NOAA Data Report OAR AOML-41

CHEMICAL AND HYDROGRAPHIC MEASUREMENTS ON A CLIMATE AND GLOBAL CHANGE CRUISE ALONG 24 °N IN THE ATLANTIC OCEAN WOCE SECTION A5R(EPEAT) DURING JANUARY-FEBRUARY 1998

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ELECTRONIC ACCESS TO DATA LISTED IN THIS REPORT

The data presented in this report is available on the World Wide Web (WWW) at the following sites:
Bottle and CTD data: http://www.aoml.noaa.gov/ocd/oaces/24n98.html
UWpCO2 data: http://www.aoml.noaa.gov/ocd/oaces/1998data.html
ADCP data: http://ilikai.soest.hawaii.edu/sadcp/woce.html
LADCP data: http://www.nodc.noaa.gov/General/NODC-About/NODC-overview.html#services

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Institutional Abbreviation	Institution	Address
AOML	Atlantic Oceanographic and Meteorological Laboratory,	4301 Rickenbacker Cwy, Miami, FL 33149-1098
BBSR	Bermuda Biological Station for Research	St. Georges, GE-01, Bermuda
PMEL	Pacific Marine Environmental Laboratory	7600 Sand Point Way NE, Seattle, WA 98115-0070
UM	University of Miami/Rosenstiel School of Marine and Atmospheric Science	4600 Rickenbacker Cwy, Miami, FL 33149-1098
- CIMAS	Cooperative Institute for Marine and Atmospheric Studies	
UW	University of Washington	Box 357940, Seattle, WA 98195-7940
- JISAO	Joint Institute for Study of the Atmosphere and Ocean	

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ABSTRACT

This document contains data and metadata from a zonal cruise along nominally 24.5 °N in the Atlantic Ocean from Las Palmas, Canary Islands in Spain to Miami, Florida. The cruise took place from January 23 to February 24, 1998 aboard the NOAA Ship RONALD H. BROWN under auspices of the National Oceanic and Atmospheric Administration (NOAA). This report presents the analytical and quality control procedures performed during the cruise and bottle data from the cruise. The research was sponsored by the NOAA Climate and Global Change Program under: (i) The Ocean-Atmosphere Carbon Exchange Study (OACES); and (ii) the World Ocean Circulation Experiment (WOCE) repeat hydrography program. Samples were taken from up to 36 depths at 130 stations.

The data presented in this report includes the analyses of water samples for: salinity, nutrients, total dissolved inorganic carbon dioxide (DIC), fugacity of carbon dioxide (fCO_2), total alkalinity (TA), pH, total organic carbon (TOC), total nitrogen (TN), total phosphorus (TP), chlorofluorocarbons, and stable carbon isotopic ratio of DIC ($^{13}C/^{12}C$). Basic hydrographic parameters, pressure, CTD salinity, temperature and the calculated potential temperature, and potential density are included as well.

1. INTRODUCTION

Since the world's oceans have a large capacity to sequester heat and carbon dioxide it is imperative that the oceans are studied in a comprehensive fashion to elucidate changes in the Earth's climate. An overall goal of the research is to observe and model the ocean sufficiently well to understand quantitatively how the ocean effects present climate, and how the ocean might change under a changing atmosphere. Thus, a long-term objective is to provide reliable predictions of climate change and associated regional implications on time scales ranging from seasons to centuries. Current predictions are uncertain, in part, because of poor understanding of source and sink patterns of greenhouse gases like carbon dioxide and the role of the ocean in mitigating or changing the timing of regional patterns associated with warmer climate.

This cruise was designed to support research sponsored by the National Oceanic and Atmospheric Administration (NOAA) Climate and Global Change Program under: (i) the Ocean-Atmosphere Carbon Exchange Study (OACES); and (ii) the World Ocean Circulation Experiment (WOCE) repeat hydrography program. The second leg of the cruise was conducted aboard the NOAA Ship RONALD H. BROWN from January 23 to February 24, 1998. The OACES objective of the cruise was to determine the fluxes of CO_2 in the North Atlantic during the winter. A baseline of total carbon inventory in this region was established such that the uptake rate of atmospheric CO_2 can be determined in future cruises. The objective of the WOCE (repeat) hydrography component was to understand the general circulation of the global ocean well enough to be able to model its present state and predict its evolution. The data presented in this report includes: hydrography, nutrients, total dissolved inorganic carbon dioxide (DIC), fugacity/partial pressure of carbon dioxide (fCO_2/pCO_2)[1], total alkalinity (TA), pH, total organic carbon (TOC), total nitrogen (TN), total phosphorus (TP), chlorofluorocarbons, and stable carbon isotopic ratio of DIC ($^{13}C/^{12}C$).

Detailed information of the CTD operations can be found in NOAA Data Report, ERL PMEL-68 (McTaggart et al, 1999).

[1] The fCO_2 takes into account the non-ideality of CO_2 gas and is the thermodynamic quantity mostly used in calculations. It is approximately 0.4 to 0.6 % lower than the corresponding pCO_2. In this report we used the terms interchangeably. However, all reported values are fugacity values.

1.1. DESCRIPTION OF STUDY AREA

A total of 130 full water column CTD stations were occupied, complete with water samples analyzed for salinity, oxygen and chlorofluorocarbon (CFC) content. A large amount of high quality measurements of all the carbonate parameters including underway surface water pCO2 and nutrients were also made.

The majority of the data were collected along 24.5^{o}N from 23.5^{o}W to 69°W. Completing the transatlantic section were data collected along a NE-SW dogleg off the coast of Africa , and along a second, short, zonal section along 26.5^{o}N off the coast of Abaco Island from 69°W to 77°W, jogging north along 27°N in the Straits of Florida to 80°W. The cruise track and station locations are presented in Figure 1 and Table 1. The leg 1 followed this same trackline in the opposite direction, deploying XBTs to sample the temperature in the upper 750 m, and collecting underway pCO_2.

2. DATA COLLECTION AND ANALYTICAL METHODS

One hundred and thirty CTD (Conductivity-Temperature- Depth) hydrographic stations were occupied to collect discrete water samples and hydrographic data. A CTD/Rosette unit with a Seabird-911 CTD instrument equipped with 36, specially designed 10-L samples bottles was utilized for these casts. These bottles have the same outer dimensions as standard Niskin bottles, but are modified to reduce chlorofluorocarbon sample contamination. Water samples were collected for salinity, oxygen, nutrients, chlorofluorocarbons, $^{13}C/^{12}C$, as well as carbon related parameters including total dissolved inorganic CO_2 (DIC), discrete fugacity of CO_2 (fCO_2), total alkalinity (TA), pH, total organic carbon (TOC), total nitrogen (TN), and total phosphorus (TP) on all casts during the cruise using these modified "Niskin" style bottles. In the data tables the missing values are assigned a value of -9.0. The WOCE quality control flags have been listed in Appendix A. All the parameters plotted versus depth are shown in Figure 2 and in tabular form Appendix B. Detailed information on individual data collection, and analysis procedures may be found in the following method sections.

2.1. HYDROGRAPHIC METHODS

2.1.1. CTD AND HYDROGRAPHIC OPERATIONS

Description of Measurement Techniques and Calibrations

CTD and in situ O_2

Depth profiles were obtained with a Seabird 911 plus CTD, deck unit, and rosette pylon. The CTD included dual temperature sensors, dual conductivity sensors, two Beckman oxygen sensors, one Paroscientific pressure transducer, and two pumps to decrease the response time. Thirty-six 10-l "Niskin" bottles were mounted on the frame, along with the CTD, pinger, Lowered Acoustic Doppler Current Profiler (LADCP), and LADCP external battery pack. The bottles were specially designed to reduce chlorofluorocarbon contamination. These bottles have the same outer dimensions as standard 10-l "Niskin" bottles, but use a modified end-cap design to minimize the contact of the water sample with the end-cap O-rings after closing. The O-rings used in these water sample bottles were vacuum-baked prior to the first station. Stainless steel springs covered with a nylon powder coat were substituted for the internal elastic tubing standardly used to close "Niskin" bottles. Seabird software was used to acquire, plot, and process the CTD data on PC's. Raw data were stored on VHS tapes, PC hard drives, and SyQuest drives. Typically each cast sampled to within 10 meters of the sea floor as indicated by the pinger signal. The CTD/O_2 data were processed and calibrated following Seabird recommendations (CTD Data Acquisition Software and Technical Notes, Sea-Bird Electronics, Inc., 1808 - 136th Place NE, Bellevue, Washington 98005). Exceptional items are noted below. Details can be found in NOAA Data Report, ERL PMEL-68 (McTaggart et al, 1999).

Pre- and post-cruise pressure, temperature, and conductivity sensor calibrations were performed at Sea-Bird Electronics, Inc. in Bellevue, Washington. Secondary sensor pair T1075 and C1347 were selected for final data reduction for all stations.

The oxygen sensor was calibrated by using the pre- and post-cruise laboratory calibration. Secondary oxygen data from sensor s/n 353 was retained for stations 1-32 and 34; primary oxygen data from sensor s/n 381 was retained for stations 33 and 35-130.

Post-cruise calibrations were applied to CTD data associated with bottle data using the PMEL program CALBOT. WOCE quality flags were appended to bottle data records using the PMEL program FLAG. Quality flags were determined by plotting the absolute value of sample residuals versus pressure and selecting a cutoff value for bad flags.

Values which were 2.8 standard deviations from the mean were considered bad. Of the 4313 sample salinities, 0.4% were flagged as bad and 3.6% were flagged as questionable. Of the 4130 sample oxygens, 1.2% were flagged as bad and 4.9% were flagged as questionable.

Measurement of Currents

A hull-mounted RD Instruments 150 kHz narrowband acoustic Doppler current profiler (ADCP) operated continuously during the cruise. Velocity data, averaged in earth coordinates using gyrocompass heading, were logged in three-minute (approximately 180 pings) ensembles using RDI Data Acquisition Software (DAS) version 2.48. Vertical bin size was 8 meters. The center of the first bin was located at 16 meters. Range varied from 200 to 400 meters, depending primarily on sea state. A user exit program (UE4, provided by Eric Firing, U. Hawaii) was used to interface navigation and heading equipment. Position was logged at the beginning and end of each ensemble from a Trimble Centurion P-code GPS receiver (estimated position accuracy of 5 - 10 meters). Mean gyrocompass corrections for each ensemble were recorded from an Ashtech 3DF GPS attitude determination system; 3DF array orientation was calibrated using P-code GPS and ADCP bottom track comparison. These data are used in post-processing to calculate mean ship velocity to reference ensemble means, and to compensate for dynamic gyrocompass errors. Estimated errors for an ensemble are 1-2 cm/s for relative velocity and 3-4 cm/s for ship speed errors due to position inaccuracy; errors induced by heading inaccuracies are reduced to less than 1 cm/s using GPS heading data. This total error of 4-6 cm/s over a three minute ensemble is reduced further by averaging during postprocessing; the fifteen minute averages commonly used represent an average over five kilometers at cruising speed, and should be accurate to 1-3 cm/s. The ADCP data will be available through internet address http://ilikai.soest.hawaii.edu/sadcp/woce.html

On-station velocity profiles were obtained using a RDI 150 kHz Narrowband ADCP (Lowered or LADCP) mounted looking downward from the CTD frame. This technique measures and records velocity shear profiles extending 150 to 350 meters below the instrument approximately once per second. In postprocessing, the individual shear profiles are averaged by depth to produce a full-depth shear profile, which is integrated to estimate the depth dependent (baroclinic) component of the velocity field. The depth-independent (barotropic) component of velocity can be recovered if positions at the start and end of the cast are known; positions were logged on this cruise using a Trimble Centurion P-code GPS receiver, accurate to 5 - 10 meters. Readers are advised to refer to Fischer and Visbeck (1993) for a full explanation of methods and standard processing procedures. The LADCP data will be available through internet address http://www.nodc.noaa.gov/General/NODC-About/NODC-overview.html#services

Salinity Analyses

A Guildline 8400B autosal was used for the salinity analysis with batch P125 standard water. The autosal room was maintained at 22 °C, and the autosal was set at 24 °C. A total of 4380 samples were measured and 37 of them were rejected.

Oxygen Technique

An automatic titration system was used for the oxygen analysis with the Carpenter modification of the Winkler method using a photometric determined endpoint. Reagents for the Carpenter method titration were mixed by the AOML/OCD Group of George Berberian as specified in Friederich's MBARI Technical Report #91-6 (Friederich et al, 1991). Apparent oxygen utilization (AOU) is defined as O_2 measured- O_2 sat., where O_2 sat. is the saturation value at potential temperature and salinity of the sample determined according to Weiss (1970). A total of 4310 samples were measured and 52 of them were rejected.

2.1.2. NUTRIENT ANALYSIS METHODS

Sampling and analytical methods

Nutrient samples were collected from 10-L "Niskin" bottles in acid washed 25-ml linear polyethylene bottles after three complete seawater rinses and analyzed within 1 hour of sample collection. Measurements were made in a temperature-controlled laboratory (20 ± 2 ºC). Concentrations of nitrite (NO_2^-), nitrate (NO_3^-), phosphate (PO_4^{3-}) and silicic acid (H_4SiO_4) were determined using an Alpkem Flow Solution Auto-Analyzer aboard the ship. The following analytical methods were employed:

Nitrate and Nitrite:

Nitrite was determined by diazotizing with sulfanilamide and coupling with N-1 naphthyl ethylenediamine dihydrochloride to form an azo dye. The color produced is measured at 540 nm (Zhang et al., 1997a). Samples for nitrate analysis were passed through a home made cadmium column (Zhang et al., 2000), which reduced nitrate to nitrite and the resulting nitrite concentration was then determined as described above. Nitrate concentrations were determined from the difference of nitrate + nitrite and nitrite.

Phosphate:

Phosphate in the samples was determined by reacting with molybdenum (VI) and antimony (III) in an acidic medium to form an antimonyphosphomolybdate complex at room temperature. This complex was subsequently reduced with ascorbic acid to form a blue complex and the absorbance was measured at 710 nm (Grasshoff et al. ,1983). A total of 4306 samples were measured and 1248 of them were rejected.

Silicic Acid:

Silicic acid in the sample was analyzed by reacting the aliquote with molybdate in a acidic solution to form β-molybdosilicic acid . The β-molybdosilicic acid was then reduced by ascorbic acid to form molybdenum blue (Zhang et al., 1997b). The absorbance of the molybdenum blue was measured at 660 nm.

Calibration and standards:

Stock standard solutions were prepared by dissolving high purity standard materials (KNO_3 , $NaNO_2$, KH_2PO_4 and Na_2SiF_6) in deionized water. Working standards were freshly made at each station by diluting the stock solutions in low nutrient seawater. The low nutrient seawater used for the preparation of working standards, determination of blank, and wash between samples was filtered seawater obtained from the surface of the Gulf Stream. Standardizations were performed prior to each sample run with working standard solutions. Two or three replicate samples were collected from the "Niskin" bottle sampled at deepest depth at each cast. The relative standard deviation from the results of these replicate samples were used to estimate the overall precision obtained by the sampling and analytical procedures. The precisions of these samples were 0.04 μmol/kg for nitrate, 0.01 μmol/kg for phosphate and 0.1 μmol/kg for silicic acid.

2.2. CARBON PARAMETERS

2.2.1. TOTAL DISSOLVED INORGANIC CARBON (DIC)

The DIC analytical equipment was set up in a seagoing laboratory van. The analysis was done by coulometry with two analytical systems (PMEL-1 and PMEL-2) used simultaneously on the cruise. Each system consisted of a coulometer (UIC, Inc.) coupled with a SOMMA (Single Operator Multiparameter Metabolic Analyzer) inlet system developed by Kenneth Johnson (Johnson et al., 1985,1987,1993; Johnson, 1992) formerly

of Brookhaven National Laboratory (BNL). In the coulometric analysis of DIC, all carbonate species are converted to CO_2 (gas) by addition of excess hydrogen ion (acid) to the seawater sample, and the evolved CO_2 gas is swept into the titration cell of the coulometer with compressed nitrogen, where it reacts quantitatively with a proprietary reagent based on ethanolamine to generate hydrogen ions. These are subsequently titrated with coulometrically generated OH-. CO_2 is thus measured by integrating the total charge required to achieve this.

The coulometers were calibrated by injecting aliquots of pure CO_2 (99.995%) by means of an 8-port valve outfitted with two sample loops that had been calibrated at BNL (Wilke, 1993). The CO_2 gas volumes bracketed the amount of CO_2 extracted from the water samples for the two PMEL systems. All DIC values were corrected for dilution by 0.2 ml of $HgCl_2$ used for sample preservation. The total water volume was 540 ml. The correction factor used for dilution was 1.00037. The instruments were calibrated at the beginning, middle, and end of each coulometer cell solution with a set of the gas loop injections. The coulometer cell solution was replaced after 25 mg of carbon was titrated, typically after 9-12 hours of continuous use. Sample titration times were 9-16 minutes.

Certified Reference Materials (CRMs), consisting of poisoned, filtered, and UV irradiated seawater supplied by Dr. A. Dickson of Scripps Institution of Oceanography (SIO), were run on each cell. The results were close to the values determined manometrically by Dr. Charles D. Keeling at SIO as shown below. The CRM results have been presented in Figure 3 and Table 2. The overall accuracy and precision for the CRMs on both instruments combined was -0.1 +/-2.1 (n=125). DIC data reported for this cruise have been corrected to the Batch 40 CRM value by adding the difference between the certified value and the mean shipboard CRM value (certified value - shipboard analyses) on a per instrument/per leg basis.

Av. value of CRMs run on PMEL-1: 1987.3 ±2.0 µmol/kg (n = 59)

Av. value of CRMs run on PMEL-2: 1984.6±1.2 µmol/kg (n = 66)

Manometric value [SIO reference material batch #40] was 1985.8±0.7 µmol/kg (n=10)

Samples were drawn from the "Niskin" bottles into cleaned, precombusted 500-ml Pyrex bottles using Tygon tubing according to procedures outlined in the Handbook of Methods for CO_2 Analysis (DOE, 1994). Bottles were rinsed once and filled from the bottom, overflowing half a volume. Care was taken not to entrain any bubbles. The tube was pinched off and withdrawn, creating a 5-ml headspace, and 0.2 ml of saturated $HgCl_2$ solution was added as a preservative. The sample bottles were sealed with glass stoppers lightly covered with Apiezon-L grease, and were stored at room temperature for a maximum of 12 hours prior to analysis.

Replicate seawater samples were taken from both the surface and 1000 m "Niskin" sample bottles and run at different times during the cell. The first replicate of the surface water was used at the start of the cell with fresh coulometer solution, the second surface water replicate in the middle of the cell after about 12 mg of C were titrated. The first one of the 1000 m replicates was run at the end of the cell after about 25 mg of C were titrated, while the second one of the 1000 replicate samples was run using a new coulometer cell solution. No systematic difference between the replicates was observed. As example, the 1000m replicate samples run on both PMEL1 and PMEL2 combined had a standard deviation of 1.3 µmol/kg for 32 sets of duplicates, and the results of the surface replicates yielded a standard deviation of 0.9 µmol/kg for 98 sets of duplicates. The deviation is very similar to that observed for the CRMs and suggest no strong dependency of results with amount of carbon titrated for a particular cell. The results of the duplicate samples have been presented in Figure 4 and Table 3.

Calculations

Calculation of the amount of CO_2 injected was according to the Department of Energy (DOE) CO_2 handbook [DOE, 1994]. The gas loops yielded a calibration factor for the instrument defined as:

$$Cal.\ factor = \frac{calculated\ moles\ of\ CO_2\ injected\ from\ gas\ loop}{actual\ moles\ of\ CO_2\ injected} \qquad (1)$$

The concentration of CO_2 ($[CO_2]$) in the samples was determined according to:

$$[CO_2] = Cal.\ factor * \frac{(Counts - Blank * Run\ Time) * K\ \mu mol/count}{pipette\ volume * density\ of\ sample} \qquad (2)$$

where "Counts" is the instrument reading at the end of the analysis, "Blank" is the counts/minute determined from blank runs performed at least once for each cell of the solution, "Run Time" is the length of coulometric titration (in minutes), and K is the conversion factor from counts to µmol which is dependent on the slope and intercept relation between instrument response and charge. For a unit with Ecal slope of 1 and intercept of 0, the constant is $2.0728 * 10^{-4}$.

The pipette volume was determined by taking aliquots at known temperature of distilled water from the volumes prior to, during, and after the cruise. The weights with the appropriate densities were used to determine the volume of the syringes and pipette.

Calculation of pipette volumes, density, and final CO_2 concentration were performed according to procedures outlined in the DOE CO_2 handbook (DOE, 1994).

2.2.2. FUGACITY OF CO_2 (fCO_2)

Gas Chromatographic (GC) Method

A total of 1463 discrete fCO_2 samples from 130 stations were taken and analyzed on the cruise using an analysis system based on gas chromatography (Neill et al., 1997). Sampling from the "Niskin" bottles occurred immediately after O_2 samples were drawn. Samples were drawn into 120 ml Pyrex septum bottles after rinsing the bottles several times. On the final fill water was drawn into the bottom of the bottle and overflowed at least one half volume. A Teflon lined septum was crimp sealed on the bottle ensuring that no headspace was present.

Prior to analysis 5-ml water was withdrawn and replaced with a headspace of known CO_2 concentration that was expected to closely match that of the water. The remaining water and headspace were equilibrated by rotating the bottles for at least 40 minutes in a constant temperature bath at 20 °C. The fCO_2 of the headspace was measured in a flame ionization detector (FID) after quantitative conversion of the CO_2 to methane. The analyses were referenced against a series of six gas standards with the following mole fractions: 198.09, 348.16, 977.79, 508.35, 1479.46, 717.4. The standards, which were run after each dozen samples, bracketed most of the concentrations measured in the water column. The precision of the fCO_2 measurements was estimated at 0.86% of the signal based on 89 replicate samples (see Table 4). The fCO_2 measurements had a data gap mid-cruise because of a catastrophic instrument failure caused by water being injected onto the column and catalyst. Good, full water column, coverage was obtained at the Eastern and Western side of the basin.

The surface water measurements showed that the water undersaturated for most of the transect except at the boundaries. The undersaturation reaches its greatest value of -45 to -50 µatm between 60 and 75 °E. The fCO_2 in the deep water showed a strong trend with lower concentrations in the West due to better ventilation of the Western half of the basin.

2.2.3. TOTAL ALKALINITY (TA)

Seawater samples were drawn from the "Niskin" bottles with a 40-cm length of silicon tubing. One end of the tubing was fit over the petcock of the "Niskin" bottle and the other end was inserted into the bottom of a 500-ml Corning glass-stoppered sample bottle. The sample bottle was rinsed three times with approximately 300 ml of seawater. The sample bottle was slowly filled from the bottom. Once filled, the sample bottles were kept in a constant water bath at 25°C for half-hour before analysis.

The titration system used to determine TA consisted of a Metrohm 665 Dosimat titrator and an Orion 720A pH meter controlled by a personal computer (Millero et al., 1993). The acid titrant, in a water-jacketed burette, and the seawater sample, in a water-jacketed cell, were kept at 25±0.1°C with a Neslab constant-temperature bath. The plexiglass water-jacketed cells were similar to those used by Bradshaw et al. (1988), except that a larger volume (200 ml) was used to increase the precision. The cells had fill and drain valves with zero dead-volume to increase the reproducibility of the cell volume.

The HCl solutions used throughout the cruise were made, standardized, and stored in 500-ml glass bottles in the laboratory for use at sea. The 0.2489 M HCl solutions (Batch 9601) were prepared by dilution of concentrated HCl in 0.45 M NaCl to yield an ionic strength equivalent to that of average seawater (0.7 M). The acid was independently standardized using a coulometric technique (Taylor and Smith, 1959; Marinenko and Taylor, 1968) by the University of Miami and by Dr. Dickson of Scripps Institution of Oceanography (SIO). The two standardization techniques agreed to +/-0.0001 N.

The volume of HCl delivered to the cell is traditionally assumed to have a small uncertainty (Dickson, 1981) and is equated with the digital output of the titrator. Calibrations of the Dosimat burettes with Milli Q water at 25°C indicated that the systems deliver 3.000 ml (the value for a titration of seawater) to a precision of 0.0004 ml. This uncertainty resulted in an error of 0.4 μmol/kg in TA.

The titrators were calibrated in the laboratory before the cruise. Certified standard Reference Material (CRM) Batch 40 prepared by Dr. Dickson was used at sea to monitor the performance of the titrators. All TA data have been corrected based on CRM values for each cell and each leg (see Table 5) (Millero et al, 2000).

Carbonate parameters of surface waters indicate the occurrence of upwelling near the African coast. The surface carbonate parameters are consistent with those collected during the WOCE (World Ocean Circulation Experiment) 1992 cruise that sampled stations along the same latitude (24°N). Both studies yield values for normalized TA (TA*35/S) of 2291±6 μmol kg^{-1}. The values of TA for the deep water are in good agreement (± 3.8 μmol/kg). Crossover comparison with OACES 1993 study also showed good agreement (±3 μmol/kg in TA). The pH is on average 0.004 higher than those made on the 1993 cruise.

Kitack Lee from AOML/OCD calculated total alkalinity (TA) from spectroscopic pH (25°C) and coulometric total dissolved inorganic carbon (DIC) using the carbonic acid dissociation constants of Mehrbach et al. (1973) as refit by Dickson and Millero (1987). A value of 1.2 μmol kg^{-1} has been subtracted from calculated TA values because calculated values are 1.2 μmol kg^{-1} higher than measured values.

2.2.4. pH

Seawater samples were drawn from the "Niskin" bottles with a 20-cm length of silicon tubing. One end of the tubing was fit over the petcock of the "Niskin" bottle and the other end was attached over the opening of a 10-cm glass spectrophotometric cell. The spectrophotometric cell was rinsed three to four times with a total volume of approximately 200 ml of seawater; the Teflon endcaps were also rinsed and then used to seal a sample of seawater in the glass cell. While drawing the sample, care was taken to make sure that no air bubbles were trapped within the cell. The sample cells were kept in a waterbath at 25°C for a half an hour before analysis.

Seawater pH was measured using the spectrophotometric procedure (Byrne, 1987) and the indicator calibration of Clayton and Byrne (1993). The indicator was an 8.0-mM solution of Kodak m-cresol purple sodium salt ($C_{21}H_{17}O_5Na$) in MilliQ water. The absorbance ratio of the concentrated indicator solution (RI = 578A/434A) was 0.95. All absorbance ratio measurements were obtained in the thermostatted (25.0±0.05°C) cell compartments of HP 8453 UV-visible Diode Array Spectrophotometers. Measurements of pH were taken at 25°C on the total hydrogen ion concentration ($[H+]_T$) scale, in mol/kg solution, and converted to seawater scale ($[H+]_{sw}$). The overall precision of the pH measurements obtained from the duplicate samples was ±0.0006. A total of 1997 samples were measured and 24 of them were rejected.

2.2.5. TOTAL ORGANIC CARBON, TOTAL NITROGEN AND TOTAL PHOSPHORUS

Total Organic Carbon Analyses

TOC samples were analyzed by a high-temperature combustion (HTC) method using custom made instruments. Samples were analyzed with a furnace divided into two temperature zones (Hansell and Peltzer, 1998; Carlson et al., 1999). Ultra high purity O_2 flowed through the instrument at 175 ml/min. Samples were acidified (10 µl of 85% H_3PO_4 per 10 ml of sample) and sparged with CO_2 free oxygen for at least 10 minutes to remove inorganic carbon. One hundred µl of sample was injected manually through a septumless port into the quartz combustion tube packed with Pt gauze (Aldrich), 7% Pt on alumina catalyst (Shimadzu), Sulfix (Wako Pure Chemical Industries, Inc.) and CuO wire (Leeman Labs). The Pt gauze and Pt beads were heated to 800°C in the upper zone while the remaining packing material was heated to 600°C in the lower zone. The resulting CO_2 flowed through two water traps and a final copper halide trap then detected with a LiCor 6252 CO_2 analyzer. The signal was integrated with chromatographic software (Dynamax Macintegrator I version 1.3; Rainin Inst.).

Extensive conditioning of the combustion tube was essential to minimize the machine blank. The system blank (<10 μM) was assessed daily with ampoulated low carbon waters (LCW). The system response was standardized daily with a four point calibration curve of glucose solution in LCW. Deep Sargasso Sea water (>2000 m), which had been acidified and ampoulated, served as a daily reference material. Analyzing low carbon water and reference deep seawater several times a day allowed us to assess the system stability from run-to-run and day-to-day, ensuring confidence in our analysis. Both the low carbon and the deep Sargasso Sea references waters are part of an international certified reference material program for marine DOC measurement, run by the laboratory of Dr. Hansell. As such, the TOC analyses from the 24°N line are referenced to the international community of DOC laboratories using the CRM's.

Total Nitrogen Analyses

Concentrations of TN (total nitrogen, or the sum or organic and inorganic N) were determined by high temperature combustion and detection of the nitric oxide produced. Samples had been collected into 60 ml polyethylene bottles for frozen storage until analysis in the shore laboratory. In the high temperature system, a ½" quartz combustion tube was held at 900 °C in the upper zone and 800-900 °C in the lower zone of a 2-zone Thermcraft tube furnace. The combustion tube has a 12 cm head space, 2-3 screens of pure Pt (52 mesh), an 8 cm bed of 7% Pt on alumina (Shimadzu, Inc.), and a 10 cm bed of quartz beads. 100 μl injections of seawater were made into the combustion tube by syringe through a septum. The carrier gas (UHP oxygen) flowed at a rate of 200 ml/min. Recovery of known standards (glycine, urea, EDTA, etc.) was >90%. Detection of NO was done with an Antek Model 7020 chemiluminescence detector.

Oxygen flow through the ozone generator was 28 ml/min. Standardization was performed daily with potassium nitrate in Milli-Q water. Q water was used as the system blank, and it was assumed to have zero N content. The system blank was normally <1 μM. Low nutrient sea water, collected at the surface of the Sargasso Sea, was used as a reference material for daily use. The coefficient of variation in low nutrient surface water (4-5 μM TN) was 3-4%, while in deep water (>20 μM TN) it was 1%. Data acquisition was performed on a Dynamax Macintegrator I version 1.3, produced by Rainin Instruments.

Total Phosphorus Analyses

Concentrations of TP (total phosphorus; organic plus inorganic P) were determined by UV photo-oxidation. Samples had been stored frozen in 60 ml polyethylene bottles until shore based analysis. A 6 ml aliquot was removed from each sample bottle and placed in a 20 ml fused quartz tube equipped with a Pyrex ground stopper (Quartz Scientific, Inc.). One hundred μl of 30% hydrogen peroxide was added to each tube and placed in a

homemade irradiation unit (2 hours). The irradiation unit contained a 1200 W UV lamp (Hanovia) protected by a quartz jacket. A 2-tiered aluminum tube holder (40 tubes total) fitted around the lamp and held the samples 7 cm from the lamp. A fan placed at the bottom of the unit blew air across the samples for cooling. A hinged aluminum cylinder, open at the top and bottom, was fitted around the samples to keep stray UV light from leaving the system. This entire unit was placed in a fume hood, the front of which was covered with a black curtain while in use (again to collect stray UV light).

After irradiation, aliquots of the samples that had not been oxidized, and the photo-oxidized aliquots, were analyzed for phosphate using a colorimetric method on a Technicon Autoanalyzer II (Knap et al. 1997). Daily calibration was achieved from 4 point calibration curves using KH_2PO_4. Low nutrient seawater (Sargasso Sea surface water) was always processed with the samples as a daily quality control measure. Coefficients of variation for the measurement was X and X% for shallow and deep water samples.

2.2.6. $^{13}C/^{12}C$ OF DISSOLVED INORGANIC CARBON

Shipboard Sample Collection Methods

Samples were collected in pre-washed and baked (450 ºC) 500 ml ground glass-stoppered bottles using the following method. A length of Tygon tubing was attached to the "Niskin" bottle or seawater line and flushed for a few seconds. The end of the tubing was then placed at the bottom of the upright sample bottle and the bottle was filled, then overflowed with an amount equal to its volume if "Niskin" water volume permitted, otherwise with at least half its volume. Flow was stopped as the Tygon tubing was removed from the top of the bottle to avoid any splashing in the top. Using a syringe or turkey baster, 10 to 20 ml were withdrawn off the top of the sample to lower the water level to approximately 1 ml below the neck of the bottle, avoiding backwash of water from the turkey baster into the sample. The ground glass joint of the bottle was wiped dry with Kimwipes. Then 100 µl of a saturated $HgCl_2$ solution (per 250 ml of seawater) was injected beneath the surface of the sample using an Eppendorf pipet. The ground-glass stopper, which had been pre-greased with Apiezon M grease, was then inserted straight into the bottle without twisting. If any air streaks in the grease seal were visible, the stopper was removed, cleaned, and regreased, and the bottle was resealed. Clips (if required for the bottle neck-type) were placed on the necks of the bottles, and two heavy rubber bands were placed around the stopper and bottle to prevent leakage. The sample bottle was then inverted a couple of times to mix the $HgCl_2$ throughout the sample.

Laboratory Methods

CO_2 is extracted from the DIC seawater sample using a modification of the helium stripping technique described by Kroopnick (1974) as described in Quay et al (1992). The stripper is comprised of a glass tube with a stainless steel fitting and silicone-greased glass stopcock at the bottom (which connects to the He line), a glass frit which the He passes through, and a stainless steel fitting containing a 3-layer silicone rubber septum at the top. Approximately 1 ml phosphoric acid is injected into the stripper and bubbled with He for 10 minutes. The gas is then evacuated out of the stripper and the stripper is weighed. Then 80 to 125 ml of the sample is drawn into the stripper and it is weighed again to calculate the weight of water analyzed. A stainless steel needle pierces the septum and connects the stripper to the extraction line, which has been evacuated and filled with helium. The sample is stripped with 99.997% pure He at a flow rate of 200 ml/min for 20 minutes. Water is trapped out in two glass traps submerged in Dewars containing a slush mixture of dry ice and isopropanol at -70ºC. CO_2 is collected at -196ºC in glass loop traps submerged in liquid N_2. The $\delta^{13}C$ is then measured on a Finnigan MAT 251 mass spectrometer. The efficiency of the extraction method is 100 ± 0.5 percent based on gravimetrically prepared Na_2CO_3 standards. The precision of the $^{13}C/^{12}C$ analysis is ± 0.02 $^0/_{00}$ based on a replicate analysis of standards and seawater samples.

2.2.7. CHLOROFLUOROCARBONS (CFC)

As described above specially designed 10-l water sample bottles were used on the cruise to reduce CFC contamination.

Samples for the analysis of dissolved CFC-11, CFC-12 and CFC-113 were drawn from approximately 1700 of the 4300 water samples collected during the expedition. Samples for carbon tetrachloride (CCl_4 or CFC-10) analysis were drawn from approximately 430 samples. When taken, water samples for CFC analysis were usually the first samples drawn from the 10-l bottles. Care was taken to co-ordinate the sampling of CFCs with other samples to minimize the time between the initial opening of each bottle and the completion of sample drawing. In most cases, dissolved oxygen, fCO_2, total CO_2, alkalinity and pH samples were collected within several minutes of the initial opening of each bottle. To minimize contact with air, the CFC samples were drawn directly through the stopcocks of the 10-l bottles into 100-ml precision glass syringes equipped with 2-way metal stopcocks. The syringes were immersed in a holding tank of clean surface seawater until analyzed.

To reduce the possibility of contamination from high levels of CFCs frequently present in the air inside research vessels, the CFC extraction/analysis system and syringe holding tank were housed in a modified 20' laboratory van on the aft deck of the ship.

For air sampling, a 100 meter length of 3/8" OD Dekaron tubing was run from the CFC lab van to the bow of the ship. A flow of air was drawn through this line into the CFC van using an Air Cadet pump. The air was compressed in the pump, with the downstream pressure held at 1.5 atm using a back-pressure regulator. A tee allowed a flow (100 cc min^{-1}) of the compressed air to be directed to the gas sample valves, while the bulk flow of the air (>7 l min^{-1}) was vented through the back pressure regulator. Air samples were only analyzed when the relative wind direction was within 60 degrees of the bow of the ship to reduce the possibility of shipboard contamination. The Air Cadet pump was run for at least 60 minutes prior to analyzing each batch of air samples to insure that the air inlet lines and pump were thoroughly flushed

Concentrations of CFC-11, CFC-12 and CFC-113 in air samples, seawater and gas standards on the cruise were measured by shipboard electron capture gas chromatography (EC-GC), using techniques similar to those described by Bullister and Weiss (1988). For seawater analyses, a 30-ml aliquot of seawater from the glass syringe was transferred into the glass sparging chamber. The dissolved CFCs in the seawater sample were extracted by passing a supply of CFC-free purge gas through the sparging chamber for a period of 4 minutes at 70 cc min^{-1}. Water vapor was removed from the purge gas during passage through an 18 cm long x 3/8 inch diameter glass tube packed with the desiccant magnesium perchlorate. The sample gases were concentrated on a cold-trap consisting of a 1/8 inch OD stainless steel tube with an about 7 cm section packed tightly with Porapak N (60-80 mesh). To cool the trap, isopropanol cooled by a Neslab Cryocool refrigeration system was forced from a reservoir beneath the trap to a level above the packing with a stream of compressed nitrogen. After quickly bringing the isopropanol to the top of the trap, a low flow of nitrogen was bubbled through the bath to reduce gradients and maintained a temperature of -20 ^{o}C. After 4 minutes of purging the seawater sample, the sparging chamber was closed and the trap was held open for an additional 1 minute to allow nitrous oxide (N_20) to pass through the trap and thereby minimize its interference with CFC-12. The trap was isolated, the cold isopropanol in the bath was drained, and the trap was heated electrically to 125 ^{o}C. The sample gases held in the trap were then injected onto a precolumn (30 cm of 1/8 inch O.D. stainless steel tubing packed with 80-100 mesh Porasil C, held at 90 ^{o}C), for the initial separation of the CFCs and other rapidly eluting gases from the more slowly eluting compounds. The CFCs then passed into the main analytical column (about 183 cm of 1/8 inch OD stainless steel tubing packed with Carbograph 1AC, 80-100 mesh, held at 90°C) for final separation, and into the EC detector for quantification.

The analysis of carbon tetrachloride was made on a separate, but nearly identical apparatus to the electron capture-gas chromatography system used in the analysis of CFC-11, CFC-12 and CFC-113 (Bullister and Weiss, 1988). Samples were drawn in the same type of syringes used for the CFC analysis. In the CCl_4 system, the sample injection port was flushed with 30-40 ml of sample before injecting sample into a calibrated loop (about 30 ml). After filling, an additional 30 ml of water was pushed through the loop and allowed to overflow. For analysis, a valve was switched and the water sample held in the loop was pushed into the stripper with the same CCl_4 free nitrogen that was used to strip the sample. The gases removed from the sample were dried while passing through an ~18 cm x 3/8 inch OD tube of magnesium perchlorate and concentrated on a trap packed with four inches of Porapak N and held at -30 °C during trapping. At the conclusion of stripping, the trap was heated electrically and the contents swept onto the precolumn (0.53mm I. D. x 30 meters, DB624 capillary column, 45 °C)) with clean nitrogen. The desired gases passed on to the main analytical column (0.53mm I. D. x 30 meters, DB624 capillary column, 45 °C), before the precolumn vented the later peaks. All other aspects of the analysis were the same as the CFC analysis.

Both of the analytical systems were calibrated frequently using a standard gas of known CFC composition. Gas sample loops of known volume were thoroughly flushed with standard gas and injected into the system. The temperature and pressure was recorded so that the amount of gas injected could be calculated. The procedures used to transfer the standard gas to the trap, precolumn, main chromatographic column and EC detector were similar to those used for analyzing water samples. Two sizes of gas sample loops were present in the CFC analytical system, while four calibrated sample loops were used in the CCl_4 system. Multiple injections of these loop volumes could be made to allow the system to be calibrated over a relatively wide range of concentrations. Air samples and system blanks (injections of loops of CFC-free gas) were injected and analyzed in a similar manner. The typical analysis time for a seawater, air, standard or blank sample was 12 minutes on the CFC system and 20 minutes on the CCl_4 system.

Concentrations of the CFC's and CCl_4 in air, seawater samples and gas standards are reported relative to the SIO93 calibration scale (Cunnold, et. al., 1994). Concentrations in air and standard gas are reported in units of mole fraction CFC in dry gas, and are typically in the parts-per-trillion (ppt) range. Dissolved CFC and CCl_4 concentrations are given in units of picomoles per kg seawater (pmol kg^{-1}). CFC and CCl_4 concentrations in air and seawater samples were determined by fitting their chromatographic peak areas to multi-point calibration curves, generated by injecting multiple sample loops of gas from a working standard (PMEL cylinder 33790 for CFC-11, CFC-12 and CFC-113; PMEL cylinder 33780 for CCl_4) into the analytical instrument. The concentrations of CFC-11 and CFC-12 in this working standard were calibrated before and after the cruise versus a primary standard (36743) (Bullister, 1984). No measurable drift in the concentrations of CFC-11 and CFC-12 in the working standard could be detected during this interval. Full range calibration curves were run at intervals of 3 days during the cruise. Single injections of a fixed volume of standard gas at one atmosphere were run much more

frequently (at intervals of 1 to 2 hours) to monitor short term changes in detector sensitivity.

Extremely low (<0.01 pmol kg^{-1}) CFC concentrations were measured in deep water (>3000 meters) in the Eastern Basin of the North Atlantic between 25 ºW and 45 ºW along this section. Based on the median of CFC concentration measurements in the deep water of this region, which is believed to be nearly CFC-free, blank corrections of 0.003 to 0.015 pmol kg^{-1} for CFC-11, 0.006 to 0.007 pmol kg^{-1} for CFC-12 and 0.006 to 0.011 pmol kg^{-1} for CFC-113 have been applied to the data set. If the measured CFC concentration for a sample is very low, subtracting a blank can result in a very small negative number reported (see Figure 2). No blank corrections were required for the CCl_4 data.

On this expedition, we estimate precision (1 standard deviation) of 1% or 0.005 pmol kg^{-1} (whichever is greater) for dissolved CFC-11, 2% or 0.005 pmol kg^{-1} (whichever is greater) for dissolved CFC-12 measurements (see listing of replicate samples given in Table 6), 4.4% or 0.002 pmol kg^{-1} for CFC-113 and 1.4% or 0.006 pmol kg^{-1} for CCl_4 (Table 7). The results of the CFC air measurements are reported in Tables 8 and 9.

A number of water samples had clearly anomalous concentrations relative to adjacent samples for one or more of the trace gases. These anomalous samples appeared to occur more or less randomly during the cruise, and were not clearly associated with other features in the water column (e.g. elevated oxygen concentrations, salinity or temperature features, etc.). This suggests that the high values were due to individual, isolated low-level CFC contamination events. Measured concentrations for these samples are included in this report, but are given a quality flag of either 3 (questionable measurement) or 4 (bad measurement). A total of 4 analyses of CFC-11, 8 analyses of CFC-12, 3 analyses of CFC-113 and 2 analyses of CCl_4 were assigned a flag of 3. A total of 9 analyses of CFC-11, 8 analyses of CFC-12, 18 analyses of CFC-113 and 4 analyses of CCl4 were assigned a value of 4.

2.3. UNDERWAY MEASUREMENT METHODS

2.3.1. UNDERWAY fCO_2

Underway pCO_2 system version 2.5 (analogous to those described in Ho *et al*. 1997, and Feely et al. 1998) was used to determine the pCO_2 of surface water and overlaying air on a continuous basis (Keeling 1965, Wanninkhof and Thoning 1993). When in operation, seawater is drawn from the uncontaminated seawater intake from the bow intake approximately 6 meters below the water line to a 30-l shower head equilibrator located in the main laboratory, where the headspace and seawater reach equilibrium on a short time scale. At specific times during an hourly cycle, the content of the headspace is measured by an infrared CO_2 analyzer. Uncontaminated air from the marine boundary layer is drawn continuously from the bow mast to the underway pCO_2 system. At a designated time, air is analyzed by a the infrared CO_2 analyzer, otherwise the air is bled off through a vent .

The CO_2 measurements are made by a Li-Cor differential, non-dispersive, infrared (NDIR) CO_2 analyzer (model 6251), and the result is based on the difference in absorption of infrared (IR) radiation passing through two gas cells. The reference cell is continuously flushed with a gas of known CO_2 concentration using the lowest concentration of three reference gas standards. During the hourly cycle the sample cell is flushed with one of three reference gas standards, marine boundary layer air, or headspace gas from the equilibrator.

The data may be downloaded via WWW site:
http://www.aoml.noaa.gov/ocd/oaces/1998data.html

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Zhang, J-Z., and Berberian, G. A., 1997b. Determination of dissolved silicate in estuarine and coastal waters by gas segmented continuous flow colorimetric analysis. EPA's manual " *Methods for the determination of Chemical Substances in Marine and Estuarine Environmental Matrices - 2nd Edition*". EPA/600/R-97/072.

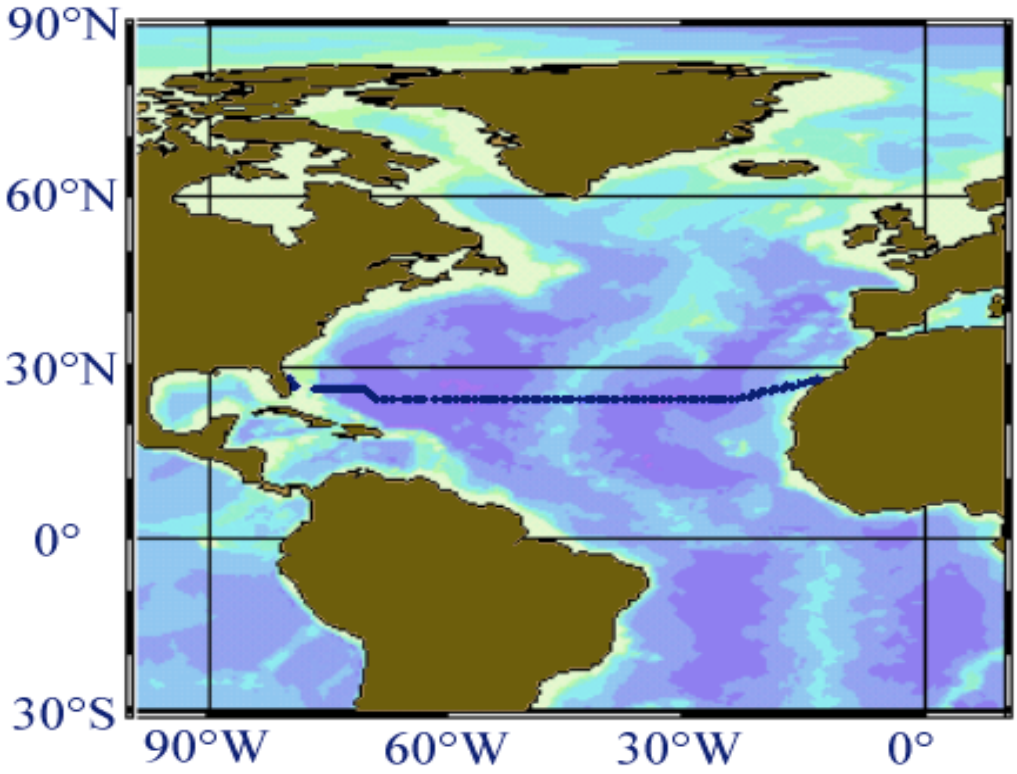

Figure 1. Cruise track for the Atlantic Ocean A5R(epeat) cruise in January and February 1998

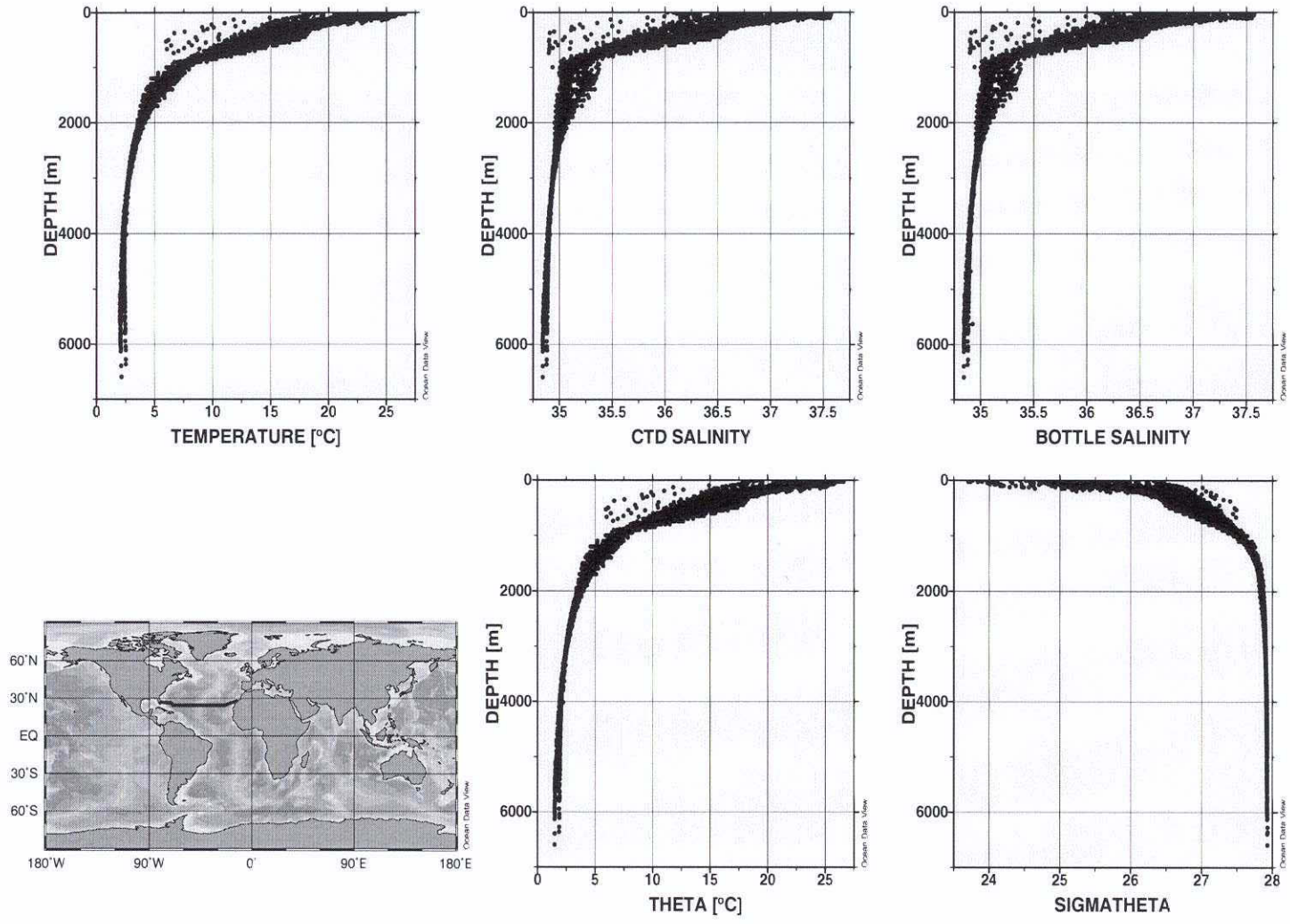

Figure 2. All parameters measured vs. depth

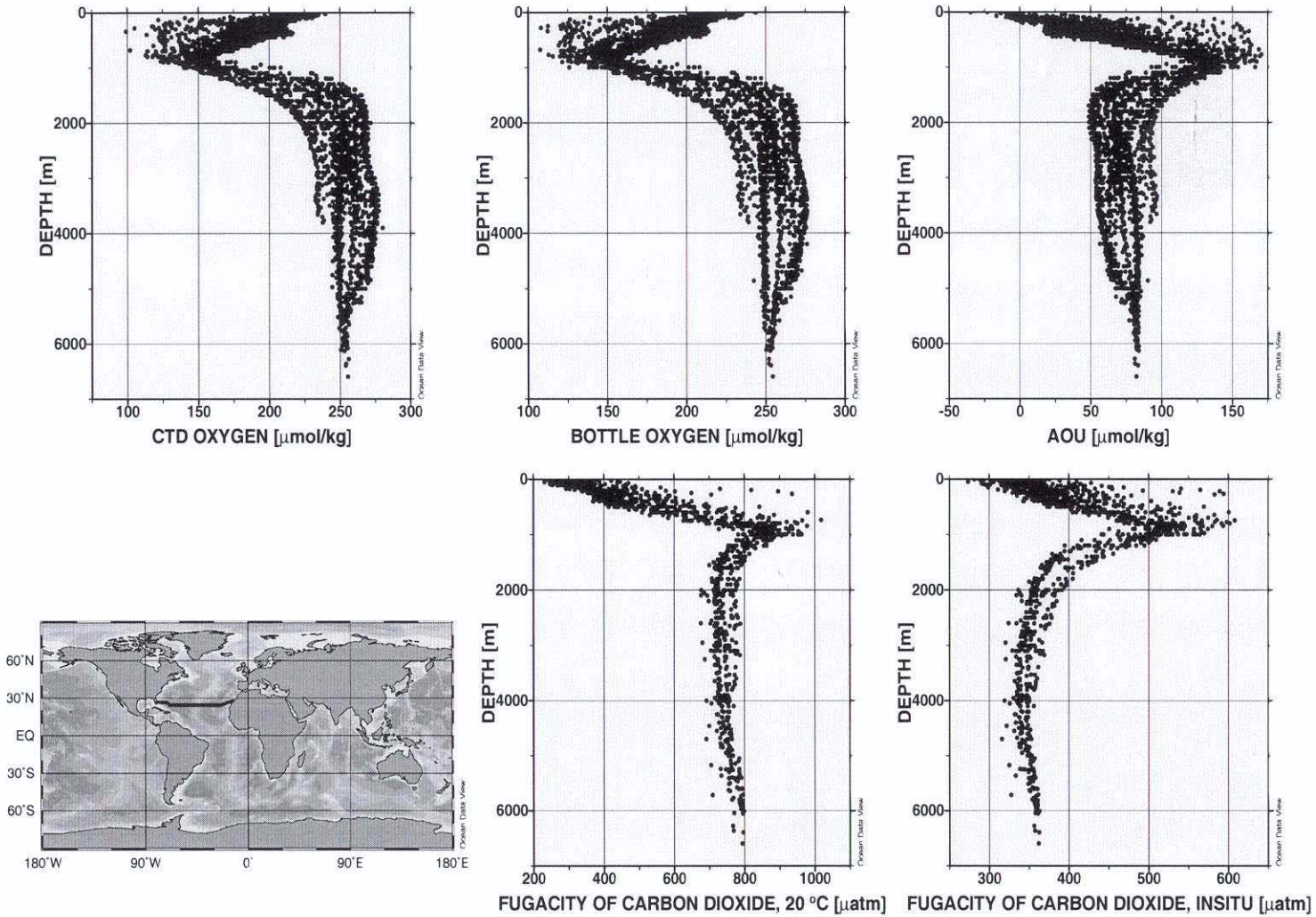

Figure 2. All the data vs. depth (continued)

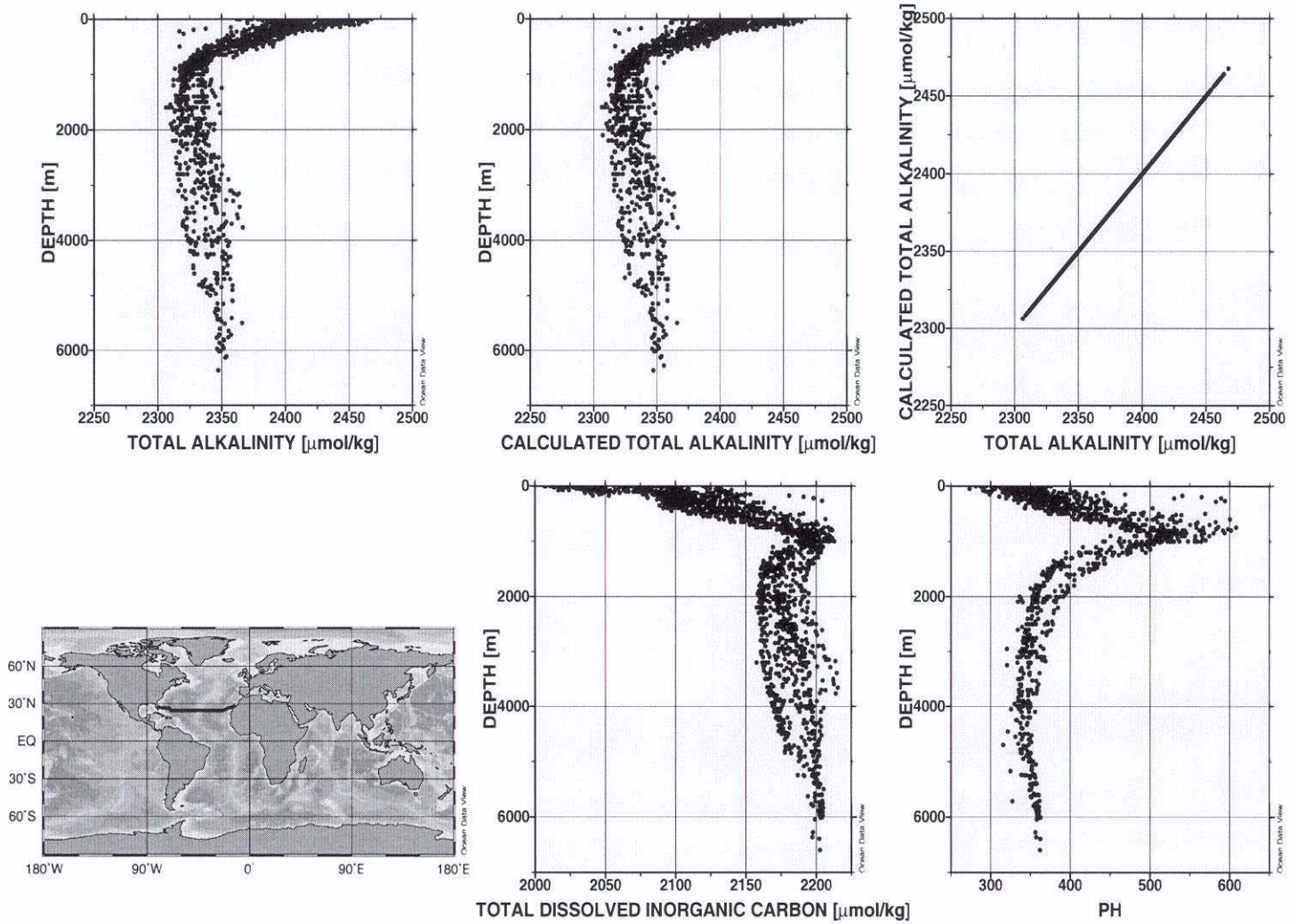

Figure 2. All the data vs. depth (continued)

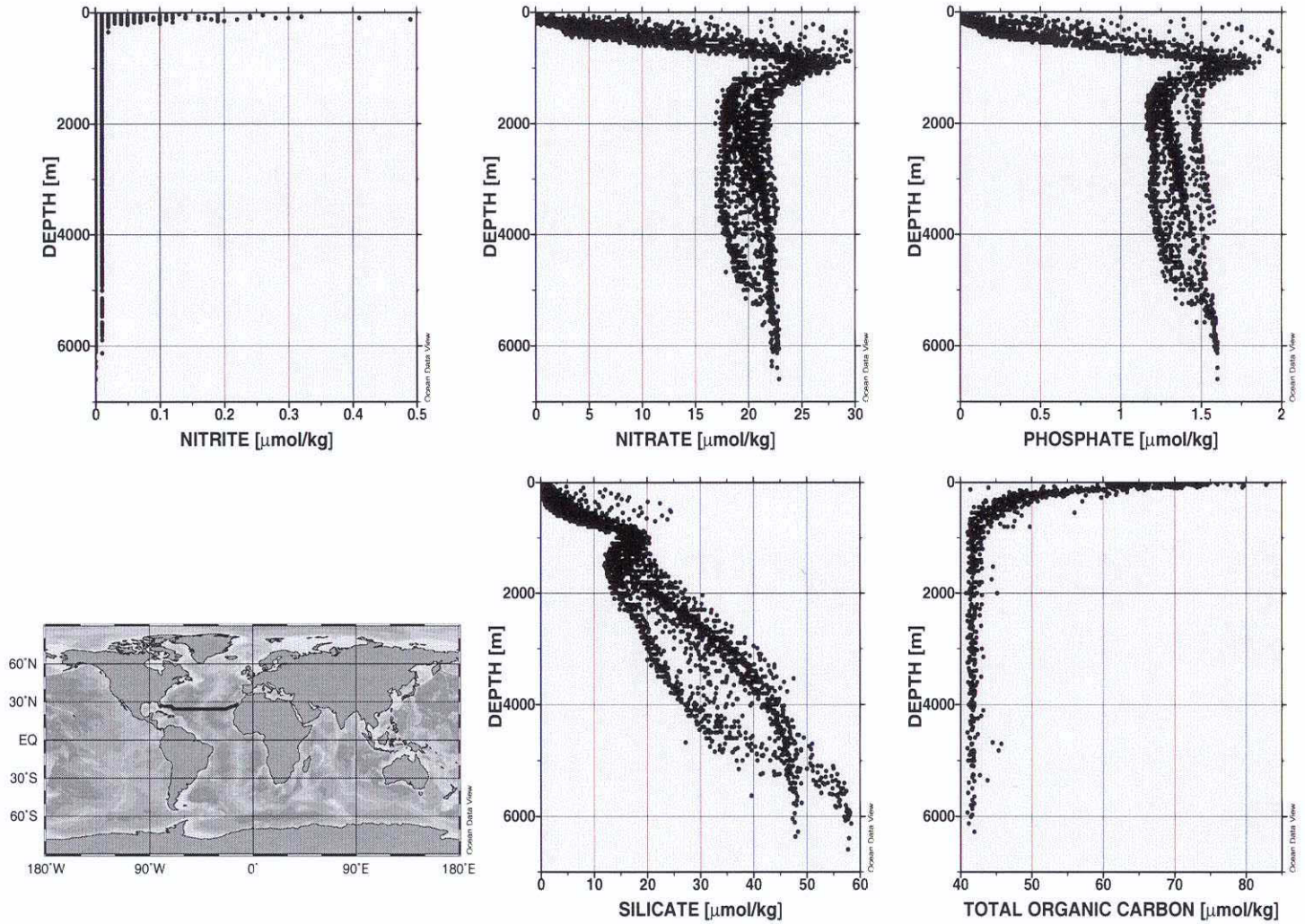

Figure 2. All the data vs. depth (continued)

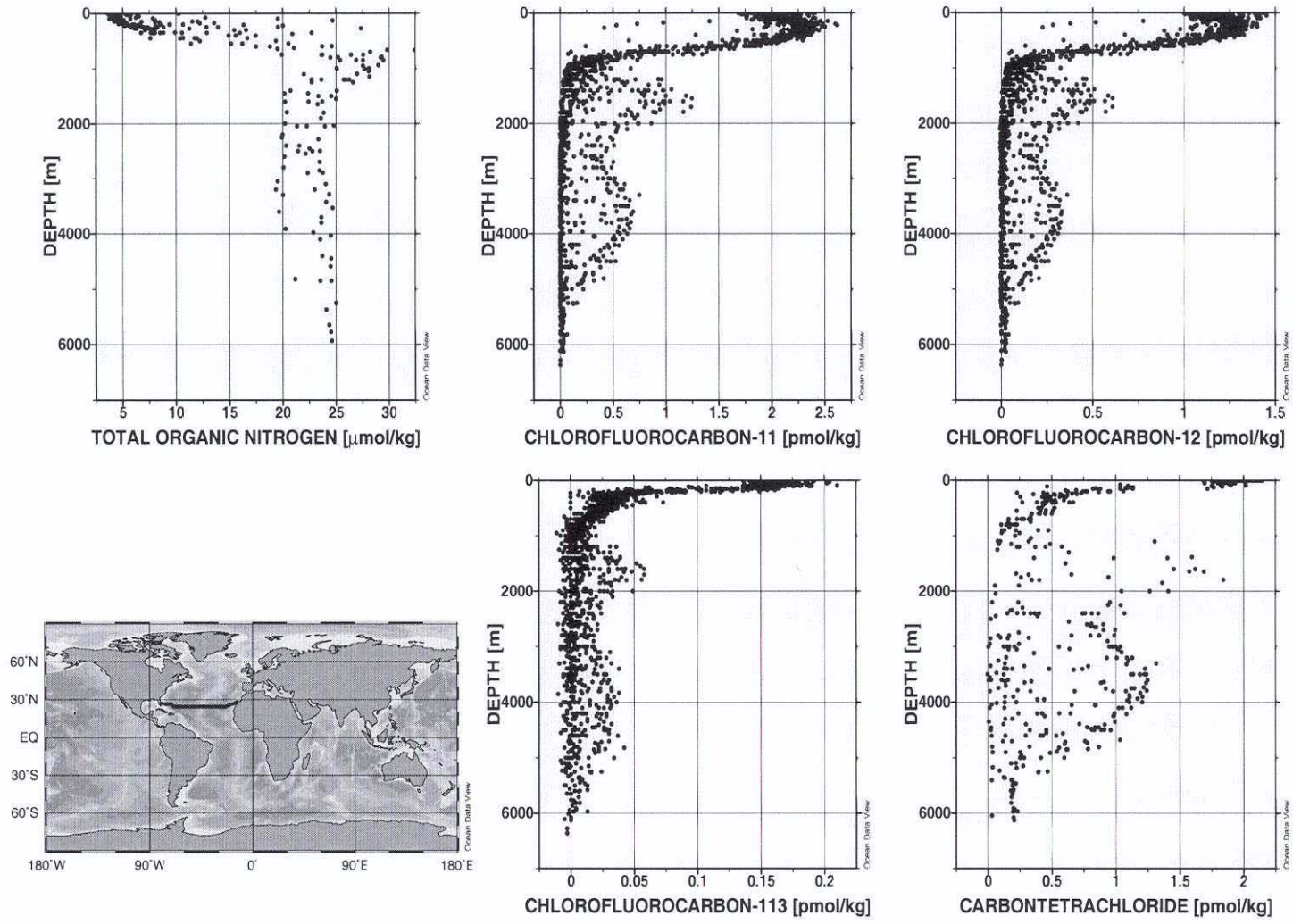

Figure 2. All the data vs. depth (continued)

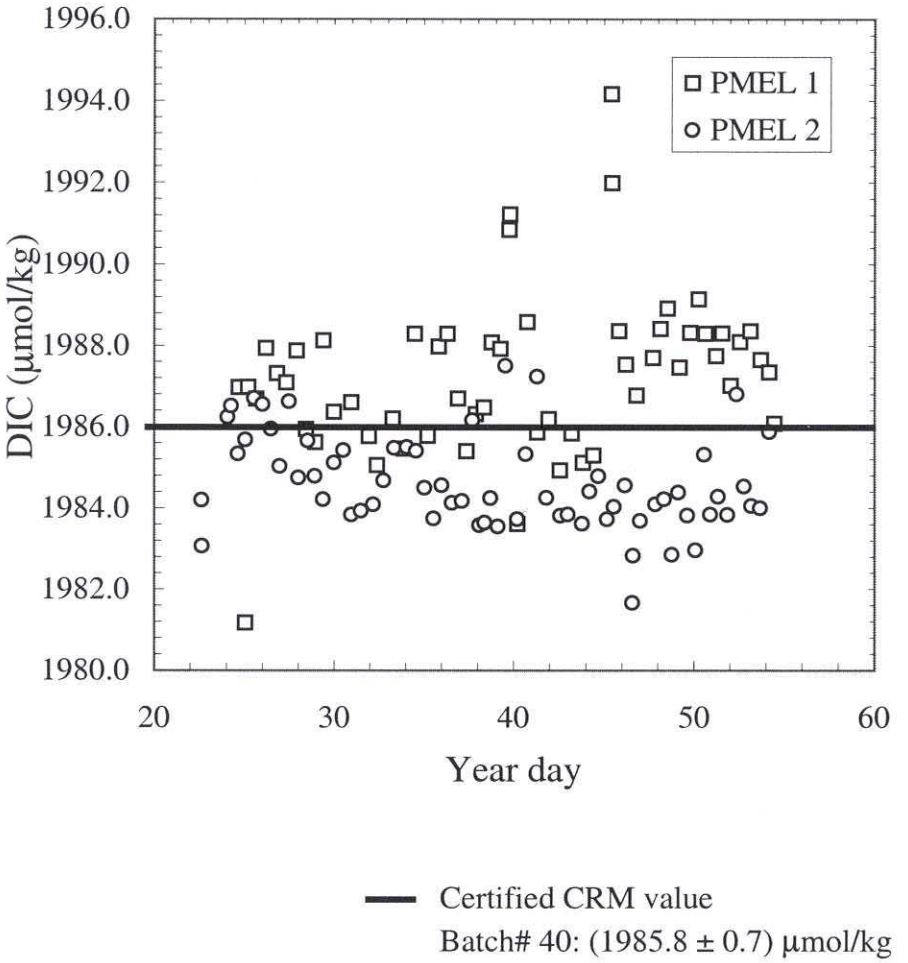

Figure 3. The results of the CRM measurements

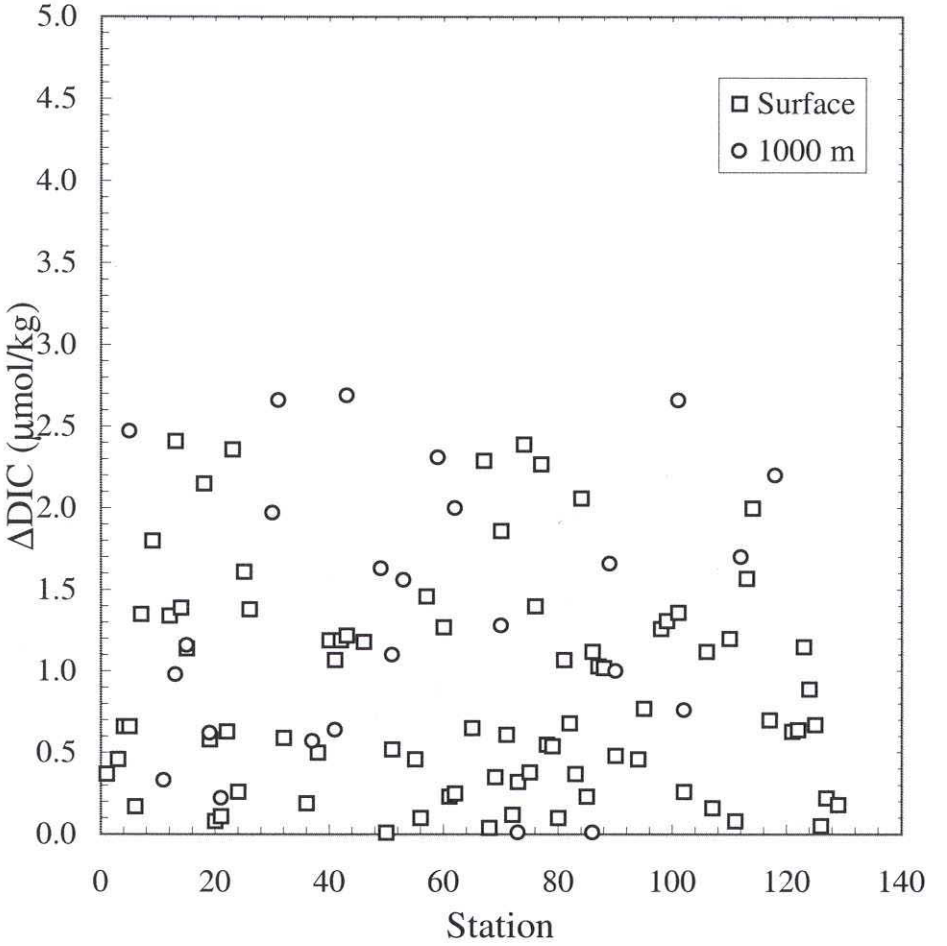

Figure 4. The results of the DIC duplicates during the course of the cruise

Table 1. Station locations

Station	Cast	Latitude (^oN)	Longitude (^oW)	Date
1	1	27.917	13.370	1/24/1998
2	1	27.965	13.404	1/24/1998
3	1	27.883	13.417	1/24/1998
4	1	27.849	13.417	1/24/1998
5	1	27.799	13.816	1/24/1998
6	1	27.617	14.235	1/24/1997
7	1	27.433	14.851	1/24/1998
8	1	27.232	15.596	1/25/1998
9	1	27.032	16.115	1/25/1998
10	1	26.833	16.668	1/25/1998
11	1	26.667	17.199	1/25/1998
12	1	26.517	17.867	1/25/1998
13	1	26.498	18.335	1/26/1998
14	1	26.167	18.817	1/26/1998
15	1	25.983	19.365	1/26/1998
16	1	25.800	19.899	1/26/1998
17	1	25.617	20.433	1/26/1998
18	1	25.424	20.949	1/27/1998
19	1	25.250	21.484	1/27/1998
20	1	25.057	22.032	1/27/1998
21	1	24.783	22.800	1/28/1998
22	1	24.500	23.484	1/28/1998
23	1	24.499	24.216	1/28/1998
24	1	24.500	24.950	1/28/1998
25	1	24.500	25.683	1/28/1997
26	1	24.500	26.416	1/29/1998
27	1	24.499	27.150	1/29/1998
28	1	24.500	27.883	1/29/1998
29	1	24.499	28.617	1/30/1998
30	1	24.499	29.433	1/30/1998
31	1	24.500	30.267	1/30/1998
32	1	24.500	31.084	1/31/1998
33	1	24.500	31.916	1/31/1998
34	1	24.500	32.733	1/31/1998
35	1	24.498	33.567	2/1/1998

Table 1. Station locations (continued)

Station	Cast	Latitude (^{o}N)	Longitude (^{o}W)	Date
36	1	24.502	34.383	2/1/1998
37	1	24.500	35.217	2/1/1998
38	1	24.500	36.033	2/2/1998
39	1	24.500	36.867	2/2/1998
40	1	24.500	37.683	2/2/1998
41	1	24.500	38.513	2/2/1998
42	1	24.500	39.250	2/3/1998
43	1	24.500	39.983	2/3/1998
44	1	24.500	40.533	2/3/1998
45	1	24.500	41.083	2/4/1998
46	1	24.500	41.633	2/4/1998
47	1	24.500	42.183	2/4/1998
48	1	24.500	42.733	2/4/1998
49	1	24.500	43.284	2/4/1998
50	1	24.500	43.473	2/5/1998
51	1	24.500	44.386	2/5/1998
52	1	24.500	44.934	2/5/1998
53	1	24.500	45.484	2/5/1998
54	1	24.500	46.034	2/5/1998
55	1	24.500	46.584	2/6/1998
56	1	24.500	47.134	2/6/1998
57	1	24.501	47.684	2/6/1998
58	1	24.500	48.234	2/6/1998
59	1	24.500	48.782	2/7/1998
60	1	24.500	49.333	2/7/1998
61	1	24.491	49.883	2/7/1998
62	1	24.501	50.433	2/8/1998
63	1	24.501	50.984	2/8/1998
64	1	24.501	51.533	2/8/1998
65	1	24.500	51.149	2/9/1998
66	1	24.501	52.637	2/9/1998
67	1	24.499	53.183	2/9/1998
68	1	24.500	53.733	2/9/1998
69	1	24.499	54.467	2/10/1998
70	1	24.499	55.201	2/10/1998

Table 1. Station locations (continued)

Station	Cast	Latitude (^{o}N)	Longitude (^{o}W)	Date
71	1	24.500	55.933	2/10/1998
72	1	24.500	56.667	2/11/1998
73	1	24.500	57.400	2/11/1998
74	1	24.500	58.134	2/11/1998
75	1	24.500	58.867	2/12/1998
76	1	24.500	59.600	2/12/1998
77	1	24.500	60.332	2/12/1998
78	1	24.500	60.067	2/12/1998
79	1	24.500	61.801	2/13/1998
80	1	24.500	63.534	2/13/1998
81	1	24.499	63.264	2/13/1998
82	1	24.500	64.000	2/14/1998
83	1	24.500	64.667	2/14/1998
84	1	24.501	65.469	2/14/1998
85	1	24.500	65.200	2/15/1998
86	1	24.500	66.933	2/15/1998
87	1	24.500	67.667	2/15/1998
88	1	24.500	68.401	2/15/1998
89	1	24.500	69.133	2/16/1998
90	1	25.016	69.502	2/16/1998
91	1	25.383	69.867	2/16/1998
92	1	25.759	70.235	2/17/1998
93	1	26.141	70.615	2/17/1998
94	1	26.501	71.012	2/17/1998
95	1	26.500	71.351	2/17/1998
96	1	26.500	71.734	2/18/1998
97	1	26.501	72.100	2/18/1998
98	1	26.501	72.467	2/18/1998
99	1	26.500	72.850	2/18/1998
100	1	26.500	73.217	2/18/1998
101	1	26.500	73.583	2/19/1998
102	1	26.500	73.967	2/19/1998
103	1	26.500	74.251	2/19/1998
104	1	26.500	74.517	2/19/1998
105	1	26.500	74.800	2/19/1998

Table 1. Station locations (continued)

Station	Cast	Latitude (^{o}N)	Longitude (^{o}W)	Date
106	1	26.500	75.084	2/20/1998
107	1	26.500	75.300	2/20/1998
108	1	26.500	75.500	2/20/1998
109	1	26.500	75.701	2/20/1998
110	1	26.500	75.900	2/20/1998
111	1	26.500	76.083	2/20/1998
112	1	26.500	76.200	2/21/1998
113	1	26.483	76.300	2/21/1998
114	1	26.505	76.422	2/21/1998
115	1	26.500	76.517	2/21/1998
116	1	26.500	76.617	2/21/1998
117	1	26.500	76.683	2/22/1998
118	1	26.499	76.753	2/22/1998
119	1	26.500	76.784	2/22/1998
120	1	26.500	76.816	2/22/1998
121	1	26.520	76.901	2/22/1998
122	1	27.001	79.200	2/23/1998
123	1	27.002	79.283	2/23/1998
124	1	27.001	79.381	2/23/1998
125	1	27.038	79.481	2/23/1998
126	1	27.013	79.605	2/23/1998
127	1	27.020	79.674	2/23/1998
128	1	27.002	79.788	2/23/1998
129	1	27.006	79.857	2/23/1998
130	1	26.999	79.937	2/23/1998

Table 2. Results of the certified reference material, CRM
(Assigned value by SIO batch 40 = (1985.8 ± 0.7) μmol/kg)
Coulometer: PMEL-1

Date	GMT (h:min)	Year Day	DIC (μmol/kg)
24-Jan-98	16:02	24	1987.0
25-Jan-98	0:41	25	1981.2
25-Jan-98	4:47	25	1987.0
25-Jan-98	15:19	25	1986.7
26-Jan-98	4:29	26	1987.9
26-Jan-98	18:48	26	1987.3
27-Jan-98	7:36	27	1987.1
27-Jan-98	21:31	27	1987.9
28-Jan-98	9:37	28	1985.9
28-Jan-98	22:19	28	1985.6
29-Jan-98	9:02	29	1988.1
29-Jan-98	23:31	29	1986.4
30-Jan-98	22:36	30	1986.6
31-Jan-98	22:11	31	1985.8
1-Feb-98	9:06	32	1985.1
2-Feb-98	6:16	33	1986.2
2-Feb-98	21:23	33	1985.5
3-Feb-98	11:32	34	1988.3
4-Feb-98	4:54	35	1985.8
4-Feb-98	19:43	35	1988.0
5-Feb-98	7:07	36	1988.3
5-Feb-98	21:35	36	1986.7
6-Feb-98	8:47	37	1985.4
6-Feb-98	21:16	37	1986.3
7-Feb-98	7:48	38	1986.5
7-Feb-98	18:14	38	1988.1
8-Feb-98	5:50	39	1987.9
8-Feb-98	17:42	39	1990.8
8-Feb-98	18:36	39	1991.2

Table 2. Results of the certified reference material, CRM (continued)
(Assigned value by SIO batch 40 = (1985.8 ± 0.7) µmol/kg)
Coulometer: PMEL-1

Date	GMT (h:min)	Year Day	DIC (µmol/kg)
9-Feb-98	4:39	40	1983.6
9-Feb-98	17:46	40	1988.6
10-Feb-98	6:53	41	1985.9
10-Feb-98	22:02	41	1986.2
11-Feb-98	13:17	42	1984.9
12-Feb-98	4:52	43	1985.8
12-Feb-98	19:40	43	1985.1
13-Feb-98	9:40	44	1985.3
14-Feb-98	9:27	45	1994.2
14-Feb-98	10:25	45	1992.0
14-Feb-98	19:54	45	1988.4
15-Feb-98	4:46	46	1987.5
15-Feb-98	19:09	46	1986.8
16-Feb-98	17:09	47	1987.7
17-Feb-98	3:02	48	1988.4
17-Feb-98	12:21	48	1988.9
18-Feb-98	4:13	49	1987.5
18-Feb-98	18:30	49	1988.3
19-Feb-98	5:36	50	1989.1
19-Feb-98	14:48	50	1988.3
20-Feb-98	5:01	51	1987.7
20-Feb-98	13:07	51	1988.3
21-Feb-98	0:18	52	1987.0
21-Feb-98	13:12	52	1988.1
22-Feb-98	2:59	53	1988.4
22-Feb-98	16:47	53	1987.7
23-Feb-98	3:41	54	1987.4
23-Feb-98	10:54	54	1986.1

Table 2. Results of the certified reference material, CRM (continued)
(Assigned value by SIO batch 40 = (1985.8 ± 0.7) μmol/kg)
Coulometer: PMEL-2

Date	GMT (h:min)	Year Day	DIC (μmol/kg)
22-Jan-98	15:02	22	1984.2
22-Jan-98	15:16	22	1983.1
24-Jan-98	1:39	24	1986.2
24-Jan-98	6:19	24	1986.5
24-Jan-98	15:19	24	1985.3
25-Jan-98	1:02	25	1985.7
25-Jan-98	12:58	25	1986.7
25-Jan-98	23:54	25	1986.6
26-Jan-98	11:18	26	1985.9
26-Jan-98	22:56	26	1985.0
27-Jan-98	11:22	27	1986.6
27-Jan-98	23:46	27	1984.7
28-Jan-98	12:28	28	1985.7
28-Jan-98	21:53	28	1984.8
29-Jan-98	8:57	29	1984.2
29-Jan-98	23:35	29	1985.1
30-Jan-98	12:19	30	1985.4
30-Jan-98	23:14	30	1983.8
31-Jan-98	11:51	31	1983.9
1-Feb-98	4:27	32	1984.1
1-Feb-98	18:18	32	1984.7
2-Feb-98	8:21	33	1985.5
3-Feb-98	1:09	34	1985.5
3-Feb-98	13:40	34	1985.4
4-Feb-98	0:49	35	1984.5
4-Feb-98	13:06	35	1983.7
4-Feb-98	23:48	35	1984.6
5-Feb-98	13:50	36	1984.1
6-Feb-98	2:55	37	1984.2

Table 2. Results of the certified reference material, CRM (continued)
(Assigned value by SIO batch 40 = (1985.8 ± 0.7) μmol/kg)
Coulometer: PMEL-2

Date	GMT (h:min)	Year Day	DIC (μmol/kg)
6-Feb-98	16:49	37	1986.2
7-Feb-98	2:25	38	1983.6
7-Feb-98	9:08	38	1983.6
7-Feb-98	17:03	38	1984.2
8-Feb-98	3:00	39	1983.5
8-Feb-98	12:46	39	1987.5
9-Feb-98	4:50	40	1983.7
9-Feb-98	15:56	40	1985.3
10-Feb-98	7:15	41	1987.2
10-Feb-98	19:42	41	1984.3
11-Feb-98	13:58	42	1983.8
12-Feb-98	0:04	43	1983.8
12-Feb-98	19:06	43	1983.6
13-Feb-98	4:42	44	1984.4
13-Feb-98	16:36	44	1984.8
14-Feb-98	4:10	45	1983.7
14-Feb-98	13:23	45	1984.0
15-Feb-98	3:48	46	1984.6
15-Feb-98	14:02	46	1981.7
15-Feb-98	14:42	46	1982.8
16-Feb-98	0:12	47	1983.7
16-Feb-98	20:14	47	1984.1
17-Feb-98	7:55	48	1984.2
17-Feb-98	18:25	48	1982.8
18-Feb-98	2:52	49	1984.4
18-Feb-98	15:04	49	1983.8
19-Feb-98	2:04	50	1983.0
19-Feb-98	13:42	50	1985.3
19-Feb-98	21:50	50	1983.8

Table 2. Results of the certified reference material, CRM (continued)
(Assigned value by SIO batch 40 = (1985.8 ± 0.7) μmol/kg)
Coulometer: PMEL-2

Date	GMT (h:min)	Year Day	DIC (μmol/kg)
20-Feb-98	8:11	51	1984.3
20-Feb-98	20:36	51	1983.8
21-Feb-98	8:47	52	1986.8
21-Feb-98	18:37	52	1984.5
22-Feb-98	4:37	53	1984.1
22-Feb-98	16:08	53	1984.0
23-Feb-98	4:18	54	1985.9

Table 3. Dissolved inorganic carbon duplicates

Station#	Bottle#	Pressure/db	DIC µmol/kg	Stdev
1	9	2	2119.7	0.26
3	20	2	2103.9	0.33
4	22	4	2100.8	0.47
5	7	995	2209.6	1.75
5	27	3	2105.0	0.47
6	30	3	2096.4	0.12
7	31	3	2096.4	0.95
9	32	4	2097.8	1.27
11	16	1001	2205.0	0.23
12	36	4	2098.4	0.95
13	17	1001	2212.5	0.69
13	35	4	2099.4	1.70
14	32	3	2100.1	0.98
15	17	1000	2209.1	0.82
15	36	4	2086.9	0.81
18	36	4	2100.1	1.52
19	18	1000	2212.8	0.44
19	36	5	2101.0	0.41
20	36	6	2099.1	0.06
21	19	1000	2207.9	0.16
21	36	6	2098.6	0.08
22	36	4	2096.7	0.45
23	36	5	2098.3	1.67
24	36	3	2096.2	0.18
25	36	4	2099.6	1.14
26	36	6	2098.6	0.98
30	18	1000	2200.1	1.39
31	18	1000	2200.6	1.88
32	36	6	2101.8	0.42
36	36	5	2094.6	0.13
37	20	1002	2200.4	0.40

Table 3. Dissolved inorganic carbon duplicates (continued)

Station#	Bottle#	Pressure/db (db)	DIC (μmol/kg)	Stdev
38	36	4	2090.6	0.35
40	36	4	2087.9	0.84
41	19	999	2200.8	0.45
41	36	6	2085.0	0.76
42	36	3	2076.3	0.84
43	17	1000	2195.0	1.90
43	36	4	2080.1	0.86
46	36	4	2081.0	0.83
49	20	997	2194.9	1.15
50	36	5	2077.0	0.01
51	19	1001	2193.5	0.78
51	36	5	2073.1	0.37
53	18	1001	2197.6	1.10
55	36	5	2073.1	0.33
56	36	5	2075.5	0.07
57	36	5	2072.2	1.03
59	17	1000	2197.5	1.63
60	36	4	2075.7	0.90
61	36	4	2064.1	0.16
62	18	999	2194.8	1.41
62	36	3	2066.6	0.18
65	36	6	2065.9	0.46
67	36	5	2050.1	1.62
68	36	4	2056.2	0.03
69	36	4	2060.2	0.25
70	18	1000	2195.2	0.91
70	36	5	2056.3	1.32
71	36	6	2046.5	0.43
72	36	4	2046.1	0.08
73	17	1000	2195.1	0.01
73	36	4	2044.4	0.23

Table 3. Dissolved inorganic carbon duplicates (continued)

Station#	Bottle#	Pressure/db (db)	DIC (μmol/kg)	Stdev
74	36	7	2033.7	1.69
75	36	5	2041.7	0.27
76	36	6	2038.2	0.99
77	36	5	2037.6	1.61
78	36	7	2035.3	0.39
79	36	5	2035.2	0.38
80	36	6	2023.7	0.07
81	36	4	2016.1	0.76
82	36	4	2036.6	0.48
83	36	4	2041.5	0.26
84	36	6	2036.9	1.46
85	36	4	2017.7	0.16
86	17	999	2202.1	0.01
86	36	4	2018.4	0.79
87	36	5	2028.5	0.73
88	36	5	2032.7	0.72
89	17	1001	2179.8	1.17
90	16	1001	2186.1	0.71
90	36	4	2037.9	0.34
94	36	4	2034.8	0.33
95	36	4	2035.4	0.54
98	36	4	2043.1	0.89
99	36	5	2042.8	0.93
101	18	1001	2191.6	1.88
101	36	4	2042.2	0.96
102	18	999	2187.3	0.54
102	36	5	2047.7	0.18
106	36	4	2041.5	0.79
107	36	4	2041.6	0.11
110	36	4	2037.3	0.85
111	36	4	2039.0	0.06

Table 3. Dissolved inorganic carbon duplicates (continued)

Station#	Bottle#	Pressure/db (db)	DIC (μmol/kg)	Stdev
112	18	999	2190.4	1.20
113	36	3	2040.1	1.11
114	36	4	2040.5	1.41
117	36	3	2036.4	0.49
118	15	999	2185.3	1.56
121	18	5	2023.1	0.45
122	18	4	2014.1	0.45
123	20	3	2013.4	0.81
124	21	4	2006.8	0.63
125	23	4	2007.7	0.47
126	21	3	2011.0	0.04
127	20	4	2016.7	0.16
129	11	4	2026.3	0.13

Table 4. Replicate pCO_2 analyses

Station	Bottle	Latitude (˚N)	Longitude (˚W)	Depth (m)	Ave (fCO2,20C) (µatm)	Stdev(fCO2,20C) (µatm)
2	10	28	13	149	480.1	2.05
6	30	28	14	3	361.7	5.59
7	12	27	15	849	881.1	3.11
8	17	27	16	847	803.0	5.23
8	33	27	16	3	344.1	0.14
10	32	27	17	117	392.5	6.79
13	15	26	18	1201	863.0	0.71
14	17	26	19	800	950.8	3.11
18	16	25	21	1229	827.3	0.57
19	18	25	21	1000	953.0	4.60
21	3	25	23	4499	752.0	0.64
22	26	25	23	449	691.3	1.63
23	10	24	24	2879	743.1	7.14
24	36	25	25	3	338.1	4.17
25	13	25	26	2497	733.8	4.88
27	36	24	27	4	318.4	2.83
28	18	25	28	1201	854.9	5.52
30	18	24	29	1000	872.6	11.88
30	30	24	29	248	418.4	0.28
34	5	25	33	4589	531.7	318.83
34	12	25	33	2401	741.1	2.69
34	14	25	33	2002	746.4	3.61
38	17	25	36	1250	831.4	13.65
39	12	25	37	2096	735.1	0.71
40	36	25	38	4	312.2	8.56
42	14	25	39	1999	742.9	7.78
43	8	25	40	2949	680.4	13.08
45	5	25	41	4051	706.1	5.16
45	13	25	41	2050	685.9	10.82
46	4	25	42	4000	691.8	7.99

Table 4. Replicate pCO_2 analyses (continued)

Station	Bottle	Latitude (˚N)	Longitude (˚W)	Depth (m)	Ave (fCO2,20C) (µatm)	Stdev(fCO2,20C) (µatm)
47	5	25	42	3098	712.2	27.79
47	9	25	42	2092	676.5	7.07
48	36	25	43	7	289.9	29.63
49	5	25	43	3201	715.0	7.42
49	10	25	43	2198	698.2	2.97
50	5	25	43	3092	704.4	10.68
51	14	25	44	1500	743.3	25.24
51	34	25	44	100	253.7	0.64
52	36	25	45	7	316.9	44.90
53	8	25	45	2000	711.8	13.22
53	19	25	45	901	851.9	4.95
53	36	25	45	6	267.9	18.10
54	36	25	46	5	272.3	10.25
55	9	25	47	1999	726.2	8.13
56	36	25	47	5	283.8	1.41
57	36	25	48	5	278.4	0.71
58	20	25	48	902	844.0	15.06
58	21	25	48	802	777.8	17.96
58	22	25	48	700	689.0	20.36
58	29	25	48	276	385.5	11.74
58	36	25	48	5	262.5	18.60
59	36	25	49	4	277.7	1.84
60	36	25	49	4	278.2	25.31
61	36	24	50	4	274.1	2.40
62	36	25	50	3	274.1	2.26
64	1	25	52	5363	733.8	8.27
65	36	25	51	6	276.4	1.70
66	16	25	53	1248	809.2	5.16
67	6	24	53	3999	743.7	6.01
67	13	24	53	1951	725.5	15.77

Table 4. Replicate pCO_2 analyses (continued)

Station	Bottle	Latitude (˚N)	Longitude (˚W)	Depth (m)	Ave (fCO2,20C) (µatm)	Stdev(fCO2,20C) (µatm)
67	20	24	53	802	784.3	0.57
67	30	24	53	248	380.8	4.81
67	36	24	53	5	261.1	10.32
68	35	25	54	3	266.5	6.23
69	19	24	54	1051	848.9	5.80
70	1	24	55	6008	798.2	5.09
70	16	24	55	1402	743.8	1.20
70	36	24	55	5	260.2	4.24
71	2	25	56	6050	794.8	4.03
72	36	25	57	4	275.5	2.05
73	12	25	57	1900	721.2	7.35
74	6	25	58	3900	730.5	4.95
75	36	25	59	5	276.2	6.43
76	36	25	60	6	272.2	0.07
77	4	25	60	4698	691.1	67.18
79	1	25	62	5891	794.9	3.68
80	36	25	64	6	263.6	3.04
81	6	24	63	3966	736.2	2.40
82	1	25	64	5862	785.8	3.11
82	16	25	64	1049	840.5	1.48
83	13	25	65	1851	708.1	4.95
84	36	25	65	6	275.6	1.56
85	13	25	65	2101	720.4	8.41
86	1	25	67	5816	792.9	4.95
86	26	25	67	400	446.3	3.96
87	2	25	68	5291	784.6	4.81
88	36	25	68	5	275.1	0.35
89	1	25	69	5736	789.8	7.92
90	4	25	70	4450	740.8	9.55
91	36	25	70	5	283.8	0.49

Table 4. Replicate pCO_2 analyses (continued)

Station	Bottle	Latitude (°N)	Longitude (°W)	Depth (m)	Ave (fCO2,20C) (µatm)	Stdev(fCO2,20C) (µatm)
94	3	27	71	4840	733.1	7.78
94	30	27	71	225	374.2	5.87
95	36	27	71	4	282.4	3.61
97	11	27	72	1998	725.7	3.46
98	1	27	72	5263	762.5	5.37
99	36	27	73	5	285.4	1.84
101	36	27	74	4	294.5	0.28
102	25	27	74	349	376.2	2.19
103	36	27	74	4	297.7	1.56
107	36	27	75	4	292.8	3.32
108	1	27	76	4751	748.1	6.22
110	34	27	76	96	301.3	3.25
111	36	27	76	4	285.8	0.42
113	36	26	76	3	287.6	3.32
114	3	27	76	4100	735.0	3.11
115	36	27	77	4	289.3	1.06
116	3	27	77	4188	736.3	5.37
117	36	27	77	3	288.9	1.70
120	3	27	77	1300	765.7	9.69
121	3	27	77	351	412.4	3.75
123	20	27	79	3	282.8	5.30
124	21	27	79	4	276.3	2.19
126	21	27	80	3	278.2	1.91
127	20	27	80	4	281.4	1.48
130	6	28	80	3	304.9	2.62

Table 5. Correction factors applied to raw data based upon carbonate parameters for Certified Reference Materials

CRM	TA (µmol/kg)	pH
Batch #40	2196.4	7.91

CELL	TA (µmol/kg)		pH		
	Measured	C.F.	Measured	C.F.	N
	2193.2 ± 1.2	1.001489	7.883 ± 0.004	0.026	12
2[a]	2198.5 ± 1.3	0.999062	7.883 ± 0.005	0.027	19
	2193.0 ± 1.3	1.001547	7.872 ± 0.004	0.039	11
12	2194.7 ± 2.7	1.000779	7.875 ± 0.006	0.035	4
18[b]	2200.3 ± 3.0	0.998228	7.874 ± 0.002	0.032	10
21	2198.9 ± 0.9	0.998863	7.859 ± 0.005	0.051	48

a. Three slightly different correction factors were applied to cell 2 due to the change in volume from a broken piston.
b. The weighted average was used

$TA_{corr} = TA_{sample} \times C.F. (TA)$
$pH_{corr} = pH_{sample} + C.F.(pH)$

Table 6. Replicate dissolved CFC-11 and CFC-12 analyses

Station	Bottle	CFC-11 (pmol/kg)	CFC-11 Stdev	CFC-12 (pmol/kg)	CFC-12 Stdev
3	9	2.227	0.025	1.189	0.005
5	6	0.184	0.006	0.092	0.004
7	14	0.814	0.012	0.415	0.001
7	28	2.348	0.018	1.325	0.009
8	27	2.403	0.040	1.319	0.016
9	6	0.012	0.005	0.012	0.001
9	30	2.253	0.021	1.306	0.032
11	12	0.147	0.004	0.092	0.013
11	18	0.468	0.002	0.242	0.003
11	33	2.228	0.010	1.295	0.009
13	28	2.352	0.013	1.301	0.002
14	6	0.001	0.003	-9.000	-9.000
14	32	2.159	0.018	1.221	0.010
16	19	0.141	0.001	-9.000	-9.000
16	30	2.286	0.008	1.305	0.001
19	5	0.008	0.000	0.005	0.001
19	29	2.445	0.008	1.310	0.027
21	19	0.135	0.005	0.077	0.006
22	5	0.004	0.001	-0.001	0.003
22	17	0.030	0.006	0.010	0.004
22	34	2.088	0.004	1.401	0.003
24	1	0.003	0.001	0.001	0.001
24	18	0.054	0.001	0.031	0.004
24	22	0.144	0.000	0.085	0.003
24	35	2.247	0.030	1.407	0.013
26	2	-0.001	0.001	0.000	0.001
26	12	0.007	0.000	-9.000	-9.000
26	14	0.010	0.003	0.003	0.002
26	24	2.161	0.019	1.132	0.006
26	35	1.978	0.013	1.143	0.010
28	9	-0.002	0.001	-0.002	0.001
28	17	0.039	0.001	0.021	0.001
28	22	0.652	0.011	0.331	0.002
28	30	2.358	0.016	1.324	0.012
29	2	0.002	0.001	-0.004	0.006
29	23	1.609	0.001	0.827	0.001
30	1	0.000	0.000	-0.003	0.002
30	19	0.143	0.001	0.078	0.004
30	28	2.370	0.018	1.294	0.009
30	35	2.015	0.012	1.167	0.008
31	30	2.372	0.006	1.317	0.007
32	1	-0.002	0.000	-0.001	0.004
32	20	0.137	0.000	0.064	0.004
32	34	2.033	0.007	1.172	0.001

Table 6. Replicate dissolved CFC-11 and CFC-12 analyses (continued)

Station	Bottle	CFC-11 (pmol/kg)	CFC-11 Stdev	CFC-12 (pmol/kg)	CFC-12 Stdev
34	21	0.367	0.001	0.171	0.002
34	34	1.962	0.012	1.137	0.005
35	4	-0.001	0.000	0.004	0.001
35	18	0.055	0.001	0.025	0.001
35	33	2.310	0.026	1.316	0.008
36	2	0.001	0.001	-0.001	0.001
36	14	0.005	0.001	-0.001	0.003
36	34	1.978	0.006	1.145	0.004
37	21	0.090	0.000	0.039	0.001
37	31	2.348	0.010	1.330	0.008
38	12	0.000	0.000	-0.004	0.001
38	22	0.766	0.001	0.361	0.006
38	30	2.375	0.013	1.315	0.008
39	7	0.001	0.000	-0.004	0.002
39	24	2.049	0.008	1.064	0.001
40	1	0.003	0.001	0.002	0.001
40	22	1.307	0.016	0.641	0.004
40	28	2.361	0.001	1.297	0.004
42	4	-0.001	0.002	-0.001	0.001
42	26	2.270	0.004	1.229	0.006
42	34	2.071	0.001	1.192	0.001
44	33	2.314	0.010	1.328	0.002
46	6	-0.001	0.001	-0.001	0.004
46	20	0.567	0.001	0.275	0.001
46	32	2.266	0.034	1.288	0.016
48	1	0.003	0.001	0.003	0.001
48	3	0.001	0.000	0.003	0.004
48	20	0.138	0.002	0.067	0.004
48	31	2.253	0.014	1.277	0.021
48	34	1.908	0.008	1.098	0.000
50	1	0.001	0.000	0.001	0.001
50	20	0.920	0.003	0.466	0.002
50	30	2.310	0.064	1.269	0.062
52	14	0.123	0.000	0.067	0.001
52	23	1.566	0.004	0.810	0.002
54	4	0.023	0.001	0.016	0.005
54	16	0.109	0.001	0.057	0.002
54	28	2.306	0.015	1.262	0.013
54	34	1.937	0.007	1.106	0.011
56	23	0.801	0.008	0.426	0.001
58	1	0.015	0.001	0.016	0.003
58	14	0.117	0.001	0.067	0.006
58	23	1.506	0.017	0.781	0.011
58	32	2.278	0.021	1.290	0.006

Table 6. Replicate dissolved CFC-11 and CFC-12 analyses (continued)

Station	Bottle	CFC-11 (pmol/kg)	CFC-11 Stdev	CFC-12 (pmol/kg)	CFC-12 Stdev
60	2	0.010	0.001	0.012	0.004
60	16	0.245	0.007	0.136	0.006
60	26	2.298	0.028	1.244	0.011
62	2	0.012	0.001	0.007	0.001
62	14	0.098	0.000	0.056	0.001
62	28	2.316	0.004	1.291	0.008
64	18	0.168	0.003	0.091	0.003
66	1	0.019	0.001	0.014	0.001
66	20	0.524	0.004	0.276	0.002
66	30	2.336	0.001	1.308	0.004
68	33	2.090	0.002	1.182	0.001
70	1	0.026	0.002	0.021	0.000
70	20	0.211	0.001	0.114	0.001
70	22	0.748	0.001	0.386	0.002
70	32	2.308	0.006	1.283	0.001
72	21	0.334	0.004	0.180	0.005
74	5	0.033	0.001	0.018	0.001
74	16	0.355	0.003	0.184	0.003
74	32	2.286	0.000	1.284	0.001
76	34	2.105	0.001	1.193	0.005
78	2	0.031	0.002	0.023	0.001
78	16	0.219	0.003	0.122	0.001
78	27	2.338	0.000	1.295	0.005
80	28	2.327	0.001	1.284	0.006
81	8	0.073	0.001	0.039	0.003
82	6	0.062	0.001	0.029	0.000
82	13	0.219	0.001	0.115	0.003
82	21	0.952	0.003	0.488	0.000
82	32	2.334	0.001	1.306	0.000
84	5	0.151	0.001	0.080	0.001
86	5	0.121	0.001	0.068	0.001
86	14	0.793	0.009	0.390	0.001
86	30	2.295	0.004	1.265	0.005
88	17	0.712	0.005	0.352	0.006
88	31	2.221	0.009	1.223	0.004
90	7	0.150	0.000	0.081	0.001
90	20	0.708	0.002	0.364	0.004
92	14	0.216	0.006	0.113	0.003
92	16	0.302	0.000	0.159	0.001
92	26	2.207	0.003	1.188	0.000
92	32	2.222	0.003	1.248	0.004
94	5	0.324	0.003	0.165	0.001
94	15	0.770	0.002	0.381	0.001
94	26	2.312	0.003	1.261	0.006

Table 6. Replicate dissolved CFC-11 and CFC-12 analyses (continued)

Station	Bottle	CFC-11 (pmol/kg)	CFC-11 Stdev	CFC-12 (pmol/kg)	CFC-12 Stdev
96	6	0.410	0.001	0.206	0.000
96	28	2.319	0.023	1.288	0.016
98	6	0.614	0.004	0.298	0.001
98	18	0.321	0.002	0.167	0.003
98	26	2.321	0.004	1.270	0.007
100	16	0.997	0.006	0.486	0.004
100	25	2.251	0.125	1.227	0.093
102	15	0.990	0.004	0.486	0.002
102	24	2.197	0.066	1.196	0.042
104	3	0.508	0.003	0.248	0.006
104	29	2.303	0.000	1.263	0.003
106	18	0.269	0.001	0.142	0.000
108	16	0.972	0.004	0.476	0.001
108	26	2.321	0.011	1.271	0.003
110	3	0.515	0.005	0.253	0.000
110	32	2.284	0.017	1.294	0.010
112	18	0.331	0.001	0.167	0.001
112	30	2.074	0.004	1.190	0.004
114	2	0.524	0.178	0.259	0.078
114	13	1.245	0.007	0.609	0.001
114	24	2.370	0.019	1.328	0.010
116	8	0.610	0.122	0.301	0.061
116	16	1.190	0.001	0.585	0.004
116	26	2.192	0.002	1.198	0.013
118	10	0.862	0.368	0.420	0.180
118	12	1.164	0.008	0.568	0.001
118	22	2.265	0.001	1.238	0.001
120	16	1.655	0.371	0.867	0.204
120	20	2.224	0.117	1.248	0.040
125	10	1.673	0.001	0.891	0.001
125	22	1.715	0.004	1.005	0.001
129	7	2.069	0.008	1.180	0.007

Table 7. Replicate dissolved CFC-113 and CCl_4 analyses

Station	Bottle	CFC-113 (pmol/kg)	CFC-113 Stdev	CCl_4 (pmol/kg)	CCl_4 Stdev
3	9	0.043	0.024	-9.000	-9.000
5	6	0.002	0.006	-9.000	-9.000
7	14	0.018	0.006	-9.000	-9.000
7	28	0.178	0.008	-9.000	-9.000
8	27	0.056	0.006	-9.000	-9.000
9	6	0.000	0.000	-9.000	-9.000
9	30	0.174	0.008	-9.000	-9.000
11	12	-0.003	0.001	-9.000	-9.000
11	18	0.001	0.004	-9.000	-9.000
11	33	0.156	0.008	-9.000	-9.000
13	28	0.055	0.004	-9.000	-9.000
14	6	0.000	0.000	-9.000	-9.000
14	32	0.172	0.005	-9.000	-9.000
16	19	0.000	0.000	-9.000	-9.000
16	30	0.051	0.001	-9.000	-9.000
19	5	0.001	0.001	-9.000	-9.000
19	29	0.029	0.008	-9.000	-9.000
21	19	-0.004	0.000	-9.000	-9.000
22	5	0.001	0.001	-9.000	-9.000
22	17	-0.004	0.005	-9.000	-9.000
22	34	0.157	0.008	-9.000	-9.000
24	1	-0.002	0.001	-9.000	-9.000
24	18	-0.005	0.002	-9.000	-9.000
24	22	-0.001	0.006	-9.000	-9.000
24	35	0.163	0.007	-9.000	-9.000
26	2	-0.002	0.001	-9.000	-9.000
26	12	0.006	0.001	-9.000	-9.000
26	14	0.005	0.007	-9.000	-9.000
26	24	0.023	0.004	-9.000	-9.000
26	35	0.166	0.002	-9.000	-9.000
28	9	-0.006	0.001	-9.000	-9.000
28	17	0.001	0.002	-9.000	-9.000
28	22	0.004	0.002	-9.000	-9.000
28	30	0.059	0.004	-9.000	-9.000
29	2	-0.004	0.002	-9.000	-9.000
29	23	0.015	0.005	-9.000	-9.000
30	1	-0.003	0.004	-9.000	-9.000
30	19	-0.001	0.001	-9.000	-9.000
30	28	0.031	0.005	-9.000	-9.000
30	35	0.176	0.001	-9.000	-9.000
31	30	0.039	0.002	-9.000	-9.000
32	1	-0.005	0.001	-9.000	-9.000
32	20	-0.002	0.010	-9.000	-9.000
32	34	0.160	0.011	-9.000	-9.000

Table 7. Replicate dissolved CFC-113 and CCl_4 analyses (continued)

Station	Bottle	CFC-113 (pmol/kg)	CFC-113 Stdev	CCl_4 (pmol/kg)	CCl_4 Stdev
33	1	-9.000	-9.000	0.031	0.001
33	26	-9.000	-9.000	0.451	0.002
33	35	-9.000	-9.000	1.912	0.046
34	21	0.004	0.004	-9.000	-9.000
34	34	0.169	0.006	-9.000	-9.000
35	4	-0.003	0.000	-9.000	-9.000
35	18	-0.009	0.002	-9.000	-9.000
35	33	0.140	0.004	-9.000	-9.000
36	2	-0.002	0.004	-9.000	-9.000
36	3	-9.000	-9.000	0.021	0.002
36	14	-0.004	0.000	-9.000	-9.000
36	18	-9.000	-9.000	0.086	0.006
36	33	-9.000	-9.000	1.095	0.032
36	34	0.154	0.003	-9.000	-9.000
37	21	0.002	0.005	-9.000	-9.000
37	31	0.067	0.001	-9.000	-9.000
38	12	0.002	0.001	-9.000	-9.000
38	22	0.011	0.005	-9.000	-9.000
38	30	0.038	0.003	-9.000	-9.000
39	7	-0.001	0.001	-9.000	-9.000
39	10	-9.000	-9.000	0.022	0.006
39	24	0.032	0.001	-9.000	-9.000
39	29	-9.000	-9.000	0.566	0.008
40	1	-0.001	0.001	-9.000	-9.000
40	22	0.021	0.002	-9.000	-9.000
40	28	0.031	0.001	-9.000	-9.000
42	4	0.001	0.001	-9.000	-9.000
42	26	0.029	0.001	-9.000	-9.000
42	34	0.182	0.012	-9.000	-9.000
43	1	-9.000	-9.000	0.035	0.001
43	19	-9.000	-9.000	0.227	0.013
43	34	-9.000	-9.000	1.036	0.016
44	33	0.154	0.001	-9.000	-9.000
46	6	-0.001	0.001	-9.000	-9.000
46	20	0.008	0.001	-9.000	-9.000
46	32	0.091	0.006	-9.000	-9.000
47	1	-9.000	-9.000	0.028	0.001
47	31	-9.000	-9.000	0.956	0.011
48	1	0.003	0.001	-9.000	-9.000
48	3	0.002	0.002	-9.000	-9.000
48	20	0.002	0.001	-9.000	-9.000
48	31	0.112	0.008	-9.000	-9.000
48	34	0.188	0.013	-9.000	-9.000
50	20	0.009	0.001	-9.000	-9.000

Table 7. Replicate dissolved CFC-113 and CCl_4 analyses (continued)

Station	Bottle	CFC-113 (pmol/kg)	CFC-113 Stdev	CCl_4 (pmol/kg)	CCl_4 Stdev
50	30	0.023	0.033	-9.000	-9.000
51	1	-9.000	-9.000	0.067	0.013
51	17	-9.000	-9.000	0.230	0.009
51	26	-9.000	-9.000	0.442	0.042
52	14	0.005	0.005	-9.000	-9.000
52	23	0.017	0.004	-9.000	-9.000
54	4	0.001	0.002	-9.000	-9.000
54	16	0.005	0.001	-9.000	-9.000
54	28	0.031	0.004	-9.000	-9.000
54	34	0.182	0.025	-9.000	-9.000
56	23	0.010	0.006	-9.000	-9.000
56	27	-9.000	-9.000	0.451	0.012
58	1	0.002	0.003	-9.000	-9.000
58	14	0.008	0.002	-9.000	-9.000
58	23	0.020	0.000	-9.000	-9.000
58	32	0.081	0.003	-9.000	-9.000
60	2	0.002	0.001	-9.000	-9.000
60	5	-9.000	-9.000	0.130	0.008
60	16	0.007	0.001	-9.000	-9.000
60	26	0.035	0.003	-9.000	-9.000
60	33	-9.000	-9.000	1.077	0.017
62	2	0.006	0.001	-9.000	-9.000
62	14	0.005	0.001	-9.000	-9.000
62	28	0.035	0.001	-9.000	-9.000
64	1	-9.000	-9.000	0.127	0.006
64	2	-9.000	-9.000	0.131	0.003
64	18	0.006	0.002	-9.000	-9.000
64	33	-9.000	-9.000	0.844	0.039
66	1	0.006	0.002	-9.000	-9.000
66	20	0.008	0.002	-9.000	-9.000
66	30	0.035	0.006	-9.000	-9.000
68	1	-9.000	-9.000	0.199	0.004
68	3	-9.000	-9.000	0.190	0.001
68	33	0.162	0.008	-9.000	-9.000
70	1	-0.002	0.002	-9.000	-9.000
70	20	0.005	0.001	-9.000	-9.000
70	22	0.013	0.006	-9.000	-9.000
70	32	0.038	0.009	-9.000	-9.000
72	1	-9.000	-9.000	0.205	0.001
72	4	-9.000	-9.000	0.408	0.004
72	14	-9.000	-9.000	0.342	0.181
72	17	-9.000	-9.000	0.451	0.011
72	21	0.006	0.001	-9.000	-9.000
72	35	-9.000	-9.000	1.935	0.043

Table 7. Replicate dissolved CFC-113 and CCl_4 analyses (continued)

Station	Bottle	CFC-113 (pmol/kg)	CFC-113 Stdev	CCl_4 (pmol/kg)	CCl_4 Stdev
74	4	-9.000	-9.000	0.327	0.008
74	5	0.012	0.001	-9.000	-9.000
74	16	0.011	0.001	-9.000	-9.000
74	32	0.078	0.007	-9.000	-9.000
76	2	0.007	0.001	-9.000	-9.000
76	4	-9.000	-9.000	0.294	0.004
76	8	-9.000	-9.000	0.143	0.005
76	25	-9.000	-9.000	0.436	0.003
78	2	0.007	0.001	-9.000	-9.000
78	16	0.008	0.001	-9.000	-9.000
78	27	0.035	0.000	-9.000	-9.000
80	13	-9.000	-9.000	0.944	0.016
80	28	0.039	0.005	-9.000	-9.000
80	33	-9.000	-9.000	0.822	0.010
81	8	0.006	0.001	-9.000	-9.000
82	6	0.004	0.002	-9.000	-9.000
82	13	0.008	0.002	-9.000	-9.000
82	21	0.012	0.001	-9.000	-9.000
82	32	0.056	0.001	-9.000	-9.000
84	4	-9.000	-9.000	0.455	0.006
84	5	0.010	0.006	-9.000	-9.000
84	34	-9.000	-9.000	1.751	0.012
86	5	0.005	0.003	-9.000	-9.000
86	14	0.030	0.001	-9.000	-9.000
86	30	0.024	0.003	-9.000	-9.000
88	4	-9.000	-9.000	0.533	0.011
88	17	0.022	0.002	-9.000	-9.000
88	31	0.030	0.006	-9.000	-9.000
88	33	-9.000	-9.000	0.463	0.006
90	4	-9.000	-9.000	0.865	0.006
90	7	0.006	0.005	-9.000	-9.000
90	20	0.010	0.000	-9.000	-9.000
92	5	-9.000	-9.000	0.654	0.294
92	14	0.005	0.003	-9.000	-9.000
92	16	0.008	0.003	-9.000	-9.000
92	26	0.026	0.004	-9.000	-9.000
92	32	0.055	0.005	-9.000	-9.000
94	5	0.020	0.001	-9.000	-9.000
94	6	-9.000	-9.000	0.884	0.002
94	15	0.033	0.002	-9.000	-9.000
94	26	0.027	0.003	-9.000	-9.000
96	4	-9.000	-9.000	0.988	0.001
96	6	0.018	0.001	-9.000	-9.000
96	28	0.037	0.001	-9.000	-9.000

Table 7. Replicate dissolved CFC-113 and CCl_4 analyses (continued)

Station	Bottle	CFC-113 (pmol/kg)	CFC-113 Stdev	CCl_4 (pmol/kg)	CCl_4 Stdev
98	4	-9.000	-9.000	1.169	0.028
98	6	0.024	0.000	-9.000	-9.000
98	18	0.010	0.006	-9.000	-9.000
98	26	0.033	0.008	-9.000	-9.000
100	4	-9.000	-9.000	1.051	0.006
100	16	0.036	0.001	-9.000	-9.000
100	25	0.037	0.008	-9.000	-9.000
102	6	-9.000	-9.000	1.135	0.006
102	15	0.043	0.001	-9.000	-9.000
102	24	0.041	0.004	-9.000	-9.000
104	3	0.032	0.007	-9.000	-9.000
104	4	-9.000	-9.000	1.105	0.007
104	29	0.021	0.001	-9.000	-9.000
104	32	-9.000	-9.000	0.607	0.318
104	34	-9.000	-9.000	2.017	0.059
106	12	-9.000	-9.000	1.044	0.000
106	18	0.003	0.001	-9.000	-9.000
108	16	0.039	0.006	-9.000	-9.000
108	26	0.022	0.003	-9.000	-9.000
110	3	0.028	0.001	-9.000	-9.000
110	5	-9.000	-9.000	1.249	0.013
110	26	-9.000	-9.000	0.639	0.012
110	32	0.103	0.005	-9.000	-9.000
112	18	0.006	0.007	-9.000	-9.000
112	30	0.164	0.004	-9.000	-9.000
114	2	0.028	0.001	-9.000	-9.000
114	4	-9.000	-9.000	1.241	0.020
114	6	-9.000	-9.000	1.129	0.028
114	13	0.055	0.001	-9.000	-9.000
114	24	0.059	0.001	-9.000	-9.000
116	8	0.021	0.007	-9.000	-9.000
116	10	-9.000	-9.000	0.996	0.002
116	16	0.052	0.001	-9.000	-9.000
116	26	0.030	0.001	-9.000	-9.000
118	4	-9.000	-9.000	1.128	0.026
118	10	0.049	0.017	-9.000	-9.000
118	12	0.058	0.007	-9.000	-9.000
118	22	0.033	0.002	-9.000	-9.000
120	16	0.017	0.005	-9.000	-9.000
120	20	0.045	0.035	0.429	0.015
125	8	-9.000	-9.000	0.270	0.008
125	22	0.145	0.003	-9.000	-9.000
129	7	0.136	0.003	-9.000	-9.000
130	6	-9.000	-9.000	2.107	0.021

Table 8. CFC air measurements

Date	GMT (hhmm)	Latitude (˚N)	Longitude (˚W)	CFC-11 (ppt)	CFC-12 (ppt)	CFC-113 (ppt)	CCl_4 (ppt)
24-Jan-98	1840	27.433	14.850	259.836	535.550	79.192	-9.000
24-Jan-98	1851	27.433	14.851	260.321	537.726	79.103	-9.000
24-Jan-98	1902	27.433	14.851	261.361	534.915	77.644	-9.000
24-Jan-98	1913	27.433	14.851	261.377	536.906	77.760	-9.000
24-Jan-98	1924	27.424	14.891	262.772	537.277	77.314	-9.000
27-Jan-98	1946	24.909	22.448	262.927	540.885	79.736	-9.000
27-Jan-98	1956	24.876	22.532	263.902	543.954	82.513	-9.000
27-Jan-98	2006	24.871	22.547	263.581	547.197	78.311	-9.000
27-Jan-98	2026	24.840	22.632	263.681	548.454	79.922	-9.000
27-Jan-98	2036	24.834	22.646	264.611	549.683	78.559	-9.000
27-Jan-98	2046	24.834	22.646	265.075	549.246	77.953	-9.000
28-Jan-98	2106	24.500	24.961	263.434	537.866	79.534	-9.000
28-Jan-98	2116	24.501	25.026	262.535	538.353	77.246	-9.000
28-Jan-98	2126	24.503	25.062	263.367	540.686	78.619	-9.000
28-Jan-98	2146	24.504	25.080	262.361	538.433	78.813	-9.000
28-Jan-98	2156	24.503	25.182	259.377	534.339	79.203	-9.000
28-Jan-98	2206	24.503	25.199	259.908	536.414	77.986	-9.000
29-Jan-98	1239	24.500	26.755	265.207	539.051	77.299	-9.000
29-Jan-98	1309	24.499	26.869	264.325	543.569	81.042	-9.000
29-Jan-98	1319	24.501	26.932	265.751	543.250	81.041	-9.000
29-Jan-98	1329	24.501	26.966	261.947	539.318	81.010	-9.000
29-Jan-98	1339	24.500	26.983	264.225	543.042	78.873	-9.000
29-Jan-98	1420	24.500	27.146	265.708	542.256	81.572	-9.000
31-Jan-98	2100	24.500	32.733	260.684	533.662	80.721	-9.000
31-Jan-98	2110	24.500	32.733	262.469	537.215	80.101	-9.000
31-Jan-98	2120	24.500	32.733	260.907	533.539	78.561	-9.000
31-Jan-98	2150	24.500	32.750	258.837	532.814	77.423	-9.000
31-Jan-98	2200	24.500	32.784	263.848	541.865	77.622	-9.000
31-Jan-98	2210	24.500	32.801	259.333	532.263	77.621	-9.000
1-Feb-98	1413	24.502	34.383	-9.000	-9.000	-9.000	89.351
1-Feb-98	1433	24.502	34.383	-9.000	-9.000	-9.000	85.866
1-Feb-98	1453	24.502	34.383	-9.000	-9.000	-9.000	84.658
3-Feb-98	1515	24.500	39.983	262.053	536.784	79.448	-9.000
3-Feb-98	1525	24.498	39.996	262.736	536.844	78.944	-9.000
3-Feb-98	1535	24.498	40.029	261.965	536.178	78.790	-9.000
3-Feb-98	1545	24.498	40.029	261.492	536.176	79.798	-9.000
3-Feb-98	1615	24.501	40.143	262.094	539.114	77.696	-9.000
3-Feb-98	1625	24.501	40.240	261.884	539.831	78.942	-9.000
3-Feb-98	1803	24.500	40.533	-9.000	-9.000	-9.000	94.672
3-Feb-98	1823	24.500	40.533	-9.000	-9.000	-9.000	93.793
4-Feb-98	734	41.633	40.533	-9.000	-9.000	-9.000	92.265
4-Feb-98	754	41.633	40.533	-9.000	-9.000	-9.000	94.492
4-Feb-98	834	41.633	40.533	-9.000	-9.000	-9.000	91.098
4-Feb-98	854	41.633	40.533	-9.000	-9.000	-9.000	93.565

Table 8. CFC air measurements (continued)

Date	GMT (hhmm)	Latitude (˚N)	Longitude (˚W)	CFC-11 (ppt)	CFC-12 (ppt)	CFC-113 (ppt)	CCl_4 (ppt)
6-Feb-98	1137	24.500	47.134	-9.000	-9.000	-9.000	94.687
6-Feb-98	1157	24.500	47.134	-9.000	-9.000	-9.000	92.685
6-Feb-98	1237	24.500	47.134	-9.000	-9.000	-9.000	91.974
6-Feb-98	1257	24.500	47.134	-9.000	-9.000	-9.000	93.088
7-Feb-98	1224	24.500	49.333	262.958	538.920	79.104	-9.000
7-Feb-98	1234	24.500	49.333	261.579	540.095	80.068	-9.000
7-Feb-98	1244	24.500	49.333	261.338	538.346	79.588	-9.000
7-Feb-98	1314	24.500	49.333	265.800	540.404	81.139	-9.000
7-Feb-98	1324	24.500	49.333	262.774	539.189	79.657	-9.000
7-Feb-98	1334	24.500	49.333	262.934	539.476	79.559	-9.000
7-Feb-98	1531	24.500	49.461	258.404	531.774	78.156	-9.000
8-Feb-98	1914	24.501	51.533	261.171	537.612	80.509	-9.000
8-Feb-98	1924	24.500	51.533	262.143	538.129	79.696	-9.000
8-Feb-98	1934	24.499	51.546	265.034	538.779	80.208	-9.000
8-Feb-98	2004	24.500	51.636	262.012	536.424	80.017	-9.000
8-Feb-98	2014	24.500	51.636	261.953	537.730	79.940	-9.000
8-Feb-98	2024	24.499	51.699	263.807	538.928	79.901	-9.000
8-Feb-98	2056	24.501	51.533	-9.000	-9.000	-9.000	95.090
8-Feb-98	2116	24.501	51.533	-9.000	-9.000	-9.000	93.306
8-Feb-98	2156	24.501	51.533	-9.000	-9.000	-9.000	93.817
8-Feb-98	2216	24.501	51.533	-9.000	-9.000	-9.000	91.694
9-Feb-98	2244	24.502	53.784	261.719	537.661	81.545	-9.000
9-Feb-98	2254	24.504	53.851	262.597	539.557	80.872	-9.000
9-Feb-98	2304	24.504	53.880	261.726	537.667	79.912	-9.000
9-Feb-98	2324	24.503	53.956	264.344	541.163	80.720	-9.000
9-Feb-98	2334	24.502	53.987	262.269	536.927	80.020	-9.000
9-Feb-98	2344	24.502	53.987	262.205	536.721	80.565	-9.000
10-Feb-98	2032	24.500	55.933	-9.000	-9.000	-9.000	94.388
10-Feb-98	2052	24.500	55.933	-9.000	-9.000	-9.000	93.208
10-Feb-98	2112	24.500	55.933	-9.000	-9.000	-9.000	92.775
10-Feb-98	2132	24.500	55.933	-9.000	-9.000	-9.000	91.823
11-Feb-98	339	24.500	56.667	-9.000	-9.000	-9.000	94.978
11-Feb-98	359	24.500	56.667	-9.000	-9.000	-9.000	95.100
11-Feb-98	439	24.500	56.667	-9.000	-9.000	-9.000	93.361
11-Feb-98	459	24.500	56.667	-9.000	-9.000	-9.000	94.658
11-Feb-98	2204	24.500	58.134	-9.000	-9.000	-9.000	96.657
11-Feb-98	2224	24.500	58.134	-9.000	-9.000	-9.000	96.483
11-Feb-98	2244	24.500	58.134	-9.000	-9.000	-9.000	96.476
13-Feb-98	115	24.500	61.067	262.315	536.445	81.119	-9.000
13-Feb-98	125	24.500	61.067	262.475	538.298	82.255	-9.000
13-Feb-98	135	24.500	61.067	261.623	538.645	80.140	-9.000
13-Feb-98	155	24.506	61.071	261.686	538.295	79.729	-9.000
13-Feb-98	205	24.505	61.105	262.698	538.700	80.228	-9.000
13-Feb-98	215	24.505	61.105	261.676	536.758	79.115	-9.000

Table 8. CFC air measurements (continued)

Date	GMT (hhmm)	Latitude (˚N)	Longitude (˚W)	CFC-11 (ppt)	CFC-12 (ppt)	CFC-113 (ppt)	CCl_4 (ppt)
13-Feb-98	229	24.500	61.801	-9.000	-9.000	-9.000	93.299
13-Feb-98	249	24.500	61.801	-9.000	-9.000	-9.000	94.033
13-Feb-98	329	24.500	61.801	-9.000	-9.000	-9.000	94.533
13-Feb-98	349	24.500	61.801	-9.000	-9.000	-9.000	95.347
14-Feb-98	1944	24.500	65.468	262.707	539.047	80.631	-9.000
14-Feb-98	1954	24.500	65.467	262.465	538.199	81.209	-9.000
14-Feb-98	2004	24.501	65.467	262.275	536.354	80.125	-9.000
14-Feb-98	2024	24.500	65.467	262.132	536.824	80.285	-9.000
14-Feb-98	2034	24.501	65.467	262.028	537.808	80.243	-9.000
14-Feb-98	2044	24.501	65.467	262.004	537.114	80.121	-9.000
16-Feb-98	146	24.504	68.440	262.523	540.348	80.763	-9.000
16-Feb-98	156	24.503	68.544	263.901	539.621	81.137	-9.000
16-Feb-98	206	24.502	68.562	261.984	538.864	79.805	-9.000
16-Feb-98	226	24.498	68.666	263.276	540.683	79.877	-9.000
16-Feb-98	236	24.498	68.684	263.034	541.216	79.900	-9.000
16-Feb-98	246	24.498	68.684	263.002	541.274	80.052	-9.000
16-Feb-98	250	24.500	69.133	-9.000	-9.000	-9.000	94.950
16-Feb-98	310	24.500	69.133	-9.000	-9.000	-9.000	95.214
16-Feb-98	330	24.500	69.133	-9.000	-9.000	-9.000	93.795
19-Feb-98	25	26.500	73.216	262.293	538.847	80.539	-9.000
19-Feb-98	35	26.500	73.217	262.142	538.710	80.844	-9.000
19-Feb-98	45	26.500	73.217	261.824	539.329	80.451	-9.000
19-Feb-98	55	26.501	73.309	262.074	540.199	80.325	-9.000
19-Feb-98	110	26.500	73.583	-9.000	-9.000	-9.000	96.505
19-Feb-98	130	26.500	73.583	-9.000	-9.000	-9.000	96.064
19-Feb-98	150	26.500	73.583	-9.000	-9.000	-9.000	95.901
19-Feb-98	210	26.500	73.583	-9.000	-9.000	-9.000	94.810
20-Feb-98	1324	26.500	75.500	-9.000	-9.000	-9.000	96.687
20-Feb-98	1344	26.500	75.500	-9.000	-9.000	-9.000	95.869
20-Feb-98	1424	26.500	75.500	-9.000	-9.000	-9.000	95.886
20-Feb-98	1444	26.500	75.500	-9.000	-9.000	-9.000	95.399
20-Feb-98	2333	26.500	75.900	-9.000	-9.000	-9.000	96.398
20-Feb-98	2353	26.500	75.900	-9.000	-9.000	-9.000	95.629
21-Feb-98	1549	26.510	76.427	262.483	540.744	80.515	-9.000
21-Feb-98	1559	26.510	76.428	262.273	539.635	80.446	-9.000
21-Feb-98	1609	26.511	76.428	262.793	541.135	80.816	-9.000
21-Feb-98	1629	26.514	76.431	262.827	538.937	79.301	-9.000
21-Feb-98	1639	26.516	76.434	263.024	538.655	78.736	-9.000
21-Feb-98	1649	26.508	76.482	262.900	538.355	79.284	-9.000
22-Feb-98	108	26.500	76.617	261.254	537.878	79.587	-9.000
22-Feb-98	152	26.500	76.683	260.123	536.113	78.455	-9.000
22-Feb-98	234	26.500	76.683	-9.000	-9.000	-9.000	96.873
22-Feb-98	254	26.500	76.683	-9.000	-9.000	-9.000	96.657
23-Feb-98	237	26.111	78.494	264.570	540.167	81.155	-9.000

Table 8. CFC air measurements (continued)

Date	GMT (hhmm)	Latitude (˚N)	Longitude (˚W)	CFC-11 (ppt)	CFC-12 (ppt)	CFC-113 (ppt)	CCl_4 (ppt)
23-Feb-98	247	26.111	78.494	264.310	539.409	80.459	-9.000
23-Feb-98	257	26.163	78.587	262.826	539.090	79.707	-9.000
23-Feb-98	307	26.168	78.606	262.319	538.885	79.498	-9.000
23-Feb-98	337	26.171	78.731	262.246	539.018	79.676	-9.000
23-Feb-98	539	27.001	79.200	-9.000	-9.000	-9.000	93.798
23-Feb-98	559	27.001	79.200	-9.000	-9.000	-9.000	93.073
23-Feb-98	619	27.001	79.200	-9.000	-9.000	-9.000	93.724
23-Feb-98	1401	27.038	79.481	-9.000	-9.000	-9.000	97.231
23-Feb-98	1421	27.038	79.481	-9.000	-9.000	-9.000	96.196
23-Feb-98	1441	27.038	79.481	-9.000	-9.000	-9.000	95.753
24-Feb-98	250	26.999	79.937	-9.000	-9.000	-9.000	97.861
24-Feb-98	310	26.999	79.937	-9.000	-9.000	-9.000	97.393

Table 9. CFC air values (interpolated to station locations)

Station	Date	Latitude (˚N)	Longitude (˚W)	CFC-11 (ppt)	CFC-12 (ppt)	CFC-113 (ppt)	CCl_4 (ppt)
6	24-Jan-98	27.433	14.850	259.836	535.550	79.192	-9.000
7	24-Jan-98	27.433	14.851	260.321	537.726	79.103	-9.000
7	24-Jan-98	27.433	14.851	261.361	534.915	77.644	-9.000
7	24-Jan-98	27.433	14.851	261.377	536.906	77.760	-9.000
7	24-Jan-98	27.424	14.891	262.772	537.277	77.314	-9.000
20	27-Jan-98	24.909	22.448	262.927	540.885	79.736	-9.000
20	27-Jan-98	24.876	22.532	263.902	543.954	82.513	-9.000
20	27-Jan-98	24.871	22.547	263.581	547.197	78.311	-9.000
20	27-Jan-98	24.840	22.632	263.681	548.454	79.922	-9.000
20	27-Jan-98	24.834	22.646	264.611	549.683	78.559	-9.000
20	27-Jan-98	24.834	22.646	265.075	549.246	77.953	-9.000
24	28-Jan-98	24.500	24.961	263.434	537.866	79.534	-9.000
24	28-Jan-98	24.501	25.026	262.535	538.353	77.246	-9.000
24	28-Jan-98	24.503	25.062	263.367	540.686	78.619	-9.000
24	28-Jan-98	24.504	25.080	262.361	538.433	78.813	-9.000
24	28-Jan-98	24.503	25.182	259.377	534.339	79.203	-9.000
24	28-Jan-98	24.503	25.199	259.908	536.414	77.986	-9.000
26	29-Jan-98	24.500	26.755	265.207	539.051	77.299	-9.000
26	29-Jan-98	24.499	26.869	264.325	543.569	81.042	-9.000
26	29-Jan-98	24.501	26.932	265.751	543.250	81.041	-9.000
26	29-Jan-98	24.501	26.966	261.947	539.318	81.010	-9.000
26	29-Jan-98	24.500	26.983	264.225	543.042	78.873	-9.000
26	29-Jan-98	24.500	27.146	265.708	542.256	81.572	-9.000
34	31-Jan-98	24.500	32.733	260.684	533.662	80.721	-9.000
34	31-Jan-98	24.500	32.733	262.469	537.215	80.101	-9.000
34	31-Jan-98	24.500	32.733	260.907	533.539	78.561	-9.000
34	31-Jan-98	24.500	32.750	258.837	532.814	77.423	-9.000
34	31-Jan-98	24.500	32.784	263.848	541.865	77.622	-9.000
34	31-Jan-98	24.500	32.801	259.333	532.263	77.621	-9.000
36	1-Feb-98	24.502	34.383	-9.000	-9.000	-9.000	89.351
36	1-Feb-98	24.502	34.383	-9.000	-9.000	-9.000	85.866
36	1-Feb-98	24.502	34.383	-9.000	-9.000	-9.000	84.658
42	3-Feb-98	24.500	39.983	262.053	536.784	79.448	-9.000
42	3-Feb-98	24.498	39.996	262.736	536.844	78.944	-9.000
42	3-Feb-98	24.498	40.029	261.965	536.178	78.790	-9.000
42	3-Feb-98	24.498	40.029	261.492	536.176	79.798	-9.000
42	3-Feb-98	24.501	40.143	262.094	539.114	77.696	-9.000
42	3-Feb-98	24.501	40.240	261.884	539.831	78.942	-9.000
44	3-Feb-98	24.500	40.533	-9.000	-9.000	-9.000	94.672
44	3-Feb-98	24.500	40.533	-9.000	-9.000	-9.000	93.793
44	4-Feb-98	41.633	40.533	-9.000	-9.000	-9.000	92.265
44	4-Feb-98	41.633	40.533	-9.000	-9.000	-9.000	94.492
44	4-Feb-98	41.633	40.533	-9.000	-9.000	-9.000	91.098
44	4-Feb-98	41.633	40.533	-9.000	-9.000	-9.000	93.565

Table 9. CFC air values (interpolated to station locations, continued)

Station	Date	Latitude (˚N)	Longitude (˚W)	CFC-11 (ppt)	CFC-12 (ppt)	CFC-113 (ppt)	CCl_4 (ppt)
56	6-Feb-98	24.500	47.134	-9.000	-9.000	-9.000	94.687
56	6-Feb-98	24.500	47.134	-9.000	-9.000	-9.000	92.685
56	6-Feb-98	24.500	47.134	-9.000	-9.000	-9.000	91.974
56	6-Feb-98	24.500	47.134	-9.000	-9.000	-9.000	93.088
60	7-Feb-98	24.500	49.333	262.958	538.920	79.104	-9.000
60	7-Feb-98	24.500	49.333	261.579	540.095	80.068	-9.000
60	7-Feb-98	24.500	49.333	261.338	538.346	79.588	-9.000
60	7-Feb-98	24.500	49.333	265.800	540.404	81.139	-9.000
60	7-Feb-98	24.500	49.333	262.774	539.189	79.657	-9.000
60	7-Feb-98	24.500	49.333	262.934	539.476	79.559	-9.000
60	7-Feb-98	24.500	49.461	258.404	531.774	78.156	-9.000
64	8-Feb-98	24.501	51.533	261.171	537.612	80.509	-9.000
64	8-Feb-98	24.500	51.533	262.143	538.129	79.696	-9.000
64	8-Feb-98	24.499	51.546	265.034	538.779	80.208	-9.000
64	8-Feb-98	24.500	51.636	262.012	536.424	80.017	-9.000
64	8-Feb-98	24.500	51.636	261.953	537.730	79.940	-9.000
64	8-Feb-98	24.499	51.699	263.807	538.928	79.901	-9.000
64	8-Feb-98	24.501	51.533	-9.000	-9.000	-9.000	95.090
64	8-Feb-98	24.501	51.533	-9.000	-9.000	-9.000	93.306
64	8-Feb-98	24.501	51.533	-9.000	-9.000	-9.000	93.817
64	8-Feb-98	24.501	51.533	-9.000	-9.000	-9.000	91.694
58	9-Feb-98	24.502	53.784	261.719	537.661	81.545	-9.000
58	9-Feb-98	24.504	53.851	262.597	539.557	80.872	-9.000
58	9-Feb-98	24.504	53.880	261.726	537.667	79.912	-9.000
58	9-Feb-98	24.503	53.956	264.344	541.163	80.720	-9.000
58	9-Feb-98	24.502	53.987	262.269	536.927	80.020	-9.000
58	9-Feb-98	24.502	53.987	262.205	536.721	80.565	-9.000
71	10-Feb-98	24.500	55.933	-9.000	-9.000	-9.000	94.388
71	10-Feb-98	24.500	55.933	-9.000	-9.000	-9.000	93.208
71	10-Feb-98	24.500	55.933	-9.000	-9.000	-9.000	92.775
71	10-Feb-98	24.500	55.933	-9.000	-9.000	-9.000	91.823
72	11-Feb-98	24.500	56.667	-9.000	-9.000	-9.000	94.978
72	11-Feb-98	24.500	56.667	-9.000	-9.000	-9.000	95.100
72	11-Feb-98	24.500	56.667	-9.000	-9.000	-9.000	93.361
72	11-Feb-98	24.500	56.667	-9.000	-9.000	-9.000	94.658
74	11-Feb-98	24.500	58.134	-9.000	-9.000	-9.000	96.657
74	11-Feb-98	24.500	58.134	-9.000	-9.000	-9.000	96.483
74	11-Feb-98	24.500	58.134	-9.000	-9.000	-9.000	96.476
79	13-Feb-98	24.500	61.067	262.315	536.445	81.119	-9.000
79	13-Feb-98	24.500	61.067	262.475	538.298	82.255	-9.000
79	13-Feb-98	24.500	61.067	261.623	538.645	80.140	-9.000
79	13-Feb-98	24.506	61.071	261.686	538.295	79.729	-9.000
79	13-Feb-98	24.505	61.105	262.698	538.700	80.228	-9.000
79	13-Feb-98	24.505	61.105	261.676	536.758	79.115	-9.000

Table 9. CFC air values (interpolated to station locations, continued)

Station	Date	Latitude (°N)	Longitude (°W)	CFC-11 (ppt)	CFC-12 (ppt)	CFC-113 (ppt)	CCl_4 (ppt)
79	13-Feb-98	24.500	61.801	-9.000	-9.000	-9.000	93.299
79	13-Feb-98	24.500	61.801	-9.000	-9.000	-9.000	94.033
79	13-Feb-98	24.500	61.801	-9.000	-9.000	-9.000	94.533
79	13-Feb-98	24.500	61.801	-9.000	-9.000	-9.000	95.347
84	14-Feb-98	24.500	65.468	262.707	539.047	80.631	-9.000
84	14-Feb-98	24.500	65.467	262.465	538.199	81.209	-9.000
84	14-Feb-98	24.501	65.467	262.275	536.354	80.125	-9.000
84	14-Feb-98	24.500	65.467	262.132	536.824	80.285	-9.000
84	14-Feb-98	24.501	65.467	262.028	537.808	80.243	-9.000
84	14-Feb-98	24.501	65.467	262.004	537.114	80.121	-9.000
88	16-Feb-98	24.504	68.440	262.523	540.348	80.763	-9.000
88	16-Feb-98	24.503	68.544	263.901	539.621	81.137	-9.000
88	16-Feb-98	24.502	68.562	261.984	538.864	79.805	-9.000
88	16-Feb-98	24.498	68.666	263.276	540.683	79.877	-9.000
88	16-Feb-98	24.498	68.684	263.034	541.216	79.900	-9.000
88	16-Feb-98	24.498	68.684	263.002	541.274	80.052	-9.000
89	16-Feb-98	24.500	69.133	-9.000	-9.000	-9.000	94.950
89	16-Feb-98	24.500	69.133	-9.000	-9.000	-9.000	95.214
89	16-Feb-98	24.500	69.133	-9.000	-9.000	-9.000	93.795
100	19-Feb-98	26.500	73.216	262.293	538.847	80.539	-9.000
100	19-Feb-98	26.500	73.217	262.142	538.710	80.844	-9.000
100	19-Feb-98	26.500	73.217	261.824	539.329	80.451	-9.000
100	19-Feb-98	26.501	73.309	262.074	540.199	80.325	-9.000
101	19-Feb-98	26.500	73.583	-9.000	-9.000	-9.000	96.505
101	19-Feb-98	26.500	73.583	-9.000	-9.000	-9.000	96.064
101	19-Feb-98	26.500	73.583	-9.000	-9.000	-9.000	95.901
101	19-Feb-98	26.500	73.583	-9.000	-9.000	-9.000	94.810
108	20-Feb-98	26.500	75.500	-9.000	-9.000	-9.000	96.687
108	20-Feb-98	26.500	75.500	-9.000	-9.000	-9.000	95.869
108	20-Feb-98	26.500	75.500	-9.000	-9.000	-9.000	95.886
108	20-Feb-98	26.500	75.500	-9.000	-9.000	-9.000	95.399
110	20-Feb-98	26.500	75.900	-9.000	-9.000	-9.000	96.398
110	20-Feb-98	26.500	75.900	-9.000	-9.000	-9.000	95.629
114	21-Feb-98	26.510	76.427	262.483	540.744	80.515	-9.000
114	21-Feb-98	26.510	76.428	262.273	539.635	80.446	-9.000
114	21-Feb-98	26.511	76.428	262.793	541.135	80.816	-9.000
114	21-Feb-98	26.514	76.431	262.827	538.937	79.301	-9.000
114	21-Feb-98	26.516	76.434	263.024	538.655	78.736	-9.000
114	21-Feb-98	26.508	76.482	262.900	538.355	79.284	-9.000
116	22-Feb-98	26.500	76.617	261.254	537.878	79.587	-9.000
117	22-Feb-98	26.500	76.683	260.123	536.113	78.455	-9.000
117	22-Feb-98	26.500	76.683	-9.000	-9.000	-9.000	96.873
117	22-Feb-98	26.500	76.683	-9.000	-9.000	-9.000	96.657
122	23-Feb-98	26.111	78.494	264.570	540.167	81.155	-9.000

Table 9. CFC air values (interpolated to station locations, continued)

Station	Date	Latitude (˚N)	Longitude (˚W)	CFC-11 (ppt)	CFC-12 (ppt)	CFC-113 (ppt)	CCl_4 (ppt)
122	23-Feb-98	26.111	78.494	264.310	539.409	80.459	-9.000
122	23-Feb-98	26.163	78.587	262.826	539.090	79.707	-9.000
122	23-Feb-98	26.168	78.606	262.319	538.885	79.498	-9.000
122	23-Feb-98	26.171	78.731	262.246	539.018	79.676	-9.000
122	23-Feb-98	27.001	79.200	-9.000	-9.000	-9.000	93.798
122	23-Feb-98	27.001	79.200	-9.000	-9.000	-9.000	93.073
122	23-Feb-98	27.001	79.200	-9.000	-9.000	-9.000	93.724
125	23-Feb-98	27.038	79.481	-9.000	-9.000	-9.000	97.231
125	23-Feb-98	27.038	79.481	-9.000	-9.000	-9.000	96.196
125	23-Feb-98	27.038	79.481	-9.000	-9.000	-9.000	95.753
130	24-Feb-98	26.999	79.937	-9.000	-9.000	-9.000	97.861
130	24-Feb-98	26.999	79.937	-9.000	-9.000	-9.000	97.393

Appendix A. WOCE Quality Control Flags

WOCE quality flag definitions for water bottles.

