 C	27m	2/8	SC
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SIO3	P04	N03	N02	NH4	CHL-A	PHAEAO	PRES SAMP
m	DEG C	DEG C	THETA		ml/l	PCT	uM/l	uM/l	uM/l	uM/l	uM/l	uM/l	ug/l	ug/l	db	
0 ISL	17.45	17.45	32.986	23.864	403.1	0.000	5.67	103.3	2.1	0.29	0.0	0.00	0.05	0.15	0.03	0
2	17.45	17.45	32.986	23.864	403.1	0.008	5.67	103.3	2.1	0.29	0.0	0.00	0.05	0.15	0.03	2 221
10 ISL	17.16 D	17.16	32.985 D	23.932	396.9	0.040	5.68	102.9	2.3	0.28	0.0	0.00	0.04	0.16	0.03	10
11	17.15	17.15	32.995	23.942	395.9	0.044	5.68	102.9	2.3	0.28	0.0	0.00	0.04	0.16	0.03	11 219
20	16.94	16.94	32.986	23.985	392.2	0.079	5.71	103.0	2.3	0.29	0.0	0.00	0.04	0.16	0.04	20 218
30	16.73	16.73	33.001	24.046	386.7	0.118	5.76	103.5	2.4	0.29	0.0	0.00	0.10	0.24	0.07	30 217
41	16.32	16.31	33.019	24.154	376.7	0.160	5.81	103.6	2.3	0.30	0.0	0.00	0.12	0.30	0.14	41 216
50 ISL	16.18 D	16.17	33.052 D	24.212	371.5	0.194	5.82	103.5	2.2	0.32	0.1	0.00	0.24	0.28	0.14	50
51	16.16	16.15	33.044	24.210	371.6	0.198	5.82	103.5 D	2.2	0.32	0.1	0.00	0.25	0.28	0.14	51 215
60	15.41	15.40	33.025	24.363	357.3	0.231	5.90	103.3	2.4	0.34	0.2	0.02	0.27	0.30	0.20	60 214
70	14.56	14.55	33.123 D	24.622	332.8	0.265	5.95	102.5	2.5	0.35	0.1	0.03	0.09	0.28	0.25	70 213
75 ISL	15.17 D	15.16	33.245 D	24.585	336.5	0.282	5.88	102.6	2.6	0.32	0.1	0.03	0.04	0.27	0.28	75
85	14.85	14.84	33.357	24.741	321.9	0.315	5.69	98.7	2.7	0.28	0.1	0.02	0.00	0.25	0.31	85 212
100	13.29	13.28	33.222 D	24.961	301.2	0.361	5.61	94.2	3.7	0.42	1.9	0.06	0.00	0.15	0.21	100 211
120	12.11	12.11	33.253	25.211	277.7	0.419	5.25	86.0	6.2	0.70	6.1	0.02	0.00	0.10	0.19	120 210
125 ISL	11.45 D	11.43	33.255 D	25.339	265.5	0.433	5.16	83.3	7.4	0.79	7.7	0.01	0.00	0.08	0.16	126
141	10.423	10.406	33.333	25.582	242.5	0.474	4.84	76.5	12.1	1.10	13.0	0.00	0.00	0.03	0.06	142 209
150 ISL	10.07 D	10.05	33.398 D	25.693	232.1	0.495	4.57	71.7	14.9	1.25	15.6	0.00	0.00	0.02	0.04	151
171	9.50	9.48	33.676	26.005	202.8	0.541	3.94	61.1	21.1	1.54	20.5	0.00	0.00	0.00	0.01	172 208
200 ISL	8.98 D	8.96	33.838 D	26.215	183.2	0.597	3.35	51.4	27.5	1.79	24.6	0.00	0.00	0		

RV NEW HORIZON

CALCOFI CRUISE 1011

STATION 93.3 90.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE	
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SV	DYN HT	OXYGEN	OXY	SI03	P04	N03	N02	NH4	CHL-A	PHAEAO	PRES	SAMP
m	DEG C	DEG C		THETA		ml/l	PCT	uM/l	uM/l	uM/l	uM/l	uM/l	ug/l	ug/l	db		
30	50.8 N	121 35.4 W	31/10/10	0424	UTC	4096 m	270	01 kn									
0	ISL	18.55	18.55	33.398	23.911	398.5	0.000	5.45	101.7	2.2	0.24	0.0	0.00	0.05	0.09	0.00	0
2		18.55	18.55	33.398	23.911	398.6	0.008	5.45	101.7	2.2	0.24	0.0	0.00	0.05	0.09	0.00	2 221
9		18.48	18.48	33.397	23.928	397.2	0.036	5.46	101.8	2.2	0.24	0.0	0.00	0.37	0.08	0.01	9 220
10	ISL	18.22	D 18.22	33.389	D 23.986	391.7	0.040	5.46	101.2	2.2	0.24	0.0	0.00	0.36	0.08	0.01	10
20	ISL	18.19	D 18.19	33.388	D 23.993	391.4	0.079	5.47	101.4	2.2	0.24	0.0	0.00	0.18	0.09	0.01	20
25		18.18	18.18	33.391	23.998	391.1	0.098	5.47	101.3	2.2	0.24	0.0	0.00	0.10	0.01	0.01	25 219
30	ISL	18.18	D 18.17	33.388	D 23.996	391.5	0.118	5.47	101.3	2.2	0.24	0.0	0.00	0.10	0.01	0.01	30
40		18.17	18.16	33.389	24.000	391.5	0.157	5.47	101.3	2.2	0.24	0.0	0.00	0.10	0.02	0.02	40 218
50		18.16	18.15	33.389	24.003	391.6	0.196	5.47	101.3	2.0	0.24	0.0	0.00	0.12	0.02	0.02	50 217
62		17.66	17.65	33.362	24.104	382.3	0.243	5.60	102.7	2.0	0.24	0.0	0.00	0.21	0.05	0.05	62 216
75		15.85	15.84	33.264	24.450	349.5	0.290	5.79	102.4	2.1	0.25	0.0	0.00	0.19	0.09	0.09	75 215
87		15.38	15.37	33.284	24.570	338.4	0.332	5.81	101.8	2.2	0.25	0.0	0.00	0.25	0.19	0.07	87 214
100		14.79	14.78	33.294	24.706	325.7	0.375	5.73	99.2	2.5	0.26	0.1	0.04	0.00	0.27	0.31	100 213
112		14.20	14.18	33.294	24.831	314.1	0.413	5.66	96.9	2.9	0.31	0.3	0.12	0.00	0.25	0.25	112 212
125		13.00	12.98	33.278	25.063	292.1	0.453	5.44	90.8	4.5	0.49	3.2	0.03	0.00	0.16	0.20	125 211
138		11.386	11.369	33.266	25.360	263.9	0.489	5.00	80.6	9.1	0.92	10.0	0.00	0.09	0.09	0.09	139 209
138		11.39	11.37	33.264	25.357	264.1	0.489	5.02	81.0	9.0	0.91	9.9	0.00	0.10	0.08	0.08	139 210
150	ISL	10.75	D 10.73	33.332	D 25.525	248.3	0.519	4.67	74.3	12.2	1.16	13.8	0.00	0.05	0.06	0.06	151
170		10.19	10.17	33.470	25.729	229.2	0.567	4.08	64.2	16.9	1.44	18.1	0.00	0.01	0.02	0.02	171 208
200		9.63	9.61	33.808	26.087	195.7	0.631	2.77	43.1	26.5	1.91	25.0	0.00	0.09	0.00	0.02	201 207
230		9.17	9.14	33.939	26.265	179.3	0.687	2.40	37.0	31.1	2.05	27.2	0.00	0.00	0.00	0.00	231 206
250	ISL	8.73	D 8.70	33.970	D 26.359	170.5	0.722	2.56	39.1	32.7	2.03	27.3	0.00	0.00	0.00	0.00	251
270		8.37	8.34	33.989	26.429	164.1	0.756	2.75	41.7	34.4	2.00	27.4	0.00	0.00	0.00	0.00	271 205
300	ISL	7.87	D 7.84	34.016	D 26.525	155.2	0.804	2.43	36.4	40.1	2.16	29.6	0.00	0.00	0.00	0.00	302
321		7.58	7.55	34.035	26.582	150.0	0.836	2.08	31.0	44.7	2.31	31.5	0.00	0.00	0.10	0.03	323 204
381		7.08	7.04	34.113	26.714	138.1	0.922	1.29	19.0	55.1	2.64	35.1	0.00	0.05	0.18	0.07	383 203
400	ISL	6.97	D 6.93	34.127	D 26.740	135.8	0.948	1.13	16.6	58.1	2.71	35.9	0.00	0.04	0.13	0.03	402
440		6.54	6.50	34.153	26.819	128.6	1.001	0.88	12.8	64.3	2.84	37.4	0.00	0.00	0.18	0.09	443 202
500	ISL	5.99	D 5.95	34.183	D 26.914	119.9	1.075	0.63	9.0	73.1	2.98	39.2	0.00	0.00	0.19	0.09	503
515		5.91	5.87	34.189	26.929	118.6	1.093	0.57	8.2	75.3	3.01	39.6	0.00	0.00	0.18	0.09	518 201

