

UNIVERSITY OF CALIFORNIA, SAN DIEGO SCRIPPS INSTITUTION OF OCEANOGRAPHY

data report

CalCOFI Cruise 1507
8 -25 July 2015

CC Reference 16 - 03
1 Sept 2016

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 1507* of the California Cooperative Oceanic Fisheries Investigations (CalCOFI) program aboard the RV Oceanus. The CalCOFI program was organized in the late 1940's to study the causes of variations in population size of fishes of importance to the State of California. It is carried out by NOAA's National Marine Fisheries Service Southwest Fisheries Science Center, the California Department of Fish and Wildlife, and the Integrative Oceanography Division (IOD) at Scripps Institution of Oceanography (SIO). IOD contributes to this program by investigations of the physical, chemical and biological structure of the California Current. Data from the cruise were collected and processed by personnel of the Integrative Oceanography Division and the Southwest Fisheries Science Center. CalCOFI data presented in this report and collected on previous cruises can be accessed at <http://www.calcofi.org>.

STANDARD PROCEDURES

CTD/Rosette Cast Data

A Sea-Bird Electronics, Inc., Conductivity-Temperature-Depth (CTD) instrument (Seabird 911+, Serial number 3161-936) with a rosette was deployed at each station on this cruise. The rosette was equipped with 24 ten-liter plastic (PVC) bottles equipped with epoxy-coated springs and Viton O-rings. Each CTD/rosette cast usually sampled 20 depths to a maximum sampling depth of 515 meters, bottom depth permitting. Occasional stations have multiple bottles tripped at the same depth to provide more water for ancillary programs. Additional bottle depths also appear in combined hydrographic and primary productivity casts. The sample spacing was designed to sample depth intervals as close as 10 meters around the sharp upper thermocline features such as the chlorophyll, oxygen, nitrite maxima and the shallow salinity minimum. Salinity, oxygen and nutrients were determined at sea for all depths sampled. Chlorophyll-*a* and phaeopigments were determined at sea on samples from the top 200 meters, bottom depth permitting.

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

Salinity samples were collected from all rosette bottles and analyzed at sea using a Guildline model 8410 Portasal salinometer. Salinity samples were drawn into 200 ml Kimax high-alumina borosilicate bottles that were rinsed three times with sample prior to filling. The results were compared with the CTD salinity to verify that the rosette bottle did not mis-trip or leak. The salinometer was standardized before and after each group of samples with standardized seawater. Periodic checks on the conductivity of the standardized seawater were made by comparison with IAPSO Standard Seawater batch P155. Salinity values were calculated using the algorithms for the Practical Salinity Scale, 1978 (UNESCO, 1981a) and are reported to three decimal places, provided that accepted standards were met.

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

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

Nutrient samples were analyzed at sea using a QuAAstro continuous flow analyzer (SEAL Analytical). Dissolved silicate, nitrate, and nitrite were analyzed using a modification of the method described by Armstrong (1967) and Gordon et al. (1992). Phosphate was measured with a modification of the Murphy and Riley (1962) protocol and ammonium is analyzed using a modified fluorometric method described by Kerouel and Aminot (1997). Samples were collected in 30ml high-density polypropylene screw top tubes which were acid washed and rinsed with sample three times prior to filling. Standardizations and cadmium-reduction coil efficiency determinations were performed at the beginning of every run. Drift and baseline corrections were performed in each run using a high standard and blank respectively inserted before and after sample sets. A sample of reference material for nutrients in seawater (RMNS), produced by KANSO technos (www.kanso.co.jp) was included in every run and those data were monitored throughout the cruise and available to adjust values for nitrate, nitrite, phosphate, and silicate if appropriate. A separate reference sample was used to monitor ammonium stability throughout the cruise. Samples not analyzed immediately after collection were refrigerated and run the following day.

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

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

Primary Productivity Sampling

Primary productivity samples were taken each day shortly before local apparent noon (LAN). Primary production was estimated from ^{14}C uptake using a simulated *in situ* technique. Light penetration was estimated from the Secchi depth (assuming that the 1% light level is three times the Secchi depth). The depths with ambient light intensities corresponding to light levels simulated by the on-deck incubators were identified and sampled on the rosette up-cast. Occasionally an extra bottle or two were tripped in addition to the usual 20 levels sampled in the combined rosette-productivity cast in order to maintain the normal sampling depth resolution. Triplicate samples (two light and one dark control) were drawn from each productivity sample depth into 250 ml polycarbonate incubation bottles. Samples were inoculated with a cruise average of 11.64 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).

Avifauna Observations (Farallon Institute of Advanced Ecosystem Research)

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

Ancillary Programs

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

- 1) *Underway Data*: Continuous near surface measurements of temperature, salinity and *in vivo* chlorophyll fluorescence were recorded from seawater pumped through the ship's uncontaminated seawater system. Water was drawn from a depth of approximately 5 meters. The data were logged in one-second increments using a Sea-Bird Electronics, Inc., SBE 45 MicroTSG Thermosalinograph for internal, SBE 38 Thermosalinograph for external, and a WetLabs WETstar fluorometer. The data has been processed to show 10 minute averages.
- 2) *ADCP*: Continuous profiles of ocean currents and acoustic backscatter between 20 and 500 meters deep were measured along the shiptrack from a hull-mounted 150 kHz Acoustic Doppler Current Profiler (ADCP). The ADCP raw data are collected and archived for potential data processing ashore. The National Centers for Environmental Information (NCEI) in collaboration with the E.Firing Acoustic Doppler Current Profiler (ADCP) Laboratory at the University of Hawaii have established the Joint Archive for Shipboard ADCP (JASADCP). The JASADCP is responsible for the acquisition, review, documentation, archival, and distribution of shipboard ADCP data sets, data may be accessed through their website (<http://ilikai.soest.hawaii.edu/sadcp/index.html>). Shipboard ADCP data is acquired by University of Hawaii Data Acquisition System (UDHAS) and uses Common Ocean Data Access System (CODAS) processing to incrementally build a dataset of averaged, edited ocean velocities for each ADCP and ping type specified. Processed data and plots are served on the shipboard network, and daily status summaries are emailed and available online (http://currents.soest.hawaii.edu/uhdas_fromships.html).
- 3) *Underway Sea Surface pCO₂ and pH measurements*: Automated shipboard analysis of the partial pressure of CO₂ and pH were made from the ship's underway flow-through system. pCO₂ measurements were taken with the Shipboard Underway pCO₂ Environmental Recorder (SUPER-CO₂) sold by Sunburst Sensors designed with a showered equilibrator and a LI-COR 840A CO₂/H₂O non-dispersive infrared gas analyzer. pH measurements were taken with a Honeywell Durafet based on Ion Selective Field Effect Transistor (ISFET) technology. The Durafet pH sensor was calibrated before and after the cruise. pCO₂ was calibrated with standard gases traceable to NIST every 4 hours, along with an atmospheric sample. Temperature and salinity were also sampled using a SeaBird Thermosalinograph (SBE45). Measurements were recorded every 4 seconds. (T. Martz, SIO)
- 4) *California Current Ecosystem Long Term Ecological Research Program*: The CCE-LTER program augments standard CalCOFI measurements to further characterize the lower trophic levels as well as the carbon system. Measurements of particulate organic carbon and nitrogen, dissolved organic carbon and nitrogen, taxon-specific phytoplankton pigments, flow-cytometric counts of bacteria and picoautotrophs and the determination of mesozooplankton size structure using a Laser Optical Plankton Counter are sampled for all CalCOFI stations. On CalCOFI lines 90 and 80 measurements also include microscopic counts of heterotrophic and autotrophic phytoplankton for biomass and abundance and mesozooplankton community structure sampled with the Planktonic Rate Processes in Oligotrophic Ocean Systems (PRPOOS) tow net. (M. Ohman, SIO)
- 5) *Advanced Laser Fluorometer Analyzer (ALFA)*: Continuous underway analysis of phytoplankton pigment groups and variable fluorescence (F_v/F_m). ALFA, developed by A. Chekalyuk at Lamont-Doherty Earth Observatory, uses laser stimulated emission at 405 and 532 nm together with spectral deconvolution analysis to distinguish fluorescence from three types of phycoerythrin, chlorophyll-a, and chromophoric dissolved organic matter (CDOM). The ALFA is useful for differentiating the contribution of cyanobacteria and cryptophytes from other phytoplankton taxa present in natural phytoplankton assemblages, as well as for assessing phytoplankton photophysiological status. (R. Goericke, SIO)

6) *Southern California Coastal Ocean Observing System (SCCOOS) Nearshore Observations:* The objective of these observations is to extend CalCOFI time series to the nearshore. Nearshore observations consist of 8 stations at the ends and interspersed with current CalCOFI lines on the 20 m isobath with a standard set of CalCOFI hydrographic observations as well as a CalBOBL net tow, particulate organic carbon and nitrogen, dissolved organic carbon and nitrogen and taxon-specific phytoplankton pigments data. (R. Goericke, SIO)

7) *Inorganic Carbon System:* The CalCOFI group collected samples for the characterization of the inorganic carbon system at selected locations along the cruise track with 14 profile and 8 additional surface water stations. Total inorganic carbon and alkalinity will be measured which will allow the calculation of pH and pCO₂. The objectives of these measurements are first the long-term characterization of the inorganic carbon system and its response to changing ocean climate and second measurements of pH in the coastal zone in order to monitor the impact of ‘corrosive’ waters on benthic ecosystems in the Southern California Bight. (R. Goericke, SIO)

8) *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)

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

10) *APEX Profiling Float:* NAVOCEANO (Naval Oceanographic Office) maintains operational ocean circulation models worldwide. Ocean conditions in the Southern California region can be extracted from the global HYCOM (Hybrid Coordinate Model) or the RNCOM-SOCAL (Regional Navy Coastal Ocean Model for the Southern California area). Output from public domain versions of the various NAVOCEANO models are available at http://www.opc.ncep.noaa.gov/newNCOM/NCOM_currents.shtml. NAVOCEANO uses real-time temperature and temperature-salinity profile data in various ways: Profiles are 1) assimilated into model nowcasts to make them more realistic, 2) used to assess ocean model forecasts, 3) stored in historical observation databases such as the Master Oceanographic Observation Data Set (MOODS), and 4) used in the construction of ocean climatologies such as the Generalized Digital Environmental Model (GDEM). Profiling float data has become a primary source of profile data because it is so well-distributed spatially around the world, provides data on a continuing basis, provides salinity as well as temperature data, and is of high quality. Profiling float trajectories are used to assess the depiction of fronts and eddies in ocean models (e.g., positioning, size, and associated current velocities). NAVOCEANO provided five APEX profiling floats for deployment on this cruise at stations 86.7 70, 83.3 60, 80.0 70, 76.7 60, and 76.7 80.

TABULATED DATA

CTD/Rosette Cast Data

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

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

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

Primary Productivity Data

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

Macrozooplankton Data

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

FOOTNOTES

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

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

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

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

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PERSONNEL

CalCOFI Cruise 1507

SHIP'S CAPTAIN

Jeff Crews, R/V *Oceanus*

PERSONNEL PARTICIPATING IN THE COLLECTION OF DATA

		Participating (Legs)
Wilkinson, James (Chief Scientist)	Programmer Analyst, SIO	1
Debich, Amanda	Acoustic Technician, SIO	1
Dovel, Shonna	Staff Research Associate, SIO	1
Ekern, Lindsey	Staff Research Associate, SIO	1
Faber, David	Staff Research Associate, SIO	1
Hays, Amy	Fishery Biologist, NMFS	1
Jorlie, RJ	Staff Research Associate, SIO	1
McKeown, Zach	Volunteer	1
Overcash, Bryan	Fishery Biologist, NMFS	1
Pyda, Patricia	Volunteer	1
Roadman, Megan	Staff Research Associate, SIO	1
Webb, Sophie	Bird Observer, FAIER	1
Whitaker, Katherine	Marine Mammal Observer, MPL	1

Leg 1: San Diego to San Diego, California, 8-25 July, 2015

FIGURES

Cruise 1507

1. CalCOFI Cruise 1507 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.

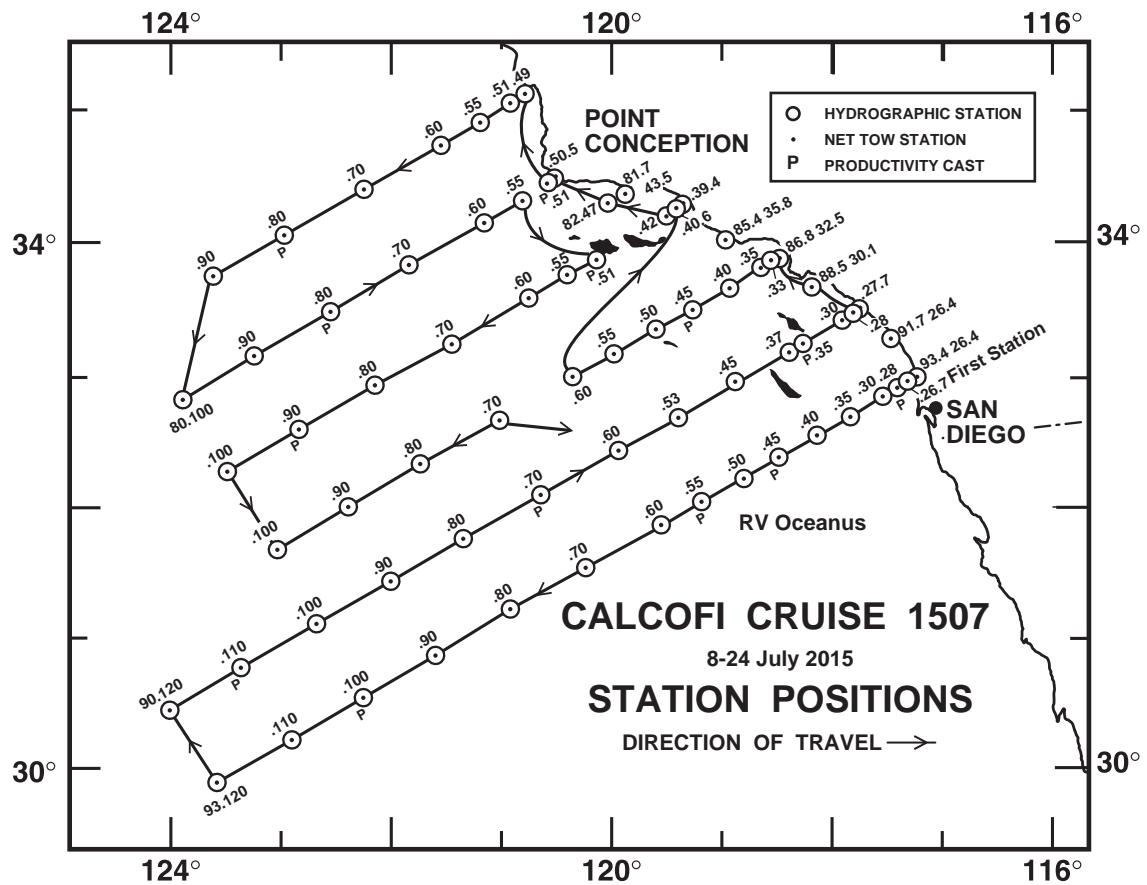


FIGURE 1

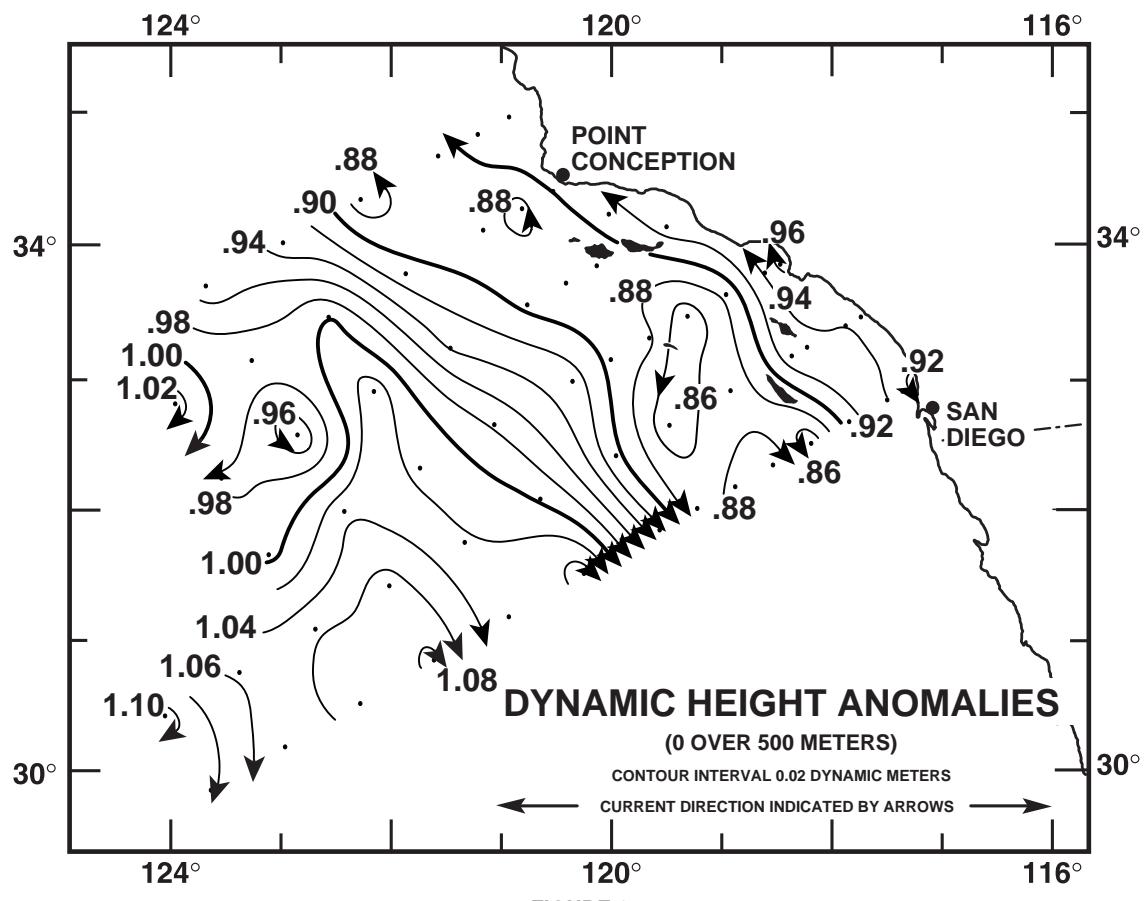


FIGURE 2

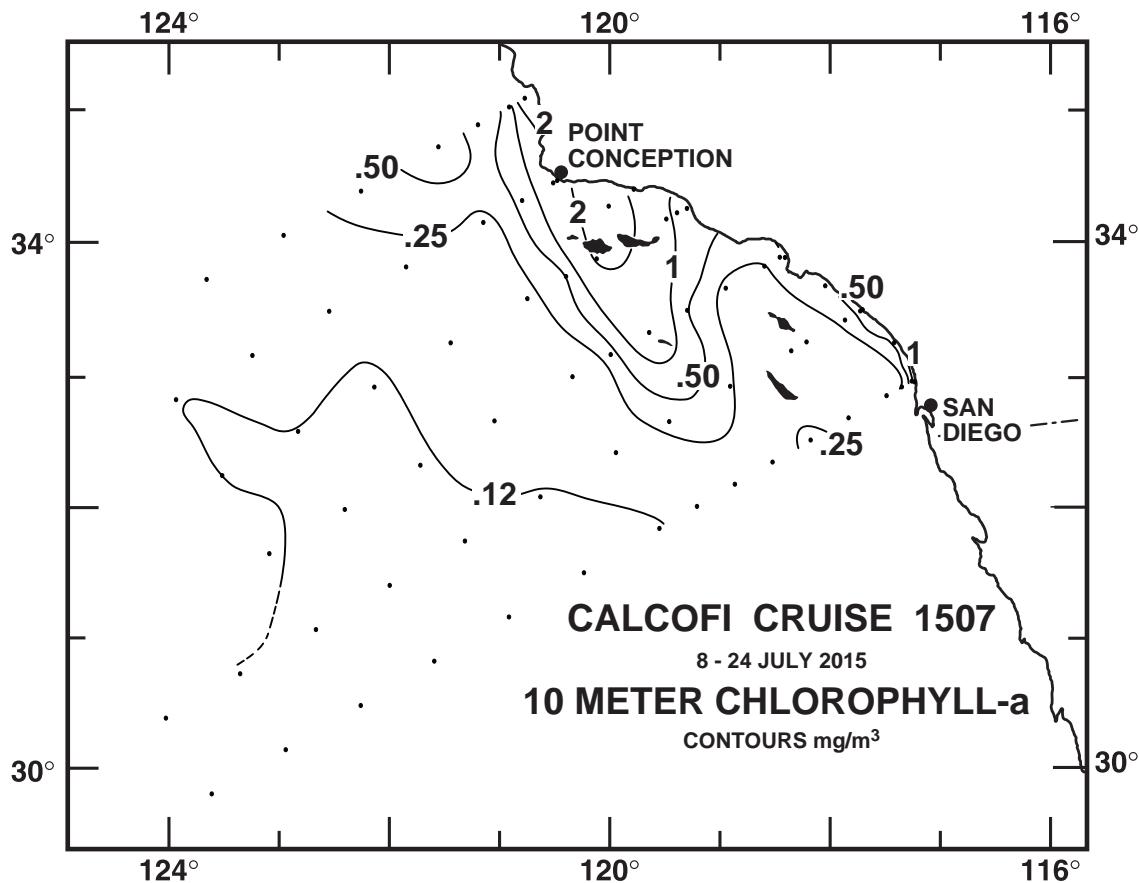


FIGURE 3A

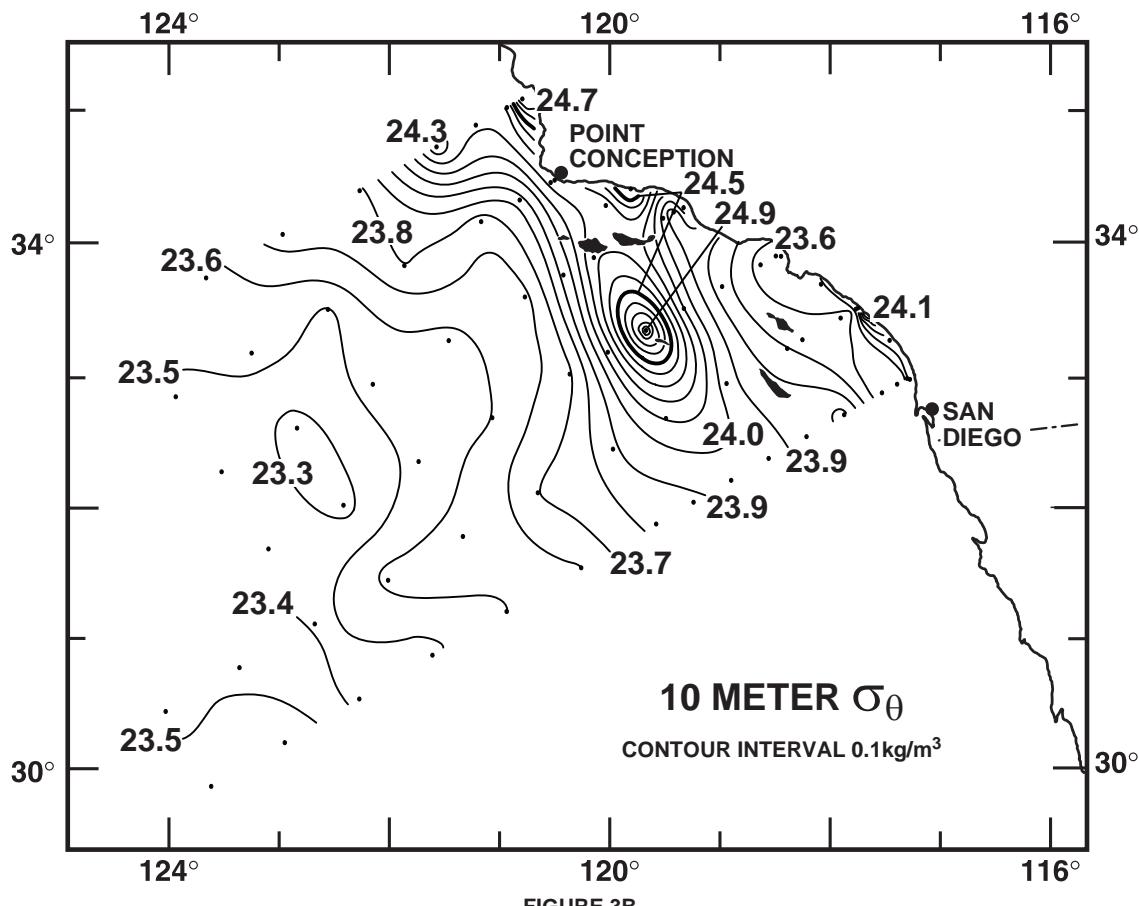


FIGURE 3B

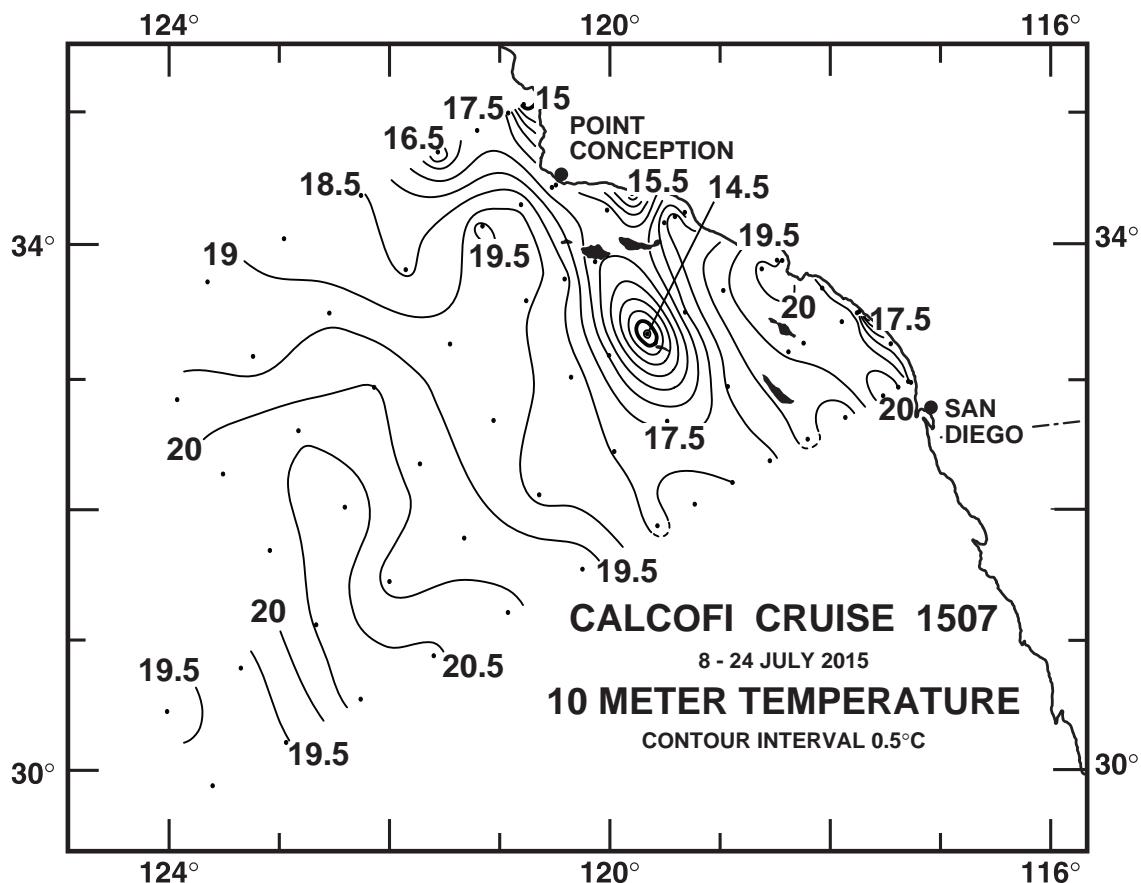


FIGURE 3C

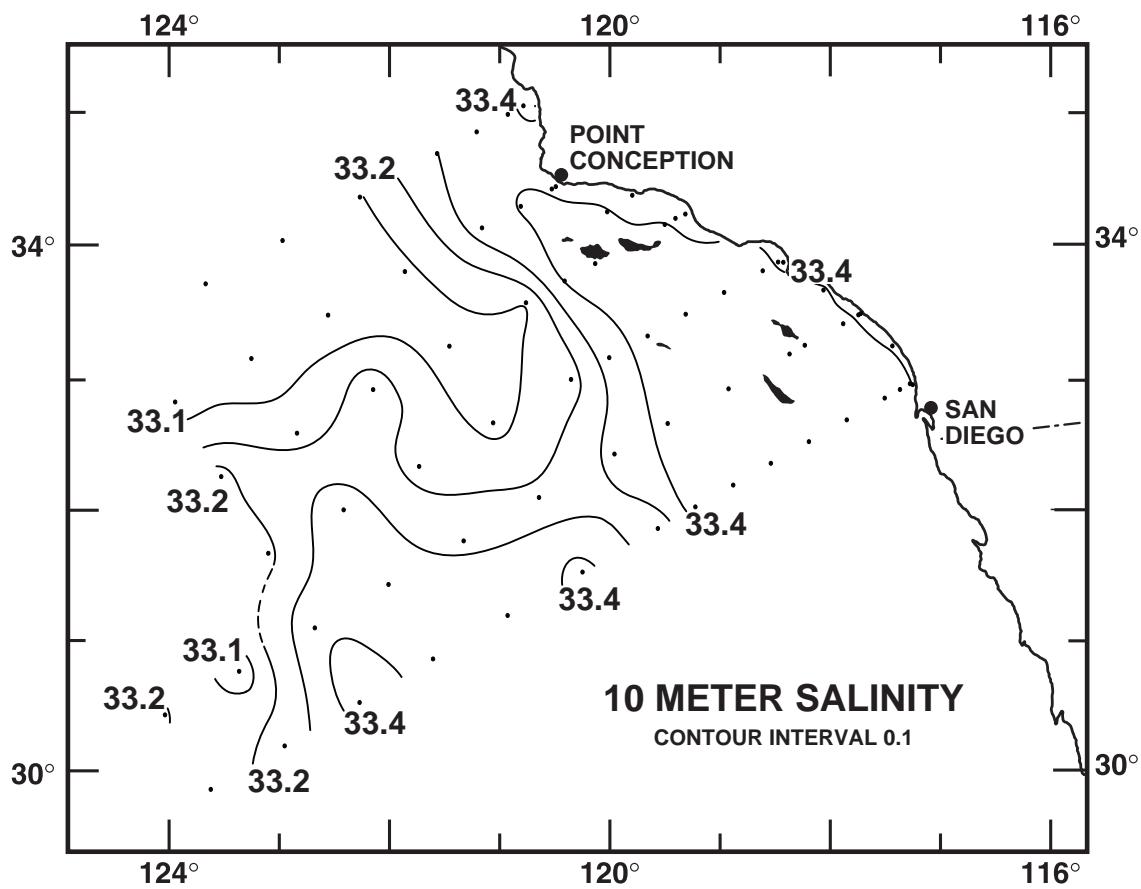


FIGURE 3D

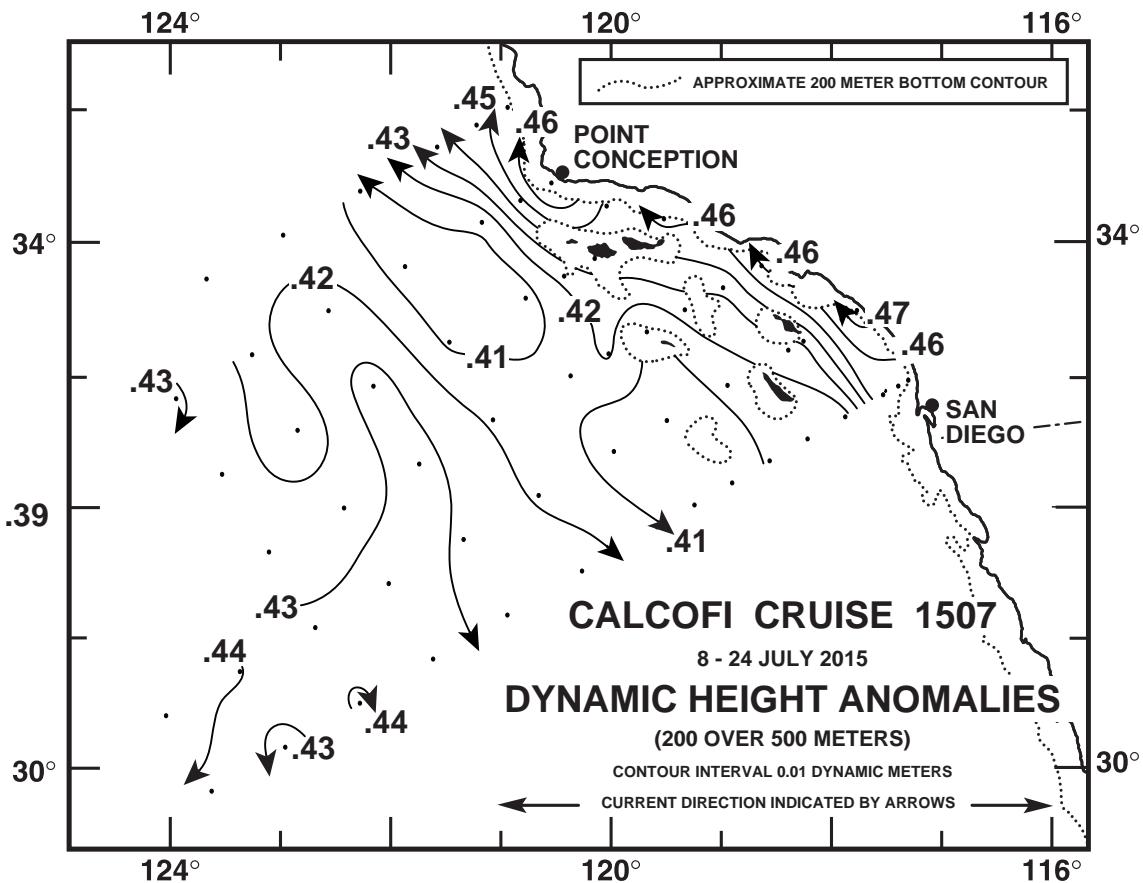


FIGURE 4A

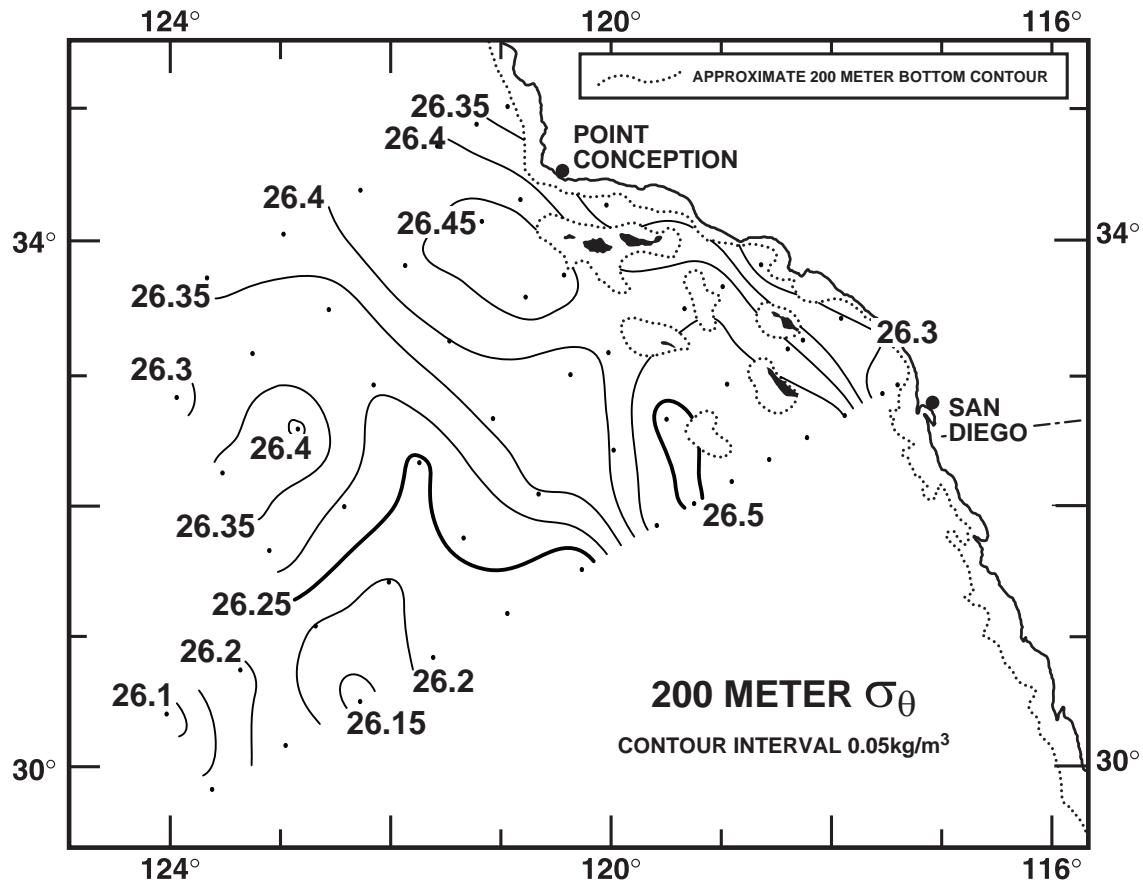


FIGURE 4B

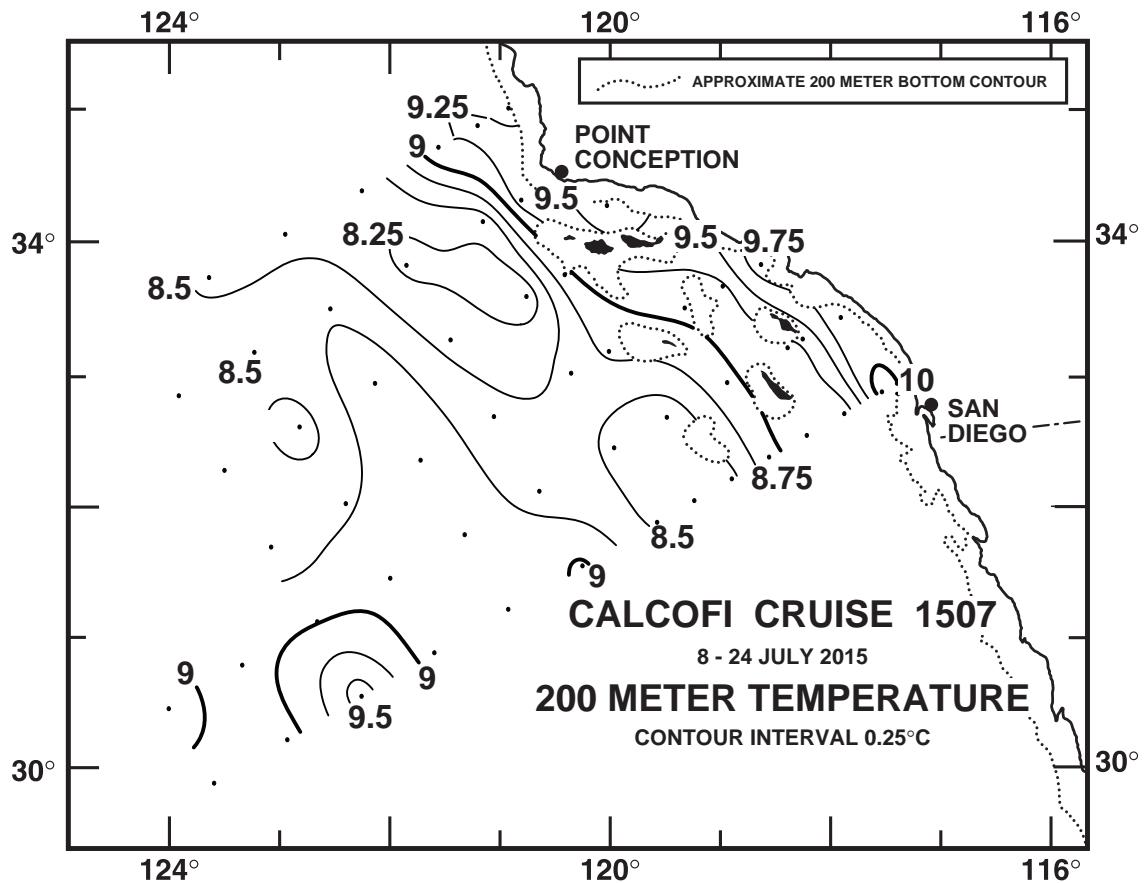


FIGURE 4C

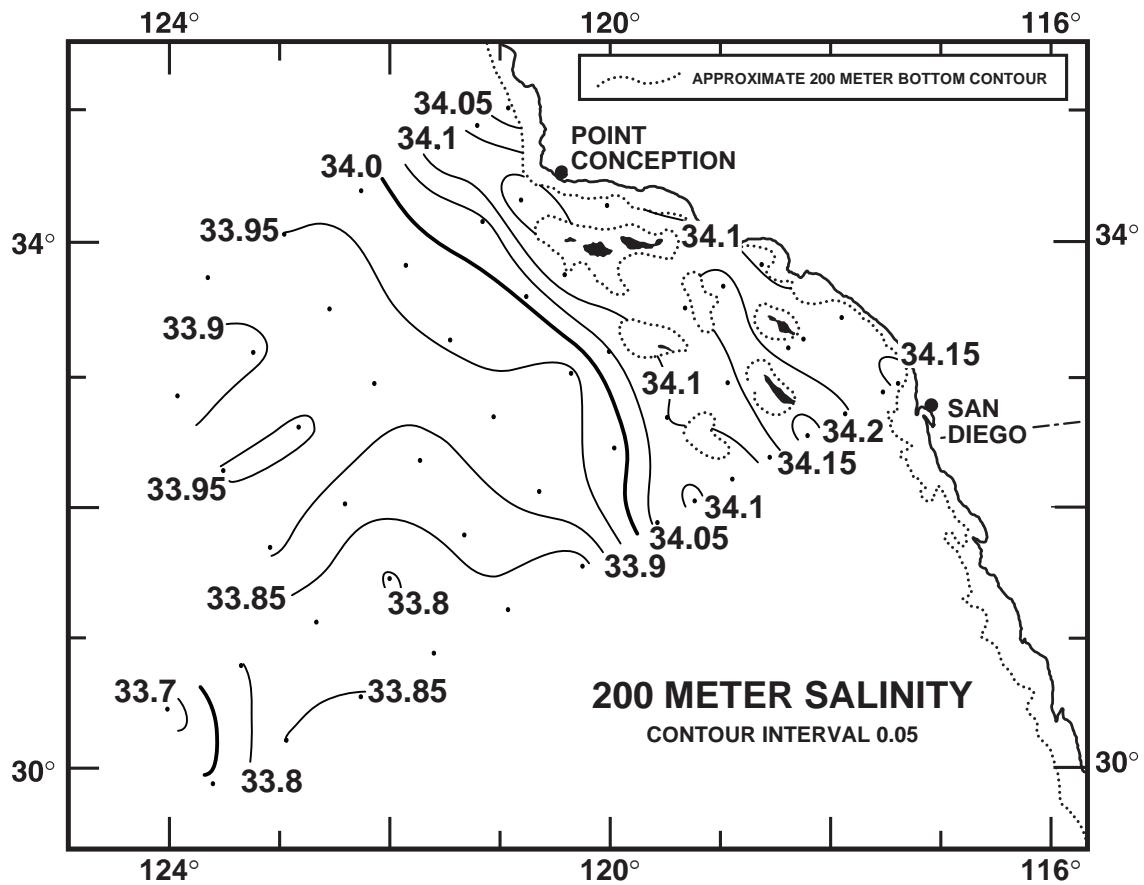
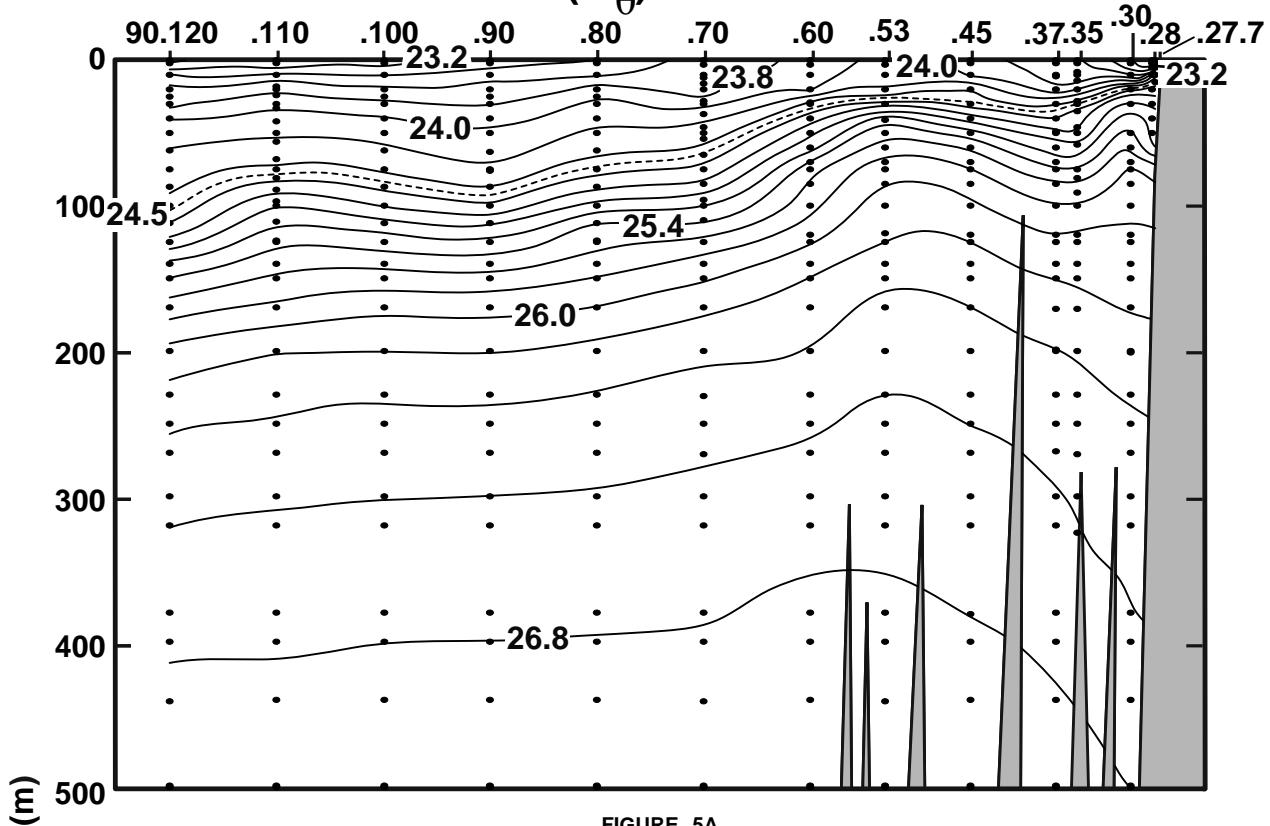