Flag	Definition
1	Bottle information unavailable
2	No problems noted
3	Leaking
4	Did not trip correctly
5	Not reported
7	Unknown problem
9	Samples not drawn from this bottle

WOCE water quality flag definitions.

Flag	Definition
1	Sample drawn but analysis not received
2	Acceptable measurement
3	Questionable measurement
4	Bad measurement
5	Not reported
6	Mean of replicate measurements
9	Sample not drawn for measurement

Appendix B. Bottle Data

A5R
NOAA Ship Ronald H. Brown

STATION 1 DATE 1/24/1998 LATITUDE 27.917° N
LONGITUDE 13.370° W

Bottle Number	F**	Pressure db	CTD Salinity***	Bottle Salinity***	F*	Temp**** °C	Theta °C	Sigma Theta	CTD O2 µmol/kg	F*	Bottle O2 µmol/kg	F*	AOU	NO2 µmol/kg	F*	NO3 µmol/kg	F*	PO4 µmol/kg	F*	Si(OH)4 µmol/kg	F*	CFC-11 pmol/kg	F*	CFC-12 pmol/kg	F*	CFC-113 pmol/kg	F*	CCl4 pmol/kg	F*	fCO2 at 20 °C µatm	fCO2 INSITU µatm	F*	DIC µmol/kg	F*	pH	F*	Measured TA µmol/kg	F*	Calculated TA µmol/kg	TOC µmol/kg	F*	TON µmol/kg	F*
9	2	2.2	36.528	36.529	2	18.055	18.055	26.431	227.8	2	231.9	2	-0.9		9		9		9		9		9		9	0.14	2		9	419.6	387.3	2	2119.7	6		9		9			9		9
8	2	28.2	36.526	36.526	2	18.057	18.052	26.431	229.2	2	230.5	2	0.5		9		9		9		9		9		9		9		9	421.1	388.6	2	2121.5	2		9		9			9		9
7	2	39.1	36.524	36.517	2	18.052	18.045	26.431	228.9	2	228.8	2	2.3		9		9		9		9		9		9		9		9			9	2124.7	2		9		9			9		9
6	2	47.8	36.501	36.500	2	17.905	17.897	26.451	226.3	2	225.0	2	6.7		9		9		9		9		9		9		9		9	446.6	409.7	2	2130.9	2		9		9			9		9
5	2	58.5	36.495	36.495	2	17.862	17.852	26.458	223.2	2	220.6	2	11.3		9		9		9		9		9		9	0.14	2		9			9	2132.9	2		9		9			9		9
4	3	70.0	36.478	36.478	2	17.727	17.715	26.479	216.6	2	213.9	2	18.7		9		9		9		9		9		9		9		9	469.9	427.8	2	2139.8	2		9		9			9		9
3	2	89.9	36.410	36.405	2	17.166	17.151	26.565	198.2	2	196.1	2	39.1		9		9		9		9		9		9		9		9	466.1	414.6	2	2135.1	2		9		9			9		9
2	2	108.1	36.318	36.317	2	16.395	16.377	26.679	187.7	2	189.8	2	49.0		9		9		9		9		9		9		9		9			9	2137.2	2		9		9			9		9
1	2	125.7	36.296	36.296	2	16.231	16.211	26.702	187.9	2	189.8	2	49.9		9		9		9		9		9		9	0.06	2		9	489.3	418.2	2	2137.1	2		9		9			9		9

* WOCE water sample quality flag (F) for parameter for the previous column
** WOCE quality flag (F) for "Niskin" sample bottle
*** PSS-78 scale
**** ITS0 scale

A5R
NOAA Ship Ronald H. Brown

STATION 2 DATE 1/24/1998 LATITUDE 27.965° N
LONGITUDE 13.404° W

Bottle Number	F**	Pressure db	CTD Salinity***	Bottle Salinity***	F*	Temp**** °C	Theta °C	Sigma Theta	CTD O2 µmol/kg	F*	Bottle O2 µmol/kg	F*	AOU	NO2 µmol/kg	F*	NO3 µmol/kg	F*	PO4 µmol/kg	F*	Si(OH)4 µmol/kg	F*	CFC-11 pmol/kg	F*	CFC-12 pmol/kg	F*	CFC-113 pmol/kg	F*	CCl4 pmol/kg	F*	fCO2 at 20 °C µatm	fCO2 INSITU µatm	F*	DIC µmol/kg	F*	pH	F*	Measured TA µmol/kg	F*	Calculated TA µmol/kg	TOC µmol/kg	F*	TON µmol/kg	F*
16	3	3.0	36.579	36.578	2	18.318	18.317	26.404	233.8	2	235.9	2	-6.1		9		9		9		9		9		9		9		9				9		9		9		9				9		9
15	2	40.6	36.578	36.577	2	18.327	18.320	26.404	234.8	2	235.0	2	-5.2		9		9		9		9		9		9		9		9	387.3	361.8	2	2108.5	6	7.9846	2	2396	2	2397		60.5	2	9
14	2	59.9	36.489	36.491	2	17.758	17.748	26.479	204.1	2	203.0	2	29.4		9		9		9		9		9		9		9		9	438.0	399.9	2	2128.5	2	7.9415	2	2388	2	2392			9	9
13	2	77.6	36.469	36.471	2	17.536	17.523	26.520	196.7	2	197.8	2	35.6		9		9		9		9		9		9		9		9			9	2129.9	2	7.9341	2	2386	2	2388		51.6	2	9
12	2	98.6	36.375	36.376	2	16.769	16.753	26.634	190.4	2	192.5	2	44.5		9		9		9		9		9		9		9		9	462.6	405.2	2	2132.5	2	7.9164	2		9	2380		51.5	2	9
11	2	127.3	36.315	36.315	2	16.334	16.313	26.693	188.8	2	191.2	2	47.9		9		9		9		9		9		9		9		9			9	2136.3	2	7.9049	2	2374	2	2377			9	9
10	2	149.1	36.293	36.283	2	16.209	16.185	26.707	188.3	2	189.0	2	50.8		9		9		9		9		9		9		9		9	480.1	410.8	6	2140.3	2	7.9014	2	2375	2	2379		49.3	2	9
9	3	178.4	36.202	36.205	2	15.606	15.578	26.777	186.5	2	186.8	2	56.0		9		9		9		9		9		9		9		9			9	2144.5	2	7.8885	2	2369	3	2376			9	9
8	2	196.8	36.155	36.154	2	15.336	15.305	26.802	184.5	2	185.5	2	58.7		9		9		9		9		9		9		9		9			9	2141.8	2	7.8786	2	2368	2	2367		47.6	2	9
7	2	229.7	36.105	36.108	2	15.016	14.981	26.837	182.5	2	182.4	2	63.4		9		9		9		9		9		9		9		9	523.8	426.3	2	2144.0	2	7.8670	2	2362	2	2363			9	9
6	2	237.3	36.075	36.074	2	14.835	14.799	26.854	182.8	2	182.3	2	64.5		9		9		9		9		9		9		9		9			9	2144.5	2	7.8564	2	2358	2	2357			9	9
5	2	299.2	35.958	35.957	2	14.088	14.044	26.928	174.9	2	173.8	2	76.9		9		9		9		9		9		9		9		9			9	2155.4	2	7.8287	2	2354	2	2354		46.6	2	9
4	2	338.2	35.931	35.931	2	13.895	13.846	26.951	175.4	2	173.2	2	78.6		9		9		9		9		9		9		9		9	604.2	468.7	2	2155.2	2	7.8257	2	2356	2	2352			9	9
3	2	399.0	35.861	35.861	2	13.419	13.362	26.999	173.0	2	170.4	2	84.0		9		9		9		9		9		9		9		9			9	2161.1	2	7.8086	2	2350	2	2349		47.1	2	9
2	2	463.6	35.774	35.772	2	12.830	12.766	27.054	166.8	2	165.2	2	92.5		9		9		9		9		9		9		9		9			9	2167.3	2	7.7867	2	2348	2	2345		45.8	2	9
1	2	517.6	35.532	35.532	2	11.028	10.963	27.209	146.6	2	146.2	2	###		9		9		9		9		9		9		9		9	774.7	532.5	2	2188.0	2	7.7185	2	2337	2	2334		45.9	2	9

* WOCE water sample quality flag (F) for parameter for the previous column
** WOCE quality flag (F) for "Niskin" sample bottle
*** PSS-78 scale
**** ITS0 scale

A5R
NOAA Ship Ronald H. Brown

STATION 3 DATE 1/24/1998 LATITUDE 27.883° N
LONGITUDE 13.417° W

Bottle Number	F**	Pressure db	CTD Salinity***	Bottle Salinity***	F*	Temp**** °C	Theta °C	Sigma Theta	CTD O2 µmol/kg	F*	Bottle O2 µmol/kg	F*	AOU	NO2 µmol/kg	F*	NO3 µmol/kg	F*	PO4 µmol/kg	F*	Si(OH)4 µmol/kg	F*	CFC-11 pmol/kg	F*	CFC-12 pmol/kg	F*	CFC-113 pmol/kg	F*	CCl4 pmol/kg	F*	fCO2 at 20 °C µatm	fCO2 INSITU µatm	F*	DIC µmol/kg	F*	pH	F*	Measured TA µmol/kg	F*	Calculated TA µmol/kg	TOC µmol/kg	F*	TON µmol/kg	F*
20	2	1.9	36.584	36.585	2	18.398	18.398	26.387	239.8	2		9		0.08	2	0.39	2	0.08	2	1.00	2	2.41	2	1.36	2	0.16	2		9	381.3	357.4	2	2103.9	6	7.9923	2		9	2398		9		9
19	2	24.4	36.586	36.585	2	18.416	18.412	26.386	239.7	2		9		0.08	2	0.29	2		4	0.90	2		9		9		9	9				9	2103.2	2	7.9950	2		5	2398		9		9
18	2	49.8	36.562	36.562	2	18.315	18.306	26.395	234.4	2	228.9	2	1.0	0.12	2	1.46	2	0.15	2	1.30	2		9		9		9	9				9	2109.4	2	7.9799	2		9	2396		9		9
17	2	74.3	36.465	36.470	2	17.435	17.422	26.541	197.9	2	196.0	2	37.9	0.03	2	5.46	2	0.32	2	2.30	2		9		9		9	9				9		9	7.9163	2	2401	2			9		9
16	2	96.9	36.379	36.399	2	16.814	16.798	26.626	192.8	2	191.3	2	45.5	0.02	2	6.63	2	0.39	2	2.50	2	2.39	2	1.31	2	0.29	4		9	461.8	406.0	2	2131.9	6	7.9184	2		9	2381		9		9
15	2	122.5	36.293	36.295	2	16.177	16.157	26.712	189.5	2	189.7	2	50.2	0.02	2	7.80	2	0.45	2	2.70	2		9		9		9	9				9	2134.8	2	7.8951	2	2383	3	2370		9		9
14	2	147.8	36.205	36.209	2	15.607	15.584	26.776	187.8	2	187.0	2	55.7	0.01	2	8.88	2	0.51	2	2.80	2		9		9		9	9				9	2137.8	2	7.8868	2		9	2368		9		9
13	2	175.1	36.134	36.134	2	15.211	15.184	26.813	186.3	2	181.2	2	63.6	0.00	2	10.34	2	0.59	2	3.50	2		9		9		9	9				9	2190.3	3	7.8648	2		5	2412		9		9
12	3	197.3	36.119		2	15.129	15.099	26.820	181.5	2		9			9		9		9		9		9		9		9	9				9		9		9		9			9		9
11	2	223.6	36.058	36.062	2	14.737	14.703	26.861	183.4	2	180.2	2	67.1	0.00	2	11.22	2	0.64	2	3.80	2	2.33	2	1.24	2	0.03	2		9			9	2185.1	3	7.8565	2		5	2402		9		9
10	2	248.3	36.028	36.025	2	14.518	14.481	26.887	179.4	2	179.9	2	68.5	0.01	2	11.71	2	0.69	2	4.20	2		9		9		9	9	545.6	435.9	2	2183.9	3	7.8516	2		9	2397		9		9
9	2	300.0	35.970	35.971	2	14.160	14.116	26.923	177.9	2	176.3	2	74.0	0.00	2	12.68	2	0.73	2	4.60	2	2.23	6	1.19	6	0.04	6		9			9	2175.4	3	7.8378	2		5	2381		9		9
8	2	349.1	35.902	35.906	2	13.702	13.652	26.969	173.7	2	172.4	2	80.4	0.01	2	13.86	2	0.81	2	5.30	2		9		9		9	9				9	2180.3	3	7.8226	2		9	2378		9		9
7	2	399.6	35.833	35.830	2	13.245	13.189	27.012	169.9	2	168.7	2	86.7	0.01	2	15.03	2	0.89	2	5.90	2	2.05	2	1.06	2	0.03	2		9			9	2183.6	3	7.8038	2		5	2372		9		9
6	2	450.4	35.743	35.743	2	12.609	12.547	27.072	164.4	2	162.6	2	96.3	0.00	2	16.69	2	1.00	2	6.70	2		9		9		9	9				9	2189.2	3	7.7823	2		9	2367		9		9
5	2	498.5	35.653	35.652	2	11.965	11.899	27.129	156.3	2	156.4	2	106.2	0.00	2	18.54	2	1.13	2	7.80	2	1.64	2	0.86	2	0.02	2		9			9	2193.4	3	7.7548	2		5	2358		9		9
4	2	548.8	35.552	35.548	2	11.206	11.136	27.194	147.7	2	147.4	2	119.7	0.00	2	20.79	2	1.27	2	9.60	2		9		9		9	9				9	2199.0	3	7.7245	2		9	2349		9		9
3	2	575.0	35.504	35.504	2	10.836	10.764	27.224	145.7	2	144.9	2	124.4	0.00	2	21.77	2	1.35	2	10.40	2	1.21	2	0.62	2	0.01	2		9			9	2198.7	3	7.7083	2	2348	2	2342		9		9
2	2	641.0	35.433	35.430	2	10.206	10.129	27.281	139.6	2	139.7	2	133.5	0.00	2	23.43	2	1.46	2	12.30	2		9		9		9	9				9	2202.2	3	7.6901	2		9	2338		9		9
1	2	654.8	35.409	35.413	2	9.992	9.914	27.300	137.9	2	137.6	2	136.9	0.00	2	23.82	2	1.48	2	12.80	2	0.90	2	0.46	2	0.01	2		9	843.9	559.6	2	2200.4	3	7.6834	2	2334	2	2333		9		9

* WOCE water sample quality flag (F) for parameter for the previous column
** WOCE quality flag (F) for "Niskin" sample bottle
*** PSS-78 scale
**** ITS0 scale

A5R
NOAA Ship Ronald H. Brown

STATION 4 DATE 1/24/1998 LATITUDE 27.849° N
LONGITUDE 13.417° W

Bottle Number	F**	Pressure db	CTD Salinity***	Bottle Salinity***	F*	Temp**** °C	Theta °C	Sigma Theta	CTD O2 µmol/kg	F*	Bottle O2 µmol/kg	F*	AOU	NO2 µmol/kg	F*	NO3 µmol/kg	F*	PO4 µmol/kg	F*	Si(OH)4 µmol/kg	F*	CFC-11 pmol/kg	F*	CFC-12 pmol/kg	F*	CFC-113 pmol/kg	F*	CCl4 pmol/kg	F*	fCO2 at 20 °C µatm	fCO2 INSITU µatm	F*	DIC µmol/kg	F*	pH	F*	Measured TA µmol/kg	F*	Calculated TA µmol/kg	TOC µmol/kg	F*	TON µmol/kg	F*
22	2	4.3	36.706	36.707	2	19.034	19.033	26.319	234.1	2	9		0.11	2	0.20	2	0.07	2	0.90	2	9		9		9		9	375.2	361.0	2	2100.8	6	8.0044	2	2404	2	2403		9		9
21	2	10.6	36.705	36.697	2	19.034	19.032	26.319	233.7	2	9		0.13	2	0.29	2	0.08	2	1.00	2	9		9		9		9			9		9		9		9			9		9
20	2	28.7	36.657	36.657	2	18.769	18.764	26.351	233.5	2	9		0.19	2	0.29	2	0.09	2	0.90	2	9		9		9		9			9		9		9		9			9		9
19	2	60.0	36.494	36.494	2	17.894	17.884	26.449	229.6	2	9		0.19	2	4.49	2	0.31	2	2.00	2	9		9		9		9			9		9		9		9			9		9
18	2	90.4	36.398	36.399	2	16.994	16.979	26.597	193.5	2	9		0.03	2	6.93	2	0.41	2	2.30	2	9		9		9		9			9		9		9		9			9		9
17	2	120.2	36.273	36.272	2	16.057	16.038	26.724	184.1	2	9		0.01	2	8.20	2	0.46	2	2.50	2	9		9		9		9			9		9		9		9			9		9
16	2	149.4	36.152	36.164	2	15.381	15.358	26.787	184.4	2	9		0.00	2	10.64	2	0.61	2	3.50	2	9		9		9		9			9		9		9		9			9		9
15	2	177.3	36.071	36.063	2	14.966	14.939	26.818	162.1	2	9		0.00	2	13.37	2	0.76	2	4.70	2	9		9		9		9			9		9		9		9			9		9
14	2	210.6	36.037	36.036	2	14.656	14.624	26.862	167.3	2	9		0.00	2	12.78	2	0.74	2	4.60	2	9		9		9		9			9		9		9		9			9		9
13	2	250.3	36.002	36.003	2	14.361	14.324	26.902	174.1	2	9		0.00	2	12.59	2	0.72	2	4.60	2	9		9		9		9			9		9		9		9			9		9
12	2	298.0	35.889	35.886	2	13.607	13.564	26.975	174.0	2	9		0.00	2	14.35	2	0.82	2	5.40	2	9		9		9		9			9		9		9		9			9		9
11	2	346.8	35.805	35.805	2	13.047	12.999	27.027	172.4	2	9		0.00	2	15.42	2	0.90	2	5.90	2	9		9		9		9			9		9		9		9			9		9
10	2	399.8	35.737	35.736	2	12.570	12.515	27.072	168.8	2	9		0.00	2	16.79	2	0.98	2	6.50	2	9		9		9		9			9		9		9		9			9		9
9	2	447.1	35.645	35.660	2	11.971	11.912	27.119	156.5	2	9		0.00	2	18.65	2	1.10	2	7.70	2	9		9		9		9			9		9		9		9			9		9
8	2	499.0	35.608	35.600	2	11.649	11.584	27.153	154.7	2	9		0.00	2	19.82	2	1.18	2	8.70	2	9		9		9		9			9		9		9		9			9		9
7	2	548.5	35.526	35.525	2	11.041	10.972	27.204	148.5	2	9		0.00	2	21.58	2	1.30	2	10.30	2	9		9		9		9			9		9		9		9			9		9
6	2	595.5	35.448	35.450	2	10.437	10.364	27.252	140.8	2	9		0.00	2	23.53	2	1.42	2	12.20	2	9		9		9		9			9		9		9		9			9		9
5	2	702.4	35.362	35.360	2	9.618	9.536	27.327	132.6	2	9		0.00	2	25.58	2	1.57	2	14.50	2	9		9		9		9			9		9		9		9			9		9
4	2	800.1	35.302	35.301	2	8.876	8.786	27.404	133.4	2	9		0.00	2	26.66	2	1.65	2	16.60	2	9		9		9		9			9		9		9		9			9		9
3	2	898.9	35.289	35.289	2	8.329	8.231	27.481	142.2	2	9		0.01	2	26.56	2	1.66	2	17.40	2	9		9		9		9			9		9		9		9			9		9
2	2	999.5	35.245	35.243	2	7.711	7.606	27.540	147.2	2	9		0.01	2	26.95	2	1.70	2	18.70	2	9		9		9		9			9		9		9		9			9		9
1	2	1080.6	35.236	35.234	2	7.410	7.299	27.578	152.0	2	9		0.00	2	26.66	2	1.68	2	18.70	2	9		9		9		9			9		9		9		9			9		9

* WOCE water sample quality flag (F) for parameter for the previous column
** WOCE quality flag (F) for "Niskin" sample bottle
*** PSS-78 scale
**** ITS0 scale

A5R
NOAA Ship Ronald H. Brown

STATION 5 DATE 1/24/1998 LATITUDE 27.799° N
LONGITUDE 13.816° W

Bottle Number	F**	Pressure db	CTD Salinity***	Bottle Salinity***	F*	Temp**** °C	Theta °C	Sigma Theta	CTD O2 µmol/kg	F*	Bottle O2 µmol/kg	F*	AOU	NO2 µmol/kg	F*	NO3 µmol/kg	F*	PO4 µmol/kg	F*	Si(OH)4 µmol/kg	F*	CFC-11 pmol/kg	F*	CFC-12 pmol/kg	F*	CFC-113 pmol/kg	F*	CCl4 pmol/kg	F*	fCO2 at 20 °C µatm	fCO2 INSITU µatm	F*	DIC µmol/kg	F*	pH	F*	Measured TA µmol/kg	F*	Calculated TA µmol/kg	TOC µmol/kg	F*	TON µmol/kg	F*
27	2	2.5	36.642	36.641	2	18.694	18.694	26.357	232.8	2	232.1	2	-4.0	0.17	2	0.59	2		4		4	2.39	2	1.35	2	0.17	2		9	381.0	361.4	2	2105.0	6	7.9955	2	2403	2	2401		9		9
26	2	9.1	36.642	36.641	2	18.696	18.694	26.357	232.7	2	232.3	2	-4.2	0.17	2	0.59	2		4		4	2.39	2	1.35	2	0.17	2		9			9		9		9		9				9		9
25	2	68.6	36.530	36.542	2	18.237	18.225	26.392	228.2	2	211.1	2	19.1	0.24	2	3.12	2		4		4		9		9		9		9			9		9		9		9				9		9
24	2	92.5	36.447	36.430	2	17.607	17.591	26.487	193.5	2	192.1	2	41.1	0.03	2	5.95	2		4		4	2.39	2	1.35	2	0.14	2		9			9		9		9		9				9		9
23	2	127.6	36.315	36.310	2	16.451	16.430	26.665	183.3	2	185.3	2	53.3	0.01	2	8.10	2		4		4		9		9		9		9			9		9		9		9				9		9
22	2	151.5	36.214	36.195	2	15.711	15.687	26.760	181.0	2	182.8	2	59.5	0.00	2	9.46	2		4		4	2.37	2	1.30	2	0.04	2		9			9		9		9		9				9		9
21	3	186.4	36.123		2	15.125	15.096	26.824	180.1	2		9			9		9		9		9		9		9		9		9			9		9		9		9				9		9
20	2	217.7	36.061	36.061	2	14.757	14.724	26.859	176.7	2	178.1	2	69.1	0.00	2	11.41	2		4		4		9		9		9		9			9		9		9		9				9		9
19	2	245.7	35.987	35.993	2	14.304	14.268	26.901	170.6	2	172.5	2	77.0	0.00	2	12.68	2		4		4	2.24	2	1.20	2	0.03	2		9			9		9		9		9				9		9
18	2	299.7	35.909	35.909	2	13.754	13.711	26.961	174.4	2	173.4	2	79.1	0.00	2	13.66	2		4		4		9		9		9		9			9		9		9		9				9		9
17	2	397.4	35.705	35.705	2	12.322	12.268	27.096	165.9	2	162.9	2	97.6	0.00	2	17.08	2		4		4	1.83	2	0.96	2	0.04	2		9			9		9		9		9				9		9
16	2	497.6	35.554	35.547	2	11.236	11.173	27.188	150.4	2	148.2	2	118.7	0.00	2	20.69	2		4		4		9		9		9		9			9		9		9		9				9		9
15	2	598.0	35.416	35.414	2	10.106	10.034	27.283	137.6	2	136.6	2	137.2	0.00	2	23.72	2		4		4	0.91	2	0.47	2	0.01	2		9			9		9		9		9				9		9
14	2	699.0	35.333	35.331	2	9.235	9.155	27.367	133.5	2	134.1	2	145.2	0.00	2	25.48	2		4		4		9		9		9		9			9		9		9		9				9		9
13	2	799.5	35.281	35.279	2	8.528	8.441	27.441	136.2	2	136.0	2	147.9	0.00	2	26.45	2		4		4	0.38	2	0.20	2	0.00	2		9			9		9		9		9				9		9
12	2	898.1	35.268	35.269	2	8.092	7.996	27.499	141.7	2	142.7	2	144.0	0.00	2	26.26	2		4		4		9		9		9		9			9		9		9		9				9		9
11	2	995.6	35.225	35.224	2	7.503	7.400	27.554	147.5	2		9		0.00	2	26.65	2		4		4		9		9		9		9	913.3	544.5	2	2208.2	3		9		9				9		9
10	2	995.7	35.225	35.225	2	7.502	7.399	27.554	147.5	2		9		0.00	2	26.55	2		4		4		9		9		9		9			9	2211.1	3		9		9				9		9
9	2	995.7	35.225	35.225	2	7.502	7.399	27.554	147.5	2		9		0.00	2	26.46	2		4		4		9		9		9		9	914.3	544.6	2	2212.4	3		9		9				9		9
8	2	995.3	35.225	35.225	2	7.502	7.399	27.555	147.5	2		9		0.00	2	26.36	2		4		4		9		9		9		9			9	2206.8	6		9		9				9		9
7	2	995.2	35.225	35.226	2	7.502	7.399	27.555	147.5	2		9		0.00	2	26.36	2		4		4		9		9		9		9	919.6	547.5	2	2208.6	6	7.6523	2		5	2326			9		9
6	2	995.5	35.225	35.225	2	7.503	7.400	27.554	147.5	2	147.4	2	143.3	0.00	2	26.26	2		4		4	0.18	6	0.09	6	0.00	6		9			9		9		9		9				9		9
5	2	1098.8	35.241	35.240	2	7.116	7.005	27.624	160.7	2	160.7	2	132.7	0.00	2	25.19	2		4		4		9		9		9		9			9		9		9		9				9		9
4	2	1199.0	35.248	35.248	2	6.747	6.628	27.682	171.3	2	171.7	2	124.2	0.00	2	24.41	2		4		4	0.14	2	0.07	2	0.00	2		9			9		9		9		9				9		9
3	2	1284.2	35.295	35.295	2	6.726	6.598	27.724	181.4	2	181.1	2	114.9	0.00	2	23.33	2		4		4		9		9		9		9			9		9		9		9				9		9
2	2	1395.0	35.223	35.225	2	5.861	5.730	27.779	193.8	2	193.7	2	108.6	0.01	2	23.04	2		4		4	0.09	2	0.05	2	0.01	2		9			9		9		9		9				9		9
1	2	1507.4	35.179	35.188	2	5.348	5.211	27.808	203.6	2		9		0.00	2	22.55	2		4		4	0.07	2	0.04	2	0.00	2		9			9		9		9		9				9		9

* WOCE water sample quality flag (F) for parameter for the previous column
** WOCE quality flag (F) for "Niskin" sample bottle
*** PSS-78 scale
**** ITS0 scale

A5R
NOAA Ship Ronald H. Brown

STATION 6 DATE 1/24/1998 LATITUDE 27.617° N
LONGITUDE 14.235° W

Bottle Number	F**	Pressure db	CTD Salinity***	Bottle Salinity***	F*	Temp**** °C	Theta °C	Sigma Theta	CTD O2 µmol/kg	F*	Bottle O2 µmol/kg	F*	AOU	NO2 µmol/kg	F*	NO3 µmol/kg	F*	PO4 µmol/kg	F*	Si(OH)4 µmol/kg	F*	CFC-11 pmol/kg	F*	CFC-12 pmol/kg	F*	CFC-113 pmol/kg	F*	CCl4 pmol/kg	F*	fCO2 at 20 °C µatm	fCO2 INSITU µatm	F*	DIC µmol/kg	F*	pH	F*	Measured TA µmol/kg	F*	Calculated TA µmol/kg	TOC µmol/kg	F*	TON µmol/kg	F*
31	2	2.9	36.751	36.750	2	19.559	19.558	26.216	230.6	2	230.4	2	-6.1	0.02	2	0.10	2	0.00	2	0.60	2	9		9		9		9					9		8.0175	2	2408	2			9		9
30	2	2.5	36.751	36.750	2	19.554	19.554	26.218	230.6	2	231.7	2	-7.4	0.02	2	0.10	2		4	0.60	2	9		9		9		9		361.6	355.3	6	2096.4	6	8.0172	2	2413	2	2407	62.6	2	4.3	2
29	2	19.7	36.750	36.749	2	19.548	19.544	26.220	230.4	2	231.5	2	-7.1	0.02	2	0.10	2	0.00	2	0.50	2	9		9		9		9					9		8.0175	6		9		63.0	2	4.4	2
28	2	40.0	36.750	36.750	2	19.548	19.541	26.222	230.7	2	231.5	2	-7.1	0.02	2	0.10	2	0.00	2	0.50	2	9		9		9		9					9		8.0174	6		9		63.5	2		9
27	2	58.1	36.749	36.749	2	19.542	19.531	26.224	229.8	2	231.0	2	-6.6	0.01	2	0.10	2	0.01	2	0.50	2	9		9		9		9					9		9		9		9	64.5	2	4.2	2
26	2	81.0	36.748	36.748	2	19.540	19.525	26.227	229.7	2	231.3	2	-6.9	0.02	2	0.10	2	0.01	2	0.40	2	9		9		9		9					9		9		9		9	65.1	2	4.3	2
25	2	99.6	36.745	36.747	2	19.532	19.514	26.228	230.4	2	230.8	2	-6.3	0.02	2	0.10	2	0.03	2	0.60	2	9		9		9		9					9		9		9		9	62.5	2	4.9	2
24	2	127.9	36.517	36.514	2	18.025	18.003	26.441	204.7	2	199.2	2	32.0	0.03	2	4.58	2	0.27	2	1.70	2	9		9		9		9					9		9		9		9	54.7	2	8.0	2
23	2	160.0	36.451	36.442	2	17.258	17.231	26.581	193.4	2	194.9	2	39.9	0.01	2	5.95	2	0.31	2	1.90	2	9		9		9		9					9		9		9		9	52.4	2	8.4	2
22	2	187.8	36.327	36.319	2	16.410	16.379	26.689	188.6	2	189.6	2	49.2	0.01	2	7.61	2	0.41	2	2.40	2	9		9		9		9					9		9		9		9		9		9
21	3	228.2	36.226	36.224	2	15.779	15.743	26.760	185.0	2		9		0.00	2	9.27	2	0.50	2	3.00	2	9		9		9		9					9		9		9		9		9		9
20	2	266.2	36.131	36.129	2	15.175	15.134	26.825	181.4	2	184.3	2	60.7	0.01	2	10.15	2	0.58	2	3.30	2	9		9		9		9					9		9		9		9		9		9
19	2	304.3	36.041	36.039	2	14.599	14.553	26.884	184.3	2	184.3	2	63.7	0.01	2	10.83	2	0.64	2	3.80	2	9		9		9		9					9		9		9		9	49.0	2		9
18	2	359.8	35.892	35.890	2	13.650	13.598	26.972	178.9	2	169.6	2	83.5	0.00	2	14.15	2	0.82	2	5.10	2	9		9		9		9					9		9		9		9		9		9
17	2	404.2	35.827	35.826	2	13.209	13.152	27.015	169.7	2	169.0	2	86.6	0.00	2	14.93	2	0.87	2	5.60	2	9		9		9		9					9		9		9		9	48.9	2	17.5	2
16	2	451.0	35.717	35.717	2	12.451	12.390	27.083	163.8	2	161.5	2	98.3	0.00	2	16.88	2	1.01	2	6.80	2	9		9		9		9					9		9		9		9		9		9
15	2	500.1	35.625	35.624	2	11.776	11.710	27.143	158.3	2	155.9	2	107.8	0.00	2	18.94	2	1.14	2	8.40	2	9		9		9		9					9		9		9		9	44.6	2		9
14	2	553.7	35.553	35.554	2	11.177	11.106	27.201	159.0	2	153.3	2	114.0	0.00	2	20.11	2	1.23	2	9.60	2	9		9		9		9					9		9		9		9		9		9
13	2	594.8	35.474	35.475	2	10.596	10.523	27.245	145.7	2	142.9	2	127.9	0.00	2	22.35	2	1.37	2	11.60	2	9		9		9		9					9		9		9		9	44.3	2	24.6	2
12	2	649.8	35.371	35.370	2	9.824	9.747	27.298	132.4	2	129.4	2	146.2	0.00	2	25.28	2	1.56	2	14.40	2	9		9		9		9					9		9		9		9		9		9
11	2	701.4	35.324	35.323	2	9.420	9.339	27.331	124.7	2	126.4	2	151.8	0.00	2	26.26	2	1.63	2	15.50	2	9		9		9		9					9		9		9		9	43.8	2	28.2	2
10	2	789.6	35.241	35.240	2	8.477	8.391	27.417	123.4	2	127.8	2	156.5	0.00	2	27.63	2	1.75	2	17.60	2	9		9		9		9					9		9		9		9	43.2	2	29.3	2
9	2	849.9	35.221	35.219	2	8.119	8.028	27.457	130.1	2	131.8	2	154.8	0.00	2	27.63	2	1.76	2	18.00	2	9		9		9		9					9		9		9		9		9	29.5	2
8	2	922.4	35.204	35.203	2	7.708	7.612	27.506	137.1	2	138.0	2	151.4	0.00	2	27.24	2	1.76	2	18.40	2	9		9		9		9					9		9		9		9	42.7	2		9
7	2	998.3	35.236	35.235	2	7.484	7.381	27.565	148.6	2	149.7	2	141.2	0.01	2	25.97	2	1.71	2	18.60	2	9		9		9		9					9		9		9		9	42.2	2	28.1	2
6	2	1096.6	35.267	35.267	2	7.221	7.109	27.630	161.5	2	162.0	2	130.6	0.00	2	24.80	2	1.61	2	18.90	2	9		9		9		9					9		9		9		9	42.4	2	27.0	2
5	2	1200.0	35.272	35.274	2	6.757	6.638	27.699	174.5	2	175.7	2	120.1	0.00	2	23.82	2	1.55	2	19.80	2	9		9		9		9					9		9		9		9	42.7	2	26.2	2
4	2	1402.5	35.264	35.264	2	6.090	5.956	27.784	196.4	2	196.0	2	104.6	0.00	2	22.36	2	1.46	2	21.40	2	9		9		9		9					9		9		9		9	42.5	2	25.1	2
3	2	1597.5	35.230	35.229	2	5.419	5.272	27.843	213.8	2	213.3	2	92.3	0.00	2	21.38	2	1.40	2	22.60	2	9		9		9		9					9		9		9		9	42.5	2	23.7	2
2	2	1800.3	35.128	35.129	2	4.565	4.409	27.861	222.2	2	221.1	2	91.1	0.00	2	21.58	2	1.45	2	26.20	2	9		9		9		9					9		9		9		9	42.7	2	23.9	2
1	2	2035.1	35.047	35.048	2	3.898	3.728	27.868	223.5	2	223.8	2	93.8	0.00	2	22.07	2	1.49	2	30.40	2	9		9		9		9					9		9		9		9	43.0	2	24.8	2

* WOCE water sample quality flag (F) for parameter for the previous column
** WOCE quality flag (F) for "Niskin" sample bottle
*** PSS-78 scale
**** ITS0 scale

A5R
NOAA Ship Ronald H. Brown

STATION 7 DATE 1/24/1998 LATITUDE 27.433° N
LONGITUDE 14.851° W

Bottle Number	F**	Pressure db	CTD Salinity***	Bottle Salinity***	F*	Temp**** °C	Theta °C	Sigma Theta	CTD O2 µmol/kg	F*	Bottle O2 µmol/kg	F*	AOU	NO2 µmol/kg	F*	NO3 µmol/kg	F*	PO4 µmol/kg	F*	Si(OH)4 µmol/kg	F*	CFC-11 pmol/kg	F*	CFC-12 pmol/kg	F*	CFC-113 pmol/kg	F*	CCl4 pmol/kg	F*	fCO2 at 20 °C µatm	fCO2 INSITU µatm	F*	DIC µmol/kg	F*	pH	F*	Measured TA µmol/kg	F*	Calculated TA µmol/kg	TOC µmol/kg	F*	TON µmol/kg	F*
31	2	3.1	36.758	36.759	2	19.512	19.511	26.234	235.3	2	234.7	2	-10.2	0.00	2	0.00	2	0.00	2	0.70	2	2.35	2	1.31	2	0.19	2		9	357.1	350.2	2	2096.4	6	8.0162	2	2406	2	2407		9		9
30	2	20.2	36.751	36.751	2	19.486	19.482	26.237	233.8	2	232.9	2	-8.3	0.00	2	0.10	2	0.01	2	0.40	2	2.33	2	1.31	2	0.17	2		9	357.8	350.5	2	2095.5	2	8.0150	2	2405	2	2405		9		9
29	2	41.2	36.743	36.742	2	19.447	19.439	26.244	233.4	2	233.8	2	-9.0	0.01	2	0.10	2	0.02	2	0.40	2		9		9		9		9	359.7	351.8	2	2096.0	2	8.0120	2	2408	2	2403		9		9
28	2	56.1	36.736	36.735	2	19.388	19.378	26.254	232.8	2	233.6	2	-8.5	0.02	2	0.20	2	0.03	2	0.40	2	2.35	6	1.32	6	0.18	6		9	362.4	353.6	2	2097.4	2	8.0133	2	2404	2	2406		9		9
27	2	76.9	36.725	36.717	2	19.342	19.328	26.261	231.3	2	232.0	2	-6.7	0.07	2	0.20	2	0.04	2	0.50	2		9		9		9		9	366.9	357.4	2	2104.6	2	8.0076	2	2406	2	2409		9		9
26	2	100.1	36.612	36.613	2	18.706	18.688	26.340	227.2	2	229.5	2	-1.4	0.30	2	0.78	2	0.12	2	0.70	2	2.41	2	1.35	2	0.19	2		9	390.0	370.2	2	2122.5	2	7.9862	2		9	2414		9		9
25	2	125.2	36.528	36.529	2	17.963	17.941	26.464	197.4	2	202.3	2	29.2	0.04	6	4.39	6	0.27	6	1.70	6		9		9		9		9	436.2	402.0	2	2125.3	2	7.9450	2	2389	2	2391		9		9
24	2	151.4	36.424	36.402	2	17.000	16.975	26.621	192.4	2	194.8	2	41.2	0.01	2	6.34	2	0.35	2	2.00	2	2.46	2	1.35	2	0.08	2		9	462.3	409.5	2	2130.7	2	7.9236	2	2382	2	2383		9		9
23	2	166.6	36.344	36.339	2	16.503	16.476	26.678	190.3	2	192.5	2	45.9	0.01	2	7.12	2	0.40	2	2.00	2		9		9		9		9	464.1	402.8	2	2135.6	2		9	2377	2			9		9
22	2	198.4	36.251	36.250	2	15.921	15.889	26.744	186.8	2	188.3	2	52.9	0.00	2	8.39	2	0.48	2	2.40	2	2.41	2	1.30	2	0.05	2		9	485.3	411.5	2	2142.2	2	7.8960	2	2375	3	2379		9		9
21	2	250.2	36.115	36.116	2	15.059	15.021	26.837	183.5	2	183.8	2	61.8	0.00	2	10.15	2	0.59	2	3.10	2		9		9		9		9	520.4	425.5	2		9	7.8699	2		9			9		9
20	2	297.8	35.971	35.964	2	14.109	14.065	26.934	182.5	2	183.3	2	67.3	0.00	2	11.91	2	0.70	2	4.00	2	2.33	2	1.24	2	0.04	2		9	551.8	433.7	2	2147.4	2	7.8444	2		9	2354		9		9
19	2	350.0	35.860	35.865	2	13.375	13.325	27.004	179.9	2	179.7	2	74.9	0.00	2	13.47	2	0.79	2	4.80	2		9		9		9		9	558.1	425.3	2	2153.1	2	7.8246	2		9	2350		9		9
18	2	399.9	35.766	35.765	2	12.742	12.687	27.061	175.4	2	173.3	2	84.8	0.00	2	15.32	2	0.91	2	5.90	2	2.08	2	1.08	2	0.03	2		9	626.6	465.4	2	2159.0	2	7.7986	2	2347	2	2343		9		9
17	2	473.7	35.650	35.660	2	11.925	11.862	27.133	166.5	2	164.4	2	98.4	0.00	2	17.57	2	1.05	2	7.40	2		9		9		9		9	685.0	492.0	2	2166.6	2	7.7662	2		9	2335		9		9
16	2	550.3	35.553	35.554	2	11.199	11.129	27.196	156.0	2	153.9	2	113.2	0.00	2	20.11	2	1.22	2	9.30	2	1.44	2	0.74	2	0.02	2		9	731.5	509.7	2	2178.1	2	7.7329	2		9	2331		9		9
15	2	620.2	35.460	35.459	2	10.448	10.372	27.260	146.6	2	143.9	2	127.8	0.00	2	22.55	2	1.39	2	11.20	2		9		9		9		9	796.5	538.2	2	2187.4	2	7.7022	2	2335	2	2327		9		9
14	2	698.3	35.392	35.394	2	9.782	9.700	27.324	142.9	2	140.5	2	135.3	0.00	2	23.82	2	1.49	2	12.60	2	0.81	6	0.41	6	0.02	6		9	837.2	550.3	2	2193.1	2	7.6838	2		9	2325		9		9
13	2	773.3	35.289	35.292	2	8.880	8.794	27.392	130.5	2	131.6	2	150.0	0.00	2	26.26	2	1.67	2	15.20	2		9		9		9		9	920.3	582.9	2	2204.8	2	7.6510	2		9	2324		9		9
12	2	849.1	35.297	35.307	2	8.409	8.317	27.473	143.1	2	143.1	2	141.5	0.00	2	25.29	2	1.63	2	15.80	2	0.39	2	0.19	2	0.00	2		9	881.1	545.5	6	2203.9	2	7.6644	2	2333	2	2328		9		9
11	2	949.5	35.293	35.291	2	7.989	7.888	27.536	149.6	2	150.5	2	136.9	0.00	2	25.29	2	1.63	2	17.30	2		9		9		9		9	880.6	535.0	3	2205.5	2	7.6670	2		9	2331		9		9
10	2	1049.2	35.304	35.305	2	7.500	7.391	27.619	161.9	2	162.8	2	127.8	0.00	2	24.51	2	1.59	2	18.00	2	0.22	2	0.12	2	0.00	2		9	850.1	504.5	2	2202.9	6	7.6806	2		9	2334		9		9
9	2	1150.3	35.316	35.320	2	7.237	7.119	27.668	172.3	2	171.8	2	120.6	0.00	2	23.73	2	1.54	2	18.40	2		9		9		9		9	836.6	490.1	2	2203.6	2	7.6896	2	2341	2	2339		9		9
8	2	1248.2	35.330	35.329	2	6.908	6.783	27.726	183.9	2	183.1	2	111.6	0.00	2	22.85	2	1.49	2	18.60	2	0.20	2	0.10	2	0.00	2		9	799.8	460.8	2	2200.9	2	7.7027	2	2350	2	2341		9		9
7	2	1399.4	35.333	35.334	2	6.510	6.372	27.785	197.7	2	196.1	2	101.4	0.00	2	21.68	2	1.41	2	18.60	2		9		9		9		9	770.7	435.5	2	2197.7	2	7.7158	2		9	2343		9		9
6	2	1549.5	35.277	35.280	2	5.840	5.693	27.829	208.8	2	207.3	2	95.1	0.00	2	21.09	2	1.40	2	19.60	2	0.14	2	0.09	2	0.01	2		9	761.4	416.8	2	2193.6	2	7.7214	2	2348	2	2341		9		9
5	2	1699.0	35.211	35.209	2	5.243	5.088	27.850	217.1	2	216.2	2	90.8	0.00	2	21.09	2	1.41	2	21.80	2		9		9		9		9	761.3	405.2	3	2192.6	2	7.7200	2	2349	2	2340		9		9
4	2	1899.3	35.125	35.125	2	4.458	4.293	27.872	225.8	2	225.4	2	87.7	0.00	2	20.99	2	1.42	2	24.80	2	0.05	2	0.03	2	0.00	2		9	760.8	389.9	2	2192.0	2	7.7213	2	2344	2	2339		9		9
3	2	2100.2	35.066	35.064	2	3.956	3.779	27.879	229.6	2	229.3	2	87.9		9		9		9		9		9		9		9		9	767.9	381.9	2	2194.1	2	7.7190	2	2338	2	2338		9		9
2	2	2298.4	35.012	35.012	2	3.507	3.318	27.882	230.2	2	229.8	2	91.1	0.00	2	21.78	2	1.49	2	32.10	2	0.03	2	0.00	2	0.00	2		9	774.6	379.1	2	2198.3	2	7.7128	2		9	2342		9		9
1	2	2608.0	34.967	34.968	2	3.080	2.868	27.889	231.8	2	231.8	2	92.9		9		9		9		9	0.01	2	0.01	2	0.00	2		9	788.1	375.6	2	2204.2	2	7.7126	2		9	2345		9		9

* WOCE water sample quality flag (F) for parameter for the previous column
** WOCE quality flag (F) for "Niskin" sample bottle
*** PSS-78 scale
**** ITS0 scale

A5R
NOAA Ship Ronald H. Brown

STATION 8 DATE 1/25/1998 LATITUDE 27.232° N
LONGITUDE 15.596° W

Bottle Number	F**	Pressure db	CTD Salinity***	Bottle Salinity***	F*	Temp**** °C	Theta °C	Sigma Theta	CTD O2 µmol/kg	F*	Bottle O2 µmol/kg	F*	AOU	NO2 µmol/kg	F*	NO3 µmol/kg	F*	PO4 µmol/kg	F*	Si(OH)4 µmol/kg	F*	CFC-11 pmol/kg	F*	CFC-12 pmol/kg	F*	CFC-113 pmol/kg	F*	CCl4 pmol/kg	F*	fCO2 at 20 °C µatm	fCO2 INSITU µatm	F*	DIC µmol/kg	F*	pH	F*	Measured TA µmol/kg	F*	Calculated TA µmol/kg	TOC µmol/kg	F*	TON µmol/kg	F*
33	2	3.0	36.965	36.967	2	20.566	20.565	26.111	229.0	2	226.8	2	-6.9	0.00	2	0.00	2	0.00	2	0.30	2	2.22	2	1.27	2	0.17	2		9	344.1	352.1	6	2099.9	2	8.0276	2	2417	2	2420		9		9
32	2	23.1	36.963	36.963	2	20.568	20.564	26.111	227.2	2	226.8	2	-6.9	0.00	2	0.10	2	0.00	2	0.60	2		9		9		9		9			9		9	8.0233	2	2419	2			9		9
31	2	47.9	36.964	36.965	2	20.578	20.569	26.111	226.7	2	226.8	2	-6.9	0.00	2	0.00	2	0.01	2	0.30	2		9		9		9		9			9	2098.9	2	8.0290	2	2417	2	2420		9		9
30	2	73.5	36.965	36.966	2	20.581	20.567	26.114	226.0	2	226.8	2	-6.9	0.00	2	0.10	2	0.01	2	0.60	2		9		9		9		9	343.8	351.9	2		9		9		9			9		9
29	2	94.8	36.961	36.964	2	20.583	20.565	26.113	226.5	2	226.9	2	-7.0	0.00	2	0.10	2	0.02	2	0.40	2		9		9		9		9			9	2098.4	2	8.0226	2	2419	2	2415		9		9
28	2	144.5	36.514	36.519	2	17.710	17.685	26.517	192.9	2	200.3	2	32.3	0.01	2	4.68	2	0.26	2	1.30	2		9		9		9		9	433.1	395.1	2	2124.8	2	7.9433	2	2389	2	2389		9		9
27	2	196.8	36.328	36.323	2	16.401	16.369	26.692	192.8	2	192.5	2	46.4	0.01	2	7.22	2	0.41	2	2.00	2	2.40	6	1.32	6	0.06	6		9			9	2131.6	2	7.9082	2	2377	2	2375		9		9
26	2	247.4	36.152	36.154	2	15.297	15.259	26.812	190.1	2	192.9	2	51.5	0.00	2	8.88	2	0.50	2	2.50	2		9		9		9		9	494.1	407.9	2	2135.3	2	7.8899	2	2366	2	2367		9		9
25	2	298.5	36.016	36.023	2	14.520	14.475	26.881	177.9	2	176.2	2	72.3	0.00	2	11.91	2	0.69	2	4.00	2	2.31	2	1.22	2	0.03	2		9			9		9		9		9			9		9
24	2	349.3	35.909	35.901	2	13.759	13.708	26.962	181.1	2	177.7	2	74.8	0.00	2	13.08	2	0.77	2	4.30	2		9		9		9		9	576.6	446.9	2	2152.5	2	7.8285	2	2353	2	2351		9		9
23	2	384.2	35.855	35.854	2	13.366	13.311	27.004	180.0	2	183.7	2	71.0	0.00	2	12.98	2	0.76	2	4.20	2		9		9		9		9			9		9		9		9			9		9
22	2	474.4	35.687	35.685	2	12.196	12.132	27.110	172.8	2	173.0	2	88.3	0.00	2	16.11	2	0.97	2	6.00	2	1.95	2	1.03	2	0.03	2		9			9	2163.5	2	7.7836	2	2342	2	2340		9		9
21	2	527.7	35.591	35.602	2	11.515	11.447	27.167	169.8	2	164.8	2	100.4	0.00	2	18.06	2	1.09	2	7.50	2		9		9		9		9	695.7	490.9	2	2171.5	2	7.7589	2	2338	2	2336		9		9
20	2	623.8	35.511	35.516	2	10.727	10.649	27.252	162.1	2	158.7	2	111.3	0.00	2	20.11	2	1.23	2	9.10	2		9		9		9		9			9		9		9		9			9		9
19	2	691.5	35.448	35.453	2	10.122	10.039	27.310	152.8	2	151.2	2	122.5	0.00	2	21.67	2	1.36	2	10.70	2	0.99	2	0.52	2	0.02	2		9			9		9		9		9			9		9
18	2	771.6	35.456	35.455	2	9.681	9.590	27.394	155.6	2	159.3	2	117.1	0.00	2	21.67	2	1.35	2	11.80	2		9		9		9		9			9		9		9		9			9		9
17	2	846.6	35.404	35.410	2	9.044	8.948	27.459	158.9	2	154.7	2	125.7	0.00	2	23.04	2	1.45	2	13.80	2		9		9		9		9	803.0	510.1	6	2197.0	2	7.6978	2	2338	2	2335		9		9
16	2	936.7	35.361	35.360	2	8.342	8.240	27.537	151.8	2	155.1	2	129.9	0.00	2	24.12	2	1.54	2	15.60	2	0.38	2	0.20	2	0.00	2		9			9		9		9		9			9		9
15	2	946.4	35.374	35.373	2	8.291	8.188	27.555	153.4	2	158.6	2	126.7	0.00	2	23.82	2	1.52	2	15.20	2		9		9		9		9	823.5	506.0	2	2202.2	6	7.6886	2	2338	2	2337		9		9
14	2	1037.5	35.371	35.374	2	7.948	7.837	27.606	165.4	2	164.4	2	123.2	0.00	2	23.34	2	1.50	2	15.30	2		9		9		9		9			9		9		9		9			9		9
13	2	1139.1	35.350	35.349	2	7.368	7.250	27.676	172.3	2	173.0	2	118.5	0.00	2	23.04	2	1.50	2	16.20	2	0.22	2	0.12	2	-0.01	2		9	806.8	475.1	2	2200.9	2	7.6911	2	2341	2	2336		9		9
12	2	1238.4	35.318	35.327	2	6.868	6.744	27.722	184.2	2	181.5	2	113.5	0.00	2	22.55	2	1.48	2	17.20	2		9		9		9		9			9		9		9		9			9		9
11	2	1337.8	35.288	35.290	2	6.320	6.191	27.773	191.5	2	192.6	2	106.3	0.00	2	22.16	2	1.46	2	18.50	2		9		9		9		9	788.4	442.0	2	2197.3	2	7.7055	2	2344	2	2338		9		9
10	2	1498.5	35.205	35.205	2	5.606	5.467	27.799	199.1	2	199.5	2	104.7	0.00	2	22.46	2	1.49	2	21.30	2	0.08	2	0.05	2	-0.01	2		9			9		9		9		9			9		9
9	2	1647.6	35.150	35.152	2	4.981	4.835	27.830	208.3	2	209.5	2	99.5	0.00	2	22.17	2	1.48	2	23.40	2		9		9		9		9			9		9		9		9			9		9
8	2	1799.5	35.114	35.115	2	4.579	4.423	27.848	215.6	2	215.8	2	96.3	0.00	2	22.07	2	1.48	2	25.30	2		9		9		9		9			9		9		9		9			9		9
7	2	1941.3	35.082	35.083	2	4.242	4.076	27.860	220.5	2	220.1	2	94.8	0.00	2	21.97	2	1.48	2	27.10	2	0.03	2	0.02	2	-0.01	2		9	777.4	394.6	2	2194.7	2	7.7103	2	2341	2	2337		9		9
6	2	2098.2	35.045	35.045	2	3.864	3.689	27.872	224.7	2	226.6	2	91.3	0.00	2	21.88	2	1.48	2	28.80	2		9		9		9		9			9		9		9		9			9		9
5	2	2297.6	35.009	35.009	2	3.524	3.335	27.878	228.3	2	228.7	2	92.1	0.00	2	21.97	2	1.49	2	30.80	2		9		9		9		9			9		9		9		9			9		9
4	2	2499.8	34.985	34.984	2	3.267	3.062	27.886	230.9	2	230.9	2	92.2	0.00	2	21.97	2	1.50	2	32.50	2	0.02	2	0.00	3	0.00	2		9	781.4	378.2	2	2199.9	2	7.7122	2	2348	2	2343		9		9
3	2	2694.8	34.964	34.963	2	3.047	2.827	27.891	233.3	2	232.9	2	92.1	0.00	2	21.88	2	1.51	2	34.80	2		9		9		9		9			9		9		9		9			9		9
2	2	2895.5	34.949	34.950	2	2.902	2.664	27.896	234.4	2	234.0	2	92.4	0.00	2	22.07	2	1.52	2	37.00	2		9		9		9		9			9	2204.7	2	7.7141	2	2355	2	2349		9		9
1	2	3173.2	34.927	34.927	2	2.660	2.399	27.901	234.3	2	234.3	2	94.3	0.00	2	22.46	2	1.52	2	41.20	2	0.01	2	0.02	3	0.00	2		9	786.9	369.0	2	2213.6	2	7.7166	2	2362	2	2359		9		9

* WOCE water sample quality flag (F) for parameter for the previous column
** WOCE quality flag (F) for "Niskin" sample bottle
*** PSS-78 scale
**** ITS0 scale

A5R
NOAA Ship Ronald H. Brown

STATION 9 DATE 1/25/1998 LATITUDE 27.032° N
LONGITUDE 16.115° W

Bottle Number	F**	Pressure db	CTD Salinity***	Bottle Salinity***	F*	Temp**** °C	Theta °C	Sigma Theta	CTD O2 µmol/kg	F*	Bottle O2 µmol/kg	F*	AOU	NO2 µmol/kg	F*	NO3 µmol/kg	F*	PO4 µmol/kg	F*	Si(OH)4 µmol/kg	F*	CFC-11 pmol/kg	F*	CFC-12 pmol/kg	F*	CFC-113 pmol/kg	F*	CCl4 pmol/kg	F*	fCO2 at 20 °C µatm	fCO2 INSITU µatm	F*	DIC µmol/kg	F*	pH	F*	Measured TA µmol/kg	F*	Calculated TA µmol/kg	TOC µmol/kg	F*	TON µmol/kg	F*
32	2	3.7	36.900	36.900	2	20.469	20.468	26.088	234.0	2	227.3	2	-6.9	0.01	2	0.10	2	0.01	2	0.10	2	2.26	2	1.30	2	0.18	2	9		364.4	371.3	2	2097.8	6	8.0278	2	9		2417		9		9
31	2	27.9	36.901	36.901	2	20.477	20.472	26.088	224.5	2	227.4	2	-7.0	0.02	2	0.10	2	0.01	2	0.10	2	2.28	2	1.32	2	0.20	2	9				9		9		9	9				9		9
30	2	56.3	36.900	36.901	2	20.480	20.469	26.090	225.6	2	227.5	2	-7.1	0.02	2	0.10	2	0.02	2	0.10	2	2.25	6	1.31	6	0.17	6	9				9		9		9	9				9		9
29	2	84.2	36.900	36.901	2	20.486	20.470	26.092	225.7	2	227.3	2	-6.9	0.01	2	0.10	2	0.02	2	0.10	2	2.27	2	1.30	2	0.19	2	9				9		9		9	9				9		9
28	2	107.2	36.894	36.898	2	20.479	20.459	26.091	225.7	2	227.0	2	-6.5	0.02	2	0.10	2	0.02	2	0.10	2	2.24	2	1.31	2	0.17	2	9				9		9		9	9				9		9
27	2	147.9	36.620	36.621	2	18.457	18.431	26.413	194.7	2	196.4	2	32.8	0.02	2	4.49	2	0.26	2	1.00	2	2.37	2	1.35	2	0.11	2	9				9		9		9	9				9		9
26	2	174.8	36.485	36.478	2	17.402	17.372	26.573	191.7	2	193.8	2	40.3	0.01	2	5.95	2	0.34	2	1.40	2	2.43	2	1.38	2	0.08	2	9				9		9		9	9				9		9
25	2	209.4	36.365	36.368	2	16.590	16.556	26.677	192.6	2	193.4	2	44.5	0.01	2	6.83	2	0.39	2	1.80	2	2.43	2	1.38	2	0.07	2	9				9		9		9	9				9		9
24	2	247.8	36.243	36.216	2	15.868	15.829	26.754	192.9	2	194.7	2	46.9	0.01	2	8.10	2	0.48	2	2.20	2	2.47	2	1.37	2	0.05	2	9				9		9		9	9				9		9
23	2	299.1	36.066	36.070	2	14.742	14.697	26.872	190.5	2	188.3	2	59.0	0.00	2	10.25	2	0.61	2	3.10	2	2.42	2	1.34	2	0.03	2	9				9		9		9	9				9		9
22	2	351.9	35.938	35.935	2	13.896	13.845	26.956	186.0	2	181.9	2	69.9	0.00	2	12.49	2	0.75	2	4.00	2		9		9	0.05	2	9				9		9		9	9				9		9
21	2	398.2	35.835	35.838	2	13.263	13.207	27.011	181.1	2	176.6	2	78.7	0.00	2	14.06	2	0.84	2	4.70	2	2.19	2	1.18	2	0.03	2	9				9		9		9	9				9		9
20	2	496.8	35.632	35.635	2	11.884	11.818	27.128	160.7	2	155.7	2	107.4	0.00	2	18.65	2	1.15	2	7.50	2	1.67	2	0.89	2	0.02	2	9				9		9		9	9				9		9
19	2	599.6	35.515	35.513	2	10.954	10.878	27.213	150.6	2	147.3	2	121.3	0.00	2	21.19	2	1.33	2	9.80	2	1.29	2	0.68	2	0.02	2	9				9		9		9	9				9		9
18	2	698.8	35.347	35.348	2	9.582	9.501	27.321	132.5	2	128.6	2	148.5	0.00	2	25.49	2		4	13.80	2	0.69	2	0.35	2	0.01	2	9				9		9		9	9				9		9
17	2	799.4	35.290	35.290	2	8.881	8.791	27.393	129.4	2	130.7	2	150.9	0.00	2	26.37	2	1.70	2	15.70	2	0.47	2	0.24	2	0.01	2	9				9		9		9	9				9		9
16	2	899.6	35.253	35.255	2	8.137	8.041	27.481	136.8	2	139.7	2	146.8	0.00	2	26.56	2	1.73	2	17.50	2	0.28	2	0.14	2	0.00	2	9				9		9		9	9				9		9
15	2	1001.7	35.255	35.254	2	7.556	7.452	27.570	149.7	2	152.1	2	138.2	0.00	2	25.98	2	1.70	2	18.60	2	0.21	2	0.11	2	0.00	2	9				9		9		9	9				9		9
14	2	1098.4	35.282	35.282	2	7.332	7.219	27.626	161.4	2	161.3	2	130.5	0.00	2	24.80	2	1.64	2	18.60	2	0.18	2	0.10	2	0.00	2	9				9		9		9	9				9		9
13	2	1199.0	35.268	35.268	2	6.745	6.626	27.698	172.7	2	174.0	2	121.9	0.00	2	23.92	2	1.59	2	19.10	2	0.14	2	0.08	2	0.00	2	9				9		9		9	9				9		9
12	2	1398.8	35.229	35.228	2	5.883	5.752	27.782	195.0	2	194.7	2	107.4	0.00	2	22.75	2	1.52	2	20.40	2	0.10	2	0.06	2	0.00	2	9				9		9		9	9				9		9
11	2	1597.1	35.187	35.183	2	5.249	5.104	27.828	207.4	2	208.7	2	98.2	0.00	2	22.07	2	1.48	2	21.70	2		9		9		9	9				9		9		9	9				9		9
10	2	1800.9	35.114	35.114	2	4.512	4.356	27.855	219.5	2	218.9	2	93.7	0.00	2	21.97	2	1.48	2	24.20	2	0.03	2	0.02	2	0.00	2	9				9		9		9	9				9		9
9	2	1999.1	35.069	35.069	2	4.083	3.914	27.867	224.8	2	224.3	2	91.8	0.00	2	21.68	2	1.48	2	26.60	2		9		9		9	9				9		9		9	9				9		9
8	2	2192.4	35.028	35.030	2	3.695	3.513	27.876	226.8	2	227.3	2	92.1	0.00	2	21.78	2	1.49	2	30.20	2	0.02	2	0.01	2	0.00	2	9				9		9		9	9				9		9
7	2	2398.1	34.999	34.998	2	3.406	3.209	27.883	229.3	2	229.4	2	92.5	0.00	2	21.88	2	1.50	2	33.10	2		9		9		9	9				9		9		9	9				9		9
6	2	2598.7	34.971	34.971	2	3.130	2.918	27.889	232.7	2	232.8	2	91.5	0.00	2	21.98	2	1.51	2	35.90	2	0.01	6	0.01	6	0.00	6	9				9		9		9	9				9		9
5	2	2799.8	34.955	34.955	2	2.964	2.735	27.893	234.1	2	233.9	2	91.9	0.00	2	22.17	2	1.51	2	38.40	2		9		9		9	9				9		9		9	9				9		9
4	2	2988.9	34.937	34.937	2	2.769	2.524	27.898	234.5	2	235.1	2	92.5	0.00	2	22.46	2	1.53	2	40.70	2	0.01	2	0.01	2	0.00	2	9				9		9		9	9				9		9
3	2	3200.0	34.924	34.925	2	2.647	2.383	27.901	235.0	2	235.0	2	93.8	0.00	2	22.56	2	1.54	2	42.10	2		9		9		9	9				9		9		9	9				9		9
2	2	3399.8	34.917	34.918	2	2.570	2.287	27.904	234.7	2	233.8	2	95.8	0.00	2	22.66	2	1.55	2	43.00	2	0.01	2	0.01	2	0.00	2	9				9		9		9	9				9		9
1	2	3524.5	34.916	34.916	2	2.579	2.282	27.905	234.6	2	234.1	2	95.5	0.00	6	22.56	6	1.55	6	43.70	6	0.01	2	0.00	2	0.00	2	9				9		9		9	9				9		9

* WOCE water sample quality flag (F) for parameter for the previous column
** WOCE quality flag (F) for "Niskin" sample bottle
*** PSS-78 scale
**** ITS0 scale

A5R
NOAA Ship Ronald H. Brown

STATION 10 DATE 1/25/1998 LATITUDE 26.833° N
LONGITUDE 16.668° W

Bottle Number	F**	Pressure db	CTD Salinity***	Bottle Salinity***	F*	Temp**** °C	Theta °C	Sigma Theta	CTD O2 µmol/kg	F*	Bottle O2 µmol/kg	F*	AOU	NO2 µmol/kg	F*	NO3 µmol/kg	F*	PO4 µmol/kg	F*	Si(OH)4 µmol/kg	F*	CFC-11 pmol/kg	F*	CFC-12 pmol/kg	F*	CFC-113 pmol/kg	F*	CCl4 pmol/kg	F*	fCO2 at 20 °C µatm	fCO2 INSITU µatm	F*	DIC µmol/kg	F*	pH	F*	Measured TA µmol/kg	F*	Calculated TA µmol/kg	TOC µmol/kg	F*	TON µmol/kg	F*
35	2	28.9	36.890	36.889	2	20.521	20.516	26.069	222.2	2	223.6	2	-3.4	0.02	2	0.10	2	0.01	2	-9.00	4	-9.00	9	-9.00	9	-9.00	9	-9.00	9	351.1	358.6	2	2097.5	6	8.0239	2	2417	2	2414	65.0	2	-9.0	9
34	2	58.0	36.890	36.890	2	20.526	20.515	26.070	221.8	2	224.0	2	-3.8	0.02	2	0.10	2	0.01	2	-9.00	4	-9.00	9	-9.00	9	-9.00	9	-9.00	9	351.9	359.5	2	2098.0	2	8.0217	2	-9	9	2413	61.1	2	-9.0	9
33	2	83.4	36.889	36.890	2	20.528	20.512	26.072	222.8	2	223.6	2	-3.3	0.02	2	0.10	2	0.02	2	-9.00	4	-9.00	9	-9.00	9	-9.00	9	-9.00	9	353.2	360.7	2	2098.3	2	8.0224	2	2416	2	2414	65.9	2	-9.0	9
32	2	116.9	36.764	36.749	2	19.832	19.810	26.166	221.7	2	207.2	2	16.1	0.06	2	2.24	2	0.15	2	-9.00	4	-9.00	9	-9.00	9	-9.00	9	-9.00	9	392.5	389.9	6	2113.5	2	7.9868	2	2410	2	2406	56.6	2	-9.0	9
31	2	159.5	36.531	36.530	2	17.744	17.717	26.523	189.9	2	194.2	2	38.3	0.01	2	4.97	2	0.29	2	-9.00	4	-9.00	9	-9.00	9	-9.00	9	-9.00	9	437.0	398.9	2	2127.3	2	-9.0000	9	-9	9	-9	51.8	2	-9.0	9
30	2	200.0	36.382	36.374	2	16.706	16.673	26.662	194.7	2	194.8	2	42.6	0.01	2	6.15	2	0.36	2	-9.00	4	-9.00	9	-9.00	9	-9.00	9	-9.00	9	452.2	395.6	2	2129.1	2	7.9233	2	2378	2	2381	48.6	2	-9.0	9
29	2	248.8	36.190	36.196	2	15.538	15.499	26.788	188.0	2	185.9	2	57.3	0.00	2	8.78	2	0.51	2	-9.00	4	-9.00	9	-9.00	9	-9.00	9	-9.00	9	493.5	411.3	2	2138.3	2	7.8960	2	2369	2	2374	-9.0	9	-9.0	9
28	2	300.4	35.972	35.968	2	14.269	14.224	26.901	166.5	2	162.3	2	87.5	0.00	2	13.56	2	0.80	2	-9.00	4	-9.00	9	-9.00	9	-9.00	9	-9.00	9	583.1	461.3	2	2159.1	2	-9.0000	4	-9	9	-9	46.9	2	-9.0	9
27	2	348.8	35.913	35.914	2	13.804	13.753	26.956	171.3	2	171.5	2	80.8	0.00	2	13.37	2	0.79	2	-9.00	4	-9.00	9	-9.00	9	-9.00	9	-9.00	9	580.9	450.7	2	2153.2	2	7.8266	2	2353	2	2351	-9.0	9	-9.0	9
26	2	400.8	35.818	35.813	2	13.145	13.089	27.021	174.0	2	172.2	2	83.7	0.00	2	14.54	2	0.86	2	-9.00	4	-9.00	9	-9.00	9	-9.00	9	-9.00	9	605.1	456.7	2	2156.2	2	7.8102	2	2347	2	2345	45.7	2	-9.0	9
25	2	450.9	35.709	35.705	2	12.364	12.303	27.093	173.0	2	172.7	2	87.6	0.00	2	15.91	2	0.95	2	-9.00	4	-9.00	9	-9.00	9	-9.00	9	-9.00	9	642.0	469.0	2	2159.1	2	7.7906	2	-9	9	2338	-9.0	9	-9.0	9
24	2	499.1	35.604	35.609	2	11.651	11.586	27.150	167.2	2	159.9	2	104.5	0.00	2	18.54	2	1.12	2	-9.00	4	-9.00	9	-9.00	9	-9.00	9	-9.00	9	688.9	488.5	2	2170.2	2	7.7572	2	2339	2	2334	46.4	2	-9.0	9
23	2	548.8	35.532	35.530	2	11.134	11.064	27.191	153.5	2	149.8	2	117.7	0.00	2	20.69	2	1.25	2	-9.00	4	-9.00	9	-9.00	9	-9.00	9	-9.00	9	742.4	515.7	2	2178.4	2	7.7291	2	-9	9	2330	-9.0	9	-9.0	9
22	2	598.1	35.477	35.477	2	10.640	10.566	27.239	146.9	2	145.4	2	125.1	0.00	2	21.77	2	1.34	2	-9.00	4	-9.00	9	-9.00	9	-9.00	9	-9.00	9	771.6	524.7	2	2183.3	2	7.7141	2	-9	9	2328	43.4	2	-9.0	9
21	2	649.8	35.451	35.449	2	10.282	10.203	27.283	148.1	2	145.0	2	127.7	0.00	2	22.35	2	1.39	2	-9.00	4	-9.00	9	-9.00	9	-9.00	9	-9.00	9	793.1	531.4	2	2188.0	2	7.7052	2	2331	2	2329	-9.0	9	-9.0	9
20	2	694.4	35.374	35.375	2	9.691	9.610	27.324	141.4	2	135.1	2	141.3	0.00	2	24.50	2	1.54	2	-9.00	4	-9.00	9	-9.00	9	-9.00	9	-9.00	9	852.6	557.8	2	2199.1	6	7.6767	2	2332	2	2328	42.6	2	-9.0	9
19	2	749.0	35.349	35.349	2	9.300	9.214	27.372	138.3	2	136.8	2	142.1	0.00	2	24.89	2	1.58	2	-9.00	4	-9.00	9	-9.00	9	-9.00	9	-9.00	9	867.4	558.1	2	2205.4	2	7.6724	2	-9	9	2333	-9.0	9	-9.0	9
18	2	799.9	35.305	35.303	2	8.735	8.646	27.428	134.9	2	135.5	2	147.0	0.00	2	25.87	2	1.64	2	-9.00	4	-9.00	9	-9.00	9	-9.00	9	-9.00	9	894.1	561.8	2	2204.4	2	7.6629	2	2333	2	2328	49.7	2	-9.0	9
17	2	900.6	35.318	35.312	2	8.275	8.178	27.512	146.7	2	145.7	2	139.8	0.00	2	25.28	2	1.61	2	-9.00	4	-9.00	9	-9.00	9	-9.00	9	-9.00	9	877.9	539.9	2	2201.9	2	7.6701	2	2334	2	2328	-9.0	9	-9.0	9
16	2	1000.1	35.346	35.346	2	7.929	7.823	27.589	156.7	2	158.4	2	129.3	0.00	2	24.21	2	1.54	2	-9.00	4	-9.00	9	-9.00	9	-9.00	9	-9.00	9	822.5	496.8	2	2200.5	2	7.6849	2	-9	9	2333	42.4	2	-9.0	9
15	2	1098.5	35.362	35.363	2	7.591	7.476	27.653	169.7	2	168.9	2	121.1	0.00	2	23.43	2	1.50	2	-9.00	4	-9.00	9	-9.00	9	-9.00	9	-9.00	9	795.7	472.7	2	2201.1	2	7.6976	2	2342	2	2339	-9.0	9	-9.0	9
14	2	1198.1	35.287	35.288	2	6.829	6.710	27.701	173.8	2	173.4	2	121.9	0.00	2	23.92	2	1.55	2	-9.00	4	-9.00	9	-9.00	9	-9.00	9	-9.00	9	813.8	467.2	2	2202.4	2	-9.0000	4	2341	2	-9	42.5	2	-9.0	9
13	2	1298.2	35.304	35.304	2	6.602	6.474	27.747	185.2	2	184.1	2	112.8	0.00	2	22.84	2	1.48	2	-9.00	4	-9.00	9	-9.00	9	-9.00	9	-9.00	9	781.0	443.1	2	2198.9	2	7.7040	2	-9	9	2339	-9.0	9	-9.0	9
12	2	1399.1	35.238	35.237	2	5.957	5.825	27.780	193.2	2	191.3	2	110.3	0.00	2	22.75	2	1.50	2	-9.00	4	-9.00	9	-9.00	9	-9.00	9	-9.00	9	802.6	442.4	2	2198.0	2	7.7005	2	2338	2	2337	42.1	2	-9.0	9
11	2	1500.5	35.213	35.216	2	5.591	5.452	27.807	200.8	2	199.4	2	104.9	0.00	2	22.26	2	1.47	2	-9.00	4	-9.00	9	-9.00	9	-9.00	9	-9.00	9	794.4	430.4	2	2194.5	2	7.7075	2	-9	5	2336	-9.0	9	-9.0	9
10	2	1600.1	35.192	35.191	2	5.309	5.163	27.825	207.4	2	204.9	2	101.5	0.00	2	21.97	2	1.46	2	-9.00	4	-9.00	9	-9.00	9	-9.00	9	-9.00	9	777.4	415.2	2	2193.3	2	7.7097	2	-9	9	2335	42.4	2	-9.0	9
9	2	1799.0	35.110	35.111	2	4.533	4.377	27.850	217.2	2	215.5	2	97.0	0.00	2	21.77	2	1.46	2	-9.00	4	-9.00	9	-9.00	9	-9.00	9	-9.00	9	785.9	404.8	2	2189.1	2	7.7116	2	2337	2	2331	-9.0	9	-9.0	9
8	2	1998.7	35.074	35.074	2	4.147	3.977	27.865	222.5	2	221.3	2	94.3	0.00	2	21.77	2	1.47	2	-9.00	4	-9.00	9	-9.00	9	-9.00	9	-9.00	9	774.8	391.3	2	2190.7	2	7.7141	2	2344	2	2334	42.3	2	-9.0	9
7	2	2201.0	35.036	35.035	2	3.763	3.579	27.876	226.3	2	225.4	2	93.4	0.00	2	21.77	2	1.48	2	-9.00	4	-9.00	9	-9.00	9	-9.00	9	-9.00	9	775.8	384.4	2	2193.7	2	7.7135	2	-9	9	2337	-9.0	9	-9.0	9
6	2	2450.4	34.990	34.991	2	3.327	3.126	27.884	229.1	2	228.7	2	93.8	0.00	2	21.97	2	1.50	2	-9.00	4	-9.00	9	-9.00	9	-9.00	9	-9.00	9	777.9	377.2	2	2197.1	2	7.7137	2	2344	2	2340	41.8	2	-9.0	9
5	3	2632.8	34.966	34.964	2	3.072	2.857	27.890	231.9	2	230.1	2	94.7	0.00	2	22.07	2	1.51	2	-9.00	4	-9.00	9	-9.00	9	-9.00	9	-9.00	9	777.6	372.1	2	2199.6	2	7.7137	2	-9	9	2342	-9.0	9	-9.0	9
4	2	2947.3	34.940	34.939	2	2.810	2.569	27.897	233.4	2	231.9	2	95.3	0.00	2	22.26	2	1.54	2	-9.00	4	-9.00	9	-9.00	9	-9.00	9	-9.00	9	776.2	366.4	2	2205.4	2	7.7163	2	-9	9	2350	41.6	2	-9.0	9
3	2	3147.2	34.929	34.929	2	2.689	2.430	27.900	233.5	2	232.7	2	95.7	0.00	2	22.17	2	1.53	2	-9.00	4	-9.00	9	-9.00	9	-9.00	9	-9.00	9	775.2	363.6	2	2209.0	2	-9.0000	4	2360	2	-9	41.3	2	-9.0	9
2	2	3391.7	34.918	34.918	2	2.587	2.304	27.904	233.0	2	233.0	2	96.4	0.00	2	22.56	2	1.54	2	-9.00	4	-9.00	9	-9.00	9	-9.00	9	-9.00	9	774.5	361.4	2	2214.6	2	7.7186	2	2364	2	2360	42.2	2	-9.0	9
1	2	3658.1	34.909	34.910	2	2.516	2.206	27.907	234.2	2	233.9	2	96.4	0.00	6	22.56	6	1.55	6	-9.00	4	-9.00	9	-9.00	9	-9.00	9	-9.00	9	770.9	358.3	2	2215.3	2	7.7177	2	-9	9	2360	42.1	2	-9.0	9

* WOCE water sample quality flag (F) for parameter for the previous column
** WOCE quality flag (F) for "Niskin" sample bottle
*** PSS-78 scale
**** ITS-90 scale

A5R
NOAA Ship Ronald H. Brown

STATION 11 DATE 1/25/1998 LATITUDE 26.667° N
LONGITUDE 17.199° W

Bottle Number	F**	Pressure db	CTD Salinity***	Bottle Salinity***	F*	Temp**** °C	Theta °C	Sigma Theta	CTD O2 µmol/kg	F*	Bottle O2 µmol/kg	F*	AOU	NO2 µmol/kg	F*	NO3 µmol/kg	F*	PO4 µmol/kg	F*	Si(OH)4 µmol/kg	F*	CFC-11 pmol/kg	F*	CFC-12 pmol/kg	F*	CFC-113 pmol/kg	F*	CCl4 pmol/kg	F*	fCO2 at 20 °C µatm	fCO2 INSITU µatm	F*	DIC µmol/kg	F*	pH	F*	Measured TA µmol/kg	F*	Calculated TA µmol/kg	TOC µmol/kg	F*	TON µmol/kg	F*
36	2	4.0	36.986	36.986	2	20.701	20.700	26.090	224.8	2	223.7	2	-4.3	0.00	2	0.00	2	0.00	2	4		2.26	2	1.32	2	0.19	2	9		343.6	353.4	2	2098.0	6	8.0316	2	2421	6	2421	9	9
35	2	27.2	36.986	36.986	2	20.705	20.700	26.092	222.5	2	219.1	2	0.3	0.00	2	0.00	2	0.00	2	4		1		1		0.19	2	9		346.1	356.1	2	2096.3	2	8.0297	2	2420	2	2418	9	9
34	2	58.2	36.983	36.981	2	20.700	20.689	26.094	221.9	2	223.4	2	-4.0	0.01	2	0.10	2	0.01	2	4		2.22	2	1.27	2	0.17	2	9				9		9		9		9		9	9	9
33	2	90.1	36.869	36.831	2	20.222	20.205	26.140	206.5	2	211.8	2	9.8	0.09	2	1.66	2	0.08	2	4		2.23	6	1.29	6	0.16	6	9		376.2	379.8	2	2107.0	2	7.9984	2	2408	2	2407	9	9
32	2	120.1	36.402	36.392	2	17.776	17.755	26.413	145.7	2	149.4	2	83.1	0.01	2	10.63	2	0.67	2	4		2.09	2	1.20	2	0.09	2	9				9		9		9		9		9	9	9
31	2	160.4	36.358	36.364	2	16.915	16.888	26.591	162.1	2	163.8	2	72.6	0.01	2	9.56	2	0.58	2	4		9		9		9		9				9	2146.5	2		4	2379	2		9	9
30	2	201.3	36.324	36.313	2	16.305	16.272	26.712	196.4	2	196.9	2	42.4	0.00	2	6.63	2	0.35	2	4		2.48	2	1.40	2	0.05	2	9		457.8	393.7	2	2126.3	2	7.9190	2	2378	2	2375	9	9
29	2	251.0	36.167	35.991	2	15.397	15.358	26.802	193.9	2	194.6	2	49.6	0.00	2	8.39	2	0.45	2	4		2.50	2	1.40	2	0.05	2	9				9		9		9		9		9	9	9
28	2	300.9	35.997	35.990	2	14.368	14.323	26.899	179.1	2	174.2	2	75.1	0.00	2	12.20	2	0.69	2	4		2.33	2	1.28	2	0.03	2	9		558.2	443.0	2	2148.7	2	7.8414	2		5	2354	9	9
27	2	350.3	35.885	35.886	2	13.722	13.671	26.952	157.3	2	157.4	2	95.4	0.00	2	15.13	2	0.89	2	4		2.08	2	1.13	2	0.03	2	9				9		9		9		9		9	9	9
26	2	400.9	35.803	35.805	2	12.998	12.942	27.039	178.4	2	179.7	2	77.0	0.00	2	13.86	2	0.80	2	4		2.24	2	1.21	2	0.04	2	9		594.4	445.7	2	2152.4	2	7.8174	2	2352	2	2345	9	9
25	2	449.6	35.740	35.738	2	12.516	12.455	27.088	185.0	2	181.9	2	77.5	0.00	2	14.64	2	0.85	2	4		9		9		9		9				9		9		9		9		9	9	9
24	2	500.5	35.672	35.668	2	12.008	11.941	27.136	181.6	2	178.1	2	84.3	0.00	2	15.91	2	0.94	2	4		1.98	2	1.07	2	0.04	2	9				9	2160.0	2	7.7896	2	2348	2	2339	9	9
23	2	550.1	35.607	35.607	2	11.492	11.421	27.184	175.4	2	171.7	2	93.7	0.00	2	17.38	2	1.04	2	4			9		9		9	9				9		9		9		9		9	9	9
22	2	600.2	35.539	35.537	2	10.894	10.819	27.242	166.6	2	162.8	2	106.1	0.00	2	19.33	2	1.17	2	4		1.41	2	0.75	2	0.02	2	9		721.7	495.8	2	2174.4	2	7.7437	2		9	2332	9	9
21	2	648.1	35.453	35.452	2	10.195	10.117	27.299	154.6	2	148.3	2	124.9	0.00	2	21.97	2	1.36	2	4			9		9		9	9				9		9		9		9		9	9	9
20	2	700.9	35.414	35.421	2	9.675	9.593	27.359	148.7	2	147.9	2	128.5	0.00	2	22.75	2	1.42	2	4		0.79	2	0.42	2	0.01	2	9				9	2190.7	2	7.7010	2		9	2330	9	9
19	2	751.0	35.354	35.353	2	9.239	9.153	27.385	140.3	2	138.9	2	140.3	0.00	2	24.60	2	1.55	2	4			9		9		9	9				9		9		9		9		9	9	9
18	2	799.8	35.340	35.343	2	8.906	8.816	27.428	140.6	2	142.7	2	138.7	0.00	2	24.70	2	1.56	2	4		0.47	6	0.24	6	0.00	6	9		855.4	540.7	2	2200.0	2	7.6761	2	2332	2	2329	9	9
17	2	896.9	35.236	35.235	2	7.921	7.826	27.500	145.3	2	138.1	2	149.8	0.00	2	26.66	2	1.72	2	4			9		9		9	9				9		9		9		9		9	9	9
16	2	1001.1	35.261	35.265	2	7.587	7.483	27.571	153.7	2	151.1	2	139.0	0.00	2	25.58	2	1.66	2	4		0.16	2	0.08	2	0.00	2	9		875.1	521.5	2	2205.0	6	7.6662	2		9	2330	9	9
15	2	1100.2	35.258	35.262	2	7.120	7.009	27.637	163.3	2	157.2	2	136.1	0.00	2	25.00	2	1.64	2	4			9		9		9	9				9		9		9		9		9	9	9
14	3	1200.0	35.345	35.340	2	7.097	6.975	27.712	179.0	2	176.2	2	117.2	0.00	2	22.94	2	1.50	2	4		0.17	2	0.09	2	0.00	2	9		801.5	465.7	2	2197.2	2	7.7007	2	2341	2	2336	9	9
13	2	1299.8	35.320	35.320	2	6.673	6.544	27.751	186.8	2	185.4	2	110.9	0.00	2	22.26	2	1.47	2	4			9		9		9	9				9		9		9		9		9	9	9
12	2	1399.8	35.300	35.301	2	6.229	6.094	27.795	196.3	2	196.3	2	103.2	0.00	2	21.68	2	1.44	2	4		0.15	6	0.09	6	0.00	6	9		775.2	432.2	2	2193.5	2	7.7132	2	2345	2	2338	9	9
11	2	1500.8	35.267	35.269	2	5.806	5.665	27.824	204.9	2	205.7	2	96.9	0.00	2	21.19	2	1.41	2	4			9		9		9	9				9		9		9		9		9	9	9
10	2	1600.2	35.223	35.223	2	5.375	5.229	27.843	211.7	2	210.3	2	95.6	0.00	2	21.09	2	1.39	2	4		0.09	2	0.04	2	-0.01	2	9				9		9		9		9		9	9	9
9	2	1800.4	35.138	35.139	2	4.606	4.449	27.864	219.9	2	219.2	2	92.7	0.00	2	21.09	2	1.41	2	4			9		9		9	9				9		9		9		9		9	9	9
8	2	2002.6	35.083	35.083	2	4.135	3.965	27.873	223.4	2	224.1	2	91.6	0.00	2	21.29	2	1.43	2	4		0.05	2	0.00	2	0.00	2	9		766.7	386.7	2	2191.7	2	7.7196	2		9	2337	9	9
7	2	2179.7	35.038	35.037	2	3.743	3.561	27.879	225.5	2	225.7	2	93.3	0.00	2	21.58	2	1.45	2	4			9		9		9	9				9		9		9		9		9	9	9
6	2	2449.7	34.990	34.992	2	3.303	3.102	27.886	229.7	2	229.0	2	93.7	0.00	2	21.78	2	1.47	2	4		0.01	2	-0.01	2	0.00	2	9				9		9		9		9		9	9	9
5	2	2648.1	34.970	34.970	2	3.096	2.879	27.891	232.2	2	231.4	2	93.2	0.00	2	21.88	2	1.48	2	4			9		9		9	9	773.4	370.5	2	2199.9	2	7.7155	2	2351	2	2344	9	9
4	2	2901.3	34.947	34.948	2	2.861	2.623	27.897	233.8	2	233.0	2	93.7	0.00	2	21.97	2	1.50	2	4		0.01	2	0.01	2	0.00	2	9				9		9		9		9		9	9	9
3	2	3150.8	34.931	34.931	2	2.704	2.444	27.901	233.6	2	233.3	2	94.9	0.00	2	22.17	2	1.51	2	4			9		9		9	9	776.1	364.5	2	2206.9	2	7.7167	2	2364	2	2351	9	9
2	2	3400.2	34.917	34.917	2	2.568	2.285	27.904	233.1	2	233.9	2	95.7	0.00	2	22.37	2	1.52	2	4			9		9		9	9				9		9		9		9		9	9	9
1	2	3703.9	34.904	34.904	2	2.457	2.143	27.908	237.5	2	238.7	2	92.1	0.00	6	22.27	6	1.51	6	4		0.00	2	0.00	4	0.00	2	9		772.8	358.2	2	2206.7	2	7.7217	2		9	2353	9	9

* WOCE water sample quality flag (F) for parameter for the previous column
** WOCE quality flag (F) for "Niskin" sample bottle
*** PSS-78 scale
**** ITS0 scale

A5R
NOAA Ship Ronald H. Brown

STATION 12 DATE 1/25/1998 LATITUDE 26.517° N
LONGITUDE 17.867° W

Bottle Number	F**	Pressure db	CTD Salinity***	Bottle Salinity***	F*	Temp**** °C	Theta °C	Sigma Theta	CTD O2 µmol/kg	F*	Bottle O2 µmol/kg	F*	AOU	NO2 µmol/kg	F*	NO3 µmol/kg	F*	PO4 µmol/kg	F*	Si(OH)4 µmol/kg	F*	CFC-11 pmol/kg	F*	CFC-12 pmol/kg	F*	CFC-113 pmol/kg	F*	CCl4 pmol/kg	F*	fCO2 at 20 °C µatm	fCO2 INSITU µatm	F*	DIC µmol/kg	F*	pH	F*	Measured TA µmol/kg	F*	Calculated CTA µmol/kg	TOC µmol/kg	F*	TON µmol/kg	F*
36	2	3.5	37.082	37.085	2	21.020	21.019	26.076	224.2	2	221.7	2	-3.7	0.00	4	0.00	2		4		4		9		9		9		9	339.8	354.0	2	2098.4	6	8.0368	6	2423	2	2426		9		9
35	2	21.1	37.081	37.081	2	21.032	21.028	26.074	222.9	2	222.9	2	-4.9	0.00	2	0.00	2		4		4		9		9		9		9				9		9		9		9		9		9	
34	2	44.4	37.081	37.080	2	21.030	21.021	26.077	221.3	2	222.3	2	-4.3	0.00	2	0.00	2		4	0.60	2		9		9		9		9				9		9		9		9		9		9	
33	2	68.0	37.080	37.081	2	21.031	21.018	26.078	221.2	2	222.4	2	-4.4	0.00	2	0.10	2		4	0.60	2		9		9		9		9				9		9		9		9		9		9	
32	2	99.4	37.066	37.045	2	20.981	20.962	26.085	218.0	2	221.5	2	-3.2	0.01	2	0.20	2		4	0.50	2		9		9		9		9				9		9		9		9		9		9	
31	2	149.5	36.521	36.520	2	17.701	17.675	26.525	207.2	2	210.6	2	22.1	0.01	2	2.63	2		4	0.90	2		9		9		9		9				9		9		9		9		9		9	
30	2	198.6	36.365	36.368	2	16.772	16.739	26.634	193.0	2	171.0	2	66.1	0.01	2	8.88	2		4	2.80	2		9		9		9		9				9		9		9		9		9		9	
29	2	250.2	36.245	36.244	2	15.868	15.828	26.756	195.7	2	196.2	2	45.3	0.01	2	7.42	2		4	2.30	2		9		9		9		9				9		9		9		9		9		9	
28	2	299.2	36.089	36.085	2	14.901	14.855	26.855	191.5	2	194.1	2	52.4	0.00	2	9.17	2		4	3.00	2		9		9		9		9				9		9		9		9		9		9	
27	2	350.8	35.958	35.957	2	14.046	13.994	26.940	189.9	2	187.2	2	63.8	0.00	2	11.32	2		4	3.90	2		9		9		9		9				9		9		9		9		9		9	
26	2	398.2	35.872	35.865	2	13.490	13.433	26.992	186.7	2	184.3	2	69.7	0.00	2	12.59	2		4	4.50	2		9		9		9		9				9		9		9		9		9		9	
25	2	448.8	35.759	35.753	2	12.806	12.744	27.046	174.6	2	163.4	2	94.5	0.00	2	15.91	2		4	6.20	2		9		9		9		9				9		9		9		9		9		9	
24	2	500.1	35.646	35.643	2	12.021	11.954	27.113	158.2	2	158.8	2	103.5	0.00	2	17.86	2		4	7.10	2		9		9		9		9				9		9		9		9		9		9	
23	2	550.2	35.548	35.545	2	11.295	11.224	27.175	157.3	2	148.5	2	118.1	0.00	2	20.21	2		4	8.70	2		9		9		9		9				9		9		9		9		9		9	
22	2	623.8	35.458	35.458	2	10.489	10.412	27.252	150.5	2	142.8	2	128.6	0.00	2	22.07	2		4	10.70	2		9		9		9		9				9		9		9		9		9		9	
21	2	699.4	35.394	35.396	2	9.762	9.680	27.329	141.5	2	140.4	2	135.5	0.00	2	23.53	2		4	12.90	2		9		9		9		9				9		9		9		9		9		9	
20	2	774.4	35.319	35.318	2	8.949	8.862	27.405	136.4	2	135.1	2	146.0	0.00	2	25.49	2		4	15.00	2		9		9		9		9				9		9		9		9		9		9	
19	2	850.5	35.248	35.247	2	8.275	8.183	27.455	136.6	2	133.8	2	151.8	0.00	2	26.76	2		4	17.10	2		9		9		9		9				9		9		9		9		9		9	
18	2	923.5	35.229	35.227	2	7.820	7.723	27.509	138.3	2	140.7	2	147.9	0.00	2	26.66	2		4	18.20	2		9		9		9		9				9		9		9		9		9		9	
17	2	1025.0	35.252	35.252	2	7.486	7.380	27.578	149.4	2	152.0	2	138.8	0.00	2	25.68	2		4	18.60	2		9		9		9		9				9		9		9		9		9		9	
16	2	1125.3	35.294	35.293	2	7.249	7.134	27.648	161.3	2	163.7	2	128.7	0.00	2	24.12	2		4	18.50	2		9		9		9		9				9		9		9		9		9		9	
15	2	1224.4	35.311	35.306	2	6.982	6.858	27.701	175.1	2	174.7	2	119.5	0.00	2	23.34	2		4	18.50	2		9		9		9		9				9		9		9		9		9		9	
14	2	1325.9	35.248	35.249	2	6.289	6.161	27.745	183.8	2	182.2	2	117.0	0.00	2	23.34	2		4	19.70	2		9		9		9		9				9		9		9		9		9		9	
13	2	1450.0	35.192	35.192	2	5.665	5.531	27.780	193.6	2	192.0	2	111.8	0.00	2	23.14	2		4	20.60	2		9		9		9		9				9		9		9		9		9		9	
12	2	1574.5	35.168	35.170	2	5.204	5.062	27.818	204.5	2	203.6	2	103.6	0.00	2	22.07	2		4	21.80	2		9		9		9		9				9		9		9		9		9		9	
11	2	1699.5	35.154	35.153	2	4.936	4.785	27.840	212.0	2	211.0	2	98.3	0.00	2	21.78	2		4	22.90	2		9		9		9		9				9		9		9		9		9		9	
10	2	1823.7	35.124	35.123	2	4.555	4.397	27.859	218.0	2	218.0	2	94.3	0.00	2	21.48	2		4	24.60	2		9		9		9		9				9		9		9		9		9		9	
9	2	1999.5	35.085	35.086	2	4.172	4.002	27.871	223.1	2	223.3	2	92.1	0.00	2	21.29	2		4	26.70	2		9		9		9		9				9		9		9		9		9		9	
8	2	2167.7	35.047	35.049	2	3.807	3.626	27.880	227.0	2	227.4	2	91.0	0.00	2	21.49	2		4	29.10	2		9		9		9		9				9		9		9		9		9		9	
7	2	2348.1	35.010	35.011	2	3.471	3.277	27.885	229.2	2	229.9	2	91.4	0.00	2	21.49	2		4	32.00	2		9		9		9		9				9		9		9		9		9		9	
6	2	2549.9	34.980	34.982	2	3.188	2.979	27.890	231.7	2	231.8	2	91.9	0.00	2	21.78	2		4	34.80	2		9		9		9		9				9		9		9		9		9		9	
5	2	2747.3	34.958	34.958	2	2.965	2.741	27.895	232.9	2	219.7	4	106.0	0.00	2	21.88	2		4		4		9		9		9		9				9		9		9		9		9		9	
4	2	2949.7	34.940	34.942	2	2.798	2.557	27.898	233.8	2	234.0	2	93.3	0.00	2	21.88	2		4	40.00	2		9		9		9		9				9		9		9		9		9		9	
3	2	3198.2	34.925	34.926	2	2.646	2.382	27.901	233.5	2	234.0	2	94.8	0.00	2	22.27	2		4	41.20	2		9		9		9		9				9		9		9		9		9		9	
2	2	3448.1	34.914	34.916	2	2.543	2.255	27.905	233.6	2	234.4	2	95.4	0.00	2	22.37	2		4	43.30	2		9		9		9		9				9		9		9		9		9		9	
1	2	3701.7	34.903	34.904	2	2.446	2.133	27.908	237.5	2	238.8	2	92.1	0.00	6	22.37	6		4	45.00	6		9		9		9		9				9		9		9		9		9		9	

* WOCE water sample quality flag (F) for parameter for the previous column
** WOCE quality flag (F) for "Niskin" sample bottle
*** PSS-78 scale
**** ITS0 scale

A5R
NOAA Ship Ronald H. Brown

STATION 13 DATE 1/26/1998 LATITUDE 26.498° N
LONGITUDE 18.335° W

Bottle Number	F**	Pressure db	CTD Salinity***	Bottle Salinity***	F*	Temp**** °C	Theta °C	Sigma Theta	CTD O2 µmol/kg	F*	Bottle O2 µmol/kg	F*	AOU	NO2 µmol/kg	F*	NO3 µmol/kg	F*	PO4 µmol/kg	F*	Si(OH)4 µmol/kg	F*	CFC-11 pmol/kg	F*	CFC-12 pmol/kg	F*	CFC-113 pmol/kg	F*	CCl4 pmol/kg	F*	fCO2 at 20 °C µatm	fCO2 INSITU µatm	F*	DIC µmol/kg	F*	pH	F*	Measured TA µmol/kg	F*	Calculated TA µmol/kg	TOC µmol/kg	F*	TON µmol/kg	F*
35	2	3.7	37.015	37.014	2	21.327	21.326	25.940	222.4	2	220.3	2	-3.4	0.03	2	0.10	2		4	1.20	2	2.12	2	1.22	2	0.17	2		9	345.7	364.5	3	2099.4	6	8.0328	2	2420	2	2423		9		9
34	2	23.8	37.013	37.012	2	21.322	21.317	25.942	219.8	2	220.7	2	-3.8	0.03	2	0.10	2		4	1.10	2		9		9		9		9	343.7	362.3	2	2101.4	2	8.0313	2	2422	2	2425		9		9
33	2	49.8	37.013	37.014	2	21.334	21.324	25.941	218.1	2	220.5	2	-3.6	0.03	2	0.10	2		4	1.20	2	2.14	2	1.24	2	0.16	2		9			9		9		9		9		9		9	
32	2	73.8	37.037	37.047	2	21.390	21.376	25.947	217.8	2	219.5	2	-2.8	0.03	2	0.10	2		4	1.00	2		9		9		9		9	341.8	361.3	2	2101.8	2	8.0335	2	2429	2	2427		9		9
31	2	100.1	37.111	37.117	2	21.516	21.496	25.971	218.3	2	215.9	2	0.2	0.06	2	0.20	2		4	1.00	2	2.12	2	1.25	2	0.16	2		9			9		9		9		9		9		9	
30	2	122.8	36.658	36.666	2	19.035	19.013	26.293	196.4	2	186.2	2	40.5	0.04	2	4.98	2		4	2.00	2		9		9		9		9	436.5	420.3	2	2132.2	2	7.9414	2	2396	2	2397		9		9
29	2	149.3	36.513	36.521	2	17.867	17.841	26.478	174.1	2	171.0	2	60.9	0.01	2	7.61	2		4	2.70	2		9		9		9		9			9	2143.6	2	7.9047	2		9	2386		9		9
28	2	199.5	36.456	36.440	2	17.224	17.190	26.595	171.9	2	179.4	2	55.5	0.01	2	7.42	2		4	2.40	2	2.35	6	1.30	6	0.06	6		9	467.3	417.7	2	2136.6	2	7.9090	2	2383	2	2381		9		9
27	2	246.1	36.189	36.194	2	15.813	15.774	26.725	151.4	2	156.9	2	85.0	0.00	2	11.81	2		4	4.00	2		9		9		9		9			9		9		9		9			9		9
26	2	300.6	36.063	36.072	2	14.786	14.740	26.860	175.2	2	180.4	2	66.7	0.00	2	10.74	2		4	3.80	2	2.37	2	1.29	2	0.02	2		9	527.7	426.3	2	2143.5	2	7.8640	2	2359	2	2361		9		9
25	2	341.5	35.973	35.977	2	14.219	14.168	26.915	177.5	2	175.9	2	74.2	0.00	2	12.10	2		4	4.40	2		9		9		9		9			9		9		9		9			9		9
24	2	399.3	35.875	35.871	2	13.599	13.542	26.973	175.7	2	169.1	2	84.3	0.00	2	13.96	2		4	5.20	2	2.17	2	1.17	2	0.02	2		9			9	2155.1	2	7.8169	2	2350	2	2347		9		9
23	2	501.3	35.676	35.676	2	12.191	12.124	27.104	170.0	2	168.0	2	93.3	0.00	2	16.50	2		4	6.50	2		9		9		9		9	657.8	477.3	2	2163.6	2	7.7821	2	2342	2	2338		9		9
22	2	551.6	35.608	35.610	2	11.654	11.582	27.155	166.7	2	164.8	2	99.7	0.00	2	17.77	2		4	7.40	2		9		9		9		9			9		9		9		9			9		9
21	2	598.3	35.548	35.547	2	11.164	11.088	27.201	161.9	2	158.5	2	108.9	0.00	2	19.33	2		4	8.70	2	1.43	2	0.76	2	0.01	2		9			9	2176.9	2	7.7440	2		9	2334		9		9
20	2	694.6	35.406	35.404	2	10.008	9.925	27.296	139.2	2	136.1	2	138.3	0.00	2	23.63	2		4	12.20	2		9		9		9		9			9		9		9		9			9		9
19	2	794.6	35.309	35.310	2	8.961	8.872	27.395	133.3	2	131.8	2	149.3	0.00	2	25.78	2		4	15.10	2	0.38	2	0.20	2	0.00	2		9	889.9	564.6	2	2204.0	2	7.6615	2	2329	2	2325		9		9
18	2	890.6	35.248	35.245	2	8.267	8.171	27.457	133.6	2	132.8	2	152.9	0.00	2	26.76	2		4	17.20	2		9		9		9		9			9		9		9		9			9		9
17	2	1001.0	35.157	35.157	2	7.298	7.196	27.529	140.7	2	138.4	2	153.9	0.00	2	27.64	2		4	19.60	2	0.10	2	0.06	2	0.00	2		9	955.2	564.2	2	2212.5	6	7.6370	2	2329	2	2324		9		9
16	2	1098.1	35.236	35.235	2	7.182	7.071	27.611	157.3	2	155.1	2	137.8	0.00	2	25.59	2		4	18.90	2		9		9		9		9			9		9		9		9			9		9
15	2	1200.6	35.223	35.224	2	6.729	6.610	27.665	165.4	2	165.7	2	130.4	0.00	2	25.10	2		4	19.80	2	0.09	3	0.08	3	0.00	2		9	863.0	494.6	6	2203.3	2	7.6695	2	2334	2	2328		9		9
14	2	1296.0	35.188	35.186	2	6.090	5.967	27.721	176.8	2	175.7	2	125.0	0.00	2	24.42	2		4	20.60	2		9		9		9		9			9		9		9		9			9		9
13	2	1399.0	35.269	35.269	2	6.204	6.069	27.774	191.0	2	189.2	2	110.6	0.00	2	22.36	2		4	19.20	2	0.11	2	0.05	2	0.00	2		9	795.9	443.8	2	2195.4	2	7.7008	2	2337	2	2333		9		9
12	2	1499.7	35.181	35.184	2	5.416	5.279	27.802	199.1	2	197.7	2	107.9	0.00	2	22.36	2		4	21.00	2		9		9		9		9			9		9		9		9			9		9
11	2	1603.9	35.178	35.176	2	5.173	5.029	27.830	207.2	2	206.5	2	101.0	0.00	2	21.88	2		4	21.60	2		9		9		9		9			9		9		9		9			9		9
10	2	1702.3	35.148	35.151	2	4.885	4.734	27.841	211.2	2	210.7	2	99.0	0.00	2	21.78	2		4	22.70	2		9		9		9		9			9		9		9		9			9		9
9	2	1901.3	35.082	35.082	2	4.260	4.098	27.858	218.6	2	218.9	2	95.8	0.00	2	21.68	2		4	25.30	2		9		9		9		9	780.1	396.4	2	2190.9	2	7.7107	2	2341	2	2332		9		9
8	2	2100.3	35.057	35.057	2	3.938	3.761	27.874	224.4	2	225.0	2	92.4	0.00	2	21.59	2		4	27.60	2	0.03	2	0.01	2	0.00	2		9			9		9		9		9			9		9
7	2	2300.8	35.025	35.025	2	3.616	3.425	27.883	229.5	2	229.2	2	90.9	0.00	2	21.49	2		4	30.20	2		9		9		9		9			9		9		9		9			9		9
6	2	2499.0	34.994	34.995	2	3.317	3.111	27.889	232.5	2	231.3	2	91.3	0.00	2	21.68	2		4	32.90	2		9		9		9		9	767.2	371.7	2	2195.1	2	7.7187	2	2344	2	2339		9		9
5	2	2700.7	34.969	34.969	2	3.081	2.859	27.893	232.8	2	233.2	2	91.5	0.00	2	21.78	2		4	35.70	2		9		9		9		9			9		9		9		9			9		9
4	2	2885.2	34.950	34.951	2	2.897	2.660	27.896	234.5	2	234.0	2	92.4	0.00	2	21.98	2		4	38.30	2	0.00	2	-0.01	2	0.00	2		9			9		9		9		9			9		9
3	2	3093.5	34.934	34.935	2	2.743	2.488	27.900	234.2	2	234.3	2	93.6	0.00	2	22.17	2		4	41.00	2		9		9		9		9	772.6	363.4	3	2205.7	2	7.7183	2		9	2350		9		9
2	2	3334.7	34.922	34.922	2	2.618	2.340	27.903	232.5	2	232.4	2	96.7	0.00	2	22.47	2		4	43.90	2		9		9		9		9			9		9		9		9			9		9
1	2	3595.2	34.907	34.908	2	2.469	2.167	27.907	234.9	2	236.4	2	94.2	0.00	6	22.56	6		4	45.70	6	0.00	2	0.01	2	0.00	2		9	776.6	360.1	2	2212.5	2	7.7222	2	2363	2	2359		9		9

* WOCE water sample quality flag (F) for parameter for the previous column
** WOCE quality flag (F) for "Niskin" sample bottle
*** PSS-78 scale
**** ITS0 scale

A5R
NOAA Ship Ronald H. Brown

STATION 14 DATE 1/26/1998 LATITUDE 26.167° N
LONGITUDE 18.817° W

Bottle Number	F**	Pressure db	CTD Salinity***	Bottle Salinity***	F*	Temp**** °C	Theta °C	Sigma Theta	CTD O2 µmol/kg	F*	Bottle O2 µmol/kg	F*	AOU	NO2 µmol/kg	F*	NO3 µmol/kg	F*	PO4 µmol/kg	F*	Si(OH)4 µmol/kg	F*	CFC-11 pmol/kg	F*	CFC-12 pmol/kg	F*	CFC-113 pmol/kg	F*	CCl4 pmol/kg	F*	fCO2 at 20 °C µatm	fCO2 INSITU µatm	F*	DIC µmol/kg	F*	pH	F*	Measured TA µmol/kg	F*	Calculated TA µmol/kg	TOC µmol/kg	F*	TON µmol/kg	F*
32	2	3.0	36.843	36.844	2	21.040	21.039	25.888	225.3	2	220.3	2	-2.0	0.14	2	0.59	2	0.09	2	0.90	2	2.16	6	1.22	6	0.17	6		9	353.9	368.9	2	2100.1	6	8.0189	2	2417	2	2413	64.4	2	5.2	2
31	2	29.5	36.840	36.841	2	21.029	21.023	25.892	217.4	2	218.7	2	-0.4	0.13	2	0.49	2	0.09	2	0.80	2	2.15	2	1.22	2	0.16	2		9	354.4	369.3	2	2099.5	2	8.0204	2	2412	2	2414	61.4	2	4.8	2
30	2	54.5	36.846	36.848	2	21.030	21.019	25.899	216.4	2	220.9	2	-2.6	0.10	2	0.59	2	0.11	2	0.80	2	2.20	2	1.23	2	0.17	2		9	354.0	368.8	2	2102.0	2	8.0196	2		9	2416	60.6	2	4.8	2
29	2	89.3	36.770	36.730	2	20.630	20.613	25.954	186.9	2	200.0	2	20.1	0.07	2	3.61	2	0.27	2	1.30	2	2.19	2	1.26	2	0.17	2		9	403.7	414.1	2	2120.8	3		4	2410	2		58.5	2	7.8	2
28	2	146.0	36.526	36.532	2	17.974	17.949	26.461	161.5	2	159.3	2	72.2	0.01	2	8.59	2	0.50	2	2.60	2	2.22	2	1.21	2	0.10	2		9	488.6	450.4	2	2149.4	2		4	2391	2		53.6	2	11.5	2
27	2	145.0	36.526	36.520	2	18.022	17.997	26.450	161.0	2	160.2	2	71.1	0.01	2	8.68	2	0.51	2	2.70	2	2.24	2	1.23	2	0.08	2		9	490.9	453.5	2	2150.0	2		4		9		48.3	2	12.0	2
26	2	179.5	36.419	36.413	2	17.192	17.162	26.573	157.2	2	163.5	2	71.6	0.01	2	9.46	2	0.55	2	2.90	2	2.26	2	1.22	2	0.06	2		9	508.7	454.3	2	2149.3	2		4	2382	2		46.9	2	12.2	2
25	2	209.1	36.189	36.197	2	16.079	16.045	26.661	136.6	2	138.5	2	102.1	0.01	2	13.76	2	0.80	2	4.50	2	2.05	2	1.13	2	0.03	2		9	576.7	492.6	2	2167.1	3		4	2368	2		47.1	2	16.3	2
24	2	247.7	36.048	36.050	2	15.350	15.312	26.721	117.4	2	120.4	2	123.9	0.01	2	16.79	2	0.98	2	5.50	2	1.95	2	1.06	2	0.02	2		9	649.4	538.7	2	2179.2	3		4		9			9	19.6	2
23	2	299.5	36.051	36.054	2	14.907	14.861	26.825	153.9	2	149.8	2	96.7	0.01	2	14.05	2	0.81	2	4.60	2	2.15	2	1.14	2	0.02	2		9	587.7	478.1	2	2162.7	2		4	2367	2		47.3	2	16.6	2
22	2	350.5	35.986	35.985	2	14.316	14.264	26.905	170.4	2	179.8	2	69.8	0.01	2	12.49	2	0.73	2	4.40	2	2.28	2	1.19	2	0.02	2		9	559.1	443.7	2	2151.8	2	7.8399	2		9	2357		9		9
21	2	400.5	35.877	35.878	2	13.609	13.551	26.972	180.3	2	179.5	2	73.9	0.01	2	12.98	2	0.77	2	4.70	2	2.24	2	1.14	2	0.03	2		9	569.5	438.7	2	2149.1	2	7.8302	2		9	2348	46.3	2	15.6	2
20	2	499.0	35.672	35.664	2	12.307	12.240	27.079	143.5	2	148.2	2	112.5	0.00	2	18.94	2	1.21	2	7.60	2	1.69	2	0.88	2	0.02	2		9	699.4	510.8	2	2174.7	2	7.7504	2		5	2336		9		9
19	2	598.5	35.496	35.503	2	10.937	10.862	27.201	145.0	2	144.2	2	124.5	0.00	2	21.38	2	1.32	2	10.00	2	1.21	2	0.59	2	0.01	2		9	766.1	528.6	2	2183.4	2	7.7177	2	2333	2	2330	44.7	2	23.7	2
18	2	698.8	35.371	35.374	2	9.858	9.775	27.294	127.0	2	128.6	2	146.8	0.00	2	24.90	2	1.55	2	13.30	2	0.67	2	0.34	2	0.00	2		9	870.0	574.5	2	2201.3	2	7.6704	2	2334	2	2328		9		9
17	2	799.9	35.267	35.264	2	8.824	8.735	27.384	124.8	2	122.6	2	159.4	0.00	2	27.34	2	1.73	2	16.30	2	0.33	2	0.16	2	0.00	2		9	950.8	601.6	6	2211.4	2	7.6355	2	2327	2	2324	42.2	2	29.2	2
16	2	899.4	35.252	35.241	2	8.340	8.242	27.450	129.3	2	132.3	2	152.9	0.00	2	27.25	2	1.74	2	17.60	2	0.23	2	0.11	2	0.00	2		9	928.4	574.2	2	2209.9	2	7.6433	2	2330	2	2326		9		9
15	2	1001.8	35.259	35.259	2	7.733	7.628	27.549	147.0	2	148.7	2	140.5	0.00	2	25.78	2	1.67	2	18.40	2	0.17	2	0.08	2	0.00	2		9	882.4	529.9	2	2209.5	6	7.6591	2	2336	2	2332	42.1	2	27.7	2
14	2	1098.5	35.253	35.250	2	7.227	7.115	27.618	156.9	2	157.4	2	135.2	0.00	2	25.49	2	1.65	2	19.20	2	0.12	2	0.06	2	0.00	2		9	868.0	509.1	2	2204.8	2		9	2335	2			9		9
13	2	1199.0	35.303	35.302	2	7.015	6.894	27.689	171.1	2	172.0	2	122.0	0.00	2	23.83	2	1.55	2	18.90	2	0.14	2	0.07	2	0.00	2		9	820.6	475.7	2	2200.8	2	7.6916	2		9	2336	42.1	2	25.7	2
12	2	1292.3	35.282	35.281	2	6.555	6.428	27.737	180.4	2	181.1	2	116.1	0.00	2	23.34	2	1.52	2	19.60	2	0.09	2	0.05	2	0.00	2		9			9	2201.4	2	7.6967	2	2342	2	2339		9		9
11	2	1498.9	35.198	35.200	2	5.485	5.348	27.807	200.3	2	199.8	2	105.3	0.00	2	22.56	2	1.49	2	21.70	2	0.05	2	0.03	2	0.00	2		9	787.0	424.3	2	2192.7	2	7.7049	2	2336	2	2333	42.1	2	24.6	2
10	2	1699.7	35.121	35.122	2	4.735	4.587	27.835	212.1	2	210.7	2	100.2	0.00	2	22.27	2	1.49	2	24.00	2	0.02	2	0.02	2	0.00	2		9			9	2191.4	2	7.7078	2	2336	2	2333		9		9
9	2	1900.6	35.095	35.095	2	4.390	4.226	27.855	218.4	2	217.9	2	95.8	0.00	2	21.68	2	1.48	2	25.50	2		9		9		9		9	777.9	397.8	2	2191.2	2	7.7132	2		9	2335	41.5	2	23.6	2
8	2	2101.1	35.059	35.059	2	3.986	3.808	27.871	224.3	2	224.4	2	92.6	0.00	2	21.59	2	1.47	2	27.80	2		9		9		9		9			9	2188.9	2	7.7169	2	2338	2	2334		9		9
7	2	2283.6	35.029	35.031	2	3.673	3.482	27.880	228.8	2	227.9	2	91.7	0.00	2	21.49	2	1.47	2	30.10	2		9		9		9		9	773.0	381.6	2	2193.2	2		9	2340	2		42.7	2	23.4	2
6	2	2497.8	34.990	34.989	2	3.289	3.084	27.888	231.6	2	231.8	2	91.1	0.00	2	21.59	2	1.48	2	33.50	2	0.00	6	0.00	2	0.00	6		9			9	2196.8	2	7.7197	2	2347	2	2343	41.6	2	23.5	2
5	2	2697.8	34.972	34.972	2	3.109	2.887	27.893	233.8	2	233.3	2	91.2	0.00	2	21.88	2	1.49	2	35.50	2		9		9		9		9	771.6	370.1	2	2200.5	2	7.7192	2	2346	2	2347	42.2	2	23.5	2
4	2	2894.7	34.951	34.951	2	2.906	2.668	27.896	234.9	2	234.1	2	92.2	0.00	2	21.88	2	1.51	2	38.30	2	0.01	2	0.01	2	0.00	2		9			9	2201.8	2	7.7182	2	2349	2	2347	42.1	2	23.8	2
3	2	3099.6	34.935	34.935	2	2.748	2.492	27.900	234.3	2	234.9	2	92.9	0.00	2	22.08	2	1.52	2	41.00	2		9		9		9		9	780.1	367.3	2	2205.8	2	7.7195	2	2357	2	2352	41.9	2	24.0	2
2	2	3285.2	34.923	34.924	2	2.630	2.357	27.902	233.6	2	233.4	2	95.6	0.00	2	22.37	2	1.53	2	43.90	2	0.00	2	0.00	2	0.00	2		9			9	2210.0	2	7.7202	2	2359	2	2357	41.9	2	24.4	2
1	2	3532.0	34.905	34.906	2	2.446	2.151	27.906	236.3	2	237.9	2	92.8	0.00	6	22.76	6	1.54	6	47.50	6	0.00	2	-0.01	2	0.00	2		9	771.8	357.2	2	2212.2	2	7.7234	2	2362	2	2361	41.8	2	24.7	2

* WOCE water sample quality flag (F) for parameter for the previous column
** WOCE quality flag (F) for "Niskin" sample bottle
*** PSS-78 scale
**** ITS0 scale

A5R
NOAA Ship Ronald H. Brown

STATION 15 DATE 1/26/1998 LATITUDE 25.983° N
LONGITUDE 19.365° W

Bottle Number	F**	Pressure db	CTD Salinity***	Bottle Salinity***	F*	Temp**** °C	Theta °C	Sigma Theta	CTD O2 µmol/kg	F*	Bottle O2 µmol/kg	F*	AOU	NO2 µmol/kg	F*	NO3 µmol/kg	F*	PO4 µmol/kg	F*	Si(OH)4 µmol/kg	F*	CFC-11 pmol/kg	F*	CFC-12 pmol/kg	F*	CFC-113 pmol/kg	F*	CCl4 pmol/kg	F*	fCO2 at 20 °C µatm	fCO2 INSITU µatm	F*	DIC µmol/kg	F*	pH	F*	Measured TA µmol/kg	F*	Calculated TA µmol/kg	TOC µmol/kg	F*	TON µmol/kg	F*
36	2	4.1	36.694	36.691	2	20.710	20.709	25.865	232.8	2	233.7	2	-13.9	0.03	2	0.10	2	0.09	2	0.70	3	9	9	9	9	344.1	354.0	2	2086.9	6	8.0294	2	2403	2	2405	9	9
35	2	23.8	36.692	36.701	2	20.702	20.697	25.868	232.5	2	233.2	2	-13.4	0.03	2	0.10	2	0.08	2	1.10	3	9	9	9	9			9		9	9		9		9	9	9
34	2	49.0	37.058	37.061	2	21.438	21.428	25.947	220.7	2	222.5	2	-6.1	0.00	2	0.00	2	0.02	2	1.30	3	9	9	9	9	339.3	359.3	2	2096.6	2	8.0369	2		9	2424	9	9
33	2	70.5	37.077	37.078	2	21.482	21.468	25.951	220.1	2	218.7	2	-2.4	0.00	2	0.00	2	0.03	2	2.20	3	9	9	9	9			9		9	9		9			9	9
32	2	99.2	37.012	37.010	2	21.232	21.213	25.974	218.8	2	215.0	2	2.4	0.03	2	0.78	2	0.07	2	2.10	3	9	9	9	9			9	2104.1	2	8.0228	2	2420	2	2422	9	9
31	2	124.3	36.702	36.708	2	18.943	18.921	26.350	182.7	2	191.2	2	35.8	0.02	2	4.19	2	0.25	2	2.40	3	9	9	9	9	425.4	407.7	2	2127.1	2	7.9528	2	2402	2	2399	9	9
30	2	169.4	36.575	36.561	2	17.884	17.855	26.523	189.6	2	186.4	2	45.4	0.01	2	5.75	2	0.33	2	2.70	3	9	9	9	9			9	2130.5	2	7.9335	2	2393	2	2390	9	9
29	3	197.9	36.440	36.431	2	17.148	17.115	26.601	176.6	2	175.7	2	59.6	0.01	2	8.00	2	0.45	2	3.40	3	9	9	9	9			9		9		9		9		9	9
28	2	222.1	36.345	36.334	2	16.585	16.549	26.664	174.1	2	175.7	2	62.3	0.01	2	8.78	2	0.51	2	3.50	3	9	9	9	9	488.2	425.4	2	2139.7	2	7.8937	2		9	2375	9	9
27	2	274.3	36.179	36.175	2	15.542	15.499	26.780	173.2	2	174.5	2	68.7	0.00	2	10.34	2	0.60	2	4.10	3	9	9	9	9	519.8	433.6	2	2143.1	2	7.8718	2	2375	2	2366	9	9
26	2	322.6	36.053	36.051	2	14.718	14.669	26.868	184.3	2	183.7	2	63.7	0.00	2	10.54	2	0.62	2	4.40	3	9	9	9	9			9		9		9		9		9	9
25	2	368.9	35.950	35.946	2	14.064	14.010	26.932	186.7	2	185.0	2	65.9	0.00	2	11.51	2	0.68	2	4.70	3	9	9	9	9	550.8	431.9	2	2143.5	2	7.8527	2		9	2355	9	9
24	2	424.2	35.802	35.802	2	13.073	13.013	27.024	181.8	2	180.0	2	76.3	0.00	2	13.66	2	0.81	2	5.70	3	9	9	9	9			9		9		9		9		9	9
23	2	473.7	35.704	35.705	2	12.418	12.354	27.080	174.6	2	169.3	2	90.7	0.00	2	16.01	2	0.96	2	6.90	3	9	9	9	9	632.6	462.9	2	2162.4	2	7.7897	2	2347	2	2342	9	9
22	2	525.0	35.630	35.632	2	11.902	11.832	27.124	167.7	2	164.7	2	98.3	0.00	2	17.47	2	1.06	2		4	9	9	9	9			9		9		9		9		9	9
21	2	586.0	35.512	35.519	2	10.980	10.906	27.205	155.4	2	151.7	2	116.8	0.00	2	20.40	2	1.25	2	10.20	3	9	9	9	9	735.1	506.6	2	2179.7	2	7.7313	2		9	2332	9	9
20	2	694.4	35.351	35.358	2	9.749	9.667	27.297	125.0	2	125.3	2	150.8	0.00	2	25.48	2	1.60	2	14.40	2	9	9	9	9			9		9		9		9		9	9
19	2	800.0	35.244	35.244	2	8.501	8.414	27.416	125.9	2	126.3	2	157.8	0.00	2	27.44	2	1.77	2	17.80	2	9	9	9	9	949.2	591.4	2	2209.7	2	7.6399	2	2329	2	2324	9	9
18	2	903.6	35.181	35.182	2	7.829	7.734	27.470	128.8	2	130.0	2	158.6	0.00	2	28.02	2	1.83	2	19.60	2	9	9	9	9			9		9		9		9		9	9
17	2	999.7	35.182	35.182	2	7.393	7.291	27.536	141.7	2	141.0	2	150.6	0.00	2	27.34	2	1.79	2	20.40	2	9	9	9	9	938.2	555.9	2	2209.1	6	7.6422	2	2336	3	2324	9	9
16	2	1097.8	35.179	35.174	2	6.912	6.803	27.602	153.9	2	153.8	2	141.1	0.00	2	26.66	2	1.75	2	20.40	2	9	9	9	9			9		9		9		9		9	9
15	2	1197.1	35.241	35.235	2	6.767	6.648	27.673	167.2	2	168.4	2	127.4	0.00	2	24.70	2	1.64	2	19.50	2	9	9	9	9			9		9		9		9		9	9
14	2	1299.1	35.252	35.254	2	6.446	6.320	27.727	179.8	2	179.4	2	118.6	0.00	2	23.43	2	1.57	2	19.80	2	9	9	9	9			9		9		9		9		9	9
13	2	1400.2	35.252	35.252	2	6.117	5.983	27.771	190.9	2	189.4	2	111.0	0.00	2	22.55	2	1.52	2	20.30	2	9	9	9	9			9		9		9		9		9	9
12	2	1499.4	35.230	35.229	2	5.793	5.652	27.796	197.9	2	194.1	2	108.7	0.00	2	22.26	2	1.50	2	20.80	2	9	9	9	9	784.0	427.3	2	2193.7	2	7.7061	2		9	2335	9	9
11	2	1697.5	35.167	35.166	2	4.984	4.833	27.844	212.7	2	212.2	2	96.7	0.00	2	21.48	2	1.47	2	23.40	2	9	9	9	9			9		9		9		9		9	9
10	2	1901.2	35.107	35.107	2	4.376	4.212	27.866	222.0	2	221.4	2	92.4	0.00	2	21.29	2	1.46	2	25.70	2	9	9	9	9			9	2189.7	2	7.7186	2	2339	2	2336	9	9
9	2	2099.2	35.054	35.054	2	3.888	3.712	27.876	226.8	2	227.7	2	90.0	0.00	2	21.38	2	1.48	2	27.90	2	9	9	9	9			9		9		9		9		9	9
8	2	2300.9	35.016	35.016	2	3.565	3.374	27.880	232.8	2	168.5	4	152.0	0.00	2	21.29	2	1.47	2	29.50	2	9	9	9	9			9		9		9		9		9	9
7	2	2502.2	34.987	34.988	2	3.270	3.065	27.888	234.7	2	233.8	2	89.2	0.00	2	21.39	2	1.49	2	32.90	2	9	9	9	9	763.6	368.0	2	2194.3	2	7.7197	2		5	2340	9	9
6	2	2657.6	34.971	34.972	2	3.104	2.886	27.892	236.8	2	235.8	2	88.7	0.00	2	21.39	2	1.50	2	34.60	2	9	9	9	9			9		9		9		9		9	9
5	2	2898.4	34.950	34.950	2	2.893	2.655	27.897	237.8	2	237.0	2	89.5	0.00	2	21.68	2	1.52	2	37.50	2	9	9	9	9			9		9		9		9		9	9
4	2	3097.9	34.933	34.934	2	2.726	2.471	27.900	235.4	2	234.7	2	93.3	0.00	2	21.97	2	1.54	2	41.40	2	9	9	9	9	768.4	360.2	2	2206.5	2	7.7187	2	2358	2	2353	9	9
3	2	3299.0	34.923	34.925	2	2.632	2.358	27.903	235.1	2	235.5	2	93.5	0.00	2	22.17	2	1.55	2	42.80	2	9	9	9	9			9		9		9		9		9	9
2	2	3499.0	34.914	34.916	2	2.548	2.254	27.905	234.6	2	235.0	2	94.9	0.00	2	22.36	2	1.57	2	44.30	2	9	9	9	9			9	2212.1	2	7.7212	2		9	2360	9	9
1	2	3764.3	34.900	34.900	2	2.414	2.095	27.909	238.5	2	238.4	2	92.8	0.00	6	22.46	6	1.58	6	46.30	6	9	9	9	9	767.4	353.5	2	2213.9	2	7.7234	2	2366	2	2362	9	9