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

RV NEW HORIZON

CALCOFI CRUISE 1011

STATION 93.3 100.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE	
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SV	DYN HT	OXYGEN	OXY	SI03	P04	N03	N02	NH4	CHL-A	PHAEAO	PRES	SAMP
m	DEG C	DEG C		THETA		ml/l	PCT	uM/l	uM/l	uM/l	uM/l	uM/l	ug/l	ug/l	db		
30	30.9 N	122 15.3 W	31/10/10	1028	UTC	4162 m	190	02 kn									
0	ISL	18.24	18.24	33.274	23.893	400.3	0.000	5.48	101.6	2.5	0.24	0.0	0.00	0.07	0.10	0.02	0
2		18.24	18.24	33.274	23.893	400.3	0.008	5.48	101.6	2.5	0.24	0.0	0.00	0.07	0.10	0.02	2 221
10		18.15	18.15	33.267	23.910	399.0	0.040	5.49	101.6	2.5	0.24	0.0	0.00	0.05	0.10	0.02	10 220
20	ISL	18.12	D 18.12	33.266	D 23.917	398.7	0.080	5.48	101.3	2.5	0.24	0.0	0.00	0.04	0.10	0.03	20
25		18.12	18.12	33.267	23.918	398.7	0.100	5.48	101.3	2.5	0.24	0.0	0.00	0.04	0.10	0.03	25 219
30	ISL	18.12	D 18.11	33.267	D 23.918	398.9	0.120	5.48	101.3	2.5	0.25	0.0	0.00	0.05	0.10	0.03	30
41		18.10	18.09	33.268	23.924	398.7	0.164	5.48	101.3	2.4	0.26	0.0	0.00	0.06	0.13	0.03	41 218
50	ISL	17.07	D 17.06	33.245	D 24.154	377.0	0.199	5.71	103.5	2.3	0.25	0.0	0.00	0.00	0.18	0.07	50
51		17.07	17.06	33.247	24.156	376.9	0.202	5.74	104.0	2.3	0.25	0.0	0.00	0.00	0.19	A 0.07 A	51 217
62		16.11	16.10	33.245	24.376	356.2	0.243	5.87	104.4	2.3	0.25	0.0	0.00	0.05	0.18	0.09	62 216
75		15.48	15.47	33.276	24.541	340.8	0.288	5.79	101.7	2.3	0.28	0.0	0.00	0.04	0.22	0.19	75 215
87		14.97	14.96	33.260	24.641	331.6	0.332	5.71	99.2	2.6	0.30	0.1	0.03	0.08	0.24	0.18	87 214
100	ISL	13.89	D 13.88	33.193	D 24.817	315.0	0.370	5.65	96.0	2.7	0.30	0.1	0.03	0.06	0.19	0.19	100
101		14.00	13.99	33.194	24.795	317.1	0.374	5.64	96.1	2.7	0.30	0.1	0.03	0.06	0.19	0.19	101 213
113		13.15	13.13	33.221	24.989	298.9	0.411	5.42	90.7	4.7	0.56	3.8	0.04	0.00	0.19	0.14	113 212
125		12.42	12.40	33.222	25.132	285.4	0.446	5.28	87.0	6.0	0.69	5.9	0.01	0.05	0.11	0.16	125 211
140		11.28	11.26	33.250	25.366	263.2	0.487	5.08	81.7	8.7	0.88	9.5	0.00	0.00	0.06	0.09	141 210
150	ISL	10.89	D 10.87	33.285	D 25.463	254.1	0.513	4.85	77.4	11.3	1.04	12.3	0.00	0.00	0.04	0.06	151
170		9.83	9.81	33.474	25.792	223.0	0.560	4.30	67.1	17.1	1.36	17.6	0.00	0.00	0.01	0.03	171 209
200	ISL	9.14	D 9.12	33.795	D 26.156	188.9	0.622	3.57	55.0	24.8	1.68	23.0	0.00	0.00	0.00	0.01	201
201		9.13	9.11	33.770	26.138	190.6	0.624	3.55	54.7	25.0	1.69	23.1	0.00	0.00	0.00	0.01	202 208
230		8.80	8.78	33.925	26.312	174.6	0.677	3.08	47.1	30.3	1.86	25.7	0.00	0.00	0.00	0.01	231 207
250	ISL	8.53	D 8.50	33.961	D 26.382	168.2	0.711	2.75	41.8	33.6	1.98	27.2	0.00	0.00	0.		