FIGURE 4D

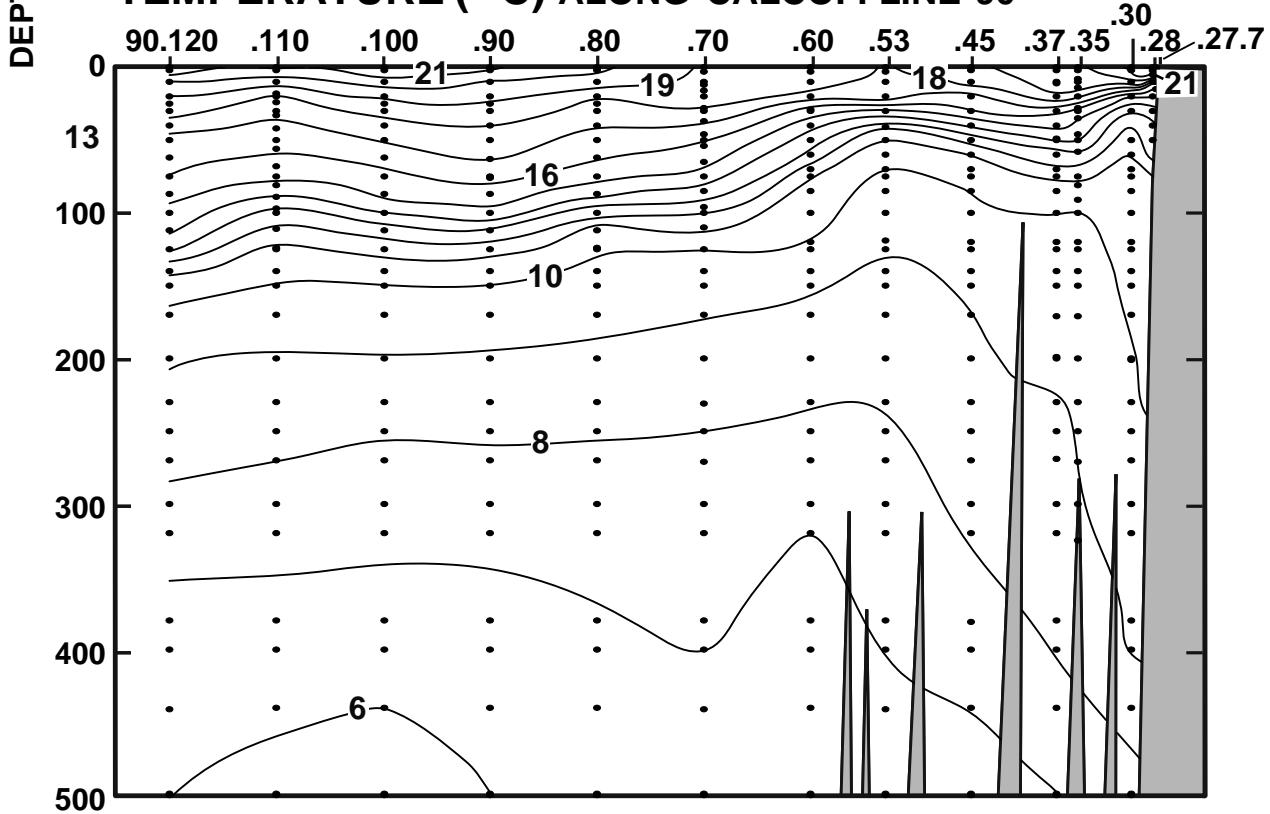
CALCOFI CRUISE 1507

13 - 15 July 2015

POTENTIAL DENSITY (σ_0) ALONG CALCOFI LINE 90



TEMPERATURE (°C) ALONG CALCOFI LINE 90



CALCOFI CRUISE 1507

13- 15 July 2015

SALINITY ALONG CALCOFI LINE 90

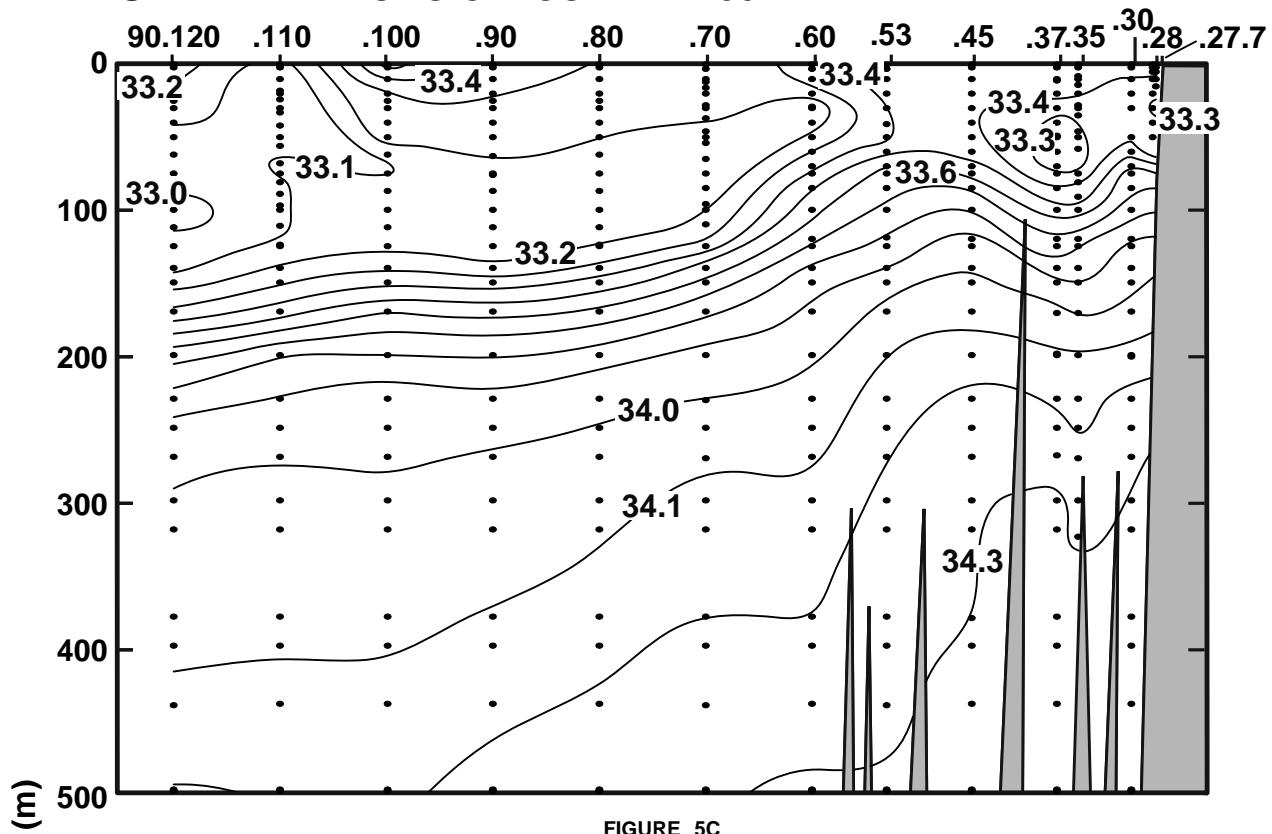


FIGURE 5C

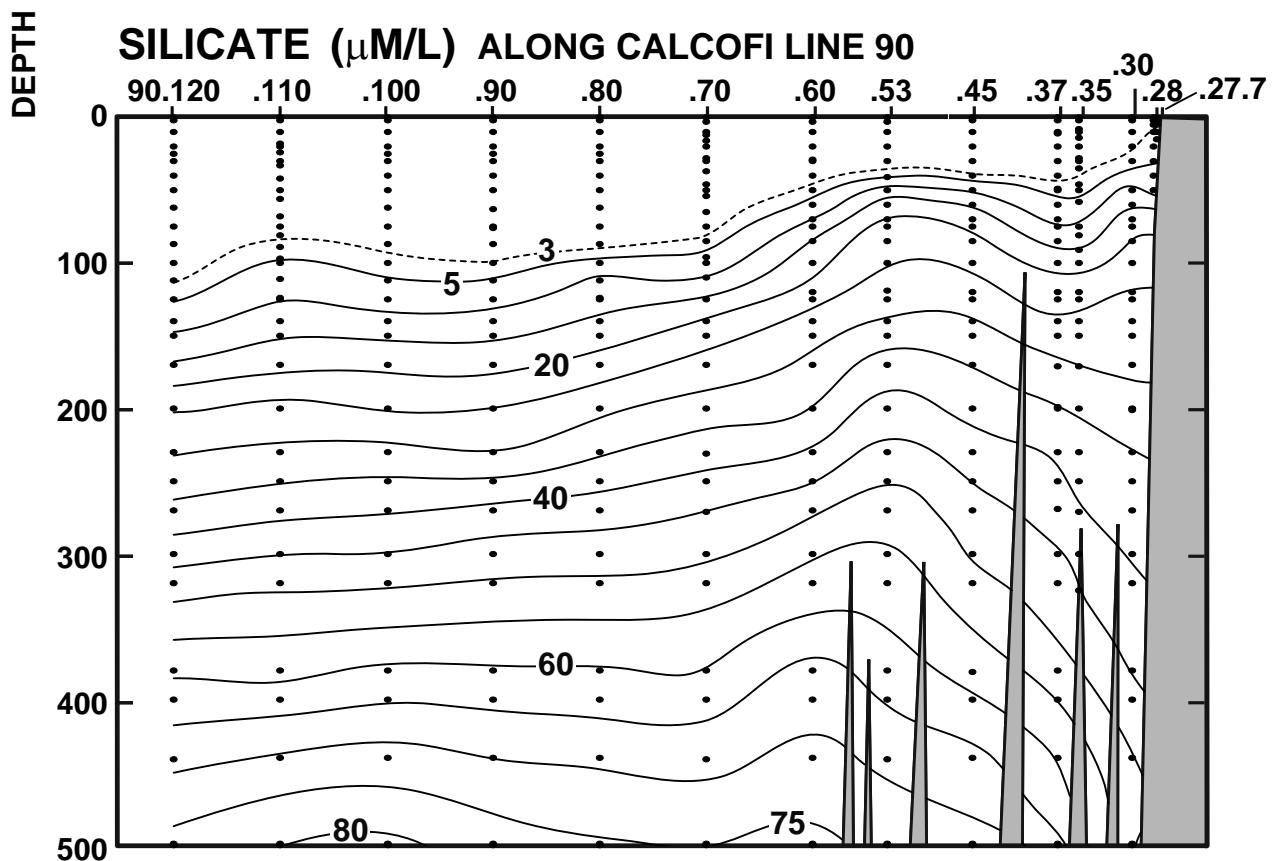
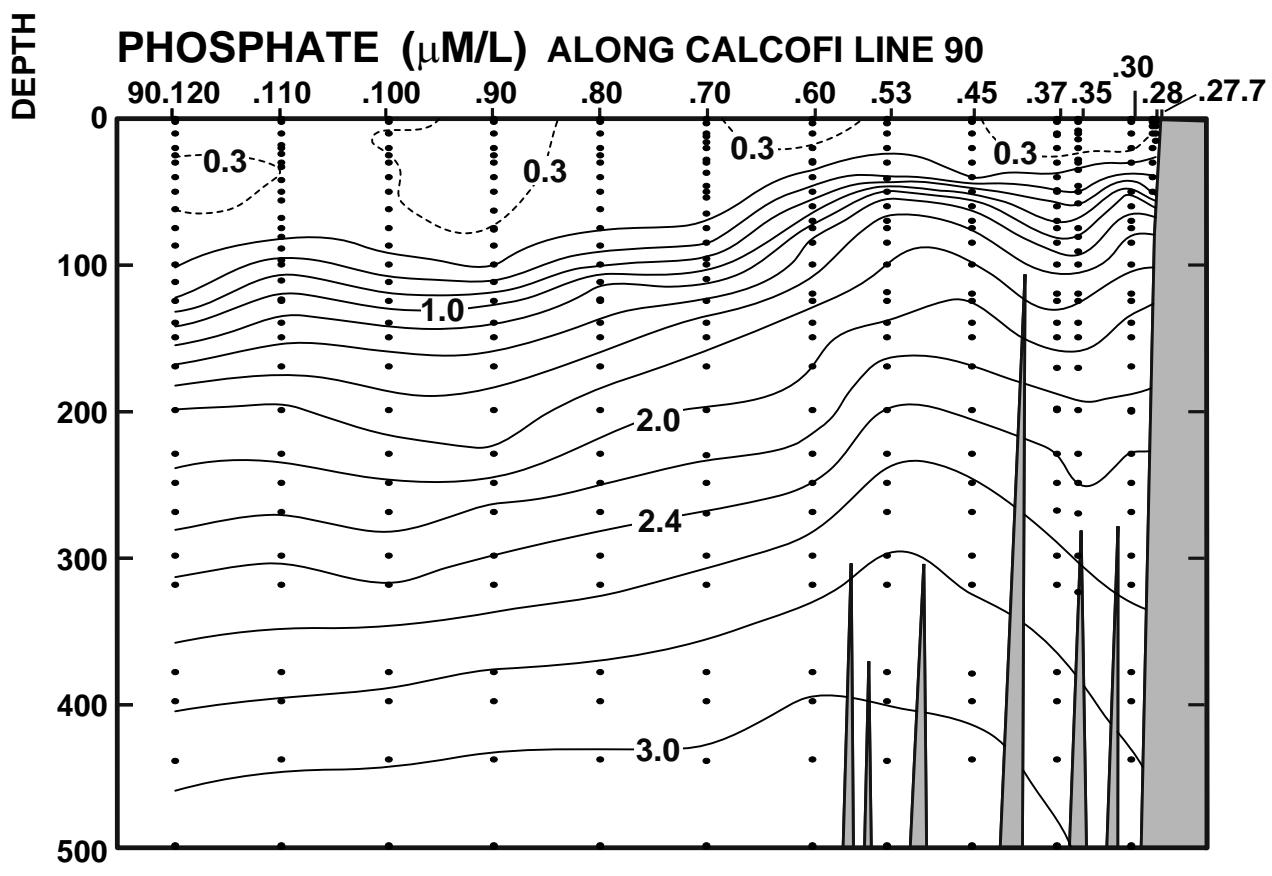
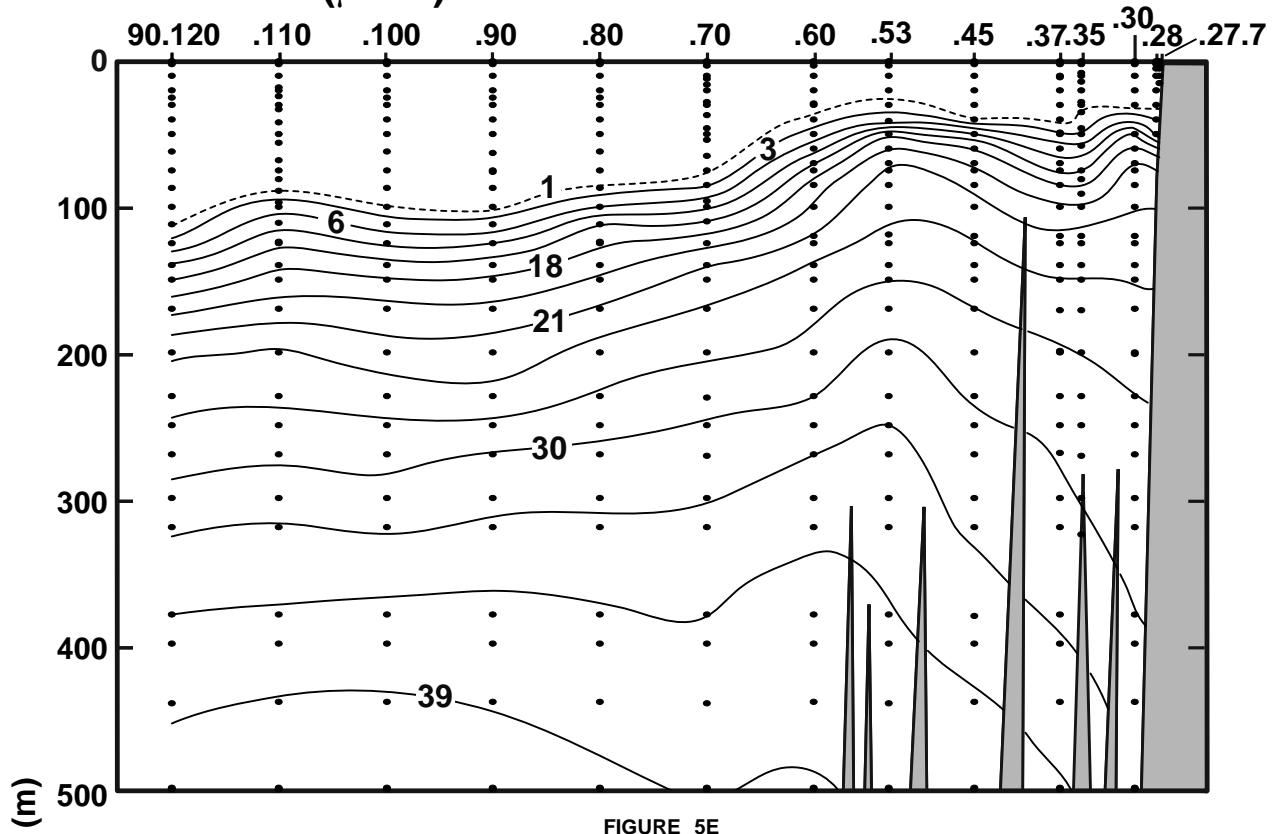


FIGURE 5D

CALCOFI CRUISE 1507

13 - 15 July 2015

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



CALCOFI CRUISE 1507

13 - 15 July 2015

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

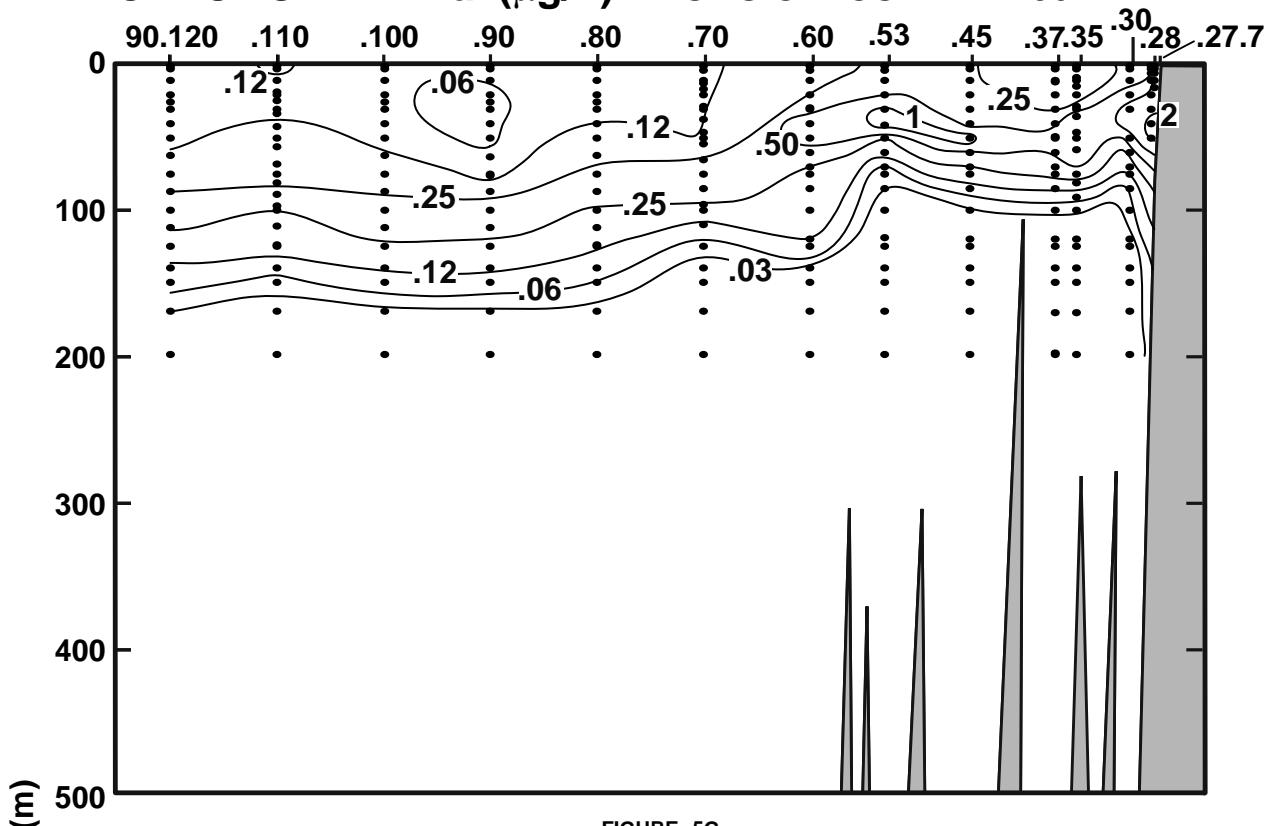


FIGURE 5G

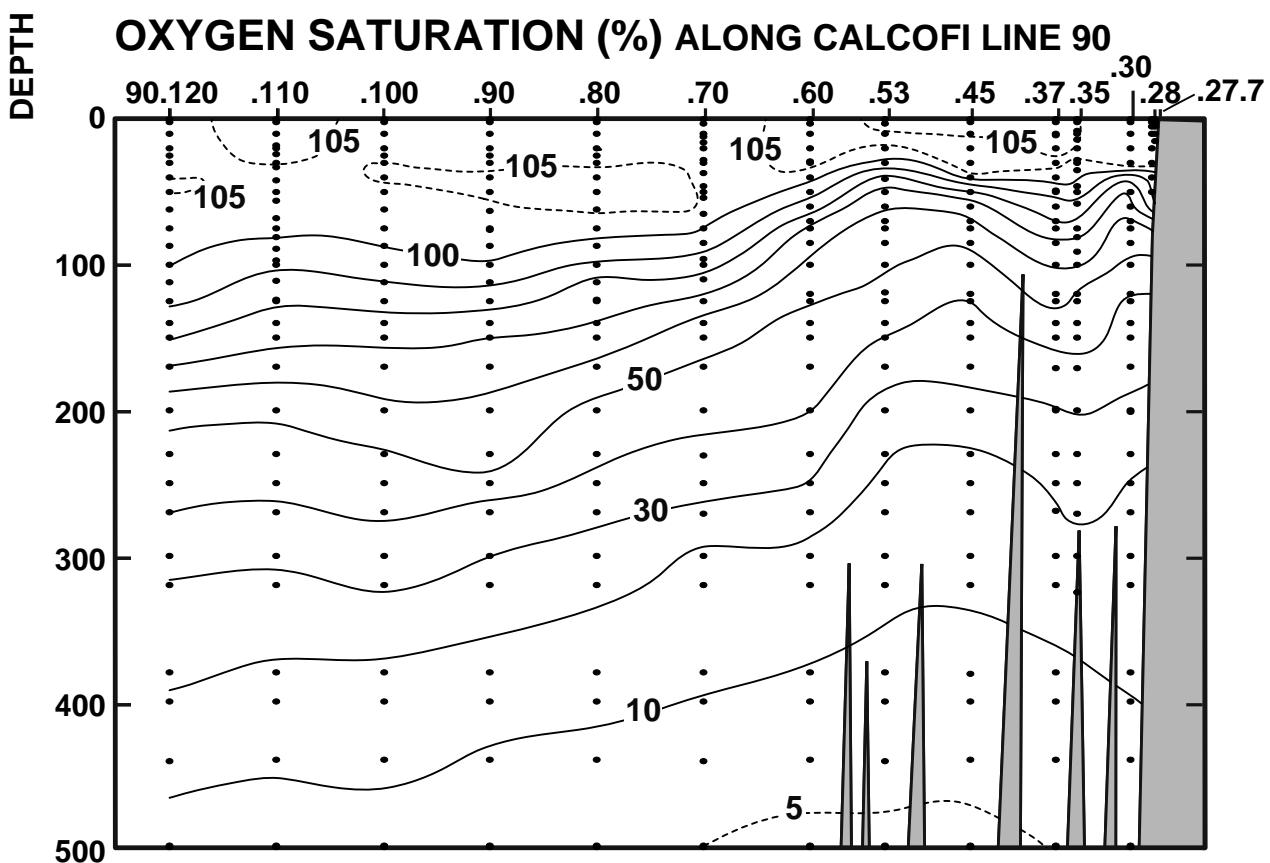
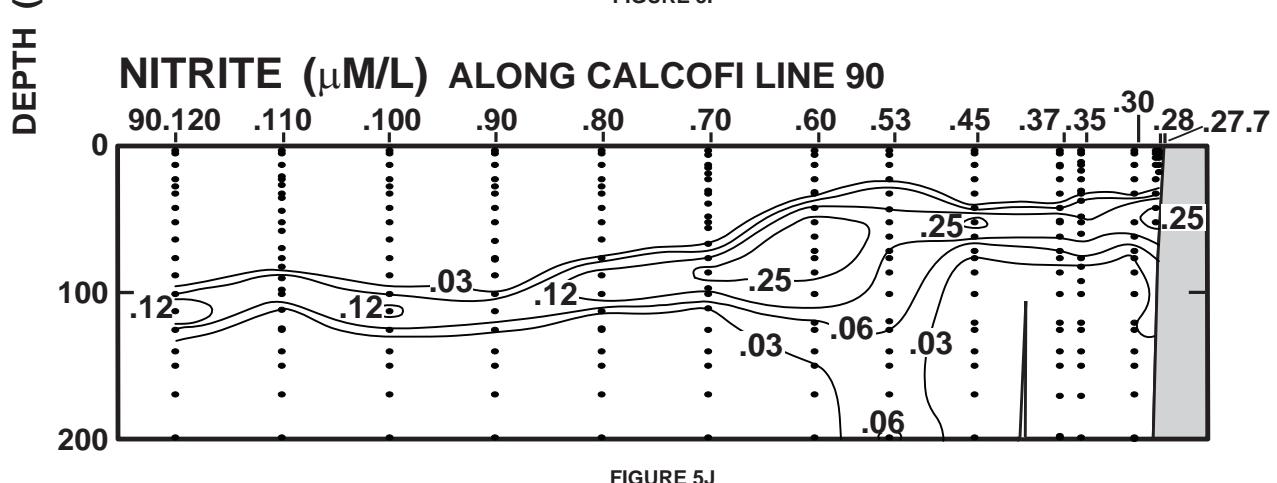
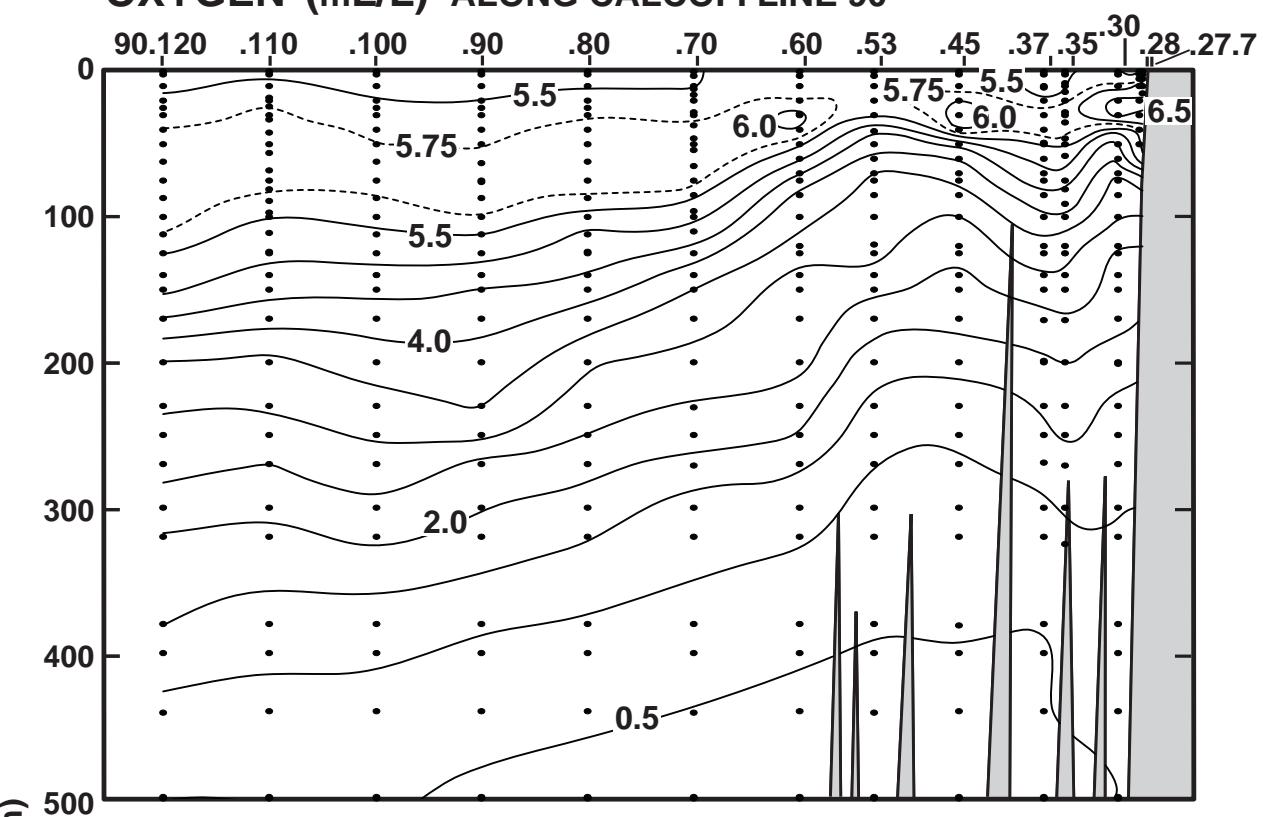


FIGURE 5H

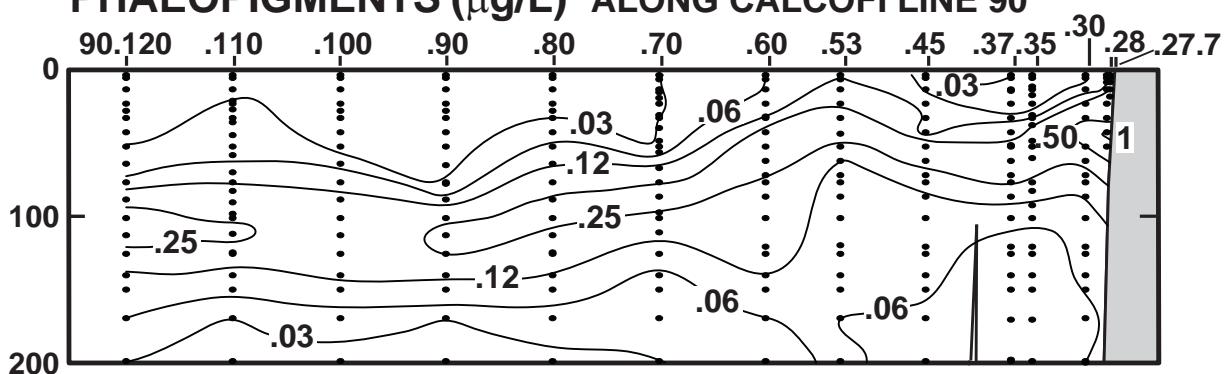
CALCOFI CRUISE 1507

13 - 15 July 2015

OXYGEN (mL/L) ALONG CALCOFI LINE 90



PHAEOPIGMENTS (μg/L) ALONG CALCOFI LINE 90



RV OCEANUS

CALCOFI CRUISE 1507

STATION 76.7 49.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE	ORD	
DEPTH	TEMP	POTTEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXYGEN	OXY	P04*	N03*	N02*	NH4*	CHL-A	PHAEAO	PRES	SAMP
m	DEG C	DEG C		THETA		ml/L	μmol/Kg	PCT	μM	μM	μM	μM	μM	μg/L	μg/L	db	
0	14.94	14.94	33.356	24.718	321.6	0.000	6.20	270.7	107.7	0.6	0.32	1.2	0.14	0.75	3.14	0.73	0
2	14.94	14.94	33.356	24.718	321.7	0.006	6.20	270.7	107.7	0.6	0.32	1.2	0.14	0.75	3.14	0.73	2 09
6	14.70	14.70	33.368	24.779	316.0	0.019	6.20	270.6	107.2	0.6	0.32	1.2	0.14	0.75	3.26	0.78	6 08
10	14.62	14.61	33.416	24.835	310.8	0.032	6.17	269.4	106.6	0.7	0.33	1.4	0.14	0.81	3.42	0.78	10 06
11	14.62	14.61	33.414	24.833	311.0	0.033											10 07
20	ISL 12.90	D 12.90	33.470	D 25.228	273.7	0.061	4.88	D 212.6	D 81.4	6.5	0.86	7.2	0.32	1.28	2.56	0.77	20
21	12.82	12.82	33.473	25.247	271.9	0.064	4.85	211.9	80.8	7.0	0.91	7.8	0.34	1.33	2.48	0.77	21 05
30	12.10	12.10	33.522	25.424	255.2	0.088	4.00	174.7	65.6	14.2	1.34	11.9	0.35	2.01	1.35	1.23	30 04
40	11.82	11.82	33.542	25.493	249.0	0.113	3.76	164.4	61.4	16.3	1.45	13.3	0.36	2.03	1.09	1.46	40 03
50	11.58	11.57	33.544	25.540	244.8	0.137	3.64	158.8	59.0	17.8	1.52	14.2	0.36	1.92	0.89	1.21	50 02
60	11.42	11.41	33.549	25.573	241.9	0.162	3.44	150.2	55.6	20.4	1.63	15.1	0.36	1.90	0.91	1.15	60 01

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

RV OCEANUS

CALCOFI CRUISE 1507

STATION 76.7 51.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE	ORD	
DEPTH	TEMP	POTTEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXYGEN	OXY	P04*	N03*	N02*	NH4*	CHL-A	PHAEAO	PRES	SAMP
m	DEG C	DEG C		THETA		ml/L	μmol/Kg	PCT	μM	μM	μM	μM	μM	μg/L	μg/L	db	
0	18.09	18.09	33.063	23.767	412.2	0.000	5.86	256.1	108.2	0.2	0.28	0.1	0.01	0.15	0.41	0.11	0
3	18.09	18.09	33.063	23.768	412.3	0.012	5.86	256.1	108.2	0.2	0.28	0.1	0.01	0.15	0.41	0.11	3 16
10	16.98	16.97	33.375	24.275	364.2	0.040	6.03	263.5	109.2	0.1	0.28	0.0	0.01	0.07	0.53	0.16	10 14
11	16.79	16.79	33.375	24.318	360.1	0.043											11 15
20	15.97	15.96	33.408	24.533	340.0	0.075	6.24	272.6	110.8	0.0	0.28	0.0	0.02	0.04	0.74	0.34	20 13
30	13.78	13.77	33.413	25.009	294.8	0.106	6.09	266.2	103.5	0.1	0.38	1.1	0.10	0.65	0.95	0.45	30 12
40	12.29	12.29	33.399	25.293	268.0	0.135	4.63	202.2	76.2	7.1	1.04	10.0	0.58	0.45	0.72	0.56	40 11
50	11.44	11.43	33.346	25.411	257.0	0.161	4.49	196.0	72.5	10.3	1.22	13.7	0.13	0.00	0.36	0.31	50 10
60	10.29	10.28	33.301	25.579	241.1	0.186	4.44	194.1	70.0	13.4	1.35	15.8	0.11	0.00	0.19	0.21	60 09
70	10.14	10.14	33.417	25.695	230.4	0.209	3.97	173.6	62.4	16.5	1.52	18.3	0.07	0.00	0.08	0.12	71 08
75	ISL 9.83	D 9.82	33.436	D 25.763	223.9	0.222	4.00	D 174.0	D 62.4	17.3	1.55	18.9	0.07	0.00	0.07	0.12	76
84	9.77	9.76	33.482	25.808	219.8	0.241	3.82	166.8	59.5	18.8	1.61	19.9	0.07	0.00	0.04	0.10	85 07
100	9.88	9.87	33.690	25.953	206.5	0.275	3.19	139.2	49.9	22.7	1.77	22.1	0.04	0.00	0.04	0.10	101 06
120	9.62	9.61	33.858	26.129	190.2	0.314	2.63	114.8	41.0	27.3	1.96	24.4	0.03	0.00	0.03	0.11	121 05
125	ISL 9.69	D 9.67	33.916	D 26.162	187.2	0.326	2.55	D 110.9	D 39.8	28.1	2.00	24.9	0.03	0.00	0.03	0.10	126
140	9.59	9.58	33.974	26.224	181.6	0.352	2.19	95.5	34.1	30.4	2.13	26.3	0.05	0.00	0.02	0.10	141 04
150	ISL 9.51	D 9.49	34.021	D 26.275	177.1	0.372	2.00	D 87.1	D 31.1	31.0	2.14	26.6	0.05	0.00	0.02	0.11	151
171	9.29	9.27	33.996	26.291	175.9	0.407	2.16	94.5	33.5	32.2	2.16	27.1	0.07	0.04	0.02	0.13	172 03
199	9.13	9.11	34.010	26.329	172.8	0.456	2.10	91.5	32.3	34.1	2.21	27.5	0.10	0.21	0.02	0.22	201 02
200	ISL 9.15	D 9.13	34.010	D 26.326	173.2	0.460	2.09	D 91.0	D 32.2	34.2	2.21	27.6	0.10	0.21			202
231	8.75	8.72	34.068	26.436	163.2	0.510	1.91	83.5	29.2	38.1	2.31	29.0	0.06	0.29			233 01

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

RV OCEANUS

CALCOFI CRUISE 1507

STATION 76.7 55.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE	ORD	
DEPTH	TEMP	POTTEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXYGEN	OXY	P04*	N03*	N02*	NH4*	CHL-A	PHAEAO	PRES	SAMP
m	DEG C	DEG C		THETA		ml/L	μmol/Kg	PCT	μM	μM	μM	μM	μM	μg/L	μg/L	db	
0	17.99	17.99	33.122	23.838	405.5	0.000	5.80	253.3	106.9	0.0	0.27	0.1	0.01	0.15	0.30	0.08	0
2	17.99	17.99	33.122	23.838	405.6	0.008	5.80	253.3	106.9	0.0	0.27	0.1	0.01	0.15	0.30	0.08	2 22
10	17.17	17.16	33.359	24.218	369.7	0.039	5.94	259.3	107.8	0.0	0.26	0.0	0.01	0.05	0.35	0.13	10 20
10	17.17	17.16	33.352	24.212	370.2	0.038											10 21
20	16.98	16.98	33.405	24.296	362.6	0.076	5.97	260.8	108.1	0.0	0.26	0.0	0.01	0.04	0.41	0.16	20 18
30	15.69	15.69	33.408	24.596	334.3	0.111	6.09	265.9	107.4	0.2	0.28	0.1	0.03	0.06	0.70	0.29	30 17
40	12.45	12.44	33.402	25.265	270.7	0.141	4.91	214.4	81.1	6.1	0.91	8.4	0.57	0.30	2.84	1.08	40 16
50	11.63	11.62	33.439	25.448	255.3	0.167	4.04	176.6	65.7	12.1	1.29	13.6	0.45	0.37	1.13	0.58	50 15
60	11.50	11.49	33.465	25.493	249.4	0.192	3.80	166.1	61.6	13.2	1.38	15.0	0.37	0.47	0.96	0.50	60 14
71	10.99	10.98	33.524	25.632	236.5	0.219	3.59	157.0	57.6	15.9	1.51	17.5	0.25	0.01	0.69	0.40	72 13
75	ISL 10.95	D 10.94	33.529	D 25.644	235.5	0.230	3.56	D 155.0	D 57.0	16.3	1.53	17.8	0.21	0.00	0.63	0.38	76
85	10.83	10.82	33.554	25.684	231.9	0.252	3.47	151.4	55.3	17.1	1.58	18.1	0.11	0.00	0.47	0.34	86 12
100	10.54	10.53	33.606	25.775	223.6	0.286	3.31	144.3	52.5	18.8	1.64	19.5	0.10	0.00	0.37	0.35	101 11
120	10.05	10.04	33.812	26.021	200.6	0.328	2.81	122.8	44.2	24.3	1.87	22.9	0.04	0.00	0.07	0.14	121 10
125	ISL 9.99	D 9.98	33.850	D 26.060	196.9	0.340	2.69	D 117.0	D 42.2	25.1	1.91	23.3	0.04	0.00	0.07</td		

RV OCEANUS

CALCOFI CRUISE 1507

STATION 76.7 60.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD			
DEPTH	TEMP	POTTEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXYGEN	OXY	SI03*	P04*	N03*	N02*	NH4*	CHL-A	PHAEAO	PRES	SAMP
m	DEG C	DEG C		THETA		ml/L	μmol/Kg	PCT	μM	μM	μM	μM	μM	μM	μg/L	μg/L	db	051
0	16.81	16.81	33.158	24.147	376.0	0.000	6.19	270.7	111.6	0.0	0.25	0.1	0.01	0.18	0.48	0.19	0	
3	16.81	16.80	33.158	24.147	376.1	0.011	6.19	270.7	111.6	0.0	0.25	0.1	0.01	0.18	0.48	0.19	3	
10	16.25	16.24	33.297	24.384	353.8	0.037	6.38	278.7	113.8	0.0	0.25	0.1	0.01	0.12	0.82	0.33	10	
20	15.02	15.02	33.422	24.753	318.9	0.070	7.12	311.2	124.1	0.0	0.26	0.0	0.01	0.08	1.53	0.40	20	
30	13.33	13.33	33.434	25.116	284.7	0.101	6.25	272.9	105.1	1.1	0.43	2.5	0.09	0.56	9.88	1.60	30	
40	12.28	12.28	33.444	25.330	264.5	0.128	4.88	213.4	80.4	7.1	0.93	9.2	0.26	0.96	4.08	1.29	40	
50	11.69	11.68	33.453	25.449	253.4	0.154	4.23	184.7	68.7	11.4	1.24	13.4	0.34	0.54	2.84	0.81	50	
60	10.97	10.96	33.516	25.628	236.5	0.179	3.74	163.5	59.9	15.5	1.51	17.5	0.26	0.03	1.60	0.82	60	
70	10.47	10.46	33.616	25.795	220.9	0.201	3.41	148.9	54.0	18.7	1.62	20.5	0.07	0.02	0.81	0.33	71	
75 ISL	10.34 D	10.33	33.687 D	25.873	213.6	0.213	3.23	0140.5 D	51.0	19.8	1.68	21.2	0.07	0.02	0.71	0.33	76	
86	10.22	10.21	33.742	25.935	207.9	0.236	3.02	131.7	47.6	22.1	1.80	22.7	0.07	0.02	0.50	0.35	87	
100	10.03	10.02	33.877	26.075	195.0	0.264	2.59	113.2	40.8	25.8	1.99	24.8	0.03	0.01	0.39	0.29	101	
120	9.93	9.92	33.932	26.135	189.7	0.302	2.43	106.1	38.1	27.4	2.06	25.5	0.03	0.04	0.50	0.34	121	
125 ISL	9.88 D	9.86	33.956 D	26.163	187.2	0.313	2.34	0102.0 D	36.7	28.0	2.08	25.8	0.03	0.03	0.43	0.30	126	
140	9.77	9.75	34.007	26.221	182.0	0.339	2.20	96.1	34.4	29.8	2.14	26.5	0.02	0.01	0.23	0.17	141	
150 ISL	9.64 D	9.62	34.050 D	26.277	176.9	0.359	2.07	090.2 D	32.3	31.4	2.21	27.4	0.02	0.00	0.18	0.15	151	
169	9.40	9.38	34.094	26.350	170.3	0.391	1.74	76.2	27.1	34.6	2.33	29.0	0.01	0.00	0.07	0.13	170	
200	9.27	9.25	34.147	26.414	164.9	0.443	1.53	66.6	23.6	37.1	2.42	29.8	0.01	0.02	0.27	0.34	202	
230	9.21	9.18	34.184	26.454	161.8	0.492	1.40	61.3	21.7	38.4	2.46	30.1	0.01	0.01		232	06	
250 ISL	9.12 D	9.10	34.193 D	26.476	160.1	0.527	1.35	058.7 D	20.8	40.1	2.51	30.5	0.01	0.01		252		
270	8.95	8.92	34.224	26.528	155.5	0.555	1.19	52.0	18.3	41.7	2.55	31.0	0.01	0.01		272	05	
300 ISL	8.60 D	8.57	34.212 D	26.574	151.6	0.605	1.13	049.0 D	17.2	44.7	2.58	32.1	0.01	0.00		302		
321	8.12	8.09	34.169	26.613	147.9	0.633	1.28	56.1	19.4	46.8	2.60	32.9	0.01	0.00		324	04	
381	7.44	7.40	34.194	26.733	137.1	0.719	0.95	41.3	14.1	55.6	2.78	35.5	0.00	0.01		384	03	
400 ISL	7.33 D	7.29	34.195 D	26.750	135.8	0.749	0.88	038.3 D	13.1	57.2	2.82	35.9	0.01	0.01		403		
441	7.12	7.07	34.223	26.802	131.4	0.799	0.71	31.1	10.5	60.7	2.91	36.6	0.01	0.01		445	02	
500 ISL	6.71 D	6.67	34.241 D	26.873	125.3	0.881	0.52	022.4 D	7.5	68.6	3.03	38.2	0.01	0.00		504		
514	6.62	6.57	34.261	26.901	122.7	0.892	0.45	19.7	6.6	70.5	3.06	38.6	0.01	0.00		518	01	

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

RV OCEANUS

CALCOFI CRUISE 1507

STATION 76.7 70.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD			
DEPTH	TEMP	POTTEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXYGEN	OXY	SI03*	P04*	N03*	N02*	NH4*	CHL-A	PHAEAO	PRES	SAMP
m	DEG C	DEG C		THETA		ml/L	μmol/Kg	PCT	μM	μM	μM	μM	μM	μM	μg/L	μg/L	db	052
0	18.60	18.60	33.087	23.660	422.5	0.000	5.68	248.1	105.9	0.7	0.31	0.0	0.01	0.02	0.38	0.10	0	
2	18.60	18.60	33.087	23.660	422.5	0.009	5.68	248.1	105.9	0.7	0.31	0.0	0.01	0.02	0.38	0.10	2	
10	18.57	18.56	33.092	23.674	421.5	0.042	5.67	247.8	105.7	0.7	0.31	0.0	0.01	0.01	0.35	0.15	10	
20	14.39	14.39	33.160	24.685	325.4	0.080	6.61	288.9	113.5	1.3	0.34	0.1	0.02	0.03	0.79	0.34	20	
30	12.74	12.73	33.116	24.988	296.8	0.111	5.57	243.2	92.3	4.2	0.81	6.7	0.49	0.04	0.75	0.65	30	
41	11.76	11.76	33.187	25.228	274.1	0.142	5.18	226.3	84.2	6.7	1.05	11.0	0.19	0.01	0.56	0.28	41	
50 ISL	11.19 D	11.18	33.248 D	25.380	259.9	0.168	4.81	0209.6 D	77.3	9.5	1.19	13.3	0.05	0.01	0.25	0.17	50	
51	11.25	11.25	33.246	25.368	261.1	0.169	4.82	210.6	77.5	9.8	1.21	13.6	0.04	0.01	0.22	0.16	51	
61	10.40	10.39	33.286	25.549	244.0	0.194	4.52	197.3	71.3	14.0	1.39	16.5	0.04	0.00	0.15	0.11	62	
70	10.09	10.08	33.358	25.657	233.9	0.216	4.22	184.4	66.2	16.0	1.50	18.2	0.04	0.00	0.09	0.08	71	
75 ISL	9.97 D	9.96	33.414 D	25.722	227.8	0.229	3.94	0171.5 D	61.7	17.2	1.55	19.0	0.04	0.00	0.07	0.07	76	
85	9.72	9.71	33.489	25.823	218.5	0.250	3.82	166.7	59.4	19.5	1.64	20.6	0.03	0.00	0.04	0.05	86	
99	9.57	9.56	33.594	25.930	208.6	0.280	3.49	152.7	54.3	21.9	1.74	22.3	0.02	0.01	0.01	0.06	100	
100 ISL	9.56 D	9.55	33.588 D	25.926	209.0	0.284	3.47	0151.2 D	53.9	22.1	1.75	22.4	0.02	0.01	0.01	0.06	101	
120	9.17	9.16	33.746	26.113	191.5	0.322	3.08	134.7	47.5	26.4	1.90	24.9	0.02	0.01	0.01	0.04	121	
125 ISL	9.13 D	9.12	33.751	26.124	190.6	0.334	3.10	0135.0 D	47.7	27.2	1.92	25.2	0.02	0.00	0.01	0.04	126	
139	8.78	8.76	33.844	26.253	178.6	0.357	2.93	127.8	44.7	29.3	1.98	26.2	0.01	0.00	0.04	0.04	140	
150 ISL	8.62 D	8.60	33.885 D	26.310	173.4	0.379	2.96	0128.7 D	45.1	30.4	2.00	26.7	0.01	0.00	0.01	0.04	151	
171	8.41	8.39	33.924	26.373	167.8	0.412	2.85	124.3	43.1	32.7	2.03	27.6	0.01	0.01	0.01	0.04	172	
200	8.26	8.24	33.961	26.426	163.3	0.460	2.72	118.7	41.1	35.2	2.09	28.5	0.02	0.00	0.00	0.03	202	
230	7.84	7.82	33.993	26.513	155.4	0.508	2.51	109.4	37.5	39.9	2.21	30.2	0.01	0.00		232	06	
250 ISL	7.58 D	7.55	34.017 D	26.570	150.2	0.543	2.14	093.0 D	31.8	44.2	2.34	31.8	0.01	0.00		252		
269	7.34	7.32	34.032	26.617	146.0	0.567	1.87	81.6	27.7	48.3	2.46	33.4	0.01	0.00		271	05	
300 ISL	6.99 D	6.96	34.055 D	26.683	140.0	0.616	1.51	065.6 D	22.1	54.2	2.62	35.3	0.01	0.00		302		
321	6.81	6.78	34.081	26.729	135.9	0.640	1.25	54.6	18.3	58.1	2.73	36.6	0.01	0.00		324	04	
381	6.39	6.36	34.157	26.846	125.5	0.718	0.71	31.1	10.3	67								