* WOCE water sample quality flag (F) for parameter for the previous column
** WOCE quality flag (F) for "Niskin" sample bottle
*** PSS-78 scale
**** ITS0 scale

A5R
NOAA Ship Ronald H. Brown

STATION 16 DATE 1/26/1998 LATITUDE 25.800° N
LONGITUDE 19.899° W

Bottle Number	F**	Pressure db	CTD Salinity***	Bottle Salinity***	F*	Temp**** °C	Theta °C	Sigma Theta	CTD O2 µmol/kg	F*	Bottle O2 µmol/kg	F*	AOU	NO2 µmol/kg	F*	NO3 µmol/kg	F*	PO4 µmol/kg	F*	Si(OH)4 µmol/kg	F*	CFC-11 pmol/kg	F*	CFC-12 pmol/kg	F*	CFC-113 pmol/kg	F*	CCl4 pmol/kg	F*	fCO2 at 20 °C µatm	fCO2 INSITU µatm	F*	DIC µmol/kg	F*	pH	F*	Measured TA µmol/kg	F*	Calculated TA µmol/kg	TOC µmol/kg	F*	TON µmol/kg	F*
36	2	3.5	36.548	36.552	2	20.578	20.577	25.790	239.2	2	243.5	2	-23.0	0.07	2	0.20	2	0.13	2	4		2.17	2	1.25	2	0.19	2	9		353.5	361.8	2	2083.4	6	8.0279	6	2402	2	2399		9		9
35	2	25.2	36.847	36.856	2	21.003	20.998	25.904	233.3	2	223.4	2	-5.0	0.04	2	0.10	2	0.06	2	4		9		9		9		9				9		9		9		9				9		9
34	2	50.9	36.889	36.896	2	21.089	21.079	25.915	224.1	2	221.6	2	-3.6	0.06	2	0.00	2	0.06	2	4		2.06	2	1.22	2	0.17	2	9				9		9		9		9				9		9
33	2	75.2	36.899	36.900	2	21.104	21.089	25.921	222.6	2	220.2	2	-2.2	0.10	2	0.20	2	0.08	2	4		9		9		9		9				9		9		9		9				9		9
32	2	101.6	36.827	36.777	2	20.066	20.047	26.150	218.0	2	201.3	2	21.0	0.10	2	3.22	2	0.21	2	4		2.15	2	1.27	2	0.17	2	9				9		9		9		9				9		9
31	2	148.1	36.649	36.649	2	18.199	18.173	26.500	202.8	2	199.5	2	30.8	0.02	2	3.61	2	0.19	2	4		9		9		9		9				9		9		9		9				9		9
30	2	198.8	36.456	36.463	2	17.120	17.087	26.620	188.5	2	189.3	2	46.1	0.01	2	6.34	2	0.35	2	4		2.29	6	1.30	6	0.05	6	9				9		9		9		9				9		9
29	2	248.5	36.235	36.236	2	15.833	15.794	26.756	197.2	2	197.6	2	44.1	0.01	2	7.42	2	0.42	2	4		9		9		9		9				9		9		9		9				9		9
28	2	297.7	36.146	36.145	2	15.306	15.260	26.809	197.3	2	197.9	2	46.5	0.01	2	8.30	2	0.48	2	4		2.38	2	1.30	2	0.03	2	9				9		9		9		9				9		9
27	2	348.4	36.006	36.005	2	14.414	14.362	26.900	194.0	2	193.5	2	55.6	0.01	2	10.15	2	0.59	2	4		9		9		9		9				9		9		9		9				9		9
26	2	399.3	35.877	35.859	2	13.572	13.515	26.980	191.0	2	186.9	2	66.7	0.00	2	12.49	2	0.74	2	4		2.24	2	1.18	2	0.00	2	9				9		9		9		9				9		9
25	2	447.0	35.729	35.727	2	12.569	12.508	27.069	178.0	2	173.2	2	86.0	0.00	2	15.33	2	0.92	2	4		9		9		9		9				9		9		9		9				9		9
24	2	499.6	35.653	35.644	2	12.030	11.963	27.117	174.4	2	170.4	2	91.9	0.00	2	16.79	2	1.01	2	4		1.86	2	0.91	2	0.00	2	9				9		9		9		9				9		9
23	2	599.5	35.455	35.453	2	10.546	10.472	27.238	142.2	2	140.0	2	131.1	0.00	2	22.17	2	1.38	2	4		0.94	2	0.46	2	0.01	2	9				9		9		9		9				9		9
22	2	699.6	35.300	35.298	2	9.291	9.211	27.332	120.1	2	121.1	2	157.9	0.00	2	26.66	2	1.68	2	4		0.41	2	0.18	3	0.00	2	9				9		9		9		9				9		9
21	2	799.4	35.184	35.181	2	8.220	8.134	27.411	117.8	2	120.0	2	166.0	0.00	2	28.71	2	1.86	2	4		0.21	2	0.09	2	0.00	2	9				9		9		9		9				9		9
20	2	898.4	35.155	35.153	2	7.709	7.616	27.467	125.4	2	127.2	2	162.3	0.00	2	28.52	2	1.86	2	4		9		9		9		9				9		9		9		9				9		9
19	2	999.5	35.173	35.170	2	7.277	7.176	27.545	140.0	2	143.5	2	148.9	0.01	2	27.25	2	1.78	2	4		0.14	6	0.05	2	0.00	6	9				9		9		9		9				9		9
18	2	1151.8	35.285	35.284	2	7.151	7.034	27.655	166.2	2	167.0	2	126.1	0.01	2	23.93	2	1.59	2	4			9		9		9	9				9		9		9		9				9		9
17	2	1300.5	35.240	35.237	2	6.358	6.232	27.728	182.0	2		9		0.01	2	23.34	2	1.56	2	4		0.11	2	0.03	2	0.00	2	9				9		9		9		9				9		9
16	2	1444.8	35.223	35.219	2	5.878	5.742	27.779	196.4	2	194.2	2	108.0	0.00	2	22.36	2	1.51	2	4			9		9		9	9				9		9		9		9				9		9
15	2	1598.9	35.189	35.187	2	5.270	5.125	27.827	208.7	2	208.2	2	98.5	0.00	2	21.97	2	1.45	2	4		0.09	2	0.02	3	0.02	4	9				9		9		9		9				9		9
14	3	1750.0	35.140	35.139	2	4.755	4.601	27.849	215.8	2	216.6	2	94.1	0.00	2	21.58	2	1.44	2	4			9		9		9	9				9		9		9		9				9		9
13	2	1902.1	35.082	35.083	2	4.233	4.071	27.861	220.9	2	223.1	2	91.8	0.00	2	21.59	2	1.46	2	4			9		9		9	9				9		9		9		9				9		9
12	2	2048.0	35.057	35.056	2	3.966	3.794	27.870	226.4	2	227.3	2	89.8	0.00	2	21.49	2	1.45	2	4			9		9		9	9				9		9		9		9				9		9
11	2	2197.3	35.029	35.028	2	3.686	3.504	27.877	229.2	2	231.7	2	87.7	0.00	2	21.49	2	1.46	2	4		0.03	2	0.01	2	0.00	2	9				9		9		9		9				9		9
10	2	2349.0	35.012	35.011	2	3.517	3.323	27.882	232.0	2	233.5	2	87.4	0.00	2	21.39	2	1.46	2	4			9		9		9	9				9		9		9		9				9		9
9	2	2497.7	34.993	34.993	2	3.334	3.128	27.887	234.5	2	235.8	2	86.7	0.00	2	21.49	2	1.46	2	4			9		9		9	9				9		9		9		9				9		9
8	2	2651.4	34.979	34.978	2	3.199	2.980	27.890	235.9	2	237.0	2	86.7	0.00	2	21.59	2	1.50	2	4		0.02	2	0.01	2	0.00	2	9				9		9		9		9				9		9
7	3	2793.2	34.969	34.968	2	3.075	2.844	27.895	238.8	2	239.2	2	85.7	0.00	2	21.39	2	1.48	2	4			9		9		9	9				9		9		9		9				9		9
6	2	2998.4	34.945	34.944	2	2.852	2.605	27.898	237.4	2	238.8	2	88.1	0.00	2	21.69	2	1.50	2	4			9		9		9	9				9		9		9		9				9		9
5	2	3199.6	34.931	34.930	2	2.713	2.448	27.901	235.4	2	237.2	2	91.0	0.00	2	21.98	2	1.52	2	4		0.02	2	0.00	3	0.00	2	9				9		9		9		9				9		9
4	2	3400.5	34.917	34.916	2	2.585	2.301	27.904	232.6	2	235.2	2	94.3	0.00	2	22.37	2	1.55	2	4			9		9		9	9				9		9		9		9				9		9
3	2	3602.0	34.908	34.907	2	2.490	2.187	27.907	234.3	2	237.0	2	93.4	0.00	2	22.57	2	1.58	2	4			9		9		9	9				9		9		9		9				9		9
2	2	3800.8	34.901	34.901	2	2.429	2.105	27.909	237.7	2	239.2	2	91.9	0.00	2	22.47	2	1.55	2	4		0.01	2	0.01	2	0.00	2	9				9		9		9		9				9		9
1	2	4064.2	34.894	34.894	2	2.384	2.032	27.911	245.1	2	244.9	2	86.9	0.00	6	22.37	6	1.54	6	4		0.01	2	0.00	3	0.07	4	9				9		9		9		9				9		9

* WOCE water sample quality flag (F) for parameter for the previous column
** WOCE quality flag (F) for "Niskin" sample bottle
*** PSS-78 scale
**** ITS0 scale

A5R
NOAA Ship Ronald H. Brown

STATION 17 DATE 1/24/1998 LATITUDE 25.617° N
LONGITUDE 20.433° W

Bottle Number	F**	Pressure db	CTD Salinity***	Bottle Salinity***	F*	Temp**** °C	Theta °C	Sigma Theta	CTD O2 µmol/kg	F*	Bottle O2 µmol/kg	F*	AOU	NO2 µmol/kg	F*	NO3 µmol/kg	F*	PO4 µmol/kg	F*	Si(OH)4 µmol/kg	F*	CFC-11 pmol/kg	F*	CFC-12 pmol/kg	F*	CFC-113 pmol/kg	F*	CCl4 pmol/kg	F*	fCO2 at 20 °C µatm	fCO2 INSITU µatm	F*	DIC µmol/kg	F*	pH	F*	Measured TA µmol/kg	F*	Calculated TA µmol/kg	TOC µmol/kg	F*	TON µmol/kg	F*
36	2	4.3	37.072	37.072	2	21.434	21.433	25.954	224.2	2	225.1	2	-8.7		9		9		9		9		9		9		9		9	333.1	352.7	2	2096.2	6	8.0444	2	2424	6	2429		9		9
35	2	38.5	37.246	37.252	2	21.817	21.809	25.983	221.3	2	221.6	2	-6.9		9		9		9		9		9		9		9		9			9		9	8.0475	2		9			9		9
34	2	80.1	37.263	37.253	2	21.816	21.800	26.001	219.8	2	220.7	2	-5.9		9		9		9		9		9		9		9		9	331.1	355.9	2	2100.3	2	8.0310	2	2433	2	2425		9		9
33	2	128.1	36.786	36.786	2	18.892	18.869	26.428	210.6	2	212.3	2	14.8		9		9		9		9		9		9		9		9			9		9		9		9			9		9
32	2	180.8	36.513	36.513	2	17.549	17.518	26.559	204.7	2	201.0	2	32.4		9		9		9		9		9		9		9		9	425.2	385.1	2	2118.3	2	7.9521	2	2391	2	2387		9		9
31	2	230.4	36.337	36.333	2	16.489	16.451	26.681	197.7	2	202.2	2	36.3		9		9		9		9		9		9		9		9			9		9		9		9			9		9
30	2	279.8	36.113	36.111	2	15.180	15.137	26.810	200.2	2	200.9	2	44.2	0.00	2	8.29	2	0.48	2	2.70	2		9		9		9		9	476.8	391.6	2		9	7.9002	2	2366	2			9		9
29	2	330.9	36.004	36.011	2	14.397	14.348	26.900	194.4	2	194.3	2	54.8	0.00	2	10.15	2	0.59	2	3.30	2		9		9		9		9			9	2125.5	2		9		9			9		9
28	2	378.1	35.890	35.891	2	13.663	13.608	26.969	177.0	2	177.2	2	75.9	0.00	2	13.37	2	0.78	2	4.60	2		9		9		9		9	577.8	445.8	2	2150.0	2	7.8209	2	2350	2	2345		9		9
27	2	431.4	35.778	35.780	2	12.915	12.855	27.038	177.1	2	175.7	2	81.5	0.00	2	14.74	2	0.87	2	5.30	2		9		9		9		9			9		9		9		9			9		9
26	2	481.2	35.690	35.690	2	12.303	12.238	27.092	180.3	2	176.9	2	83.8	0.00	2	15.71	2	0.94	2	6.00	2		9		9		9		9	625.6	456.0	2	2156.6	2	7.7912	2	2338	2	2336		9		9
25	2	580.7	35.521	35.520	2	10.933	10.860	27.221	162.8	2	150.8	2	117.9	0.00	2	19.82	2	1.21	2	8.80	2		9		9		9		9			9		9		9		9			9		9
24	2	680.3	35.371	35.377	2	9.674	9.594	27.324	139.7	2	136.0	2	140.5	0.00	2	24.31	2	1.52	2	12.50	2		9		9		9		9	852.3	557.6	2	2196.6	2	7.6800	2	2333	2	2327		9		9
23	2	780.8	35.227	35.231	2	8.396	8.311	27.418	129.5	2	126.5	2	158.3	0.00	2	27.43	2	1.77	2	16.10	2		9		9		9		9			9		9		9		9			9		9
22	2	881.3	35.201	35.199	2	7.755	7.663	27.496	132.8	2	135.8	2	153.3	0.00	2	27.24	2	1.78	2	17.50	2		9		9		9		9	936.4	564.5	2	2208.5	2	7.6386	2	2327	2	2322		9		9
21	2	980.9	35.193	35.193	2	7.471	7.370	27.533	143.0	2	142.1	2	148.9	0.00	2	26.95	2	1.77	2	18.10	2		9		9		9		9			9		9		9		9			9		9
20	2	1100.4	35.214	35.209	2	6.888	6.779	27.633	159.2	2	162.0	2	133.0	0.00	2	25.48	2	1.68	2	18.50	2		9		9		9		9	871.0	503.2	2	2204.0	6		9	2331	2			9		9
19	2	1219.6	35.217	35.217	2	6.421	6.303	27.700	173.0	2	175.6	2	122.6	0.00	2	24.31	2	1.61	2	18.60	2		9		9		9		9			9		9		9		9			9		9
18	2	1341.0	35.199	35.197	2	5.889	5.764	27.756	184.7	2	190.1	2	112.0	0.00	2	23.33	2	1.56	2	19.50	2		9		9		9		9			9		9		9		9			9		9
17	2	1501.0	35.184	35.184	2	5.417	5.280	27.804	200.4	2	202.2	2	103.4	0.00	2	22.46	2	1.51	2	20.80	2		9		9		9		9	787.4	423.2	2		9	7.7063	2	2338	2			9		9
16	2	1650.0	35.123	35.123	2	4.814	4.670	27.827	209.3	2	210.7	2	99.5	0.00	2	22.16	2	1.51	2	22.60	2		9		9		9		9			9	2191.9	2		9		9			9		9
15	2	1818.7	35.098	35.097	2	4.488	4.331	27.845	216.8	2	217.7	2	95.2	0.00	2	21.68	2	1.49	2	24.10	2		9		9		9		9			9	2188.4	2	7.7118	2	2334	2	2331		9		9
14	2	1979.6	35.067	35.066	2	4.092	3.925	27.865	223.2	2	224.9	2	91.2	0.00	2	21.58	2	1.48	2	26.30	2		9		9		9		9			9		9		9		9			9		9
13	2	2140.8	35.040	35.041	2	3.819	3.640	27.872	227.2	2	228.8	2	89.5	0.00	2	21.58	2	1.47	2	27.70	2		9		9		9		9			9	2188.8	2	7.7185	2	2336	2	2334		9		9
12	2	2300.1	35.020	35.020	2	3.612	3.421	27.879	231.6	2	232.3	2	87.8	0.00	2	21.48	2	1.48	3	28.30	2		9		9		9		9			9		9		9		9			9		9
11	2	2459.6	34.997	34.999	2	3.389	3.186	27.884	234.4	2	234.8	2	87.2	0.00	2	21.39	2	1.43	2	29.70	2		9		9		9		9	762.8	371.2	2	2191.5	2	7.7207	2	2342	2	2338		9		9
10	2	2620.0	34.983	34.983	2	3.228	3.012	27.890	236.7	2	237.5	2	86.0	0.00	2	21.29	2	1.44	2	31.20	2		9		9		9		9			9		9		9		9			9		9
9	2	2777.6	34.964	34.965	2	3.027	2.799	27.895	241.0	2	241.1	2	84.1	0.00	2	21.09	2	1.42	2	32.60	2		9		9		9		9			9	2192.9	2		4	2340	2			9		9
8	2	2940.1	34.950	34.950	2	2.892	2.650	27.898	239.1	2	234.8	3	91.7	0.00	2	21.39	2	1.45	2	35.40	2		9		9		9		9			9		9		9		9			9		9
7	2	3098.8	34.938	34.939	2	2.765	2.509	27.901	240.2	2	234.6	3	93.1	0.00	2	21.48	2	1.46	2	37.20	2		9		9		9		9	759.9	358.0	2	2199.0	2	7.7222	2	2348	2	2346		9		9
6	2	3299.6	34.926	34.926	2	2.644	2.370	27.904	241.0	2	241.6	2	87.3	0.00	2	21.68	2	1.47	2	39.50	2		9		9		9		9			9		9		9		9			9		9
5	2	3499.0	34.915	34.914	2	2.535	2.242	27.907	242.6	2	242.7	2	87.3	0.00	2	21.97	2	1.48	2	42.20	2		9		9		9		9			9		9		9		9			9		9
4	2	3698.5	34.908	34.907	2	2.475	2.161	27.910	245.2	2	244.7	2	86.0	0.00	2	22.07	2	1.50	2	43.50	2		9		9		9		9	756.9	350.9	2	2203.7	2	7.7256	2	2358	2	2353		9		9
3	2	3900.2	34.901	34.899	2	2.414	2.079	27.911	246.2	2	245.9	2	85.5	0.00	2	22.17	2	1.51	2	44.80	2		9		9		9		9			9		9		9		9			9		9
2	2	4098.8	34.895	34.897	2	2.393	2.036	27.912	247.6	2	245.9	2	85.8	0.00	2	22.17	2	1.51	2	45.60	2		9		9		9		9			9	2203.4	2	7.7284	2	2355	2	2354		9		9
1	2	4363.5	34.892	34.892	2	2.388	2.000	27.914	248.6	2	247.9	2	84.2	0.00	2	22.17	2	1.50	2	46.30	2		9		9		9		9	751.4	346.5	2	2203.5	2		9	2354	2			9		9

* WOCE water sample quality flag (F) for parameter for the previous column
** WOCE quality flag (F) for "Niskin" sample bottle
*** PSS-78 scale
**** ITS0 scale

A5R
NOAA Ship Ronald H. Brown

STATION 18 DATE 1/27/1998 LATITUDE 25.424° N
LONGITUDE 20.949° W

Bottle Number	F**	Pressure db	CTD Salinity***	Bottle Salinity***	F*	Temp**** °C	Theta °C	Sigma Theta	CTD O2 µmol/kg	F*	Bottle O2 µmol/kg	F*	AOU	NO2 µmol/kg	F*	NO3 µmol/kg	F*	PO4 µmol/kg	F*	Si(OH)4 µmol/kg	F*	CFC-11 pmol/kg	F*	CFC-12 pmol/kg	F*	CFC-113 pmol/kg	F*	CCl4 pmol/kg	F*	fCO2 at 20 °C µatm	fCO2 INSITU µatm	F*	DIC µmol/kg	F*	pH	F*	Measured TA µmol/kg	F*	Calculated TA µmol/kg	TOC µmol/kg	F*	TON µmol/kg	F*
36	2	3.9	37.247	37.250	2	21.912	21.911	25.953	223.6	2	220.4	2	-6.1	0.00	2	0.00	2	0.00	2	0.30	3	9	9	9	9	328.2	354.2	2	2100.1	6	8.0476	2	2441	2	2437	68.1	2	9
35	2	42.8	37.250	37.249	2	21.930	21.921	25.954	216.2	2	220.2	2	-5.9	0.00	2	0.00	2	0.00	2	0.00	3	9	9	9	9	329.3	355.6	2	2103.1	2	8.0482	2		9	2440	68.2	2	9
34	2	89.7	37.243	37.236	2	21.924	21.906	25.956	216.3	2	220.3	2	-5.9	0.01	2	0.10	2	0.01	2	0.00	3	9	9	9	9	331.9	358.2	2	2101.6	2	8.0444	2	2435	2	2436	69.4	2	9
33	2	123.0	36.892	36.896	2	19.788	19.765	26.275	213.6	2	217.7	2	5.6	0.07	2	0.68	2	0.04	2	0.00	3	9	9	9	9	372.8	369.7	2	2109.3	2	8.0026	2	2416	2	2413	60.0	2	9
32	2	138.5	36.848	36.835	2	19.310	19.285	26.368	204.2	2	209.8	2	15.5	0.02	2	1.46	2	0.08	2	0.00	3	9	9	9	9	388.3	377.8	2	2114.2	2	8.0025	2		9	2418	59.9	2	9
31	2	172.9	36.648	36.643	2	18.148	18.118	26.515	194.7	2	202.7	2	27.8	0.01	2	3.41	2	0.18	2	0.00	3	9	9	9	9	413.1	383.3	2	2118.8	2	7.9640	2	2398	2	2396	60.5	2	9
30	2	206.7	36.402	36.405	2	16.786	16.752	26.660	196.7	2	200.8	2	36.2	0.01	2	5.56	2	0.31	2	0.40	3	9	9	9	9	443.7	389.6	2	2119.6	2	7.9391	2	2385	2	2380	60.9	2	9
29	2	235.6	36.359	36.359	2	16.551	16.512	26.684	208.4	2	200.3	2	37.9	0.00	2	5.95	2	0.34	2	0.50	3	9	9	9	9			9	2120.6	2	7.9310	2		9	2376	57.6	2	9
28	2	272.5	36.202	36.190	2	15.650	15.607	26.773	200.8	2	199.3	2	43.4	0.01	2	7.71	2	0.44	2	1.00	3	9	9	9	9	469.9	393.6	2	2125.0	2	7.9080	2	2372	2	2366		9	9
27	2	320.6	36.051	36.056	2	14.723	14.674	26.866	196.6	2	195.5	2	51.9	0.00	2	9.37	2	0.55	2	1.50	3	9	9	9	9			9	2131.8	2	7.8838	2	2369	2	2359	49.9	2	9
26	2	354.9	35.940	35.951	2	13.994	13.942	26.938	195.4	2	191.8	2	59.5	0.00	2	10.73	2	0.64	2	2.00	3	9	9	9	9	530.2	414.5	2	2140.1	2	7.8623	2	2357	2	2356		9	9
25	2	396.9	35.821	35.827	2	13.232	13.176	27.005	190.3	2	183.2	2	72.2	0.01	2	12.88	2	0.78	2	3.10	3	9	9	9	9			9	2157.1	2	7.8271	2	2351	2	2355	47.6	2	9
24	2	438.9	35.729	35.730	2	12.580	12.520	27.067	182.5	2	179.6	2	79.5	0.00	2	14.15	2	0.87	2	3.80	3	9	9	9	9	606.5	447.1	2	2154.1	2	7.8065	2	2349	2	2341		9	9
23	2	500.3	35.609	35.613	2	11.725	11.659	27.140	175.9	2	166.2	2	97.8	0.00	2	16.98	2	1.06	2	5.50	3	9	9	9	9			9	2166.4	2	7.7680	2	2337	2	2335	46.9	2	9
22	2	550.5	35.530	35.527	2	11.142	11.072	27.188	166.7	2	152.4	2	115.1	0.00	2	19.43	2	1.22	2	7.20	2	9	9	9	9	739.6	514.4	2	2176.8	2	7.7317	2		9	2329		9	9
21	2	647.7	35.360	35.361	2	9.792	9.716	27.295	131.3	2	127.7	2	148.1	0.01	2	23.92	2	1.56	2	11.40	2	9	9	9	9	884.4	582.3	2	2200.1	2	7.6621	2		5	2323	44.9	2	9
20	2	745.2	35.246	35.249	2	8.733	8.651	27.380	120.6	2	121.4	2	161.2	0.00	2	25.97	2	1.74	2	14.50	2	9	9	9	9	964.5	608.0	2	2208.4	2	7.6333	2	2327	2	2320		9	9
19	2	844.5	35.177	35.176	2	7.865	7.777	27.459	128.5	2	130.1	2	158.3	0.00	2	28.02	2	1.80	2	16.70	2	9	9	9	9	978.0	593.4	2	2220.3	3	7.6284	2		9	2330		9	9
18	2	941.2	35.167	35.167	2	7.394	7.298	27.522	140.0	2	141.0	2	150.6	0.00	2	27.44	2	1.78	2	17.50	2	9	9	9	9	953.5	565.9	2	2211.4	6	7.6389	2	2328	2	2325		9	9
17	2	1121.1	35.261	35.260	2	7.017	6.904	27.653	163.5	2	165.3	2	128.7	0.00	2	24.70	2	1.60	2	17.20	2	9	9	9	9	860.4	499.8	2	2200.0	2	7.6769	2	2335	2	2329	42.9	2	9
16	2	1229.4	35.262	35.265	2	6.632	6.511	27.709	174.3	2	176.3	2	120.4	0.00	2	23.82	2	1.55	2	17.40	2	9	9	9	9	827.3	471.5	6	2200.7	2	7.6847	2	2337	2	2333		9	9
15	2	1445.3	35.223	35.221	2	5.723	5.589	27.798	196.0	2	198.6	2	104.7	0.00	2	22.46	2	1.47	2	19.30	2	9	9	9	9	790.0	430.7	2	2194.9	2	7.6985	2	2336	2	2333	42.9	2	9
14	2	1647.9	35.146	35.148	2	4.910	4.765	27.835	209.7	2	211.4	2	98.1	0.00	2	21.97	2	1.46	2	21.60	2	9	9	9	9			9	2190.8	2	7.7095	2	2335	2	2333		9	9
13	2	1849.1	35.087	35.086	2	4.342	4.184	27.853	219.2	2	220.5	2	93.5	0.00	2	21.87	2	1.46	2	23.50	2	9	9	9	9	778.0	397.1	2	2189.7	2	7.7116	2	2332	2	2332		9	9
12	2	2051.3	35.043	35.044	2	3.881	3.710	27.868	225.4	2	227.5	2	90.3	0.00	2	21.78	2	1.46	2	25.70	2	9	9	9	9			9	2189.9	2	7.7143	2	2339	2	2334		9	9
11	2	2250.3	35.021	35.021	2	3.614	3.428	27.879	230.8	2	231.8	2	88.3	0.00	2	21.39	2	1.45	2	27.30	2	9	9	9	9	771.1	379.6	2	2190.1	2	7.7158	2	2337	2	2334	42.0	2	9
10	2	2448.3	34.999	34.999	2	3.391	3.189	27.885	234.8	2	234.7	2	87.3	0.00	2	21.39	2	1.46	2	29.20	2	9	9	9	9			9	2190.6	2	7.7209	2	2338	2	2337		9	9
9	2	2647.8	34.978	34.978	2	3.175	2.957	27.891	239.1	2	238.3	2	85.6	0.00	2	21.29	2	1.45	2	31.10	2	9	9	9	9	758.2	364.8	2	2192.5	2	7.7221	2	2346	2	2339	41.6	2	9
8	2	2848.3	34.958	34.959	2	2.966	2.732	27.897	241.5	2	241.6	2	84.2	0.00	2	21.19	2	1.45	2	33.10	2	9	9	9	9			9	2193.7	2	7.7239	2	2343	2	2341		9	9
7	2	3022.4	34.942	34.944	2	2.797	2.548	27.900	242.2	2	241.7	2	85.6	0.00	2	21.48	2	1.47	2	36.20	2	9	9	9	9	757.7	357.5	2	2197.3	2	7.7242	2	2344	2	2345	42.3	2	9
6	2	3272.0	34.927	34.929	2	2.646	2.374	27.904	243.1	2	242.9	2	85.9	0.00	2	21.78	2	1.48	2	39.00	2	9	9	9	9			9	2200.7	2	7.7231	2	2353	2	2348		9	9
5	2	3526.3	34.917	34.917	2	2.550	2.253	27.908	245.8	2	244.9	2	85.0	0.00	2	21.88	2	1.49	2	40.90	2	9	9	9	9	756.7	352.2	2	2204.6	2	7.7269	2	2352	2	2354	41.8	2	9
4	2	3758.1	34.907	34.908	2	2.472	2.152	27.910	247.4	2	246.3	2	84.4	0.00	2	22.07	2	1.50	2	42.90	2	9	9	9	9			9	2202.5	2	7.7235	2	2351	2	2350	42.0	2	9
3	2	4026.8	34.899	34.900	2	2.420	2.071	27.912	248.0	2	245.6	2	85.8	0.00	2	22.27	2	1.52	2	45.30	2	9	9	9	9	754.5	348.6	3	2205.2	2	7.7253	2	2356	2	2354	41.9	2	9
2	2	4244.2	34.894	34.895	2	2.393	2.019	27.913	248.0	2	246.4	2	85.5	0.00	2	22.36	2	1.52	2	46.30	2	9	9	9	9			9	2203.1	2	7.7285	2	2353	2	2353	42.4	2	9
1	2	4527.4	34.891	34.892	2	2.401	1.993	27.916	249.3	2	248.6	2	83.5	0.00	6	22.36	6	1.52	6	46.90	6	9	9	9	9	761.2	351.4	2	2203.8	2	7.7272	2		9	2353	42.4	2	9

* WOCE water sample quality flag (F) for parameter for the previous column
** WOCE quality flag (F) for "Niskin" sample bottle
*** PSS-78 scale
**** ITS0 scale

A5R
NOAA Ship Ronald H. Brown

STATION 19 DATE 1/27/1998 LATITUDE 25.250° N
LONGITUDE 21.484° W

Bottle Number	F**	Pressure db	CTD Salinity***	Bottle Salinity***	F*	Temp**** °C	Theta °C	Sigma Theta	CTD O2 µmol/kg	F*	Bottle O2 µmol/kg	F*	AOU	NO2 µmol/kg	F*	NO3 µmol/kg	F*	PO4 µmol/kg	F*	Si(OH)4 µmol/kg	F*	CFC-11 pmol/kg	F*	CFC-12 pmol/kg	F*	CFC-113 pmol/kg	F*	CCl4 pmol/kg	F*	fCO2 at 20 °C µatm	fCO2 INSITU µatm	F*	DIC µmol/kg	F*	pH	F*	Measured TA µmol/kg	F*	Calculated TA µmol/kg	TOC µmol/kg	F*	TON µmol/kg	F*
36	2	4.8	37.301	37.300	2	21.973	21.972	25.977	225.0	2	220.1	2	-6.1	0.00	2	0.10	2	0.01	2	0.60	2	2.10	2	1.43	2	0.18	2	9		323.6	350.1	2	2101.0	6	8.0488	2	2442	2	2439		9		9
35	2	50.5	37.300	37.301	2	21.985	21.975	25.978	217.2	2	219.8	2	-5.8	0.00	2	0.10	2	0.01	2	0.60	2	2.11	2	1.41	2	0.19	2	9				9		9		9		9			9		9
34	2	98.6	37.292	37.277	2	21.986	21.966	25.977	217.5	2	219.9	2	-5.8	0.00	2	0.10	2	0.02	2	0.60	2	2.07	2	1.42	2	0.15	2	9		330.4	357.6	2	2101.6	2	8.0459	2	2434	2	2437		9		9
33	2	150.8	36.788	36.800	2	18.894	18.867	26.431	208.7	2	211.9	2	15.2	0.02	2	1.17	2	0.07	2	0.60	2		9		9		9	9				9		9		9		9			9		9
32	2	198.0	36.610	36.607	2	17.930	17.896	26.542	202.4	2	203.9	2	27.7	0.01	2	3.61	2	0.20	2	1.10	2	2.43	2	1.34	2	0.07	2	9				9		9		9		9			9		9
31	2	239.0	36.384	36.382	2	16.750	16.711	26.657	199.6	2	200.9	2	36.3	0.01	2	5.76	2	0.33	2	1.60	2		9		9		9	9		439.5	385.1	2	2119.7	2	7.9480	2	2385	2	2386		9		9
30	2	278.7	36.229	36.229	2	15.808	15.764	26.759	198.7	2	197.9	2	44.0	0.00	2	7.42	2	0.44	2	2.10	2		9		9		9	9				9		9		9		9			9		9
29	2	319.0	36.116	36.117	2	15.097	15.048	26.834	195.5	2	195.2	2	50.3	0.00	2	8.88	2	0.53	2	2.70	2	2.44	6	1.31	6	0.03	6	9				9		9		9		9			9		9
28	2	338.7	36.067	36.061	2	14.785	14.734	26.866	194.5	2	193.7	2	53.4	0.00	2	9.56	2	0.57	2	2.80	2		9		9		9	9				9		9		9		9			9		9
27	2	399.8	35.922	35.922	2	13.890	13.832	26.948	183.8	2	183.2	2	68.7	0.00	2	12.01	2	0.73	2	3.90	2		9		9		9	9				9		9		9		9			9		9
26	2	446.7	35.769	35.777	2	12.863	12.801	27.042	180.1	2	173.8	2	83.7	0.00	2	14.54	2	0.87	2	5.10	2	2.10	2	1.08	2	0.03	2	9				9		9		9		9			9		9
25	2	499.5	35.641	35.660	2	12.007	11.941	27.112	161.5	2	163.7	2	98.7	0.00	2	17.28	2	1.03	2	6.50	2		9		9		9	9				9		9		9		9			9		9
24	2	560.2	35.551	35.555	2	11.333	11.261	27.171	150.6	2	153.6	2	112.8	0.00	2	19.72	2	1.19	2	8.00	2	1.43	2	0.71	2	0.02	2	9		725.9	508.5	2	2177.9	2	7.7365	2	2331	2	2333		9		9
23	2	623.4	35.415	35.427	2	10.393	10.317	27.235	126.3	2	126.7	2	145.4	0.01	2	24.12	2	1.50	2	11.20	2		9		9		9	9				9		9		9		9			9		9
22	2	698.5	35.350	35.353	2	9.810	9.727	27.286	114.5	2	122.9	2	152.8	0.00	2	25.68	2	1.59	2	12.80	2	0.64	2	0.32	2	0.01	2	9				9		9		9		9			9		9
21	2	776.6	35.266	35.268	2	8.868	8.781	27.375	121.1	2	123.4	2	158.3	0.01	2	27.05	2	1.70	2	15.40	2		9		9		9	9		943.7	597.9	2	2210.5	2	7.6383	2	2330	2	2324		9		9
20	2	845.2	35.220	35.221	2	8.319	8.228	27.426	126.8	2	126.3	2	159.0	0.00	2	27.73	2	1.76	2	17.10	2	0.24	2	0.12	2	0.00	2	9				9		9		9		9			9		9
19	2	923.6	35.161	35.158	2	7.596	7.501	27.488	136.4	2	131.3	2	158.9	0.00	2	28.13	2	1.82	2	18.80	2		9		9		9	9				9		9		9		9			9		9
18	2	999.7	35.158	35.157	2	7.164	7.064	27.549	146.3	2	143.0	2	150.1	0.00	2	27.44	2	1.78	2	19.50	2	0.12	2	0.16	4	0.00	2	9		953.0	559.3	6	2212.8	6	7.6370	2	2331	2	2326		9		9
17	2	1100.6	35.174	35.171	2	6.800	6.692	27.613	158.8	2	156.0	2	139.6	0.00	2	26.37	2	1.71	2		4		9		9		9	9				9		9		9		9			9		9
16	2	1288.1	35.210	35.208	2	6.237	6.114	27.720	183.5	2	180.6	2	119.0	0.00	2	24.02	2	1.58	2	19.90	2	0.07	2	0.04	2	0.00	2	9				9		9		9		9			9		9
15	2	1498.1	35.165	35.164	2	5.334	5.199	27.799	201.8	2	202.1	2	104.1	0.00	2	22.56	2	1.51	2	20.90	2		9		9		9	9				9		9		9		9			9		9
14	2	1691.0	35.105	35.106	2	4.648	4.502	27.832	212.7	2	214.8	2	96.8	0.00	2	21.88	2	1.47	2	22.50	2	0.02	2	0.01	2	0.02	3	9				9		9		9		9			9		9
13	2	1896.9	35.065	35.065	2	4.141	3.981	27.856	223.3	2	224.0	2	91.6	0.00	2	21.49	2	1.45	2	24.30	2		9		9		9	9		774.1	390.4	2	2189.6	2	7.7103	2	2338	2	2332	42.0	2		9
12	2	2098.6	35.028	35.029	2	3.741	3.568	27.869	230.3	2	230.5	2	88.4	0.00	2	21.29	2	1.45	2	26.60	2		9		9		9	9				9		9		9		9			9		9
11	2	2300.4	35.009	35.009	2	3.507	3.318	27.880	232.7	2	233.9	2	87.1	0.00	2	21.29	2	1.45	2	28.80	2	0.01	2	0.00	2	0.00	2	9				9		9		9		9			9		9
10	2	2495.1	34.988	34.988	2	3.279	3.074	27.887	236.4	2	236.9	2	86.1	0.00	2	21.20	2	1.45	2	31.00	2		9		9		9	9				9		9		9		9			9		9
9	2	2698.5	34.969	34.969	2	3.093	2.871	27.892	237.6	2	237.6	2	87.1	0.00	2	21.29	2	1.47	2	33.60	2		9		9		9	9				9		9		9		9			9		9
8	2	2900.3	34.953	34.953	2	2.916	2.677	27.897	239.7	2	240.1	2	86.2	0.00	2	21.29	2	1.47	2	35.80	2	0.01	2	0.00	2	0.00	2	9		764.8	362.6	2	2197.5	2	7.7208	2		4	2344		9		9
7	2	3125.8	34.936	34.936	2	2.756	2.497	27.900	237.4	2	238.7	2	89.1	0.00	2	21.59	2	1.49	2	39.30	2		9		9		9	9				9		9		9		9			9		9
6	2	3372.6	34.924	34.924	2	2.629	2.347	27.905	238.4	2	239.9	2	89.2	0.00	2	21.78	2	1.50	2	41.40	2		9		9		9	9				9		9		9		9			9		9
5	2	3647.9	34.913	34.913	2	2.509	2.200	27.910	244.6	2	246.0	2	84.3	0.00	2	21.78	2	1.50	2	42.30	2	0.01	6	0.01	6	0.00	6	9				9		9		9		9			9		9
4	2	3903.6	34.903	34.904	2	2.440	2.104	27.912	247.5	2	247.6	2	83.5	0.00	2	21.88	2	1.50	2	43.20	2		9		9		9	9		752.9	347.7	2	2200.4	2	7.7288	2	2351	2	2351		9		9
3	2	4153.1	34.898	34.897	2	2.406	2.043	27.914	248.6	2	249.0	2	82.7	0.00	2	21.98	2	1.51	2	43.60	2		9		9		9	9				9		9		9		9			9		9
2	2	4399.6	34.892	34.894	2	2.396	2.004	27.915	248.0	2	247.9	2	84.1	0.00	2	22.17	2	1.52	2	44.40	2	0.00	2	0.01	2	0.00	2	9				9		9		9		9			9		9
1	2	4646.1	34.891	34.891	2	2.411	1.989	27.917	248.7	2	248.8	2	83.3	0.00	6	22.17	6	1.52	6	45.60	6	0.00	2	0.02	4	0.00	2	9		762.2	351.1	2	2201.7	2	7.7264	2		5	2351		9		9

* WOCE water sample quality flag (F) for parameter for the previous column
** WOCE quality flag (F) for "Niskin" sample bottle
*** PSS-78 scale
**** ITS0 scale

A5R
NOAA Ship Ronald H. Brown

STATION 20 DATE 1/27/1998 LATITUDE 25.057° N
LONGITUDE 22.032° W

Bottle Number	F**	Pressure db	CTD Salinity***	Bottle Salinity***	F*	Temp**** °C	Theta °C	Sigma Theta	CTD O2 µmol/kg	F*	Bottle O2 µmol/kg	F*	AOU	NO2 µmol/kg	F*	NO3 µmol/kg	F*	PO4 µmol/kg	F*	Si(OH)4 µmol/kg	F*	CFC-11 pmol/kg	F*	CFC-12 pmol/kg	F*	CFC-113 pmol/kg	F*	CCl4 pmol/kg	F*	fCO2 at 20 °C µatm	fCO2 INSITU µatm	F*	DIC µmol/kg	F*	pH	F*	Measured TA µmol/kg	F*	Calculated TA µmol/kg	TOC µmol/kg	F*	TON µmol/kg	F*
36	2	6.0	37.111	37.110	2	22.014	22.013	25.821	219.2	2	220.5	2	-6.3	0.00	2	0.10	2		4	0.70	2		9		9		9		9	341.2	369.7	2	2099.1	6	8.0411	6	2434	2	2430		9		9
35	2	41.8	37.109	37.109	2	22.027	22.019	25.820	216.5	2	221.8	2	-7.7	0.00	2	0.10	2		4	0.70	2		9		9		9		9				9		9		9		9		9		9		9
34	2	70.8	37.109	37.109	2	22.033	22.019	25.821	217.5	2	216.2	2	-2.1	0.00	2	0.10	2		4	0.80	2		9		9		9		9				9		9		9		9		9		9		9
33	2	110.3	36.782	36.907	2	20.290	20.269	26.056	214.0	2	194.8	2	26.4	0.06	2	3.71	2		4	1.50	2		9		9		9		9				9		9		9		9		9		9		9
32	2	139.8	36.758	36.776	2	19.042	19.017	26.368	178.3	2	190.5	2	36.0	0.02	2	4.19	2		4	1.50	2		9		9		9		9				9		9		9		9		9		9		9
31	2	180.4	36.538	36.500	2	17.688	17.657	26.544	180.7	2	171.8	2	61.0	0.01	2	8.00	2		4	2.60	2		9		9		9		9				9		9		9		9		9		9		9
30	2	229.0	36.354	36.351	2	16.620	16.582	26.663	181.1	2	184.8	2	53.0	0.01	2	8.00	2		4	2.30	2		9		9		9		9				9		9		9		9		9		9		9
29	2	279.8	36.184	36.182	2	15.585	15.541	26.775	173.4	2	179.9	2	63.1	0.00	2	10.05	2		4	3.30	2		9		9		9		9				9		9		9		9		9		9		9
28	2	331.2	36.052	36.049	2	14.754	14.704	26.861	181.3	2	177.7	2	69.6	0.00	2	11.42	2		4	3.80	2		9		9		9		9				9		9		9		9		9		9		9
27	2	380.1	35.927	35.930	2	14.017	13.961	26.924	163.9	2	160.5	2	90.7	0.00	2	14.35	2		4	4.80	2		9		9		9		9				9		9		9		9		9		9		9
26	2	409.0	35.824	35.825	2	13.370	13.312	26.980	162.0	2	154.8	2	99.9	0.00	2	16.11	2		4	5.60	2		9		9		9		9				9		9		9		9		9		9		9
25	2	480.6	35.665	35.666	2	12.268	12.203	27.079	150.1	2	154.0	2	106.9	0.00	2	18.16	2		4	7.00	2		9		9		9		9				9		9		9		9		9		9		9
24	2	528.5	35.595	35.597	2	11.736	11.667	27.129	147.0	2	151.0	2	113.0	0.00	2	19.33	2		4	7.70	2		9		9		9		9				9		9		9		9		9		9		9
23	2	582.2	35.492	35.492	2	10.998	10.925	27.186	137.5	2	136.1	2	132.3	0.00	2	22.36	2		4	10.00	2		9		9		9		9				9		9		9		9		9		9		9
22	2	679.4	35.347	35.349	2	9.718	9.638	27.299	127.1	2	125.4	2	150.9	0.00	2	25.58	2		4	13.60	2		9		9		9		9				9		9		9		9		9		9		9
21	2	773.5	35.224	35.224	2	8.632	8.547	27.380	118.3	2	121.0	2	162.3	0.00	2	28.22	2		4	16.90	2		9		9		9		9				9		9		9		9		9		9		9
20	2	875.9	35.128	35.130	2	7.682	7.591	27.448	124.3	2	125.7	2	164.0	0.00	2	29.10	2		4	19.30	2		9		9		9		9				9		9		9		9		9		9		9
19	2	981.0	35.127	35.130	2	7.161	7.063	27.524	139.7	2	141.2	2	152.0	0.00	2	27.93	2		4	20.00	2		9		9		9		9				9		9		9		9		9		9		9
18	2	1079.7	35.142	35.142	2	6.788	6.682	27.589	152.2	2	154.2	2	141.6	0.00	2	26.37	2		4	20.30	2		9		9		9		9				9		9		9		9		9		9		9
17	2	1278.3	35.182	35.182	2	6.210	6.088	27.701	176.7	2	176.5	2	123.3	0.00	2	24.71	2		4	20.30	2		9		9		9		9				9		9		9		9		9		9		9
16	2	1474.3	35.162	35.163	2	5.432	5.298	27.785	197.5	2	198.1	2	107.4	0.00	2	23.05	2		4	21.30	2		9		9		9		9				9		9		9		9		9		9		9
15	2	1686.2	35.103	35.108	2	4.675	4.529	27.827	211.4	2	214.5	2	96.8	0.00	2	22.36	2		4	23.00	2		9		9		9		9				9		9		9		9		9		9		9
14	2	1878.9	35.072	35.072	2	4.207	4.048	27.855	220.9	2	224.4	2	90.7	0.00	2	21.68	2		4	24.80	2		9		9		9		9				9		9		9		9		9		9		9
13	2	2082.5	35.046	35.047	2	3.883	3.709	27.870	227.6	2	231.0	2	86.8	0.00	2	21.39	2		4	27.00	2		9		9		9		9				9		9		9		9		9		9		9
12	2	2242.9	35.022	35.023	2	3.625	3.439	27.878	230.6	2	233.2	2	86.8	0.00	2	21.39	2		4	28.80	2		9		9		9		9				9		9		9		9		9		9		9
11	2	2478.6	34.993	34.994	2	3.331	3.127	27.887	234.4	2	236.8	2	85.7	0.00	2	21.39	2		4	31.30	2		9		9		9		9				9		9		9		9		9		9		9
10	2	2675.6	34.971	34.971	2	3.110	2.890	27.892	236.5	2	240.4	2	84.1	0.00	2	21.29	2		4	34.00	2		9		9		9		9				9		9		9		9		9		9		9
9	2	2881.7	34.953	34.954	2	2.916	2.679	27.897	241.9	2	242.8	2	83.5	0.00	2	21.39	2		4	35.70	2		9		9		9		9				9		9		9		9		9		9		9
8	2	3079.9	34.939	34.939	2	2.760	2.506	27.901	242.1	2	243.3	2	84.4	0.00	2	21.59	2		4	38.50	2		9		9		9		9				9		9		9		9		9		9		9
7	2	3280.8	34.929	34.929	2	2.656	2.383	27.906	244.0	2	244.2	2	84.6	0.00	2	21.59	2		4	40.10	2		9		9		9		9				9		9		9		9		9		9		9
6	2	3500.1	34.920	34.919	2	2.565	2.271	27.909	246.0	2	247.1	2	82.6	0.00	2	21.68	2		4	41.70	2		9		9		9		9				9		9		9		9		9		9		9
5	2	3757.8	34.909	34.909	2	2.482	2.162	27.911	247.0	2	248.5	2	82.1	0.00	2	21.88	2		4	44.00	2		9		9		9		9				9		9		9		9		9		9		9
4	2	4018.2	34.901	34.900	2	2.422	2.074	27.913	249.0	2	250.4	2	81.0	0.00	2	22.07	2		4	45.70	2		9		9		9		9				9		9		9		9		9		9		9
3	2	4278.9	34.894	34.894	2	2.388	2.010	27.915	249.6	2	249.5	2	82.5	0.00	2	21.88	3		4	47.20	2		9		9		9		9				9		9		9		9		9		9		9
2	2	4539.1	34.891	34.892	2	2.395	1.986	27.916	249.2	2	248.1	2	84.1	0.00	2	22.37	2		4	48.20	2		9		9		9		9				9		9		9		9		9		9		9
1	2	4809.4	34.889	34.889	2	2.421	1.978	27.918	249.5	2	248.8	2	83.4	0.00	6	22.37	6		4	48.00	6		9		9		9		9				9		9		9		9		9		9		9

* WOCE water sample quality flag (F) for parameter for the previous column
** WOCE quality flag (F) for "Niskin" sample bottle
*** PSS-78 scale
**** ITS0 scale

A5R
NOAA Ship Ronald H. Brown

STATION 21 DATE 1/28/1998 LATITUDE 24.783° N
LONGITUDE 22.800° W

Bottle Number	F**	Pressure db	CTD Salinity***	Bottle Salinity***	F*	Temp**** °C	Theta °C	Sigma Theta	CTD O2 µmol/kg	F*	Bottle O2 µmol/kg	F*	AOU	NO2 µmol/kg	F*	NO3 µmol/kg	F*	PO4 µmol/kg	F*	Si(OH)4 µmol/kg	F*	CFC-11 pmol/kg	F*	CFC-12 pmol/kg	F*	CFC-113 pmol/kg	F*	CCl4 pmol/kg	F*	fCO2 at 20 °C µatm	fCO2 INSITU µatm	F*	DIC µmol/kg	F*	pH	F*	Measured TA µmol/kg	F*	Calculated TA µmol/kg	TOC µmol/kg	F*	TON µmol/kg	F*
36	2	6.3	37.218	37.217	2	22.256	22.255	25.834	222.5	2	218.0	2	-4.9	0.00	2	0.00	2		4	0.80	2	2.05	2	1.39	2	0.17	2		9	331.1	362.2	2	2098.6	6		9	2434	2			9		9
35	2	50.2	37.214	37.214	2	22.256	22.246	25.835	216.2	2	218.0	2	-4.9	0.00	2	0.00	2		4	0.70	2	2.05	2	1.45	2	0.17	2		9	330.9	361.9	2	2099.9	2	8.0469	2	2440	2	2436		9		9
34	2	101.5	37.219	37.218	2	22.186	22.166	25.866	215.7	2	217.8	2	-4.4	0.02	2	0.10	2		4	0.70	2	2.06	2	1.42	2	0.16	2		9	333.2	363.6	2	2101.0	2	8.0457	2	2432	2	2436		9		9
33	2	149.3	36.909	36.917	2	19.749	19.721	26.302	202.5	2	202.1	2	21.3	0.02	2	1.95	2		4	0.80	2		9		9		9		9			9		9		9		9			9		9
32	2	201.1	36.608	36.607	2	18.022	17.987	26.517	190.6	2	193.4	2	37.8	0.00	2	4.68	2		4	1.30	2	2.36	2	1.34	2	0.06	2		9	423.1	391.0	2	2123.3	2	7.9574	2	2393	2	2397		9		9
31	2	227.3	36.503	36.495	2	17.410	17.371	26.589	195.5	2	200.4	2	33.7	0.00	2	4.78	2		4	1.40	2		9		9		9		9			9		9		9		9			9		9
30	2	251.8	36.400	36.401	2	16.836	16.794	26.649	196.4	2	199.7	2	37.1	0.00	2	5.66	2		4	1.60	2		9		9		9		9			9		9		9		9			9		9
29	2	278.0	36.295	36.304	2	16.237	16.192	26.711	196.3	2	197.4	2	42.3	0.00	2	6.83	2		4	2.10	2		9		9		9		9			9		9		9		9			9		9
28	2	302.5	36.217	36.225	2	15.779	15.731	26.758	194.8	2	195.9	2	46.1	0.00	2	7.71	2		4	2.10	2	2.41	2	1.32	2	0.00	2		9	472.5	397.9	2	2128.1	2	7.9172	2	2368	2	2375		9		9
27	2	352.2	36.063	36.064	2	14.829	14.775	26.854	193.8	2	192.4	2	54.5	0.00	2	9.56	2		4	2.80	2		9		9		9		9			9		9		9		9			9		9
26	2	399.6	35.930	35.931	2	13.953	13.894	26.942	187.5	2	184.5	2	67.0	0.00	2	11.81	2		4	3.90	2	2.29	2	1.20	2	0.02	2		9			9		9		9		9			9		9
25	2	452.3	35.807	35.813	2	13.144	13.080	27.016	176.7	2	174.3	2	81.7	0.00	2	14.25	2		4	4.90	2		9		9		9		9			9		9		9		9			9		9
24	2	499.5	35.718	35.718	2	12.518	12.450	27.073	175.6	2	157.7	2	101.8	0.00	2	16.30	2		4	6.10	2	1.92	2	0.99	2	0.02	2		9	652.2	479.9	2	2162.1	2	7.7846	2	2346	2	2338		9		9
23	2	600.7	35.522	35.520	2	11.092	11.016	27.193	153.8	2	148.9	2	118.9	0.00	2	20.70	2		4	9.10	2	1.26	2	0.65	2	0.02	2		9			9		9		9		9			9		9
22	2	701.9	35.350	35.355	2	9.713	9.631	27.302	140.1	2	126.8	2	149.5	0.00	2	25.48	2		4	13.50	2		9		9		9		9			9		9		9		9			9		9
21	2	800.1	35.245	35.245	2	8.657	8.569	27.393	121.7	2	124.1	2	159.0	0.00	2	27.34	2		4	15.90	2	0.29	2	0.14	2	0.00	2		9			9		9		9		9			9		9
20	2	901.0	35.192	35.194	2	7.840	7.745	27.477	135.0	2	121.5	2	167.0	0.00	2	27.44	2		4	17.20	2		9		9		9		9			9		9		9		9			9		9
19	2	999.5	35.191	35.191	2	7.342	7.240	27.550	147.5	2	125.9	2	166.0	0.00	2	26.36	2		4	17.70	2	0.13	6	0.08	6	0.00	6		9	908.7	536.8	2	2207.9	6	7.6516	2	2327	2	2325		9		9
18	2	1198.2	35.243	35.242	2	6.704	6.586	27.683	170.0	2	171.1	2	125.1	0.00	2	24.22	2		4	18.20	2		9		9		9		9			9		9		9		9			9		9
17	2	1400.2	35.219	35.219	2	5.922	5.790	27.769	190.0	2	191.6	2	110.3	0.00	2	22.85	2		4	19.10	2	0.07	2	0.04	2	0.00	2		9			9		9		9		9			9		9
16	2	1601.3	35.171	35.171	2	5.200	5.056	27.821	207.5	2	204.5	2	102.8	0.00	2	21.97	2		4	20.70	2		9		9		9		9			9		9		9		9			9		9
15	2	1800.2	35.111	35.113	2	4.545	4.389	27.849	219.2	2	220.2	2	92.2	0.00	2	21.09	3		4	22.70	2	0.03	2	0.00	2	-0.01	2		9	768.9	396.0	2	2187.8	2	7.7130	2	2333	2	2329		9		9
14	2	1999.3	35.053	35.054	2	4.001	3.833	27.863	228.1	2	228.4	2	88.4	0.00	2	21.39	2		4	24.80	2		9		9		9		9			9		9		9		9			9		9
13	2	2195.7	35.023	35.023	2	3.675	3.493	27.874	233.8	2	231.8	2	87.7	0.00	2	21.29	2		4	27.20	2		9		9		9		9			9		9		9		9			9		9
12	2	2399.7	35.001	35.001	2	3.413	3.215	27.884	237.5	2	236.8	2	85.0	0.00	2	21.19	2		4	29.60	2	0.01	2	0.01	2	-0.01	2		9			9		9		9		9			9		9
11	2	2599.7	34.976	34.978	2	3.151	2.938	27.891	240.0	2	236.5	2	87.6	0.00	2	21.19	2		4	32.70	2		9		9		9		9			9		9		9		9			9		9
10	2	2799.0	34.959	34.958	2	2.955	2.726	27.897	241.7	2	241.3	2	84.6	0.00	2	21.39	3		4	35.00	2		9		9		9		9			9		9		9		9			9		9
9	2	3000.2	34.941	34.941	2	2.778	2.532	27.901	243.8	2	243.0	2	84.5	0.00	2	21.49	3		4	36.90	2	0.01	2	0.01	2	0.00	2		9	756.7	356.6	2	2195.7	2	7.7237	2	2346	2	2342		9		9
8	2	3250.7	34.930	34.931	2	2.667	2.397	27.905	247.7	2	247.0	2	81.6	0.00	2	21.29	2		4	37.70	2		9		9		9		9			9		9		9		9			9		9
7	2	3502.1	34.920	34.921	2	2.580	2.285	27.908	247.5	2	236.8	4	92.8	0.00	2	21.49	2		4	39.10	2	0.01	3	0.01	2	-0.01	2		9			9		9		9		9			9		9
6	2	3749.8	34.911	34.910	2	2.490	2.170	27.911	245.0	2	248.9	2	81.7	0.00	2	21.68	2		4	40.80	2		9		9		9		9			9		9		9		9			9		9
5	2	4000.1	34.901	34.902	2	2.429	2.083	27.913	246.5	2	249.5	2	81.8	0.00	2	21.78	2		4	42.80	2	0.00	2	0.00	2	0.00	2		9	751.6	347.6	2	2195.8	2		9	2354	2			9		9
4	2	4250.7	34.895	34.895	2	2.390	2.016	27.915	245.8	2	249.4	2	82.5	0.00	2	21.88	2		4	44.40	2		9		9		9		9			9		9		9		9			9		9
3	2	4498.6	34.892	34.891	2	2.389	1.985	27.916	244.7	2	249.2	2	83.0	0.00	2	22.07	2		4	45.60	2	0.00	2	0.00	2	0.00	2		9	752.0	346.9	6	2198.9	2	7.7265	2	2351	2	2346		9		9
2	2	4752.2	34.889	34.891	2	2.410	1.975	27.917	244.5	2	248.2	2	84.1	0.00	2	22.17	2		4	46.40	2	0.00	2	-0.01	2	0.00	2		9			9		9		9		9			9		9
1	2	4968.8	34.888	34.889	2	2.431	1.968	27.919	244.4	2	249.0	2	83.3	0.00	2	22.17	2		4	46.80	2	0.00	2	0.00	2	0.00	2		9	758.1	350.5	2	2200.5	2	7.7264	2	2345	2	2348		9		9

* WOCE water sample quality flag (F) for parameter for the previous column
** WOCE quality flag (F) for "Niskin" sample bottle
*** PSS-78 scale
**** ITS0 scale

A5R
NOAA Ship Ronald H. Brown

STATION 22 DATE 1/28/1998 LATITUDE 24.500° N
LONGITUDE 23.484° W

Bottle Number	F**	Pressure db	CTD Salinity***	Bottle Salinity***	F*	Temp**** °C	Theta °C	Sigma Theta	CTD O2 µmol/kg	F*	Bottle O2 µmol/kg	F*	AOU	NO2 µmol/kg	F*	NO3 µmol/kg	F*	PO4 µmol/kg	F*	Si(OH)4 µmol/kg	F*	CFC-11 pmol/kg	F*	CFC-12 pmol/kg	F*	CFC-113 pmol/kg	F*	CCl4 pmol/kg	F*	fCO2 at 20 °C µatm	fCO2 INSITU µatm	F*	DIC µmol/kg	F*	pH	F*	Measured TA µmol/kg	F*	Calculated TA µmol/kg	TOC µmol/kg	F*	TON µmol/kg	F*
36	2	4.2	37.121	37.120	2	22.034	22.033	25.823	221.8	2	218.6	2	-4.5	0.01	2	0.00	2		4	0.80	2	2.06	2	1.39	2	0.17	2		9	333.9	362.0	2	2096.7	6	8.0433	2	2437	2	2429	65.1	2	6.3	2
35	2	49.2	37.120	37.121	2	22.042	22.032	25.825	215.6	2	218.9	2	-4.8	0.01	2	0.00	2		4	0.70	2	2.09	2	1.39	2	0.16	2		9	333.1	361.4	2	2099.5	2	8.0403	2	2438	2	2430	63.5	2	4.3	2
34	2	99.2	37.120	37.121	2	22.056	22.036	25.826	215.4	2	218.7	2	-4.6	0.01	2	0.00	2		4	0.70	2	2.09	6	1.40	6	0.16	6		9	333.8	362.3	2	2101.0	2	8.0400	2	2428	2	2431	62.9	2	4.3	2
33	2	130.5	37.085	37.105	2	21.886	21.860	25.852	202.8	2	218.1	2	-3.4	0.01	2	0.19	2		4	0.70	2		9		9		9		9	336.7	363.1	2	2100.8	2	8.0366	2		9	2428	63.1	2	4.5	2
32	2	161.5	36.917	36.921	2	19.855	19.825	26.281	192.7	2	205.4	2	17.6	0.03	2	1.95	2		4	1.00	2		9		9		9		9	386.6	384.2	2	2121.3	2	7.9883	2	2414	2	2417	58.1	2		9
31	2	199.9	36.570	36.581	2	18.037	18.002	26.484	175.5	2	182.6	2	48.5	0.01	2	6.24	2		4	2.00	2	2.30	2	1.30	2	0.08	2		9	456.8	421.8	2	2140.1	3		4		9		51.8	2	9.4	2
30	2	249.8	36.407	36.407	2	16.933	16.891	26.631	189.7	2	194.1	2	42.3	0.01	2	6.34	2		4	2.00	2		9		9		9		9	438.3	387.0	2	2128.6	2	7.9331	2	2382	2	2386	50.9	2		9
29	2	302.1	36.207	36.208	2	15.931	15.883	26.716	155.5	2	157.4	2	83.9	0.01	2	11.90	2		4	3.70	2	2.19	2	1.22	2	0.02	2		9	542.0	459.7	2	2156.7	2		4	2377	2		50.5	2	15.5	2
28	2	350.9	36.118	36.118	2	15.232	15.178	26.808	168.8	2	166.1	2	78.7	0.01	2	11.81	2		4	3.70	2		9		9		9		9	541.8	446.4	2	2152.2	2	7.8516	2	2366	2	2363		9		9
27	2	401.2	35.989	35.995	2	14.347	14.287	26.904	172.0	2	175.9	2	73.5	0.00	2	12.00	2		4	4.10	2	2.25	2	1.18	2	0.02	2		9	549.4	436.0	2	2149.1	2	7.8465	2	2367	2	2357	46.7	2	14.9	2
26	2	448.9	35.797	35.795	2	13.302	13.238	26.976	136.7	2	135.3	2	119.9	0.00	2	18.25	2		4	6.30	2		9		9		9		9	691.3	526.3	6	2178.5	3		4		9			9		9
25	2	500.3	35.722	35.725	2	12.650	12.581	27.051	160.1	2	162.7	2	96.1	0.00	2	16.30	2		4	6.10	2		9		9		9		9	649.1	480.4	2	2165.2	2	7.7822	2	2342	2	2340	46.2	2	19.4	2
24	2	548.0	35.597	35.603	2	11.834	11.762	27.113	148.6	2	143.6	2	119.9	0.00	2	19.81	2		4	7.80	2		9		9		9		9	737.2	528.0	2	2180.1	2	7.7352	2	2341	2	2333		9		9
23	2	652.2	35.466	35.468	2	10.639	10.558	27.233	142.9	2	142.5	2	128.1	0.00	2	21.96	2		4	9.90	2	0.93	2	0.48	2	-0.01	2		9	783.5	533.5	2	2186.1	2	7.7067	2	2328	2	2326	43.6	2		9
22	2	750.1	35.349	35.351	2	9.548	9.461	27.331	130.6	2	130.6	2	146.7	0.01	2	25.09	2		4	13.40	2		9		9		9		9	870.1	566.6	2	2197.8	2	7.6675	2	2331	2	2322		9	27.6	2
21	2	848.6	35.248	35.248	2	8.482	8.389	27.424	130.4	2	130.2	2	154.1	0.01	2	27.04	2		4	16.70	2	0.22	2	0.10	2	0.00	2		9	931.6	579.7	2	2205.8	2	7.6442	2		5	2320	42.7	2		9
20	2	951.4	35.204	35.204	2	7.701	7.602	27.508	141.3	2	140.4	2	149.1	0.00	2	26.85	2		4	18.30	2		9		9		9		9	926.2	556.5	2	2207.5	6	7.6457	2		9	2322		9		9
19	2	1146.9	35.226	35.225	2	6.995	6.880	27.629	166.3	2	163.9	2	130.3	0.00	2	25.09	2		4	18.70	2	0.11	2	0.05	2	0.00	2		9	862.1	500.2	2	2199.5	2	7.6734	2		5	2325	42.0	2	28.2	2
18	2	1348.6	35.239	35.239	2	6.256	6.126	27.742	184.6	2	185.6	2	113.8	0.00	2	23.24	2		4	19.40	2		9		9		9		9	814.1	455.5	2	2194.5	2		9	2335	2			9		9
17	2	1548.8	35.180	35.181	2	5.351	5.210	27.810	205.8	2	204.8	2	101.3	0.00	2	22.26	2		4	20.70	2	0.03	6	0.01	6	0.00	6		9	791.5	423.9	2	2188.8	2	7.7068	2		9	2328	41.6	2	25.0	2
16	2	1750.7	35.121	35.121	2	4.688	4.535	27.842	218.2	2	217.9	2	93.4	0.00	2	21.48	2		4	21.90	2		9		9		9		9			9	2185.8	2	7.7124	2	2340	3	2327		9		9
15	2	2050.0	35.044	35.045	2	3.909	3.738	27.866	229.2	2	229.9	2	87.7	0.00	2	21.29	2		4	25.10	2	0.01	2	-0.01	2	0.00	2		9	765.8	382.4	2	2185.2	2	7.7208	2	2335	2	2330	41.6	2	24.0	2
14	2	2150.2	35.035	35.035	2	3.773	3.594	27.873	232.8	2	233.3	2	85.4	0.00	2	21.09	2		4	25.80	2		9		9		9		9			9	2184.6	2	7.7189	2	2338	2	2328		9		9
13	2	2349.7	35.011	35.011	2	3.524	3.329	27.881	237.0	2	236.5	2	84.4	0.00	2	20.99	2		4	27.60	2	0.01	2	-0.01	2	0.00	2		9	762.3	373.5	2	2185.4	2		9	2333	2		42.0	2		9
12	2	2542.0	34.991	34.992	2	3.305	3.095	27.889	243.0	2	241.6	2	81.2	0.00	2	20.80	2		4	29.20	2		9		9		9		9			9	2185.7	2	7.7251	2	2335	2	2332	41.5	2		9
11	2	2750.4	34.969	34.969	2	3.052	2.826	27.896	244.5	2	246.0	2	79.0	0.00	2	20.70	2		4	31.40	2	0.00	2	0.00	2	0.00	2		9	747.1	357.1	2	2186.5	2	7.7236	2	2342	2	2332	41.4	2		9
10	2	2946.9	34.950	34.951	2	2.862	2.620	27.901	248.7	2	246.8	2	79.9	0.00	2	21.00	2		4	34.60	2		9		9		9		9			9	2192.0	2	7.7296	2	2342	2	2341		9		9
9	2	3200.3	34.934	34.934	2	2.695	2.430	27.905	250.3	2	249.6	2	78.8	0.00	2	21.09	2		4	36.80	2	0.00	2	0.00	2	0.00	2		9	747.1	350.4	2	2194.5	2	7.7304	2	2345	2	2344	41.3	2		9
8	2	3445.9	34.919	34.919	2	2.553	2.265	27.908	249.6	2	249.4	2	80.4	0.00	2	21.48	2		4	40.50	2		9		9		9		9			9	2194.7	2	7.7298	2	2346	2	2344	41.4	2		9
7	2	3699.1	34.909	34.909	2	2.475	2.161	27.910	250.1	2	249.7	2	81.0	0.00	2	21.78	2		4	43.10	2	0.01	2	0.02	4	0.00	2		9	749.4	347.3	2	2194.7	2	7.7275	2	2352	2	2342		9		9
6	2	3950.3	34.902	34.902	2	2.426	2.085	27.912	250.1	2	249.6	2	81.7	0.00	2	21.88	2		4	44.70	2		9		9		9		9			9	2196.4	2	7.7289	2	2348	2	2345	41.4	2		9
5	2	4200.5	34.895	34.895	2	2.392	2.024	27.914	249.7	2	250.2	2	81.6	0.00	2	22.27	3		4	45.20	2	0.00	6	0.00	6	0.00	6		9	752.5	347.2	2	2197.6	2	7.7271	2	2351	2	2345		9		9
4	2	4451.2	34.891	34.891	2	2.380	1.982	27.916	249.1	2	249.8	2	82.4	0.00	2	21.97	2		4	45.80	2		9		9		9		9			9	2202.5	2		9	2355	2		41.6	2		9
3	2	4598.3	34.889	34.889	2	2.382	1.966	27.917	249.4	2	249.8	2	82.5	0.00	2	21.78	3		4	45.90	2		9		9		9		9	756.9	349.0	2	2202.4	2	7.7259	2	2354	2	2350		9		9
2	2	4815.8	34.889	34.888	2	2.399	1.956	27.919	249.9	2	248.8	2	83.6	0.00	2	21.97	2		4	46.10	2	0.01	2	0.00	2	-0.01	2		9			9	2201.9	2	7.7266	2	2358	2	2350	41.8	2		9
1	2	5091.0	34.888	34.889	2	2.435	1.956	27.921	249.9	2	250.0	2	82.4	0.00	6	22.07	6		4	46.50	6	0.01	2	0.00	2	-0.01	2		9	760.5	351.7	2	2201.8	2	7.7256	2	2358	2	2349	41.5	2		9

* WOCE water sample quality flag (F) for parameter for the previous column
** WOCE quality flag (F) for "Niskin" sample bottle
*** PSS-78 scale
**** ITS0 scale

A5R
NOAA Ship Ronald H. Brown

STATION 23 DATE 1/28/1998 LATITUDE 24.499° N
LONGITUDE 24.216° W

Bottle Number	F**	Pressure db	CTD Salinity***	Bottle Salinity***	F*	Temp**** °C	Theta °C	Sigma Theta	CTD O2 µmol/kg	F*	Bottle O2 µmol/kg	F*	AOU	NO2 µmol/kg	F*	NO3 µmol/kg	F*	PO4 µmol/kg	F*	Si(OH)4 µmol/kg	F*	CFC-11 pmol/kg	F*	CFC-12 pmol/kg	F*	CFC-113 pmol/kg	F*	CCl4 pmol/kg	F*	fCO2 at 20 °C µatm	fCO2 INSITU µatm	F*	DIC µmol/kg	F*	pH	F*	Measured TA µmol/kg	F*	Calculated TA µmol/kg	TOC µmol/kg	F*	TON µmol/kg	F*
36	2	5.4	37.141	37.141	2	22.276	22.275	25.769	217.9	2	218.8	2	-5.7	0.01	2	0.10	2		4	0.10	2		9		9		9		9	331.8	363.2	2	2098.3	6	8.0434	6	2429	6	2431		9		9
35	2	39.4	37.138	37.138	2	22.265	22.257	25.774	215.0	2	219.2	2	-6.0	0.01	2	0.10	2		4	0.00	2		9		9		9		9	331.9	363.1	2	2096.8	2	8.0419	2	2427	2	2428		9		9
34	2	89.5	37.137	37.138	2	22.262	22.244	25.780	215.4	2	218.2	2	-4.9	0.01	2	0.10	2		4	0.00	2		9		9		9		9	334.1	365.5	2	2098.0	2	8.0421	2	2430	2	2429		9		9
33	2	140.8	36.982	36.964	2	20.623	20.596	26.122	212.9	2	209.7	2	10.1	0.03	2	1.76	2		4	0.00	2		9		9		9		9			9		9		9		9			9		9
32	2	191.0	36.501	36.490	2	17.948	17.915	26.452	165.2	2	191.7	2	40.0	0.01	2	10.34	2		4	1.80	2		9		9		9		9			9		9		9		9			9		9
31	2	220.1	36.266	36.272	2	16.812	16.776	26.550	127.1	2	125.9	2	111.2	0.00	2	16.39	2		4	3.00	2		9		9		9		9	602.4	530.1	2	2172.5	3	7.8142	2	2369	2	2367		9		9
30	2	251.0	36.105	36.084	2	15.926	15.886	26.634	118.3	2	112.5	2	129.0	0.00	2	17.08	2		4	4.00	2		9		9		9		9			9		9		9		9			9		9
29	2	280.4	35.992	35.992	2	15.209	15.166	26.711	105.1	2	108.1	2	137.0	0.00	2	18.74	2		4	4.60	2		9		9		9		9	705.8	582.6	2	2187.4	3	7.7506	2	2358	2	2350		9		9
28	2	340.6	35.910	35.909	2	14.339	14.288	26.841	99.1	2	112.3	2	137.3	0.00	2	19.13	2		4	5.00	2		9		9		9		9			9		9		9		9			9		9
27	2	402.8	35.821	35.826	2	13.528	13.470	26.945	126.4	2	128.1	2	125.8	0.00	2	18.45	2		4	5.00	2		9		9		9		9			9		9		9		9			9		9
26	2	459.7	35.732	35.733	2	12.835	12.771	27.020	141.4	2	138.6	2	119.1	0.00	2	18.74	2		4	5.50	2		9		9		9		9			9		9		9		9			9		9
25	2	520.3	35.611	35.615	2	11.978	11.909	27.095	136.4	2	138.1	2	124.5	0.00	2	20.31	2		4	6.50	2		9		9		9		9	747.8	539.3	2	2181.7	2	7.7280	2	2336	2	2332		9		9
24	2	579.5	35.525	35.535	2	11.276	11.202	27.162	146.8	2	143.5	2	123.2	0.00	2	20.89	2		4	7.50	2		9		9		9		9			9		9		9		9			9		9
23	2	679.9	35.310	35.315	2	9.739	9.659	27.265	102.0	2	107.6	2	168.6	0.00	2	27.63	2		4	12.70	2		9		9		9		9			9		9		9		9			9		9
22	2	770.3	35.195	35.201	2	8.636	8.551	27.356	112.9	2	112.9	2	170.4	0.00	2	29.20	2		4	15.60	2		9		9		9		9			9		9		9		9			9		9
21	2	881.4	35.094	35.099	2	7.536	7.446	27.443	123.5	2	125.2	2	165.5	0.00	2	29.40	2		4	18.40	2		9		9		9		9			9		9		9		9			9		9
20	2	978.4	35.167	35.138	2	7.424	7.324	27.519	144.0	2	139.9	2	151.5	0.00	2	27.93	2		4	18.50	2		9		9		9		9	958.6	569.7	2	2210.6	6	7.6329	6		5	2320		9		9
19	2	1082.1	35.221	35.212	2	7.229	7.119	27.592	159.0	2	156.8	2	135.9	0.00	2	25.88	2		4	17.70	2		9		9		9		9			9		9		9		9			9		9
18	2	1270.7	35.221	35.222	2	6.378	6.255	27.711	181.8	2	181.0	2	117.6	0.00	2	24.12	2		4	18.30	2		9		9		9		9			9		9		9		9			9		9
17	2	1471.5	35.174	35.175	2	5.567	5.432	27.778	200.0	2	199.6	2	104.9	0.00	2	22.75	2		4	19.20	2		9		9		9		9	800.8	433.9	2	2190.9	2	7.7009	2		5	2328		9		9
16	2	1675.6	35.124	35.125	2	4.854	4.707	27.824	213.8	2	213.3	2	96.7	0.00	2	22.07	2		4	20.90	2		9		9		9		9			9		9		9		9			9		9
15	2	1872.2	35.096	35.095	2	4.413	4.252	27.853	223.0	2	224.0	2	89.5	0.00	2	21.49	2		4	22.50	2		9		9		9		9			9		9		9		9			9		9
14	2	2078.3	35.038	35.038	2	3.883	3.709	27.863	232.4	2	232.6	2	85.2	0.00	2	21.19	2		4	23.70	2		9		9		9		9	760.5	379.4	2	2183.6	2	7.7193	2	2333	2	2328		9		9
13	2	2280.7	35.020	35.020	2	3.621	3.432	27.878	232.9	2	234.0	2	86.0	0.00	2	21.19	2		4	26.70	2		9		9		9		9			9		9		9		9			9		9
12	2	2479.7	34.998	34.997	2	3.371	3.166	27.887	239.0	2	239.3	2	82.9	0.00	2	20.90	2		4	28.40	2		9		9		9		9			9		9		9		9			9		9
11	2	2676.7	34.975	34.976	2	3.124	2.904	27.894	246.0	2	245.5	2	78.9	0.00	2	20.80	2		4	30.10	2		9		9		9		9			9		9		9		9			9		9
10	2	2879.3	34.956	34.956	2	2.895	2.659	27.901	252.5	2	250.6	2	75.8	0.00	2	20.80	2		4	31.70	2		9		9		9		9	743.0	352.4	6	2186.2	2	7.7334	2	2341	2	2336		9		9
9	2	3141.9	34.934	34.934	2	2.699	2.440	27.904	248.9	2	248.2	2	80.1	0.00	2	21.29	2		4	36.60	2		9		9		9		9			9		9		9		9			9		9
8	2	3401.0	34.920	34.920	2	2.560	2.277	27.907	248.2	2	248.8	2	80.9	0.00	2	21.68	2		4	39.70	2		9		9		9		9			9		9		9		9			9		9
7	2	3660.7	34.910	34.909	2	2.481	2.171	27.910	249.3	2	249.9	2	80.7	0.00	2	21.59	2		4	41.80	2		9		9		9		9			9		9		9	2354	2			9		9
6	2	3918.7	34.902	34.901	2	2.424	2.087	27.912	249.7	2	249.9	2	81.4	0.00	2	21.78	2		4	44.00	2		9		9		9		9			9		9		9		9			9		9
5	2	4180.5	34.896	34.895	2	2.396	2.030	27.914	249.8	2	250.0	2	81.8	0.00	2	21.78	2		4	45.50	2		9		9		9		9			9		9		9		9			9		9
4	2	4401.8	34.892	34.892	2	2.380	1.988	27.916	249.5	2	246.2	2	86.0	0.00	2	21.98	2		4	46.70	2		9		9		9		9			9		9		9		9			9		9
3	2	4700.1	34.889	34.890	2	2.386	1.958	27.918	249.5	2	249.9	2	82.5	0.00	2	22.47	3		4	47.60	2		9		9		9		9	754.2	347.7	2	2201.5	2	7.7278	2	2357	2	2350		9		9
2	2	4960.1	34.887	34.889	2	2.417	1.955	27.919	249.9	2	248.3	2	84.1	0.00	2	22.08	2		4	47.90	2		9		9		9		9			9		9		9		9			9		9
1	2	5222.4	34.888	34.888	2	2.451	1.955	27.922	250.0	2	249.5	2	82.9	0.00	6	22.27	6		4	46.90	6		9		9		9		9	763.0	353.2	2	2201.5	2	7.7265	2		9	2349		9		9

* WOCE water sample quality flag (F) for parameter for the previous column
** WOCE quality flag (F) for "Niskin" sample bottle
*** PSS-78 scale
**** ITS0 scale

A5R
NOAA Ship Ronald H. Brown

STATION 24 DATE 1/28/1998 LATITUDE 24.500° N
LONGITUDE 24.950° W

Bottle Number	F**	Pressure db	CTD Salinity***	Bottle Salinity***	F*	Temp**** °C	Theta °C	Sigma Theta	CTD O2 µmol/kg	F*	Bottle O2 µmol/kg	F*	AOU	NO2 µmol/kg	F*	NO3 µmol/kg	F*	PO4 µmol/kg	F*	Si(OH)4 µmol/kg	F*	CFC-11 pmol/kg	F*	CFC-12 pmol/kg	F*	CFC-113 pmol/kg	F*	CCl4 pmol/kg	F*	fCO2 at 20 °C µatm	fCO2 INSITU µatm	F*	DIC µmol/kg	F*	pH	F*	Measured TA µmol/kg	F*	Calculated TA µmol/kg	TOC µmol/kg	F*	TON µmol/kg	F*
36	2	3.3	37.110	37.114	2	22.051	22.050	25.809	221.1	2	221.3	2	-7.3	0.01	2	0.00	2		4	0.80	2	2.23	2	1.44	2	0.16	2		9	338.1	366.8	6	2096.2	6	8.0412	6	2429	6	2427		9		9
35	2	48.8	37.106	37.108	2	22.030	22.020	25.818	217.3	2	218.8	2	-4.7	0.00	2	0.00	2		4	0.60	2	2.25	6	1.41	6	0.16	6		9			9		9		9		9			9		9
34	2	100.9	37.144	37.146	2	22.127	22.107	25.825	214.2	2	188.6	3	25.2	0.01	2	0.10	2		4	0.60	2	2.22	2	1.42	2	0.16	2		9			9		9		9		9			9		9
33	2	150.6	36.834	36.832	2	19.222	19.195	26.382	197.2	2	198.3	2	27.4	0.02	2	2.54	2		4	1.10	2	2.53	2	1.48	4	0.13	2		9			9		9		9		9			9		9
32	2	201.4	36.609	36.596	2	17.981	17.946	26.528	191.9	2	194.7	2	36.7	0.01	2	4.39	2		4	1.40	2	2.60	2	1.31	2	0.05	2		9			9		9		9		9			9		9
31	2	224.4	36.448	36.437	2	17.192	17.154	26.599	185.6	2	185.3	2	49.8	0.01	2	6.63	2		4	2.00	2	2.62	2	1.29	2	0.06	2		9			9		9		9		9			9		9
30	2	272.4	36.170	36.169	2	15.877	15.834	26.697	142.1	2	150.5	2	91.1	0.01	2	12.49	2		4	3.90	2	2.30	2	1.15	2	0.03	2		9			9		9		9		9			9		9
29	2	300.3	36.028	36.028	2	15.110	15.064	26.762	134.1	2	127.5	2	118.0	0.00	2	16.30	2		4	5.30	2	2.11	2	1.05	2	0.02	2		9			9		9		9		9			9		9
28	2	346.2	35.977	35.977	2	14.495	14.443	26.859	127.3	2	142.7	3	106.0	0.00	2	15.42	2		4		4	2.20	2	1.12	2	0.02	2		9			9		9		9		9			9		9
27	2	400.1	35.818	35.808	2	13.471	13.414	26.955	113.7	2	125.8	2	128.4	0.00	2	18.94	2		4	6.80	2	1.90	2	0.91	2	0.01	2		9			9		9		9		9			9		9
26	2	447.8	35.748	35.754	2	12.845	12.783	27.029	155.2	2	153.6	2	104.0	0.00	2	16.89	2		4	6.10	2	1.94	2	0.92	2	0.02	2		9			9		9		9		9			9		9
25	2	499.0	35.620	35.620	2	12.017	11.951	27.094	149.6	2	139.8	2	122.6	0.00	2	20.01	2		4	7.90	2	1.53	2	0.72	2	0.01	2		9			9		9		9		9			9		9
24	2	600.6	35.437	35.427	2	10.649	10.575	27.206	118.5	2	119.3	2	151.3	0.00	2	24.80	2		4	11.40	2	0.76	2	0.38	2	0.00	2		9			9		9		9		9			9		9
23	2	701.2	35.322	35.324	2	9.567	9.485	27.305	114.0	2	120.7	2	156.6	0.00	2	26.46	2		4	13.80	2	0.41	2	0.23	2	0.00	2		9			9		9		9		9			9		9
22	2	799.2	35.173	35.177	2	8.389	8.303	27.378	114.1	2	115.6	2	169.3	0.00	2	28.90	2		4	16.90	2	0.14	6	0.09	6	0.00	6		9			9		9		9		9			9		9
21	2	900.3	35.217	35.212	2	8.049	7.953	27.466	133.9	2	135.3	2	151.8	0.00	2		4		4	17.00	2	0.14	2	0.08	2	0.00	2		9			9		9		9		9			9		9
20	2	999.2	35.211	35.211	2	7.543	7.440	27.538	147.2	2	146.4	2	144.1	0.00	2	26.37	2		4	17.50	2	0.13	2	0.07	2	0.00	2		9			9		9		9		9			9		9
19	2	1199.8	35.233	35.233	2	6.702	6.584	27.675	173.5	2	172.2	2	124.1	0.00	2	24.31	2		4	18.00	2		9		9		9		9			9		9		9		9			9		9
18	2	1401.2	35.217	35.218	2	5.978	5.845	27.761	195.2	2	191.1	2	110.4	0.00	2	22.75	2		4	18.50	2	0.05	6	0.03	6	-0.01	6		9			9		9		9		9			9		9
17	2	1598.9	35.147	35.148	2	5.119	4.976	27.812	210.2	2	207.5	2	100.4	0.00	2	22.17	2		4	20.20	2		9		9		9		9			9		9		9		9			9		9
16	2	1798.0	35.098	35.099	2	4.512	4.357	27.843	221.2	2	220.3	2	92.4	0.00	2	21.48	2		4	22.10	2		9		9		9		9			9		9		9		9			9		9
15	2	2000.5	35.056	35.056	2	4.032	3.864	27.862	229.2	2	229.2	2	87.4	0.00	2	21.09	2		4	24.10	2	0.01	2	0.01	2	-0.01	2		9			9		9		9		9			9		9
14	2	2197.4	35.023	35.023	2	3.660	3.478	27.875	232.2	2	233.9	2	85.8	0.00	2	21.00	2		4	26.80	2		9		9		9		9			9		9		9		9			9		9
13	2	2402.5	35.000	35.000	2	3.395	3.197	27.885	239.9	2	238.4	2	83.5	0.00	2	21.00	2		4	28.40	2		9		9		9		9			9		9		9		9			9		9
12	2	2593.4	34.980	34.980	2	3.178	2.965	27.892	245.3	2	242.8	2	81.1	0.00	2	20.90	2		4	30.00	2	0.00	2	0.00	2	-0.01	2		9			9		9		9		9			9		9
11	2	2798.2	34.961	34.961	2	2.957	2.728	27.898	251.4	2	249.7	2	76.1	0.00	2	20.80	2		4	32.00	2		9		9		9		9			9		9		9		9			9		9
10	2	3001.4	34.941	34.942	2	2.770	2.524	27.902	250.1	2	248.0	2	79.6	0.00	2	21.00	2		4	35.70	2		9		9		9		9			9		9		9		9			9		9
9	2	3300.7	34.923	34.923	2	2.583	2.310	27.907	250.7	2	248.6	2	80.8	0.00	2	21.49	2		4	39.30	2	0.00	2	0.01	2	-0.01	2		9			9		9		9		9			9		9
8	2	3550.7	34.912	34.913	2	2.500	2.202	27.909	249.2	2	249.7	2	80.6	0.00	2	21.59	2		4	40.50	2		9		9		9		9			9		9		9		9			9		9
7	2	3801.4	34.904	34.904	2	2.439	2.115	27.911	249.4	2	249.2	2	81.9	0.00	2	21.68	2		4	42.00	2		9		9		9		9			9		9		9		9			9		9
6	2	4050.0	34.898	34.898	2	2.404	2.053	27.913	250.5	2	249.4	2	82.2	0.00	2	21.68	2		4	43.10	2	0.00	2	0.00	2	-0.01	2		9			9		9		9		9			9		9
5	2	4301.4	34.894	34.894	2	2.384	2.004	27.915	250.4	2	249.4	2	82.6	0.00	2	21.88	2		4	44.40	2		9		9		9		9			9		9		9		9			9		9
4	2	4550.1	34.891	34.890	2	2.381	1.971	27.917	249.4	2	248.8	2	83.5	0.00	2	21.98	2		4	45.30	2	0.00	2	0.00	2	-0.01	2		9			9		9		9		9			9		9
3	2	4797.9	34.889	34.888	2	2.397	1.956	27.919	249.3	2	248.5	2	83.9	0.00	2	21.88	2		4	45.90	2		9		9		9		9			9		9		9		9			9		9
2	2	5050.6	34.888	34.889	2	2.426	1.953	27.920	249.8	2	247.1	2	85.4	0.00	2	22.17	2		4	45.70	2	0.00	2	0.00	2	-0.01	2		9			9		9		9		9			9		9
1	2	5330.7	34.887	34.887	2	2.459	1.948	27.923	249.4	2	248.8	2	83.7	0.01	6	22.07	6		4	46.50	6	0.00	6	0.00	6	0.00	6		9			9		9		9		9			9		9

* WOCE water sample quality flag (F) for parameter for the previous column
** WOCE quality flag (F) for "Niskin" sample bottle
*** PSS-78 scale
**** ITS0 scale

A5R
NOAA Ship Ronald H. Brown

STATION 25 DATE 1/28/1998 LATITUDE 24.500° N
LONGITUDE 25.683° W

Bottle Number	F**	Pressure db	CTD Salinity***	Bottle Salinity***	F*	Temp**** °C	Theta °C	Sigma Theta	CTD O2 µmol/kg	F*	Bottle O2 µmol/kg	F*	AOU	NO2 µmol/kg	F*	NO3 µmol/kg	F*	PO4 µmol/kg	F*	Si(OH)4 µmol/kg	F*	CFC-11 pmol/kg	F*	CFC-12 pmol/kg	F*	CFC-113 pmol/kg	F*	CCl4 pmol/kg	F*	fCO2 at 20 °C µatm	fCO2 INSITU µatm	F*	DIC µmol/kg	F*	pH	F*	Measured TA µmol/kg	F*	Calculated TA µmol/kg	TOC µmol/kg	F*	TON µmol/kg	F*
36	2	4.4	37.276	37.278	2	22.167	22.166	25.903	227.3	2	219.5	2	-6.2	0.00	2	0.00	2		4	0.40	2		9		9		9		9	335.3	365.4	2	2099.7	6		9	2430	2			9		9
35	2	73.4	37.429	37.430	2	22.452	22.437	25.946	216.6	2	215.8	2	-3.7	0.00	2	0.00	2		4	0.40	2		9		9		9		9				9		9		9		9			9		9
34	2	120.5	36.937	36.940	2	19.901	19.879	26.280	217.5	2	218.1	2	4.6	0.06	2	0.29	2		4	0.60	2		9		9		9		9	361.5	360.1	2	2102.6	2	8.0119	2	2412	2	2412		9		9
33	2	148.9	36.786	36.794	2	18.896	18.869	26.429	210.0	2	210.3	2	16.8	0.02	2	1.27	2		4	0.70	2		9		9		9		9				9		9		9		9			9		9
32	3	199.4	36.529	36.532	2	17.569	17.535	26.568	204.5	2	200.8	2	32.5	0.01	2	4.39	2		4	1.40	2		9		9		9		9	416.7	377.7	2	2114.2	2		9	2387	2			9		9
31	2	224.7	36.389	36.400	2	16.842	16.805	26.637	206.6	2	198.6	2	38.2	0.01	2	5.76	2		4	1.80	2		9		9		9		9				9		9		9		9			9		9
30	2	268.9	36.289	36.287	2	16.273	16.229	26.698	204.3	2	197.5	2	42.1	0.00	2	7.03	2		4	2.10	2		9		9		9		9	452.1	388.5	2	2119.0	2		9		9			9		9
29	2	349.6	36.089	36.090	2	14.965	14.911	26.844	190.4	2	186.2	2	60.0	0.01	2	10.05	2		4	3.30	2		9		9		9		9				9		9		9		9			9		9
28	2	401.3	35.941	35.945	2	14.000	13.941	26.940	182.4	2	178.3	2	73.0	0.01	2	12.40	2		4	4.20	2		9		9		9		9	555.4	434.6	2	2145.5	2	7.8428	2	2352	2	2351		9		9
27	2	450.9	35.802	35.801	2	13.132	13.069	27.014	179.0	2	173.2	2	82.8	0.00	2	14.35	2		4	5.20	2		9		9		9		9				9		9		9		9			9		9
26	2	499.9	35.679	35.682	2	12.299	12.231	27.086	174.5	2	168.4	2	92.3	0.00	2	16.30	2		4	6.20	2		9		9		9		9	642.3	468.2	2	2160.8	2		9		9			9		9
25	2	553.5	35.597	35.600	2	11.683	11.611	27.141	167.2	2	161.8	2	102.5	0.00	2	18.16	2		4	7.30	2		9		9		9		9				9		9		9		9			9		9
24	2	601.2	35.534	35.536	2	11.171	11.094	27.189	164.4	2	159.9	2	107.5	0.00	2	19.04	2		4	8.40	2		9		9		9		9	699.1	485.8	2	2172.4	2	7.7469	2	2333	2	2330		9		9
23	2	650.0	35.451	35.454	2	10.466	10.386	27.251	150.6	2	143.3	2	128.3	0.00	2	21.97	2		4	10.70	2		9		9		9		9				9		9		9		9			9		9
22	2	699.1	35.383	35.383	2	9.827	9.744	27.310	140.7	2	135.9	2	139.7	0.00	2		4		4	12.80	2		9		9		9		9	849.4	559.4	2	2193.9	2		9		9			9		9
21	2	798.5	35.280	35.281	2	8.743	8.654	27.407	133.5	2	133.5	2	149.0	0.00	2	25.68	2		4	15.80	2		9		9		9		9	900.9	566.8	2	2203.0	2	7.6593	2	2328	2	2323		9		9
20	2	900.8	35.216	35.216	2	7.881	7.786	27.490	139.0	2	139.8	2	148.4	0.00	2	26.66	2		4	18.00	2		9		9		9		9				9		9		9		9			9		9
19	2	1101.4	35.214	35.212	2	6.882	6.773	27.634	165.3	2	166.9	2	128.1	0.00	2	24.81	2		4	18.80	2		9		9		9		9	853.0	492.3	2	2200.4	6		9		9			9		9
18	2	1299.9	35.239	35.237	2	6.203	6.079	27.748	185.1	2	191.2	2	108.6	0.00	2		4		4	18.70	2		9		9		9		9				9		9		9		9			9		9
17	2	1500.9	35.197	35.198	2	5.455	5.318	27.810	205.4	2	207.3	2	98.0	0.00	2	21.88	2		4	20.10	2		9		9		9		9	773.4	416.2	2	2187.1	2	7.7141	2	2333	2	2330		9		9
16	2	1702.1	35.130	35.131	2	4.732	4.583	27.843	217.3	2	218.9	2	92.0	0.00	2	21.39	2		4	22.40	2		9		9		9		9				9		9		9		9			9		9
15	2	1902.7	35.079	35.077	2	4.166	4.005	27.865	228.5	2	231.2	2	84.2	0.00	2	20.90	2		4	23.90	2		9		9		9		9				9	2181.7	2		9		9			9		9
14	2	2297.3	35.007	35.007	2	3.420	3.232	27.886	245.0	2	244.8	2	76.8	0.00	2		4		4	27.40	2		9		9		9		9				9		9		9		9			9		9
13	2	2497.3	34.980	34.980	2	3.130	2.928	27.894	250.4	2	249.0	2	75.2		9		9		9		9		9		9		9		9	733.8	351.7	6	2182.7	2	7.7334	2	2334	2	2332		9		9
12	2	2701.1	34.959	34.959	2	2.920	2.701	27.898	252.2	2	249.3	2	76.8	0.01	2	20.51	2		4	32.70	2		9		9		9		9				9		9		9		9			9		9
11	2	2902.2	34.944	34.944	2	2.775	2.539	27.901	251.7	2	249.4	2	78.0	0.00	2	20.71	2		4	34.90	2		9		9		9		9				9	2189.3	2		9		9			9		9
10	2	3147.6	34.928	34.929	2	2.630	2.372	27.905	250.8	2	250.7	2	78.1	0.00	2	21.10	2		4	37.90	2		9		9		9		9				9		9		9		9			9		9
9	2	3398.7	34.918	34.919	2	2.541	2.258	27.908	249.8	2	248.8	2	81.0	0.00	2	21.88	3		4	40.40	2		9		9		9		9	748.5	348.3	2	2194.8	2	7.7294	2	2345	2	2343		9		9
8	2	3651.3	34.909	34.910	2	2.478	2.170	27.910	249.2	2	248.7	2	81.9	0.00	2	21.69	2		4	42.50	2		9		9		9		9				9		9		9		9			9		9
7	3	3902.0	34.903		2	2.435	2.100	27.912	248.9	2	248.4	2	82.8	0.00	2	21.59	2		4	44.20	2		9		9		9		9				9		9		9		9			9		9
6	2	4151.4	34.898	34.898	2	2.400	2.037	27.914	248.3	2	248.3	2	83.4	0.00	2		4		4	45.50	2		9		9		9		9				9		9		9		9			9		9
5	2	4335.8	34.894	34.895	2	2.389	2.005	27.916	249.6	2	248.9	2	83.1	0.00	2	21.88	2		4	46.50	2		9		9		9		9	749.3	345.5	2	2199.4	2	7.7289	2	2351	2	2348		9		9
4	3	4652.3	34.889		2	2.386	1.964	27.918	249.4	2	248.8	2	83.6	0.00	2	22.18	2		4	47.60	2		9		9		9		9				9		9		9		9			9		9
3	2	4884.0	34.889	34.889	2	2.404	1.952	27.920	249.8	2	248.6	2	83.9	0.00	2		4		4	48.20	2		9		9		9		9				9	2202.2	2		9		9			9		9
2	2	5147.4	34.887	34.888	2	2.430	1.944	27.922	250.2	2	247.7	2	84.8	0.00	2	22.27	2		4	48.80	2		9		9		9		9				9		9		9		9			9		9
1	2	5409.3	34.886	34.887	2	2.463	1.942	27.923	250.0	2	248.6	2	84.0	0.00	6	22.37	6		4	48.90	6		9		9		9		9	755.4	349.5	2	2203.0	2	7.7279	2	2358	2	2351		9		9

* WOCE water sample quality flag (F) for parameter for the previous column
** WOCE quality flag (F) for "Niskin" sample bottle
*** PSS-78 scale
**** ITS0 scale

A5R
NOAA Ship Ronald H. Brown

STATION 26 DATE 1/29/1998 LATITUDE 24.500° N
LONGITUDE 26.416° W

Bottle Number	F**	Pressure db	CTD Salinity***	Bottle Salinity***	F*	Temp**** °C	Theta °C	Sigma Theta	CTD O2 µmol/kg	F*	Bottle O2 µmol/kg	F*	AOU	NO2 µmol/kg	F*	NO3 µmol/kg	F*	PO4 µmol/kg	F*	Si(OH)4 µmol/kg	F*	CFC-11 pmol/kg	F*	CFC-12 pmol/kg	F*	CFC-113 pmol/kg	F*	CCl4 pmol/kg	F*	fCO2 at 20 °C µatm	fCO2 INSITU µatm	F*	DIC µmol/kg	F*	pH	F*	Measured TA µmol/kg	F*	Calculated TA µmol/kg	TOC µmol/kg	F*	TON µmol/kg	F*
36	2	6.4	37.411	37.410	2	22.639	22.638	25.870	214.7	2	215.7	2	-4.3	0.00	2	0.00	2		4	0.90	2	1.97	2	1.15	2	0.15	2		9	317.6	352.8	2	2098.6	6	8.0608	2	2447	2	2446	67.2	2		9
35	2	6.5	37.410	37.410	2	22.638	22.637	25.870	214.7	2	215.8	2	-4.4	0.00	2	0.00	2		4	1.00	2	1.98	6	1.14	6	0.17	6		9	317.2	352.3	2	2097.6	2	8.0599	2	2454	2	2444	66.3	2		9
34	2	51.0	37.410	37.410	2	22.644	22.634	25.873	215.0	2	215.9	2	-4.5	0.00	2	0.00	2		4	1.00	2	1.97	2	1.15	2	0.16	2		9	317.3	352.6	2	2097.9	2	8.0603	2	2451	2	2445	65.7	2		9
33	2	100.6	37.436	37.439	2	22.494	22.474	25.943	215.0	2	217.4	2	-5.4	0.01	2	0.00	2		4	0.80	2	2.03	2	1.17	2	0.16	2		9	318.3	351.5	2	2099.5	2	8.0592	2		9	2446	67.1	2		9
32	2	152.1	36.914	36.918	2	19.753	19.725	26.304	213.3	2	216.7	2	6.7	0.04	2	0.49	2		4	1.20	2	2.30	2	1.32	2	0.16	2		9	366.2	362.1	2	2106.6	2	8.0068	2	2420	2	2413	57.0	2		9
31	2	200.3	36.679	36.681	2	18.406	18.371	26.476	203.4	2	197.0	2	32.4	0.02	2	3.80	2		4	1.30	2	2.30	2	1.29	2	0.06	2		9	410.3	384.5	2	2118.6	2	7.9631	2		5	2396	52.0	2		9
30	2	225.4	36.568	36.568	2	17.821	17.782	26.538	192.0	2	193.6	2	38.5	0.01	2	4.88	2		4	1.60	2	2.35	2	1.31	2	0.06	2		9	427.4	391.3	2	2120.7	2	7.9505	2	2395	2	2389	50.9	2		9
29	2	250.6	36.443	36.447	2	17.103	17.061	26.619	191.3	2	189.2	2	46.3	0.01	2	6.25	2		4	1.70	2	2.36	2	1.31	2	0.04	2		9	448.5	398.9	2	2126.6	2	7.9286	2	2394	2	2381	50.0	2		9
28	2	274.3	36.346	36.352	2	16.539	16.494	26.680	187.0	2	183.4	2	54.8	0.01	2	8.00	2		4	2.20	2	2.31	2	1.28	2	0.04	2		9	480.5	417.8	2	2132.0	2	7.9064	2	2379	2	2374		9		9
27	2	298.7	36.253	36.252	2	16.029	15.981	26.728	182.8	2	174.0	2	66.8	0.01	2	9.76	2		4	2.90	2	2.26	2	1.22	2	0.03	2		9	504.7	429.9	2	2140.0	2	7.8815	2		5	2368	47.5	2		9
26	2	352.0	36.123	36.130	2	15.183	15.129	26.822	148.5	2	183.0	2	62.1	0.01	2	10.05	2		4	3.10	2	2.29	2	1.22	2	0.04	2		9	505.1	414.7	2	2140.2	2	7.8788	2	2366	2	2365		9		9
25	2	400.5	35.998	36.010	2	14.377	14.317	26.904	185.9	2	185.8	2	63.5	0.01	2	11.03	2		4	3.50	2	2.31	2	1.22	2	0.03	2		9	525.7	418.2	2	2136.1	2	7.8621	2		5	2351	46.8	2		9
24	2	450.3	35.846	35.854	2	13.429	13.365	26.988	178.4	2	181.3	2	73.1	0.00	2	13.08	2		4	4.50	2	2.16	6	1.13	6	0.02	6		9	566.1	432.4	2	2143.2	2	7.8335	2	2351	2	2343		9		9
23	2	501.1	35.722	35.727	2	12.593	12.524	27.061	184.1	2	183.1	2	76.0	0.00	2	14.35	2		4	5.20	2	1.99	2	1.03	2	0.02	2		9	593.8	437.6	2	2146.8	2	7.8143	2	2350	3	2336	46.5	2		9
22	2	553.0	35.638	35.641	2	11.965	11.891	27.120	186.4	2	184.0	2	78.7	0.00	2	15.43	2		4	6.20	2	1.84	2	0.94	2	0.02	2		9	616.0	442.1	2	2151.4	2	7.8009	2	2339	2	2334		9		9
21	2	599.3	35.567	35.570	2	11.351	11.274	27.182	183.0	2	174.7	2	91.6	0.00	2	17.38	2		4	7.50	2	1.53	2	0.79	2	0.02	2		9	660.8	462.2	2	2160.6	2	7.7724	2	2342	2	2330	43.4	2		9
20	2	702.5	35.435	35.439	2	10.138	10.053	27.298	156.8	2	151.9	2	121.7	0.00	2	21.78	2		4	11.00	2	0.76	2	0.39	2	0.00	2		9	771.3	513.4	2	2182.1	2	7.7157	2	2333	2	2326		9		9
19	2	798.3	35.334	35.336	2	9.038	8.948	27.403	145.8	2	145.0	2	135.5	0.00	2	24.42	2		4	13.80	2	0.33	2	0.17	2	0.00	2		9	840.0	533.8	2	2193.7	2	7.6842	2		5	2324	42.6	2		9
18	2	902.1	35.237	35.240	2	7.922	7.827	27.501	148.2	2	148.5	2	139.4	0.00	2	25.59	2		4	16.50	2	0.16	2	0.09	2	-0.01	2		9			9	2199.2	2	7.6661	2	2331	2	2322		9		9
17	2	1091.0	35.204	35.203	2	6.785	6.678	27.639	166.7	2	168.9	2	126.8	0.00	2	24.52	2		4	18.30	2	0.08	2	0.04	2	0.01	2		9	851.8	489.1	2	2199.6	6	7.6752	2	2334	2	2326	41.7	2		9
16	2	1302.2	35.199	35.198	2	5.971	5.849	27.745	190.9	2	191.0	2	110.5	0.00	2	23.05	2		4	18.90	2	0.04	2	0.02	2	-0.01	2		9			9	2191.2	2	7.6958	2	2335	2	2326		9		9
15	2	1502.0	35.172	35.173	2	5.262	5.127	27.812	208.4	2	207.9	2	98.9	0.00	2	21.88	2		4	19.90	2		9		9		9		9	775.7	413.6	2	2187.4	3	7.7103	2		5	2328	41.6	2		9
14	2	1700.3	35.118	35.119	2	4.635	4.488	27.844	219.9	2	221.0	2	90.6	0.00	2	21.29	2		4	21.30	2	0.01	6	0.00	6	0.01	6		9			9	2183.5	2	7.7175	2	2336	2	2327		9		9
13	2	1900.0	35.084	35.085	2	4.229	4.068	27.863	230.9	2	230.2	2	84.7	0.00	2	20.81	2		4	22.70	2		9		9		9		9	751.1	380.6	2	2181.9	2	7.7235	2	2334	2	2328	42.0	2		9
12	2	2097.8	35.050	35.049	2	3.849	3.674	27.877	238.1	2	238.7	2	79.4	0.00	2	20.51	2		4	24.20	2	0.01	6	0.00	2	0.01	6		9			9	2181.2	2	7.7269	2	2334	2	2328		9		9
11	2	2301.6	35.016	35.017	2	3.504	3.314	27.886	244.3	2	245.7	2	75.3	0.00	2	20.22	2		4	25.90	2		9		9		9		9	733.6	358.5	2	2180.4	2	7.7317	2	2343	3	2330	41.9	2		9
10	2	2501.8	34.985	34.985	2	3.186	2.982	27.893	249.6	2	249.1	2	74.6	0.00	2	20.22	2		4	28.80	2	0.00	2	0.00	2	0.00	2		9			9	2181.4	2	7.7323	2	2342	3	2331		9		9
9	2	2694.8	34.961	34.963	2	2.957	2.738	27.897	250.6	2	249.9	2	75.8	0.00	2	20.81	2		4	31.90	2		9		9		9		9	734.6	349.1	2	2185.2	2	7.7309	2	2347	3	2334	42.0	2		9
8	2	2896.4	34.944	34.944	2	2.777	2.542	27.901	250.8	2	249.9	2	77.5	0.00	2	20.71	2		4	34.50	2	0.00	2	0.00	2	0.00	2		9			9	2186.9	2	7.7313	2	2343	2	2336		9		9
7	2	3201.6	34.926	34.926	2	2.600	2.337	27.906	249.3	2	248.4	2	80.7	0.00	2	21.59	2		4	38.40	2		9		9		9		9	744.0	347.1	2	2191.8	2	7.7284	2	2354	3	2340	42.0	2		9
6	2	3499.4	34.913	34.913	2	2.498	2.206	27.909	248.3	2	248.6	2	81.7	0.00	2	21.49	2		4	40.70	2	0.00	2	0.00	2	0.00	2		9			9	2192.8	2	7.7286	2	2346	2	2341		9		9
5	2	3899.7	34.902	34.902	2	2.420	2.085	27.912	247.5	2	248.6	2	82.7	0.00	2	21.98	2		4	43.30	2		9		9		9		9	750.5	346.8	2	2195.8	2	7.7273	2		5	2344	41.6	2		9
4	2	4300.3	34.893	34.893	2	2.379	1.999	27.915	248.2	2	248.4	2	83.7	0.00	2	21.98	2		4	45.90	2	0.00	2	0.00	2	0.00	2		9			9	2198.1	2	7.7259	2	2356	2	2345		9		9
3	2	4699.5	34.889	34.889	2	2.386	1.958	27.918	247.7	2	248.8	2	83.6	0.00	2	21.98	2		4	46.80	2	0.00	2	0.00	2	0.00	2		9	753.9	347.5	2	2199.8	2	7.7259	2	2359	3	2347	41.6	2		9
2	2	5098.3	34.887	34.887	2	2.420	1.941	27.921	248.3	2	249.1	2	83.5	0.00	2	22.08	2		4	47.40	2	0.00	6	0.00	6	0.00	6		9			9	2202.7	2	7.7263	2	2358	2	2350	41.8	2		9
1	2	5499.0	34.886	34.886	2	2.467	1.934	27.924	249.3	2	248.9	2	83.7	0.00	6	22.18	6		4	47.80	6	0.00	2	0.00	2	0.00	2		9	758.2	350.9	2	2205.3	2	7.7257	2	2366	2	2353	41.6	2		9

* WOCE water sample quality flag (F) for parameter for the previous column
** WOCE quality flag (F) for "Niskin" sample bottle
*** PSS-78 scale
**** ITS0 scale

A5R
NOAA Ship Ronald H. Brown

STATION 27 DATE 1/29/1998 LATITUDE 24.499° N
LONGITUDE 27.150° W

Bottle Number	F**	Pressure db	CTD Salinity***	Bottle Salinity***	F*	Temp**** °C	Theta °C	Sigma Theta	CTD O2 µmol/kg	F*	Bottle O2 µmol/kg	F*	AOU	NO2 µmol/kg	F*	NO3 µmol/kg	F*	PO4 µmol/kg	F*	Si(OH)4 µmol/kg	F*	CFC-11 pmol/kg	F*	CFC-12 pmol/kg	F*	CFC-113 pmol/kg	F*	CCl4 pmol/kg	F*	fCO2 at 20 °C µatm	fCO2 INSITU µatm	F*	DIC µmol/kg	F*	pH	F*	Measured TA µmol/kg	F*	Calculated TA µmol/kg	TOC µmol/kg	F*	TON µmol/kg	F*
36	2	3.7	37.404	37.404	2	22.624	22.623	25.869	218.1	2	217.4	6	-5.9	0.00	2	0.00	2		4	1.20	2		9		9		9		9	318.4	353.4	6	2097.3	2	8.0646	2	2443	2	2447		9		9
35	2	50.5	37.413	37.416	2	22.551	22.541	25.903	216.5	2	218.3	2	-6.5	0.00	2	0.00	2		4	0.90	2		9		9		9		9	315.2	348.9	2	2099.2	6	8.0645	2	2445	2	2449		9		9
34	2	99.6	37.415	37.417	2	22.252	22.232	25.996	217.8	2	219.8	2	-6.9	0.00	2	0.00	2		4	0.80	2		9		9		9		9	320.1	350.1	2	2099.7	2	8.0584	2	2443	2	2445		9		9
33	2	149.5	36.830	36.834	2	19.403	19.376	26.331	209.6	2	216.0	2	8.9	0.04	2	0.39	2		4	0.90	2		9		9		9		9			9		9		9		9			9		9
32	2	199.7	36.594	36.589	2	17.989	17.954	26.515	202.4	2	206.2	2	25.1	0.00	2	3.32	2		4	1.20	2		9		9		9		9	400.8	369.3	2	2108.7	2	7.9742	2	2387	2	2391		9		9
31	2	225.0	36.481	36.474	2	17.360	17.322	26.584	203.2	2	205.4	2	28.9	0.00	2	4.59	2		4	1.50	2		9		9		9		9			9		9		9		9			9		9
30	2	252.3	36.378	36.377	2	16.807	16.765	26.640	202.6	2	202.1	2	34.9	0.00	2	5.56	2		4	1.70	2		9		9		9		9			9	2115.5	2	7.9462	2	2377	2	2380		9		9
29	2	274.3	36.328	36.327	2	16.491	16.446	26.677	202.1	2	202.1	2	36.4	0.00	2	6.05	2		4	1.90	2		9		9		9		9			9		9		9		9			9		9
28	2	300.2	36.272	36.272	2	16.157	16.109	26.713	201.5	2	200.5	2	39.7	0.00	2	6.83	2		4	2.00	2		9		9		9		9	450.2	384.9	2	2120.6	2	7.9265	2	2371	2	2373		9		9
27	2	352.3	36.131	36.130	2	15.289	15.234	26.805	195.8	2	195.3	2	49.3	0.00	2	8.69	2		4		4		9		9		9		9			9		9		9		9			9		9
26	2	400.9	35.968	35.975	2	14.276	14.216	26.903	195.0	2	192.6	2	57.2	0.00	2	10.45	2		4	3.50	2		9		9		9		9			9	2134.9	2	7.8720	2	2355	2	2355		9		9
25	2	450.1	35.846	35.846	2	13.461	13.397	26.982	193.5	2	190.5	2	63.7	0.00	2	12.11	2		4	4.10	2		9		9		9		9			9		9		9		9			9		9
24	2	500.4	35.731	35.730	2	12.686	12.617	27.051	192.8	2	188.4	2	70.2	0.00	2	13.86	2		4	5.10	2		9		9		9		9	585.1	432.9	2	2148.7	2	7.8243	2		9	2343		9		9
23	2	550.4	35.645	35.646	2	12.037	11.964	27.112	190.0	2	184.6	2	77.7	0.00	2	15.23	2		4	6.10	2		9		9		9		9			9		9		9		9			9		9
22	2	652.2	35.512	35.512	2	10.827	10.745	27.235	177.6	2	172.6	2	96.8	0.00	2	18.46	2		4	8.30	2		9		9		9		9	691.1	473.1	2	2168.8	2	7.7597	2	2331	2	2332		9		9
21	2	751.6	35.393	35.393	2	9.517	9.430	27.371	162.0	2	156.9	2	120.6	0.00	2	22.46	2		4		4		9		9		9		9			9		9		9		9			9		9
20	2	852.8	35.310	35.310	2	8.526	8.432	27.466	153.2	2	153.4	2	130.4	0.00	2	24.03	2		4	14.50	2		9		9		9		9			9		9		9		9			9		9
19	2	917.8	35.271	35.270	2	7.985	7.888	27.518	156.8	2	156.3	2	131.1	0.00	2	24.51	2		4	15.80	2		9		9		9		9	841.7	510.4	2	2198.1	6	7.6804	2		9	2327		9		9
18	2	1051.6	35.246	35.246	2	7.218	7.111	27.612	169.0	2	166.3	2	126.3	0.00	2	23.83	2		4	16.90	2		9		9		9		9			9		9		9		9			9		9
17	2	1151.8	35.250	35.252	2	6.875	6.760	27.665	181.2	2	176.7	2	118.3	0.00	2	23.54	2		4	17.00	2		9		9		9		9	817.2	470.6	2	2196.1	2	7.6921	2	2334	2	2330		9		9
16	2	1351.6	35.213	35.212	2	5.941	5.814	27.761	200.9	2	198.9	2	102.8	0.00	2	22.17	2		4	17.90	2		9		9		9		9			9		9		9		9			9		9
15	2	1601.1	35.158	35.159	2	5.012	4.870	27.832	219.3	2	219.9	2	88.8	0.00	2		4		4	19.50	2		9		9		9		9			9	2184.5	2	7.7208	2	2340	2	2330		9		9
14	2	1848.3	35.096	35.095	2	4.318	4.160	27.862	228.7	2	231.5	2	82.7	0.00	2	20.71	2		4	22.00	2		9		9		9		9			9		9		9		9			9		9
13	2	2101.9	35.038	35.038	2	3.733	3.559	27.879	238.3	2	242.0	2	77.0	0.00	2	20.22	2		4	24.40	2		9		9		9		9	738.6	365.2	2	2180.0	2	7.7312	2	2332	2	2329		9		9
12	2	2353.3	34.999	34.999	2	3.338	3.146	27.889	245.8	2	247.3	2	75.1	0.00	2	20.12	2		4	27.60	2		9		9		9		9			9		9		9		9			9		9
11	2	2599.8	34.970	34.971	2	3.050	2.839	27.895	249.6	2	249.7	2	75.2	0.00	2	20.42	2		4	31.00	2		9		9		9		9			9	2184.0	2	7.7327	2		5	2334		9		9
10	2	2799.5	34.952	34.951	2	2.853	2.626	27.900	250.3	2	250.5	2	76.2	0.00	2	20.52	2		4	34.00	2		9		9		9		9			9		9		9		9			9		9
9	2	3098.4	34.932	34.931	2	2.657	2.403	27.904	249.1	2	250.2	2	78.4	0.00	2	21.20	2		4	38.00	2		9		9		9		9	744.2	348.2	2	2191.7	2	7.7309	2		9	2341		9		9
8	2	3399.4	34.918	34.918	2	2.541	2.258	27.908	248.5	2	248.9	2	80.9	0.00	2	21.39	2		4	40.40	2		9		9		9		9			9		9		9		9			9		9
7	2	3699.3	34.909	34.908	2	2.464	2.151	27.911	247.5	2	249.0	2	81.7	0.00	2	21.59	2		4	42.60	2		9		9		9		9			9		9		9		9			9		9
6	2	4001.2	34.901	34.900	2	2.413	2.067	27.914	247.2	2	248.7	2	82.8		9		9		9		9		9		9		9		9	750.5	346.5	2	2198.1	2	7.7283	2		5	2345		9		9
5	2	4302.0	34.894	34.893	2	2.387	2.007	27.915	246.7	2	249.5	2	82.5	0.00	2	21.98	2		4	45.90	2		9		9		9		9			9		9		9		9			9		9
4	2	4601.9	34.890	34.889	2	2.382	1.966	27.917	249.1	2	249.6	2	82.7	0.00	2	21.98	2		4	47.10	2		9		9		9		9			9		9		9		9			9		9
3	2	4898.7	34.887	34.887	2	2.398	1.945	27.919	248.6	2	250.1	2	82.4	0.00	2	22.18	2		4	47.80	2		9		9		9		9	754.2	347.8	2	2201.9	2	7.7270	2	2358	2	2350		9		9
2	2	5202.2	34.886	34.886	2	2.428	1.935	27.921	249.8	2	249.4	2	83.2	0.00	2	22.08	2		4	48.10	2		9		9		9		9			9		9		9		9			9		9
1	2	5628.0	34.885	34.925	2	2.482	1.931	27.925	250.7	2	249.0	2	83.6	0.00	2	21.30	3		4	39.60	3		9		9		9		9	754.5	350.3	2	2194.1	2	7.7281	2		9	2342		9		9

* WOCE water sample quality flag (F) for parameter for the previous column
** WOCE quality flag (F) for "Niskin" sample bottle
*** PSS-78 scale
**** ITS0 scale

A5R
NOAA Ship Ronald H. Brown

STATION 28 DATE 1/29/1998 LATITUDE 24.500° N
LONGITUDE 27.883° W

Bottle Number	F**	Pressure db	CTD Salinity***	Bottle Salinity***	F*	Temp**** °C	Theta °C	Sigma Theta	CTD O2 µmol/kg	F*	Bottle O2 µmol/kg	F*	AOU	NO2 µmol/kg	F*	NO3 µmol/kg	F*	PO4 µmol/kg	F*	Si(OH)4 µmol/kg	F*	CFC-11 pmol/kg	F*	CFC-12 pmol/kg	F*	CFC-113 pmol/kg	F*	CCl4 pmol/kg	F*	fCO2 at 20 °C µatm	fCO2 INSITU µatm	F*	DIC µmol/kg	F*	pH	F*	Measured TA µmol/kg	F*	Calculated TA µmol/kg	TOC µmol/kg	F*	TON µmol/kg	F*
36	2	2.9	37.506	37.506	2	22.482	22.481	25.988	220.1	2	218.1	2	-6.2	0.00	2	0.00	2		4	0.60	2		9		9		9		9	313.9	346.4	2		9	8.0647	2	2448	2			9		9
35	2	3.6	37.506	37.505	2	22.488	22.487	25.986	220.1	2	217.1	6	-5.3	0.00	2	0.00	2		4	0.60	2	2.03	2	1.18	2	0.17	2		9			9	2100.1	6		9		9		66.5	2		9
34	2	70.4	37.503	37.502	2	22.496	22.482	25.989	215.0	2	217.4	6	-5.5	0.00	2	0.00	2		4	0.60	2	1.99	2	1.16	2	0.17	2		9			9		9	8.0636	2	2448	2		66.0	2		9
33	2	118.5	37.497	37.499	2	22.478	22.454	25.996	215.0	2	217.1	2	-5.1	0.00	2	0.00	2		4	0.60	2	2.05	2	1.19	2	0.16	2		9	313.2	345.6	2		9		9		9		65.8	2		9
32	2	170.6	36.918	36.907	2	19.644	19.613	26.338	203.7	2	207.9	2	16.0	0.02	2	0.88	2		4	0.80	2	2.26	2	1.30	2	0.13	2		9			9		9	8.0019	2	2410	2		55.5	2		9
31	2	199.3	36.735	36.730	2	18.804	18.768	26.418	202.5	2	208.5	2	19.1	0.01	2	1.56	2		4	0.90	2	2.34	2	1.32	2	0.11	2		9	395.8	377.4	2		9		9		9		50.7	2		9
30	2	224.4	36.612	36.608	2	18.148	18.109	26.491	199.1	2	202.7	2	27.9	0.01	2	3.51	2		4	1.30	2	2.36	6	1.32	6	0.06	6		9			9		9		9		9			9		9
29	2	250.6	36.489	36.490	2	17.542	17.499	26.548	197.2	2	201.1	2	32.4	0.00	2	4.78	2		4	1.60	2	2.38	2	1.32	2	0.04	2		9			9		9	7.9638	2	2385	2		47.1	2		9
28	2	268.2	36.429	36.427	2	17.212	17.167	26.583	198.4	2	200.1	2	35.0	0.00	2	5.46	2		4	1.80	2	2.34	2	1.30	2	0.04	2		9			9		9		9		9			9		9
27	2	301.4	36.345	36.343	2	16.731	16.681	26.636	198.2	2	198.3	2	39.1	0.00	2	6.34	2		4	2.00	2	2.35	2	1.29	2	0.04	2		9	449.9	393.9	2		9		9		9		46.4	2		9
26	2	380.4	36.111	36.110	2	15.278	15.219	26.794	194.7	2	194.3	2	50.4	0.00	2	8.98	2		4	3.00	2	2.28	2	1.21	2	0.03	2		9			9		9	7.9013	2	2362	2			9		9
25	2	440.9	35.947	35.950	2	14.201	14.136	26.905	191.6	2	191.0	2	59.3	0.00	2	10.83	2		4	3.80	2	2.27	2	1.20	2	0.03	2		9	513.7	404.9	2		9		9		9			9		9
24	2	500.3	35.776	35.778	2	13.005	12.935	27.022	186.5	2	184.9	2	71.9	0.00	2	13.37	2		4	5.00	2	2.05	2	1.06	2	0.02	2		9			9		9		9		9		45.3	2		9
23	2	600.1	35.579	35.580	2	11.493	11.415	27.165	179.3	2	174.0	2	91.4	0.00	2	17.08	2		4	7.20	2	1.50	2	0.76	2	0.02	2		9	647.9	455.9	2		9	7.7767	2	2334	2		42.8	2		9
22	2	701.3	35.435	35.426	2	10.144	10.059	27.296	159.2	2	151.7	2	121.9	0.00	2	21.97	2		4	11.40	2	0.65	6	0.33	6	0.00	6		9			9		9		9		9			9		9
21	2	794.2	35.319	35.320	2	9.004	8.914	27.397	144.0	2	143.0	2	137.8	0.00	2	24.60	2		4	14.50	2	0.31	2	0.16	2	0.00	2		9	881.7	561.2	2		9		9		9		42.4	2		9
20	2	900.5	35.247	35.245	2	8.041	7.945	27.491	147.7	2	149.5	2	137.6	0.00	2	25.48	2		4	16.70	2	0.16	2	0.08	2	0.00	2		9			9		9	7.6704	2	2328	2			9		9
19	2	1001.8	35.182	35.183	2	7.119	7.019	27.573	158.3	2	159.2	2	134.2	0.00	2	25.58	2		4	18.40	2	0.08	2	0.05	2	0.00	2		9			9		9		9		9		42.5	2		9
18	2	1200.8	35.202	35.201	2	6.457	6.341	27.683	179.6	2	180.5	2	117.5	0.00	2	23.83	2		4	18.40	2	0.06	2	0.04	2	0.00	2		9	854.9	484.2	6		9		9		9			9		9
17	2	1401.3	35.213	35.213	2	5.852	5.721	27.773	200.0	2	198.5	2	103.9	0.00	2	22.36	2		4	18.40	2	0.04	6	0.02	6	0.00	6		9			9		9	7.7119	2	2334	2			9		9
16	2	1600.9	35.176	35.177	2	5.199	5.055	27.825	212.7	2	213.2	2	94.1	0.00	2	21.48	2		4	19.50	2		9		9		9		9	781.5	415.5	2		9		9		9			9		9
15	2	1800.7	35.119	35.119	2	4.592	4.435	27.851	222.5	2	222.5	2	89.5	0.00	2	21.09	2		4	21.40	2	0.01	2	0.01	2	0.00	2		9			9		9		9		9			9		9
14	2	2001.9	35.075	35.077	2	4.141	3.971	27.867	230.9	2	232.9	2	82.8	0.00	2	20.61	2		4	22.40	2		9		9		9		9	757.5	382.2	2		9	7.7302	2	2331	2			9		9
13	2	2202.2	35.031	35.031	2	3.678	3.495	27.880	239.4	2	241.4	2	78.1	0.00	2	20.31	2		4	24.30	2		9		9		9		9			9		9		9		9			9		9
12	2	2401.4	35.000	35.000	2	3.365	3.168	27.888	244.5	2	246.0	2	76.2	0.00	2	20.22	2		4	26.70	2		9		9		9		9			9		9		9		9			9		9
11	2	2601.4	34.974	34.975	2	3.090	2.878	27.894	247.2	2	248.5	2	76.1	0.00	2	20.31	2		4	29.60	2	0.00	2	0.00	2	-0.01	2		9	744.5	356.3	2		9		9		9			9		9
10	2	2799.5	34.954	34.954	2	2.877	2.649	27.900	248.8	2	248.6	2	77.9	0.00	2	20.61	2		4	32.60	2		9		9		9		9			9		9		9		9			9		9
9	2	3003.2	34.939	34.940	2	2.730	2.485	27.903	248.6	2	248.6	2	79.3	0.00	2	20.90	2		4	35.50	2	0.00	6	0.00	6	-0.01	6		9	744.6	349.7	2		9	7.7312	2	2344	2			9		9
8	2	3251.9	34.925	34.926	2	2.602	2.334	27.906	248.5	2	248.1	2	81.1	0.00	2	21.29	2		4	38.60	2		9		9		9		9			9		9		9		9			9		9
7	3	3551.3	34.914	34.915	2	2.508	2.210	27.910	247.3	2	248.8	2	81.4	0.00	2	21.68	2		4	41.30	2	0.00	2	0.00	2	0.00	2		9	747.2	346.8	2		9		9		9			9		9
6	2	3851.2	34.904	34.905	2	2.435	2.105	27.912	247.5	2	248.9	2	82.2	0.00	2	21.97	2		4	43.50	2	0.00	2	0.00	2	-0.01	2		9			9		9		9		9			9		9
5	2	4149.1	34.898	34.899	2	2.402	2.039	27.915	247.0	2	248.3	2	83.4	0.00	2	22.07	2		4	44.50	2	0.00	2	0.00	2	0.00	2		9			9		9		9		9			9		9
4	2	4445.5	34.893	34.893	2	2.387	1.990	27.916	246.5	2	248.2	2	83.9	0.00	2	22.07	2		4	45.20	2		9		9		9		9	756.0	348.5	2		9		9		9			9		9
3	2	4800.2	34.888	34.889	2	2.394	1.953	27.919	247.2	2	249.4	2	83.1	0.00	2	22.07	2		4	45.60	2	0.00	2	0.00	2	0.00	2		9			9		9		9		9			9		9
2	2	5150.3	34.886	34.886	2	2.421	1.935	27.921	248.1	2	249.0	2	83.6	0.00	2	22.07	2		4	46.20	2	0.00	2	0.00	2	0.00	2		9			9		9		9		9			9		9
1	2	5513.7	34.886	34.886	2	2.465	1.930	27.925	248.4	2	249.4	2	83.3	0.00	6	22.07	6		4	46.80	6		9		9		9		9	755.7	348.8	2		9	7.7254	2	2352	2			9		9

* WOCE water sample quality flag (F) for parameter for the previous column
** WOCE quality flag (F) for "Niskin" sample bottle
*** PSS-78 scale
**** ITS0 scale

A5R
NOAA Ship Ronald H. Brown

STATION 29 DATE 1/30/1998 LATITUDE 24.499° N
LONGITUDE 28.617° W

Bottle Number	F**	Pressure db	CTD Salinity***	Bottle Salinity***	F*	Temp**** °C	Theta °C	Sigma Theta	CTD O2 µmol/kg	F*	Bottle O2 µmol/kg	F*	AOU	NO2 µmol/kg	F*	NO3 µmol/kg	F*	PO4 µmol/kg	F*	Si(OH)4 µmol/kg	F*	CFC-11 pmol/kg	F*	CFC-12 pmol/kg	F*	CFC-113 pmol/kg	F*	CCl4 pmol/kg	F*	fCO2 at 20 °C µatm	fCO2 INSITU µatm	F*	DIC µmol/kg	F*	pH	F*	Measured TA µmol/kg	F*	Calculated TA µmol/kg	TOC µmol/kg	F*	TON µmol/kg	F*
36	2	4.8	37.523	37.523	2	22.567	22.566	25.976	220.4	2	217.0	6	-5.5	0.00	2	0.00	2		4	0.60	2		9		9		9	9				9	2101.5	6	8.0648	2	2449	2	2453		9		9
35	2	3.5	37.523	37.524	2	22.564	22.563	25.977	221.7	2	216.9	2	-5.4	0.00	2	0.00	2		4	0.60	2	1.98	2	1.14	2	0.18	2	9				9		9		9		9				9		9
34	2	38.8	37.522	37.524	2	22.570	22.562	25.979	214.6	2	216.7	2	-5.2	0.00	2	0.00	2		4	0.70	2	2.02	2	1.17	2	0.17	2	9				9		9		9		9				9		9
33	2	89.9	37.517	37.522	2	22.576	22.558	25.979	214.1	2	216.8	2	-5.2	0.00	2	0.00	2		4	0.70	2		9		9		9	9				9	2099.8	2	8.0640	2	2447	2	2451		9		9
32	2	159.7	36.829	36.835	2	19.234	19.205	26.375	200.4	2	206.7	2	18.9	0.02	2	1.27	2		4	0.90	2	2.33	2	1.32	2	0.12	2	9				9		9		9		9				9		9
31	2	200.7	36.620	36.628	2	18.173	18.138	26.489	198.3	2	201.9	2	28.6	0.01	2	3.51	2		4	1.30	2		9		9		9	9				9	2108.5	2	7.9749	2	2392	2	2392		9		9
30	2	220.8	36.529	36.527	2	17.747	17.709	26.526	198.2	2	200.6	2	31.9	0.01	2	4.49	2		4	1.60	2	2.36	2	1.32	2	0.04	2	9				9		9		9		9				9		9
29	2	249.4	36.453	36.452	2	17.363	17.321	26.564	197.3	2	199.6	2	34.7	0.01	2	5.27	2		4	1.80	2		9		9		9	9				9		9		9		9				9		9
28	2	274.3	36.365	36.362	2	16.834	16.789	26.625	196.0	2	198.0	2	38.9	0.01	2	6.34	2		4	2.10	2		9		9		9	9				9		9		9		9				9		9
27	2	300.0	36.306	36.307	2	16.447	16.398	26.672	194.5	2	195.1	2	43.7	0.01	2	7.22	2		4	2.40	2	2.37	2	1.29	2	0.03	2	9				9	2120.1	2	7.9262	2	2374	2	2372		9		9
26	2	350.4	36.209	36.205	2	15.758	15.702	26.760	186.7	2	187.6	2	54.6	0.01	2	8.98	2		4	2.90	2		9		9		9	9				9		9		9		9				9		9
25	2	399.1	36.066	36.071	2	14.879	14.818	26.849	184.5	2	184.5	2	62.2	0.00	2	10.44	2		4	3.50	2	2.25	2	1.20	2	0.03	2	9				9	2138.3	2	7.8747	2	2360	2	2361		9		9
24	2	500.1	35.773	35.781	2	12.977	12.907	27.025	180.3	2	178.8	2	78.1	0.00	2	14.06	2		4	5.20	2		9		9		9	9				9		9		9		9				9		9
23	2	598.3	35.586	35.591	2	11.557	11.479	27.158	179.2	2	177.2	2	87.9	0.00	2	16.69	2		4	7.00	2	1.61	6	0.83	6	0.02	6	9				9	2160.5	2	7.7799	2	2336	2	2333		9		9
22	2	698.6	35.432	35.433	2	10.234	10.149	27.279	151.4	2	146.0	2	127.0	0.00	2	22.26	2		4	11.20	2		9		9		9	9				9		9		9		9				9		9
21	2	800.3	35.288	35.295	2	8.885	8.795	27.391	135.6	2	135.5	2	146.1	0.00	2	25.68	2		4	15.10	2	0.27	2	0.13	2	0.00	2	9				9	2203.2	2	7.6668	2	2327	2	2327		9		9
20	2	899.9	35.200	35.199	2	7.875	7.780	27.478	137.1	2	140.6	2	147.7	0.00	2	26.85	2		4	17.80	2		9		9		9	9				9		9		9		9				9		9
19	2	999.2	35.167	35.164	2	7.212	7.111	27.549	150.4	2	153.5	2	139.3	0.00	2	26.27	2		4	18.70	2	0.08	2	0.04	2	-0.01	2	9				9		9		9	2327	2				9		9
18	2	1149.5	35.171	35.170	2	6.530	6.419	27.648	172.5	2	173.2	2	124.3	0.00	2	24.80	2		4	18.80	2		9		9		9	9				9	2199.8	6	7.6693	2		9	2324		9		9
17	2	1299.7	35.177	35.177	2	5.986	5.864	27.726	189.7	2	189.9	2	111.5	0.00	2	23.34	2		4	18.90	2	0.04	2	0.02	2	0.00	2	9				9		9		9		9				9		9
16	2	1500.8	35.168	35.169	2	5.360	5.224	27.798	207.7	2	207.5	2	98.6	0.00	2	22.07	2		4	19.60	2		9		9		9	9				9	2189.4	2		9		9				9		9
15	2	1697.9	35.120	35.119	2	4.726	4.578	27.835	220.9	2	221.0	2	90.0	0.00	2	21.48	2		4	21.20	2		9		9		9	9				9		9		9		9				9		9
14	2	1896.5	35.073	35.036	2	4.221	4.060	27.855	229.9	2	229.6	2	85.5	0.00	2	21.19	2		4	23.00	2		9		9		9	9				9	2183.8	2	7.7217	2	2330	2	2329		9		9
13	2	2101.3	35.036	35.012	2	3.785	3.611	27.872	237.3	2	237.8	2	80.8	0.00	2	20.61	3		4	24.90	2	0.00	2	-0.01	2	0.00	2	9				9		9		9		9				9		9
12	2	2298.3	35.011	35.011	2	3.496	3.307	27.883	242.8	2	242.3	2	78.7	0.01	2	20.80	2		4	26.80	2		9		9		9	9				9		9		9		9				9		9
11	2	2500.2	34.987	34.988	2	3.233	3.029	27.890	245.5	2	245.8	2	77.5	0.01	2	20.70	2		4	28.80	2		9		9		9	9				9	2184.5	2		9		9				9		9
10	2	2699.0	34.969	34.970	2	3.034	2.813	27.897	249.7	2	248.7	2	76.4	0.01	2	20.61	2		4	30.60	2		9		9		9	9				9		9		9		9				9		9
9	2	2901.3	34.949	34.949	2	2.829	2.592	27.901	249.6	2	248.9	2	78.1	0.00	2	20.90	2		4	33.80	2		9		9		9	9				9	2189.7	2	7.7319	2	2343	2	2339		9		9
8	2	3097.8	34.934	34.934	2	2.680	2.426	27.905	249.1	2	248.8	2	79.6	0.00	2	21.10	2		4	36.60	2	0.00	2	-0.01	2	0.00	2	9				9		9		9		9				9		9
7	2	3401.7	34.919	34.919	2	2.541	2.258	27.908	248.5	2	248.4	2	81.4	0.00	2	21.59	2		4	40.20	2		9		9		9	9				9	2195.4	2		9		9				9		9
6	2	3699.8	34.908	34.909	2	2.466	2.152	27.910	248.2	2	248.7	2	82.0	0.00	2	21.78	2		4	42.70	2		9		9		9	9				9		9		9		9				9		9
5	2	3997.4	34.901	34.901	2	2.424	2.078	27.913	247.6	2	248.9	2	82.5	0.00	2	21.98	2		4	44.40	2	0.00	2	0.00	2	-0.01	2	9				9		9		9		9				9		9
4	2	4298.4	34.895	34.895	2	2.393	2.013	27.916	248.3	2	248.3	2	83.6	0.00	2	22.17	2		4	46.30	2		9		9		9	9				9	2201.7	2	7.7269	2	2350	2	2350		9		9
3	2	4689.5	34.889	34.889	2	2.386	1.959	27.918	248.3	2	249.0	2	83.4	0.00	2	22.27	2		4	47.80	2		9		9		9	9				9		9		9		9				9		9
2	2	5197.4	34.886	34.886	2	2.427	1.935	27.922	249.5	2	249.6	2	83.0	0.01	2	22.27	2		4	48.60	2	0.00	6	0.00	6	0.00	6	9				9		9		9		9				9		9
1	2	5759.6	34.885	34.885	2	2.494	1.925	27.927	250.7	2	249.9	2	82.8	0.01	6	22.37	6		4	49.00	6	0.00	2	0.00	2	0.00	2	9				9	2204.6	2	7.7260	2	2355	2	2352		9		9