RV NEW HORIZON

CALCOFI CRUISE 1011

STATION 93.3 110.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE
30 11.4 N	122 55.1 W	31/10/10	1723	UTC	4113 m	230	05 kn	280	05 10	1	1022.2 mb	19.8 C	16.8 C	49m	3/8	SC
0 ISL	18.63	18.63	33.433	23.918	397.9	0.000	5.39	100.8	2.0	0.24	0.1	0.00	0.08	0.08	0.02	0
2	18.63	18.63	33.433	23.918	397.9	0.008	5.39	100.8	2.0	0.24	0.1	0.00	0.08	0.08	0.02	2 224
3 A	18.61	18.61	33.434	23.924	397.4	0.012	5.45	101.8	2.2	0.25	0.0	0.00	0.08	0.08	0.02	3 223
10	18.53	18.53	33.427	23.939	396.3	0.040	5.43	101.3	2.0	0.24	0.0	0.00	0.05	0.08	0.03	10 222
18	18.47	18.47	33.420	23.948	395.6	0.071	5.45	101.6	2.0	0.25	0.0	0.00	0.04	0.10	0.03	18 221
20 ISL	18.47	D 18.47	33.417	D 23.946	395.9	0.079	5.45	101.6	2.0	0.25	0.0	0.00	0.04	0.10	0.03	20
30 ISL	18.45	D 18.44	33.416	D 23.951	395.8	0.119	5.45	101.5	2.0	0.24	0.0	0.00	0.05	0.10	0.04	30
35 A	18.45	18.44	33.417	23.952	395.9	0.139	5.45	101.5	2.0	0.24	0.0	0.00	0.05	0.10	0.04	35 220
46	18.44	18.43	33.415	23.953	396.1	0.182	5.45	101.5	2.0	0.24	0.0	0.00	0.07	0.15	0.07	46 219
50 ISL	18.26	D 18.25	33.387	D 23.977	394.0	0.198	5.48	101.7	2.0	0.24	0.0	0.00	0.07	0.15	0.08	50
59	17.76	17.75	33.336	24.060	386.4	0.233	5.55	102.0	2.1	0.25	0.0	0.00	0.05	0.16	0.12	59 218
69 A	16.02	16.01	33.216	24.375	356.5	0.270	5.86	104.0	2.2	0.25	0.0	0.00	0.04	0.18	0.19	69 217
75 ISL	15.52	D 15.51	33.251	D 24.513	343.4	0.291	5.84	102.6	2.4	0.25	0.0	0.00	0.02	0.20	0.25	75
81	15.31	15.30	33.260	24.567	338.5	0.312	5.82	101.8	2.5	0.25	0.0	0.00	0.00	0.22	0.31	81 216
93	14.77	14.76	33.254	24.679	328.1	0.352	5.80	100.4	2.5	0.27	0.0	0.03	0.07	0.24	0.34	93 215
100 ISL	14.64	D 14.63	33.282	D 24.729	323.5	0.375	5.76	99.4	2.6	0.28	0.1	0.08	0.03	0.20	0.26	100
105 A	14.55	14.53	33.283	24.749	321.8	0.391	5.73	98.7	2.7	0.28	0.1	0.12	0.00	0.16	0.19	105 214
114	14.19	14.17	33.364	24.888	308.8	0.419	5.65	96.7	2.9	0.29	0.5	0.22	0.05	0.10	0.15	114 213
124	13.526	13.509	33.374	25.032	295.2	0.449	5.48	92.5	3.7	0.39	2.1	0.04	0.00	0.08	0.13	124 212
125 ISL	13.29	D 13.27	33.359	D 25.068	291.7	0.452	5.47	91.9	3.8	0.40	2.2	0.04	0.00	0.08	0.12	125
134 A	13.06	13.04	33.332	25.093	289.5	0.478	5.40	90.3	4.6	0.49	3.6	0.01	0.00	0.04	0.07	135 211
150 ISL	11.21	D 11.19	33.273	D 25.397	260.5	0.522	5.14	82.6	7.7	0.79	8.3	0.00	0.00	0.01	0.03	151
155	11.057	11.038	33.281	25.431	257.4	0.535	5.02	80.4	9.1	0.90	10.1	0.00	0.00	0.01	0.03	156 210
176	9.864	9.844	33.504	25.810	221.4	0.586	4.26	66.6	17.3	1.38	18.0	0.00	0.00	0.00	0.02	177 209
197 A	9.32	9.30	33.755	26.096	194.6	0.629	3.68	56.9	23.2	1.62	21.9	0.00	0.00	0.00	0.02	198 208
200 ISL	9.24	D 9.22	33.783	D 26.131	191.3	0.635	3.63	56.0	23.8	1.64	22.3	0.00	0.00			201
214	9.07	9.05	33.848	26.209	184.1	0.661	3.42	52.6	26.3	1.74	23.8	0.00	0.00			215 207
230	8.75	8.73	33.935	26.328	173.1	0.690	3.09	47.2	30.2	1.86	25.7	0.00	0.00			231 206
250 ISL	8.38	D 8.35	33.994	D 26.431	163.5	0.724	2.81	42.6	34.1	1.98	27.4	0.00	0.00			251
270	8.17	8.14	34.012	26.477	159.4	0.756	2.59	39.1	37.5	2.08	28.7	0.00	0.00			271 205
300 ISL	7.70	D 7.67	34.045	D 26.572	150.6	0.802	2.19	32.7	43.2	2.25	31.0	0.00	0.00			302
319	7.56	7.53	34.060	26.604	147.8	0.831	1.94	28.9	46.7	2.35	32.4	0.00	0.00			321 204
379	6.94	6.90	34.113	26.733	136.1	0.916	1.27	18.6	57.0	2.64	35.7	0.00	0.00			381 203
400 ISL	6.79	D 6.75	34.125	D 26.763	133.5	0.944	1.12	16.4	60.4	2.71	36.5	0.00	0.00			402
440	6.35	6.31	34.145	26.838	126.7	0.996	0.90	13.0	66.8	2.83	37.9	0.00	0.00			443 202
500 ISL	5.86	D 5.82	34.185	D 26.932	118.1	1.070	0.65	9.3	75.8	2.98	39.6	0.00	0.00			503
516	5.74	5.70	34.198	26.957	115.8	1.088	0.58	8.3	78.2	3.02	40.1	0.00	0.00			519 201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

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

RV NEW HORIZON

CALCOFI CRUISE 1011

STATION 93.3 120.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE
29 50.5 N	123 35.2 W	01/11/10	0032	UTC	4068 m	310	06 kn	310	05 07	1	1021.2 mb	18.3 C	16.2 C	26m	4/8	SC
0 ISL	19.39	19.39	33.515	23.788	410.2	0.000	5.38	102.1	2.1	0.23	0.0	0.00	0.00	0.07	0.02	0
2	19.39	19.39	33.515	23.789	410.3	0.008	5.38	102.1	2.1	0.23	0.0	0.00	0.00	0.07	0.02	2 220
10 ISL	19.30	D 19.30	33.496	D 23.797	409.7	0.041	5.40	102.3	2.4	0.23	0.0	0.00	0.00	0.07	0.01	10
11	19.29	19.29	33.488	23.794	410.1	0.045	5.40	102.2	2.5	0.23	0.0	0.00	0.00	0.07	0.01	11 219
20 ISL	19.09	D 19.09	33.476	D 23.836	406.4	0.082	5.39	101.7	2.4	0.23	0.0	0.00	0.00	0.08	0.01	20
25	19.14	19.14	33.500	23.842	406.0	0.102	5.39	101.8	2.3	0.23	0.0	0.00	0.00	0.09	0.01	25 218
30 ISL	19.31	D 19.30	33.569	D 23.852	405.3	0.122	5.38	101.9	2.3	0.23	0.0	0.00	0.00	0.09	0.01	30
41	19.33	19.32	33.584	23.858	405.1	0.167	5.37	101.8	2.2	0.22	0.0	0.00	0.00	0.09	0.01	41 217
50	19.31	19.30	33.587	23.866	404.7	0.203	5.37	101.8	2.3	0.22	0.0	0.00	0.00	0.09	0.02	50 216
62	17.83	17.82	33.393	24.087	383.9	0.251	5.66	104.2	2.3	0.22	0.0	0.00	0.00	0.15	0.01	62 215
75 ISL	16.73	D 16.72	33.342	D 24.309	363.1	0.299	5.84	105.2	2.2	0.22	0.0	0.00	0.00	0.16	0.05	75
76	16.58	16.57	33.344	24.345	359.6	0.303	5.85	105.0	2.2	0.22	0.0	0.00	0.00	0.16	0.05	76 214
88	16.06	16.05	33.404	24.511	344.2	0.345	5.82	103.5	2.4	0.21	0.0	0.00	0.00	0.24	0.05	88 213
100	15.64	15.62	33.408	24.608	335.2	0.386	5.73	101.0	2.6	0.22	0.0	0.00	0.00	0.23	0.15	100 212
112	15.16	15.14	33.380	24.693	327.4	0.426	5.69	99.3	2.6	0.26	0.1	0.03	0.00	0.26	0.23	112 211
125	13.76	13.74	33.286	24.917	306.2	0.467	5.51	93.4	3.6	0.44	2.3	0.06	0.00	0.22	0.22	125 210
140	12.10	12.08	33.257	25.221	277.3	0.511	5.24	85.8	6.3	0.72	6.9	0.01	0.00	0.10	0.10	141 209
150 ISL	11.25	D 11.23	33.294	D 25.406	259.7	0.537	5.01	80.6	8.9	0.92	10.1	0.01	0.00	0.06	0.08	151
170	10.20	10.18	33.376	25.654	236.3	0.587	4.51	70.9	14.5	1.27	15.9	0.00	0.00	0.02	0.03	171 208
200 ISL	9.40	D 9.38	33.669	D 26.016	202.3	0.653	3.81	59.0	21.8	1.58	21.3	0.00	0.00	0.00	0.02	201
201	9.42	9.40	33.660	26.006	203.3	0.655	3.79	58.7	22.0	1.59	21.4	0.00	0.00	0.00	0.02	202 207
230	8.95	8.93	33													