RV OCEANUS

CALCOFI CRUISE 1507

STATION 76.7 80.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD			
DEPTH m	TEMP DEG C	POTTEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/L	OXYGEN $\mu\text{mol}/\text{Kg}$	OXY PCT	SIO3* μM	P04* μM	N03* μM	N02* μM	NH4* μM	CHL-A $\mu\text{g}/\text{L}$	PHAEAO	PRES db	SAMP
34 3.3 N	122 56.5 W	20/07/2015	1912	UTC	4230 m	020 10 kn	130 05 09	1	1015.0 mb	19.3	18.2 C	25 m	7/8	NS	053			
0	18.84	18.84	33.075	23.592	429.0	0.000	5.53	241.7	103.6	1.2	0.31	0.0	0.01	0.02	0.12	0.02	0	
2 A	18.84	18.84	33.075	23.592	429.0	0.009	5.53	241.7	103.6	1.2	0.31	0.0	0.01	0.02	0.12	0.02	2 24	
8	18.73	18.73	33.077	23.621	426.5	0.034	5.52	241.0	103.1	1.2	0.31	0.0	0.01	0.01	0.12	0.02	8 22	
9	18.73	18.73	33.077	23.621	426.5	0.036											8 23	
10 ISL	18.56 D	18.56	33.074 D	23.663	422.6	0.043	5.53	241.4	103.1	1.2	0.31	0.0	0.01	0.01	0.12	0.03	10	
15 A	18.34	18.34	33.072	23.715	417.8	0.064	5.58	244.0	103.6	1.2	0.31	0.0	0.01	0.01	0.14	0.04	15 21	
20 A	18.04	18.03	33.065	23.785	411.4	0.085	5.65	246.7	104.1	1.2	0.31	0.0	0.01	0.00	0.18	0.05	20 20	
28	16.23	16.22	33.002	24.162	375.6	0.116	5.95	260.1	105.9	1.0	0.31	0.0	0.01	0.01	0.23	0.08	28 19	
30 ISL	15.87 D	15.86	33.008 D	24.248	367.4	0.124	6.13	267.3	108.3	1.1	0.32	0.0	0.01	0.01	0.29	0.11	30	
35 A	15.20	15.19	33.070	24.444	348.9	0.141	6.20	271.0	108.1	1.3	0.34	0.0	0.01	0.01	0.44	0.19	35 18	
46	13.14	13.14	33.089	24.887	306.8	0.177	5.88	257.0	98.4	2.8	0.54	1.7	0.27	0.08	0.85	0.73	46 16	
47	13.14	13.14	33.088	24.887	306.9	0.179											46 17	
50 ISL	12.91 D	12.90	33.048 D	24.902	305.5	0.191	5.74	250.2	95.5	3.7	0.64	3.6	0.24	0.05	0.67	0.60	50	
57	12.64	12.64	33.070	24.971	299.1	0.211	5.44	237.9	90.1	5.2	0.82	7.0	0.19	0.01	0.36	0.36	57 15	
68 A	11.20	11.19	33.109	25.271	270.7	0.242	5.21	227.5	83.5	7.0	0.99	9.8	0.06	0.01	0.26	0.25	69 14	
75 ISL	10.85 D	10.84	33.151 D	25.366	261.8	0.263	5.04	219.3	80.2	9.1	1.13	12.1	0.04	0.00	0.18	0.17	76	
81 A	10.93	10.92	33.215	25.402	258.5	0.276	4.81	210.1	76.8	10.9	1.25	14.1	0.03	0.00	0.10	0.11	82 13	
91	10.46	10.45	33.394	25.624	237.6	0.301	4.19	182.9	66.2	13.4	1.42	16.8	0.04	0.00	0.05	0.07	92 12	
100 ISL	10.23 D	10.22	33.452 D	25.708	229.8	0.324	3.89	169.4	61.3	16.4	1.56	18.9	0.04	0.00	0.03	0.07	101	
101	10.18	10.17	33.455	25.719	228.8	0.324	3.88	169.4	61.0	16.8	1.57	19.1	0.05	0.00	0.03	0.07	102 11	
120	9.33	9.31	33.552	25.914	210.5	0.366	3.75	163.7	57.9	20.7	1.69	21.3	0.02	0.00	0.01	0.04	121 10	
125 ISL	9.09 D	9.07	33.583 D	26.000	202.4	0.379	3.80	165.2	58.3	21.8	1.72	21.9	0.02	0.00	0.01	0.04	126	
140	8.97	8.95	33.689	26.102	193.0	0.406	3.48	152.1	53.4	25.2	1.81	23.6	0.02	0.00	0.00	0.03	141 09	
150 ISL	8.87 D	8.86	33.760 D	26.172	186.5	0.428	3.39	147.4	51.9	26.7	1.87	24.6	0.01	0.00	0.00	0.03	151	
170	8.71	8.69	33.861	26.278	176.8	0.462	2.94	128.6	44.9	29.9	2.00	26.5	0.01	0.00	0.00	0.03	171 08	
200	8.41	8.39	33.951	26.395	166.3	0.513	2.61	113.9	39.6	33.9	2.11	28.3	0.01	0.00	0.00	0.03	202 07	
231	7.89	7.87	33.982	26.497	156.9	0.563	2.69	117.5	40.3	38.2	2.13	29.2	0.01	0.00			233 06	
250 ISL	7.61 D	7.59	33.987 D	26.542	152.8	0.596	2.66	115.6	39.6	41.8	2.24	30.5	0.01	0.00			252	
270	7.41	7.39	34.011	26.590	148.6	0.623	2.23	97.4	33.1	45.6	2.35	31.9	0.01	0.00			272 05	
300 ISL	7.14 D	7.11	34.045 D	26.655	142.8	0.671	1.69	73.7	25.0	51.0	2.52	34.0	0.01	0.00			302	
320	6.89	6.86	34.058	26.699	138.7	0.695	1.50	65.3	21.9	54.5	2.63	35.4	0.01	0.00			323 04	
380	6.36	6.33	34.106	26.809	128.9	0.775	0.96	41.8	13.9	65.4	2.90	38.4	0.01	0.01			383 03	
400 ISL	6.24 D	6.20	34.127 D	26.842	126.0	0.806	0.81	35.2	11.7	68.2	2.95	38.9	0.01	0.00			403	
440	5.97	5.93	34.156	26.899	120.9	0.850	0.65	28.4	9.3	73.7	3.06	40.0	0.01	0.00			444 02	
500 ISL	5.63 D	5.59	34.206 D	26.981	113.7	0.927	0.43	18.7	6.1	82.0	3.15	41.2	0.01	0.00			504	
515	5.52	5.48	34.220	27.006	111.4	0.937	0.39	17.1	5.6	84.1	3.17	41.5	0.01	0.00			519 01	

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

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

RV OCEANUS

CALCOFI CRUISE 1507

STATION 76.7 90.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD			
DEPTH m	TEMP DEG C	POTTEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/L	OXYGEN $\mu\text{mol}/\text{Kg}$	OXY PCT	SIO3* μM	P04* μM	N03* μM	N02* μM	NH4* μM	CHL-A $\mu\text{g}/\text{L}$	PHAEAO	PRES db	SAMP
33 43.4 N	123 38.0 W	21/07/2015	0031	UTC	4233 m	020 18 kn	360 04 05	2	1014.0 mb	18.8	18.3 C	20 m	8/8	NS	054			
0	19.35	19.35	33.038	23.434	444.1	0.000	5.44	237.7	102.8	1.1	0.31	0.0	0.00	0.04	0.18	0.07	0	
4	19.35	19.35	33.038	23.434	444.2	0.018	5.44	237.7	102.8	1.1	0.31	0.0	0.00	0.04	0.18	0.07	4 20	
10	19.34	19.34	33.041	23.441	443.8	0.044	5.43	237.4	102.6	1.1	0.30	0.0	0.00	0.03	0.17	0.03	10 19	
20 ISL	17.10 D	17.09	33.067 D	24.011	389.7	0.087	5.84	254.7	105.7	1.0	0.31	0.0	0.00	0.04	0.18	0.05	20	
26	16.59	16.59	33.030	24.100	381.4	0.109	5.96	260.5	106.9	0.9	0.32	0.0	0.00	0.04	0.19	0.07	26 18	
30 ISL	16.19 D	16.18	33.021 D	24.186	373.4	0.125	6.01	262.2	106.9	1.0	0.33	0.0	0.00	0.06	0.24	0.10	30	
40	15.14	15.13	33.051	24.443	349.1	0.161	6.12	267.7	106.7	1.1	0.35	0.0	0.00	0.10	0.38	0.16	40 17	
50	13.19	13.18	33.023	24.828	312.7	0.194	5.99	262.0	100.3	2.5	0.54	1.7	0.23	0.29	0.61	0.38	50 16	
62	12.27	12.26	33.046	25.025	294.1	0.230	5.52	241.1	90.5	4.6	0.83	6.9	0.29	0.01	0.45	0.36	63 15	
75	11.19	11.18	33.093	25.260	271.9	0.267	5.23	228.6	83.9	8.1	1.10	11.6	0.02	0.01	0.20	0.17	76 14	
87	10.35	10.34	33.106	25.418	257.0	0.299	5.06	220.2	79.6	10.8	1.20	13.3	0.02	0.00	0.11	0.11	88 13	
100	10.05	10.03	33.180	25.528	246.9	0.331	4.91	214.7	76.9	12.1	1.23	14.1	0.02	0.00	0.10	0.12	101 12	
112	9.46	9.44	33.286	25.708	229.9	0.360	4.66	203.6	72.0	16.4	1.44	17.4	0.01	0.00	0.03	0.05	113 11	
124	9.22	9.20	33.394	25.831	218.4	0.387	4.36	190.7	67.2	19.5	1.57	19.7	0.01	0.00	0.01	0.05	125 10	
125 ISL	9.17 D	9.16	33.410 D	26.485	158.1	0.584	2.52	110.0	37.9	38.5	2.19	29.5	0.01	0.00			232 06	
170	8.88	8.86	33.793	26.198	184.5	0.479	3.05	133.4	46.8	28.8	1.94	25.4	0.01	0.00	0.01	0.04	171 08	
200	8.43	8.41	33.925															

RV OCEANUS

CALCOFI CRUISE 1507

STATION 80.0 51.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE	ORD	
DEPTH	TEMP	POTTEMP	SALINITY	SIGMA	HT	DYN	OXYGEN	OXYGEN	OXY	SI03*	P04*	N03*	N02*	NH4*	CHL-A	PHAEAO	PRES	SAMP
m	DEG C	DEG C	THETA	SVA			ml/L	μmol/Kg	PCT	μM	μM	μM	μM	μM	μg/L	μg/L	db	
0	17.24	17.24	33.400	24.232	368.0	0.000	6.35	277.7	115.6	0.5	0.20	0.0	0.01	0.00	1.25	0.74	0	
2 A	17.24	17.24	33.400	24.232	368.0	0.007	6.35	277.7	115.6	0.5	0.20	0.0	0.01	0.00	1.25	0.74	2 13	
6 A	17.15	17.15	33.395	24.248	366.6	0.022	6.38	278.7	115.9	0.6	0.20	0.0	0.01	0.00	1.58	0.32	6 12	
8 A	17.15	17.15	33.395	24.250	366.5	0.029	6.38	278.6	115.8	0.5	0.21	0.0	0.01	0.00	1.37	0.33	8 10	
9	17.15	17.15	33.402	24.255	366.1	0.031											8 11	
10 ISL	17.12 D	17.12	33.394 D	24.256	366.0	0.037	6.35	277.1	115.4	0.8	0.24	0.0	0.01	0.00	1.63	0.38	10	
14 A	15.90	15.90	33.383	24.528	340.3	0.051	6.39	279.2	113.2	1.4	0.30	0.1	0.02	0.04	2.15	0.47	14 09	
20	14.14	14.14	33.380	24.908	304.2	0.070	6.04	263.7	103.2	2.7	0.43	1.2	0.09	0.28	3.86	0.87	20 08	
27 A	14.15	14.14	33.382	24.909	304.3	0.091	6.05	264.2	103.4	2.6	0.45	1.1	0.09	0.27	3.65	0.82	27 06	
27	14.15	14.14	33.380	24.907	304.5	0.091											27 07	
30 ISL	13.86 D	13.86	33.384 D	24.969	298.6	0.101	5.90	256.9	100.3	4.3	0.59	3.2	0.18	0.43	3.34	0.87	30	
32 A	13.38	13.37	33.391	25.074	288.7	0.106	5.36	234.3	90.3	5.4	0.69	4.5	0.24	0.53	3.14	0.90	32 05	
41	11.34	11.33	33.456	25.514	246.9	0.130	3.93	171.5	63.3	13.9	1.37	15.0	0.31	0.07	0.75	0.54	41 04	
50	11.29	11.28	33.463	25.529	245.7	0.153	3.90	170.4	62.9	14.1	1.36	15.2	0.25	0.09	0.78	0.54	50 03	
60	10.97	10.96	33.500	25.616	237.7	0.177	3.70	161.6	59.2	15.5	1.46	17.0	0.13	0.00	0.56	0.51	60 02	
70	10.96	10.95	33.506	25.624	237.2	0.201	3.66	159.7	58.5	15.9	1.48	17.3	0.12	0.02	0.52	0.52	71 01	

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

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

RV OCEANUS

CALCOFI CRUISE 1507

STATION 80.0 55.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE	ORD	
DEPTH	TEMP	POTTEMP	SALINITY	SIGMA	HT	DYN	OXYGEN	OXYGEN	OXY	SI03*	P04*	N03*	N02*	NH4*	CHL-A	PHAEAO	PRES	SAMP
m	DEG C	DEG C	THETA	SVA			ml/L	μmol/Kg	PCT	μM	μM	μM	μM	μM	μg/L	μg/L	db	
0	19.04	19.04	33.407	23.795	409.6	0.000	5.90	257.8	111.1	2.1	0.27	0.0	0.03	0.00	0.58	0.20	0	
2	19.04	19.04	33.407	23.795	409.7	0.008	5.90	257.8	111.1	2.1	0.27	0.0	0.03	0.00	0.58	0.20	2 23	
10	18.94	18.94	33.405	23.819	407.7	0.041	5.90	257.8	110.9	2.2	0.27	0.0	0.02	0.00	0.57	0.18	10 21	
10	18.94	18.94	33.410	23.823	407.4	0.042											10 22	
15	15.88	15.88	33.366	24.520	341.0	0.060	6.35	277.3	112.4	3.6	0.37	0.0	0.02	0.00	1.24	0.48	15 20	
20	14.78	14.77	33.357	24.756	318.7	0.076	6.24	272.8	108.2	4.4	0.46	0.4	0.04	0.00	2.83	0.85	20 18	
20	14.78	14.77	33.355	24.754	318.8	0.078											20 19	
30	12.36	12.35	33.426	25.301	267.0	0.106	4.93	215.3	81.2	9.8	0.99	9.1	0.16	0.02	1.66	0.66	30 17	
40	11.00	11.00	33.502	25.611	237.7	0.131	3.90	170.2	62.4	15.3	1.40	15.9	0.14	0.00	0.55	0.36	40 16	
50	10.53	10.52	33.624	25.790	220.9	0.154	3.44	150.4	54.6	18.9	1.60	18.8	0.08	0.00	0.22	0.23	50 15	
60	10.38	10.37	33.696	25.872	213.3	0.175	3.19	139.4	50.5	21.0	1.70	20.0	0.06	0.00	0.14	0.16	60 14	
70	10.31	10.30	33.730	25.910	209.9	0.197	3.09	135.1	48.9	21.8	1.74	20.6	0.05	0.00	0.12	0.13	71 13	
75 ISL	10.25 D	10.24	33.764 D	25.947	206.5	0.209	3.02	131.5	47.7	23.4	1.82	21.5	0.05	0.00	0.09	0.12	76	
86	10.03	10.02	33.930	26.116	190.8	0.229	2.46	107.3	38.6	27.0	2.01	23.5	0.04	0.00	0.03	0.08	87 12	
100	9.94	9.93	34.006	26.190	184.0	0.255	2.19	95.4	34.3	29.1	2.11	24.5	0.04	0.00	0.01	0.11	101 11	
120	9.75	9.74	34.057	26.262	177.6	0.291	2.01	88.0	31.5	31.5	2.19	25.6	0.04	0.00	0.01	0.06	121 10	
125 ISL	9.74 D	9.73	34.073 D	26.276	176.4	0.302	1.90	82.6	29.7	32.1	2.22	25.8	0.04	0.00	0.01	0.06	126	
140	9.70	9.69	34.137	26.333	171.3	0.326	1.71	74.5	26.7	33.8	2.31	26.5	0.03	0.00	0.01	0.06	141 09	
150 ISL	9.65 D	9.63	34.137 D	26.343	170.6	0.345	1.68	73.2	26.3	34.4	2.33	26.8	0.03	0.00	0.01	0.06	151	
170	9.52	9.50	34.168	26.389	166.7	0.377	1.58	69.0	24.6	35.5	2.36	27.2	0.03	0.00	0.01	0.06	171 08	
200 ISL	9.39 D	9.37	34.203 D	26.438	162.7	0.429	1.40	61.0	21.8	37.3	2.42	27.8	0.03	0.00			202	
230	9.31	9.28	34.229	26.473	160.0	0.475	1.30	56.8	20.2	39.0	2.47	28.4	0.03	0.00			232 06	
250 ISL	9.22 D	9.19	34.239 D	26.497	158.2	0.510	1.24	53.9	19.2	40.0	2.51	28.7	0.03	0.00			252	
270	9.12	9.09	34.243	26.517	156.7	0.538	1.20	52.2	18.4	41.0	2.54	29.1	0.02	0.00			272 05	
300 ISL	8.96 D	8.93	34.245 D	26.544	154.6	0.589	1.13	49.2	17.4	43.1	2.59	29.8	0.02	0.00			302	
320	8.72	8.68	34.250	26.586	151.0	0.615	1.07	46.6	16.3	44.5	2.62	30.3	0.03	0.00			323 04	
380	8.31	8.27	34.261	26.659	145.0	0.704	0.88	38.3	13.3	49.3	2.72	31.8	0.03	0.00			383 03	
400 ISL	8.19 D	8.15	34.258 D	26.675	143.7	0.739	0.83	36.3	12.6	51.0	2.75	32.3	0.04	0.00			403	
440	7.80	7.75	34.240	26.720	139.8	0.790	0.78	34.1	11.7	54.4	2.80	33.5	0.07	0.00			444 02	
500 ISL	7.16 D	7.11	34.266 D	26.832	129.7	0.877	0.54	23.3	7.9	61.7	2.93	35.2	0.04	0.00			504	
516	6.85	6.80	34.266	26.874	125.6	0.891	0.53	23.3	7.8	63.6	2.97	35.7	0.03	0.00			520 01	

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

RV OCEANUS

CALCOFI CRUISE 1507

STATION 80.0 70.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE	ORD	
DEPTH	TEMP	POTTEMP	SALINITY	SIGMA	SVA	DYN	HT	OXYGEN	OXYGEN	OXY	N03*	N04*	N02*	NH4*	CHL-A	PHAEAO	PRES	SAMP
m	DEG C	DEG C		THETA		ml/L	μmol/Kg	PCT	μM	μM	μM	μM	μM	μM	μg/L	μg/L	db	
0	19.74	19.74	33.084	23.369	450.3	0.000	5.46	238.8	104.1	1.5	0.31	0.0	0.01	0.00	0.14	0.03	0	
3	19.74	19.74	33.084	23.369	450.4	0.014	5.46	238.8	104.1	1.5	0.31	0.0	0.01	0.00	0.14	0.03	3 23	
9	19.58	19.58	33.070	23.401	447.5	0.040	5.51	240.9	104.7	1.5	0.30	0.0	0.00	0.01	0.15	0.03	9 22	
10 ISL	18.39	D 18.39	33.077	D 23.706	418.4	0.045	5.60	D 244.3	D 104.0	1.5	0.30	0.0	0.00	0.00	0.15	0.04	10	
20	17.34	17.33	33.055	23.945	396.0	0.085	5.88	257.2	107.0	1.5	0.31	0.0	0.00	0.00	0.22	0.07	20 20	
30	15.11	15.10	33.025	24.428	350.2	0.123	6.23	272.2	108.4	1.5	0.35	0.0	0.01	0.00	0.46	0.22	30 19	
40	13.53	13.53	33.006	24.745	320.3	0.156	5.87	256.8	99.0	3.1	0.56	1.9	0.27	0.52	0.60	0.49	40 17	
50	12.62	12.62	33.017	24.934	302.5	0.187	5.66	247.3	93.6	4.4	0.75	5.5	0.53	0.16	0.47	0.37	50 16	
60	11.77	11.76	33.077	25.143	282.7	0.217	5.27	230.5	85.7	7.2	0.99	9.8	0.05	0.01	0.23	0.27	60 15	
70	11.08	11.07	33.171	25.341	264.1	0.244	4.99	218.2	79.9	9.9	1.17	12.5	0.03	0.00	0.11	0.11	71 14	
75 ISL	10.78	D 10.77	33.204	D 25.419	256.8	0.259	4.91	D 213.7	D 78.1	11.6	1.25	13.9	0.03	0.00	0.08	0.09	76	
85	10.02	10.01	33.303	25.629	236.9	0.282	4.49	196.1	70.3	15.1	1.42	16.8	0.02	0.00	0.03	0.06	86 13	
100	9.49	9.48	33.405	25.794	221.4	0.316	4.21	183.8	65.1	18.9	1.56	19.2	0.02	0.00	0.03	0.06	101 12	
120	9.57	9.56	33.652	25.976	204.7	0.359	3.27	142.9	50.8	23.6	1.81	22.7	0.01	0.00	0.01	0.05	121 11	
125 ISL	9.41	D 9.39	33.680	D 26.024	200.2	0.371	3.26	D 142.0	D 50.5	24.2	1.84	23.0	0.01	0.00	0.01	0.05	126	
140	9.46	9.44	33.767	26.084	194.9	0.398	2.92	127.7	45.3	26.3	24.0	0.01	0.00	0.01	0.06	141 10		
150 ISL	9.29	D 9.27	33.840	D 26.169	187.0	0.420	2.80	D 122.0	D 43.3	27.5	1.91	24.5	0.01	0.00	0.05	0.15	151	
171	8.63	8.61	33.882	26.306	174.2	0.456	3.19	139.3	48.6	29.9	1.92	25.4	0.02	0.00	0.03	0.03	172 09	
200	8.19	8.17	33.981	26.451	160.8	0.504	2.54	111.1	38.4	36.7	2.15	28.6	0.01	0.00	0.00	0.02	202 08	
230	7.87	7.84	34.017	26.528	153.9	0.552	2.21	96.7	33.2	41.7	2.29	30.5	0.01	0.00			232 07	
250 ISL	7.85	D 7.83	34.076	D 26.577	149.7	0.585	1.78	D 77.3	D 26.6	45.6	2.42	31.8	0.01	0.00			252	
270	7.43	7.40	34.075	26.638	144.1	0.612	1.62	70.8	24.1	49.5	2.54	33.1	0.01	0.00			272 06	
300 ISL	6.98	D 6.95	34.086	D 26.710	137.5	0.658	1.31	D 56.9	D 19.2	54.8	2.68	34.7	0.01	0.00			302	
320	7.05	7.02	34.130	26.735	135.5	0.681	1.05	45.8	15.4	58.4	2.78	35.7	0.01	0.00			323 05	
380	6.47	6.44	34.160	26.838	126.3	0.759	0.77	33.4	11.1	66.6	2.94	37.8	0.01	0.00			383 04	
400 ISL	6.28	D 6.25	34.157	D 26.860	124.4	0.790	0.69	D 29.9	D 9.9	69.5	2.99	38.4	0.01	0.00			403	
440	6.02	5.98	34.186	26.917	119.3	0.833	0.54	23.4	7.7	75.4	3.08	39.5	0.01	0.00			444 03	
500 ISL	5.82	D 5.78	34.253	D 26.996	112.5	0.909	0.35	D 15.1	D 5.0	81.1	3.18	40.0	0.01	0.00			504	
514	5.83	5.79	34.275	27.012	111.2	0.918											518 02	
515	5.83	5.78	34.275	27.013	111.2	0.919	0.30	13.3	4.4	82.6	3.20	40.2	0.01	0.00			519 01	

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

RV OCEANUS

CALCOFI CRUISE 1507

STATION 80.0 80.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE	ORD	
DEPTH	TEMP	POTTEMP	SALINITY	SIGMA	SVA	DYN	HT	OXYGEN	OXYGEN	OXY	N03*	N04*	N02*	NH4*	CHL-A	PHAEAO	PRES	SAMP
m	DEG C	DEG C		THETA		ml/L	μmol/Kg	PCT	μM	μM	μM	μM	μM	μM	μg/L	μg/L	db	
0	19.66	19.66	32.992	23.320	455.0	0.000	5.41	236.7	102.9	1.6	0.30	0.0	0.01	0.01	0.12	0.03	0	
3 A	19.66	19.66	32.992	23.320	455.0	0.014	5.41	236.7	102.9	1.6	0.30	0.0	0.01	0.01	0.12	0.03	3 24	
10 A	19.41	19.41	32.990	23.383	449.3	0.045	5.44	237.7	102.9	1.6	0.30	0.0	0.01	0.00	0.14	0.03	10 23	
13 A	18.58	18.57	32.969	23.578	430.9	0.059	5.58	243.8	103.9	1.8	0.30	0.0	0.01	0.00	0.15	0.04	13 22	
17 A	17.61	17.61	32.979	23.821	407.8	0.075	5.78	252.8	105.7	2.0	0.30	0.0	0.01	0.00	0.14	0.04	17 21	
20 ISL	17.21	D 17.20	32.988	D 23.925	397.9	0.088	5.79	D 252.3	D 104.9	1.9	0.29	0.0	0.01	0.00	0.14	0.04	20	
30 ISL	17.08	D 17.08	33.209	D 24.123	379.4	0.127	5.75	D 250.6	D 104.1	1.8	0.27	0.0	0.01	0.00	0.14	0.04	30	
31 A	16.99	16.99	33.210	24.146	377.2	0.130	5.78	252.5	104.5	1.8	0.27	0.0	0.01	0.00	0.14	0.04	31 20	
40	16.37	16.36	33.158	24.251	367.6	0.163	5.79	253.2	105.5	1.9	0.28	0.0	0.01	0.00	0.20	0.06	40 19	
49	15.29	15.28	32.952	24.334	359.8	0.196	5.98	261.3	104.4	1.9	0.31	0.0	0.01	0.00	0.28	0.13	49 18	
50 ISL	15.22	D 15.21	32.926	D 24.330	360.3	0.202	5.96	D 260.0	D 104.0	2.0	0.32	0.0	0.01	0.00	0.30	0.15	50	
59 A	14.16	14.15	32.826	24.478	346.3	0.232	5.99	261.9	102.1	2.2	0.36	0.0	0.02	0.01	0.46	0.31	59 17	
65	13.93	13.92	32.803	24.508	343.6	0.252	5.92	259.0	100.5	2.4	0.40	0.2	0.12	0.06	0.60	0.50	66 16	
71 A	13.51	13.50	32.876	24.650	330.2	0.272	5.77	252.0	97.0	2.9	0.47	1.1	0.17	0.02	0.46	0.37	72 15	
75 ISL	13.22	D 13.21	32.849	D 24.688	326.7	0.288	5.68	D 247.6	D 95.0	3.3	0.54	2.3	0.14	0.05	0.40	0.34	76	
78	13.02	13.01	32.840	24.720	323.7	0.295	5.64	246.7	94.0	3.6	0.59	3.2	0.11	0.08	0.36	0.31	79 14	
85	12.26	12.25	32.894	24.909	305.8	0.317	5.46	238.8	89.6	5.3	0.77	6.3	0.05	0.03	0.25	0.22	86 13	
95	11.35	11.33	33.012	25.171	281.0	0.347	5.31	232.2	85.5	7.6	0.96	9.5	0.06	0.00	0.16	0.16	96 12	
100 ISL	11.03	D 11.01	33.066	D 25.270	271.6	0.364	5.27	D 229.4	D 84.2	8.7	1.03	10.5	0.05	0.00	0.14	0.15	101	
110	10.39	10.38	33.126	25.428	256.7	0.387	4.99	217.9	78.6	10.9	1.16	12.6	0.04	0.00	0.09	0.13	111 11	
125	10.11	10.10	33.256	25.577	242.8	0.424	4.71	205.8	73.9	14.4	1.36	15.8	0.02	0.00	0.04	0.06	126 10	
140	9.51	9.49	33.427	25.810	220.8	0.459	4.08	178.2	63.2	18.5	1.56	19.1	0.02	0.04	0.02	0.05	141 09	
150 ISL	9.32	D 9.30	33.541	D 25.930	209.6	0.484	3.85	D 167.6	D 59.5	21.0	1.66	20.8	0.02	0.03	0.02	0.04	151	
170	9.00	8.98	33															

RV OCEANUS

CALCOFI CRUISE 1507

STATION 80.0 90.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE	ORD		
DEPTH	TEMP	POTTEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXYGEN	OXY	S103*	P04*	N03*	N02*	NH4*	CHL-A	PHAEAO	PRES	SAMP
m	DEG C	DEG C	THETA				ml/L	μmol/Kg	PCT	μM	μM	μM	μM	μM	μg/L	μg/L	db	
33	9.0 N	123 13.3 W	21/07/2015	1336	UTC	4236 m	030	18 kn	330 04 06	2	1013.0 mb	18.9	C	18.3	C	8/8	SC	056
0	19.34	19.34	32.995	23.404	447.0	0.000	5.45	238.4	103.0	1.8	0.30	0.0	0.01	0.01	0.20	0.03	0	
2	19.34	19.34	32.995	23.404	447.0	0.009	5.45	238.4	103.0	1.8	0.30	0.0	0.01	0.01	0.20	0.03	2 20	
10	19.18	19.18	33.000	23.449	443.0	0.045	5.46	238.5	102.8	1.8	0.30	0.0	0.01	0.01	0.20	0.01	10 19	
20	ISL	17.85 D	17.84	33.160	D 23.903	400.1	0.087	5.69	D248.2	D104.6	1.8	0.29	0.0	0.01	0.01	0.19	0.02	20
26	17.57	17.57	33.139	D 23.954	395.5	0.111	5.68	D247.5	D103.8								26 18	
30	ISL	16.97 D	16.96	33.095	D 24.063	385.1	0.127	5.78	D252.2	D104.5	1.9	0.29	0.0	0.00	0.02	0.19	0.04	30
40	16.49	16.48	33.055	24.145	377.7	0.166	5.92	258.7	105.9	2.0	0.28	0.0	0.00	0.02	0.18	0.05	40 17	
50	15.70	15.69	33.023	24.300	363.2	0.203	5.92	258.7	104.2	2.1	0.30	0.0	0.00	0.02	0.23	0.11	50 16	
62	14.36	14.35	32.854	24.459	348.3	0.245	5.96	260.4	102.0	2.3	0.36	0.0	0.02	0.01	0.41	0.38	63 15	
75	13.12	13.10	32.833	24.696	325.9	0.289	5.64	246.8	94.2	3.4	0.57	2.9	0.07	0.00	0.54	0.18	76 14	
86	12.44	12.43	32.934	24.906	306.1	0.324	5.48	239.4	90.2	5.3	0.75	5.9	0.05	0.03	0.25	0.24	87 13	
100	11.08	11.07	33.060	25.256	272.9	0.364	5.32	232.6	85.2	8.4	1.04	10.6	0.02	0.00	0.12	0.14	101 12	
112	10.09	10.08	33.149	25.497	250.1	0.396	4.90	214.2	76.8	12.9	1.27	14.4	0.02	0.00	0.05	0.07	113 11	
125	ISL	9.84 D	9.82	33.323	D 25.675	233.4	0.428	4.46	D194.2	D 69.6	15.7	1.43	16.9	0.02	0.00	0.03	0.06	126
126	9.80	9.79	33.296	25.659	234.9	0.430	4.52	197.4	70.4	15.9	1.44	17.1	0.02	0.00	0.03	0.05	127 10	
140	9.35	9.33	33.441	25.847	217.3	0.461	4.20	183.4	64.8	19.4	1.57	19.3	0.02	0.00	0.01	0.04	141 09	
150	ISL	9.24 D	9.23	33.586	D 25.978	205.1	0.484	3.86	D168.2	D 59.6	21.7	1.66	20.9	0.01	0.00	0.01	0.04	151
170	8.96	8.94	33.725	26.132	190.8	0.523	3.33	145.7	51.1	26.2	1.85	24.0	0.01	0.00	0.03	0.17	171 08	
200	8.66	8.64	33.885	26.305	174.9	0.578	3.16	137.8	48.1	30.1	1.91	25.5	0.01	0.00	0.03	0.20	207 07	
231	8.16	8.14	33.976	26.453	161.3	0.630	2.82	123.3	42.6	35.6	2.08	27.6	0.01	0.00			233 06	
250	ISL	7.95 D	7.93	33.994	D 26.499	157.2	0.662	2.62	D113.8	D 39.3	39.1	2.17	28.9	0.01	0.00			252
270	7.67	7.65	34.012	26.554	152.2	0.691	2.34	102.3	34.9	42.7	2.27	30.4	0.02	0.00			272 05	
300	ISL	7.28 D	7.25	34.036	D 26.629	145.3	0.738	1.85	D 80.7	D 27.4	48.5	2.44	32.5	0.01	0.00			302
320	7.10	7.07	34.049	26.664	142.2	0.764	1.66	72.3	24.4	52.3	2.55	34.0	0.01	0.00			323 04	
380	6.40	6.37	34.093	26.793	130.4	0.846	1.07	46.6	15.5	64.1	2.84	37.3	0.01	0.00			383 03	
400	ISL	6.24 D	6.20	34.114	D 26.832	127.0	0.876	0.88	D 38.2	D 12.7	67.4	2.89	38.0	0.01	0.00			403
440	5.96	5.92	34.134	26.883	122.4	0.922	0.72	31.4	10.3	74.0	3.00	39.3	0.01	0.00			444 02	
500	ISL	5.85 D	5.81	34.220	D 26.966	115.4	0.998	0.42	D 18.1	D 6.0	80.0	3.12	40.2	0.01	0.00			504
515	5.73	5.68	34.223	26.983	113.8	1.011	0.41	17.7	5.8	81.5	3.15	40.4	0.01	0.00			519 01	

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

RV OCEANUS

CALCOFI CRUISE 1507

STATION 80.0 100.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE	ORD		
DEPTH	TEMP	POTTEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXYGEN	OXY	S103*	P04*	N03*	N02*	NH4*	CHL-A	PHAEAO	PRES	SAMP
m	DEG C	DEG C	THETA				ml/L	μmol/Kg	PCT	μM	μM	μM	μM	μM	μg/L	μg/L	db	
32	49.0 N	123 54.4 W	21/07/2015	0736	UTC	4270 m	010	18 kn	1013.0 mb	18.8	C	18.8	C	18.8	C	055		
0	19.68	19.68	33.018	23.334	453.6	0.000	5.43	237.3	103.3	2.2	0.29	0.0	0.00	0.01	0.11	0.03	0	
3	19.68	19.68	33.018	23.334	453.7	0.014	5.43	237.3	103.3	2.2	0.29	0.0	0.00	0.01	0.11	0.03	23	
10	19.63	19.63	33.021	23.350	452.5	0.045	5.43	237.3	103.2	2.2	0.30	0.0	0.00	0.01	0.11	0.03	10 21	
10	19.63	19.63	33.020	23.350	452.5	0.047											10 22	
20	ISL	19.29 D	19.28	33.117	D 23.513	437.3	0.090	5.51	240.5	104.1	2.1	0.29	0.0	0.00	0.01	0.10	0.03	20
25	18.77	18.76	33.154	23.673	422.3	0.111	5.56	242.8	103.9	2.1	0.29	0.0	0.00	0.01	0.10	0.03	25 20	
30	ISL	18.07 D	18.07	33.229	D 23.902	400.6	0.133	5.62	D245.0	D 103.8	2.0	0.28	0.0	0.00	0.01	0.11	0.03	30
40	17.73	17.73	33.305	24.043	387.4	0.171	5.74	250.7	105.3	2.0	0.27	0.0	0.00	0.02	0.12	0.04	40 19	
50	17.65	17.64	33.447	24.174	375.4	0.210	5.68	248.3	104.2	2.1	0.25	0.0	0.00	0.06	0.12	0.04	50 18	
62	16.82	16.81	33.278	24.241	369.3	0.254	5.77	252.3	104.1	2.2	0.31	0.0	0.00	0.03	0.17	0.06	62 17	
74	15.14	15.13	33.142	24.515	343.5	0.297	5.81	251.4	101.3	2.6	0.30	0.0	0.00	0.01	0.26	0.19	75 16	
75	ISL	14.83 D	14.82	33.148	D 24.586	336.6	0.302	5.76	D250.9	D 99.7	2.7	0.31	0.1	0.00	0.01	0.27	0.20	76
87	13.51	13.50	33.100	24.825	314.0	0.340	5.72	250.2	96.5	3.6	0.43	0.7	0.04	0.34	0.34	0.34	88 14	
87	13.51	13.50	33.100	24.825	314.0	0.341											88 15	
100	11.17	11.16	33.048	25.230	275.4	0.378	5.29	231.0	84.7	7.5	0.88	7.8	0.07	0.02	0.22	0.27	101 13	
112	10.68	10.66	33.119	25.373	262.0	0.410	5.05	220.5	80.1	11.0	1.17	12.5	0.01	0.00	0.09	0.09	113 12	
125	9.96	9.94	33.210	25.566	243.7	0.443	4.82	210.8	75.4	13.5	1.32	14.7	0.01	0.02	0.06	0.07	126 11	
140	9.50	9.48	33.328	25.735	227.9	0.478	4.50	196.7	69.7	16.3	1.45	17.0	0.01	0.01	0.05	0.06	141 10	
150	ISL	9.33 D	9.31	33.494	D 25.893	213.1	0.503	4.14	D180.2	D 63.9	18.7	1.55	18.6	0.01	0.00	0.04	0.05	151
170	9.11	9.09	33.632	26.036	199.9	0.543	3.68	160.6	56.5	23.3	1.74	21.9	0.00	0.00	0.01	0.03	171 09	
200	8.71	8.69	33.856	26.275	177.8	0.599	3.18	138.9	48.5	29.4	1.93	25.0	0.00	0.00	0.00	0.02	202 08	
230	8.31	8.29	33.960	26.418	164.6	0.651	2.91	127.3	44.1	34.0	2.04	26.8	0.00	0.00			232 07	
250	ISL	8.11 D	8.08	33.978	D 26.463	160.7	0.686	2.74	D119.0	D 41.								

RV OCEANUS

CALCOFI CRUISE 1507

STATION 81.8 46.9

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE	ORD		
DEPTH	TEMP	POTTEMP	SALINITY	SIGMA	SV	DYN HT	OXYGEN	OXYGEN	OXY	SIO3*	P04*	N03*	N02*	NH4*	CHL-A	PHAEAO	PRES	SAMP
m	DEG C	DEG C	THETA			ml/L	μmol/Kg	PCT	μM	μM	μM	μM	μM	μM	μg/L	μg/L	db	
34	16.5 N	120 1.5 W	19/07/2015	1250	UTC	577 m	200	07 kn	180 01 06	9	1013.0 mb	19.9 C	18.4 C	5/8	SC	045		
0	17.90	17.90	33.412	24.081	382.4	0.000	6.15	268.7	113.3	1.2	0.21	0.0	0.01	0.00	1.52	0.79	0	
2	17.90	17.90	33.412	24.081	382.4	0.008	6.15	268.7	113.3	1.2	0.21	0.0	0.01	0.00	1.52	0.79	2 24	
10	17.37	17.37	33.415	24.212	370.2	0.038	6.05	264.3	110.4	2.0	0.28	0.2	0.02	0.02	2.75	0.30	10 23	
20	16.36	16.35	33.412	24.448	348.1	0.074	6.28	274.5	112.3	0.4	0.21	0.0	0.01	0.00	1.69	0.49	20 22	
30	15.12	15.11	33.427	24.737	320.8	0.107	6.31	275.8	110.1	1.5	0.33	0.6	0.04	0.05	5.33	0.17	30 21	
40	13.66	13.65	33.414	25.035	292.7	0.138	5.16	225.3	87.3	6.4	0.75	5.5	0.25	0.53	2.89	0.41	40 20	
50	12.19	12.18	33.396	25.310	266.6	0.166	4.68	204.7	76.9	9.5	1.02	9.4	0.37	0.11	0.85	0.33	50 19	
60	11.38	11.37	33.446	25.501	248.7	0.192	4.15	181.2	66.9	12.7	1.27	13.9	0.18	0.00	0.49	0.39	60 18	
70	10.79	10.78	33.564	25.698	230.1	0.215	3.60	157.3	57.4	17.2	1.54	18.1	0.14	0.00	0.30	0.30	71 17	
75 ISL	10.56 D	10.55	33.649 D	25.805	220.0	0.229	3.26	0142.1 D	51.8	19.2	1.64	19.4	0.12	0.00	0.23	0.24	76	
85	10.25	10.24	33.776	25.957	205.8	0.248	2.87	125.4	45.3	23.2	1.85	22.1	0.08	0.00	0.10	0.13	86 16	
100	10.15	10.14	33.854	26.036	198.7	0.278	2.65	115.8	41.8	24.9	1.93	23.2	0.05	0.00	0.04	0.11	101 15	
120	10.11	10.10	33.941	26.111	192.1	0.317	2.34	102.0	36.8	27.1	2.05	24.5	0.03	0.00	0.02	0.10	121 14	
125 ISL	10.11 D	10.09	33.946 D	26.116	191.7	0.329	2.32	0101.2 D	36.6	27.4	2.07	24.6	0.04	0.00	0.02	0.10	126	
140	10.06	10.04	34.000	26.168	187.2	0.355	2.15	94.0	33.9	28.6	2.12	25.2	0.07	0.00	0.02	0.11	141 13	
150 ISL	10.01 D	9.99	34.014 D	26.187	185.6	0.377	2.10 D	91.5 D	33.1	29.2	2.14	25.4	0.07	0.00	0.02	0.11	151	
170	9.97	9.95	34.050	26.223	182.6	0.411	1.99	86.9	31.3	30.2	2.19	25.8	0.06	0.00	0.02	0.11	171 12	
200	9.74	9.71	34.116	26.314	174.6	0.464	1.68	73.5	26.3	33.3	2.33	27.5	0.02	0.00	0.11	0.14	202 11	
230	9.54	9.52	34.173	26.391	167.9	0.516	1.41	61.6	22.0	36.5	2.43	28.5	0.07	0.00			232 10	
250 ISL	9.40 D	9.37	34.189 D	26.428	164.8	0.553	1.23 D	53.7 D	19.2	39.8	2.52	29.6	0.05	0.00			252	
270	8.96	8.93	34.183	26.495	158.7	0.582	1.07	46.6	16.4	43.1	2.60	30.6	0.03	0.00			272 09	
300 ISL	8.44 D	8.41	34.181 D	26.574	151.4	0.633	0.70	30.5 D	10.7	50.0	2.74	32.0	0.03	0.00			302	
320	8.23	8.20	34.179	26.604	148.8	0.658	0.73	32.0	11.1	54.6	2.84	32.9	0.04	0.00			323 08	
380	7.72	7.68	34.193	26.692	141.3	0.745	0.56	24.6	8.4	61.0	2.91	33.9	0.01	0.00			383 07	
400 ISL	7.54 D	7.50	34.208 D	26.730	137.9	0.779	0.46 D	20.2 D	6.9	65.4	2.98	33.7	0.01	0.00			403	
440	7.21	7.16	34.219	26.787	132.9	0.827	0.30	12.9	4.4	74.2	3.13	33.3	0.01	0.00			444 06	
480	6.87	6.82	34.237	26.848	127.4	0.879	0.12	5.4	1.8	87.2	3.36	30.5	0.01	0.00			484 05	
500 ISL	6.76 D	6.71	34.238 D	26.865	126.1	0.912	0.04 D	1.7 D	0.6	94.8	3.50	27.2	0.01	0.00			504	
515	6.69	6.64	34.244	26.879	124.9	0.924	0.04	1.6	0.5	100.5	3.61	24.8	0.01	0.00			519 04	
540	6.63	6.58	34.247	26.890	124.2	0.955	0.02	1.0	0.3	109.5	3.82	17.9	0.58	0.00			545 03	
563	6.62	6.57	34.246	26.890	124.6	0.983	0.03	1.4	0.5	116.9	4.03	11.4	2.18	0.00			568 02	
568	6.62	6.57	34.249	26.892	124.4	0.989	0.03	1.4	0.5	117.5	4.04	11.2	2.20	0.00			573 01	

A) SANTA BARBARA BASIN STATION.