* WOCE water sample quality flag (F) for parameter for the previous column
** WOCE quality flag (F) for "Niskin" sample bottle
*** PSS-78 scale
**** ITS0 scale

A5R
NOAA Ship Ronald H. Brown

STATION 30 DATE 1/30/1998 LATITUDE 24.499° N
LONGITUDE 29.433° W

Bottle Number	F**	Pressure db	CTD Salinity***	Bottle Salinity***	F*	Temp**** °C	Theta °C	Sigma Theta	CTD O2 µmol/kg	F*	Bottle O2 µmol/kg	F*	AOU	NO2 µmol/kg	F*	NO3 µmol/kg	F*	PO4 µmol/kg	F*	Si(OH)4 µmol/kg	F*	CFC-11 pmol/kg	F*	CFC-12 pmol/kg	F*	CFC-113 pmol/kg	F*	CCl4 pmol/kg	F*	fCO2 at 20 °C µatm	fCO2 INSITU µatm	F*	DIC µmol/kg	F*	pH	F*	Measured TA µmol/kg	F*	Calculated TA µmol/kg	TOC µmol/kg	F*	TON µmol/kg	F*
36	2	3.2	37.440	37.446	2	22.483	22.482	25.937	216.6	2	218.7	6	-6.8	0.00	2	0.00	2		4	0.30	2	1.99	2	1.16	2	0.17	2		9	316.5	349.3	2	2097.5	2	8.0622	2	2453	2	2446	68.0	2	3.6	2
35	2	46.8	37.420	37.422	2	22.316	22.307	25.975	216.5	2	217.0	2	-4.4	0.00	2	0.00	2		4	0.30	2	2.02	6	1.17	6	0.18	6		9	317.5	348.2	2	2098.8	6	8.0604	2	2449	2	2446	67.3	2	3.8	2
34	2	98.7	37.403	37.404	2	22.267	22.247	25.982	216.9	2	218.2	2	-5.3	0.00	2	0.00	2		4	0.30	2	2.01	2	1.16	2	0.17	2		9	319.5	349.6	2	2097.6	2	8.0582	2	2443	2	2443	67.6	2	3.8	2
33	2	148.3	37.035	37.029	2	20.238	20.210	26.267	207.7	2	210.7	2	10.6	0.02	2	0.49	2		4	0.30	2	2.24	2	1.28	2	0.15	2		9	361.9	365.2	2	2108.9	2	8.0135	2	2425	2	2421	59.0	2	4.3	2
32	2	202.5	36.652	36.653	2	18.313	18.277	26.478	201.3	2	202.8	2	27.0	0.00	2	3.22	2		4	0.90	2	2.34	2	1.31	2	0.06	2		9	393.1	367.3	2	2109.6	2	7.9796	2	2399	2	2396	53.9	2	6.5	2
31	2	222.1	36.575	36.575	2	17.953	17.915	26.511	201.1	2	202.3	2	29.2	0.00	2	3.90	2		4	1.00	2	2.38	2	1.32	2	0.04	2		9	401.7	369.8	2	2108.8	2	7.9737	2	2397	2	2391	50.8	2		9
30	2	248.3	36.510	36.514	2	17.586	17.544	26.553	195.7	2	198.6	2	34.7	0.00	2	4.78	2		4	1.30	2	2.35	2	1.30	2	0.03	2		9	418.4	379.4	6	2115.2	2	7.9580	2	2391	2	2387	54.6	2	8.3	2
29	2	272.0	36.454	36.447	2	17.236	17.190	26.597	200.7	2	195.1	2	39.8	0.00	2	5.85	2		4	1.40	2	2.40	2	1.31	2	0.03	2		9			9	2120.4	2	7.9420	2	2387	2	2383		9		9
28	2	299.0	36.318	36.318	2	16.433	16.384	26.685	197.7	2	192.8	2	46.0	0.00	2	7.32	2		4	2.00	2	2.37	6	1.29	6	0.03	6		9	453.9	392.7	2	2127.1	2	7.9218	2	2382	2	2377	48.0	2		9
27	2	349.3	36.145	36.156	2	15.390	15.335	26.793	187.4	2	190.1	2	53.9	0.00	2	9.08	2		4	2.60	2	2.34	2	1.26	2	0.03	2		9	483.0	400.3	2	2131.6	2	7.8946	2	2372	2	2365		9		9
26	2	400.7	35.996	35.990	2	14.441	14.381	26.889	184.3	2	186.3	2	62.7	0.00	2	11.22	2		4	3.50	2	2.27	2	1.20	2	0.03	2		9	519.3	413.8	2	2140.2	2	7.8632	2	2363	2	2356	46.3	2		9
25	2	476.6	35.827	35.816	2	13.367	13.299	26.988	196.6	2	194.3	2	60.5	0.00	2	12.40	2		4	4.20	2	2.24	2	1.18	2	0.04	2		9			9	2141.3	2	7.8479	2	2356	2	2348	44.7	2		9
24	2	551.5	35.666	35.659	2	12.184	12.110	27.100	189.7	2	184.8	2	76.6	0.00	2	15.23	2		4	5.70	2	1.90	2	0.97	2	0.02	2		9	605.1	439.0	2	2152.0	2	7.8073	2	2341	2	2338		9		9
23	2	626.4	35.546	35.542	2	11.212	11.132	27.192	175.5	2	167.7	2	99.4	0.00	2	18.75	2		4	7.80	2	1.30	2	0.67	2	0.02	2		9			9	2168.6	2	7.7602	2	2341	2	2332	42.9	2	21.1	2
22	2	700.4	35.399	35.399	2	9.915	9.832	27.307	151.7	2	143.6	2	131.4	0.00	2	23.53	2		4	11.60	2	0.52	2	0.26	2	0.00	2		9	791.2	522.1	2	2187.9	2	7.6993	2	2333	2	2325		9		9
21	2	771.1	35.351	35.352	2	9.311	9.222	27.372	145.2	2	144.8	2	134.0	0.00	2	24.22	2		4	13.00	2	0.39	2	0.18	2	0.00	2		9			9	2193.6	2	7.6901	2	2332	2	2327	41.6	2		9
20	2	848.8	35.266	35.267	2	8.383	8.291	27.453	144.9	2	144.1	2	140.7	0.00	2	25.59	2		4	15.30	2	0.20	2	0.10	2	0.00	2		9	862.7	533.2	2	2200.5	2	7.6690	2	2335	2	2325		9		9
19	2	922.6	35.234	35.237	2	7.860	7.763	27.508	148.5	2	151.3	2	137.0	0.00	2	25.78	2		4	16.30	2	0.14	6	0.08	6	0.00	6		9			9	2198.9	2	7.6705	2	2327	2	2324	41.7	2		9
18	2	1000.2	35.176	35.171	2	7.094	6.994	27.573	157.5	2	160.4	2	133.2	0.00	2	25.88	2		4	17.80	2	0.08	2	0.04	2	0.00	2		9	872.6	509.1	6	2200.1	6	7.6679	2	2332	2	2323		9		9
17	2	1201.9	35.195	35.196	2	6.367	6.252	27.690	179.8	2	182.2	2	116.4	0.00	2	23.83	2		4	17.90	2	0.05	2	0.03	2	0.00	2		9	826.4	465.3	2	2194.8	2	7.6887	2	2332	2	2327	41.7	2	25.9	2
16	2	1399.6	35.202	35.202	2	5.778	5.648	27.773	199.9	2	200.8	2	102.1	0.00	2	22.27	2		4	18.10	2	0.03	2	0.02	2	0.00	2		9	783.4	428.4	2	2188.7	2	7.7078	2	2331	2	2329		9		9
15	2	1600.0	35.152	35.153	2	5.120	4.977	27.815	216.2	2	215.8	2	92.1	0.00	2	21.58	2		4	19.10	2	0.01	2	0.00	2	0.00	2		9	764.6	405.1	2	2184.4	2	7.7169	2	2335	2	2328	41.6	2		9
14	2	1799.6	35.113	35.113	2	4.552	4.396	27.850	229.5	2	226.0	2	86.3	0.00	2	21.19	2		4	21.00	2	0.01	2	0.00	2	0.00	2		9	752.9	387.9	2	2182.4	2	7.7237	2	2336	2	2329		9		9
13	2	2001.3	35.070	35.069	2	4.092	3.923	27.867	236.5	2	235.7	2	80.4	0.00	2	20.71	3		4	22.60	2	0.00	2	0.00	2	0.00	2		9	741.5	373.4	2	2180.4	2	7.7290	2		5	2329	41.5	2		9
12	2	2251.4	35.024	35.024	2	3.600	3.414	27.883	244.6	2	244.6	2	75.6	0.00	2	20.71	2		4	25.10	2	0.00	2	0.00	2	0.00	2		9	738.8	363.2	2	2179.4	2	7.7321	2		9	2329		9		9
11	2	2500.8	34.988	34.988	2	3.228	3.024	27.892	248.9	2	247.6	2	75.8	0.00	2	20.51	2		4	28.50	2	0.00	2	0.00	2	0.00	2		9	739.5	356.8	2	2181.8	2	7.7335	2	2341	2	2332	41.5	2	22.8	2
10	2	2749.4	34.961	34.961	2	2.947	2.723	27.898	250.2	2	251.0	2	74.9	0.00	2	20.71	2		4	31.60	2	0.00	2	0.00	2	0.00	2		9	741.2	352.5	2	2185.6	2	7.7336	2		9	2336		9		9
9	2	3000.1	34.939	34.939	2	2.724	2.479	27.903	250.4	2	249.2	2	78.7	0.00	2	21.00	2		4	35.30	2	0.00	2	0.00	2	0.00	2		9	749.0	352.2	2	2189.8	2	7.7315	2	2347	2	2339	41.5	2		9
8	2	3283.5	34.926	34.925	2	2.598	2.326	27.907	249.9	2	248.6	2	80.6	0.00	2	21.20	2		4	38.10	2	0.00	2	0.00	2	-0.01	2		9	744.1	347.3	2	2192.8	2	7.7311	2		9	2342		9		9
7	2	3700.5	34.910	34.910	2	2.470	2.156	27.911	248.7	2	248.6	2	82.1	0.00	2	21.49	2		4	41.60	2	0.00	2	0.00	2	-0.01	2		9	746.7	346.1	2	2195.9	2	7.7287	2		9	2344	41.7	2	23.6	2
6	2	4000.8	34.901	34.900	2	2.414	2.068	27.914	248.1	2	248.3	2	83.2	0.00	2	22.17	3		4	43.90	2	0.00	2	0.00	2	0.00	2		9	757.8	350.3	2	2196.9	2	7.7289	2		9	2345		9		9
5	2	4299.8	34.894	34.894	2	2.385	2.005	27.915	247.6	2	248.5	2	83.5	0.00	2	22.57	3		4	45.40	2	0.00	2	0.00	2	0.00	2		9	750.6	346.2	2	2198.5	2	7.7278	2	2357	2	2346	41.4	2		9
4	3	4699.7	34.889	34.888	2	2.383	1.955	27.918	248.3	2	248.9	2	83.5	0.00	2	22.66	3		4	46.70	2	0.00	2	0.00	2	0.00	2		9	752.8	347.1	2	2199.4	2	7.7280	2		9	2348	41.5	2		9
3	2	4999.5	34.886	34.886	2	2.400	1.934	27.920	249.1	2	248.9	2	83.7	0.00	2	22.66	3		4	47.40	2	0.00	2	0.00	2	0.00	2		9	754.0	347.9	2	2200.2	2	7.7257	2		9	2347	41.7	2		9
2	2	5297.6	34.886	34.885	2	2.433	1.928	27.923	249.7	2	249.9	2	82.8	0.00	2	22.18	2		4	47.50	2	0.00	2	0.00	2	0.00	2		9	755.8	349.4	2	2199.2	2	7.7265	2		9	2347	41.6	2		9
1	2	5645.1	34.884	34.886	2	2.471	1.918	27.925	250.6	2	249.7	2	83.1	0.00	6	22.66	3		4	48.20	6	0.00	6	0.00	6	0.00	6		9	758.5	351.2	3	2199.0	2	7.7245	2	2355	2	2346	41.9	2	24.4	2

* WOCE water sample quality flag (F) for parameter for the previous column
** WOCE quality flag (F) for "Niskin" sample bottle
*** PSS-78 scale
**** ITS0 scale

A5R
NOAA Ship Ronald H. Brown

STATION 31 DATE 1/30/1998 LATITUDE 24.500° N
LONGITUDE 30.267° W

Bottle Number	F**	Pressure db	CTD Salinity***	Bottle Salinity***	F*	Temp**** °C	Theta °C	Sigma Theta	CTD O2 µmol/kg	F*	Bottle O2 µmol/kg	F*	AOU	NO2 µmol/kg	F*	NO3 µmol/kg	F*	PO4 µmol/kg	F*	Si(OH)4 µmol/kg	F*	CFC-11 pmol/kg	F*	CFC-12 pmol/kg	F*	CFC-113 pmol/kg	F*	CCl4 pmol/kg	F*	fCO2 at 20 °C µatm	fCO2 INSITU µatm	F*	DIC µmol/kg	F*	pH	F*	Measured TA µmol/kg	F*	Calculated TA µmol/kg	TOC µmol/kg	F*	TON µmol/kg	F*
36	2	5.2	37.550	37.550	2	22.954	22.953	25.885	214.9	2	215.7	2	-5.6	0.00	2	0.00	2		4	1.40	2	1.99	2	1.15	2	0.16	2		9	309.9	348.5	2	2100.9	2	8.0689	2		5	2456		9		9
35	2	40.3	37.548	37.549	2	22.916	22.908	25.898	212.2	2	215.6	2	-5.4	0.00	2	0.00	2		4	1.20	2	1.98	2	1.14	2	0.18	2		9	308.8	346.8	2	2101.5	6	8.0703	2		5	2458		9		9
34	2	91.5	37.542	37.542	2	22.895	22.876	25.906	211.8	2	215.5	2	-5.1	0.00	2	0.00	2		4	1.20	2	1.96	2	1.13	2	0.16	2		9	312.3	350.4	2	2102.5	2	8.0674	2		5	2456		9		9
33	2	140.3	37.029	37.013	2	20.260	20.234	26.256	204.5	2	209.2	2	12.0	0.03	2	0.68	2		4	1.20	2	2.25	2	1.28	2	0.15	2		9	365.8	369.6	2	2110.8	2	8.0062	2	2416	2	2418		9		9
32	2	201.4	36.662	36.663	2	18.380	18.345	26.469	198.0	2	202.9	2	26.6	0.01	2	3.12	2		4	1.60	2	2.32	2	1.31	2	0.06	2		9	395.2	370.0	2	2110.3	2	7.9813	2		5	2398		9		9
31	2	225.0	36.561	36.551	2	17.877	17.838	26.519	198.5	2	202.4	2	29.5	0.01	2	4.20	2		4	1.70	2		9		9		9		9			9		9		9		9			9		9
30	2	250.7	36.479	36.475	2	17.465	17.422	26.559	199.9	2	202.5	2	31.4	0.01	2	4.78	2		4	2.00	2	2.37	6	1.32	6	0.04	6		9	415.5	374.8	2	2111.9	2	7.9614	2	2383	2	2386		9		9
29	2	260.5	36.456	36.456	2	17.323	17.279	26.576	200.3	2	204.1	2	30.4		9		9		9		9		9		9		9		9			9		9		9		9			9		9
28	2	299.4	36.360	36.357	2	16.794	16.744	26.633	200.0	2	199.2	2	37.9	0.01	2	6.05	2		4	2.20	2	2.39	2	1.32	2	0.03	2		9	440.8	387.0	2	2117.4	2	7.9425	2	2376	2	2379		9		9
27	2	352.4	36.221	36.222	2	15.965	15.909	26.723	198.1	2	199.0	2	42.2	0.00	2	7.51	2		4	2.70	2		9		9		9		9			9		9		9		9			9		9
26	2	400.4	36.129	36.119	2	15.389	15.326	26.785	196.4	2	196.8	2	47.3	0.01	2	8.59	2		4	3.10	2	2.34	2	1.27	2	0.03	2		9	473.3	392.0	2	2126.7	2	7.9083	2	2364	2	2368		9		9
25	2	450.8	35.993	35.985	2	14.480	14.412	26.882	198.8	2	196.6	2	52.2	0.00	2	10.05	2		4	3.80	2		9		9		9		9			9		9		9		9			9		9
24	2	501.4	35.839	35.842	2	13.482	13.410	26.975	195.6	2	194.9	2	59.3	0.00	2	11.91	2		4	4.60	2	2.29	2	1.19	2	0.03	2		9	539.7	413.0	2	2140.5	2	7.8508	2	2347	2	2349		9		9
23	2	551.3	35.721	35.719	2	12.630	12.554	27.057	189.7	2	186.7	2	72.2	0.00	2	14.06	2		4	5.40	2		9		9		9		9			9		9		9		9			9		9
22	2	601.7	35.623	35.618	2	11.865	11.785	27.130	186.6	2	181.6	2	81.7	0.00	2	16.01	2		4	6.30	2		9		9		9		9			9	2155.1	2	7.8013	2	2336	2	2338		9		9
21	2	698.9	35.459	35.460	2	10.294	10.209	27.290	165.9	2	159.6	2	113.0	0.00	2	20.70	2		4	10.20	2	0.85	2	0.41	2	0.01	2		9	738.1	494.2	2	2177.6	2	7.7322	2	2332	2	2329		9		9
20	2	800.8	35.335	35.335	2	9.085	8.994	27.397	147.3	2	146.8	2	133.5	0.00	2	24.32	2		4	13.90	2		9		9		9		9			9		9		9		9			9		9
19	2	901.2	35.217	35.215	2	7.874	7.779	27.492	146.8	2	147.8	2	140.5	0.00	2	26.08	2		4	16.90	2		9		9		9		9			9		9		9		9			9		9
18	2	1000.3	35.141	35.142	2	6.952	6.853	27.564	154.8	2	159.1	2	135.5	0.00	2	26.37	2		4	18.60	2	0.06	2	0.03	2	0.00	2		9	885.5	513.3	2	2200.6	6	7.6553	2	2325	2	2319		9		9
17	2	1102.7	35.134	35.133	2	6.456	6.350	27.627	167.9	2	170.8	2	127.3	0.00	2	25.39	2		4	18.70	2		9		9		9		9			9		9		9		9			9		9
16	2	1300.6	35.177	35.175	2	6.004	5.882	27.723	189.7	2	191.7	2	109.6	0.00	2	23.44	2		4	18.10	2		9		9		9		9			9		9		9		9			9		9
15	2	1501.1	35.171	35.171	2	5.409	5.272	27.795	208.8	2	208.9	2	96.8	0.00	2	22.17	2		4	18.60	2		9		9		9		9			9	2185.0	2	7.7127	2	2332	2	2327		9		9
14	2	1700.1	35.129	35.129	2	4.768	4.619	27.838	224.1	2	223.6	2	87.0	0.00	2	21.39	2		4	20.30	2		9		9		9		9			9		9		9		9			9		9
13	2	1897.7	35.086	35.086	2	4.279	4.117	27.859	233.1	2	231.8	2	82.7	0.00	2	21.10	2		4	22.00	2	0.02	2	0.01	2	0.00	2		9			9		9		9		9			9		9
12	2	2098.1	35.048	35.047	2	3.845	3.670	27.876	239.9	2	240.3	2	77.8	0.00	2	20.90	2		4	23.80	2	0.00	2	0.00	2	0.00	2		9	739.4	367.7	2	2176.8	2	7.7320	2	2330	2	2326		9		9
11	2	2301.3	35.011	35.011	2	3.475	3.286	27.885	244.1	2	244.8	2	76.4	0.00	2	20.80	2		4	26.00	2		9		9		9		9			9		9		9		9			9		9
10	2	2501.6	34.988	34.993	2	3.232	3.027	27.891	247.0	2	246.2	2	77.1	0.00	2	20.71	2		4	27.40	2		9		9		9		9			9	2179.8	2	7.7322	2	2334	2	2329		9		9
9	2	2700.6	34.968	34.968	2	3.023	2.802	27.897	248.5	2	248.8	2	76.4	0.00	2	20.90	2		4	30.80	2		9		9		9		9			9		9		9		9			9		9
8	2	2899.2	34.949	34.948	2	2.827	2.590	27.901	248.5	2	248.7	2	78.3	0.00	2	21.00	2		4	34.00	2		9		9		9		9	744.9	351.9	2	2186.0	2	7.7308	2	2342	2	2335		9		9
7	2	3297.4	34.923	34.923	2	2.579	2.306	27.907	248.8	2	248.4	2	81.0	0.00	2	21.49	2		4	39.10	2		9		9		9		9			9		9		9		9			9		9
6	2	3700.2	34.908	34.907	2	2.450	2.137	27.911	247.3	2	249.3	2	81.6	0.00	2	22.08	3		4	43.10	2		9		9		9		9			9		9		9		9			9		9
5	2	4099.6	34.897	34.897	2	2.389	2.032	27.914	247.1	2	248.7	2	83.1	0.00	2	22.27	3		4	45.40	2		9		9		9		9	754.6	348.1	2	2197.0	2	7.7282	2		5	2345		9		9
4	3	4475.4	34.891	34.891	2	2.377	1.976	27.917	246.4	2	248.3	2	84.0	0.00	2	22.47	3		4	46.80	2		9		9		9		9			9		9		9		9			9		9
3	2	4900.6	34.886	34.886	2	2.390	1.937	27.919	248.2	2	249.2	2	83.4	0.00	2	22.57	3		4	47.80	2		9		9		9		9			9		9		9		9			9		9
2	2	5300.0	34.885	34.885	2	2.433	1.927	27.923	249.1	2	249.8	2	82.9	0.00	2	22.76	3		4	48.20	2		9		9		9		9			9		9		9		9			9		9
1	2	5715.3	34.884	34.885	2	2.484	1.921	27.926	249.4	2	249.0	2	83.7	0.00	6	22.47	6		4	48.10	6		9		9		9		9	708.9	327.3	3	2199.2	2	7.7234	2	2357	2	2345		9		9

* WOCE water sample quality flag (F) for parameter for the previous column
** WOCE quality flag (F) for "Niskin" sample bottle
*** PSS-78 scale
**** ITS0 scale

A5R
NOAA Ship Ronald H. Brown

STATION 32 DATE 1/31/1998 LATITUDE 24.500° N
LONGITUDE 31.084° W

Bottle Number	F**	Pressure db	CTD Salinity***	Bottle Salinity***	F*	Temp**** °C	Theta °C	Sigma Theta	CTD O2 µmol/kg	F*	Bottle O2 µmol/kg	F*	AOU	NO2 µmol/kg	F*	NO3 µmol/kg	F*	PO4 µmol/kg	F*	Si(OH)4 µmol/kg	F*	CFC-11 pmol/kg	F*	CFC-12 pmol/kg	F*	CFC-113 pmol/kg	F*	CCl4 pmol/kg	F*	fCO2 at 20 °C µatm	fCO2 INSITU µatm	F*	DIC µmol/kg	F*	pH	F*	Measured TA µmol/kg	F*	Calculated TA µmol/kg	TOC µmol/kg	F*	TON µmol/kg	F*
36	2	5.8	37.539	37.539	2	22.709	22.708	25.948	211.9	2	216.6	2	-5.6	0.00	2	0.00	2		4	0.20	3	3.14	4	1.16	2	0.16	2		9	324.4	361.2	2	2101.8	6	8.0637	2	2450	2	2453		9		9
35	2	48.4	37.535	37.536	2	22.709	22.699	25.950	213.5	2	216.9	2	-5.9	0.00	2	0.00	2		4	0.10	3	2.01	2	1.16	2	0.17	2		9			9		9		9		9				9		9
34	2	100.9	37.532	37.499	2	22.693	22.672	25.958	213.9	2	216.3	2	-5.1	0.00	2	0.10	2		4	0.00	3	2.03	6	1.17	6	0.16	6		9			9		9		9		9				9		9
33	2	143.0	37.053	37.033	2	20.411	20.384	26.234	212.1	2	211.3	2	9.3	0.04	2	0.49	2		4	0.00	3	2.25	2	1.28	2	0.16	2		9			9		9	8.0131	2	2418	2			9		9
32	2	179.5	36.813	36.804	2	19.136	19.103	26.390	201.2	2	205.7	2	20.4	0.01	2	1.76	2		4	0.00	3	2.33	2	1.32	2	0.10	2		9			9		9		9		9				9		9
31	2	223.0	36.569	36.570	2	17.937	17.898	26.510	198.2	2	204.4	2	27.2	0.00	2	4.00	2		4	0.20	3	2.39	2	1.33	2	0.04	2		9			9		9		9	2390	2			9		9
30	2	249.7	36.475	36.475	2	17.454	17.412	26.559	198.4	2	201.8	2	32.1	0.00	2	4.78	2		4	0.30	3	2.40	2	1.33	2	0.04	2		9			9		9		9		9				9		9
29	2	275.4	36.358	36.368	2	16.811	16.765	26.625	198.2	2	201.3	2	35.7	0.00	2	5.85	2		4	0.30	3		9		9		9		9			9		9		9		9				9		9
28	2	299.8	36.281	36.280	2	16.408	16.359	26.662	199.2	2	201.8	2	37.2	0.00	2	6.64	2		4	0.30	3	2.35	2	1.29	2	0.02	2		9			9		9	7.9325	2	2371	2			9		9
27	2	349.4	36.148	36.151	2	15.570	15.515	26.756	199.0	2	198.7	2	44.5	0.00	2	8.20	2		4	0.90	3	2.39	2	1.29	2	0.04	2		9			9		9		9		9				9		9
26	2	401.7	36.017	36.021	2	14.692	14.631	26.852	193.4	2	193.9	2	53.8	0.00	2	9.96	2		4	1.50	3	2.30	2	1.22	2	0.02	2		9			9		9		9		9				9		9
25	2	448.6	35.900	35.910	2	13.844	13.779	26.944	188.6	2	186.2	2	66.0	0.00	2	11.91	2		4	2.10	3		9		9		9		9			9		9	7.8489	2	2351	2			9		9
24	2	500.1	35.774	35.776	2	13.009	12.939	27.020	189.2	2	186.0	2	70.8	0.00	2	13.37	2		4	2.60	3	2.09	2	1.09	2	0.03	2		9			9		9		9		9				9		9
23	2	601.5	35.592	35.592	2	11.592	11.513	27.157	181.3	2	180.1	2	84.8	0.00	2	16.70	2		4	4.60	3	1.61	2	0.80	2	0.02	2		9			9		9		9		9				9		9
22	2	701.4	35.464	35.464	2	10.335	10.249	27.286	163.9	2	159.2	2	113.2	0.00	2	20.60	2		4	8.00	3	0.87	2	0.43	2	0.02	2		9			9		9		9	2333	2			9		9
21	2	752.7	35.361	35.366	2	9.502	9.414	27.348	145.0	2	142.7	2	134.9	0.00	2	23.83	2		4	10.80	3	0.45	2	0.21	2	0.00	2		9			9		9		9		9				9		9
20	2	850.2	35.208	35.209	2	8.137	8.046	27.444	132.1	2	134.6	2	151.9	0.00	2	27.15	2		4	14.90	3	0.14	6	0.06	6	0.00	6		9			9		9		9		9				9		9
19	2	949.8	35.140	35.142	2	7.318	7.222	27.512	142.8	2	143.5	2	148.6	0.00	2	27.35	2		4	16.80	3	0.08	2	0.04	2	-0.01	2		9			9		9		9		9				9		9
18	2	1048.6	35.131	35.130	2	6.890	6.786	27.566	157.4	2	155.1	2	140.0	0.00	2	26.57	2		4	17.30	3	0.06	2	0.03	2	0.00	2		9			9		9	7.6532	2	2326	2			9		9
17	2	1245.6	35.170	35.166	2	6.127	6.009	27.701	182.8	2	183.8	2	116.6	0.00	2	24.03	2		4	16.90	3	0.04	2	0.02	2	-0.01	2		9			9		9		9		9				9		9
16	2	1442.9	35.174	35.173	2	5.523	5.391	27.783	201.5	2	202.6	2	102.2	0.00	2	22.46	2		4	17.50	2	0.02	2	0.01	2	-0.01	2		9			9		9		9		9				9		9
15	2	1640.4	35.137	35.137	2	4.920	4.775	27.826	214.8	2	215.9	2	93.5	0.00	2		4		4	18.90	2	0.01	4	0.01	2	-0.01	2		9			9		9		9		9				9		9
14	2	1845.5	35.071	35.072	2	4.222	4.066	27.852	227.9	2	230.2	2	84.8	0.00	2	21.10	2		4	20.40	2		9		9		9		9			9		9		9		9				9		9
13	2	1992.5	35.047	35.048	2	3.940	3.774	27.864	233.4	2	234.8	2	82.5	0.00	2	20.81	2		4	21.70	2		9		9		9		9			9		9	7.7118	2	2330	2			9		9
12	2	2193.8	35.022	35.020	2	3.637	3.456	27.876	238.4	2	241.0	2	78.8	0.00	2	20.71	2		4	23.40	2	0.00	2	0.00	2	-0.01	2		9			9		9		9		9				9		9
11	2	2452.5	34.991	34.990	2	3.267	3.067	27.890	246.0	2	246.0	2	77.0	0.00	2	20.51	2		4	26.80	2		9		9		9		9			9		9		9		9				9		9
10	2	2698.6	34.964	34.963	2	2.977	2.758	27.898	248.8	2	248.4	2	77.2	0.00	2	20.51	2		4	30.40	2	0.00	2	0.00	2	-0.01	2		9			9		9		9		9				9		9
9	2	3101.1	34.935	34.934	2	2.696	2.441	27.904	249.1	2	249.4	2	78.9	0.00	2	21.20	2		4	35.40	2		9		9		9		9			9		9	7.7302	2	2344	2			9		9
8	2	3502.4	34.917	34.915	2	2.529	2.236	27.909	248.3	2	249.0	2	81.0	0.00	2	21.59	2		4	39.70	2	0.00	2	0.00	2	-0.01	2		9			9		9		9		9				9		9
7	2	3900.7	34.903	34.902	2	2.436	2.101	27.912	247.8	2	248.7	2	82.5	0.00	2	21.98	2		4	42.50	2		9		9		9		9			9		9		9		9				9		9
6	2	4281.7	34.896	34.895	2	2.401	2.023	27.915	247.6	2	248.6	2	83.2	0.00	2	22.18	2		4	44.50	2	0.00	2	0.00	2	-0.01	2		9			9		9		9		9				9		9
5	2	4698.8	34.889	34.889	2	2.395	1.967	27.918	247.4	2	249.3	2	83.0	0.00	2	22.18	2		4	46.00	2		9		9		9		9			9		9	7.7247	2	2352	2			9		9
4	2	5097.5	34.887	34.885	2	2.411	1.932	27.922	249.2	2	249.9	2	82.7	0.00	2	22.27	2		4	46.90	2	0.00	2	0.00	2	-0.01	2		9			9		9		9		9				9		9
3	2	5497.5	34.884	34.883	2	2.448	1.916	27.924	249.6	2	250.0	2	82.8	0.00	2	22.27	2		4	47.30	2	0.00	2	0.00	2	-0.01	2		9			9		9		9		9				9		9
2	9	6106.8	34.884		2	2.526	1.908	27.930	250.5	2		9			9		9		9		9		1		1		1		9			9		9		9		9				9		9
1	2	6107.5	34.883	34.882	2	2.526	1.908	27.930	250.5	2	250.2	6	82.6	0.00	6	22.27	6		4	47.70	6	0.00	6	0.00	6	-0.01	6		9			9		9	7.7201	2	2354	2			9		9

* WOCE water sample quality flag (F) for parameter for the previous column
** WOCE quality flag (F) for "Niskin" sample bottle
*** PSS-78 scale
**** ITS0 scale

A5R
NOAA Ship Ronald H. Brown

STATION 33 DATE 1/31/1998 LATITUDE 24.500° N
LONGITUDE 31.916° W

Bottle Number	F**	Pressure db	CTD Salinity***	Bottle Salinity***	F*	Temp**** °C	Theta °C	Sigma Theta	CTD O2 µmol/kg	F*	Bottle O2 µmol/kg	F*	AOU	NO2 µmol/kg	F*	NO3 µmol/kg	F*	PO4 µmol/kg	F*	Si(OH)4 µmol/kg	F*	CFC-11 pmol/kg	F*	CFC-12 pmol/kg	F*	CFC-113 pmol/kg	F*	CCl4 pmol/kg	F*	fCO2 at 20 °C µatm	fCO2 INSITU µatm	F*	DIC µmol/kg	F*	pH	F*	Measured TA µmol/kg	F*	Calculated TA µmol/kg	TOC µmol/kg	F*	TON µmol/kg	F*
36	2	3.2	37.566	37.565	2	23.078	23.077	25.860	214.1	2	215.5	2	-5.9	0.00	2	0.00	2		4	0.50	2		9		9		9	1.96	2	308.6	348.6	2	2100.3	2	8.0717	2	2459	2	2457		9		9
35	2	61.0	37.551	37.552	2	22.931	22.918	25.899	218.4	2	215.4	2	-5.2	0.00	2	0.00	2		4	0.50	2		9		9		9	1.91	6	310.1	348.2	2	2100.6	6	8.0698	2	2464	2	2456		9		9
34	2	110.5	37.516	37.513	2	22.767	22.744	25.926	217.6	2	216.1	2	-5.2	0.00	2	0.00	2		4	0.50	2		9		9		9	1.83	2	312.8	349.1	2	2101.3	2	8.0651	2	2454	2	2453		9		9
33	2	150.9	37.083	37.080	2	20.537	20.508	26.224	212.7	2	215.4	2	4.6	0.04	2	0.29	2		4	0.60	2		9		9		9		9	354.1	361.8	2	2107.1	2	8.0214	2	2431	2	2425		9		9
32	2	200.0	36.759	36.760	2	18.824	18.788	26.431	201.9	2	204.1	2	23.4	0.01	2	2.44	2		4	1.00	2		9		9		9	0.94	2	389.2	370.4	2	2111.8	2	7.9855	2	2406	2	2403		9		9
31	2	225.6	36.656	36.658	2	18.308	18.268	26.485	201.7	2	202.2	2	27.7	0.01	2	3.41	2		4	1.10	2		9		9		9		9			9		9		9		9			9		9
30	2	248.6	36.550	36.554	2	17.793	17.750	26.534	200.0	2	200.8	2	31.5	0.00	2	4.29	2		4	1.50	2		9		9		9	0.70	2	410.3	375.3	2	2112.1	2	7.9655	2	2395	2	2389		9		9
29	2	268.8	36.477	36.478	2	17.404	17.358	26.574	195.1	2	199.0	2	35.1	0.00	2	5.07	2		4	1.60	2		9		9		9		9			9		9		9		9			9		9
28	2	298.9	36.416	36.417	2	16.984	16.934	26.631	191.8	2	193.2	2	42.9	0.00	2	6.24	2		4	1.90	2		9		9		9	0.56	2	448.5	397.0	2	2123.6	2	7.9348	2	2389	2	2382		9		9
27	2	348.0	36.230	36.230	2	15.949	15.893	26.733	184.1	2	192.4	2	48.8	0.00	2	8.10	2		4	2.50	2		9		9		9		9			9		9		9		9			9		9
26	2	400.2	36.124	36.119	2	15.262	15.200	26.809	188.1	2	178.4	2	66.3	0.00	2	10.54	2		4	3.40	2		9		9		9	0.45	6	514.7	424.4	2	2140.9	2	7.8740	6	2370	2	2364		9		9
25	2	452.1	35.931	35.936	2	14.063	13.996	26.923	191.7	2	183.5	2	67.5	0.00	2	11.81	2		4	4.10	2		9		9		9		9			9		9		9		9			9		9
24	2	499.4	35.801	35.804	2	13.171	13.100	27.008	191.3	2	186.4	2	69.5	0.00	2	12.98	2		4	4.80	2		9		9		9	0.52	2			9	2144.6	2	7.8366	2	2354	2	2346		9		9
23	2	552.0	35.699	35.697	2	12.450	12.375	27.075	188.3	2	184.3	2	75.6	0.00	2	14.64	2		4	5.60	2		9		9		9		9			9		9		9		9			9		9
22	2	601.2	35.613	35.613	2	11.804	11.725	27.134	183.8	2	180.9	2	82.8	0.00	2	16.11	2		4	6.50	2		9		9		9	0.50	2	635.4	453.8	2	2156.4	2	7.7904	2		5	2334		9		9
21	2	699.2	35.475	35.483	2	10.511	10.425	27.265	162.6	2	162.1	2	109.2	0.00	2	20.11	2		4	9.60	2		9		9		9		9			9		9		9		9			9		9
20	2	800.5	35.304	35.307	2	8.977	8.887	27.389	145.2	2	141.7	2	139.3	0.00	2	25.00	2		4	14.20	2		9		9		9	0.11	2	853.0	541.4	2	2195.5	2	7.6778	2		5	2323		9		9
19	2	900.2	35.179	35.177	2	7.672	7.579	27.491	146.9	2	148.6	2	141.1	0.00	2	26.27	2		4	17.10	2		9		9		9		9			9		9		9		9			9		9
18	2	1049.0	35.110	35.111	2	6.599	6.498	27.588	164.8	2	166.0	2	131.1	0.00	2	25.78	2		4	18.60	2		9		9		9		9	884.6	504.9	2	2199.0	6	7.6632	2		5	2320		9		9
17	2	1252.0	35.132	35.131	2	5.917	5.801	27.697	192.7	2	190.9	2	111.1	0.00	2	23.64	2		4	18.20	2		9		9		9	0.07	2			9		9		9		9			9		9
16	2	1451.0	35.155	35.153	2	5.458	5.326	27.775	210.8	2	208.9	2	96.4	0.00	2	21.88	2		4	18.10	2		9		9		9		9			9	2183.8	2	7.7104	2		5	2324		9		9
15	2	1651.4	35.140	35.137	2	4.899	4.753	27.831	224.5	2	222.4	2	87.2	0.00	2	21.00	2		4	19.40	2		9		9		9		9			9		9		9		9			9		9
14	2	1851.4	35.090	35.090	2	4.334	4.176	27.856	232.4	2	232.0	2	82.1	0.00	2	20.80	2		4	21.10	2		9		9		9		9			9		9		9		9			9		9
13	2	2046.5	35.055	35.055	2	3.931	3.760	27.872	240.8	2	239.6	2	77.8	0.00	2	20.32	2		4	22.80	2		9		9		9	0.06	2	740.4	370.0	2	2177.5	2	7.7311	2		9	2326		9		9
12	2	2252.2	35.020	35.021	2	3.567	3.381	27.883	247.6	2	245.3	2	75.1	0.00	2	20.32	2		4	24.80	2		9		9		9		9			9		9		9		9			9		9
11	2	2450.8	34.988	34.988	2	3.223	3.024	27.891	251.1	2	249.4	2	74.0	0.00	2	20.32	2		4	27.80	2		9		9		9		9			9	2179.1	2	7.7336	2		5	2329		9		9
10	2	2650.8	34.965	34.964	2	2.984	2.769	27.897	250.8	2	248.6	2	76.9	0.00	2	20.71	2		4	31.50	2		9		9		9		9			9		9		9		9			9		9
9	2	2851.7	34.947	34.946	2	2.811	2.579	27.900	252.1	2	249.0	2	78.1	0.00	2	20.90	2		4	34.40	2		9		9		9	0.02	2			9		9		9		9			9		9
8	2	3049.4	34.935	34.934	2	2.686	2.437	27.904	251.3	2	248.5	2	79.8	0.00	2	21.20	2		4	36.80	2		9		9		9		9	748.4	351.1	2	2189.8	2	7.7316	2		5	2339		9		9
7	3	3539.3	34.914	34.913	2	2.502	2.205	27.910	251.6	2	249.7	2	80.6	0.00	2	21.59	2		4	41.00	2		9		9		9		9			9		9		9		9			9		9
6	2	3948.8	34.903	34.903	2	2.437	2.096	27.912	248.4	2	249.2	2	82.0	0.00	2	21.88	2		4	42.90	2		9		9		9		9	755.4	349.7	2	2195.8	2	7.7277	2		5	2344		9		9
5	2	4348.5	34.894	34.893	2	2.395	2.009	27.915	248.6	2	248.8	2	83.2	0.00	2	21.88	2		4	44.70	2		9		9		9	0.01	2			9		9		9		9			9		9
4	2	4735.3	34.889	34.888	2	2.393	1.960	27.918	249.0	2	248.6	2	83.8	0.00	2		4		4	45.80	2		9		9		9		9			9		9		9		9			9		9
3	2	5099.0	34.886	34.884	2	2.408	1.929	27.921	248.1	2	249.3	2	83.4	0.00	2	21.98	2		4	46.50	2		9		9		9		9			9		9		9		9			9		9
2	2	5498.7	34.884	34.883	2	2.446	1.914	27.924	251.0	2	249.9	2	82.9	0.00	2	22.08	2		4	47.00	2		9		9		9		9			9		9		9		9			9		9
1	2	6043.5	34.882	34.883	2	2.511	1.902	27.929	251.3	2	250.7	6	82.2	0.00	6	22.17	6		4	47.30	6		9		9		9	0.03	6	770.1	357.7	2	2199.0	2	7.7225	2		5	2345		9		9

* WOCE water sample quality flag (F) for parameter for the previous column
** WOCE quality flag (F) for "Niskin" sample bottle
*** PSS-78 scale
**** ITS0 scale

A5R
NOAA Ship Ronald H. Brown

STATION 34 DATE 1/31/1998 LATITUDE 24.500° N
LONGITUDE 32.733° W

Bottle Number	F**	Pressure db	CTD Salinity***	Bottle Salinity***	F*	Temp**** °C	Theta °C	Sigma Theta	CTD O2 µmol/kg	F*	Bottle O2 µmol/kg	F*	AOU	NO2 µmol/kg	F*	NO3 µmol/kg	F*	PO4 µmol/kg	F*	Si(OH)4 µmol/kg	F*	CFC-11 pmol/kg	F*	CFC-12 pmol/kg	F*	CFC-113 pmol/kg	F*	CCl4 pmol/kg	F*	fCO2 at 20 °C µatm	fCO2 INSITU µatm	F*	DIC µmol/kg	F*	pH	F*	Measured TA µmol/kg	F*	Calculated TA µmol/kg	TOC µmol/kg	F*	TON µmol/kg	F*
36	2	4.9	37.544	37.545	2	23.279	23.278	25.785	221.3	2	243.8	2	-34.9	0.00	2	0.00	2		4	1.00	2	1.93	2	1.12	2	0.16	2		9	302.9	345.0	2	2096.8	2		9	2452	2		71.2	2		9
35	2	56.5	37.565	37.566	2	23.214	23.202	25.827	219.7	2	214.8	2	-5.6	0.00	2	0.00	2		4	0.90	2	1.93	2	1.12	2	0.18	2		9			9	2099.1	2	8.0747	2		5	2458	71.3	2		9
34	2	105.5	37.559	37.547	2	23.041	23.019	25.878	220.3	2	215.4	2	-5.6	0.00	2	0.00	2		4	0.70	2	1.96	6	1.14	6	0.17	6		9	314.5	354.8	2	2101.2	2	8.0567	2	2451	2	2447	70.4	2		9
33	2	156.0	36.984	36.977	2	20.049	20.020	26.280	214.9	2	215.3	2	6.8	0.03	2	0.68	2		4	0.60	2	2.26	2	1.29	2	0.15	2		9	371.6	372.2	2	2110.4	2	7.9989	2	2414	2	2412	58.7	2		9
32	2	206.2	36.709	36.698	2	18.543	18.506	26.465	203.7	2	209.7	2	19.1	0.01	2	3.12	2		4	1.00	2	2.35	2	1.32	2	0.09	2		9	399.1	376.4	2	2113.4	2	7.9743	2	2395	2	2397	53.9	2		9
31	2	228.6	36.538	36.540	2	17.753	17.714	26.532	202.6	2	200.9	2	31.6	0.00	2	4.59	2		4	1.20	2		9		9		9		9	414.3	379.1	2	2113.7	2	7.9613	2	2386	2	2388	51.3	2		9
30	2	256.2	36.385	36.372	2	16.977	16.934	26.604	204.7	2	199.4	2	36.8	0.00	2	5.56	2		4	1.60	2	2.38	2	1.31	2	0.04	2		9	424.4	375.4	2	2113.0	2	7.9473	2	2376	2	2378	54.4	2		9
29	2	280.4	36.324	36.319	2	16.614	16.568	26.645	204.3	2	201.5	2	36.5	0.00	2	6.44	2		4	1.70	2		9		9		9		9	439.2	382.7	2	2117.2	2	7.9290	2	2374	2	2371	49.9	2		9
28	2	316.1	36.238	36.234	2	16.103	16.052	26.701	204.2	2	199.9	2	40.6	0.00	2	7.32	2		4	1.90	2	2.35	2	1.28	2	0.03	2		9	449.5	383.5	2	2118.5	2	7.9273	2	2371	2	2371		9		9
27	2	366.6	36.108	36.105	2	15.287	15.230	26.789	201.8	2	199.2	2	45.4	0.00	2	8.69	2		4		4	2.35	2	1.26	2	0.04	2		9	476.0	392.8	2	2124.2	2	7.9008	2	2362	2	2360	46.9	2		9
26	2	415.4	35.956	35.961	2	14.309	14.247	26.888	202.2	2	197.1	2	52.6	0.00	2	10.35	2		4		4	2.30	2	1.22	2	0.03	2		9	507.7	402.0	2	2130.6	2	7.8792	2	2355	2	2354		9		9
25	2	465.9	35.825	35.825	2	13.403	13.336	26.978	197.3	2	195.6	2	59.0	0.00	2	12.49	2		4	4.30	2	2.14	2	1.11	2	0.03	2		9	554.1	422.5	2	2140.7	2	7.8428	2	2348	2	2345	45.4	2		9
24	2	513.6	35.683	35.685	2	12.329	12.259	27.084	191.8	2	189.2	2	71.4	0.00	2	15.13	2		4	5.50	2	1.82	2	0.93	2	0.02	2		9	602.2	439.0	2	2152.5	2	7.8057	2	2339	2	2338		9		9
23	2	600.7	35.563	35.566	2	11.362	11.285	27.177	183.1	2	180.4	2	85.8	0.00	2	17.57	2		4	7.20	2	1.42	2	0.71	2	0.02	2		9	658.2	460.8	2	2162.7	2	7.7719	2	2334	2	2332	44.6	2		9
22	2	701.1	35.444	35.444	2	10.179	10.094	27.297	170.4	2	173.1	2	100.3	0.00	2	21.09	2		4	10.20	2	0.75	2	0.36	2	0.01	2		9	736.6	490.6	2	2179.1	2	7.7263	2	2331	2	2328		9		9
21	2	801.1	35.352	35.349	2	9.202	9.110	27.391	155.7	2	157.8	2	121.7	0.00	2	23.44	2		4	13.20	2	0.37	6	0.17	6	0.00	6		9	802.4	513.0	2	2189.4	2	7.6945	2	2331	2	2324	43.3	2		9
20	2	900.3	35.227	35.232	2	7.930	7.835	27.492	154.2	2	152.1	2	135.8	0.00	2	24.90	2		4	15.90	2	0.15	2	0.07	2	0.01	2		9	840.9	508.7	2	2195.7	2	7.6724	2	2328	2	2321		9		9
19	2	1001.0	35.158	35.155	2	7.111	7.011	27.556	162.8	2	162.0	2	131.5	0.00	2	25.39	2		4	17.80	2	0.07	2	0.04	2	0.00	2		9	862.3	503.2	2	2201.9	2	7.6703	2	2327	2	2326	42.5	2		9
18	2	1201.2	35.164	35.163	2	6.137	6.024	27.694	188.6	2	188.5	2	111.8	0.00	2	23.34	2		4	17.70	2	0.04	2	0.02	2	0.01	2		9	814.5	453.4	2	2194.4	2	7.6927	2	2328	2	2328		9		9
17	2	1400.1	35.160	35.159	2	5.570	5.442	27.765	206.0	2	205.1	2	99.4	0.00	2	22.07	2		4	17.70	2	0.02	2	0.01	2	-0.01	2		9	779.9	422.1	2	2189.1	2	7.7073	2	2328	2	2329	41.9	2		9
16	2	1601.1	35.127	35.126	2	4.953	4.812	27.814	220.6	2	219.8	2	89.4	0.00	2	21.19	2		4	18.80	2	0.01	2	0.00	2	0.00	2		9	761.8	400.0	2	2183.7	2	7.7190	2	2328	2	2328		9		9
15	2	1801.2	35.088	35.088	2	4.393	4.239	27.847	231.3	2	229.6	2	84.0	0.00	2	20.71	2		4	20.70	2	0.00	2	0.00	2	0.00	2		9	755.9	386.4	2	2181.7	2		4	2329	2		42.2	2		9
14	2	2001.7	35.060	35.060	2	4.021	3.853	27.866	236.9	2	236.1	2	80.5	0.00	2	20.61	2		4	22.60	2	0.00	2	0.00	2	0.00	2		9	746.4	374.5	6	2180.9	2	7.7287	2	2330	2	2329		9		9
13	2	2198.3	35.023	35.022	2	3.593	3.412	27.881	244.5	2	243.9	6	76.3	0.00	2	20.32	2		4	24.80	2	0.00	2	0.00	2	-0.01	2		9			9	2180.8	2	7.7318	2	2331	2	2330	41.5	2		9
12	2	2401.3	34.998	34.998	2	3.346	3.149	27.888	248.1	2	246.0	2	76.3	0.00	2	20.32	2		4	27.00	2		9		9		9		9	741.1	359.6	6		9	7.7308	2		9			9		9
11	2	2601.1	34.973	34.972	2	3.072	2.861	27.895	248.4	2	247.6	2	77.1	0.00	2	20.41	2		4	30.60	2		9		9		9		9			9	2185.8	2	7.7316	2	2336	2	2335	41.7	2		9
10	2	2799.1	34.954	34.955	2	2.886	2.658	27.899	249.7	2	247.9	2	78.5	0.00	2	20.90	2		4	33.20	2	0.00	2	0.00	2	-0.01	2		9	750.0	355.4	2	2189.7	2	7.7309	2		9	2339		9		9
9	2	3000.3	34.940	34.940	2	2.740	2.495	27.903	249.3	2	248.3	2	79.5	0.00	2	21.10	2		4	35.80	2		9		9		9		9	752.7	354.0	2	2191.4	2	7.7299	2	2342	2	2340	41.9	2		9
8	2	3384.8	34.920	34.920	2	2.554	2.273	27.908	247.9	2	247.2	2	82.5	0.00	2	21.39	2		4	39.70	2	0.00	2	0.00	2	0.00	2		9	750.0	349.2	2	2195.3	2	7.7313	2		9	2345		9		9
7	2	3800.8	34.905	34.904	2	2.438	2.114	27.912	248.0	2	248.2	2	82.9	0.00	2	21.69	2		4	42.60	2		9		9		9		9	750.7	347.3	2	2195.7	2	7.7283	2	2348	2	2344	41.3	2		9
6	2	4201.5	34.896	34.897	2	2.398	2.029	27.914	248.2	2	248.7	2	83.1	0.00	2	21.88	2		4	44.40	2	0.00	2	0.00	2	0.00	2		9	756.9	349.5	2	2197.2	2	7.7226	2		9	2343		9		9
5	2	4589.4	34.891	34.890	2	2.390	1.975	27.917	248.5	2	249.0	2	83.3	0.00	2	21.98	2		4	45.80	2		9		9		9		9	757.1	349.3	2	2198.7	2	7.7228	2	2351	2	2345	41.3	2		9
4	2	5001.2	34.887	34.886	2	2.400	1.934	27.921	249.9	2	249.2	2	83.4	0.00	2	21.98	2		4	46.70	2	0.00	2	0.00	2	0.00	2		9	760.2	350.9	2	2199.1	2	7.7250	2		9	2346	41.9	2		9
3	2	5394.5	34.884	34.883	2	2.423	1.905	27.924	253.0	2	250.3	2	82.6	0.00	2	22.17	2		4	47.40	2		9		9		9		9	763.7	352.9	2	2198.5	2	7.7213	2		5	2344	41.2	2		9
2	2	5799.8	34.881	34.880	2	2.464	1.891	27.927	253.6	2	251.1	2	81.9	0.00	2	22.17	2		4	48.00	2	0.00	2	0.00	2	0.00	2		9	764.2	353.9	2	2197.8	2	7.7233	2		9	2344	41.4	2		9
1	2	6276.0	34.880	34.882	2	2.526	1.884	27.931	256.0	2	252.0	2	81.1	0.00	6	22.17	6		4	48.30	6	0.00	2	0.00	2	0.00	2		9	766.8	356.2	2	2197.7	2	7.7205	2	2356	3	2342	41.9	2		9

* WOCE water sample quality flag (F) for parameter for the previous column
** WOCE quality flag (F) for "Niskin" sample bottle
*** PSS-78 scale
**** ITS0 scale

A5R
NOAA Ship Ronald H. Brown

STATION 35 DATE 2/1/1998 LATITUDE 24.498° N
LONGITUDE 33.567° W

Bottle Number	F**	Pressure db	CTD Salinity***	Bottle Salinity***	F*	Temp**** °C	Theta °C	Sigma Theta	CTD O2 µmol/kg	F*	Bottle O2 µmol/kg	F*	AOU	NO2 µmol/kg	F*	NO3 µmol/kg	F*	PO4 µmol/kg	F*	Si(OH)4 µmol/kg	F*	CFC-11 pmol/kg	F*	CFC-12 pmol/kg	F*	CFC-113 pmol/kg	F*	CCl4 pmol/kg	F*	fCO2 at 20 °C µatm	fCO2 INSITU µatm	F*	DIC µmol/kg	F*	pH	F*	Measured TA µmol/kg	F*	Calculated TA µmol/kg	TOC µmol/kg	F*	TON µmol/kg	F*
36	2	4.3	37.386	37.386	2	22.664	22.663	25.844	217.9	2	219.0	2	-7.6	0.00	2	0.00	2		4	0.70	2	2.04	2	1.17	2	0.16	2		9	305.6	339.7	2	2088.8	2	8.0701	2	2440	2	2442		9		9
35	2	39.2	37.390	37.392	2	22.685	22.677	25.846	218.8	2	216.1	2	-4.8	0.00	2	0.00	2		4	0.60	2		9		9		9		9	305.4	339.8	2	2089.9	6	8.0704	2	2440	2	2443		9		9
34	2	78.1	37.316	37.243	2	22.343	22.327	25.891	218.4	2	218.4	2	-5.6	0.00	2	0.00	2		4	0.60	2		9		9		9		9				9		9		9		9		9		9
33	2	120.0	36.812	36.829	2	19.421	19.399	26.310	210.8	2	211.3	2	13.6	0.02	2	0.59	2		4	0.70	2	2.31	6	1.32	6	0.14	6		9	361.3	352.9	2	2099.0	2	8.0097	2	2404	2	2406		9		9
32	2	158.6	36.670	36.670	2	18.671	18.643	26.399	204.3	2	205.7	2	22.6	0.01	2	2.24	2		4	0.80	2		9		9		9		9				9		9		9		9		9		9
31	2	202.1	36.549	36.553	2	18.046	18.011	26.467	202.3	2	204.6	2	26.5	0.01	2	3.80	2		4	1.20	2	2.33	2	1.30	2	0.04	2		9	390.8	361.1	2	2103.4	2	7.9748	2	2385	2	2385		9		9
30	2	221.8	36.485	36.493	2	17.682	17.644	26.509	201.3	2	202.9	2	29.9	0.00	2	4.49	2		4	1.50	2		9		9		9		9				9		9		9		9		9		9
29	2	250.1	36.410	36.409	2	17.241	17.199	26.561	200.5	2	201.3	2	33.7	0.00	2	5.46	2		4	1.60	2		9		9		9		9	417.6	373.4	2	2110.4	2	7.9531	2	2379	2	2379		9		9
28	2	275.3	36.358	36.355	2	16.933	16.887	26.596	200.0	2	200.7	2	35.7	0.00	2	6.05	2		4	1.90	2		9		9		9		9				9		9		9		9		9		9
27	2	301.5	36.286	36.291	2	16.467	16.418	26.652	199.2	2	199.4	2	39.3	0.00	2	6.73	2		4	2.00	2	2.32	2	1.28	2	0.03	2		9	439.0	380.4	2	2114.5	2	7.9319	2	2372	2	2369		9		9
26	2	350.1	36.173	36.185	2	15.757	15.701	26.732	196.8	2	197.9	2	44.3	0.01	2	8.00	2		4	2.50	2		9		9		9		9				9		9		9		9		9		9
25	2	399.1	36.053	36.059	2	15.029	14.968	26.806	193.6	2	193.9	2	52.1	0.00	2	9.47	2		4	2.90	2	2.25	2	1.20	2	0.03	2		9	486.9	397.4	2	2128.2	2	7.8914	2	2358	2	2359		9		9
24	2	500.7	35.753	35.757	2	12.965	12.895	27.012	186.3	2	184.3	2	72.7	0.00	2	13.67	2		4	5.20	2		9		9		9		9	576.8	431.9	2	2143.7	2	7.8276	2	2345	2	2340		9		9
23	2	599.8	35.588	35.588	2	11.651	11.572	27.143	177.7	2	176.1	2	88.5	0.00	2	16.60	2		4	7.10	2	1.48	2	0.75	2	0.02	2		9	636.3	450.9	2	2155.3	2	7.7854	2	2336	2	2330		9		9
22	2	699.8	35.448	35.453	2	10.315	10.230	27.277	162.7	2	163.1	2	109.4	0.00	2	20.02	2		4	9.80	2		9		9		9		9				9		9		9		9		9		9
21	2	799.2	35.353	35.351	2	9.309	9.217	27.375	154.4	2	154.1	2	124.7	0.00	2	22.85	2		4	12.70	2	0.40	2	0.19	2	0.00	2		9	789.8	507.6	2	2186.4	2	7.7043	2	2329	2	2325		9		9
20	2	899.0	35.256	35.260	2	8.337	8.239	27.454	150.0	2	151.0	2	134.2	0.00	2	24.80	2		4	15.20	2		9		9		9		9				9		9		9		9		9		9
19	2	1051.1	35.170	35.169	2	7.004	6.899	27.582	167.4	2	167.3	2	126.9	0.00	2	24.90	2		4	17.40	2	0.09	2	0.04	2	0.00	2		9	850.8	493.9	2	2195.6	6	7.6739	2	2326	2	2321		9		9
18	2	1250.3	35.203	35.204	2	6.267	6.147	27.710	190.6	2	189.1	2	110.3	0.00	2	22.95	2		4	17.50	2	0.06	6	0.03	6	-0.01	6		9				9		9		9		9		9		9
17	2	1449.3	35.196	35.197	2	5.617	5.483	27.789	206.8	2	208.6	6	95.5	0.00	2	21.58	2		4	17.80	2	0.04	2	0.02	2	0.00	2		9				9		9		9		9		9		9
16	9	1642.9	35.123	35.126	2	4.797	4.653	27.829	220.9	2		9			9		9		9		9		9		9		9		9				9		9		9		9		9		9
15	2	1848.1	35.078	35.078	2	4.210	4.054	27.859	231.5	2	234.6	2	80.4	0.00	2	20.51	2		4	21.60	2		9		9		9		9				9		9		9		9		9		9
14	2	2048.9	35.041	35.040	2	3.806	3.636	27.873	237.0	2	241.1	2	77.3	0.00	2	20.41	2		4	23.50	2	0.00	2	0.00	2	-0.01	2		9	737.6	366.2	2	2175.8	2	7.7269	2	2331	2	2323		9		9
13	2	2298.9	35.001	35.000	2	3.376	3.189	27.885	243.3	2	246.2	2	75.8	0.00	2	20.51	2		4	27.00	2		9		9		9		9				9		9		9		9		9		9
12	2	2550.1	34.976	34.975	2	3.120	2.913	27.892	245.0	2	246.7	2	77.6	0.00	2	20.71	2		4	30.30	2	0.00	2	0.00	2	-0.01	2		9				9		9		9		9		9		9
11	2	2800.1	34.953	34.954	2	2.889	2.661	27.897	246.1	2	247.1	2	79.3	0.00	2	21.10	2		4	33.30	2		9		9		9		9				9		9		9		9		9		9
10	2	3041.4	34.936	34.936	2	2.717	2.468	27.903	246.3	2	248.8	2	79.2	0.00	2	21.29	2		4	36.00	2	0.00	2	0.00	2	-0.01	2		9	743.6	349.3	2	2190.7	2	7.7281	2	2348	2	2339		9		9
9	2	3301.5	34.924	34.924	2	2.599	2.325	27.906	245.9	2	247.3	2	81.9	0.00	2	21.39	2		4	38.40	2		9		9		9		9				9		9		9		9		9		9
8	2	3549.8	34.915	34.914	2	2.526	2.227	27.909	247.6	2	248.2	2	81.9	0.00	2	21.59	2		4	40.20	2	0.00	2	0.00	2	-0.01	2		9				9		9		9		9		9		9
7	2	3948.7	34.901	34.901	2	2.431	2.090	27.912	249.0	2	249.1	2	82.2	0.00	2	21.68	2		4	42.70	2		9		9		9		9	748.3	346.1	2	2195.6	2	7.7228	2	2347	2	2341		9		9
6	2	4338.8	34.894	34.894	2	2.402	2.017	27.915	249.5	2	249.1	2	82.8	0.00	2	21.98	2		4	44.50	2	0.00	2	0.00	2	0.00	2		9				9		9		9		9		9		9
5	2	4748.8	34.889	34.888	2	2.391	1.957	27.918	249.7	2	249.7	2	82.7	0.00	2	22.17	2		4	46.10	2		9		9		9		9				9		9		9		9		9		9
4	3	5150.6	34.882	34.882	2	2.386	1.901	27.920	250.3	2	250.9	2	82.0	0.00	2		4		4	46.90	2	0.00	6	0.00	6	0.00	6		9	761.1	351.2	2	2197.8	2	7.7215	2	2351	2	2343		9		9
3	2	5521.0	34.881	34.879	2	2.416	1.882	27.924	251.8	2	251.3	2	81.8	0.00	2	22.07	2		4	47.30	2		9		9		9		9				9		9		9		9		9		9
2	2	5943.6	34.879	34.878	2	2.467	1.874	27.928	252.5	2	251.9	2	81.2	0.00	2	22.07	2		4	47.70	2	0.00	2	0.00	2	0.00	2		9				9		9		9		9		9		9
1	2	6361.9	34.879	34.878	2	2.525	1.871	27.932	254.2	2	252.0	2	81.2	0.00	6	22.17	6		4	47.80	6	0.00	2	0.00	2	0.00	2		9	768.6	357.2	2	2197.2	2	7.7214	2	2347	2	2342		9		9

* WOCE water sample quality flag (F) for parameter for the previous column
** WOCE quality flag (F) for "Niskin" sample bottle
*** PSS-78 scale
**** ITS0 scale

A5R
NOAA Ship Ronald H. Brown

STATION 36 DATE 2/1/1998 LATITUDE 24.502° N
LONGITUDE 34.383° W

Bottle Number	F**	Pressure db	CTD Salinity***	Bottle Salinity***	F*	Temp**** °C	Theta °C	Sigma Theta	CTD O2 µmol/kg	F*	Bottle O2 µmol/kg	F*	AOU	NO2 µmol/kg	F*	NO3 µmol/kg	F*	PO4 µmol/kg	F*	Si(OH)4 µmol/kg	F*	CFC-11 pmol/kg	F*	CFC-12 pmol/kg	F*	CFC-113 pmol/kg	F*	CCl4 pmol/kg	F*	fCO2 at 20 °C µatm	fCO2 INSITU µatm	F*	DIC µmol/kg	F*	pH	F*	Measured TA µmol/kg	F*	Calculated TA µmol/kg	TOC µmol/kg	F*	TON µmol/kg	F*
36	2	4.9	37.521	37.520	2	23.025	23.024	25.842	216.4	2	216.4	2	-6.5	0.00	2	0.00	2	0.00	2	0.30	2	1.96	2	1.13	2	0.16	2	1.79	2	317.3	357.6	2	2094.6	6	8.0842	2	2463	2	2460	69.6	2		9
35	2	25.2	37.518	37.518	2	22.968	22.963	25.859	216.4	2	216.7	2	-6.6	0.00	2	0.00	2	0.00	2	0.30	2	1.97	2	1.14	2	0.16	2		9			9		9	8.0754	2		9		68.3	2		9
34	2	51.4	37.514	37.513	2	22.939	22.928	25.868	216.6	2	217.3	2	-7.1	0.00	2	0.00	2	0.01	2	0.30	2	1.98	6	1.15	6	0.15	6	1.88	2			9		9	8.0747	2	2459	2		67.9	2		9
33	2	99.8	37.087	37.082	2	20.591	20.572	26.207	207.2	2	208.1	2	11.6	0.03	2	0.78	2	0.03	2	0.50	2	2.22	2	1.27	2	0.15	2	1.10	6			9		9	8.0124	2		9		56.9	2		9
32	2	147.7	36.677	36.653	2	18.737	18.711	26.385	203.0	2	206.5	2	21.5	0.01	2	2.34	2	0.07	2	0.80	2	2.33	2	1.32	2	0.08	2		9			9		9	7.9939	2	2408	2		53.2	2		9
31	2	202.0	36.516	36.512	2	17.866	17.831	26.485	204.0	2	204.8	2	27.2	0.01	2	4.20	2	0.17	2	1.20	2	2.38	2	1.31	2	0.06	2	0.63	2			9		9	7.9785	2		9		52.3	2		9
30	2	216.5	36.486	36.485	2	17.701	17.664	26.504	204.4	2	204.0	2	28.8	0.01	2	4.49	2	0.19	2	1.40	2		9		9		9		9			9		9	7.9734	2	2407	2		50.6	2		9
29	2	250.2	36.423	36.419	2	17.328	17.286	26.549	204.0	2	202.6	2	32.0	0.01	2	5.27	2	0.24	2	1.60	2	2.33	2	1.28	2	0.04	2		9			9		9		9		9		50.7	2		9
28	2	276.2	36.359	36.359	2	16.937	16.891	26.596	203.4	2	202.4	6	34.0	0.01	2	5.95	2	0.29	2	1.80	2		9		9		9	0.59	2			9		9	7.9526	2	2392	2			9		9
27	2	300.4	36.310	36.309	2	16.648	16.599	26.628	203.4	2		9		0.01	2	6.44	2	0.32	2	2.00	2	2.33	2	1.27	2	0.04	2		9			9		9		9		9		50.5	2		9
26	2	349.6	36.180	36.174	2	15.863	15.807	26.714	199.4	2	199.9	2	41.8	0.01	2	7.91	2	0.42	2	2.60	2		9		9		9		9			9		9	7.9225	2	2380	2			9		9
25	2	400.6	36.021	36.011	2	14.824	14.763	26.826	194.7	2	191.7	2	55.3	0.00	2	10.25	2	0.57	2	3.50	2	2.19	2	1.18	2	0.03	2	0.52	2			9		9		9		9		49.6	2		9
24	2	500.8	35.773	35.772	2	13.128	13.057	26.996	189.2	2	185.3	2	70.9	0.00	2	13.47	2	0.77	2	5.10	2	1.96	2	1.02	2	0.02	2		9			9		9	7.8348	2	2357	2			9		9
23	2	600.5	35.614	35.610	2	11.822	11.743	27.131	180.8	2	177.5	2	86.1	0.00	2	16.50	2	0.96	2	6.70	2	1.57	2	0.80	2	0.02	2	0.45	2			9		9		9		9		48.6	2		9
22	2	700.0	35.472	35.472	2	10.528	10.442	27.259	165.5	2	161.8	2	109.4	0.00	2	20.31	2	1.22	2	9.90	2	0.89	2	0.42	2	0.00	2		9			9		9	7.7398	2	2341	2			9		9
21	2	798.8	35.360	35.359	2	9.403	9.310	27.365	155.4	2	151.1	2	127.2	0.01	2	23.24	2	1.43	2	13.10	2	0.41	2	0.18	2	0.00	2	0.18	2			9		9		9		9		46.1	2		9
20	2	901.0	35.248	35.247	2	8.271	8.174	27.458	151.4	2	147.4	2	138.2	0.00	2	25.49	2	1.61	2	15.80	2	0.17	2	0.07	2	0.00	2		9			9		9	7.6754	2	2331	2			9		9
19	2	999.3	35.189	35.188	2	7.414	7.312	27.538	161.4	2	156.9	2	134.5	0.00	2	25.69	2	1.65	2	17.10	2	0.10	2	0.04	2	0.00	2		9			9		9		9		9			9		9
18	2	1149.7	35.174	35.173	2	6.618	6.506	27.639	181.6	2	175.4	2	121.5	0.00	2	24.42	2	1.59	2	17.90	2	0.06	2	0.03	2	-0.01	2	0.09	6			9		9	7.6805	2	2337	2			9		9
17	2	1301.4	35.172	35.172	2	6.031	5.908	27.716	198.0	2	193.0	2	108.1	0.00	2	23.05	2	1.50	2	17.70	2		9		9		9		9			9		9		9		9			9		9
16	2	1400.9	35.141	35.139	2	5.503	5.376	27.758	209.2	2	205.8	2	99.2	0.00	2	22.27	2	1.46	2	18.10	2	0.02	2	0.01	2	0.00	2		9			9		9	7.7071	2	2337	2			9		9
15	2	1601.0	35.126	35.127	2	4.952	4.811	27.813	223.4	2	220.3	2	88.9	0.00	2	21.19	2	1.39	2	18.90	2		9		9		9		9			9		9		9		9			9		9
14	2	1799.3	35.099	35.100	2	4.489	4.334	27.846	233.2	2	230.6	2	82.2	0.00	2	20.80	2	1.36	2	20.20	2	0.00	6	0.00	6	0.00	6		9			9		9	7.7269	2		9			9		9
13	2	2000.3	35.049	35.049	2	3.925	3.758	27.867	240.3	2	238.9	2	78.5	0.00	2	20.61	2	1.35	2	22.70	2		9		9		9		9			9		9		9		9			9		9
12	2	2198.8	35.014	35.012	2	3.535	3.355	27.879	245.6	2	244.0	2	76.7	0.00	2	20.51	2	1.36	2	25.30	2	0.00	2	0.00	2	-0.01	2	0.03	2			9		9		9		9			9		9
11	2	2400.6	34.988	34.988	2	3.265	3.070	27.887	248.1	2	246.3	2	76.7	0.00	2	20.71	2	1.37	2	28.10	2		9		9		9		9			9		9		9		9			9		9
10	2	2600.5	34.966	34.966	2	3.034	2.823	27.893	249.1	2	247.3	2	77.7	0.00	2	20.90	2	1.39	2	31.20	2	0.00	2	0.00	2	0.00	2		9			9		9		9		9			9		9
9	2	2799.6	34.951	34.950	2	2.864	2.637	27.898	248.5	2	247.0	2	79.6	0.00	2	21.20	2	1.41	2	34.00	2		9		9		9		9			9		9	7.7282	2	2350	2			9		9
8	2	2999.4	34.937	34.937	2	2.725	2.480	27.902	248.5	2	246.9	2	81.0	0.01	2	21.39	2	1.43	2	36.70	2	0.00	2	0.00	2	-0.01	2	0.00	2			9		9		9		9			9		9
7	2	3296.4	34.925	34.937	2	2.614	2.341	27.905	250.2	2	246.9	2	82.2	0.01	2	21.59	2	1.44	2	39.50	2		9		9		9		9			9		9		9		9			9		9
6	2	3600.7	34.913	34.912	2	2.516	2.212	27.909	251.5	2	248.5	2	81.7	0.01	2	21.88	2	1.46	2	41.50	2	0.00	3	0.00	2	0.00	2	0.00	2			9		9		9		9			9		9
5	2	3890.1	34.902	34.902	2	2.438	2.104	27.911	251.0	2	249.2	2	82.0	0.01	2	21.98	2	1.46	2	43.30	2		9		9		9		9			9		9		9		9			9		9
4	2	4199.6	34.896	34.895	2	2.403	2.034	27.913	252.1	2	249.5	2	82.3	0.01	2	22.08	2	1.48	2	44.20	2	0.00	2	0.00	2	0.00	2		9			9		9		9		9			9		9
3	2	4497.9	34.891	34.891	2	2.391	1.987	27.916	252.2	2	249.6	2	82.6	0.01	2	22.08	2	1.49	2	44.70	2	0.00	2	0.00	2	-0.01	2	0.02	6			9		9		9		9			9		9
2	2	4899.0	34.882	34.882	2	2.360	1.908	27.918	254.3	2	251.9	2	81.0	0.01	2	22.18	2	1.49	2	46.30	2	0.00	6	0.00	6	0.00	6	0.04	2			9		9		9		9			9		9
1	2	5232.2	34.881	34.881	2	2.390	1.895	27.921	254.1	2	251.5	2	81.5	0.01	6	22.18	6	1.50	6	46.40	6	0.00	2	0.00	2	-0.01	2	0.09	3			9		9	7.7245	2		9			9		9

* WOCE water sample quality flag (F) for parameter for the previous column
** WOCE quality flag (F) for "Niskin" sample bottle
*** PSS-78 scale
**** ITS0 scale

A5R
NOAA Ship Ronald H. Brown

STATION 37 DATE 2/1/1998 LATITUDE 24.500° N
LONGITUDE 35.217° W

Bottle Number	F**	Pressure db	CTD Salinity***	Bottle Salinity***	F*	Temp**** °C	Theta °C	Sigma Theta	CTD O2 µmol/kg	F*	Bottle O2 µmol/kg	F*	AOU	NO2 µmol/kg	F*	NO3 µmol/kg	F*	PO4 µmol/kg	F*	Si(OH)4 µmol/kg	F*	CFC-11 pmol/kg	F*	CFC-12 pmol/kg	F*	CFC-113 pmol/kg	F*	CCl4 pmol/kg	F*	fCO2 at 20 °C µatm	fCO2 INSITU µatm	F*	DIC µmol/kg	F*	pH	F*	Measured TA µmol/kg	F*	Calculated TA µmol/kg	TOC µmol/kg	F*	TON µmol/kg	F*
36	2	4.1	37.491	37.491	2	23.216	23.215	25.763	215.4	2	215.3	2	-6.1	0.00	2	0.00	2		4	0.90	2	1.95	2	1.13	2	0.16	2		9	304.5	345.9	2	2091.5	2	8.0795	2	2447	2	2453		9		9
35	2	28.6	37.495	37.495	2	23.177	23.171	25.781	216.0	2	215.5	2	-6.1	0.00	2	0.00	2		4	0.90	2		9		9		9		9				9		9		9		9		9		9
34	2	71.6	37.480	37.479	2	23.134	23.119	25.787	216.3	2	215.5	2	-5.9	0.00	2	0.00	2		4	0.90	2		9		9		9		9	301.7	341.6	2	2089.8	6	8.0777	2	2447	2	2449		9		9
33	2	113.2	37.426	37.410	2	22.928	22.905	25.811	217.7	2	216.4	2	-6.0	0.00	2	0.00	2		4	0.50	2	1.98	2	1.15	2	0.16	2		9	306.9	344.7	2	2091.3	2	8.0729	2	2442	2	2447		9		9
32	3	160.7	36.861	36.860	2	19.723	19.693	26.273	203.2	2	210.6	2	13.0	0.03	2	0.59	2		4	0.60	2		9		9		9		9				9		9		9		9		9		9
31	2	208.4	36.604	36.603	2	18.375	18.338	26.427	202.4	2		9		0.01	2	2.93	2		4	0.90	2	2.35	6	1.33	6	0.07	6		9	379.8	355.7	2	2099.9	2	7.9922	2	2389	2	2393		9		9
30	2	225.1	36.556	36.556	2	18.116	18.077	26.456	202.7	2	203.0	2	27.9	0.01	2	3.61	2		4	1.00	2		9		9		9		9				9		9		9		9		9		9
29	2	260.3	36.459	36.462	2	17.568	17.524	26.520	200.7	2	201.3	2	32.1	0.01	2	4.78	2		4	1.10	2		9		9		9		9	402.9	365.4	2	2105.5	2	7.9686	2	2380	2	2383		9		9
28	2	286.1	36.422	36.423	2	17.312	17.264	26.555	199.3	2	199.8	2	34.8	0.01	2	5.37	2		4	1.40	2		9		9		9		9				9		9		9		9		9		9
27	2	316.6	36.359	36.364	2	16.933	16.880	26.600	198.2	2	192.6	2	43.9	0.00	2	6.05	2		4	1.70	2	2.32	2	1.28	2	0.04	2		9	426.8	376.8	2	2112.2	2	7.9505	2	2380	2	2378		9		9
26	2	411.9	36.093	36.103	2	15.179	15.115	26.805	190.4	2	182.9	2	62.3	0.00	2	9.27	2		4	2.80	2		9		9		9		9	488.4	401.0	2	2131.0	2	7.8952	2	2361	2	2365		9		9
25	2	511.6	35.773	35.772	2	13.025	12.953	27.016	184.0	2	174.4	2	82.3	0.00	2	13.76	2		4	4.80	2	2.00	2	1.03	2	0.03	2		9	583.6	438.2	2	2148.6	2	7.8270	2	2344	2	2345		9		9
24	2	622.7	35.592	35.594	2	11.653	11.571	27.146	178.0	2	145.4	2	119.1	0.00	2	16.99	2		4	6.70	2		9		9		9		9				9	2161.9	2	7.7815	2	2336	2	2336		9		9
23	2	724.5	35.419	35.412	2	10.240	10.152	27.269	147.2	2	141.3	2	131.8	0.00	2	22.65	2		4	11.40	2	0.57	2	0.26	2	0.01	2		9				9		9		9		9		9		9
22	2	825.7	35.228	35.225	2	8.474	8.384	27.408	142.5	2	148.0	2	136.3	0.00	2	25.98	2		4	16.00	2		9		9		9		9	877.1	544.4	2	2199.9	2	7.6650	2	2325	2	2322		9		9
21	2	923.1	35.133	35.134	2	7.502	7.407	27.479	149.1	2	157.1	2	133.8	0.00	2	26.76	2		4	17.90	2	0.09	6	0.04	6	0.00	6		9				9		9		9		9		9		9
20	2	1001.7	35.085	35.084	2	6.840	6.742	27.535	159.4	2	185.8	2	109.7	0.00	2	26.57	2		4	18.40	2		9		9		9		9	908.3	524.6	2	2200.4	6	7.6534	2		5	2318		9		9
19	2	1198.8	35.099	35.097	2	5.971	5.860	27.663	187.3	2	207.5	2	94.1	0.00	2	24.12	2		4	18.20	2	0.03	2	0.02	2	0.00	2		9				9		9		9		9		9		9
18	2	1389.6	35.110	35.109	2	5.378	5.253	27.747	208.7	2	222.9	2	83.1	0.00	2	22.27	2		4	17.90	2		9		9		9		9				9		9		9		9		9		9
17	2	1597.6	35.106	35.107	2	4.869	4.729	27.807	224.7	2	231.2	2	78.6	0.00	2	21.10	2		4	18.50	2		9		9		9		9	758.0	396.5	2		9	7.7171	2	2337	2			9		9
16	2	1802.6	35.078	35.078	2	4.355	4.201	27.843	232.7	2	238.6	2	75.3	0.00	2	20.71	2		4	20.50	2		9		9		9		9				9	2178.6	2		9		9		9		9
15	2	2000.5	35.050	35.050	2	3.966	3.799	27.864	238.5	2	242.4	2	74.7	0.00	2	20.41	2		4	22.10	2	0.00	2	0.00	2	0.00	2		9				9		9		9		9		9		9
14	2	2201.5	35.024	35.023	2	3.654	3.472	27.877	244.4	2	245.9	2	73.8	0.00	2	20.41	2		4	24.30	2		9		9		9		9				9	2177.9	2	7.7318	2		5	2327		9		9
13	2	2400.5	34.992	34.992	2	3.329	3.133	27.884	247.0	2	245.7	6	76.8	0.00	2	20.51	2		4	27.10	2		9		9		9		9				9		9		9		9		9		9
12	2	2601.0	34.969	34.970	2	3.093	2.881	27.890	247.2	2	247.0	2	77.6	0.00	2	20.81	2		4	30.60	2		9		9		9		9				9		9		9		9		9		9
11	2	2790.2	34.959	34.958	2	2.967	2.739	27.896	246.5	2	246.3	2	79.4	0.00	2	20.90	2		4	32.40	2	0.00	2	0.00	2	0.00	2		9	740.6	352.4	2	2185.3	2	7.7304	2		5	2334		9		9
10	2	3000.6	34.947	34.946	2	2.835	2.588	27.901	245.3	2	246.7	2	80.3	0.00	2	21.20	2		4	34.90	2		9		9		9		9				9		9		9		9		9		9
9	2	3250.1	34.932	34.931	2	2.683	2.413	27.905	245.8	2	247.2	2	81.3	0.00	2	21.29	2		4	38.10	2		9		9		9		9				9	2192.1	2	7.7295	2		5	2341		9		9
8	2	3491.5	34.919	34.918	2	2.573	2.280	27.907	247.6	2	247.8	2	81.8	0.00	2	21.78	2		4	40.40	2	0.00	2	0.00	2	0.02	4		9				9		9		9		9		9		9
7	2	3747.9	34.909	34.909	2	2.486	2.167	27.910	246.8	2	249.4	2	81.2	0.00	2	21.78	2		4	42.90	2		9		9		9		9	749.3	347.5	2	2194.6	2	7.7277	2		5	2342		9		9
6	2	4000.2	34.902	34.901	2	2.445	2.098	27.912	246.4	2	248.6	2	82.6	0.00	2	21.88	2		4	43.50	2		9		9		9		9				9		9		9		9		9		9
5	2	4247.8	34.897	34.896	2	2.416	2.041	27.914	247.4	2	249.6	2	82.1	0.00	2	21.88	2		4	44.20	2	0.00	2	0.00	2	-0.01	2		9				9		9		9		9		9		9
4	2	4497.4	34.892	34.891	2	2.400	1.996	27.916	249.6	2	249.9	2	82.2	0.00	2	21.98	2		4	44.80	2		9		9		9		9				9	2196.9	2	7.7264	2		9	2344		9		9
3	2	4683.1	34.888	34.888	2	2.380	1.954	27.917	250.8	2	250.3	2	82.1	0.00	2	22.08	2		4	45.70	2		9		9		9		9				9		9		9		9		9		9
2	2	4999.7	34.884	34.885	2	2.385	1.919	27.920	250.7	2	251.4	9	81.4		9		9		9		9	0.00	2	0.00	2	0.00	2		9	767.1	353.4	2	2198.4	2	7.7227	2		5	2343		9		9
1	2	5242.3	34.881	34.881	2	2.394	1.897	27.921	252.9	2	251.3	2	81.6	0.00	6	22.08	6		4	47.10	6	0.00	2	0.00	2	0.00	2		9				9		9		9		9		9		9

* WOCE water sample quality flag (F) for parameter for the previous column
** WOCE quality flag (F) for "Niskin" sample bottle
*** PSS-78 scale
**** ITS0 scale

A5R
NOAA Ship Ronald H. Brown

STATION 38 DATE 2/2/1998 LATITUDE 24.500° N
LONGITUDE 36.033° W

Bottle Number	F**	Pressure db	CTD Salinity***	Bottle Salinity***	F*	Temp**** °C	Theta °C	Sigma Theta	CTD O2 µmol/kg	F*	Bottle O2 µmol/kg	F*	AOU	NO2 µmol/kg	F*	NO3 µmol/kg	F*	PO4 µmol/kg	F*	Si(OH)4 µmol/kg	F*	CFC-11 pmol/kg	F*	CFC-12 pmol/kg	F*	CFC-113 pmol/kg	F*	CCl4 pmol/kg	F*	fCO2 at 20 °C µatm	fCO2 INSITU µatm	F*	DIC µmol/kg	F*	pH	F*	Measured TA µmol/kg	F*	Calculated TA µmol/kg	TOC µmol/kg	F*	TON µmol/kg	F*
36	2	3.5	37.514	37.514	2	23.345	23.344	25.743	215.4	2	214.6	2	-5.9	0.00	2	0.00	2		4	0.20	2	1.92	2	1.12	2	0.15	2		9	301.0	343.6	2	2090.6	6	8.0797	2	2462	2	2452	70.1	2	4.4	2
35	2	49.5	37.499	37.501	2	23.237	23.227	25.769	213.9	2	214.9	2	-5.7	0.00	2	0.00	2		4	0.20	2	1.94	2	1.11	2	0.16	2		9	300.4	341.5	2	2093.5	2	8.0796	2	2453	2	2455	70.3	2	4.5	2
34	2	99.8	37.337	37.347	2	22.644	22.624	25.824	215.0	2	217.5	2	-5.9	0.00	2	0.00	2		4	0.30	2	2.03	2	1.15	2	0.17	2		9	307.6	341.5	2	2088.8	2	8.0680	2	2438	2	2440	69.9	2	4.5	2
33	2	150.4	36.967	36.966	2	20.060	20.032	26.264	209.3	2	209.9	2	12.2	0.02	2	0.59	2		4	0.40	2	2.26	2	1.29	2	0.14	2		9	360.8	361.7	2	2104.8	2	8.0028	2	2414	2	2408	58.7	2	4.7	2
32	2	198.2	36.746	36.747	2	18.772	18.737	26.434	185.9	2	182.9	2	44.8	0.01	2	5.07	2		4	1.10	2	2.26	2	1.27	2	0.06	2		9	425.5	405.0	2	2128.5	2	7.9490	2	2399	2	2398	55.1	2	8.5	2
31	2	222.7	36.644	36.643	2	18.209	18.170	26.500	190.6	2	194.1	2	36.2	0.01	2	4.49	2		4	1.10	2		9		9		9		9	419.9	390.6	2	2119.1	2	7.9586	2	2394	2	2393	54.0	2	8.1	2
30	2	247.1	36.535	36.540	2	17.619	17.577	26.564	189.6	2	193.4	2	39.7	0.01	2	5.27	2		4	1.40	2	2.38	6	1.32	6	0.04	6		9	424.8	385.7	2	2119.5	2	7.9488	2	2387	2	2387	53.4	2	8.8	2
29	2	273.4	36.427	36.425	2	17.075	17.029	26.615	176.9	2	181.1	2	54.6	0.01	2	7.71	2		4	1.90	2		9		9		9		9	461.1	409.6	2	2133.6	2	7.9141	2	2380	2	2380	52.0	2	11.2	2
28	2	300.5	36.336	36.337	2	16.525	16.476	26.677	175.2	2	179.5	2	58.9	0.00	2	8.59	2		4	2.20	2	2.32	2	1.26	2	0.03	2		9	478.6	415.9	2	2135.3	2	7.9018	2	2375	2	2375		9		9
27	2	352.2	36.171	36.184	2	15.577	15.522	26.772	179.4	2	183.1	2	60.0	0.00	2	9.57	2		4	2.70	2	2.28	2	1.22	2	0.03	2		9	492.8	411.6	2	2136.2	2	7.8898	2	2367	2	2368	49.9	2	12.9	2
26	2	401.0	36.011	36.015	2	14.671	14.610	26.851	189.7	2	185.4	2	62.4	0.00	2	10.84	2		4	3.40	2	2.16	2	1.15	2	0.03	2		9	514.6	413.6	2	2137.5	2	7.8727	2	2357	2	2358		9		9
25	2	448.6	35.877	35.857	2	13.753	13.688	26.945	172.2	2	174.2	2	78.5	0.00	2	13.67	2		4	4.50	2		9		9		9		9	573.8	444.1	2	2148.1	2	7.8314	2	2348	2	2347	47.9	2	16.7	2
24	2	499.3	35.730	35.730	2	12.759	12.690	27.035	173.6	2	171.2	2	87.0	0.00	2	15.43	2		4	5.50	2	1.75	2	0.89	2	0.03	2		9	617.2	458.6	2	2155.8	2	7.8044	2	2340	2	2341		9		9
23	2	548.7	35.629	35.629	2	12.010	11.937	27.105	163.7	2	162.6	2	99.9	0.00	2	17.48	2		4	6.70	2	1.41	2	0.71	2	0.02	2		9	657.9	473.6	2	2164.6	2	7.7677	2	2337	2	2332	45.9	2	20.5	2
22	2	649.1	35.474	35.465	2	10.703	10.622	27.228	154.7	2	150.7	2	119.5	0.00	2	21.39	2		4	9.80	2	0.77	6	0.36	6	0.01	6		9	746.6	509.3	2	2178.6	2	7.7252	2	2330	2	2327		9		9
21	2	750.1	35.340	35.338	2	9.488	9.401	27.333	142.8	2	143.6	2	134.1	0.00	2	23.93	2		4	12.90	2	0.37	2	0.16	2	0.01	2		9	818.0	530.2	2	2189.4	2	7.6871	2	2326	2	2321	43.8	2	26.4	2
20	2	848.4	35.200	35.199	2	8.137	8.046	27.438	143.9	2	143.9	2	142.7	0.00	2	26.28	2		4	16.10	2	0.14	2	0.06	2	0.00	2		9	887.0	542.7	2	2198.8	2	7.6602	2	2324	2	2319		9		9
19	2	938.8	35.113	35.116	2	7.192	7.098	27.508	151.5	2	154.6	2	138.4	0.00	2	26.47	2		4	17.80	2	0.08	2	0.03	2	0.00	2		9	896.4	525.9	2	2198.1	2	7.6571	2	2322	2	2317	42.2	2	29.0	2
18	2	1046.9	35.067	35.067	2	6.553	6.452	27.560	161.3	2	162.1	2	135.4	0.00	2	26.47	2		4	19.00	2	0.04	2	0.02	2	0.01	2		9			9	2198.3	6	7.6540	2	2321	2	2316		9		9
17	2	1249.8	35.061	35.060	2	5.636	5.523	27.675	188.7	2	191.8	2	112.3	0.00	2	23.84	2		4	18.30	2	0.03	2	0.01	2	0.00	2		9	831.4	452.8	6	2189.5	2	7.6813	2	2322	2	2318	42.1	2	26.6	2
16	2	1444.2	35.069	35.068	2	5.179	5.051	27.739	211.6	2	210.2	2	97.4	0.00	2	22.47	2		4	18.00	2	0.02	2	0.00	2	0.01	2		9			9	2182.6	2	7.7016	2	2323	2	2319		9		9
15	2	1645.4	35.101	35.101	2	4.770	4.627	27.815	223.9	2	224.0	2	86.6	0.00	2	21.20	2		4	18.90	2	0.01	2	0.00	2	0.00	2		9	765.2	398.8	2	2178.9	2	7.7164	2	2326	2	2322	41.8	2	23.3	2
14	2	1948.2	35.066	35.066	2	4.144	3.979	27.858	234.3	2	235.9	2	79.7	0.00	2	20.52	2		4	21.30	2	0.00	2	0.00	2	0.00	2		9			9	2176.3	2	7.7282	2	2330	2	2324		9		9
13	2	2047.3	35.050	35.049	2	3.953	3.781	27.866	236.5	2	239.4	2	77.8	0.00	2	20.42	2		4	22.20	2		9		9		9		9	740.8	370.6	2	2176.8	2	7.7263	2		9	2324	41.5	2	22.3	2
12	2	2245.2	35.021	35.020	2	3.620	3.434	27.878	244.6	2	244.2	2	75.8	0.00	2	20.52	2		4	24.20	2	0.00	6	0.00	6	0.00	6		9			9	2176.8	2	7.7260	2		9	2323		9		9
11	2	2451.4	34.989	34.990	2	3.280	3.080	27.887	244.6	2	246.6	2	76.3	0.00	2	20.61	2		4	27.50	2		9		9		9		9	736.1	356.0	2	2179.0	2	7.7320	2	2333	2	2328	41.9	2	22.5	2
10	2	2648.9	34.970	34.969	2	3.077	2.861	27.893	246.1	2	246.9	2	77.8	0.00	2	20.61	2		4	30.00	2	0.00	2	0.00	2	0.00	2		9			9	2181.8	2	7.7259	2		9	2328		9		9
9	2	2853.7	34.953	34.953	2	2.900	2.666	27.898	247.3	2	247.2	2	79.2	0.00	2	21.01	2		4	32.80	2		9		9		9		9	741.7	351.8	2	2185.8	2	7.7301	2		9	2334	41.7	2	23.4	2
8	2	3039.7	34.940	34.940	2	2.769	2.519	27.901	243.7	2	246.6	2	81.0	0.00	2	21.20	2		4	35.30	2	0.00	2	-0.01	2	0.00	2		9			9	2192.1	2	7.7267	2		9	2339		9		9
7	2	3424.1	34.922	34.921	2	2.589	2.303	27.907	244.8	2	247.5	2	81.9	0.00	2	21.49	2		4	39.00	2		9		9		9		9	747.6	348.8	2	2194.8	2	7.7284	2	2345	2	2343	41.5	2	24.1	2
6	2	3750.9	34.910	34.909	2	2.499	2.179	27.910	246.7	2	248.8	2	81.7	0.00	2	21.69	2		4	41.00	2	0.00	2	0.00	2	0.00	2		9			9	2195.3	2	7.7273	2		9	2343		9		9
5	2	4030.1	34.902	34.901	2	2.445	2.095	27.913	247.6	2	249.5	2	81.7	0.00	2	21.79	2		4	42.60	2		9		9		9		9	749.7	347.0	2	2195.4	2	7.7196	2	2347	2	2340	41.6	2	24.5	2
4	2	4446.0	34.893	34.893	2	2.405	2.007	27.915	248.5	2	249.3	2	82.7	0.00	2	21.98	2		4	44.60	2	0.00	2	0.00	2	0.00	2		9			9	2198.3	2	7.7258	2		9	2345	41.5	2	24.6	2
3	2	4846.2	34.886	34.886	2	2.391	1.945	27.918	249.5	2	250.4	2	82.1	0.00	2	22.28	2		4	45.50	2	0.00	2	0.00	2	0.00	2		9	759.1	350.4	2	2198.2	2	7.7196	2	2350	2	2343	41.4	2	24.6	2
2	2	5249.1	34.882	34.881	2	2.401	1.903	27.921	250.3	2	250.9	2	82.0	0.00	2		4		4	46.50	2	0.00	2	0.00	2	0.00	2		9			9	2198.1	2	7.7230	2		9	2344	41.7	2	25.0	2
1	2	5768.6	34.879	34.878	2	2.433	1.865	27.926	252.1	2	252.2	2	81.0	0.00	2	22.08	2		4	47.50	2	0.00	2	0.00	2	0.00	2		9	768.2	355.4	2	2196.5	2	7.7167	2	2346	2	2340	41.9	2	24.5	2

* WOCE water sample quality flag (F) for parameter for the previous column
** WOCE quality flag (F) for "Niskin" sample bottle
*** PSS-78 scale
**** ITS0 scale

A5R
NOAA Ship Ronald H. Brown

STATION 39 DATE 2/2/1998 LATITUDE 24.500° N
LONGITUDE 36.867° W

Bottle Number	F**	Pressure db	CTD Salinity***	Bottle Salinity***	F*	Temp**** °C	Theta °C	Sigma Theta	CTD O2 µmol/kg	F*	Bottle O2 µmol/kg	F*	AOU	NO2 µmol/kg	F*	NO3 µmol/kg	F*	PO4 µmol/kg	F*	Si(OH)4 µmol/kg	F*	CFC-11 pmol/kg	F*	CFC-12 pmol/kg	F*	CFC-113 pmol/kg	F*	CCl4 pmol/kg	F*	fCO2 at 20 °C µatm	fCO2 INSITU µatm	F*	DIC µmol/kg	F*	pH	F*	Measured TA µmol/kg	F*	Calculated TA µmol/kg	TOC µmol/kg	F*	TON µmol/kg	F*
36	2	4.3	37.575	37.574	3	23.817	23.816	25.650	214.3	3	212.8	2	-5.8	0.00	2	0.00	2		4	1.00	3	1.87	2	1.09	2	0.15	2	1.75	2	295.5	343.5	2	2090.3	6	8.0834	2		9	2455		9		9
35	2	49.5	37.569	37.567	3	23.787	23.777	25.659	212.2	3	213.2	2	-6.1	0.00	2	0.00	2		4	1.10	3		9		9		9		9			9		9		9		9			9		9
34	2	89.7	37.338	37.315	3	22.632	22.614	25.827	216.8	3	217.6	2	-6.0	0.00	2	0.00	2		4	1.20	3	2.08	2	1.19	2	0.16	2		9	324.0	363.1	2	2099.3	2	8.0504	2		9	2438		9		9
33	2	150.3	36.991	36.983	3	20.133	20.105	26.262	203.2	3	207.1	2	14.6	0.02	2	0.88	2		4	1.40	3	2.24	2	1.28	2	0.14	2	1.13	2	362.5	364.5	2	2107.4	2	8.0105	2		9	2417		9		9
32	2	200.2	36.735	36.726	3	18.774	18.738	26.425	200.2	3	200.2	2	27.6	0.00	2	2.93	2		4	1.80	3		9		9		9		9	389.4	370.4	2	2110.6	2	7.9823	2		9	2399		9		9
31	2	225.5	36.629	36.625	3	18.266	18.226	26.474	200.5	3	200.8	2	29.3	0.00	2	3.61	2		4	2.00	3	2.32	2	1.31	2	0.05	2	0.73	2			9		9		9		9			9		9
30	2	250.3	36.540	36.544	3	17.752	17.709	26.536	198.6	3	194.8	2	37.7	0.00	2	5.07	2		4	2.50	3		9		9		9		9	418.3	383.2	2	2116.1	2	7.9506	2		9	2384		9		9
29	2	265.0	36.482	36.471	3	17.479	17.434	26.559	196.7	3	196.4	2	37.4	0.00	2	5.56	2		4	2.60	3	2.32	2	1.28	2	0.03	2	0.57	6			9		9		9		9			9		9
28	2	302.5	36.364	36.360	3	16.733	16.683	26.650	198.2	3	197.3	2	40.1	0.00	2	6.54	2		4	3.10	3		9		9		9		9	439.5	385.4	2	2119.3	2	7.9365	2		9	2378		9		9
27	2	350.3	36.298	36.284	3	16.280	16.223	26.709	199.2	3	193.6	2	46.0	0.00	2	7.61	2		4	3.70	3	2.36	2	1.27	2	0.03	2	0.49	2			9		9		9		9			9		9
26	2	397.2	36.098	36.102	3	15.184	15.122	26.806	193.1	3	190.1	2	55.0	0.00	2	9.57	2		4	4.50	3		9		9		9		9	493.7	405.6	2	2132.1	2	7.8864	2		9	2361		9		9
25	2	450.3	35.935	35.924	3	14.116	14.049	26.914	192.0	3	188.4	2	62.4	0.00	2	11.52	2		4	5.40	3		9		9		9		9			9		9		9		9			9		9
24	2	499.1	35.819	35.813	3	13.338	13.267	26.988	189.6	3	185.9	2	69.1	0.00	2	12.99	2		4	6.00	3	2.05	6	1.06	6	0.03	6	0.52	2	567.0	431.4	2	2144.6	2	7.8380	2		9	2347		9		9
23	2	549.2	35.711	35.715	3	12.598	12.522	27.055	187.7	3	180.9	2	78.2	0.00	2	14.65	2		4	6.70	3		9		9		9		9			9		9		9		9			9		9
22	2	600.4	35.603	35.589	3	11.764	11.685	27.133	177.9	3	166.6	2	97.3	0.00	2	17.87	2		4	8.60	3		9		9		9		9	666.1	475.5	2	2163.7	2	7.7663	2		9	2330		9		9
21	2	649.4	35.501	35.494	3	10.900	10.818	27.214	165.3	3	156.8	2	112.2	0.00	2	20.31	2		4	10.50	3		9		9		9		9			9		9		9		9			9		9
20	2	700.1	35.435	35.429	3	10.312	10.227	27.267	157.0	3	151.7	2	120.9	0.00	2	21.88	2		4	11.90	3	0.66	2	0.30	2	0.01	2	0.23	2			9		9		9		9			9		9
19	2	799.9	35.336	35.334	3	9.291	9.199	27.364	149.0	3	147.8	2	131.2	0.00	2	23.74	2		4	14.60	3		9		9		9		9	810.3	520.4	2	2189.3	2	7.6914	2		9	2323		9		9
18	2	899.8	35.211	35.211	3	8.131	8.035	27.449	149.7	3	148.5	2	138.1	0.00	2	25.69	2		4	17.50	3	0.15	2	0.06	2	0.00	2		9			9		9		9		9			9		9
17	2	1097.7	35.077	35.076	3	6.426	6.321	27.586	170.3	3	163.1	2	135.3	0.00	2	25.89	2		4	20.10	3	0.04	2	0.02	2	0.00	2	0.08	2	877.8	496.9	2	2197.5	6	7.6608	2		9	2317		9		9
16	2	1298.5	35.103	35.102	3	5.712	5.593	27.700	199.0	3	196.1	2	107.4	0.00	2	23.45	2		4	19.10	3	0.03	2	0.01	2	0.01	2		9			9		9		9		9			9		9
15	2	1499.5	35.116	35.116	3	5.199	5.065	27.775	215.0	3	214.3	2	93.0	0.00	2	21.79	2		4	18.10	3		9		9		9		9	773.9	411.7	2	2181.0	2	7.7057	2		9	2319		9		9
14	2	1697.7	35.097	35.096	3	4.662	4.515	27.824	230.3	3	228.3	2	83.2	0.00	2	20.91	2		4	17.90	2		9		9		9		9			9		9		9		9			9		9
13	2	1898.5	35.081	35.081	3	4.316	4.154	27.851	235.9	3	232.9	2	81.4	0.00	2	20.81	2		4	19.60	2	0.00	2	0.00	2	0.00	2	0.06	2			9		9		9		9			9		9
12	2	2096.9	35.043	35.044	3	3.872	3.697	27.869	241.9	3	241.1	2	76.8	0.00	2	20.52	2		4	21.70	2		9		9		9		9	735.1	366.4	6	2174.5	2	7.7310	2		9	2323		9		9
11	2	2303.9	35.008	35.009	3	3.495	3.305	27.881	245.9	3	244.6	2	76.5	0.00	2	20.61	2		4	24.40	2		9		9		9		9			9		9		9		9			9		9
10	2	2502.3	34.984	34.986	3	3.235	3.030	27.888	246.9	3	246.2	2	77.1	0.00	2	20.81	2		4	27.40	2	0.00	2	0.00	2	0.00	2	0.02	6			9		9		9		9			9		9
9	2	2700.7	34.962	34.961	3	2.993	2.773	27.895	247.8	3	246.5	2	79.0	0.00	2	21.01	2		4	30.80	2		9		9		9		9			9		9		9		9			9		9
8	2	3101.9	34.937	34.938	3	2.737	2.481	27.903	247.4	3	246.8	2	81.1	0.00	2	21.30	2		4	35.30	2		9		9		9		9			9	2189.8	2	7.7246	2		9	2336		9		9
7	2	3496.1	34.914	34.916	3	2.546	2.253	27.905	250.1	3	247.9	2	82.0	0.00	2	21.79	2		4	39.30	2	0.00	6	0.00	6	0.00	6	-0.01	2			9		9		9		9			9		9
6	2	3995.1	34.900	34.902	3	2.441	2.095	27.911	251.1	3	249.4	2	81.8	0.00	2	21.98	2		4	42.00	2		9		9		9		9	754.7	349.5	2	2195.4	2	7.7274	2		9	2343		9		9
5	2	4601.1	34.889	34.889	3	2.386	1.970	27.917	252.4	3	250.5	2	81.8	0.00	2	22.08	2		4	44.70	2	0.00	2	0.00	2	0.00	2	0.03	2			9		9		9		9			9		9
4	2	5405.4	34.882	34.882	3	2.418	1.899	27.923	251.8	3	251.3	2	81.6	0.00	2	22.28	2		4	47.80	3		9		9		9		9			9		9		9		9			9		9
3	2	5405.6	34.882	34.883	3	2.418	1.899	27.923	251.8	3	251.5	2	81.4	0.00	2	22.18	2		4	46.80	2		9		9		9		9			9		9		9		9			9		9
2	2	5405.4	34.882	34.881	3	2.418	1.899	27.923	251.8	3	252.0	2	80.9	0.00	2	22.18	2		4	47.00	2		9		9		9		9			9		9		9		9			9		9
1	2	5405.8	34.883	34.882	3	2.418	1.899	27.924	251.8	3	251.4	2	81.5	0.00	6	22.18	6		4	47.10	6	0.00	2	0.01	2	0.00	2	0.03	2	771.4	356.7	2	2199.8	2	7.7222	2		9	2345		9		9

* WOCE water sample quality flag (F) for parameter for the previous column
** WOCE quality flag (F) for "Niskin" sample bottle
*** PSS-78 scale
**** ITS0 scale

A5R
NOAA Ship Ronald H. Brown

STATION 40 DATE 2/2/1998 LATITUDE 24.500° N
LONGITUDE 37.683° W

Bottle Number	F**	Pressure db	CTD Salinity***	Bottle Salinity***	F*	Temp**** °C	Theta °C	Sigma Theta	CTD O2 µmol/kg	F*	Bottle O2 µmol/kg	F*	AOU	NO2 µmol/kg	F*	NO3 µmol/kg	F*	PO4 µmol/kg	F*	Si(OH)4 µmol/kg	F*	CFC-11 pmol/kg	F*	CFC-12 pmol/kg	F*	CFC-113 pmol/kg	F*	CCl4 pmol/kg	F*	fCO2 at 20 °C µatm	fCO2 INSITU µatm	F*	DIC µmol/kg	F*	pH	F*	Measured TA µmol/kg	F*	Calculated TA µmol/kg	TOC µmol/kg	F*	TON µmol/kg	F*
36	2	3.8	37.535	37.537	2	24.064	24.063	25.545	208.2	2	214.2	2	-8.0	0.00	2	0.00	2		4	0.50	2	1.89	2	1.08	2	0.15	2		9	312.1	366.3	3	2087.9	6	8.0901	2	2463	2	2457	71.5	2		9
35	3	51.9	37.546	37.546	2	23.989	23.978	25.582	211.8	2	212.6	2	-6.2	0.00	2	0.00	2		4	0.50	2	1.88	2	1.08	2	0.18	2		9			9		9	8.0895	2	2460	2		70.5	2		9
34	2	99.9	37.499	37.468	2	23.774	23.753	25.617	212.2	2	210.0	2	-2.7	0.02	2	0.00	2		4	0.50	2	1.94	2	1.12	2	0.15	2		9			9		9		9		9		64.7	2		9
33	2	140.4	37.151	37.155	2	21.163	21.136	26.104	212.5	2	212.8	2	4.6	0.06	2	0.29	2		4	0.50	2	2.19	2	1.25	2	0.16	2		9			9		9	8.0289	2	2437	2		55.5	2		9
32	2	177.3	36.993	36.993	2	20.003	19.970	26.301	198.2	2	213.6	2	8.7	0.02	2	1.95	2		4	0.80	2	2.26	2	1.28	2	0.12	2		9			9		9		9		9		53.6	2		9
31	2	210.1	36.828	36.852	2	19.125	19.087	26.408	195.3	2	197.3	2	28.8	0.01	2	2.05	2		4	0.90	2		9		9		9		9			9		9	7.9876	2	2421	2		51.0	2		9
30	2	233.4	36.613	36.614	2	18.141	18.100	26.494	198.3	2	199.7	2	31.0	0.01	2	3.81	2		4	1.30	2	2.33	2	1.30	2	0.05	2		9			9		9		9		9			9		9
29	2	260.9	36.512	36.499	2	17.642	17.597	26.542	195.8	2	199.2	2	33.8	0.00	2	4.78	2		4	1.50	2		9		9		9		9			9		9	7.9619	2	2398	2		47.4	2		9
28	2	285.1	36.437	36.438	2	17.173	17.125	26.600	193.8	2	199.1	2	36.1	0.00	2	5.66	2		4	1.60	2	2.36	6	1.30	6	0.03	6		9			9		9		9		9			9		9
27	2	325.2	36.356	36.352	2	16.729	16.675	26.647	195.1	2	196.1	2	41.3	0.00	2	6.64	2		4	2.00	2		9		9		9		9			9		9	7.9333	2	2385	2		45.3	2		9
26	2	376.3	36.187	36.192	2	15.746	15.686	26.747	194.3	2	194.3	2	48.0	0.00	2	8.20	2		4	2.60	2	2.31	2	1.24	2	0.03	2		9			9		9		9		9			9		9
25	2	425.2	36.057	36.058	2	14.951	14.886	26.827	192.2	2	193.7	2	52.7	0.00	2	9.66	2		4	3.30	2		9		9		9		9			9		9	7.8899	2	2373	2		44.7	2		9
24	2	476.5	35.925	35.927	2	14.148	14.077	26.901	188.0	2	191.3	2	59.3	0.00	2	11.32	2		4	4.00	2	2.14	2	1.12	2	0.03	2		9			9		9		9		9			9		9
23	2	550.7	35.717	35.717	2	12.685	12.609	27.042	183.5	2	187.7	2	70.9	0.00	2	14.45	2		4	5.60	2		9		9		9		9			9		9	7.8175	2	2351	2		44.8	2		9
22	2	648.5	35.553	35.553	2	11.300	11.217	27.182	174.6	2	180.8	2	85.8	0.00	2	17.87	2		4	7.60	2	1.31	6	0.64	6	0.02	6		9			9		9		9		9			9		9
21	2	750.6	35.448	35.453	2	10.293	10.201	27.283	160.8	2	170.4	2	102.3	0.00	2	20.61	2		4	10.20	2		9		9		9		9			9		9	7.7314	2	2342	2		42.2	2		9
20	2	850.3	35.329	35.330	2	9.115	9.018	27.389	152.5	2	159.6	2	120.5	0.00	2	23.44	2		4	13.60	2	0.35	2	0.15	2	0.01	2		9			9		9		9		9			9		9
19	2	949.0	35.238	35.236	2	8.037	7.936	27.486	158.8	2	151.1	2	136.1	0.00	2	25.00	2		4	15.90	2		9		9		9		9			9		9	7.6768	2	2336	2					9	
18	2	1051.3	35.146	35.146	2	6.845	6.741	27.584	171.1	2		9		0.00	2	25.01	2		4	17.70	2	0.08	2	0.03	2	0.00	2		9			9		9		9		9			9		9
17	2	1248.7	35.121	35.120	2	5.865	5.749	27.695	193.6	2	186.4	2	116.0	0.00	2	23.44	2		4	17.90	2	0.03	2	0.02	2	0.00	2		9			9		9	7.6919	2	2336	3					9	9
16	2	1448.6	35.125	35.124	2	5.238	5.109	27.777	214.8	2	213.9	6	93.1	0.00	2	21.59	2		4	17.90	2		9		9		9		9			9		9		9		9			9		9
15	2	1651.8	35.106	35.105	2	4.711	4.568	27.825	228.5	2	226.9	2	84.2	0.00	2	20.71	2		4	18.90	2	0.01	2	0.01	2	0.01	2		9			9		9	7.7244	2	2335	3					9	9
14	2	1850.8	35.067	35.068	2	4.197	4.041	27.851	238.2	2	237.4	2	77.8	0.00	2	20.22	2		4	20.30	2		9		9		9		9			9		9		9		9			9		9
13	2	2048.0	35.033	35.033	2	3.840	3.670	27.863	243.9	2	242.5	2	75.6	0.00	2	20.22	2		4	22.30	2	0.01	2	0.00	2	0.00	2		9			9		9	7.7314	2	2339	3					9	9
12	2	2251.0	35.001	35.000	2	3.479	3.295	27.875	245.9	2	244.6	2	76.6	0.00	2	20.42	2		4	25.40	2		9		9		9		9			9		9		9		9			9		9
11	2	2448.2	34.981	34.980	2	3.239	3.040	27.884	246.8	2	245.4	2	77.9	0.00	2	20.71	2		4	28.10	2	0.00	2	0.00	2	0.00	2		9			9		9		9		9			9		9
10	2	2649.0	34.965	34.963	2	3.043	2.827	27.892	247.2	2	247.8	2	77.2	0.00	2	20.81	2		4	30.90	2		9		9		9		9			9		9		9		9			9		9
9	2	2848.8	34.950	34.949	2	2.865	2.633	27.898	247.0	2	246.4	2	80.2	0.00	2	21.00	2		4	33.70	2		9		9		9		9			9		9		9		9			9		9
8	2	3051.7	34.937	34.937	2	2.740	2.489	27.902	247.2	2	246.5	2	81.4	0.00	2	21.20	2		4	35.50	2	0.00	2	0.00	2	0.01	2		9			9		9	7.7288	2	2352	3					9	9
7	2	3419.4	34.919	34.919	2	2.566	2.281	27.907	247.9	2	247.3	2	82.3	0.00	2	21.39	2		4	39.20	2		9		9		9		9			9		9		9		9			9		9
6	2	3741.5	34.907	34.907	2	2.478	2.160	27.909	248.5	2	248.3	2	82.4	0.00	2	21.49	2		4	41.00	2		9		9		9		9			9		9		9		9			9		9
5	2	4050.7	34.900	34.900	2	2.430	2.078	27.912	249.1	2	248.8	2	82.6	0.00	2	21.69	2		4	43.00	2	0.00	2	0.00	2	0.00	2		9			9		9	7.7266	2		9					9	9
4	2	4298.7	34.895	34.895	2	2.402	2.022	27.914	249.1	2	249.2	2	82.7	0.00	2	21.69	2		4	44.50	2		9		9		9		9			9		9		9		9			9		9
3	2	4752.0	34.887	34.886	2	2.378	1.944	27.918	250.7	2	250.5	2	82.0	0.00	2	21.88	2		4	45.80	2	0.00	2	0.00	2	0.00	2		9			9		9		9		9			9		9
2	2	5151.2	34.883	34.883	2	2.396	1.911	27.921	252.6	2	250.6	2	82.2	0.00	2	21.88	2		4	46.70	2	0.00	2	0.00	2	0.00	2		9			9		9		9		9			9		9
1	2	5555.2	34.879	34.879	2	2.410	1.871	27.924	252.1	2	251.4	2	81.8	0.00	6	21.98	6		4	47.40	6	0.00	6	0.00	6	0.00	6		9			9		9	7.7203	2	2354	3					9	9

* WOCE water sample quality flag (F) for parameter for the previous column
** WOCE quality flag (F) for "Niskin" sample bottle
*** PSS-78 scale
**** ITS0 scale

A5R
NOAA Ship Ronald H. Brown

STATION 41 DATE 2/2/1998 LATITUDE 24.500° N
LONGITUDE 38.513° W

Bottle Number	F**	Pressure db	CTD Salinity***	Bottle Salinity***	F*	Temp**** °C	Theta °C	Sigma Theta	CTD O2 µmol/kg	F*	Bottle O2 µmol/kg	F*	AOU	NO2 µmol/kg	F*	NO3 µmol/kg	F*	PO4 µmol/kg	F*	Si(OH)4 µmol/kg	F*	CFC-11 pmol/kg	F*	CFC-12 pmol/kg	F*	CFC-113 pmol/kg	F*	CCl4 pmol/kg	F*	fCO2 at 20 °C µatm	fCO2 INSITU µatm	F*	DIC µmol/kg	F*	pH	F*	Measured TA µmol/kg	F*	Calculated TA µmol/kg	TOC µmol/kg	F*	TON µmol/kg	F*
36	2	5.9	37.460	37.459	2	23.388	23.387	25.689	220.2	2	214.4	2	-5.8	0.00	2	0.00	2	4	0.80	2	9	9	9	9	295.2	337.5	2	2085.0	6	8.0801	2	2444	2	2446		9		9
35	3	51.2	37.467	37.471	2	23.403	23.392	25.696	215.1	2	214.4	2	-5.8	0.00	2	0.00	2	4	0.90	2	9	9	9	9			9		9		9		9			9		9
34	2	99.5	37.425	37.436	2	22.877	22.857	25.823	214.7	2	215.1	2	-4.5	0.00	2	0.00	2	4	0.90	2	9	9	9	9	307.7	344.6	2	2093.1	2	8.0679	2		9	2445		9		9
33	2	151.3	36.921	36.897	2	19.898	19.870	26.271	207.6	2	206.1	2	16.7	0.02	2	0.98	2	4	0.80	2	9	9	9	9	365.6	364.3	2	2105.1	2	8.0068	2	2407	2	2411		9		9
32	2	199.5	36.620	36.616	2	18.355	18.320	26.443	203.8	2	203.2	2	26.5	0.01	2	3.22	2	4	1.30	2	9	9	9	9	386.2	361.5	2	2103.9	2	7.9836	2		9	2392		9		9
31	2	221.8	36.565	36.561	2	18.058	18.019	26.477	203.5	2	202.0	2	29.1	0.01	2	3.90	2	4	1.40	2	9	9	9	9			9		9		9		9			9		9
30	2	250.3	36.541	36.534	2	17.884	17.841	26.504	202.3	2	200.2	2	31.7	0.01	2	4.39	2	4	1.60	2	9	9	9	9	403.6	370.5	2	2109.1	2	7.9648	2	2386	2	2385		9		9
29	2	270.6	36.447	36.454	2	17.355	17.309	26.563	201.0	2	198.5	2	35.9	0.01	2	5.27	2	4	1.90	2	9	9	9	9			9		9		9		9			9		9
28	2	297.1	36.392	36.393	2	16.988	16.938	26.610	199.7	2	194.9	2	41.3	0.01	2	6.25	2	4	2.00	2	9	9	9	9	436.6	386.5	2	2118.3	2	7.9410	2		9	2380		9		9
27	2	349.3	36.258	36.261	2	16.162	16.106	26.706	194.3	2	191.3	2	48.9	0.00	2	7.81	2	4	2.40	2	9	9	9	9			9		9		9		9			9		9
26	2	400.3	36.112	36.123	2	15.285	15.223	26.795	192.5	2	191.1	2	53.5	0.00	2	9.08	2	4	3.00	2	9	9	9	9			9	2129.8	2	7.8976	2	2363	2	2365		9		9
25	2	450.7	35.986	35.985	2	14.459	14.391	26.881	189.6	2	188.0	2	60.9	0.00	2	10.74	2	4	4.10	2	9	9	9	9			9		9		9		9			9		9
24	2	500.5	35.834	35.836	2	13.467	13.395	26.974	186.3	2	184.4	2	69.9	0.00	2	12.69	2	4	4.80	2	9	9	9	9	561.5	429.6	2	2142.2	2	7.8430	2		9	2347		9		9
23	2	600.3	35.621	35.618	2	11.911	11.831	27.120	174.0	2	165.2	2	97.9	0.00	2	17.38	2	4	7.30	2	9	9	9	9			9		9		9		9			9		9
22	2	697.3	35.492	35.491	2	10.856	10.768	27.217	151.6	2	149.8	2	119.5	0.00	2	20.90	2	4	9.70	2	9	9	9	9	748.7	514.2	2	2180.4	2	7.7274	2	2332	2	2330		9		9
21	2	800.8	35.325	35.328	2	9.341	9.249	27.347	141.2	2	140.1	2	138.6	0.00	2	24.51	2	4	13.60	2	9	9	9	9			9		9		9		9			9		9
20	2	898.3	35.197	35.198	2	8.142	8.046	27.436	143.3	2	142.2	2	144.4	0.00	2	26.18	2	4	16.40	2	9	9	9	9			9		9		9		9			9		9
19	2	998.6	35.105	35.106	2	7.152	7.052	27.509	157.3	2	153.0	2	140.3	0.01	2	26.67	2	4	18.50	2	9	9	9	9	903.6	529.3	2	2200.8	6	7.6553	2		9	2319		9		9
18	2	1198.0	35.127	35.127	2	6.171	6.058	27.661	185.9	2	185.0	2	115.2	0.00	2	23.93	2	4	18.20	2	9	9	9	9			9		9		9		9			9		9
17	2	1400.7	35.140	35.140	2	5.556	5.428	27.751	209.3	2	207.8	2	96.8	0.00	2	21.88	2	4	17.60	2	9	9	9	9			9	2181.8	2		9		9			9		9
16	2	1592.3	35.129	35.129	2	4.971	4.830	27.813	224.1	2	223.4	2	85.6	0.00	2	20.81	2	4	18.30	2	9	9	9	9	753.1	396.0	2	2176.9	2	7.7248	2	2328	2	2323		9		9
15	2	1801.3	35.091	35.091	2	4.393	4.239	27.849	234.8	2	233.7	2	79.9	0.00	2	20.32	2	4	20.00	2	9	9	9	9			9		9		9		9			9		9
14	2	1999.3	35.058	35.060	2	4.017	3.849	27.865	240.4	2	239.7	2	77.0	0.00	2	20.22	2	4	21.60	2	9	9	9	9			9	2175.7	2	7.7323	2		9	2325		9		9
13	2	2190.6	35.016	35.016	2	3.574	3.394	27.877	243.6	2	244.4	6	75.9	0.00	2	20.22	2	4	24.70	2	9	9	9	9			9		9		9		9			9		9
12	2	2400.3	34.987	34.987	2	3.266	3.071	27.886	247.2	2	246.6	2	76.4	0.00	2	20.42	2	4	27.90	2	9	9	9	9	733.8	354.5	2	2181.5	2		9		9			9		9
11	2	2600.4	34.967	34.966	2	3.045	2.834	27.892	248.5	2	247.0	2	78.0	0.00	2	20.71	2	4	31.00	2	9	9	9	9			9		9		9		9			9		9
10	2	2801.9	34.949	34.948	2	2.850	2.623	27.898	247.1	2	246.0	2	80.7	0.00	2	21.10	2	4	34.30	2	9	9	9	9			9	2190.0	2		9		9			9		9
9	2	3001.8	34.938	34.937	2	2.737	2.492	27.901	246.8	2	246.5	2	81.3	0.00	2	21.30	2	4	36.00	2	9	9	9	9			9		9		9		9			9		9
8	2	3201.5	34.929	34.928	2	2.648	2.384	27.905	247.3	2	246.5	2	82.2	0.00	2	21.39	2	4	38.00	2	9	9	9	9	748.3	350.3	2	2193.4	2	7.7273	2	2345	2	2341		9		9
7	2	3401.6	34.920	34.919	2	2.573	2.289	27.907	247.6	2	247.0	2	82.6	0.00	2	21.49	2	4	39.70	2	9	9	9	9			9		9		9		9			9		9
6	2	3599.5	34.912	34.912	2	2.506	2.203	27.909	248.3	2	247.7	2	82.6	0.00	2	21.59	2	4	41.00	2	9	9	9	9			9		9		9		9			9		9
5	2	3800.9	34.906	34.905	2	2.460	2.135	27.910	249.1	2	248.4	2	82.5	0.00	2	21.69	2	4	42.30	2	9	9	9	9			9		9		9		9			9		9
4	2	4098.7	34.898	34.898	2	2.414	2.057	27.913	248.9	2	248.7	2	82.9	0.00	2	21.79	2	4	43.90	2	9	9	9	9	769.2	355.9	2	2197.7	2	7.7273	2		9	2345		9		9
3	2	4400.6	34.892	34.891	2	2.390	1.998	27.915	249.4	2	248.7	2	83.4	0.00	2	21.98	2	4	45.10	2	9	9	9	9			9		9		9		9			9		9
2	2	4699.0	34.888	34.888	2	2.386	1.958	27.918	249.0	2	248.4	2	84.0	0.00	2	22.08	2	4	46.00	2	9	9	9	9	763.9	352.7	2	2198.9	2		9	2347	2			9		9
1	2	4862.4	34.886	34.885	2	2.382	1.934	27.918	250.0	2	249.9	2	82.7	0.00	6	22.08	2	4	46.40	6	9	9	9	9			9		9	7.7244	2		9			9		9

* WOCE water sample quality flag (F) for parameter for the previous column
** WOCE quality flag (F) for "Niskin" sample bottle
*** PSS-78 scale
**** ITS0 scale

A5R
NOAA Ship Ronald H. Brown

STATION 42 DATE 2/3/1998 LATITUDE 24.500° N
LONGITUDE 39.250° W

Bottle Number	F**	Pressure db	CTD Salinity***	Bottle Salinity***	F*	Temp**** °C	Theta °C	Sigma Theta	CTD O2 µmol/kg	F*	Bottle O2 µmol/kg	F*	AOU	NO2 µmol/kg	F*	NO3 µmol/kg	F*	PO4 µmol/kg	F*	Si(OH)4 µmol/kg	F*	CFC-11 pmol/kg	F*	CFC-12 pmol/kg	F*	CFC-113 pmol/kg	F*	CCl4 pmol/kg	F*	fCO2 at 20 °C µatm	fCO2 INSITU µatm	F*	DIC µmol/kg	F*	pH	F*	Measured TA µmol/kg	F*	Calculated TA µmol/kg	TOC µmol/kg	F*	TON µmol/kg	F*
36	2	3.4	37.498	37.499	2	24.164	24.163	25.487	210.5	2	210.4	2	-4.5	0.00	2	0.00	2		4	0.10	2	1.84	2	1.07	2	0.15	2		9	309.4	364.4	3	2076.3	6	8.0973	2	2459	2	2449	72.6	2		9
35	2	49.2	37.495	37.498	2	24.183	24.172	25.485	210.0	2	210.6	6	-4.8	0.00	2	0.00	2		4	0.10	2	1.85	2	1.07	2	0.17	2		9	231.5	273.3	2	2076.8	2	8.0977	2	2460	2	2450	72.6	2		9
34	2	101.0	37.288	37.278	2	22.756	22.735	25.754	212.1	2	214.8	2	-3.6	0.01	2	0.00	2		4	0.10	2	2.07	6	1.19	6	0.18	6		9	269.4	300.8	2	2094.1	2	8.0622	2		9	2441	66.3	2		9
33	2	150.2	37.009	37.029	2	20.580	20.551	26.156	214.3	2	213.3	2	6.6	0.07	2	0.10	2		4	0.10	2	2.22	2	1.27	2	0.15	2		9	291.9	298.5	2	2098.8	2	8.0285	2	2431	2	2420	55.4	2		9
32	2	191.1	36.856	36.863	2	19.499	19.464	26.331	201.0	2	203.6	2	20.9	0.01	2	1.46	2		4	0.20	2	2.26	2	1.30	2	0.13	2		9	317.2	310.8	2	2105.9	2	7.9978	2		9	2405	55.0	2		9
31	2	220.9	36.695	36.711	2	18.543	18.504	26.455	195.3	2	190.5	2	38.3	0.01	2	3.30	2		4	0.70	2	2.30	2	1.30	2	0.05	2		9	339.3	319.5	2	2110.5	2	7.9797	2		9	2398	51.8	2		9
30	2	249.4	36.589	36.589	2	18.026	17.983	26.506	194.6	2	197.3	2	33.9	0.00	2	4.27	2		4	0.80	2	2.31	2	1.30	2	0.03	2		9	356.4	329.2	2	2109.9	2	7.9688	2	2402	2	2389	51.0	2		9
29	2	270.1	36.520	36.524	2	17.700	17.654	26.535	195.4	2	197.1	2	35.7	0.00	2	4.95	2		4	1.00	2	2.31	2	1.30	2	0.03	2		9	411.9	375.3	2	2112.1	2	7.9570	2		5	2384		9		9
28	2	297.9	36.435	36.443	2	17.259	17.209	26.579	195.1	2	195.8	2	39.1	0.00	2	5.73	2		4	1.30	2	2.33	2	1.29	2	0.03	2		9	425.4	380.4	2	2114.5	2	7.9459	2		5	2379	50.2	2		9
27	2	351.2	36.293	36.303	2	16.474	16.417	26.660	196.0	2	196.4	2	42.3	0.00	2	7.09	2		4	1.70	2	2.31	2	1.26	2	0.03	2		9	444.0	384.8	2	2116.7	2	7.9226	2		5	2366		9		9
26	2	400.8	36.172	36.171	2	15.688	15.624	26.751	190.5	2	190.4	2	52.2	0.00	2	8.84	2		4	2.30	2	2.27	6	1.23	6	0.03	6		9	475.9	399.4	2	2126.9	2	7.9039	2	2371	2	2366	49.5	2		9
25	2	447.0	36.023	36.171	2	14.748	14.680	26.847	187.2	2	187.2	2	60.0	0.00	2	10.49	2		4	2.90	2	2.17	2	1.16	2	0.03	2		9	507.6	409.6	2	2131.3	2	7.8773	2		5	2355	48.6	2		9
24	2	499.1	35.895	35.889	2	13.882	13.809	26.936	183.0	2	182.4	2	69.6	0.00	2	12.44	2		4	3.70	2	2.09	2	1.09	2	0.03	2		9	549.1	427.6	3	2142.2	2	7.8468	2	2362	2	2349		9		9
23	2	598.6	35.675	35.675	2	12.317	12.236	27.085	180.4	2	176.6	2	84.1	0.00	2	15.65	2		4	5.20	2	1.77	2	0.89	2	0.02	2		9	625.0	456.0	2	2153.1	2	7.7977	2	2347	2	2335	46.0	2		9
22	2	700.3	35.522	35.519	2	11.055	10.966	27.205	169.9	2	165.5	2	102.6	0.00	2	18.96	2		4	7.80	2	1.11	2	0.55	2	0.02	2		9	689.4	476.8	2	2165.1	2	7.7557	2		5	2327		9		9
21	2	798.8	35.329	35.332	2	9.375	9.283	27.345	150.3	2	148.0	2	130.5	0.00	2	23.53	2		4	12.40	2	0.39	2	0.18	2	0.00	2		9	805.3	519.6	2	2184.6	2	7.6979	2	2332	2	2321	44.3	2		9
20	2	900.2	35.243	35.240	2	8.329	8.231	27.445	150.5	2	152.4	2	132.9	0.00	2	24.80	2		4	14.80	2	0.22	2	0.09	2	0.00	2		9	841.0	518.3	2	2190.2	2	7.6800	2		5	2318		9		9
19	2	1001.2	35.090	35.090	2	6.863	6.765	27.536	162.6	2	163.8	2	131.5	0.00	2	25.87	2		4	17.50	2	0.08	2	0.04	2	0.00	2		9	875.9	506.1	2	2194.4	6	7.6680	2	2322	2	2317	42.1	2		9
18	2	1200.1	35.080	35.078	2	5.830	5.720	27.665	186.8	2	192.8	2	109.9	0.00	2	23.73	2		4	17.30	2	0.06	2	0.03	2	0.00	2		9	828.0	455.3	2	2183.8	2	7.6866	2		9	2314		9		9
17	2	1397.8	35.098	35.097	2	5.224	5.100	27.756	211.2	2	214.6	2	92.5	0.00	2	21.79	2		4	16.80	2		9		9		9		9			9	2175.7	2	7.7073	2	2323	2	2314	42.1	2		9
16	2	1599.6	35.139	35.139	2	5.007	4.865	27.817	223.9	2	223.3	2	85.5	0.00	2	20.81	2		4	17.60	2	0.03	2	0.01	2	0.00	2		9	750.3	395.3	2	2174.6	2	7.7252	2	2330	2	2321		9		9
15	2	1800.5	35.092	35.092	2	4.435	4.281	27.846	232.9	2	233.8	2	79.5	0.00	2	20.42	2		4	19.20	2		9		9		9		9			9	2173.3	2	7.7302	2	2331	2	2322	41.8	2		9
14	2	1999.4	35.041	35.040	2	3.884	3.718	27.864	242.0	2	242.5	2	75.2	0.00	2	20.23	2		4	21.50	2	0.00	2	0.00	2	0.00	2		9	742.9	370.7	6	2171.3	2	7.7331	2	2325	2	2321		9		9
13	2	2200.6	35.005	35.006	2	3.569	3.388	27.869	244.6	2	244.8	2	75.6	0.00	2	20.52	2		4	23.90	2		9		9		9		9			9	2173.4	2		9		9		42.3	2		9
12	2	2400.4	34.984	34.985	2	3.291	3.095	27.882	243.5	2	246.7	2	76.1	0.00	2	20.72	2		4	26.70	2	0.00	2	0.00	2	0.00	2		9	736.9	356.7	2	2177.2	2		9		9			9		9
11	2	2597.7	34.968	34.970	2	3.101	2.889	27.889	245.1	2	245.8	2	78.7	0.00	2	20.91	2		4	29.40	2		9		9		9		9			9	2181.4	2	7.7305	2		9	2330	41.7	2		9
10	2	2799.8	34.957	34.958	2	2.968	2.739	27.895	244.8	2	246.2	2	79.5	0.00	2	21.01	2		4	31.80	2	0.00	2	0.00	2	0.00	2		9	742.3	353.5	2	2183.2	2		9		9			9		9
9	2	2999.4	34.945	34.946	2	2.839	2.592	27.899	244.6	2	246.2	2	80.8	0.00	2	21.20	2		4	33.70	2		9		9		9		9			9	2186.2	2	7.7285	2	2344	2	2334	41.7	2		9
8	2	3223.9	34.934	34.934	2	2.717	2.449	27.904	245.3	2	246.7	2	81.5	0.00	2	21.40	2		4	35.90	2	0.00	2	0.00	2	0.00	2		9	748.3	351.7	2	2188.4	2		9		9			9		9
7	2	3496.3	34.918	34.919	2	2.573	2.279	27.907	248.3	2	248.1	2	81.5	0.00	2	21.59	2		4	38.80	2		9		9		9		9			9	2190.7	2	7.7266	2	2345	2	2338	41.9	2		9
6	2	3750.1	34.909	34.909	2	2.496	2.176	27.910	249.2	2	248.1	2	82.4	0.00	2	21.79	2		4	40.70	2	0.00	2	0.00	2	0.00	2		9	749.9	348.3	2	2191.8	2		9		9			9		9
5	2	3999.4	34.903	34.903	2	2.458	2.111	27.911	249.1	2	249.2	2	81.9	0.00	2	21.79	2		4	41.80	2	0.00	2	0.00	2	0.00	2		9			9	2193.3	2	7.7271	2	2345	2	2341	41.8	2		9
4	2	4299.9	34.895	34.894	2	2.399	2.019	27.915	249.4	2	249.5	2	82.4	0.00	2	21.98	2		4	43.70	2	0.00	6	0.00	6	0.00	6		9	754.6	348.6	2	2193.6	2		9		9		41.8	2		9
3	2	4599.1	34.890	34.889	2	2.389	1.973	27.917	249.1	2	250.1	2	82.2	0.00	2	22.08	2		4	44.60	2	0.00	2	0.00	2	0.00	2		9			9	2195.6	2	7.7235	2	2346	2	2342	41.4	2		9
2	2	4900.3	34.886	34.885	2	2.389	1.936	27.919	248.8	2	250.3	2	82.3	0.00	2	22.18	2		4	45.50	2	0.00	2	0.00	2	0.00	2		9			9	2197.8	2		9		9		41.8	2		9
1	2	5259.6	34.883	34.883	2	2.406	1.906	27.922	250.3	2	250.7	2	82.2	0.00	6	22.18	6		4	46.10	6	0.00	2	0.00	2	0.00	2		9	766.8	354.4	2	2197.0	2	7.7257	2	2347	2	2344	41.8	2		9