RV NEW HORIZON

CALCOFI CRUISE 1011

STATION 93.4 26.4

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE	
32 57.2 N	117 16.7 W	28/10/10	1954	UTC	15 m	040	01 kn	140 01 07	1	1016.6 mb	21.0 C	17.1 C		2/8	CC		
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SIO3	P04	N03	N02	NH4	CHL-A	PHAEAO	PRES	SAMP
m	DEG C	DEG C		THETA			ml/l	PCT	uM/l	uM/l	uM/l	uM/l	ug/l	ug/l		db	
0 ISL	18.11	18.11	33.313	23.955	394.4	0.000	6.07	112.3	2.1	0.19	0.0	0.01	0.06	4.02	0.82	0	
1	18.11	18.11	33.313	23.955	394.4	0.004	6.07	112.3	2.1	0.19	0.0	0.01	0.06	4.02	0.82	1 204	
5	18.01	18.01	33.329	23.991	391.0	0.020	6.03	D111.3 D	2.5	0.24	0.1	0.05	0.08	4.55	1.26	5 203	
10	17.52	17.52	33.336	24.115	379.4	0.039	5.72	104.6	3.0	0.31	0.3	0.08	0.11	4.73	1.24	10 202	
15	16.98	16.98	33.352	24.256	366.1	0.058	5.53	100.1	3.7	0.40	1.1	0.15	0.36	4.05	1.00	15 201	

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

PRIMARY PRODUCTIVITY CASTS

RV NEW HORIZON

CALCOFI CRUISE 1011

STATION 80.0 70.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
33 49.0 N	121 51.4 W	10/11/10	1738 UTC	11 m	1150 - 1740 PST	1151 PST	1740 PST	403.8 mg C/m ²

DEPTH	TEMP	SALINITY	SIGMA	OXYGEN	OXY	SI03	P04	N03	N02	chl-a	phaeo	light	uptake	mean	dark
m	deg c	theta	ml/l	pct	um/l	um/l	um/l	um/l	um/l	ug/l	ug/l	pct	1	2	
2	14.62	33.491 D	24.891	5.74 D	99.2 D	2.2	0.46	3.5	0.15	1.24	0.47	76. A	18.6	18.7	18.6 0.13
8	14.62	33.491	24.892	5.79	100.1	2.1	0.47	3.5	0.15	1.28	0.48	33.	22.9	24.0	23.5 0.12
16	14.60	33.491	24.896	5.73	99.0	2.0	0.46	3.5	0.15	1.30	0.48	11.	13.0	13.3	13.1 0.11
23	14.53	33.491	24.911	5.68	98.0	2.4	0.49	3.9	0.16	1.16	0.45	4.0	5.5	6.4	5.9 0.10
30	11.22	33.442	25.524	4.16	66.9	14.4	1.43	17.8	0.15	0.23	0.23	1.5	0.57	0.53	0.55 0.05
37	10.31	33.475	25.710	3.99	63.0	18.3	1.58	20.5	0.07	0.10	0.12				
45	10.04	33.586	25.842	3.50	54.9	21.2	1.72	22.6	0.05	0.06	0.10	0.19	0.11	0.07	0.09 0.00

RV NEW HORIZON

CALCOFI CRUISE 1011

STATION 80.0 100.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
32 48.6 N	123 55.2 W	11/11/10	1810 UTC	17 m	1200 - 1740 PST	1200 PST	1740 PST	164.6 mg C/m ²

DEPTH	TEMP	SALINITY	SIGMA	OXYGEN	OXY	SI03	P04	N03	N02	chl-a	phaeo	light	uptake	mean	dark
m	deg c	theta	ml/l	pct	um/l	um/l	um/l	um/l	um/l	ug/l	ug/l	pct	1	2	
2	16.27	32.774	23.976	5.78	102.8	0.9	0.27	0.0	0.00	0.37	0.17	83. A	0.64	0.69	0.67 0.05
12	16.26	32.778	23.982	5.75	102.3	0.9	0.27	0.0	0.00	0.37	0.16	34.	5.8	5.3	5.6 0.05
26	16.26	32.777	23.981	5.75	102.3	0.9	0.28	0.0	0.00	0.36	0.17	9.6	4.2	3.9	4.1 0.03
36	16.23	32.782	23.992	5.80	103.1	0.9	0.27	0.0	0.00	0.38	0.17	3.9	2.3	2.2	2.3 0.04
47	15.89	32.809	24.090	5.84	103.1	0.9	0.29	0.0	0.00	0.47	0.24	1.4	1.3	1.2	1.2 0.03
58	14.38	32.872	24.466	5.99	102.6	2.1	0.35	0.5	0.03	0.44	0.35				
67	12.87	32.948	24.831	5.82	96.7	2.9	0.42	1.4	0.08	0.18	0.22	0.24	0.07	0.09	0.08 0.01

RV NEW HORIZON

CALCOFI CRUISE 1011

STATION 83.3 42.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
34 10.7 N	119 31.2 W	09/11/10	1608 UTC	12 m	1142 - 1730 PST	1142 PST	1727 PST	680.4 mg C/m ²

DEPTH	TEMP	SALINITY	SIGMA	OXYGEN	OXY	SI03	P04	N03	N02	chl-a	phaeo	light	uptake	mean	dark
m	deg c	theta	ml/l	pct	um/l	um/l	um/l	um/l	um/l	ug/l	ug/l	pct	1	2	
2	16.56	33.480	24.452	5.85	105.1	0.0	0.23	0.0	0.01	1.56	0.46	77. A	12.5	12.4	12.4 0.12
8	16.56	33.482	24.453	5.86	105.3	0.0	0.23	0.0	0.01	1.54	0.41	36.	29.4	29.6	29.5 0.10
17	16.21	33.475	24.529	5.80	103.5	0.8	0.33	0.7	0.02	2.55	0.59	11.	28.4	28.6	28.5 0.15
25	13.15	33.470	25.179	4.74	79.5	8.5	1.01	9.3	0.21	3.11	1.00	4.1	13.6	14.0	13.8 0.11
33	12.26	33.431	25.323	4.56	75.0	9.9	1.13	12.0	0.28	1.31	0.59	1.5	4.1	3.6	3.8 0.06
40	11.49	33.384	25.430	4.40	71.2	11.8	1.27	14.3	0.17	0.57	0.28				
48	11.17	33.414	25.512	4.20	67.5	13.7	1.36	15.9	0.12	0.36	0.21	0.22	0.10	0.09	0.10 0.00

RV NEW HORIZON

CALCOFI CRUISE 1011

STATION 83.3 55.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
33 44.3 N	120 25.2 W	08/11/10	1912 UTC	5 m	1213 - 1725 PST	1145 PST	1725 PST	426.0 mg C/m ²

DEPTH	TEMP	SALINITY	SIGMA	OXYGEN	OXY	SI03	P04	N03	N02	chl-a	phaeo	light	uptake	mean	dark
m	deg c	theta	ml/l	pct	um/l	um/l	um/l	um/l	um/l	ug/l	ug/l	pct	1	2	
2	15.05	33.484	24.793	5.99	104.4	0.9	0.38	1.7	0.06	3.52	1.11	54. A	29.4	30.2	29.8 0.25
3	15.05	33.483	24.793	5.95	103.7	0.8	0.38	1.8	0.06	3.42	1.21	40.	45.5	41.3	43.4 0.19
8	15.00	33.484	24.804	5.93	103.3	0.9	0.43	1.9	0.06	3.47	1.13	8.6	31.0	32.0	31.5 0.19
11	14.89	33.488	24.831	5.90	102.5	1.2	0.43	2.3	0.06	3.86	1.13	3.4	17.9	15.1	16.5 0.18
15	14.26	33.489	24.966	5.56	95.4	3.4	0.62	4.8	0.09	4.18	1.29	1.00	6.8	7.5	7.2 0.14
21	12.95	33.515	25.254	4.79	80.0	8.8	1.06	10.6	0.17	4.62	1.40	0.16	0.50	0.56	0.53 0.00