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

RV OCEANUS

CALCOFI CRUISE 1507

STATION 83.3 39.4

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE	ORD		
DEPTH	TEMP	POTTEMP	SALINITY	SIGMA	SV	DYN HT	OXYGEN	OXYGEN	OXY	SIO3*	P04*	N03*	N02*	NH4*	CHL-A	PHAEAO	PRES	SAMP
m	DEG C	DEG C	THETA			ml/L	μmol/Kg	PCT	μM	μM	μM	μM	μM	μM	μg/L	μg/L	db	
34	15.5 N	119 19.4 W	19/07/2015	0455	UTC	21 m	040	09 kn										041
0	18.37	18.37	33.333	23.907	398.9	0.000	6.12	267.4	113.7	3.5	0.25	0.0	0.01	0.00	0.65	0.18	0	
2	18.37	18.36	33.333	23.907	399.0	0.008	6.12	267.4	113.7	3.5	0.25	0.0	0.01	0.00	0.65	0.18	2 05	
5	18.35	18.35	33.335	23.913	395.8	0.020	6.14	268.1	114.0	3.4	0.26	0.0	0.01	0.02	0.63	0.19	5 04	
10	17.53	17.53	33.342	24.119	379.1	0.039	6.23	272.4	114.0	3.6	0.26	0.0	0.01	0.00	0.79	0.30	10 02	
15	17.53	17.53	33.348	24.124	378.6	0.041	6.18	270.2	111.5	4.4	0.32	0.0	0.03	0.12	1.52	0.65	15 01	

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

RV OCEANUS

CALCOFI CRUISE 1507

STATION 83.3 40.6

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE	ORD		
DEPTH	TEMP	POTTEMP	SALINITY	SIGMA	SV	DYN HT	OXYGEN	OXYGEN	OXY	SIO3*	P04*	N03*	N02*	NH4*	CHL-A	PHAEAO	PRES	SAMP
m	DEG C	DEG C	THETA			ml/L	μmol/Kg	PCT	μM	μM	μM	μM	μM	μM	μg/L	μg/L	db	
34	13.5 N	119 24.7 W	19/07/2015	0557	UTC	36 m	360	05 kn										042
0	18.85	18.85	33.367	23.813	407.9	0.000	5.97	260.7	111.9	3.0	0.25	0.0	0.01	0.00	0.72	0.19	0	
2	18.85	18.84	33.366	23.814	408.1	0.025	5.97	261.0	112.1	3.0	0.25	0.0	0.01	0.00	0.72	0.20	6 05	
6	18.84	18.84	33.366	23.814	408.1	0.041	5.97	261.0	112.1	3.0	0.25	0.0	0.01	0.02	0.72	0.20		
10	18.96	18.96	33.365	23.784	411.0	0.041	5.98	261.3	112.4	2.9	0.26	0.0	0.01	0.01	0.76	0.20	10 03	
11	18.28	18.27	33.367	23.956	394.6	0.043	6.25	273.0	109.0	5.1	0.39	0.4	0.10	0.22	3.01	0.92	11 04	
20	15.14	15.14	33.327	24.655	328.3	0.077	6.25	272.2	108.2	5.2	0.41	0.4	0.11	0.19	2.83	0.93	30 01	
30	14.93	14.92	33.326	24.700	324.4	0.110	6.23	272.2	108.2	5.2	0.41</							

RV OCEANUS

CALCOFI CRUISE 1507

STATION 83.3 51.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE	ORD		
DEPTH	TEMP	POTTEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXYGEN	OXY	SI03*	P04*	N03*	N02*	NH4*	CHL-A	PHAEAO	PRES	SAMP
m	DEG C	DEG C	THETA			ml/L	μmol/Kg	PCT	μM	μM	μM	μM	μM	μM	μg/L	μg/L	db	
33 52.7 N	120 8.0 W	22/07/2015	1712	UTC	100 m	300 05 kn	310 02 08	2	1011.5 mb	18.4 c	17.5 c	11 m	8/8	SC	061			
0	18.52	18.52	33.438	23.950	394.8	0.000	5.84	255.3	109.0	2.9	0.31	0.4	0.04	0.06	1.25	0.46	0	
2 A	18.52	18.52	33.438	23.950	394.9	0.008	5.84	255.3	109.0	2.9	0.31	0.4	0.04	0.06	1.25	0.46	2 13	
6 A	17.66	17.65	33.418	24.146	376.4	0.023	5.90	257.8	108.2	3.5	0.34	0.7	0.04	0.06	1.56	0.68	6 12	
9 A	17.52	17.51	33.419	24.180	373.2	0.035	5.90	257.7	107.9	4.0	0.42	1.0	0.05	0.05	2.17	0.63	9 10	
10 ISL	17.07 D	17.06	33.414 D	24.283	363.4	0.039	5.93	258.5	107.5	4.1	0.42	1.1	0.05	0.06	2.16	0.62	10	
15 A	17.06	17.06	33.420	24.289	363.0	0.056	5.78	252.7	104.9	4.7	0.42	1.7	0.07	0.09	2.07	0.57	15 09	
20 ISL	17.16 D	17.15	33.411 D	24.260	366.0	0.075	5.79	252.3	105.1	4.1	0.38	1.3	0.05	0.07	1.68	0.72	20	
22	17.55	17.54	33.422	24.177	374.0	0.082	5.82	254.3	106.6	3.8	0.37	1.1	0.05	0.06	1.52	0.78	22 08	
30 A	13.35	13.35	33.315	25.020	293.8	0.109	5.47	238.9	92.0	6.3	0.73	5.6	0.12	0.03	1.13	0.54	30 07	
36 A	12.19	12.19	33.300	25.235	273.4	0.126	4.98	217.5	81.7	8.6	0.97	9.5	0.15	0.01	0.92	0.64	36 06	
43	11.63	11.63	33.395	25.414	256.6	0.144	4.42	193.2	71.7	11.5	1.17	12.7	0.23	0.00	0.89	0.42	43 05	
50	11.40	11.39	33.495	25.535	245.2	0.162	4.03	176.1	65.1	14.5	1.32	15.0	0.20	0.04	0.53	0.48	50 04	
60	11.29	11.28	33.540	25.590	240.2	0.186	3.88	169.6	62.6	15.8	1.39	15.9	0.17	0.07	0.54	0.38	60 03	
70	10.74	10.73	33.613	25.744	225.7	0.209	3.52	153.6	56.1	18.4	1.55	18.5	0.12	0.04	0.31	0.36	71 02	
75 ISL	10.39 D	10.39	33.703 D	25.875	213.4	0.222	3.22	d140.3 D	51.0	20.5	1.66	19.9	0.11	0.04	0.24	0.30	76	
90	10.07	10.06	33.906	26.090	193.3	0.251	2.55	111.4	40.1	26.7	1.97	24.2	0.06	0.02	0.02	0.11	91 01	

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

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

RV OCEANUS

CALCOFI CRUISE 1507

STATION 83.3 55.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE	ORD		
DEPTH	TEMP	POTTEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXYGEN	OXY	SI03*	P04*	N03*	N02*	NH4*	CHL-A	PHAEAO	PRES	SAMP
m	DEG C	DEG C	THETA			ml/L	μmol/Kg	PCT	μM	μM	μM	μM	μM	μM	μg/L	μg/L	db	
33 44.7 N	120 24.5 W	22/07/2015	1956	UTC	979 m	320 08 kn	310 03 07	2	1012.1 mb	18.1 c	17.3 c	13 m	8/8	SC	062			
0	19.53	19.53	33.449	23.702	418.4	0.000	5.59	244.4	106.4	2.4	0.30	0.0	0.01	0.02	0.48	0.02	0	
3	19.53	19.53	33.449	23.703	418.5	0.013	5.59	244.4	106.4	2.4	0.30	0.0	0.01	0.02	0.48	0.02	3 21	
10	18.75	18.75	33.438	23.892	400.7	0.041	5.77	252.1	108.1	2.6	0.31	0.0	0.01	0.03	0.46	0.14	10 19	
11	18.75	18.75	33.439	23.893	400.7	0.043											10 20	
20	17.96	17.95	33.440	24.090	382.2	0.081	5.93	259.3	109.5	2.8	0.33	0.1	0.02	0.06	0.58	0.14	20 18	
30	15.62	15.62	33.416	24.617	332.3	0.116	5.84	255.2	103.0	4.7	0.47	1.7	0.05	0.12	1.44	0.41	30 17	
40	13.24	13.24	33.449	25.146	282.1	0.147	5.00	218.5	84.0	8.8	0.90	7.9	0.18	0.35	1.28	0.39	40 16	
50	12.34	12.33	33.455	25.328	265.0	0.174	4.75	207.6	78.3	10.5	1.03	10.0	0.22	0.28	1.15	0.27	50 15	
60	10.47	10.46	33.549	25.743	225.6	0.199	3.71	162.0	58.8	16.8	1.48	17.7	0.20	0.00	0.46	0.32	60 14	
70	10.27	10.26	33.683	25.881	212.7	0.221	3.26	142.4	51.5	20.7	1.69	21.0	0.05	0.00	0.11	0.23	71 13	
75 ISL	10.23 D	10.22	33.698 D	25.900	211.0	0.233	3.21	d139.6 D	50.6	21.4	1.72	21.5	0.05	0.00	0.10	0.20	76	
85	10.08	10.07	33.753	25.968	204.7	0.252	3.03	132.3	47.6	23.0	1.79	22.5	0.05	0.00	0.08	0.13	86 12	
100	9.91	9.90	33.793	26.029	199.3	0.282	2.90	126.6	45.4	24.5	1.86	23.4	0.06	0.00	0.07	0.13	101 11	
120	9.70	9.69	33.922	26.165	186.8	0.321	2.65	115.7	41.4	27.3	1.97	24.9	0.02	0.00	0.01	0.07	121 10	
125 ISL	9.69 D	9.68	33.942 D	26.183	185.2	0.332	2.52	d109.7 D	39.3	28.1	2.00	25.3	0.02	0.00	0.01	0.07	126	
140	9.57	9.56	33.986	26.237	180.4	0.358	2.31	100.7	35.9	30.3	2.10	26.5	0.03	0.00	0.01	0.08	141 09	
150 ISL	9.55 D	9.53	34.034 D	26.280	176.6	0.378	2.21	d96.0 D	34.4	31.5	2.15	27.0	0.03	0.00	0.01	0.08	151	
170	9.33	9.31	34.070	26.343	171.0	0.411	1.98	86.2	30.6	33.9	2.24	28.0	0.04	0.00	0.01	0.08	171 08	
200	8.92	8.90	34.150	26.472	159.2	0.460	1.54	67.0	23.6	39.4	2.43	30.0	0.07	0.00	0.01	0.09	202 07	
230	8.91	8.89	34.241	26.546	152.9	0.507	1.18	51.7	18.2	42.2	2.56	30.9	0.02	0.00			232 06	
250 ISL	8.66 D	8.63	34.228 D	26.575	150.4	0.540	1.12 D	48.6 D	17.1	44.0	2.60	31.5	0.03	0.00			252	
270	8.57	8.54	34.245	26.603	148.1	0.567	1.05	45.9	16.0	45.8	2.64	32.1	0.04	0.00			272 05	
300 ISL	8.39 D	8.36	34.271 D	26.652	144.0	0.614	0.90	d39.0 D	13.6	48.4	2.71	32.9	0.02	0.00			302	
320	8.24	8.20	34.278	26.682	141.5	0.639	0.82	36.0	12.5	50.1	2.75	33.4	0.02	0.00			323 04	
379	7.69	7.65	34.276	26.762	134.6	0.721	0.66	28.9	9.9	57.1	2.87	35.4	0.01	0.00			382 03	
400 ISL	7.57 D	7.53	34.271 D	26.776	133.6	0.754	0.63 D	27.5 D	9.4	59.2	2.90	36.0	0.01	0.00			403	
440	7.16	7.12	34.264	26.828	128.9	0.802	0.56	24.5	8.3	63.2	2.97	37.2	0.01	0.00			444 02	
500 ISL	6.77 D	6.73	34.283 D	26.897	123.0	0.883	0.43 D	18.6 D	6.3	68.8	3.06	38.4	0.01	0.00			504	
516	6.71	6.66	34.288	26.910	122.1	0.897	0.40	17.5	5.8	70.3	3.08	38.8	0.01	0.00			520 01	

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

RV OCEANUS

CALCOFI CRUISE 1507

STATION 83.3 60.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE	ORD
DEPTH	TEMP	POTTEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXYGEN	OXY	SI03*	P04*	N03*	N02*	NH4*		

RV OCEANUS

CALCOFI CRUISE 1507

STATION 83.3 70.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE	ORD				
DEPTH	TEMP	POTTEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXYGEN	OXY	NO3*	NO2*	NH4*	CHL-A	PHAEAO	PRES	SAMP				
m	DEG C	DEG C	THETA				ml/L	μmol/Kg	PCT	μM	μM	μM	μg/L	μg/L	db					
33	14.7 N	121 26.6 W	23/07/2015	0502	UTC	3802 m	340	15 kn		1012.6 mb	18.2 C	16.1 C			064					
0	19.48	19.48	33.050	23.410	446.4	0.000	5.46	238.5	103.4	1.4	0.30	0.0	0.01	0.15	0.03	0				
3	19.48	19.48	33.050	23.410	446.5	0.013	5.46	238.5	103.4	1.4	0.30	0.0	0.01	0.15	0.03	3 21				
10	19.29	19.29	33.050	23.460	442.0	0.045	5.48	239.7	103.6	1.5	0.30	0.0	0.01	0.15	0.04	10 19				
10	19.29	19.29	33.050	23.460	442.0	0.045										10 20				
20	ISL	17.29	D 17.29	33.067	D 23.965	394.1	0.087	5.83	D 254.1	D 105.9	1.8	0.32	0.0	0.00	0.19	0.05	20			
21		17.22		33.070		392.4	0.090	5.87	256.7	106.6	1.9	0.32	0.0	0.00	0.20	0.06	21 18			
30		16.16		33.037		371.5	0.125	6.13	268.0	109.0	1.8	0.33	0.0	0.01	0.35	0.14	30 17			
40		14.87		32.949		24.422	0.161	6.17	269.9	106.9	2.1	0.35	0.0	0.01	0.32	0.16	40 16			
50		13.99		32.981		24.633	0.195	6.20	271.0	105.4	2.7	0.43	0.3	0.06	1.17	0.67	50 15			
60		13.18		33.022		24.830	0.227	5.66	247.5	94.7	3.8	0.69	4.5	0.47	0.02	0.51	0.46	60 14		
71		12.00		11.99		25.150	0.260	5.26	229.9	85.9	6.2	1.00	10.2	0.03	0.01	0.20	0.20	72 13		
75	ISL	12.01	D 12.00	33.258	D 25.239	274.1	0.273	5.05	D 219.9	D 82.5	7.0	1.07	11.2	0.03	0.01	0.17	0.17	76		
85		11.53		33.344		25.394	0.298	4.59	200.5	74.3	9.1	1.23	13.8	0.04	0.01	0.08	0.09	86 12		
100	ISL	10.26	D 10.25	33.350	D 25.623	237.8	0.337	4.30	D 187.4	D 67.8	14.9	1.45	17.6	0.02	0.00	0.05	0.07	101		
101		10.24		33.345		25.623	0.338	4.27	186.5	67.2	15.3	1.46	17.9	0.02	0.00	0.05	0.07	102 11		
119		9.52		9.51		33.544	0.289	212.0	0.378	3.64	159.0	56.5	21.3	1.71	22.0	0.02	0.00	0.01	0.05	120 10
125	ISL	9.36	D 9.35	33.602	D 25.971	205.2	0.393	3.52	D 153.3	D 54.4	22.6	1.75	22.7	0.02	0.00	0.01	0.04	126		
140		9.01		8.99		33.699	0.204	4.020	3.37	147.0	51.7	25.9	1.86	24.6	0.02	0.01	0.00	0.03	141 09	
150	ISL	8.85	D 8.83	33.780	D 26.192	184.6	0.442	3.25	D 141.5	D 49.8	27.3	1.90	25.3	0.02	0.00	0.00	0.03	151		
171		8.70		8.68		33.865	0.283	176.4	0.478	2.96	129.4	45.2	30.1	1.99	26.9	0.02	0.00	0.00	0.03	172 08
199		8.38		8.36		33.954	0.260	165.5	0.525	2.64	115.3	40.0	34.6	2.11	28.8	0.01	0.01	0.00	0.02	201 07
200	ISL	8.40	D 8.37	33.954	D 26.400	165.8	0.530	2.64	D 115.0	D 40.1	34.7	2.12	28.9	0.01				202		
230		8.00		7.98		34.014	0.260	156.1	0.575	2.29	99.9	34.4	40.0	2.27	30.8	0.01	0.00		232 06	
250	ISL	7.76	D 7.73	34.030	D 26.555	151.8	0.610	2.07	D 90.2	D 31.0	43.5	2.37	32.1	0.01	0.00			252		
271		7.54		7.51		34.050	0.260	147.5	0.638	1.83	79.7	27.1	47.1	2.47	33.4	0.01	0.00		273 05	
300	ISL	7.09	D 7.06	34.076	D 26.686	139.8	0.684	1.43	D 62.2	D 21.1	53.0	2.62	35.3	0.01	0.00			302		
320		6.93		6.90		34.089	0.270	136.9	0.707	1.27	55.4	18.6	57.1	2.72	36.6	0.01	0.00		323 04	
381		6.45		6.41		34.150	0.263	126.8	0.787	0.78	34.1	11.3	66.2	2.94	39.0	0.01	0.00		384 03	
400	ISL	6.36	D 6.33	34.156	D 26.849	125.5	0.817	0.72	D 31.4	D 10.5	68.3	2.97	39.4	0.01	0.00			403		
440		6.13		6.09		34.169	0.268	122.0	0.861	0.61	26.5	8.7	72.6	3.04	40.3	0.01	0.00		444 02	
500	ISL	5.74	D 5.70	34.222	D 26.981	113.8	0.938	0.38	D 16.7	D 5.5	80.8	3.17	41.6	0.00	0.00			504		
515		5.68	5.64	34.235		26.999	112.3	0.949	0.38	16.7	5.4	82.9	3.20	42.0	0.00			519 01		

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

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE	ORD				
DEPTH	TEMP	POTTEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXYGEN	OXY	NO3*	NO2*	NH4*	CHL-A	PHAEAO	PRES	SAMP				
m	DEG C	DEG C	THETA				ml/L	μmol/Kg	PCT	μM	μM	μM	μg/L	μg/L	db					
32	54.7 N	122 7.7 W	23/07/2015	1036	UTC	4183 m	330	11 kn		1013.7 mb	18.0 C	15.4 C			065					
0	20.07	20.07	33.269	23.425	444.9	0.000	5.33	232.9	102.3	2.0	0.31	0.0	0.01	0.10	0.02	0				
2	20.07	20.07	33.269	23.425	445.0	0.009	5.33	232.9	102.3	2.0	0.31	0.0	0.01	0.10	0.02	2 21				
10	20.07	20.07	33.276	23.431	444.7	0.045	5.33	233.0	102.3	2.0	0.31	0.0	0.00	0.10	0.03	10 19				
10		20.07		33.267		23.425	0.043									10 20				
20	ISL	20.05	D 20.05	33.268	D 23.431	445.1	0.090	5.24	D 228.5	D 100.4	2.0	0.31	0.0	0.00	0.11	0.03	20			
25		18.95		33.250		23.700	0.111	5.54	242.3	104.1	2.0	0.31	0.0	0.00	0.11	0.03	25 18			
30	ISL	18.31	D 18.30	33.226	D 23.841	406.4	0.132	5.57	D 242.8	D 103.3	2.0	0.31	0.0	0.00	0.12	0.03	30			
40		16.97		16.96		33.137	0.207	382.3	0.171	5.88	256.9	106.2	2.0	0.32	0.0	0.01	0.13	0.04	40 17	
50		16.59		16.58		33.204	0.237	369.3	0.208	5.91	258.2	106.0	1.9	0.31	0.0	0.00	0.20	0.06	50 16	
62		15.34		15.33		33.164	0.2487	345.7	0.251	6.05	264.5	105.9	1.7	0.35	0.0	0.01	0.31	0.17	62 15	
74		14.96		14.95		33.210	0.2607	334.6	0.292	5.85	255.9	101.7	1.9	0.42	0.3	0.07	0.03	0.55	48 75	
75	ISL	14.89	D 14.88	33.215	D 24.625	332.9	0.298	5.78	D 251.8	D 100.2	2.0	0.44	0.5	0.07	0.03	0.54	0.47	76		
87		13.99		13.97		33.213	0.2815	315.1	0.334	5.53	241.7	94.2	3.4	0.62	3.4	0.10	0.02	0.41	0.32	88 13
100		13.15		13.14		33.216	0.2988	298.9	0.374	5.30	231.8	88.8	5.0	0.76	6.1	0.03	0.00	0.19	0.24	101 12
113		12.36		12.35		33.214	0.2513	284.7	0.412	5.09	222.5	83.8	7.1	0.93	8.7	0.03	0.00	0.13	0.18	114 11
125		10.78		10.76		33.290	0.2489	251.3	0.444	4.59	200.6	73.1	12.3	1.24	14.2	0.02	0.00	0.08	0.11	126 10
139		10.00		9.98		33.451	0.2749	226.8	0.478	4.12	179.9	64.5	16.8	1.48	18.3	0.01	0.00	0.03	0.06	140 09
150	ISL	9.54	D 9.53	33.625	D 25.960	206.8	0.505	3.61	D 157.2	D 56.1	20.3	1.63	20.6	0.01	0.00	0.02	0.05	151		
170		9.24		9.23		33.772	0.2124	191.6	0.542	3.09	134.8	47.6	26.6	1.90	24.7	0.01	0.00	0.01	0.03	171 08
200		8.94		8.92		33.939	0.2603	175.2	0.597	2.51	109.7	38.5	32.3	2.10	27.5	0.01	0.00	0.00	0.03	202 07
230		8.72		8.70		34.051	0.2647	164.0	0.648	2.01	87.7	30.7	37.4	2.30	29.6	0.01	0.00			232 06
250																				

RV OCEANUS

CALCOFI CRUISE 1507

STATION 83.3 90.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE	ORD	
32 34.7 N	122 48.7 W	23/07/2015	1659	UTC	4271 m	010 05 kn	010 03 06	2	1016.3 mb	18.8 C	15.7 C	23 m	7/8	SC	066		
0	20.43	20.43	33.169	23.253	461.3	0.000	5.28	231.0	102.0	1.7	0.30	0.0	0.00	0.11	0.04	0	
2 A	20.43	20.43	33.169	23.253	461.4	0.009	5.28	231.0	102.0	1.7	0.30	0.0	0.00	0.11	0.04	2 24	
10	20.43	20.42	33.161	23.250	462.1	0.046	5.28	230.9	101.9	1.7	0.31	0.0	0.00	0.11	0.04	10 22	
10	20.43	20.42	33.159	23.249	462.1	0.045										10 23	
13 A	20.39	20.38	33.174	23.271	460.2	0.060	5.29	231.4	102.1	1.8	0.31	0.0	0.00	0.12	0.07	13 21	
18 A	20.24	20.24	33.233	23.353	452.5	0.083	5.36	234.3	103.2	1.8	0.30	0.0	0.00	0.13	0.04	18 20	
20 ISL	18.41 D	18.40	33.287	D 23.863	403.9	0.092	5.67	D 247.2	D 105.4	1.7	0.30	0.0	0.00	0.14	0.05	20	
30 ISL	16.91 D	16.90	33.247	D 24.194	372.6	0.131	5.87	D 256.1	D 106.1	1.4	0.32	0.0	0.00	0.20	0.08	30	
32 A	16.59	16.58	33.238	24.261	366.3	0.138	6.00	262.2	107.7	1.4	0.32	0.0	0.00	0.21	0.09	32 19	
43	15.29	15.28	33.288	24.593	335.0	0.176	6.08	265.5	106.3	1.3	0.36	0.0	0.00	0.29	0.15	43 18	
50 ISL	14.46 D	14.46	33.234	D 24.729	322.2	0.201	5.85	D 255.0	D 100.6	2.5	0.48	1.3	0.17	0.03	0.46	0.23	50
53	13.99	13.99	33.187	24.792	316.3	0.209	5.72	250.2	97.5	3.1	0.53	1.8	0.24	0.03	0.54	0.27	53 17
62 A	13.25	13.24	33.242	24.986	297.9	0.237	5.31	232.0	89.1	4.3	0.75	5.7	0.11	0.01	0.47	0.46	62 16
68	12.96	12.95	33.270	25.065	290.6	0.254	5.10	223.1	85.1	5.4	0.88	8.1	0.08	0.00	0.50	0.39	69 15
74 A	12.26	12.25	33.290	25.216	276.3	0.271	4.91	214.5	80.7	6.9	1.01	10.2	0.05	0.00	0.32	0.40	75 14
75 ISL	12.03 D	12.02	33.285	D 25.256	272.5	0.275	4.85	D 211.2	D 79.3	7.2	1.03	10.4	0.05	0.00	0.32	0.38	76
86	11.28	11.27	33.278	25.388	260.0	0.303	4.69	205.0	75.5	10.1	1.19	13.1	0.03	0.01	0.23	0.18	87 13
95	10.41	10.40	33.280	25.543	245.4	0.326	4.53	198.0	71.6	12.6	1.30	15.2	0.02	0.00	0.15	0.15	96 12
100 ISL	10.28 D	10.27	33.391	D 25.653	235.1	0.340	4.26	D 185.3	D 67.1	14.5	1.39	16.7	0.02	0.00	0.12	0.12	101
110	9.55	9.54	33.446	25.817	219.5	0.361	4.07	178.0	63.2	18.2	1.56	19.7	0.02	0.00	0.05	0.07	111 11
125 ISL	9.27 D	9.25	33.587	D 25.974	204.9	0.395	3.83	D 166.7	D 59.1	21.2	1.66	21.6	0.02	0.00	0.02	0.05	126
126	9.26	9.25	33.584	25.972	205.1	0.395	3.84	167.6	59.2	21.4	1.67	21.7	0.02	0.00	0.02	0.05	127 10
140	8.99	8.97	33.707	26.113	192.0	0.423	3.50	152.7	53.6	25.0	1.80	23.9	0.01	0.02	0.01	0.03	141 09
150 ISL	8.91 D	8.89	33.764	D 26.171	186.7	0.444	3.41	D 148.5	D 52.3	26.8	1.85	24.9	0.01	0.00	0.01	0.03	151
170	8.63	8.61	33.889	26.312	173.6	0.478	3.01	131.4	45.8	30.4	1.96	26.7	0.01	0.00	0.00	0.03	171 08
200	8.35	8.33	33.966	26.416	164.2	0.528	2.73	119.2	41.4	34.6	2.07	28.5	0.01	0.00	0.00	0.03	202 07
229	8.08	8.06	34.033	26.510	155.8	0.575	2.15	93.9	32.4	40.4	2.29	30.7	0.01	0.00		231 06	
250 ISL	7.91 D	7.88	34.057	D 26.554	151.9	0.610	1.91	D 83.1	D 28.7	43.5	2.38	31.9	0.01	0.00		252	
270	7.65	7.63	34.060	26.594	148.3	0.637	1.80	78.7	26.9	46.5	2.46	33.1	0.01	0.00		272 05	
300 ISL	7.35 D	7.32	34.089	D 26.660	142.5	0.684	1.47	D 63.8	D 21.7	52.3	2.62	35.0	0.01	0.00		302	
320	7.09	7.06	34.112	26.715	137.4	0.709	1.21	52.7	56.2	2.72	36.3	0.01	0.00		323 04		
380	6.59	6.55	34.165	26.826	127.6	0.788	0.75	32.9	11.0	65.6	2.93	38.7	0.00	0.00		383 03	
400 ISL	6.62 D	6.58	34.200	D 26.850	125.6	0.818	0.65	D 28.3	D 9.5	67.6	2.97	39.0	0.00	0.00		403	
440	6.41	6.37	34.240	26.910	120.4	0.863	0.50	21.9	7.3	71.4	3.05	39.4	0.01	0.00		444 02	
500 ISL	6.12 D	6.07	34.280	D 26.980	114.4	0.939	0.34	D 14.9	D 4.9	77.4	3.15	40.6	0.00	0.00		504	
515	6.06	6.01	34.287	26.993	113.3	0.951	0.32	14.0	4.6	78.9	3.18	40.9	0.00	0.00		519 01	

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

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

RV OCEANUS

CALCOFI CRUISE 1507

STATION 83.3 100.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE	ORD	
32 14.7 N	123 29.6 W	23/07/2015	2144	UTC	4156 m	010 11 kn	340 04 09	2	1016.9 mb	19.1 C	16.2 C	22 m	7/8	SC	067		
0	20.59	20.59	33.340	23.342	452.9	0.000	5.31	232.0	102.9	1.2	0.31	0.0	0.00	0.12	0.03	0	
3	20.59	20.59	33.340	23.342	453.0	0.014	5.31	232.0	102.9	1.2	0.31	0.0	0.00	0.12	0.03	3 21	
10	20.42	20.41	33.335	23.385	449.2	0.045	5.31	231.8	102.5	1.2	0.32	0.0	0.02	0.12	0.03	10 19	
10	20.42	20.41	33.335	23.385	449.1	0.046										10 20	
20 ISL	18.32 D	18.32	33.299	D 23.894	400.9	0.088	5.66	D 246.8	D 105.1	1.3	0.31	0.0	0.00	0.00	0.14	0.04	20
25	17.89	17.89	33.281	23.985	392.4	0.108	5.77	252.1	106.3	1.4	0.31	0.0	0.00	0.15	0.05	25 18	
30 ISL	17.48 D	17.47	33.219	D 24.038	387.5	0.128	5.78	D 251.9	D 105.5	1.4	0.32	0.0	0.00	0.16	0.05	30	
41	16.30	16.29	33.206	24.304	362.5	0.168	5.96	260.2	106.3	1.5	0.33	0.0	0.00	0.20	0.07	41 17	
50	15.56	15.55	33.214	24.476	346.4	0.200	5.98	261.1	105.1	1.7	0.35	0.0	0.02	0.26	0.11	50 16	
62	14.66	14.65	33.214	24.673	327.9	0.241	5.80	253.2	100.1	2.3	0.46	0.6	0.12	0.18	0.33	62 15	
75	13.13	13.12	33.194	24.972	299.7	0.281	5.40	235.8	90.3	3.9	0.70	4.8	0.17	0.01	0.33	0.18	76 14
87	11.90	11.89	33.236	25.243	274.0	0.316	5.04	219.9	82.1	6.4	0.93	8.8	0.05	0.00	0.15	0.20	88 13
100	10.57	10.55	33.245	25.490	250.6	0.350	4.71	205.7	74.6	11.3	1.21	13.8	0.04	0.00	0.04	0.06	101 12
112	10.29	10.28	33.352	25.621	238.4	0.379	4.34	189.3	68.3	14.4	1.38	16.5	0.03	0.00	0.06	0.10	113 11
125	9.57	9.55	33.482	25.843	217.4	0.409	4.07	177.7	63.2	18.5	1.54	19.6	0.02	0.00	0.03	0.07	126 10
140	9.39	9.37	33.586	25.954	207.2	0.441	3.72	162.2	57.5	21.4	1.68	21.7	0.02	0.00	0.01	0.05	141 09
150 ISL	9.20 D	9.19	33.646	D 26.031	200.0	0.464	3.65	D 159.0	D 56.3	23.7	1.76	23.1	0.02	0.00	0.01	0.07	151
171	8.98	8.96	33.833	26.214	183.1	0.501	2.99	130.5	45.9	28.4	1.94	25.8	0.01	0.00	0.12	172 08	
200	8.64	8.62	33.956	26.364	169.3	0.552	2.59	113.1	39.5	33.6	2.08	28.1	0.01	0.00	0.00	0.04	202 07
230	8.27	8.24	33.997	26.454	161.2	0.602	2.42	105.6	36.6	37.0	2.17	29.5	0.01	0.00		232 06	
300 ISL	8.09 D	8.06	34.025	D 26.503	156.9	0.638	2.24	D 97.5	D 33.7	39.6	2.25	30.5					

RV OCEANUS

CALCOFI CRUISE 1507

STATION 86.7 35.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE	ORD	
33 49.4 N	118 37.7 W	16/07/2015	1024	UTC	663 m	210 04 kn			1013.0 mb	18.9 C	17.6 C					035	
DEPTH	TEMP	POTTEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXYGEN	OXY	N03*	P04*	N02*	NH4*	CHL-A	PHAEAO	PRES	SAMP
m	DEG C	DEG C	THETA			ml/L	μmol/Kg	PCT	μM	μM	μM	μM	μM	μg/L	μg/L	db	
0	20.37	20.37	33.471	23.499	437.8	0.000	5.50	240.3	106.2	1.5	0.26	0.0	0.01	0.23	0.05	0	
2	20.37	20.37	33.471	23.499	437.9	0.009	5.50	240.3	106.2	1.5	0.26	0.0	0.01	0.23	0.05	2	
10	20.16	20.16	33.467	23.553	433.2	0.044	5.54	241.9	106.5	1.5	0.25	0.0	0.01	0.00	0.22	0.06	10
10	20.16	20.16	33.471	23.556	432.8	0.045										10	
20	16.47	16.46	33.363	24.385	354.1	0.083	6.17	269.6	110.6	1.7	0.32	0.0	0.01	0.00	0.28	0.10	20
30	ISL 13.22 D	13.21	33.296 D	25.032	292.6	0.116	5.98	0260.4	0100.2	4.7	0.64	4.4	0.15	0.00	0.75	0.44	30
31	12.98	12.98	33.308 D	25.088	287.3	0.119	5.73	0249.8 D	95.7								31
40	12.17	12.16	33.343	25.273	269.9	0.143	4.90	214.1	80.4	7.8	0.95	8.7	0.29	0.18	1.22	0.79	40
50	11.03	11.02	33.342	25.483	250.1	0.169	4.51	197.2	72.3	11.8	1.20	13.7	0.09	0.00	0.37	0.35	50
60	10.80	10.79	33.449	25.606	238.6	0.194	4.07	177.8	64.9	14.4	1.36	16.0	0.03	0.00	0.23	0.25	60
70	10.69	10.68	33.550	25.704	229.5	0.217	3.62	158.3	57.7	17.0	1.51	18.4	0.05	0.00	0.15	0.20	71
75	ISL 10.59 D	10.58	33.592 D	25.756	224.7	0.230	3.49	0151.9 D	55.4	17.5	1.54	18.7	0.04	0.00	0.13	0.18	76
86	10.51	10.49	33.613	25.787	222.1	0.253	3.45	150.8	54.8	18.6	1.59	19.5	0.02	0.00	0.09	0.14	87
100	10.36	10.35	33.668	25.855	215.9	0.284	3.34	145.9	52.8	19.9	1.65	20.3	0.02	0.00	0.05	0.11	101
120	10.25	10.24	33.751	25.939	208.4	0.326	3.08	134.3	48.6	22.0	1.76	21.5	0.01	0.00	0.02	0.10	121
125	ISL 10.24 D	10.23	33.792 D	25.973	205.3	0.339	2.94	027.9 D	46.4	22.5	1.79	21.9	0.01	0.00	0.02	0.10	126
140	10.22	10.21	33.831	26.007	202.4	0.367	2.69	117.4	42.4	24.2	1.89	23.2	0.01	0.00	0.02	0.09	141
150	ISL 10.20 D	10.18	33.871 D	26.043	199.2	0.390	2.62	0114.0 D	41.3	25.3	1.94	23.7	0.01	0.00	0.01	0.08	151
170	10.10	10.08	33.960	26.130	191.5	0.426	2.32	101.3	36.5	27.3	2.04	24.7	0.01	0.00	0.01	0.07	171
200	9.98	9.95	34.091	26.254	180.4	0.482	1.84	80.4	28.9	31.2	2.24	26.7	0.01	0.00	0.00	0.07	202
230	9.81	9.78	34.196	26.366	170.4	0.535	1.50	65.3	23.4	34.6	2.37	27.9	0.01	0.00			232
250	ISL 9.88 D	9.85	34.278 D	26.418	166.0	0.572	1.21	025.2 D	19.0	36.3	2.45	28.4	0.01	0.00			252
270	9.74	9.71	34.299	26.459	162.5	0.602	1.11	48.6	17.4	37.9	2.52	28.8	0.01	0.00			272
300	ISL 9.45 D	9.42	34.320 D	26.524	156.9	0.654	0.98	042.8 D	15.3	40.7	2.59	29.8	0.00	0.00			302
320	9.10	9.06	34.317	26.579	151.9	0.681	0.91	39.7	14.0	42.6	2.64	30.5	0.00	0.01			323
380	8.43	8.39	34.299	26.671	144.0	0.770	0.78	34.0	11.8	49.0	2.77	32.7	0.00	0.00			383
400	ISL 8.28 D	8.24	34.286 D	26.684	143.0	0.803	0.77	035.5 D	11.7	50.7	2.80	33.3	0.00	0.00			403
440	7.95	7.90	34.287	26.735	138.6	0.854	0.68	29.7	10.2	54.2	2.85	34.4	0.01	0.00			444
500	ISL 7.51 D	7.46	34.287 D	26.800	133.1	0.942	0.55	024.1 D	8.2								504
515	7.40	7.34	34.286 D	26.815	131.8	0.962	0.53	022.8 D	7.8								519
																01	

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

RV OCEANUS

CALCOFI CRUISE 1507

STATION 86.7 40.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE	ORD		
33 39.4 N	118 58.5 W	16/07/2015	1421	UTC	749 m	210 05 kn	210 03 06	2	1013.0 mb	18.0 C	16.3 C	22 m	8/8	SC	036			
DEPTH	TEMP	POTTEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXYGEN	OXY	SI03*	P04*	N03*	N02*	NH4*	CHL-A	PHAEAO	PRES	SAMP
m	DEG C	DEG C	THETA			ml/L	μmol/Kg	PCT	μM	μM	μM	μM	μM	μg/L	μg/L	db		
0	19.42	19.42	33.457	23.738	415.1	0.000	5.50	240.4	104.4	1.7	0.27	0.0	0.00	0.01	0.18	0.05	0	
3	19.42	19.41	33.457	23.738	415.2	0.013	5.50	240.4	104.4	1.7	0.27	0.0	0.00	0.01	0.18	0.05	3	
10	19.41	19.41	33.456	23.738	415.4	0.042	5.51	240.9	104.6	1.7	0.29	0.0	0.01	0.01	0.19	0.05	10	
20	15.60	15.59	33.353	24.574	336.1	0.079	6.18	269.9	108.8	2.3	0.35	0.0	0.00	0.04	0.35	0.13	20	
30	12.79	12.78	33.360	25.167	279.8	0.110	5.32	232.2	88.4	6.2	0.77	5.9	0.16	0.21	1.09	0.65	30	
40	11.38	11.38	33.367	25.438	254.1	0.137	4.51	196.8	72.7	11.5	1.17	13.0	0.13	0.00	0.62	0.49	40	
50	ISL 10.92 D	10.91	33.458 D	25.592	239.7	0.162	4.08	0177.8 D	65.3	13.9	1.32	15.5	0.05	0.00	0.31	0.33	50	
51	10.88	10.87	33.455	25.597	239.3	0.164	4.08	178.3	65.2	14.2	1.33	15.8	0.04	0.00	0.28	0.31	51	
60	10.60	10.60	33.592	25.752	224.7	0.185	3.53	154.1	56.1	17.9	1.55	19.0	0.03	0.00	0.12	0.17	60	
70	10.52	10.51	33.624	25.792	221.2	0.207	3.43	149.7	54.4	18.6	1.59	19.6	0.03	0.00	0.09	0.13	71	
75	ISL 10.50 D	10.49	33.636 D	25.806	220.0	0.219	3.42	0148.8 D	54.2	19.3	1.62	20.1	0.03	0.00	0.08	0.12	76	
85	10.31	10.30	33.691 D	25.880	213.1	0.241	3.27	0142.5 D	51.7								86	
100	10.01	10.00	33.761	25.986	203.4	0.271	3.08	134.5	48.4	22.5	1.77	22.2	0.02	0.00	0.02	0.08	101	
121	9.73	9.72	33.861	26.112	191.8	0.312	2.85	124.7	44.6	25.6	1.87	24.0	0.02	0.00	0.01	0.06	122	
125	ISL 9.67 D	9.65	33.889 D	26.146	188.8	0.321	2.82	0122.9 D	44.0	26.2	1.90	24.2	0.01	0.00	0.01	0.06	126	
140	9.82	9.80	33.988	26.198	184.2	0.348	2.43	106.2	38.1	28.6	2.03	25.3	0.01	0.00	0.00	0.06	141	
150	ISL 9.81 D	9.79	34.063 D	26.259	178.7	0.368	2.16	094.2 D	33.9	30.2	2.10	26.0	0.01	0.00	0.00	0.06	151	
171	9.49	9.47	34.117	26.354	170.0	0.403	1.89	82.6	29.4	33.7	2.24	27.5	0.00	0.00	0.00	0.06	172	
200	9.20	9.18	34.173	26.446	161.8	0.451	1.61	70.1	24.8	37.3	2.36	28.9	0.01	0.00	0.01	0.06	202	
231	9.06	9.04	34.199	26.490	158.3	0.501	1.46	63.8	22.5	39.3	2.43	29.6	0.01	0.00			233	
250	ISL 8.78 D	8.75	34.242 D	26.568	151.1	0.533	1.23	053.6 D	18.9	41.6	2.51	30.4	0.01	0.00			252	
269	8.73	8.70	34.247	26.581	150.3	0.559	1.14	49.6	17.4	43.9	2.58	31.3	0.00	0.00			271	
300	ISL 8.68 D	8.65	34.253 D	26.593	149.8	0.609	1.10	47.8 D	16.8	45.3	2.62	31.7	0.00	0.00			302	
321	8.58	8.55	34.272	26.625	147.2	0.637	0.96	41.7	14.6	46.2	2.65	31.9						

RV OCEANUS

CALCOFI CRUISE 1507

STATION 86.7 45.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD			
DEPTH	TEMP	POTTEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXYGEN	OXY	SI03*	P04*	N03*	N02*	NH4*	CHL-A	PHAEAO	PRES	SAMP
m	DEG C	DEG C	THETA			ml/L	μmol/Kg	PCT	μM	μM	μM	μM	μM	μM	μg/L	μg/L	db	
0	18.89	18.89	33.457	23.872	402.2	0.000	5.58	243.9	104.9	1.4	0.30	0.0	0.00	0.00	0.35	0.05	0	
2 A	18.89	18.88	33.457	23.872	402.3	0.008	5.58	243.9	104.9	1.4	0.30	0.0	0.00	0.00	0.35	0.05	2 23	
10 ISL	17.99	17.99	33.438 D	24.080	382.8	0.040	5.68	0247.8	0104.9	0.9	0.32	0.1	0.01	0.00	0.46	0.10	10	
11 A	17.34	17.34	33.448	24.245	367.1	0.043	5.75	251.2	104.9	0.9	0.32	0.1	0.01	0.06	0.47	0.11	11 20	
11	17.34	17.34	33.448	24.245	367.1	0.042				0.9	0.32	0.1	0.01	0.06			11 21	
15 A	15.95	15.94	33.456	24.575	335.8	0.057	6.11	266.9	108.4	0.5	0.41	0.6	0.04	0.28	0.84	0.16	15 19	
20 ISL	13.71	13.71	33.496 D	25.086	287.2	0.073	6.11	0266.0	0103.6	0.5	0.55	2.8	0.07	0.49	2.70	0.58	20	
27 A	12.48	12.47	33.495	25.331	264.0	0.092	5.44	237.8	90.0	0.5	0.75	5.8	0.11	0.78	5.29	1.18	27 24	
27	12.48	12.47	33.503	25.337	263.5	0.092				2.2	0.90	7.9	0.13	0.99			27 18	
30 ISL	12.03	12.03	33.524 D	25.439	253.8	0.101	4.60	0200.2 D	75.3	3.0	0.87	7.6	0.13	0.00	4.68	1.08	30	
39	10.88	10.87	33.576 D	25.691	230.1	0.123	3.59	0156.5 D	57.5								39 16	
50 ISL	10.31	10.30	33.635 D	25.836	216.5	0.147	3.36	0146.4 D	53.1	19.7	1.63	20.0	0.27	0.00	0.58	0.44	50	
51 A	10.27	10.26	33.637	25.844	215.7	0.149	3.32	144.9	52.4	20.6	1.67	20.6	0.28	0.00	0.37	0.41	51 15	
61 A	10.17	10.16	33.680	25.895	211.1	0.170	3.25	142.1	51.2	21.1	1.68	21.1	0.07	0.01	0.24	0.34	61 14	
70	10.01	10.00	33.722	25.955	205.6	0.189	3.17	138.2	49.7	21.9	1.72	21.8	0.04	0.00	0.20	0.30	71 13	
75 ISL	9.98	9.97	33.753 D	25.985	202.9	0.200	3.12	0135.9 D	49.0	22.7	1.76	22.2	0.04	0.00	0.16	0.25	76	
85	9.83	9.82	33.798	26.045	197.4	0.219	2.97	129.6	46.4	24.4	1.83	23.2	0.03	0.00	0.09	0.15	86 12	
100	9.83	9.82	33.911	26.134	189.3	0.248	2.55	111.3	39.9	27.1	1.97	24.7	0.03	0.00	0.19	0.34	101 11	
120	9.60	9.59	33.949	26.202	183.3	0.285	2.46	107.4	38.3	28.8	2.02	25.4	0.05	0.00	0.04	0.09	121 10	
125 ISL	9.54	9.53	33.961 D	26.222	181.5	0.296	2.44	0106.4 D	38.0	29.7	2.06	25.9	0.04	0.00	0.03	0.09	126	
140	9.32	9.31	34.020	26.304	174.0	0.321	2.16	94.1	33.4	32.4	2.16	27.2	0.03	0.00	0.02	0.09	141 09	
150 ISL	9.27	9.26	34.047 D	26.334	171.4	0.340	2.02	088.0 D	31.3	33.1	2.19	27.5	0.02	0.00	0.01	0.08	151	
170	9.38	9.36	34.120	26.374	168.1	0.372	1.85	80.7	28.7	34.5	2.26	28.0	0.02	0.00	0.01	0.07	171 08	
200	9.05	9.03	34.141	26.444	162.0	0.421	1.67	72.8	25.7	37.5	2.35	29.3	0.01	0.00	0.02	0.09	202 07	
230	8.98	8.96	34.192	26.497	157.6	0.469	1.40	61.2	21.6	39.9	2.44	30.0	0.01	0.00			232 06	
250 ISL	8.73	8.70	34.207 D	26.548	153.0	0.504	1.25	045.5 D	19.2	42.5	2.51	30.9	0.01	0.00			252	
270	8.50	8.47	34.217	26.593	149.1	0.531	1.14	49.6	17.3	45.1	2.58	31.8	0.01	0.00			272 05	
300 ISL	8.26	8.23	34.231 D	26.641	145.0	0.579	0.96	041.9 D	14.6	48.2	2.66	32.9	0.01	0.00			302	
320	8.11	8.08	34.241	26.671	142.4	0.603	0.89	38.8	13.4	50.3	2.71	33.6	0.01	0.00			323 04	
380	7.63	7.59	34.256	26.754	135.3	0.687	0.69	30.3	10.3	55.8	2.82	35.2	0.01	0.00			383 03	
400 ISL	7.52	7.48	34.272 D	26.783	132.8	0.719	0.59	25.8 D	8.8	58.5	2.87	35.8	0.01	0.00			403	
440	7.15	7.10	34.280	26.843	127.6	0.766	0.48	21.0	7.1	64.0	2.98	36.9	0.01	0.00			444 02	
500 ISL	6.79	6.75	34.296 D	26.905	122.3	0.847	0.37	16.0 D	5.4								504	
515	6.69	6.64	34.301 D	26.923	120.7	0.865	0.34	14.9 D	5.0								519 01	

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

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

RV OCEANUS

CALCOFI CRUISE 1507

STATION 86.7 50.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD			
DEPTH	TEMP	POTTEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXYGEN	OXY	SI03*	P04*	N03*	N02*	NH4*	CHL-A	PHAEAO	PRES	SAMP
m	DEG C	DEG C	THETA			ml/L	μmol/Kg	PCT	μM	μM	μM	μM	μM	μM	μg/L	μg/L	db	
0	17.67	17.67	33.453	24.169	373.9	0.000	5.89	257.0	108.0	1.6	0.32	0.1	0.02	0.05	0.19	0		
2	17.67	17.67	33.453	24.169	374.0	0.008	5.89	257.0	108.0	1.6	0.32	0.1	0.02	0.05	0.19	2 09		
10	14.22	14.22	33.435	24.934	301.4	0.035	5.30	231.6	90.9	5.1	0.72	5.4	0.20	0.21	1.75	0.52	10 07	
10	14.22	14.22	33.434	24.936	301.2	0.035											10 08	
20	13.01	13.01	33.441	25.185	277.8	0.064	4.80	209.5	80.2	8.6	0.98	9.4	0.29	0.24	1.11	0.53	20 06	
30 ISL	11.77	11.77	33.459 D	25.437	254.0	0.091	4.26	0185.5 D	69.3	12.1	1.22	13.2	0.31	0.15	0.69	0.48	30	
31	11.13	11.12	33.467	25.561	242.2	0.093	4.22	184.2	67.7	12.5	1.24	13.6	0.31	0.14	0.65	0.47	31 05	
41	10.80	10.80	33.604	25.726	226.8	0.116	3.54	154.8	56.6	18.6	1.57	18.6	0.22	0.26	0.32	0.31	41 04	
50	10.72	10.71	33.630	25.762	223.6	0.136	3.45	150.5	54.9	19.4	1.61	19.1	0.23	0.32	0.27	0.33	50 03	
60	10.67	10.67	33.648	25.783	221.8	0.159	3.38	147.5	53.8	20.0	1.63	19.3	0.23	0.33	0.24	0.31	60 02	
70	10.51	10.50	33.675	25.834	217.2	0.181	3.29	143.7	52.2	20.9	1.68	20.1	0.21	0.27	0.20	0.30	71 01	