* WOCE water sample quality flag (F) for parameter for the previous column
** WOCE quality flag (F) for "Niskin" sample bottle
*** PSS-78 scale
**** ITS0 scale

A5R
NOAA Ship Ronald H. Brown

STATION 43 DATE 2/3/1998 LATITUDE 24.500° N
LONGITUDE 39.983° W

Bottle Number	F**	Pressure db	CTD Salinity***	Bottle Salinity***	F*	Temp**** °C	Theta °C	Sigma Theta	CTD O2 µmol/kg	F*	Bottle O2 µmol/kg	F*	AOU	NO2 µmol/kg	F*	NO3 µmol/kg	F*	PO4 µmol/kg	F*	Si(OH)4 µmol/kg	F*	CFC-11 pmol/kg	F*	CFC-12 pmol/kg	F*	CFC-113 pmol/kg	F*	CCl4 pmol/kg	F*	fCO2 at 20 °C µatm	fCO2 INSITU µatm	F*	DIC µmol/kg	F*	pH	F*	Measured TA µmol/kg	F*	Calculated TA µmol/kg	TOC µmol/kg	F*	TON µmol/kg	F*
36	2	4.0	37.504	37.505	2	24.238	24.237	25.469	211.1	2	210.9	2	-5.3	0.00	2	0.00	2		4	0.50	2	1.86	2	1.08	2	0.15	2	1.82	2	248.7	294.1	3	2080.1	6	8.0982	6	2453	2	2454		9		9
35	2	36.6	37.506	37.505	2	24.125	24.117	25.509	209.8	2	211.1	2	-5.1	0.00	2	0.00	2		4	0.40	2		9		9		9	1.86	2			9		9		9		9				9		9
34	2	79.4	37.264	37.265	2	22.339	22.323	25.853	212.2	2	210.3	2	2.5	0.03	2	0.20	2		4	0.30	2		9		9		9	1.04	6	298.4	327.2	3	2103.9	2	8.0414	2	2447	2	2437		9		9
33	2	119.3	37.182	37.182	2	21.233	21.210	26.106	204.2	2	204.7	2	12.4	0.04	2	0.78	2		4	0.20	2		9		9		9		9	321.7	338.1	3	2111.4	2	8.0215	2	2427	2	2430		9		9
32	2	159.5	36.967	36.953	2	19.953	19.923	26.292	195.2	2	193.3	2	29.2	0.02	2	2.54	2		4	0.30	2		9		9		9		9			9	2118.4	2	7.9897	2		5	2415		9		9
31	2	199.8	36.693	36.688	2	18.628	18.592	26.430	198.7	2	201.0	2	27.4	0.01	2	3.02	2		4	0.90	2	2.31	2	1.31	2	0.05	2	0.77	2	354.5	335.4	3	2107.2	2	7.9867	2	2395	2	2398		9		9
30	2	221.5	36.599	36.598	2	18.193	18.154	26.469	198.8	2	201.1	2	29.4	0.00	2	3.81	2		4	0.90	2		9		9		9		9			9		9		9		9				9		9
29	2	250.5	36.535	36.535	2	17.828	17.785	26.514	197.8	2	199.6	2	32.6	0.00	2	4.49	2		4	0.90	2		9		9		9		9	377.6	345.8	3	2109.9	2	7.9688	2	2395	2	2389		9		9
28	2	272.6	36.486	36.478	2	17.605	17.558	26.532	199.5	2	200.0	2	33.2	0.00	2	4.98	2		4	1.00	2		9		9		9	0.62	2			9		9		9		9				9		9
27	2	301.0	36.408	36.404	2	17.204	17.153	26.572	202.5	2	201.1	2	34.1	0.00	2	5.56	2		4	1.20	2		9		9		9		9	423.6	378.2	3	2110.6	2	7.9594	2	2389	2	2383		9		9
26	2	350.3	36.274	36.275	2	16.375	16.318	26.668	198.0	2	198.0	2	41.2	0.00	2	7.12	2		4	1.70	2		9		9		9		9			9		9		9		9				9		9
25	2	400.0	36.169	36.169	2	15.655	15.592	26.756	192.6	2	192.4	2	50.4	0.00	2	8.59	2		4	2.00	2		9		9		9	0.53	2			9	2127.3	2	7.9070	2	2367	2	2368		9		9
24	2	450.6	36.038	36.031	2	14.850	14.781	26.837	190.0	2	189.9	2	57.0	0.00	2	10.15	2		4	2.80	2		9		9		9		9			9		9		9		9				9		9
23	2	500.4	35.852	35.843	2	13.740	13.667	26.931	186.5	2	186.4	2	66.5	0.00	2	12.40	2		4	4.00	2		9		9		9		9	498.7	385.5	3	2139.8	2	7.8508	2	2349	2	2348		9		9
22	2	550.8	35.733	35.732	2	12.894	12.817	27.014	183.8	2	182.4	6	75.1	0.00	2	14.16	2		4	4.90	2	1.84	2	0.95	2	0.03	2	0.51	2			9		9		9		9				9		9
21	2	600.9	35.660	35.659	2	12.300	12.219	27.076	179.5	2	179.3	2	81.6	0.00	2	15.33	2		4	5.80	2		9		9		9		9	562.5	409.3	3	2151.3	2	7.8076	2		5	2337		9		9
20	2	701.2	35.471	35.471	2	10.617	10.530	27.243	170.0	2	166.7	2	104.0	0.00	2	19.34	2		4	8.80	2		9		9		9		9			9		9		9		9				9		9
19	2	800.8	35.319	35.317	2	9.216	9.124	27.363	159.0	2	156.8	2	122.7	0.00	2	22.85	2		4	12.60	2		9		9		9	0.23	6			9	2184.3	2	7.7064	2		5	2324		9		9
18	2	899.0	35.219	35.217	2	8.115	8.019	27.458	156.6	2	157.3	2	129.4	0.00	2	24.32	2		4	14.90	2		9		9		9		9			9		9		9		9				9		9
17	2	1000.3	35.185	35.187	2	7.387	7.285	27.539	163.7	2	164.1	2	127.5	0.00	2	24.52	2		4	16.00	2		9		9		9		9	782.4	460.8	3	2195.0	6	7.6798	2		5	2323		9		9
16	2	1151.0	35.119	35.120	2	6.325	6.215	27.634	183.8	2	183.1	2	116.0	0.00	2	23.93	2		4	17.00	2	0.08	2	0.03	2	0.00	2	0.18	2			9		9		9		9				9		9
15	2	1350.2	35.101	35.100	2	5.494	5.372	27.726	208.6	2	207.9	2	97.2	0.00	2	22.08	2		4	16.60	2		9		9		9		9			9		9		9		9				9		9
14	2	1550.7	35.096	35.096	2	4.908	4.772	27.793	224.5	2	224.8	2	84.8	0.00	2	20.90	2		4	17.10	2		9		9		9		9	700.1	366.1	3	2177.0	2	7.7204	2		5	2321		9		9
13	2	1751.6	35.077	35.076	2	4.490	4.340	27.828	234.6	2	234.2	2	78.7	0.00	2	20.22	2		4	18.20	2	0.03	2	0.01	2	0.00	2	0.26	2			9		9		9		9				9		9
12	2	1951.3	35.043	35.041	2	4.011	3.848	27.853	240.3	2	240.9	2	75.8	0.00	2	20.12	2		4	20.70	2		9		9		9		9			9		9		9		9				9		9
11	2	2200.4	35.008	35.008	2	3.563	3.382	27.872	244.3	2	245.7	2	74.7	0.00	2	20.22	2		4	23.90	2		9		9		9		9			9	2176.9	2	7.7332	2	2332	2	2327		9		9
10	2	2447.9	34.981	34.981	2	3.267	3.067	27.882	245.6	2	246.5	2	76.5	0.00	2	20.42	2		4	27.40	2	0.00	2	0.01	2	0.00	2	0.06	2			9		9		9		9				9		9
9	2	2701.1	34.961	34.960	2	3.013	2.793	27.892	244.5	2	246.6	2	78.7	0.00	2	20.81	2		4	31.00	2		9		9		9		9			9		9		9		9				9		9
8	2	2948.7	34.946	34.946	2	2.848	2.606	27.898	244.7	2	246.4	2	80.5	0.00	2	20.91	2		4	33.70	2	0.00	2	0.00	2	0.00	2	0.01	2	680.4	320.4	3	2188.7	2	7.7299	2	2344	2	2337		9		9
7	2	3198.9	34.932	34.931	2	2.689	2.424	27.904	244.7	2	247.3	2	81.1	0.00	2	21.20	2		4	36.50	2		9		9		9		9			9		9		9		9				9		9
6	2	3552.3	34.915	34.915	2	2.542	2.243	27.907	248.8	2	248.2	2	81.7	0.00	2	21.40	2		4	39.70	2	0.00	2	0.00	4	0.00	2	0.01	2			9		9		9		9				9		9
5	2	3800.1	34.906	34.905	2	2.463	2.138	27.910	249.3	2	248.9	2	82.0	0.00	2	21.59	2		4	41.70	2		9		9		9	0.01	2			9	2194.7	2	7.7282	2		5	2343		9		9
4	2	4099.8	34.897	34.896	2	2.408	2.051	27.912	249.6	2	249.5	2	82.1	0.00	2	21.79	2		4	43.40	2	0.00	2	0.00	2	0.00	2	0.01	2			9		9		9		9				9		9
3	2	4457.3	34.892	34.891	2	2.393	1.994	27.915	248.9	2	250.4	2	81.7	0.00	2	21.79	2		4	44.60	2	0.00	2	0.00	2	0.00	2	0.02	2	699.5	321.7	3	2197.2	2	7.7257	2		9	2344		9		9
2	2	4800.1	34.889	34.887	2	2.402	1.961	27.918	249.0	2	250.0	2	82.4	0.00	2	21.88	2		4	45.40	2	0.00	2	0.00	2	0.00	2	0.03	2			9		9		9		9				9		9
1	2	5171.5	34.886	34.887	2	2.435	1.946	27.921	248.2	2	250.3	2	82.2	0.00	6	21.98	6		4	46.10	6	0.00	2	0.00	2	0.00	2	0.04	6	705.0	324.9	3	2197.9	2	7.7232	2		5	2344		9		9

* WOCE water sample quality flag (F) for parameter for the previous column
** WOCE quality flag (F) for "Niskin" sample bottle
*** PSS-78 scale
**** ITS0 scale

A5R
NOAA Ship Ronald H. Brown

STATION 44 DATE 2/3/1998 LATITUDE 24.500° N
LONGITUDE 40.533° W

Bottle Number	F**	Pressure db	CTD Salinity***	Bottle Salinity***	F*	Temp**** °C	Theta °C	Sigma Theta	CTD O2 µmol/kg	F*	Bottle O2 µmol/kg	F*	AOU	NO2 µmol/kg	F*	NO3 µmol/kg	F*	PO4 µmol/kg	F*	Si(OH)4 µmol/kg	F*	CFC-11 pmol/kg	F*	CFC-12 pmol/kg	F*	CFC-113 pmol/kg	F*	CCl4 pmol/kg	F*	fCO2 at 20 °C µatm	fCO2 INSITU µatm	F*	DIC µmol/kg	F*	pH	F*	Measured TA µmol/kg	F*	Calculated TA µmol/kg	TOC µmol/kg	F*	TON µmol/kg	F*
36	2	4.3	37.336	37.345	2	23.481	23.480	25.568	215.0	2	215.1	2	-6.6	0.00	2	0.00	2		4	0.50	2	1.93	2	1.11	2	0.16	2		9			9		9	8.0878	2		9		9	69.1	2		9
35	3	51.4	37.354	37.355	2	23.267	23.256	25.650	214.7	2	215.8	2	-6.5	0.00	2	0.00	2		4	0.50	2	1.95	2	1.13	2	0.17	2		9			9		9		9		9		67.4	2		9
34	2	101.7	37.319	37.299	2	22.965	22.944	25.718	214.8	2	217.3	2	-6.8	0.00	2	0.00	2		4	0.30	2		9		9		9		9			9		9	8.0750	2	2430	2		65.3	2		9
33	2	150.9	36.707	36.694	2	19.065	19.038	26.325	209.8	2	213.7	6	12.9	0.02	2	0.68	2		4	0.60	2	2.31	6	1.33	6	0.15	6		9			9		9		9		9		55.7	2		9
32	2	187.1	36.625	36.623	2	18.603	18.570	26.383	210.9	2	213.1	2	15.5	0.01	2	1.95	2		4	0.70	2	2.35	2	1.34	2	0.09	2		9			9		9	8.0048	2	2372	2		50.2	2		9
31	2	228.1	36.559	36.551	2	18.226	18.186	26.432	210.1	2	210.9	2	19.5	0.01	2	3.02	2		4	0.80	2	2.36	2	1.34	2	0.06	2		9			9		9		9		9		48.9	2		9
30	2	254.9	36.517	36.509	2	17.987	17.943	26.461	207.4	2	208.9	2	22.6	0.01	2	3.71	2		4	1.10	2	2.34	2	1.33	2	0.05	2		9			9		9	7.9883	2	2377	2				9	9
29	2	278.1	36.455	36.455	2	17.573	17.525	26.517	206.9	2	206.2	2	27.2	0.01	2	4.59	2		4	1.30	2		9		9		9		9			9		9		9		9		48.9	2		9
28	2	304.5	36.407	36.403	2	17.261	17.210	26.557	205.0	2	204.3	2	30.6	0.01	2	5.17	2		4	1.50	2	2.33	2	1.30	2	0.04	2		9			9		9	7.9635	2	2377	2				9	9
27	2	354.9	36.283	36.282	2	16.451	16.393	26.658	200.7	2	200.7	2	38.1	0.01	2	6.83	2		4	2.00	2		9		9		9		9			9		9		9		9		47.4	2		9
26	2	405.9	36.123	36.135	2	15.466	15.402	26.764	197.7	2	196.3	2	47.4	0.01	2	8.59	2		4	3.00	2	2.23	2	1.22	2	0.04	2		9			9		9	7.9113	2	2361	2				9	9
25	2	452.6	36.030	36.031	2	14.883	14.814	26.824	190.4	2	190.6	2	56.2	0.01	2	10.05	2		4	3.20	2		9		9		9		9			9		9		9		9		47.1	2		9
24	2	505.4	35.907	35.903	2	14.038	13.963	26.912	185.8	2	185.1	2	66.1	0.01	2	11.91	2		4	3.90	2	2.06	2	1.08	2	0.04	2		9			9		9	7.8576	2	2360	2				9	9
23	2	602.8	35.709	35.707	2	12.549	12.466	27.066	177.9	2	180.2	2	79.2	0.01	2	14.74	2		4	5.20	2	1.84	2	0.94	2	0.02	2		9			9		9		9		9		44.0	2		9
22	2	705.2	35.506	35.502	2	10.878	10.789	27.224	161.5	2	161.8	2	107.4	0.01	2	19.53	2		4	8.70	2		9		9		9		9			9		9	7.7460	2	2339	2				9	9
21	2	805.8	35.360	35.357	2	9.524	9.430	27.346	150.1	2	149.1	2	128.4	0.01	2	23.34	2		4	12.40	2	0.41	2	0.19	2	0.01	2		9			9		9		9		9		42.0	2		9
20	2	905.6	35.211	35.211	2	8.080	7.983	27.457	148.5	2	150.4	2	136.5	0.01	2	25.39	2		4	15.80	2		9		9		9		9			9		9	7.6722	2	2338	2				9	9
19	2	1000.2	35.114	35.113	2	7.119	7.019	27.520	161.6	2	159.4	2	134.1	0.01	2	25.88	2		4	17.60	2	0.09	2	0.04	2	0.00	2		9			9		9		9		9					9	9
18	2	1199.0	35.067	35.065	2	5.991	5.879	27.636	189.6	2	186.1	2	115.5	0.01	2	24.12	2		4	17.80	2		9		9		9		9			9		9	7.6796	2	2332	2				9	9
17	2	1401.9	35.052	35.052	2	5.159	5.035	27.727	213.8	2	212.4	2	95.3	0.01	2	22.17	2		4	17.20	2	0.05	2	0.02	2	0.00	2		9			9		9		9		9					9	9
16	2	1600.2	35.071	35.071	2	4.792	4.653	27.787	226.3	2	225.6	2	84.9	0.01	2	21.00	2		4	17.50	2		9		9		9		9			9		9	7.7173	2	2327	2				9	9
15	2	1799.2	35.057	35.057	2	4.334	4.181	27.829	236.5	2	235.8	2	78.3	0.01	2	20.41	2		4	18.80	2		9		9		9		9			9		9		9		9					9	9
14	9	2000.3	35.015		2	3.836	3.671	27.849	242.8	2		9			9		9		9		9		9		9		9		9			9		9		9		9					9	9
13	2	2200.9	34.998	34.998	2	3.551	3.371	27.866	245.9	2	246.2	2	74.4	0.01	2	20.41	2		4	23.80	2	0.01	2	0.00	2	0.00	2		9			9		9	7.7324	2	2336	2				9	9
12	9	2399.8	34.982		2	3.312	3.116	27.878	246.6	2		9			9		9		9		9		9		9		9		9			9		9		9		9					9	9
11	2	2576.3	34.969	34.968	2	3.125	2.915	27.887	247.0	2	247.2	2	77.1	0.01	2	20.61	2		4	29.00	2		9		9		9		9			9		9	7.7309	2	2342	2				9	9
10	9	2799.6	34.955		2	2.959	2.730	27.894	246.5	2		9			9		9		9		9		9		9		9		9			9		9		9		9					9	9
9	2	2999.6	34.943	34.943	2	2.814	2.567	27.899	246.3	2	247.3	2	79.9	0.01	2	21.10	2		4	34.40	2	0.00	2	0.00	2	0.00	2		9			9		9		9		9					9	9
8	2	3200.2	34.931	34.931	2	2.687	2.422	27.903	247.3	2	248.8	2	79.6	0.01	2	21.29	2		4	36.90	2		9		9		9		9			9		9		9		9					9	9
7	2	3395.3	34.920	34.920	2	2.590	2.307	27.906	249.2	2	247.8	2	81.6	0.01	2	21.39	2		4	39.00	2		9		9		9		9			9		9	7.7277	2		9					9	9
6	2	3556.3	34.914	34.913	2	2.525	2.226	27.908	249.7	2	248.6	2	81.5	0.01	2	21.49	2		4	40.40	2	0.00	2	0.00	2	0.00	2		9			9		9		9		9					9	9
5	2	3799.8	34.906	34.905	2	2.464	2.139	27.910	250.6	2	249.7	2	81.2	0.01	2	21.68	2		4	42.00	2		9		9		9		9			9		9		9		9					9	9
4	2	3999.5	34.900	34.899	2	2.427	2.081	27.912	251.3	2	249.6	2	81.7	0.01	2	21.78	2		4	43.30	2	0.00	2	0.00	2	0.00	2		9			9		9		9		9					9	9
3	2	4200.4	34.896	34.895	2	2.409	2.040	27.913	251.0	2	250.3	2	81.4	0.01	2	21.78	2		4	44.10	2		9		9		9		9			9		9		9		9					9	9
2	2	4499.8	34.890	34.889	2	2.388	1.984	27.915	251.3	2	250.7	2	81.5	0.01	2	21.98	2		4	45.40	2	0.00	2	0.00	2	0.00	2		9			9		9		9		9					9	9
1	2	4859.0	34.885	34.884	2	2.382	1.934	27.918	251.5	2	242.4	3	90.2	0.01	6	21.98	6		4	46.40	6	0.00	2	0.00	2	0.00	2		9			9		9	7.7190	2		9					9	9

* WOCE water sample quality flag (F) for parameter for the previous column
** WOCE quality flag (F) for "Niskin" sample bottle
*** PSS-78 scale
**** ITS0 scale

A5R
NOAA Ship Ronald H. Brown

STATION 45 DATE 2/4/1998 LATITUDE 24.500° N
LONGITUDE 41.083° W

Bottle Number	F**	Pressure db	CTD Salinity***	Bottle Salinity***	F*	Temp**** °C	Theta °C	Sigma Theta	CTD O2 µmol/kg	F*	Bottle O2 µmol/kg	F*	AOU	NO2 µmol/kg	F*	NO3 µmol/kg	F*	PO4 µmol/kg	F*	Si(OH)4 µmol/kg	F*	CFC-11 pmol/kg	F*	CFC-12 pmol/kg	F*	CFC-113 pmol/kg	F*	CCl4 pmol/kg	F*	fCO2 at 20 °C µatm	fCO2 INSITU µatm	F*	DIC µmol/kg	F*	pH	F*	Measured TA µmol/kg	F*	Calculated TA µmol/kg	TOC µmol/kg	F*	TON µmol/kg	F*
36	2	3.7	37.409	37.408	2	23.564	23.563	25.598	216.0	2	214.8	2	-6.7	0.00	2	0.00	2	4	0.60	2	9	9	9	9	244.0	281.2	3	2080.2	6	8.0904	2	5	2448	9	9
35	2	30.0	37.410	37.410	2	23.571	23.565	25.600	213.5	2	213.0	6	-4.9	0.00	2	0.00	2	4	0.50	2	9	9	9	9			9		9		9		9		9	9
34	2	78.7	37.390	37.391	2	23.443	23.427	25.629	213.7	2	214.4	2	-5.8	0.00	2	0.00	2	4	0.50	2	9	9	9	9	253.2	290.4	3	2082.8	2	8.0865	2	2440	2	2447	9	9
33	2	127.5	37.303	37.299	2	21.401	21.376	26.153	204.6	2	206.5	2	9.8	0.03	2	0.49	2	4	0.40	2	9	9	9	9	303.5	321.0	3	2115.6	2	8.0234	2	2431	2	2437	9	9
32	2	164.9	36.935	36.926	2	19.787	19.756	26.313	203.7	2	202.8	2	20.4	0.02	2	1.37	2	4	0.60	2	9	9	9	9			9		9		9		9		9	9
31	2	198.1	36.799	36.800	2	19.052	19.016	26.403	197.3	2	198.8	2	27.7	0.01	2	2.63	2	4	0.60	2	9	9	9	9	344.4	331.5	3	2112.5	2	7.9888	2	2402	2	2406	9	9
30	2	224.4	36.644	36.637	2	18.285	18.246	26.481	198.8	2	197.5	2	32.5	0.01	2	3.90	2	4	0.90	2	9	9	9	9			9		9		9		9		9	9
29	2	250.2	36.569	36.572	2	17.906	17.863	26.520	197.0	2	196.3	2	35.5	0.00	2	4.59	2	4	1.00	2	9	9	9	9	374.0	343.5	3	2113.2	2		9		9		9	9
28	2	275.9	36.475	36.472	2	17.410	17.363	26.572	192.8	2	193.5	2	40.6	0.00	2	5.66	2	4	1.30	2	9	9	9	9			9		9		9		9		9	9
27	2	298.9	36.383	36.391	2	16.873	16.823	26.632	191.2	2	190.5	2	46.2	0.00	2	6.73	2	4	1.60	2	9	9	9	9	410.3	361.2	3	2121.3	2	7.9344	2	2376	2	2379	9	9
26	2	350.1	36.270	36.279	2	16.211	16.154	26.703	193.4	2	189.0	2	50.9	0.00	2	7.90	2	4	2.00	2	9	9	9	9			9		9		9		9		9	9
25	2	399.5	36.085	36.095	2	15.091	15.029	26.817	193.5	2	190.5	2	55.1	0.00	2	9.37	2	4	2.50	2	9	9	9	9	475.6	389.3	3	2129.9	2		9	2361	2		9	9
24	2	449.0	35.956	35.954	2	14.252	14.185	26.902	190.0	2	187.3	2	62.7	0.00	2	10.93	2	4	3.30	2	9	9	9	9			9		9		9		9		9	9
23	2	498.5	35.845	35.847	2	13.499	13.427	26.975	188.4	2	185.1	2	69.0	0.00	2	12.40	2	4	3.80	2	9	9	9	9	504.3	386.0	3	2143.3	2	7.8379	2	2346	2	2345	9	9
22	2	598.9	35.642	35.642	2	12.020	11.940	27.116	180.4	2	177.1	2	85.3	0.00	2	15.82	2	4	5.60	2	9	9	9	9			9	2157.5	2		9		9		9	9
21	2	699.9	35.472	35.475	2	10.571	10.484	27.252	163.4	2	157.9	2	113.1	0.00	2		4	4	8.90	2	9	9	9	9			9		9		9		9		9	9
20	2	800.7	35.348	35.354	2	9.406	9.313	27.355	148.2	2	145.1	2	133.1	0.00	2	23.44	2	4	12.10	2	9	9	9	9	749.9	483.1	3	2191.0	2	7.6935	2	2329	2	2325	9	9
19	2	900.2	35.219	35.215	2	8.215	8.118	27.443	146.8	2	147.3	2	138.8	0.00	2	25.20	2	4	15.00	2	9	9	9	9			9		9		9		9		9	9
18	2	1050.7	35.101	35.105	2	6.827	6.724	27.551	165.7	2	164.4	2	131.2	0.00	2	25.49	2	4	17.10	2	9	9	9	9	806.1	463.1	3	2198.0	6	7.6633	2		5	2319	9	9
17	2	1248.6	35.038	35.037	2	5.513	5.401	27.671	195.1	2	196.3	2	108.8	0.00	2	23.44	2	4	17.30	2	9	9	9	9			9		9		9		9		9	9
16	2	1443.7	35.046	35.046	2	5.054	4.927	27.735	212.9	2	213.6	2	94.9	0.00	2	22.07	2	4	16.80	2	9	9	9	9			9	2180.6	2	7.7003	2	2320	2	2316	9	9
15	2	1650.6	35.036	35.035	2	4.455	4.315	27.797	228.5	2	229.9	2	83.2	0.00	2	21.10	2	4	17.80	2	9	9	9	9			9		9		9		9		9	9
14	2	1848.9	35.028	35.028	2	4.122	3.967	27.827	236.4	2	237.8	2	78.0	0.00	2	20.51	2	4	19.10	2	9	9	9	9			9		9		9		9		9	9
13	2	2050.1	35.007	35.008	2	3.736	3.567	27.853	242.6	2	244.0	2	75.0	0.00	2	20.32	2	4	21.70	2	9	9	9	9	685.9	338.5	3	2173.7	2	7.7287	2	2321	2	2321	9	9
12	2	2249.8	34.990	34.990	2	3.448	3.265	27.870	246.2	2	246.4	2	75.0	0.00	2	20.22	2	4	24.20	2	9	9	9	9			9		9		9		9		9	9
11	2	2448.5	34.978	34.977	2	3.276	3.076	27.878	248.4	2	248.2	2	74.8	0.00	2	20.22	2	4	26.10	2	9	9	9	9			9		9		9		9		9	9
10	2	2648.8	34.963	34.963	2	3.079	2.863	27.887	248.9	2	251.1	2	73.6	0.00	2	20.41	2	4	28.60	2	9	9	9	9			9		9		9		9		9	9
9	2	2850.5	34.951	34.950	2	2.911	2.678	27.895	249.8	2	249.8	2	76.5	0.00	2		4	4	31.60	2	9	9	9	9			9		9		9		9		9	9
8	2	3145.5	34.935	34.935	2	2.747	2.486	27.901	249.5	2	249.4	2	78.5	0.00	2	20.90	2	4	34.60	2	9	9	9	9			9	2188.2	2	7.7308	2	2339	2	2337	9	9
7	2	3448.1	34.916	34.916	2	2.557	2.269	27.906	250.2	2	249.1	2	80.6	0.00	2	21.29	2	4	38.60	2	9	9	9	9			9		9		9		9		9	9
6	2	3749.6	34.907	34.906	2	2.475	2.156	27.909	251.0	2	249.5	2	81.2	0.00	2	21.49	2	4	40.50	2	9	9	9	9			9		9		9		9		9	9
5	2	4050.8	34.898	34.899	2	2.427	2.075	27.911	250.4	2	250.1	2	81.3	0.00	2	21.59	2	4	42.30	2	9	9	9	9	706.0	325.6	3	2196.4	2	7.7287	2	2342	2	2345	9	9
4	2	4350.4	34.895	34.895	2	2.419	2.032	27.915	250.4	2	250.2	2	81.6	0.00	2	21.69	2	4	43.30	2	9	9	9	9			9		9		9		9		9	9
3	2	4650.5	34.892	34.891	2	2.420	1.997	27.917	250.8	2	250.3	2	81.8	0.00	2	21.78	2	4	44.00	2	9	9	9	9			9		9		9		9		9	9
2	2	4950.2	34.889	34.889	2	2.431	1.970	27.919	250.5	2	250.3	2	82.0	0.00	2	21.88	2	4	44.60	2	9	9	9	9			9		9		9		9		9	9
1	2	5240.9	34.889	34.888	2	2.467	1.968	27.922	250.2	2	250.7	2	81.6	0.00	6	21.88	6	4	44.90	6	9	9	9	9	731.9	338.5	3	2197.2	2	7.7229	2	2347	2	2343	9	9

* WOCE water sample quality flag (F) for parameter for the previous column
** WOCE quality flag (F) for "Niskin" sample bottle
*** PSS-78 scale
**** ITS0 scale

A5R
NOAA Ship Ronald H. Brown

STATION 46 DATE 2/4/1998 LATITUDE 24.500° N
LONGITUDE 41.633° W

Bottle Number	F**	Pressure db	CTD Salinity***	Bottle Salinity***	F*	Temp**** °C	Theta °C	Sigma Theta	CTD O2 µmol/kg	F*	Bottle O2 µmol/kg	F*	AOU	NO2 µmol/kg	F*	NO3 µmol/kg	F*	PO4 µmol/kg	F*	Si(OH)4 µmol/kg	F*	CFC-11 pmol/kg	F*	CFC-12 pmol/kg	F*	CFC-113 pmol/kg	F*	CCl4 pmol/kg	F*	fCO2 at 20 °C µatm	fCO2 INSITU µatm	F*	DIC µmol/kg	F*	pH	F*	Measured TA µmol/kg	F*	Calculated TA µmol/kg	TOC µmol/kg	F*	TON µmol/kg	F*
36	2	4.1	37.504	37.503	2	24.192	24.191	25.483	214.2	2	210.4	2	-4.6	0.00	2	0.00	2		4	0.30	2		9		9		9		9	243.4	287.4	3	2081.0	6	8.0968	2	2468	2	2454	70.4	2		9
35	2	48.8	37.520	37.520	2	24.215	24.205	25.494	209.2	2	210.4	6	-4.7	0.00	2	0.00	2		4	0.30	2	1.88	2	1.08	2	0.16	2		9			9	2082.6	2	8.0945	2	2464	2	2454	71.0	2		9
34	2	99.1	37.461	37.443	2	23.946	23.925	25.537	209.0	2	212.0	2	-5.2	0.01	2	0.00	2		4	0.30	2	1.94	2	1.10	2	0.19	2		9	255.3	298.4	3	2085.9	2	8.0828	2	2458	2	2448	70.2	2		9
33	2	149.4	37.258	37.256	2	21.521	21.492	26.087	208.3	2	211.2	2	4.7	0.05	2	0.29	2		4	0.30	2	2.15	2	1.24	2	0.16	2		9	302.9	321.8	3	2107.0	2	8.0341	2	2443	2	2435	59.4	2		9
32	2	197.6	36.977	36.977	2	19.857	19.820	26.330	200.4	2	202.0	2	20.9	0.01	2	1.66	2		4	0.50	2	2.27	6	1.29	6	0.09	6		9	335.7	333.7	3	2111.9	2	8.0028	2	2426	2	2416	54.2	2		9
31	2	223.9	36.843	36.844	2	19.216	19.175	26.397	198.7	2	199.3	2	26.5	0.01	2	2.44	2		4	0.60	2	2.26	2	1.28	2	0.07	2		9			9	2112.2	2	7.9913	2	2413	2	2408	52.3	2		9
30	2	252.1	36.667	36.677	2	18.412	18.367	26.470	196.9	2	197.8	2	31.6	0.00	2	3.61	2		4	0.90	2	2.32	2	1.30	2	0.05	2		9	369.5	346.7	3	2109.5	2	7.9763	2	2400	2	2394	51.5	2		9
29	2	273.1	36.521	36.525	2	17.668	17.621	26.544	196.5	2	195.3	2	37.6	0.00	2	5.07	2		4	1.20	2	2.32	2	1.28	2	0.03	2		9			9	2112.8	2	7.9564	2		5	2384	50.8	2		9
28	2	299.6	36.437	36.433	2	17.196	17.146	26.595	194.4	2	192.5	2	42.7	0.00	2	6.24	2		4	1.60	2	2.32	2	1.28	2	0.03	2		9	457.6	408.8	3	2117.6	2	7.9411	2	2391	2	2379		9		9
27	2	350.1	36.331	36.337	2	16.534	16.477	26.675	188.1	2	188.8	2	49.6	0.00	2	7.51	2		4	2.00	2	2.30	2	1.26	2	0.03	2		9			9	2127.5	2	7.9220	2	2385	2	2378	48.3	2		9
26	2	400.2	36.154	36.161	2	15.470	15.407	26.786	186.4	2	184.9	2	58.8	0.00	2	9.47	2		4	2.60	2	2.24	2	1.19	2	0.04	2		9	449.1	373.3	3	2134.6	2	7.8908	2	2372	2	2366		9		9
25	2	449.5	36.002	36.010	2	14.539	14.471	26.876	183.7	2	185.7	2	62.8	0.00	2	10.83	2		4	3.20	2	2.18	2	1.17	2	0.03	2		9			9	2138.7	2	7.8715	2	2367	2	2359	47.9	2		9
24	2	470.4	35.945	35.947	2	14.167	14.097	26.913	185.2	2	185.8	2	64.7	0.00	2	11.42	2		4	3.50	2	2.16	2	1.13	2	0.04	2		9	478.7	376.7	3	2138.9	2	7.8607	2	2357	2	2353		9		9
23	2	527.3	35.798	35.805	2	13.168	13.093	27.008	185.2	2	184.1	2	71.8	0.00	2	13.18	2		4	4.30	2	2.07	2	1.07	2	0.03	2		9			9	2146.4	2	7.8335	2	2352	2	2346	47.6	2		9
22	2	599.8	35.694	35.696	2	12.443	12.361	27.075	180.0	2	180.2	2	79.8	0.00	2	14.94	2		4	5.30	2	1.85	2	0.95	2	0.03	2		9	553.0	404.7	3	2155.5	2	7.8070	2	2346	2	2342		9		9
21	2	697.6	35.538	35.538	2	11.164	11.075	27.198	166.3	2	166.7	2	100.8	0.00	2	18.55	2		4	7.70	2	1.24	2	0.62	2	0.02	2		9			9	2168.0	2	7.7600	2		9	2332	47.6	2		9
20	2	798.9	35.410	35.409	2	10.014	9.918	27.303	146.5	2	148.0	2	126.5	0.00	2	22.46	2		4	11.10	2	0.57	6	0.28	6	0.01	6		9	718.5	474.7	3	2189.0	2	7.7077	2	2336	2	2330	47.4	2		9
19	2	887.8	35.276	35.276	2	8.700	8.601	27.414	140.9	2	141.7	2	141.1	0.00	2	25.29	2		4	14.50	2	0.22	2	0.10	2	0.01	2		9	794.8	496.6	3	2200.5	2	7.6712	2	2335	2	2326	43.2	2		9
18	2	1001.7	35.166	35.173	2	7.420	7.317	27.520	153.4	2	153.5	2	137.9	0.00	2	25.78	2		4	16.80	2	0.10	2	0.04	2	0.00	2		9	817.7	483.0	3	2201.1	6	7.6633	2		9	2323		9		9
17	2	1201.8	35.037	35.037	2	5.750	5.640	27.641	187.8	2	188.3	2	115.0	0.00	2	24.32	2		4	17.90	2	0.05	2	0.02	2	0.00	2		9	814.2	445.4	3	2188.5	2	7.6744	2	2321	2	2314	43.1	2		9
16	2	1399.9	35.043	35.041	2	5.158	5.035	27.720	209.8	2	209.4	2	98.3	0.00	2	22.56	2		4	17.40	2	0.04	2	0.02	2	0.00	2		9	737.7	391.0	3	2183.4	2	7.6985	2		5	2318		9		9
15	2	1600.0	35.043	35.042	2	4.662	4.524	27.779	225.6	2	226.4	2	85.1	0.00	2	21.19	2		4	17.50	2		9		9		9		9			9	2176.3	2	7.7132	2	2325	2	2317	41.8	2		9
14	2	1794.6	35.029	35.029	2	4.201	4.050	27.819	235.7	2	236.7	2	78.5	0.00	2	20.61	2		4	19.10	2	0.02	2	0.01	2	0.00	2		9			9	2173.1	2	7.7233	2	2322	2	2318		9		9
13	2	1998.9	35.017	35.017	2	3.892	3.726	27.845	241.6	2	242.4	2	75.3	0.00	2	20.31	2		4	21.00	2		9		9		9		9	676.9	336.4	3	2172.8	2	7.7294	2	2327	2	2320	41.6	2		9
12	2	2202.1	34.998	34.998	2	3.573	3.392	27.864	245.7	2	245.7	2	74.7	0.00	2	20.31	2		4	23.50	2	0.00	2	0.01	2	0.00	2		9			9	2175.3	2		9		9			9		9
11	2	2400.7	34.981	34.981	2	3.334	3.138	27.875	249.4	2	248.4	2	74.1	0.00	2	20.41	3		4	25.90	2		9		9		9		9			9	2176.8	2	7.7315	2	2329	2	2326	41.6	2		9
10	2	2597.1	34.971	34.973	2	3.194	2.981	27.883	251.5	2	251.3	2	72.4	0.00	2	20.22	2		4	27.30	2	0.02	4	0.01	2	0.00	2		9	675.8	324.2	3	2177.6	2		9		9			9		9
9	2	2798.2	34.957	34.956	2	2.993	2.763	27.892	251.1	2	251.0	2	74.6	0.00	2	20.61	2		4	30.50	2		9		9		9		9			9	2181.3	2	7.7276	2		9	2328	41.4	2		9
8	2	2989.4	34.941	34.942	2	2.821	2.575	27.897	250.1	2	250.6	2	76.5	0.00	2	20.80	2		4	33.50	2	0.01	4	0.00	2	0.00	2		9			9	2184.5	2		9		9		41.4	2		9
7	2	3249.0	34.927	34.928	2	2.663	2.393	27.903	250.0	2	249.4	2	79.3	0.00	2	21.19	2		4	36.70	2		9		9		9		9	687.1	320.6	3	2190.4	2	7.7289	2	2342	2	2339		9		9
6	2	3495.6	34.918	34.918	2	2.569	2.275	27.907	250.4	2	249.6	2	80.1	0.00	2	21.39	2		4	38.90	2	0.00	6	0.00	6	0.00	6		9			9	2191.5	2		9		9		41.4	2		9
5	2	3747.2	34.907	34.907	2	2.485	2.166	27.909	250.2	2	250.0	2	80.6	0.00	2	21.49	2		4	40.90	2		9		9		9		9			9	2194.8	2	7.7284	2	2350	2	2343		9		9
4	2	3999.7	34.902	34.902	2	2.459	2.112	27.911	250.4	2	250.3	2	80.8	0.00	2	21.59	2		4	41.90	2	0.00	2	0.00	2	0.00	2		9	691.8	319.1	3	2196.3	2		9		9		41.2	2		9
3	2	4250.2	34.897	34.897	2	2.431	2.056	27.913	251.3	2	251.0	2	80.6	0.00	2	21.68	2		4	43.10	2	0.00	2	0.00	2	0.00	2		9			9	2196.5	2	7.7262	2	2344	2	2344		9		9
2	2	4497.8	34.893	34.893	2	2.415	2.011	27.916	250.7	2	251.3	2	80.7	0.00	2	21.78	2		4	44.10	2	0.00	2	0.00	2	0.00	2		9			9	2198.9	2		9		9		41.0	2		9
1	2	4779.5	34.890	34.889	2	2.422	1.983	27.918	250.1	2	251.3	2	80.9	0.00	6	21.88	6		4	44.80	6		9		9		9		9	731.4	337.5	3	2199.5	2	7.7268	2	2346	2	2347	41.0	2		9

* WOCE water sample quality flag (F) for parameter for the previous column
** WOCE quality flag (F) for "Niskin" sample bottle
*** PSS-78 scale
**** ITS0 scale

A5R
NOAA Ship Ronald H. Brown

STATION 47 DATE 2/4/1998 LATITUDE 24.500° N
LONGITUDE 42.183° W

Bottle Number	F**	Pressure db	CTD Salinity***	Bottle Salinity***	F*	Temp**** °C	Theta °C	Sigma Theta	CTD O2 µmol/kg	F*	Bottle O2 µmol/kg	F*	AOU	NO2 µmol/kg	F*	NO3 µmol/kg	F*	PO4 µmol/kg	F*	Si(OH)4 µmol/kg	F*	CFC-11 pmol/kg	F*	CFC-12 pmol/kg	F*	CFC-113 pmol/kg	F*	CCl4 pmol/kg	F*	fCO2 at 20 °C µatm	fCO2 INSITU µatm	F*	DIC µmol/kg	F*	pH	F*	Measured TA µmol/kg	F*	Calculated TA µmol/kg	TOC µmol/kg	F*	TON µmol/kg	F*
36	2	4.7	37.511	37.510	2	24.144	24.143	25.503	213.2	2	210.6	2	-4.7	0.00	2	0.00	2		4	0.40	2	1.85	2	1.08	2	0.15	2	1.75	2	246.2	290.2	3	2081.3	2	8.0953	2	2461	2	2453		9		9
35	3	45.6	37.508	37.508	2	24.137	24.127	25.508	208.9	2	210.5	2	-4.5	0.00	2	0.00	2		4	0.30	2		9		9		9	1.83	2	246.2	290.1	3	2080.3	6	8.0930	2	2461	2	2451		9		9
34	2	89.3	37.505	37.507	2	24.130	24.111	25.514	208.5	2	211.0	2	-5.0	0.00	2	0.00	2		4	0.20	2		9		9		9		9	247.8	291.9	3	2079.3	2	8.0941	2		5	2450		9		9
33	2	135.7	37.304	37.301	2	21.707	21.680	26.069	210.0	2	197.0	2	18.1	0.05	2	0.20	2		4	0.20	2		9		9		9	1.13	2	298.3	319.7	3	2108.1	2	8.0378	2		5	2439		9		9
32	2	182.1	37.060	37.073	2	20.397	20.362	26.248	196.7	2	199.3	2	21.3	0.02	2	1.85	2		4	0.60	2		9		9		9		9			9		9		9		9			9		9
31	2	199.2	36.923	36.929	2	19.706	19.669	26.328	196.0	2	202.1	2	21.5	0.01	2	1.95	2		4	0.60	2		9		9		9	0.96	6	340.7	336.7	3	2112.0	2	7.9978	2		5	2413		9		9
30	2	223.7	36.737	36.740	2	18.846	18.806	26.411	201.0	2	199.6	2	27.9	0.01	2	2.44	2		4	0.70	2		9		9		9		9			9		9		9		9			9		9
29	2	251.8	36.659	36.646	2	18.444	18.399	26.456	200.8	2	200.1	2	29.2	0.01	2	3.61	2		4	0.80	2		9		9		9		9	361.2	339.1	3		9	7.9798	2	2393	2			9		9
28	2	269.4	36.562	36.564	2	17.979	17.932	26.499	199.1	2	197.5	2	34.0	0.00	2	4.20	2		4	1.00	2		9		9		9		9			9	2106.9	2		9		9			9		9
27	2	300.2	36.475	36.476	2	17.477	17.426	26.558	195.1	2	192.8	2	41.0	0.00	2	5.37	2		4	1.30	2		9		9		9	0.61	2	370.9	334.7	3	2112.3	2	7.9576	2	2390	2	2384		9		9
26	2	349.8	36.319	36.327	2	16.545	16.488	26.663	191.3	2	187.8	2	50.5	0.00	2	7.22	2		4	1.90	2		9		9		9		9			9		9		9		9			9		9
25	2	400.9	36.173	36.182	2	15.639	15.576	26.763	186.6	2	189.8	2	53.0	0.00	2	9.08	2		4	2.40	2		9		9		9	0.50	2	431.6	361.2	3	2129.6	2	7.9012	2		5	2367		9		9
24	2	452.3	36.061	36.068	2	14.952	14.883	26.833	188.7	2	186.6	2	59.8	0.00	2	9.86	2		4	2.90	2		9		9		9		9			9		9		9		9			9		9
23	2	502.3	35.899	35.906	2	13.868	13.795	26.941	184.1	2	181.4	2	70.7	0.00	2	11.81	2		4	3.70	2		9		9		9		9	483.4	375.6	3	2139.1	2	7.8557	2		5	2350		9		9
22	2	551.6	35.745	35.756	2	12.846	12.769	27.032	181.2	2	170.1	2	87.6	0.00	2	14.06	2		4	4.70	2		9		9		9		9			9		9		9		9			9		9
21	2	599.7	35.645	35.656	2	12.128	12.047	27.097	175.4	2	159.2	2	102.6	0.00	2	16.40	2		4	6.00	2		9		9		9	0.45	2	582.0	420.3	3	2159.0	2	7.7889	2		5	2336		9		9
20	2	648.8	35.557	35.559	2	11.398	11.314	27.167	160.5	2	160.1	2	106.0	0.00	2	18.94	2		4	7.50	2		9		9		9		9			9		9		9		9			9		9
19	2	702.3	35.513	35.507	2	10.952	10.863	27.216	155.6	2	147.8	2	120.9	0.00	2	19.72	2		4	8.50	2		9		9		9		9			9		9		9		9			9		9
18	2	749.9	35.430	35.434	2	10.253	10.162	27.276	148.3	2	143.8	2	129.2	0.00	2	21.97	2		4	10.50	2		9		9		9		9			9	2182.6	2	7.7152	2	2334	2	2326		9		9
17	2	797.9	35.370	35.373	2	9.758	9.664	27.315	143.6	2	144.9	2	131.2	0.00	2	23.34	2		4	12.00	2		9		9		9	0.21	2			9				9		9			9		9
16	2	815.4	35.352	35.352	2	9.554	9.459	27.334	145.1	2	146.4	2	131.0	0.00	2	23.53	2		4	12.40	2		9		9		9		9	746.4	483.9	3	2188.6	2	7.6945	2	2332	2	2323		9		9
15	2	899.4	35.248	35.248	2	8.444	8.346	27.431	145.3	2	169.2	2	115.3	0.00	2	25.29	2		4	15.00	2		9		9		9		9			9		9		9		9			9		9
14	2	1099.9	35.105	35.108	2	6.613	6.506	27.584	168.7	2	201.0	2	96.1	0.00	2	25.30	2		4	17.80	2		9		9		9	0.10	2			9	2195.2	6	7.6693	2	2325	2	2319		9		9
13	2	1300.7	35.028	35.027	2	5.405	5.289	27.677	201.7	2	221.4	2	84.5	0.00	2	23.34	2		4	17.50	2		9		9		9		9			9		9		9		9			9		9
12	2	1500.6	35.045	35.044	2	4.881	4.751	27.754	224.7	2	232.8	2	77.0	0.00	2	21.58	2		4	17.10	2		9		9		9		9			9	2176.3	2	7.7103	2		9	2316		9		9
11	2	1681.7	35.040	35.040	2	4.465	4.322	27.799	235.1	2	243.8	2	69.3	0.00	2	20.71	2		4	17.90	2		9		9		9	0.22	2			9		9		9		9			9		9
10	2	1901.7	35.035	35.034	2	4.122	3.962	27.835	244.0	2	249.0	2	66.8	0.00	2	20.02	2		4	19.00	2		9		9		9		9			9		9		9		9			9		9
9	2	2091.6	35.016	35.016	2	3.756	3.583	27.859	250.1	2	251.2	2	67.6	0.00	2	19.73	2		4	21.60	2		9		9		9		9	676.5	334.1	3	2171.8	2	7.7348	2		5	2322		9		9
8	2	2343.0	34.984	34.985	2	3.329	3.138	27.877	251.2	2	251.0	2	71.5	0.00	2	19.93	2		4	25.70	2	0.03	4	0.02	2	0.01	2	0.19	2			9		9		9		9			9		9
7	2	2601.4	34.959	34.960	2	3.016	2.806	27.889	252.1	2	250.3	2	74.9	0.00	2	20.41	2		4	30.20	2		9		9		9		9			9	2180.7	2	7.7323	2		5	2330		9		9
6	2	2837.0	34.946	34.945	2	2.853	2.622	27.895	250.8	2	248.0	2	78.7	0.00	2	20.71	2		4	33.10	2	0.01	2	0.00	2	0.00	2	0.10	2			9		9		9		9			9		9
5	2	3098.4	34.932	34.932	2	2.700	2.445	27.902	247.6	2	248.7	2	79.5	0.00	2	21.20	2		4	36.50	2		9		9		9		9	712.1	333.5	3	2189.0	2	7.7305	2		5	2338		9		9
4	2	3344.4	34.921	34.922	2	2.597	2.319	27.905	249.5	2	249.5	2	79.8	0.00	2	21.39	2		4	38.80	2	0.00	2	0.00	2	0.01	2	0.02	2			9		9		9		9			9		9
3	2	3596.6	34.913	34.913	2	2.529	2.225	27.908	249.2	2	250.2	2	79.9	0.00	2	21.59	2		4	40.50	2	0.00	2	0.00	2	0.00	2	0.02	2			9		9		9		9			9		9
2	9	4037.2	34.901		2	2.463	2.111	27.911	246.5	2		9			9		9		9		9		1		1		1		9			9		9		9		9			9		9
1	2	4037.4	34.902	34.903	2	2.463	2.111	27.912	246.4	2	250.3	6	80.8	0.00	6	21.68	6		4	42.80	6	0.00	2	0.00	2	0.00	2	0.03	6	729.2	337.4	3	2193.1	2	7.7263	2		9	2340		9		9

* WOCE water sample quality flag (F) for parameter for the previous column
** WOCE quality flag (F) for "Niskin" sample bottle
*** PSS-78 scale
**** ITS0 scale

A5R
NOAA Ship Ronald H. Brown

STATION 48 DATE 2/4/1998 LATITUDE 24.500° N
LONGITUDE 42.733° W

Bottle Number	F**	Pressure db	CTD Salinity***	Bottle Salinity***	F*	Temp**** °C	Theta °C	Sigma Theta	CTD O2 µmol/kg	F*	Bottle O2 µmol/kg	F*	AOU	NO2 µmol/kg	F*	NO3 µmol/kg	F*	PO4 µmol/kg	F*	Si(OH)4 µmol/kg	F*	CFC-11 pmol/kg	F*	CFC-12 pmol/kg	F*	CFC-113 pmol/kg	F*	CCl4 pmol/kg	F*	fCO2 at 20 °C µatm	fCO2 INSITU µatm	F*	DIC µmol/kg	F*	pH	F*	Measured TA µmol/kg	F*	Calculated TA µmol/kg	TOC µmol/kg	F*	TON µmol/kg	F*
36	2	6.5	37.511	37.513	2	24.051	24.050	25.531	216.0	2	211.1	2	-4.9	0.00	2	0.00	2		4	0.50	2	1.87	2	1.08	2	0.15	2		9	289.9	340.1	3	2079.1	6	8.0977	2	2448	2	2453		9		9
35	2	51.6	37.508	37.506	2	24.055	24.044	25.533	214.0	2	211.2	2	-4.9	0.00	2	0.00	2		4	0.40	2	1.89	2	1.08	2	0.17	2		9			9		9		9		9				9		9
34	2	100.9	37.451	37.450	2	23.811	23.790	25.569	214.6	2	213.0	2	-5.8	0.00	2	0.00	2		4	0.40	2	1.91	6	1.10	6	0.19	6		9			9		9	8.0900	2	2443	2			9		9
33	2	151.3	37.259	37.252	2	21.491	21.461	26.097	214.4	2	211.6	2	4.5	0.05	2	0.20	2		4	0.50	2	2.15	2	1.23	2	0.16	2		9			9		9		9		9				9		9
32	2	185.2	37.054	37.054	2	20.280	20.245	26.275	204.3	2	203.5	2	17.6	0.02	2	1.07	2		4	0.60	2	2.22	2	1.26	2	0.14	2		9			9		9		9		9				9		9
31	2	205.2	36.985	36.982	2	19.938	19.900	26.315	200.3	2	201.9	2	20.7	0.01	2	1.56	2		4	0.60	2	2.25	6	1.28	6	0.11	6		9			9		9	8.0040	2	2429	2			9		9
30	2	231.2	36.722	36.722	2	18.718	18.677	26.433	199.3	2	199.6	2	28.4	0.01	2	3.02	2		4	1.10	2	2.30	2	1.29	2	0.06	2		9			9		9		9		9				9		9
29	2	253.6	36.554	36.555	2	17.893	17.849	26.512	199.7	2	199.5	2	32.3	0.00	2	4.29	2		4	1.60	2	2.32	2	1.29	2	0.04	2		9			9		9		9		9				9		9
28	2	280.9	36.472	36.476	2	17.481	17.433	26.553	199.1	2	198.5	2	35.3	0.00	2	5.17	2		4	1.70	2	2.37	2	1.30	2	0.03	2		9			9		9	7.9616	2	2386	2			9		9
27	2	322.6	36.357	36.361	2	16.828	16.774	26.624	197.5	2	196.4	2	40.6	0.00	2	6.34	2		4	2.10	2	2.32	2	1.27	2	0.03	2		9			9		9		9		9				9		9
26	2	359.0	36.271	36.277	2	16.254	16.196	26.695	188.5	2	188.4	2	51.3	0.00	2	8.10	2		4	2.50	2	2.28	2	1.24	2	0.03	2		9			9		9		9		9				9		9
25	2	450.2	36.004	36.007	2	14.611	14.543	26.862	176.0	2	180.7	2	67.4	0.00	2	11.32	2		4	4.00	2	2.14	2	1.12	2	0.03	2		9			9		9	7.8666	2	2362	2			9		9
24	2	551.7	35.695	35.699	2	12.497	12.422	27.062	173.7	2	170.6	2	89.1	0.00	2	15.81	2		4	6.10	2	1.67	2	0.85	2	0.02	2		9			9		9		9		9				9		9
23	2	649.4	35.545	35.550	2	11.270	11.187	27.182	165.7	2	164.0	2	102.8	0.00	2	18.55	2		4	8.00	2	1.17	2	0.59	2	0.01	2		9			9		9		9		9				9		9
22	2	751.5	35.414	35.413	2	10.133	10.042	27.284	151.5	2		9		0.00	2	22.26	2		4	11.20	2	0.57	2	0.28	2	0.01	2		9			9		9	7.6834	2	2339	2			9		9
21	2	850.3	35.296	35.298	2	8.923	8.827	27.393	146.6	2	152.0	2	129.4	0.00	2	24.51	2		4	14.50	2	0.27	2	0.13	2	0.00	2		9			9		9		9		9				9		9
20	2	950.9	35.140	35.154	2	7.681	7.582	27.461	153.1	2	163.6	2	126.1	0.00	2	25.88	2		4	17.10	2	0.14	6	0.07	6	0.00	6		9			9		9		9		9				9		9
19	2	1051.7	35.041	35.041	2	6.614	6.512	27.532	164.6	2	171.4	2	125.8	0.00	2	26.27	2		4	18.90	2	0.07	2	0.04	2	0.00	2		9			9		9	7.6573	2	2328	3			9		9
18	2	1102.3	35.019	35.020	2	6.249	6.145	27.562	171.5	2	190.1	2	109.7	0.00	2	25.88	2		4	19.20	2		9		9		9		9			9		9		9		9				9		9
17	2	1202.5	35.025	35.024	2	5.758	5.648	27.631	191.6	2	203.1	2	100.2	0.00	2	24.22	2		4	18.70	2	0.09	2	0.04	2	0.01	2		9			9		9		9		9				9		9
16	2	1301.6	35.036	35.035	2	5.465	5.348	27.677	204.4	2	217.9	2	87.5	0.00	2	22.95	2		4	17.90	2		9		9		9		9			9		9	7.6918	2	2330	3			9		9
15	2	1402.2	35.056	35.055	2	5.200	5.076	27.725	219.7	2	226.1	2	81.3	0.00	2	21.49	2		4	16.90	2	0.11	2	0.06	2	0.00	2		9			9		9		9		9				9		9
14	2	1500.6	35.060	35.060	2	4.946	4.815	27.759	228.5	2	231.9	2	77.4	0.00	2	20.90	2		4	17.00	2		9		9		9		9			9		9		9		9				9		9
13	2	1602.5	35.070	35.070	2	4.772	4.633	27.789	233.8	2	238.2	2	72.4	0.00	2	20.41	2		4	17.90	2		9		9		9		9			9		9	7.7235	2	2344	3			9		9
12	2	1703.2	35.063	35.064	2	4.518	4.372	27.812	241.0	2	241.6	2	71.0	0.00	2	20.02	2		4	18.50	2	0.10	2	0.05	2	0.01	2		9			9		9		9		9				9		9
11	2	1848.0	35.052	35.052	2	4.245	4.089	27.835	244.8	2	245.5	2	69.3	0.00	2	19.83	2		4	19.70	2		9		9		9		9			9		9		9		9				9		9
10	2	1999.3	35.038	35.037	2	4.008	3.840	27.850	249.6	2	249.2	2	67.6	0.00	2	19.73	2		4	20.80	2	0.07	2	0.03	2	0.01	2		9			9		9	7.7340	2	2341	3			9		9
9	2	2151.4	35.012	35.013	2	3.695	3.517	27.863	251.5	2	250.4	2	69.0	0.00	2	19.73	2		4	22.80	2		9		9		9		9			9		9		9		9				9		9
8	2	2301.3	34.992	34.993	2	3.422	3.234	27.875	250.7	2	250.5	2	71.2	0.00	2	19.83	2		4	25.40	2	0.04	2	0.02	2	0.00	2		9			9		9		9		9				9		9
7	2	2448.4	34.976	34.975	2	3.215	3.016	27.882	249.7	2	247.5	2	76.0	0.00	2	20.22	2		4	27.80	2		9		9		9		9			9		9		9		9				9		9
6	2	2600.7	34.964	34.964	2	3.070	2.859	27.888	248.2	2	247.3	2	77.5	0.00	2	20.71	2		4	30.30	2	0.00	2	0.00	2	0.00	2		9			9		9	7.7315	2	2345	3			9		9
5	2	2802.5	34.949	34.949	2	2.877	2.649	27.896	248.2	2	247.7	2	78.8	0.00	2	20.90	2		4	33.30	2		9		9		9		9			9		9		9		9				9		9
4	2	3002.8	34.936	34.936	2	2.735	2.490	27.900	248.5	2	248.9	2	78.9	0.00	2	21.20	2		4	35.90	2	0.00	2	0.00	2	0.00	2		9			9		9		9		9				9		9
3	2	3201.9	34.926	34.927	2	2.649	2.385	27.902	251.4	2	249.7	2	79.0	0.00	2	21.20	2		4	37.70	2	0.00	6	0.00	6	0.00	6		9			9		9		9		9				9		9
2	2	3398.2	34.915		2	2.540	2.258	27.905	251.6	2		9			9		9		9		9		1		1		1		9			9		9		9		9				9		9
1	2	3514.8	34.913	34.912	2	2.526	2.231	27.907	252.2	2	249.8	2	80.3	0.00	6	21.49	6		4	40.50	6	0.00	6	0.00	6	0.00	6		9			9		9	7.7276	2	2352	3			9		9

* WOCE water sample quality flag (F) for parameter for the previous column
** WOCE quality flag (F) for "Niskin" sample bottle
*** PSS-78 scale
**** ITS0 scale

A5R
NOAA Ship Ronald H. Brown

STATION 49 DATE 2/4/1998 LATITUDE 24.500° N
LONGITUDE 43.284° W

Bottle Number	F**	Pressure db	CTD Salinity***	Bottle Salinity***	F*	Temp**** °C	Theta °C	Sigma Theta	CTD O2 µmol/kg	F*	Bottle O2 µmol/kg	F*	AOU	NO2 µmol/kg	F*	NO3 µmol/kg	F*	PO4 µmol/kg	F*	Si(OH)4 µmol/kg	F*	CFC-11 pmol/kg	F*	CFC-12 pmol/kg	F*	CFC-113 pmol/kg	F*	CCl4 pmol/kg	F*	fCO2 at 20 °C µatm	fCO2 INSITU µatm	F*	DIC µmol/kg	F*	pH	F*	Measured TA µmol/kg	F*	Calculated TA µmol/kg	TOC µmol/kg	F*	TON µmol/kg	F*
36	2	8.3	37.513	37.514	2	24.306	24.304	25.457	207.4	2	210.0	2	-4.7	0.00	2	0.00	2	4	0.60	2	9	9	9	9	254.6	301.9	3	2079.6	6	8.0835	2	2448	2	2443		9		9
35	2	31.6	37.513	37.514	2	24.309	24.302	25.458	209.3	2	208.8	2	-3.5	0.00	2	0.00	2	4	0.60	2	9	9	9	9	255.6	303.2	3	2081.3	2		9	2447	2			9		9
34	2	61.3	37.513	37.513	2	24.286	24.273	25.469	208.2	2	209.8	2	-4.3	0.00	2	0.00	2	4	0.50	2	9	9	9	9	255.8	303.1	3	2079.4	2	8.0935	2	2448	2	2450		9		9
33	2	110.4	37.470	37.459	2	23.981	23.958	25.534	208.9	2	208.1	2	-1.5	0.01	2	0.00	2	4	0.40	2	9	9	9	9	268.9	314.9	3	2084.7	2	8.0846	2		5	2449		9		9
32	2	161.0	37.119	37.110	2	20.914	20.883	26.151	193.8	2	192.5	2	26.0	0.02	2	1.95	2	4	0.70	2	9	9	9	9	349.9	362.9	3	2120.5	2	8.0013	2	2422	2	2426		9		9
31	2	209.9	36.879	36.882	2	19.443	19.405	26.364	190.7	2	193.3	2	31.5	0.01	2	2.93	2	4	0.70	2	9	9	9	9	367.0	359.0	3	2122.3	2	7.9838	2		5	2414		9		9
30	2	225.8	36.753	36.752	2	18.811	18.771	26.432	191.0	2	194.0	2	33.6	0.01	2	3.61	2	4	0.90	2	9	9	9	9			9		9		9		9			9		9
29	2	250.8	36.662	36.655	2	18.369	18.325	26.476	190.1	2	190.6	2	39.0	0.01	2	4.39	2	4	1.00	2	9	9	9	9	391.6	366.7	3	2120.0	2	7.9661	2	2392	2	2399		9		9
28	2	275.3	36.553	36.554	2	17.830	17.782	26.529	191.4	2	195.0	2	37.1	0.00	2	4.97	2	4	1.20	2	9	9	9	9			9		9		9		9			9		9
27	2	303.8	36.438	36.442	2	17.209	17.158	26.594	189.2	2	189.3	2	45.8	0.00	2	6.54	2	4	1.50	2	9	9	9	9			9	2136.4	2	7.9390	2		5	2398		9		9
26	2	401.9	36.156	36.144	2	15.541	15.478	26.772	184.3	2	182.8	2	60.6	0.00	2	9.85	2	4	2.70	2	9	9	9	9	510.0	425.5	3	2137.0	2	7.8885	2	2363	2	2367		9		9
25	2	502.0	35.795	35.795	2	13.290	13.219	26.980	180.1	2	179.8	2	75.5	0.00	2	13.66	2	4	4.60	2	9	9	9	9			9		9		9		9			9		9
24	2	601.8	35.625	35.627	2	11.989	11.909	27.108	173.1	2	173.6	2	89.0	0.00	2	16.40	2	4	6.10	2	9	9	9	9	595.5	427.8	3	2158.5	2	7.7935	2	2331	2	2338		9		9
23	2	693.6	35.492	35.490	2	10.810	10.723	27.225	166.2	2	164.4	2	105.2	0.00	2	19.33	2	4	8.50	2	9	9	9	9			9		9		9		9			9		9
22	2	799.6	35.352	35.351	2	9.473	9.380	27.348	159.4	2	158.2	2	119.6	0.00	2	22.06	2	4	11.60	2	9	9	9	9	727.1	469.3	3	2182.2	2	7.7146	2		9	2325		9		9
21	2	900.6	35.226	35.223	2	8.163	8.066	27.456	156.6	2	158.1	2	128.3	0.00	2	24.31	2	4	14.70	2	9	9	9	9			9		9		9		9			9		9
20	2	997.4	35.131	35.130	2	7.051	6.952	27.543	163.6	2	167.5	2	126.5	0.00	2	24.90	2	4	16.40	2	9	9	9	9			9	2194.9	6	7.6755	2	2322	2	2321		9		9
19	2	1100.0	35.075	35.074	2	6.291	6.187	27.602	180.9	2	179.8	2	119.6	0.00	2	24.51	2	4	17.20	2	9	9	9	9			9		9		9		9			9		9
18	2	1201.4	35.047	35.047	2	5.739	5.629	27.650	199.3	2	194.4	2	109.0	0.00	2	23.53	2	4	17.00	2	9	9	9	9			9		9		9		9			9		9
17	2	1301.3	35.050	35.050	2	5.309	5.194	27.706	212.9	2	209.9	2	96.6	0.00	2	22.26	2	4	16.20	2	9	9	9	9	750.3	400.9	3	2180.0	2	7.7006	2	2320	2	2316		9		9
16	2	1400.6	35.055	35.055	2	5.078	4.955	27.738	222.1	2	219.7	2	88.6	0.00	2	21.39	2	4	15.80	2	9	9	9	9			9		9		9		9			9		9
15	2	1500.4	35.069	35.069	2	4.913	4.782	27.770	229.5	2	227.9	2	81.6	0.00	2	20.60	2	4	15.70	2	9	9	9	9			9		9		9		9			9		9
14	2	1599.3	35.069	35.069	2	4.711	4.573	27.794	236.0	2	234.1	2	77.0	0.00	2	20.12	2	4	15.90	2	9	9	9	9			9	2171.5	2	7.7250	2	2325	2	2317		9		9
13	2	1701.0	35.055	35.054	2	4.416	4.272	27.816	240.9	2	238.9	2	74.5	0.00	2	19.92	2	4	17.10	2	9	9	9	9			9		9		9		9			9		9
12	2	1799.6	35.031	35.030	2	4.082	3.933	27.833	240.0	2	239.7	2	76.4	0.00	2	20.31	2	4	19.40	2	9	9	9	9			9		9		9		9			9		9
11	2	1997.8	35.009	35.009	2	3.725	3.562	27.855	245.4	2	244.4	2	74.6	0.00	2	20.21	2	4	21.80	2	9	9	9	9			9	2172.4	2	7.7304	2	2326	2	2321		9		9
10	2	2197.5	34.995	34.995	2	3.507	3.328	27.867	245.9	2	246.9	2	74.0	0.00	2	20.21	2	4	23.70	2	9	9	9	9	698.2	340.8	3		9		9		9			9		9
9	2	2391.2	34.977	34.977	2	3.252	3.058	27.880	247.4	2	248.1	2	75.0	0.00	2	20.41	2	4	26.70	2	9	9	9	9			9		9		9		9			9		9
8	2	2601.2	34.962	34.962	2	3.055	2.844	27.888	247.7	2	248.4	2	76.5	0.00	2	20.61	2	4	29.50	2	9	9	9	9			9	2181.2	2	7.7310	2	2337	2	2330		9		9
7	2	2800.2	34.952	34.952	2	2.917	2.689	27.895	247.5	2	247.7	2	78.5	0.00	2	20.90	2	4	31.80	2	9	9	9	9			9		9		9		9			9		9
6	2	3001.0	34.937	34.936	2	2.748	2.503	27.899	249.0	2	248.9	2	78.8	0.00	2	21.00	2	4	35.00	2	9	9	9	9			9		9		9		9			9		9
5	2	3200.6	34.925	34.925	2	2.629	2.365	27.903	251.0	2	249.5	2	79.4	0.00	2	21.19	2	4	37.40	2	9	9	9	9	715.0	333.6	3	2189.8	2	7.7297	2	2343	2	2338		9		9
4	2	3400.5	34.918	34.917	2	2.569	2.286	27.905	251.0	2	249.6	2	80.0	0.00	2	21.29	2	4	38.90	2	9	9	9	9			9		9		9		9			9		9
3	2	3600.1	34.914	34.914	2	2.554	2.249	27.907	249.9	2	250.1	2	79.8	0.00	2	21.29	2	4	39.60	2	9	9	9	9			9		9		9		9			9		9
2	2	3761.5	34.912		2	2.543	2.221	27.909	248.6	2		9			9		9	9		9	1	1	1	1			9		9		9		9			9		9
1	2	3762.6	34.912	34.913	2	2.542	2.219	27.909	248.6	2	250.7	6	79.5	0.00	6	21.39	6	4	40.00	6	9	9	9	9	767.1	357.5	3	2191.5	2	7.7279	2	2342	2	2339		9		9

* WOCE water sample quality flag (F) for parameter for the previous column
** WOCE quality flag (F) for "Niskin" sample bottle
*** PSS-78 scale
**** ITS0 scale

A5R
NOAA Ship Ronald H. Brown

STATION 50 DATE 2/5/1998 LATITUDE 24.500° N
LONGITUDE 43.473° W

Bottle Number	F**	Pressure db	CTD Salinity***	Bottle Salinity***	F*	Temp**** °C	Theta °C	Sigma Theta	CTD O2 µmol/kg	F*	Bottle O2 µmol/kg	F*	AOU	NO2 µmol/kg	F*	NO3 µmol/kg	F*	PO4 µmol/kg	F*	Si(OH)4 µmol/kg	F*	CFC-11 pmol/kg	F*	CFC-12 pmol/kg	F*	CFC-113 pmol/kg	F*	CCl4 pmol/kg	F*	fCO2 at 20 °C µatm	fCO2 INSITU µatm	F*	DIC µmol/kg	F*	pH	F*	Measured TA µmol/kg	F*	calculated TA µmol/kg	TOC µmol/kg	F*	TON µmol/kg	F*
36	2	5.2	37.495	37.494	2	24.030	24.029	25.525	214.0	2	213.1	2	-6.8	0.00	2	0.00	2		4	0.40	2	1.89	2	1.09	2	0.15	2		9	256.0	300.3	3	2077.0	6	8.0909	2	2447	2	2445	83.0	2	5.8	2
35	2	44.9	37.494	37.496	2	24.045	24.035	25.525	210.3	2	210.3	2	-4.0	0.00	2	0.00	2		4	0.40	2	1.88	2	1.08	2	0.18	2		9			9	2077.3	2	8.0922	2	2457	2	2446	82.8	2	4.6	2
34	2	90.6	37.239	37.229	2	22.748	22.729	25.718	209.9	2	216.4	2	-5.1	0.01	2	0.00	2		4	0.40	2	2.06	2	1.17	2	0.19	2		9	282.6	316.2	3	2082.6	2	8.0652	2	2425	2	2430	79.5	2	4.2	2
33	2	137.2	36.926	36.923	2	20.254	20.228	26.179	212.9	2	206.7	2	14.6	0.05	2	0.68	2		4	0.60	2	2.26	2	1.28	2	0.14	2		9	329.9	333.2	3	2100.4	2	8.0148	2		9	2411	65.8	2	4.4	2
32	2	181.5	36.777	36.798	2	19.241	19.208	26.336	192.7	2	199.9	2	25.8	0.01	2	2.15	2		4	0.80	2	2.27	2	1.28	2	0.09	2		9			9	2105.6	2	7.9951	2	2405	2	2403	63.3	2	5.4	2
31	2	225.5	36.609	36.607	2	18.340	18.300	26.441	200.4	2	204.3	2	25.5	0.00	2	3.32	2		4	1.00	2	2.27	2	1.22	2	0.00	2		9	359.8	336.5	3	2099.7	2	7.9876	2		9	2390	61.8	2		9
30	2	249.1	36.524	36.524	2	17.899	17.856	26.488	202.8	2	205.3	2	26.6	0.00	2	4.10	2		4	1.30	2	2.31	6	1.27	6	0.02	6		9			9	2100.5	2	7.9848	2	2399	2	2389	60.5	2	7.3	2
29	2	275.1	36.490	36.490	2	17.683	17.636	26.517	201.3	2	200.2	2	32.7	0.00	2	4.68	2		4	1.40	2	2.40	2	1.33	2	0.04	2		9			9	2103.7	2	7.9704	2		9	2383	59.7	2	7.9	2
28	2	301.8	36.468	36.467	2	17.516	17.465	26.542	196.8	2	199.7	2	34.0	0.00	2	5.17	2		4	1.50	2	2.35	2	1.28	2	0.04	2		9	385.4	348.3	3	2108.4	2	7.9627	2		5	2383		9		9
27	2	344.0	36.326	36.343	2	16.645	16.588	26.645	195.8	2	195.7	2	42.1	0.00	2	6.73	2		4	2.00	2	2.32	2	1.27	2	0.04	2		9			9	2116.0	2	7.9368	2		9	2374	57.1	2	9.9	2
26	2	397.9	36.230	36.236	2	16.040	15.976	26.716	193.0	2	193.2	2	47.6	0.00	2	8.00	2		4	2.40	2	2.31	2	1.24	2	0.03	2		9			9	2121.3	2	7.9190	2	2369	2	2369		9		9
25	2	449.4	36.018	36.019	2	14.772	14.704	26.838	189.8	2	188.1	2	59.2	0.00	2	10.54	2		4	3.50	2	2.17	2	1.15	2	0.03	2		9	474.6	383.2	3	2129.1	2	7.8776	2		9	2352		9		9
24	2	500.7	35.921	35.920	2	14.107	14.033	26.908	187.1	2	186.2	2	64.7	0.00	2	11.81	2		4	4.00	2	2.12	2	1.11	2	0.03	2		9			9	2135.5	2	7.8603	2	2348	2	2349		9		9
23	2	548.2	35.816	35.818	2	13.363	13.285	26.984	184.4	2	184.5	2	70.4	0.00	2	13.18	2		4	4.60	2	2.00	2	1.03	2	0.02	2		9			9	2140.9	2	7.8311	2		9	2339	56.0	2	16.2	2
22	2	600.8	35.705	35.712	2	12.531	12.449	27.067	181.9	2	180.5	2	79.0	0.00	2	14.74	2		4	5.50	2	1.80	2	0.91	2	0.02	2		9	573.6	421.7	3	2151.2	2	7.8144	2	2340	2	2341		9		9
21	2	648.7	35.581	35.593	2	11.605	11.520	27.148	178.1	2	174.9	2	89.9	0.00	2	16.89	2		4	6.90	2	1.46	2	0.74	2	0.03	2		9			9	2158.6	2		9		9			9		9
20	2	700.6	35.483	35.483	2	10.746	10.658	27.230	162.8	2	162.3	2	107.7	0.00	2	19.82	2		4	9.20	2	0.92	6	0.47	6	0.01	6		9	707.3	482.9	3	2171.1	2	7.7481	2	2329	2	2329		9		9
19	2	753.2	35.404	35.410	2	9.961	9.871	27.306	161.2	2	154.6	2	120.2	0.00	2	21.29	2		4	10.80	2	0.66	2	0.33	2	0.01	2		9	697.4	459.7	3	2178.1	2		9		9			9	23.6	2
18	2	801.9	35.311	35.315	2	9.117	9.026	27.373	155.4	2	154.5	2	125.6	0.00	2	23.24	2		4	13.10	2	0.39	2	0.19	2	0.01	2		9	747.9	475.4	3	2188.1	2	7.6993	2	2330	2	2325		9		9
17	2	853.4	35.251	35.252	2	8.550	8.456	27.416	153.6	2	153.9	2	129.9	0.00	2	24.22	2		4	14.60	2	0.27	2	0.14	2	0.02	2		9			9	2188.4	2	7.6861	2		9	2319		9		9
16	2	902.4	35.197	35.195	2	8.033	7.937	27.452	156.0	2	155.9	2	131.4	0.00	2	24.91	2		4	15.70	2	0.19	2	0.09	2	0.01	2		9	795.9	482.8	3	2192.2	2	7.6770	2	2319	2	2319	43.9	2		9
15	2	1101.1	35.062	35.062	2	6.190	6.087	27.604	181.4	2	180.3	2	119.8	0.00	2	24.81	2		4	18.00	2	0.08	2	0.04	2	0.00	2		9			9	2191.4	6		9		9			9		9
14	2	1302.7	35.047	35.046	2	5.305	5.190	27.704	212.5	2	210.1	2	96.5	0.00	2	22.37	2		4	16.80	2	0.10	2	0.05	2	0.00	2		9			9	2179.4	2	7.6998	2	2321	2	2315		9		9
13	2	1500.1	35.073	35.072	2	4.947	4.816	27.770	231.7	2	229.0	2	80.3	0.00	2	20.61	2		4	16.00	2		9		9		9		9	712.3	373.5	3	2173.2	2		9		9		42.3	2	23.4	2
12	2	1700.7	35.067	35.066	2	4.476	4.331	27.820	242.5	2	239.5	2	73.4	0.00	2	19.93	2		4	17.50	2	0.10	2	0.05	2	0.00	2		9			9	2170.5	2	7.7284	2	2319	2	2318		9		9
11	2	1900.4	35.040	35.040	2	4.051	3.892	27.846	247.2	2	246.0	2	70.4	0.00	2	19.83	2		4	19.60	2		9		9		9		9			9	2170.5	2		9		9			9		9
10	2	2099.4	35.006	35.006	2	3.591	3.420	27.866	250.1	2	251.5	2	68.7	0.00	2	19.93	2		4	23.00	2	0.04	2	0.02	2	0.00	2		9	694.1	340.3	3	2171.9	2	7.7318	2	2326	2	2321		9		9
9	2	2300.2	34.984	34.985	2	3.330	3.144	27.876	249.5	2	251.0	2	71.4	0.00	2	20.12	2		4	25.90	2	0.02	2	0.01	2	0.00	2		9			9	2173.5	2		9		9		42.0	2		9
8	9	2499.5	34.967		2	3.103	2.901	27.886	251.3	2		9			9		9		9		9		9		9		9		9			9		9		9		9			9		9
7	2	2700.2	34.951	34.952	2	2.903	2.685	27.893	250.2	2	249.8	2	76.4	0.00	2	20.71	2		4	32.20	2		9		9		9		9			9	2183.0	2		9		9			9		9
6	2	2900.1	34.939	34.938	2	2.755	2.520	27.899	249.3	2	248.7	2	78.9	0.00	2	21.10	2		4	35.10	2	0.00	2	0.00	2	0.00	2		9			9	2186.7	2	7.7293	2		5	2335		9		9
5	2	3091.6	34.927	34.928	2	2.652	2.399	27.901	250.8	2	249.7	2	78.9	0.00	2	21.20	2		4	37.20	2		9		9		9		9	704.4	328.9	3	2187.9	2		9		9		41.7	2		9
4	2	3349.5	34.919	34.918	2	2.574	2.296	27.904	248.2	2	250.0	2	79.5	0.00	2	21.39	2		4	39.20	2	0.00	2	0.00	2	0.00	2		9			9	2189.9	2	7.7353	2	2342	2	2341		9		9
3	2	3595.4	34.914	34.914	2	2.550	2.246	27.907	247.1	2	251.5	2	78.4	0.00	2	21.39	2		4	40.00	2	0.00	2	0.00	2	0.00	2		9			9	2190.3	2		9		9			9		9
2	2	3799.7	34.911		2	2.542	2.215	27.909	245.5	2		9			9		9		9		9		1		1		1		9			9		9		9		9			9		9
1	2	3799.5	34.910	34.911	2	2.543	2.216	27.908	245.4	2	250.5	6	79.7	0.00	6	21.49	6		4	40.50	6	0.00	6	0.00	6	0.00	2		9	764.4	356.2	3	2191.5	2		9	2348	2		41.6	2		9

* WOCE water sample quality flag (F) for parameter for the previous column
** WOCE quality flag (F) for "Niskin" sample bottle
*** PSS-78 scale
**** ITS0 scale

A5R
NOAA Ship Ronald H. Brown

STATION 51 DATE 2/5/1998 LATITUDE 24.500° N
LONGITUDE 44.386° W

Bottle Number	F**	Pressure db	CTD Salinity***	Bottle Salinity***	F*	Temp**** °C	Theta °C	Sigma Theta	CTD O2 µmol/kg	F*	Bottle O2 µmol/kg	F*	AOU	NO2 µmol/kg	F*	NO3 µmol/kg	F*	PO4 µmol/kg	F*	Si(OH)4 µmol/kg	F*	CFC-11 pmol/kg	F*	CFC-12 pmol/kg	F*	CFC-113 pmol/kg	F*	CCl4 pmol/kg	F*	fCO2 at 20 °C µatm	fCO2 INSITU µatm	F*	DIC µmol/kg	F*	pH	F*	Measured TA µmol/kg	F*	Calculated TA µmol/kg	TOC µmol/kg	F*	TON µmol/kg	F*
36	2	5.2	37.496	37.495	2	24.282	24.281	25.450	211.0	2	210.7	2	-5.3	0.00	2	0.00	2		4	0.10	2	1.86	2	1.09	2	0.15	2	1.90	2	257.5	305.1	3	2073.1	6	8.1021	2	2452	2	2449		9		9
35	2	48.5	37.496	37.495	2	24.290	24.280	25.453	210.5	2	210.9	2	-5.4	0.00	2	0.00	2		4	0.10	2		9		9		9	1.76	2			9		9		9		9				9		9
34	2	100.0	37.481	37.482	2	24.229	24.208	25.467	210.3	2	211.0	2	-5.3	0.00	2	0.00	2		4	0.10	2		9		9		9		9	253.7	299.9	3	2072.5	2	8.1006	2	2450	2	2447		9		9
33	2	139.6	37.170	37.180	2	21.584	21.556	26.002	202.6	2	207.4	2	8.4	0.04	2	0.39	2		4	0.10	2		9		9		9	1.09	2			9	2101.2	2	8.0333	2		5	2427		9		9
32	2	201.3	36.835	36.861	2	19.448	19.411	26.329	193.2	2	194.9	2	29.9	0.01	2	2.44	2		4	0.40	2		9		9		9	0.78	2	365.5	357.4	3	2112.0	2	7.9921	2	2417	2	2408		9		9
31	2	225.5	36.766	36.753	2	19.078	19.037	26.374	192.9	2	194.6	2	31.9	0.01	2	3.22	2		4	0.60	2		9		9		9		9			9		9		9		9				9		9
30	2	248.9	36.597	36.598	2	18.220	18.176	26.464	193.1	2	194.7	2	35.7	0.01	2	4.39	2		4	1.00	2		9		9		9	0.57	2	414.2	385.5	3	2108.9	2	7.9708	2	2403	3	2389		9		9
29	2	272.9	36.528	36.532	2	17.821	17.774	26.512	193.0	2	194.1	2	38.1	0.01	2	5.07	2		4	1.10	2		9		9		9		9			9		9		9		9				9		9
28	2	299.3	36.464	36.465	2	17.475	17.424	26.549	192.8	2	192.3	2	41.6	0.01	2	5.95	2		4	1.30	2		9		9		9	0.49	2	397.6	358.9	3	2114.2	2	7.9496	2	2389	2	2381		9		9
27	2	352.0	36.362	36.358	2	16.859	16.800	26.623	185.5	2	187.9	2	48.9	0.01	2	7.32	2		4	1.70	2		9		9		9		9			9		9		9		9				9		9
26	2	400.4	36.226	36.227	2	16.035	15.971	26.714	181.3	2	183.5	2	57.4	0.00	2	8.98	2		4	2.20	2		9		9		9	0.44	6	452.1	384.5	3	2128.5	2	7.9041	2	2372	2	2368		9		9
25	2	450.2	36.044	36.047	2	14.922	14.853	26.826	172.9	2	173.7	2	72.8	0.00	2	11.62	2		4	3.20	2		9		9		9		9			9		9		9		9				9		9
24	2	500.6	35.902	35.901	2	14.001	13.927	26.916	179.9	2	176.7	2	74.7	0.00	2	12.79	2		4	3.90	2		9		9		9	0.42	2			9	2142.2	2	7.8449	2	2357	2	2348		9		9
23	2	601.5	35.698	35.696	2	12.572	12.489	27.053	172.6	2	170.6	2	88.7	0.00	2	15.82	2		4	5.50	2		9		9		9		9	589.0	433.7	3	2155.3	2	7.8001	2	2352	3	2338		9		9
22	2	699.3	35.481	35.486	2	10.848	10.760	27.210	159.4	2	156.7	2	112.7	0.00	2	20.12	2		4	8.80	2		9		9		9	0.26	2			9		9		9		9				9		9
21	2	815.4	35.289	35.289	2	9.201	9.108	27.343	149.9	2	148.9	2	130.7	0.00	2	23.83	2		4	13.00	2		9		9		9		9	763.4	487.4	3	2186.0	2	7.6941	2		5	2320		9		9
20	2	902.1	35.176	35.173	2	8.219	8.122	27.408	149.5	2	149.7	6	136.4	0.00	2	25.49	2		4	15.30	2		9		9		9	0.11	2			9		9		9		9				9		9
19	2	1000.8	35.105	35.112	2	7.018	6.919	27.527	160.6	2	163.5	2	130.7	0.00	2	25.40	2		4	16.80	2		9		9		9		9	818.2	474.4	3	2193.5	6	7.6690	2		5	2317		9		9
18	2	1100.2	35.042	35.045	2	6.121	6.018	27.597	179.1	2	179.1	2	121.5	0.00	2	25.01	2		4	17.70	2		9		9		9		9			9		9		9		9				9		9
17	2	1200.7	35.027	35.026	2	5.681	5.572	27.642	190.7	2	191.2	6	112.6	0.00	2	24.23	2		4	17.50	2		9		9		9	0.23	6			9		9		9		9				9		9
16	2	1300.5	35.039	35.038	2	5.331	5.216	27.694	207.6	2	206.7	2	99.7	0.00	2	22.76	2		4	16.70	2		9		9		9		9			9		9		9		9				9		9
15	2	1398.8	35.044	35.044	2	5.135	5.012	27.724	217.9	2	214.9	2	93.0	0.00	2	21.98	2		4	16.20	2		9		9		9		9			9		9		9		9				9		9
14	2	1500.1	35.047	35.049	2	4.820	4.690	27.763	225.9	2	225.7	2	84.6	0.00	2	21.10	2		4	16.30	2		9		9		9		9	743.3	388.1	3	2172.4	2	7.7131	2	2326	3	2313		9		9
13	2	1600.7	35.052	35.051	2	4.631	4.494	27.789	232.4	2	231.2	2	80.5	0.00	2	20.71	2		4	16.80	2		9		9		9		9			9		9		9		9				9		9
12	2	1799.8	35.035	35.035	2	4.187	4.036	27.826	238.6	2	240.2	2	75.1	0.00	2	20.22	2		4	18.40	2		9		9		9		9			9		9		9		9				9		9
11	2	2000.9	35.013	35.013	2	3.785	3.620	27.852	246.3	2	245.9	2	72.7	0.00	2	20.03	2		4	20.90	2		9		9		9		9			9		9		9		9				9		9
10	2	2201.2	34.995	34.994	2	3.467	3.288	27.871	250.2	2	249.3	2	71.9	0.00	2	20.03	2		4	23.40	2		9		9		9		9			9		9		9		9				9		9
9	2	2400.0	34.977	34.978	2	3.242	3.047	27.881	250.8	2	250.8	2	72.4	0.00	2	20.03	2		4	26.10	2	0.02	2	0.01	2	0.00	2	0.15	2			9		9		9		9				9		9
8	2	2601.5	34.957	34.958	2	2.978	2.768	27.890	250.1	2	250.8	2	74.7	0.00	2	20.52	2		4	29.90	2		9		9		9		9	703.1	334.1	3	2179.8	2	7.7319	2		5	2329		9		9
7	2	2801.4	34.947	34.949	2	2.875	2.647	27.895	249.1	2	249.9	2	76.6	0.00	2	20.71	2		4	31.90	2	0.01	2	0.01	2	0.00	2	0.08	2			9		9		9		9				9		9
6	2	2999.5	34.935	34.935	2	2.731	2.486	27.899	249.4	2	250.4	2	77.5	0.00	2	20.91	2		4	34.60	2		9		9		9		9			9		9		9		9				9		9
5	2	3250.1	34.926	34.926	2	2.654	2.385	27.903	250.7	2	250.6	2	78.1	0.00	2	21.10	2		4	36.50	2	0.01	2	0.00	2	0.00	2	0.08	2			9		9		9		9				9		9
4	2	3473.5	34.921	34.921	2	2.616	2.323	27.905	250.0	2	250.5	2	78.8	0.00	2	21.20	2		4	37.60	2		9		9		9	0.07	2			9		9		9		9				9		9
3	2	3741.1	34.914	34.914	2	2.567	2.246	27.908	252.1	2	252.5	2	77.4	0.00	2	21.20	2		4	38.40	2	0.00	2	0.00	2	0.00	2	0.08	2			9		9		9		9				9		9
2	2	4012.1	34.910		2	2.563	2.211	27.910	251.0	2		9			9		9		9		9		1		1		1		9			9		9		9		9				9		9
1	2	4013.3	34.910	34.911	2	2.563	2.211	27.910	251.0	2	251.4	6	78.8	0.00	6	21.40	6		4	39.40	6	0.00	2	0.00	2	0.00	2	0.07	6	750.2	349.7	3	2188.9	2	7.7288	2		5	2337		9		9

* WOCE water sample quality flag (F) for parameter for the previous column
** WOCE quality flag (F) for "Niskin" sample bottle
*** PSS-78 scale
**** ITS0 scale

A5R
NOAA Ship Ronald H. Brown

STATION 52 DATE 2/5/1998 LATITUDE 24.500° N
LONGITUDE 44.934° W

Bottle Number	F**	Pressure db	CTD Salinity***	Bottle Salinity***	F*	Temp**** °C	Theta °C	Sigma Theta	CTD O2 µmol/kg	F*	Bottle O2 µmol/kg	F*	AOU	NO2 µmol/kg	F*	NO3 µmol/kg	F*	PO4 µmol/kg	F*	Si(OH)4 µmol/kg	F*	CFC-11 pmol/kg	F*	CFC-12 pmol/kg	F*	CFC-113 pmol/kg	F*	CCl4 pmol/kg	F*	fCO2 at 20 °C µatm	fCO2 INSITU µatm	F*	DIC µmol/kg	F*	pH	F*	Measured TA µmol/kg	F*	Calculated TA µmol/kg	TOC µmol/kg	F*	TON µmol/kg	F*
36	2	6.7	37.501	37.502	2	24.339	24.338	25.437	210.5	2	212.1	2	-6.9		9		9		9		9	1.86	2	1.07	2	0.15	2		9	316.9	375.6	3	2074.4	6	8.1021	2	2457	6	2451	70.0	2		9
35	3	35.7	37.500	37.500	2	24.329	24.321	25.443	210.5	2	211.2	2	-5.9	0.00	2	0.00	2		4	1.20	2	1.87	2	1.07	2	0.17	2		9			9		9		9		9		9	70.6	2		9
34	2	70.2	37.496	37.496	2	24.319	24.304	25.447	210.6	2	210.9	2	-5.5	0.00	2	0.00	2		4	1.10	2		9		9		9		9			9		9		9		9		9	69.3	2		9
33	2	110.9	37.488	37.488	2	24.224	24.200	25.475	217.0	2	211.3	2	-5.6	0.00	2	0.00	2		4	1.10	2	1.88	2	1.09	2	0.15	2		9			9		9		9		9		9	68.1	2		9
32	2	161.2	37.055	37.046	2	20.580	20.549	26.192	192.7	2	195.2	2	24.7	0.02	2	1.66	2		4	1.30	2	2.14	2	1.23	2	0.13	2		9			9		9		9		9		9	55.6	2		9
31	2	211.3	36.810	36.809	2	19.233	19.195	26.366	187.5	2	185.2	2	40.5	0.01	2	4.10	2		4	1.60	2	2.24	2	1.27	2	0.06	2		9			9		9		9		9		9	52.4	2		9
30	2	235.5	36.706	36.698	2	18.694	18.652	26.427	184.0	2	187.3	2	40.9	0.01	2	4.68	2		4	1.80	2	2.28	2	1.26	2	0.04	2		9			9		9		9		9		9	51.7	2		9
29	2	254.6	36.600	36.598	2	18.165	18.120	26.480	191.5	2	194.0	2	36.6	0.00	2	4.59	2		4	1.70	2	2.31	2	1.29	2	0.04	2		9			9		9		9		9		9	49.0	2		9
28	2	273.0	36.548	36.555	2	17.894	17.847	26.509	193.6	2	196.1	2	35.8	0.00	2	4.78	2		4	1.70	2		9		9		9		9			9		9		9		9				9		9
27	2	313.8	36.459	36.456	2	17.438	17.385	26.555	195.8	2	194.7	2	39.3	0.00	2	5.76	2		4	2.00	2	2.31	2	1.27	2	0.03	2		9			9		9		9		9		9	44.8	2		9
26	2	366.1	36.313	36.312	2	16.550	16.490	26.659	186.9	2	184.7	2	53.6	0.00	2	8.20	2		4	2.50	2	2.27	2	1.24	2	0.03	2		9			9		9		9		9				9		9
25	2	425.0	36.108	36.129	2	15.332	15.266	26.783	183.8	2	179.3	2	65.1	0.00	2	10.35	2		4	3.40	2	2.16	2	1.16	2	0.03	2		9			9		9		9		9				9		9
24	2	484.0	35.903	35.913	2	14.039	13.968	26.908	176.5	2	174.1	2	77.1	0.00	2	12.98	2		4	4.50	2	1.91	2	1.00	2	0.03	2		9			9		9		9		9				9		9
23	2	550.6	35.728	35.740	2	12.836	12.759	27.021	170.0	2	168.1	2	89.7	0.00	2	15.62	2		4	5.90	2	1.57	6	0.81	6	0.02	6		9			9		9		9		9			44.1	2		9
22	2	648.8	35.567	35.566	2	11.602	11.517	27.138	160.3	2	159.3	6	105.6	0.00	2	18.85	2		4	8.10	2	1.07	2	0.55	2	0.02	2		9			9		9		9		9				9		9
21	3	751.8	35.379	35.380	2	10.043	9.953	27.272	147.2	2	147.7	2	126.6	0.00	2	22.66	2		4	11.60	2	0.53	2	0.28	2	0.01	2		9			9		9		9		9				9		9
20	2	849.2	35.219	35.218	2	8.695	8.601	27.368	147.0	2	146.7	2	136.3	0.00	2	25.20	2		4	14.90	2	0.25	2	0.13	2	0.00	2		9			9		9		9		9				9		9
19	2	951.8	35.069	35.070	2	7.272	7.176	27.462	152.1	2	151.8	2	140.8	0.00	2	26.96	2		4	18.20	2	0.10	2	0.05	2	0.00	2		9			9		9		9		9			42.0	2		9
18	2	1050.6	35.012	35.011	2	6.345	6.246	27.543	164.9	2	164.0	2	135.1	0.00	2	26.77	2		4	19.40	2	0.06	2	0.03	2	0.01	2		9			9		9		9		9				9		9
17	2	1146.9	35.001	35.000	2	5.842	5.737	27.600	176.4	2	177.5	2	125.2	0.00	2	25.79	2		4	19.30	2		9		9		9		9			9		9		9		9				9		9
16	2	1249.9	35.014	35.014	2	5.513	5.401	27.652	196.8	2	194.6	2	110.5	0.00	2	24.13	2		4	18.20	2	0.07	2	0.03	2	0.01	2		9			9		9		9		9			41.8	2		9
15	2	1349.3	35.039	35.038	2	5.255	5.135	27.704	213.5	2	212.2	2	94.8	0.00	2	22.18	2		4	16.50	2		9		9		9		9			9		9		9		9				9		9
14	2	1451.6	35.055	35.051	2	5.008	4.881	27.747	227.9	2	225.9	2	82.9	0.00	2	21.00	2		4	15.70	2	0.12	6	0.07	6	0.01	6		9			9		9		9		9				9		9
13	2	1551.0	35.069	35.069	2	4.891	4.756	27.773	231.9	2	230.3	2	79.4	0.00	2	20.52	2		4	15.90	2		9		9		9		9			9		9		9		9			43.0	2		9
12	2	1649.7	35.065	35.065	2	4.568	4.427	27.807	238.6	2	238.0	2	74.2	0.00	2	20.03	2		4	16.80	2	0.09	2	0.05	2	0.01	2		9			9		9		9		9				9		9
11	2	1850.9	35.043	35.043	2	4.131	3.976	27.839	244.2	2	244.2	2	71.5	0.00	2	19.93	2		4	19.10	2	0.08	2	0.04	2	0.00	2		9			9		9		9		9				9		9
10	2	2051.7	35.018	35.018	2	3.757	3.588	27.860	249.4	2	248.8	2	70.0	0.00	2	19.83	2		4	21.40	2	0.07	2	0.04	2	0.00	2		9			9		9		9		9				9		9
9	2	2250.3	34.992	34.991	2	3.421	3.238	27.873	248.9	2	250.0	2	71.6	0.00	2	20.13	2		4	25.00	2	0.02	2	0.02	2	0.01	2		9			9		9		9		9			42.1	2		9
8	2	2449.4	34.976	34.976	2	3.224	3.025	27.882	249.3	2	250.1	2	73.3	0.00	2	20.32	2		4	27.50	2	0.01	2	0.01	2	0.01	2		9			9		9		9		9				9		9
7	2	2651.8	34.954	34.953	2	2.935	2.721	27.892	249.8	2	250.2	2	75.7	0.00	2	20.71	2		4	31.80	2	0.01	2	0.00	2	0.01	2		9			9		9		9		9				9		9
6	2	2850.3	34.940	34.939	2	2.781	2.550	27.897	250.7	2	250.2	2	77.1	0.00	2	20.91	2		4	34.50	2	0.01	2	0.00	2	0.00	2		9			9		9		9		9				9		9
5	2	3050.3	34.931	34.930	2	2.693	2.444	27.900	253.6	2	249.3	2	78.9	0.00	2	21.10	2		4	36.10	2		9		9		9		9			9		9		9		9			41.9	2		9
4	2	3251.9	34.927	34.926	2	2.672	2.402	27.902	253.4	2	251.3	2	77.3	0.00	2	21.10	2		4	36.90	2	0.01	2	0.00	2	0.00	2		9			9		9		9		9				9		9
3	2	3449.6	34.923	34.922	2	2.640	2.349	27.905	253.8	2	236.8	4	92.3	0.00	2	21.20	2		4	37.70	2	0.01	2	0.01	2	0.00	2		9			9		9		9		9				9		9
2	2	3634.4	34.920		2	2.628	2.317	27.906	253.4	2		9			9		9		9		9		1		1		1		9			9		9		9		9				9		9
1	2	3633.2	34.919	34.919	2	2.627	2.317	27.906	253.3	2	251.9	6	77.4	0.00	6	21.20	6		4	38.20	6	0.00	2	0.00	2	0.00	2		9			9		9		9		9			41.5	2		9

* WOCE water sample quality flag (F) for parameter for the previous column
** WOCE quality flag (F) for "Niskin" sample bottle
*** PSS-78 scale
**** ITS0 scale

A5R
NOAA Ship Ronald H. Brown

STATION 53 DATE 2/5/1998 LATITUDE 24.500° N
LONGITUDE 45.484° W

Bottle Number	F**	Pressure db	CTD Salinity***	Bottle Salinity***	F*	Temp**** °C	Theta °C	Sigma Theta	CTD O2 µmol/kg	F*	Bottle O2 µmol/kg	F*	AOU	NO2 µmol/kg	F*	NO3 µmol/kg	F*	PO4 µmol/kg	F*	Si(OH)4 µmol/kg	F*	CFC-11 pmol/kg	F*	CFC-12 pmol/kg	F*	CFC-113 pmol/kg	F*	CCl4 pmol/kg	F*	fCO2 at 20 °C µatm	fCO2 INSITU µatm	F*	DIC µmol/kg	F*	pH	F*	Measured TA µmol/kg	F*	Calculated TA µmol/kg	TOC µmol/kg	F*	TON µmol/kg	F*
36	2	6.2	37.452	37.452	2	24.180	24.179	25.448	211.2	2	211.7	2	-5.8	0.00	2	0.00	2	0.00	2	0.70	2	9	9	9	9	267.9	316.1	3	2071.9	2	8.1034	2	2444	2	2449	9	9
35	3	51.7	37.454	37.454	2	24.188	24.177	25.453	211.1	2	211.6	2	-5.7	0.00	2	0.00	2	0.00	2	0.70	2	9	9	9	9	258.9	305.5	3	2071.3	6	8.1024	2	2444	2	2447	9	9
34	2	102.1	37.433	37.419	2	24.072	24.050	25.478	211.9	2	212.5	2	-6.2	0.00	2	0.00	2	0.01	2	0.70	2	9	9	9	9			9		9		9		9		9	9	9
33	2	149.6	36.929	36.928	2	20.172	20.144	26.204	201.0	2	201.9	2	19.8	0.02	2	1.07	2	0.04	2	0.90	2	9	9	9	9			9		9		9		9		9	9	9
32	2	201.0	36.646	36.653	2	18.557	18.521	26.413	196.5	2	199.5	2	29.3	0.01	2	3.22	2	0.12	2	1.30	2	9	9	9	9	365.7	344.8	3	2101.7	2	7.9906	2	2392	2	2395	9	9
31	2	225.9	36.569	36.568	2	18.139	18.100	26.460	198.1	2	200.1	2	30.6	0.00	2	4.10	2	0.17	2	1.50	2	9	9	9	9			9		9		9		9		9	9	9
30	2	250.5	36.495	36.496	2	17.716	17.673	26.510	198.0	2	197.9	2	34.8	0.00	2	4.98	2	0.24	2	1.80	2	9	9	9	9	391.3	356.7	3	2106.1	2	7.9675	2	2380	2	2384	9	9
29	2	276.1	36.444	36.434	2	17.408	17.361	26.548	197.7	2	196.7	2	37.5	0.00	2	5.76	2	0.28	2	2.00	2	9	9	9	9			9		9		9		9		9	9	9
28	2	300.6	36.366	36.359	2	16.942	16.892	26.602	195.5	2	196.4	2	40.0	0.00	2	6.44	2	0.33	2	2.20	2	9	9	9	9	444.2	392.5	3	9	7.9435	2	2374	2		9	9
27	2	351.7	36.235	36.238	2	16.147	16.090	26.691	194.9	2	193.9	2	46.4	0.00	2	7.90	2	0.42	2	2.70	2	9	9	9	9			9		9		9		9		9	9	9
26	2	401.2	36.112	36.110	2	15.413	15.350	26.766	190.2	2	186.8	2	57.2	0.00	2	9.76	2	0.54	2	3.50	2	9	9	9	9	462.1	383.3	3	2129.0	2	7.8955	2	2357	2	2363	9	9
25	2	451.1	35.978	35.975	2	14.579	14.511	26.849	179.1	2	176.8	2	71.6	0.00	2	12.10	2	0.68	2	4.40	2	9	9	9	9			9		9		9		9		9	9	9
24	2	501.3	35.819	35.819	2	13.523	13.451	26.951	175.9	2	174.2	2	79.8	0.00	2	14.06	2	0.80	2	5.50	2	9	9	9	9			9		9		9		9		9	9	9
23	2	552.0	35.707	35.707	2	12.717	12.641	27.029	174.5	2	172.7	2	85.8	0.00	2	15.52	2	0.90	2	6.40	2	9	9	9	9			9		9		9		9		9	9	9
22	2	600.9	35.621	35.621	2	12.056	11.976	27.092	172.7	2	170.2	2	92.1	0.00	2	16.89	2	0.99	2	7.30	2	9	9	9	9	600.2	432.5	3	2158.6	2	7.7917	2	2337	2	2338	9	9
21	2	680.3	35.482	35.482	2	10.910	10.824	27.199	165.5	2	163.9	2	105.1	0.00	2	19.43	2	1.17	2	9.40	2	9	9	9	9			9		9		9		9		9	9	9
20	2	799.0	35.266	35.267	2	9.034	8.944	27.350	153.0	2	152.6	2	128.1	0.00	2	23.63	2	1.48	2	13.90	2	9	9	9	9	768.2	486.9	3	2187.4	2	7.6966	2		9	2324	9	9
19	2	900.5	35.094	35.094	2	7.575	7.482	27.438	151.5	2	151.4	2	139.1	0.00	2	26.37	2	1.69	2	17.60	2	9	9	9	9	851.9	507.3	3	2197.6	2	7.6590	2		9	2319	9	9
18	2	1000.8	35.031	35.033	2	6.677	6.580	27.514	163.2	2	163.2	6	133.5	0.00	2	26.27	2	1.70	2	18.80	2	9	9	9	9	855.7	489.5	3	2197.6	6	7.6550	2	2325	2	2317	9	9
17	2	1101.3	34.999	34.999	2	5.872	5.771	27.594	181.5	2	181.3	2	121.2	0.00	2	25.00	2	1.65	2	19.00	2	9	9	9	9			9		9		9		9		9	9	9
16	2	1201.1	35.016	35.017	2	5.630	5.522	27.639	193.9	2	193.8	2	110.4	0.00	2	23.93	2	1.57	2	18.30	2	9	9	9	9	802.4	436.2	3	2187.9	2	7.6769	2		5	2316	9	9
15	2	1298.4	35.030	35.031	2	5.271	5.156	27.694	209.8	2	210.4	2	96.5	0.00	2	22.37	2	1.47	2	17.20	2	9	9	9	9			9		9		9		9		9	9	9
14	2	1400.3	35.055	35.054	2	4.989	4.867	27.748	225.7	2	226.2	2	82.7	0.00	2	20.80	2	1.36	2	16.20	2	9	9	9	9			9		9		9		9		9	9	9
13	2	1499.4	35.066	35.065	2	4.809	4.680	27.779	232.7	2	233.3	2	77.0	0.00	2	20.22	2	1.33	2	16.10	2	9	9	9	9	713.8	371.8	3	2173.5	2	7.7221	2	2330	2	2320	9	9
12	2	1601.9	35.074	35.074	2	4.684	4.546	27.801	236.4	2	236.7	2	74.6	0.00	2	19.92	2	1.31	2	16.80	2	9	9	9	9			9		9		9		9		9	9	9
11	2	1700.6	35.063	35.063	2	4.412	4.268	27.824	240.9	2	241.0	2	72.4	0.00	2	19.73	2	1.30	2	17.90	2	9	9	9	9			9		9		9		9		9	9	9
10	2	1798.9	35.037	35.037	2	4.074	3.925	27.839	243.4	2	243.4	2	72.7	0.00	2	19.92	2	1.31	2	19.70	2	9	9	9	9			9		9		9		9		9	9	9
9	2	1900.4	35.026	35.026	2	3.887	3.731	27.851	246.9	2	247.0	2	70.7	0.00	2	19.73	2	1.30	2	20.90	2	9	9	9	9			9		9		9		9		9	9	9
8	2	1999.5	35.016	35.017	2	3.747	3.583	27.858	248.2	2	248.0	2	70.8	0.00	2	19.73	2	1.31	2	22.10	2	9	9	9	9	711.8	352.1	3	2172.3	2	7.7333	2	2330	2	2323	9	9
7	2	2099.8	35.001	35.001	2	3.539	3.369	27.867	249.6	2	249.9	2	70.7	0.00	2	19.83	2	1.32	2	23.80	2	9	9	9	9			9		9		9		9		9	9	9
6	2	2299.8	34.985	34.985	2	3.328	3.142	27.877	248.6	2	249.7	2	72.7	0.00	2	20.12	2	1.35	2	26.50	2	9	9	9	9			9		9		9		9		9	9	9
5	2	2500.2	34.966	34.965	2	3.078	2.876	27.887	250.7	2	250.6	2	74.0	0.00	2	20.32	2	1.36	2	29.70	2	9	9	9	9			9		9		9		9		9	9	9
4	2	2702.0	34.947	34.947	2	2.858	2.641	27.894	250.3	2	250.9	2	75.7	0.00	2	20.61	2	1.39	2	33.20	2	9	9	9	9			9		9		9		9		9	9	9
3	2	2901.6	34.939	34.939	2	2.780	2.544	27.897	251.2	2	251.6	2	75.8	0.00	2	20.71	2	1.40	2	34.80	2	9	9	9	9			9		9		9		9		9	9	9
2	2	3100.0	34.932	34.932	2	2.724	2.469	27.900	251.7	2	251.0	2	77.0	0.00	2	20.81	2	1.41	2	36.10	2	9	9	9	9			9		9		9		9		9	9	9
1	2	3344.1	34.929	34.930	2	2.719	2.438	27.901	251.6	2	251.5	2	76.8	0.00	6	21.00	6	1.41	6	36.70	6	9	9	9	9	719.9	337.6	3	2187.0	2	7.7303	2	2344	2	2337	9	9

* WOCE water sample quality flag (F) for parameter for the previous column
** WOCE quality flag (F) for "Niskin" sample bottle
*** PSS-78 scale
**** ITS0 scale

A5R
NOAA Ship Ronald H. Brown

STATION 54 DATE 2/5/1998 LATITUDE 24.500° N
LONGITUDE 46.034° W

Bottle Number	F**	Pressure db	CTD Salinity***	Bottle Salinity***	F*	Temp**** °C	Theta °C	Sigma Theta	CTD O2 µmol/kg	F*	Bottle O2 µmol/kg	F*	AOU	NO2 µmol/kg	F*	NO3 µmol/kg	F*	PO4 µmol/kg	F*	Si(OH)4 µmol/kg	F*	CFC-11 pmol/kg	F*	CFC-12 pmol/kg	F*	CFC-113 pmol/kg	F*	CCl4 pmol/kg	F*	fCO2 at 20 °C µatm	fCO2 INSITU µatm	F*	DIC µmol/kg	F*	pH	F*	Measured TA µmol/kg	F*	Calculated TA µmol/kg	TOC µmol/kg	F*	TON µmol/kg	F*
36	2	4.9	37.456	37.456	2	24.178	24.177	25.451	214.5	2	211.6	2	-5.7	0.00	2	0.00	2	0.00	2	1.10	2	1.87	2	1.08	2	0.15	2	9	272.3	321.1	3	2075.1	2	8.0977	2	9	2448	73.5	2	9
35	2	39.8	37.456	37.461	2	24.187	24.178	25.453	211.5	2	211.7	2	-5.9	0.00	2	0.00	2	0.01	2	1.00	2	1.89	2	1.08	2	0.16	2	9			9	2072.8	6	8.1014	2	2445	2	2448	72.0	2	9
34	2	80.7	37.472	37.401	2	24.172	24.155	25.475	215.2	2	212.8	2	-6.8	0.00	2	0.00	2	0.01	2	0.80	2	1.94	6	1.11	6	0.18	6	9	278.9	328.8	3	2080.4	2	8.0857	2	2441	2	2444	69.1	2	9
33	2	120.8	37.086	37.087	2	21.437	21.413	25.977	208.7	2	213.2	2	3.3	0.06	2	0.10	2	0.02	2	0.80	2	2.19	2	1.23	2	0.15	2	9	316.1	334.7	3	2097.8	2	8.0362	2	9	2425	59.0	2	9
32	2	170.6	36.828	36.822	2	19.479	19.448	26.312	197.8	2	199.8	2	24.9	0.01	2	1.95	2	0.08	2	1.00	2	2.31	2	1.28	2	0.09	2	9			9	2109.7	2	9	2399	2		54.3	2	9
31	2	216.3	36.621	36.621	2	18.426	18.388	26.427	198.7	2	200.6	2	28.8	0.01	2	3.41	2	0.15	2	1.20	2	2.32	2	1.30	2	0.04	2	9	365.8	343.0	3	2106.4	2	9	9		53.5	2	9
30	2	230.0	36.579	36.582	2	18.195	18.155	26.454	198.7	2	200.9	2	29.6	0.01	2	3.80	2	0.17	2	1.20	2	2.35	2	1.30	2	0.04	2	9			9	2106.6	2	9	2387	2		9	9
29	2	260.2	36.511	36.510	2	17.807	17.762	26.501	200.0	2	200.2	2	32.1	0.01	2	4.68	2	0.23	2	1.50	2	2.31	2	1.28	2	0.04	2	9			9	2110.0	2	9		9		51.3	2	9
28	2	285.4	36.450	36.458	2	17.412	17.364	26.552	199.2	2	196.6	2	37.5	0.00	2	5.56	2	0.28	2	1.60	2	2.31	6	1.26	6	0.03	6	9	396.5	356.9	3	2114.6	2	7.9622	2		5	2389		9	9
27	2	320.3	36.352	36.360	2	16.804	16.751	26.625	193.8	2	190.0	2	47.1	0.00	2	7.22	2	0.37	2	2.00	2	2.29	2	1.24	2	0.03	2	9			9	2122.7	2	9		9		47.1	2	9
26	2	369.7	36.198	36.204	2	15.941	15.882	26.711	186.7	2	181.7	2	59.6	0.00	2	9.37	2	0.51	2	2.70	2	2.11	2	1.12	2	0.03	2	9			9	2131.7	2	7.9001	2	2368	2	2369		9	9
25	2	420.5	36.097	36.097	2	15.333	15.267	26.774	181.5	2	179.7	2	64.8	0.00	2	10.64	2	0.59	2	3.10	2	2.07	2	1.08	2	0.03	2	9	486.4	402.2	3	2137.0	2	9		9		46.3	2	9
24	2	471.4	35.951	35.953	2	14.416	14.345	26.865	178.0	2	176.5	2	72.7	0.00	2	12.30	2	0.70	2	4.10	2	1.95	2	1.01	2	0.02	2	9			9	2140.0	2	7.8549	2	2359	2	2352		9	9
23	2	515.9	35.816	35.831	2	13.559	13.485	26.942	175.7	2	174.6	2	79.2	0.00	2	13.76	2	0.80	2	4.90	2	1.75	2	0.92	2	0.02	2	9			9	2145.8	2	9		9		44.9	2	9
22	2	620.7	35.579	35.584	2	11.724	11.642	27.123	171.6	2	168.5	2	95.7	0.00	2	17.47	2	1.04	2	7.20	2	1.21	2	0.62	2	0.02	2	9	654.9	466.1	3	2157.3	2	7.7773	2	2335	2	2330		9	9
21	3	718.7	35.397	35.401	2	10.205	10.118	27.257	160.5	2	158.6	2	114.7	0.00	2	21.09	2	1.29	2	10.30	2	0.65	2	0.34	2	0.01	2	9			9	2173.9	2	9		9		44.4	2	9
20	2	819.1	35.196	35.200	2	8.426	8.337	27.390	151.3	2	150.6	2	134.1	0.00	2	24.90	2	1.58	2	14.70	2	0.25	2	0.13	2	0.00	2	9	826.9	511.3	2	2189.8	2	7.6764	2	2327	2	2318		9	9
19	2	919.9	35.060	35.059	2	7.133	7.041	27.473	155.3	2	155.6	2	137.9	0.00	2	26.56	2	1.72	2	17.90	2	0.10	2	0.06	2	0.01	2	9	899.5	526.3	2	2195.3	2	7.6549	2		9	2315	41.5	2	9
18	2	1018.5	35.003	35.002	2	6.365	6.269	27.533	165.6	2	165.4	2	133.5	0.00	2	26.56	2	1.73	2	18.80	2	0.07	2	0.04	2	0.00	2	9	905.8	512.1	2	2196.6	6	7.6490	2	2318	2	2313		9	9
17	2	1119.1	35.008	35.006	2	5.843	5.741	27.605	182.0	2	184.2	2	118.5	0.00	2	24.81	2	1.64	2	17.90	2		9		9		9	9			9	2190.6	2	7.6697	2		9	2315	41.7	2	9
16	2	1211.7	35.024	35.024	2	5.499	5.391	27.661	201.2	2	200.7	2	104.5	0.00	2	23.24	2	1.53	2	16.70	2	0.11	6	0.06	6	0.01	6	9	799.4	432.1	3	2183.5	2	7.6864	2	2321	2	2315		9	9
15	2	1317.8	35.038	35.036	2	5.160	5.045	27.713	218.5	2	217.5	2	90.2	0.00	2	21.68	2	1.42	2	15.80	2		9		9		9	9			9	2175.3	2	9		9		41.6	2	9
14	3	1421.0	35.071	35.070	2	5.011	4.887	27.759	227.0	2	226.6	2	82.2	0.00	2	20.70	2	1.35	2	15.50	2	0.12	2	0.07	2	0.01	2	9			9	2173.1	2	7.7146	2	2320	2	2316		9	9
13	2	1520.1	35.079	35.079	2	4.773	4.642	27.794	233.8	2	233.9	2	76.7	0.00	2	20.12	2	1.31	2	16.00	2		9		9		9	9			9	2171.1	2		9		9		44.6	3	9
12	2	1620.7	35.071	35.071	2	4.560	4.422	27.812	237.3	2	237.6	2	74.6	0.00	2	19.92	2	1.31	2	16.80	2	0.11	2	0.06	2	0.01	2	9	719.1	370.4	3	2171.0	2	7.7194	2	2325	2	2316		9	9
11	2	1717.4	35.061	35.061	2	4.350	4.205	27.828	241.1	2	239.7	2	74.2	0.00	2	19.83	2	1.30	2	17.40	2		9		9		9	9			9	2170.8	2		9		9		41.6	2	9
10	2	1821.8	35.045	35.047	2	4.121	3.969	27.841	243.9	2	243.5	2	72.3	0.00	2	19.83	2	1.31	2	18.80	2	0.07	2	0.04	2	0.01	2	9			9	2170.6	2	7.7311	2	2323	2	2320		9	9
9	2	1920.4	35.028	35.028	2	3.898	3.739	27.851	245.5	2	246.0	2	71.6	0.00	2	19.83	2	1.32	2	20.00	2		9		9		9	9			9	2171.6	2		9		9		41.4	2	9
8	2	2017.7	35.013	35.014	2	3.719	3.554	27.859	247.6	2	247.4	2	71.7	0.00	2	19.92	2	1.33	2	21.40	2	0.04	2	0.02	2	0.01	2	9			9	2171.8	2	7.7367	2		9	2324		9	9
7	2	2109.1	35.006	35.006	2	3.632	3.459	27.863	248.4	2	248.1	2	71.7	0.00	2	19.92	2	1.33	2	22.50	2		9		9		9	9			9	2172.5	2		9		9		41.4	2	9
6	2	2213.7	34.992	34.992	2	3.412	3.233	27.873	249.2	2	249.2	2	72.5	0.00	2	20.02	2	1.34	2	24.80	2	0.02	2	0.02	2	0.01	2	9	714.2	347.4	3	2174.1	2	7.7331	2	2328	2	2325	41.5	2	9
5	2	2319.4	34.977	34.977	2	3.214	3.028	27.881	249.9	2	250.2	2	73.2	0.00	2	20.22	2	1.35	2	27.00	2		9		9		9	9			9	2176.3	2		9		9		41.3	2	9
4	2	2413.1	34.967	34.967	2	3.088	2.895	27.885	251.5	2	251.1	2	73.4	0.00	2	20.31	2	1.36	2	28.90	2	0.02	6	0.02	6	0.00	6	9			9	2178.2	2	7.7319	2		9	2329	41.3	2	9
3	2	2517.8	34.961	34.961	2	3.031	2.829	27.887	251.7	2	251.3	2	73.7	0.00	2	20.31	2	1.37	2	29.60	2		9		9		9	9			9	2180.3	2		9		9		41.4	2	9
2	2	2620.1	34.952	34.952	2	2.926	2.715	27.891	251.9	2	251.4	2	74.6	0.00	2	20.51	2	1.38	2	31.30	2	0.02	2	0.01	2	0.01	2	9			9	2182.7	2		9		9		41.3	2	9
1	2	2765.2	34.945	34.946	2	2.855	2.631	27.894	251.8	2	251.9	2	74.8	0.00	6	20.61	2	1.38	6	32.50	6	0.02	2	0.01	2	0.00	2	9	739.0	349.7	3	2183.3	2	7.7333	2	2336	2	2335	41.3	2	9

* WOCE water sample quality flag (F) for parameter for the previous column
** WOCE quality flag (F) for "Niskin" sample bottle
*** PSS-78 scale
**** ITS0 scale

A5R
NOAA Ship Ronald H. Brown

STATION 55 DATE 2/6/1998 LATITUDE 24.500° N
LONGITUDE 46.584° W

Bottle Number	F**	Pressure db	CTD Salinity***	Bottle Salinity***	F*	Temp**** °C	Theta °C	Sigma Theta	CTD O2 µmol/kg	F*	Bottle O2 µmol/kg	F*	AOU	NO2 µmol/kg	F*	NO3 µmol/kg	F*	PO4 µmol/kg	F*	Si(OH)4 µmol/kg	F*	CFC-11 pmol/kg	F*	CFC-12 pmol/kg	F*	CFC-113 pmol/kg	F*	CCl4 pmol/kg	F*	fCO2 at 20 °C µatm	fCO2 INSITU µatm	F*	DIC µmol/kg	F*	pH	F*	Measured TA µmol/kg	F*	Calculated TA µmol/kg	TOC µmol/kg	F*	TON µmol/kg	F*
36	2	4.5	37.465	37.467	2	24.137	24.136	25.470	213.5	2	213.8	2	-7.8	0.00	2	0.00	2	0.00	2	1.10	2	9		9		9		9		281.1	331.0	2	2073.1	6	8.0777	2		5	2431		9		9
35	2	51.0	37.463	37.466	2	24.156	24.145	25.469	210.2	2	210.3	2	-4.3	0.00	2	0.00	2	0.00	2	1.10	2	9		9		9		9		272.9	321.7	2		9		9		9				9		9
34	2	102.4	37.117	37.131	2	21.645	21.625	25.940	216.9	2	214.9	2	0.7	0.03	2	0.10	2	0.01	2	0.50	2	9		9		9		9					9		9		9		9			9		9
33	2	140.8	36.877	36.849	2	19.746	19.720	26.277	206.6	2	201.7	2	21.8	0.01	2	1.66	2	0.05	2	0.90	2	9		9		9		9		368.7	364.8	2	2106.0	2	7.9990	2	2411	2	2406		9		9
32	3	179.3	36.681	36.672	2	18.770	18.738	26.383	198.4	2	200.2	2	27.7	0.01	2	2.93	2	0.11	2	1.20	2	9		9		9		9					9		9		9		9			9		9
31	2	201.0	36.588	36.585	2	18.279	18.244	26.438	198.3	2	201.1	2	29.0	0.00	2	3.81	2	0.16	2	0.90	2	9		9		9		9					9		9		9		9			9		9
30	2	226.4	36.532	36.532	2	17.932	17.893	26.483	199.2	2	200.4	2	31.3	0.00	2	4.49	2	0.20	2	1.30	2	9		9		9		9		393.3	361.7	2	2104.4	2	7.9758	2	2382	2	2387		9		9
29	2	244.2	36.513	36.517	2	17.801	17.759	26.503	198.4	2	199.4	2	32.9	0.00	2	4.68	2	0.22	2	1.60	2	9		9		9		9					9		9		9		9			9		9
28	2	274.9	36.487	36.483	2	17.656	17.609	26.521	198.5	2	198.3	2	34.7	0.00	2	5.17	2	0.25	2	1.30	2	9		9		9		9					9		9		9		9			9		9
27	3	298.1	36.455	36.456	2	17.433	17.382	26.552	196.3	2	196.1	2	38.0	0.00	2	5.66	2	0.28	2	1.40	2	9		9		9		9					9		9		9		9			9		9
26	2	349.1	36.338	36.342	2	16.722	16.664	26.637	190.2	2	190.2	2	47.3	0.00	2	7.42	2	0.37	2	1.90	2	9		9		9		9		452.3	396.0	2	2121.8	2	7.9276	2	2380	2	2375		9		9
25	2	398.2	36.174	36.177	2	15.753	15.690	26.738	186.8	2	184.0	2	58.3	0.00	2	9.47	2	0.52	2	2.50	2	9		9		9		9					9		9		9		9			9		9
24	2	450.2	36.020	36.019	2	14.810	14.741	26.831	179.2	2	178.5	2	68.6	0.00	2	11.42	2	0.64	2	3.40	2	9		9		9		9					9		9		9		9			9		9
23	2	498.3	35.862	35.864	2	13.841	13.768	26.918	177.0	2	177.1	2	75.2	0.00	2	13.28	2	0.76	2	4.60	2	9		9		9		9					9		9		9		9			9		9
22	2	603.1	35.663	35.667	2	12.378	12.296	27.063	170.5	2	170.0	2	90.4	0.00	2	16.21	2	0.95	2	6.20	2	9		9		9		9		608.4	444.6	2	2155.1	2	7.7995	2	2331	2	2338		9		9
21	2	700.0	35.448	35.450	2	10.623	10.536	27.224	154.5	2	154.3	6	116.4	0.00	2	20.90	2	1.26	2	9.50	2	9		9		9		9					9		9		9		9			9		9
20	2	749.1	35.322	35.328	2	9.536	9.449	27.311	150.5	2	149.1	2	128.4	0.00	2	23.24	2	1.43	2	11.90	2	9		9		9		9					9		9		9		9			9		9
19	2	786.3	35.256	35.261	2	9.006	8.917	27.347	148.5	2	148.5	2	132.4	0.00	2	24.32	2	1.52	2	13.30	2	9		9		9		9		813.2	515.9	2	2187.0	2	7.6883	2	2325	2	2320		9		9
18	2	849.1	35.162	35.164	2	8.188	8.097	27.400	149.0	2	148.5	2	137.8	0.00	2	25.59	2	1.62	2	15.10	2	9		9		9		9					9		9		9		9			9		9
17	2	883.2	35.124	35.125	2	7.807	7.715	27.427	149.8	2	150.3	2	138.6	0.00	2	26.08	2	1.66	2	15.70	2	9		9		9		9		874.1	527.0	2	2195.5	2	7.6612	2	2317	2	2318		9		9
16	2	1000.8	35.041	35.040	2	6.701	6.604	27.519	163.8	2	162.7	2	133.8	0.00	2	26.28	2	1.69	2	17.60	2	9		9		9		9					9		9		9		9			9		9
15	2	1100.1	35.033	35.033	2	6.121	6.018	27.590	181.6	2	180.7	2	119.9	0.00	2	24.91	2	1.62	2	16.90	2	9		9		9		9		855.2	476.9	2	2191.6	6	7.6678	2	2316	2	2316		9		9
14	2	1201.2	35.052	35.051	2	5.735	5.626	27.654	198.3	2	196.6	2	106.8	0.00	2	23.35	2	1.52	2	15.90	2	9		9		9		9					9		9		9		9			9		9
13	2	1400.5	35.078	35.078	2	5.178	5.054	27.746	223.1	2	221.3	2	86.2	0.00	2	21.20	2	1.37	2	14.80	2	9		9		9		9					9		9		9		9			9		9
12	2	1499.2	35.111	35.112	2	5.145	5.012	27.777	227.4	2	225.9	2	81.8	0.00	2	20.51	2	1.33	2	14.70	2	9		9		9		9					9		9		9		9			9		9
11	2	1649.3	35.080	35.080	2	4.608	4.466	27.815	237.6	2	237.6	2	74.3	0.00	2	19.93	2	1.30	2	15.60	2	9		9		9		9					9		9		9		9			9		9
10	2	1850.7	35.041	35.042	2	4.079	3.925	27.842	244.7	2	245.9	2	70.2	0.00	2	19.83	2	1.30	2	18.00	2	9		9		9		9					9		9		9		9			9		9
9	2	1998.6	35.019	35.019	2	3.768	3.604	27.858	246.9	2	246.0	2	72.7	0.00	2	19.83	2	1.31	2	20.20	2	9		9		9		9		726.1	360.0	6	2172.6	2	7.7348	2		5	2324		9		9
8	2	2146.6	35.000	35.000	2	3.515	3.340	27.869	247.0	2	249.9	2	70.9	0.00	2	19.93	2	1.31	2	22.40	2	9		9		9		9					9		9		9		9			9		9
7	2	2283.7	34.981	34.981	2	3.267	3.083	27.879	252.7	2	252.9	2	70.0	0.00	2	19.83	3	1.32	2	24.70	2	9		9		9		9					9		9		9		9			9		9
6	2	2440.7	34.965	34.966	2	3.087	2.891	27.885	253.1	2	253.2	2	71.3	0.00	2	20.12	2	1.33	2	27.10	2	9		9		9		9					9		9		9		9			9		9
5	2	2599.9	34.959	34.959	2	3.017	2.807	27.888	253.8	2	253.7	2	71.5	0.00	2	20.22	2	1.35	2	28.40	2	9		9		9		9					9		9		9		9			9		9
4	2	2751.4	34.949	34.949	2	2.914	2.691	27.892	253.1	2	253.8	2	72.4	0.00	2	20.42	2	1.36	2	30.10	2	9		9		9		9					9		9		9		9			9		9
3	2	2899.7	34.938	34.938	2	2.793	2.557	27.895	253.5	2	253.6	2	73.7	0.00	2	20.61	2	1.38	2	32.40	2	9		9		9		9					9		9		9		9			9		9
2	2	3049.8	34.932	34.933	2	2.736	2.486	27.898	254.4	2	254.0	2	73.9	0.00	2	20.71	2	1.39	2	33.90	2	9		9		9		9					9		9		9		9			9		9
1	2	3211.5	34.926	34.927	2	2.672	2.406	27.900	254.8	2	254.0	2	74.6	0.00	6	20.81	6	1.40	6	35.30	6	9		9		9		9		745.9	349.8	2	2185.0	2	7.7310	2	2335	2	2335		9		9

* WOCE water sample quality flag (F) for parameter for the previous column
** WOCE quality flag (F) for "Niskin" sample bottle
*** PSS-78 scale
**** ITS0 scale