RV NEW HORIZON

CALCOFI CRUISE 1011

STATION 83.3 90.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
32 35.1 N	122 48.4 W	07/11/10	1915 UTC	25 m	1213 - 1734 PST	1155 PST	1734 PST	196.5 mg C/m ²

DEPTH	TEMP	SALINITY	SIGMA	OXYGEN	OXY	SI03	P04	N03	N02	chl-a	phaeo	light	uptake	mean	dark
m	deg c	theta	ml/l	pct	um/l	um/l	um/l	um/l	um/l	ug/l	ug/l	pct	1	2	
1	17.09	32.819	23.821	5.67	102.5	1.9	0.28	0.1	0.00	0.20	0.07	94. A	3.7	3.6	3.6 0.06
9	17.08	32.817	23.822	5.65	102.1	1.8	0.28	0.0	0.00	0.20	0.06				
17	16.99	32.818	23.844	5.69	102.7	1.8	0.27	0.0	0.00	0.20	0.07	35.	3.6	3.8	3.7 0.08
26	16.45	32.857	23.999	5.80	103.6	1.9	0.29	0.0	0.00	0.31	0.15				
35	15.62	32.929	24.242	5.97	104.9	1.9	0.28	0.0	0.00	0.33	0.23	12.	3.1	3.0	3.0 0.08
45	14.63	32.947	24.471	6.02	103.7	2.2	0.29	0.0	0.00	0.40	0.37				
53	13.87	32.998	24.669	5.92	100.4	2.9	0.41	1.2	0.14	0.32	0.33	3.9	1.8	2.1	2.0 0.03
60	13.51	33.001	24.745	5.86	98.7	2.9	0.40	1.0	0.21	0.26	0.29				
69	13.00	32.972	24.825	5.82	97.0	3.0	0.41	1.2	0.23	0.20	0.24	1.4	0.53	0.55	0.54 0.01
84	12.45	32.995	24.950	5.69	93.7	3.6	0.45	2.2	0.05	0.12	0.16				
100	11.14	32.988	25.187	5.55	88.9	6.9	0.75	7.1	0.01	0.06	0.09	0.22	0.03	0.04	0.03 0.00

RV NEW HORIZON CALCOFI CRUISE 1011 STATION 86.7 35.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
33 50.2 N	118 39.2 W	04/11/10	1809 UTC	19 m	1138 - 1728 PST	1138 PST	1728 PST	696.3 mg C/m ²

DEPTH m	TEMP DEG C	SALINITY	SIGMA THETA	OXYGEN ml/l	OXY PCT	SI03 uM/l	P04 uM/l	N03 uM/l	N02 uM/l	CHL-A ug/l	PHAE0 ug/l	LIGHT PCT	UPTAKE 1	UPTAKE 2	MEAN	DARK
2	18.12	33.496	24.092	5.77	106.9	1.9	0.21	0.0	0.00	0.45	0.10	85. A	16.2	16.1	16.2	0.17
13	17.79	33.496	24.173	5.78	106.4	1.8	0.21	0.0	0.00	0.31	0.10	35.	12.3	11.3	11.8	0.17
20	17.72	33.497	24.191	5.79	106.4	1.7	0.21	0.0	0.00	0.34	0.13					
27	15.38	33.431	24.681	5.92	103.9	2.9	0.39	1.1	0.07	1.50	0.71	11.	28.9	27.3	28.1	0.12
34	13.34	33.347	25.046	5.19	87.3	5.8	0.83	8.0	0.43	0.70	0.40					
40	12.19	33.325	25.254	4.85	79.6	8.6	1.03	11.3	0.25	0.47	0.27	3.9	2.5	3.0	2.7	0.03
52	11.09	33.389	25.507	4.34	69.6	13.4	1.32	16.1	0.06	0.25	0.13	1.5	0.78	0.72	0.75	0.01
64	10.71	33.473	25.640	3.90	62.1	16.6	1.51	18.6	0.03	0.14	0.11					
76	10.39	33.606	25.799	3.25	51.4	21.0	1.73	21.8	0.03	0.05	0.12	0.22	0.05	0.06	0.06	0.00

RV NEW HORIZON CALCOFI CRUISE 1011 STATION 86.7 60.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
32 59.4 N	120 21.1 W	05/11/10	1606 UTC	22 m	1145 - 1739 PST	1145 PST	1739 PST	233.8 mg C/m ²

DEPTH m	TEMP DEG C	SALINITY	SIGMA THETA	OXYGEN ml/l	OXY PCT	SI03 uM/l	P04 uM/l	N03 uM/l	N02 uM/l	CHL-A ug/l	PHAE0 ug/l	LIGHT PCT	UPTAKE 1	UPTAKE 2	MEAN	DARK
2	16.54	33.107	24.170	5.75	103.0	1.7	0.26	0.0	0.00	0.25	0.08	87. A	4.5	4.6	4.6	0.04
8	16.54	33.106	24.169	5.75	103.0	1.7	0.26	0.0	0.00	0.25	0.08					
15	16.52	33.114	24.180	5.77	103.4	1.7	0.26	0.0	0.00	0.27	0.08	35.	5.4	5.9	5.7	0.07
23	15.81	33.185	24.396	5.90	104.2	1.7	0.27	0.3	0.02	0.35	0.13					
30	15.22	33.207	24.544	5.85	102.2	1.7	0.31	0.7	0.07	0.40	0.22	12.	5.1	5.3	5.2	0.02
38	14.13	33.116	24.706	5.76	98.3	2.2	0.41	1.2	0.27	0.35	0.25					
46	12.53	32.941	24.891	5.65	93.2	3.7	0.52	3.0	0.08	0.32	0.24	4.0	1.4	1.6	1.5	0.01
53	12.30	32.934	24.930	5.65	92.7	3.6	0.55	3.3	0.06	0.27	0.18					
60	12.02	32.937	24.985	5.59	91.2	4.2	0.59	4.1	0.05	0.23	0.15	1.5	0.57	0.51	0.54	0.01
74	11.16	33.052	25.232	5.22	85.7	8.6	0.93	10.0	0.02	0.07	0.12					
88	10.03	33.227	25.565	4.70	73.6	14.1	1.27	15.6	0.01	0.02	0.06	0.22	0.04	0.03	0.03	0.00

RV NEW HORIZON CALCOFI CRUISE 1011 STATION 86.7 100.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
31 39.5 N	123 4.3 W	06/11/10	1736 UTC	35 m	1156 - 1745 PST	1156 PST	1747 PST	166.8 mg C/m ²