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

RV OCEANUS

CALCOFI CRUISE 1507

STATION 86.7 55.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD			
DEPTH	TEMP	POTTEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXYGEN	OXY	SI03*	P04*	N03*	N02*	NH4*	CHL-A	PHAEAO	PRES	SAMP
m	DEG C	DEG C	THETA			ml/L	μmol/Kg	PCT	μM	μM	μM	μM	μM	μM	μg/L	μg/L	db	
0	17.50	17.50	33.343	24.124	378.2	0.000	5.82	254.1	106.4	1.8	0.32	0.0	0.00	0.01	0.29	0.09	0	
2	17.61	17.61	33.348 D	24.102	380.4	0.008	5.81	254.0	106.5	1.8	0.31	0.0	0.00	0.01	0.29	0.09	2 21	
10	17.50	17.50	33.343	24														

RV OCEANUS

CALCOFI CRUISE 1507

STATION 86.7 60.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE	ORD		
DEPTH m	TEMP DEG C	POTTEMP DEG C	SALINITY	SIGMA THETA	SV	DYN HT	OXYGEN ml/L	OXYGEN μmol/Kg	OXY PCT	SI03* μM	P04* μM	N03* μM	N02* μM	NH4* μM	CHL-A μg/L	PHAEAO μg/L	PRES db	SAMP
32 59.4 N	120 21.0 W	18/07/2015	0409	UTC	722 m	250 07 kn			1009.0 mb	18.7 c	15.9 c						040	
0	19.35	19.35	33.180	23.543	433.7	0.000	5.52	241.2	104.5	0.8	0.31	0.0	0.01	0.02	0.14	0.03	0	
2	19.35	19.35	33.180	23.543	433.7	0.009	5.52	241.2	104.5	0.8	0.31	0.0	0.01	0.02	0.14	0.03	2 22	
10	18.82	18.82	33.159	23.662	422.7	0.043	5.56	242.8	104.1	0.7	0.31	0.0	0.01	0.01	0.17	0.04	10 20	
10	18.82	18.82	33.159	23.663	422.6	0.043											10 21	
20	ISL	18.05 D	18.04	33.137 D	23.837	406.4	0.085	5.78	D252.0	D106.6	0.7	0.31	0.0	0.01	0.01	0.24	0.08	20
21		17.07	17.07	33.135	24.068	384.3	0.088	5.80	253.5	105.1	0.7	0.31	0.0	0.01	0.01	0.25	0.08	21 19
30	ISL	14.54 D	14.53	32.914 D	24.466	346.5	0.122	6.31	D275.1	D108.5	1.6	0.40	1.0	0.07	0.02	0.34	0.19	30
30		14.54	14.53	32.914 D	24.466	346.5	0.122	6.31	D275.1	D108.5								30 18
41		14.75	14.74	33.230 D	24.665	328.0	0.160	5.95	D259.4	D103.0								41 17
50		13.15	13.14	33.046	24.853	310.2	0.187	5.69	248.6	95.2	3.5	0.61	3.3	0.22	0.03	0.55	0.43	50 16
60		12.92	12.91	33.180	25.002	296.3	0.217	5.34	233.0	88.9	5.1	0.78	6.3	0.04	0.01	0.30	0.32	60 15
70		12.13	12.12	33.178	25.154	282.0	0.246	5.15	224.9	84.3	6.8	0.91	8.6	0.03	0.02	0.19	0.22	71 14
75	ISL	12.01 D	12.00	33.166 D	25.167	280.9	0.262	5.12	D223.1	D83.7	7.7	0.98	9.7	0.03	0.02	0.18	0.21	76
85		11.09	11.07	33.166	25.336	264.9	0.287	4.96	216.7	79.5	9.4	1.11	11.9	0.04	0.01	0.17	0.19	86 13
100		9.96	9.95	33.246	25.592	240.7	0.325	4.60	201.0	72.0	13.4	1.34	15.8	0.03	0.01	0.10	0.14	101 12
120		9.31	9.30	33.539 D	25.929	209.0	0.373	3.89	169.6	60.0	20.6	1.67	21.4	0.02	0.00	0.02	0.05	121 11
125	ISL	9.33 D	9.32	33.551 D	25.935	208.6	0.383	3.79	D165.0	D58.6	21.6	1.72	22.0	0.02	0.00	0.02	0.05	126
140		9.34	9.32	33.706	26.056	197.5	0.410	3.21	140.0	49.6	24.7	1.85	23.9	0.01	0.00	0.01	0.05	141 10
150	ISL	9.05 D	9.03	33.759 D	26.144	189.3	0.433	3.23	D140.5	D49.6	25.7	1.87	24.4	0.01	0.00	0.01	0.05	151
170		8.86	8.84	33.820	26.222	182.2	0.467	3.07	134.0	47.0	27.8	1.91	25.5	0.01	0.00	0.00	0.04	171 09
200		8.60	8.58	33.938	26.356	170.1	0.520	2.70	117.9	41.2	32.4	2.06	27.5	0.01	0.00	0.00	0.03	202 08
230		8.11	8.09	34.022	26.496	157.2	0.569	2.23	97.2	33.6	39.1	2.26	30.1	0.01	0.00		232 07	
250	ISL	7.75 D	7.73	34.040 D	26.564	150.9	0.604	2.02	D88.0	D30.2	42.2	2.33	31.2	0.01	0.00			252
269		7.63	7.60	34.044	26.585	149.2	0.628	1.94	84.8	29.0	45.1	2.40	32.3	0.01	0.00			271 06
300	ISL	7.34 D	7.31	34.092 D	26.664	142.1	0.678	1.50	D65.3	D22.2	51.7	2.59	34.4	0.01	0.00			302
320		7.11	7.07	34.116	26.717	137.3	0.702	1.19	51.9	17.5	55.9	2.71	35.7	0.01	0.00			323 05
380		6.68	6.65	34.163	26.812	128.9	0.782	0.83	36.4	12.2	63.7	2.89	37.7	0.01	0.00			383 03
400	ISL	6.57 D	6.53	34.171 D	26.835	127.0	0.813	0.74	D32.3	D10.8	66.5	2.94	38.3	0.01	0.00			403
440		6.21	6.17	34.199	26.902	120.9	0.858	0.55	24.1	8.0	72.3	3.04	39.6	0.01	0.00			445 02
500	ISL	5.94 D	5.89	34.268 D	26.993	112.9	0.933	0.35	D15.1 D	5.0	78.9	3.15	40.5	0.01	0.00			504
516		5.90	5.85	34.281	27.009	111.7	0.945	0.33	14.3	4.7	80.7	3.18	40.8	0.01	0.00			520 01

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

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE	ORD		
DEPTH m	TEMP DEG C	POTTEMP DEG C	SALINITY	SIGMA THETA	SV	DYN HT	OXYGEN ml/L	OXYGEN μmol/Kg	OXY PCT	SI03* μM	P04* μM	N03* μM	N02* μM	NH4* μM	CHL-A μg/L	PHAEAO μg/L	PRES db	SAMP
32 39.4 N	121 3.0 W	24/07/2015	1932	UTC	3741 m	340 15 kn	350 02 06	1	1018.7 mb	18.7 c	17.0 c	20 m	3/8	SC 071				
0	19.39	19.39	33.063	23.443	443.2	0.000	5.50	240.3	104.1	1.4	0.30	0.0	0.01	0.00	0.17	0.02	0	
2	19.39	19.39	33.063	23.443	443.3	0.009	5.50	240.3	104.1	1.4	0.30	0.0	0.01	0.00	0.17	0.02	2 22	
10	19.20	19.20	33.066	23.495	438.6	0.044	5.53	241.7	104.3	1.3	0.30	0.0	0.00	0.00	0.20	0.04	10 19	
10	19.20	19.20	33.068	23.496	438.5	0.043											10 20	
20	ISL	18.37 D	33.063 D	23.702	419.3	0.088	5.60	D244.2	D103.9	1.5	0.31	0.0	0.00	0.00	0.23	0.06	20	
25		17.20	17.19	33.090	24.005	390.5	0.107	5.93	259.1	107.6	1.7	0.32	0.0	0.00	0.01	0.24	0.07	25 18
30	ISL	16.20 D	16.19	33.021 D	24.184	373.5	0.127	5.99	D261.3	D106.6	1.8	0.33	0.0	0.00	0.00	0.26	0.08	30
40		15.03	15.02	32.889	24.343	358.7	0.163	6.15	268.8	106.8	2.0	0.34	0.0	0.00	0.00	0.28	0.11	40 17
50		14.55	14.54	32.882	24.441	349.6	0.198	6.17	269.7	106.1	2.1	0.36	0.0	0.01	0.01	0.44	0.18	50 16
62		13.66	13.65	32.937	24.667	328.3	0.239	5.99	261.6	101.1	2.9	0.46	0.9	0.08	0.02	0.60	0.46	62 15
75		12.74	12.73	33.048	24.935	303.1	0.280	5.60	244.7	92.8	4.2	0.74	5.6	0.28	0.01	0.40	0.33	76 14
87		12.40	12.39	33.120	25.059	291.6	0.316	5.38	235.2	88.6	5.2	0.89	8.2	0.13	0.01	0.27	0.18	88 13
100		10.83	10.82	33.136	25.358	263.2	0.352	5.01	218.7	79.7	10.1	1.15	12.5	0.03	0.00	0.11	0.16	101 12
112		10.53	10.52	33.280	25.523	247.7	0.383	4.56	199.1	72.2	13.4	1.35	16.0	0.02	0.00	0.04	0.06	113 11
125		9.58	9.57	33.318	25.713	229.8	0.414	4.48	195.8	69.5	16.6	1.46	17.9	0.02	0.00	0.02	0.05	126 10
140		9.22	9.20	33.532	25.939	208.5	0.446	3.88	169.5	59.8	21.3	1.67	21.4	0.02	0.01	0.04	0.04	141 09
150	ISL	9.14 D	9.12	33.630 D	26.028	200.2	0.469	3.64	D158.5	D56.0	23.2	1.75	22.7	0.02	0.00	0.01	0.03	151
170		8.98	8.96	33.788	26.179	186.4	0.506	3.11	135.9	47.7	27.2	1.90	25.3	0.02	0.00	0.01	0.03	171 08
200		8.58	8.56	33.943	26.362	169.4	0.559	2.66	116.2	40.5	33.1	2.08	28.0	0.01	0.01	0.00	0.03	202 07
230		8.19	8.17	33.992	26.460	160.6	0.609	2.43	106.2	36.7	37.1	2.19	29.7	0.01	0.00			232 06
250	ISL	7.98 D	7.95	34.018 D	26.514	155.7	0.643	2.21	D96.1 D	33.2	40.7	2.29	31.0	0.01	0.00			252
270		7.69	7.66	34.035	26.569	150.7	0.671	1.99	86.8	29.7	44.3	2.39	32.3	0.01	0.00			272 05
300	ISL	7.42 D	7.39	34.060 D	26.628	145.5	0.719	1.67	D72.6 D	24.7	49.4	2.53	34.1	0.01	0.00			302

RV OCEANUS

CALCOFI CRUISE 1507

STATION 86.7 80.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD			
DEPTH m	TEMP DEG C	POTTEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/L	OXYGEN $\mu\text{mol/Kg}$	OXY PCT	SI03* μM	P04* μM	N03* μM	N02* μM	NH4* μM	CHL-A $\mu\text{g/L}$	PHAEAO $\mu\text{g/L}$	PRES db	SAMP
32 19.4 N	121 42.9 W	24/07/2015	1401	UTC	4063 m	360 12 kn	010 03 07	1	1017.5 mb	18.4 C	16.2 C	4/8	SC	070				
0	19.93	19.93	33.145	23.368	450.3	0.000	5.37	234.7	102.7	1.7	0.31	0.0	0.01	0.00	0.10	0.03	0	
2	19.93	19.92	33.145	23.368	450.4	0.009	5.37	234.7	102.7	1.7	0.31	0.0	0.01	0.00	0.10	0.03	2 21	
10	19.77	19.77	33.148	23.412	446.6	0.045	5.37	234.6	102.4	1.7	0.32	0.0	0.01	0.01	0.10	0.02	10 19	
10	19.77	19.77	33.147	23.411	446.7	0.044											10 20	
20	ISL 18.33 D	18.33	33.211 D	23.824	407.6	0.088	5.61	D244.7	D104.1	1.8	0.31	0.0	0.01	0.00	0.12	0.03	20	
25	17.89	17.89	33.232	23.948	396.0	0.108	5.74	250.8	105.7	1.9	0.31	0.0	0.01	0.00	0.13	0.04	25 22	
30	ISL 17.53 D	17.53	33.218 D	24.024	389.8	0.128	5.71	D248.9	D104.3	1.9	0.31	0.0	0.01	0.00	0.14	0.04	30	
40	17.13	17.12	33.252	24.147	377.6	0.166	5.84	255.2	106.0	1.9	0.31	0.0	0.01	0.00	0.16	0.05	40 17	
50	16.23	16.22	33.204	24.320	361.3	0.202	5.95	259.8	106.0	1.8	0.33	0.0	0.01	0.00	0.19	0.08	50 16	
62	15.25	15.24	33.185	24.524	342.2	0.245	5.96	260.5	104.2	1.9	0.37	0.0	0.01	0.00	0.30	0.19	62 15	
75	14.58	14.57	33.223	24.697	326.1	0.288	5.75	251.4	99.2	2.7	0.47	0.6	0.19	0.03	0.55	0.43	76 14	
87	13.82	13.81	33.223	24.857	311.0	0.326	5.49	239.9	93.2	3.7	0.66	3.9	0.12	0.00	0.37	0.34	88 13	
100	ISL 12.22 D	12.21	33.193 D	25.150	283.2	0.368	5.08	D221.2	D83.3	7.0	0.91	8.3	0.04	0.00	0.17	0.19	101	
101	12.14	12.12	33.192	25.165	281.8	0.368	5.12	223.9	83.9	7.2	0.93	8.7	0.04	0.00	0.15	0.17	102 12	
112	11.02	11.01	33.253	25.417	257.9	0.397	4.73	206.7	75.7	11.1	1.20	13.3	0.03	0.00	0.07	0.10	113 11	
125	10.37	10.35	33.361	25.616	239.2	0.430	4.34	189.6	68.5	14.4	1.37	16.3	0.02	0.00	0.04	0.06	126 10	
140	9.81	9.79	33.520	25.834	218.6	0.464	3.87	169.1	60.4	19.0	1.60	20.1	0.02	0.00	0.02	0.04	141 09	
150	ISL 9.59 D	9.57	33.599 D	25.932	209.5	0.489	3.66	D159.1	D56.8	21.1	1.68	21.4	0.02	0.00	0.01	0.04	151	
170	9.31	9.29	33.744	26.091	194.8	0.526	3.21	140.1	49.6	25.3	1.84	24.1	0.01	0.00	0.00	0.04	171 08	
200	8.95	8.93	33.860	26.240	181.2	0.582	2.92	127.7	44.9	29.2	1.96	26.2	0.01	0.00	0.00	0.03	202 07	
230	8.50	8.48	33.973	26.400	166.5	0.634	2.55	111.1	38.7	34.7	2.13	28.4	0.02	0.00			232 06	
250	ISL 8.34 D	8.31	34.014 D	26.457	161.4	0.672	2.33	D101.2	D35.2	37.9	2.23	29.7	0.01	0.00			252	
270	8.08	8.06	34.042	26.518	155.9	0.699	2.09	91.2	31.5	41.2	2.32	31.0	0.01	0.00			272 05	
300	ISL 7.74 D	7.71	34.069 D	26.590	149.4	0.751	1.80	D78.2	D26.9	46.4	2.48	32.9	0.01	0.00			302	
320	7.49	7.46	34.094	26.646	144.3	0.774	1.52	66.3	22.6	49.9	2.58	34.2	0.01	0.00			323 04	
380	6.90	6.86	34.133	26.760	134.0	0.857	1.04	45.5	15.3	59.6	2.81	37.2	0.01	0.00			383 03	
400	ISL 6.77 D	6.73	34.149 D	26.790	131.5	0.891	0.87	D38.0	D12.8	62.6	2.87	37.9	0.01	0.00			403	
440	6.40	6.36	34.178	26.862	124.9	0.935	0.68	29.6	9.8	68.8	3.00	39.3	0.01	0.00			444 02	
500	ISL 5.98 D	5.94	34.219 D	26.949	117.1	1.016	0.44	D19.3	D6.4	77.3	3.14	40.8	0.01	0.00			504	
515	5.87	5.83	34.233	26.973	114.9	1.025	0.39	17.2	5.6	79.4	3.17	41.2	0.01	0.00			519 01	

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

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD			
DEPTH m	TEMP DEG C	POTTEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/L	OXYGEN $\mu\text{mol/Kg}$	OXY PCT	SI03* μM	P04* μM	N03* μM	N02* μM	NH4* μM	CHL-A $\mu\text{g/L}$	PHAEAO $\mu\text{g/L}$	PRES db	SAMP
31 59.4 N	122 23.6 W	24/07/2015	0844	UTC	4097 m	010 11 kn	010 11	1	1017.2 mb	18.8 C	16.1 C	4/8	069					
0	21.00	21.00	33.362	23.249	461.8	0.000	5.24	228.7	102.3	1.8	0.29	0.0	0.01	0.01	0.07	0.01	0	
2	21.00	21.00	33.362	23.249	461.8	0.009	5.24	228.7	102.3	1.8	0.29	0.0	0.01	0.01	0.07	0.01	2 21	
10	20.99	20.99	33.367	23.256	461.5	0.046	5.23	228.2	102.0	1.8	0.29	0.0	0.00	0.01	0.08	0.01	10 19	
10	20.99	20.99	33.361	23.251	461.9	0.046											10 20	
20	ISL 19.65 D	19.65	33.282 D	23.545	434.3	0.091	5.41	D235.9	D102.9	1.8	0.30	0.0	0.00	0.00	0.08	0.02	20	
25	19.10	19.09	33.217	23.638	425.6	0.112	5.57	243.1	104.8	1.8	0.30	0.0	0.00	0.09	0.09	0.02	25 18	
30	ISL 17.97 D	17.96	33.044 D	23.786	411.6	0.134	5.63	D246.5	D104.1	1.8	0.30	0.0	0.00	0.00	0.09	0.02	30	
40	17.76	17.75	33.191	23.949	396.4	0.173	5.74	250.8	105.4	1.8	0.30	0.0	0.01	0.00	0.11	0.02	40 17	
50	17.02	17.01	33.195	24.130	379.5	0.212	5.84	255.0	105.6	1.9	0.30	0.0	0.01	0.00	0.12	0.04	50 16	
62	16.06	16.05	33.136	24.305	363.1	0.256	5.89	257.3	104.5	2.0	0.33	0.0	0.00	0.00	0.17	0.06	62 15	
75	15.30	15.28	33.101	24.450	349.7	0.303	5.91	258.2	103.3	2.2	0.35	0.0	0.01	0.04	0.22	0.11	76 14	
87	14.37	14.35	33.092	24.643	331.6	0.343	5.87	256.3	100.6	2.9	0.41	0.0	0.01	0.02	0.26	0.23	88 13	
100	12.51	12.50	33.081	25.007	296.9	0.384	5.52	240.9	91.0	5.1	0.69	4.1	0.15	0.03	0.28	0.34	101 12	
112	11.27	11.26	33.080	25.238	275.0	0.419	5.08	222.1	81.7	8.5	1.01	10.1	0.07	0.00	0.25	0.22	113 11	
125	10.33	10.33	33.163	25.464	253.5	0.453	4.80	209.7	75.7	11.9	1.25	14.2	0.03	0.01	0.16	0.16	126 10	
140	9.76	9.74	33.328	25.692	232.1	0.489	4.48	195.8	69.8	15.2	1.40	17.0	0.02	0.00	0.08	0.10	141 09	
150	ISL 9.48 D	9.47	33.489 D	25.863	216.0	0.516	4.18	D181.9 D	D64.7	17.0	1.45	18.1	0.02	0.00	0.06	0.08	151	
170	9.25	9.23	33.656	26.032	200.4	0.554	4.03	176.1	62.2	20.5	1.55	20.4	0.01	0.00	0.01	0.03	171 08	
200	8.72	8.70	33.872	26.286	176.7	0.611	3.53	154.0	53.8	27.6	1.78	24.4	0.01	0.00	0.00	0.02	202 07	
230	8.27	8.24	33.965	26.429	163.6	0.662	3.15	137.4	47.6	33.6	1.95	26.9	0.01	0.00			232 06	
270	7.72	7.69	33.993	26.532	154.3	0.726	2.78	121.5	41.6	40.2	2.12	29.4	0.01	0.00			272 05	
300	ISL 7.23 D	7.20	34.026 D	26.627	145.5	0.776	2.09	D90.7	D30.8	47.6	2.36	32.5	0.01	0.00			302	
319	6.99	6.96	34.038	26.670	141.5	0.798	1.87	81.5	27.4	52.3	2.52	34.4	0.01	0.00			322 04	
380	6.37	6.33																

RV OCEANUS

CALCOFI CRUISE 1507

STATION 86.7 100.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD			
DEPTH	TEMP	POTTEMP	SALINITY	SIGMA	SV	DYN HT	OXYGEN	OXYGEN	OXY	SI03*	P04*	N03*	N02*	NH4*	CHL-A	PHAEAO	PRES SAMP	
m	DEG C	DEG C		THETA			ml/L	μmol/Kg	PCT	μM	μM	μM	μM	μM	μg/L	μg/L	db	
0	20.69	20.69	33.129	23.155	470.7	0.000	5.26	229.6	101.9	1.7	0.22	0.0	0.00	0.00	0.11	0.03	0	
2	20.69	20.69	33.129	23.155	470.8	0.009	5.26	229.6	101.9	1.7	0.22	0.0	0.00	0.00	0.11	0.03	2	
10	20.13	20.13	33.165	23.332	454.3	0.046	5.52	241.2	106.0	1.7	0.31	0.0	0.01	0.00	0.13	0.03	10	
10	20.13	20.13	33.161	23.329	454.5	0.046											20	
20	ISL	16.61	32.880	D 23.980	392.7	0.089	5.97	D260.5	D107.0	1.8	0.31	0.0	0.01	0.00	0.15	0.04	20	
25	16.28	16.27	32.863	D 24.044	386.7	0.109	5.92	258.6	105.4	1.9	0.30	0.0	0.02	0.00	0.20	0.07	25	
30	ISL	15.94	D 15.93	32.853	D 24.114	380.2	0.128	5.98	D260.8	D105.7	1.9	0.30	0.0	0.01	0.00	0.18	0.06	30
40	16.43	16.42	33.024	24.135	378.6	0.163	5.89	257.2	105.2	1.9	0.30	0.0	0.02	0.00	0.21	0.07	40	
50	15.19	15.18	33.013	24.404	353.2	0.199	5.90	257.9	102.9	2.1	0.32	0.0	0.02	0.00	0.31	0.18	50	
62	13.91	13.90	32.975	24.646	330.4	0.240	5.90	257.7	100.1	2.9	0.47	1.0	0.17	0.04	0.46	0.32	62	
75	13.28	13.27	33.113	24.880	308.4	0.282	5.46	238.5	91.6	4.4	0.67	4.6	0.16	0.00	0.30	0.25	76	
88	12.60	12.59	33.176	25.063	291.2	0.321	5.19	226.5	85.8	6.2	0.85	7.7	0.05	0.00	0.20	0.21	89	
100	ISL	11.19	D 11.18	33.167	D 25.320	266.9	0.359	4.91	D213.7	D 78.7	9.5	1.07	11.4	0.03	0.00	0.14	0.16	101
101	11.06	11.05	33.167	D 25.342	264.8	0.361	4.88	D212.5	D 78.1								102	
111	10.61	10.59	35.232	25.473	252.4	0.383	4.62	201.7	73.2	12.6	1.28	14.9	0.02	0.00	0.08	0.12	112	
125	9.80	9.78	33.328	25.685	232.4	0.417	4.45	194.5	69.4	15.7	1.42	17.5	0.02	0.00	0.03	0.06	126	
140	9.39	9.37	33.433	25.835	218.4	0.450	4.09	178.7	63.2	20.2	1.60	20.5	0.02	0.00	0.01	0.05	141	
150	ISL	9.19	D 9.18	33.525	D 25.938	208.8	0.477	3.89	D169.4	D 59.9	22.2	1.68	21.9	0.01	0.00	0.01	0.05	151
171	8.93	8.91	33.717	26.130	191.0	0.514	3.34	145.8	51.2	26.3	1.85	24.8	0.01	0.00	0.00	0.04	172	
200	ISL	8.56	D 8.53	33.912	D 26.343	171.3	0.572	3.09	D134.5	D 47.0	31.2	1.96	26.8	0.01	0.00	0.00	0.04	202
200	8.56	8.53	33.912	D 26.343	171.3	0.572	3.09	D134.5	D 47.0								202	
230	8.18	8.16	33.980	26.453	161.3	0.617	2.70	117.9	40.8	36.2	2.08	29.0	0.01	0.00			232	
250	ISL	7.97	D 7.94	34.003	D 26.503	156.8	0.655	2.43	D105.8	D 36.5	39.6	2.18	30.2	0.01	0.00			252
270	7.69	7.66	34.013	26.552	152.4	0.680	2.31	100.9	34.5	42.9	2.27	31.5	0.01	0.00			272	
300	ISL	7.24	D 7.21	34.022	D 26.624	145.8	0.731	2.07	D 90.1	D 30.6	48.1	2.40	33.2	0.01	0.00			302
320	7.03	7.00	34.033	26.662	142.4	0.753	1.86	81.3	27.4	51.6	2.48	34.3	0.01	0.00			323	
380	6.61	6.58	34.101	26.772	132.6	0.836	1.07	46.7	15.6	61.7	2.80	37.9	0.00	0.00			383	
400	ISL	6.43	D 6.40	34.112	D 26.805	129.7	0.870	0.96	D 41.5	D 13.9	65.3	2.86	38.7	0.00	0.00			403
440	6.03	5.99	34.144	26.883	122.5	0.912	0.75	32.7	10.8	72.4	2.98	40.2	0.00	0.00			444	
500	ISL	5.74	D 5.70	34.207	D 26.969	115.0	0.993	0.44	D 19.3	D 6.3	81.2	3.10	41.5	0.00	0.00			504
515	5.56	5.52	34.208	26.992	112.7	1.001	0.45	19.8	6.4	83.4	3.13	41.9	0.00	0.00			519	
																	01	

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

RV OCEANUS

CALCOFI CRUISE 1507

STATION 86.8 32.5

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD		
DEPTH	TEMP	POTTEMP	SALINITY	SIGMA	SV	DYN HT	OXYGEN	OXYGEN	OXY	SI03*	P04*	N03*	N02*	NH4*	CHL-A	PHAEAO	PRES SAMP
m	DEG C	DEG C		THETA			ml/L	μmol/Kg	PCT	μM	μM	μM	μM	μM	μg/L	μg/L	db
0	20.20	20.20	33.383	23.477	439.9	0.000	5.82	254.2	112.0	3.4	0.23	0.0	0.01	0.00	0.43	0.09	0
2	20.20	20.20	33.383	23.477	440.0	0.009	5.82	254.2	112.0	3.4	0.23	0.0	0.01	0.00	0.43	0.09	2
5	20.20	20.20	33.382	23.478	440.1	0.022	5.82	254.3	112.0	3.3	0.24	0.0	0.01	0.00	0.44	0.10	5
10	20.11	20.11	33.381	23.500	438.2	0.044	5.85	255.7	112.4	3.3	0.23	0.0	0.01	0.00	0.48	0.11	10
15	19.92	19.91	33.383	23.554	433.3	0.066	5.89	257.2	112.7	3.3	0.23	0.0	0.01	0.00	0.46	0.11	15

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

RV OCEANUS

CALCOFI CRUISE 1507

STATION 88.5 30.1

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD		
DEPTH	TEMP	POTTEMP	SALINITY	SIGMA	SV	DYN HT	OXYGEN	OXYGEN	OXY	SI03*	P04*	N03*	N02*	NH4*	CHL-A	PHAEAO	PRES SAMP
m	DEG C	DEG C		THETA			ml/L	μmol/Kg	PCT	μM	μM	μM	μM	μM	μg/L	μg/L	db
0	19.87	19.87	33.418	23.592	429.0	0.000	5.67	247.6	108.4	2.1	0.24	0.0	0.01	0.00	0.37	0.09	0
2	19.87	19.87	33.418	23.592	429.1	0.009	5.67	247.6	108.4	2.1	0.24	0.0	0.01	0.00	0.37	0.09	2
6	19.85	19.84	33.415	23.595	428.9	0.026	5.68	248.1	108.6	2.1	0.24	0.0	0.01	0.00	0.39	0.10	6
10	19.50	19.50	33.407	23.679	421.1	0.043	5.71	249.4	108.5	2.3	0.26	0.0	0.01	0.00	0.42	0.11	10
15	18.95	18.94	33.410	23.822	407.7	0.064	5.73	250.5	107.8	2.3	0.25	0.0	0.01	0.00	0.40	0.10	15

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

RV OCEANUS

CALCOFI CRUISE 1507

STATION 90.0 28.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD		
DEPTH	TEMP	POTTEMP	SALINITY	SIGMA	SV	DYN HT	OXYGEN	OXYGEN	OXY	SI03*	P04*	N03*	N02*	NH4*	CHL-A	PHAEAO	PRES SAMP
m	DEG C																

RV OCEANUS

CALCOFI CRUISE 1507

STATION 90.0 30.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE	ORD		
DEPTH	TEMP	POTTEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXYGEN	OXY	SI03*	P04*	N03*	N02*	NH4*	CHL-A	PHAEAO	PRES	SAMP
m	DEG C	DEG C	THETA			ml/L	μmol/Kg	PCT	μM	μM	μM	μM	μM	μM	μg/L	μg/L	db	
33 25.0 N	117 54.3 W	15/07/2015	2118	UTC	614 m	230 05 kn	320 03 08	0	1012.0 mb	19.9	17.1 C	17 m	0/8	0.09	0.47	30	17	
0	21.17	21.17	33.442	D 23.264	460.2	0.000	5.54	242.1	108.6	2.1	0.22	0.0	0.00	0.01	0.31	0.05	0	
2	21.17	21.17	33.442	D 23.265	460.3	0.009	5.54	242.1	108.6	2.1	0.22	0.0	0.00	0.01	0.31	0.05	2	
10	19.79	19.78	33.391	23.593	429.3	0.045	5.79	252.8	110.5	2.7	0.24	0.0	0.00	0.07	0.31	0.09	10	
10	19.79	19.78	33.392	23.593	429.3	0.044											10	
20	15.00	14.99	33.334	24.690	324.9	0.083	6.69	292.2	116.4	2.6	0.29	0.0	0.01	0.00	0.79	0.27	20	
30	13.12	13.12	33.314	25.065	289.5	0.113	6.73	294.0	112.7	3.6	0.36	0.0	0.01	0.00	1.15	0.47	30	
40	11.90	11.90	33.350	D 25.328	264.6	0.142	5.10	D 222.1	D 83.2								40	
50	11.26	11.25	33.400	25.486	249.8	0.167	4.25	185.8	68.5	12.5	1.24	13.6	0.22	0.00	0.43	0.42	50	
60	10.90	10.89	33.480	25.612	238.0	0.191	3.95	172.4	63.1	14.9	1.36	15.7	0.09	0.00	0.23	0.28	60	
70	10.52	10.51	33.583	25.760	224.2	0.214	3.58	156.1	56.7	17.8	1.53	18.3	0.03	0.00	0.13	0.20	71	
75 ISL	10.47	D 10.46	33.658	D 25.828	217.9	0.226	3.36	D 146.1	D 53.2	18.7	1.58	18.8	0.03	0.00	0.11	0.17	76	
85	10.36	10.35	33.689	25.872	214.0	0.247	3.27	143.0	51.8	20.5	1.67	20.0	0.02	0.00	0.05	0.12	86	
100	10.38	10.37	33.763	25.926	209.2	0.279	3.00	130.9	47.5	22.2	1.76	20.8	0.02	0.00	0.04	0.09	101	
120	10.28	10.27	33.897	26.048	198.1	0.319	2.56	111.8	40.5	25.4	1.94	22.8	0.03	0.00	0.02	0.07	121	
125 ISL	10.31	D 10.29	33.932	D 26.071	196.0	0.331	2.43	D 105.6	D 38.4	25.9	1.96	23.0	0.03	0.00	0.01	0.07	126	
140	10.23	10.21	33.961	26.108	192.9	0.359	2.32	101.4	36.7	27.2	2.03	23.6	0.02	0.00	0.01	0.07	141	
150 ISL	10.23	D 10.21	33.988	D 26.129	191.1	0.380	2.28	D 99.1	D 36.0	27.8	2.06	23.9	0.02	0.00	0.01	0.06	151	
170	10.17	10.15	34.039	26.180	186.7	0.416	2.12	92.7	33.5	28.9	2.11	24.5	0.02	0.01	0.01	0.05	171	
200 ISL	9.98	D 9.96	34.150	D 26.299	176.1	0.473	1.67	D 72.5	D 26.2	32.1	2.27	26.2	0.01	0.00	0.01	0.06	202	
201	9.96	9.93	34.142	26.297	176.3	0.472	1.67	72.9	26.3	32.2	2.28	26.2	0.01	0.00	0.01	0.06	203	
230	9.96	9.93	34.246	26.380	169.2	0.522	1.33	58.1	20.9	35.2	2.41	27.1	0.01	0.00		232		
250 ISL	9.80	D 9.77	34.272	D 26.427	165.1	0.559	1.24	D 54.1	D 19.5	36.7	2.46	27.6	0.01	0.00		252		
270	9.72	9.69	34.297	26.461	162.3	0.588	1.10	47.9	17.2	38.1	2.51	28.1	0.00	0.00		272		
300 ISL	9.54	D 9.50	34.320	D 26.511	158.2	0.640	1.00	D 43.3	D 15.5	39.6	2.55	28.5	0.00	0.00		302		
320	9.48	9.44	34.318	26.519	157.9	0.668	0.97	42.4	15.1	40.7	2.58	28.8	0.01	0.00		323		
380	9.09	9.05	34.344	26.603	150.9	0.761	0.78	34.0	12.0	44.5	2.68	30.0	0.00	0.00		383		
400 ISL	9.08	D 9.03	34.376	D 26.631	148.8	0.796	0.62	D 27.1	D 9.6	46.3	2.72	30.6	0.00	0.00		403		
440	8.52	8.47	34.347	26.697	142.8	0.850	0.60	26.1	9.1	49.9	2.81	31.7	0.00	0.00		444		
500 ISL	7.74	D 7.69	34.318	D 26.792	134.2	0.939	0.50	D 21.9	D 7.5	50.1	2.81	31.8	0.00	0.00		504		
516	7.64	7.58	34.347	26.829	130.8	0.953	0.59	25.7	8.8	50.1	2.81	31.9	0.00	0.00		520		

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

RV OCEANUS

CALCOFI CRUISE 1507

STATION 90.0 35.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE	ORD		
DEPTH	TEMP	POTTEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXYGEN	OXY	SI03*	P04*	N03*	N02*	NH4*	CHL-A	PHAEAO	PRES	SAMP
m	DEG C	DEG C	THETA			ml/L	μmol/Kg	PCT	μM	μM	μM	μM	μM	μM	μg/L	μg/L	db	
33 15.1 N	118 15.0 W	15/07/2015	1719	UTC	333 m	140 02 kn	230 04 05	2	1013.0 mb	19.3	16.3 C	25 m	7/8	SC	028			
0	19.72	19.72	33.447	23.651	423.3	0.000	5.48	239.5	104.6	1.7	0.27	0.0	0.00	0.00	0.15	0.04	0	
2 A	19.72	19.72	33.447	23.651	423.4	0.009	5.48	239.5	104.6	1.7	0.27	0.0	0.00	0.00	0.15	0.04	2	
8	19.71	19.71	33.446	23.655	423.3	0.034	5.49	240.0	104.8	1.6	0.27	0.0	0.00	0.00	0.15	0.03	19	
8	19.71	19.71	33.445	23.654	423.4	0.033										8		
10 ISL	19.68	D 19.68	33.447	D 23.663	422.7	0.043	5.46	D 238.0	D 104.0	1.6	0.27	0.0	0.00	0.00	0.15	0.04	10	
14 A	19.41	19.40	33.452	23.737	415.7	0.059	5.49	240.0	104.2	1.6	0.27	0.0	0.00	0.00	0.16	0.04	14	
20 A	18.29	18.28	33.407	23.985	392.2	0.083	5.70	249.1	105.8	1.6	0.29	0.0	0.00	0.00	0.18	0.05	20	
28	16.16	16.15	33.360	24.453	347.8	0.113	5.89	257.4	104.9	1.7	0.32	0.0	0.00	0.00	0.22	0.08	28	
30 ISL	15.91	D 15.90	33.329	D 24.486	344.7	0.121	5.93	D 258.5	D 105.1	2.1	0.36	0.4	0.02	0.00	0.39	0.13	30	
35 A	15.03	15.02	33.314	24.670	327.4	0.137	5.79	253.2	100.9	3.0	0.45	1.3	0.08	0.01	0.81	0.26	35	
46	14.72	14.71	33.295	24.722	322.8	0.172	5.79	252.9	100.1	3.1	0.48	1.5	0.10	0.01	0.80	0.29	13	
46	14.72	14.71	33.288	D 24.715	323.3	0.174										46		
50 ISL	14.21	D 14.20	33.284	D 24.821	313.4	0.187	5.55	D 241.9	D 95.0	3.8	0.57	2.9	0.13		0.79	0.31	50	
58	13.16	13.16	33.260	25.017	294.9	0.209	5.28	230.8	88.5	5.3	0.75	5.8	0.17	0.01	0.77	0.36	58	
68 A	12.00	11.99	33.250	25.235	274.3	0.238	4.98	217.7	81.4						0.57	0.28	69	
75 ISL	11.33	D 11.32	33.328	D 25.418	256.9	0.259	4.63	D 202.4	D 74.9	10.6	1.08	11.6	0.06		0.37	0.22	76	
81 A	10.85	10.84	33.380	25.545	244.9	0.272	4.48	195.6	71.4	12.4	1.20	13.6	0.02	0.00	0.20	0.16	82	
91	10.26	10.25	33.451	25.703	230.1	0.295	4.24	185.0	66.7	14.9	1.34	15.8	0.01	0.00	0.09	0.12	92	
100	9.97	9.96	33.538	25.820	219.1	0.316	3.92	171.3	61.4	17.8	1.49	18.2	0.01	0.00	0.04	0.07	101	
120	9.81	9.80	33.777	26.033	199.4	0.357	3.14	137.1	49.1	23.6	1.77	22.1	0.01	0.00	0.01	0.05	121	
125 ISL	9.77	D 9.76	33.799	D 26.058	197.1	0.369	3.11	D 135.3	D 48.6	24.1	1.79	22.4	0.00	0.00	0.01	0.05	126	
140	9.55	9.53	33.843	26.129	190.7	0.396	2.98	130.2	46.3	25.7	1.86	23.3	0.00	0.00	0.00	0.04	141	
150 ISL	9.51	D 9.49	33.883	D 26.167	187.3	0.418	2.90	D 126.1	D 45.0	27.0	1.92	23.9	0.00	0.00				

RV OCEANUS

CALCOFI CRUISE 1507

STATION 90.0 37.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE	ORD		
DEPTH	TEMP	POTTEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXYGEN	OXY	S103*	P04*	N03*	N02*	NH4*	CHL-A	PHAEAO	PRES	SAMP
m	DEG C	DEG C		THETA			ml/L	μmol/Kg		μM	μM	μM	μM	μM	μg/L	μg/L	db	
0	19.60	19.60	33.461	23.694	419.2	0.000	5.41	236.4	103.0	1.7	0.27	0.0	0.00	0.06	0.13	0.03	0	
2	19.60	19.60	33.461	23.694	419.3	0.008	5.41	236.4	103.0	1.7	0.27	0.0	0.00	0.06	0.13	0.03	2	
10 ISL	19.58	19.58	33.459	D 23.698	419.3	0.042	5.41	D 236.1	D 103.0	1.7	0.28	0.0	0.00	0.00	0.14	0.04	10	
11	19.53	19.53	33.460	23.712	418.0	0.046	5.42	236.9	103.1	1.7	0.28	0.0	0.00	0.00	0.14	0.04	11	
11	19.53	19.53	33.460	23.712	418.0	0.045											21	
20	18.90	18.90	33.445	23.861	404.1	0.083	5.50	240.2	103.3	1.6	0.27	0.0	0.00	0.00	0.15	0.04	20	
30	16.27	16.26	33.334	24.408	352.2	0.121	5.94	259.3	105.9	1.7	0.33	0.0	0.00	0.00	0.21	0.09	30	
40	15.32	15.31	33.279	24.579	336.2	0.155	5.93	259.1	103.8	2.4	0.39	0.2	0.03	0.01	0.40	0.17	40	
49	14.02	14.01	33.277	24.855	310.1	0.184	5.55	242.4	94.6	3.9	0.61	3.4	0.23	0.02	0.67	0.30	49	
50 ISL	13.79	D 13.78	33.275	D 24.902	305.7	0.189	5.49	D 239.3	D 93.2	4.2	0.63	3.8	0.22	0.00	0.66	0.30	50	
50	13.79	13.78	33.277	24.903	305.5	0.188											16	
60	12.49	12.48	33.239	25.132	283.9	0.217	5.09	222.5	84.1	7.0	0.88	7.8	0.12	0.00	0.51	0.32	60	
70	11.83	11.82	33.247	25.265	271.5	0.245	4.94	216.0	80.5	8.5	0.97	9.5	0.05	0.00	0.40	0.34	71	
75 ISL	11.12	D 11.11	33.325	D 25.454	255.3	0.260	4.84	D 210.9	D 77.7	10.5	1.09	11.5	0.04	0.00	0.30	0.27	76	
85	10.53	10.52	33.421	25.633	236.7	0.283	4.26	186.1	67.5	14.6	1.34	15.6	0.02	0.00	0.11	0.14	86	
100	10.03	10.02	33.540	25.811	220.0	0.317	3.91	171.0	61.4	18.0	1.50	18.3	0.02	0.00	0.04	0.09	101	
120	9.72	9.70	33.715	26.001	202.3	0.359	3.44	150.1	53.6	22.2	1.69	21.2	0.01	0.00	0.01	0.04	121	
125 ISL	9.70	D 9.69	33.748	D 26.029	199.8	0.372	3.38	D 147.0	D 52.7	23.0	1.73	21.6	0.01	0.00	0.01	0.04	126	
140	9.69	9.67	33.837	26.101	193.3	0.399	2.94	128.3	45.8	25.3	1.85	22.9	0.01	0.00	0.01	0.04	141	
150 ISL	9.63	D 9.61	33.949	D 26.200	184.2	0.420	2.72	D 118.4	D 42.4	27.2	1.93	23.9	0.01	0.00	0.01	0.04	151	
171	9.45	9.43	34.027	26.291	176.0	0.456	2.28	99.4	35.4	31.3	2.11	25.9	0.01	0.00	0.00	0.04	172	
199	9.20	9.18	34.113	26.399	166.3	0.504	1.92	84.0	29.7	35.4	2.26	27.5	0.01	0.00	0.00	0.04	201	
200 ISL	9.21	D 9.19	34.136	D 26.415	164.8	0.508	1.80	D 78.3	D 27.8	35.6	2.26	27.6	0.01	0.00			202	
230	8.93	8.91	34.189	26.502	157.1	0.554	1.52	66.4	23.4	39.5	2.41	29.0	0.01	0.00			232	
250 ISL	8.88	D 8.85	34.229	D 26.543	153.6	0.588	1.35	D 58.9	D 20.8	41.3	2.48	29.5	0.01	0.00			252	
269	8.77	8.74	34.235	26.565	151.9	0.614	1.24	54.0	19.0	43.0	2.54	30.0	0.01	0.00			271	
300 ISL	8.86	D 8.83	34.331	D 26.627	146.8	0.664	0.79	D 34.5	D 12.2	46.0	2.66	30.7	0.00	0.00			302	
320	8.55	8.52	34.324	26.670	142.9	0.690	0.73	31.6	11.1	48.0	2.74	31.2	0.00	0.00			323	
380	8.19	8.15	34.352	26.748	136.5	0.774	0.51	22.1	7.7	52.5	2.85	32.5	0.01	0.00			383	
400 ISL	8.05	D 8.01	34.347	D 26.766	135.1	0.806	0.48	D 20.8	D 7.2	55.0	2.88	33.4	0.00	0.00			403	
440	7.42	7.38	34.301	26.822	129.8	0.855	0.50	21.8	7.4	59.9	2.93	35.0	0.00	0.00			444	
500 ISL	6.96	D 6.91	34.320	D 26.901	122.9	0.936	0.35	D 15.4	D 5.2	67.0	3.04	36.7	0.00	0.00			504	
516	6.81	6.76	34.319	26.922	121.0	0.950	0.33	14.4	4.8	68.9	3.07	37.2	0.00	0.00			520	

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

RV OCEANUS

CALCOFI CRUISE 1507

STATION 90.0 45.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE	ORD		
DEPTH	TEMP	POTTEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXYGEN	OXY	S103*	P04*	N03*	N02*	NH4*	CHL-A	PHAEAO	PRES	SAMP
m	DEG C	DEG C		THETA			ml/L	μmol/Kg		μM	μM	μM	μM	μM	μg/L	μg/L	db	
0	18.63	18.63	33.446	23.927	397.0	0.000	5.55	242.6	103.8	1.9	0.31	0.0	0.00	0.00	0.27	0.05	0	
2	18.63	18.63	33.446	23.927	397.1	0.008	5.55	242.6	103.8	1.9	0.31	0.0	0.00	0.00	0.27	0.05	2	
10	18.59	18.59	33.445	23.939	396.3	0.040	5.55	242.6	103.8	1.9	0.31	0.0	0.00	0.00	0.26	0.05	19	
10	18.59	18.59	33.446	23.939	396.3	0.040											20	
20	16.52	16.52	33.416	24.413	351.4	0.077	6.02	262.9	108.0	2.0	0.34	0.0	0.00	0.02	0.37	0.09	20	
30	16.14	16.13	33.412	24.498	343.6	0.112	6.11	D 266.4	D 108.8	2.3	0.36	0.1	0.01	0.03	0.48	0.12	17	
40	14.34	14.34	33.410	D 24.890	306.5	0.145	5.85	D 254.8	D 100.4								16	
50	12.38	12.38	33.425	25.296	268.0	0.173	4.64	202.5	76.5	9.9	0.99	9.5	0.38	0.17	1.25	0.52	15	
60	10.94	10.93	33.436	25.572	241.9	0.198	4.03	176.0	64.4	14.7	1.37	15.5	0.07	0.00	0.43	0.27	14	
70	10.46	10.45	33.541	25.737	226.3	0.222	3.70	161.7	58.6	17.7	1.51	17.6	0.04	0.00	0.24	0.20	71	
75 ISL	10.15	D 10.14	33.562	D 25.807	219.8	0.235	3.66	D 159.1	D 57.5	18.9	1.58	18.5	0.03	0.00	0.19	0.16	76	
85	10.10	10.09	33.694	25.920	209.3	0.254	3.28	143.1	51.5	21.5	1.71	20.3	0.01	0.00	0.08	0.09	86	
100	9.89	9.88	33.792	26.031	199.1	0.285	2.97	129.5	46.5	23.6	1.81	21.7	0.01	0.00	0.03	0.08	101	
120	9.67	9.66	33.929	26.175	185.8	0.323	2.56	111.7	39.9	27.5	1.98	23.8	0.01	0.00	0.01	0.07	121	
125 ISL	9.61	D 9.60	33.949	D 26.201	185.3	0.335	2.55	D 111.1	D 39.8	28.2	2.00	24.1	0.00	0.00	0.01	0.07	126	
140	9.29	9.28	33.993	26.288	175.5	0.359	2.43	105.9	37.5	30.4	2.06	25.1	0.00	0.00	0.01	0.08	141	
150 ISL	9.19	D 9.17	34.019	D 26.325	172.2	0.379	2.40	D 104.2	D 37.0	31.9	2.11	25.7	0.01	0.00	0.01	0.07	151	
170	8.98	8.96	34.068	26.397	165.7	0.411	2.16	94.5	33.3	34.8	2.20	26.9	0.01	0.00	0.01	0.05	171	
200	8.95	8.92	34.144	26.464	160.0	0.459	1.74	76.1	26.8	37.5	2.34	27.9	0.01	0.00	0.00	0.04	202	
230	8.82	8.80	34.232	26.553	152.2	0.506	1.24	54.3	19.1	42.3	2.53	29.6	0.01	0.00			232	
250 ISL	8.67	D 8.64	34.256	D 26.596	148.4	0.539	1.08	D 46.8	D 16.4	44.6	2.60	30.3	0.01	0.00			252	
270	8.47	8.44	34.263	26.633	145.3	0.566	0.96	42.1	14.7	46.8	2.67	31.0	0.01	0.0				