A5R
NOAA Ship Ronald H. Brown

STATION 56 DATE 2/6/1998 LATITUDE 24.500° N
LONGITUDE 47.134° W

Bottle Number	F**	Pressure db	CTD Salinity***	Bottle Salinity***	F*	Temp**** °C	Theta °C	Sigma Theta	CTD O2 µmol/kg	F*	Bottle O2 µmol/kg	F*	AOU	NO2 µmol/kg	F*	NO3 µmol/kg	F*	PO4 µmol/kg	F*	Si(OH)4 µmol/kg	F*	CFC-11 pmol/kg	F*	CFC-12 pmol/kg	F*	CFC-113 pmol/kg	F*	CCl4 pmol/kg	F*	fCO2 at 20 °C µatm	fCO2 INSITU µatm	F*	DIC µmol/kg	F*	pH	F*	Measured TA µmol/kg	F*	Calculated TA µmol/kg	TOC µmol/kg	F*	TON µmol/kg	F*
36	2	4.8	37.468	37.468	2	24.030	24.029	25.505	214.7	2	212.3	2	-5.9	0.00	2	0.00	2	0.00	2	0.70	2	1.88	2	1.09	2	0.15	2	1.81	2	283.8	332.7	6	2075.5	6	8.1004	2		9	2450		9		9
35	2	50.4	37.465	37.466	2	24.024	24.013	25.510	211.6	2	211.9	2	-5.5	0.00	2	0.00	2	0.01	2	0.70	2		9		9		9		9				9		9	8.0978	2	2448	2			9		9
34	2	99.8	37.455	37.452	2	23.995	23.974	25.517	211.7	2	212.4	2	-5.8	0.00	2	0.00	2	0.01	2	0.60	2	1.89	2	1.09	2	0.18	2		9				9		9	8.0961	2		9			9		9
33	2	149.5	37.094	37.096	2	21.120	21.091	26.073	208.0	2	206.4	2	11.3	0.04	2	0.49	2	0.03	2	0.50	2		9		9		9		9				9		9		9		9			9		9
32	3	195.2	36.961	36.953	2	20.065	20.028	26.262	196.0	2	197.5	2	24.6	0.01	2	1.46	2	0.06	2	0.70	2		9		9		9	1.06	2				9		9		9		9			9		9
31	3	211.1	36.888	36.879	2	19.666	19.627	26.313	195.9	2	197.6	2	26.2	0.01	2	2.05	2	0.09	2	0.80	2	2.22	2	1.27	2	0.12	2	0.87	2				9		9		9		9			9		9
30	2	227.5	36.737	36.718	2	18.868	18.827	26.405	192.4	2	193.5	2	33.9	0.00	2	3.71	2	0.17	2	1.10	2		9		9		9		9				9		9		9		9			9		9
29	2	241.5	36.629	36.642	2	18.299	18.257	26.468	191.0	2	191.2	2	38.7	0.00	2	4.59	2	0.22	2	1.10	2		9		9		9		9				9		9		9		9			9		9
28	2	299.4	36.401	36.405	2	17.093	17.043	26.593	188.5	2	190.5	2	45.2	0.00	2	6.73	2	0.34	2	2.00	2	2.28	2	1.25	2	0.03	2		9				9		9		9		9			9		9
27	2	349.8	36.288	36.288	2	16.433	16.376	26.666	186.2	2	188.3	2	50.6	0.00	2	8.30	2	0.43	2	2.20	2		9		9		9	0.45	6				9		9		9		9			9		9
26	2	401.5	36.113	36.110	2	15.413	15.350	26.767	183.8	2	182.3	2	61.7	0.00	2	10.25	2	0.55	2	3.10	2		9		9		9		9				9		9		9		9			9		9
25	2	499.0	35.839	35.840	2	13.620	13.548	26.946	176.2	2	173.8	2	79.7	0.00	2	13.86	2	0.77	2	4.80	2	1.90	2	0.99	2	0.02	2		9				9		9		9		9			9		9
24	2	599.3	35.627	35.627	2	12.076	11.996	27.093	165.9	2	163.1	2	99.0	0.00	2	17.58	2	1.01	2	7.00	2		9		9		9	0.35	2				9		9		9		9			9		9
23	2	696.0	35.473	35.475	2	10.785	10.698	27.215	155.8	2	155.0	2	114.7	0.00	2	20.51	2	1.18	2	9.40	2	0.80	6	0.43	6	0.01	6		9				9		9		9		9			9		9
22	2	799.8	35.276	35.269	2	9.114	9.023	27.346	152.5	2	151.9	2	128.3	0.00	2	23.83	2	1.46	2	13.50	2		9		9		9	0.14	2				9		9		9		9			9		9
21	2	849.9	35.171	35.169	2	8.095	8.005	27.421	152.2	2	152.1	2	134.8	0.00	2	25.40	2	1.58	2	15.60	2		9		9		9		9				9		9		9		9			9		9
20	2	900.6	35.133	35.140	2	7.731	7.637	27.446	155.2	2	153.7	2	135.7	0.00	2	25.69	2	1.60	2	16.30	2	0.16	2	0.09	2	0.00	2		9				9		9		9		9			9		9
19	2	948.5	35.068	35.073	2	6.985	6.891	27.501	159.2	2	159.5	2	135.0	0.00	2	26.18	2	1.65	2	18.90	3		9		9		9	0.11	2				9		9		9		9			9		9
18	2	1001.4	35.042	35.041	2	6.628	6.531	27.529	165.4	2	166.8	2	130.2	0.00	2	25.98	2	1.66	2	18.60	2		9		9		9		9				9		9		9		9			9		9
17	2	1100.0	35.036	35.035	2	6.040	5.938	27.603	179.9	2	182.6	2	118.6	0.00	2	24.81	2	1.59	2	18.60	2	0.09	2	0.05	2	0.00	2		9				9		9		9		9			9		9
16	2	1199.5	35.038	35.039	2	5.631	5.523	27.656	196.3	2	198.3	2	105.9	0.00	2	23.45	2	1.51	2	17.70	2		9		9		9	0.25	2				9		9		9		9			9		9
15	2	1300.3	35.057	35.057	2	5.296	5.181	27.713	212.8	2	213.5	2	93.1	0.00	2	21.88	2	1.41	2	16.50	2	0.11	2	0.07	2	0.00	2		9				9		9		9		9			9		9
14	2	1398.8	35.059	35.058	2	5.074	4.951	27.742	222.0	2	222.0	2	86.3	0.00	2	21.30	2	1.36	2	16.00	2		9		9		9	0.36	2				9		9		9		9			9		9
13	2	1499.0	35.076	35.075	2	4.894	4.764	27.777	230.6	2	229.8	2	79.9	0.00	2	20.61	2	1.32	2	16.30	2		9		9		9		9				9		9		9		9			9		9
12	2	1597.8	35.072	35.073	2	4.647	4.510	27.804	236.1	2	236.6	2	75.0	0.00	2	20.03	2	1.29	2	16.70	2	0.11	2	0.06	2	0.00	2		9				9		9		9		9			9		9
11	2	1701.5	35.066	35.066	2	4.439	4.294	27.823	239.6	2	240.5	2	72.7	0.00	2	19.83	2	1.29	2	17.50	2		9		9		9	0.32	2				9		9		9		9			9		9
10	2	1797.9	35.048	35.048	2	4.172	4.021	27.838	242.9	2	240.8	2	74.6	0.00	2	19.93	2	1.29	2	19.10	2		9		9		9		9				9		9		9		9			9		9
9	2	2001.7	35.015	35.014	2	3.696	3.533	27.861	247.2	2	248.0	2	71.2	0.00	2	19.93	2	1.31	2	22.40	2		9		9		9		9				9		9		9		9			9		9
8	2	2001.3	35.013	35.014	2	3.686	3.523	27.861	247.2	2	248.2	2	71.1	0.00	2	19.93	2	1.30	2	22.40	2	0.04	2	0.02	2	0.00	2		9				9		9		9		9			9		9
7	2	2200.9	34.989	34.989	2	3.357	3.180	27.876	251.8	2	252.7	2	69.4	0.00	2	19.83	2	1.30	2	25.00	2		9		9		9	0.24	2				9		9		9		9			9		9
6	2	2601.6	34.957	34.956	2	2.990	2.780	27.890	253.2	2	253.0	2	72.4	0.00	2	20.32	2	1.35	2	30.40	2		9		9		9		9				9		9		9		9			9		9
5	2	2799.1	34.944	34.944	2	2.859	2.632	27.893	253.3	2	253.1	2	73.6	0.00	2	20.42	2	1.37	2	32.50	2	0.02	2	0.02	2	0.00	2		9				9		9		9		9			9		9
4	2	2999.1	34.936	34.936	2	2.766	2.520	27.897	252.7	2	252.3	2	75.3	0.00	2	20.71	2	1.38	2	34.70	2		9		9		9	0.12	2				9		9		9		9			9		9
3	2	3199.6	34.929	34.928	2	2.700	2.435	27.901	252.7	2	253.3	2	75.0	0.00	2	20.81	2	1.40	2	36.00	2		9		9		9		9				9		9		9		9			9		9
2	2	3393.1	34.918	34.917	2	2.586	2.303	27.904	254.9	2	256.2	2	73.2	0.00	2	20.81	2	1.40	2	37.00	2	0.01	2	0.01	2	0.00	2	0.13	2				9		9		9		9			9		9
1	2	3626.6	34.906	34.905	2	2.453	2.148	27.908	256.7	2	257.0	2	73.8	0.00	6	20.91	6	1.41	6	39.10	6	0.01	2	0.01	2	0.00	2	0.13	2				9		9		9		9			9		9

* WOCE water sample quality flag (F) for parameter for the previous column
** WOCE quality flag (F) for "Niskin" sample bottle
*** PSS-78 scale
**** ITS0 scale

A5R
NOAA Ship Ronald H. Brown

STATION 57 DATE 2/6/1998 LATITUDE 24.501° N
LONGITUDE 47.684° W

Bottle Number	F**	Pressure db	CTD Salinity***	Bottle Salinity***	F*	Temp**** °C	Theta °C	Sigma Theta	CTD O2 µmol/kg	F*	Bottle O2 µmol/kg	F*	AOU	NO2 µmol/kg	F*	NO3 µmol/kg	F*	PO4 µmol/kg	F*	Si(OH)4 µmol/kg	F*	CFC-11 pmol/kg	F*	CFC-12 pmol/kg	F*	CFC-113 pmol/kg	F*	CCl4 pmol/kg	F*	fCO2 at 20 °C µatm	fCO2 INSITU µatm	F*	DIC µmol/kg	F*	pH	F*	Measured TA µmol/kg	F*	Calculated TA µmol/kg	TOC µmol/kg	F*	TON µmol/kg	F*
36	2	5.0	37.472	37.472	2	24.194	24.193	25.458	212.0	2	212.1	2	-6.3	0.00	4		4		4		4		9		9		9		9	278.4	329.9	6	2072.2	6	8.1010	2	2454	2	2447		9		9
35	2	40.5	37.471	37.472	2	24.183	24.174	25.465	213.6	2	212.6	2	-6.8	0.00	2	0.00	2	0.00	2	0.70	2		9		9		9		9				9		9		9		9		9		9
34	2	91.7	37.287	37.284	2	22.919	22.900	25.705	213.4	2	215.4	2	-4.8	0.00	2	0.00	2	0.00	2	0.70	2		9		9		9		9				9	2086.3	2	8.0674	6		5	2436		9		9
33	2	142.3	37.110	37.109	2	20.962	20.935	26.128	202.9	2	200.2	2	18.1	0.03	2	0.98	2	0.04	2	0.80	2		9		9		9		9				9		9		9		9		9		9
32	2	190.7	36.947	36.932	2	19.980	19.944	26.273	194.5	2	195.6	2	26.9	0.02	2	2.15	2	0.08	2	1.00	2		9		9		9		9				9		9		9		9		9		9
31	2	215.0	36.779	36.773	2	19.080	19.041	26.383	196.1	2	190.6	2	35.8	0.01	2	3.71	2	0.16	2	1.30	2		9		9		9		9				9		9		9		9		9		9
30	2	235.6	36.670	36.667	2	18.517	18.475	26.444	187.3	2	188.3	2	40.7	0.01	2	4.68	2	0.22	2	1.60	2		9		9		9		9				9	2120.0	2	7.9639	2	2397	2	2398		9		9
29	2	265.1	36.537	36.532	2	17.861	17.815	26.508	185.6	2	190.3	2	41.7	0.00	2	5.56	2	0.27	2	1.80	2		9		9		9		9				9		9		9		9		9		9
28	2	291.8	36.455	36.456	2	17.370	17.321	26.567	184.0	2	182.3	6	52.0	0.00	2	7.22	2	0.37	2	2.10	2		9		9		9		9				9		9		9		9		9		9
27	2	341.9	36.307	36.307	2	16.550	16.494	26.653	179.4	2	185.3	2	53.0	0.00	2	8.10	2	0.43	2	2.60	2		9		9		9		9				9	2126.5	2	7.9183	2	2376	2	2375		9		9
26	2	390.2	36.164	36.166	2	15.661	15.599	26.750	178.2	2	174.9	2	67.8	0.00	2	10.44	2	0.58	2	3.40	2		9		9		9		9				9		9		9		9		9		9
25	2	440.6	35.990	36.023	2	14.646	14.579	26.843	181.3	2		9		0.00	2	11.52	2	0.65	2	4.00	2		9		9		9		9				9		9		9		9		9		9
24	2	551.1	35.745	35.741	2	12.948	12.871	27.012	169.8	2	167.8	2	89.4	0.01	2	15.62	2	0.90	2	6.10	2		9		9		9		9				9	2155.6	2	7.8069	2	2348	2	2343		9		9
23	2	650.3	35.540	35.542	2	11.407	11.323	27.153	165.9	2	163.8	2	102.2	0.00	2	18.36	2	1.11	2	8.50	2		9		9		9		9				9		9		9		9		9		9
22	2	750.0	35.347	35.336	2	9.710	9.622	27.302	157.2	2	153.2	2	123.2	0.00	2	22.66	2	1.41	2	12.60	2		9		9		9		9				9		9		9		9		9		9
21	2	851.1	35.192	35.201	2	8.360	8.268	27.398	152.6	2	151.0	2	134.1	0.01	2	24.81	2	1.58	2	15.40	2		9		9		9		9				9		9		9		9		9		9
20	2	951.2	35.089	35.087	2	7.228	7.132	27.484	159.1	2	157.8	2	135.0	0.01	2	26.18	2	1.69	2	18.10	2		9		9		9		9				9		9		9		9		9		9
19	2	1050.5	35.045	35.047	2	6.358	6.258	27.568	175.9	2	172.7	2	126.2	0.00	2	25.40	2	1.66	2	18.60	2		9		9		9		9				9	2193.9	6	7.6655	2	2327	2	2317		9		9
18	2	1150.7	35.026	35.025	2	5.748	5.643	27.631	192.4	2	190.5	2	112.8	0.00	2	24.13	2	1.58	2	18.20	2		9		9		9		9				9		9		9		9		9		9
17	2	1250.9	35.039	35.039	2	5.363	5.252	27.690	209.9	2	209.1	2	97.0	0.00	2	22.66	2	1.48	2	17.20	2		9		9		9		9				9	2183.4	2	7.6949	2		9	2318		9		9
16	2	1352.0	35.058	35.057	2	5.149	5.030	27.731	221.1	2	219.2	2	88.5	0.00	2	21.49	2	1.40	2	16.30	2		9		9		9		9				9		9		9		9		9		9
15	2	1449.5	35.055	35.054	2	4.854	4.729	27.765	230.3	2	229.4	2	80.6	0.00	2	20.71	2	1.35	2	16.30	2		9		9		9		9				9	2175.1	2	7.7170	2		9	2319		9		9
14	2	1551.2	35.075	35.074	2	4.798	4.664	27.789	235.0	2	233.0	2	77.4	0.00	2	20.22	2	1.33	2	16.50	2		9		9		9		9				9		9		9		9		9		9
13	2	1650.4	35.074	35.074	2	4.502	4.361	27.822	240.3	2	240.9	2	71.8	0.00	2	19.64	2	1.29	2	17.80	2		9		9		9		9				9	2173.5	2	7.7300	2	2327	2	2323		9		9
12	2	1851.1	35.041	35.041	2	4.000	3.847	27.850	248.9	2	248.1	2	68.6	0.00	2	19.44	2	1.28	2	19.80	2		9		9		9		9				9		9		9		9		9		9
11	2	2050.9	35.010	35.010	2	3.618	3.451	27.866	250.9	2	251.0	2	68.9	0.00	2	19.64	2	1.31	2	23.10	2		9		9		9		9				9	2174.2	2	7.7336	2		5	2325		9		9
10	2	2250.3	34.984	34.984	2	3.309	3.128	27.878	251.8	2	251.7	2	70.8	0.00	2	20.03	2	1.35	3	26.40	2		9		9		9		9				9		9		9		9		9		9
9	2	2450.1	34.970	34.970	2	3.147	2.949	27.884	252.4	2	252.7	2	71.3	0.00	2	20.13	2	1.35	2	28.50	2		9		9		9		9				9		9		9		9		9		9
8	2	2648.1	34.954	34.954	2	2.962	2.748	27.890	252.7	2	253.3	2	72.4	0.00	2	20.32	2	1.37	2	31.20	2		9		9		9		9				9		9		9		9		9		9
7	2	2850.6	34.946	34.946	2	2.882	2.649	27.893	253.3	2	253.2	2	73.3	0.00	2	20.42	2	1.38	2	32.40	2		9		9		9		9				9		9		9		9		9		9
6	2	3050.4	34.935	34.935	2	2.774	2.523	27.897	253.4	2	252.7	2	74.9	0.00	2	20.52	2	1.38	2	32.60	2		9		9		9		9				9	2185.9	2	7.7314	2	2339	2	2336		9		9
5	2	3248.9	34.927	34.926	2	2.680	2.410	27.901	256.5	2	256.5	2	72.0	0.00	2	20.52	2	1.39	2	35.20	2		9		9		9		9				9		9		9		9		9		9
4	2	3450.4	34.916	34.916	2	2.573	2.284	27.905	256.9	2	256.6	2	73.0	0.00	2	20.71	2	1.38	3	37.00	2		9		9		9		9				9	2185.2	2	7.7314	2	2332	3	2336		9		9
3	2	3649.9	34.906	34.905	2	2.466	2.158	27.907	257.8	2	257.8	2	72.9	0.00	2	20.91	2	1.42	2	39.20	2		9		9		9		9				9		9		9		9		9		9
2	2	3848.0	34.896	34.895	2	2.356	2.029	27.911	258.1	2	258.1	2	73.7	0.00	2	20.91	2	1.43	2	40.90	2		9		9		9		9				9	2188.0	2	7.7283	2	2343	2	2337		9		9
1	2	4117.3	34.888	34.888	2	2.294	1.938	27.913	258.4	2	258.7	2	73.9	0.00	6	21.10	6	1.45	6	42.70	6		9		9		9		9				9		9		9		9		9		9

* WOCE water sample quality flag (F) for parameter for the previous column
** WOCE quality flag (F) for "Niskin" sample bottle
*** PSS-78 scale
**** ITS0 scale

A5R
NOAA Ship Ronald H. Brown

STATION 58 DATE 2/6/1998 LATITUDE 24.500° N
LONGITUDE 48.234° W

Bottle Number	F**	Pressure db	CTD Salinity***	Bottle Salinity***	F*	Temp**** °C	Theta °C	Sigma Theta	CTD O2 µmol/kg	F*	Bottle O2 µmol/kg	F*	AOU	NO2 µmol/kg	F*	NO3 µmol/kg	F*	PO4 µmol/kg	F*	Si(OH)4 µmol/kg	F*	CFC-11 pmol/kg	F*	CFC-12 pmol/kg	F*	CFC-113 pmol/kg	F*	CCl4 pmol/kg	F*	fCO2 at 20 °C µatm	fCO2 INSITU µatm	F*	DIC µmol/kg	F*	pH	F*	Measured TA µmol/kg	F*	Calculated TA µmol/kg	TOC µmol/kg	F*	TON µmol/kg	F*
36	2	4.7	37.476	37.475	2	24.195	24.194	25.461	212.7	2	212.7	2	-6.9	0.00	2	0.00	2	0.01	2		2	1.90	2	1.09	2	0.15	2		9	262.4	310.0	3	2077.1	6		9	2447	2		75.0	2	4.5	2
35	2	49.9	37.469	37.470	2	24.136	24.125	25.480	212.8	2	212.8	2	-6.8	0.00	2	0.00	2	0.01	2	1.10	2	1.89	2	1.08	2	0.17	2		9			9	2079.3	2		9	2441	2		74.5	2	4.7	2
34	2	100.3	37.415	37.381	2	23.823	23.802	25.538	212.4	2	213.6	2	-6.3	0.00	2	0.00	2	0.02	2	1.00	2	1.96	2	1.12	2	0.18	2		9			9	2085.4	2		9	2439	2		71.0	2	4.5	2
33	2	150.5	37.084	37.079	2	20.887	20.858	26.130	204.2	2	202.8	2	15.8	0.02	2	0.88	2	0.04	2	1.00	2	2.20	2	1.26	2	0.13	2		9			9	2112.7	2		9	2423	2		58.1	2	5.0	2
32	2	201.0	36.830	36.829	2	19.474	19.437	26.317	197.4	2	199.6	2	25.1	0.01	2	2.05	2	0.07	2	1.10	2	2.28	6	1.29	6	0.08	6		9			9	2111.0	2	7.9934	2	2405	2	2408	54.5	2	5.5	2
31	2	224.1	36.694	36.695	2	18.790	18.750	26.392	197.3	2	199.8	2	28.0	0.00	2	3.02	2	0.11	2	1.30	2		9		9		9		9			9	2110.3	2	7.9886	2		5	2403	52.9	2	6.4	2
30	2	250.1	36.577	36.576	2	18.187	18.143	26.457	197.6	2	200.2	6	30.3	0.00	2	4.10	2	0.16	2	1.50	2	2.32	2	1.29	2	0.05	2		9			9	2108.3	2	7.9781	2	2388	2	2393		9	7.3	2
29	2	275.9	36.521	36.520	2	17.871	17.823	26.494	198.6	2	199.8	2	32.2	0.00	2	4.78	2	0.20	2	1.70	2		9		9		9		9	385.5	353.6	3	2107.1	2	7.9728	2		5	2388	51.4	2	8.1	2
28	2	298.7	36.477	36.478	2	17.610	17.559	26.527	193.3	2	197.6	2	35.6	0.00	2	5.37	2	0.24	2	1.70	2	2.31	2	1.28	2	0.04	2		9			9	2112.1	2	7.9578	2	2382	2	2384		9		9
27	2	350.5	36.329	36.331	2	16.676	16.618	26.641	188.4	2	188.1	2	49.6	0.00	2	7.81	2	0.38	2	2.20	2	2.27	2	1.23	2	0.03	2		9			9	2126.9	2	7.9244	2		5	2379	49.6	2	10.6	2
26	2	402.8	36.153	36.155	2	15.626	15.562	26.750	182.0	2	182.9	2	60.0	0.00	2	9.86	2	0.51	2	2.90	2	2.15	2	1.15	2	0.03	2		9			9	2133.9	2	7.8949	2	2364	2	2368		9		9
25	2	453.0	36.020	36.019	2	14.766	14.697	26.841	181.6	2	181.1	2	66.3	0.00	2	11.32	2	0.60	2	3.50	2	2.08	2	1.11	2	0.03	2		9			9	2139.7	2	7.8720	2	2356	2	2361	47.4	2		9
24	2	500.6	35.880	35.884	2	13.941	13.868	26.912	175.7	2	174.6	2	77.2	0.00	2	13.37	2	0.73	2	4.50	2	1.87	2	0.98	2	0.02	2		9			9	2146.8	2	7.8417	2	2350	2	2352		9		9
23	2	602.1	35.679	35.678	2	12.464	12.382	27.059	172.8	2	169.3	2	90.6	0.00	2	16.31	2	0.92	2	6.20	2	1.51	6	0.78	6	0.02	6		9			9	2156.8	2	7.7983	2	2337	2	2340	45.5	2	18.8	2
22	2	699.5	35.488	35.485	2	10.930	10.842	27.201	159.9	2	160.4	2	108.5	0.00	2	19.92	2	1.17	2	8.90	2	0.84	2	0.44	2	0.02	2		9	689.0	473.8	3	2170.7	2	7.7497	2	2333	2	2331		9		9
21	2	801.8	35.308	35.307	2	9.392	9.299	27.326	152.4	2	151.6	2	126.8	0.00	2	23.34	2	1.44	2	12.50	2	0.39	2	0.21	2	0.00	2		9	777.8	500.9	3	2186.3	2	7.7090	2	2325	2	2328	42.9	2		9
20	2	901.7	35.145	35.145	2	7.877	7.782	27.435	153.3	2	153.2	2	135.2	0.00	2	25.59	2	1.63	2	15.80	2	0.16	2	0.09	2	0.01	2		9	844.0	509.4	3	2195.8	2	7.6731	2	2322	2	2323		9		9
19	2	999.7	35.086	35.088	2	7.095	6.995	27.502	160.8	2	161.4	2	132.4	0.00	2	25.98	2	1.66	2	17.00	2	0.12	2	0.07	2	0.00	2		9			9	2197.3	2		9		9		42.7	2	28.1	2
18	2	1094.9	35.057	35.056	2	6.201	6.098	27.599	176.9	2	181.7	2	118.3	0.00	2	24.71	2	1.60	2	17.10	2	0.10	2	0.06	2	0.00	2		9			9	2191.2	6	7.6720	2	2321	2	2317		9		9
17	2	1201.7	35.068	35.066	2	5.830	5.720	27.656	196.3	2	194.7	2	108.0	0.00	2	23.15	2	1.50	2	16.20	2	0.12	2	0.07	2	0.01	2		9			9	2187.6	2	7.6900	2		9	2321	42.6	2		9
16	2	1300.5	35.063	35.060	2	5.395	5.279	27.706	214.5	2	211.6	2	94.3	0.00	2	22.08	2	1.43	2	15.80	2	0.11	2	0.07	2	0.01	2		9			9	2183.8	2	7.7008	2	2319	2	2321		9		9
15	2	1400.2	35.058	35.058	2	5.019	4.897	27.747	225.2	2	224.8	2	83.9	0.00	2	21.00	2	1.36	2	15.50	2	0.10	2	0.06	2	0.00	2		9			9	2177.4	2	7.7158	2	2321	2	2321	42.0	2		9
14	2	1499.9	35.083	35.083	2	4.878	4.748	27.785	230.2	2	230.4	2	79.4	0.00	2	20.22	2	1.31	2	15.50	2	0.12	6	0.07	6	0.01	6		9			9	2175.7	2	7.7236	2	2322	2	2323		9		9
13	2	1600.3	35.078	35.079	2	4.581	4.444	27.816	236.6	2	236.8	2	75.3	0.00	2	19.93	2	1.28	2	16.30	2	0.12	2	0.07	2	0.00	2		9			9	2174.1	2	7.7276	2	2318	2	2323	42.1	2	22.4	2
12	2	1801.3	35.043	35.042	2	4.112	3.962	27.840	244.8	2	245.5	2	70.3	0.00	2	19.73	2	1.28	2	18.50	2	0.07	2	0.04	2	0.01	2		9	726.4	366.1	2	2174.1	2	7.7316	2	2324	2	2324		9		9
11	2	2000.8	35.017	35.017	2	3.728	3.564	27.861	249.4	2	250.4	2	68.6	0.00	2	19.73	2	1.28	2	21.10	2	0.11	2	0.05	2	0.02	2		9			9	2176.5	2	7.7378	2	2323	3	2329	42.2	2		9
10	2	2198.8	34.992	34.993	2	3.400	3.222	27.875	251.8	2	252.3	2	69.5	0.00	2	19.93	2	1.29	2	24.00	2	0.05	2	0.03	2	0.01	2		9			9	2178.2	2	7.7370	2	2330	2	2331		9		9
9	2	2401.4	34.968	34.969	2	3.124	2.931	27.883	252.1	2	252.9	2	71.3	0.00	2	20.22	2	1.32	2	27.50	2		9		9		9		9			9	2181.2	2	7.7336	2	2329	2	2332	41.9	2		9
8	2	2599.6	34.954	34.955	2	2.964	2.755	27.889	252.3	2	253.5	2	72.1	0.00	2	20.42	2	1.34	2	29.80	2	0.02	2	0.02	2	0.00	2		9			9	2179.8	2	7.7338	2	2333	2	2331		9		9
7	2	2801.4	34.944	34.945	2	2.856	2.629	27.894	251.7	2	253.2	2	73.5	0.00	2	20.61	2	1.36	2	31.80	2		9		9		9		9			9	2182.5	2	7.7333	2	2333	2	2334	42.2	2		9
6	2	2999.7	34.934	34.934	2	2.760	2.514	27.897	255.4	2	254.2	2	73.5	0.00	2	20.71	2	1.37	2	33.40	2	0.01	2	0.01	2	0.01	2		9			9	2182.5	2	7.7280	2	2336	2	2331	42.0	2		9
5	2	3200.8	34.923	34.923	2	2.640	2.376	27.901	258.6	2	257.2	2	71.6	0.00	2	20.61	2	1.36	2	34.40	2		9		9		9		9			9	2181.2	2	7.7333	2		9	2332	41.9	2		9
4	2	3400.4	34.916	34.915	2	2.558	2.275	27.904	259.0	2	257.2	2	72.5	0.00	2	20.71	2	1.37	2	35.90	2	0.01	2	0.01	2	0.00	2		9			9	2182.9	2	7.7331	2	2337	2	2334	41.8	2		9
3	2	3601.1	34.904	34.905	2	2.444	2.142	27.907	260.0	2	258.6	2	72.2	0.00	2	20.81	2	1.38	2	37.50	2		9		9		9		9			9	2184.1	2	7.7332	2	2337	2	2335	42.3	2		9
2	2	3800.2	34.898	34.897	2	2.370	2.048	27.910	261.1	2	258.4	2	73.2	0.00	2	20.81	2	1.39	2	39.20	2	0.01	2	0.02	2	0.00	2		9			9	2184.7	2	7.7293	2	2337	2	2334	42.0	2		9
1	2	3975.9	34.893	34.895	2	2.345	2.004	27.912	261.6	2	260.0	2	72.0	0.00	6	21.10	6	1.40	6	39.70	6	0.01	6	0.02	6	0.00	6		9			9	2185.7	2	7.7278	2	2337	2	2334	41.9	2	22.9	2

* WOCE water sample quality flag (F) for parameter for the previous column
** WOCE quality flag (F) for "Niskin" sample bottle
*** PSS-78 scale
**** ITS0 scale

A5R
NOAA Ship Ronald H. Brown

STATION 59 DATE 2/7/1998 LATITUDE 24.500° N
LONGITUDE 48.782° W

Bottle Number	F**	Pressure db	CTD Salinity***	Bottle Salinity***	F*	Temp**** °C	Theta °C	Sigma Theta	CTD O2 µmol/kg	F*	Bottle O2 µmol/kg	F*	AOU	NO2 µmol/kg	F*	NO3 µmol/kg	F*	PO4 µmol/kg	F*	Si(OH)4 µmol/kg	F*	CFC-11 pmol/kg	F*	CFC-12 pmol/kg	F*	CFC-113 pmol/kg	F*	CCl4 pmol/kg	F*	fCO2 at 20 °C µatm	fCO2 INSITU µatm	F*	DIC µmol/kg	F*	pH	F*	Measured TA µmol/kg	F*	Calculated TA µmol/kg	TOC µmol/kg	F*	TON µmol/kg	F*
36	2	4.2	37.469	37.470	2	24.138	24.137	25.473	213.7	2	212.6	6	-6.6	0.00	2	0.00	2	0.01	2	0.60	2	9	9	9	9	277.7	327.1	6	2076.1	6	8.0953	2	2456	2	2447	9	9
35	2	39.4	37.468	37.470	2	24.142	24.134	25.476	213.5	2	212.8	2	-6.8	0.00	2	0.00	2	0.01	2	0.70	2	9	9	9	9	276.5	325.7	2	9	9	9	9					9	9
34	2	80.6	37.462	37.407	2	24.122	24.105	25.482	213.0	2	212.4	2	-6.2	0.00	2	0.00	2	0.01	2	0.50	2	9	9	9	9	295.4	347.6	3	2077.1	2	8.0847	2	2447	2	2440	9	9
33	2	120.3	37.040	37.047	2	21.300	21.277	25.979	215.4	2	211.8	2	5.3	0.06	2	0.10	2	0.02	2	0.50	2	9	9	9	9			9	2091.4	2	8.0301	2	2421	2	2413	9	9
32	2	156.5	36.872	36.888	2	20.129	20.100	26.173	200.5	2	203.1	2	18.8	0.03	2	0.88	2	0.04	2	0.60	2	9	9	9	9			9	9	9	9	9					9	9
31	2	199.5	36.732	36.733	2	19.083	19.047	26.344	197.6	2	200.9	2	25.6	0.01	2	2.24	2	0.07	2	0.70	2	9	9	9	9			9	2106.6	2	9	9	2404	2		9	9
30	2	221.8	36.656	36.654	2	18.639	18.600	26.401	197.9	2	200.8	2	27.7	0.01	2	3.12	2	0.11	2	0.90	2	9	9	9	9			9	9	7.9863	2	2397	2		9	9
29	2	249.5	36.593	36.596	2	18.262	18.218	26.450	199.3	2	201.7	2	28.5	0.00	2	3.71	2	0.14	2	0.90	2	9	9	9	9			9	9	9	9	9					9	9
28	2	274.8	36.538	36.535	2	17.959	17.911	26.486	201.7	2	202.0	2	29.6	0.00	2	4.39	2	0.18	2	1.00	2	9	9	9	9			9	9	9	9	9					9	9
27	2	294.6	36.511	36.512	2	17.758	17.707	26.516	200.2	2	198.5	2	34.0	0.00	2	4.98	2	0.22	2	1.20	2	9	9	9	9			9	2111.8	2	7.9573	2		9	2383	9	9
26	2	349.0	36.388	36.390	2	17.066	17.007	26.593	194.9	2	192.3	2	43.6	0.00	2	6.34	2	0.30	2	1.50	2	9	9	9	9			9	9	9	9	9					9	9
25	2	401.3	36.218	36.233	2	16.012	15.947	26.713	193.5	2	192.9	2	48.1	0.00	2	8.10	2	0.40	2	2.00	2	9	9	9	9			9	2126.0	2	7.9103	2	2373	2	2369	9	9
24	2	450.8	36.050	36.047	2	14.947	14.878	26.825	188.9	2	185.3	2	61.1	0.00	2	10.54	2	0.56	2	2.90	2	9	9	9	9			9	9	9	9	9					9	9
23	2	498.9	35.926	35.929	2	14.161	14.087	26.901	186.1	2	183.2	2	67.4	0.00	2	11.81	2	0.65	2	3.50	2	9	9	9	9			9	9	9	9	9					9	9
22	2	549.7	35.805	35.805	2	13.315	13.237	26.985	185.9	2	182.8	2	72.4	0.00	2	13.28	2	0.74	2	4.30	2	9	9	9	9			9	9	9	9	9					9	9
21	2	598.9	35.662	35.666	2	12.271	12.190	27.083	180.5	2	177.6	2	83.4	0.00	2	15.43	2	0.89	2	5.60	2	9	9	9	9			9	2153.8	2	7.7984	2		5	2336	9	9
20	2	701.1	35.444	35.452	2	10.532	10.445	27.237	168.1	2	160.5	2	110.8	0.00	2	20.12	2	1.21	2	9.30	2	9	9	9	9			9	9	9	9	9					9	9
19	2	801.9	35.273	35.280	2	9.051	8.960	27.353	153.7	2	153.0	2	127.6	0.00	2	23.34	2	1.46	2	12.90	2	9	9	9	9			9	9	7.6883	2	2336	2		9	9
18	2	900.8	35.134	35.136	2	7.674	7.581	27.456	154.1	2	157.0	2	132.7	0.00	2	25.10	2	1.63	2	16.00	2	9	9	9	9			9	9	9	9	9					9	9
17	2	999.6	35.052	35.054	2	6.696	6.599	27.528	163.5	2	164.4	2	132.1	0.00	2	25.59	2	1.68	2	17.70	2	9	9	9	9			9	2197.5	6	7.6543	2		9	2316	9	9
16	2	1100.4	35.069	35.068	2	6.267	6.163	27.600	180.3	2	182.6	2	116.9	0.00	2	23.74	2	1.58	2	16.70	2	9	9	9	9			9	9	9	9	9					9	9
15	2	1304.2	35.089	35.088	2	5.485	5.368	27.716	213.5	2	212.0	2	93.2	0.00	2	21.49	2	1.41	2	15.50	2	9	9	9	9			9	9	9	9	9					9	9
14	2	1499.2	35.066	35.066	2	4.788	4.659	27.781	235.3	2	236.5	2	74.0	0.00	2	19.54	2	1.28	2	14.70	2	9	9	9	9			9	2171.1	2	7.7225	2		5	2317	9	9
13	2	1700.1	35.049	35.050	2	4.335	4.192	27.820	245.9	2	247.4	2	66.6	0.00	2	18.85	2	1.25	2	15.50	2	9	9	9	9			9	9	9	9	9					9	9
12	2	1899.1	35.032	35.033	2	3.942	3.785	27.850	249.6	2	250.6	2	66.6	0.00	2	19.15	2	1.25	2	18.80	2	9	9	9	9			9	9	9	9	9					9	9
11	2	2100.7	35.003	35.002	2	3.533	3.363	27.870	252.3	2	252.5	2	68.1	0.00	2	19.24	2	1.27	2	22.50	2	9	9	9	9			9	2173.5	2	7.7301	2		9	2323	9	9
10	2	2300.6	34.977	34.976	2	3.237	3.052	27.878	253.2	2	254.5	2	68.7	0.00	2	19.64	2	1.30	2	25.70	2	9	9	9	9			9	9	9	9	9					9	9
9	2	2499.5	34.962	34.961	2	3.054	2.853	27.886	252.2	2	255.4	2	69.4	0.00	2	19.73	2	1.31	2	28.20	2	9	9	9	9			9	9	9	9	9					9	9
8	2	2700.1	34.951	34.950	2	2.931	2.712	27.891	253.8	2	255.2	2	70.8	0.00	2	19.83	2	1.33	2	30.20	2	9	9	9	9			9	9	9	9	9					9	9
7	2	2899.7	34.940	34.939	2	2.817	2.580	27.895	254.5	2	255.4	2	71.7	0.00	2	20.03	2	1.35	2	32.20	2	9	9	9	9			9	9	9	9	9					9	9
6	2	3141.5	34.928	34.928	2	2.689	2.430	27.900	255.1	2	256.3	2	72.1	0.00	2	20.22	2	1.36	2	34.40	2	9	9	9	9			9	2177.7	2	7.7307	2		5	2327	9	9
5	2	3276.9	34.918	34.917	2	2.581	2.310	27.903	256.0	2	257.4	2	72.0	0.00	2	20.22	2	1.37	2	36.00	2	9	9	9	9			9	9	9	9	9					9	9
4	2	3547.6	34.905	34.905	2	2.442	2.146	27.907	257.0	2	258.3	2	72.5	0.00	2	20.32	2	1.38	2	38.30	2	9	9	9	9			9	2185.3	2	7.7292	2		5	2335	9	9
3	2	3800.8	34.896	34.896	2	2.362	2.040	27.910	257.4	2	259.2	2	72.5	0.00	2	20.42	2	1.39	2	40.10	2	9	9	9	9			9	9	9	9	9					9	9
2	2	4049.1	34.890	34.889	2	2.297	1.949	27.913	257.6	2	259.4	2	73.1	0.00	2	20.52	2	1.39	2	41.50	2	9	9	9	9			9	9	9	9	9					9	9
1	2	4311.8	34.880	34.880	2	2.225	1.848	27.915	257.0	2	259.2	2	74.2	0.00	2	21.01	2	1.43	2	44.10	2	9	9	9	9			9	2191.0	2	7.7221	2		5	2338	9	9

* WOCE water sample quality flag (F) for parameter for the previous column
** WOCE quality flag (F) for "Niskin" sample bottle
*** PSS-78 scale
**** ITS0 scale

A5R
NOAA Ship Ronald H. Brown

STATION 60 DATE 2/7/1998 LATITUDE 24.500° N
LONGITUDE 49.333° W

Bottle Number	F**	Pressure db	CTD Salinity***	Bottle Salinity***	F*	Temp**** °C	Theta °C	Sigma Theta	CTD O2 µmol/kg	F*	Bottle O2 µmol/kg	F*	AOU	NO2 µmol/kg	F*	NO3 µmol/kg	F*	PO4 µmol/kg	F*	Si(OH)4 µmol/kg	F*	CFC-11 pmol/kg	F*	CFC-12 pmol/kg	F*	CFC-113 pmol/kg	F*	CCl4 pmol/kg	F*	fCO2 at 20 °C µatm	fCO2 INSITU µatm	F*	DIC µmol/kg	F*	pH	F*	Measured TA µmol/kg	F*	Calculated TA µmol/kg	TOC µmol/kg	F*	TON µmol/kg	F*
36	2	4.1	37.398	37.400	2	23.619	23.618	25.574	214.8	2	216.0	2	-8.1		9		9		9		9	1.94	2	1.10	2	0.15	2	1.87	2	278.2	321.1	3	2075.7	6	8.0929	6	2444	6	2444		9		9
35	2	46.3	37.390	37.385	2	23.576	23.566	25.585	215.5	2	213.5	2	-5.4	0.00	2	0.00	2	0.01	2	0.40	2	1.96	2	1.12	2	0.17	2	1.85	2			9		9		9		9		69.8	2	9
34	2	90.0	37.359	37.356	2	23.489	23.470	25.593	216.0	2	215.3	2	-6.8	0.00	2	0.00	2	0.01	2	0.40	2	1.94	2	1.11	2	0.17	2	1.90	2	293.3	336.7	2		9		9		9		70.1	2	9
33	2	136.1	37.038	37.031	2	20.801	20.775	26.117	208.9	2	209.3	2	9.7	0.05	2	0.49	2	0.03	2	0.50	2	2.22	2	1.26	2	0.14	2	1.08	6			9		9		9		9		57.9	2	9
32	2	180.5	36.801	36.793	2	19.289	19.256	26.342	199.3	2	200.5	2	25.0	0.01	2	2.15	2	0.08	2	0.70	2		9		9		9		9			9		9		9		9		52.7	2	9
31	2	200.5	36.749	36.744	2	18.941	18.905	26.394	198.7	2	199.3	2	27.7	0.01	2	2.73	2	0.12	2	0.90	2	2.31	2	1.29	2	0.07	2	0.75	2			9		9		9		9		50.3	2	9
30	2	225.1	36.629	36.628	2	18.342	18.302	26.456	198.5	2	199.5	2	30.3	0.01	2	3.71	2	0.19	2	1.20	2		9		9		9		9			9		9		9		9			9		9
29	2	251.3	36.558	36.502	2	17.979	17.935	26.494	198.2	2	199.7	2	31.8	0.01	2	4.49	2	0.25	2	1.20	2	2.32	2	1.28	2	0.04	2		9			9		9		9		9		49.5	2	9
28	2	274.9	36.506	36.549	2	17.745	17.698	26.514	199.4	2	200.3	2	32.2	0.00	2	4.88	2	0.29	2	1.40	2	2.30	2	1.26	2	0.04	2	0.57	2			9		9		9		9			9		9
27	2	300.1	36.459	36.456	2	17.461	17.410	26.549	197.9	2	198.3	2	35.6	0.00	2	5.46	2	0.25	3	1.60	2	2.31	2	1.27	2	0.04	2		9			9		9		9		9		48.2	2	9
26	2	359.9	36.321	36.320	2	16.639	16.580	26.644	197.1	2	195.3	2	42.6	0.00	2	7.03	2	0.36	2	2.00	2	2.30	6	1.24	6	0.04	6	0.53	2			9		9		9		9			9		9
25	2	420.7	36.169	36.169	2	15.742	15.675	26.738	190.5	2	189.3	2	53.1	0.00	2	8.98	2	0.48	2	2.80	2	2.19	2	1.18	2	0.03	2		9			9		9		9		9		45.8	2	9
24	2	480.4	35.991	35.989	2	14.636	14.563	26.849	184.7	2	184.1	2	64.0	0.00	2	11.23	2	0.63	2	3.80	2		9		9		9		9			9		9		9		9			9		9
23	2	540.4	35.837	35.836	2	13.596	13.518	26.952	177.7	2	178.0	2	75.6	0.00	2	13.47	2	0.77	2	4.80	2	1.91	2	0.99	2	0.03	2	0.45	2			9		9		9		9		45.8	2	9
22	2	600.4	35.695	35.695	2	12.596	12.513	27.046	174.3	2	174.5	2	84.7	0.00	2	15.33	2	0.89	2	6.00	2		9		9		9		9			9		9		9		9			9		9
21	2	701.2	35.485	35.483	2	10.805	10.717	27.221	169.3	2	166.7	2	102.9	0.00	2	19.04	2	1.15	2	9.20	2	0.98	2	0.50	2	0.01	2	0.34	2			9		9		9		9		42.9	2	9
20	2	800.6	35.318	35.312	2	9.318	9.226	27.346	157.9	2	154.9	2	124.0	0.00	2	22.76	2	1.42	2	13.00	2	0.41	2	0.22	2	0.00	2		9			9		9		9		9			9		9
19	2	899.9	35.077	35.082	2	7.333	7.242	27.459	155.4	2	156.3	2	135.8	0.00	2	25.89	2	1.67	2	17.50	2	0.14	2	0.08	2	0.01	2	0.13	2			9		9		9		9		43.2	2	9
18	2	1000.3	35.056	35.055	2	6.507	6.411	27.556	171.6	2	175.7	2	122.1	0.00	2	24.71	2	1.60	2	17.70	2	0.13	2	0.07	2	0.00	2		9			9		9		9		9			9		9
17	2	1100.6	35.060	35.059	2	5.958	5.857	27.631	192.6	2	194.6	2	107.1	0.00	2	23.05	2	1.50	2	16.80	2	0.16	2	0.08	2	0.00	2	0.32	2			9		9		9		9			9		9
16	2	1299.8	35.052	35.051	2	5.077	4.964	27.733	229.9	2	230.4	2	77.8	0.00	2	20.12	2	1.31	2	14.50	2	0.25	6	0.14	6	0.01	6		9			9		9		9		9			9		9
15	2	1499.0	35.044	35.043	2	4.579	4.452	27.787	243.6	2	244.7	2	67.4	0.00	2	19.24	2	1.26	2	14.60	2	0.14	2	0.09	2	0.01	2	0.61	2			9		9		9		9			9		9
14	2	1699.6	35.029	35.028	2	4.168	4.027	27.821	248.5	2	246.3	2	69.1	0.00	2	19.54	2	1.28	2	17.50	2		9		9		9		9				9		9		9		9			9		9
13	2	1899.1	35.016	35.014	2	3.801	3.646	27.850	252.0	2	251.5	2	66.9	0.00	2	19.44	2	1.28	2	20.00	2	0.01	2	0.01	2	0.00	2	0.24	2			9		9		9		9		42.0	2	9
12	2	2099.7	34.992	34.993	2	3.479	3.310	27.866	253.3	2	253.2	2	67.9	0.00	2	19.54	2	1.30	2	23.30	2		9		9		9		9			9		9		9		9			9		9
11	2	2348.5	34.972	34.972	2	3.209	3.020	27.878	255.4	2	255.0	2	68.4	0.00	2	19.73	2	1.31	2	26.30	2	0.01	2	0.01	2	0.01	2	0.18	2			9		9		9		9			9		9
10	2	2599.4	34.956	34.954	2	3.001	2.791	27.887	255.3	2	258.1	2	67.2	0.00	2	19.83	2	1.33	2	28.80	2		9		9		9		9			9		9		9		9			9		9
9	2	2850.6	34.941	34.941	2	2.838	2.606	27.893	257.3	2	256.7	2	70.2	0.00	2	20.03	2	1.34	2	31.70	2	0.01	2	0.00	2	0.00	2	0.16	2			9		9		9		9		41.7	2	9
8	2	3098.2	34.928	34.928	2	2.684	2.430	27.899	258.2	2	256.8	6	71.6	0.00	2	20.32	2	1.37	2	34.60	2		9		9		9		9			9		9		9		9			9		9
7	2	3399.4	34.915	34.914	2	2.539	2.256	27.905	259.5	2	257.9	2	71.9	0.00	2	20.52	2	1.38	2	36.70	2	0.01	2	0.01	2	0.00	2	0.15	2			9		9		9		9			9		9
6	2	3700.2	34.900	34.899	2	2.382	2.071	27.910	259.9	2	259.1	2	72.3	0.00	2	20.61	2	1.40	2	39.60	2	0.01	2	0.01	2	0.01	2	0.14	2			9		9		9		9			9		9
5	2	4001.1	34.889	34.888	2	2.281	1.939	27.913	260.7	2	259.9	2	72.7	0.00	2	20.91	2	1.41	2	41.70	2	0.01	2	0.01	2	0.01	2	0.13	6			9		9		9		9		41.3	2	9
4	2	4300.0	34.882	34.881	2	2.226	1.851	27.916	260.8	2	259.6	2	73.7	0.00	2	21.00	2	1.43	2	43.70	2	0.03	4	0.02	2	0.01	2	0.13	2			9		9		9		9			9		9
3	2	4599.1	34.872	34.872	2	2.163	1.754	27.918	260.1	2	258.9	2	75.3	0.00	2	21.30	2	1.46	2	46.50	2	0.01	2	0.01	2	0.01	2	0.14	2			9		9		9		9			9		9
2	2	4898.8	34.860	34.859	2	2.085	1.642	27.918	257.6	2	257.0	2	78.2	0.00	2	22.08	2	1.50	2	51.00	2	0.01	6	0.01	6	0.00	6	0.14	2			9		9		9		9			9		9
1	2	5352.9	34.856	34.855	2	2.114	1.613	27.921	256.8	2	256.0	2	79.4	0.00	6	22.28	6	1.52	6	52.40	6	0.01	2	0.02	2	0.01	2	0.12	2			9		9		9		9		43.8	3	9

* WOCE water sample quality flag (F) for parameter for the previous column
** WOCE quality flag (F) for "Niskin" sample bottle
*** PSS-78 scale
**** ITS0 scale

A5R
NOAA Ship Ronald H. Brown

STATION 61 DATE 2/7/1998 LATITUDE 24.491° N
LONGITUDE 49.883° W

Bottle Number	F**	Pressure db	CTD Salinity***	Bottle Salinity***	F*	Temp**** °C	Theta °C	Sigma Theta	CTD O2 µmol/kg	F*	Bottle O2 µmol/kg	F*	AOU	NO2 µmol/kg	F*	NO3 µmol/kg	F*	PO4 µmol/kg	F*	Si(OH)4 µmol/kg	F*	CFC-11 pmol/kg	F*	CFC-12 pmol/kg	F*	CFC-113 pmol/kg	F*	CCl4 pmol/kg	F*	fCO2 at 20 °C µatm	fCO2 INSITU µatm	F*	DIC µmol/kg	F*	pH	F*	Measured TA µmol/kg	F*	Calculated TA µmol/kg	TOC µmol/kg	F*	TON µmol/kg	F*
36	2	3.7	37.345	37.346	2	24.321	####	####	213.2	2	211.2	2	-5.7	0.00	2	0.00	2	0.00	2	0.80	2	9		9		9		9		274.1	325.1	6	2064.1	6	8.1164	2		5	2449		9		9
35	2	50.5	37.281	37.283	2	23.684	####	####	214.2	2	215.3	6	-7.4	0.00	2	0.00	2	0.00	2	0.70	2	9		9		9		9				9		9		9		9			9		9
34	2	100.5	37.012	37.014	2	21.624	####	####	214.0	2	217.0	2	-1.2	0.01	2	0.00	2	0.01	2	0.60	2	9		9		9		9		276.0	294.9	3	2084.8	2	8.0507	2		5	2420		9		9
33	2	150.6	36.877	36.877	2	20.265	####	####	200.3	2	195.0	2	26.4	0.02	2	0.78	2	0.02	2	0.60	2	9		9		9		9				9		9		9		9			9		9
32	2	189.7	36.694	36.684	2	18.998	####	####	198.2	2	199.7	2	27.2	0.01	2	2.34	2	0.08	2	0.80	2	9		9		9		9				9	2103.4	2	7.9925	2	2395	2	2398		9		9
31	2	224.9	36.585	36.586	2	18.368	####	####	202.1	2	201.6	2	28.1	0.00	2	3.42	2	0.14	2	1.00	2	9		9		9		9				9		9		9		9			9		9
30	2	243.2	36.558	36.555	2	18.200	####	####	202.6	2	203.2	2	27.3	0.00	2	3.81	2	0.17	2	1.20	2	9		9		9		9				9	2100.9	2	7.9844	2	2383	2	2389		9		9
29	2	267.6	36.529	36.528	2	18.020	####	####	203.4	2	203.8	2	27.6	0.00	2	4.20	2	0.19	2	1.10	2	9		9		9		9				9		9		9		9			9		9
28	2	297.7	36.502	36.502	2	17.854	####	####	202.6	2	203.1	2	29.0	0.00	2	4.59	2	0.21	2	1.20	2	9		9		9		9				9	2102.6	2	7.9787	2		9	2387		9		9
27	3	343.6	36.397	36.397	2	17.209	####	####	196.0	2	195.8	2	39.4	0.00	2	6.25	2	0.32	2	1.70	2	9		9		9		9				9		9		9		9			9		9
26	2	392.5	36.295	36.287	2	16.594	####	####	194.1	2	192.0	2	46.2	0.00	2	7.61	2	0.41	2	2.00	2	9		9		9		9				9	2121.1	2	7.9296	2	2373	2	2375		9		9
25	2	445.4	36.129	36.125	2	15.674	####	####	189.8	2	186.9	2	55.9	0.00	2	9.57	2	0.54	2	2.80	2	9		9		9		9				9		9		9		9			9		9
24	2	488.4	36.027	36.023	2	15.018	####	####	184.3	2	183.1	2	63.0	0.00	2	11.03	2	0.62	2	3.40	2	9		9		9		9				9	2132.4	2	7.8811	2	2357	2	2358		9		9
23	2	530.6	35.898	35.894	2	14.210	####	####	178.4	2	178.7	2	71.7	0.00	2	12.69	2	0.73	2	4.20	2	9		9		9		9				9		9		9		9			9		9
22	2	628.0	35.575	35.580	2	11.941	####	####	167.1	2	164.7	2	98.3	0.00	2	17.67	2	1.07	2	7.60	2	9		9		9		9				9		9		9		9			9		9
21	2	731.1	35.351	35.354	2	10.088	####	####	156.8	2	156.8	2	117.3	0.00	2	21.58	2	1.34	2	10.90	2	9		9		9		9				9	2176.0	2	7.7252	2	2329	2	2325		9		9
20	2	830.5	35.180	35.190	2	8.648	8.556	####	150.3	2	150.5	2	132.8	0.00	2	24.71	2	1.57	2	14.50	2	9		9		9		9				9		9		9		9			9		9
19	2	931.9	35.071	35.066	2	7.246	7.152	####	158.5	2	159.2	2	133.5	0.00	2	25.98	2	1.69	2	17.50	2	9		9		9		9				9		9		9		9			9		9
18	2	1030.6	35.046	35.044	2	6.462	6.364	####	172.0	2	172.6	2	125.6	0.00	2	25.50	2	1.67	2	18.00	2	9		9		9		9				9	2194.1	6	7.6611	2	2320	2	2316		9		9
17	2	1130.8	35.042	35.041	2	5.844	5.741	####	193.3	2	194.6	2	108.0	0.00	2	23.64	2	1.55	2	16.90	2	9		9		9		9				9		9		9		9			9		9
16	2	1323.8	35.085	35.081	2	5.313	5.195	####	224.7	2	221.3	2	85.2	0.00	2	20.51	2	1.34	2	14.40	2	9		9		9		9				9	2173.6	2	7.7131	2		9	2316		9		9
15	2	1529.5	35.099	35.099	2	4.834	4.701	####	237.7	2	238.0	2	72.1	0.00	2	19.54	2	1.28	2	15.30	2	9		9		9		9				9		9		9		9			9		9
14	2	1729.2	35.069	35.069	2	4.350	4.204	####	246.3	2	246.2	2	67.7	0.00	2	19.34	2	1.27	2	17.10	2	9		9		9		9				9	2169.1	2	7.7337	2	2327	2	2320		9		9
13	2	1929.2	35.032	35.031	2	3.858	3.699	####	251.8	2	251.4	2	66.5	0.00	2	19.44	2	1.28	2	20.30	2	9		9		9		9				9		9		9		9			9		9
12	2	2132.2	35.001	35.000	2	3.496	3.323	####	255.1	2	255.1	2	65.8	0.00	2	19.44	2	1.29	2	23.00	2	9		9		9		9				9	2171.7	2	7.7334	2	2329	2	2322		9		9
11	2	2329.6	34.980	34.980	2	3.267	3.079	####	255.8	2	256.4	2	66.5	0.00	2	19.64	2	1.31	2	25.50	2	9		9		9		9				9		9		9		9			9		9
10	2	2531.6	34.965	34.965	2	3.106	2.901	####	255.7	2	256.3	2	68.1	0.00	2	19.93	2	1.32	2	27.60	2	9		9		9		9				9	2177.4	2	7.7326	2	2336	2	2328		9		9
9	2	2731.6	34.951	34.951	2	2.945	2.723	####	256.4	2	256.6	2	69.3	0.00	2	20.12	2	1.34	2	30.00	2	9		9		9		9				9		9		9		9			9		9
8	2	2924.7	34.940	34.940	2	2.818	2.579	####	255.9	2	257.1	2	70.0	0.00	2	20.22	2	1.36	2	31.80	2	9		9		9		9				9	2180.1	2	7.7313	2		5	2330		9		9
7	2	3131.4	34.929	34.929	2	2.710	2.452	####	260.4	2	256.8	2	71.4	0.00	2	20.52	2	1.38	2	33.90	2	9		9		9		9				9		9		9		9			9		9
6	2	3330.7	34.919	34.919	2	2.590	2.314	####	262.2	2	258.2	2	71.2	0.00	2	20.52	2	1.39	2	35.60	2	9		9		9		9				9	2181.8	2	7.7288	2		5	2331		9		9
5	2	3529.2	34.905	34.905	2	2.436	2.142	####	262.6	2	258.8	2	72.0	0.00	2	20.71	2	1.40	2	38.00	2	9		9		9		9				9		9		9		9			9		9
4	2	3729.3	34.896	34.896	2	2.344	2.030	####	262.7	2	260.0	2	71.8	0.00	2	20.91	2	1.42	2	40.00	2	9		9		9		9				9	2185.1	2	7.7263	2		9	2333		9		9
3	2	4027.9	34.887	34.886	2	2.257	1.912	####	263.6	2	259.5	2	73.3	0.00	2	21.00	2	1.43	2	41.90	2	9		9		9		9				9	2186.9	2	7.7258	2		5	2335		9		9
2	2	4329.9	34.880	34.879	2	2.213	1.835	####	262.6	2	259.9	2	73.6	0.00	2	21.20	2	1.45	2	43.80	2	9		9		9		9				9		9		9		9			9		9
1	2	4630.9	34.871	34.871	2	2.163	1.750	####	262.8	2	273.9	4	60.3	0.00	6	21.59	6	1.47	6	46.40	6	9		9		9		9				9	2191.6	2	7.7208	2	2346	2	2338		9		9

* WOCE water sample quality flag (F) for parameter for the previous column
** WOCE quality flag (F) for "Niskin" sample bottle
*** PSS-78 scale
**** ITS0 scale

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A5R
NOAA Ship Ronald H. Brown

STATION 62 DATE 2/8/1998 LATITUDE 24.501° N
LONGITUDE 50.433° W

Bottle Number	F**	Pressure db	CTD Salinity***	Bottle Salinity***	F*	Temp**** °C	Theta °C	Sigma Theta	CTD O2 µmol/kg	F*	Bottle O2 µmol/kg	F*	AOU	NO2 µmol/kg	F*	NO3 µmol/kg	F*	PO4 µmol/kg	F*	Si(OH)4 µmol/kg	F*	CFC-11 pmol/kg	F*	CFC-12 pmol/kg	F*	CFC-113 pmol/kg	F*	CCl4 pmol/kg	F*	fCO2 at 20 °C µatm	fCO2 INSITU µatm	F*	DIC µmol/kg	F*	pH	F*	Measured TA µmol/kg	F*	Calculated TA µmol/kg	TOC µmol/kg	F*	TON µmol/kg	F*
36	2	3.2	37.352	37.354	2	24.578	24.577	25.251	213.2	2	210.9	2	-6.3	0.00	2	0.00	2	0.00	2	0.90	2	1.82	2	1.05	2	0.15	2	9		274.1	328.3	6	2066.6	6	8.1110	2	2452	2	2448	79.4	2	9
35	2	59.6	37.369	37.369	2	24.586	24.573	25.269	210.5	2	211.0	6	-6.4	0.00	2	0.00	2	0.00	2	0.90	2	1.84	2	1.06	2	0.17	2	9				9	2066.1	2	8.1111	2	2446	2	2447	79.7	2	9
34	3	121.9	37.190	37.197	2	22.699	22.674	25.699	213.7	2	211.6	2	0.0	0.05	2	0.10	2	0.01	2	0.70	2	2.08	2	1.17	2	0.17	2	9				9	2090.7	2	8.0577	2		5	2433	64.9	2	9
33	3	179.0	36.842	36.846	2	19.908	19.875	26.211	194.0	2	195.7	2	27.2	0.01	2	1.56	2	0.05	2	0.90	2	2.22	2	1.26	2	0.08	2	9				9	2108.9	2	8.0015	2		9	2411	54.5	2	9
32	2	199.6	36.741	36.739	2	19.336	19.300	26.286	193.8	2	196.5	2	28.9	0.01	2	2.05	2	0.07	2	1.00	2	2.26	2	1.27	2	0.05	2	9				9	2108.6	2	7.9941	2		5	2405	53.6	2	9
31	2	220.7	36.633	36.635	2	18.714	18.675	26.365	196.3	2	201.3	2	26.9	0.01	2	2.63	2	0.10	2	1.20	2	2.32	2	1.31	2	0.05	2	9				9	2103.4	2	7.9928	2		9	2398	51.4	2	9
30	3	248.5	36.580	36.580	2	18.393	18.349	26.407	200.9	2	204.0	2	25.6	0.01	2	3.32	2	0.13	2	1.30	2	2.31	2	1.29	2	0.03	2	9				9	2101.0	2	7.9901	2	2397	2	2393	49.5	2	9
29	3	274.7	36.556	36.556	2	18.230	18.182	26.432	203.3	2	203.8	2	26.6	0.01	2	3.71	2	0.16	2	1.40	2	2.25	4	1.27	4	0.04	4	9				9	2100.6	2	7.9933	2	2399	2	2395	47.8	2	9
28	2	299.5	36.524	36.526	2	18.006	17.954	26.465	203.8	2	204.7	2	26.7	0.01	2	4.29	2	0.19	2	1.50	2	2.32	6	1.29	6	0.04	6	9				9	2100.6	2	7.9826	2		9	2387		9	9
27	2	348.4	36.488	36.484	2	17.631	17.571	26.534	188.6	2	185.9	2	47.3	0.01	2	6.54	2	0.34	2	2.00	2	2.22	2	1.21	2	0.02	2	9				9	2122.1	2	7.9521	2	2386	2	2391	49.0	2	9
26	2	452.4	36.153	36.153	2	15.709	15.637	26.735	181.2	2	180.1	2	62.5	0.01	2	10.05	2	0.56	2	3.30	2	2.04	2	1.08	2	0.02	2	9				9	2133.1	2	7.8955	2	2367	2	2368		9	9
25	2	500.0	35.993	36.013	2	14.711	14.635	26.836	177.4	2	176.9	2	70.8	0.00	2	11.62	2	0.66	2	4.10	2	1.92	2	1.01	2	0.03	2	9				9	2139.3	2	7.8693	2	2360	2	2359	45.4	2	9
24	2	595.0	35.720	35.721	2	12.829	12.746	27.019	172.5	2	170.6	2	87.3	0.01	2	15.13	2	0.92	2	6.20	2	1.47	2	0.76	2	0.02	2	9				9	2154.2	2	7.8197	2	2348	2	2348		9	9
23	2	699.4	35.493	35.508	2	11.065	10.976	27.180	164.8	2	163.0	2	105.1	0.00	2	19.14	2	1.16	2	9.00	2	0.91	2	0.47	2	0.01	2	9				9	2168.4	2	7.7563	2	2333	2	2331	42.7	2	9
22	2	798.1	35.252	35.250	2	9.211	9.120	27.311	152.2	2	150.8	2	128.8	0.00	2	23.73	2	1.50	2	13.80	2	0.37	2	0.20	2	0.01	2	9				9	2186.4	2	7.6943	2	2324	2	2322		9	9
21	3	845.4	35.145	35.145	2	8.223	8.132	27.382	150.0	2	150.2	2	135.9	0.01	2	25.49	2	1.63	2	15.90	2	0.22	2	0.12	2	0.01	2	9				9	2195.0	2	7.6727	2	2322	2	2322	42.5	2	9
20	2	899.6	35.102	35.100	2	7.666	7.573	27.431	152.3	2	155.4	2	134.5	0.00	2	25.69	2	1.65	2	16.90	2	0.19	2	0.11	2	0.01	2	9				9	2198.0	2	7.6666	2	2322	2	2322		9	9
19	2	949.7	35.073	35.073	2	7.198	7.103	27.476	162.1	2	161.9	2	131.2	0.00	2	25.59	2	1.66	2	17.40	2	0.17	2	0.10	2	0.00	2	9				9	2198.4	2	7.6644	2		9	2322	41.7	2	9
18	2	999.3	35.054	35.052	2	6.661	6.564	27.534	171.2	2	172.9	2	123.9	0.00	2	25.10	2	1.63	2	17.50	2	0.17	2	0.09	2	0.01	2	9				9	2194.8	6	7.6690	2		9	2320		9	9
17	2	1150.2	35.039	35.039	2	5.710	5.606	27.646	200.1	2	199.6	2	104.0	0.00	2	23.05	2	1.51	2	17.00	2	0.15	2	0.08	2	0.01	2	9				9	2189.2	2	7.6893	2	2320	2	2322	41.8	2	9
16	2	1338.0	35.066	35.065	2	5.131	5.014	27.740	230.1	2	229.1	2	78.7	0.00	2	20.32	2	1.33	2	14.80	2	0.20	2	0.10	2	0.01	2	9				9	2177.2	2	7.7172	2		9	2321		9	9
15	2	1547.9	35.090	35.087	2	4.759	4.625	27.805	241.9	2	239.7	2	71.0	0.00	2	19.53	2	1.28	2	15.60	2	0.15	2	0.09	2	0.01	2	9				9	2175.0	2	7.7278	2	2322	2	2324	41.4	2	9
14	2	1747.8	35.066	35.066	2	4.282	4.135	27.840	247.7	2	246.5	2	67.9	0.00	2	19.44	2	1.27	2	18.00	2	0.10	6	0.06	6	0.01	6	9				9	2175.7	2	7.7336	2	2324	2	2327		9	9
13	2	1952.8	35.017	35.016	2	3.681	3.523	27.864	252.5	2	252.4	2	66.9	0.00	2	19.44	2	1.29	2	21.90	2	0.06	2	0.03	2	0.00	2	9				9	2177.8	2	7.7328	2	2326	2	2329	41.5	2	9
12	2	2152.7	34.992	34.991	2	3.392	3.219	27.874	254.6	2	255.2	2	66.6	0.00	2	19.54	2	1.30	2	24.30	2	0.06	2	0.04	2	0.01	2	9				9	2179.8	2		9		9			9	9
11	2	2347.2	34.975	34.976	2	3.209	3.020	27.881	255.9	2	255.9	2	67.5	0.00	2	19.73	2	1.31	2	26.60	2	0.05	2	0.03	2	0.01	2	9				9	2182.2	2	7.7350	2	2329	2	2334	42.0	2	9
10	2	2550.0	34.961	34.963	2	3.049	2.843	27.886	255.9	2	255.8	2	69.1	0.00	2	19.93	2	1.34	2	28.80	2	0.03	2	0.01	2	0.01	2	9				9	2182.5	2		9		9			9	9
9	2	2749.6	34.949	34.950	2	2.912	2.689	27.892	255.7	2	256.0	2	70.2	0.00	2	20.22	2	1.35	2	31.10	2	0.02	2	0.01	2	0.00	2	9				9	2184.3	2	7.7334	2	2332	2	2336	41.5	2	9
8	2	3000.2	34.934	34.934	2	2.741	2.496	27.898	257.2	2	256.8	2	71.0	0.00	2	20.32	2	1.38	2	33.60	2	0.02	2	0.01	2	0.01	2	9				9	2182.3	2		9		9		41.6	2	9
7	2	3249.1	34.921	34.921	2	2.602	2.334	27.903	258.8	2	258.3	2	70.9	0.00	2	20.51	2	1.38	2	35.70	2	0.01	2	0.00	2	0.01	2	9				9	2183.3	2	7.7335	2	2337	2	2335	42.0	2	9
6	2	3501.7	34.907	34.907	2	2.448	2.157	27.908	260.2	2	259.2	2	71.5	0.00	2	20.71	2	1.40	2	38.10	2	0.01	2	0.00	2	0.00	2	9				9	2185.9	2		9		9		41.7	2	9
5	2	3722.0	34.895	34.896	2	2.327	2.015	27.910	260.2	2	259.9	2	72.0	0.00	2	20.90	2	1.42	2	40.40	2	0.01	2	0.01	2	0.00	2	9				9	2187.2	2	7.7300	2		9	2337	41.7	2	9
4	2	4000.4	34.885	34.885	2	2.233	1.892	27.913	259.7	2	259.7	2	73.3	0.00	2	21.20	2	1.44	2	43.10	2	0.01	2	0.01	2	0.00	2	9				9	2189.2	2		9		9		41.4	2	9
3	2	4247.9	34.879	34.879	2	2.196	1.828	27.915	259.2	2	259.5	2	74.0	0.00	2	21.20	2	1.45	2	44.40	2	0.01	2	0.00	2	0.00	2	9				9	2191.4	2	7.7251	2	2341	2	2339	41.9	2	9
2	2	4487.3	34.872	34.872	2	2.148	1.753	27.917	258.5	2	258.8	2	75.4	0.00	2	21.49	2	1.47	2	46.70	2	0.01	6	0.01	6	0.01	6	9				9	2194.4	2		9		9			9	9
1	2	4821.0	34.867	34.866	2	2.136	1.701	27.919	257.4	2	257.8	2	76.9	0.00	6	21.88	6	1.49	6	48.90	6		9		9		9	9				9	2196.6	2	7.7157	2		9	2341	41.6	2	9

* WOCE water sample quality flag (F) for parameter for the previous column
** WOCE quality flag (F) for "Niskin" sample bottle
*** PSS-78 scale
**** ITS0 scale

A5R
NOAA Ship Ronald H. Brown

STATION 63 DATE 2/8/1998 LATITUDE 24.501° N
LONGITUDE 50.984° W

Bottle Number	F**	Pressure db	CTD Salinity***	Bottle Salinity***	F*	Temp**** °C	Theta °C	Sigma Theta	CTD O2 µmol/kg	F*	Bottle O2 µmol/kg	F*	AOU	NO2 µmol/kg	F*	NO3 µmol/kg	F*	PO4 µmol/kg	F*	Si(OH)4 µmol/kg	F*	CFC-11 pmol/kg	F*	CFC-12 pmol/kg	F*	CFC-113 pmol/kg	F*	CCl4 pmol/kg	F*	fCO2 at 20 °C µatm	fCO2 INSITU µatm	F*	DIC µmol/kg	F*	pH	F*	Measured TA µmol/kg	F*	Calculated TA µmol/kg	TOC µmol/kg	F*	TON µmol/kg	F*
36	2	5.2	37.388	37.387	2	24.858	24.857	25.193	211.9	2	210.1	2	-6.5	0.00	2	0.00	2	0.00	2	0.80	2	9	9	9	9	295.3	357.3	2	2062.6	2	8.1161	2	2446	2	2448		9		9
35	2	49.1	37.370	37.368	2	24.757	24.746	25.217	209.9	2	210.5	2	-6.5	0.00	2	0.00	2	0.00	2	0.80	2	9	9	9	9			9		9		9		9				9		9
34	2	98.3	37.310	37.312	2	24.460	24.439	25.267	211.6	2	211.9	2	-6.8	0.00	2	0.00	2	0.00	2	0.90	2	9	9	9	9			9	1981.2	3	8.1059	2	2443	2	2347		9		9
33	2	152.0	37.030	37.029	2	21.129	21.099	26.023	193.5	2	198.1	2	19.7	0.03	2	0.68	2	0.02	2	0.80	2	9	9	9	9			9	2063.3	3	8.0214	2		9	2376		9		9
32	2	200.7	36.795	36.804	2	19.508	19.471	26.282	182.9	2	185.8	6	38.8	0.01	2	3.22	2	0.13	2	1.20	2	9	9	9	9			9	2135.5	3	7.9757	2	2406	2	2423		9		9
31	2	228.8	36.692	36.701	2	18.804	18.763	26.387	183.7	2	184.7	2	43.0	0.00	2	4.39	2	0.20	2	1.50	2	9	9	9	9			9		9		9		9				9		9
30	2	251.9	36.616	36.622	2	18.367	18.323	26.442	184.9	2	187.7	2	42.0	0.00	2	4.88	2	0.23	2	1.70	2	9	9	9	9			9	2115.0	2	7.9629	2	2394	2	2391		9		9
29	2	275.5	36.570	36.571	2	18.087	18.039	26.479	185.1	2	186.0	2	45.0	0.00	2	5.56	2	0.28	2	1.80	2	9	9	9	9			9		9		9		9				9		9
28	2	301.6	36.511	36.505	2	17.746	17.694	26.520	184.0	2	185.2	2	47.4	0.00	2	6.34	2	0.33	2	2.00	2	9	9	9	9			9	2120.2	2	7.9444	2	2383	2	2385		9		9
27	3	352.0	36.357	36.371	2	16.836	16.777	26.624	181.9	2	181.9	2	55.0	0.00	2	7.81	2	0.42	2	2.40	2	9	9	9	9			9		9		9		9				9		9
26	2	399.9	36.208	36.205	2	16.011	15.947	26.705	180.8	2	180.7	2	60.3	0.00	2	9.37	2	0.53	2	3.10	2	9	9	9	9			9	2129.1	2	7.9003	2	2368	2	2367		9		9
25	2	449.3	36.048	36.048	2	15.161	15.091	26.777	181.4	2	181.0	2	64.4	0.00	2	10.64	2	0.61	2	3.90	2	9	9	9	9			9	2141.5	2		9		9				9		9
24	2	499.3	35.900	35.897	2	14.082	14.008	26.898	175.3	2	173.9	2	77.1	0.00	2	12.89	2	0.76	2	4.80	2	9	9	9	9			9		9	7.8458	2		9				9		9
23	2	550.5	35.813	35.812	2	13.487	13.408	26.957	170.7	2	171.2	2	83.0	0.00	2	14.06	2	0.84	2	5.40	2	9	9	9	9			9		9		9		9				9		9
22	2	586.5	35.739	35.741	2	12.970	12.888	27.005	170.3	2	169.6	2	87.5	0.00	2	15.23	2	0.91	2	6.10	2	9	9	9	9			9	2152.2	2	7.8120	2	2341	2	2342		9		9
21	2	645.4	35.610	35.610	2	11.992	11.906	27.099	167.9	2	168.1	2	94.6	0.00	2	16.99	2	1.03	2	7.40	2	9	9	9	9			9		9		9		9				9		9
20	2	738.3	35.387	35.398	2	10.177	10.088	27.255	158.3	2	157.3	2	116.2	0.00	2	20.80	2	1.32	2	11.00	2	9	9	9	9			9		9		9		9				9		9
19	2	848.6	35.181	35.179	2	8.412	8.320	27.382	150.9	2	150.5	2	134.3	0.00	2	24.52	2	1.61	2	15.50	2	9	9	9	9			9	2191.6	2	7.6758	2	2322	2	2320		9		9
18	2	901.9	35.121	35.118	2	7.763	7.669	27.432	154.2	2	153.9	2	135.3	0.00	2	25.30	2	1.68	2	16.80	2	9	9	9	9			9		9		9		9				9		9
17	2	1098.8	35.041	35.041	2	6.063	5.961	27.603	189.3	2	189.6	2	111.4	0.00	2	23.25	2	1.58	2	17.10	2	9	9	9	9			9	2189.4	6	7.6783	2	2312	2	2318		9		9
16	3	1299.6	35.059	35.058	2	5.243	5.128	27.720	223.7	2	222.7	2	84.3	0.00	2	20.42	2	1.39	2	15.20	2	9	9	9	9			9		9		9		9				9		9
15	2	1497.9	35.076	35.075	2	4.742	4.613	27.794	240.8	2	240.5	2	70.3	0.00	2	19.15	2	1.29	2	15.20	2	9	9	9	9			9	2168.9	2	7.7283	2		9	2317		9		9
14	2	1697.9	35.069	35.067	2	4.329	4.186	27.836	246.7	2	246.3	2	67.7	0.00	2	18.95	2	1.28	2	17.40	2	9	9	9	9			9		9		9		9				9		9
13	2	1896.7	35.035	35.035	2	3.905	3.749	27.856	249.6	2	250.8	2	66.7	0.00	2	19.05	2	1.29	2	19.90	2	9	9	9	9			9		9		9		9				9		9
12	2	2097.7	35.004	35.003	2	3.527	3.357	27.871	253.7	2	254.3	2	66.4	0.00	2	19.25	2	1.31	2	23.00	2	9	9	9	9			9	2174.7	2	7.7347	2		5	2326		9		9
11	2	2400.7	34.971	34.970	2	3.143	2.950	27.884	255.3	2	255.7	2	68.3	0.00	2	19.64	2	1.33	2	27.40	2	9	9	9	9			9		9		9		9				9		9
10	2	2699.5	34.949	34.949	2	2.913	2.695	27.891	254.8	2	255.7	2	70.4	0.00	2	20.03	2	1.36	2	30.60	2	9	9	9	9			9		9		9		9				9		9
9	2	2998.4	34.931	34.931	2	2.717	2.473	27.898	256.2	2	256.8	2	71.2	0.00	2	20.13	2	1.39	2	33.60	2	9	9	9	9			9	2184.7	2	7.7311	2	2337	2	2335		9		9
8	2	3297.0	34.916	34.916	2	2.557	2.285	27.903	258.4	2	257.7	2	71.9	0.00	2	20.52	2	1.40	2	36.10	2	9	9	9	9			9		9		9		9				9		9
7	2	3601.8	34.900	34.900	2	2.380	2.080	27.908	260.0	2	259.0	2	72.4	0.00	2	20.71	2	1.42	2	38.80	2	9	9	9	9			9		9		9		9				9		9
6	2	3797.2	34.893	34.892	2	2.306	1.986	27.912	259.2	2	259.2	2	73.0	0.00	2	20.81	2	1.44	2	40.50	2	9	9	9	9			9		9		9		9				9		9
5	2	4000.8	34.886	34.884	2	2.234	1.893	27.914	259.6	2	259.4	2	73.6	0.00	2	21.01	2	1.45	2	42.40	2	9	9	9	9			9		9	7.7267	2	2338	2			9		9
4	2	4197.2	34.878	34.878	2	2.184	1.822	27.915	259.0	2	258.6	2	75.0	0.00	2	21.30	2	1.47	2	44.20	2	9	9	9	9			9		9		9		9				9		9
3	2	4799.2	34.864	34.864	2	2.112	1.681	27.918	257.9	2	257.5	2	77.3	0.00	2	21.79	2	1.51	2	48.90	2	9	9	9	9			9		9		9		9				9		9
2	2	5085.4	34.858	34.857	2	2.100	1.633	27.919	256.1	2	255.9	2	79.4	0.00	2	22.08	2	1.54	2	50.80	2	9	9	9	9			9	2191.2	2		9		9				9		9
1	2	5436.5	34.856	34.857	2	2.130	1.617	27.922	255.4	2	256.0	2	79.4	0.00	6	22.08	6	1.54	6	51.70	6	9	9	9	9			9	2201.1	2	7.7138	2	2347	2	2345		9		9

* WOCE water sample quality flag (F) for parameter for the previous column
** WOCE quality flag (F) for "Niskin" sample bottle
*** PSS-78 scale
**** ITS0 scale

A5R
NOAA Ship Ronald H. Brown

STATION 64 DATE 2/8/1998 LATITUDE 24.501° N
LONGITUDE 51.533° W

Bottle Number	F**	Pressure db	CTD Salinity***	Bottle Salinity***	F*	Temp**** °C	Theta °C	Sigma Theta	CTD O2 µmol/kg	F*	Bottle O2 µmol/kg	F*	AOU	NO2 µmol/kg	F*	NO3 µmol/kg	F*	PO4 µmol/kg	F*	Si(OH)4 µmol/kg	F*	CFC-11 pmol/kg	F*	CFC-12 pmol/kg	F*	CFC-113 pmol/kg	F*	CCl4 pmol/kg	F*	fCO2 at 20 °C µatm	fCO2 INSITU µatm	F*	DIC µmol/kg	F*	pH	F*	Measured TA µmol/kg	F*	Calculated TA µmol/kg	TOC µmol/kg	F*	TON µmol/kg	F*
36	2	6.1	37.246	37.247	2	23.414	23.413	25.520	214.2	2	216.2	2	-7.4		9		9		9		9	1.95	2	1.13	2	0.18	2	1.99	2			9	2069.1	2	8.0901	6	2429	6	2433		9		9
35	2	41.6	37.243	37.245	2	23.199	23.190	25.584	215.7	2	216.8	2	-7.2	0.00	2	0.00	2	0.00	2		4	1.97	2	1.13	2	0.17	2	2.01	2			9		9		9		9				9		9
34	2	91.2	36.895	36.891	2	20.671	20.654	26.038	214.6	2	215.2	2	4.5	0.00	2	0.00	2	0.00	2		4	2.23	2	1.28	2	0.15	2		9			9		9		9		9				9		9
33	2	140.6	36.684	36.687	2	19.127	19.102	26.291	200.5	2	203.9	2	22.4	0.02	2	1.17	2	0.02	2		4	2.31	2	1.30	2	0.12	2	0.84	6			9		9		9		9				9		9
32	2	190.7	36.593	36.588	2	18.401	18.367	26.410	203.8	2	204.7	2	24.9	0.00	2	3.12	2	0.12	2		4	2.33	2	1.32	2	0.05	2		9			9		9		9		9				9		9
31	2	214.3	36.553	36.554	2	18.208	18.171	26.430	207.7	2	207.5	2	23.0	0.00	2	3.42	2	0.14	2		4	2.34	2	1.32	2	0.05	2		9			9		9		9		9				9		9
30	2	239.2	36.534	36.536	2	18.056	18.014	26.456	207.4	2	209.2	2	22.0	0.00	2	3.61	2	0.15	2		4	2.35	2	1.32	2	0.05	2	0.66	2			9		9		9		9				9		9
29	2	263.9	36.521	36.519	2	17.951	17.905	26.474	211.2	2	211.4	2	20.3	0.00	2	3.71	2	0.16	2		4		9		9		9		9				9		9		9		9				9		9
28	2	288.9	36.501	36.501	2	17.807	17.757	26.495	211.1	2	212.5	2	19.8	0.00	2	3.90	2	0.18	2		4	2.35	2	1.32	2	0.07	2		9			9		9		9		9				9		9
27	2	358.4	36.368	36.371	2	17.081	17.021	26.575	199.6	2	199.9	2	35.9	0.00	2	6.05	2	0.31	2		4	2.24	2	1.24	2	0.05	2	0.60	2			9		9		9		9				9		9
26	2	430.2	36.195	36.193	2	16.004	15.935	26.699	191.9	2	189.6	2	51.5	0.00	2	8.49	2	0.47	2		4	2.18	2	1.17	2	0.04	2		9			9		9		9		9				9		9
25	2	500.8	35.950	35.956	2	14.407	14.332	26.867	188.0	2	184.8	2	64.5	0.00	2	11.33	2	0.66	2		4	2.00	2	1.06	2	0.03	2		9			9		9		9		9				9		9
24	2	599.0	35.690	35.689	2	12.626	12.543	27.036	174.3	2	174.4	2	84.6	0.00	2	15.23	2	0.92	2		4	1.53	2	0.79	2	0.03	2	0.40	2			9		9		9		9				9		9
23	2	699.1	35.420	35.418	2	10.590	10.503	27.207	161.9	2	160.1	2	110.9	0.00	2	20.22	2	1.27	2		4		9		9		9		9				9		9		9		9				9		9
22	2	800.4	35.201	35.203	2	8.736	8.647	27.346	151.0	2	150.4	2	132.3	0.00	2	24.23	2	1.57	2		4	0.30	2	0.16	2	0.01	2	0.17	2			9		9		9		9				9		9
21	2	899.9	35.096	35.094	2	7.625	7.532	27.432	152.8	2	152.3	2	137.8	0.00	2	25.89	2	1.70	2		4		9		9		9		9				9		9		9		9				9		9
20	2	1001.8	35.039	35.039	2	6.679	6.582	27.520	164.9	2	164.7	2	132.0	0.00	2	25.79	2	1.71	2		4	0.10	2	0.06	2	0.01	2		9			9		9		9		9				9		9
19	2	1203.1	35.038	35.039	2	5.565	5.457	27.664	205.2	2	204.5	2	100.1	0.00	2	22.37	2	1.50	2		4	0.14	2	0.08	2	0.00	2	0.37	2			9		9		9		9				9		9
18	2	1400.1	35.064	35.064	2	4.900	4.779	27.766	233.6	2	236.4	2	73.2	0.00	2	19.64	2	1.31	2		4	0.17	6	0.09	6	0.01	6		9			9		9		9		9				9		9
17	2	1598.8	35.060	35.060	2	4.496	4.361	27.810	247.1	2	247.3	2	65.4	0.00	2	18.86	2	1.26	2		4	0.17	2	0.09	2	0.01	2		9			9		9		9		9				9		9
16	2	1799.1	35.057	35.057	2	4.189	4.038	27.843	247.9	2	247.6	2	67.6	0.00	2	19.15	2	1.28	2		4	0.08	2	0.05	2	0.01	2	0.40	2			9		9		9		9				9		9
15	2	2000.5	35.018	35.019	2	3.699	3.536	27.864	251.8	2	252.5	2	66.7	0.00	2	19.15	2	1.29	2		4	0.06	2	0.04	2	0.01	2		9			9		9		9		9				9		9
14	2	2199.7	34.995	34.995	2	3.436	3.258	27.873	254.0	2	254.9	2	66.6	0.00	2	19.15	2	1.30	2		4	0.06	2	0.03	2	0.02	2		9			9		9		9		9				9		9
13	2	2399.2	34.974	34.974	2	3.195	3.001	27.881	255.2	2	255.4	2	68.2	0.00	2	19.44	2	1.33	2		4	0.04	2	0.03	2	0.00	2	0.33	2			9		9		9		9				9		9
12	2	2599.7	34.956	34.956	2	2.993	2.783	27.888	254.5	2	255.7	2	69.7	0.00	2	19.83	2	1.35	2		4		9		9		9		9				9		9		9		9				9		9
11	2	2799.3	34.943	34.943	2	2.856	2.629	27.893	255.0	2	256.0	2	70.7	0.00	2	20.03	2	1.37	2		4		9		9		9		9				9		9		9		9				9		9
10	2	2999.6	34.934	34.933	2	2.753	2.508	27.897	256.0	2	256.0	2	71.7	0.00	2	20.23	2	1.39	2		4	0.01	2	0.01	2	0.00	2	0.16	2			9		9		9		9				9		9
9	2	3199.3	34.924	34.924	2	2.645	2.381	27.901	254.8	2	256.8	2	72.0	0.00	2	20.32	2	1.40	2		4		9		9		9		9				9		9		9		9				9		9
8	2	3500.5	34.906	34.905	2	2.425	2.134	27.908	260.0	2	259.7	2	71.2	0.00	2	20.42	2	1.41	2		4	0.01	2	0.00	2	0.00	2	0.12	2			9		9		9		9				9		9
7	2	3800.9	34.894	34.892	2	2.311	1.990	27.912	260.1	2	259.2	2	72.9	0.00	2	20.72	2	1.43	2		4		9		9		9		9				9		9		9		9				9		9
6	2	4099.6	34.883	34.882	2	2.218	1.866	27.915	259.2	2	259.0	2	74.2	0.00	2	21.01	2	1.46	2		4	0.01	2	0.01	2	0.01	2	0.13	2			9		9		9		9				9		9
5	2	4391.8	34.871	34.871	2	2.144	1.761	27.915	258.0	2	258.4	2	75.7	0.00	2	21.40	2	1.49	2		4	0.01	2	0.00	2	0.01	2	0.12	2			9		9		9		9				9		9
4	2	4700.1	34.865	34.864	2	2.106	1.687	27.918	257.2	2	256.7	2	78.1	0.00	2	21.79	2	1.51	2		4	0.01	2	0.01	2	0.01	2	0.12	2			9		9		9		9				9		9
3	2	4997.3	34.859	34.858	2	2.092	1.637	27.919	255.9	2	257.1	6	78.1	0.00	2	21.99	2	1.53	2		4	0.01	2	0.01	2	0.01	2		9			9		9		9		9				9		9
2	2	5363.7	34.858		2	2.126	1.623	27.922	255.6	2		9			9		9		9		9		1		1		1	0.13	6			9		9		9		9				9		9
1	2	5363.1	34.857	34.855	2	2.126	1.623	27.921	255.6	2	256.0	2	79.4	0.00	6	22.08	6	1.54	6		4	0.01	2	0.01	2	0.01	2	0.13	6	733.8	333.0	6		9		9		9				9		9

* WOCE water sample quality flag (F) for parameter for the previous column
** WOCE quality flag (F) for "Niskin" sample bottle
*** PSS-78 scale
**** ITS0 scale

A5R
NOAA Ship Ronald H. Brown

STATION 65 DATE 2/9/1998 LATITUDE 24.500° N
LONGITUDE 51.149° W

Bottle Number	F**	Pressure db	CTD Salinity***	Bottle Salinity***	F*	Temp**** °C	Theta °C	Sigma Theta	CTD O2 µmol/kg	F*	Bottle O2 µmol/kg	F*	AOU	NO2 µmol/kg	F*	NO3 µmol/kg	F*	PO4 µmol/kg	F*	Si(OH)4 µmol/kg	F*	CFC-11 pmol/kg	F*	CFC-12 pmol/kg	F*	CFC-113 pmol/kg	F*	CCl4 pmol/kg	F*	fCO2 at 20 °C µatm	fCO2 INSITU µatm	F*	DIC µmol/kg	F*	pH	F*	Measured TA µmol/kg	F*	Calculated TA µmol/kg	TOC µmol/kg	F*	TON µmol/kg	F*
36	2	6.0	37.276	37.275	2	24.072	24.071	25.346	208.1	2	213.9	2	-7.4	0.00	2	0.00	2	0.00	2	0.80	2	9		9		9		9		276.4	324.6	6	2065.9	6	8.1033	2		5	2440		9		9
35	2	49.1	37.232	37.232	2	23.002	22.992	25.634	215.3	2	215.0	2	-4.6	0.00	2	0.00	2	0.00	2	0.60	2	9		9		9		9				9		9		9		9				9		9
34	2	100.4	37.221	37.212	2	22.966	22.945	25.642	215.4	2	216.3	2	-5.7	0.00	2	0.00	2	0.00	2	0.60	2	9		9		9		9				9		9		9		9				9		9
33	2	148.3	36.752	36.754	2	19.515	19.488	26.243	209.8	2	207.2	2	17.4	0.04	2	0.59	2	0.02	2	0.80	2	9		9		9		9				9	2098.5	2	8.0081	2	2401	2	2403		9		9
32	2	200.2	36.580	36.580	2	18.411	18.376	26.398	202.0	2	205.4	2	24.1	0.01	2	2.93	2	0.10	2	1.10	2	9		9		9		9				9		9		9		9				9		9
31	2	224.3	36.547	36.546	2	18.155	18.116	26.439	205.5	2	207.9	2	22.8	0.00	2	3.42	2	0.14	2	1.30	2	9		9		9		9				9	2096.6	2		9		9				9		9
30	2	241.6	36.533	36.530	2	18.063	18.021	26.453	207.1	2	208.6	2	22.5	0.00	2	3.61	2	0.15	2	1.40	2	9		9		9		9				9		9	7.9861	2	2387	2			9		9
29	2	268.3	36.517	36.517	2	17.949	17.902	26.471	209.4	2	208.8	2	22.9	0.00	2	3.81	2	0.16	2	1.40	2	9		9		9		9				9		9		9		9				9		9
28	2	298.2	36.493	36.491	2	17.775	17.724	26.498	210.7	2	209.6	2	22.9	0.00	2	4.10	2	0.18	2	1.50	2	9		9		9		9				9		9		9		9				9		9
27	2	347.1	36.418	36.424	2	17.369	17.310	26.544	207.7	2	201.5	2	32.9	0.00	2	5.27	2	0.26	2	1.90	2	9		9		9		9				9	2107.2	2	7.9664	2		9	2384		9		9
26	2	400.9	36.297	36.304	2	16.619	16.553	26.634	196.0	2	193.5	2	44.6	0.00	2	7.12	2	0.38	2	2.40	2	9		9		9		9				9		9		9		9				9		9
25	2	449.0	36.131	36.130	2	15.621	15.550	26.738	191.6	2	189.3	2	53.7	0.00	2	9.18	2	0.50	2	3.20	2	9		9		9		9				9		9		9		9				9		9
24	2	549.2	35.784	35.788	2	13.489	13.410	26.934	174.9	2	171.9	2	82.4	0.00	2	14.16	2	0.83	2	5.90	2	9		9		9		9				9		9		9		9				9		9
23	2	650.3	35.564	35.566	2	11.715	11.629	27.115	166.9	2	164.4	2	99.9	0.00	2	17.58	2	1.07	2	8.10	2	9		9		9		9				9	2163.4	2	7.7716	2	2335	2	2333		9		9
22	2	749.7	35.340	35.348	2	9.957	9.867	27.256	151.1	2	153.1	2	121.8	0.00	2	21.68	2	1.37	2	12.00	2	9		9		9		9				9		9		9		9				9		9
21	2	851.1	35.118	35.118	2	8.181	8.090	27.367	146.4	2	145.5	2	140.9	0.00	2	25.98	2	1.67	2	16.80	2	9		9		9		9				9		9		9		9				9		9
20	2	951.9	35.028	35.030	2	7.103	7.008	27.453	157.5	2	153.7	2	140.1	0.00	2	26.67	2	1.75	2	19.00	2	9		9		9		9				9		9		9		9				9		9
19	2	1050.5	35.019	35.018	2	6.335	6.236	27.550	175.7	2	173.5	2	125.6	0.00	2	25.20	2	1.67	2	18.90	2	9		9		9		9				9	2195.8	6	7.6599	2	2319	2	2317		9		9
18	2	1249.6	35.053	35.052	2	5.469	5.357	27.688	215.7	2	212.2	2	93.1	0.00	2	21.69	2	1.43	2	16.20	2	9		9		9		9				9		9		9		9				9		9
17	2	1449.3	35.073	35.073	2	4.888	4.762	27.775	235.3	2	236.1	2	73.6	0.00	2	19.73	2	1.29	2	15.20	2	9		9		9		9				9	2172.6	2	7.7254	2	2320	2	2320		9		9
16	2	1650.2	35.060	35.061	2	4.437	4.297	27.817	246.9	2	246.4	2	66.8	0.00	2	19.15	2	1.26	2	16.10	2	9		9		9		9				9		9		9		9				9		9
15	2	1852.0	35.037	35.037	2	4.015	3.861	27.846	251.1	2	250.5	2	66.1	0.00	2	19.15	2	1.27	2	18.90	2	9		9		9		9				9		9		9		9				9		9
14	2	2050.7	35.006	35.007	2	3.622	3.455	27.863	254.0	2	253.6	2	66.3	0.00	2	19.25	2	1.28	2	21.80	2	9		9		9		9				9	2170.9	2	7.7373	2	2325	2	2323		9		9
13	2	2250.1	34.985	34.986	2	3.334	3.152	27.876	252.7	2	254.8	2	67.5	0.00	2	19.54	2	1.30	2	25.10	2	9		9		9		9				9		9		9		9				9		9
12	2	2452.5	34.967	34.968	2	3.129	2.931	27.883	254.1	2	254.8	2	69.4	0.00	2	19.73	2	1.33	2	27.80	2	9		9		9		9				9	2176.8	2	7.7312	2	2329	2	2327		9		9
11	2	2652.2	34.953	34.954	2	2.974	2.759	27.889	255.1	2	255.7	2	69.9	0.00	2	19.83	2	1.34	2	29.70	2	9		9		9		9				9		9		9		9				9		9
10	2	2849.3	34.941	34.941	2	2.831	2.599	27.894	255.9	2	258.3	2	68.6	0.00	2	20.03	2	1.35	2	31.70	2	9		9		9		9				9		9		9		9				9		9
9	2	3049.6	34.932	34.932	2	2.735	2.485	27.897	257.7	2	257.2	2	70.7	0.00	2	20.13	2	1.36	2	33.30	2	9		9		9		9				9	2180.2	2	7.7335	2	2334	2	2331		9		9
8	2	3348.6	34.915	34.916	2	2.551	2.274	27.904	258.8	2	258.2	2	71.5	0.00	2	20.32	2	1.38	2	36.10	2	9		9		9		9				9		9		9		9				9		9
7	2	3651.5	34.901	34.901	2	2.395	2.089	27.909	259.5	2	258.7	2	72.6	0.00	2	20.52	2	1.40	2	39.50	2	9		9		9		9				9		9		9		9				9		9
6	2	3952.1	34.888	34.887	2	2.261	1.925	27.913	258.4	2	258.1	2	74.6	0.00	2	20.81	2	1.43	2	42.70	2	9		9		9		9				9	2189.1	2	7.7266	2	2332	2	2338		9		9
5	2	4249.6	34.876	34.877	2	2.180	1.812	27.914	257.9	2	258.0	2	75.7	0.00	2	21.20	2	1.46	2	45.90	2	9		9		9		9				9		9		9		9				9		9
4	2	4541.1	34.868	34.868	2	2.129	1.728	27.916	256.6	2	257.3	2	77.1	0.00	2	21.49	2	1.48	2	48.50	2	9		9		9		9				9		9		9		9				9		9
3	2	4949.9	34.862	34.862	2	2.115	1.665	27.919	255.3	2	256.1	2	78.9	0.00	2	21.79	2	1.50	2	50.70	2	9		9		9		9				9		9		9		9				9		9
2	2	5307.4	34.857		2	2.114	1.619	27.921	255.1	2		9			9		9		9		9	1		1		1		9				9		9		9		9				9		9
1	2	5307.8	34.856	34.856	2	2.112	1.617	27.921	256.1	2	255.4	6	80.0	0.00	6	22.08	6	1.53	6	52.70	6	9		9		9		9				9	2200.1	2	7.7098	2	2345	2	2342		9		9

* WOCE water sample quality flag (F) for parameter for the previous column
** WOCE quality flag (F) for "Niskin" sample bottle
*** PSS-78 scale
**** ITS0 scale

A5R
NOAA Ship Ronald H. Brown

STATION 66 DATE 2/9/1998 LATITUDE 24.501° N
LONGITUDE 52.637° W

Bottle Number	F**	Pressure db	CTD Salinity***	Bottle Salinity***	F*	Temp**** °C	Theta °C	Sigma Theta	CTD O2 µmol/kg	F*	Bottle O2 µmol/kg	F*	AOU	NO2 µmol/kg	F*	NO3 µmol/kg	F*	PO4 µmol/kg	F*	Si(OH)4 µmol/kg	F*	CFC-11 pmol/kg	F*	CFC-12 pmol/kg	F*	CFC-113 pmol/kg	F*	CCl4 pmol/kg	F*	fCO2 at 20 °C µatm	fCO2 INSITU µatm	F*	DIC µmol/kg	F*	pH	F*	TA µmol/kg	F*	CTA µmol/kg	TOC µmol/kg	F*	TON µmol/kg	F*
36	2	4.7	37.295	37.294	2	24.327	24.326	25.284	212.5	2	212.3	2	-6.7	0.00	2	0.00	2	0.00	2	0.70	2	1.85	2	1.07	2	0.15	2	9		275.0	326.2	2	2061.8	2	8.1064	2	5		2438	75.7	2	4.4	2
35	2	36.4	37.289	37.290	2	24.312	24.304	25.288	211.7	2	212.4	2	-6.8	0.00	2	0.00	2	0.01	2	0.70	2	1.88	2	1.09	2	0.16	2	9				9	2063.2	2	8.1050	2	5		2439	76.0	2	4.4	2
34	2	76.4	37.276	37.276	2	24.239	24.223	25.305	211.8	2	212.9	2	-7.0	0.00	2	0.00	2	0.01	2	0.70	2	1.88	2	1.07	2	0.19	2	9				9	2063.0	2	8.1059	2	5		2439	73.5	2	4.4	2
33	2	148.7	37.001	36.999	2	21.279	21.250	25.959	199.5	2	206.6	2	10.6	0.03	2	0.10	2	0.02	2	0.50	2	2.18	2	1.24	2	0.15	2	9				9	2093.7	2	8.0346	2	5		2418	57.3	2	4.3	2
32	2	200.0	36.707	36.708	2	19.363	19.326	26.253	195.9	2	198.6	2	26.7	0.01	2	0.88	2	0.04	2	0.80	2	2.28	2	1.29	2	0.06	2	9				9	2099.0	2	8.0005	2	5		2398	52.0	2	5.2	2
31	2	226.0	36.618	36.621	2	18.711	18.671	26.355	200.1	2	201.6	2	26.6	0.00	2	1.66	2	0.09	2	1.00	2	2.29	2	1.30	2	0.05	2	9				9	2095.7	2	7.9953	2	5		2391	50.3	2	5.9	2
30	2	250.9	36.571	36.576	2	18.362	18.318	26.408	201.9	2	203.9	2	25.9	0.00	2	2.34	2	0.13	2	1.20	2	2.34	6	1.31	6	0.04	6	9				9	2095.4	2	7.9929	2	5		2389	49.6	2	7.0	2
29	2	273.4	36.548	36.548	2	18.191	18.143	26.436	203.9	2	205.6	2	25.0	0.00	2	2.63	2	0.16	2	1.20	2	2.31	2	1.30	2	0.03	2	9				9	2096.2	2	7.9886	2	5		2387	47.1	2	7.2	2
28	2	297.7	36.531	36.532	2	18.066	18.014	26.456	206.4	2	205.6	2	25.6	0.00	2	2.83	2	0.18	2	1.30	2	2.34	2	1.31	2	0.03	2	9				9	2097.0	2	7.9907	2	9		2389		9		9
27	2	349.4	36.470	36.472	2	17.677	17.617	26.509	203.4	2	199.7	2	33.3	0.00	2	4.00	2	0.25	2	1.70	2	2.25	2	1.25	2	0.03	2	9				9	2104.4	2	7.9699	2	5		2383	46.7	2	8.5	2
26	2	398.7	36.339	36.337	2	16.861	16.795	26.608	193.6	2	189.6	2	47.3	0.00	2	6.05	2	0.38	2	2.20	2	2.16	2	1.16	2	0.03	2	9				9	2117.5	2	7.9348	2	9		2375		9		9
25	2	449.5	36.206	36.218	2	16.073	16.000	26.693	188.4	2	186.9	2	53.9	0.00	2	7.52	2	0.47	2	2.80	2	2.10	2	1.13	2	0.03	2	9				9	2124.5	2	7.9063	2	2372	2	2365	45.1	2	11.7	2
24	2	497.5	36.060	36.065	2	15.238	15.161	26.772	183.4	2	182.6	2	62.4	0.00	2	9.37	2	0.59	2	3.60	2	1.95	2	1.04	2	0.02	2	9				9	2129.2	2	7.8872	2	2362	2	2359		9		9
23	2	549.9	35.842	35.846	2	13.835	13.755	26.907	176.2	2	174.9	2	77.5	0.00	2	12.50	2	0.79	2	5.20	2	1.67	2	0.88	2	0.02	2	9				9	2141.3	2	7.8435	2	2356	2	2347	44.5	2	16.2	2
22	2	599.2	35.718	35.727	2	12.951	12.867	26.994	172.8	2	171.4	2	85.8	0.00	2	14.25	2	0.91	2	6.20	2	1.46	2	0.75	2	0.02	2	9				9	2149.2	2	7.8153	2	2347	2	2340		9		9
21	2	647.6	35.615	35.622	2	12.130	12.043	27.076	169.8	2	167.6	2	94.3	0.00	2	15.82	2	1.02	2	7.20	2	1.23	2	0.63	2	0.01	2	9				9	2161.2	2	7.7921	2	2341	2	2341	45.2	2	19.5	2
20	2	750.1	35.359	35.352	2	10.185	10.094	27.232	153.8	2	151.7	2	121.8	0.00	2	21.49	2	1.39	2	11.70	2	0.52	6	0.28	6	0.01	6	9				9	2188.7	2	7.7162	2	2333	2	2334		9		9
19	2	850.3	35.130	35.136	2	8.241	8.150	27.367	145.9	2	146.9	2	139.1	0.00	2	25.40	2	1.67	2	16.20	2	0.21	2	0.12	2	0.02	2	9				9	2197.5	2	7.6653	2	5		2321	42.4	2	27.5	2
18	2	950.0	35.035	35.035	2	7.149	7.054	27.453	152.1	2	153.7	2	139.8	0.00	2	26.38	2	1.76	2	18.50	2	0.11	2	0.06	2	0.00	2	9				9	2198.5	2	7.6465	2	5		2314		9		9
17	2	1049.6	35.016	35.014	2	6.450	6.350	27.533	168.0	2	167.6	2	130.8	0.00	2	25.59	2	1.72	2	18.80	2	0.09	2	0.05	2	0.01	2	9				9	2197.4	6	7.6536	2	5		2316	41.9	2	28.1	2
16	2	1248.0	35.051	35.046	2	5.525	5.413	27.680	211.6	2	211.6	2	93.3	0.00	2	21.10	2	1.44	2	15.80	2	0.22	2	0.11	2	0.00	2	9		809.1	438.3	6	2179.4	2	7.6935	2	9		2314		9		9
15	2	1449.4	35.080	35.079	2	5.007	4.880	27.767	232.8	2	233.1	2	75.7	0.00	2	19.05	2	1.32	2	14.90	2	0.16	2	0.09	2	0.00	2	9		756.1	398.7	2	2173.9	2	7.7207	2	2324	2	2319	42.3	2	22.4	2
14	2	1650.7	35.077	35.079	2	4.504	4.363	27.824	242.6	2	243.9	2	68.8	0.00	2	18.36	2	1.28	2	16.70	2	0.11	2	0.06	2	0.00	2	9				9	2168.8	2	7.7324	2	2323	2	2319		9		9
13	2	1903.2	35.032	35.032	2	3.915	3.758	27.853	250.1	2	250.7	2	66.7	0.00	2	18.46	2	1.29	2	19.80	2	0.04	2	0.02	2	0.00	2	9				9	2172.8	2	7.7359	2	9		2325	41.5	2		9
12	2	2145.7	34.998	34.999	2	3.482	3.308	27.871	252.9	2	253.7	2	67.4	0.00	2	18.76	2	1.31	2	23.60	2	0.03	2	0.01	2	0.01	2	9				9	2173.7	2		9	9				9		9
11	2	2399.7	34.972	34.972	2	3.186	2.992	27.881	254.5	2	255.5	2	68.2	0.00	2	18.95	2	1.33	2	26.90	2	0.01	2	0.01	2	0.00	2	9				9	2193.3	2	7.7332	2	2336	2	2345	41.5	2	21.6	2
10	2	2649.2	34.953	34.953	2	2.966	2.752	27.889	254.2	2	256.2	2	69.5	0.00	2	19.25	2	1.35	2	29.80	2	0.01	2	0.00	2	0.00	2	9				9	2180.2	2		9	9				9		9
9	2	2899.7	34.939	34.939	2	2.809	2.573	27.895	255.9	2	257.8	2	69.4	0.00	2	19.25	2	1.36	2	31.60	2	0.00	2	0.00	2	0.00	2	9				9	2201.5	2	7.7340	2	2336	2	2354		9	22.4	2
8	2	3198.8	34.925	34.924	2	2.640	2.376	27.902	259.1	2	258.7	2	70.1	0.00	2	19.44	2	1.38	2	34.40	2	0.00	2	0.01	2	0.00	2	9				9	2180.4	2		9	9			41.6	2	23.0	2
7	2	3499.9	34.909	34.908	2	2.474	2.182	27.907	259.6	2	258.9	2	71.6	0.00	2	19.73	2	1.41	2	37.80	2	0.00	2	0.01	2	0.00	2	9				9	2177.2	2	7.7323	2		9	2328		9		9
6	2	3799.8	34.894	34.894	2	2.327	2.006	27.911	259.4	2	259.5	2	72.5	0.00	2	20.03	2	1.43	2	41.00	2	0.00	2	0.00	2	0.00	2	9				9	2186.1	2		9	9			41.7	2	23.6	2
5	2	4100.4	34.884	34.883	2	2.229	1.877	27.914	260.4	2	259.4	2	73.7	0.00	2	20.32	2	1.45	2	43.60	2	0.01	2	0.01	2	0.03	4	9				9	2188.2	2	7.7269	2	2342	2	2337		9	23.5	2
4	2	4399.1	34.871	34.872	2	2.133	1.749	27.915	257.9	2	257.9	2	76.3	0.00	2	20.81	2	1.49	2	47.50	2	0.01	2	0.01	2	0.00	2	9				9	2193.0	2		9	9			41.7	2	23.7	2
3	2	4588.5	34.866	34.865	2	2.106	1.700	27.916	257.6	2	257.6	2	77.1	0.00	2	21.10	2	1.51	2	49.40	2	0.01	2	0.01	2	0.00	2	9				9	2194.8	2	7.7188	2	2345	2	2340	42.0	2	24.5	2
2	2	5366.6	34.850		2	2.059	1.558	27.920	255.1	2		9			9		9		9		9		1		1		1	9				9		9		9		9			9		9
1	2	5368.7	34.849	34.850	2	2.059	1.558	27.919	254.3	2	254.8	6	81.1	0.00	6	21.88	6	1.56	6	54.80	6	0.02	6	0.01	6	0.01	6	9				9	2199.5	2	7.7082	2	2346	2	2341	41.9	2	24.1	2

* WOCE water sample quality flag (F) for parameter for the previous column
** WOCE quality flag (F) for "Niskin" sample bottle
*** PSS-78 scale
**** ITS0 scale

A5R
NOAA Ship Ronald H. Brown

STATION 67 DATE 2/9/1998 LATITUDE 24.499° N
LONGITUDE 53.183° W

Bottle Number	F**	Pressure db	CTD Salinity***	Bottle Salinity***	F*	Temp**** °C	Theta °C	Sigma Theta	CTD O2 µmol/kg	F*	Bottle O2 µmol/kg	F*	AOU	NO2 µmol/kg	F*	NO3 µmol/kg	F*	PO4 µmol/kg	F*	Si(OH)4 µmol/kg	F*	CFC-11 pmol/kg	F*	CFC-12 pmol/kg	F*	CFC-113 pmol/kg	F*	CCl4 pmol/kg	F*	fCO2 at 20 °C µatm	fCO2 INSITU µatm	F*	DIC µmol/kg	F*	pH	F*	Measured TA µmol/kg	F*	Calculated TA µmol/kg	TOC µmol/kg	F*	TON µmol/kg	F*
36	2	5.0	37.040	37.041	2	24.385	24.384	25.073	212.5	2	212.1	2	-6.4	0.00	2	0.00	2	0.01	2	2		9		9		9		9		261.1	310.5	3	2050.1	6	8.1114	2	2426	2	2426		9		9
35	2	40.8	37.186	37.187	2	24.462	24.453	25.166	211.3	2	212.1	2	-6.8	0.00	2	0.00	2	0.01	2	2		9		9		9		9				9		9	8.1109	2		9			9		9
34	2	80.9	37.276	37.263	2	24.476	24.459	25.235	210.8	2	212.3	2	-7.2	0.00	2	0.00	2	0.01	2	2		9		9		9		9		268.2	320.0	2	2063.8	2	8.1055	2	2440	2	2439		9		9
33	2	142.4	37.050	37.047	2	21.607	21.579	25.904	206.4	2	207.4	2	8.5	0.04	2	0.10	2	0.02	2	2		9		9		9		9				9		9	8.0424	2		9			9		9
32	2	199.4	36.762	36.764	2	19.585	19.548	26.237	196.3	2	197.3	2	27.0	0.01	2	0.98	2	0.05	2	2		9		9		9		9				9	2105.9	2	7.9989	2	2406	2	2405		9		9
31	2	224.5	36.679	36.682	2	18.984	18.944	26.331	195.1	2	195.4	2	31.6	0.00	2	1.95	2	0.09	2	2		9		9		9		9				9		9	7.9898	2		9			9		9
30	2	247.5	36.617	36.618	2	18.582	18.538	26.388	196.0	2	198.5	2	30.3	0.00	2	2.73	2	0.14	2	2		9		9		9		9		380.8	359.6	6	2105.2	2	7.9853	2	2394	2	2395		9		9
29	2	273.3	36.582	36.578	2	18.316	18.268	26.430	199.9	2	198.1	2	31.9	0.00	2	3.42	2	0.19	2	2		9		9		9		9				9		9	7.9781	2		9			9		9
28	2	301.2	36.529	36.527	2	18.011	17.959	26.468	200.5	2	201.3	2	30.1	0.00	2	3.71	2	0.21	2	2		9		9		9		9				9	2105.5	2	7.9761	2	2389	2	2389		9		9
27	2	349.5	36.410	36.413	2	17.283	17.224	26.558	195.5	2	192.5	2	42.3	0.00	2	5.56	2	0.32	2	2		9		9		9		9				9		9	7.9473	2		9			9		9
26	2	399.9	36.269	36.269	2	16.430	16.365	26.655	190.9	2	177.6	3	61.4	0.00	2	7.32	2	0.44	2	2		9		9		9		9		438.9	379.6	2	2124.8	2	7.9208	2	2377	2	2374		9		9
25	2	450.0	36.165	36.164	2	15.788	15.716	26.727	187.4	2	183.2	2	59.0	0.00	2	8.69	2	0.53	2	2		9		9		9		9				9		9	7.8993	2		9			9		9
24	2	498.0	35.988	35.993	2	14.694	14.618	26.835	182.7	2	178.6	2	69.2	0.00	2	10.84	2	0.67	2	2		9		9		9		9				9	2140.2	2	7.8684	2	2359	2	2360		9		9
23	2	550.3	35.877	35.865	2	13.979	13.898	26.905	179.6	2	176.1	2	75.5	0.00	2	12.50	2	0.77	2	2		9		9		9		9				9		9	7.8483	2		9			9		9
22	2	652.5	35.593	35.607	2	11.947	11.860	27.094	168.8	2	167.2	2	95.7	0.00	2	16.51	2	1.04	2	2		9		9		9		9		626.1	449.1	2	2160.5	2	7.7858	2	2345	2	2337		9		9
21	2	751.5	35.372	35.379	2	10.287	10.195	27.225	155.2	2	152.3	2	120.6	0.00	2	21.30	2	1.36	2	2		9		9		9		9				9		9	7.7237	2		9			9		9
20	2	801.8	35.287	35.287	2	9.612	9.518	27.274	151.9	2	149.7	2	127.4	0.00	2	22.86	2	1.48	2	2		9		9		9		9		784.3	510.0	6	2187.5	2	7.7030	2	2331	2	2327		9		9
19	2	849.9	35.202	35.196	2	8.760	8.665	27.345	153.1	2	150.8	2	131.8	0.00	2	24.23	2	1.58	2	14.70	3	9		9		9		9				9		9	7.6829	2		9			9		9
18	2	951.4	35.055	35.055	2	7.170	7.075	27.465	159.3	2	160.2	2	133.1	0.00	2	25.50	2	1.71	2	17.50	2	9		9		9		9				9		9	7.6586	2		9			9		9
17	2	1151.1	35.057	35.056	2	5.860	5.754	27.642	197.4	2	201.2	2	101.3	0.00	2	22.08	2	1.50	2	16.00	2	9		9		9		9		815.8	448.8	2	2185.1	6	7.6918	2	2322	2	2319		9		9
16	2	1350.4	35.080	35.079	2	5.239	5.119	27.739	231.2	2	228.2	2	78.8	0.00	2	19.74	2	1.34	2	14.50	2	9		9		9		9				9		9	7.7174	2		9			9		9
15	2	1547.8	35.059	35.060	2	4.614	4.482	27.795	247.1	2	246.3	2	65.5	0.00	2	18.56	2	1.27	2	14.60	2	9		9		9		9				9	2169.1	2	7.7299	2	2323	2	2318		9		9
14	2	1749.0	35.062	35.062	2	4.215	4.069	27.843	247.6	2	248.1	2	66.9	0.00	2	18.86	2	1.28	2	18.10	2	9		9		9		9				9		9	7.7360	2		9			9		9
13	2	1951.0	35.026	35.025	2	3.769	3.609	27.862	252.7	2	252.6	2	66.0	0.00	2	18.96	2	1.29	2	20.80	2	9		9		9		9		725.5	359.6	6	2173.6	2	7.7371	2	2333	2	2326		9		9
12	2	2198.4	34.986	34.985	2	3.331	3.154	27.875	255.1	2	255.5	2	66.8	0.00	2	19.05	2	1.32	2	24.80	2	9		9		9		9				9		9	7.7360	2		9			9		9
11	2	2448.6	34.964	34.964	2	3.090	2.893	27.884	255.9	2	256.2	2	68.3	0.00	2	19.45	2	1.34	2	27.90	2	9		9		9		9				9	2179.3	2	7.7361	2		9	2332		9		9
10	2	2699.5	34.950	34.950	2	2.945	2.726	27.889	256.6	2	256.4	2	69.5	0.00	2	19.54	2	1.36	2	29.80	2	9		9		9		9				9		9	7.7356	2		9			9		9
9	2	2947.7	34.936	34.935	2	2.771	2.531	27.897	259.0	2	258.2	2	69.3	0.00	2	19.64	2	1.38	2	32.20	2	9		9		9		9				9	2181.5	2	7.7349	2	2341	2	2333		9		9
8	3	3197.5	34.923	34.923	2	2.629	2.366	27.901	259.6	2	258.7	2	70.2	0.00	2	19.84	2	1.39	2	34.60	2	9		9		9		9				9		9	7.7337	2		9			9		9
7	2	3598.3	34.902	34.901	2	2.403	2.102	27.908	261.3	2	259.8	2	71.4	0.00	2	20.13	2	1.42	2	39.00	2	9		9		9		9				9		9	7.7297	2		9			9		9
6	2	3999.4	34.887	34.886	2	2.251	1.910	27.914	260.7	2	251.9	4	80.9	0.00	2	20.42	2	1.45	2	42.50	2	9		9		9		9		743.6	340.9	6	2191.9	2	7.7273	2	2342	2	2341		9		9
5	2	4399.1	34.871	34.870	2	2.131	1.747	27.916	259.7	2	257.0	2	77.3	0.00	2	21.11	2	1.49	2	46.90	2	9		9		9		9				9		9	7.7212	2		9			9		9
4	2	4797.1	34.860	34.859	2	2.074	1.644	27.917	257.6	2	257.1	2	78.1	0.00	2	21.50	2	1.53	2	50.80	2	9		9		9		9				9		9	7.7157	2		9			9		9
3	2	5188.1	34.852	34.852	2	2.055	1.577	27.919	256.3	2	255.6	2	80.2	0.00	2	22.09	2	1.56	2	53.60	2	9		9		9		9				9		9	7.7107	2		9			9		9
2	2	5604.4	34.849		2	2.084	1.551	27.922	255.8	2		9			9		9		9		9	1		1		1		1				9		9		9		9			9		9
1	2	5605.2	34.850	34.851	2	2.083	1.550	27.922	255.8	2	255.2	6	80.8	0.00	6	22.28	6	1.58	6	54.80	6	9		9		9		9		783.4	356.0	2	2204.0	2	7.7106	2		9	2346		9		9

* WOCE water sample quality flag (F) for parameter for the previous column
** WOCE quality flag (F) for "Niskin" sample bottle
*** PSS-78 scale
**** ITS0 scale

A5R
NOAA Ship Ronald H. Brown

STATION 68 DATE 2/9/1998 LATITUDE 24.500° N
LONGITUDE 53.733° W

Bottle Number	F**	Pressure db	CTD Salinity***	Bottle Salinity***	F*	Temp**** °C	Theta °C	Sigma Theta	CTD O2 µmol/kg	F*	Bottle O2 µmol/kg	F*	AOU	NO2 µmol/kg	F*	NO3 µmol/kg	F*	PO4 µmol/kg	F*	Si(OH)4 µmol/kg	F*	CFC-11 pmol/kg	F*	CFC-12 pmol/kg	F*	CFC-113 pmol/kg	F*	CCl4 pmol/kg	F*	fCO2 at 20 °C µatm	fCO2 INSITU µatm	F*	DIC µmol/kg	F*	pH	F*	Measured TA µmol/kg	F*	Calculated TA µmol/kg	TOC µmol/kg	F*	TON µmol/kg	F*
36	2	4.3	37.137	37.140	2	24.450	24.449	25.127	214.6	2	212.1	2	-6.8	0.00	2	0.00	2	0.01	2	0.50	2	1.85	2	1.07	2	0.16	2	1.93	2	266.7	317.9	2	2056.2	6	8.1100	6	2431	6	2433		9		9
35	2	3.4	37.137	37.137	2	24.448	24.447	25.128	214.5	2	212.0	2	-6.7	0.00	2	0.00	2	0.01	2	0.50	2		9		9		9		9	266.5	317.6	3		9		9		9			9		9
34	2	50.6	37.232	37.232	2	24.450	24.439	25.205	211.9	2	212.7	2	-7.5	0.00	2	0.00	2	0.01	2	0.40	2	1.86	2	1.07	2	0.20	2		9			9		9		9		9			9		9
33	2	100.2	37.130	37.130	2	22.692	22.672	25.653	215.7	2	217.0	2	-5.3	0.00	2	0.00	2	0.02	2	0.20	2	2.09	6	1.18	6	0.16	6		9			9		9		9		9			9		9
32	2	150.4	36.889	36.882	2	20.543	20.514	26.075	198.6	2	200.3	2	20.0	0.02	2	0.49	2	0.03	2	0.30	2	2.21	2	1.25	2	0.12	2	0.88	2			9		9		9		9			9		9
31	2	210.7	36.609	36.606	2	18.590	18.553	26.377	201.1	2	203.8	2	24.9	0.01	2	2.44	2	0.11	2	0.70	2	2.35	2	1.31	2	0.04	2		9			9		9		9		9			9		9
30	2	236.0	36.574	36.572	2	18.368	18.326	26.408	205.6	2	207.2	2	22.6	0.00	2	2.83	2	0.14	2	0.80	2	2.35	2	1.30	2	0.05	2		9			9		9		9		9			9		9
29	2	261.4	36.554	36.553	2	18.222	18.176	26.431	206.3	2	208.2	2	22.2	0.00	2	3.03	2	0.15	2	0.90	2	2.38	2	1.31	2	0.04	2	0.53	2			9		9		9		9			9		9
28	2	285.6	36.540	36.538	2	18.123	18.073	26.447	207.8	2	208.7	2	22.2	0.00	2	3.22	2	0.17	2	1.00	2	2.37	2	1.31	2	0.04	2		9			9		9		9		9			9		9
27	2	355.3	36.489	36.487	2	17.791	17.730	26.496	204.4	2	205.4	2	27.1	0.00	2	4.10	2	0.23	2	1.20	2	2.32	2	1.27	2	0.04	2		9			9		9		9		9			9		9
26	2	422.7	36.324	36.324	2	16.784	16.714	26.617	189.0	2	189.3	2	48.0	0.00	2	6.93	2	0.41	2	2.00	2	2.16	2	1.15	2	0.03	2	0.45	2			9		9		9		9			9		9
25	2	500.6	36.058	36.052	2	15.172	15.094	26.785	186.1	2	183.2	2	62.2	0.00	2	10.06	2	0.61	2	3.40	2	1.99	2	1.05	2	0.02	2		9			9		9		9		9			9		9
24	2	598.6	35.775	35.784	2	13.280	13.195	26.972	172.1	2	169.0	2	86.4	0.00	2	14.35	2	0.88	2	5.40	2	1.53	2	0.79	2	0.03	2		9			9		9		9		9			9		9
23	2	701.1	35.504	35.502	2	11.287	11.197	27.149	160.6	2	159.7	2	107.1	0.00	2	18.85	2	1.19	2	8.80	2	0.89	2	0.45	2	0.02	2		9			9		9		9		9			9		9
22	2	800.2	35.267	35.276	2	9.317	9.225	27.306	153.6	2	152.1	2	126.8	0.00	2	22.76	2	1.48	2	13.00	2	0.43	2	0.22	2	0.01	2	0.18	2			9		9		9		9			9		9
21	2	900.6	35.110	35.102	2	7.807	7.713	27.417	154.3	2	154.3	2	134.6	0.00	2	25.20	2	1.66	2	16.60	2	0.20	2	0.11	2	0.00	2		9			9		9		9		9			9		9
20	2	1001.5	35.043	35.043	2	6.666	6.569	27.525	166.0	2	171.2	2	125.6	0.00	2	24.82	2	1.68	2	17.70	2	0.16	2	0.09	2	0.01	2		9			9		9		9		9			9		9
19	2	1198.4	35.099	35.098	2	5.776	5.666	27.687	211.3	2	213.4	2	89.6	0.00	2	20.61	2	1.40	2	14.70	2	0.29	2	0.15	2	0.01	2	0.58	2			9		9		9		9			9		9
18	2	1399.2	35.099	35.100	2	5.055	4.933	27.776	236.6	2	235.2	2	73.2	0.00	2	19.15	2	1.31	2	14.70	2	0.23	2	0.12	2	0.24	4		9			9		9		9		9			9		9
17	2	1598.5	35.064	35.063	2	4.440	4.305	27.819	246.4	2	247.0	2	66.2	0.00	2	18.66	2	1.29	2	15.90	2	0.11	2	0.06	2	0.00	2		9			9		9		9		9			9		9
16	2	1797.8	35.039	35.038	2	4.050	3.901	27.843	251.6	2	251.3	2	65.0	0.00	2	18.76	2	1.29	2	18.00	2	0.04	2	0.03	2	0.01	2	0.34	2			9		9		9		9			9		9
15	2	1899.2	35.028	35.027	2	3.846	3.690	27.856	252.6	2	252.0	2	66.0	0.00	2	18.95	2	1.30	2	19.90	2	0.03	2	0.02	2	0.00	2		9			9		9		9		9			9		9
14	2	1999.5	35.017	35.016	2	3.686	3.523	27.864	253.8	2	254.1	2	65.2	0.00	2	18.86	2	1.29	2	21.30	2		9		9		9		9			9		9		9		9			9		9
13	2	2399.6	34.970	34.970	2	3.155	2.962	27.882	255.5	2	256.4	2	67.5	0.00	2	19.25	2	1.32	2	27.00	2	0.04	2	0.02	2	0.00	2	0.28	2			9		9		9		9			9		9
12	2	2599.9	34.956	34.957	2	3.008	2.798	27.887	255.7	2	256.6	2	68.7	0.00	2	19.54	2	1.36	2	29.30	2		9		9		9		9			9		9		9		9			9		9
11	2	2800.5	34.944	34.944	2	2.862	2.635	27.893	256.0	2	257.3	2	69.3	0.00	2	19.83	2	1.38	2	31.70	2		9		9		9		9			9		9		9		9			9		9
10	2	3000.8	34.934	34.934	2	2.753	2.507	27.897	257.1	2	257.2	6	70.5	0.00	2	19.93	2	1.39	2	33.10	2	0.00	2	0.01	2	0.00	2	0.13	2			9		9		9		9			9		9
9	2	3298.7	34.917	34.916	2	2.558	2.286	27.904	259.3	2	259.3	2	70.3	0.00	2	20.03	2	1.41	2	36.10	2		9		9		9		9			9		9		9		9			9		9
8	2	3599.2	34.902	34.902	2	2.404	2.103	27.908	260.1	2	260.4	2	70.8	0.00	2	20.13	2	1.42	2	38.20	2	0.01	2	0.00	2	0.00	2	0.11	2			9		9		9		9			9		9
7	2	3899.5	34.890	34.890	2	2.276	1.945	27.913	261.5	2	261.5	2	71.0	0.00	2	20.23	2	1.43	2	40.90	2	0.01	2	0.01	2	0.00	2	0.13	2			9		9		9		9			9		9
6	2	4297.5	34.877	34.877	2	2.177	1.804	27.916	260.6	2	260.5	2	73.3	0.00	2	20.71	2	1.46	2	44.50	2	0.02	2	0.02	2	0.00	2	0.19	2			9		9		9		9			9		9
5	2	4699.8	34.861	34.860	2	2.064	1.646	27.917	257.6	2	257.5	2	77.6	0.00	2	21.59	2	1.53	2	51.00	2	0.02	2	0.02	2	0.01	2	0.19	2			9		9		9		9			9		9
4	2	5098.8	34.850	34.849	2	2.019	1.554	27.918	254.6	2	255.1	2	80.9	0.00	2	22.18	2	1.57	2	54.90	2	0.02	2	0.02	2	0.00	2	0.18	2			9		9		9		9			9		9
3	2	5500.1	34.846	34.845	2	2.034	1.517	27.921	254.0	2	254.5	2	81.8	0.00	2	22.38	2	1.59	2	56.80	2	0.03	2	0.02	2	0.00	2	0.19	6			9		9		9		9			9		9
2	2	6076.4	34.845		2	2.107	1.510	27.925	255.3	2		9			9		9		9		9		1		1		1		9			9		9		9		9			9		9
1	2	6076.6	34.844	34.844	2	2.107	1.510	27.925	255.3	2	254.2	6	82.2	0.00	6	22.47	6	1.59	6	57.20	6	0.02	2	0.02	2	0.00	2	0.20	6			9		9		9		9			9		9

* WOCE water sample quality flag (F) for parameter for the previous column
** WOCE quality flag (F) for "Niskin" sample bottle
*** PSS-78 scale
**** ITS0 scale

A5R
NOAA Ship Ronald H. Brown

STATION 69 DATE 2/10/1998 LATITUDE 24.499° N
LONGITUDE 54.467° W

Bottle Number	F**	Pressure db	CTD Salinity***	Bottle Salinity***	F*	Temp**** °C	Theta °C	Sigma Theta	CTD O2 µmol/kg	F*	Bottle O2 µmol/kg	F*	AOU	NO2 µmol/kg	F*	NO3 µmol/kg	F*	PO4 µmol/kg	F*	Si(OH)4 µmol/kg	F*	CFC-11 pmol/kg	F*	CFC-12 pmol/kg	F*	CFC-113 pmol/kg	F*	CCl4 pmol/kg	F*	fCO2 at 20 °C µatm	fCO2 INSITU µatm	F*	DIC µmol/kg	F*	pH	F*	Measured TA µmol/kg	F*	Calculated TA µmol/kg	TOC µmol/kg	F*	TON µmol/kg	F*
36	2	3.7	37.208	37.207	2	23.640	23.639	25.423	189.2	2	214.2	2	-6.1	0.00	2	0.00	2	0.01	2	0.40	2	9	9	9	9	276.8	319.8	2	2060.3	6	8.1000	2	2429	2	2431	9	9
35	2	40.8	37.267	37.267	2	23.546	23.537	25.501	213.4	2	215.4	2	-7.0	0.00	2	0.00	2	0.01	2	0.40	2	9	9	9	9			9	9	9		9	9	9
34	2	87.7	37.214	37.224	2	23.025	23.007	25.619	215.0	2	216.8	2	-6.5	0.00	2	0.00	2	0.01	2	0.40	2	9	9	9	9	288.6	325.5	2	2070.9	2	8.0831	2	2428	2	2430	9	9
33	2	139.3	36.865	36.866	2	20.341	20.315	26.109	199.7	2	203.1	2	18.0	0.02	2	0.59	2	0.03	2	0.40	2	9	9	9	9	351.0	355.8	2	2092.9	2	8.0182	2	2407	2	2405	9	9
32	2	198.3	36.634	36.630	2	18.734	18.699	26.358	199.9	2	201.4	2	26.7	0.01	2	2.34	2	0.10	2	0.80	2	9	9	9	9	374.5	355.8	2	2098.9	2	7.9930	2	2390	2	2393	9	9
31	2	224.5	36.575	36.575	2	18.349	18.310	26.413	201.0	2	202.7	2	27.1	0.00	2	3.32	2	0.15	2	1.00	2	9	9	9	9			9	9	9		9	9	9
30	2	247.9	36.553	36.552	2	18.191	18.148	26.438	204.7	2	203.4	2	27.2	0.00	2	3.61	2	0.18	2	1.10	2	9	9	9	9	385.2	358.0	2	2101.5	2	7.9880	2		9	2392	9	9
29	2	273.2	36.519	36.519	2	17.960	17.913	26.471	201.9	2	204.2	2	27.4	0.00	2	4.00	2	0.20	2	1.20	2	9	9	9	9			9	9	9		9	9	9
28	2	299.4	36.493	36.493	2	17.790	17.738	26.495	197.6	2	197.8	2	34.6	0.00	2	4.88	2	0.26	2	1.40	2	9	9	9	9	389.1	355.8	2	2109.3	2	7.9672	2	2383	2	2387	9	9
27	2	349.9	36.404	36.407	2	17.268	17.209	26.557	195.4	2	195.8	2	39.1	0.00	2	5.85	2	0.32	2	1.80	2	9	9	9	9			9	9	9		9	9	9
26	2	394.9	36.244	36.250	2	16.309	16.245	26.664	186.9	2	184.7	2	54.9	0.00	2	8.30	2	0.48	2	2.50	2	9	9	9	9	473.0	407.3	2	2126.3	2	7.9147	2	2369	2	2372	9	9
25	2	451.5	36.062	36.077	2	15.169	15.099	26.785	187.1	2	180.5	2	64.8	0.00	2	10.35	2	0.61	2	3.40	2	9	9	9	9			9	9	9		9	9	9
24	2	552.3	35.813	35.816	2	13.502	13.423	26.953	175.2	2	173.2	2	81.0	0.00	2	13.67	2	0.84	2	5.10	2	9	9	9	9	580.9	445.0	2	2146.5	2	7.8214	2	2347	2	2341	9	9
23	2	650.8	35.584	35.581	2	11.842	11.756	27.106	162.2	2	159.9	2	103.6	0.00	2	18.06	2	1.11	2	7.80	2	9	9	9	9			9	9	9		9	9	9
22	2	757.8	35.292	35.300	2	9.726	9.637	27.258	154.2	2	146.5	2	129.9	0.00	2	23.05	2	1.47	2	12.60	2	9	9	9	9	784.2	513.2	2	2181.2	2	7.7006	2	2324	2	2320	9	9
21	2	851.8	35.114	35.117	2	8.058	7.968	27.382	149.2	2	149.5	2	137.7	0.00	2	25.59	2	1.68	2	16.40	2	9	9	9	9			9	9	9		9	9	9
20	2	949.8	35.041	35.041	2	7.077	6.983	27.467	159.0	2	158.0	2	135.9	0.00	2	26.08	2	1.74	2	18.20	2	9	9	9	9			9	9	9		9	9	9
19	2	1050.5	35.030	35.027	2	6.211	6.113	27.575	179.6	2	180.9	2	119.1	0.00	2	24.32	2	1.63	2	17.80	2	9	9	9	9	848.9	475.1	6	2188.1	6	7.6699	2	2320	2	2313	9	9
18	2	1149.8	35.046	35.047	2	5.782	5.677	27.643	202.6	2	203.0	2	100.0	0.00	2	22.17	2	1.50	2	16.40	2	9	9	9	9			9	9	9		9	9	9
17	2	1350.7	35.083	35.085	2	5.133	5.014	27.753	234.9	2	230.8	2	77.0	0.00	2	19.73	2	1.33	2	14.70	2	9	9	9	9			9	9	9		9	9	9
16	2	1548.6	35.084	35.084	2	4.681	4.548	27.808	244.5	2	244.1	2	67.2	0.00	2	18.85	2	1.27	2	15.10	2	9	9	9	9	718.3	372.2	2	2165.6	2	7.7303	2	2322	2	2315	9	9
15	2	1748.6	35.058	35.057	2	4.191	4.045	27.843	247.7	2	248.9	2	66.3	0.00	2	18.85	2	1.28	2	18.10	2	9	9	9	9			9	9	9		9	9	9
14	2	1949.0	35.026	35.027	2	3.807	3.647	27.859	252.0	2	252.3	2	66.0	0.00	2	18.95	2	1.30	2	20.50	2	9	9	9	9	722.4	358.7	2	2166.4	2	7.7371	2	2324	2	2319	9	9
13	2	2148.0	34.993	34.992	2	3.411	3.238	27.873	253.9	2	254.5	2	67.1	0.00	2	19.24	2	1.32	2	24.20	2	9	9	9	9			9	9	9		9	9	9
12	2	2342.6	34.976	34.975	2	3.204	3.016	27.881	254.1	2	255.5	2	68.0	0.00	2	19.44	2	1.34	2	26.70	2	9	9	9	9			9	9	9		9	9	9
11	2	2546.7	34.958	34.958	2	3.009	2.804	27.887	255.6	2	254.0	2	71.2	0.00	2	19.64	2	1.36	2	29.00	2	9	9	9	9			9	9	9		9	9	9
10	2	2750.2	34.946	34.945	2	2.872	2.650	27.892	255.6	2	256.4	2	70.1	0.00	2	19.73	2	1.37	2	31.00	2	9	9	9	9			9	9	9		9	9	9
9	2	2948.0	34.936	34.935	2	2.758	2.518	27.897	256.6	2	257.6	2	70.0	0.00	2	19.83	2	1.38	2	32.70	2	9	9	9	9	721.7	339.6	2	2176.5	2	7.7303	2	2334	2	2326	9	9
8	2	3248.4	34.918	34.917	2	2.556	2.289	27.904	258.8	2	258.9	2	70.7	0.00	2	20.12	2	1.40	2	36.00	2	9	9	9	9			9	9	9		9	9	9
7	2	3547.9	34.905	34.903	2	2.407	2.112	27.909	260.5	2	260.6	2	70.5	0.00	2	20.12	2	1.41	2	37.60	2	9	9	9	9			9	2178.7	2		9	9	9
6	2	3893.0	34.889	34.890	2	2.268	1.938	27.913	259.7	2	261.0	2	71.6	0.00	2	20.42	2	1.44	2	40.80	2	9	9	9	9	742.6	340.9	2	2183.0	2	7.7278	2	2337	2	2332	9	9
5	2	4346.7	34.877	34.877	2	2.169	1.790	27.918	261.4	2	261.3	2	72.6	0.00	2	20.61	2	1.45	2	43.70	2	9	9	9	9			9	9	9		9	9	9
4	2	4742.7	34.861	34.860	2	2.074	1.651	27.918	256.9	2	257.1	2	78.0	0.00	2	21.49	2	1.52	2	50.40	2	9	9	9	9			9	9	9		9	9	9
3	2	5141.1	34.849	34.848	2	2.016	1.545	27.918	254.0	2	254.9	2	81.1	0.00	2	22.27	2	1.57	2	55.00	2	9	9	9	9			9	9	9		9	9	9
2	2	5241.7	34.848		2	2.019	1.535	27.919	253.2	2		9			9		9		9		1	1	1	9			9	9	9		9	9	9
1	2	5244.0	34.848	34.849	2	2.019	1.535	27.919	253.3	2	254.8	6	81.3	0.00	6	22.37	6	1.57	6	55.70	6	9	9	9	9	784.8	355.5	2	2199.0	2	7.7076	2	2345	2	2340	9	9