DEPTH m	TEMP DEG C	SALINITY	SIGMA THETA	OXYGEN ml/l	OXY PCT	SI03 uM/l	P04 uM/l	N03 uM/l	N02 uM/l	CHL-A ug/l	PHAE0 ug/l	LIGHT PCT	UPTAKE 1	UPTAKE 2	MEAN	DARK
2	18.32	33.296	23.890	5.47	101.6	2.2	0.25	0.0	0.00	0.12	0.03	92. A	1.5	1.5	1.5	0.04
14	18.30	33.296	23.896	5.49	101.9	2.2	0.26	0.0	0.00	0.11	0.03					
24	18.29	33.305	23.905	5.48	101.7	2.1	0.24	0.0	0.00	0.11	0.03	35.	1.9	2.1	2.0	0.04
33	18.30	33.295	23.896	5.50	102.1	2.0	0.24	0.0	0.00	0.11	0.03					
42	18.28	33.296	23.902	5.48	101.7	2.0	0.25	0.0	0.00	0.13	0.04					
50	17.41	33.252	24.079	5.77	105.2	2.2	0.24	0.0	0.00	0.18	0.07	11.	1.7	2.0	1.8	0.02
62	16.80	33.409	24.344	5.83	105.2	2.2	0.20	0.0	0.00	0.19	0.09					
74	15.80	33.370	24.542	5.87	103.8	2.3	0.22	0.0	0.00	0.22	0.14	3.9	1.1	1.0	1.1	0.01
86	15.33	33.397	24.668	5.79	101.4	2.4	0.21	0.0	0.00	0.21	0.16					
96	14.58	33.336	24.783	5.75	99.2	2.5	0.26	0.1	0.05	0.21	0.19	1.5	0.83	0.82	0.82	0.00
111	12.91	33.193	25.015	5.39	89.7	4.5	0.60	4.5	0.04	0.16	0.25					
126	11.62	33.214	25.276	5.18	83.9	7.4	0.82	8.4	0.01	0.09	0.13					
140	10.75	33.266	25.473	4.91	78.1	10.5	1.02	11.9	0.00	0.05	0.07	0.22	0.04	0.13	0.09	0.00

RV NEW HORIZON CALCOFI CRUISE 1011 STATION 90.0 37.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
33 11.1 N	118 22.8 W	03/11/10	1815 UTC	17 m	1135 - 1725 PST	1137 PST	1724 PST	729.9 mg C/m ²

DEPTH m	TEMP DEG C	SALINITY	SIGMA THETA	OXYGEN ml/l	OXY PCT	SI03 uM/l	P04 uM/l	N03 uM/l	N02 uM/l	CHL-A ug/l	PHAE0 ug/l	LIGHT PCT	UPTAKE 1	UPTAKE 2	MEAN	DARK
2	17.62	33.497	24.214	5.76	105.7	1.5	0.22	0.1	0.02	0.56	0.23	83. A	22.6	23.3	23.0	0.19
12	16.92	33.497	24.381	5.72	103.5	1.8	0.27	0.6	0.05	0.83	0.36	34.	31.1	33.5	32.3	0.15
24	14.25	33.376	24.881	5.30	90.9	5.0	0.67	5.8	0.32	0.81	0.54	11.	13.2	12.5	12.9	0.12
36	12.32	33.363	25.259	4.66	76.7	9.7	1.08	11.9	0.30	0.47	0.38	3.9	3.0	3.7	3.4	0.06
47	11.98	33.390	25.344	4.47	73.1	11.2	1.19	13.5	0.23	0.31	0.32	1.4	1.2	1.2	1.2	0.03
58	11.46	33.426	25.469	4.15	67.1	13.6	1.34	15.9	0.13	0.17	0.19					
68	10.81	33.553	25.684	3.53	56.3	18.2	1.59	19.6	0.04	0.07	0.14	0.22	0.04	0.05	0.05	0.00

RV NEW HORIZON CALCOFI CRUISE 1011 STATION 90.0 70.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
32 4.8 N	120 38.2 W	02/11/10	1933 UTC	19 m	1240 - 1732 PST	1146 PST	1726 PST	200.8 mg C/m ²

DEPTH	TEMP	SALINITY	SIGMA	OXYGEN	OXY	SiO ₃	P04	N03	N02	CHL-A	PHAE0	LIGHT	UPTAKE (mg C/m ³)			
m	DEG C	THETA	ml/l	PCT	uM/l	uM/l	uM/l	uM/l	uM/l	ug/l	ug/l	PCT	1	2	MEAN	DARK
2	16.55	33.161	24.209	5.83	104.5	1.6	0.27	0.1	0.01	0.24	0.08	85. A	3.7	3.8	3.7	0.05
13	16.44	33.161	24.235	5.79	103.6	1.9	0.27	0.1	0.01	0.26	0.11	35.	5.4	5.3	5.3	0.07
20	16.34	33.181	24.273	5.80	103.6	1.6	0.27	0.2	0.01	0.31	0.13					
27	16.09	33.220	24.360	5.84	103.8	1.4	0.28	0.3	0.02	0.38	0.17	11.	4.3	4.1	4.2	0.05
34	16.11	33.292	24.411	5.81	103.3	1.4	0.28	0.5	0.04	0.39	0.22					
41	15.43	33.201	24.494	5.89	103.3	1.8	0.33	0.6	0.07	0.42	0.24	3.6	2.4	2.5	2.4	0.04
52	13.47	33.065	24.802	5.82	98.0	2.5	0.43	1.4	0.29	0.32	0.35	1.5	0.99	1.0	1.0	0.02
65	11.79	32.931	25.024	5.73	93.0	4.1	0.53	3.2	0.05	0.14	0.18					
76	11.00	32.956	25.186	5.51	88.0	6.4	0.73	6.6	0.02	0.08	0.11	0.22	0.03	0.04	0.04	0.00

RV NEW HORIZON CALCOFI CRUISE 1011 STATION 90.0 100.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
31 4.8 N	122 40.2 W	01/11/10	1946 UTC	37 m	1245 - 1742 PST	1154 PST	1741 PST	102.4 mg C/m ²

DEPTH	TEMP	SALINITY	SIGMA	OXYGEN	OXY	SiO ₃	P04	N03	N02	CHL-A	PHAE0	LIGHT	UPTAKE (mg C/m ³)			
m	DEG C	THETA	ml/l	PCT	uM/l	uM/l	uM/l	uM/l	uM/l	ug/l	ug/l	PCT	1	2	MEAN	DARK
2	18.35	33.346	23.921	5.46	101.5	2.0	0.24	0.0	0.00	0.08	0.02	92. A	0.91	0.95	0.93	0.05
14	18.36	33.348	23.920	5.47	101.7	1.9	0.27	0.0	0.00	0.08	0.01					
25	18.34	33.359	23.934	5.49	102.0	1.8	0.24	0.0	0.00	0.09	0.01	35.	1.1	1.3	1.2	0.06
34	18.32	33.368	23.947	5.47	101.6	1.9	0.25	0.0	0.00	0.09	0.01					
43	18.21	33.326	23.942	5.48	101.5	2.0	0.24	0.0	0.00	0.11	0.02					
53	18.27	33.354	23.949	5.47	101.5	2.0	0.23	0.0	0.00	0.11	0.01	11.	0.76	0.80	0.78	0.06
61	18.27	33.360	23.954	5.48	101.7	2.0	0.24	0.0	0.00	0.13	0.03					
71	17.62	33.308	24.073	5.60	102.6	2.0	0.23	0.0	0.00	0.17	0.05					
78	16.43	33.246	24.305	5.80	103.8	2.0	0.24	0.0	0.00	0.17	0.09	3.9	0.65	0.74	0.70	0.04
91	15.80	33.308	24.495	5.82	102.9	1.9	0.23	0.0	0.00	0.18	0.18					
100	15.74	33.434	24.606	5.67	100.2	2.1	0.27	0.0	0.02	0.19	0.22	1.6	0.61	0.55	0.58	0.01
117	14.25	33.371	24.880	5.54	94.9	3.0	0.34	1.0	0.16	0.16	0.24					
133	13.06	33.365	25.119	5.27	88.1	4.9	0.55	4.4	0.02	0.09	0.16					
150	12.28	33.334	25.247	5.21	85.7	6.2	0.68	6.5	0.02	0.07	0.14	0.20	0.05	0.05	0.05	0.00

RV NEW HORIZON CALCOFI CRUISE 1011 STATION 93.3 26.7

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
32 57.0 N	117 18.3 W	28/10/10	1818 UTC	20 m	1137 - 1730 PST	1133 PST	1727 PST	985.5 mg C/m ²