RV OCEANUS

CALCOFI CRUISE 1507

STATION 90.0 53.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE	ORD		
DEPTH	TEMP	POTTEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXYGEN	OXY	SI03*	P04*	N03*	N02*	NH4*	CHL-A	PHAEAO	PRES	SAMP
m	DEG C	DEG C		THETA			ml/L	μmol/Kg	PCT	μM	μM	μM	μM	μM	μg/L	μg/L	db	
0	17.89	17.89	33.430	D 24.099	380.6	0.000	5.65	247.0	104.2	0.8	0.32	0.0	0.00	0.01	0.29	0.12	0	
3	17.89	17.89	33.430	D 24.099	380.7	0.011	5.65	247.0	104.2	0.8	0.32	0.0	0.00	0.01	0.29	0.12	3	22
10	17.88	17.87	33.433	24.104	380.5	0.038	5.71	249.6	105.3	0.8	0.32	0.0	0.01	0.01	0.28	0.14	10	20
10	17.88	17.87	33.431	24.103	380.6	0.040											10	21
20	17.69	17.69	33.436	24.151	376.4	0.076	5.70	249.1	104.7	0.8	0.32	0.0	0.01	0.01	0.28	0.14	20	19
30	15.03	15.02	33.401	24.736	320.9	0.111	5.69	248.4	99.0	2.6	0.52	2.3	0.12	0.30	1.11	0.50	30	17
31	15.03	15.02	33.401	24.736	320.9	0.112											30	18
41	12.02	12.01	33.402	D 25.347	262.9	0.144	4.49	D 195.5	D 73.5								41	16
50	10.80	10.80	33.375	25.548	243.9	0.166	4.22	184.5	67.3	13.8	1.35	15.5	0.24	0.00	0.18	0.13	50	15
60	10.55	10.54	33.465	25.663	233.2	0.190	3.90	170.2	61.8	16.5	1.48	17.7	0.17	0.00	0.14	0.12	60	14
70	9.95	9.95	33.615	25.881	212.6	0.212	3.45	150.5	54.0	20.9	1.67	20.9	0.10	0.00	0.05	0.09	71	13
75 ISL	9.92 D	9.91	33.627	D 25.896	211.3	0.224	3.42	D 149.0	D 53.6	21.6	1.70	21.3	0.10	0.00	0.04	0.09	76	
85	9.56	9.55	33.673	25.993	202.3	0.243	3.35	146.3	52.1	22.9	1.75	22.1	0.09	0.00	0.03	0.08	86	12
100	9.20	9.19	33.718	26.086	193.7	0.273	3.33	145.5	51.4	24.7	1.80	23.2	0.08	0.00	0.02	0.08	101	11
119	9.04	9.02	33.817	26.190	184.2	0.309	3.14	137.0	48.2	27.3	1.87	24.6	0.07	0.01	0.02	0.08	120	10
125 ISL	9.04 D	9.02	33.818	D 26.191	184.2	0.322	3.13	D 136.4	D 48.2	28.2	1.90	24.9	0.06	0.00	0.02	0.07	126	
140	8.80	8.78	33.893	26.289	175.3	0.347	2.90	126.6	44.3	30.3	1.99	25.9	0.05	0.00	0.01	0.07	141	09
150 ISL	8.65 D	8.64	33.967	D 26.369	167.8	0.366	2.63	D 114.4	D 40.1	32.9	2.08	26.9	0.04	0.00	0.01	0.07	151	
170	8.43	8.41	34.033	26.455	160.0	0.397	2.17	94.9	33.0	38.1	2.25	29.1	0.03	0.00	0.01	0.06	171	08
200	8.30	8.27	34.102	26.530	153.4	0.444	1.64	71.6	24.8	42.8	2.44	30.9	0.07	0.00	0.01	0.07	202	07
230	8.00	7.97	34.147	26.611	146.2	0.489	1.35	58.9	20.3	47.4	2.57	32.3	0.03	0.00			232	06
250 ISL	7.90 D	7.87	34.174	D 26.648	143.1	0.521	1.19	D 51.9	D 17.9	50.2	2.66	33.1	0.03	0.00			252	
270	7.67	7.65	34.199	26.701	138.3	0.546	0.97	42.5	14.6	53.0	2.74	33.9	0.02	0.00			272	05
300 ISL	7.55 D	7.52	34.221	D 26.737	135.3	0.591	0.83	D 36.0	D 12.3	56.0	2.81	34.7	0.02	0.00			302	
320	7.40	7.37	34.239	26.772	132.3	0.614	0.72	31.6	10.7	58.1	2.86	35.3	0.01	0.00			323	04
380	7.18	7.14	34.275	26.834	127.4	0.692	0.53	23.1	7.8	62.5	2.96	36.1	0.02	0.00			383	03
400 ISL	7.04 D	7.00	34.285	D 26.861	125.1	0.722	0.47	D 20.2	D 6.9	64.3	2.99	36.5	0.01	0.00			403	
441	6.85	6.81	34.286	26.888	123.0	0.768	0.43	18.6	6.2	67.9	3.04	37.3	0.01	0.00			445	02
500 ISL	6.60 D	6.55	34.299	D 26.933	119.4	0.845	0.35	D 15.0	D 5.0	72.7	3.11	38.2	0.01	0.00			504	
515	6.51	6.46	34.306	26.951	117.9	0.857	0.32	14.2	4.7	73.9	3.13	38.4	0.01	0.00			519	01

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

RV OCEANUS

CALCOFI CRUISE 1507

STATION 90.0 60.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE	ORD		
DEPTH	TEMP	POTTEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXYGEN	OXY	SI03*	P04*	N03*	N02*	NH4*	CHL-A	PHAEAO	PRES	SAMP
m	DEG C	DEG C		THETA			ml/L	μmol/Kg	PCT	μM	μM	μM	μM	μM	μg/L	μg/L	db	
0	18.49	18.49	33.352	23.891	400.4	0.000	5.66	247.1	105.4	0.8	0.29	0.0	0.00	0.00	0.20	0.06	0	
3	18.49	18.49	33.352	23.892	400.5	0.012	5.66	247.1	105.4	0.8	0.29	0.0	0.00	0.00	0.20	0.06	3	20
10	18.47	18.46	33.349	23.895	400.4	0.040	5.65	246.6	105.2	0.8	0.29	0.0	0.00	0.00	0.18	0.06	10	19
20	18.02	18.02	33.290	23.959	394.7	0.080	5.73	250.4	105.9	0.9	0.31	0.0	0.00	0.00	0.25	0.09	20	18
29	15.34	15.34	33.097	24.433	349.7	0.113	6.09	265.8	106.5	2.0	0.33	0.0	0.00	0.00	0.31	0.11	29	17
30 ISL	15.34 D	15.34	33.103	D 24.438	349.3	0.118	6.11	D 266.5	D 106.9	2.0	0.34	0.1	0.00	0.00	0.35	0.13	30	
40	14.34	14.33	33.156	24.694	325.1	0.151	5.99	261.8	102.8	2.5	0.46	1.1	0.12	0.10	0.78	0.41	40	16
50	13.41	13.41	33.249	24.958	300.3	0.182	5.60	244.6	94.3	3.2	0.67	3.9	0.33	0.75	0.62	0.44	50	15
60	12.82	12.81	33.299	25.115	285.5	0.211	5.14	224.4	85.4	6.1	0.90	7.4	0.50	0.58	0.40	0.35	60	14
70	11.55	11.55	33.366	25.405	258.1	0.238	4.60	200.8	74.5	9.8	1.15	11.8	0.47	0.26	0.24	0.27	71	13
75 ISL	10.84 D	10.83	33.405	D 25.566	242.8	0.252	4.23	D 184.2	D 67.5	11.8	1.25	13.4	0.40	0.18	0.21	0.24	76	
85	10.92	10.91	33.500	25.625	237.4	0.275	3.89	169.9	62.2	15.9	1.45	16.6	0.28	0.01	0.14	0.18	86	12
100	10.66	10.65	33.569	25.726	228.2	0.310	3.65	159.2	58.0	18.1	1.52	18.2	0.19	0.00	0.19	0.20	101	11
120	9.98	9.97	33.678	25.928	209.3	0.354	3.31	144.6	51.9	22.1	1.71	21.2	0.05	0.00	0.12	0.16	121	10
125 ISL	9.82 D	9.81	33.713	D 25.982	204.3	0.366	3.27	D 142.5	D 51.2	23.4	1.77	22.0	0.05	0.00	0.10	0.15	126	
140	9.41	9.39	33.827	26.139	189.7	0.393	2.85	124.3	44.1	27.4	1.93	24.4	0.04	0.00	0.02	0.12	141	09
150 ISL	9.28 D	9.27	33.872	D 26.196	184.5	0.415	2.83	D 122.9	D 43.7	28.6	1.95	25.0	0.03	0.00	0.02	0.10	151	
170	8.67	8.66	33.912	26.323	172.5	0.448	2.93	127.7	44.6	31.1	1.98	26.3	0.02	0.00	0.01	0.06	171	08
200	8.45	8.43	33.967	26.402	165.6	0.499	2.70	118.0	41.0	34.4	2.07	27.5	0.01	0.00	0.01	0.04	202	07
230	8.10	8.07	34.040	26.513	155.5	0.547	2.20	96.2	33.2	40.3	2.26	29.8	0.01	0.00			232	06
250 ISL	7.87 D	7.84	34.059	D 26.562	151.2	0.581	1.99	D 86.7	D 29.9	44.7	2.39	31.4	0.00	0.00			252	
270	7.54	7.52	34.085	26.630	144.9	0.607	1.61	70.3	24.0	49.0	2.52	33.0	0.00	0.00			272	05
300 ISL	7.12 D	7.09	34.114	D 26.712	137.3	0.654	1.25	D 54.6	D 18.5	54.3</td								

RV OCEANUS

CALCOFI CRUISE 1507

STATION 90.0 70.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE	ORD	
DEPTH m	TEMP DEG C	POTTEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/L	OXYGEN μmol/Kg	OXY PCT	S103* μM	P04* μM	N03* μM	N02* μM	NH4* μM	CHL-A μg/L	PHAEAO μg/L	PRES db
32 5.1 N	120 38.3 W	14/07/2015	1706	UTC	3814 m	330 18 kn	020 05 05	2	1014.0 mb	18.5	16.7 C	20 m	8/8	SC	023		
0	18.85	18.85	33.223	23.702	418.5	0.000	5.48	239.4	102.7	1.9	0.31	0.0	0.00	0.00	0.11	0.03	0
3 A	18.85	18.85	33.223	23.702	418.6	0.013	5.48	239.4	102.7	1.9	0.31	0.0	0.00	0.00	0.11	0.03	3 24
10 ISL	18.84 D	18.84	33.222 D	23.704	418.7	0.042	5.49	0239.7	0103.0	1.9	0.31	0.0	0.00	0.00	0.11	0.03	10
12 A	18.84	18.84	33.222	23.705	418.7	0.050	5.51	240.6	103.3	1.9	0.31	0.0	0.00	0.02	0.11	0.03	12 22
12	18.84	18.84	33.222	23.705	418.7	0.051											12 23
16 A	18.82	18.82	33.228	23.714	418.0	0.067	5.49	239.9	102.9	1.9	0.31	0.0	0.00	0.00	0.11	0.02	16 21
20 ISL	18.80 D	18.80	33.220 D	23.713	418.2	0.084	5.50	0239.9	0103.0	1.9	0.31	0.0	0.00	0.00	0.11	0.02	20
28 A	18.32	18.32	33.223	23.836	406.8	0.117	5.67	247.7	105.2	1.8	0.31	0.0	0.00	0.00	0.11	0.03	28 20
30 ISL	17.87 D	17.87	33.231 D	23.952	395.7	0.126	5.69	0248.3	0104.8	1.9	0.31	0.0	0.00	0.00	0.11	0.03	30
37	17.09	17.09	33.209	24.122	379.8	0.152	5.78	252.4	104.7	1.9	0.31	0.0	0.00	0.00	0.12	0.03	37 19
46	16.38	16.37	33.184	24.269	366.0	0.186	5.81	0253.9	103.9	2.0	0.31	0.0	0.00	0.00	0.12	0.03	46 18
50 ISL	15.98 D	15.97	33.107 D	24.302	363.0	0.202	5.94	0258.8	0105.2	2.1	0.32	0.0	0.00	0.00	0.13	0.04	50
54 A	15.77	15.76	33.095	24.340	359.5	0.214	5.92	258.6	104.5	2.1	0.32	0.0	0.00	0.00	0.13	0.04	54 17
65 A	15.38	15.37	33.194	24.503	344.3	0.253	5.97	260.7	104.5	1.8	0.36	0.0	0.00	0.00	0.25	0.12	66 16
75	14.66	14.65	33.192	24.656	330.0	0.287	5.83	254.7	100.7	2.4	0.44	0.5	0.10	0.22	0.41	0.24	76 15
85	13.73	13.72	33.179	24.842	312.4	0.319	5.61	245.1	95.0	3.5	0.58	2.4	0.37	0.18	0.40	0.34	86 13
85	13.73	13.72	33.182	24.844	312.2	0.320											86 14
96	12.31	12.30	33.170	25.114	286.6	0.352	5.25	229.2	86.3	6.0	0.83	7.0	0.13	0.00	0.23	0.24	97 12
100 ISL	12.09 D	12.08	33.183 D	25.167	281.6	0.366	5.10	0222.0 D	0183.4	7.2	0.91	8.4	0.10	0.00	0.19	0.21	101
110	11.14	11.12	33.206	25.360	263.4	0.391	4.84	211.3	77.6	10.1	1.12	11.9	0.02	0.00	0.10	0.14	111 11
125	9.98	9.97	33.335	25.659	234.9	0.428	4.30	187.7	67.3	15.5	1.43	17.1	0.02	0.00	0.04	0.08	126 10
140	9.54	9.52	33.578	25.924	210.1	0.461	3.62	158.2	56.2	21.1	1.67	21.0	0.01	0.00	0.01	0.05	141 09
150 ISL	9.45 D	9.44	33.621 D	25.971	205.7	0.485	3.56	0155.0 D	0155.2	23.0	1.74	22.1	0.01	0.00	0.01	0.04	151
170	9.06	9.05	33.782	26.160	188.1	0.521	3.13	136.6	48.1	26.8	1.87	24.3	0.01	0.00	0.00	0.04	171 08
200 ISL	8.60 D	8.58	33.935 D	26.353	170.4	0.579	2.85	0123.9 D	043.4	32.4	2.02	26.6	0.01	0.00			202
200	8.60	8.58	33.935 D	26.353	170.4	0.579	2.85	0123.9 D	043.4								202 07
231	8.17	8.15	34.008	26.477	159.0	0.627	2.43	106.0	36.7	38.2	2.18	29.0	0.01	0.00			233 06
250 ISL	8.03 D	8.00	34.037 D	26.521	155.1	0.660	2.21	0196.2 D	033.3	41.5	2.29	30.3	0.00	0.00			252
271	7.80	7.77	34.065	26.578	150.0	0.689	1.84	80.5	27.6	45.1	2.42	31.7	0.00	0.00			273 05
300 ISL	8.00 D	7.97	34.186 D	26.644	144.5	0.735	1.17	0151.1 D	17.7	48.7	2.56	32.7	0.00	0.00			302
320	7.72	7.68	34.168	26.672	142.0	0.761	1.17	50.8	17.4	51.1	2.66	33.4	0.00	0.00			323 04
380	7.16	7.13	34.202	26.778	132.7	0.843	0.79	34.5	11.7	59.7	2.86	35.9	0.00	0.00			383 03
400 ISL	7.03 D	6.99	34.238 D	26.825	128.4	0.873	0.64	027.7 D	9.4	62.2	2.91	36.4	0.00	0.00			403
441	6.81	6.76	34.264	26.877	124.0	0.922	0.48	21.0	7.1	67.2	3.02	37.4	0.00	0.00			445 02
500 ISL	6.31 D	6.26	34.289 D	26.963	116.2	0.997	0.34	014.9 D	5.0	74.7	3.12	38.8	0.00	0.00			504
515	6.22	6.17	34.296	26.981	114.7	1.010	0.31	13.6	4.5	76.6	3.14	39.2	0.00	0.00			519 01

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

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

RV OCEANUS

CALCOFI CRUISE 1507

STATION 90.0 80.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE	ORD	
DEPTH m	TEMP DEG C	POTTEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/L	OXYGEN μmol/Kg	OXY PCT	S103* μM	P04* μM	N03* μM	N02* μM	NH4* μM	CHL-A μg/L	PHAEAO μg/L	PRES db
31 45.1 N	121 18.9 W	14/07/2015	0931	UTC	3672 m	330 22 kn											022
0	20.18	20.18	33.294	23.415	445.9	0.000	5.38	235.0	103.5	1.8	0.31	0.0	0.01	0.02	0.10	0.02	0
2	20.18	20.18	33.294	23.415	446.0	0.009	5.38	235.0	103.5	1.8	0.31	0.0	0.01	0.02	0.10	0.02	2 20
10 ISL	19.81 D	19.81	33.280	23.501	438.0	0.044	5.42	236.8	103.5	1.8	0.32	0.0	0.00	0.03	0.09	0.03	10 19
25	17.71	17.70	33.223	23.986	392.4	0.106	5.69	248.3	104.3	2.0	0.32	0.0	0.00	0.02	0.09	0.03	25 18
30 ISL	17.53 D	17.53	33.214 D	24.022	389.1	0.126	5.73	0250.0	0104.8	2.0	0.32	0.0	0.00	0.02	0.10	0.03	30
40	17.13	17.12	33.215	24.118	380.2	0.164	5.80	253.2	105.2	1.9	0.31	0.0	0.00	0.02	0.12	0.04	40 17
50	16.48	16.47	33.190	24.252	367.8	0.201	5.89	257.4	105.5	1.7	0.32	0.0	0.00	0.04	0.16	0.07	50 16
62	16.01	16.00	33.179	24.351	358.7	0.245	5.94	259.6	105.4	1.6	0.33	0.0	0.00	0.03	0.20	0.10	62 15
75	15.32	15.31	33.205	24.524	342.6	0.290	5.89	257.1	103.0	1.7	0.38	0.0	0.01	0.14	0.30	0.24	76 14
87	14.47	14.46	33.260	24.750	321.4	0.330	5.70	248.7	98.0	2.0	0.50	0.9	0.23	0.64	0.29	0.25	88 13
100	12.13	12.12	33.079	25.079	290.0	0.370	5.40	235.8	88.4	5.6	0.75	5.4	0.18	0.02	0.24	0.32	101 12
112	10.52	10.50	33.153	25.427	256.8	0.402	4.86	212.3	76.9	11.5	1.20	13.1	0.03	0.01	0.16	0.17	113 11
124	10.03	10.02	33.199	25.546	245.7	0.433	4.76	208.0	74.6	13.0	1.28	14.5	0.02	0.01	0.13	0.16	125 10
125 ISL	10.15 D	10.13	33.200 D	25.526	247.6	0.438	4.80	0208.9 D	75.3	13.2	1.29	14.6	0.02	0.01	0.13	0.16	126
140	9.78	9.76	33.337	25.696	231.8	0.471	4.47	195.3	69.7	15.8	1.42	16.9	0.02	0.01	0.08	0.12	141 09
150 ISL	9.55 D	9.54	33.448 D	25.820	220.1	0.497	4.25	0185.0 D	65.9	17.9	1.51	18.4	0.02	0.01	0.06	0.09	151
170	9.26	9.24	33.622	26.005	203.0	0.536	3.75	163.7	57.9	22.2	1.68	21.4	0.01	0.01	0.02	0.04	171 08
200	8.83	8.80	33.866	26.264	178.9	0.593	3.05	133.3	46.7	29.3	1.93	25.3	0.01				

RV OCEANUS

CALCOFI CRUISE 1507

STATION 90.0 90.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD			
DEPTH m	TEMP DEG C	POTTEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/L	OXYGEN μmol/Kg	OXY PCT	S103* μM	P04* μM	N03* μM	N02* μM	NH4* μM	CHL-A μg/L	PHAEAO μg/L	PRES db	SAMP
31 25.1 N	121 59.4 W	14/07/2015	0326	UTC	3889 m	340 16 kn	330 03 04	1	1015.0 mb	20.1 C	17.7 C	5/8	SC 021					
0	21.21	21.21	33.387	23.212	465.2	0.000	5.26	229.5	103.0	1.9	0.28	0.0	0.00	0.01	0.07	0.01	0	
2	21.21	21.20	33.389	23.212	465.3	0.009	5.26	229.5	103.0	1.9	0.28	0.0	0.00	0.01	0.07	0.01	2 22	
2	21.21	21.20	33.389	23.214	465.1	0.008											2 24	
10	19.82	19.82	33.322	23.532	435.1	0.045	5.42	236.8	103.6	1.9	0.28	0.0	0.00	0.01	0.06	0.01	10 20	
10	19.82	19.82	33.321	23.532	435.2	0.046											10 21	
20	ISL 19.21 D	19.21	33.308 D	23.678	421.6	0.089	5.51	D240.5	D104.1	1.9	0.29	0.0	0.00	0.01	0.06	0.01	20	
25	18.97	18.96	33.284	23.722	417.6	0.109	5.52	D241.2	103.8	1.9	0.29	0.0	0.00	0.01	0.05	0.01	25 19	
30	ISL 18.60 D	18.60	33.240 D	23.780	412.2	0.131	5.61	D244.5	D104.6	1.9	0.29	0.0	0.00	0.00	0.05	0.01	30	
40	18.00	17.99	33.263	23.947	396.7	0.170	5.71	249.5	105.4	1.8	0.29	0.0	0.00	0.00	0.06	0.01	40 18	
50	17.67	17.66	33.261	24.025	389.5	0.209	5.74	250.5	105.2	1.9	0.29	0.0	0.00	0.00	0.05	0.01	50 17	
65	17.06	17.05	33.215	24.137	379.3	0.259	5.77	252.0	104.5	1.9	0.30	0.0	0.00	0.00	0.07	0.02	63 16	
75	ISL 16.50 D	16.48	33.157 D	24.224	371.4	0.307	5.85	D255.2	D104.8	2.0	0.30	0.0	0.00	0.00	0.10	0.03	76	
76	16.27	16.25	33.153	24.274	366.6	0.308	5.85	255.7	104.3	2.0	0.30	0.0	0.00	0.00	0.10	0.03	77 15	
87	15.54	15.52	33.095	24.392	355.6	0.348	5.90	257.6	103.6	2.3	0.33	0.0	0.00	0.00	0.16	0.06	88 14	
100	14.83	14.81	33.204	24.632	333.1	0.393	5.73	250.1	99.2	3.0	0.38	0.2	0.03	0.00	0.35	0.24	101 12	
100	14.83	14.81	33.205	24.633	333.0	0.394											101 13	
112	12.95	12.94	33.117	24.950	302.8	0.431	5.52	241.1	92.0	4.7	0.61	3.5	0.11	0.01	0.32	0.26	113 11	
125	11.33	11.31	33.143	25.277	271.6	0.468	5.15	224.7	82.8	8.2	0.95	9.2	0.03	0.01	0.18	0.26	126 10	
140	10.48	10.46	33.212	25.482	252.3	0.507	4.75	207.5	75.1	12.1	1.23	13.8	0.01	0.00	0.13	0.12	141 09	
150	ISL 9.96 D	9.94	33.353 D	25.680	233.6	0.536	4.45	D193.9 D	69.7	14.2	1.31	15.4	0.01	0.00	0.09	0.09	151	
170	9.45	9.43	33.562	25.927	210.4	0.576	4.27	186.3	66.1	18.5	1.47	18.6	0.00	0.00	0.02	0.03	171 08	
200	8.93	8.90	33.792	26.191	185.8	0.636	3.71	161.7	56.8	24.8	1.70	22.5	0.00	0.00	0.00	0.02	202 07	
230	8.57	8.54	33.921	26.349	171.3	0.689	3.51	153.3	53.5	29.4	1.81	24.5	0.00	0.00			232 06	
250	ISL 8.25 D	8.23	33.967 D	26.433	163.6	0.728	3.17	D137.8 D	47.9	35.6	2.04	27.5	0.00	0.00			252	
270	7.75	7.72	34.013	26.543	153.3	0.755	2.31	100.8	34.5	41.8	2.26	30.6	0.00	0.00			272 05	
300	ISL 7.50 D	7.47	34.032 D	26.596	148.7	0.805	2.02	D87.8 D	30.0	47.2	2.41	32.4	0.00	0.00			302	
320	7.18	7.15	34.041	26.647	144.0	0.829	1.81	78.9	26.7	50.8	2.51	33.7	0.00	0.00			323 04	
380	6.77	6.73	34.111	26.760	133.9	0.913	1.06	46.0	15.4	60.4	2.81	36.9	0.00	0.00			383 03	
400	ISL 6.67 D	6.63	34.143 D	26.799	130.5	0.945	0.87	D37.7 D	12.6	63.5	2.88	37.5	0.00	0.00			403	
440	6.38	6.34	34.190	26.874	123.8	0.990	0.63	27.5	9.1	69.5	3.02	38.8	0.00	0.00			444 02	
500	ISL 6.01 D	5.97	34.238 D	26.960	116.1	1.069	0.41	D17.9 D	5.9	76.7	3.13	40.0	0.00	0.00			504	
515	5.96	5.92	34.249	26.975	114.9	1.079	0.40	17.4	5.7	78.5	3.16	40.3	0.00	0.00			519 01	

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

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD			
DEPTH m	TEMP DEG C	POTTEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/L	OXYGEN μmol/Kg	OXY PCT	S103* μM	P04* μM	N03* μM	N02* μM	NH4* μM	CHL-A μg/L	PHAEAO μg/L	PRES db	SAMP
31 5.1 N	122 39.1 W	13/07/2015	2113	UTC	4044 m	340 09 kn	330 01 07	1	1017.0 mb	20.8 C	17.8 C	33 m	1/8	SC 020				
0	22.02	22.02	33.531	23.099	476.0	0.000	5.25	229.1	104.5	1.8	0.33	0.0	0.00	0.02	0.02	0		
2	22.02	22.02	33.531	23.099	476.1	0.010	5.25	229.1	104.5	1.8	0.33	0.0	0.00	0.02	0.02	0	20	
10	20.55	20.54	33.393	23.395	448.2	0.047	5.35	233.6	103.6	1.9	0.29	0.0	0.00	0.00	0.07	0.01	10 19	
20	ISL 19.06 D	19.06	33.274 D	23.690	420.5	0.091	5.55	D242.2	D104.5	1.9	0.30	0.0	0.00	0.00	0.07	0.01	20	
25	18.80	18.79	33.264	23.750	414.9	0.111	5.55	242.6	104.0	1.9	0.30	0.0	0.00	0.00	0.07	0.02	25 18	
30	ISL 18.34 D	18.33	33.229 D	23.837	406.8	0.132	5.67	D247.2	D105.2	1.9	0.30	0.0	0.00	0.00	0.07	0.02	30	
40	17.58	17.58	33.249	24.036	388.1	0.171	5.75	251.0	105.2	1.8	0.31	0.0	0.00	0.02	0.08	0.02	40 17	
50	17.15	17.14	33.245	24.139	378.7	0.209	5.74	250.9	104.2	1.9	0.30	0.0	0.00	0.00	0.09	0.02	50 16	
62	16.34	16.33	33.122	24.231	370.2	0.254	5.82	254.2	103.9	2.0	0.31	0.0	0.00	0.02	0.13	0.04	62 15	
75	15.63	15.62	33.074	24.356	358.7	0.301	5.85	255.7	103.0	2.1	0.33	0.0	0.00	0.00	0.18	0.08	76 14	
87	15.38	15.36	33.258	24.554	340.2	0.343	5.72	249.8	100.2	2.5	0.35	0.0	0.00	0.01	0.22	0.15	88 13	
100	14.10	14.08	33.167	24.758	321.0	0.386	5.67	247.6	96.7	3.5	0.45	0.8	0.05	0.01	0.36	0.26	101 12	
112	12.38	12.37	33.160	25.094	288.9	0.423	5.42	236.9	89.3	5.3	0.67	4.4	0.16	0.00	0.31	0.22	113 11	
125	11.42	11.40	33.177	25.288	270.6	0.459	5.21	227.4	84.0	7.5	0.89	8.3	0.04	0.00	0.23	0.18	126 10	
140	10.39	10.37	33.279	25.548	246.0	0.498	4.83	210.9	76.2	11.8	1.18	13.3	0.01	0.01	0.12	0.13	141 09	
150	ISL 10.01 D	9.99	33.374 D	25.688	232.8	0.527	4.66	D203.0	D73.0	14.2	1.29	15.2	0.01	0.00	0.09	0.10	151	
170	9.48	9.46	33.598	25.951	208.2	0.566	4.18	182.5	64.8	19.1	1.50	19.0	0.00	0.00	0.02	0.04	171 08	
200	8.98	8.96	33.809	26.196	185.4	0.625	3.83	167.0	58.7	24.2	1.65	21.9	0.00	0.00	0.00	0.03	202 07	
230	8.41	8.39	33.947	26.393	167.1	0.678	3.23	140.9	48.9	31.7	1.90	25.8	0.00	0.00			232 06	
250	ISL 8.08 D	8.05	33.979 D	26.469	160.1	0.716	3.08	D134.1 D	46.4	35.6	2.01	27.3	0.00	0.00			252	
270	7.81	7.79	33.992	26.518	155.7	0.742	2.79	121.7	41.7	39.5	2.11	28.8	0.00	0.00			272 05	
300	ISL 7.30 D	7.27	34.004 D	26.601	148.0	0.794	2.42	D105.2 D	35.8	45.0	2.28	30.9	0.00	0.00			302	
320	7.21	7.18	34.019	26.626	145.9	0.817	2.13	93.2	31.5	48.6	2.40	32.3	0.00	0.01				

RV OCEANUS

CALCOFI CRUISE 1507

STATION 90.0 110.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD		
30 45.1 N	123 19.9 W	13/07/2015	1640	UTC	4023 m	010 07 kn	350 01 07	1	1018.0 mb	20.9 C	18.7 C	30 m	7/8	SC 019			
DEPTH	TEMP	POTTEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXYGEN	OXY	N03*	P04*	N02*	NH4*	CHL-A	PHAEAO	PRES SAMP	
m	DEG C	DEG C	THETA		ml/L	μmol/Kg	PCT	μM	μM	μM	μM	μM	μM	μg/L	μg/L	db	
0	21.10	21.10	33.063	22.994	486.1	0.000	5.42	236.9	105.9	1.9	0.31	0.0	0.00	0.01	0.13	0.03	0
2 A	21.10	21.10	33.063	22.994	486.2	0.010	5.42	236.9	105.9	1.9	0.31	0.0	0.00	0.01	0.13	0.03	2 24
10	19.23	19.23	33.031	23.460	442.0	0.047	5.61	245.2	105.9	2.0	0.31	0.0	0.00	0.01	0.11	0.03	10 22
10	19.23	19.23	33.036	23.464	441.6	0.047											10 23
18 A	17.96	17.96	33.007	23.759	413.8	0.081	5.70	248.8	104.8	2.0	0.31	0.0	0.00	0.00	0.09	0.03	18 21
20 ISL	17.88 D	17.88	32.997 D	23.770	412.7	0.090	5.73	250.1	105.4	2.0	0.31	0.0	0.00	0.00	0.10	0.03	20
24 A	17.72	17.71	33.024	23.831	407.1	0.106	5.73	250.4	105.0	1.9	0.31	0.0	0.00	0.00	0.10	0.04	24 20
30 ISL	17.22 D	17.21	33.017 D	23.945	396.4	0.131	5.81	253.3	105.4	2.0	0.30	0.0	0.00	0.00	0.11	0.04	30
33	17.06	17.05	33.017	23.983	392.9	0.142	5.78	252.6	104.6	2.0	0.30	0.0	0.00	0.00	0.11	0.03	33 19
42 A	16.86	16.85	33.121	24.110	381.1	0.176	5.79	252.9	104.4	1.9	0.30	0.0	0.00	0.01	0.13	0.04	42 18
50 ISL	16.43 D	16.42	33.071 D	24.171	375.5	0.208	5.86	255.5	104.7	2.0	0.31	0.0	0.00	0.00	0.16	0.05	50
56	16.00	15.99	33.008	24.220	371.0	0.229	5.87	256.6	104.1	2.1	0.31	0.0	0.00	0.00	0.18	0.05	56 17
68	15.92	15.91	33.161	24.358	358.3	0.273	5.77	252.1	102.2	2.3	0.31	0.0	0.00	0.00	0.22	0.07	69 16
75 ISL	15.47 D	15.45	33.120 D	24.427	351.9	0.300	5.85	255.0	102.6	2.5	0.35	0.0	0.00	0.00	0.22	0.12	76
81 A	14.82	14.81	33.089	24.544	340.8	0.319	5.80	253.2	100.3	2.7	0.38	0.0	0.00	0.01	0.23	0.15	82 15
89	13.93	13.92	33.094	24.735	322.8	0.345	5.70	248.9	96.8	3.4	0.46	0.7	0.09	0.04	0.29	0.14	90 13
89	13.93	13.92	33.094	24.735	322.8	0.346											90 14
97 A	13.03	13.01	33.109	24.929	304.4	0.370	5.48	239.3	91.4	4.9	0.64	3.9	0.11	0.02	0.26	0.20	98 12
100 ISL	12.61 D	12.59	33.087 D	24.994	298.2	0.382	5.56	242.3	92.0	5.4	0.69	4.7	0.09	0.00	0.25	0.22	101
111	11.79	11.77	33.083	25.146	283.8	0.411	5.30	231.6	86.1	7.1	0.87	7.8	0.02	0.00	0.22	0.31	112 11
124	10.82	10.80	33.119	25.349	264.6	0.447	5.09	222.4	81.0	9.6	1.07	11.2	0.01	0.00	0.16	0.17	125 10
125 ISL	10.83 D	10.81	33.120 D	25.348	264.8	0.453	5.12	222.9	81.5	9.8	1.08	11.4	0.01	0.00	0.16	0.16	126
140	10.24	10.22	33.218	25.526	248.0	0.488	4.82	210.3	75.7	12.7	1.27	14.5	0.01	0.00	0.07	0.09	141 09
150 ISL	9.94 D	9.93	33.285 D	25.629	238.4	0.516	4.66	202.7	72.8	14.7	1.36	16.1	0.01	0.00	0.05	0.07	151
170	9.47	9.45	33.451	25.836	219.0	0.558	4.18	182.5	64.7	18.6	1.54	19.3	0.00	0.00	0.00	0.03	171 08
200	8.94	8.92	33.795	26.190	185.9	0.618	3.36	146.9	51.6	26.9	1.84	24.4	0.00	0.00	0.00	0.03	202 07
230	8.61	8.59	33.904	26.328	173.3	0.672	3.03	132.3	46.2	31.1	1.96	26.4	0.00	0.00			232 06
250 ISL	8.34 D	8.32	33.959 D	26.413	165.5	0.712	2.90	126.1	43.9	34.8	2.08	27.9	0.00	0.00			252
270	8.01	7.99	33.995	26.491	158.3	0.739	2.49	108.8	37.5	38.5	2.19	29.5	0.00	0.00			272 05
300 ISL	7.63 D	7.60	34.022 D	26.569	151.3	0.791	2.21	96.0	32.9	45.1	2.37	31.8	0.00	0.00			302
320	7.35	7.32	34.044	26.626	146.0	0.815	1.79	78.2	26.5	49.5	2.49	33.4	0.00	0.00			323 04
380	6.80	6.76	34.077	26.729	136.9	0.900	1.27	55.6	18.6	58.2	2.72	36.3	0.00	0.00			383 03
400 ISL	6.60 D	6.56	34.093 D	26.769	133.3	0.934	1.13	49.3	16.5	62.3	2.81	37.2	0.00	0.00			403
440	6.17	6.14	34.140	26.861	124.8	0.978	0.74	32.4	10.7	70.5	2.98	39.2	0.00	0.01			444 02
500 ISL	5.75 D	5.70	34.189 D	26.955	116.3	1.059	0.53	22.8	7.5	79.5	3.12	40.7	0.00	0.00			504
515	5.68	5.64	34.207	26.977	114.4	1.068	0.44	19.3	6.3	81.8	3.15	41.0	0.00	0.00			519 01

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

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

RV OCEANUS

CALCOFI CRUISE 1507

STATION 90.0 120.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD		
30 25.1 N	123 59.9 W	13/07/2015	0946	UTC	4053 m	310 04 kn	300 04 kn	1	1017.0 mb	21.8 C	19.2 C	30 m	7/8	SC 018			
DEPTH	TEMP	POTTEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXYGEN	OXY	N03*	P04*	N02*	NH4*	CHL-A	PHAEAO	PRES SAMP	
m	DEG C	DEG C	THETA		ml/L	μmol/Kg	PCT	μM	μM	μM	μM	μM	μM	μg/L	μg/L	db	
0	21.83	21.83	33.250	22.938	491.4	0.000	5.26	229.9	104.3	1.9	0.32	0.0	0.01	0.01	0.09	0.02	0
2	21.83	21.83	33.250	22.939	491.5	0.010	5.26	229.9	104.3	1.9	0.32	0.0	0.01	0.01	0.09	0.02	2 22
10	19.89	19.89	33.209	23.428	445.0	0.047	5.44	237.7	104.0	1.9	0.33	0.0	0.00	0.00	0.07	0.02	10 21
20 ISL	18.93 D	18.92	33.207 D	23.473	422.1	0.091	5.56	242.4	104.3	1.9	0.31	0.0	0.01	0.00	0.06	0.02	20 19
25	18.83	18.82	33.203	23.694	420.2	0.112	5.53	241.5	103.6	1.8	0.30	0.0	0.01	0.01	0.06	0.02	25 19
30 ISL	18.69 D	18.69	33.199 D	23.726	417.4	0.134	5.57	243.1	104.2	1.9	0.30	0.0	0.01	0.00	0.07	0.02	30
40	17.26	17.25	33.103	24.002	391.4	0.173	5.78	252.5	105.0	2.0	0.29	0.0	0.00	0.00	0.09	0.03	40 18
50	16.81	16.80	33.085	24.095	382.8	0.212	5.84	255.0	105.1	2.0	0.29	0.0	0.01	0.00	0.10	0.03	50 17
62	16.33	16.32	33.098	24.215	371.8	0.257	5.85	255.4	104.3	2.0	0.30	0.0	0.00	0.00	0.13	0.04	62 16
75	15.98	15.97	33.079	24.282	365.8	0.305	5.84	255.1	103.5	2.0	0.31	0.0	0.00	0.00	0.17	0.07	76 15
87	15.38	15.37	33.015	24.365	358.1	0.349	5.80	253.3	101.4	2.1	0.33	0.0	0.00	0.00	0.25	0.19	88 14
100	14.65	14.63	32.931	24.460	349.4	0.395	5.82	254.2	100.2	2.3	0.39	0.1	0.05	0.02	0.31	0.33	101 12
112	14.21	14.19	32.984	24.593	337.0	0.436	5.75	251.0	98.2	2.7	0.44	0.5	0.27	0.00	0.26	0.39	113 11
125 ISL	13.17 D	13.16	33.069	24.870	310.8	0.478	5.51	240.8	92.2	4.6	0.63	3.8	0.05	0.00	0.19	0.17	126 10
140	11.14	11.12	33.072	25.257	273.9	0.522	5.22	227.9	83.6	8.2	0.96	9.4	0.01	0.00	0.10	0.11	141 09
150 ISL	10.69 D	10.67	33.160 D	25.404	260.0	0.552	5.10	222.0	80.9	10.6	1.11	11.9	0.01	0.00	0.08	0.09	151
170	9.72	9.70	33.323	25.695	232.5	0.598	4.48	195.6	69.7	15.5	1.42	17.0	0.01	0.00	0.03		

RV OCEANUS

CALCOFI CRUISE 1507

STATION 93.3 26.7

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE	ORD		
DEPTH	TEMP	POTTEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXYGEN	OXY	SI03*	P04*	N03*	N02*	NH4*	CHL-A	PHAEAO	PRES	SAMP
m	DEG C	DEG C	THETA			ml/L	μmol/Kg	PCT	μM	μM	μM	μM	μM	μM	μg/L	μg/L	db	
0	20.75	20.75	33.444	23.380	449.3	0.000	5.57	243.1	108.2	2.3	0.21	0.1	0.01	0.01	0.32	0.11	0	
2 A	20.75	20.75	33.444	23.380	449.3	0.009	5.57	243.1	108.2	2.3	0.21	0.1	0.01	0.01	0.32	0.11	2 08	
10 A	19.45	19.45	33.412	23.696	419.5	0.044	5.79	253.1	109.9	2.2	0.23	0.0	0.02	0.11	0.39	0.13	10 06	
10	19.45	19.45	33.412	23.696	419.4	0.044											10 07	
14 A	16.81	16.81	33.349	24.293	362.6	0.059	6.31	275.9	113.9	2.7	0.28	0.1	0.02	0.06	0.54	0.21	14 05	
20	13.36	D 13.35	33.297	D 25.005	294.9	0.080	6.25	D 272.3	D 105.1	4.9	0.50	1.8	0.09	0.13	1.16	0.46	20	
25 A	12.90	12.89	33.302	25.101	285.9	0.094	5.66	247.5	94.4	6.7	0.68	3.3	0.15	0.18	1.68	0.66	25 04	
30 ISL	12.30	D 12.29	33.325	D 25.235	273.3	0.109	5.25	D 228.7	D 86.4	8.3	0.87	6.7	0.24	0.23	1.26	0.65	30	
36 A	11.80	11.79	33.343	25.342	263.2	0.124	4.66	203.6	75.9	10.2	1.10	10.8	0.36	0.30	0.75	0.64	36 03	
48 A	11.12	11.11	33.453	25.553	243.4	0.154	3.93	171.7	63.1	14.8	1.40	15.3	0.51	0.31	0.31	0.41	48 02	
50 ISL	11.05	D 11.04	33.481	D 25.587	240.2	0.160	3.84	D 167.2	D 61.6	15.1	1.42	15.6	0.50	0.37	0.29	0.39	50	
58	10.99	10.98	33.494	25.608	238.4	0.178	3.72	162.6	59.6	16.3	1.51	16.9	0.45	0.60	0.19	0.32	58 01	

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

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

RV OCEANUS

CALCOFI CRUISE 1507

STATION 93.3 28.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE	ORD		
DEPTH	TEMP	POTTEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXYGEN	OXY	SI03*	P04*	N03*	N02*	NH4*	CHL-A	PHAEAO	PRES	SAMP
m	DEG C	DEG C	THETA			ml/L	μmol/Kg	PCT	μM	μM	μM	μM	μM	μM	μg/L	μg/L	db	
0	20.67	20.67	33.452	23.407	446.7	0.000	5.54	D 241.7	D 107.6	2.3	0.22	0.0	0.01	0.03	0.25	0.07	0	
1	20.67	20.67	33.452	23.407	446.7	0.005	5.54	241.9	107.6	2.3	0.22	0.0	0.01	0.03	0.25	0.07	1 20	
10	20.09	20.09	33.437	23.547	433.7	0.044	5.56	242.8	106.8	2.1	0.24	0.0	0.01	0.00	0.25	0.08	10 19	
20	16.73	16.73	33.348	24.312	361.1	0.084	6.17	269.6	111.1	1.8	0.32	0.0	0.01	0.01	0.41	0.15	20 18	
30	13.39	13.38	33.292	24.995	296.1	0.117	6.23	272.0	104.8	3.8	0.48	0.4	0.03	0.11	0.95	0.38	30 17	
40	12.42	12.41	33.304	25.196	277.3	0.145	5.53	241.6	91.2	4.2	0.76	4.0	0.14	0.47	0.88	0.57	40 16	
50	11.79	11.78	33.338	25.341	263.6	0.172	4.78	208.9	77.8	9.2	1.05	9.7	0.28	0.28	0.76	0.59	50 15	
60	11.13	11.13	33.404	25.512	247.6	0.198	4.24	185.4	68.1	13.4	1.30	14.6	0.13	0.06	0.38	0.37	60 14	
71	10.79	10.79	33.481	25.632	236.4	0.225	3.97	173.6	63.4	15.4	1.42	16.5	0.07	0.01	0.21	0.28	72 13	
75 ISL	10.78	D 10.78	33.548	D 25.687	231.3	0.236	3.84	D 167.4	D 61.3	16.7	1.50	17.5	0.06	0.02	0.18	0.26	76	
85	10.47	10.46	33.653	25.824	218.5	0.257	3.37	147.3	55.5	19.8	1.69	19.9	0.03	0.05	0.12	0.21	86 12	
100	10.33	10.31	33.741	25.918	209.9	0.289	3.10	135.4	49.0	22.2	1.79	21.5	0.03	0.09	0.07	0.17	101 11	
120	10.21	10.19	33.901	26.064	196.5	0.329	2.50	109.3	39.5	26.4	2.03	24.1	0.03	0.02	0.02	0.09	121 10	
125 ISL	10.22	D 10.20	33.933	D 26.087	194.5	0.341	2.43	D 105.6	D 38.3	27.1	2.07	24.4	0.03	0.02	0.02	0.09	126	
140	10.17	10.15	34.000	26.149	189.0	0.368	2.21	96.6	34.9	28.9	2.17	25.4	0.02	0.02	0.01	0.08	141 09	
150 ISL	10.15	D 10.13	34.037	D 26.181	186.2	0.389	2.09	D 91.1	D 35.0	29.5	2.20	25.7	0.02	0.03	0.01	0.07	151	
170	10.09	10.07	34.078	26.224	182.5	0.424	1.93	84.4	30.4	30.8	2.27	26.3	0.03	0.05	0.01	0.07	171 08	
200	10.01	9.98	34.184	26.322	174.0	0.477	1.58	69.1	24.9	34.0	2.41	27.5	0.01	0.02	0.00	0.06	202 07	
231	9.71	9.68	34.226	26.406	166.6	0.530	1.41	61.7	22.1	36.5	2.49	28.7	0.01	0.03			233 06	
250 ISL	9.85	D 9.82	34.294	D 26.436	164.3	0.565	1.19	D 51.8	D 18.7	37.7	2.53	29.0	0.01	0.03			252	
270	9.57	9.54	34.271	26.465	161.9	0.595	1.23	53.8	19.2	38.9	2.57	29.2	0.01	0.02			272 05	
300 ISL	9.53	D 9.50	34.350	D 26.534	156.0	0.646	0.91	D 39.4	D 14.1	41.3	2.67	30.0	0.01	0.00			302	
320	9.35	9.31	34.333	26.552	154.6	0.674	0.88	38.3	13.6	43.0	2.73	30.4	0.01	0.00			323 04	
380	8.70	8.65	34.345	26.666	144.6	0.764	0.69	30.0	10.5	48.6	2.86	32.5	0.01	0.00			383 03	
400 ISL	8.44	D 8.39	34.324	D 26.690	142.5	0.797	0.69	D 30.1	D 10.5	51.6	2.91	33.4	0.01	0.00			403	
440	7.86	7.82	34.305	26.762	136.0	0.848	0.56	24.4	8.4	57.5	3.00	35.2	0.02	0.01			444 02	
500 ISL	7.31	D 7.26	34.308	D 26.845	128.7	0.933	0.45	D 19.8	D 6.7	65.1	3.12	37.3	0.02	0.03			504	
515	7.04	6.99	34.304	26.878	125.4	0.947	0.40	17.5	5.9	66.9	3.15	37.9	0.01	0.04			519 01	