* WOCE water sample quality flag (F) for parameter for the previous column
** WOCE quality flag (F) for "Niskin" sample bottle
*** PSS-78 scale
**** ITS0 scale

A5R
NOAA Ship Ronald H. Brown

STATION 70 DATE 2/10/1998 LATITUDE 24.499° N
LONGITUDE 55.201° W

Bottle Number	F**	Pressure db	CTD Salinity***	Bottle Salinity***	F*	Temp**** °C	Theta °C	Sigma Theta	CTD O2 µmol/kg	F*	Bottle O2 µmol/kg	F*	AOU	NO2 µmol/kg	F*	NO3 µmol/kg	F*	PO4 µmol/kg	F*	Si(OH)4 µmol/kg	F*	CFC-11 pmol/kg	F*	CFC-12 pmol/kg	F*	CFC-113 pmol/kg	F*	CCl4 pmol/kg	F*	fCO2 at 20 °C µatm	fCO2 INSITU µatm	F*	DIC µmol/kg	F*	pH	F*	Measured TA µmol/kg	F*	Calculated TA µmol/kg	TOC µmol/kg	F*	TON µmol/kg	F*
36	2	4.8	37.121	37.121	2	23.724	23.723	25.333	214.5	2	215.0	2	-7.1	0.00	2	0.00	2	0.00	2	0.40	2	1.91	2	1.11	2	0.15	2		9	260.2	301.6	6	2056.3	6	8.1015	2	2432	2	2427	76.8	2		9
35	2	46.8	37.180	37.181	2	23.692	23.682	25.392	213.9	2	212.6	2	-4.6	0.00	2	0.00	2	0.00	2	0.40	2	1.91	2	1.11	2	0.19	2		9			9	2059.5	2	8.0994	2	2436	2	2429	72.3	2		9
34	2	91.2	37.225	37.222	2	23.193	23.174	25.578	215.5	2	216.4	2	-6.7	0.00	2	0.00	2	0.01	2	0.30	2	2.02	2	1.19	2	0.21	2		9	286.5	325.3	2	2071.2	2	8.0847	2	2441	2	2432	73.1	2		9
33	2	135.6	36.933	36.935	2	20.675	20.649	26.071	205.3	2	201.9	2	17.8	0.02	2	0.39	2	0.02	2	0.40	2	2.20	2	1.25	2	0.13	2		9	341.9	351.0	2	2095.6	2	8.0226	2	2422	2	2412	57.8	2		9
32	2	201.5	36.669	36.661	2	18.937	18.901	26.333	193.4	2	195.9	2	31.3	0.01	2	2.44	2	0.11	2	0.70	2	2.31	6	1.28	6	0.04	6		9	389.0	372.7	2	2101.4	2	7.9880	2	2398	2	2393	53.4	2		9
31	2	226.0	36.588	36.591	2	18.398	18.358	26.411	199.8	2	200.0	2	29.6	0.00	2	3.12	2	0.16	2	0.90	2	2.32	2	1.28	2	0.03	2		9	376.3	352.8	2	2098.7	2	7.9861	2	2392	2	2388	52.1	2		9
30	2	249.0	36.565	36.564	2	18.249	18.205	26.432	198.8	2	200.1	2	30.2	0.00	2	3.61	2	0.19	2	1.10	2	2.32	2	1.27	2	0.03	2		9			9	2100.6	2	7.9834	2	2390	2	2388	50.2	2		9
29	2	274.6	36.539	36.538	2	18.067	18.019	26.460	198.7	2	199.8	2	31.3	0.00	2	3.90	2	0.21	2	1.10	2	2.30	2	1.26	2	0.03	2		9	384.5	355.5	2	2101.8	2	7.9768	2		5	2385	50.0	2		9
28	2	301.5	36.508	36.511	2	17.871	17.819	26.487	197.5	2	198.5	2	33.6	0.00	2	4.39	2	0.24	2	1.30	2	2.28	2	1.24	2	0.03	2		9			9	2105.2	2	7.9725	2	2388	2	2386		9		9
27	2	351.9	36.427	36.426	2	17.398	17.338	26.544	190.7	2	191.9	2	42.4	0.00	2	5.76	2	0.33	2	1.70	2	2.21	2	1.20	2	0.02	2		9	422.8	380.7	2	2112.2	2	7.9493	2	2382	2	2379	47.9	2		9
26	2	399.0	36.276	36.284	2	16.470	16.405	26.652	190.5	2	184.4	2	54.4	0.00	2	7.71	2	0.46	2	2.20	2	2.12	2	1.13	2	0.03	2		9			9	2123.8	2	7.9191	2		5	2372		9		9
25	2	451.3	36.091	36.097	2	15.396	15.325	26.758	187.1	2	184.7	2	59.5	0.00	2	9.37	2	0.57	2	3.10	2	2.03	2	1.07	2	0.02	2		9	477.8	395.9	2	2128.8	2	7.8933	2		5	2362	46.9	2		9
24	2	500.4	35.940	35.954	2	14.394	14.319	26.863	176.9	2	174.2	2	75.2	0.00	2	11.81	2	0.73	2	4.00	2	1.83	2	0.95	2	0.03	2		9			9	2140.7	2	7.8565	2	2357	2	2354		9		9
23	2	600.9	35.724	35.718	2	12.880	12.796	27.012	164.0	2	161.9	2	95.7	0.00	2	15.81	2	0.97	2	6.10	2	1.34	2	0.69	2	0.01	2		9	626.5	468.0	2	2157.4	2	7.7953	2	2346	2	2339	46.1	2		9
22	2	699.2	35.434	35.441	2	10.744	10.657	27.191	155.7	2	156.6	2	113.5	0.00	2	19.92	2	1.27	2	9.80	2	0.75	6	0.39	6	0.01	6		9			9	2171.8	2	7.7420	2		5	2328		9		9
21	2	800.2	35.214	35.220	2	9.043	8.953	27.309	148.6	2	147.1	2	133.6	0.00	2	24.12	2	1.56	2	14.10	2	0.33	2	0.17	2	0.00	2		9	817.9	519.5	2	2188.5	2	7.6855	2	2324	2	2321	42.1	2		9
20	2	847.1	35.144	35.143	2	8.292	8.201	27.371	149.1	2	148.9	2	136.8	0.00	2	25.29	2	1.66	2	15.80	2	0.21	6	0.11	6	0.01	6		9	866.6	533.6	2	2194.1	2	7.6676	2		5	2319		9		9
19	2	901.0	35.065	35.068	2	7.463	7.371	27.431	150.6	2	151.3	2	140.0	0.00	2	26.08	2	1.73	2	17.50	2		9		9		9		9	888.5	527.5	2	2207.4	2	7.6544	2	2327	2	2327		9		9
18	2	1000.2	35.020	35.019	2	6.583	6.487	27.517	167.7	2	168.8	2	128.6	0.00	2	25.49	2	1.70	2	18.20	2	0.14	2	0.07	2	0.13	4		9	884.5	504.6	2	2195.2	6	7.6565	2		9	2315		9		9
17	2	1199.8	35.056	35.054	2	5.568	5.460	27.678	210.5	2	212.6	2	92.0	0.00	2	21.19	2	1.44	2	15.40	2	0.22	2	0.12	2	0.01	2		9			9	2180.5	2	7.6994	2		9	2317	42.0	2		9
16	2	1402.0	35.058	35.058	2	4.879	4.758	27.763	238.7	2	239.8	2	69.9	0.00	2	19.05	2	1.30	2	13.90	2	0.22	2	0.12	2	0.00	2		9	743.8	389.8	6	2165.2	3	7.7230	2		9	2311		9		9
15	2	1595.1	35.051	35.051	2	4.476	4.341	27.805	251.2	2	250.1	2	62.8	0.00	2	18.36	2	1.26	2	14.30	2	0.18	2	0.09	2	0.02	2		9			9	2184.8	2	7.7328	2		5	2336		9		9
14	2	1791.0	35.038	35.038	2	4.126	3.977	27.835	254.4	2	254.0	2	61.7	0.00	2	18.36	2	1.26	2	16.20	2	0.06	2	0.04	2	0.00	2		9	707.4	356.8	2	2160.2	2	7.7376	2		5	2312		9		9
13	2	1999.7	35.018	35.018	2	3.763	3.599	27.858	254.6	2	253.8	2	64.9	0.00	2	18.75	2	1.29	2	20.20	2	0.01	2	0.02	2	0.00	2		9			9	2191.2	2	7.7369	2		9	2344		9		9
12	2	2199.6	34.996	34.996	2	3.466	3.287	27.871	255.4	2	255.0	2	66.2	0.00	2	18.85	2	1.31	2	23.30	2	0.01	2	0.01	2	0.01	2		9	717.6	350.2	2	2172.6	2		9		9			9		9
11	2	2497.0	34.965	34.965	2	3.102	2.900	27.884	256.0	2	256.1	2	68.3	0.00	2	19.34	2	1.34	2	27.60	2	0.00	2	0.01	2	0.00	2		9			9	2177.0	2	7.7346	2		9	2328	41.5	2		9
10	2	2799.7	34.946	34.947	2	2.894	2.666	27.892	257.8	2	259.1	2	67.3	0.00	2	19.44	2	1.36	2	30.30	2	0.00	2	0.00	2	0.00	2		9	729.4	345.9	2	2178.8	2		9		9			9		9
9	2	3098.0	34.932	34.931	2	2.729	2.474	27.899	260.2	2	258.9	2	69.1	0.00	2	19.63	2	1.37	2	32.40	2	0.00	2	0.00	2	0.00	2		9			9	2172.7	2	7.7338	2		9	2324		9		9
8	2	3495.7	34.912	34.912	2	2.498	2.206	27.907	262.8	2	262.1	2	68.2	0.00	2	19.73	2	1.38	2	35.00	2	0.01	2	0.01	2	0.00	2		9	723.3	336.0	2	2180.1	2		9		9			9		9
7	2	3899.4	34.897	34.898	2	2.330	1.998	27.914	266.0	2	263.9	2	68.2	0.00	2	19.63	2	1.38	2	36.80	2	0.02	2	0.01	2	0.00	2		9			9	2181.6	2	7.7314	2	2339	2	2332		9		9
6	2	4300.9	34.890	34.890	2	2.247	1.871	27.921	268.6	2	268.1	2	65.0	0.00	2	19.24	2	1.36	2	36.40	2	0.05	2	0.03	2	0.00	2		9	736.5	338.0	2	2181.1	2		9		9			9		9
5	2	4699.9	34.869	34.869	2	2.134	1.714	27.919	261.1	2	260.1	2	74.4	0.00	2	20.90	2	1.48	2	46.70	2	0.02	2	0.02	2	0.00	2		9			9	2192.6	2	7.7190	2	2346	2	2338	45.7	3		9
4	2	5098.0	34.853	34.853	2	2.036	1.570	27.920	258.4	2	256.5	2	79.3	0.00	2	21.88	2	1.54	2	52.70	2	0.03	2	0.02	2	0.00	2		9	782.6	355.0	2	2199.5	2		9		9			9		9
3	2	5597.1	34.844	34.844	2	2.028	1.498	27.921	255.5	2	254.3	2	82.2	0.00	2	22.37	2	1.59	2	56.60	2	0.02	2	0.02	2	0.00	2		9	792.5	359.2	2	2204.1	2	7.7028	2		9	2343		9		9
2	2	6006.6	34.843		2	2.077	1.490	27.924	254.8	2		9			9		9		9		9		1		1		1		9			9		9		9		9			9		9
1	2	6007.9	34.842	34.844	2	2.077	1.490	27.924	254.8	2	253.9	6	82.6	0.00	6	22.47	6	1.59	2	57.00	2	0.03	6	0.02	6	0.00	6		9	798.2	362.8	6	2204.1	2	7.7040	2	2349	2	2344	41.4	2		9

* WOCE water sample quality flag (F) for parameter for the previous column
** WOCE quality flag (F) for "Niskin" sample bottle
*** PSS-78 scale
**** ITS0 scale

A5R
NOAA Ship Ronald H. Brown

STATION 71 DATE 2/10/1998 LATITUDE 24.500° N
LONGITUDE 55.933° W

Bottle Number	F**	Pressure db	CTD Salinity***	Bottle Salinity***	F*	Temp**** °C	Theta °C	Sigma Theta	CTD O2 µmol/kg	F*	Bottle O2 µmol/kg	F*	AOU	NO2 µmol/kg	F*	NO3 µmol/kg	F*	PO4 µmol/kg	F*	Si(OH)4 µmol/kg	F*	CFC-11 pmol/kg	F*	CFC-12 pmol/kg	F*	CFC-113 pmol/kg	F*	CCl4 pmol/kg	F*	fCO2 at 20 °C µatm	fCO2 INSITU µatm	F*	DIC µmol/kg	F*	pH	F*	Measured TA µmol/kg	F*	Calculated TA µmol/kg	TOC µmol/kg	F*	TON µmol/kg	F*
36	2	5.8	36.973	36.972	2	24.146	24.145	25.095	213.1	2	212.9	2	-6.3	0.00	2	0.00	2	0.00	2	0.90	2	9	9	9	9	282.2	332.3	2	2046.5	6	8.1083	2	2418	2	2419	9	9
35	2	51.7	36.978	36.979	2	24.121	24.110	25.112	212.5	2	213.2	2	-6.5	0.00	2	0.00	2	0.00	2	1.00	2	9	9	9	9			9	9	8.1077	2		9		9	9
34	2	99.4	37.052	37.054	2	23.132	23.111	25.466	216.5	2	216.6	2	-6.4	0.00	2	0.00	2	0.00	2	0.70	2	9	9	9	9	300.3	340.0	2	2064.4	2	8.0850	2	2418	2	2423	9	9
33	2	151.3	36.932	36.937	2	20.843	20.814	26.026	200.5	2	201.8	2	17.2	0.02	2	0.49	2	0.02	2	0.70	2	9	9	9	9			9	9	8.0238	2		9		9	9
32	2	211.7	36.720	36.719	2	19.198	19.160	26.306	194.0	2	195.7	2	30.3	0.01	2	2.24	2	0.08	2	1.00	2	9	9	9	9	396.3	383.7	2	2107.0	2	7.9902	2	2396	2	2401	9	9
31	2	235.0	36.637	36.637	2	18.681	18.639	26.378	200.0	2	197.7	2	30.6	0.00	2	3.12	2	0.13	2	1.30	2	9	9	9	9	394.9	374.4	2	2105.0	2	7.9863	2	2392	2	2395	9	9
30	2	250.8	36.587	36.586	2	18.430	18.386	26.404	204.8	2	201.6	2	27.9	0.00	2	3.32	2	0.15	2	1.10	2	9	9	9	9	388.0	364.3	2	2099.0	2		4	2388	2		9	9
29	2	285.5	36.544	36.544	2	18.136	18.086	26.447	203.1	2	203.9	2	26.9	0.00	2	3.80	2	0.19	2	1.40	2	9	9	9	9	392.4	363.9	2	2099.4	2	7.9864	2	2392	2	2389	9	9
28	2	335.8	36.483	36.480	2	17.762	17.704	26.497	195.8	2	197.6	2	35.0	0.00	2	5.07	2	0.26	2	1.70	2	9	9	9	9			9	9	9		9		9	9
27	2	386.1	36.324	36.344	2	16.743	16.679	26.624	190.0	2	187.8	2	49.6	0.00	2	7.32	2	0.40	2	2.30	2	9	9	9	9			9	9	9		9		9	9
26	2	436.9	36.212	36.217	2	16.098	16.027	26.691	186.4	2	184.3	6	56.3	0.00	2	8.78	2	0.50	2	2.90	2	9	9	9	9			9	9	9		9		9	9
25	2	482.2	36.081	36.083	2	15.320	15.245	26.769	181.5	2	180.0	2	64.6	0.00	2	10.44	2	0.61	2	3.60	2	9	9	9	9	498.6	411.7	2	2134.3	2	7.8843	2	2365	2	2363	9	9
24	2	580.8	35.754	35.748	2	13.131	13.049	26.984	168.4	2	168.0	2	88.2	0.00	2	15.03	2	0.92	2	6.10	2	9	9	9	9			9	9	9		9		9	9
23	2	683.4	35.510	35.505	2	11.369	11.281	27.138	159.6	2	159.6	2	106.7	0.00	2	19.04	2	1.19	2	9.00	2	9	9	9	9	677.6	474.7	2	2169.2	2	7.7582	2	2338	2	2333	9	9
22	2	786.6	35.317	35.303	2	9.732	9.639	27.277	157.3	2	155.4	2	121.0	0.00	2	22.36	2	1.43	2	12.50	2	9	9	9	9	769.4	503.2	2	2182.6	2	7.7112	2	2331	2	2326	9	9
21	2	850.5	35.163	35.159	2	8.360	8.268	27.376	153.3	2	152.3	2	132.9	0.00	2	25.00	2	1.62	2	15.50	2	9	9	9	9	860.3	531.3	2	2191.1	2	7.6761	2	2327	2	2319	9	9
20	2	949.5	35.043	35.043	2	7.175	7.080	27.455	156.8	2	157.5	2	135.8	0.00	2	26.17	2	1.73	2	18.20	2	9	9	9	9			9	9	9		9		9	9
19	2	1049.3	35.028	35.025	2	6.276	6.177	27.565	176.2	2	178.7	2	120.8	0.00	2	24.80	2	1.66	2	18.30	2	9	9	9	9	876.1	492.6	2	2190.8	6	7.6667	2	2318	2	2315	9	9
18	2	1246.9	35.070	35.069	2	5.423	5.312	27.707	221.3	2	222.5	2	83.1	0.00	2	20.41	2	1.37	2	14.80	2	9	9	9	9			9	9	9		9		9	9
17	2	1451.8	35.058	35.059	2	4.774	4.650	27.776	244.8	2	244.0	2	66.6	0.00	2	19.04	2	1.28	2	14.10	2	9	9	9	9	748.2	390.2	2	2165.8	2	7.7286	2	2317	2	2314	9	9
16	2	1650.5	35.046	35.046	2	4.330	4.192	27.817	252.8	2	252.1	2	62.0	0.00	2	18.75	2	1.26	2	15.20	2	9	9	9	9			9	9	9		9		9	9
15	2	1848.4	35.033	35.032	2	4.006	3.853	27.843	254.4	2	254.9	2	61.8	0.00	2	18.75	2	1.27	2	17.40	2	9	9	9	9			9	9	9		9		9	9
14	2	2047.8	35.010	35.009	2	3.679	3.511	27.860	256.8	2	257.3	2	62.1	0.00	2	18.95	2	1.28	2	20.10	2	9	9	9	9			9	9	9		9		9	9
13	2	2249.0	34.990	34.990	2	3.412	3.229	27.872	256.9	2	256.8	2	64.9	0.00	2	19.34	2	1.31	2	23.30	2	9	9	9	9			9	2170.8	2	7.7390	2	2327	2	2324	9	9
12	2	2449.4	34.969	34.969	2	3.159	2.961	27.882	257.4	2	257.2	2	66.7	0.00	2	19.63	2	1.34	2	26.70	2	9	9	9	9			9	9	9		9		9	9
11	2	2648.1	34.955	34.957	2	2.998	2.783	27.887	257.8	2	258.2	2	67.2	0.00	2	19.83	2	1.35	2	28.60	2	9	9	9	9	719.8	343.0	2	2172.5	2	7.7373	2	2334	2	2325	9	9
10	2	2949.4	34.938	34.938	2	2.801	2.560	27.896	260.3	2	259.8	2	67.5	0.00	2	19.83	2	1.36	2	31.00	2	9	9	9	9			9	9	9		9		9	9
9	2	3254.0	34.925	34.926	2	2.660	2.390	27.902	261.4	2	261.0	2	67.7	0.00	2	19.92	2	1.37	2	32.70	2	9	9	9	9			9	2175.1	2	7.7375	2	2337	2	2328	9	9
8	2	3549.0	34.911	34.911	2	2.495	2.197	27.908	263.4	2	241.0	4	89.3	0.00	2	20.02	2	1.37	2	34.90	2	9	9	9	9			9	9	9		9		9	9
7	2	3849.9	34.901	34.900	2	2.368	2.040	27.914	266.1	2	265.5	2	66.2	0.00	2	19.73	2	1.36	2	35.30	2	9	9	9	9			9	9	9		9		9	9
6	2	4249.7	34.894	34.896	2	2.294	1.923	27.921	270.7	2	268.4	2	64.3	0.00	2	19.44	2	1.35	2	34.60	2	9	9	9	9	724.4	333.1	2	2174.8	2	7.7353	2	2338	2	2326	9	9
5	2	4545.8	34.887	34.886	2	2.249	1.844	27.923	268.6	2	266.7	2	66.7	0.00	2	19.83	2	1.37	2	37.50	2	9	9	9	9			9	9	9		9		9	9
4	2	5050.2	34.858	34.859	2	2.073	1.612	27.921	259.4	2	255.8	2	79.6	0.00	2	21.78	2	1.52	2	50.60	2	9	9	9	9	784.7	356.9	2	2193.4	2	7.7157	6		5	2338	9	9
3	2	5547.7	34.843	34.842	2	2.014	1.491	27.920	253.7	2	254.5	2	82.0	0.00	2	22.76	2	1.59	2	57.40	2	9	9	9	9			9	9	9		9		9	9
2	2	6049.7	34.842	34.842	2	2.079	1.486	27.924	254.6	2	252.7	2	83.9	0.00	2	22.85	2	1.60	2	57.70	2	9	9	9	9	794.8	361.1	6	9	9		9		9	9
1	2	6594.1	34.842	34.843	2	2.159	1.487	27.929	255.5	2	254.4	2	82.2	0.00	6	22.85	6	1.60	6	57.70	2	9	9	9	9	793.4	361.9	2	2202.7	2	7.7046	2		5	2342	9	9

* WOCE water sample quality flag (F) for parameter for the previous column
** WOCE quality flag (F) for "Niskin" sample bottle
*** PSS-78 scale
**** ITS0 scale

A5R
NOAA Ship Ronald H. Brown

STATION 72 DATE 2/11/1998 LATITUDE 24.500° N
LONGITUDE 56.667° W

Bottle Number	F**	Pressure db	CTD Salinity***	Bottle Salinity***	F*	Temp**** °C	Theta °C	Sigma Theta	CTD O2 µmol/kg	F*	Bottle O2 µmol/kg	F*	AOU	NO2 µmol/kg	F*	NO3 µmol/kg	F*	PO4 µmol/kg	F*	Si(OH)4 µmol/kg	F*	CFC-11 pmol/kg	F*	CFC-12 pmol/kg	F*	CFC-113 pmol/kg	F*	CCl4 pmol/kg	F*	fCO2 at 20 °C µatm	fCO2 INSITU µatm	F*	DIC µmol/kg	F*	pH	F*	Measured TA µmol/kg	F*	Calculated TA µmol/kg	TOC µmol/kg	F*	TON µmol/kg	F*
36	2	4.1	36.974	36.976	2	23.907	23.906	25.167	213.9	2	212.9	2	-5.4	0.00	2	0.00	2	0.00	2	0.60	2	1.89	2	1.10	2	0.16	2	2.07	2	275.4	321.4	6	2046.1	6	8.1043	2	2415	2	2416	78.9	2		9
35	2	50.4	37.050	37.070	2	23.991	23.980	25.205	214.6	2	213.1	2	-6.0	0.00	2	0.00	2	0.00	2	0.60	2		9		9		9	1.93	6			9		9		9		9		77.8	2		9
34	2	101.2	37.010	36.999	2	22.502	22.481	25.616	218.6	2	218.6	2	-6.0	0.01	2	0.00	2	0.01	2	0.40	2	2.10	2	1.20	2	0.18	2		9			9		9		9		9		65.9	2		9
33	2	152.0	36.797	36.802	2	20.037	20.009	26.140	209.2	2	208.1	2	14.3	0.03	2	0.39	2	0.02	2	0.50	2	2.27	2	1.28	2	0.14	2	1.04	2			9		9		9		9		57.9	2		9
32	2	200.1	36.682	36.679	2	18.960	18.924	26.338	189.9	2	193.5	2	33.6	0.01	2	2.73	2	0.11	2	0.90	2	2.31	2	1.28	2	0.03	2		9			9		9		9		9		51.2	2		9
31	2	224.5	36.600	36.602	2	18.464	18.424	26.403	192.5	2	198.1	2	31.2	0.00	2	3.32	2	0.15	2	1.10	2	2.32	2	1.29	2	0.02	2	0.44	2			9		9		9		9			9		9
30	2	248.7	36.569	36.567	2	18.263	18.219	26.431	198.6	2	198.9	2	31.3	0.00	2	3.81	2	0.18	2	1.20	2	2.32	2	1.28	2	0.03	2		9			9		9		9		9		49.0	2		9
29	2	272.8	36.544	36.544	2	18.119	18.071	26.450	199.4	2	200.9	2	30.0	0.00	2	3.90	2	0.19	2	1.30	2	2.31	2	1.28	2	0.03	2	0.45	2			9		9		9		9			9		9
28	2	302.2	36.517	36.521	2	17.930	17.878	26.479	200.4	2	198.4	2	33.4	0.00	2	4.49	2	0.23	2	1.40	2	2.29	2	1.25	2	0.03	2		9			9		9		9		9			9		9
27	2	350.1	36.432	36.439	2	17.411	17.351	26.544	190.4	2	188.4	2	45.8	0.00	2	6.05	2	0.33	2	1.90	2	2.21	2	1.19	2	0.02	2		9			9		9		9		9		47.6	2		9
26	2	399.1	36.318	36.318	2	16.740	16.674	26.621	185.3	2	183.4	2	54.1	0.00	2	7.71	2	0.44	2	2.30	2	2.11	2	1.12	2	0.02	2		9			9		9		9		9			9		9
25	2	448.6	36.170	36.170	2	15.815	15.743	26.724	184.0	2	184.1	2	58.0	0.00	2	8.98	2	0.53	2	3.00	2	2.09	2	1.11	2	0.02	2	0.43	2			9		9		9		9			9		9
24	2	500.0	36.014	36.016	2	14.874	14.797	26.816	177.7	2	179.6	2	67.3	0.00	2	10.93	2	0.65	2	3.80	2	1.99	2	1.05	2	0.02	2		9			9		9		9		9			9		9
23	2	597.1	35.735	35.736	2	13.036	12.952	26.990	169.1	2	168.4	2	88.4	0.00	2	15.13	2	0.92	2	6.10	2	1.43	2	0.74	2	0.01	2		9			9		9		9		9		45.0	2		9
22	2	698.5	35.489	35.486	2	11.136	11.047	27.165	161.5	2	158.4	2	109.3	0.00	2	19.24	2	1.21	2	9.20	2	0.85	2	0.44	2	0.01	2	0.28	2			9		9		9		9			9		9
21	3	798.8	35.208	35.217	2	9.014	8.924	27.308	148.7	2	147.0	2	133.9	0.00	2	24.22	2	1.56	2	14.40	2	0.33	6	0.18	6	0.01	6		9			9		9		9		9			9		9
20	2	900.6	35.020	35.023	2	7.379	7.288	27.407	147.0	2	146.4	2	145.5	0.00	2	27.25	2	1.79	2	18.40	2	0.14	2	0.08	2	0.01	2		9			9		9		9		9			9		9
19	2	999.6	35.041	35.044	2	6.806	6.708	27.505	165.1	2	167.1	2	128.7	0.00	2	25.20	2	1.67	2	17.70	2	0.16	2	0.09	2	0.01	2		9			9		9		9		9		43.3	2		9
18	2	1101.7	35.054	35.052	2	6.055	5.953	27.615	186.5	2	193.4	2	107.7	0.00	2	22.86	2	1.53	2	16.50	2	0.23	2	0.13	2	0.00	2		9			9		9		9		9			9		9
17	2	1199.7	35.088	35.087	2	5.734	5.625	27.683	211.1	2	209.5	2	93.8	0.00	2	21.29	2	1.43	2	15.60	2	0.21	2	0.11	2	0.00	2	0.45	6			9		9		9		9			9		9
16	2	1397.6	35.071	35.070	2	4.943	4.822	27.766	239.9	2	238.4	2	70.8	0.00	2	19.15	2	1.28	2	14.20	2	0.29	2	0.15	2	0.01	2		9			9		9		9		9			9		9
15	2	1604.5	35.060	35.060	2	4.467	4.331	27.813	251.3	2	248.9	2	64.1	0.00	2	18.56	2	1.25	2	15.00	2	0.18	2	0.10	2	0.01	2		9			9		9		9		9		41.4	2		9
14	2	1795.6	35.035	35.034	2	4.058	3.909	27.839	255.5	2	254.1	2	62.2	0.00	2	18.46	2	1.25	2	16.90	2	0.07	2	0.04	2	0.01	2	0.34	6			9		9		9		9			9		9
13	2	1996.3	35.019	35.019	2	3.779	3.615	27.857	254.2	2	253.1	2	65.5	0.01	2	18.95	2	1.29	2	20.30	2	0.02	2	0.01	2	0.01	2		9			9		9		9		9			9		9
12	2	2200.0	34.996	34.996	2	3.463	3.284	27.872	254.8	2	253.8	2	67.5	0.01	2	19.24	2	1.32	2	23.80	2		9		9		9		9				9		9		9		9			9		9
11	2	2395.5	34.975	34.975	2	3.212	3.018	27.881	254.9	2	254.7	2	68.7	0.01	2	19.44	2	1.34	2	26.80	2	0.01	2	0.01	2	-0.01	2	0.23	2			9		9		9		9		41.1	2		9
10	2	2597.2	34.957	34.957	2	3.013	2.803	27.887	256.6	2	256.7	2	68.5	0.01	2	19.54	2	1.35	2	28.60	2		9		9		9		9				9		9		9		9			9		9
9	2	2800.7	34.946	34.945	2	2.875	2.647	27.893	257.0	2	257.6	2	68.9	0.01	2	19.64	2	1.36	2	30.50	2	0.01	2	0.00	2	0.00	2	0.17	2			9		9		9		9			9		9
8	2	3000.2	34.935	34.935	2	2.766	2.520	27.897	259.9	2	259.8	2	67.8	0.01	2	19.44	2	1.35	2	30.90	2	0.01	2	0.01	2	0.00	2	0.17	2			9		9		9		9			9		9
7	2	3398.9	34.915	34.915	2	2.531	2.249	27.906	262.6	2	262.4	2	67.5	0.01	2	19.54	2	1.36	2	33.60	2	0.02	2	0.01	2	0.01	2	0.19	2			9		9		9		9		41.3	2		9
6	2	3783.2	34.902	34.901	2	2.378	2.058	27.913	263.5	2	263.9	2	67.6	0.01	2	19.54	2	1.37	2	35.70	2	0.03	2	0.02	2	0.00	2	0.23	2			9		9		9		9			9		9
5	2	4198.2	34.897	34.896	2	2.302	1.936	27.922	270.3	2	269.0	2	63.6	0.01	2	18.76	2	1.32	2	33.10	2	0.09	2	0.06	2	0.01	2	0.42	2			9		9		9		9			9		9
4	2	4598.2	34.889	34.887	2	2.261	1.849	27.925	269.2	2	266.6	2	66.7	0.01	2	19.34	2	1.36	2	36.70	2	0.08	2	0.05	2	0.00	2	0.41	6			9		9		9		9			9		9
3	2	4999.1	34.868	34.865	2	2.136	1.679	27.923	260.5	2	259.6	2	75.2	0.01	2	21.01	2	1.48	2	47.10	2	0.04	2	0.03	2	0.00	2	0.25	2			9		9		9		9		41.1	2		9
2	9	5499.1	34.843		2	2.008	1.492	27.920	252.0	2		9			9		9		9		9		9		9		9		9				9		9		9		9			9		9
1	2	6127.9	34.842	34.842	2	2.085	1.481	27.925	253.0	2	252.8	6	83.8	0.01	6	22.67	6	1.60	6	58.30	6	0.03	2	0.03	2	0.00	2	0.20	6			9		9		9	2353	2		41.2	2		9

* WOCE water sample quality flag (F) for parameter for the previous column
** WOCE quality flag (F) for "Niskin" sample bottle
*** PSS-78 scale
**** ITS0 scale

A5R
NOAA Ship Ronald H. Brown

STATION 73 DATE 2/11/1998 LATITUDE 24.500° N
LONGITUDE 57.400° W

Bottle Number	F**	Pressure db	CTD Salinity***	Bottle Salinity***	F*	Temp**** °C	Theta °C	Sigma Theta	CTD O2 µmol/kg	F*	Bottle O2 µmol/kg	F*	AOU	NO2 µmol/kg	F*	NO3 µmol/kg	F*	PO4 µmol/kg	F*	Si(OH)4 µmol/kg	F*	CFC-11 pmol/kg	F*	CFC-12 pmol/kg	F*	CFC-113 pmol/kg	F*	CCl4 pmol/kg	F*	fCO2 at 20 °C µatm	fCO2 INSITU µatm	F*	DIC µmol/kg	F*	pH	F*	Measured TA µmol/kg	F*	Calculated TA µmol/kg	TOC µmol/kg	F*	TON µmol/kg	F*
36	2	4.1	36.914	36.913	2	23.608	23.607	25.209	217.5	2	213.9	2	-5.3	0.00	2	0.00	2	0.01	2	0.40	2	9		9		9		9		275.8	318.1	2	2044.4	6	8.1046	2		5	2414		9		9
35	2	49.1	36.912	36.916	2	23.623	23.613	25.210	215.4	2	214.2	6	-5.6	0.00	2	0.00	2	0.01	2	0.30	2	9		9		9		9				9		9		9		9				9		9
34	2	99.9	37.012	37.040	2	22.966	22.945	25.484	215.8	2	212.4	2	-1.6	0.01	2	0.10	2	0.01	2	0.20	2	9		9		9		9		303.8	341.7	2	2070.7	2	8.0688	2	2424	2	2417		9		9
33	2	149.7	36.845	36.848	2	20.359	20.331	26.090	199.4	2	201.6	2	19.4	0.02	2	0.68	2	0.03	2	0.20	2	9		9		9		9		350.1	355.1	2	2093.2	2	8.0193	2	2418	2	2406		9		9
32	2	199.9	36.684	36.685	2	19.070	19.034	26.311	193.1	2	198.2	2	28.4	0.01	2	1.85	2	0.07	2	0.40	2	9		9		9		9		377.1	363.2	2	2100.3	2	7.9946	2	2404	2	2396		9		9
31	2	226.0	36.611	36.612	2	18.602	18.562	26.377	201.2	2	202.9	2	25.8	0.01	2	2.44	2	0.09	2	0.50	2	9		9		9		9				9		9		9		9				9		9
30	2	241.6	36.577	36.583	2	18.380	18.337	26.408	203.2	2	204.4	2	25.3	0.01	2	3.02	2	0.13	2	0.60	2	9		9		9		9		377.3	353.2	2	2097.6	2	7.9921	2	2404	2	2391		9		9
29	2	274.5	36.532	36.533	2	18.070	18.022	26.453	206.2	2	206.8	2	24.3	0.00	2	3.61	2	0.17	2	0.70	2	9		9		9		9				9		9		9		9				9		9
28	2	300.6	36.504	36.502	2	17.882	17.830	26.480	208.6	2	204.7	2	27.3	0.01	2	4.20	2	0.21	2	0.90	2	9		9		9		9		398.6	365.9	2	2099.1	2	7.9814	2	2389	2	2385		9		9
27	2	352.2	36.442	36.446	2	17.479	17.419	26.536	204.5	2	197.5	2	36.4	0.00	2	5.37	2	0.28	2	1.30	2	9		9		9		9				9		9		9		9				9		9
26	2	401.1	36.334	36.329	2	16.837	16.770	26.611	189.6	2	185.4	2	51.6	0.00	2	7.51	2	0.41	2	1.90	2	9		9		9		9		448.0	394.0	2	2118.0	2	7.9295	2		5	2372		9		9
25	2	449.6	36.187	36.183	2	15.949	15.877	26.706	185.1	2	182.9	2	58.5	0.00	2	9.08	2	0.51	2	2.60	2	9		9		9		9				9		9		9		9				9		9
24	2	500.4	36.002	35.998	2	14.803	14.727	26.822	180.6	2	177.1	2	70.2	0.00	2	11.42	2	0.66	2	3.70	2	9		9		9		9				9		9		9		9				9		9
23	2	549.5	35.881	35.887	2	14.047	13.966	26.893	173.8	2	172.2	2	79.0	0.00	2	13.08	2	0.77	2	4.60	2	9		9		9		9		551.9	432.6	2	2140.6	2	7.8454	2		5	2347		9		9
22	2	649.7	35.609	35.600	2	12.101	12.014	27.077	165.1	2	162.7	2	99.4	0.00	2	17.28	2	1.06	2	7.30	2	9		9		9		9				9		9		9		9				9		9
21	2	748.6	35.316	35.325	2	10.024	9.934	27.226	150.7	2	147.6	2	126.9	0.00	2	22.56	2	1.42	2	11.70	2	9		9		9		9				9		9		9		9				9		9
20	2	800.7	35.212	35.215	2	9.098	9.007	27.298	148.6	2	146.0	2	134.4	0.00	2	24.22	2	1.56	2	14.00	2	9		9		9		9		823.1	524.6	2	2186.0	2	7.6841	2	2327	2	2317		9		9
19	2	849.8	35.172	35.170	2	8.660	8.566	27.337	147.1	2	147.3	2	136.0	0.00	2	25.00	2	1.61	2	15.00	2	9		9		9		9				9		9		9		9				9		9
18	2	898.9	35.149	35.150	2	8.212	8.115	27.388	150.5	2	148.5	2	137.7	0.00	2	25.40	2	1.65	2	15.80	2	9		9		9		9				9		9		9		9				9		9
17	2	1000.2	35.025	35.023	2	6.721	6.624	27.503	163.1	2	161.4	2	135.0	0.00	2	25.98	2	1.74	2	18.50	2	9		9		9		9		896.3	514.9	2	2195.1	6	7.6506	2		5	2313		9		9
16	2	1099.6	35.040	35.032	2	6.133	6.030	27.593	186.8	2	184.7	2	115.9	0.00	2	23.84	2	1.60	2	17.40	2	9		9		9		9				9		9		9		9				9		9
15	2	1301.7	35.063	35.063	2	5.250	5.135	27.723	230.0	2	227.9	2	79.0	0.00	2	19.83	2	1.33	2	14.10	2	9		9		9		9				9		9		9		9				9		9
14	2	1500.2	35.048	35.049	2	4.664	4.536	27.781	248.8	2	247.7	2	63.7	0.00	2	18.56	2	1.24	2	13.40	2	9		9		9		9				9		9		9		9				9		9
13	2	1694.5	35.049	35.049	2	4.309	4.167	27.823	252.2	2	251.9	2	62.3	0.00	2	18.46	2	1.24	2	15.20	2	9		9		9		9				9		9		9		9				9		9
12	2	1900.3	35.026	35.026	2	3.908	3.751	27.848	255.9	2	255.4	2	62.1	0.00	2	18.56	2	1.26	2	17.80	2	9		9		9		9		721.2	360.2	6	2162.7	2	7.7380	2		5	2315		9		9
11	2	2174.5	34.993	34.993	2	3.468	3.292	27.869	257.2	2	257.5	2	63.7	0.00	2	18.85	2	1.28	2	21.60	2	9		9		9		9				9		9		9		9				9		9
10	2	2500.8	34.965	34.965	2	3.123	2.921	27.883	257.7	2	257.0	2	67.3	0.00	2	19.24	2	1.32	2	26.20	2	9		9		9		9				9		9		9		9				9		9
9	2	2798.9	34.950	34.949	2	2.927	2.698	27.892	256.8	2	257.4	2	68.7	0.00	2	19.73	2	1.36	2	29.60	2	9		9		9		9				9	2173.8	2	7.7342	2		5	2325		9		9
8	2	3182.2	34.928	34.928	2	2.693	2.430	27.900	262.8	2	261.6	2	66.8	0.00	2	19.34	2	1.33	2	29.90	2	9		9		9		9				9		9		9		9				9		9
7	2	3598.6	34.911	34.911	2	2.483	2.180	27.910	262.3	2	265.1	2	65.4	0.00	2	19.25	2	1.34	2	31.80	2	9		9		9		9				9		9		9		9				9		9
6	2	3991.4	34.898	34.898	2	2.341	1.998	27.916	266.5	2	265.2	2	66.8	0.00	2	19.44	2	1.35	2	34.90	2	9		9		9		9		728.4	335.8	2	2175.7	2	7.7329	2	2337	2	2326		9		9
5	2	4399.2	34.889	34.889	2	2.272	1.884	27.921	267.8	2	266.0	2	67.0	0.00	2	19.44	2	1.36	2	36.20	2	9		9		9		9				9		9		9		9				9		9
4	2	4898.0	34.870	34.869	2	2.149	1.704	27.922	261.4	2	260.0	2	74.6	0.00	2	20.81	2	1.44	2	45.20	2	9		9		9		9				9	2187.6	2	7.7220	2	2343	2	2334		9		9
3	2	5277.9	34.849	34.848	2	2.018	1.530	27.920	255.6	2	255.0	2	81.2	0.00	2	22.08	2	1.56	2	54.60	2	9		9		9		9				9		9		9		9				9		9
2	2	5799.6	34.842	34.842	2	2.043	1.486	27.922	253.1	2	252.9	2	83.7	0.00	2	22.67	2	1.59	2	57.30	2	9		9		9		9				9		9		9		9				9		9
1	2	6392.4	34.842	34.842	2	2.122	1.480	27.927	253.9	2	253.3	2	83.3	0.00	6	22.67	6	1.60	6	57.90	6	9		9		9		9		796.0	362.4	2	2202.2	2	7.6967	2		9	2339		9		9

* WOCE water sample quality flag (F) for parameter for the previous column
** WOCE quality flag (F) for "Niskin" sample bottle
*** PSS-78 scale
**** ITS0 scale

A5R
NOAA Ship Ronald H. Brown

STATION 74 DATE 2/11/1998 LATITUDE 24.500° N
LONGITUDE 58.134° W

Bottle Number	F**	Pressure db	CTD Salinity***	Bottle Salinity***	F*	Temp**** °C	Theta °C	Sigma Theta	CTD O2 µmol/kg	F*	Bottle O2 µmol/kg	F*	AOU	NO2 µmol/kg	F*	NO3 µmol/kg	F*	PO4 µmol/kg	F*	Si(OH)4 µmol/kg	F*	CFC-11 pmol/kg	F*	CFC-12 pmol/kg	F*	CFC-113 pmol/kg	F*	CCl4 pmol/kg	F*	fCO2 at 20 °C µatm	fCO2 INSITU µatm	F*	DIC µmol/kg	F*	pH	F*	Measured TA µmol/kg	F*	Calculated TA µmol/kg	TOC µmol/kg	F*	TON µmol/kg	F*
36	2	6.9	36.812	36.812	2	24.612	24.611	24.833	211.3	2	212.4	2	-7.2	0.00	2	0.00	2	0.01	2	0.80	2	1.85	2	1.07	2	0.16	2		9	265.5	318.4	2	2033.7	6	8.1146	2	2405	2	2408	73.5	2	4.2	2
35	2	40.9	36.834	36.834	2	24.474	24.465	24.895	210.8	2	212.4	2	-6.7	0.00	2	0.00	2	0.01	2	0.80	2	1.84	2	1.06	2	0.15	2		9	267.4	319.0	2	2034.6	2	8.1094	2	2402	2	2405	73.2	2	4.3	2
34	2	90.8	36.941	36.953	2	24.181	24.162	25.071	215.1	2	216.0	2	0.4	0.00	2	0.00	2	0.01	2	0.60	2	1.94	2	1.11	2	0.18	2		9	277.5	327.3	2	2049.2	2	8.1012	2	2413	2	2417	70.8	2	4.2	2
33	2	139.8	37.074	37.065	2	21.834	21.806	25.859	197.5	2	200.9	2	14.1	0.03	2	0.49	2	0.02	2	0.50	2	2.14	2	1.22	2	0.13	2		9	304.3	327.4	3	2096.2	2	8.0369	2	2418	2	2423	55.9	2	4.2	2
32	2	190.4	36.740	36.740	2	19.496	19.461	26.242	197.7	2	201.0	2	23.7	0.01	2	1.27	2	0.04	2	0.70	2	2.29	6	1.28	6	0.08	6		9	369.3	361.8	2	2098.0	2	8.0047	2	2399	2	2400	53.1	2	4.6	2
31	2	211.5	36.671	36.671	2	19.012	18.974	26.316	197.4	2	201.0	2	25.9	0.01	2	1.95	2	0.07	2	0.80	2	2.32	2	1.30	2	0.05	2		9	353.2	339.4	3	2099.3	2	7.9987	2	2393	2	2397	51.1	2	5.3	2
30	2	240.4	36.602	36.604	2	18.556	18.513	26.383	200.1	2	203.9	2	25.0	0.00	2	2.83	2	0.12	2	1.00	2	2.35	2	1.31	2	0.06	2		9	353.4	333.3	3	2096.7	2	7.9953	2	2389	2	2392	49.9	2	6.8	2
29	2	265.1	36.563	36.565	2	18.300	18.253	26.419	203.6	2	206.6	2	23.5	0.00	2	3.32	2	0.15	2	1.10	2	2.37	2	1.32	2	0.04	2		9			9	2096.0	2	7.9930	2	2386	2	2389	48.0	2		9
28	2	288.5	36.542	36.542	2	18.146	18.096	26.444	204.5	2	206.7	2	24.1	0.00	2	3.71	2	0.17	2	1.20	2	2.34	2	1.30	2	0.03	2		9	384.3	356.6	2	2093.2	2	7.9918	2	2385	2	2385		9		9
27	2	355.6	36.477	36.476	2	17.720	17.659	26.505	201.1	2	201.3	2	31.5	0.00	2	4.88	2	0.25	2	1.60	2	2.28	2	1.24	2	0.03	2		9			9	2103.3	2	7.9709	2	2381	2	2383	47.4	2	7.9	2
26	2	416.1	36.316	36.317	2	16.717	16.648	26.626	192.4	2	191.4	2	46.2	0.00	2	7.32	2	0.40	2	2.30	2	2.19	2	1.17	2	0.03	2		9	438.5	384.0	2	2118.2	2	7.9330	2	2374	2	2375		9		9
25	2	475.7	36.130	36.134	2	15.582	15.507	26.748	187.4	2	184.7	2	58.5	0.00	2	9.66	2	0.55	2	3.20	2	2.09	2	1.11	2	0.03	2		9			9	2128.1	2	7.8946	2	2363	2	2362	45.4	2		9
24	2	551.0	35.935	35.952	2	14.309	14.227	26.880	178.2	2	177.6	2	72.2	0.00	2	12.10	2	0.71	2	4.30	2	1.89	2	0.99	2	0.02	2		9	534.2	423.3	2	2137.4	2	7.8592	2	2353	2	2352		9		9
23	2	640.0	35.710	35.711	2	12.841	12.752	27.011	170.6	2	169.1	2	88.8	0.00	2	15.62	2	0.93	2	6.30	2	1.39	2	0.72	2	0.02	2		9	603.4	449.8	2	2152.0	2	7.8078	2		5	2339	43.6	2		9
22	2	750.5	35.383	35.387	2	10.547	10.454	27.189	150.2	2	149.5	2	121.8	0.00	2	21.68	2	1.36	2	11.20	2	0.62	2	0.33	2	0.01	2		9	744.8	504.6	2	2175.8	2	7.7247	2		5	2325		9		9
21	2	799.6	35.318	35.319	2	9.922	9.826	27.247	153.4	2	151.2	2	124.0	0.00	2	22.56	2	1.43	2	12.50	2		9		9		9		9	765.0	504.5	2	2180.4	2	7.7125	2	2329	2	2324	42.5	2	24.5	2
20	2	850.2	35.271	35.262	2	9.326	9.228	27.310	152.5	2	154.2	2	124.8	0.00	2	23.15	2	1.48	2	13.80	2	0.39	2	0.21	2	0.01	2		9	792.9	509.8	2	2182.5	2	7.7006	2	2325	2	2321		9		9
19	2	924.6	35.130	35.126	2	7.958	7.860	27.412	155.2	2	155.9	2	132.0	0.00	2	25.00	2	1.63	2	16.60	2	0.22	2	0.12	2	0.01	2		9	846.6	513.1	2	2189.7	2	7.6708	2	2323	2	2315	41.7	2		9
18	2	1001.0	35.065	35.066	2	6.961	6.862	27.503	166.0	2	167.3	2	127.4	0.00	2	25.10	2	1.66	2	17.80	2	0.17	2	0.09	2	0.01	2		9	865.8	502.1	2	2188.8	6	7.6667	2		5	2313		9		9
17	2	1199.5	35.076	35.076	2	5.801	5.691	27.666	208.1	2	206.7	6	96.2	0.00	2	21.68	2	1.45	2	16.10	2	0.21	2	0.11	2	0.01	2		9	793.5	434.9	2	2178.4	2	7.6997	2		9	2315	41.5	2	23.6	2
16	2	1399.1	35.066	35.066	2	4.963	4.842	27.760	241.0	2	240.3	2	68.8	0.00	2	19.05	2	1.27	2	14.00	2	0.36	6	0.18	6	0.01	6		9	739.6	388.9	2	2167.6	2	7.7263	2		9	2315		9		9
15	2	1599.2	35.054	35.055	2	4.489	4.354	27.806	251.6	2	251.4	2	61.4	0.00	2	18.56	2	1.24	2	14.70	2	0.22	2	0.12	2	0.01	2		9	717.0	368.2	2	2165.2	2	7.7338	2		9	2316	41.9	2		9
14	2	1802.7	35.047	35.047	2	4.167	4.016	27.837	253.4	2	253.4	2	62.0	0.00	2	18.66	2	1.25	2	17.20	2	0.10	2	0.06	2	0.01	2		9	720.7	364.4	2	2164.7	2	7.7382	2		9	2317		9		9
13	2	1998.3	35.019	35.019	2	3.745	3.581	27.860	254.3	2	255.4	2	63.5	0.00	2	18.95	2	1.28	2	20.80	2	0.02	2	0.02	2	0.01	2		9	716.5	354.6	2	2169.8	2	7.7375	2		9	2322	45.1	3		9
12	2	2248.0	34.990	34.991	2	3.411	3.228	27.873	256.1	2	257.1	2	64.6	0.00	2	19.24	2	1.30	2	23.70	2	0.01	2	0.01	2	0.00	2		9	721.8	351.4	2	2170.1	2	7.7382	2		9	2323		9		9
11	2	2500.2	34.966	34.966	2	3.128	2.926	27.883	257.0	2	257.9	2	66.3	0.00	2	19.54	2	1.33	2	27.00	2	0.01	2	0.01	2	0.00	2		9	718.9	344.9	2	2174.3	2	7.7377	2	2332	2	2327	41.0	2	21.4	2
10	2	2761.2	34.949	34.950	2	2.932	2.707	27.890	257.2	2	258.2	2	67.8	0.00	2	19.73	2	1.35	2	29.70	2	0.00	2	0.00	2	0.00	2		9	726.4	345.1	2	2176.0	2	7.7364	2		9	2328		9		9
9	2	3000.3	34.938	34.937	2	2.800	2.553	27.897	259.2	2	259.7	2	67.6	0.00	2	19.73	2	1.36	2	31.60	2	0.01	2	0.00	2	0.01	2		9	714.2	336.7	2	2176.8	2	7.7345	2		9	2328	41.2	2		9
8	2	3300.1	34.922	34.922	2	2.614	2.340	27.904	260.2	2	261.5	2	67.6	0.00	2	19.93	2	1.37	2	34.30	2	0.01	2	0.00	2	0.00	2	0.13	2	725.5	339.0	2	2179.1	2	7.7363	2		9	2331		9		9
7	2	3599.6	34.910	34.911	2	2.485	2.182	27.909	261.3	2	263.6	2	66.9	0.00	2	19.73	2	1.36	2	34.80	2	0.03	2	0.01	2	0.00	2		9	728.4	338.3	2	2176.2	2	7.7336	2		5	2327	41.1	2		9
6	2	3900.0	34.899	34.899	2	2.365	2.032	27.914	264.0	2	264.3	2	67.5	0.00	2	19.83	2	1.37	2	37.00	2	0.02	2	0.02	2	0.00	2	0.20	2	730.5	337.1	6	2177.2	2	7.7334	2		9	2328		9		9
5	2	4201.7	34.891	34.892	2	2.294	1.928	27.918	264.1	2	265.1	2	67.6	0.00	2	19.83	2	1.37	2	37.90	2	0.03	6	0.02	6	0.01	6	0.24	2			9	2179.5	2	7.7313	2		5	2330	42.9	2		9
4	2	4500.0	34.887	34.887	2	2.248	1.848	27.922	266.5	2	266.1	2	67.3	0.00	2	19.73	2	1.37	2	38.50	2	0.06	2	0.04	2	0.00	2	0.33	6			9	2180.2	2	7.7306	2		9	2330		9		9
3	2	4898.5	34.868	34.868	2	2.130	1.686	27.922	260.8	2	261.1	2	73.7	0.00	2	21.00	2	1.46	2	46.70	2	0.04	2	0.02	2	0.01	2	0.25	2	764.6	348.6	2	2188.0	2	7.7212	2		5	2334	41.3	2		9
2	2	5401.7	34.845	34.845	2	2.006	1.502	27.920	252.9	2	254.3	2	82.1	0.00	2	22.57	2	1.58	2	57.00	2	0.02	2	0.02	2	0.01	2	0.19	2	790.7	357.9	2	2202.1	2	7.7070	2		9	2343		9		9
1	2	5931.6	34.841	34.842	2	2.056	1.480	27.922	252.1	2	253.6	2	83.0	0.00	6	22.76	6	1.60	6	58.10	6	0.03	2	0.02	2	0.00	2	0.21	2	794.3	360.4	2	2204.2	2	7.7043	2		5	2344	41.0	2	24.6	2

* WOCE water sample quality flag (F) for parameter for the previous column
** WOCE quality flag (F) for "Niskin" sample bottle
*** PSS-78 scale
**** ITS0 scale

A5R
NOAA Ship Ronald H. Brown

STATION 75 DATE 2/12/1998 LATITUDE 24.500° N
LONGITUDE 58.867° W

Bottle Number	F**	Pressure db	CTD Salinity***	Bottle Salinity***	F*	Temp**** °C	Theta °C	Sigma Theta	CTD O2 µmol/kg	F*	Bottle O2 µmol/kg	F*	AOU	NO2 µmol/kg	F*	NO3 µmol/kg	F*	PO4 µmol/kg	F*	Si(OH)4 µmol/kg	F*	CFC-11 pmol/kg	F*	CFC-12 pmol/kg	F*	CFC-113 pmol/kg	F*	CCl4 pmol/kg	F*	fCO2 at 20 °C µatm	fCO2 INSITU µatm	F*	DIC µmol/kg	F*	pH	F*	Measured TA µmol/kg	F*	Calculated TA µmol/kg	TOC µmol/kg	F*	TON µmol/kg	F*
36	2	5.3	36.855	36.855	2	23.745	23.744	25.125	213.7	2	215.8	2	-7.6	0.00	2	0.39	2	0.01	2	0.70	2	9		9		9		9		276.1	320.3	6	2041.7	6	8.1043	2	2407	2	2410		9		9
35	2	48.0	36.853	36.854	2	23.758	23.748	25.125	214.2	2	213.7	6	-5.5	0.00	2	0.39	2	0.02	2	0.70	2	9		9		9		9					9		9		9		9			9		9
34	3	103.1	36.993	36.999	2	22.638	22.617	25.565	215.5	2	219.1	2	-7.0	0.00	2	0.39	2	0.02	2	0.50	2	9		9		9		9		307.6	341.5	2	2070.0	2	8.0692	2	2412	2	2417		9		9
33	2	150.0	36.854	36.855	2	20.377	20.349	26.092	195.6	2	198.7	2	22.3	0.02	2	1.07	2	0.03	2	0.50	2	9		9		9		9		360.4	365.7	2	2098.4	2	8.0130	2	2406	2	2407		9		9
32	2	198.3	36.716	36.716	2	19.209	19.173	26.299	191.8	2	194.1	2	31.9	0.01	2	2.44	2	0.07	2	0.90	2	9		9		9		9					9		9		9		9			9		9
31	2	226.3	36.647	36.643	2	18.780	18.740	26.359	195.0	2	196.6	2	31.3	0.01	2	3.22	2	0.10	2	1.00	2	9		9		9		9		388.6	370.0	2	2103.9	2	7.9867	2	2391	2	2394		9		9
30	2	250.7	36.595	36.597	2	18.469	18.425	26.400	198.2	2	199.5	2	29.8	0.00	2	3.61	2	0.13	2	1.10	2	9		9		9		9					9		9		9		9			9		9
29	2	274.5	36.556	36.556	2	18.219	18.171	26.435	200.5	2	201.2	2	29.3	0.00	2	4.20	2	0.16	2	1.30	2	9		9		9		9		388.2	361.2	2	2101.6	2	7.9823	2	2390	2	2388		9		9
28	2	300.1	36.527	36.524	2	18.032	17.980	26.462	202.1	2	201.9	2	29.4	0.00	2	4.59	2	0.19	2	1.30	2	9		9		9		9					9		9		9		9			9		9
27	2	347.3	36.457	36.466	2	17.608	17.548	26.516	198.5	2	195.8	2	37.5	0.00	2	5.76	2	0.25	2	1.60	2	9		9		9		9		415.1	376.7	2	2109.8	2	7.9623	2	2381	2	2384		9		9
26	2	395.9	36.338	36.339	2	16.885	16.819	26.602	192.7	2	190.7	2	46.1	0.00	2	7.42	2	0.35	2	2.00	2	9		9		9		9					9		9		9		9			9		9
25	2	448.7	36.185	36.203	2	15.949	15.877	26.705	188.7	2	187.0	2	54.4	0.00	2	9.08	2	0.46	2	2.70	2	9		9		9		9		467.3	395.5	2	2125.4	2	7.9113	2	2367	2	2369		9		9
24	2	499.4	36.053	36.050	2	15.129	15.052	26.791	183.1	2	181.8	2	63.8	0.00	2	10.93	2	0.59	2	3.50	2	9		9		9		9					9		9		9		9			9		9
23	3	599.4	35.749	35.751	2	13.107	13.022	26.986	171.8	2	170.8	2	85.6	0.00	2	15.23	2	0.86	2	5.80	2	9		9		9		9					9		9		9		9			9		9
22	2	697.5	35.476	35.479	2	11.165	11.076	27.149	161.1	2	158.9	2	108.7	0.00	2	19.92	2	1.18	2	9.30	2	9		9		9		9		684.0	474.6	2	2168.3	2	7.7532	2	2332	2	2330		9		9
21	2	794.1	35.328	35.336	2	9.823	9.729	27.271	155.6	2	155.9	2	119.9	0.00	2	22.46	2	1.36	2	11.80	2	9		9		9		9					9		2178.8	2	9		9			9		9
20	2	847.3	35.205	35.204	2	8.722	8.628	27.353	153.6	2	152.2	2	130.6	0.00	2	24.81	2	1.54	2	14.60	2	9		9		9		9		815.0	510.0	2	2187.7	2		9	2317	2			9		9
19	2	901.0	35.111	35.115	2	7.771	7.677	27.423	155.7	2	155.9	2	133.2	0.00	2	25.78	2	1.63	2	16.50	2	9		9		9		9					9		9		9		9			9		9
18	2	1049.2	35.055	35.058	2	6.503	6.402	27.557	178.0	2	178.2	2	119.7	0.00	2	24.81	2	1.58	2	17.40	2	9		9		9		9		855.4	485.0	2	2189.7	6	7.6720	2	2321	2	2316		9		9
17	2	1249.1	35.073	35.072	2	5.448	5.336	27.707	221.9	2	221.1	2	84.4	0.00	2	20.80	2	1.34	2	14.70	2	9		9		9		9					9		9		9		9			9		9
16	2	1449.5	35.078	35.077	2	4.925	4.799	27.775	243.1	2	241.0	2	68.4	0.00	2	18.85	2	1.24	2	14.00	2	9		9		9		9		730.0	381.9	2	2167.0	2	7.7263	2	2319	2	2315		9		9
15	2	1652.9	35.054	35.054	2	4.402	4.262	27.816	252.2	2	252.3	2	61.2	0.00	2	18.17	2	1.21	2	14.80	2	9		9		9		9					9		9		9		9			9		9
14	2	1848.6	35.039	35.039	2	4.056	3.902	27.843	253.1	2	254.3	2	62.0	0.00	2	18.17	2	1.23	2	17.30	2	9		9		9		9					9		9		9		9			9		9
13	2	1999.5	35.021	35.020	2	3.768	3.604	27.860	254.2	2	255.3	2	63.4	0.00	2	18.17	2	1.26	2	20.00	2	9		9		9		9		720.8	356.1	2	2167.5	2	7.7346	2	2323	2	2319		9		9
12	2	2187.6	34.998	34.999	2	3.491	3.313	27.871	254.0	2	254.9	2	66.1	0.00	2	18.26	2	1.28	2	23.40	2	9		9		9		9					9		9		9		9			9		9
11	2	2390.7	34.978	34.978	2	3.246	3.052	27.880	254.8	2	256.1	2	67.1	0.00	2	18.56	2	1.30	2	26.20	2	9		9		9		9					9		9		9		9			9		9
10	2	2601.1	34.961	34.961	2	3.049	2.838	27.887	255.5	2	258.1	2	66.8	0.00	2	18.75	2	1.32	2	28.90	2	9		9		9		9					9		9		9		9			9		9
9	2	2948.4	34.939	34.940	2	2.816	2.575	27.895	256.4	2	257.9	2	69.2	0.00	2	18.85	2	1.34	2	32.00	2	9		9		9		9		730.6	344.2	2	2178.8	2	7.7344	2	2333	2	2330		9		9
8	2	3249.2	34.925	34.924	2	2.639	2.370	27.903	261.4	2	261.8	2	67.1	0.00	2	18.56	2	1.32	2	32.20	2	9		9		9		9					9		9		9		9			9		9
7	2	3650.4	34.907	34.906	2	2.438	2.131	27.910	262.0	2	261.9	2	69.0	0.00	2	18.85	2	1.36	2	36.30	2	9		9		9		9					9		9		9		9			9		9
6	2	4051.0	34.899	34.899	2	2.329	1.980	27.918	267.6	2	268.2	2	64.0	0.00	2	18.36	2	1.30	2	33.20	2	9		9		9		9					9	2174.8	2	7.7352	2	2330	2	2326		9		9
5	2	4400.9	34.891	34.891	2	2.281	1.892	27.922	267.7	2	267.6	2	65.4	0.00	2	18.75	2	1.34	2	35.80	2	9		9		9		9		727.6	333.2	2	2176.7	2		9		9			9		9
4	2	4750.2	34.882	34.882	2	2.232	1.803	27.924	265.4	2	264.8	2	68.9	0.00	2	19.44	2	1.39	2	40.30	2	9		9		9		9					9	2182.4	2	7.7272	2	2335	2	2331		9		9
3	2	5001.3	34.865	34.866	2	2.131	1.674	27.922	260.4	2	260.5	2	74.4	0.00	2	20.71	2	1.46	2	47.20	2	9		9		9		9					9		9		9		9			9		9
2	2	5499.6	34.845	34.846	2	2.024	1.507	27.920	253.9	2	254.5	2	81.9	0.00	2	22.08	2	1.57	2	56.60	2	9		9		9		9					9		9		9		9			9		9
1	2	6014.3	34.841	34.843	2	2.069	1.482	27.924	252.2	2	253.6	2	83.0	0.00	6	22.27	6	1.58	6	57.80	6	9		9		9		9		795.2	361.0	2	2203.1	2	7.7027	2	2348	2	2342		9		9

* WOCE water sample quality flag (F) for parameter for the previous column
** WOCE quality flag (F) for "Niskin" sample bottle
*** PSS-78 scale
**** ITS0 scale

A5R
NOAA Ship Ronald H. Brown

STATION 76 DATE 2/12/1998 LATITUDE 24.500° N
LONGITUDE 59.600° W

Bottle Number	F**	Pressure db	CTD Salinity***	Bottle Salinity***	F*	Temp**** °C	Theta °C	Sigma Theta	CTD O2 µmol/kg	F*	Bottle O2 µmol/kg	F*	AOU	NO2 µmol/kg	F*	NO3 µmol/kg	F*	PO4 µmol/kg	F*	Si(OH)4 µmol/kg	F*	CFC-11 pmol/kg	F*	CFC-12 pmol/kg	F*	CFC-113 pmol/kg	F*	CCl4 pmol/kg	F*	fCO2 at 20 °C µatm	fCO2 INSITU µatm	F*	DIC µmol/kg	F*	pH	F*	Measured TA µmol/kg	F*	Calculated TA µmol/kg	TOC µmol/kg	F*	TON µmol/kg	F*
36	2	5.5	36.830	36.833	2	24.202	24.201	24.969	212.8	2	212.5	2	-5.9	0.00	2	0.00	2	0.02	2	1.30	3	1.87	2	1.09	2	0.15	2	1.97	2	272.1	321.3	6	2038.2	6	8.1115	2	2406	2	2411	73.3	2		9
35	3	60.3	36.854	36.861	2	24.018	24.005	25.049	212.3	2	214.8	6	-7.5	0.00	2	0.00	2	0.02	2	1.20	3	1.90	2	1.10	2	0.15	2		9			9		9		9		9		72.8	2		9
34	2	120.5	37.167	37.169	2	22.311	22.287	25.792	203.1	2	209.4	2	3.7	0.07	2	0.10	2	0.03	2	1.00	3	2.11	6	1.19	6	0.41	4	1.03	2			9		9		9		9		61.3	2		9
33	3	178.9	36.785	36.787	2	19.739	19.706	26.212	194.2	2	198.4	2	25.3	0.01	2	1.27	2	0.05	2	1.10	3		1		1		1	0.69	2			9		9		9		9		51.4	2		9
32	2	199.5	36.673	36.673	2	19.093	19.057	26.296	198.1	2	200.6	2	25.9	0.01	2	1.85	2	0.07	2	1.30	3	2.30	2	1.29	2	0.06	2		9			9		9		9		9		50.1	2		9
31	2	224.3	36.633	36.637	2	18.785	18.745	26.347	200.7	2	198.7	2	29.2	0.00	2	2.63	2	0.10	2	1.50	3	2.32	2	1.30	2	0.04	2		9			9		9		9		9			9		9
30	2	251.2	36.575	36.575	2	18.390	18.346	26.404	196.8	2	203.5	2	26.2	0.00	2	3.32	2	0.14	2	1.70	3	2.33	2	1.29	2	0.03	2	0.47	2			9		9		9		9		50.6	2		9
29	2	275.6	36.551	36.553	2	18.217	18.169	26.432	202.5	2	203.6	2	26.9	0.00	2	3.71	2	0.16	2	1.80	3	2.33	2	1.28	2	0.02	2		9			9		9		9		9			9		9
28	2	302.2	36.534	36.530	2	18.088	18.035	26.453	204.0	2	204.4	2	26.7	0.00	2	4.00	2	0.18	2	2.00	3	2.32	2	1.28	2	0.04	2	0.47	2			9		9		9		9			9		9
27	2	351.1	36.486	36.486	2	17.771	17.710	26.498	202.9	2	200.4	2	32.2	0.00	2	4.88	2	0.23	2	2.30	3	2.25	2	1.23	2	0.02	2		9			9		9		9		9		50.0	2		9
26	2	397.6	36.391	36.382	2	17.224	17.157	26.562	193.6	2	192.6	2	42.6	0.00	2	6.54	2	0.33	2	2.80	3	2.15	2	1.16	2	0.03	2		9			9		9		9		9			9		9
25	2	436.5	36.287	36.277	2	16.627	16.555	26.627	189.8	2	188.3	2	49.8	0.00	2	7.90	2	0.42	2	3.30	3		1		1	0.03	2	0.44	6			9		9		9		9		47.7	2		9
24	2	499.6	36.083	36.086	2	15.387	15.309	26.757	184.3	2	182.8	2	61.5	0.00	2	10.15	2	0.56	2	4.30	3	1.99	2	1.05	2	0.02	2		9			9		9		9		9			9		9
23	2	598.8	35.743	35.753	2	13.202	13.117	26.963	171.8	2	170.1	2	85.8	0.00	2	14.84	2	0.88	2	6.90	3	1.48	2	0.77	2	0.03	2		9			9		9		9		9		43.5	2		9
22	2	700.0	35.487	35.491	2	11.140	11.051	27.163	163.2	2	161.3	2	106.4	0.00	2	19.04	2	1.17	2	10.10	3	0.88	2	0.46	2	0.01	2	0.28	2			9		9		9		9			9		9
21	2	790.6	35.301	35.304	2	9.607	9.514	27.285	154.6	2	153.9	2	123.2	0.00	2	22.46	2	1.43	2	13.50	3	0.47	2	0.25	2	0.00	2		9			9		9		9		9		41.4	2		9
20	2	849.1	35.170	35.177	2	8.604	8.511	27.344	152.4	2	149.5	2	134.1	0.00	2	24.61	2	1.60	2	16.10	3		9		9		9		9			9		9		9		9			9		9
19	2	902.0	35.029	35.026	2	7.465	7.373	27.403	145.7	2	149.1	2	142.2	0.00	2	26.76	2	1.78	2	19.40	3	0.17	2	0.10	2	0.00	2		9			9		9		9		9		41.8	2		9
18	2	1001.9	35.003	34.999	2	6.626	6.529	27.499	163.0	2	165.6	2	131.5	0.00	2	25.88	2	1.73	2	19.80	3	0.19	2	0.10	2	0.01	2	0.21	2			9		9		9		9			9		9
17	2	1089.2	35.051	35.051	2	6.358	6.255	27.573	182.1	2	182.3	2	116.6	0.00	2	24.12	2	1.60	2	16.60	2	0.16	2	0.09	2	0.00	2		9			9		9		9		9		41.1	2		9
16	2	1298.9	35.069	35.077	2	5.353	5.237	27.716	227.2	2	223.2	2	83.0	0.00	2	20.31	2	1.35	2	14.10	2	0.26	2	0.13	2	0.00	2	0.63	2			9		9		9		9			9		9
15	2	1500.8	35.063	35.062	2	4.758	4.629	27.782	246.8	2	245.5	2	65.2	0.00	2	18.75	2	1.24	2	13.20	2	0.28	2	0.15	2	0.01	2		9			9		9		9		9			9		9
14	2	1699.4	35.052	35.052	2	4.355	4.212	27.821	252.5	2	253.0	2	60.9	0.00	2	18.46	2	1.22	2	14.50	2	0.17	2	0.10	2	0.01	2	0.65	2			9		9		9		9			9		9
13	2	1897.9	35.033	35.033	2	3.969	3.812	27.848	253.4	2	255.0	2	62.0	0.00	2	18.75	2	1.24	2	17.30	2	0.03	2	0.03	2	0.00	2		9			9		9		9		9			9		9
12	2	2100.2	35.008	35.008	2	3.628	3.456	27.865	254.5	2	256.3	2	63.6	0.00	2	18.85	2	1.27	2	20.60	2	0.02	2	0.02	2	0.00	2		9			9		9		9		9			9		9
11	2	2299.2	34.987	34.987	2	3.364	3.177	27.876	256.0	2	256.9	2	65.2	0.00	2	19.34	2	1.30	2	23.50	2		9		9		9	0.27	2			9		9		9		9			9		9
10	2	2597.8	34.962	34.962	2	3.085	2.874	27.886	256.7	2	257.8	2	66.8	0.00	2	19.53	2	1.32	2	26.90	2	0.01	2	0.01	2	0.00	2		9			9		9		9		9			9		9
9	2	2898.8	34.946	34.945	2	2.890	2.652	27.894	257.2	2	258.9	2	67.6	0.00	2	19.73	2	1.34	2	29.60	2		9		9		9		9			9		9		9		9			9		9
8	2	3193.9	34.929	34.930	2	2.715	2.450	27.900	260.4	2	261.2	2	67.0	0.00	2	19.63	2	1.34	2	30.90	2	0.01	2	0.01	2	0.00	2	0.14	6			9		9		9		9			9		9
7	2	3598.0	34.910	34.910	2	2.485	2.182	27.909	262.3	2	263.3	2	67.2	0.00	2	19.63	2	1.34	2	34.10	2	0.02	2	0.02	2	0.01	2	0.16	2			9		9		9		9			9		9
6	2	3997.7	34.897	34.897	2	2.337	1.994	27.916	263.9	2	265.0	2	67.1	0.00	2	19.73	2	1.36	2	36.10	2	0.03	2	0.02	2	-0.01	2	0.22	2			9		9		9		9			9		9
5	2	4396.2	34.888	34.888	2	2.262	1.874	27.921	264.5	2	265.9	2	67.2	0.00	2	19.63	2	1.36	2	37.30	2	0.05	2	0.03	2	0.00	2	0.30	2			9		9		9		9			9		9
4	2	4597.3	34.883	34.883	2	2.228	1.817	27.922	264.7	2	264.5	2	69.1	0.00	2	20.02	2	1.38	2	39.40	2	0.05	2	0.03	2	0.00	2	0.29	6			9		9		9		9			9		9
3	2	5093.3	34.854	34.854	2	2.043	1.577	27.919	254.7	2	257.2	2	78.6	0.00	2	21.88	2	1.52	2	52.00	2	0.58	4	0.02	2	0.00	2	0.22	2			9		9		9		9			9		9
2	2	5595.7	34.842	34.843	2	2.018	1.489	27.920	251.4	2	253.7	2	82.8	0.00	2	22.66	2	1.58	2	57.00	2	0.03	2	0.03	2	0.01	6	0.18	2			9		9		9		9			9		9
1	2	5912.1	34.842	34.843	2	2.057	1.484	27.923	253.6	2	253.9	2	82.7	0.00	6	22.76	6	1.59	6	57.40	6	0.03	2	0.02	2	0.00	2	0.20	2			9		9		9		9			9		9

* WOCE water sample quality flag (F) for parameter for the previous column
** WOCE quality flag (F) for "Niskin" sample bottle
*** PSS-78 scale
**** ITS0 scale

A5R
NOAA Ship Ronald H. Brown

STATION 77 DATE 2/12/1998 LATITUDE 24.500° N
LONGITUDE 60.332° W

Bottle Number	F**	Pressure db	CTD Salinity***	Bottle Salinity***	F*	Temp**** °C	Theta °C	Sigma Theta	CTD O2 µmol/kg	F*	Bottle O2 µmol/kg	F*	AOU	NO2 µmol/kg	F*	NO3 µmol/kg	F*	PO4 µmol/kg	F*	Si(OH)4 µmol/kg	F*	CFC-11 pmol/kg	F*	CFC-12 pmol/kg	F*	CFC-113 pmol/kg	F*	CCl4 pmol/kg	F*	fCO2 at 20 °C µatm	fCO2 INSITU µatm	F*	DIC µmol/kg	F*	pH	F*	Measured TA µmol/kg	F*	Calculated TA µmol/kg	TOC µmol/kg	F*	TON µmol/kg	F*
36	2	5.0	36.806	36.806	2	23.890	23.889	25.044	217.7	2	213.6	2	-5.9	0.00	2	0.00	2	0.02	2	0.90	2		9		9		9		9	270.9	316.0	2	2037.6	6	8.1100	2	2420	2	2409		9		9
35	2	50.6	36.793	36.793	2	23.779	23.768	25.073	213.2	2	214.3	2	-6.1	0.00	2	0.00	2	0.02	2	0.90	2		9		9		9		9				9		9		9		9		9		9
34	2	99.9	36.781	36.781	2	23.188	23.167	25.244	216.2	2	216.8	2	-6.4	0.00	2	0.00	2	0.03	2	0.70	2		9		9		9		9	284.2	322.5	2	2043.6	2	8.0945	2	2408	2	2404		9		9
33	2	150.8	36.947	36.954	2	21.818	21.788	25.768	206.9	2	208.7	2	6.5	0.05	2	0.20	2	0.03	2	0.50	2		9		9		9		9				9		9		9		9		9		9
32	2	200.2	36.802	36.795	2	19.773	19.736	26.218	187.4	2	191.7	2	31.8	0.01	2	1.76	2	0.07	2	0.80	2		9		9		9		9	378.6	375.3	2	2107.1	2	7.9936	2	2406	2	2404		9		9
31	2	224.5	36.700	36.695	2	19.090	19.049	26.320	193.0	2	193.4	2	33.1	0.00	2	2.73	2	0.10	2	0.90	2		9		9		9		9				9		9		9		9		9		9
30	2	250.1	36.642	36.638	2	18.682	18.637	26.383	194.5	2	194.3	2	34.0	0.00	2	3.51	2	0.15	2	1.10	2		9		9		9		9				9		9		9		9		9		9
29	2	276.0	36.586	36.584	2	18.361	18.312	26.422	198.2	2	198.4	2	31.4	0.00	2	3.81	2	0.17	2	1.10	2		9		9		9		9	386.8	362.0	2	2103.3	2	7.9807	2	2392	2	2390		9		9
28	2	325.4	36.517	36.516	2	17.953	17.896	26.475	199.0	2	201.5	2	30.2	0.00	2	4.39	2	0.21	2	1.30	2		9		9		9		9				9		9		9		9		9		9
27	2	351.0	36.472	36.471	2	17.652	17.592	26.517	198.1	2	193.8	2	39.3	0.00	2	5.56	2	0.27	2	1.60	2		9		9		9		9	419.3	381.4	2	2111.3	2	7.9531	2	2387	2	2380		9		9
26	2	399.5	36.350	36.354	2	16.896	16.829	26.608	189.0	2	186.4	2	50.3	0.00	2	7.32	2	0.38	2	2.10	2		9		9		9		9				9		9		9		9		9		9
25	2	450.4	36.214	36.214	2	16.083	16.010	26.697	183.0	2	182.7	2	58.0	0.00	2	8.98	2	0.48	2	2.70	2		9		9		9		9				9		9		9		9		9		9
24	2	501.4	36.053	36.047	2	15.102	15.024	26.797	179.9	2	177.1	2	68.6	0.00	2	11.03	2	0.62	2	3.60	2		9		9		9		9	508.4	416.4	2	2137.4	2	7.8741	2	2363	2	2360		9		9
23	2	549.5	35.908	35.914	2	14.196	14.114	26.883	178.5	2	176.4	2	74.1	0.00	2	12.50	2	0.71	2	4.30	2		9		9		9		9				9		9		9		9		9		9
22	2	596.1	35.794	35.796	2	13.365	13.280	26.969	175.6	2	173.8	2	81.1	0.00	2	14.06	2	0.82	2	5.20	2		9		9		9		9				9		9		9		9		9		9
21	3	650.1	35.679	35.683	2	12.539	12.450	27.047	173.5	2	171.3	2	88.3	0.00	2	15.62	2	0.93	2	6.20	2		9		9		9		9				9		9		9		9		9		9
20	2	723.6	35.522	35.523	2	11.248	11.155	27.171	165.9	2	163.5	6	103.5	0.00	2	18.55	2	1.13	2	8.50	2		9		9		9		9	674.6	470.3	2	2166.8	2	7.7614	2	2336	2	2332		9		9
19	2	848.5	35.299	35.303	2	9.436	9.337	27.314	153.4	2	152.2	2	126.0	0.00	2	22.85	2	1.46	2	12.90	2		9		9		9		9	791.7	511.2	2	2184.7	2	7.7014	2	2330	2	2324		9		9
18	2	920.5	35.150	35.154	2	8.194	8.095	27.392	150.3	2	148.9	2	137.4	0.00	2	25.30	2	1.65	2	15.90	2		9		9		9		9	858.0	525.8	2	2194.1	2	7.6695	2		9	2320		9		9
17	2	1000.0	35.028	35.029	2	6.995	6.896	27.469	157.4	2	156.9	2	137.7	0.00	2	26.28	2	1.75	2	18.50	2		9		9		9		9	904.3	526.2	2	2195.9	6	7.6493	2		5	2313		9		9
16	2	1199.2	35.053	35.053	2	5.801	5.691	27.647	211.4	2	207.2	2	95.7	0.00	2	21.59	2	1.44	2	15.30	2		9		9		9		9	796.2	436.5	2	2180.6	2	7.6952	2	2323	2	2316		9		9
15	2	1401.1	35.059	35.059	2	4.952	4.831	27.756	241.8	2	241.3	2	67.9	0.00	2	18.85	2	1.25	2	13.20	2		9		9		9		9				9		9		9		9		9		9
14	2	1600.7	35.048	35.047	2	4.480	4.345	27.802	252.5	2	251.6	2	61.3	0.00	2	18.46	2	1.23	2	14.00	2		9		9		9		9	715.2	367.1	2	2162.2	2	7.7348	2		9	2313		9		9
13	2	1800.3	35.044	35.043	2	4.156	4.005	27.836	254.5	2	254.2	2	61.3	0.00	2	18.66	2	1.23	2	16.30	2		9		9		9		9				9		9		9		9		9		9
12	2	2000.9	35.020	35.020	2	3.805	3.640	27.856	256.5	2	256.1	2	62.3	0.00	2	18.76	2	1.26	2	19.10	2		9		9		9		9				9		9	7.7389	2		9		9		9
11	2	2297.1	34.986	34.985	2	3.348	3.162	27.876	257.0	2	257.1	2	65.2	0.00	2	19.24	2	1.30	2	24.10	2		9		9		9		9				9		9		9		9		9		9
10	2	2500.5	34.967	34.969	2	3.148	2.945	27.882	257.7	2	258.1	2	65.9	0.00	2	19.44	2	1.31	2	26.20	2	0.01	2	0.01	2	0.00	2	9		720.7	346.2	2	2172.0	2	7.7383	2		9	2325		9		9
9	2	2800.6	34.948	34.948	2	2.917	2.689	27.892	258.6	2	259.5	2	66.7	0.00	2	18.95	3	1.33	2	29.20	2		9		9		9		9				9		9		9		9		9		9
8	2	3101.1	34.931	34.931	2	2.715	2.460	27.899	262.9	2	261.9	2	66.2	0.00	2	19.25	2	1.33	2	30.80	2		9		9		9		9				9		9	7.7376	2		9		9		9
7	2	3500.5	34.915	34.915	2	2.528	2.235	27.908	268.0	2	266.7	2	63.3	0.00	2	18.86	2	1.31	2	30.80	2		9		9		9		9				9		9		9		9		9		9
6	2	3889.9	34.902	34.903	2	2.373	2.041	27.915	270.2	2	268.3	2	63.4	0.00	2	18.86	2	1.31	2	32.70	2		9		9		9		9	726.5	335.6	2	2172.7	2	7.7361	2		9	2324		9		9
5	2	4301.1	34.891	34.891	2	2.282	1.905	27.920	268.9	2	266.9	2	66.0	0.00	2	19.34	2	1.36	2	37.10	2	0.05	2	0.03	2	0.00	2	9				9	2177.2	2	7.7318	2		9	2327		9		9
4	2	4698.1	34.883	34.883	2	2.234	1.811	27.924	268.5	2	266.0	2	67.7	0.00	2	19.54	2	1.38	2	39.60	2		9		9		9		9	691.1	315.8	3	2180.6	2	7.7290	2		5	2330		9		9
3	2	5100.4	34.858	34.858	2	2.075	1.607	27.921	260.6	2	258.6	2	76.9	0.00	2	21.49	2	1.50	2	51.10	2		9		9		9		9				9		9		9		9		9		9
2	2	5500.1	34.844	34.845	2	2.023	1.506	27.920	255.5	2	254.7	2	81.7	0.00	2	22.37	2	1.57	2	56.40	2	0.02	2	0.02	2	0.00	2	9				9		9		9		9		9		9
1	2	5958.0	34.842	34.842	2	2.064	1.485	27.923	254.8	2	254.1	2	82.5	0.00	6	22.67	6	1.59	6	57.90	6		9		9		9		9	792.3	359.6	2	2202.3	2	7.7051	6	2352	2	2342		9		9

* WOCE water sample quality flag (F) for parameter for the previous column
** WOCE quality flag (F) for "Niskin" sample bottle
*** PSS-78 scale
**** ITS0 scale

A5R
NOAA Ship Ronald H. Brown

STATION 78 DATE 2/12/1998 LATITUDE 24.500° N
LONGITUDE 60.067° W

Bottle Number	F**	Pressure db	CTD Salinity***	Bottle Salinity***	F*	Temp**** °C	Theta °C	Sigma Theta	CTD O2 µmol/kg	F*	Bottle O2 µmol/kg	F*	AOU	NO2 µmol/kg	F*	NO3 µmol/kg	F*	PO4 µmol/kg	F*	Si(OH)4 µmol/kg	F*	CFC-11 pmol/kg	F*	CFC-12 pmol/kg	F*	CFC-113 pmol/kg	F*	CCl4 pmol/kg	F*	fCO2 at 20 °C µatm	fCO2 INSITU µatm	F*	DIC µmol/kg	F*	pH	F*	Measured TA µmol/kg	F*	Calculated TA µmol/kg	TOC µmol/kg	F*	TON µmol/kg	F*
36	2	6.8	36.819	36.818	2	24.413	24.412	24.898	214.0	2	212.7	2	-6.8	0.00	2	0.00	2	0.00	2	1.00	2	1.86	2	1.08	2	0.16	2		9	269.0	320.2	2	2035.3	6	8.1146	2	2404	2	2410	74.5	2		9
35	2	46.5	36.821	36.821	2	24.415	24.405	24.904	211.6	2	212.6	2	-6.7	0.00	2	0.00	2	0.01	2	0.90	2	1.86	2	1.08	2	0.15	2		9	267.3	318.2	3	2035.6	2	8.1167	2		5	2412	74.0	2		9
34	2	94.9	37.181	37.186	2	23.433	23.413	25.475	221.9	2	218.6	2	0.7	0.00	2	0.00	2	0.01	2	0.60	2	2.05	2	1.16	2	0.21	2		9	299.6	343.1	2	2073.9	2	8.0786	2		5	2430	67.0	2		9
33	2	130.9	37.176	37.173	2	22.238	22.212	25.821	211.7	2	213.8	2	-0.5	0.08	2	0.00	2	0.02	2	0.50	2	2.14	2	1.22	2	0.16	2		9	318.0	347.6	3	2083.6	2	8.0575	2	2425	2	2425	62.9	2		9
32	2	172.3	36.943	36.936	2	20.669	20.636	26.084	201.5	2	203.9	2	15.8	0.02	2	0.59	2	0.03	2	0.60	2	2.24	2	1.27	2	0.14	2		9	351.2	360.7	2	2095.4	2	8.0270	2	2411	2	2414	56.6	2		9
31	2	205.5	36.768	36.766	2	19.636	19.598	26.229	200.5	2	202.5	2	21.6	0.01	2	1.17	2	0.04	2	0.80	2	2.28	2	1.29	2	0.09	2		9	370.8	365.5	2	2097.0	2	8.0088	2	2397	2	2402	54.1	2		9
30	2	235.8	36.657	36.657	2	18.904	18.862	26.336	199.9	2	201.5	2	25.9	0.01	2	2.24	2	0.08	2	0.90	2	2.34	2	1.32	2	0.05	2		9	374.0	357.8	2	2098.7	2	7.9967	2	2392	2	2395	50.9	2		9
29	2	261.3	36.592	36.593	2	18.485	18.439	26.395	202.3	2	204.5	2	24.7	0.00	2	2.93	2	0.12	2	1.00	2	2.36	2	1.31	2	0.04	2		9	375.1	352.9	3	2097.4	2	7.9932	2	2387	2	2391	49.7	2		9
28	2	284.9	36.556	36.555	2	18.255	18.205	26.427	204.4	2	206.7	2	23.6	0.00	2	3.41	2	0.15	2	1.10	2	2.35	2	1.32	2	0.04	2		9	379.3	353.5	2	2096.8	2	7.9970	2	2386	2	2393		9		9
27	2	346.6	36.515	36.515	2	17.951	17.891	26.476	207.2	2	207.6	2	24.1	0.00	2	3.90	2	0.19	2	1.30	2	2.34	6	1.29	6	0.04	6		9	386.0	355.3	3	2096.6	2	7.9885	2	2382	2	2387	50.9	2		9
26	2	395.6	36.439	36.435	2	17.482	17.414	26.537	202.5	2	197.7	6	36.3	0.00	2	5.56	2	0.29	2	1.80	2	2.25	2	1.23	2	0.03	2		9	413.1	373.1	2	2108.0	2	7.9625	2	2378	2	2382		9		9
25	2	456.1	36.279	36.279	2	16.493	16.418	26.653	193.2	2	190.5	2	48.2	0.00	2	7.61	2	0.42	2	2.30	2	2.18	2	1.18	2	0.03	2		9	449.5	389.9	2	2120.3	2	7.9261	2	2369	2	2372	44.3	2		9
24	2	503.7	36.139	36.138	2	15.641	15.561	26.744	188.0	2	184.7	2	58.3	0.00	2	9.47	2	0.54	2	3.10	2	2.09	2	1.11	2	0.02	2		9	483.6	404.8	2	2129.1	2	7.8951	2	2364	2	2363		9		9
23	2	606.1	35.848	35.848	2	13.799	13.710	26.923	168.3	2	168.7	2	83.9	0.00	2	13.86	2	0.84	2	5.20	2	1.60	2	0.83	2	0.02	2		9	567.0	439.6	2	2147.7	2	7.8322	2	2347	2	2348	43.9	2		9
22	2	707.1	35.549	35.547	2	11.744	11.651	27.100	158.9	2	158.7	2	105.5	0.00	2	18.36	2	1.14	2	8.60	2	0.96	2	0.50	2	0.01	2		9	673.8	479.9	2	2164.4	2	7.7683	2		5	2333		9		9
21	2	801.0	35.349	35.349	2	10.120	10.023	27.237	152.2	2	152.3	2	121.7	0.00	2	21.78	2	1.39	2	11.80	2	0.54	2	0.29	2	0.01	2		9	764.0	508.2	2	2178.9	2	7.7186	2	2327	2	2325	42.4	2		9
20	2	902.8	35.124	35.123	2	8.315	8.217	27.354	145.4	2	145.7	2	139.9	0.00	2	25.59	2	1.68	2	16.40	2	0.23	2	0.12	2	0.01	2		9	881.2	543.5	2	2193.9	2	7.6637	2	2320	2	2317		9		9
19	2	1004.3	35.046	35.047	2	7.221	7.120	27.453	158.3	2	155.0	2	138.0	0.00	2	26.18	2	1.74	2	18.40	2	0.14	2	0.08	2	0.01	2		9	894.0	525.1	2	2197.1	2	7.6522	2	2318	2	2315	41.6	2		9
18	2	1250.2	35.050	35.050	2	5.684	5.570	27.661	208.9	2	206.8	2	97.0	0.00	2	21.78	2	1.47	2	16.20	2	0.22	2	0.12	2	0.00	2		9	802.0	437.4	2	2181.4	6	7.6960	2	2318	2	2317		9		9
17	2	1450.3	35.058	35.058	2	4.995	4.868	27.751	240.6	2	239.7	2	69.2	0.00	2	18.85	2	1.27	2	13.50	2	0.46	2	0.24	2	0.01	2		9	747.5	393.9	2	2169.7	2	7.7241	2	2316	2	2316	41.9	2		9
16	2	1647.0	35.049	35.050	2	4.513	4.373	27.801	252.0	2	250.8	2	61.9	0.00	2	18.36	2	1.24	2	14.10	2	0.22	6	0.12	6	0.01	6		9	727.8	374.5	2	2165.9	2	7.7358	2	2317	2	2317		9		9
15	2	1849.9	35.037	35.037	2	4.155	4.000	27.832	255.3	2	255.2	2	60.3	0.00	2	18.36	2	1.24	2	15.90	2	0.10	2	0.06	2	0.01	2		9	715.5	361.5	2	2165.4	2	7.7429	2	2318	2	2320	41.5	2		9
14	2	2050.5	35.022	35.023	2	3.796	3.626	27.859	254.7	2	255.1	2	63.4	0.00	2	18.75	2	1.28	2	19.80	2	0.04	2	0.03	2	0.01	2		9			9	2169.4	2	7.7404	2	2323	2	2323		9		9
13	2	2250.0	34.993	34.994	2	3.439	3.256	27.873	256.3	2	256.7	2	64.8	0.00	2	19.05	2	1.30	2	23.10	2	0.02	2	0.01	2	0.00	2		9	722.5	352.3	2	2171.8	2	7.7391	2	2322	2	2325	41.8	2		9
12	2	2452.0	34.975	34.976	2	3.240	3.040	27.880	256.4	2	257.3	2	66.0	0.00	2	19.14	2	1.32	2	25.70	2	0.01	2	0.01	2	0.01	2		9			9	2174.6	2	7.7387	2		9	2328		9		9
11	2	2600.2	34.965	34.965	2	3.105	2.893	27.886	255.2	2	257.2	2	67.3	0.00	2	19.34	2	1.33	2	27.70	2	0.01	2	0.01	2	0.00	2		9	717.5	343.7	2	2176.5	2	7.7379	2	2330	2	2329	41.7	2		9
10	2	2846.7	34.949	34.949	2	2.922	2.689	27.893	256.6	2	257.4	2	68.8	0.00	2	19.44	2	1.35	2	30.30	2	0.00	2	0.00	2	0.00	2		9	724.8	344.1	2	2178.5	2	7.7345	2		9	2330		9		9
9	2	3047.6	34.937	34.937	2	2.790	2.539	27.898	259.4	2	259.7	2	67.7	0.00	2	19.54	2	1.36	2	31.40	2	0.01	2	0.01	2	0.00	2	0.16	2	722.4	340.6	2	2177.6	2	7.7369	2	2332	2	2330	41.8	2		9
8	2	3350.5	34.923	34.923	2	2.621	2.342	27.904	263.7	2	263.5	2	65.6	0.00	2	19.15	2	1.33	2	31.30	2	0.04	2	0.02	2	0.00	2		9	721.5	337.4	2	2177.0	2	7.7385	2		9	2330		9		9
7	2	3644.0	34.911	34.911	2	2.469	2.162	27.911	266.2	2	266.7	2	63.9	0.00	2	18.85	2	1.32	2	31.90	2	0.07	2	0.04	2	0.01	2	0.29	2	715.2	331.8	2	2176.1	2		4	2329	2		41.7	2		9
6	2	3950.9	34.902	34.901	2	2.356	2.017	27.917	268.2	2	268.9	2	63.0	0.00	2	18.76	2	1.31	2	32.50	2	0.09	2	0.05	2	0.00	2	0.39	2	715.4	330.1	2	2176.4	2	7.7363	2		9	2328		9		9
5	2	4249.2	34.895	34.895	2	2.299	1.928	27.921	268.8	2	269.9	2	62.8	0.00	2	18.76	2	1.31	2	33.30	2	0.11	2	0.06	2	0.00	2	0.44	2	721.6	332.0	2	2176.7	2	7.7345	2	2328	2	2328	41.6	2		9
4	2	4550.3	34.890	34.890	2	2.272	1.866	27.924	268.2	2	268.3	2	64.9	0.00	2	19.05	2	1.34	2	35.50	2	0.10	2	0.06	2	0.01	2	0.46	2	721.2	331.2	2	2179.3	2	7.7334	2		9	2330		9		9
3	2	4948.7	34.873	34.874	2	2.178	1.726	27.923	262.6	2	262.6	2	71.8	0.00	2	20.42	2	1.44	2	44.30	2	0.05	2	0.03	2	0.00	2	0.26	2	746.7	341.0	2	2188.8	2	7.7280	2	2338	2	2338	41.8	2		9
2	2	5449.4	34.847	34.848	2	2.032	1.521	27.920	254.4	2	254.6	2	81.7	0.00	2	22.27	2	1.57	2	55.80	2	0.03	6	0.02	6	0.01	6	0.19	2	776.3	351.7	2	2201.3	2	7.7100	2		9	2343		9		9
1	2	5970.4	34.842	34.843	2	2.066	1.485	27.923	253.0	2	253.7	2	82.9	0.00	6	22.57	6	1.60	6	58.00	6	0.03	2	0.03	2	0.00	2	0.19	2	789.9	358.5	2	2204.6	2	7.7048	2	2346	2	2345	41.6	2		9

* WOCE water sample quality flag (F) for parameter for the previous column
** WOCE quality flag (F) for "Niskin" sample bottle
*** PSS-78 scale
**** ITS0 scale

A5R
NOAA Ship Ronald H. Brown

STATION 79 DATE 2/13/1998 LATITUDE 24.500° N
LONGITUDE 61.801° W

Bottle Number	F**	Pressure db	CTD Salinity***	Bottle Salinity***	F*	Temp**** °C	Theta °C	Sigma Theta	CTD O2 µmol/kg	F*	Bottle O2 µmol/kg	F*	AOU	NO2 µmol/kg	F*	NO3 µmol/kg	F*	PO4 µmol/kg	F*	Si(OH)4 µmol/kg	F*	CFC-11 pmol/kg	F*	CFC-12 pmol/kg	F*	CFC-113 pmol/kg	F*	CCl4 pmol/kg	F*	fCO2 at 20 °C µatm	fCO2 INSITU µatm	F*	DIC µmol/kg	F*	pH	F*	Measured TA µmol/kg	F*	Calculated TA µmol/kg	TOC µmol/kg	F*	TON µmol/kg	F*
36	2	4.9	36.801	36.803	2	24.307	24.306	24.916	215.6	2	212.4	2	-6.1	0.00	2	0.00	2	0.00	2	0.90	2	9		9		9		9		268.2	317.9	2	2035.2	6	8.1059	2	2407	2	2403		9		9
35	2	49.1	36.808	36.809	2	24.333	24.322	24.919	212.4	2	212.1	6	-5.9	0.00	2	0.00	2	0.01	2	0.90	2	9		9		9		9					9		9		9		9			9		9
34	2	124.4	37.123	37.121	2	22.193	22.168	25.793	205.3	2	205.7	2	7.9	0.04	2	0.20	2	0.01	2	0.60	2	9		9		9		9		326.4	356.1	2	2090.1	2	8.0449	2	2424	2	2423		9		9
33	2	175.9	36.909	36.900	2	20.489	20.456	26.107	201.6	2	203.7	2	16.8	0.02	2	0.59	2	0.02	2	0.50	2	9		9		9		9		350.9	358.0	2	2096.4	2	8.0219	2	2412	2	2412		9		9
32	2	197.4	36.770	36.767	2	19.656	19.620	26.224	201.6	2	203.2	2	20.8	0.01	2	1.07	2	0.04	2	0.60	2	9		9		9		9					9		9		9		9			9		9
31	2	222.6	36.658	36.655	2	18.922	18.882	26.331	201.1	2	203.8	2	23.5	0.01	2	2.05	2	0.07	2	0.80	2	9		9		9		9		370.1	354.5	2	2096.4	2	7.9995	2	2396	2	2395		9		9
30	2	248.1	36.607	36.609	2	18.593	18.549	26.378	204.1	2	204.8	2	23.9	0.01	2	2.63	2	0.10	2	0.90	2	9		9		9		9					9		9		9		9			9		9
29	2	274.3	36.557	36.555	2	18.256	18.208	26.426	208.1	2	208.4	2	21.9	0.01	2	3.32	2	0.14	2	1.10	2	9		9		9		9					9		9		9		9			9		9
28	2	298.9	36.536	36.535	2	18.115	18.063	26.448	209.7	2	210.1	2	20.9	0.01	2	3.61	2	0.16	2	1.20	2	9		9		9		9		375.2	347.7	2	2094.1	2	7.9912	2	2395	2	2386		9		9
27	3	351.5	36.515	36.513	2	17.937	17.876	26.480	212.0	2	210.2	2	21.6	0.01	2	3.80	2	0.18	2	1.30	2	9		9		9		9				9	2092.8	2		9		9			9		9
26	2	400.4	36.477	36.477	2	17.719	17.650	26.509	208.7	2	207.1	2	25.7	0.00	2	4.49	2	0.22	2	1.50	2	9		9		9		9				9		9		9		9			9		9
25	2	450.0	36.383	36.379	2	17.157	17.081	26.576	202.7	2	199.4	2	36.1	0.01	2	6.15	2	0.32	2	2.00	2	9		9		9		9		415.9	370.8	2	2108.0	2	7.9536	2	2377	2	2376		9		9
24	2	500.5	36.230	36.236	2	16.228	16.147	26.680	194.8	2	190.5	2	49.5	0.00	2	8.39	2	0.45	2	2.60	2	9		9		9		9				9		9		9		9			9		9
23	2	550.0	36.092	36.094	2	15.371	15.285	26.771	186.9	2	184.1	2	60.3	0.00	2	10.34	2	0.58	2	3.40	2	9		9		9		9				9		9		9		9			9		9
22	2	600.0	35.904	35.900	2	14.159	14.070	26.891	180.1	2	177.4	2	73.3	0.00	2	13.08	2	0.74	2	4.70	2	9		9		9		9		548.2	431.9	2	2139.5	2	7.8474	2	2358	2	2347		9		9
21	2	636.2	35.815	35.838	2	13.615	13.523	26.937	177.6	2	175.7	2	77.9	0.00	2	13.96	2	0.79	2	5.20	2	9		9		9		9				9		9		9		9			9		9
20	2	748.9	35.489	35.490	2	11.196	11.100	27.156	164.7	2	157.7	2	109.7	0.00	2	20.31	2	1.21	2	9.50	2	9		9		9		9				9		9		9		9			9		9
19	2	851.0	35.290	35.294	2	9.540	9.440	27.290	150.5	2	149.8	2	127.8	0.00	2	24.12	2	1.47	2	13.20	2	9		9		9		9		793.6	515.2	2	2182.1	2	7.7021	2		5	2321		9		9
18	2	904.3	35.187	35.185	2	8.636	8.536	27.354	146.5	2	146.9	2	136.5	0.00	2	26.17	2	1.62	2	15.70	2	9		9		9		9				9		9		9		9			9		9
17	2	998.7	35.055	35.059	2	7.310	7.209	27.447	150.9	2	152.5	2	139.9	0.00	2	27.74	2	1.74	2	18.50	2	9		9		9		9		896.5	528.6	2	2195.8	6	7.6522	2		5	2314		9		9
16	2	1099.1	35.004	35.005	2	6.473	6.368	27.522	166.5	2	166.1	2	132.1	0.00	2	27.44	2	1.74	2	19.50	2	9		9		9		9				9		9		9		9			9		9
15	2	1300.8	35.054	35.052	2	5.572	5.454	27.678	213.8	2	212.4	2	92.2	0.00	2	22.56	2	1.43	2	15.90	2	9		9		9		9		799.8	433.9	2	2176.0	2	7.6989	2	2318	2	2312		9		9
14	2	1498.4	35.060	35.061	2	4.832	4.702	27.772	242.7	2	242.0	2	68.2	0.00	2	18.17	2	1.27	2	14.40	2	9		9		9		9				9		9		9		9			9		9
13	2	1700.1	35.051	35.052	2	4.431	4.287	27.812	251.2	2	251.2	2	62.1	0.00	2	17.48	2	1.24	2	15.20	2	9		9		9		9				9		9		9		9			9		9
12	2	1898.0	35.039		2	4.100	3.941	27.840	253.3	2	254.2	2	61.8	0.00	2	17.68	2	1.25	2	17.20	2	9		9		9		9				9		9		9					9		9
11	2	2199.1	35.003	35.004	2	3.562	3.382	27.868	253.9	2	255.3	2	65.2	0.00	2	18.17	2	1.29	2	22.60	2	9		9		9		9		719.5	352.9	2	2167.5	2	7.7398	2	2332	2	2321		9		9
10	2	2500.1	34.974	34.974	2	3.201	2.997	27.883	255.2	2	256.6	2	67.0	0.00	2	18.46	2	1.32	2	26.50	2	9		9		9		9				9		9		9		9			9		9
9	2	2798.9	34.952	34.953	2	2.975	2.745	27.890	255.5	2	257.6	2	68.1	0.00	2	18.85	2	1.35	2	29.80	2	9		9		9		9				9		9		9		9			9		9
8	2	3100.8	34.934	34.934	2	2.760	2.504	27.898	259.1	2	259.9	2	67.8	0.00	2	18.95	2	1.35	2	31.80	2	9		9		9		9				9		9		9		9			9		9
7	2	3400.1	34.919	34.919	2	2.587	2.303	27.905	262.1	2	262.5	2	66.9	0.00	2	18.85	2	1.35	2	33.00	2	9		9		9		9		731.3	341.5	2	2173.4	2	7.7384	2		9	2326		9		9
6	2	3700.3	34.908	34.908	2	2.446	2.133	27.912	265.3	2	266.1	2	64.8	0.00	2	18.56	2	1.33	2	33.00	2	9		9		9		9				9		9		9		9			9		9
5	2	4043.5	34.898	34.898	2	2.336	1.987	27.918	266.4	2	267.5	2	64.6	0.00	2	18.66	2	1.34	2	34.70	2	9		9		9		9				9		9		9		9			9		9
4	2	4491.2	34.889	34.889	2	2.271	1.872	27.922	268.7	2	266.5	2	66.6	0.00	2	18.75	2	1.36	2	37.20	2	9		9		9		9				9		9		9		9			9		9
3	2	4898.7	34.874	34.874	2	2.190	1.744	27.923	262.0	2	262.6	2	71.7	0.00	2	19.83	2	1.43	2	43.70	2	9		9		9		9				9		9		9		9			9		9
2	2	5394.3	34.847	34.847	2	2.022	1.519	27.920	254.3	2	254.9	2	81.4	0.00	2	21.78	2	1.57	2	56.00	2	9		9		9		9				9		9		9		9			9		9
1	2	5890.5	34.842	34.842	2	2.055	1.485	27.923	252.0	2	254.1	2	82.5	0.01	6	22.17	6	1.59	6	57.90	6	9		9		9		9		794.9	360.8	6	2201.3	2	7.7047	2		5	2341		9		9

* WOCE water sample quality flag (F) for parameter for the previous column
** WOCE quality flag (F) for "Niskin" sample bottle
*** PSS-78 scale
**** ITS0 scale

A5R
NOAA Ship Ronald H. Brown

STATION 80 DATE 2/13/1998 LATITUDE 24.500° N
LONGITUDE 63.534° W

Bottle Number	F**	Pressure db	CTD Salinity***	Bottle Salinity***	F*	Temp**** °C	Theta °C	Sigma Theta	CTD O2 µmol/kg	F*	Bottle O2 µmol/kg	F*	AOU	NO2 µmol/kg	F*	NO3 µmol/kg	F*	PO4 µmol/kg	F*	Si(OH)4 µmol/kg	F*	CFC-11 pmol/kg	F*	CFC-12 pmol/kg	F*	CFC-113 pmol/kg	F*	CCl4 pmol/kg	F*	fCO2 at 20 °C µatm	fCO2 INSITU µatm	F*	DIC µmol/kg	F*	pH	F*	Measured TA µmol/kg	F*	Calculated TA µmol/kg	TOC µmol/kg	F*	TON µmol/kg	F*
36	3	6.3	36.636	36.648	2	24.875	24.874	24.619	206.1	2	211.5	2	-7.0		9		9		9		9	1.81	2	1.05	2	0.16	2	2.00	2	263.6	319.3	6	2023.7	6	8.1186	6	2401	6	2398	74.8	2		9
35	2	49.8	36.651	36.769	2	24.887	24.876	24.633	208.7	2	210.6	2	-6.2	0.00	2	0.10	2	0.01	2	1.10	2	1.84	2	1.07	2	0.16	2	1.80	2			9		9		9		9		74.6	2		9
34	2	70.9	37.174	37.184	2	25.070	25.054	24.975	217.0	2	219.7	2	-16.5	0.00	2	0.00	2	0.01	2	0.90	2	1.95	2	1.10	2	0.18	2		9			9		9		9		9		65.2	2		9
33	2	151.8	37.133	37.127	2	21.767	21.737	25.924	196.0	2	195.6	2	19.6	0.02	2	0.68	2	0.02	2	0.80	2	2.12	2	1.21	2	0.12	2	0.82	6			9		9		9		9		55.5	2		9
32	2	199.1	36.865	36.861	2	20.031	19.994	26.198	186.7	2	188.8	2	33.6	0.01	2	1.85	2	0.06	2	1.00	2	2.21	2	1.25	2	0.05	2		9			9		9		9		9		52.5	2		9
31	2	220.1	36.685	36.678	2	19.129	19.089	26.298	186.0	2	199.9	2	26.5	0.01	2	1.85	2	0.06	2	1.10	2	2.32	2	1.30	2	0.05	2		9			9		9		9		9		51.2	2		9
30	2	250.6	36.611	36.606	2	18.615	18.570	26.376	190.9	2	203.6	2	25.1	0.01	2	2.83	2	0.11	2	1.30	2	2.35	2	1.32	2	0.05	2	0.52	2			9		9		9		9				9	9
29	2	270.1	36.577	36.577	2	18.390	18.342	26.408	195.3	2	204.6	2	25.1	0.00	2	3.03	2	0.13	2	1.40	2		9		9		9		9				9		9		9		9		48.7	2		9
28	2	300.9	36.542	36.538	2	18.129	18.076	26.449	196.7	2	203.2	2	27.7	0.00	2	3.90	2	0.18	2	1.70	2	2.33	6	1.28	6	0.04	6		9			9		9		9		9				9	9
27	2	351.3	36.495	36.496	2	17.813	17.752	26.495	193.7	2	198.4	2	34.0	0.00	2	4.88	2	0.23	2	1.90	2	2.27	2	1.24	2	0.02	2		9			9		9		9		9		47.3	2		9
26	2	399.5	36.422	36.421	2	17.304	17.236	26.566	187.9	2	186.7	2	48.1	0.00	2	6.73	2	0.35	2	2.20	2	2.21	2	1.19	2	0.02	2		9			9		9		9		9				9	9
25	2	450.7	36.286	36.278	2	16.465	16.391	26.665	177.7	2	176.5	2	62.3	0.00	2	9.08	2	0.50	2	3.00	2		9		9		9		9				9		9		9		9		42.8	2		9
24	2	499.4	36.111	36.111	2	15.446	15.367	26.765	179.7	2	178.1	2	65.8	0.00	2	10.35	2	0.58	2	3.60	2	1.99	2	1.05	2	0.03	2	0.40	2			9		9		9		9				9	9
23	2	599.4	35.826	35.830	2	13.658	13.571	26.934	168.7	2	168.3	2	85.1	0.00	2	14.16	2	0.83	2	5.60	2	1.59	2	0.81	2	0.01	2		9			9		9		9		9		43.4	2		9
22	2	700.8	35.570	35.572	2	11.855	11.762	27.096	159.6	2	160.9	2	102.6	0.00	2	17.97	2	1.10	2	8.30	2	1.02	2	0.53	2	0.02	2		9			9		9		9		9				9	9
21	2	800.1	35.299	35.303	2	9.788	9.693	27.255	149.4	2	149.0	2	127.0	0.00	2	22.66	2	1.45	2	12.90	2	0.45	2	0.24	2	0.01	2		9			9		9		9		9		46.6	2		9
20	2	850.0	35.211	35.212	2	8.965	8.869	27.320	145.9	2	148.6	2	132.7	0.00	2	24.03	2	1.56	2	14.70	2	0.32	2	0.17	2	0.01	2	0.17	2			9		9		9		9				9	9
19	2	898.4	35.120	35.121	2	8.210	8.113	27.366	144.5	2	146.6	2	139.7	0.00	2	25.59	2	1.68	2	16.70	2		9		9		9		9				9		9		9		9				9	9
18	2	950.5	35.033	35.030	2	7.389	7.292	27.418	154.2	2	151.3	2	140.6	0.00	2	26.08	2	1.75	2	18.60	2	0.17	2	0.09	2	0.01	2		9			9		9		9		9				9	9
17	2	1051.0	35.022	35.021	2	6.586	6.485	27.520	176.1	2	171.7	6	125.7	0.00	2	24.52	2	1.66	2	18.30	2	0.20	2	0.11	2	0.01	2		9			9		9		9		9				9	9
16	2	1150.2	35.060	35.061	2	6.029	5.922	27.624	201.6	2	198.8	2	102.5	0.00	2	21.69	2	1.47	2	16.10	2	0.29	2	0.15	2	0.01	2	0.49	2			9		9		9		9				9	9
15	2	1339.3	35.078	35.078	2	5.205	5.087	27.741	235.4	2	233.4	2	73.9	0.00	2	19.05	2	1.28	2	14.10	2	0.38	2	0.18	2	0.02	2		9			9		9		9		9		41.8	2		9
14	2	1550.8	35.042	35.043	2	4.475	4.344	27.797	250.2	2	253.0	2	59.9	0.00	2	18.27	2	1.22	2	13.90	2	0.37	2	0.19	2	0.01	2		9			9		9		9		9				9	9
13	2	1748.3	35.019	35.019	2	4.098	3.953	27.821	258.3	2	260.0	2	56.0	0.00	2	17.98	2	1.20	2	14.80	2	0.31	2	0.17	2	0.01	2	0.94	6			9		9		9		9				9	9
12	2	1949.8	35.016	35.016	2	3.856	3.695	27.847	257.9	2	258.5	2	59.5	0.00	2	18.37	2	1.23	2	17.70	2	0.11	2	0.06	2	0.01	2		9			9		9		9		9				9	9
11	2	2200.2	34.986	34.987	2	3.464	3.285	27.864	260.2	2	248.9	4	72.4	0.00	2	18.37	2	1.24	2	20.10	2	0.07	2	0.04	2	0.01	2		9			9		9		9		9				9	9
10	2	2449.9	34.967	34.967	2	3.186	2.987	27.878	259.3	2	263.8	2	59.9	0.00	2	18.56	2	1.27	2	23.10	2	0.07	2	0.04	2	0.01	2	0.39	2			9		9		9		9				9	9
9	2	2693.8	34.954	34.954	2	3.002	2.783	27.888	260.3	2	261.4	2	64.0	0.00	2	18.95	2	1.30	2	26.30	2	0.05	2	0.02	2	0.01	2		9			9		9		9		9				9	9
8	2	2999.4	34.938	34.937	2	2.800	2.554	27.897	260.8	2	261.8	2	65.5	0.00	2	19.25	2	1.32	2	29.20	2	0.04	2	0.02	2	0.01	2	0.21	2			9		9		9		9				9	9
7	2	3399.0	34.919	34.920	2	2.566	2.283	27.906	268.5	2	268.5	2	61.1	0.00	2	18.47	2	1.27	2	28.10	2	0.15	2	0.08	2	0.01	2	0.48	2			9		9		9		9				9	9
6	2	3799.8	34.905	34.905	2	2.405	2.082	27.914	266.4	2	267.5	2	63.8	0.00	2	18.95	2	1.32	2	32.90	2	0.07	2	0.04	2	0.01	2	0.33	2			9		9		9		9				9	9
5	2	4201.0	34.897	34.898	2	2.327	1.960	27.920	268.1	2	268.2	2	64.2	0.00	2	18.95	2	1.32	2	33.90	2	0.09	2	0.05	2	0.01	2	0.38	2			9		9		9		9				9	9
4	2	4599.0	34.889	34.890	2	2.281	1.868	27.924	267.2	2	267.4	2	65.8	0.00	2	19.25	2	1.34	2	36.10	2	0.09	2	0.05	2	0.01	2	0.43	2			9		9		9		9				9	9
3	2	4998.2	34.879	34.879	2	2.228	1.768	27.926	265.7	2	264.7	2	69.4	0.00	2	19.93	2	1.39	2	40.70	2	0.11	2	0.06	2	0.01	2	0.41	2			9		9		9		9				9	9
2	2	5499.6	34.848	34.849	2	2.056	1.538	27.921	254.8	2	255.4	2	80.7	0.00	2	22.28	2	1.55	2	54.80	2	0.03	2	0.02	2	0.01	2	0.19	2			9		9		9		9				9	9
1	2	5968.3	34.842	34.842	2	2.070	1.489	27.923	252.4	2	253.7	2	82.8	0.00	6	22.77	6	1.59	6	57.70	6	0.03	2	0.03	2	0.01	2	0.23	2			9		9		9		9				9	9

* WOCE water sample quality flag (F) for parameter for the previous column
** WOCE quality flag (F) for "Niskin" sample bottle
*** PSS-78 scale
**** ITS0 scale

A5R
NOAA Ship Ronald H. Brown

STATION 81 DATE 2/13/1998 LATITUDE 24.499° N
LONGITUDE 63.264° W

Bottle Number	F**	Pressure db	CTD Salinity***	Bottle Salinity***	F*	Temp**** °C	Theta °C	Sigma Theta	CTD O2 µmol/kg	F*	Bottle O2 µmol/kg	F*	AOU	NO2 µmol/kg	F*	NO3 µmol/kg	F*	PO4 µmol/kg	F*	Si(OH)4 µmol/kg	F*	CFC-11 pmol/kg	F*	CFC-12 pmol/kg	F*	CFC-113 pmol/kg	F*	CCl4 pmol/kg	F*	fCO2 at 20 °C µatm	fCO2 INSITU µatm	F*	DIC µmol/kg	F*	pH	F*	Measured TA µmol/kg	F*	Calculated TA µmol/kg	TOC µmol/kg	F*	TON µmol/kg	F*
36	2	4.2	36.435	36.435	2	24.974	24.973	24.436	207.3	2	209.9	2	-5.4	0.00	2	0.10	2	0.00	2	0.90	2		9		9		9		9	263.4	320.4	2	2016.1	6	8.1166	2	2381	2	2386		9		9
35	2	41.5	36.771	36.793	2	24.436	24.427	24.859	210.6	2	209.9	2	-4.0	0.00	2	0.10	2	0.00	2	0.70	2		9		9		9		9				9		9		9		9		9		9
34	2	82.6	36.763	36.743	2	23.640	23.623	25.096	216.6	2	214.2	2	-5.4	0.00	2	0.10	2	0.00	2	0.70	2		9		9		9		9	275.7	318.4	2	2038.9	2	8.1007	2	2399	2	2403		9		9
33	2	121.0	36.894	36.898	2	22.044	22.020	25.661	200.9	2	209.6	2	4.8	0.03	2	0.20	2	0.01	2	0.50	2		9		9		9		9	318.2	345.1	2	2076.0	2	8.0552	2	2408	2	2412		9		9
32	2	169.3	36.815	36.829	2	20.108	20.076	26.137	194.0	2	197.3	2	24.8	0.01	2	0.88	2	0.03	2	0.50	2		9		9		9		9				9		9		9		9		9		9
31	2	203.8	36.677	36.677	2	19.133	19.096	26.289	195.4	2	200.4	2	25.9	0.01	2	1.66	2	0.06	2	0.70	2		9		9		9		9	371.6	358.8	2	2097.4	2	8.0009	2	2395	2	2397		9		9
30	2	241.4	36.588	36.587	2	18.485	18.442	26.390	200.4	2	203.3	2	25.9	0.00	2	2.93	2	0.12	2	1.00	2		9		9		9		9				9		9		9		9		9		9
29	2	269.8	36.562	36.562	2	18.297	18.250	26.420	202.2	2	204.5	2	25.6	0.00	2	3.22	2	0.15	2	1.00	2		9		9		9		9				9		9		9		9		9		9
28	2	295.2	36.544	36.545	2	18.145	18.093	26.446	205.6	2	207.9	2	22.9	0.00	2	3.32	2	0.16	2	1.10	2		9		9		9		9	378.9	351.4	2	2094.2	2	7.9948	2	2385	2	2388		9		9
27	2	355.3	36.489	36.486	2	17.796	17.735	26.495	209.0	2	203.1	2	29.4	0.00	2	4.29	2	0.22	2	1.60	2		9		9		9		9				9		9		9		9		9		9
26	2	416.5	36.358	36.358	2	17.048	16.978	26.580	197.8	2	190.3	2	45.7	0.00	2	6.54	2	0.36	2	2.00	2		9		9		9		9				9		9		9		9		9		9
25	2	477.5	36.205	36.197	2	16.045	15.968	26.701	183.3	2	180.1	2	60.8	0.00	2	9.08	2	0.52	2	2.90	2		9		9		9		9	475.0	404.5	2	2130.1	2	7.9002	2	2368	2	2368		9		9
24	2	575.0	35.868	35.869	2	13.988	13.903	26.897	180.7	2	174.5	2	77.1	0.00	2	12.89	2	0.77	2	4.80	2		9		9		9		9				9		9		9		9		9		9
23	2	673.3	35.537	35.554	2	11.708	11.619	27.096	158.8	2	157.5	2	106.9	0.00	2	18.36	2	1.12	2	8.30	2		9		9		9		9	670.0	476.3	2	2165.7	2	7.7702	2	2334	2	2335		9		9
22	2	774.8	35.259	35.256	2	9.583	9.492	27.256	145.4	2	146.3	2	131.0	0.00	2	23.54	2	1.49	2	13.30	2		9		9		9		9				9		9		9		9		9		9
21	2	873.9	35.101	35.103	2	8.051	7.958	27.374	145.6	2	148.5	2	138.8	0.00	2	25.59	2	1.66	2	16.40	2		9		9		9		9	884.8	539.5	2	2195.1	2	7.6625	2	2324	2	2318		9		9
20	2	974.6	35.039	35.037	2	7.017	6.920	27.474	164.9	2	163.4	2	131.0	0.00	2	25.40	2	1.67	2	17.60	2		9		9		9		9				9		9		9		9		9		9
19	2	1076.6	35.030	35.031	2	6.241	6.140	27.572	185.5	2	185.4	6	114.4	0.00	2	23.64	2	1.57	2	17.10	2		9		9		9		9	855.3	479.8	2	2189.0	6	7.6758	2	2319	2	2316		9		9
18	2	1275.6	35.052	35.053	2	5.137	5.026	27.726	234.1	2	233.9	2	73.9	0.00	2	19.24	2	1.28	2	13.50	2		9		9		9		9				9		9		9		9		9		9
17	2	1473.2	35.027	35.027	2	4.526	4.402	27.778	253.1	2	253.3	2	59.2	0.00	2	18.07	2	1.20	2	12.80	2		9		9		9		9				9		9		9		9		9		9
16	2	1673.7	35.009	35.009	2	4.117	3.979	27.810	260.0	2	261.4	2	54.4	0.00	2	17.78	2	1.19	2	13.70	2		9		9		9		9				9	2162.3	2	7.7351	2	2313	2	2313		9		9
15	2	1872.4	35.001	35.000	2	3.853	3.700	27.833	262.7	2	263.6	2	54.4	0.00	2	17.78	2	1.20	2	15.20	2		9		9		9		9				9		9		9		9		9		9
14	2	2076.5	34.996	34.997	2	3.617	3.448	27.855	260.1	2	261.5	2	58.5	0.00	2	18.07	2	1.23	2	18.20	2		9		9		9		9	718.6	353.8	2	2165.1	2	7.7405	2	2319	2	2319		9		9
13	2	2275.6	34.985	34.986	2	3.391	3.206	27.871	258.2	2	258.9	2	63.0	0.00	2	18.66	2	1.27	2	21.90	2		9		9		9		9				9		9		9		9		9		9
12	2	2476.9	34.972	34.973	2	3.209	3.007	27.881	257.3	2	258.1	2	65.4	0.00	2	19.05	2	1.30	2	25.00	2		9		9		9		9				9		9		9		9		9		9
11	2	2676.2	34.950	34.951	2	2.976	2.759	27.887	261.4	2	263.1	2	62.5	0.00	2	18.66	2	1.27	2	25.00	2		9		9		9		9				9	2171.2	2	7.7399	2	2324	2	2325		9		9
10	2	2875.9	34.941	34.941	2	2.850	2.615	27.893	262.1	2	263.9	2	62.9	0.00	2	18.76	2	1.28	2	26.30	2		9		9		9		9				9		9		9		9		9		9
9	2	3075.4	34.931	34.931	2	2.723	2.470	27.898	264.4	2	266.1	2	61.9	0.00	2	18.56	2	1.27	2	27.10	2	0.11	2	0.06	2	0.00	2	9		720.4	339.0	2	2170.4	2	7.7386	2	2328	2	2323		9		9
8	2	3375.7	34.918	34.918	2	2.555	2.275	27.906	266.1	2	266.1	2	63.6	0.00	2	18.95	2	1.30	2	30.10	2	0.07	6	0.04	6	0.01	6	9				9		9		9		9		9		9
7	2	3677.6	34.910	34.909	2	2.433	2.123	27.914	270.6	2	271.0	2	60.0	0.00	2	18.17	2	1.25	2	28.10	2	0.19	2	0.10	2	0.01	2	9				9		9		9		9		9		9
6	2	3965.8	34.903	34.904	2	2.358	2.018	27.918	271.7	2	271.8	2	60.1	0.00	2	18.17	2	1.26	2	28.90	2	0.21	2	0.11	2	0.02	2	9		736.2	340.6	6	2170.4	2	7.7376	2	2324	2	2323		9		9
5	2	4374.6	34.894	34.894	2	2.296	1.910	27.923	268.4	2	268.6	2	64.2	0.00	2	18.95	2	1.31	2	33.90	2		9		9		9		9				9	2175.6	2		9		9		9		9
4	2	4775.6	34.885	34.885	2	2.252	1.819	27.926	267.7	2	266.5	2	67.1	0.00	2	19.34	2	1.34	2	37.00	2		9		9		9		9				9	2180.8	2	7.7301	2	2336	2	2330		9		9
3	2	5131.7	34.863	34.863	2	2.123	1.650	27.922	259.4	2	259.6	2	75.5	0.00	2	21.10	2	1.47	2	48.30	2		9		9		9		9				9		9		9		9		9		9
2	2	5571.4	34.845	34.845	2	2.034	1.507	27.921	253.0	2	254.4	2	82.0	0.00	2	22.47	2	1.57	2	56.30	2		9		9		9		9				9		9		9		9		9		9
1	2	5912.2	34.842	34.842	2	2.060	1.487	27.922	251.9	2	253.7	2	82.9	0.00	6	22.67	6	1.58	6	57.50	6		9		9		9		9	788.6	357.8	2	2204.6	2	7.7056	2	2351	2	2345		9		9

* WOCE water sample quality flag (F) for parameter for the previous column
** WOCE quality flag (F) for "Niskin" sample bottle
*** PSS-78 scale
**** ITS0 scale