DEPTH	TEMP	SALINITY	SIGMA	OXYGEN	OXY	SiO ₃	P04	N03	N02	CHL-A	PHAE0	LIGHT	UPTAKE (mg C/m ³)			
m	DEG C	THETA	ml/l	PCT	uM/l	uM/l	uM/l	uM/l	uM/l	ug/l	ug/l	PCT	1	2	MEAN	DARK
2	18.57	33.476	23.966	5.65	105.5	1.8	0.21	0.0	0.00	0.34	0.13	86. A	12.2	12.1	12.1	0.25
8	18.00	33.483	24.112	5.73	105.9	1.8	0.24	0.0	0.00	0.33	0.15					
14	14.95	33.362	24.721	6.21	108.0	3.1	0.37	0.7	0.05	1.97	0.76	34.	54.7	57.6	56.2	0.27
21	13.21	33.310	25.043	5.42	90.9	6.0	0.81	6.5	0.38	1.05	0.56					
28	12.54	33.323	25.185	5.14	85.0	7.1	0.93	8.7	0.48	0.71	0.51	12.	10.4	9.8	10.1	0.08
36	11.78	33.362	25.360	4.66	75.9	10.2	1.17	12.7	0.19	0.39	0.34					
42	11.21	33.422	25.511	4.18	67.2	13.9	1.40	16.1	0.18	0.20	0.24	4.0	1.1	1.0	1.1	0.21
48	11.07	33.450	25.558	3.88	62.2	16.3	1.51	17.7	0.13	0.12	0.23					
55	10.79	33.520	25.662	3.44	54.9	19.3	1.67	19.8	0.09	0.08	0.18	1.5	0.29	0.27	0.28	0.02

RV NEW HORIZON CALCOFI CRUISE 1011 STATION 93.3 45.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
32 21.0 N	118 33.1 W	29/10/10	1750 UTC	12 m	1140 - 1736 PST	1138 PST	1736 PST	431.9 mg C/m ²

DEPTH	TEMP	SALINITY	SIGMA	OXYGEN	OXY	SiO ₃	P04	N03	N02	CHL-A	PHAE0	LIGHT	UPTAKE (mg C/m ³)			
m	DEG C	THETA	ml/l	PCT	uM/l	uM/l	uM/l	uM/l	uM/l	ug/l	ug/l	PCT	1	2	MEAN	DARK
1	17.34	33.541	24.315	5.69	103.8	1.8	0.29	0.2	0.02	0.66	0.19	88. A	17.5	16.8	17.1	0.13
8	17.23	33.558	24.339	5.70	103.8	1.9	0.27	0.2	0.02	0.67	0.22	36.	19.2	20.0	19.6	0.60
17	16.67	33.534	24.468	5.58	100.5	2.4	0.35	1.1	0.05	0.72	0.35	11.	12.1	13.9	13.0	0.09
25	15.32	33.533	24.773	5.23	91.7	5.1	0.61	5.0	0.16	0.68	0.41	4.1	7.0	6.1	6.6	0.06
33	12.47	33.535	25.363	4.38	72.4	11.6	1.19	13.7	0.29	0.56	0.39	1.5	3.0	3.2	3.1	0.03
40	11.24	33.585	25.632	3.82	61.6	16.3	1.51	18.6	0.06	0.30	0.25					
47	10.73	33.624	25.753	3.58	57.1	19.0	1.63	20.8	0.03	0.22	0.18	0.24	0.15	0.07	0.11	0.01

RV NEW HORIZON

CALCOFI CRUISE 1011

STATION 93.3 70.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE								
		30/10/10	1716 UTC	22 m	1145 - 1747 PST	1145 PST	1747 PST	351.3 mg C/m ²								
DEPTH	TEMP	SALINITY	SIGMA	OXYGEN	OXY	SiO ₃	P04	N03	N02	CHL-A	PHAE0	LIGHT	UPTAKE (mg C/m ³)			
m	DEG C	THETA	ml/l	PCT	uM/l	uM/l	uM/l	uM/l	uM/l	ug/l	ug/l	PCT	1	2	MEAN	DARK
2	16.98	33.223	24.156	5.73	103.6	1.8	0.29	0.0	0.02	0.25	0.09	87. A	4.4	4.4	4.4	0.07
8	16.84	33.222	24.189	5.71	103.0	1.9	0.29	0.0	0.02	0.25	0.09					
15	16.73	33.221	24.214	5.73	103.1	1.6	0.29	0.0	0.00	0.28	0.11	35.	7.6	6.2	6.9	0.09
23	16.51	33.219	24.263	5.76	103.2	1.7	0.29	0.0	0.00	0.38	0.20					
31	16.47	33.221	24.274	5.73	102.6	1.9	0.30	0.0	0.01	0.49	0.28	11.	8.4	7.7	8.1	0.04
38	16.42	33.217	24.283	5.73	102.5	1.9	0.30	0.0	0.02	0.48	0.28					
46	14.91	33.080	24.514	5.79	100.4	2.5	0.40	0.4	0.14	0.48	0.39	4.0	4.5	4.1	4.3	0.01
52	13.27	32.973	24.771	5.64	94.5	3.9	0.61	3.1	0.48	0.32	0.39					
60	12.64	32.983	24.903	5.46	90.3	5.2	0.71	5.4	0.05	0.22	0.31	1.5	1.2	1.2	1.2	0.01
74	11.72	33.011	25.099	5.28	85.6	7.3	0.88	8.3	0.03	0.12	0.17					
88	11.01	33.127	25.318	5.04	80.6	10.5	1.07	11.7	0.03	0.05	0.10	0.22	0.06	0.05	0.05	0.00

RV NEW HORIZON

CALCOFI CRUISE 1011

STATION 93.3 110.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE								
		31/10/10	1723 UTC	49 m	1155 - 1754 PST	1155 PST	1754 PST	209.9 mg C/m ²								
DEPTH	TEMP	SALINITY	SIGMA	OXYGEN	OXY	SiO ₃	P04	N03	N02	CHL-A	PHAE0	LIGHT	UPTAKE (mg C/m ³)			
m	DEG C	THETA	ml/l	PCT	uM/l	uM/l	uM/l	uM/l	uM/l	ug/l	ug/l	PCT	1	2	MEAN	DARK
2	18.63	33.433	23.918	5.39	100.8	2.0	0.24	0.1	0.00	0.08	0.02					
3	18.61	33.434	23.924	5.45	101.8	2.2	0.25	0.0	0.00	0.08	0.02	91.	1.8	1.8	1.8	0.02
10	18.53	33.427	23.939	5.43	101.3	2.0	0.24	0.0	0.00	0.08	0.03					
18	18.47	33.420	23.948	5.45	101.6	2.0	0.25	0.0	0.00	0.10	0.03					
35	18.45	33.417	23.952	5.45	101.5	2.0	0.24	0.0	0.00	0.10	0.04	33.	1.9	1.9	1.9	0.05
46	18.44	33.415	23.953	5.45	101.5	2.0	0.24	0.0	0.00	0.15	0.07					
59	17.76	33.336	24.060	5.55	102.0	2.1	0.25	0.0	0.00	0.16	0.12					
69	16.02	33.216	24.375	5.86	104.0	2.2	0.25	0.0	0.00	0.18	0.19	12.	1.6	1.6	1.6	0.03
81	15.31	33.260	24.567	5.82	101.8	2.5	0.25	0.0	0.00	0.22	0.31					
93	14.77	33.254	24.679	5.80	100.4	2.5	0.27	0.0	0.03	0.24	0.34					
105	14.55	33.283	24.749	5.73	98.7	2.7	0.28	0.1	0.12	0.16	0.19	3.7	1.5	1.4	1.5	0.02
114	14.19	33.364	24.888	5.65	96.7	2.9	0.29	0.5	0.22	0.10	0.15					
124	13.526	33.374	25.032	5.48	92.5	3.7	0.39	2.1	0.04	0.08	0.13					
134	13.06	33.332	25.093	5.40	90.3	4.6	0.49	3.6	0.01	0.04	0.07	1.5	0.29	0.28	0.29	0.00
155	11.057	33.281	25.431	5.02	80.4	9.1	0.90	10.1	0.00	0.01	0.03					
176	9.864	33.504	25.810	4.26	66.6	17.3	1.38	18.0	0.00	0.00	0.02					
197	9.32	33.755	26.096	3.68	56.9	23.2	1.62	21.9	0.00	0.00	0.02	0.21	0.01	0.01	0.01	0.00

A) INCUBATION LIGHT INTENSITIES WERE 92, 35, 11, 3.9, 1.5, 0.21 PERCENT RESPECTIVELY.