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

RV OCEANUS

CALCOFI CRUISE 1507

STATION 93.3 30.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE	ORD		
DEPTH	TEMP	POTTEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXYGEN	OXY	SI03*	P04*	N03*	N02*	NH4*	CHL-A	PHAEAO	PRES	SAMP
m	DEG C	DEG C	THETA			ml/L	μmol/Kg	PCT	μM	μM	μM	μM	μM	μM	μg/L	μg/L	db	
0	20.44	20.44	33.459	23.472	440.5	0.000	5.47	D 238.5	D 105.7	2.0	0.23	0.1	0.00	0.07	0.17	0.07	0	
2	20.44	20.44	33.459	23.472	440.5	0.009	5.43	237.2	105.0	2.0	0.23	0.1	0.00	0.07	0.17	0.07	2 20	
10	20.31	20.31	33.452	23.502	438.0	0.044	5.49	239.9	105.9	1.9	0.24	0.1	0.00	0.05	0.18	0.07	10 19	
20	16.69	16.69	33.356	24.327	359.6	0.084	6.01	262.6	108.2	2.0	0.32	0.1	0.00	0.07	0.29	0.13	20 18	
30	13.95	13.95	33.288	24.876	307.5	0.117	5.94	259.4	101.1	3.5	0.49	0.8	0.04	0.05	0.98	0.46	30 17	
40	12.38	12.37	33.266	25.174	279.4	0.147	5.08	221.7	83.6	7.4	0.89	8.0	0.17	0.01	0.68	0.56	40 16	
50																		

RV OCEANUS

CALCOFI CRUISE 1507

STATION 93.3 35.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE	ORD		
DEPTH	TEMP	POTTEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXYGEN	OXY	S103*	P04*	N03*	N02*	NH4*	CHL-A	PHAEAO	PRES	SAMP
m	DEG C	DEG C	THETA				ml/L	μmol/Kg	PCT	μM	μM	μM	μM	μM	μg/L	μg/L	db	006
0	18.57	18.57	33.442	23.939	395.9	0.000	5.50	240.3	102.7	1.8	0.28	0.1	0.00	0.03	0.19	0.06	0	
2	18.57	18.57	33.442	23.939	395.9	0.008	5.50	240.3	102.7	1.8	0.28	0.1	0.00	0.03	0.19	0.06	2	
10	18.58	18.58	33.442	23.939	396.3	0.040	5.50	240.4	102.7	1.8	0.28	0.0	0.00	0.03	0.19	0.06	10	
20	18.08	18.08	33.424	24.048	386.3	0.079	5.58	243.9	103.3	1.6	0.29	0.0	0.01	0.01	0.22	0.07	20	
30	17.45	17.44	33.399	24.184	373.6	0.117	5.68	248.3	103.8	1.5	0.32	0.1	0.01	0.01	0.29	0.11	30	
40	16.02	16.02	33.362	24.486	345.1	0.153	5.69	248.6	101.1	2.2	0.40	1.0	0.09	0.10	0.46	0.18	40	
50	13.94	13.93	33.320	24.905	305.4	0.185	5.38	235.0	91.6	4.3	0.64	4.2	0.17	0.20	0.43	0.21	50	
60	11.74	11.73	33.334	25.348	263.3	0.214	4.63	202.4	75.3	9.8	1.08	11.3	0.14	0.07	0.39	0.33	60	
71	10.79	10.79	33.378	25.552	244.0	0.241	4.32	188.8	68.9	13.4	1.30	15.1	0.03	0.01	0.18A	0.19A	72	
75 ISL	10.72 D	10.71	33.387 D	25.572	242.2	0.253	4.38	0190.9 D	69.7	14.2	1.34	15.7	0.03	0.00	0.16	0.17	76	
85	10.33	10.32	33.452 D	25.690	231.1	0.277	4.15	0180.6 D	65.5	15.5	1.45	1.58	19.8	0.02	0.00	0.04	0.07	101
100	9.91	9.90	33.588	25.869	214.5	0.308	3.73	162.9	58.4	19.3	1.58	19.8	0.02	0.00	0.04	0.07	101	
120	9.63	9.62	33.757	26.048	197.9	0.349	3.20	139.9	49.9	23.8	1.78	22.5	0.01	0.00	0.02	0.06	121	
125 ISL	9.62 D	9.61	33.796 D	26.080	195.0	0.362	3.15	0137.0 D	49.0	24.4	1.81	22.9	0.01	0.00	0.01	0.05	126	
140	9.56	9.55	33.867	26.146	189.1	0.388	2.83	123.6	44.0	26.5	1.91	24.1	0.01	0.00	0.01	0.04	141	
150 ISL	9.55 D	9.54	33.953 D	26.215	182.7	0.409	2.60	0113.0 D	40.4	28.0	1.96	24.9	0.01	0.00	0.01	0.04	151	
170	9.13	9.12	34.005	26.324	172.7	0.443	2.44	106.4	37.6	31.1	2.07	26.4	0.01	0.00	0.00	0.04	171	
200	9.06	9.04	34.158	26.457	160.8	0.493	1.67	73.0	25.8	37.3	2.36	28.8	0.01	0.00	0.00	0.04	202	
230	8.80	8.78	34.215	26.542	153.2	0.540	1.34	58.5	20.5	41.2	2.50	30.3	0.01	0.00		232		
250 ISL	8.70 D	8.67	34.231 D	26.572	150.8	0.573	1.23	053.7 D	18.9	43.1	2.57	30.9	0.01	0.00		252		
270	8.52	8.49	34.254	26.619	146.6	0.600	1.03	45.1	15.7	45.0	2.63	31.6	0.01	0.02		272		
300 ISL	8.21 D	8.18	34.275 D	26.682	141.1	0.647	0.85	037.1 D	12.9	49.1	2.74	32.7	0.01	0.00		302		
320	8.07	8.03	34.295	26.720	137.7	0.671	0.66	28.7	9.9	51.7	2.81	33.4	0.01	0.00		323		
380	7.61	7.57	34.301	26.793	131.7	0.752	0.52	22.8	7.8	57.1	2.91	35.0	0.01	0.01		383		
400 ISL	7.52 D	7.48	34.321 D	26.823	129.1	0.782	0.45	019.6 D	6.7	59.0	2.94	35.5	0.01	0.01		403		
440	7.19	7.15	34.316	26.865	125.5	0.829	0.41	17.7	6.0	62.9	3.00	36.4	0.01	0.01		444		
500 ISL	6.74 D	6.69	34.309 D	26.922	120.6	0.908	0.35	015.1 D	5.1	68.6	3.07	37.8	0.01	0.03		504		
515	6.66	6.61	34.309	26.934	119.7	0.921	0.35	15.1	5.1	70.1	3.09	38.1	0.01	0.04		519		

A) FIRST FLUOROMETER READING NOT RECORDED CHLOROPHYLL AND PHAEOPIGMENT CALCULATED WITH ASSUMED ACID RATIO INTERPOLATED FROM ADJACENT LEVELS
 D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

RV OCEANUS

CALCOFI CRUISE 1507

STATION 93.3 40.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE	ORD		
DEPTH	TEMP	POTTEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXYGEN	OXY	S103*	P04*	N03*	N02*	NH4*	CHL-A	PHAEAO	PRES	SAMP
m	DEG C	DEG C	THETA				ml/L	μmol/Kg	PCT	μM	μM	μM	μM	μM	μg/L	μg/L	db	007
0	19.51	19.51	33.500	23.747	414.2	0.000	5.39	235.7	102.6	3.3	0.21	0.1	0.00	0.02	0.26	0.09	0	
2	19.51	19.51	33.500	23.747	414.3	0.008	5.39	235.7	102.6	3.3	0.21	0.1	0.00	0.02	0.26	0.09	2	
10	19.14	19.14	33.500	23.842	405.5	0.041	5.39	235.5	101.8	3.2	0.21	0.1	0.07	0.29	0.09	10		
10	19.14	19.14	33.500	23.842	405.6	0.041											10	
20	13.82	13.81	33.343	24.947	300.4	0.076	6.22	271.9	105.7	4.4	0.43	0.3	0.02	0.17	1.12	0.66	20	
30	11.51	11.51	33.410	25.448	253.0	0.104	4.26	186.0	68.9	11.5	1.17	12.1	0.16	0.05	0.78	0.61	30	
40	11.31	11.30	33.441	25.508	247.5	0.129	4.00	174.6	64.4	13.1	1.28	14.6	0.10	0.00	0.47	0.42	40	
50	10.82	10.81	33.502	25.644	234.8	0.153	3.74	163.6	59.8	15.3	1.42	17.1	0.04	0.01	0.19	0.27	50	
60	10.50	10.49	33.617	25.790	221.1	0.176	3.40	148.4	53.9	18.4	1.58	19.5	0.02	0.04	0.07	0.13	60	
70	10.36	10.35	33.674	25.858	214.8	0.198	3.27	143.0	51.8	19.7	1.64	20.5	0.02	0.03	0.04	0.10	71	
75 ISL	10.23 D	10.22	33.721 D	25.917	209.4	0.210	3.24	0141.0 D	51.1	20.5	1.68	21.0	0.02	0.03	0.04	0.09	76	
85	10.10	10.09	33.763	25.974	204.2	0.229	3.04	132.8	47.8	22.1	1.77	22.0	0.01	0.04	0.02	0.07	86	
100	9.83	9.82	33.849	26.086	193.9	0.259	2.83	123.6	44.3	24.8	1.86	23.7	0.01	0.06	0.01	0.06	101	
120	9.48	9.47	33.916	26.196	183.8	0.297	2.72	118.9	42.3	27.4	1.95	25.2	0.01	0.01	0.01	0.06	121	
125 ISL	9.43 D	9.42	33.942 D	26.225	181.2	0.308	2.71	0118.0 D	42.1	28.1	1.97	25.5	0.01	0.01	0.01	0.06	126	
141	9.25	9.24	33.992	26.294	174.9	0.334	2.52	110.1	39.0	30.3	2.04	26.5	0.01	0.02	0.01	0.05	142	
150 ISL	9.26 D	9.24	34.050 D	26.339	170.9	0.352	2.28	099.2 D	35.3	31.7	2.10	27.1	0.01	0.02	0.01	0.05	151	
170	9.05	9.03	34.097	26.409	164.6	0.384	2.02	88.2	31.1	34.8	2.24	28.4	0.01	0.01	0.00	0.04	171	
200	9.14	9.12	34.229	26.499	156.8	0.432	1.36	59.2	20.9	39.0	2.46	29.9	0.00	0.01	0.00	0.04	202	
229	9.27	9.25	34.320	26.550	152.7	0.477	0.95	41.2	14.7	41.1	2.58	30.0	0.00	0.03		231		
250 ISL	8.76 D	8.74	34.268 D	26.591	149.0	0.511	1.11	048.4 D	17.0	43.1	2.62	30.8	0.00			252		
270	8.70	8.67	34.307	26.632	145.5	0.537	0.88	38.2	13.4	45.0	2.66	31.5	0.00			272		
300 ISL	8.48 D	8.45	34.330 D	26.685	141.0	0.584	0.66	028.6 D	10.0	49.1	2.74	33.1	0.00			302		
320	8.06	8.03	34.295	26.722	137.6	0.609	0.68	29.5	10.2	51.8	2.79	34.2	0.00	0.01		323		
380	7.67	7.63	34.324	26.803	130.8	0.689	0.48	20.8	7.1	57.0	2.91	35.4	0.00	0.02		383		
400 ISL	7.51 D	7.47	34.320 D	26.823	129.1	0.720	0.46	020.1 D	6.9	59.1	2.94	36.1	0.00			403		
440	7.16	7.12	34.327	26.878	124.3													

RV OCEANUS

CALCOFI CRUISE 1507

STATION 93.3 45.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE	ORD		
DEPTH m	TEMP DEG C	POTTEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/L	OXYGEN μmol/Kg	OXY PCT	SI03* μM	P04* μM	N03* μM	N02* μM	NH4* μM	CHL-A μg/L	PHAEAO μg/L	PRES db	SAMP
32 20.8 N	118 33.3 W	09/07/2015	1711	UTC	1345 m	290 08 kn	300 02 05	1	17.9	C 16.3	C 25 m	1/8	SC 008					
0	18.53	18.53	33.424	23.936	396.2	0.000	5.60	244.7	104.5	1.4	0.29	0.1	0.00	0.04	0.15	0.04	0	
2 A	18.53	18.53	33.424	23.936	396.2	0.008	5.60	244.7	104.5	1.4	0.29	0.1	0.00	0.04	0.15	0.04	2 24	
8	18.36	18.36	33.421	23.976	392.6	0.032	5.56	242.8	103.4	1.4	0.29	0.0	0.00	0.02	0.16	0.05	8 22	
9	18.36	18.36	33.427	23.982	392.1	0.034											8 23	
10 ISL	18.35 D	18.35	33.422 D	23.980	392.4	0.040	5.56	242.6	103.4	1.4	0.29	0.0	0.00	0.02	0.16	0.05	10	
14 A	18.34	18.34	33.420	23.982	392.3	0.055	5.57	243.2	103.5	1.4	0.29	0.0	0.00	0.02	0.16	0.05	14 21	
20	17.81	17.81	33.410	24.102	381.1	0.078	5.68	248.1	104.5	1.4	0.30	0.0	0.00	0.10	0.21	0.05	20 20	
28 A	16.40	16.40	33.365	24.402	352.7	0.108	5.89	257.2	105.4	1.3	0.32	0.0	0.00	0.01	0.29	0.12	28 19	
30 ISL	16.35 D	16.35	33.352 D	24.403	352.7	0.116	5.97	D 260.1	D 106.7	1.4	0.33	0.0	0.00	0.02	0.35	0.18	30	
35 A	15.26	15.25	33.306	24.613	332.8	0.132	6.07	265.1	106.2	1.6	0.35	0.0	0.01	0.03	0.50	0.31	35 18	
46	13.58	13.57	33.285	24.952	300.8	0.167	5.23	228.5	88.4	4.6	0.72	5.4	0.22	0.00	0.50	0.56	46 16	
46	13.58	13.57	33.285	24.952	300.8	0.167											46 17	
50 ISL	12.79 D	12.78	33.303 D	25.123	284.5	0.180	5.02	D 218.5	D 83.4	5.6	0.81	7.0	0.16	0.00	0.41	0.45	50	
58	12.15	12.14	33.291	25.237	273.8	0.201	4.80	209.8	78.8	7.8	0.99	10.2	0.04	0.11	0.22	0.24	58 15	
67 A	11.23	11.22	33.265	25.387	259.7	0.225	4.68	204.3	75.2	10.5	1.15	12.8	0.03	0.01	0.15	0.23	68 14	
75 ISL	10.78 D	10.77	33.329 D	25.517	247.5	0.247	4.51	D 196.4	D 71.8	12.8	1.27	14.9	0.02	0.00	0.11	0.16	76	
82 A	10.47	10.46	33.397	25.624	237.4	0.262	4.20	183.3	66.4	14.7	1.37	16.7	0.02	0.00	0.07	0.09	83 13	
91	10.07	10.06	33.498	25.771	223.6	0.283	3.90	170.4	61.3	17.6	1.50	18.9	0.01	0.01	0.04	0.07	92 12	
100	9.84	9.82	33.575	25.871	214.3	0.303	3.70	163.5	58.5	19.4	1.58	20.3	0.01	0.00	0.03	0.06	101 11	
120	9.53	9.51	33.752	26.061	196.6	0.344	3.26	142.4	50.7	23.7	1.76	23.0	0.01	0.01	0.05	0.12	121 10	
125 ISL	9.48 D	9.47	33.781 D	26.091	193.9	0.356	3.31	D 144.2	D 51.4	24.6	1.80	23.5	0.01	0.12	0.01	0.05	126	
139	9.36	9.34	33.881	26.190	184.8	0.380	2.87	125.2	44.4	27.1	1.90	24.9	0.01	0.41	0.00	0.04	140 09	
150 ISL	9.31 D	9.29	33.954 D	26.255	178.8	0.403	2.67	D 116.3	D 41.4	29.0	1.99	25.8	0.00	0.00	0.04	0.04	151	
170	9.28	9.26	34.060	26.343	170.9	0.435	2.15	93.7	33.2	32.4	2.16	27.4	0.00	0.00	0.00	0.03	171 08	
200	8.94	8.91	34.124	26.450	161.4	0.485	1.84	80.1	28.2	36.8	2.30	28.8	0.00	0.00	0.00	0.03	202 07	
230	8.67	8.65	34.177	26.533	154.0	0.532	1.54	67.0	23.5	40.6	2.42	30.6	0.00	0.00			232 06	
250 ISL	8.40 D	8.38	34.202 D	26.594	148.5	0.566	1.30	D 56.6	D 19.7	43.4	2.52	31.5	0.00				252	
270	8.34	8.32	34.230	26.626	145.8	0.592	1.10	48.2	16.7	46.2	2.61	32.4	0.00	0.02			272 05	
300 ISL	8.18 D	8.15	34.294 D	26.702	139.1	0.639	0.70	D 32.3	D 11.2	49.8	2.72	33.3	0.00				302	
320	8.03	8.00	34.296	26.726	137.1	0.663	0.66	28.6	9.9	52.3	2.80	34.0	0.00				323 04	
380	7.57	7.54	34.317	26.811	129.9	0.743	0.48	21.1	7.2	58.0	2.91	35.7	0.00	0.02			383 03	
400 ISL	7.42 D	7.38	34.317 D	26.833	128.1	0.774	0.45	D 19.8	D 6.7	60.4	2.95	36.4	0.00	0.03			403	
440	7.00	6.96	34.313	26.889	123.1	0.819	0.38	16.7	5.6	65.0	3.03	37.8	0.00	0.05			444 02	
500 ISL	6.43 D	6.39	34.332 D	26.981	114.8	0.896	0.28	D 12.1	D 4.0	73.0	3.13	39.0	0.00	0.00			504	
515	6.29	6.25	34.331	26.999	113.1	0.907	0.28	12.3	4.1	75.0	3.15	39.3	0.00	0.00			519 01	

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

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

RV OCEANUS

CALCOFI CRUISE 1507

STATION 93.3 50.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE	ORD		
DEPTH m	TEMP DEG C	POTTEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/L	OXYGEN μmol/Kg	OXY PCT	SI03* μM	P04* μM	N03* μM	N02* μM	NH4* μM	CHL-A μg/L	PHAEAO μg/L	PRES db	SAMP
32 10.8 N	118 53.6 W	11/07/2015	1116	UTC	1469 m	330 07 kn				1013.0 mb	18.3	C 16.6	C 13.0	009				
0	19.38	19.38	33.450	23.741	414.7	0.000	5.43	237.4	103.0	1.6	0.33	0.0	0.00	0.01	0.18	0.04	0	
2	19.38	19.38	33.450	23.742	414.8	0.008	5.43	237.4	103.0	1.6	0.33	0.0	0.00	0.01	0.18	0.04	2 20	
10 ISL	18.50 D	18.50	33.427	23.947	395.5	0.041	5.57	243.4	103.9	1.5	0.36	0.0	0.00	0.03	0.17	0.04	10 19	
20	16.45	16.45	33.359	24.385	354.0	0.078	5.98	261.4	107.2	1.2	0.34	0.0	0.00	0.01	0.27	0.09	20 18	
30 ISL	15.72 D	15.72	33.331	24.529	340.7	0.113	6.05	264.3	106.8	1.2	0.35	0.0	0.00	0.01	0.39	0.19	30 17	
40	14.74	14.73	33.322	24.738	321.0	0.146	5.81	253.8	100.5	2.0	0.48	0.7	0.13	0.26	0.96	0.47	40 16	
50	13.51	13.51	33.321	24.993	296.9	0.177	5.09	222.5	86.0	4.9	0.85	5.2	0.46	1.20	0.58	0.36	50 15	
61	11.98	11.97	33.271	25.254	272.2	0.208	4.73	206.5	77.2	9.1	1.10	11.2	0.07	0.03	0.22	0.21	61 14	
70	11.43	11.42	33.351	25.417	256.9	0.232	4.42	193.1	71.4	11.5	1.24	13.7	0.03	0.02	0.10	0.12	71 13	
75 ISL	11.37 D	11.36	33.390 D	25.459	253.0	0.246	4.31	D 187.7	D 69.5	13.0	1.32	15.0	0.03	0.02	0.09	0.11	76	
85	10.43	10.42	33.442	25.666	233.5	0.269	4.04	176.5	63.9	16.1	1.47	17.6	0.02	0.02	0.08	0.08	86 12	
100	9.86	9.85	33.555	25.851	216.2	0.303	3.74	163.4	58.5	19.8	1.62	20.3	0.01	0.00	0.03	0.05	101 11	
120	9.36	9.35	33.729	26.070	195.7	0.344	3.29	143.5	50.9	24.9	1.82	23.4	0.01	0.01	0.04	0.04	121 10	
125 ISL	9.27 D	9.26	33.785 D	26.128	190.3	0.356	3.23	D 140.5	D 49.9	25.8	1.85	23.9	0.01	0.00	0.04	0.04	126	
140	9.08	9.07	33.884	26.236	180.3	0.382	2.92	127.6	45.0	28.6	1.95	25.4	0.00	0.00	0.03	0.03	141 09	
150 ISL	8.94 D	8.93	33.944 D	26.305	173.9	0.401	2.81	D 122.5	D 43.2	30.0	2.00	26.0	0.00	0.00	0.00	0.03	151	
170	8.78	8.76	33.971	26.354	169.7	0.434	2.63	115.0	40.3	32.9	2.09	27.4	0.00	0.02	0.00	0.03	171 08	
200	8.42	8.40	34.043	26.466	159.5	0.484	2.22	96.9	33.7	38.3	2.27	29.5	0.00	0.05	0.00	0.02	202 07	
230	8.74	8.71	34.224	26.560	151.4	0.530	1.27											

RV OCEANUS

CALCOFI CRUISE 1507

STATION 93.3 55.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD			
DEPTH m	TEMP DEG C	POTTEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/L	OXYGEN μmol/Kg	OXY PCT	S103* μM	P04* μM	N03* μM	N02* μM	NH4* μM	CHL-A μg/L	PHAEAO μg/L	PRES db	SAMP
32	0.8 N	119 14.0 W	11/07/2015	1608 UTC	1588 m	340 11 kn	330 01 06	1	1014.0 mb	17.3	16.6 C	23 m	4/8	SC	010			
0	18.96	18.96	33.450	23.847	404.6	0.000	5.51	240.5	103.6	1.3	0.33	0.0	0.00	0.01	0.18	0.05	0	
2 A	18.96	18.96	33.450	23.847	404.7	0.008	5.51	240.5	103.6	1.3	0.33	0.0	0.00	0.01	0.18	0.05	2 24	
10 ISL	18.88 D	18.87	33.448	23.869	403.0	0.041	5.55	241.9	104.2	1.3	0.32	0.0	0.00	0.00	0.18	0.04	10	
13 A	18.78	18.77	33.448	23.894	400.7	0.053	5.54	241.9	103.8	1.3	0.32	0.0	0.00	0.00	0.18	0.04	13 21	
13	18.78	18.77	33.450	23.895	400.5	0.054											13 23	
13	18.78	18.77	33.448	23.894	400.7	0.053											13 22	
18 A	18.56	18.55	33.446	23.948	395.8	0.072	5.61	245.2	104.8	1.3	0.32	0.0	0.00	0.01	0.19	0.07	18 20	
20 ISL	18.40 D	18.40	33.458	23.996	391.3	0.081	5.60	244.2	104.2	1.5	0.32	0.0	0.00	0.01	0.22	0.08	20	
25	16.78	16.77	33.418	24.355	357.1	0.099	5.92	258.8	106.8	2.0	0.33	0.0	0.00	0.01	0.29	0.13	25 19	
30 ISL	16.13 D	16.13	33.413	24.500	343.5	0.117	6.12	267.0	109.1	2.5	0.37	0.2	0.02	0.03	0.49	0.21	30	
32 A	15.49	15.48	33.410	24.643	329.9	0.123	6.06	264.5	106.5	2.7	0.38	0.3	0.02	0.04	0.57	0.24	32 18	
42	13.57	13.57	33.392	25.036	292.7	0.154											42 17	
43	13.60	13.60	33.395	25.032	293.1	0.158	5.58	234.4	91.0								43 16	
50 ISL	12.70 D	12.69	33.409	25.223	275.0	0.179	5.08	221.3	84.3	9.7	1.02	9.9	0.47	0.07	0.91	0.47	50	
52	11.97	11.97	33.403	25.357	262.2	0.183	4.46	194.9	73.0	10.4	1.09	11.0	0.52	0.07	0.95	0.50	52 15	
62 A	11.20	11.19	33.453	25.539	245.1	0.208	3.97	173.3	63.8	14.2	1.35	15.8	0.13	0.01	0.33	0.26	62 14	
74 A	9.97	9.96	33.562	25.837	216.9	0.236	3.66	160.0	57.4	19.9	1.62	20.3	0.01	0.01	0.07	0.07	75 13	
75 ISL	9.95 D	9.94	33.575	25.852	215.5	0.239	3.70	160.9	57.9	20.1	1.63	20.4	0.01	0.00	0.06	0.07	76	
87	9.65	9.64	33.668	25.974	204.1	0.263	3.41	149.1	53.1	23.0	1.75	22.2	0.01	0.00	0.02	0.05	88 12	
100	9.48	9.47	33.703	26.030	199.1	0.289	3.36	146.6	52.1	23.8	1.78	22.8	0.01	0.00	0.01	0.04	101 11	
120	9.26	9.25	33.819	26.156	187.5	0.328	3.09	135.0	47.8	26.7	1.88	24.5	0.01	0.00	0.00	0.04	121 10	
125 ISL	9.16 D	9.15	33.863	26.207	182.8	0.340	2.99	130.3	46.2	27.7	1.92	24.9	0.00	0.00	0.00	0.04	126	
140	9.02	9.00	33.931	26.283	175.9	0.364	2.72	119.0	41.9	30.6	2.03	26.4	0.00	0.01	0.00	0.03	141 09	
150 ISL	8.86 D	8.85	33.974	26.342	170.4	0.384	2.58	112.2	39.5	32.7	2.10	27.2	0.00	0.00	0.00	0.03	151	
170	8.69	8.67	34.066	26.441	161.4	0.415	2.16	94.2	33.0	36.9	2.25	29.0	0.00	0.00	0.00	0.03	171 08	
200	8.51	8.49	34.117	26.510	155.4	0.462	1.81	79.2	27.6	40.4	2.39	30.3	0.00	0.00	0.00	0.03	202 07	
230	8.27	8.25	34.196	26.610	146.5	0.508	1.35	58.9	20.4	44.7	2.57	31.7	0.00	0.01			232 06	
250 ISL	8.39 D	8.36	34.236	26.624	145.7	0.541	1.13	49.1	17.1	47.1	2.63	32.5	0.00	0.01			252	
270	8.01	7.98	34.206	26.658	142.6	0.566	1.11	48.6	16.8	49.6	2.68	33.3	0.00	0.01			272 05	
300 ISL	8.03 D	8.00	34.294	26.724	137.0	0.612	0.68	29.5	10.2	52.7	2.80	34.1	0.00	0.00			302	
320	7.87	7.84	34.297	26.751	134.7	0.636	0.61	26.7	9.2	54.7	2.88	34.6	0.00	0.00			323 04	
380	7.45	7.41	34.309	26.823	128.7	0.715	0.47	20.5	7.0	60.5	3.00	36.1	0.00	0.04			383 03	
400 ISL	7.23 D	7.19	34.316	26.859	125.4	0.745	0.41	17.7	6.0	63.5	3.04	36.8	0.00	0.00			403	
441	6.82	6.78	34.322	26.921	119.9	0.791	0.33	14.3	4.8	69.7	3.11	38.3	0.00	0.00			445 02	
500 ISL	6.43 D	6.38	34.325	26.977	115.1	0.865	0.28	12.0	4.0	74.3	3.17	39.3	0.00	0.00			504	
515	6.37	6.32	34.328	26.986	114.4	0.877	0.27	11.8	3.9	75.5	3.18	39.6	0.00	0.00			519 01	

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

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

RV OCEANUS

CALCOFI CRUISE 1507

STATION 93.3 60.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD			
DEPTH m	TEMP DEG C	POTTEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/L	OXYGEN μmol/Kg	OXY PCT	S103* μM	P04* μM	N03* μM	N02* μM	NH4* μM	CHL-A μg/L	PHAEAO μg/L	PRES db	SAMP
31 50.8 N	119 34.2 W	11/07/2015	1903	UTC	1906 m	340 4 kn	260 03 12	1	1016.0 mb	19.3	17.5 C	29 m	3/8	SC	011			
0	19.38	19.38	33.240	23.580	430.1	0.000	5.49	239.9	104.0	1.6	0.34	0.0	0.00	0.05	0.12	0.03	0	
2	19.38	19.38	33.240	23.580	430.2	0.009	5.49	239.9	104.0	1.6	0.34	0.0	0.00	0.05	0.12	0.03	2 20	
10	18.36	18.36	33.235	23.834	406.2	0.042	5.62	245.6	104.4	1.6	0.33	0.0	0.00	0.07	0.11	0.03	10 19	
20	16.33	16.33	33.186	24.280	364.0	0.081	5.79	253.2	103.4	2.0	0.33	0.0	0.00	0.01	0.11	0.03	20 18	
30	15.50	15.50	33.095	24.396	353.3	0.117	5.97	260.7	104.7	2.3	0.34	0.0	0.00	0.00	0.14	0.06	30 17	
40	14.72	14.72	33.152	24.610	332.3	0.151	5.95	260.1	102.9	2.5	0.39	0.0	0.00	0.11	0.23	0.16	40 21	
50	13.95	13.94	33.117	24.747	320.4	0.184	5.80	253.5	98.6	3.4	0.49	0.8	0.09	0.02	0.66	0.32	50 15	
60	13.27	13.26	33.204	24.951	301.2	0.215	5.35	233.7	89.7	4.3	0.76	5.3	0.43	0.00	0.40	0.29	60 14	
70	12.72	12.71	33.206	25.062	290.9	0.244	5.21	227.8	86.5	5.4	0.90	7.5	0.45	0.00	0.21	0.16	71 13	
75 ISL	12.43 D	12.42	33.195	25.110	286.4	0.261	5.23	227.8	86.2	6.2	0.96	8.7	0.31	0.00	0.17	0.14	76	
85	11.94	11.93	33.257	25.252	273.1	0.287	4.92	215.0	80.3	7.8	1.07	11.0	0.02	0.00	0.09	0.11	86 12	
100	10.72	10.71	33.309	25.513	248.4	0.326	4.49	196.2	71.4	12.4	1.31	14.9	0.02	0.01	0.07	0.09	101 11	
120	9.42	9.41	33.448	25.840	217.5	0.372	4.09	178.7	63.2	18.9	1.60	19.9	0.03	0.00	0.06	0.07	121 10	
125 ISL	9.37 D	9.35	33.551	25.930	209.1	0.385	3.98	173.3	61.5	20.5	1.66	20.9	0.03	0.00	0.04	0.07	126	
140	9.14	9.13	33.765	26.133	190.1	0.413	3.40	148.6	52.4	25.3	1.82	23.7	0.01	0.00	0.01	0.04	141 09	
150 ISL	8.94 D	8.92	33.848	26.231	181.0	0.434	3.28	142.7	50.3	28.1	1.92	25.0	0.01	0.00	0.01	0.04	151	
170	8.58	8.56	33.957	26.374	167.7	0.467	2.62	114.4	39.9	33.7	2.13	27.8	0.01	0.01	0.01	0.04	171 08	
200	8.43	8.41	34.069	26.484	157.9	0.515	1.95	85.1	29.6	39.9	2.37	30.3	0.01	0.01	0.01	0.06	202 07	
230	8.26	8.24	34.113															

RV OCEANUS

CALCOFI CRUISE 1507

STATION 93.3 70.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE	ORD		
DEPTH m	TEMP DEG C	POTTEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/L	OXYGEN μmol/Kg	OXY PCT	SI03* μM	P04* μM	N03* μM	N02* μM	NH4* μM	CHL-A μg/L	PHAEAO μg/L	PRES db	SAMP
31 30.8 N	120 14.8 W	12/07/2015	0035	UTC	3936 m	350 08 kn	270 03	10	1	1015.0 mb	19.0 C	17.5 C	31 m	5/8	SC 012			
0	20.48	20.48	33.462	23.464	441.2	0.000	5.33	232.9	103.2	1.8	0.29	0.0	0.00	0.01	0.08	0.02	0	
2	20.48	20.48	33.462	23.464	441.3	0.009	5.33	232.9	103.2	1.8	0.29	0.0	0.00	0.01	0.08	0.02	2 20	
10	19.94	19.94	33.445	23.593	429.3	0.044	5.39	235.3	103.2	1.8	0.30	0.0	0.00	0.01	0.07	0.02	10 19	
20 ISL	19.17 D	19.17	33.432	D 23.782	411.6	0.086	5.47	D238.5	D103.3	1.8	0.30	0.0	0.00	0.00	0.07	0.02	20	
26	18.77	18.77	33.419	23.874	403.1	0.110	5.50	240.2	103.0	1.8	0.30	0.0	0.00	0.00	0.07	0.02	26 18	
30 ISL	18.74 D	18.73	33.419	D 23.884	402.3	0.127	5.51	D240.3	D103.2	1.8	0.30	0.0	0.00	0.00	0.07	0.02	30	
40	18.13	18.13	33.374	23.999	391.7	0.166	5.60	244.9	103.7	1.9	0.30	0.0	0.00	0.00	0.09	0.02	40 17	
50	17.63	17.62	33.373	24.121	380.4	0.205	5.66	247.5	103.8	1.9	0.31	0.0	0.00	0.01	0.11	0.03	50 16	
62	16.75	16.74	33.185	24.187	374.5	0.250	5.81	253.9	104.6	1.9	0.31	0.0	0.00	0.00	0.13	0.04	62 15	
75 ISL	16.44 D	16.42	33.241	D 24.302	363.9	0.300	5.79	D252.5	D103.6	1.9	0.31	0.0	0.00	0.00	0.13	0.05	76	
76	16.45	16.43	33.187	24.258	368.2	0.302	5.78	252.6	103.4	1.9	0.31	0.0	0.00	0.02	0.13	0.05	77 14	
87	15.24	15.23	33.167	24.513	344.1	0.341	5.81	253.9	101.5	2.3	0.35	0.0	0.00	0.00	0.23	0.16	88 13	
100	13.43	13.42	33.127	24.863	310.8	0.384	5.62	245.5	94.5	3.8	0.54	1.6	0.15	0.03	0.36	0.30	101 12	
112	12.64	12.62	33.160	25.044	293.7	0.420	5.35	233.9	88.6	5.6	0.74	5.2	0.14	0.01	0.27	0.26	113 11	
125	11.56	11.55	33.251	25.319	267.7	0.457	5.07	221.5	82.0	7.8	0.93	8.7	0.03	0.01	0.17	0.13	126 10	
140	10.66	10.64	33.351	25.559	245.1	0.495	4.67	204.1	74.2	11.7	1.21	13.3	0.01	0.07	0.09	0.12	141 09	
150 ISL	9.98 D	9.96	33.490	D 25.782	223.9	0.522	4.24	D184.5	D 66.4	14.9	1.36	15.9	0.01	0.05	0.06	0.09	151	
170	9.55	9.53	33.640	25.972	206.2	0.562	3.69	161.3	57.3	21.4	1.67	21.2	0.00	0.01	0.01	0.03	171 08	
200 ISL	9.05 D	9.02	33.827	D 26.199	185.1	0.625	3.34	D145.4	D 51.4	26.6	1.85	24.1	0.00	0.05	0.00	0.02	202	
201	9.01	8.99	33.829	26.207	184.4	0.622	3.29	143.7	50.5	26.8	1.86	24.2	0.01	0.05	0.00	0.02	203 07	
231	8.50	8.47	33.965	26.393	167.1	0.675	2.77	120.9	42.1	33.7	2.07	27.5	0.00	0.02			233 06	
250 ISL	8.28 D	8.25	34.001	D 26.456	161.5	0.711	2.58	D112.1	D 39.0	37.7	2.21	29.2	0.00	0.03			252	
270	8.02	7.99	34.046	26.529	154.7	0.738	2.08	90.9	31.3	42.0	2.36	30.9	0.00	0.04			272 05	
300 ISL	7.81 D	7.78	34.112	D 26.613	147.3	0.788	1.60	D 69.7	D 24.0	47.5	2.53	32.8	0.00	0.00			302	
320	7.58	7.55	34.128	26.659	143.1	0.813	1.37	59.6	20.3	51.2	2.65	34.1	0.00	0.00			323 04	
379	7.01	6.97	34.142	26.752	134.9	0.895	1.04	45.3	15.2	58.6	2.83	36.4	0.00	0.00			382 03	
400 ISL	6.76 D	6.73	34.160	D 26.800	130.5	0.928	0.89	D 38.6	D 13.0	62.3	2.91	37.2	0.00	0.00			403	
440	6.45	6.41	34.200	26.873	123.9	0.973	0.62	27.1	9.0	69.3	3.05	38.8	0.00	0.01			444 02	
500 ISL	6.04 D	5.99	34.251	D 26.968	115.5	1.052	0.39	D 16.8	D 5.6	77.1	3.18	40.2	0.00	0.08			504	
515	5.98	5.93	34.260	26.982	114.3	1.063	0.36	15.8	5.2	79.0	3.21	40.6	0.00	0.10			519 01	

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

RV OCEANUS

CALCOFI CRUISE 1507

STATION 93.3 80.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE	ORD		
DEPTH m	TEMP DEG C	POTTEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/L	OXYGEN μmol/Kg	OXY PCT	SI03* μM	P04* μM	N03* μM	N02* μM	NH4* μM	CHL-A μg/L	PHAEAO μg/L	PRES db	SAMP
31 10.8 N	120 55.2 W	12/07/2015	0608	UTC	3836 m	030 04 kn											013	
0	20.69	20.69	33.404	23.363	450.8	0.000	5.31	232.1	103.2	1.9	0.30	0.0	0.00	0.01	0.08	0.02	0	
2	20.69	20.69	33.404	23.363	450.9	0.009	5.31	232.1	103.2	1.9	0.30	0.0	0.00	0.01	0.08	0.02	2 20	
10	20.17	20.17	33.392	23.493	438.9	0.045	5.34	233.5	102.8	1.8	0.30	0.0	0.00	0.01	0.07	0.02	10 19	
20 ISL	19.15 D	19.14	33.349	D 23.725	417.1	0.088	5.49	D239.6	D 103.6	1.8	0.30	0.0	0.00	0.07	0.02	20		
25	18.89	18.89	33.351	23.792	410.9	0.108	5.49	240.0	103.1	1.8	0.30	0.0	0.00	0.00	0.07	0.02	25 18	
30 ISL	18.65 D	18.65	33.331	D 23.837	406.8	0.129	5.55	D242.2	D 103.8	1.8	0.30	0.0	0.00	0.00	0.08	0.02	30	
40	17.97	17.96	33.302	23.984	393.1	0.168	5.62	245.7	103.7	1.9	0.31	0.0	0.00	0.01	0.10	0.02	40 17	
50	17.03	17.02	33.192	24.125	380.0	0.207	5.82	254.2	105.3	1.9	0.32	0.0	0.00	0.07	0.12	0.04	50 16	
62	15.74	15.73	33.143	24.383	355.7	0.251	5.90	257.7	104.0	2.1	0.34	0.0	0.00	0.01	0.16	0.06	62 15	
75	14.89	14.88	33.112	24.546	340.4	0.296	5.87	256.5	101.8	2.5	0.39	0.0	0.00	0.00	0.22	0.14	76 14	
87	13.40	13.39	33.088	24.838	312.8	0.336	5.73	250.5	96.4	3.6	0.50	1.0	0.05	0.03	0.36	0.27	88 13	
100	11.84	11.83	33.106	25.153	282.9	0.374	5.31	231.9	86.3	6.6	0.83	6.7	0.16	0.01	0.27	0.26	101 12	
112	10.66	10.64	33.126	25.382	261.1	0.407	4.94	215.7	78.3	10.6	1.16	12.5	0.05	0.02	0.14	0.15	113 11	
125	10.11	10.10	33.224	25.552	245.2	0.440	4.72	206.3	74.0	13.1	1.30	14.9	0.03	0.01	0.11	0.11	126 10	
140	9.60	9.59	33.362	25.744	227.1	0.475	4.42	193.1	68.6	16.5	1.46	17.8	0.01	0.01	0.06	0.09	141 09	
150 ISL	9.40 D	9.39	33.453	D 25.848	217.4	0.501	4.22	D183.5	D 65.2	18.6	1.55	19.2	0.01	0.00	0.05	0.07	151	
170	9.21	9.19	33.608	26.001	203.3	0.540	3.74	163.3	57.6	22.8	1.72	22.2	0.00	0.00	0.01	0.04	171 08	
200 ISL	8.91 D	8.89	33.842	D 26.233	181.8	0.601	3.23	D140.5	D 49.5	27.4	1.85	24.3	0.00				202 07	
200	8.91	8.89	33.842	D 26.233	181.8	0.601	3.23	D140.5	D 49.5								202 07	
230	8.58	8.56	33.943	26.364	169.9	0.651	2.93	128.0	44.6	31.9	1.98	26.5	0.00				232 06	
250 ISL	8.41 D	8.38	33.989	D 26.427	164.2	0.688	2.65	D115.3	D 40.2	36.0	2.13	28.3	0.00				252	
270	8.06	8.03	34.033	26.513	156.3	0.716	2.23	97.4	33.6	40.1	2.27	30.0	0.00				272 05	
300 ISL	7.76 D	7.73	34.067	D 26.586	149.8	0.766	1.86	D 81.0	D 27.8	46.3	2.47	32.3	0.00				302	
320	7.55	7.51	34.113	26.652	143.7	0.792	1.43	62.3	21.2	50.4	2.60	33.8	0.00					

RV OCEANUS

CALCOFI CRUISE 1507

STATION 93.3 90.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE	ORD		
DEPTH	TEMP	POTTEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXYGEN	OXY	NO3*	P04*	N02*	NH4*	CHL-A	PHAEAO	PRES	SAMP	
m	DEG C	DEG C	THETA				ml/L	μmol/Kg	PCT	μM	μM	μM	μM	μg/L	μg/L	db	014	
30	50.8 N	121 35.4 W	12/07/2015	1131	UTC	4091 m	300	04 kn										
0	20.86	20.86	33.354	23.281	458.6	0.000	5.27	230.4	102.7	1.9	0.30	0.0	0.00	0.02	0.08	0.02	0	
2	20.86	20.86	33.354	23.282	458.7	0.009	5.27	230.4	102.7	1.9	0.30	0.0	0.00	0.02	0.08	0.02	2 20	
10	20.67	20.67	33.385	23.356	452.0	0.046	5.31	232.1	103.1	1.9	0.28	0.0	0.00	0.00	0.07	0.02	10 19	
20	ISL	19.77 D	19.76	33.403	D 23.607	428.3	0.090	5.43	D 236.9	D 103.7	1.8	0.28	0.0	0.00	0.06	0.02	20	
25	19.40	19.39	33.367	23.675	422.1	0.111	5.46	238.4	103.4	1.8	0.28	0.0	0.00	0.01	0.06	0.02	25 18	
30	ISL	19.34 D	19.34	33.378	D 23.699	420.0	0.133	5.48	D 239.2	D 103.8	1.8	0.28	0.0	0.00	0.01	0.07	0.02	30
40	18.62	18.62	33.409	23.905	400.7	0.173	5.56	243.0	103.9	1.9	0.28	0.0	0.00	0.01	0.08	0.02	40 17	
50	17.81	17.80	33.269	23.997	392.3	0.213	5.71	249.6	105.0	1.8	0.28	0.0	0.00	0.00	0.08	0.02	50 16	
62	17.51	17.50	33.271	24.073	385.4	0.259	5.74	250.8	104.9	1.8	0.28	0.0	0.00	0.00	0.09	0.03	62 15	
75	17.70	17.69	33.448	24.163	377.4	0.309	5.61	244.9	102.9	2.0	0.28	0.0	0.00	0.00	0.11	0.04	76 14	
87	16.48	16.46	33.205	24.266	367.8	0.354	5.80	253.3	105.8	2.0	0.30	0.0	0.00	0.00	0.16	0.06	88 13	
100	14.91	14.89	33.181	24.598	336.4	0.399	5.74	250.8	99.6	2.8	0.38	0.0	0.00	0.01	0.23	0.17	101 12	
112	14.01	13.99	33.285	24.868	310.9	0.438	5.55	242.5	94.6	3.7	0.45	1.2	0.09	0.02	0.28	0.23	113 11	
125	11.73	11.71	33.189	25.240	275.3	0.476	5.32	232.4	86.3	6.2	0.76	6.2	0.10	0.01	0.23	0.18	126 10	
140	10.46	10.44	33.185	25.463	254.1	0.516	4.97	217.1	78.5	10.8	1.14	12.5	0.02	0.01	0.13	0.14	141 09	
150	ISL	9.92 D	9.90	33.282	D 25.630	238.3	0.545	4.75	D 207.0	D 74.2	13.3	1.27	14.6	0.02	0.00	0.09	0.11	151
171	9.45	9.43	33.491	25.870	215.8	0.588	4.17	182.2	64.6	18.5	1.53	19.2	0.01	0.00	0.02	0.04	172 08	
200	8.85	8.83	33.812	D 26.219	183.2	0.651	3.36	D 146.1	D 51.4	25.0	1.76	22.9	0.01	0.00			202	
200	8.85	8.83	33.812	D 26.219	183.2	0.651	3.36	D 146.1	D 51.4								202 07	
230	8.54	8.51	33.925	26.356	170.6	0.700	2.96	129.4	45.0	31.8	1.99	26.8	0.00	0.00			232 06	
250	ISL	8.36 D	8.33	33.971	D 26.420	164.9	0.738	2.74	D 119.4	D 41.6	34.6	2.07	27.9	0.00	0.00			252
270	8.08	8.06	33.989	26.475	159.9	0.767	2.59	113.0	39.0	37.3	2.15	29.0	0.00	0.00			272 05	
300	ISL	7.65 D	7.62	34.031	D 26.574	150.9	0.817	2.13	D 92.5	D 31.7	44.7	2.37	31.8	0.00	0.00			302
320	7.36	7.33	34.054	26.632	145.5	0.843	1.70	74.0	25.1	49.6	2.52	33.7	0.00	0.00			323 04	
380	6.84	6.81	34.109	26.748	135.1	0.927	1.10	48.1	16.1	59.2	2.79	36.7	0.00	0.00			383 03	
400	ISL	6.68 D	6.65	34.136	D 26.791	131.3	0.959	0.91	D 39.7	D 13.3	62.6	2.86	37.5	0.00	0.00			403
440	6.35	6.31	34.176	26.867	124.4	1.005	0.65	28.3	9.4	69.5	3.01	39.1	0.00	0.00			444 02	
500	ISL	5.98 D	5.94	34.226	D 26.954	116.6	1.083	0.43	D 18.6	D 6.1	76.3	3.11	40.2	0.00	0.00			504
515	5.96	5.91	34.231	26.962	116.1	1.095	0.42	18.5	6.1	78.0	3.14	40.5	0.00	0.02			519 01	