CalCOFI Cruise 1011

MACROZOOPLANKTON BIOMASS
Net Mesh Size: 0.505mm

Line	Sta.	Latitude N	Longitude W	Mo/Day	Date	Time (PST)	Water Volume	Max. Tow	Volume per		
					Start	End	Strained (m ³)		Depth (m)	Total (cm ³)	1000 m ³ Strained Small (cm ³)
93.3	26.7	32 57.4	117 18.3	10/28	1116	1121	119	41	25	25	25
93.4	26.4	32 57.2	117 16.7	10/28	1214	1216	64	11	16	16	16
91.7	26.4	33 14.5	117 27.7	10/28	1455	1457	56	12	18	18	18
93.3	28.0	32 54.9	117 23.8	10/28	1903	1924	469	205	66	66	66
93.3	30.0	32 50.7	117 31.8	10/28	2242	2304	448	210	116	116	116
93.3	35.0	32 41.1	117 52.2	10/29	0234	0257	467	209	77	77	77
93.3	40.0	32 30.8	118 12.7	10/29	0654	0716	463	211	35	35	35
93.3	45.0	32 20.9	118 33.2	10/29	1100	1123	460	210	33	33	33
93.3	50.0	32 10.8	118 53.4	10/29	1526	1549	471	215	38	38	38
93.3	55.0	32 00.7	119 13.8	10/29	1933	1955	459	218	375	375	39
93.3	60.0	31 51.1	119 33.6	10/30	0128	0151	487	212	57	57	57
93.3	70.0	31 30.3	120 13.7	10/30	0818	0840	476	206	17	17	17
93.3	80.0	31 10.9	120 55.0	10/30	1534	1557	513	204	27	27	27
93.3	90.0	30 50.8	121 35.6	10/30	2134	2157	496	207	20	20	20
93.3	100.0	30 30.9	122 15.2	10/31	0331	0353	522	211	25	25	25
93.3	110.0	30 11.3	122 55.1	10/31	0821	0843	466	206	24	24	24
93.3	120.0	29 50.6	123 35.1	10/31	1740	1801	483	206	17	17	17
90.0	120.0	30 25.1	123 59.9	11/01	0001	0023	468	207	26	26	26
90.0	110.0	30 44.9	123 19.9	11/01	0624	0646	486	211	14	14	14
90.0	100.0	31 05.1	122 39.7	11/01	1305	1327	475	212	8	8	8
90.0	90.0	31 24.9	121 58.7	11/01	2201	2223	475	213	19	19	19
90.0	80.0	31 44.8	121 18.7	11/02	0626	0647	459	213	7	7	7
90.0	70.0	32 05.0	120 38.2	11/02	1258	1320	455	211	62	62	62
90.0	60.0	32 25.0	119 57.5	11/02	1934	1956	476	206	946	946	236
90.0	53.0	32 39.0	119 28.6	11/03	0215	0238	481	212	69	69	69
90.0	37.0	33 11.1	118 23.2	11/03	1139	1202	446	212	61	61	61
90.0	35.0	33 15.0	118 15.1	11/03	1428	1451	454	206	53	53	53
90.0	30.0	33 25.1	117 54.3	11/03	1903	1924	448	201	60	60	60
90.0	27.7	33 29.5	117 45.0	11/03	2151	2154	74	24	40	40	40
90.0	28.0	33 29.1	117 46.0	11/03	2330	2344	304	119	165	165	165
88.5	30.1	33 40.2	118 04.9	11/04	0212	0214	53	12	75	75	75
86.8	32.5	33 53.2	118 26.8	11/04	0551	0553	55	11	18	18	18
86.7	33.0	33 53.5	118 29.3	11/04	0724	0729	104	40	97	97	97
86.7	35.0	33 49.3	118 37.8	11/04	0909	0931	447	211	52	52	52
86.7	40.0	33 39.5	118 58.3	11/04	1458	1520	448	211	58	58	58
86.7	45.0	33 29.3	119 19.0	11/04	1917	1940	505	226	93	93	93
86.7	50.0	33 19.4	119 39.8	11/04	2340	2347	145	49	83	83	83
86.7	55.0	33 09.4	120 00.1	11/05	0342	0405	472	203	53	53	53
86.7	60.0	32 59.4	120 21.0	11/05	0658	0719	438	204	30	30	30
86.7	70.0	32 39.5	121 02.9	11/05	1631	1652	460	201	30	30	30
86.7	80.0	32 19.4	121 42.8	11/05	2219	2241	429	212	63	63	47
86.7	90.0	31 59.3	122 23.6	11/06	0431	0453	497	209	28	28	28
86.7	100.0	31 39.5	123 04.1	11/06	1042	1105	495	208	20	20	20
86.7	110.0	31 19.5	123 44.5	11/06	1653	1716	506	205	12	12	12
83.3	110.0	31 54.7	124 10.2	11/07	0011	0034	485	211	21	21	21
83.3	100.0	32 14.6	123 29.5	11/07	0612	0633	467	211	15	15	15
83.3	90.0	32 34.7	122 48.8	11/07	1208	1230	525	207	23	23	23
83.3	80.0	32 54.7	122 08.0	11/07	1748	1812	528	207	87	87	87
83.3	70.0	33 14.7	121 26.7	11/08	0050	0112	466	209	129	129	129
83.3	60.0	33 34.6	120 45.1	11/08	0734	0755	467	202	266	266	266
83.3	55.0	33 44.6	120 24.6	11/08	1240	1303	486	211	62	62	62
85.4	35.8	34 01.2	118 50.6	11/09	0041	0043	58	12	35	35	35
83.3	39.4	34 15.4	119 19.4	11/09	0435	0437	56	13	36	36	36
83.3	40.6	34 13.5	119 24.6	11/09	0605	0608	68	24	15	15	15
83.3	42.0	34 10.7	119 30.9	11/09	0647	0657	207	70	58	58	58
81.7	43.5	34 24.6	119 48.1	11/09	1133	1135	47	14	21	21	21
81.8	46.9	34 16.6	120 01.2	11/09	1448	1511	465	214	56	56	56
80.0	51.0	34 26.8	120 31.3	11/09	1919	1927	174	54	52	52	52
80.0	60.0	34 09.0	121 08.9	11/10	0312	0335	505	208	141	141	89
80.0	70.0	33 49.0	121 51.4	11/10	0750	0812	441	217	95	95	84
80.0	80.0	33 28.8	122 31.7	11/10	1745	1806	464	210	1359	1359	110
80.0	100.0	32 49.0	123 54.3	11/11	0905	0928	474	218	84	84	19
76.7	100.0	33 23.3	124 19.4	11/11	1941	2006	539	217	306	306	32
76.7	90.0	33 43.6	123 38.7	11/12	0156	0219	527	208	103	103	103
76.7	80.0	34 03.4	122 56.9	11/12	0728	0750	496	207	375	375	93