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

RV OCEANUS

CALCOFI CRUISE 1507

STATION 93.3 100.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE	ORD		
DEPTH	TEMP	POTTEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXYGEN	OXY	SI03*	P04*	N02*	NH4*	CHL-A	PHAEAO	PRES	SAMP	
m	DEG C	DEG C	THETA				ml/L	μmol/Kg	PCT	μM	μM	μM	μM	μg/L	μg/L	db	015	
30	30.8 N	122 15.0 W	12/07/2015	1714	UTC	4120 m	010	05 kn	040	01	07	1	1018.0	mb	20.6	C 17.9	42 m	
0	21.11	21.11	33.478	23.306	456.3	0.000	5.23	228.5	102.4	1.9	0.28	0.0	0.00	0.02	0.08	0.02	0	
2	A	21.11	33.478	23.306	456.3	0.009	5.23	228.5	102.4	1.9	0.28	0.0	0.00	0.02	0.08	0.02	2 23	
10	ISL	20.85 D	20.85	33.451	D 23.358	451.7	0.046	5.31	D 231.5	D 103.4	1.9	0.28	0.0	0.00	0.07	0.02	10	
13	20.49	20.49	33.451	23.454	442.7	0.059	5.32	232.4	102.9	1.9	0.28	0.0	0.00	0.00	0.07	0.02	13 21	
13	20.49	20.49	33.447	23.450	443.0	0.058												
20	ISL	19.52 D	19.52	33.478	D 23.729	416.7	0.089	5.46	D 238.3	D 103.9	1.9	0.28	0.0	0.00	0.00	0.06	0.02	20
24	A	19.35	19.34	33.480	23.774	412.6	0.106	5.48	239.4	103.8	1.9	0.28	0.0	0.00	0.01	0.06	0.02	24 20
30	ISL	19.13 D	19.13	33.509	D 23.852	405.4	0.131	5.53	D 241.0	D 104.3	1.9	0.28	0.0	0.00	0.00	0.06	0.02	30
33	A	19.10	19.10	33.558	23.898	401.2	0.142	5.47	239.2	103.3	1.9	0.28	0.0	0.00	0.00	0.07	0.02	33 19
42	18.91	18.90	33.634	24.006	391.2	0.178	5.49	239.9	103.3	2.0	0.27	0.0	0.01	0.00	0.08	0.03	42 18	
50	ISL	18.72 D	18.71	33.633	D 24.052	387.1	0.211	5.53	D 241.2	D 103.7	2.0	0.27	0.0	0.00	0.00	0.08	0.03	50
51	18.71	18.70	33.632	24.054	387.0	0.213	5.51	240.8	103.3	2.0	0.27	0.0	0.00	0.02	0.08	0.03	51 17	
60	A	18.36	18.35	33.615	24.128	380.2	0.247	5.52	241.2	102.7	2.0	0.27	0.0	0.00	0.01	0.10	0.04	60 16
75	ISL	17.20 D	17.18	33.361	D 24.217	372.1	0.306	5.68	D 247.8	D 103.3	2.0	0.29	0.0	0.00	0.01	0.16	0.10	76
77	17.02	17.00	33.317	24.226	371.4	0.311	5.68	248.2	102.8	2.0	0.29	0.0	0.00	0.01	0.17B	0.11B	78 15	
96	15.86	15.85	33.451	24.595	336.7	0.379	5.58	243.9	98.8	2.8	0.33	0.0	0.00	0.00	0.20	0.22	97 14	
100	ISL	15.55 D	15.54	33.446	D 24.660	330.6	0.395	5.59	D 243.6	D 98.4	3.3	0.39	0.7	0.03	0.00	0.22	0.23	101
112	A	13.12	13.10	33.385	25.126	286.1	0.429	5.30	231.8	88.8	4.8	0.57	2.9	0.13	0.00	0.29	0.25	113 12
113	13.12	13.10	33.391	25.130	285.7	0.430											113 13	
124	12.34	12.33	33.354	25.253	274.2	0.463	5.03	220.0	82.9	7.0	0.81	7.1	0.05	0.00	0.17	0.24	125 11	
125	ISL	12.13 D	12.11	33.332	D 25.276	271.9	0.469	5.08	D 221.3	D 83.3	7.1	0.82	7.2	0.05	0.00	0.17	0.24	126
136	A	11.72	11.70	33.341	25.360	264.2	0.495	4.93	215.4	80.1	8.3	0.94	9.0	0.03	0.02	0.14	0.22	137 10
150	ISL	11.58 D	11.56	33.632	D 25.612	240.6	0.534	3.95	D 172.0	D 64.1	13.5	1.30	14.2	0.01				

RV OCEANUS

CALCOFI CRUISE 1507

STATION 93.3 110.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE	ORD		
DEPTH m	TEMP DEG C	POTTEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/L	OXYGEN μmol/Kg	OXY PCT	SI03* μM	P04* μM	N03* μM	N02* μM	NH4* μM	CHL-A μg/L	PHAEAO μg/L	PRES db	SAMP
30 10.8 N	122 55.4 W	12/07/2015	2233	UTC	3848 m	040 5 kn	310 03 10	1	1018.0 mb	21.1 C	18.0 C	38 m	2/8	SC	016			
0	21.40	21.40	33.284	23.080	477.8	0.000	5.33	233.0	104.8	1.9	0.32	0.0	0.00	0.01	0.08	0.02	0	
3	21.40	21.40	33.284	23.081	477.9	0.014	5.33	233.0	104.8	1.9	0.32	0.0	0.00	0.01	0.08	0.02	3 20	
10	19.47	19.46	33.269	23.583	430.3	0.046	5.49	239.8	104.1	1.9	0.30	0.0	0.00	0.00	0.07	0.01	10 19	
20	ISL	19.06 D	19.06	33.284	23.697	419.7	0.089	5.52	D240.9	D104.0	1.9	0.30	0.0	0.00	0.00	0.07	0.02	20
25	18.87	18.86	33.277	23.742	415.7	0.110	5.53	241.8	103.8	1.9	0.30	0.0	0.00	0.00	0.08	0.02	25 18	
30	ISL	18.46 D	18.45	33.258	23.829	407.5	0.131	5.60	D244.1	D104.2	1.9	0.30	0.0	0.00	0.00	0.09	0.02	30
40	17.35	17.34	33.172	24.034	388.3	0.170	5.77	252.3	105.1	1.9	0.30	0.0	0.00	0.00	0.11	0.02	40 17	
50	16.63	16.62	33.129	24.170	375.7	0.208	5.84	255.4	104.8	2.0	0.31	0.0	0.00	0.00	0.14	0.04	50 16	
62	15.81	15.80	32.996	24.255	367.9	0.253	5.94	259.9	104.9	2.1	0.33	0.0	0.00	0.00	0.17	0.06	62 15	
75	15.34	15.32	33.024	24.382	356.2	0.300	5.91	258.3	103.3	2.2	0.35	0.0	0.00	0.00	0.24	0.11	76 14	
87	14.76	14.75	33.090	24.558	339.7	0.342	5.87	256.4	101.4	2.7	0.39	0.0	0.01	0.00	0.32	0.27	88 13	
100	13.32	13.30	33.053	24.828	314.1	0.384	5.61	245.2	94.1	4.3	0.59	2.5	0.17	0.01	0.39	0.31	101 12	
112	11.94	11.92	33.052	25.094	288.8	0.420	5.25	229.7	85.6	7.0	0.90	7.7	0.09	0.00	0.24	0.18	113 11	
125	10.71	10.70	33.135	25.380	261.6	0.456	4.86	212.4	77.1	11.0	1.21	13.1	0.03	0.00	0.15	0.14	126 10	
139	10.11	10.10	33.212	25.543	246.4	0.492	4.65	203.5	73.0	13.8	1.36	15.7	0.02	0.00	0.10	0.12	140 09	
150	ISL	9.74 D	9.72	33.344	D 25.708	230.9	0.521	4.46	D194.2	D 69.4	16.3	1.45	17.4	0.02	0.00	0.07	0.09	151
170	9.32	9.30	33.636	26.005	202.9	0.561	3.94	172.1	60.8	20.8	1.60	20.5	0.01	0.00	0.02	0.03	171 08	
200	ISL	8.88 D	8.86	33.852	D 26.246	180.6	0.623	3.67	D159.8	D 56.2	26.0	1.73	23.2	0.01	0.00	0.00	0.02	202
202	8.85	8.82	33.857	26.255	179.8	0.622	3.63	158.6	55.6	26.4	1.74	23.4	0.01	0.00	0.00	0.02	204 07	
230	8.39	8.36	33.951	26.399	166.5	0.671	3.31	144.7	50.2	31.8	1.88	25.7	0.01	0.00			232 06	
250	ISL	8.10 D	8.07	33.986	D 26.471	159.9	0.708	2.89	D125.8	D 43.5	36.0	2.04	27.6	0.01	0.00			252
271	7.80	7.77	34.004	26.530	154.6	0.737	2.55	111.6	38.2	40.4	2.20	29.7	0.00	0.00			273 05	
300	ISL	7.35 D	7.32	34.009	D 26.598	148.3	0.786	2.39	D104.0	D 35.4	46.6	2.36	31.9	0.00	0.00			302
319	7.07	7.04	34.026	26.649	143.6	0.808	1.99	86.9	29.3	50.7	2.46	33.3	0.00	0.00			321 04	
380	6.44	6.41	34.063	26.765	133.2	0.893	1.41	61.5	20.4	62.0	2.76	37.1	0.00	0.00			383 03	
400	ISL	6.32 D	6.28	34.104	D 26.813	128.8	0.925	1.06	D 46.2	D 15.4	65.6	2.84	37.9	0.00	0.00			403
440	5.99	5.95	34.126	26.873	123.4	0.970	0.81	35.4	11.6	72.8	3.01	39.6	0.00	0.00			444 02	
500	ISL	5.74 D	5.69	34.204	D 26.967	115.1	1.048	0.51	D 22.2	D 7.3	80.3	3.13	40.8	0.00	0.00			504
515	5.65	5.61	34.213	26.985	113.5	1.059	0.47	20.4	6.7	82.1	3.16	41.1	0.00	0.00			519 01	

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

RV OCEANUS

CALCOFI CRUISE 1507

STATION 93.3 120.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE	ORD		
DEPTH m	TEMP DEG C	POTTEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/L	OXYGEN μmol/Kg	OXY PCT	SI03* μM	P04* μM	N03* μM	N02* μM	NH4* μM	CHL-A μg/L	PHAEAO μg/L	PRES db	SAMP
29 50.8 N	123 35.2 W	13/07/2015	0417	UTC	4060 m	040 03 kn	1017.0	mb	21.2 C	18.2 C							017	
0	21.45	21.45	33.142	22.959	489.4	0.000	5.30	231.4	104.2	1.9	0.30	0.0	0.00	0.01	0.10	0.02	0	
2	21.45	21.45	33.142	22.959	489.5	0.010	5.30	231.4	104.2	1.9	0.30	0.0	0.00	0.01	0.10	0.02	2 20	
10	19.03	19.03	33.146	23.600	428.7	0.047	5.55	242.4	104.3	1.9	0.29	0.0	0.00	0.08	0.01	10 19		
20	ISL	18.17 D	18.16	33.030	D 23.726	417.0	0.089	5.64	246.1	104.3	1.9	0.30	0.0	0.00	0.08	0.02	20	
25	17.95	17.95	33.030	23.779	412.0	0.109	5.69	248.4	104.6	1.9	0.31	0.0	0.00	0.00	0.08	0.02	25 18	
30	ISL	17.85 D	17.84	33.088	D 23.848	405.7	0.131	5.75	D250.9	D 105.7	1.9	0.30	0.0	0.00	0.08	0.02	30	
40	17.70	17.69	33.248	24.008	390.8	0.170	5.76	251.7	105.7	1.8	0.28	0.0	0.00	0.09	0.03	40 17		
50	16.46	16.45	33.068	24.162	376.4	0.208	5.84	255.0	104.4	1.9	0.29	0.0	0.00	0.00	0.13	0.04	50 16	
62	16.40	16.39	33.118	24.215	371.7	0.253	5.81	253.7	103.8	2.0	0.30	0.0	0.00	0.00	0.10	0.03	62 15	
75	15.89	15.88	33.087	24.308	363.3	0.301	5.79	252.9	102.4	2.1	0.32	0.0	0.00	0.02	0.15	0.07	76 14	
89	15.09	15.08	33.037	24.446	350.5	0.351	5.79	252.9	100.7	2.3	0.35	0.0	0.00	0.00	0.20	0.17	90 13	
100	14.71	14.70	33.063	24.548	341.1	0.389	5.74	250.5	99.0	2.6	0.39	0.1	0.06	0.01	0.35	0.30	101 12	
111	13.81	13.79	33.083	24.752	321.8	0.425	5.62	245.5	95.3	3.5	0.49	1.2	0.23	0.00	0.32	0.30	112 11	
125	12.27	12.25	33.125	25.090	289.7	0.468	5.36	233.9	87.9	5.9	0.73	5.7	0.04	0.00	0.21	0.19	126 10	
140	10.49	10.47	33.164	25.442	256.1	0.509	4.96	216.7	78.4	11.1	1.17	12.8	0.02	0.00	0.08	0.11	141 09	
150	ISL	9.98 D	9.96	33.260	D 25.603	240.9	0.538	4.84	D210.9	D 75.7	13.6	1.29	14.9	0.01	0.00	0.06	0.08	151
169	9.50	9.48	33.439	25.822	220.3	0.578	4.23	184.7	65.5	18.2	1.52	18.9	0.01	0.00	0.02	0.04	170 08	
200	ISL	8.93 D	8.91	33.755	D 26.161	188.7	0.646	3.40	D147.9	D 52.1	24.9	1.78	22.9	0.01	0.00			202
230	8.72	8.69	33.898	26.308	175.3	0.696	2.78	121.5	42.5	31.4	2.03	26.9	0.00	0.00			232 06	
250	ISL	8.48 D	8.45	33.963	D 26.396	167.3	0.736	2.64	D114.9	D 40.1	34.6	2.10	28.0	0.00	0.00			252
270	8.08	8.05	33.988	26.476	159.8	0.764	2.55	111.3	38.4	37.7	2.16	29.1	0.00	0.00			272 05	
300	ISL	7.63 D	7.60	34.009	D 26.559	152.2	0.816	2.39	D103.9	D 35.6	43.9	2.32	31.1	0.00	0.00			302
320	7.37	7.34	34.042	26.621	146.5	0.840	1.97	86.2	29.2	48.0	2.42	32.5	0.00	0.00			322 04	
380	6.85	6.82	34.102	26.741	135.8	0.925	1.22	53.3	17.9	58.8	2.74	36.1	0.00	0.01			383 03	
400	ISL	6.76 D	6.72	34.142</td														

PRIMARY PRODUCTIVITY CASTS

RV OCEANUS

CALCOFI CRUISE 1507

STATION 76.7 80.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE	ORD								
34 3.3 N	122 56.5 W	20/07/2015	1912 UTC	25 m	1220 - 1945 PST	1218 PST	1950 PST	132.1 mg C/m ²	055								
DEPTH m TEMP DEG C SALINITY SIGMA THETA OXYGEN mL/L OXY PCT SI03* μM P04* μM N03* μM N02* μM NH4* μM CHL-A μg/L PHAE0 μg/L LIGHT PCT UPTAKE (mg C/m³)																	
2	18.84	33.075	23.592	5.53	103.6	1.2	0.31	0.0	0.01	0.02	0.12	0.02	88. A	2.9	2.7	2.8	0.24
8	18.73	33.077	23.621	5.52	103.1	1.2	0.31	0.0	0.01	0.01	0.12	0.02					
15	18.34	33.072	23.715	5.58	103.6	1.2	0.31	0.0	0.01	0.01	0.14	0.04	40.	2.0	2.2	2.1	0.32
20	18.04	33.065	23.785	5.65	104.1	1.2	0.31	0.0	0.01	0.00	0.18	0.05	29.	2.0	2.2	2.1	0.31
28	16.23	33.002	24.162	5.95	105.9	1.0	0.31	0.0	0.01	0.01	0.23	0.08					
35	15.20	33.070	24.444	6.20	108.1	1.3	0.34	0.0	0.01	0.01	0.44	0.19	12.	2.3	2.5	2.4	0.39
46	13.14	33.089	24.887	5.88	98.4	2.8	0.54	1.7	0.27	0.08	0.85	0.73					
57	12.64	33.070	24.971	5.44	90.1	5.2	0.82	7.0	0.19	0.01	0.36	0.36					
68	11.20	33.109	25.271	5.21	83.5	7.0	0.99	9.8	0.06	0.01	0.26	0.25	1.5	0.33	0.45	0.39	0.20
81	10.93	33.215	25.402	4.81	76.8	10.9	1.25	14.1	0.03	0.00	0.10	0.11	0.69	0.16	0.15	0.16	0.19

RV OCEANUS

CALCOFI CRUISE 1507

STATION 80.0 51.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE	ORD								
34 27.0 N	120 31.4 W	19/07/2015	1820 UTC	10 m	1205 - 1948 PST	1208 PST	1945 PST	1291.7 mg C/m ²	047								
DEPTH m TEMP DEG C SALINITY SIGMA THETA OXYGEN mL/L OXY PCT SI03* μM P04* μM N03* μM N02* μM NH4* μM CHL-A μg/L PHAE0 μg/L LIGHT PCT UPTAKE (mg C/m³)																	
2	17.24	33.400	24.232	6.35	115.6	0.5	0.20	0.0	0.01	0.00	1.25	0.74	74. A	77.9	46.9	62.4	0.80
6	17.15	33.395	24.248	6.38	115.9	0.6	0.20	0.0	0.01	0.00	1.58	0.32	40.	70.0	44.2	57.1	0.78
8	17.15	33.395	24.250	6.38	115.8	0.5	0.21	0.0	0.01	0.00	1.37	0.33	29.	61.2	62.1	61.7	0.75
14	15.90	33.383	24.528	6.39	113.2	1.4	0.30	0.1	0.02	0.04	2.15	0.47	12.	52.0	52.4	52.2	0.70
20	14.14	33.380	24.908	6.04	103.2	2.7	0.43	1.2	0.09	0.28	3.86	0.87					
27	14.15	33.382	24.909	6.05	103.4	2.6	0.45	1.1	0.09	0.27	3.65	0.82	1.6	10.6	15.7	13.1	0.53
32	13.38	33.391	25.074	5.36	90.3	5.4	0.69	4.5	0.24	0.53	3.14	0.90	0.74	3.6	4.2	3.9	0.43

RV OCEANUS

CALCOFI CRUISE 1507

STATION 80.0 80.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE	ORD								
33 29.0 N	122 32.0 W	21/07/2015	1918 UTC	22 m	1222 - 1945 PST	1217 PST	1942 PST	214.9 mg C/m ²	057								
DEPTH m TEMP DEG C SALINITY SIGMA THETA OXYGEN mL/L OXY PCT SI03* μM P04* μM N03* μM N02* μM NH4* μM CHL-A μg/L PHAE0 μg/L LIGHT PCT UPTAKE (mg C/m³)																	
3	19.66	32.992	23.320	5.41	102.9	1.6	0.30	0.0	0.01	0.01	0.12	0.03	81. A	4.9	4.6	4.7	0.27
10	19.41	32.990	23.383	5.44	102.9	1.6	0.30	0.0	0.01	0.00	0.14	0.03					
13	18.58	32.969	23.578	5.58	103.9	1.8	0.30	0.0	0.01	0.00	0.15	0.04	40.	5.1	5.2	5.1	0.32
17	17.61	32.979	23.821	5.78	105.7	2.0	0.30	0.0	0.01	0.00	0.14	0.04	31.	3.8	4.0	3.9	0.35
31	16.99	33.210	24.146	5.78	104.5	1.8	0.27	0.0	0.01	0.00	0.14	0.04					
40	16.37	33.158	24.251	5.79	103.5	1.9	0.28	0.0	0.01	0.00	0.20	0.06					
49	15.29	32.952	24.334	5.98	104.4	1.9	0.31	0.0	0.01	0.00	0.28	0.13					
59	14.16	32.826	24.478	5.99	102.1	2.2	0.36	0.0	0.02	0.01	0.46	0.31	1.6	2.5	2.1	2.3	0.33
65	13.93	32.803	24.508	5.92	100.5	2.4	0.40	0.2	0.12	0.06	0.60	0.50					
71	13.51	32.876	24.650	5.77	97.0	2.9	0.47	1.1	0.17	0.02	0.46	0.37	0.71	1.1	1.1	1.1	0.25

RV OCEANUS

CALCOFI CRUISE 1507

STATION 83.3 51.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE	ORD								
33 52.7 N	120 8.0 W	22/07/2015	1712 UTC	11 m	1205 - 1945 PST	1207 PST	1944 PST	1642.7 mg C/m ²	061								
DEPTH m TEMP DEG C SALINITY SIGMA THETA OXYGEN mL/L OXY PCT SI03* μM P04* μM N03* μM N02* μM NH4* μM CHL-A μg/L PHAE0 μg/L LIGHT PCT UPTAKE (mg C/m³)																	
2	18.52	33.438	23.950	5.84	109.0	2.9	0.31	0.4	0.04	0.06	1.25	0.46	76. A	82.7	68.5	75.6	0.59
6	17.66	33.418	24.146	5.90	108.2	3.5	0.34	0.7	0.04	0.06	1.56	0.68	43.	125.3	88.2	106.7	0.62
9	17.52	33.419	24.180	5.90	107.9	4.0	0.42	1.0	0.05	0.05	2.17	0.63	28.	84.9	114.9	99.9	0.68
15	17.06	33.420	24.289	5.78	104.9	4.7	0.42	1.7	0.07	0.09	2.07	0.57	12.	47.3	45.4	46.3	0.65
22	17.55	33.422	24.177	5.82	106.6	3.8	0.37	1.1	0.05	0.06	1.52	0.78					
30	13.35	33.315	25.020	5.47	92.0	6.3	0.73	5.6	0.12	0.03	1.13	0.54	1.5	3.0	2.4	2.7	0.36
36	12.19	33.300	25.235	4.98	81.7	8.6	0.97	9.5	0.15	0.01	0.92	0.64	0.66	0.83	0.87	0.85	0.34

RV OCEANUS

CALCOFI CRUISE 1507

STATION 83.3 90.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE	ORD								
32 34.7 N	122 48.7 W	23/07/2015	1659 UTC	23 m	1218 - 1945 PST	1218 PST	1942 PST	229.4 mg C/m ²	066								
DEPTH m TEMP DEG C SALINITY SIGMA THETA OXYGEN mL/L OXY PCT SI03* μM P04* μM N03* μM N02* μM NH4* μM CHL-A μg/L PHAE0 μg/L LIGHT PCT UPTAKE (mg C/m³)																	
2	20.43	33.169	23.253	5.28	102.0	1.7	0.30	0.0	0.00	0.00	0.11	0.04	88. A	4.1	4.2	4.2	0.35
10	20.43	33.161	23.250	5.28	101.9	1.7	0.31	0.0	0.00	0.00	0.12	0.07	42.	4.3	4.0	4.1	0.37
13	20.39	33.174	23.271	5.29	102.1	1.8	0.31	0.0	0.00	0.00	0.13	0.04	30.	4.7	4.0	4.3	0.40
18	20.24	33.233	23.353	5.36	103.2	1.8	0.30	0.0	0.00	0.00	0.21	0.09	12.	3.7	3.9	3.8	0.33
32	16.59	33.238	24.261	6.00	107.7	1.4	0.32	0.0	0.00	0.00	0.54	0.27					
43	1																

RV OCEANUS CALCOFI CRUISE 1507 STATION 86.7 45.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE	ORD
33 29.4 N	119 19.2 W	16/07/2015	1831 UTC	19 m	1205 - 1937 PST	1203 PST	1937 PST	1528.0 mg C/m ²	037

DEPTH	TEMP	SALINITY	SIGMA	OXYGEN	OXY	SI03*	P04*	N03*	N02*	NH4*	CHL-A	PHAE0	LIGHT	UPTAKE (mg C/m ³)			
m	DEG C	THETA	ml/L	PCT	μM	μM	μM	μM	μM	μM	μg/L	μg/L	PCT	1	2	MEAN	DARK
27	12.48	33.495	25.331	5.44	90.0	0.5	0.75	5.8	0.11	0.78	5.29	1.18	11.	74.1	66.1	70.1	0.90
2	18.89	33.457	23.872	5.58	104.9	1.4	0.30	0.0	0.00	0.00	0.35	0.05	85.	12.9	12.8	12.8	0.54
11	17.34	33.448	24.245	5.75	104.9	0.9	0.32	0.1	0.01	0.06	0.47	0.11	41.	19.3	17.8	18.5	0.56
15	15.95	33.456	24.575	6.11	108.4	0.5	0.41	0.6	0.04	0.28	0.84	0.16	30.	23.1	24.1	23.6	0.56
51	10.27	33.637	25.844	3.32	52.4	20.6	1.67	20.6	0.28	0.00	0.37	0.41	1.6	0.89	0.91	0.90	0.39
61	10.17	33.680	25.895	3.25	51.2	21.1	1.68	21.1	0.07	0.01	0.24	0.34	0.72	0.22	0.21	0.22	0.41

RV OCEANUS CALCOFI CRUISE 1507 STATION 90.0 35.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE	ORD
33 15.1 N	118 15.0 W	15/07/2015	1719 UTC	25 m	1158 - 1935 PST	1159 PST	1934 PST	528.1 mg C/m ²	028

DEPTH	TEMP	SALINITY	SIGMA	OXYGEN	OXY	SI03*	P04*	N03*	N02*	NH4*	CHL-A	PHAE0	LIGHT	UPTAKE (mg C/m ³)			
m	DEG C	THETA	ml/L	PCT	μM	μM	μM	μM	μM	μM	μg/L	μg/L	PCT	1	2	MEAN	DARK
2	19.72	33.447	23.651	5.48	104.6	1.7	0.27	0.0	0.00	0.00	0.15	0.04	88.	A			
28	16.16	33.360	24.453	5.89	104.9	1.7	0.32	0.0	0.00	0.00	0.22	0.08					
8	19.71	33.446	23.655	5.49	104.8	1.6	0.27	0.0	0.00	0.00	0.15	0.03					
14	19.41	33.452	23.737	5.49	104.2	1.6	0.27	0.0	0.00	0.00	0.16	0.04	42.	5.4	5.9	5.7	0.39
20	18.29	33.407	23.985	5.70	105.8	1.6	0.29	0.0	0.00	0.00	0.18	0.05	29.	4.9	5.0	5.0	0.40
35	15.03	33.314	24.670	5.79	100.9	3.0	0.45	1.3	0.08	0.01	0.81	0.26	12.	15.2	15.6	15.4	0.38
46	14.72	33.295	24.722	5.79	100.1	3.1	0.48	1.5	0.10	0.01	0.80	0.29					
58	13.16	33.260	25.017	5.28	88.5	5.3	0.75	5.8	0.17	0.01	0.77	0.36					
68	12.00	33.250	25.235	4.98	81.4	12.4	1.20	13.6	0.02	0.00	0.57	0.28	1.5	2.6	2.0	2.3	0.27
81	10.85	33.380	25.545	4.48	71.4	12.4	1.20	13.6	0.02	0.00	0.20	0.16	0.69	0.46	0.41	0.43	0.25

RV OCEANUS CALCOFI CRUISE 1507 STATION 90.0 70.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE	ORD
32 5.1 N	120 38.3 W	14/07/2015	1706 UTC	20 m	1210 - 1950 PST	1208 PST	1935 PST	105.5 mg C/m ²	023

DEPTH	TEMP	SALINITY	SIGMA	OXYGEN	OXY	SI03*	P04*	N03*	N02*	NH4*	CHL-A	PHAE0	LIGHT	UPTAKE (mg C/m ³)				
m	DEG C	THETA	ml/L	PCT	μM	μM	μM	μM	μM	μM	μg/L	μg/L	PCT	1	2	MEAN	DARK	
3	18.85	33.223	23.702	5.48	102.7	1.9	0.31	0.0	0.00	0.00	0.11	0.03	79.	A	3.6	3.5	3.6	0.29
12	18.84	33.222	23.705	5.51	103.3	1.9	0.31	0.0	0.00	0.02	0.11	0.03	40.	3.3	3.3	3.3	0.29	
16	18.82	33.228	23.714	5.49	102.9	1.9	0.31	0.0	0.00	0.00	0.11	0.02	29.	3.1	2.9	3.0	0.26	
28	18.32	33.223	23.836	5.67	105.2	1.8	0.31	0.0	0.00	0.00	0.11	0.03	12.	1.5	1.6	1.6	0.25	
37	17.09	33.209	24.122	5.78	104.7	1.9	0.31	0.0	0.00	0.00	0.12	0.03						
46	16.38	33.184	24.269	5.81	103.9	2.0	0.31	0.0	0.00	0.00	0.12	0.03						
54	15.77	33.095	24.340	5.92	104.5	2.1	0.32	0.0	0.00	0.00	0.13	0.04	1.6	0.18	0.11	0.14	0.22	
65	15.38	33.194	24.503	5.97	104.5	1.8	0.36	0.0	0.00	0.00	0.25	0.12	0.68	0.21	0.26	0.23	0.23	

RV OCEANUS CALCOFI CRUISE 1507 STATION 90.0 110.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE	ORD
30 45.1 N	123 19.9 W	13/07/2015	1640 UTC	30 m	1220 - 1950 PST	1219 PST	1942 PST	241.4 mg C/m ²	019

DEPTH	TEMP	SALINITY	SIGMA	OXYGEN	OXY	SI03*	P04*	N03*	N02*	NH4*	CHL-A	PHAE0	LIGHT	UPTAKE (mg C/m ³)				
m	DEG C	THETA	ml/L	PCT	μM	μM	μM	μM	μM	μM	μg/L	μg/L	PCT	1	2	MEAN	DARK	
2	21.10	33.063	22.994	5.42	105.9	1.9	0.31	0.0	0.00	0.01	0.13	0.03	90.	A	4.2	4.3	4.3	0.22
10	19.23	33.031	23.460	5.61	105.9	2.0	0.31	0.0	0.00	0.01	0.11	0.03						
18	17.96	33.007	23.759	5.70	104.8	2.0	0.31	0.0	0.00	0.00	0.09	0.03	40.	3.2	3.2	3.2	0.20	
24	17.72	33.024	23.831	5.73	105.0	1.9	0.31	0.0	0.00	0.00	0.10	0.04	29.	3.3	3.3	3.3	0.24	
33	17.06	33.017	23.983	5.78	104.6	2.0	0.30	0.0	0.00	0.00	0.11	0.03						
42	16.86	33.121	24.110	5.79	104.4	1.9	0.30	0.0	0.00	0.01	0.13	0.04	12.	3.1	3.2	3.1	0.18	
56	16.00	33.008	24.220	5.87	104.1	2.1	0.31	0.0	0.00	0.00	0.18	0.05						
68	15.92	33.161	24.358	5.77	102.2	2.3	0.31	0.0	0.00	0.00	0.22	0.07						
81	14.82	33.089	24.544	5.80	100.3	2.7	0.38	0.0	0.00	0.01	0.23	0.15	1.6	1.2	0.97	1.1	0.17	
89	13.93	33.094	24.735	5.70	96.8	3.4	0.46	0.7	0.09	0.04	0.29	0.14						
97	13.03	33.109	24.929	5.48	91.4	4.9	0.64	3.9	0.11	0.02	0.26	0.20	0.70	0.63	0.66	0.64	0.17	

RV OCEANUS CALCOFI CRUISE 1507 STATION 93.3 26.7

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE	ORD
32 57.4 N	117 18.3 W	08/07/2015	1835 UTC	18 m	1200 - 1930 PST	1154 PST	1929 PST	743.0 mg C/m ²	001

DEPTH	TEMP	SALINITY	SIGMA	OXYGEN	OXY	SI03*	P04*	N03*	N02*	NH4*	CHL-A	PHAE0	LIGHT	UPTAKE (mg C/m ³)				
m	DEG C	THETA	ml/L	PCT	μM	μM	μM	μM	μM	μM	μg/L	μg/L	PCT	1	2	MEAN	DARK	
2	20.75	33.444	23.380	5.57	108.2	2.3	0.21	0.1	0.01	0.01	0.32	0.11	84.	A	16.2	16.1	16.1	0.39
10	19.45	33.412	23.696	5.79	109.9	2.2	0.23	0.0	0.02	0.11	0.39	0.13	43.	16.3	16.7	16.5	0.42	
14	16.81	33.349	24.293	6.31	113.9	2.7	0.28	0.1	0.02	0.06	0.54	0.21	30.	19.3	18.8	19.0	0.42	
25	12.90	33.302	25.101	5.66	94.4	6.7	0.68	3.3	0.15	0.18	1.68	0.66	12.	34.9	34.3	34.6	0.40	
36	11.80	33.343	25.342	4.66	75.9	10.2	1.10	10.8	0.36	0.30	0.75	0.64	4.6	1.9	1.6	1.7	0.28	
48	11.12	33.453	25.553	3.93	63.1	14.8	1.40	15.3	0.51	0.31	0.41	0.41	1.7	0.58	0.62	0.60	0.25	

A) INCUBATION LIGHT INTENSITIES WERE 62.7, 41.1, 29.5, 11.5, 1.62, 0.70 PERCENT RESPECTIVELY.

RV OCEANUS

CALCOFI CRUISE 1507

STATION 93.3 45.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL	TWILIGHT	INTEGRATED	VALUE	ORD
32 20.8 N	118 33.3 W	09/07/2015	1711 UTC	25 m	1202 - 1920 PST	1159 PST	1934 PST		486.4 mg C/m ²	008	

DEPTH	TEMP	SALINITY	SIGMA	OXYGEN	OXY	SI03*	P04*	N03*	N02*	NH4*	CHL-A	PHAEAO	LIGHT	UPTAKE (mg C/m ³)			
m	DEG C	THETA	ml/L	PCT	μM	μM	μM	μM	μM	μM	μg/L	μg/L	PCT	1	2	MEAN	DARK
2	18.53	33.424	23.936	5.60	104.5	1.4	0.29	0.1	0.00	0.04	0.15	0.04	88. A	2.8	5.4	4.1	0.22
8	18.36	33.421	23.976	5.56	103.4	1.4	0.29	0.0	0.00	0.02	0.16	0.05					
14	18.34	33.420	23.982	5.57	103.5	1.4	0.29	0.0	0.00	0.02	0.16	0.05	42.	6.4 C	6.4 C	6.4	0.29
20	17.81	33.410	24.102	5.68	104.5	1.4	0.30	0.0	0.00	0.10	0.21	0.05					
28	16.40	33.365	24.402	5.89	105.4	1.3	0.32	0.0	0.00	0.01	0.29	0.12	18.	6.6 B	6.6 B	6.6	0.28
35	15.26	33.306	24.613	6.07	106.2	1.6	0.35	0.0	0.01	0.03	0.50	0.31	12.	13.9	13.8	13.8	0.36
46	13.58	33.285	24.952	5.23	88.4	4.6	0.72	5.4	0.22	0.00	0.50	0.56					
58	12.15	33.291	25.237	4.80	78.8	7.8	0.99	10.2	0.04	0.11	0.22	0.24					
67	11.23	33.265	25.387	4.68	75.2	10.5	1.15	12.8	0.03	0.01	0.15	0.23	1.6	1.1	1.3	1.2	0.17
82	10.47	33.397	25.624	4.20	66.4	14.7	1.37	16.7	0.02	0.00	0.07	0.09	0.65	0.30	0.31	0.31	0.13

B) PRODUCTIVITY REPLICATES POOR UNCERTAIN VALUE ELIMINATED

C) PRODUCTIVITY REPLICATES POOR UNCERTAIN VALUE ELIMINATED

RV OCEANUS

CALCOFI CRUISE 1507

STATION 93.3 55.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL	TWILIGHT	INTEGRATED	VALUE	ORD
32 0.8 N	119 14.0 W	11/07/2015	1608 UTC	23 m	1205 - 1940 PST	1202 PST	1936 PST		485.9 mg C/m ²	010	

DEPTH	TEMP	SALINITY	SIGMA	OXYGEN	OXY	SI03*	P04*	N03*	N02*	NH4*	CHL-A	PHAEAO	LIGHT	UPTAKE (mg C/m ³)			
m	DEG C	THETA	ml/L	PCT	μM	μM	μM	μM	μM	μM	μg/L	μg/L	PCT	1	2	MEAN	DARK
2	18.96	33.450	23.847	5.51	103.6	1.3	0.33	0.0	0.00	0.01	0.18	0.05	88. A	6.8	7.3	7.1	0.29
13	18.78	33.448	23.894	5.54	103.8	1.3	0.32	0.0	0.00	0.00	0.18	0.04	42.	7.6	7.7	7.6	0.32
18	18.56	33.446	23.948	5.61	104.8	1.3	0.32	0.0	0.00	0.01	0.19	0.07	30.	7.3	6.8	7.0	0.26
25	16.78	33.418	24.355	5.92	106.8	2.0	0.33	0.0	0.00	0.01	0.29	0.13					
32	15.49	33.410	24.643	6.06	106.5	2.7	0.38	0.3	0.02	0.04	0.57	0.24	12.	12.5	12.5	12.5	0.32
52	11.97	33.403	25.357	4.46	73.0	10.4	1.09	11.0	0.52	0.07	0.95	0.50					
62	11.20	33.453	25.539	3.97	63.8	14.2	1.35	15.8	0.13	0.01	0.33	0.26	1.6	1.5	1.3	1.4	0.21
74	9.97	33.562	25.837	3.66	57.4	19.9	1.62	20.3	0.01	0.01	0.07	0.07	0.72	0.03	0.04	0.04	0.23

RV OCEANUS

CALCOFI CRUISE 1507

STATION 93.3 100.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL	TWILIGHT	INTEGRATED	VALUE	ORD
30 30.8 N	122 15.0 W	12/07/2015	1714 UTC	42 m	1210 - 1945 PST	1215 PST	1945 PST		224.0 mg C/m ²	015	

DEPTH	TEMP	SALINITY	SIGMA	OXYGEN	OXY	SI03*	P04*	N03*	N02*	NH4*	CHL-A	PHAEAO	LIGHT	UPTAKE (mg C/m ³)			
m	DEG C	THETA	ml/L	PCT	μM	μM	μM	μM	μM	μM	μg/L	μg/L	PCT	1	2	MEAN	DARK
2	21.11	33.478	23.306	5.23	102.4	1.9	0.28	0.0	0.00	0.02	0.08	0.02	93. A	2.7	2.6	2.6	0.21
13	20.49	33.451	23.454	5.32	102.9	1.9	0.28	0.0	0.00	0.00	0.07	0.02					
24	19.35	33.480	23.774	5.48	103.8	1.9	0.28	0.0	0.00	0.01	0.06	0.02	42.	1.9	1.8	1.8	0.20
33	19.10	33.558	23.898	5.47	103.3	1.9	0.28	0.0	0.00	0.00	0.07	0.02	30.	1.7	1.9	1.8	0.16
42	18.91	33.634	24.006	5.49	103.3	2.0	0.27	0.0	0.01	0.00	0.08	0.03					
51	18.71	33.632	24.054	5.51	103.3	2.0	0.27	0.0	0.00	0.02	0.08	0.03					
60	18.36	33.615	24.128	5.52	102.7	2.0	0.27	0.0	0.00	0.01	0.10	0.04	11.	2.0	2.0	2.0	0.16
77	17.02	33.317	24.226	5.68	102.8	2.0	0.29	0.0	0.00	0.01	0.17B	0.11B					
96	15.86	33.451	24.595	5.58	98.8	2.8	0.33	0.0	0.00	0.00	0.20	0.22					
112	13.12	33.385	25.126	5.30	88.8	4.8	0.57	2.9	0.13	0.00	0.29	0.25	1.7	1.0	1.3	1.2	0.16
124	12.34	33.354	25.253	5.03	82.9	7.0	0.81	7.1	0.05	0.00	0.17	0.24					
136	11.72	33.341	25.360	4.93	80.1	8.3	0.94	9.0	0.03	0.02	0.14	0.22	0.69	0.42	0.45	0.44	0.14

B) SECOND FLUOROMETER READING NOT RECORDED CHLOROPHYLL AND PHAEOPIGMENT CALCULATED WITH ASSUMED ACID RATIO INTERPOLATED FROM ADJACENT LEVELS
A) INCUBATION LIGHT INTENSITIES WERE 62.7, 41.1, 29.5, 11.5, 1.62, 0.70 PERCENT RESPECTIVELY.

CalCOFI Cruise 1507

MACROZOOPLANKTON BIOMASS
Net Mesh Size: 0.505mm

Line	Sta.	Latitude N	Longitude W	Date Mo/Day	Time (PST)		Water Volume Strained (m ³)	Max. Tow Depth (m)	Volume per		
					Start	End			1000 m ³ Strained	Total (cm ³)	Small (cm ³)
76.7	49.0	35 05.3	120 46.6	11/08	0649	0654	129	41	109	109	
76.7	51.0	35 01.3	120 55.1	11/08	0420	0441	462	171	89	43	
76.7	55.0	34 53.3	121 11.9	11/08	0103	0125	409	210	56	56	
76.7	60.0	34 43.3	121 32.9	11/07	2109	2131	422	214	69	69	
76.7	70.0	34 23.3	122 14.7	11/07	1518	1540	478	202	46	36	
76.7	80.0	34 03.3	122 56.5	11/07	0833	0855	378	218	21	21	
76.7	90.0	33 43.3	123 38.0	11/07	0341	0404	413	207	56	56	
76.7	100.0	33 23.3	124 19.4	11/06	2151	2213	453	208	35	35	
80.0	51.0	34 27.0	120 31.5	11/05	0746	0752	124	40	64	64	
80.0	55.0	34 19.0	120 48.1	11/05	1129	1151	448	199	13	13	
80.0	60.0	34 09.1	121 09.0	11/05	1546	1608	457	208	35	35	
80.0	70.0	33 49.0	121 50.6	11/05	2137	2159	504	211	48	48	
80.0	80.0	33 29.0	122 32.0	11/06	0328	0350	446	205	45	45	
80.0	90.0	33 09.0	123 13.3	11/06	0843	0905	409	211	27	27	
80.0	100.0	32 49.0	123 54.4	11/06	1558	1619	455	207	51	51	
81.7	43.5	34 24.2	119 48.0	11/04	0717	0719	51	12	20	20	
81.8	46.9	34 16.4	120 01.6	11/04	1839	1901	417	212	26	26	
83.3	39.4	34 15.9	119 19.7	11/04	0404	0406	56	10	36	36	
83.3	40.6	34 13.0	119 24.6	11/04	1318	1321	70	28	28	28	
83.3	42.0	34 10.7	119 30.5	11/04	1112	1124	236	114	8	8	
83.3	51.0	33 52.7	120 08.0	11/08	1605	1614	182	88	22	22	
83.3	55.0	33 44.7	120 24.6	11/08	1944	2006	417	211	34	34	
83.3	60.0	33 34.7	120 45.3	11/08	2342	0004	380	213	66	66	
83.3	70.0	33 14.7	121 26.5	11/09	0550	0612	439	209	46	46	
83.3	80.0	32 54.7	122 07.7	11/09	1142	1204	431	206	42	19	
83.3	90.0	32 34.7	122 48.9	11/09	1720	1742	442	210	104	27	
83.3	100.0	32 14.7	123 29.5	11/09	2303	2325	422	213	90	52	
83.3	110.0	31 54.7	124 10.2	11/10	0448	0510	412	204	46	29	
86.7	33.0	33 53.4	118 29.4	11/03	1054	1058	82	34	49	49	
86.7	35.0	33 49.4	118 37.7	11/03	1332	1354	458	204	15	4	
86.7	40.0	33 39.3	118 58.4	11/03	1758	1820	413	218	24	24	
86.7	45.0	33 29.4	119 19.1	11/12	0511	0533	395	208	28	28	
86.7	50.0	33 19.4	119 39.8	11/12	0128	0134	120	54	75	50	
86.7	55.0	33 09.4	120 00.4	11/11	2158	2219	397	212	50	50	
86.7	60.0	32 59.4	120 20.9	11/11	1749	1811	394	213	51	46	
86.7	70.0	32 39.4	121 02.0	11/11	1142	1204	433	204	23	23	
86.7	80.0	32 19.4	121 42.9	11/11	0447	0508	422	207	38	38	
86.7	90.0	31 59.4	122 23.6	11/10	2238	2259	464	210	19	19	
86.7	100.0	31 39.4	123 04.2	11/10	1644	1705	455	206	11	11	
86.7	110.0	31 19.4	123 44.6	11/10	1052	1114	422	211	9	9	
86.8	32.5	33 53.3	118 26.7	11/03	0847	0849	43	14	47	47	
88.5	30.1	33 40.4	118 05.1	11/03	0445	0446	38	14	186	186	
90.0	27.7	33 29.6	117 44.8	11/03	0212	0213	38	15	160	160	
90.0	28.0	33 29.1	117 46.1	11/03	0100	0109	226	87	27	27	
90.0	30.0	33 25.1	117 54.3	11/02	2233	2255	426	209	91	28	
90.0	35.0	33 15.1	118 15.0	11/02	1813	1834	475	202	97	17	
90.0	37.0	33 11.0	118 23.2	11/02	1511	1532	412	214	12	12	
90.0	45.0	32 55.1	118 56.3	11/02	0824	0846	432	206	32	32	
90.0	53.0	32 39.1	119 28.9	11/02	0306	0328	510	207	77	77	
90.0	60.0	32 25.1	119 57.5	11/01	1753	1814	423	212	31	31	
90.0	70.0	32 05.1	120 38.3	11/01	1028	1050	413	201	22	22	
90.0	80.0	31 45.1	121 18.9	11/01	0411	0432	444	188	29	29	
90.0	90.0	31 25.1	121 59.4	10/31	2223	2244	402	211	30	30	
90.0	100.0	31 05.1	122 39.1	10/31	1409	1431	422	212	26	26	
91.7	26.4	33 14.8	117 27.8	10/28	1643	1645	44	15	45	45	
93.3	26.7	32 57.4	117 18.3	10/28	2106	2117	268	104	37	37	
93.3	28.0	32 54.8	117 23.7	10/28	2324	2346	460	216	63	22	
93.3	30.0	32 50.8	117 31.9	10/29	0221	0242	480	201	94	17	
93.3	35.0	32 40.7	117 52.4	10/29	0707	0729	443	206	5	5	
93.3	40.0	32 30.8	118 12.8	10/29	1150	1211	497	191	14	10	
93.3	45.0	32 20.8	118 33.2	11/12	1922	1944	431	214	49	49	
93.3	50.0	32 10.8	118 53.6	11/12	1546	1607	440	203	34	34	
93.3	55.0	32 00.8	119 14.1	10/30	0830	0852	433	212	14	14	
93.3	60.0	31 50.8	119 34.3	10/30	1238	1300	475	192	21	21	
93.3	70.0	31 30.8	120 14.8	10/30	1852	1913	384	226	31	31	
93.3	80.0	31 10.8	120 55.2	10/31	0047	0108	431	199	33	33	
93.3	90.0	30 50.8	121 35.3	10/31	0640	0701	377	213	21	21	
93.4	26.4	32 57.0	117 16.8	10/28	1930	1932	53	14	38	38	