A5R
NOAA Ship Ronald H. Brown

STATION 82 DATE 2/14/1998 LATITUDE 24.500° N
LONGITUDE 64.000° W

Bottle Number	F**	Pressure db	CTD Salinity***	Bottle Salinity***	F*	Temp**** °C	Theta °C	Sigma Theta	CTD O2 µmol/kg	F*	Bottle O2 µmol/kg	F*	AOU	NO2 µmol/kg	F*	NO3 µmol/kg	F*	PO4 µmol/kg	F*	Si(OH)4 µmol/kg	F*	CFC-11 pmol/kg	F*	CFC-12 pmol/kg	F*	CFC-113 pmol/kg	F*	CCl4 pmol/kg	F*	fCO2 at 20 °C µatm	fCO2 INSITU µatm	F*	DIC µmol/kg	F*	pH	F*	Measured TA µmol/kg	F*	Calculated TA µmol/kg	TOC µmol/kg	F*	TON µmol/kg	F*
36	2	4.3	36.797	36.797	2	24.046	24.045	24.991	216.3	2	214.2	2	-7.0	0.00	2	0.10	2	0.01	2	0.80	2	1.89	2	1.10	2	0.16	2		9	273.0	320.3	2	2036.6	6	8.1049	2	2408	2	2404	71.2	2	4.4	2
35	2	37.6	36.794	36.794	2	24.029	24.021	24.998	213.7	2	214.5	6	-7.2	0.00	2	0.10	2	0.01	2	0.80	2	1.89	2	1.10	2	0.16	2		9	274.4	321.8	2	2037.8	2		9	2407	2		71.3	2	4.4	2
34	2	79.3	37.031	37.031	2	23.194	23.178	25.430	218.0	2	218.8	2	-8.8	0.00	2	0.10	2	0.01	2	0.50	2	2.08	2	1.18	2	0.18	2		9	303.1	343.8	2	2071.1	2	8.0727	2	2427	2	2421	62.0	2	4.5	2
33	2	119.0	36.945	36.954	2	21.363	21.340	25.890	205.5	2	208.1	2	8.8	0.04	2	0.39	2	0.02	2	0.50	2	2.16	2	1.23	2	0.14	2		9	336.5	355.4	2	2088.7	2	8.0403	2	2419	2	2416	57.6	2	5.1	2
32	2	200.0	36.640	36.632	2	18.912	18.876	26.318	200.1	2	204.1	2	23.2	0.01	2	2.44	2	0.09	2	0.80	2	2.33	6	1.31	6	0.06	6		9	373.3	357.3	2	2096.4	2	7.9990	2	2396	2	2394	49.7	2	5.9	2
31	2	224.8	36.599	36.599	2	18.560	18.520	26.378	204.4	2	205.2	2	23.7	0.01	2	2.93	2	0.12	2	1.00	2	2.36	2	1.31	2	0.05	2		9	378.7	357.3	2	2095.3	2	7.9948	2	2393	2	2390	49.2	2	6.7	2
30	2	248.4	36.577	36.578	2	18.404	18.360	26.403	202.2	2	204.5	2	25.1	0.01	2	3.32	2	0.14	2	1.10	2	2.36	2	1.30	2	0.04	2		9			9	2095.7	2	8.0006	2		9	2394	48.7	2	7.0	2
29	2	274.8	36.553	36.553	2	18.228	18.180	26.430	204.1	2	205.2	2	25.2	0.00	2	3.71	2	0.16	2	1.20	2	2.34	2	1.29	2	0.04	2		9	385.1	358.5	2	2096.7	2	7.9921	2		9	2389	48.0	2	7.3	2
28	2	300.0	36.528	36.526	2	18.041	17.989	26.460	205.0	2	204.7	2	26.6	0.00	2	4.20	2	0.20	2	1.30	2	2.32	2	1.27	2	0.03	2		9			9	2099.4	2	7.9884	2	2391	2	2390		9		9
27	2	347.4	36.470	36.468	2	17.675	17.615	26.510	202.7	2	200.2	2	32.8	0.00	2	5.17	2	0.26	2	1.60	2	2.25	2	1.22	2	0.04	2		9	406.5	370.0	2	2105.7	2	7.9636	2		9	2381	48.2	2	8.8	2
26	2	400.2	36.364	36.361	2	17.067	17.000	26.579	199.3	2	193.3	2	42.6	0.00	2	6.73	2	0.36	2	2.00	2	2.18	2	1.16	2	0.03	2		9			9	2113.7	2	7.9422	2	2385	2	2375		9		9
25	2	448.1	36.242	36.252	2	16.332	16.259	26.661	189.7	2	187.6	2	51.9	0.00	2	8.30	2	0.45	2	2.60	2	2.11	2	1.12	2	0.03	2		9	455.6	392.5	3	2119.6	2		9	2380	2		45.8	2	12.0	2
24	2	499.6	36.067	36.068	2	15.265	15.187	26.771	186.8	2	182.5	2	62.4	0.00	2	10.44	2	0.60	2	3.60	2	1.97	2	1.03	2	0.03	2		9			9	2130.3	2	7.8860	2	2364	2	2359		9		9
23	2	551.1	35.892	35.905	2	14.153	14.071	26.880	181.0	2	179.3	2	71.4	0.00	2	12.40	2	0.73	2	4.60	2	1.80	2	0.93	2	0.02	2		9	539.9	425.3	2	2137.9	2	7.8524	2		9	2348	44.4	2	15.2	2
22	2	598.3	35.723	35.732	2	13.048	12.964	26.978	178.4	2	168.9	2	87.8	0.00	2	15.23	2	0.92	2	6.30	2	1.45	2	0.75	2	0.03	2		9			9	2150.2	2	7.8158	2	2345	2	2342		9		9
21	2	697.7	35.505	35.510	2	11.358	11.268	27.137	168.2	2	162.8	2	103.6	0.00	2	18.65	2	1.16	2	8.90	2	0.95	6	0.49	6	0.01	6		9	686.3	480.8	3	2163.6	2		9	2340	2		44.0	2		9
20	2	800.4	35.289	35.293	2	9.595	9.501	27.278	156.7	2	153.2	2	124.0	0.00	2	22.66	2	1.44	2	12.70	2	0.48	2	0.25	2	0.01	2		9			9	2180.6	2	7.7051	2	2328	2	2321		9		9
19	2	846.5	35.191	35.192	2	8.757	8.663	27.337	152.8	2	151.5	2	131.1	0.00	2	24.22	2	1.56	2	14.70	2	0.34	2	0.18	2	0.00	2		9	830.6	521.2	2	2187.2	2	7.6772	2	2323	2	2316	41.6	2	26.9	2
18	2	901.9	35.111	35.111	2	7.897	7.802	27.405	155.4	2	155.0	2	133.3	0.00	2	25.20	2	1.64	2	16.30	2	0.25	2	0.13	2	0.01	2		9	868.8	525.7	2	2187.3	2	7.6674	2		5	2311		9		9
17	2	901.6	35.105	35.108	2	7.797	7.703	27.415	155.4	2	155.7	2	133.3	0.00	2	25.20	2	1.64	2	16.40	2	0.25	2	0.13	2	0.00	2		9	869.2	524.0	2		9	7.6661	2	2320	2		41.7	2		9
16	2	1048.6	35.065	35.063	2	6.458	6.358	27.570	184.2	2	184.4	2	113.8	0.00	2	23.54	2	1.57	2	16.70	2	0.24	2	0.12	2	0.00	2		9	840.5	475.8	6	2187.9	6	7.6770	2	2322	2	2316		9		9
15	2	1244.5	35.088	35.088	2	5.449	5.338	27.718	225.8	2	225.0	2	80.4	0.00	2	20.12	2	1.34	2	14.30	2	0.34	2	0.18	2	0.01	2		9	753.4	405.6	2	2173.6	2		9	2319	2		41.7	2	22.7	2
14	2	1450.1	35.071	35.071	2	4.779	4.655	27.785	247.2	2	245.9	2	64.6	0.00	2	18.85	2	1.25	2	13.90	2	0.32	2	0.16	2	0.01	2		9	724.2	377.3	2	2166.5	2	7.7295	2	2319	2	2315		9		9
13	2	1625.6	35.058	35.059	2	4.440	4.303	27.815	254.2	2	251.9	2	61.3	0.00	2	18.66	2	1.24	2	14.90	2	0.22	6	0.12	6	0.01	6		9			9	2165.1	2	7.7354	2	2320	2	2317	41.4	2		9
12	2	1848.9	35.035	35.036	2	4.017	3.864	27.844	255.4	2	255.3	2	61.3	0.00	2	18.76	2	1.26	2	17.60	2	0.07	2	0.04	2	0.01	2		9			9	2166.0	2		4	2323	2			9		9
11	2	2046.8	35.012	35.013	2	3.665	3.498	27.863	256.6	2	256.9	2	62.6	0.00	2	19.05	2	1.28	2	20.70	2	0.03	2	0.02	2	0.00	2		9	714.5	352.2	2	2169.4	2	7.7400	2	2325	2	2323	41.9	2	21.3	2
10	2	2231.1	34.990	34.991	2	3.397	3.216	27.874	257.4	2	257.5	2	64.3	0.00	2	19.24	2	1.31	2	23.70	2	0.02	2	0.01	2	0.00	2		9			9		9		9		9			9		9
9	2	2545.7	34.960	34.962	2	3.068	2.862	27.884	260.2	2	260.8	2	63.9	0.00	2	19.24	2	1.31	2	26.10	2	0.03	2	0.02	2	0.00	2		9			9	2171.5	2	7.7371	2	2328	2	2324	41.5	2	22.2	2
8	2	2844.2	34.941	34.942	2	2.839	2.608	27.893	262.7	2	263.9	2	63.0	0.00	2	19.15	2	1.31	2	27.60	2	0.07	2	0.03	2	0.01	2		9	717.2	339.3	2	2170.7	2		9		9			9		9
7	2	3147.4	34.927	34.928	2	2.656	2.397	27.902	265.5	2	264.8	2	63.8	0.00	2	19.44	2	1.33	2	30.40	2	0.05	2	0.02	2	0.01	2		9			9	2171.4	2		9	2329	2		43.2	2		9
6	2	3449.1	34.915	34.915	2	2.500	2.213	27.909	267.9	2	267.1	2	63.1	0.00	2	19.25	2	1.33	2	31.50	2	0.06	6	0.03	6	0.00	6		9			9	2173.9	2		9		9			9		9
5	2	3837.9	34.904	34.905	2	2.360	2.034	27.917	273.3	2	271.6	2	60.1	0.00	2	18.66	2	1.30	2	30.60	2	0.14	2	0.07	2	0.01	2		9	724.2	334.6	2	2171.1	2	7.7381	2	2328	2	2324	41.9	2		9
4	2	4341.1	34.894	34.894	2	2.283	1.901	27.923	271.9	2	270.8	2	62.1	0.00	2	18.85	2	1.31	2	33.00	2	0.16	2	0.08	2	0.01	2		9			9	2174.9	2		9		9			9		9
3	2	4847.2	34.873	34.874	2	2.169	1.730	27.923	264.8	2	263.4	2	71.0	0.00	2	20.61	2	1.44	2	44.00	2	0.06	2	0.03	2	0.01	2		9			9	2187.8	2	7.7232	2	2339	2	2335	41.9	2	23.5	2
2	2	5349.6	34.848	34.850	2	2.027	1.529	27.920	255.0	2	256.2	2	80.0	0.00	2	22.27	2	1.57	2	55.40	2	0.03	2	0.02	2	0.01	2		9	786.5	356.4	2	2200.7	2		9		9			9		9
1	2	5861.6	34.843	34.844	2	2.065	1.499	27.922	255.1	2	254.8	2	81.6	0.00	6	22.57	6	1.59	6	57.50	6	0.03	2	0.02	2	0.00	2		9	785.8	356.6	6	2203.8	2	7.7048	2	2348	2	2344	41.6	2		9

* WOCE water sample quality flag (F) for parameter for the previous column
** WOCE quality flag (F) for "Niskin" sample bottle
*** PSS-78 scale
**** ITS0 scale

A5R
NOAA Ship Ronald H. Brown

STATION 83 DATE 2/14/1998 LATITUDE 24.500° N
LONGITUDE 64.667° W

Bottle Number	F**	Pressure db	CTD Salinity***	Bottle Salinity***	F*	Temp**** °C	Theta °C	Sigma Theta	CTD O2 µmol/kg	F*	Bottle O2 µmol/kg	F*	AOU	NO2 µmol/kg	F*	NO3 µmol/kg	F*	PO4 µmol/kg	F*	Si(OH)4 µmol/kg	F*	CFC-11 pmol/kg	F*	CFC-12 pmol/kg	F*	CFC-113 pmol/kg	F*	CCl4 pmol/kg	F*	fCO2 at 20 °C µatm	fCO2 INSITU µatm	F*	DIC µmol/kg	F*	pH	F*	Measured TA µmol/kg	F*	Calculated TA µmol/kg	TOC µmol/kg	F*	TON µmol/kg	F*
36	2	4.1	36.815	36.815	2	23.810	23.809	25.075	215.0	2	215.1	2	-7.1	0.00	2	0.10	2	0.00	2	0.70	2	9		9		9		9		273.0	317.4	2	2041.5	6	8.1065	2	2421	2	2411		9		9
35	2	46.3	36.809	36.810	2	23.795	23.785	25.080	214.6	2	214.9	6	-6.8	0.00	2	0.10	2	0.01	2	0.60	2	9		9		9		9				9		9		9		9				9		9
34	2	88.7	36.780	36.814	2	23.062	23.044	25.279	217.8	2	218.3	2	-7.5	0.00	2	0.10	2	0.01	2	0.50	2	9		9		9		9		287.8	324.9	2	2052.6	2	8.0874	2	2415	2	2409		9		9
33	2	134.8	36.883	36.916	2	21.026	21.000	25.937	211.3	2	206.7	2	11.6	0.05	2	0.39	2	0.02	2	0.40	2	9		9		9		9		340.3	354.5	2	2091.4	2	8.0319	2	2415	2	2413		9		9
32	2	169.5	36.775	36.767	2	19.881	19.849	26.166	196.8	2	198.8	2	24.3	0.01	2	1.46	2	0.04	2	0.50	2	9		9		9		9		367.9	366.1	2	2102.4	2	8.0076	2	2412	2	2407		9		9
31	2	224.2	36.626	36.626	2	18.737	18.697	26.354	200.2	2	200.6	2	27.5	0.00	2	3.03	2	0.08	2	0.80	2	9		9		9		9				9		9		9		9				9		9
30	2	249.3	36.611	36.607	2	18.623	18.579	26.373	201.0	2	201.1	2	27.5	0.00	2	3.32	2	0.10	2	0.90	2	9		9		9		9				9		9		9		9				9		9
29	2	273.6	36.583	36.582	2	18.451	18.403	26.398	204.4	2	204.3	2	25.1	0.00	2	3.51	2	0.12	2	0.90	2	9		9		9		9		381.2	358.1	2	2100.0	2	7.9911	2	2402	2	2392		9		9
28	2	300.8	36.548	36.548	2	18.185	18.132	26.440	208.2	2	207.2	2	23.4	0.00	2	3.81	2	0.15	2	1.00	2	9		9		9		9				9		9		9		9				9		9
27	2	351.4	36.494	36.502	2	17.820	17.759	26.492	206.7	2	203.9	2	28.4	0.00	2	4.69	2	0.19	2	1.30	2	9		9		9		9				9		9		9		9				9		9
26	2	409.1	36.403	36.405	2	17.299	17.230	26.554	197.2	2	194.8	2	40.0	0.00	2	6.44	2	0.29	2	1.80	2	9		9		9		9		421.4	377.3	2	2114.6	2	7.9534	2	2384	2	2383		9		9
25	2	459.6	36.267	36.267	2	16.496	16.421	26.643	190.9	2	188.1	2	50.6	0.00	2	8.30	2	0.40	2	2.30	2	9		9		9		9				9		9		9		9				9		9
24	2	510.2	36.133	36.133	2	15.669	15.588	26.733	181.1	2	179.6	2	63.3	0.00	2	10.25	2	0.53	2	3.10	2	9		9		9		9				9		9		9		9				9		9
23	2	545.2	36.025	36.030	2	14.979	14.895	26.805	184.3	2	181.6	2	64.8	0.00	2	11.04	2	0.58	2	3.50	2	9		9		9		9		513.5	418.2	2	2135.1	2	7.8768	2		5	2359		9		9
22	2	599.4	35.884	35.882	2	14.086	13.997	26.891	179.3	2	176.4	2	74.7	0.00	2	13.19	2	0.72	2	4.50	2	9		9		9		9				9		9		9		9				9		9
21	2	700.5	35.604	35.607	2	12.065	11.971	27.083	170.8	2	169.0	2	93.3	0.00	2	17.10	2	0.99	2	7.10	2	9		9		9		9				9		9		9		9				9		9
20	2	800.8	35.377	35.382	2	10.246	10.148	27.238	160.9	2	159.6	2	113.6	0.00	2	21.10	2	1.28	2	10.60	2	9		9		9		9		737.2	492.6	2	2176.9	2	7.7307	2	2339	2	2328		9		9
19	2	861.5	35.193	35.197	2	8.734	8.638	27.342	153.0	2	152.5	2	130.3	0.00	2	24.33	2	1.52	2	14.10	2	9		9		9		9				9		9		9		9				9		9
18	2	911.0	35.133	35.133	2	8.087	7.990	27.395	154.8	2	156.8	2	130.3	0.00	2	24.92	2	1.58	2	15.20	2	9		9		9		9		840.9	511.7	2	2192.0	2	7.6739	2		5	2319		9		9
17	2	1042.6	35.082	35.080	2	6.722	6.620	27.549	182.1	2	181.3	2	115.0	0.00	2	23.65	2	1.51	2	15.70	2	9		9		9		9		839.5	481.1	2	2188.9	6	7.6796	2		9	2318		9		9
16	2	1249.9	35.069	35.071	2	5.435	5.323	27.705	228.9	2	226.0	2	79.5	0.00	2	20.23	2	1.29	2	14.00	2	9		9		9		9		767.9	413.5	2	2173.2	2	7.7100	2		5	2314		9		9
15	2	1448.7	35.043	35.044	2	4.793	4.669	27.762	250.4	2	247.5	2	62.9	0.00	2	18.86	2	1.19	2	12.60	2	9		9		9		9				9		9		9		9				9		9
14	2	1648.9	35.011	35.014	2	4.319	4.181	27.791	260.3	2	259.3	2	54.9	0.00	2	18.28	2	1.16	2	12.50	2	9		9		9		9				9		9		9		9				9		9
13	2	1850.8	34.986	34.987	2	3.691	3.542	27.836	267.4	2	267.1	2	52.1	0.00	2	18.08	2	1.16	2	15.00	2	9		9		9		9		708.1	350.0	6	2161.4	2	7.7408	2		5	2315		9		9
12	2	2049.0	34.992	34.992	2	3.502	3.337	27.862	261.9	2	262.5	2	58.3	0.00	2	18.67	2	1.22	2	19.30	2	9		9		9		9				9		9		9		9				9		9
11	2	2349.9	34.964	34.963	2	3.178	2.989	27.874	265.2	2	267.0	2	56.7	0.00	2	18.57	2	1.20	2	20.20	2	9		9		9		9				9		9		9		9				9		9
10	2	2549.3	34.958	34.958	2	3.041	2.835	27.885	261.0	2	262.3	2	62.7	0.00	2	19.35	2	1.24	2	24.80	2	9		9		9		9				9		9		9		9				9		9
9	2	2742.9	34.947	34.948	2	2.905	2.683	27.891	260.1	2	262.1	2	64.1	0.00	2	19.65	2	1.30	2	27.60	2	9		9		9		9		719.4	341.3	2	2174.1	2	7.7364	2	2331	2	2326		9		9
8	2	2992.9	34.935	34.935	2	2.758	2.513	27.897	263.7	2	263.5	2	64.2	0.00	2	19.55	2	1.28	2	28.20	2	9		9		9		9				9		9		9		9				9		9
7	2	3299.5	34.921	34.921	2	2.592	2.319	27.905	264.6	2	265.7	2	63.6	0.00	2	19.55	2	1.29	2	29.90	2	9		9		9		9				9		9		9		9				9		9
6	2	3599.6	34.910	34.910	2	2.459	2.157	27.911	266.2	2	267.3	2	63.4	0.00	2	19.55	2	1.29	2	31.50	2	9		9		9		9				9		9		9		9				9		9
5	2	3900.7	34.902	34.902	2	2.359	2.026	27.916	269.8	2	270.4	2	61.4	0.00	2	19.25	2	1.28	2	31.20	2	9		9		9		9		724.4	334.6	2	2174.1	2	7.7337	2	2336	3	2325		9		9
4	2	4391.7	34.891	34.891	2	2.266	1.879	27.923	268.8	2	268.3	2	64.8	0.00	2	19.65	2	1.31	2	34.90	2	9		9		9		9				9		9		9		9				9		9
3	2	4893.1	34.873	34.873	2	2.173	1.728	27.923	263.8	2	263.8	2	70.6	0.00	2	20.92	2	1.41	2	43.70	2	9		9		9		9				9		9		9		9				9		9
2	2	5399.9	34.850	34.851	2	2.052	1.547	27.921	256.5	2	256.7	2	79.3	0.00	2	22.48	2	1.54	2	53.00	2	9		9		9		9				9		9		9		9				9		9
1	2	5837.8	34.844	34.845	2	2.067	1.504	27.923	254.6	2	255.0	2	81.4	0.00	6	22.77	6	1.57	6	55.50	6	9		9		9		9		789.0	358.3	2	2204.9	2	7.7075	2		5	2346		9		9

* WOCE water sample quality flag (F) for parameter for the previous column
** WOCE quality flag (F) for "Niskin" sample bottle
*** PSS-78 scale
**** ITS0 scale

A5R
NOAA Ship Ronald H. Brown

STATION 84 DATE 2/14/1998 LATITUDE 24.501° N
LONGITUDE 65.469° W

Bottle Number	F**	Pressure db	CTD Salinity***	Bottle Salinity***	F*	Temp**** °C	Theta °C	Sigma Theta	CTD O2 µmol/kg	F*	Bottle O2 µmol/kg	F*	AOU	NO2 µmol/kg	F*	NO3 µmol/kg	F*	PO4 µmol/kg	F*	Si(OH)4 µmol/kg	F*	CFC-11 pmol/kg	F*	CFC-12 pmol/kg	F*	CFC-113 pmol/kg	F*	CCl4 pmol/kg	F*	fCO2 at 20 °C µatm	fCO2 INSITU µatm	F*	DIC µmol/kg	F*	pH	F*	Measured TA µmol/kg	F*	Calculated TA µmol/kg	TOC µmol/kg	F*	TON µmol/kg	F*
36	2	6.4	36.726	36.730	2	23.883	23.882	24.986	213.2	2	214.3	2	-6.4	0.01	2	0.20	2	0.01	2	0.80	2	1.91	2	1.11	2	0.17	2	1.83	2	275.6	321.3	6	2036.9	6	8.1077	6	2410	6	2406		9		9
35	2	50.5	36.734	36.735	2	23.778	23.767	25.029	214.3	2	214.6	2	-6.3	0.01	2	0.20	2	0.01	2	0.70	2	1.90	2	1.10	2	0.17	2		9			9		9		9		9			9		9
34	2	101.1	36.789	36.797	2	23.459	23.438	25.171	216.1	2	216.2	2	-6.8	0.00	2	0.20	2	0.00	2	0.60	2	1.96	2	1.12	2	0.16	2	1.75	6			9		9		9		9			9		9
33	2	150.1	36.902	36.898	2	20.904	20.875	25.986	202.1	2	202.7	2	16.1	0.04	2	0.78	2	0.02	2	0.50	2	2.20	2	1.24	2	0.12	2		9			9		9		9		9			9		9
32	2	199.3	36.681	36.678	2	19.197	19.161	26.276	197.4	2	202.6	2	23.5	0.02	2	2.05	2	0.06	2	0.70	2	2.30	2	1.30	2	0.07	2		9			9		9		9		9			9		9
31	2	220.2	36.629	36.626	2	18.834	18.795	26.331	202.7	2	206.2	2	21.5	0.01	2	2.54	2	0.09	2	0.80	2	2.36	2	1.31	2	0.05	2		9			9		9		9		9			9		9
30	2	247.9	36.589	36.588	2	18.476	18.432	26.393	207.7	2	210.4	2	18.9	0.01	2	3.03	2	0.12	2	1.00	2	2.35	2	1.31	2	0.05	2		9			9		9		9		9			9		9
29	2	273.6	36.569	36.566	2	18.296	18.248	26.425	209.4	2	212.0	2	18.1	0.01	2	3.32	2	0.14	2	1.00	2		9		9		9		9				9		9		9		9			9		9
28	2	298.0	36.559	36.557	2	18.206	18.154	26.443	211.1	2	213.0	2	17.5	0.01	2	3.42	2	0.14	2	1.10	2	2.38	2	1.33	2	0.05	2		9			9		9		9		9			9		9
27	3	349.4	36.541	36.541	2	18.046	17.985	26.473	215.0	2	214.1	2	17.2	0.02	2	3.61	2	0.15	2	1.10	2		9		9		9		9				9		9		9		9			9		9
26	2	399.7	36.506	36.506	2	17.848	17.779	26.499	210.5	2	211.5	2	20.7	0.01	2	4.20	2	0.20	2	1.30	2	2.34	2	1.30	2	0.06	2	0.67	2			9		9		9		9			9		9
25	2	449.3	36.401	36.401	2	17.302	17.226	26.555	200.6	2	190.9	2	43.9	0.01	2	6.25	2	0.32	2	1.90	2		9		9		9		9				9		9		9		9			9		9
24	2	499.6	36.239	36.238	2	16.377	16.295	26.652	191.7	2	190.2	6	49.2	0.01	2	8.49	2	0.46	2	2.70	2	2.08	2	1.12	2	0.04	2		9			9		9		9		9			9		9
23	2	602.4	35.954	35.952	2	14.546	14.455	26.847	181.3	2	179.7	2	69.0	0.01	2	12.11	2	0.70	2	4.20	2		9		9		9		9				9		9		9		9			9		9
22	2	701.0	35.673	35.675	2	12.588	12.491	27.036	174.3	2	172.2	2	87.1	0.01	2	15.92	2	0.96	2	6.50	2	1.39	2	0.71	2	0.02	2	0.32	2			9		9		9		9			9		9
21	2	800.7	35.407	35.408	2	10.541	10.442	27.211	158.9	2	159.0	2	112.4	0.01	2	20.71	2	1.29	2	10.50	2		9		9		9		9				9		9		9		9			9		9
20	2	901.3	35.183	35.183	2	8.610	8.510	27.355	153.3	2	153.3	2	130.3	0.01	2	24.52	2	1.57	2	14.90	2	0.32	2	0.17	2	0.00	2		9			9		9		9		9			9		9
19	2	997.5	35.099	35.102	2	7.327	7.226	27.480	169.6	2	169.7	2	122.5	0.01	2	24.23	2	1.59	2	16.10	2	0.32	2	0.16	2	0.01	2		9			9		9		9		9			9		9
18	2	1199.7	35.080	35.081	2	5.714	5.605	27.680	215.7	2	214.7	2	88.8	0.01	2	21.10	2	1.40	2	14.80	2	0.31	2	0.16	2	0.01	2		9			9		9		9		9			9		9
17	2	1401.0	35.052	35.052	2	4.799	4.679	27.767	248.5	2	246.8	2	63.6	0.01	2	18.95	2	1.26	2	13.30	2	0.48	2	0.24	2	0.01	2	0.98	2			9		9		9		9			9		9
16	2	1599.9	35.017	35.019	2	4.229	4.097	27.804	261.2	2	260.2	2	54.6	0.01	2	18.27	2	1.22	2	13.60	2	0.46	2	0.23	2	0.01	2		9			9		9		9		9			9		9
15	2	1799.9	35.012	35.011	2	3.962	3.814	27.830	262.8	2	262.4	2	54.6	0.01	2	18.27	2	1.22	2	15.10	2	0.25	2	0.13	2	0.01	2		9			9		9		9		9			9		9
14	2	1993.7	35.003	35.002	2	3.733	3.570	27.848	262.3	2	262.8	2	56.2	0.00	2	18.56	2	1.25	2	17.30	2	0.12	2	0.06	2	0.00	2		9			9		9		9		9			9		9
13	2	2199.5	34.990	34.990	2	3.481	3.302	27.866	261.7	2	261.7	2	59.4	0.00	2	18.86	2	1.27	2	20.40	2		9		9		9		9				9		9		9		9			9		9
12	2	2399.5	34.970	34.972	2	3.227	3.033	27.876	263.3	2	263.3	2	60.0	0.01	2	18.95	2	1.29	2	22.70	2	0.07	2	0.04	2	0.00	2	0.40	2			9		9		9		9			9		9
11	2	2593.3	34.960	34.960	2	3.076	2.865	27.884	261.2	2	261.4	2	63.3	0.01	2	19.35	2	1.31	2	25.60	2	0.04	2	0.02	2	0.01	2		9			9		9		9		9			9		9
10	2	2798.3	34.947	34.947	2	2.907	2.679	27.891	260.0	2	261.9	2	64.4	0.01	2	19.64	2	1.33	2	27.80	2	0.04	2	0.02	2	0.01	2		9			9		9		9		9			9		9
9	2	3049.4	34.935	34.935	2	2.766	2.515	27.898	263.3	2	263.1	2	64.5	0.01	2	19.64	2	1.34	2	29.60	2	0.03	2	0.02	2	0.00	2	0.23	2			9		9		9		9			9		9
8	2	3348.1	34.922	34.922	2	2.597	2.318	27.905	266.5	2	266.9	2	62.4	0.01	2	19.54	2	1.33	2	30.60	2	0.06	2	0.03	2	0.00	2	0.28	2			9		9		9		9			9		9
7	2	3623.6	34.910	34.910	2	2.452	2.147	27.912	268.5	2	268.3	2	62.5	0.01	2	19.25	2	1.32	2	31.50	2	0.07	2	0.04	2	0.00	2	0.34	2			9		9		9		9			9		9
6	2	3949.1	34.902	34.902	2	2.355	2.017	27.918	271.2	2	270.6	2	61.3	0.01	2	19.05	2	1.31	2	31.70	2	0.10	2	0.05	2	0.01	2	0.44	2			9		9		9		9			9		9
5	2	4198.4	34.897	34.897	2	2.301	1.935	27.922	272.1	2	271.9	2	60.7	0.01	2	18.96	2	1.30	2	31.80	2	0.15	6	0.08	6	0.01	6	0.56	2			9		9		9		9			9		9
4	2	4499.7	34.889	34.889	2	2.259	1.859	27.924	270.8	2	269.1	2	64.2	0.01	2	19.54	2	1.34	2	35.50	2	0.10	2	0.06	2	0.01	2	0.46	6			9		9		9		9			9		9
3	2	4800.3	34.875	34.876	2	2.179	1.745	27.923	266.5	2	265.5	2	68.8	0.00	2	20.62	2	1.42	2	42.40	2	0.06	2	0.04	2	0.01	2	0.32	2			9		9	7.7266	6		9			9		9
2	2	5183.5	34.856	34.857	2	2.076	1.598	27.921	259.6	2	258.9	2	76.7	0.01	2	21.98	2	1.52	2	51.10	2	0.04	2	0.03	2	0.01	2	0.22	2			9		9	7.7153	6		9			9		9
1	2	5649.6	34.847	34.847	2	2.062	1.524	27.922	256.2	2	255.7	2	80.5	0.01	6	22.67	6	1.58	6	55.80	6	0.02	2	0.02	2	0.00	2	0.19	2			9		9	7.7095	6		9			9		9

* WOCE water sample quality flag (F) for parameter for the previous column
** WOCE quality flag (F) for "Niskin" sample bottle
*** PSS-78 scale
**** ITS0 scale

A5R
NOAA Ship Ronald H. Brown

STATION 85 DATE 2/15/1998 LATITUDE 24.500° N
LONGITUDE 65.200° W

Bottle Number	F**	Pressure db	CTD Salinity***	Bottle Salinity***	F*	Temp**** °C	Theta °C	Sigma Theta	CTD O2 µmol/kg	F*	Bottle O2 µmol/kg	F*	AOU	NO2 µmol/kg	F*	NO3 µmol/kg	F*	PO4 µmol/kg	F*	Si(OH)4 µmol/kg	F*	CFC-11 pmol/kg	F*	CFC-12 pmol/kg	F*	CFC-113 pmol/kg	F*	CCl4 pmol/kg	F*	fCO2 at 20 °C µatm	fCO2 INSITU µatm	F*	DIC µmol/kg	F*	pH	F*	Measured TA µmol/kg	F*	Calculated TA µmol/kg	TOC µmol/kg	F*	TON µmol/kg	F*
36	2	4.3	36.446	36.454	2	24.998	24.997	24.438	207.7	2	211.4	2	-7.0	0.00	2	0.20	2	0.01	2	0.90	2	9	9	9	9	271.0	329.8	2	2017.7	6	8.1160	2	5	2388	9	9
35	2	36.2	36.557	36.564	2	24.707	24.699	24.614	208.7	2	210.0	6	-4.8	0.00	2	0.20	2	0.01	2	0.90	2	9	9	9	9			9	9	9	9		9	9
34	2	71.3	36.706	36.708	2	24.372	24.357	24.833	209.8	2	211.6	2	-5.4	0.01	2	0.20	2	0.01	2	0.80	2	9	9	9	9	275.7	327.5	2	2034.5	2	8.1000	2	2397	2	2397	9	9
33	2	104.9	37.004	37.009	2	23.689	23.667	25.267	198.2	2	202.0	2	6.3	0.10	2	0.49	2	0.02	2	0.60	2	9	9	9	9	308.7	357.2	2	2074.3	2	8.0590	2	2416	2	2414	9	9
32	2	159.1	37.005	36.981	2	21.738	21.706	25.836	184.5	2	191.2	2	24.3	0.02	2	1.27	2	0.04	2	0.60	2	9	9	9	9	346.6	371.6	2	2100.3	2	8.0265	2	5	2420	9	9
31	2	208.5	36.919	36.923	2	20.534	20.494	26.106	176.1	2	178.0	2	42.3	0.01	2	3.22	2	0.13	2	0.90	2	9	9	9	9			9	9	9	9		9	9
30	2	232.6	36.779	36.792	2	19.670	19.627	26.231	187.2	2	185.2	2	38.8	0.01	2	3.02	2	0.12	2	0.90	2	9	9	9	9			9	9	9	9		9	9
29	2	260.7	36.685	36.693	2	19.015	18.968	26.331	185.9	2	188.0	2	38.9	0.01	2	3.80	2	0.15	2	1.00	2	9	9	9	9	395.5	380.0	2	2112.8	2	7.9727	2	2395	2	2396	9	9
28	2	285.2	36.627	36.628	2	18.626	18.575	26.388	188.6	2	191.6	2	37.0	0.01	2	4.29	2	0.18	2	1.10	2	9	9	9	9			9	9	9	9		9	9
27	3	310.2	36.559	36.565	2	18.239	18.185	26.435	192.5	2	186.5	2	43.9	0.01	2	5.66	2	0.28	2	1.60	2	9	9	9	9			9	9	9	9		9	9
26	2	369.7	36.464	36.460	2	17.591	17.528	26.527	188.9	2	184.2	2	49.2	0.01	2	7.03	2	0.36	2	1.90	2	9	9	9	9			9	9	9	9		9	9
25	2	429.9	36.287	36.298	2	16.583	16.512	26.636	180.7	2	177.0	2	61.3	0.01	2	9.08	2	0.50	2	2.60	2	9	9	9	9	467.7	407.2	2	2131.3	2	7.9082	2	2371	2	2374	9	9
24	2	489.3	36.100	36.095	2	15.528	15.451	26.738	171.6	2	162.2	2	81.4	0.01	2	12.30	2	0.72	2	3.90	2	9	9	9	9			9	9	9	9		9	9
23	2	586.9	35.786	35.809	2	13.591	13.506	26.917	167.6	2	159.6	2	94.2	0.01	2	15.42	2	0.92	2	5.80	2	9	9	9	9			9	9	9	9		9	9
22	2	691.2	35.525	35.532	2	11.650	11.559	27.098	166.3	2	160.8	2	103.9	0.01	2	18.65	2	1.16	2	8.60	2	9	9	9	9	660.9	468.3	2	2166.7	2	7.7619	2	2335	2	2332	9	9
21	2	790.4	35.303	35.313	2	9.879	9.785	27.241	150.4	2	151.3	2	124.2	0.00	2	22.46	2	1.44	2	12.20	2	9	9	9	9			9	9	9	9		9	9
20	2	889.6	35.100	35.100	2	8.199	8.104	27.351	147.4	2	147.2	2	139.2	0.00	2	25.88	2	1.71	2	16.50	2	9	9	9	9	884.8	543.0	2	2197.8	2	7.6572	2	2319	2	2318	9	9
19	2	989.2	35.060	35.061	2	7.094	6.995	27.481	165.4	2	163.9	2	129.9	0.00	2	25.30	2	1.67	2	17.30	2	9	9	9	9	864.7	504.5	2	2195.7	6	7.6634	2	2321	2	2318	9	9
18	2	1097.6	35.058	35.057	2	6.330	6.226	27.583	186.9	2	187.5	2	111.6	0.00	2	23.44	2	1.56	2	16.60	2	9	9	9	9	826.1	464.6	2	2190.4	2	7.6795	2	2320	2	2319	9	9
17	2	1299.8	35.060	35.032	2	5.195	5.081	27.727	233.3	2	233.0	2	74.4	0.00	2	19.63	2	1.31	2	13.60	2	9	9	9	9			9	9	9	9		9	9
16	2	1498.7	35.031	35.032	2	4.558	4.431	27.778	253.7	2	253.6	2	58.7	0.00	2	18.46	2	1.22	2	12.80	2	9	9	9	9	730.5	376.8	2	2166.3	2	7.7297	2	2314	2	2315	9	9
15	2	1696.3	35.009	35.009	2	4.134	3.994	27.808	263.0	2	262.3	2	53.4	0.00	2	18.07	2	1.21	2	13.50	2	9	9	9	9			9	9	9	9		9	9
14	2	1900.9	35.006	35.007	2	3.896	3.739	27.834	263.1	2	262.9	2	54.7	0.00	2	18.17	2	1.22	2	15.40	2	9	9	9	9			9	9	9	9		9	9
13	2	2100.6	35.002	35.003	2	3.663	3.491	27.857	260.9	2	260.9	2	58.7	0.00	2	18.66	2	1.26	2	18.70	2	9	9	9	9	720.4	355.4	6	2166.8	2	7.7398	2	2322	2	2320	9	9
12	2	2300.2	34.987	34.988	2	3.433	3.245	27.870	261.9	2	261.3	2	60.3	0.00	2	18.75	2	1.27	2	21.00	2	9	9	9	9			9	9	9	9		9	9
11	2	2499.4	34.972	34.972	2	3.218	3.014	27.880	260.4	2	260.3	2	63.2	0.00	2	19.15	2	1.30	2	24.30	2	9	9	9	9			9	9	9	9		9	9
10	2	2690.7	34.959	34.959	2	3.046	2.826	27.887	260.0	2	262.2	2	62.8	0.00	2	19.44	2	1.33	2	26.70	2	9	9	9	9			9	9	9	9		9	9
9	2	2903.4	34.946	34.947	2	2.897	2.658	27.893	259.9	2	260.6	2	65.8	0.01	2	19.54	2	1.34	2	28.70	2	9	9	9	9	729.4	346.1	2	2175.9	2	7.7387	2	2331	2	2329	9	9
8	2	3102.0	34.934	34.933	2	2.751	2.495	27.899	262.8	2	262.7	2	65.1	0.00	2	19.44	2	1.33	2	29.70	2	9	9	9	9			9	9	9	9		9	9
7	2	3399.7	34.920	34.920	2	2.585	2.301	27.906	265.0	2	265.2	2	64.3	0.01	2	19.34	2	1.33	2	30.90	2	9	9	9	9			9	9	9	9		9	9
6	2	3699.8	34.910	34.909	2	2.438	2.125	27.913	269.9	2	268.5	2	62.5	0.01	2	18.85	2	1.31	2	30.50	2	9	9	9	9			9	9	9	9		9	9
5	2	4000.1	34.902	34.902	2	2.351	2.007	27.919	268.7	2	271.5	2	60.5	0.01	2	18.76	2	1.30	2	30.80	2	9	9	9	9	723.3	333.8	2	9	7.7396	2	2327	2		9	9
4	2	4301.1	34.896	34.896	2	2.304	1.926	27.922	271.1	2	270.7	2	62.0	0.01	2	19.05	2	1.32	2	32.90	2	9	9	9	9			9	9	9	9		9	9
3	2	4600.9	34.886	34.887	2	2.248	1.836	27.924	268.9	2	268.0	2	65.5	0.01	2	19.54	2	1.36	2	36.80	2	9	9	9	9			9	9	9	9		9	9
2	2	5000.2	34.867	34.868	2	2.143	1.686	27.922	262.7	2	261.8	2	73.0	0.01	2	21.00	2	1.46	2	46.10	2	9	9	9	9			9	2174.4	3	9	9		9	9
1	2	5428.0	34.852	34.853	2	2.078	1.568	27.922	257.1	2	257.1	2	78.7	0.01	6	22.18	6	1.55	6	53.30	6	9	9	9	9	774.2	351.5	2	2200.5	2	7.7141	2	2349	2	2344	9	9

* WOCE water sample quality flag (F) for parameter for the previous column
** WOCE quality flag (F) for "Niskin" sample bottle
*** PSS-78 scale
**** ITS0 scale

A5R
NOAA Ship Ronald H. Brown

STATION 86 DATE 2/15/1998 LATITUDE 24.500° N
LONGITUDE 66.933° W

Bottle Number	F**	Pressure db	CTD Salinity***	Bottle Salinity***	F*	Temp**** °C	Theta °C	Sigma Theta	CTD O2 µmol/kg	F*	Bottle O2 µmol/kg	F*	AOU	NO2 µmol/kg	F*	NO3 µmol/kg	F*	PO4 µmol/kg	F*	Si(OH)4 µmol/kg	F*	CFC-11 pmol/kg	F*	CFC-12 pmol/kg	F*	CFC-113 pmol/kg	F*	CCl4 pmol/kg	F*	fCO2 at 20 °C µatm	fCO2 INSITU µatm	F*	DIC µmol/kg	F*	pH	F*	Measured TA µmol/kg	F*	Calculated TA µmol/kg	TOC µmol/kg	F*	TON µmol/kg	F*
36	2	3.6	36.502	36.502	2	24.874	24.873	24.517	211.3	2	210.6	2	-5.9	0.00	2	0.20	2	0.00	2	0.90	2	1.81	2	1.05	2	0.14	2	9	265.3	323.6	2	2018.4	6	8.1133	2	2393	2	2392	71.0	2	9
35	2	29.8	36.550	36.554	2	24.804	24.798	24.579	209.6	2	210.7	2	-5.8	0.00	2	0.20	2	0.00	2	0.80	2	9	9	9	9	9	9	9	9	9	9	2020.9	2	9	2397	2	9	71.7	2	9
34	2	79.8	36.668	36.715	2	24.712	24.695	24.703	209.8	2	210.6	2	-5.5	0.00	2	0.20	2	0.00	2	0.70	2	1.88	2	1.08	2	0.16	2	9	276.7	333.0	2	2034.5	2	8.0993	2	2406	2	2397	68.8	2	9
33	2	152.1	36.880	36.888	2	21.334	21.304	25.852	194.7	2	197.6	2	19.6	0.02	2	0.98	2	0.02	2	0.50	2	2.15	2	1.22	2	0.08	2	9	343.3	362.6	2	2088.5	2	8.0297	2	2416	2	2408	56.5	2	9
32	2	202.3	36.741	36.741	2	19.707	19.670	26.189	192.6	2	194.1	2	29.8	0.01	2	2.05	2	0.05	2	0.70	2	2.26	2	1.26	2	0.05	2	9	372.1	367.6	2	2097.1	2	8.0004	2		5	2397	51.6	2	9
31	2	224.9	36.676	36.676	2	19.133	19.092	26.291	192.0	2	193.7	2	32.7	0.01	2	2.93	2	0.09	2	0.80	2	2.28	2	1.27	2	0.02	2	9			9	2100.5	2	7.9914	2		5	2394	51.2	2	9
30	2	251.4	36.618	36.619	2	18.691	18.646	26.361	194.1	2	196.7	2	31.6	0.01	2	3.61	2	0.13	2	1.10	2	2.30	6	1.27	6	0.02	6	9	381.4	361.6	2	2099.0	2	7.9885	2		5	2390	51.4	2	9
29	2	264.8	36.599	36.599	2	18.540	18.493	26.386	196.3	2	198.3	2	30.7	0.00	2	3.81	2	0.14	2	1.00	2	2.29	2	1.26	2	0.02	2	9			9	2097.1	2		9	2408	2		48.6	2	9
28	2	302.0	36.554	36.556	2	18.233	18.180	26.432	202.1	2	201.7	2	28.7	0.01	2	4.20	2	0.17	2	1.20	2	2.32	2	1.28	2	0.02	2	9	384.6	357.9	2	2096.2	2	7.9848	2		5	2384		9	9
27	3	335.4	36.504	36.510	2	17.905	17.847	26.478	200.5	2	199.4	2	32.5	0.01	2	4.98	2	0.23	2	1.40	2	2.26	2	1.23	2	0.02	2	9			9	2101.0	2	7.9716	2		5	2381	47.1	2	9
26	2	400.1	36.344	36.347	2	16.961	16.894	26.589	183.5	2	185.5	2	50.9	0.00	2	7.81	2	0.40	2	2.20	2	2.11	2	1.12	2	0.03	2	9	446.3	394.4	6	2117.3	2	7.9322	2	2377	2	2373		9	9
25	2	449.5	36.199	36.206	2	16.092	16.019	26.683	184.3	2	181.4	2	59.3	0.00	2	9.47	2	0.51	2	2.80	2	2.01	2	1.06	2	0.02	2	9			9	2126.5	2		9	2383	2		42.6	2	9
24	2	498.8	36.012	36.017	2	14.967	14.890	26.794	178.0	2	174.2	2	72.2	0.01	2	12.01	2	0.68	2	4.00	2	1.77	2	0.93	2	0.02	2	9	519.4	423.1	2	2136.5	2	7.8684	2	2360	2	2356		9	9
23	2	548.6	35.838	35.842	2	13.880	13.800	26.895	166.3	2	163.2	2	89.0	0.00	2	14.84	2	0.86	2	5.40	2	9	9	9	9	9	9	9			9	2149.3	2		9	2348	2		42.4	2	9
22	2	600.2	35.675	35.679	2	12.813	12.729	26.988	158.2	2	158.8	2	99.3	0.00	2	17.09	2	1.03	2	6.80	2	1.26	2	0.65	2	0.02	2	9	629.6	469.0	2	2157.5	2	7.7904	2	2343	2	2337		9	9
21	2	698.6	35.397	35.395	2	10.745	10.658	27.163	151.5	2	149.0	2	121.1	0.00	2	21.69	2	1.34	2	10.70	2	0.68	2	0.36	2	0.02	2	9			9	2175.7	2		9	2326	2		41.4	2	9
20	2	798.6	35.161	35.174	2	8.812	8.723	27.303	142.1	2	142.2	2	140.1	0.00	2	25.50	2	1.62	2	14.90	2	0.28	2	0.16	2	0.00	2	9	861.1	543.5	2	2192.3	2	7.6715	2	2323	2	2318		9	9
19	2	850.0	35.040	35.042	2	7.920	7.831	27.344	142.1	2	141.4	2	146.9	0.00	2	27.46	2	1.77	2	17.60	2	0.20	2	0.11	2	0.00	2	9	934.4	567.8	2	2199.1	2	7.6423	2		9	2313	41.5	2	9
18	2	900.8	35.010	35.008	2	7.425	7.334	27.392	146.1	2	145.9	2	145.7	0.00	2	27.66	2	1.80	2	18.60	2	0.16	2	0.09	2	0.01	2	9	937.3	556.8	2	2201.2	2	7.6386	2		9	2314		9	9
17	2	999.0	34.934	34.941	2	6.421	6.326	27.471	160.7	2	157.7	2	141.0	0.00	2	27.75	2	1.83	2	20.30	2	0.13	2	0.07	2	0.00	2	9	962.8	547.5	2	2202.1	6	7.6303	2		9	2311	41.6	2	9
16	2	1100.3	34.996	35.004	2	6.125	6.022	27.560	177.2	2	181.2	2	119.5	0.00	2	24.92	2	1.64	2	18.00	2	0.25	2	0.13	2	0.01	2	9	864.7	482.3	2	2192.2	2	7.6648	2	2323	2	2315		9	9
15	2	1300.8	35.057	35.059	2	5.246	5.131	27.719	233.2	2	231.6	2	75.4	0.00	2	19.74	2	1.30	2	13.40	2	0.61	2	0.30	2	0.02	2	9			9	2173.1	2	7.7129	2		9	2316	42.7	2	9
14	2	1499.3	35.019	35.020	2	4.477	4.351	27.777	256.4	2	256.7	2	56.2	0.00	2	18.37	2	1.21	2	12.50	2	0.79	6	0.39	6	0.03	6	9	738.3	379.5	2	2164.8	2	7.7278	2		5	2313		9	9
13	2	1748.5	34.994	34.996	2	4.006	3.863	27.810	265.4	2	265.2	2	51.5	0.00	2	17.98	2	1.19	2	13.30	2	0.64	2	0.32	2	0.02	2	9			9	2160.8	2	7.7352	2		5	2312	44.4	3	9
12	2	2000.4	34.984	34.986	2	3.722	3.558	27.835	266.7	2	266.9	2	52.2	0.00	2	18.08	2	1.20	2	15.00	2	0.39	2	0.20	2	0.01	2	9	717.8	355.6	2	2161.7	2	7.7364	2		9	2313		9	9
11	2	2249.6	34.977	34.979	2	3.449	3.266	27.859	263.4	2	267.0	2	54.4	0.00	2	18.27	2	1.22	2	17.90	2	0.19	2	0.10	2	0.01	2	9			9	2163.7	2	7.7381	2	2318	2	2316	41.7	2	9
10	2	2499.1	34.960	34.961	2	3.193	2.990	27.872	264.1	2	268.2	2	55.5	0.00	2	18.27	2	1.22	2	19.50	2	0.20	2	0.11	2	0.01	2	9	719.2	347.1	2	2164.9	2	7.7390	2		9	2317		9	9
9	9	2747.5	34.952		2	2.997	2.772	27.887	262.4	2		9			9		9		9		9		9		9		9	9			9		9		9		9			9	9
8	2	2997.6	34.941	34.941	2	2.840	2.593	27.895	263.6	2	263.9	2	63.1	0.00	2	19.35	2	1.31	2	27.30	2	0.07	2	0.03	2	0.01	2	9	718.1	340.4	2	2173.0	2	7.7378	2		9	2325		9	9
7	2	3399.8	34.919	34.921	2	2.583	2.299	27.905	268.5	2	269.1	2	60.4	0.00	2	18.96	2	1.29	2	28.00	2	0.13	2	0.07	2	0.00	2	9			9	2171.5	2		9	2327	2		41.4	2	9
6	2	3798.6	34.908	34.908	2	2.417	2.094	27.915	270.6	2	271.2	2	60.0	0.00	2	18.86	2	1.29	2	29.50	2	0.14	2	0.07	2	0.00	2	9	730.8	339.0	2	2172.2	2	7.7367	2		9	2324		9	9
5	2	4196.4	34.899	34.899	2	2.328	1.962	27.921	271.2	2	271.5	2	60.9	0.00	2	18.96	2	1.30	2	31.40	2	0.12	6	0.07	6	0.01	6	9			9	2174.3	2	7.7357	2	2328	2	2326	41.5	2	9
4	2	4581.9	34.890	34.890	2	2.276	1.866	27.924	269.6	2	269.3	2	63.9	0.00	2	19.45	2	1.34	2	34.80	2	0.11	2	0.06	2	0.01	2	9	741.0	341.2	2	2178.1	2		9		9			9	9
3	2	4997.5	34.873	34.874	2	2.184	1.726	27.924	264.0	2	263.7	2	70.7	0.00	2	20.72	2	1.43	2	43.10	2	0.06	2	0.04	2	0.01	2	9			9	2187.7	2	7.7230	2	2341	2	2334	41.4	2	9
2	2	5385.6	34.855	34.856	2	2.089	1.584	27.922	257.6	2	257.8	2	77.9	0.01	2	22.09	2	1.53	2	51.70	2	0.03	2	0.03	2	0.01	2	9	782.8	356.9	2	2198.3	2	7.7142	2		9	2342		9	9
1	2	5815.6	34.847	34.847	2	2.088	1.527	27.923	254.6	2	255.7	6	80.5	0.00	6	22.67	6	1.56	6	55.30	6	0.03	2	0.02	2	0.00	2	9	792.9	360.8	6	2202.6	2	7.7085	2	2352	2	2344	41.6	2	9

* WOCE water sample quality flag (F) for parameter for the previous column
** WOCE quality flag (F) for "Niskin" sample bottle
*** PSS-78 scale
**** ITS0 scale

A5R
NOAA Ship Ronald H. Brown

STATION 87 DATE 2/15/1998 LATITUDE 24.500° N
LONGITUDE 67.667° W

Bottle Number	F**	Pressure db	CTD Salinity***	Bottle Salinity***	F*	Temp**** °C	Theta °C	Sigma Theta	CTD O2 µmol/kg	F*	Bottle O2 µmol/kg	F*	AOU	NO2 µmol/kg	F*	NO3 µmol/kg	F*	PO4 µmol/kg	F*	Si(OH)4 µmol/kg	F*	CFC-11 pmol/kg	F*	CFC-12 pmol/kg	F*	CFC-113 pmol/kg	F*	CCl4 pmol/kg	F*	fCO2 at 20 °C µatm	fCO2 INSITU µatm	F*	DIC µmol/kg	F*	pH	F*	Measured TA µmol/kg	F*	Calculated TA µmol/kg	TOC µmol/kg	F*	TON µmol/kg	F*
36	2	4.8	36.614	36.614	2	24.552	24.551	24.700	211.8	2	211.7	2	-6.0	0.00	2	0.20	2	0.01	2	1.10	2	9		9		9		9		276.9	331.2	2	2028.5	6	8.1072	2	2396	2	2395		9		9
35	2	50.4	36.638	36.639	2	24.507	24.496	24.738	209.9	2	211.5	2	-5.7	0.01	2	0.20	2	0.01	2	1.10	2	9		9		9		9					9		9		9		9			9		9
34	2	101.6	36.892	36.895	2	23.690	23.669	25.181	206.9	2	205.6	2	2.8	0.04	2	0.39	2	0.02	2	1.00	2	9		9		9		9		307.2	355.4	2	2066.5	2	8.0704	2	2412	2	2413		9		9
33	2	149.4	36.847	36.849	2	20.938	20.909	25.935	192.5	2	194.6	2	24.2	0.02	2	1.27	2	0.04	2	1.10	2	9		9		9		9		354.8	367.8	2	2098.1	2	8.0186	2	2408	2	2411		9		9
32	2	190.9	36.748	36.748	2	19.711	19.676	26.192	191.5	2	193.2	2	30.6	0.01	2	2.15	2	0.07	2	1.10	2	9		9		9		9					9		9	7.9993	2		9			9		9
31	2	212.3	36.673	36.673	2	19.105	19.067	26.294	194.5	2	194.1	2	32.4	0.01	2	3.03	2	0.11	2	1.30	2	9		9		9		9					9		9	7.9921	2		9			9		9
30	2	240.6	36.611	36.610	2	18.650	18.607	26.366	198.0	2	198.2	2	30.3	0.01	2	3.51	2	0.14	2	1.40	2	9		9		9		9		380.0	359.9	2	2103.0	2	7.9899	2	2393	2	2395		9		9
29	2	266.2	36.584	36.582	2	18.447	18.400	26.398	201.7	2	201.4	2	28.0	0.01	2	3.71	2	0.16	2	1.40	2	9		9		9		9					9		9	7.9896	2		9			9		9
28	2	290.5	36.560	36.559	2	18.267	18.216	26.427	203.2	2	203.3	2	27.0	0.01	2	4.00	2	0.18	2	1.40	2	9		9		9		9					9		9	7.9868	2		9			9		9
27	2	342.6	36.511	36.511	2	17.946	17.887	26.474	197.9	2	201.3	2	30.5	0.01	2	4.78	2	0.23	2	1.50	2	9		9		9		9					9		9	7.9780	2		9			9		9
26	2	393.6	36.412	36.413	2	17.369	17.302	26.543	186.1	2	190.6	2	43.9	0.01	2	6.73	2	0.34	2	2.10	2	9		9		9		9		424.4	381.4	2	2115.9	2	7.9497	2	2384	2	2383		9		9
25	2	432.1	36.297	36.299	2	16.697	16.625	26.617	183.3	2	184.4	2	53.3	0.01	2	8.39	2	0.45	2	2.70	2	9		9		9		9					9		9		9		9			9		9
24	2	491.6	36.092	36.092	2	15.444	15.367	26.751	175.2	2	178.4	2	65.6	0.01	2	10.84	2	0.61	2	3.80	2	9		9		9		9					9		9	7.8870	2		9			9		9
23	2	540.5	35.942	35.946	2	14.487	14.406	26.847	172.2	2	174.0	2	74.9	0.01	2	12.69	2	0.73	2	4.70	2	9		9		9		9		534.5	426.2	2	2143.6	2	7.8567	2	2367	2	2357		9		9
22	2	589.6	35.763	35.770	2	13.327	13.243	26.953	167.6	2	164.0	2	91.2	0.01	2	15.53	2	0.92	2	6.20	2	9		9		9		9					9		9		9		9			9		9
21	2	689.0	35.496	35.480	2	11.438	11.349	27.115	157.8	2	158.6	2	107.4	0.01	2	19.53	2	1.21	2	9.70	2	9		9		9		9		684.7	480.6	2	2171.4	2	7.7572	2	2336	2	2335		9		9
20	2	795.7	35.165	35.170	2	8.648	8.560	27.332	149.7	2	151.1	2	132.2	0.01	2	24.62	2	1.59	2	15.10	2	9		9		9		9		847.3	529.3	2	2190.6	2	7.6792	2	2327	2	2320		9		9
19	2	886.2	35.024	35.025	2	7.231	7.142	27.430	155.3	2	154.9	2	138.0	0.01	2	26.67	2	1.75	2	18.60	2	9		9		9		9		917.9	539.6	2	2198.0	2	7.6492	2		5	2315		9		9
18	2	982.0	35.019	35.019	2	6.492	6.398	27.528	176.0	2	175.3	2	122.7	0.01	2	25.01	2	1.66	2	18.20	2	9		9		9		9					9	2193.4	6	7.6642	2		9	2316		9		9
17	2	1100.2	35.057	35.057	2	5.795	5.695	27.649	208.2	2	208.9	2	94.0	0.01	2	21.59	2	1.42	2	15.40	2	9		9		9		9					9		9	7.6975	2		9			9		9
16	2	1300.7	35.049	35.050	2	4.910	4.799	27.751	245.6	2	244.6	2	64.9	0.01	2	18.95	2	1.25	2	13.10	2	9		9		9		9		753.6	394.4	2	2167.4	2	7.7232	2		5	2313		9		9
15	2	1500.7	35.011	35.010	2	4.313	4.189	27.788	260.6	2	259.6	2	54.6	0.01	2	18.17	2	1.20	2	13.10	2	9		9		9		9					9		9	7.7290	2		9			9		9
14	2	1699.9	34.988	34.989	2	3.947	3.809	27.810	266.4	2	266.7	2	50.4	0.01	2	17.88	2	1.19	2	13.80	2	9		9		9		9					9		9	7.7353	2		9			9		9
13	2	1886.8	34.984	34.984	2	3.741	3.588	27.831	266.8	2	267.5	2	51.4	0.01	2	17.88	2	1.20	2	15.10	2	9		9		9		9		717.9	354.1	2		9	7.7364	2		9			9		9
12	2	2099.4	34.976	34.976	2	3.521	3.351	27.849	268.0	2	268.6	2	52.2	0.01	2	17.78	2	1.21	2	16.80	2	9		9		9		9					9	2159.8	2	7.7393	2		9	2312		9		9
11	2	2300.3	34.971	34.970	2	3.346	3.159	27.864	266.4	2	267.9	2	54.4	0.01	2	18.17	2	1.22	2	18.90	2	9		9		9		9					9		9	7.7402	2		9			9		9
10	2	2499.3	34.967	34.967	2	3.199	2.995	27.877	263.0	2	264.8	2	58.8	0.01	2	18.66	2	1.26	2	22.30	2	9		9		9		9					9		9	7.7399	2		9			9		9
9	2	2700.5	34.950	34.951	2	2.990	2.770	27.886	264.6	2	266.0	2	59.5	0.01	2	18.76	2	1.27	2	24.20	2	9		9		9		9					9		9	7.7394	2		9			9		9
8	2	2949.8	34.938	34.940	2	2.814	2.572	27.895	261.3	2	263.0	2	64.2	0.01	2	19.44	2	1.33	2	29.40	2	9		9		9		9		723.7	340.6	2	2174.2	2	7.7381	2	2337	3	2327		9		9
7	2	3299.7	34.923	34.923	2	2.619	2.345	27.904	267.2	2	268.1	2	61.0	0.01	2	19.05	2	1.30	2	29.10	2	9		9		9		9					9		9		9		9			9		9
6	2	3700.8	34.908	34.908	2	2.418	2.106	27.914	270.3	2	272.0	6	59.1	0.01	2	18.66	2	1.28	2	29.50	2	9		9		9		9					9		9	7.7379	2		9			9		9
5	2	4099.6	34.899	34.900	2	2.322	1.967	27.920	273.0	2	273.3	2	59.0	0.01	2	18.17	2	1.27	2	30.20	2	9		9		9		9		736.7	338.3	2	2170.6	2	7.7355	2		9	2322		9		9
4	2	4497.5	34.892	34.892	2	2.285	1.885	27.924	270.9	2	271.3	2	61.7	0.01	2	18.86	2	1.30	2	32.80	2	9		9		9		9					9	2176.1	2	7.7324	2		5	2326		9		9
3	2	4901.2	34.877	34.876	2	2.204	1.757	27.924	265.1	2	265.0	2	69.2	0.01	2	20.42	2	1.41	2	41.80	2	9		9		9		9					9		9		9		9			9		9
2	2	5290.7	34.852	34.853	2	2.051	1.560	27.921	255.4	2	257.4	2	78.5	0.01	2	22.18	2	1.54	2	53.50	2	9		9		9		9		784.6	356.1	6	2199.2	2	7.7120	2		9	2342		9		9
1	2	5803.0	34.845	34.846	2	2.074	1.515	27.923	253.5	2	256.1	2	80.2	0.01	6	22.57	6	1.58	6	56.20	6	9		9		9		9		784.9	356.2	2	2202.3	2	7.7085	2	2351	2	2344		9		9

* WOCE water sample quality flag (F) for parameter for the previous column
** WOCE quality flag (F) for "Niskin" sample bottle
*** PSS-78 scale
**** ITS0 scale

A5R
NOAA Ship Ronald H. Brown

STATION 88 DATE 2/15/1998 LATITUDE 24.500° N
LONGITUDE 68.401° W

Bottle Number	F**	Pressure db	CTD Salinity***	Bottle Salinity***	F*	Temp**** °C	Theta °C	Sigma Theta	CTD O2 µmol/kg	F*	Bottle O2 µmol/kg	F*	AOU	NO2 µmol/kg	F*	NO3 µmol/kg	F*	PO4 µmol/kg	F*	Si(OH)4 µmol/kg	F*	CFC-11 pmol/kg	F*	CFC-12 pmol/kg	F*	CFC-113 pmol/kg	F*	CCl4 pmol/kg	F*	fCO2 at 20 °C µatm	fCO2 INSITU µatm	F*	DIC µmol/kg	F*	pH	F*	Measured TA µmol/kg	F*	Calculated TA µmol/kg	TOC µmol/kg	F*	TON µmol/kg	F*
36	2	4.9	36.648	36.657	2	24.298	24.297	24.802	207.9	2	211.7	2	-5.2	0.00	2	0.29	2	0.01	2	1.00	2	1.87	2	1.08	2	0.15	2	1.90	2	275.1	325.9	6	2032.7	6	8.1039	6		5	2398	71.0	2		9
35	2	35.9	36.646	36.648	2	24.316	24.308	24.800	210.8	2	211.7	2	-5.2	0.00	2	0.29	2	0.01	2	1.00	2		9		9		9		9			9		9		9		9		71.3	2		9
34	2	70.1	36.657	36.659	2	24.067	24.052	24.887	210.0	2	212.9	2	-5.5	0.00	2	0.29	2	0.01	2	0.90	2	1.91	2	1.10	2	0.17	2		9			9		9		9		9		68.1	2		9
33	2	110.5	37.010	37.018	2	22.788	22.765	25.535	191.5	2	188.0	2	23.5	0.03	2	1.95	2	0.08	2	1.00	2	2.02	2	1.15	2	0.09	2	0.46	6			9		9		9		9		59.2	2		9
32	2	162.9	36.888	36.885	2	20.530	20.499	26.078	179.4	2	179.1	2	41.2	0.01	2	3.32	2	0.13	2	1.20	2	2.15	2	1.20	2	0.04	2		9			9		9		9		9		52.9	2		9
31	2	196.1	36.722	36.716	2	19.363	19.327	26.264	183.3	2	184.1	2	41.2	0.01	2	3.90	2	0.16	2	1.40	2	2.22	6	1.22	6	0.03	6		9			9		9		9		9		50.3	2		9
30	2	225.3	36.646	36.640	2	18.781	18.741	26.358	182.8	2	185.8	2	42.1	0.01	2	4.68	2	0.21	2	1.60	2		9		9		9		9			9		9		9		9		47.9	2		9
29	2	250.8	36.593	36.589	2	18.400	18.356	26.416	187.8	2	185.9	2	43.7	0.01	2	5.56	2	0.26	2	1.70	2	2.24	2	1.22	2	0.02	2	0.36	2			9		9		9		9			9		9
28	2	275.8	36.541	36.542	2	18.097	18.049	26.453	194.8	2	195.3	2	35.7	0.01	2	5.07	2	0.24	2	1.70	2		9		9		9		9			9		9		9		9			9		9
27	2	302.4	36.496	36.496	2	17.845	17.793	26.484	190.2	2	195.4	2	36.8	0.01	2	5.56	2	0.27	2	1.80	2	2.24	2	1.22	2	0.03	2		9			9		9		9		9		45.6	2		9
26	2	350.4	36.328	36.327	2	16.861	16.803	26.596	181.4	2	179.2	2	57.7	0.01	2	8.59	2	0.46	2	2.70	2		9		9		9		9			9		9		9		9			9		9
25	2	399.9	36.133	36.140	2	15.704	15.641	26.717	176.2	2	173.7	2	68.9	0.00	2	10.83	2	0.61	2	3.60	2	1.93	2	1.02	2	0.02	2	0.38	2			9		9		9		9		45.0	2		9
24	2	451.3	35.942	35.942	2	14.617	14.549	26.813	154.4	2	158.7	6	89.5	0.01	2	14.25	2	0.84	2	5.20	2		9		9		9		9			9		9		9		9			9		9
23	2	500.9	35.851	35.850	2	13.856	13.783	26.907	174.0	2	175.2	2	77.1	0.00	2	13.57	2	0.79	2	5.20	2	1.67	2	0.87	2	0.03	2		9			9		9		9		9		43.9	2		9
22	2	600.0	35.531	35.538	2	11.703	11.624	27.089	157.1	2	157.1	2	107.3	0.00	2	18.84	2	1.16	2	8.80	2	1.01	2	0.52	2	0.02	2		9			9		9		9		9			9		9
21	2	694.6	35.307	35.307	2	10.001	9.918	27.220	149.1	2	147.9	2	126.8	0.00	2	22.75	2	1.45	2	12.50	2		9		9		9		9			9		9		9		9		41.7	2		9
20	2	800.0	35.111	35.109	2	8.155	8.070	27.364	149.7	2	150.8	2	135.8	0.01	2	25.59	2	1.67	2	16.40	2	0.28	2	0.15	2	0.01	2	0.22	2			9		9		9		9			9		9
19	2	900.1	35.074	35.075	2	6.986	6.897	27.504	172.0	2	173.1	2	121.4	0.01	2	24.22	2	1.59	2	16.40	2	0.33	2	0.17	2	0.01	2		9			9		9		9		9		41.4	2		9
18	2	1000.2	35.081	35.080	2	6.069	5.977	27.631	203.8	2	204.6	2	96.2	0.00	2	21.58	2	1.43	2	14.70	2	0.48	2	0.24	2	0.01	2		9			9		9		9		9			9		9
17	2	1200.0	35.045	35.046	2	4.888	4.786	27.747	244.1	2	243.3	2	66.3	0.00	2	18.85	2	1.26	2	13.10	2	0.71	6	0.35	6	0.02	6		9			9		9		9		9		41.6	2		9
16	2	1400.1	35.005	35.006	2	4.268	4.154	27.786	260.8	2	260.2	2	54.2	0.00	2	18.16	2	1.21	2	12.80	2	0.80	2	0.39	2	0.03	2		9			9		9		9		9			9		9
15	2	1601.6	34.984	34.984	2	3.934	3.805	27.807	266.6	2	266.8	2	50.4	0.00	2	17.87	2	1.19	2	13.40	2	0.75	2	0.37	2	0.02	2	1.45	2			9		9		9		9			9		9
14	2	1800.0	34.981	34.981	2	3.720	3.576	27.828	267.7	2	267.7	2	51.3	0.00	2	17.87	2	1.20	2	14.70	2		9		9		9		9			9		9		9		9			9		9
13	2	2001.9	34.976	34.977	2	3.539	3.378	27.846	267.3	2	267.5	2	53.1	0.00	2	17.87	2	1.21	2	16.30	2	0.34	2	0.17	2	0.01	2		9			9		9		9		9			9		9
12	2	2201.2	34.965	34.966	2	3.305	3.129	27.861	267.3	2	268.3	2	54.3	0.00	2	17.87	2	1.22	2	18.10	2	0.27	2	0.14	2	0.01	2		9			9		9		9		9			9		9
11	2	2400.4	34.971	34.970	2	3.208	3.014	27.878	260.6	2	261.1	2	62.4	0.00	2	19.04	2	1.29	2	23.30	2	0.05	2	0.03	2	0.01	2	0.37	2			9		9		9		9		42.7	2		9
10	2	2598.9	34.952	34.952	2	2.999	2.789	27.884	264.9	2	264.9	2	60.5	0.00	2	18.75	2	1.27	2	23.40	2	0.13	2	0.07	2	0.01	2		9			9		9		9		9			9		9
9	2	2797.6	34.936	34.937	2	2.833	2.607	27.889	270.0	2	271.3	2	55.6	0.00	2	18.07	2	1.23	2	21.60	2	0.31	2	0.16	2	0.01	2		9			9		9		9		9			9		9
8	2	3001.2	34.930	34.931	2	2.724	2.479	27.896	268.2	2	268.5	2	59.5	0.01	2	18.56	2	1.27	2	25.00	2	0.20	2	0.10	2	0.01	2	0.56	2			9		9		9		9			9		9
7	2	3401.3	34.915	34.915	2	2.508	2.226	27.907	270.9	2	272.4	2	57.7	0.01	2	18.26	2	1.25	2	25.90	2	0.31	2	0.16	2	0.02	2	0.74	2			9		9		9		9			9		9
6	2	3800.6	34.904	34.904	2	2.363	2.041	27.916	271.3	2	272.5	2	59.2	0.00	2	18.46	2	1.27	2	28.50	2	0.22	2	0.11	2	0.01	2	0.68	2			9		9		9		9			9		9
5	2	4199.4	34.897	34.896	2	2.297	1.931	27.922	271.6	2	271.5	2	61.1	0.01	2	18.75	2	1.29	2	30.90	2	0.18	2	0.10	2	0.01	2	0.64	2			9		9		9		9			9		9
4	2	4600.7	34.888	34.888	2	2.256	1.844	27.924	268.6	2	268.0	2	65.4	0.01	2	19.44	2	1.34	2	35.50	2	0.14	2	0.08	2	0.01	2	0.53	6			9		9		9		9			9		9
3	2	5001.6	34.868	34.869	2	2.154	1.696	27.922	261.6	2	262.1	2	72.6	0.01	2	21.00	2	1.46	2	45.20	2	0.03	2	0.02	2	0.01	2	0.28	2			9		9		9		9			9		9
2	2	5400.5	34.850	34.851	2	2.055	1.550	27.921	254.9	2	255.7	2	80.3	0.01	2	22.27	2	1.55	2	53.90	2	0.03	2	0.03	2	0.01	2	0.18	2			9		9		9		9			9		9
1	2	5813.6	34.845	34.846	2	2.071	1.511	27.923	253.0	2	254.3	2	82.0	0.01	6	22.76	6	1.59	6	56.20	6	0.06	3	0.04	3	0.01	3	0.18	2			9		9		9		9			9		9

* WOCE water sample quality flag (F) for parameter for the previous column
** WOCE quality flag (F) for "Niskin" sample bottle
*** PSS-78 scale
**** ITS0 scale

A5R
NOAA Ship Ronald H. Brown

STATION 89 DATE 2/16/1998 LATITUDE 24.500° N
LONGITUDE 69.133° W

Bottle Number	F**	Pressure db	CTD Salinity***	Bottle Salinity***	F*	Temp**** °C	Theta °C	Sigma Theta	CTD O2 µmol/kg	F*	Bottle O2 µmol/kg	F*	AOU	NO2 µmol/kg	F*	NO3 µmol/kg	F*	PO4 µmol/kg	F*	Si(OH)4 µmol/kg	F*	CFC-11 pmol/kg	F*	CFC-12 pmol/kg	F*	CFC-113 pmol/kg	F*	CCl4 pmol/kg	F*	fCO2 at 20 °C µatm	fCO2 INSITU µatm	F*	DIC µmol/kg	F*	pH	F*	Measured TA µmol/kg	F*	Calculated TA µmol/kg	TOC µmol/kg	F*	TON µmol/kg	F*
36	2	3.9	36.530	36.530	2	24.785	24.784	24.566	210.8	2	209.2	2	-4.2	0.00	2	0.10	2	0.00	2	1.10	2	9	9	9	9	268.8	324.5	2	2020.7	2	8.1044	2	2386	2	2383	9	9
35	2	55.9	36.593	36.608	2	24.802	24.790	24.615	207.9	2	209.0	2	-4.1	0.00	2	0.10	2	0.01	2	1.10	2	9	9	9	9			9	9	9		9	9
34	2	87.8	36.943	36.967	2	24.016	23.997	25.121	202.9	2	199.0	2	8.2	0.08	2	0.49	2	0.02	2	0.90	2	9	9	9	9	310.3	363.2	2	2074.8	2	8.0577	2	2413	2	2413	9	9
33	2	128.9	36.972	36.959	2	22.231	22.205	25.668	179.0	2	178.4	2	35.3	0.02	2	2.93	2	0.14	2	1.30	2	9	9	9	9	365.9	399.3	2	2108.0	3	8.0050	2	2414	2	2414	9	9
32	2	169.3	36.852	36.853	2	20.467	20.435	26.069	167.0	2	184.8	3	35.8	0.01	2	2.44	2	0.09	2	1.10	2	9	9	9	9			9	9	9		9	9
31	2	200.5	36.696	36.708	2	19.351	19.314	26.247	182.8	2	168.6	2	56.8	0.01	2	5.76	2	0.28	2	1.90	2	9	9	9	9	431.7	420.7	2	2128.1	3	7.9466	2	2397	2	2396	9	9
30	2	225.1	36.633	36.632	2	18.719	18.679	26.363	185.7	2	187.0	2	41.2	0.01	2	4.49	2	0.19	2	1.50	2	9	9	9	9			9	9	9		9	9
29	2	249.4	36.574	36.577	2	18.353	18.309	26.413	183.7	2	200.7	2	29.1	0.01	2	3.80	2	0.16	2	1.30	2	9	9	9	9			9	9	4	2385	2		9	9
28	2	274.1	36.533	36.529	2	18.070	18.022	26.454	188.6	2	200.8	2	30.3	0.01	2	4.59	2	0.21	2	1.60	2	9	9	9	9	389.6	360.2	2	2102.1	2	9	9		9	9
27	2	299.6	36.483	36.488	2	17.771	17.719	26.492	186.0	2	188.0	2	44.5	0.01	2	6.24	2	0.31	2	2.00	2	9	9	9	9			9	9	9		9	9
26	2	349.8	36.321	36.315	2	16.803	16.745	26.604	174.8	2	182.7	2	54.5	0.01	2	8.29	2	0.44	2	2.60	2	9	9	9	9			9	9	9		9	9
25	2	400.0	36.157	36.157	2	15.871	15.807	26.698	168.3	2	172.7	2	69.1	0.01	2	10.73	2	0.61	2	3.60	2	9	9	9	9			9	9	9		9	9
24	2	450.0	36.008	36.013	2	14.938	14.869	26.794	169.7	2	172.8	2	73.7	0.01	2	12.00	2	0.69	2	4.30	2	9	9	9	9	529.4	430.7	2	2139.7	2	7.8650	2	2356	2	2357	9	9
23	2	499.8	35.852	35.858	2	13.929	13.856	26.892	171.0	2	170.1	2	81.8	0.00	2	13.86	2	0.82	2	5.40	2	9	9	9	9			9	9	9		9	9
22	2	600.7	35.487	35.490	2	11.505	11.427	27.091	146.8	2	147.4	2	118.1	0.01	2	20.41	2	1.26	2	9.50	2	9	9	9	9			9	9	9		9	9
21	2	650.6	35.361	35.366	2	10.649	10.568	27.149	142.9	2	141.7	2	129.0	0.01	2	22.65	2	1.41	2	11.30	2	9	9	9	9	778.6	530.3	2	2179.9	2	7.7101	2	2328	2	2323	9	9
20	2	699.2	35.246	35.241	2	9.724	9.642	27.219	138.0	2	139.2	2	137.3	0.01	2	24.51	2	1.56	2	13.60	2	9	9	9	9			9	9	9		9	9
19	2	798.9	35.166	35.170	2	8.359	8.273	27.376	158.0	2	158.1	2	127.1	0.01	2	23.93	2	1.55	2	14.70	2	9	9	9	9	839.8	518.1	2	2186.5	2	7.6856	2	2321	2	2318	9	9
18	2	892.3	35.090	35.093	2	7.158	7.069	27.493	173.3	2	171.7	2	121.5	0.00	2	23.93	2	1.58	2	16.00	2	9	9	9	9	848.8	496.4	2	2186.9	2	7.6771	2	2320	2	2315	9	9
17	2	1001.0	35.074	35.074	2	6.004	5.912	27.634	203.0	2	205.2	2	96.1	0.00	2	21.58	2	1.43	2	14.90	2	9	9	9	9	800.7	443.2	2	2179.8	6	7.6905	2	2320	2	2313	9	9
16	2	1145.2	35.081	35.077	2	5.284	5.184	27.730	233.2	2	231.8	2	74.7	0.01	2	19.63	2	1.30	2	13.70	2	9	9	9	9			9	9	9		9	9
15	2	1350.5	35.055	35.055	2	4.622	4.509	27.787	250.9	2	250.1	2	61.5	0.00	2	18.56	2	1.24	2	13.60	2	9	9	9	9	732.5	379.0	2	2162.6	2	7.7315	2	2318	2	2312	9	9
14	2	1531.5	34.994	34.996	2	4.003	3.880	27.807	262.1	2	264.7	2	51.9	0.00	2	17.87	2	1.20	2	13.60	2	9	9	9	9			9	9	9		9	9
13	2	1698.7	34.982	34.983	2	3.778	3.642	27.823	267.6	2	267.3	2	51.2	0.00	2	17.78	2	1.20	2	14.40	2	9	9	9	9			9	9	9		9	9
12	2	1950.0	34.975	34.976	2	3.529	3.373	27.845	267.1	2	267.7	2	52.9	0.00	2	17.87	2	1.21	2	16.40	2	9	9	9	9	722.2	354.4	2	2158.3	2	7.7387	2	2315	2	2310	9	9
11	2	2198.4	34.968	34.968	2	3.315	3.139	27.863	266.9	2	267.5	2	55.0	0.00	2	18.07	2	1.22	2	18.50	2	9	9	9	9			9	9	9		9	9
10	2	2440.3	34.965	34.964	2	3.143	2.946	27.880	261.5	2	262.0	2	62.1	0.00	2	18.85	2	1.29	2	23.70	2	9	9	9	9			9	9	9		9	9
9	2	2701.0	34.944	34.945	2	2.914	2.696	27.887	267.4	2	267.9	2	58.2	0.00	2	18.36	2	1.25	2	22.90	2	9	9	9	9	728.3	346.5	2	2165.2	2	7.7395	2		9	2318	9	9
8	2	3000.1	34.928	34.928	2	2.700	2.456	27.897	273.0	2	273.1	2	55.0	0.01	2	17.78	2	1.22	2	22.20	2	9	9	9	9			9	9	9		9	9
7	2	3296.6	34.918	34.917	2	2.533	2.262	27.906	274.8	2	274.3	2	55.5	0.01	2	17.78	2	1.22	2	23.40	2	9	9	9	9			9	9	9		9	9
6	2	3592.8	34.908	34.910	2	2.417	2.117	27.912	274.7	2	274.3	2	56.7	0.01	2	17.87	2	1.23	2	25.60	2	9	9	9	9			9	9	9		9	9
5	2	3999.6	34.901	34.901	2	2.330	1.986	27.919	274.4	2	274.3	2	57.8	0.01	2	18.17	2	1.25	2	27.50	2	9	9	9	9	733.2	338.7	2	2169.0	2	7.7339	2	2323	2	2319	9	9
4	2	4397.4	34.894	34.894	2	2.296	1.907	27.923	272.7	2	272.0	2	60.8	0.01	2	18.56	2	1.28	2	30.60	2	9	9	9	9			9	9	9		9	9
3	2	4798.3	34.888	34.888	2	2.282	1.845	27.926	269.9	2	269.1	2	64.3	0.00	2	19.15	2	1.33	2	34.30	2	9	9	9	9			9	9	9		9	9
2	2	5197.3	34.870	34.871	2	2.194	1.710	27.925	262.9	2	262.6	2	72.0	0.01	2	20.71	2	1.44	2	43.80	2	9	9	9	9			9	9	9		9	9
1	2	5735.8	34.846	34.847	2	2.065	1.515	27.923	253.0	2	254.9	6	81.4	0.01	6	22.66	2	1.58	6	56.00	6	9	9	9	9	789.8	358.6	6	2202.1	2	7.7079	2	2348	2	2343	9	9

* WOCE water sample quality flag (F) for parameter for the previous column
** WOCE quality flag (F) for "Niskin" sample bottle
*** PSS-78 scale
**** ITS0 scale

A5R
NOAA Ship Ronald H. Brown

STATION 90 DATE 2/16/1998 LATITUDE 25.016° N
LONGITUDE 69.502° W

Bottle Number	F**	Pressure db	CTD Salinity***	Bottle Salinity***	F*	Temp**** °C	Theta °C	Sigma Theta	CTD O2 µmol/kg	F*	Bottle O2 µmol/kg	F*	AOU	NO2 µmol/kg	F*	NO3 µmol/kg	F*	PO4 µmol/kg	F*	Si(OH)4 µmol/kg	F*	CFC-11 pmol/kg	F*	CFC-12 pmol/kg	F*	CFC-113 pmol/kg	F*	CCl4 pmol/kg	F*	fCO2 at 20 °C µatm	fCO2 INSITU µatm	F*	DIC µmol/kg	F*	pH	F*	Measured TA µmol/kg	F*	Calculated TA µmol/kg	TOC µmol/kg	F*	TON µmol/kg	F*
36	2	3.5	36.723	36.722	2	23.980	23.979	24.955	216.3	2	213.5	2	-6.0	0.00	2	0.10	2	0.00	2	0.80	2	1.88	2	1.08	2	0.15	2		9	278.5	325.9	2	2037.9	6	8.1080	2		5	2407	69.1	2		9
35	2	51.4	36.717	36.717	2	23.729	23.718	25.031	212.5	2	211.0	2	-2.5	0.00	2	0.10	2	0.00	2	0.80	2	1.91	2	1.11	2	0.15	2		9	275.4	319.2	2	2039.6	2		9	2398	2		70.1	2		9
34	2	99.4	36.698	36.704	2	23.463	23.442	25.101	213.4	2	213.2	2	-3.7	0.00	2	0.10	2	0.01	2	0.80	2	1.93	2	1.11	2	0.17	2		9	276.3	316.9	2	2038.6	2	8.1037	2		5	2404	67.0	2		9
33	2	150.8	36.911	36.908	2	21.851	21.821	25.731	203.3	2	202.5	2	12.7	0.04	2	0.49	2	0.02	2	0.50	2	2.14	2	1.21	2	0.13	2		9	331.9	357.3	2	2085.9	2	8.0439	2		5	2415	53.2	2		9
32	2	199.6	36.714	36.712	2	19.532	19.495	26.214	197.4	2	200.5	2	24.1	0.01	2	1.46	2	0.04	2	0.70	2	2.29	2	1.28	2	0.08	2		9	366.9	360.1	2	2098.6	2	8.0085	2	2399	2	2403	49.8	2		9
31	2	224.8	36.660	36.656	2	19.053	19.012	26.299	193.9	2	201.8	2	24.9	0.01	2	2.15	2	0.07	2	0.80	2	2.30	2	1.28	2	0.05	2		9	371.9	357.9	2	2098.5	2	8.0041	2		9	2400	48.1	2		9
30	2	249.4	36.605	36.601	2	18.638	18.594	26.365	195.8	2	203.0	2	25.6	0.01	2	3.02	2	0.12	2	1.00	2	2.34	2	1.30	2	0.04	2		9	377.6	357.4	2	2098.7	2	7.9979	2		5	2396	46.8	2		9
29	2	272.3	36.586	36.584	2	18.442	18.394	26.402	201.9	2	199.6	2	29.8	0.01	2	3.71	2	0.15	2	1.10	2	2.35	2	1.30	2	0.03	2		9			9	2102.9	2	7.9879	2		9	2394	46.9	2		9
28	2	298.1	36.558	36.560	2	18.225	18.173	26.437	206.6	2	199.3	2	31.1	0.01	2	4.20	2	0.19	2	1.20	2	2.32	2	1.27	2	0.03	2		9	389.3	362.3	2	2103.6	2	7.9796	2	2398	2	2389		9		9
27	2	350.9	36.489	36.486	2	17.786	17.725	26.497	205.8	2	197.6	2	34.9	0.00	2	5.27	2	0.25	2	1.60	2	2.25	2	1.22	2	0.02	2		9			9	2108.1	2	7.9702	2	2396	2	2387	43.6	2		9
26	2	399.4	36.369	36.367	2	17.096	17.029	26.576	198.0	2	190.9	2	44.9	0.00	2	6.93	2	0.36	2	2.00	2	2.18	2	1.16	2	0.03	2		9	437.4	389.0	2	2117.3	2	7.9443	2		5	2381		9		9
25	2	450.5	36.197	36.189	2	16.112	16.039	26.677	189.2	2	185.3	2	55.3	0.00	2	9.08	2	0.50	2	2.90	2	2.05	2	1.08	2	0.02	2		9			9	2126.8	2		9	2388	2		43.3	2		9
24	2	501.3	36.022	36.017	2	15.017	14.940	26.791	184.8	2	178.7	2	67.5	0.00	2	11.32	2	0.65	2	3.90	2	1.90	2	0.98	2	0.03	2		9	511.2	417.3	2	2136.3	2	7.8771	2	2371	2	2360		9		9
23	2	550.5	35.815	35.822	2	13.634	13.554	26.928	179.5	2	173.8	2	79.7	0.00	2	13.96	2	0.82	2	5.30	2	1.61	2	0.83	2	0.02	2		9			9	2148.4	2	7.8377	2	2349	2	2351	42.1	2		9
22	2	604.6	35.602	35.595	2	12.361	12.279	27.019	171.2	2	147.0	2	113.6	0.00	2	19.04	2	1.15	2	8.00	2	1.09	2	0.56	2	0.01	2		9	688.0	503.4	2	2172.3	2	7.7628	2	2347	2	2339		9		9
21	2	650.1	35.483	35.481	2	11.492	11.407	27.093	149.9	2	146.0	2	119.7	0.00	2	20.60	2	1.27	2	9.50	2	0.85	2	0.44	2	0.01	2		9			9	2176.7	2		9		9		41.9	2		9
20	2	691.6	35.411	35.413	2	10.962	10.875	27.135	147.6	2	144.0	2	124.8	0.00	2	21.68	2	1.35	2	10.50	2	0.71	6	0.36	6	0.01	6		9	747.4	515.3	2	2179.2	2	7.7262	2	2332	2	2329		9		9
19	2	750.3	35.328	35.327	2	10.050	9.960	27.231	153.2	2	149.6	2	124.8	0.01	2	22.56	2	1.42	2	12.10	2	0.54	2	0.28	2	0.01	4		9	776.9	515.4	2	2182.5	2	7.7138	2	2328	2	2327	42.4	2		9
18	2	848.8	35.103	35.104	2	8.093	8.003	27.368	148.8	2	149.6	2	137.4	0.01	2	25.78	2	1.67	2	16.40	2	0.29	2	0.15	2	0.01	2		9	880.0	537.3	2	2195.9	2	7.6653	2		9	2320		9		9
17	2	899.8	35.082	35.086	2	7.400	7.309	27.453	163.3	2	163.1	2	128.5	0.01	2	24.81	2	1.63	2	16.40	2	0.32	2	0.16	2	0.01	2		9	872.1	516.0	2	2192.6	2	7.6706	2	2324	2	2318	41.0	2		9
16	2	1001.2	35.075	35.076	2	6.430	6.335	27.581	190.9	2	190.8	2	107.5	0.01	2	22.85	2	1.50	2	15.50	2	0.38	2	0.20	2	0.01	2		9	826.7	467.2	2	2186.1	6	7.6890	2	2321	2	2319		9		9
15	2	1197.7	35.071	35.072	2	5.224	5.119	27.730	233.7	2	232.5	6	74.5	0.01	2	19.63	2	1.30	2	13.50	2	0.53	2	0.26	2	0.02	2		9			9	2171.9	2	7.7171	2	2318	2	2316	41.4	2		9
14	2	1400.6	35.043	35.043	2	4.569	4.452	27.785	253.5	2	251.5	2	60.6	0.01	2	18.56	2	1.23	2	13.30	2	0.56	2	0.28	2	0.02	2		9	737.4	380.7	2	2165.8	2	7.7314	2	2315	2	2315		9		9
13	2	1593.3	35.039	35.040	2	4.260	4.128	27.818	256.0	2	255.4	2	59.2	0.01	2	18.56	2	1.23	2	14.80	2	0.25	2	0.13	2	0.01	2		9			9	2165.1	2	7.7373	2	2318	2	2317	41.5	2		9
12	2	1798.2	35.020	35.020	2	3.885	3.738	27.844	258.1	2	257.4	2	60.2	0.00	2	18.56	2	1.25	2	17.20	2	0.09	2	0.05	2	0.00	2		9	721.4	359.9	2	2166.4	2	7.7397	2		9	2320		9		9
11	2	1952.3	34.994	34.995	2	3.596	3.439	27.854	261.4	2	261.5	2	58.5	0.00	2	18.56	2	1.24	2	18.30	2	0.12	2	0.07	2	0.01	2		9			9	2165.8	2	7.7393	2	2322	2	2319	41.3	2		9
10	2	2249.5	34.977	34.977	2	3.291	3.110	27.873	260.3	2	262.5	2	60.2	0.01	2	18.95	2	1.28	2	22.20	2	0.06	2	0.03	2	0.01	2		9	716.6	346.9	2	2169.8	2	7.7400	2	2331	2	2323		9		9
9	2	2552.8	34.956	34.958	2	3.025	2.819	27.885	259.3	2	260.0	2	65.1	0.01	2	19.44	2	1.31	2	26.30	2	0.03	2	0.02	2	0.00	2		9			9	2174.4	2	7.7392	2		9	2328	41.5	2		9
8	2	2842.4	34.939	34.941	2	2.832	2.601	27.892	263.9	2	262.6	2	64.3	0.01	2	19.24	2	1.31	2	27.30	2	0.10	2	0.08	2	0.01	2	0.32	2	721.1	341.0	2	2173.2	2	7.7387	2		9	2326		9		9
7	2	3246.7	34.920	34.920	2	2.571	2.304	27.905	268.5	2	267.8	2	61.6	0.01	2	18.85	2	1.28	2	27.70	2	0.15	6	0.08	6	0.01	6		9	721.8	337.1	2	2172.3	2		9	2340	3		41.2	2		9
6	2	3634.8	34.908	34.908	2	2.398	2.093	27.914	275.0	2	273.2	2	58.0	0.01	2	18.07	2	1.24	2	26.30	2	0.39	2	0.19	2	0.02	2	0.91	2	729.9	338.3	2	2169.6	2	7.7351	2		9	2321		9		9
5	2	4047.9	34.899	34.900	2	2.321	1.972	27.919	272.8	2	271.9	2	60.4	0.01	2	18.36	2	1.26	2	29.00	2	0.33	2	0.17	2	0.02	2	0.84	2	727.5	335.7	2	2172.9	2	7.7346	2		5	2324	41.4	2		9
4	2	4450.2	34.894	34.893	2	2.295	1.900	27.924	271.6	2	271.0	2	61.9	0.01	2	18.66	2	1.28	2	31.40	2	0.36	2	0.18	2	0.02	2	0.87	6	740.8	341.4	6	2175.7	2		9		9			9		9
3	2	4849.8	34.886	34.887	2	2.273	1.830	27.926	268.8	2	267.0	2	66.5	0.01	2	19.54	2	1.34	2	36.10	2	0.20	2	0.11	2	0.02	2	0.61	2	738.0	339.2	2	2182.2	2	7.7297	2	2339	2	2332	41.5	2		9
2	3	5248.8	34.869	34.871	2	2.194	1.703	27.925	263.6	2	261.5	2	73.1	0.01	2	20.90	2	1.44	2	44.50	2	0.12	2	0.07	2	0.02	2	0.40	2	754.2	344.8	2	2191.0	2	7.7222	2		9	2338		9		9
1	2	5708.1	34.845	34.846	2	2.064	1.518	27.921	254.0	2	252.5	2	83.8	0.01	6	22.86	6	1.58	6	56.20	6	0.02	2	0.02	2	0.01	2	0.18	2	795.8	361.4	2	2204.3	2	7.7086	2	2348	2	2346	41.6	2		9

* WOCE water sample quality flag (F) for parameter for the previous column
** WOCE quality flag (F) for "Niskin" sample bottle
*** PSS-78 scale
**** ITS0 scale

A5R
NOAA Ship Ronald H. Brown

STATION 91 DATE 2/16/1998 LATITUDE 25.383° N
LONGITUDE 69.867° W

Bottle Number	F**	Pressure db	CTD Salinity***	Bottle Salinity***	F*	Temp**** °C	Theta °C	Sigma Theta	CTD O2 µmol/kg	F*	Bottle O2 µmol/kg	F*	AOU	NO2 µmol/kg	F*	NO3 µmol/kg	F*	PO4 µmol/kg	F*	Si(OH)4 µmol/kg	F*	CFC-11 pmol/kg	F*	CFC-12 pmol/kg	F*	CFC-113 pmol/kg	F*	CCl4 pmol/kg	F*	fCO2 at 20 °C µatm	fCO2 INSITU µatm	F*	DIC µmol/kg	F*	pH	F*	Measured TA µmol/kg	F*	Calculated TA µmol/kg	TOC µmol/kg	F*	TON µmol/kg	F*
36	2	4.5	36.727	36.727	2	23.904	23.903	24.980	215.5	2	212.6	2	-4.8	0.00	2	0.10	2	0.00	2	0.60	2	9	9	9	9	283.8	331.0	6	2038.1	6	8.1051	6	2404	6	2405		9		9
35	2	60.4	36.722	36.724	2	23.630	23.617	25.065	212.9	2	213.0	2	-4.2	0.00	2	0.10	2	0.01	2	0.60	2	9	9	9	9			9	9	9		9	9			9		9	9
34	2	91.0	36.720	36.720	2	23.497	23.478	25.106	213.6	2	213.4	2	-4.1	0.00	2	0.10	2	0.01	2	0.60	2	9	9	9	9			9	9	9		9	9			9		9	9
33	2	130.3	36.737	36.748	2	22.956	22.929	25.282	200.4	2	214.4	3	-3.1	0.01	2	0.10	2	0.01	2	0.50	2	9	9	9	9			9	9	9		9	9			9		9	9
32	2	170.2	36.923	36.903	2	21.561	21.527	25.823	204.5	2	207.0	2	9.3	0.03	2	0.49	2	0.02	2	0.40	2	9	9	9	9			9	9	9		9	9			9		9	9
31	2	201.6	36.764	36.754	2	19.769	19.732	26.191	198.0	2	196.4	2	27.2	0.01	2	1.66	2	0.05	2	0.60	2	9	9	9	9			9	9	9		9	9			9		9	9
30	2	226.1	36.679	36.666	2	19.168	19.127	26.284	196.9	2	198.6	2	27.6	0.01	2	2.34	2	0.07	2	0.70	2	9	9	9	9			9	9	9		9	9			9		9	9
29	2	249.5	36.612	36.611	2	18.688	18.644	26.358	200.6	2	202.8	2	25.5	0.01	2	2.83	2	0.11	2	0.80	2	9	9	9	9			9	9	9		9	9			9		9	9
28	2	270.3	36.579	36.579	2	18.431	18.383	26.399	202.4	2	204.7	2	24.8	0.01	2	3.41	2	0.14	2	1.00	2	9	9	9	9			9	9	9		9	9			9		9	9
27	2	299.6	36.553	36.554	2	18.169	18.117	26.447	206.7	2	209.8	2	20.9	0.01	2	3.51	2	0.15	2	1.10	2	9	9	9	9			9	9	9		9	9			9		9	9
26	2	350.6	36.520	36.520	2	17.946	17.885	26.481	211.7	2	208.7	6	23.0	0.01	2	4.00	2	0.19	2	1.20	2	9	9	9	9			9	9	9		9	9			9		9	9
25	2	400.3	36.440	36.437	2	17.510	17.442	26.531	206.7	2	198.6	2	35.2	0.01	2	5.76	2	0.29	2	1.70	2	9	9	9	9			9	9	9		9	9			9		9	9
24	2	493.4	36.169	36.161	2	15.927	15.848	26.701	186.9	2	177.0	2	64.6	0.01	2	10.25	2	0.57	2	3.20	2	9	9	9	9			9	9	9		9	9			9		9	9
23	2	600.5	35.764	35.771	2	13.460	13.374	26.927	154.7	2	152.5	2	102.0	0.01	2	16.40	2	0.98	2	6.10	2	9	9	9	9			9	9	9		9	9			9		9	9
22	2	700.8	35.557	35.560	2	11.758	11.665	27.104	164.7	2	162.6	2	101.5	0.01	2	18.16	2	1.11	2	8.00	2	9	9	9	9			9	9	9		9	9			9		9	9
21	2	800.0	35.296	35.297	2	9.849	9.754	27.242	153.8	2	151.5	2	124.2	0.01	2	22.66	2	1.44	2	12.20	2	9	9	9	9			9	9	9		9	9			9		9	9
20	2	900.3	35.145	35.149	2	8.047	7.951	27.410	162.1	2	161.3	2	126.0	0.01	2	24.03	2	1.56	2	14.70	2	9	9	9	9			9	9	9		9	9			9		9	9
19	2	995.4	35.057	35.056	2	6.753	6.656	27.524	173.3	2	173.1	2	123.0	0.01	2	24.81	2	1.63	2	16.80	2	9	9	9	9			9	9	9		9	9			9		9	9
18	2	1096.8	35.078	35.075	2	6.071	5.969	27.631	198.7	2	198.5	2	102.4	0.01	2	22.46	2	1.48	2	15.30	2	9	9	9	9			9	9	9		9	9			9		9	9
17	2	1299.6	35.100	35.099	2	5.278	5.163	27.749	234.0	2	231.6	2	75.1	0.01	2	19.63	2	1.30	2	13.50	2	9	9	9	9			9	9	9		9	9			9		9	9
16	2	1499.5	35.044	35.045	2	4.514	4.388	27.793	252.9	2	252.1	2	60.5	0.00	2	18.56	2	1.23	2	13.00	2	9	9	9	9			9	9	9		9	9			9		9	9
15	2	1698.6	35.019	35.018	2	4.090	3.950	27.821	259.9	2	259.3	2	56.7	0.00	2	18.36	2	1.22	2	14.20	2	9	9	9	9			9	9	9		9	9			9		9	9
14	2	1896.9	35.007	35.007	2	3.824	3.669	27.841	260.1	2	261.1	2	57.1	0.01	2	18.46	2	1.23	2	16.10	2	9	9	9	9			9	9	9		9	9			9		9	9
13	2	2099.8	34.995	34.995	2	3.565	3.394	27.860	260.5	2	260.5	2	59.9	0.01	2	18.75	2	1.25	2	18.70	2	9	9	9	9			9	9	9		9	9			9		9	9
12	2	2298.7	34.979	34.979	2	3.334	3.148	27.872	260.3	2	260.8	2	61.6	0.01	2	18.95	2	1.28	2	21.30	2	9	9	9	9			9	9	9		9	9			9		9	9
11	2	2488.8	34.965	34.965	2	3.153	2.951	27.880	260.5	2	261.5	2	62.5	0.01	2	19.14	2	1.31	2	23.40	2	9	9	9	9			9	9	9		9	9			9		9	9
10	2	2689.9	34.953	34.953	2	2.992	2.773	27.888	258.4	2	259.7	2	65.8	0.01	2	19.54	2	1.32	2	26.50	2	9	9	9	9			9	9	9		9	9			9		9	9
9	2	2899.1	34.941	34.942	2	2.852	2.615	27.893	260.1	2	260.8	2	66.0	0.01	2	19.63	2	1.33	2	28.10	2	9	9	9	9			9	9	9		9	9			9		9	9
8	2	3199.3	34.927	34.926	2	2.663	2.399	27.902	264.7	2	265.2	2	63.4	0.01	2	19.24	2	1.31	2	28.00	2	9	9	9	9			9	9	9		9	9			9		9	9
7	2	3501.6	34.915	34.915	2	2.493	2.201	27.910	271.5	2	271.8	2	58.5	0.01	2	18.17	2	1.25	2	25.50	2	9	9	9	9			9	9	9		9	9			9		9	9
6	2	3798.0	34.906	34.906	2	2.384	2.062	27.916	273.8	2	273.6	2	57.9	0.01	2	18.07	2	1.24	2	26.10	2	9	9	9	9			9	9	9		9	9			9		9	9
5	2	4098.5	34.901	34.900	2	2.331	1.976	27.921	273.5	2	272.8	2	59.4	0.01	2	18.27	2	1.26	2	28.00	2	9	9	9	9			9	9	9		9	9			9		9	9
4	2	4399.1	34.895	34.896	2	2.301	1.912	27.924	272.0	2	270.7	2	62.1	0.01	2	18.56	2	1.28	2	30.30	2	9	9	9	9			9	9	9		9	9			9		9	9
3	2	4798.4	34.885	34.884	2	2.248	1.812	27.926	268.2	2	266.0	2	67.7	0.01	2	19.63	2	1.36	2	36.50	2	9	9	9	9			9	9	9		9	9			9		9	9
2	2	5198.8	34.865	34.865	2	2.147	1.664	27.923	260.2	2	259.4	2	75.6	0.01	2	21.30	2	1.48	2	46.70	2	9	9	9	9			9	9	9		9	9			9		9	9
1	2	5619.4	34.846	34.846	2	2.055	1.521	27.921	252.0	2	253.6	2	82.7	0.01	6	22.66	2	1.58	6	55.50	2	9	9	9	9			9	9	9		9	9			9		9	9

* WOCE water sample quality flag (F) for parameter for the previous column
** WOCE quality flag (F) for "Niskin" sample bottle
*** PSS-78 scale
**** ITS0 scale

A5R
NOAA Ship Ronald H. Brown

STATION 92 DATE 2/17/1998 LATITUDE 25.759° N
LONGITUDE 70.235° W

Bottle Number	F**	Pressure db	CTD Salinity***	Bottle Salinity***	F*	Temp**** °C	Theta °C	Sigma Theta	CTD O2 µmol/kg	F*	Bottle O2 µmol/kg	F*	AOU	NO2 µmol/kg	F*	NO3 µmol/kg	F*	PO4 µmol/kg	F*	Si(OH)4 µmol/kg	F*	CFC-11 pmol/kg	F*	CFC-12 pmol/kg	F*	CFC-113 pmol/kg	F*	CCl4 pmol/kg	F*	fCO2 at 20 °C µatm	fCO2 INSITU µatm	F*	DIC µmol/kg	F*	pH	F*	Measured TA µmol/kg	F*	Calculated TA µmol/kg	TOC µmol/kg	F*	TON µmol/kg	F*
36	2	7.1	36.608	36.607	2	24.269	24.267	24.782	215.1	2	210.7	2	-4.0	0.00	2	0.10	2	0.00	2	0.90	2	1.86	2	1.09	2	0.15	2	1.94	2	268.1	317.3	2	2028.5	2	8.1115	2	2392	2	2398	72.6	2		9
35	2	50.5	36.631	36.631	2	24.296	24.285	24.796	211.1	2	210.7	2	-4.1	0.01	2	0.10	2	0.01	2	0.90	2	1.87	2	1.08	2	0.15	2		9			9	2029.3	2	8.1086	2	2393	2	2397	73.2	2		9
34	2	99.3	36.989	37.010	2	24.075	24.054	25.140	199.6	2	199.6	2	7.3	0.02	2	0.39	2	0.02	2	0.70	2	1.96	2	1.12	2	0.17	2		9	303.5	356.3	2	2070.0	2	8.0751	2	2416	2	2421	66.2	2		9
33	3	150.2	37.007	37.009	2	22.029	21.999	25.754	190.1	2	197.9	2	16.5	0.05	2	0.78	2	0.03	2	0.60	2	2.11	2	1.20	2	0.11	2		9			9	2092.5	2	8.0336	2	2414	2	2416	59.3	2		9
32	2	201.1	36.837	36.827	2	20.121	20.083	26.152	178.5	2	188.0	2	34.1	0.02	2	1.95	2	0.07	2	0.80	2	2.22	6	1.25	6	0.06	6		9	378.8	380.5	2	2108.7	2	7.9949	2	2404	2	2406	52.8	2		9
31	2	225.2	36.707	36.704	2	19.270	19.229	26.279	186.7	2	184.3	2	41.4	0.01	2	3.61	2	0.15	2	1.10	2	2.23	2	1.24	2	0.02	2		9			9		9		9		9		49.4	2		9
30	2	249.8	36.629	36.632	2	18.785	18.740	26.346	182.1	2	194.0	2	33.9	0.01	2	3.32	2	0.13	2	1.00	2	2.30	2	1.27	2	0.02	2		9			9		9		9		9		49.0	2		9
29	2	275.6	36.592	36.594	2	18.493	18.444	26.394	194.9	2	195.2	2	34.0	0.01	2	4.00	2	0.17	2	1.20	2	2.29	2	1.26	2	0.02	2		9	388.6	365.6	2	2103.0	2	7.9845	2	2388	2	2392	47.7	2		9
28	2	300.1	36.563	36.566	2	18.287	18.234	26.426	197.8	2	199.2	2	31.0	0.01	2	4.00	2	0.18	2	1.20	2	2.32	2	1.28	2	0.02	2		9			9		9		9		9				9	9
27	2	350.8	36.510	36.509	2	17.939	17.878	26.476	199.0	2	198.6	2	33.2	0.01	2	4.88	2	0.23	2	1.50	2	2.28	2	1.24	2	0.03	3		9	396.0	364.4	2	2102.2	2	7.9843	2	2385	2	2390	47.4	2		9
26	2	401.4	36.445	36.445	2	17.549	17.480	26.526	192.6	2	193.0	2	40.6	0.01	2	6.05	2	0.30	2	1.80	2	2.21	6	1.19	6	0.03	6		9			9		9		9		9				9	9
25	2	450.0	36.333	36.339	2	16.904	16.829	26.598	188.0	2	189.1	2	47.6	0.01	2	7.32	2	0.39	2	2.20	2	2.15	2	1.14	2	0.03	2		9			9		9		9		9		45.1	2		9
24	2	501.9	36.194	36.196	2	16.065	15.984	26.690	183.7	2	184.5	2	56.4	0.01	2	9.08	2	0.50	2	2.90	2	2.06	2	1.09	2	0.03	2		9	469.6	400.2	2	2125.4	2		9	2365	2				9	9
23	2	551.3	36.027	36.026	2	15.063	14.978	26.789	181.4	2	179.1	2	66.9	0.01	2	11.22	2	0.64	2	3.90	2	1.88	2	0.98	2	0.03	2		9			9		9		9		9		43.2	2		9
22	2	650.9	35.721	35.723	2	13.032	12.940	26.983	167.6	2	164.9	2	92.0	0.01	2	15.81	2	0.95	2	6.40	2	1.38	2	0.71	2	0.03	2		9	608.0	457.1	2	2153.3	2	7.8112	2	2343	2	2343			9	9
21	2	750.8	35.437	35.443	2	11.007	10.912	27.150	154.0	2	151.9	2	116.7	0.01	2	20.70	2	1.28	2	10.20	2	0.77	2	0.39	2	0.02	2		9	724.2	500.4	2	2173.5	2		9		9			41.7	2		9
20	2	851.3	35.226	35.224	2	9.111	9.014	27.309	154.4	2	152.8	2	127.6	0.01	2	23.34	2	1.50	2	13.80	2	0.51	2	0.26	2	0.01	2		9			9		9	7.7404	2	2331	2				9	9
19	2	953.1	35.129	35.130	2	7.645	7.546	27.457	163.0	2	167.5	2	122.5	0.01	2	23.73	2	1.55	2	15.40	2	0.40	2	0.20	2	0.01	2		9	837.0	500.1	2	2188.5	6	7.6818	2	2321	2	2319	41.2	2		9
18	2	1150.9	35.070	35.071	2	5.873	5.767	27.651	205.4	2	204.8	2	97.5	0.01	2	21.98	2	1.45	2	15.50	2	0.27	2	0.14	2	0.00	2		9	794.0	436.8	2	2181.5	2	7.6983	2	2320	2	2318			9	9
17	2	1351.6	35.075	35.075	2	5.065	4.947	27.755	236.8	2	237.5	2	70.8	0.01	2	19.24	2	1.28	2	13.60	2	0.44	2	0.23	2	0.01	2		9			9		9		9		9		41.3	2		9
16	2	1551.6	35.063	35.063	2	4.588	4.456	27.801	248.7	2	248.8	2	63.2	0.01	2	18.75	2	1.24	2	14.30	2	0.30	6	0.16	6	0.01	6		9	731.3	377.7	2	2166.3	2	7.7351	2	2317	2	2318			9	9
15	2	1743.9	35.031	35.032	2	4.155	4.010	27.825	256.7	2	255.5	2	60.0	0.01	2	18.46	2	1.23	2	15.20	2	0.24	2	0.13	2	0.01	2		9			9		9		9		9				9	9
14	2	1953.1	34.999	34.999	2	3.748	3.589	27.843	260.1	2	261.9	2	56.9	0.01	2	18.26	2	1.22	2	16.50	2	0.22	6	0.11	6	0.01	6		9	716.4	355.1	2	2162.6	2	7.7407	2	2315	2	2316			9	9
13	9	2142.2	34.990	34.991	2	3.511	3.337	27.862	260.0	2		9			9		9		9		9		9		9		9		9			9		9		9		9				9	9
12	2	2350.6	34.974	34.975	2	3.281	3.091	27.873	260.6	2	261.0	6	61.9	0.01	2	18.85	2	1.27	2	22.00	2	0.08	2	0.04	2	0.01	2		9	726.9	352.0	2	2167.3	2	7.7393	2	2323	2	2320			9	9
11	2	2549.2	34.960	34.961	2	3.090	2.883	27.882	259.0	2	259.9	2	64.7	0.01	2	19.24	2	1.30	2	25.20	2	0.05	2	0.03	2	0.00	2		9			9	2171.9	2	7.7391	2	2326	2	2325	41.4	2		9
10	2	2747.4	34.949	34.949	2	2.935	2.712	27.890	257.6	2	259.2	2	66.8	0.01	2	19.63	2	1.33	2	28.00	2	0.02	2	0.01	2	0.01	2	0.24	2			9		9		9		9				9	9
9	2	2950.1	34.938	34.938	2	2.794	2.553	27.896	259.7	2	261.2	2	66.1	0.01	2	19.54	2	1.33	2	29.00	2	0.04	2	0.02	2	0.00	2	0.24	2	719.4	339.4	2	2173.4	2	7.7383	2	2329	2	2326			9	9
8	2	3116.3	34.928	34.928	2	2.688	2.432	27.900	264.0	2	264.8	2	63.5	0.01	2	19.05	2	1.31	2	28.20	2	0.10	2	0.05	2	0.01	2	0.36	2			9	2171.3	2		4	2327	2				9	9
7	2	3415.9	34.915	34.915	2	2.512	2.228	27.908	271.7	2	271.1	2	59.0	0.01	2	18.36	2	1.26	2	26.20	2	0.25	2	0.12	2	0.01	2	0.67	2			9	2167.2	2	7.7368	2	2322	2	2319			9	9
6	2	3751.7	34.906	34.906	2	2.378	2.061	27.916	274.4	2	273.1	2	58.4	0.01	2	18.07	2	1.24	2	26.50	2	0.39	2	0.19	2	0.01	2	0.92	2	725.7	336.0	2	2169.2	2	7.7371	2	2323	2	2321			9	9
5	2	4049.5	34.899	34.900	2	2.324	1.975	27.919	273.7	2	272.3	2	59.9	0.01	2	18.36	2	1.26	2	28.90	2	0.32	2	0.17	2	0.02	2	0.65	6			9	2170.5	2	7.7360	2	2325	2	2322			9	9
4	2	4452.8	34.894	34.894	2	2.294	1.899	27.924	272.3	2	270.7	2	62.2	0.01	2	18.75	2	1.29	2	31.60	2	0.34	2	0.17	2	0.03	2	0.84	2			9	2174.8	2	7.7328	2	2328	2	2325			9	9
3	2	4849.3	34.886	34.885	2	2.273	1.830	27.926	269.2	2	266.9	2	66.6	0.01	2	19.44	2	1.34	2	36.00	2	0.22	2	0.11	2	0.02	2	0.62	2			9		9		9		9				9	9
2	2	5250.2	34.868	34.868	2	2.179	1.689	27.924	260.6	2	260.1	2	74.7	0.01	2	21.10	2	1.46	2	46.10	2	0.07	2	0.05	2	0.02	2		9			9		9		9		9				9	9
1	2	5605.9	34.847	34.848	2	2.068	1.535	27.921	251.8	2	253.8	6	82.3	0.01	6	22.57	6	1.57	6	55.80	6	0.03	2	0.03	2	0.01	2	0.19	2	793.3	360.4	2	2202.0	2	7.7105	2	2349	2	2344			9	9

* WOCE water sample quality flag (F) for parameter for the previous column
** WOCE quality flag (F) for "Niskin" sample bottle
*** PSS-78 scale
**** ITS0 scale

A5R
NOAA Ship Ronald H. Brown

STATION 93 DATE 2/17/1998 LATITUDE 26.141° N
LONGITUDE 70.615° W

Bottle Number	F**	Pressure db	CTD Salinity***	Bottle Salinity***	F*	Temp**** °C	Theta °C	Sigma Theta	CTD O2 µmol/kg	F*	Bottle O2 µmol/kg	F*	AOU	NO2 µmol/kg	F*	NO3 µmol/kg	F*	PO4 µmol/kg	F*	Si(OH)4 µmol/kg	F*	CFC-11 pmol/kg	F*	CFC-12 pmol/kg	F*	CFC-113 pmol/kg	F*	CCl4 pmol/kg	F*	fCO2 at 20 °C µatm	fCO2 INSITU µatm	F*	DIC µmol/kg	F*	pH	F*	Measured TA µmol/kg	F*	Calculated TA µmol/kg	TOC µmol/kg	F*	TON µmol/kg	F*
36	2	3.9	36.654	36.653	2	24.281	24.280	24.812	214.7	2	211.0	6	-4.4	0.00	2	0.00	2	0.00	2	0.90	2	9		9		9		9		269.1	318.7	2	2028.4	2	8.1010	2	9		2391	9		9	
35	2	70.7	36.751	36.748	2	23.666	23.651	25.077	212.4	2	212.7	2	-4.0	0.00	2	0.00	2	0.00	2	0.80	2	9		9		9		9					9		9		9		9			9		9
34	2	71.3	36.750	36.747	2	23.654	23.639	25.080	213.2	2	212.9	2	-4.2	0.01	2	0.00	2	0.01	2	0.80	2	9		9		9		9		273.9	316.6	2	2036.4	2	8.1049	2		5	2403	9		9	
33	2	104.2	36.775	36.779	2	23.298	23.276	25.208	212.7	2	213.6	2	-3.6	0.01	2	0.00	2	0.01	2	0.70	2	9		9		9		9		280.5	319.7	2		9	8.0999	2	2428	2		9		9	
32	2	150.6	37.017	37.018	2	21.784	21.754	25.831	203.5	2	200.7	2	14.6	0.04	2	0.39	2	0.02	2	0.60	2	9		9		9		9		333.2	357.7	2	2090.1	2	8.0395	2	2416	2	2418	9		9	
31	2	199.3	36.828	36.835	2	20.020	19.983	26.173	189.2	2	189.6	2	32.9	0.02	2	1.56	2	0.05	2	0.70	2	9		9		9		9					9		9		9		9			9		9
30	2	223.8	36.723	36.722	2	19.302	19.261	26.283	187.1	2	190.1	2	35.5	0.01	2	2.54	2	0.08	2	0.90	2	9		9		9		9					9		9		9		9			9		9
29	2	274.7	36.620	36.619	2	18.620	18.571	26.383	191.9	2	196.0	2	32.6	0.01	2	3.51	2	0.14	2	1.10	2	9		9		9		9		393.4	372.1	2	2102.9	2	7.9840	2	2391	2	2391	9		9	
28	2	276.1	36.609	36.612	2	18.567	18.518	26.388	193.4	2	196.8	2	32.1	0.01	2	3.51	2	0.15	2	1.10	2	9		9		9		9					9		9		9		9			9		9
27	2	298.7	36.572	36.574	2	18.341	18.288	26.419	197.1	2	199.9	2	30.0	0.01	2	3.80	2	0.17	2	1.20	2	9		9		9		9					9		9		9		9			9		9
26	2	347.3	36.531	36.532	2	18.013	17.953	26.473	197.7	2	195.3	2	36.1	0.01	2	4.88	2	0.24	2	1.50	2	9		9		9		9					9		9		9		9			9		9
25	2	398.4	36.455	36.455	2	17.564	17.496	26.529	186.9	2	190.4	2	43.2	0.01	2	6.15	2	0.32	2	1.90	2	9		9		9		9		426.7	386.7	2	2112.6	2	7.9525	2	2381	2	2381	9		9	
24	2	450.0	36.321	36.339	2	16.824	16.749	26.607	187.3	2	184.9	2	52.2	0.01	2	7.61	2	0.41	2	2.30	2	9		9		9		9					9		9		9		9			9		9
23	2	499.5	36.187	36.192	2	16.014	15.934	26.696	181.3	2	183.4	2	57.7	0.01	2	9.17	2	0.51	2	2.90	2	9		9		9		9					9		9		9		9			9		9
22	2	601.7	35.845	35.851	2	13.893	13.805	26.901	171.3	2	167.5	2	84.6	0.01	2	14.06	2	0.84	2	5.30	2	9		9		9		9		572.9	446.5	2	2146.5	2	7.8351	2	2350	2	2348	9		9	
21	2	698.9	35.613	35.614	2	12.120	12.026	27.079	172.4	2	167.6	2	94.4	0.01	2	16.89	2	1.03	2	7.30	2	9		9		9		9					9		9		9		9			9		9
20	2	799.5	35.372	35.392	2	10.285	10.187	27.227	158.9	2	156.3	2	116.6	0.01	2	20.90	2	1.32	2	10.70	2	9		9		9		9		734.6	491.4	2	2175.1	2	7.7347	2	2329	2	2328	9		9	
19	2	850.7	35.206	35.206	2	8.907	8.811	27.326	152.5	2	150.8	2	130.9	0.01	2	24.03	2	1.55	2	14.20	2	9		9		9		9		830.9	525.1	2	2187.5	2	7.6898	2	2323	2	2321	9		9	
18	2	900.4	35.141	35.140	2	8.203	8.106	27.384	154.4	2	154.0	2	132.3	0.01	2	24.71	2	1.61	2	15.40	2	9		9		9		9		854.3	523.5	2	2190.4	6	7.6765	2	2320	2	2319	9		9	
17	2	997.6	35.069	35.066	2	7.002	6.903	27.500	169.2	2	169.8	2	124.6	0.01	2	24.42	2	1.63	2	16.60	2	9		9		9		9					9		9		9		9			9		9
16	2	1151.0	35.078	35.078	2	5.865	5.759	27.658	210.3	2	208.8	2	93.6	0.01	2	21.29	2	1.42	2	14.60	2	9		9		9		9		797.7	438.8	2	2178.8	2	7.7006	2	2322	2	2316	9		9	
15	2	1351.4	35.070	35.069	2	5.044	4.926	27.753	241.1	2	239.1	2	69.4	0.01	2	19.05	2	1.27	2	13.10	2	9		9		9		9					9		9		9		9			9		9
14	2	1548.4	35.027	35.028	2	4.421	4.291	27.791	258.2	2	255.8	2	57.5	0.01	2	18.07	2	1.22	2	12.90	2	9		9		9		9		726.1	372.1	2	2164.5	2	7.7324	2	2316	2	2314	9		9	
13	2	1827.7	35.006	35.005	2	3.944	3.794	27.828	262.4	2	261.9	2	55.3	0.01	2	17.97	2	1.21	2	14.70	2	9		9		9		9					9		9		9		9			9		9
12	2	2050.1	34.988	34.990	2	3.615	3.448	27.849	264.5	2	263.7	2	56.3	0.01	2	18.17	2	1.22	2	16.80	2	9		9		9		9		718.8	354.0	2	2163.4	2	7.7373	2	2319	2	2315	9		9	
11	2	2273.5	34.972	34.971	2	3.342	3.158	27.865	264.6	2	265.3	2	57.0	0.01	2	18.07	2	1.23	2	18.80	2	9		9		9		9					9		9		9		9			9		9
10	2	2547.5	34.957	34.957	2	3.092	2.886	27.879	263.2	2	264.8	2	59.8	0.01	2	18.66	2	1.26	2	21.70	2	9		9		9		9					9		9		9		9			9		9
9	2	2799.4	34.946	34.946	2	2.922	2.694	27.889	261.8	2	263.2	2	62.9	0.01	2	19.05	2	1.29	2	25.10	2	9		9		9		9					9		9		9		9			9		9
8	2	3099.9	34.928	34.928	2	2.708	2.453	27.898	272.5	2	270.6	2	57.6	0.01	2	18.07	2	1.23	2	22.60	2	9		9		9		9					9		9		9		9			9		9
7	2	3450.2	34.916	34.916	2	2.523	2.235	27.908	273.1	2	273.4	2	56.6	0.01	2	17.78	2	1.22	2	23.80	2	9		9		9		9					9		9		9		9			9		9
6	2	3800.9	34.906	34.907	2	2.395	2.072	27.916	274.4	2	273.0	2	58.4	0.01	2	18.17	2	1.24	2	26.40	2	9		9		9		9					9		9		9		9			9		9
5	2	4108.7	34.901	34.901	2	2.337	1.981	27.921	274.5	2	272.6	2	59.6	0.01	2	18.27	2	1.26	2	28.30	2	9		9		9		9					9		9		9		9			9		9
4	2	4497.7	34.894	34.894	2	2.306	1.905	27.924	273.0	2	270.1	2	62.7	0.01	2	18.66	2	1.29	2	30.80	2	9		9		9		9					9		9		9		9			9		9
3	2	4848.7	34.888	34.887	2	2.289	1.846	27.927	270.6	2	267.9	2	65.5	0.01	2	19.24	2	1.33	2	34.10	2	9		9		9		9					9		9		9		9			9		9
2	2	5230.4	34.874	34.874	2	2.227	1.738	27.926	264.4	2	262.1	2	72.2	0.01	2	20.42	2	1.42	2	41.70	2	9		9		9		9					9		9		9		9			9		9
1	2	5595.6	34.848	34.849	2	2.072	1.541	27.922	252.5	2	254.2	2	81.9	0.01	6	22.47	6	1.57	6	54.30	6	9		9		9		9					9		9		9		9			9		9

* WOCE water sample quality flag (F) for parameter for the previous column
** WOCE quality flag (F) for "Niskin" sample bottle
*** PSS-78 scale
**** ITS0 scale

A5R
NOAA Ship Ronald H. Brown

STATION 94 DATE 2/17/1998 LATITUDE 26.501° N
LONGITUDE 71.012° W

Bottle Number	F**	Pressure db	CTD Salinity***	Bottle Salinity***	F*	Temp**** °C	Theta °C	Sigma Theta	CTD O2 µmol/kg	F*	Bottle O2 µmol/kg	F*	AOU	NO2 µmol/kg	F*	NO3 µmol/kg	F*	PO4 µmol/kg	F*	Si(OH)4 µmol/kg	F*	CFC-11 pmol/kg	F*	CFC-12 pmol/kg	F*	CFC-113 pmol/kg	F*	CCl4 pmol/kg	F*	fCO2 at 20 °C µatm	fCO2 INSITU µatm	F*	DIC µmol/kg	F*	pH	F*	Measured TA µmol/kg	F*	Calculated TA µmol/kg	TOC µmol/kg	F*	TON µmol/kg	F*
36	2	4.4	36.757	36.756	2	23.775	23.774	25.041	214.7	2	212.9	2	-4.7	0.00	2	0.10	2	0.00	2	0.80	2	1.90	2	1.10	2	0.16	2	1.97	2	276.9	321.5	2	2034.8	6	8.1051	2	2403	2	2402	67.7	2		9
35	2	41.5	36.766	36.767	2	23.684	23.675	25.080	211.5	2	213.4	2	-4.8	0.00	2	0.00	2	0.00	2	0.60	2	1.92	2	1.10	2	0.17	2		9	278.2	321.8	2	2037.5	2	8.1038	2	2411	2	2404	67.9	2		9
34	2	77.2	36.886	36.884	2	23.436	23.420	25.248	212.6	2	213.2	2	-3.9	0.00	2	0.00	2	0.00	2	0.50	2	1.98	2	1.13	2	0.17	2		9	292.6	335.2	2	2053.5	2	8.0865	2	2418	2	2410	61.8	2		9
33	2	115.6	36.801	36.855	2	22.704	22.680	25.401	213.8	2	213.0	2	-1.0	0.02	2	0.00	2	0.01	2	0.40	2	2.01	2	1.16	2	0.16	2		9	298.0	331.8	2	2056.1	2	8.0813	2	2409	2	2409	58.8	2		9
32	2	157.3	37.000	36.996	2	21.570	21.539	25.878	197.7	2	195.4	2	20.7	0.02	2	0.59	2	0.02	2	0.40	2	2.15	2	1.22	2	0.11	2		9	347.8	370.3	2	2096.4	2	8.0285	2	2418	2	2417	56.3	2		9
31	2	201.1	36.790	36.791	2	19.928	19.891	26.168	193.3	2	193.7	2	29.2	0.00	2	1.37	2	0.04	2	0.50	2	2.25	2	1.26	2	0.07	2		9	373.9	372.8	2	2100.5	2	8.0035	2	2410	2	2403	52.6	2		9
30	2	224.6	36.728	36.726	2	19.489	19.448	26.238	198.3	2	197.1	2	27.7	0.00	2	1.56	2	0.04	2	0.60	2	2.29	2	1.28	2	0.05	2		9	374.1	366.6	6	2098.6	2	8.0032	2		9	2400	50.5	2		9
29	2	245.9	36.710	36.709	2	19.197	19.152	26.302	190.4	2	190.4	2	35.7	0.00	2	2.73	2	0.08	2	0.70	2	2.29	2	1.27	2	0.03	2		9	391.0	378.6	2	2107.0	2	7.9858	2		5	2398	49.1	2		9
28	2	269.8	36.611	36.612	2	18.652	18.604	26.368	192.9	2	197.3	2	31.2	0.00	2	3.22	2	0.11	2	0.90	2	2.32	2	1.27	2	0.03	2		9	388.5	368.0	2	2100.0	2		9		9			9		9
27	2	299.6	36.573	36.573	2	18.360	18.307	26.415	198.5	2	200.1	2	29.7	0.00	2	3.71	2	0.14	2	1.00	2	2.32	2	1.27	2	0.03	2		9	384.1	359.5	2	2098.6	2	7.9890	2	2396	2	2390	47.8	2		9
26	2	349.8	36.533	36.530	2	18.085	18.024	26.457	201.4	2	202.2	2	28.9	0.00	2	4.20	2	0.18	2	1.20	2	2.31	6	1.26	6	0.03	6		9	390.7	361.6	2	2098.8	2	7.9846	2		9	2387		9		9
25	2	401.1	36.476	36.478	2	17.735	17.666	26.504	196.2	2	196.7	2	36.1	0.00	2	5.27	2	0.24	2	1.40	2	2.32	2	1.25	2	0.03	2		9	403.3	368.0	2	2105.3	2		9	2392	2		44.6	2		9
24	2	497.8	36.240	36.240	2	16.329	16.248	26.664	185.8	2	184.2	2	55.4	0.00	2	8.59	2	0.43	2	2.50	2	2.08	2	1.10	2	0.03	2		9	462.2	398.1	2	2123.0	2	7.9163	2	2377	2	2369		9		9
23	2	598.5	35.911	35.911	2	14.369	14.279	26.852	173.4	2	170.6	2	79.0	0.00	2	13.08	2	0.73	2	4.60	2	1.66	2	0.86	2	0.02	2		9	545.9	433.8	2	2140.5	2	7.8516	2	2361	2	2351	42.5	2		9
22	2	698.3	35.639	35.638	2	12.438	12.342	27.038	166.9	2	163.0	2	97.2	0.00	2	16.89	2	0.99	2	7.00	2	1.19	2	0.62	2	0.02	2		9	634.7	465.3	2	2154.9	2	7.7938	2		5	2335		9		9
21	2	798.5	35.376	35.374	2	10.494	10.395	27.195	153.1	2	152.4	2	119.3	0.00	2	21.29	2	1.32	2	10.80	2	0.68	2	0.36	2	0.02	2		9	737.7	498.9	2	2175.4	2		9	2356	3		42.1	2		9
20	2	849.6	35.252	35.258	2	9.485	9.386	27.269	149.4	2	148.9	2	129.1	0.00	2	23.34	2	1.46	2	12.90	2	0.49	2	0.26	2	0.01	2		9	791.1	512.3	2	2185.6	2	7.6989	2		5	2323		9		9
19	2	900.0	35.168	35.169	2	8.627	8.527	27.341	150.2	2	151.1	2	132.4	0.00	2	24.42	2	1.55	2	14.60	2	0.37	2	0.20	2	0.01	2		9	837.6	523.2	2	2190.9	2	7.6807	2		5	2321	41.3	2		9
18	2	951.5	35.102	35.103	2	7.848	7.748	27.407	155.3	2	155.2	2	133.5	0.00	2	25.00	2	1.62	2	15.90	2	0.30	2	0.16	2	0.01	2		9	862.7	520.7	2	2192.9	6	7.6683	2		5	2318		9		9
17	2	1049.3	35.071	35.070	2	6.747	6.645	27.537	177.8	2	178.4	2	117.8	0.00	2	23.73	2	1.54	2	15.90	2	0.31	2	0.16	2	0.01	2		9	838.0	480.8	2	2190.0	2	7.6778	2		9	2318	41.7	2		9
16	2	1218.1	35.080	35.079	2	5.597	5.487	27.694	220.2	2	220.4	2	83.9	0.00	2	20.31	2	1.31	2	13.60	2	0.51	2	0.26	2	0.01	2		9	761.9	413.2	2	2175.5	2	7.7105	2		5	2317		9		9
15	2	1449.6	35.037	35.036	2	4.630	4.507	27.774	251.1	2	251.1	2	60.6	0.00	2	18.46	2	1.19	2	12.50	2	0.77	6	0.38	6	0.03	6		9	739.2	382.9	2	2161.5	2	7.7298	2		9	2310	41.3	2		9
14	2	1649.3	34.992	34.992	2	4.094	3.959	27.798	263.7	2	263.7	2	52.3	0.00	2	17.87	2	1.16	2	12.70	2	0.81	2	0.40	2	0.03	2		9			9	2160.9	2	7.7333	2	2314	2	2311		9		9
13	2	1850.1	34.988	34.989	2	3.863	3.712	27.822	265.5	2	265.4	2	52.5	0.00	2	17.87	2	1.16	2	14.00	2	0.57	2	0.28	2	0.03	2		9	713.8	355.8	2	2160.8	2	7.7365	2	2321	2	2312	41.5	2		9
12	2	2051.5	34.971	34.970	2	3.588	3.422	27.838	268.2	2	268.2	2	52.0	0.00	2	17.78	2	1.16	2	15.10	2	0.55	2	0.27	2	0.03	2		9			9	2161.2	2	7.7372	2	2315	2	2313		9		9
11	2	2298.0	34.964	34.965	2	3.348	3.162	27.858	268.2	2	267.8	2	54.5	0.00	2	17.87	2	1.17	2	17.20	2	0.35	2	0.18	2	0.02	2		9			9	2162.2	2	7.7400	2	2324	3	2315	41.9	2		9
10	2	2549.1	34.956	34.956	2	3.132	2.925	27.875	267.0	2	267.1	2	57.1	0.00	2	18.17	2	1.20	2	19.90	2	0.20	2	0.10	2	0.01	2	0.63	2	706.4	339.4	2	2163.0	2	7.7417	2		9	2317		9		9
9	2	2800.4	34.942	34.942	2	2.905	2.677	27.887	266.2	2	268.8	2	57.5	0.00	2	18.07	2	1.20	2	21.50	2	0.23	2	0.12	2	0.01	2	0.65	2			9	2163.7	2	7.7405	2	2323	2	2317	41.3	2		9
8	2	3040.7	34.931	34.931	2	2.737	2.488	27.897	270.1	2	269.6	2	58.3	0.00	2	18.17	2	1.20	2	23.10	2	0.25	2	0.13	2	0.01	2	0.64	2	720.9	339.8	2	2166.2	2	7.7406	2		9	2319		9		9
7	2	3350.3	34.919	34.919	2	2.559	2.281	27.906	273.3	2	271.8	2	57.8	0.00	2	17.97	2	1.20	2	23.80	2	0.32	2	0.16	2	0.01	2	0.78	2	715.6	334.2	2	2167.6	2		9	2334	3		41.2	2		9
6	2	3648.3	34.910	34.910	2	2.430	2.123	27.913	272.4	2	273.2	2	57.8	0.00	2	17.88	2	1.20	2	25.30	2	0.42	2	0.20	2	0.02	2	0.88	6			9	2167.0	2	7.7385	2		9	2319		9		9
5	2	4050.2	34.902	34.903	2	2.353	2.003	27.920	274.3	2	272.4	2	59.6	0.00	2	18.07	2	1.22	2	27.50	2	0.32	6	0.17	6	0.02	6	0.84	2			9	2171.1	2	7.7362	2	2330	2	2323	41.8	2		9
4	2	4448.7	34.896	34.896	2	2.322	1.926	27.924	273.3	2	270.9	2	61.8	0.00	2	18.56	2	1.25	2	29.80	2	0.29	2	0.15	2	0.02	2	0.77	2			9	2173.2	2		9		9			9		9
3	2	4840.3	34.890	34.889	2	2.306	1.863	27.927	271.7	2	268.9	2	64.3	0.00	2	18.95	2	1.28	2	32.70	2	0.32	2	0.16	2	0.03	2	0.78	2	733.1	337.8	6	2177.7	2	7.7321	2	2335	2	2328	41.5	2		9
2	2	5248.1	34.876	34.875	2	2.238	1.746	27.927	265.2	2	262.8	2	71.5	0.01	2	20.42	2	1.38	2	41.30	2	0.16	2	0.09	2	0.02	2	0.47	2	746.6	342.3	2	2186.9	2	7.7271	2		9	2335		9		9
1	2	5579.3	34.853	34.853	2	2.105	1.575	27.923	254.2	2	255.9	6	79.9	0.01	6	22.17	6	1.52	6	52.70	6	0.03	2	0.03	2	0.01	2	0.20	2	778.3	354.2	2	2199.1	2	7.7151	2		5	2343	41.1	2		9

* WOCE water sample quality flag (F) for parameter for the previous column
** WOCE quality flag (F) for "Niskin" sample bottle
*** PSS-78 scale
**** ITS0 scale

A5R
NOAA Ship Ronald H. Brown

STATION 95 DATE 2/17/1998 LATITUDE 26.500° N
LONGITUDE 71.351° W

Bottle Number	F**	Pressure db	CTD Salinity***	Bottle Salinity***	F*	Temp**** °C	Theta °C	Sigma Theta	CTD O2 µmol/kg	F*	Bottle O2 µmol/kg	F*	AOU	NO2 µmol/kg	F*	NO3 µmol/kg	F*	PO4 µmol/kg	F*	Si(OH)4 µmol/kg	F*	CFC-11 pmol/kg	F*	CFC-12 pmol/kg	F*	CFC-113 pmol/kg	F*	CCl4 pmol/kg	F*	fCO2 at 20 °C µatm	fCO2 INSITU µatm	F*	DIC µmol/kg	F*	pH	F*	Measured TA µmol/kg	F*	Calculated TA µmol/kg	TOC µmol/kg	F*	TON µmol/kg	F*
36	2	3.6	36.770	36.770	2	23.716	23.715	25.069	209.4	2	213.7	2	-5.3	0.00	2	0.00	2	0.00	2	0.90	2	9	9	9	9	282.4	327.1	6	2035.4	6	8.1060	6	2408	6	2403		9		9
35	2	50.9	36.774	36.775	2	23.641	23.630	25.100	211.1	2	211.6	2	-2.9	0.00	2	0.00	2	0.00	2	0.90	2	9	9	9	9			9	9	9		9	9			9		9		9
34	2	75.6	36.946	36.937	2	23.501	23.485	25.275	213.4	2	213.0	2	-4.0	0.01	2	0.00	2	0.01	2	0.70	2	9	9	9	9			9	9	9		9	9			9		9		9
33	2	100.7	36.794	36.805	2	22.720	22.699	25.389	212.9	2	214.2	2	-2.2	0.02	2	0.00	2	0.01	2	0.70	2	9	9	9	9			9	9	9		9	9			9		9		9
32	2	151.0	37.088	37.061	2	22.156	22.126	25.780	201.6	2	197.7	2	16.1	0.04	2	0.59	2	0.02	2	0.60	2	9	9	9	9			9	9	9		9	9			9		9		9
31	2	200.7	36.792	36.778	2	20.008	19.970	26.149	196.2	2	197.7	2	24.9	0.02	2	1.27	2	0.04	2	0.70	2	9	9	9	9			9	9	9		9	9			9		9		9
30	2	224.5	36.685	36.681	2	19.294	19.253	26.256	195.9	2	198.7	2	27.0	0.01	2	1.95	2	0.06	2	0.90	2	9	9	9	9			9	9	9		9	9			9		9		9
29	2	250.8	36.623	36.622	2	18.791	18.746	26.340	196.9	2	199.6	2	28.3	0.01	2	2.93	2	0.10	2	1.00	2	9	9	9	9			9	9	9		9	9			9		9		9
28	2	274.7	36.600	36.600	2	18.625	18.576	26.367	196.2	2	200.2	2	28.4	0.01	2	3.22	2	0.12	2	1.10	2	9	9	9	9			9	9	9		9	9			9		9		9
27	2	297.6	36.581	36.578	2	18.448	18.395	26.398	200.5	2	202.0	2	27.5	0.01	2	3.51	2	0.13	2	1.20	2	9	9	9	9			9	9	9		9	9			9		9		9
26	2	399.0	36.517	36.517	2	17.955	17.886	26.481	204.7	2	205.4	2	26.3	0.01	2	4.20	2	0.18	2	1.40	2	9	9	9	9			9	9	9		9	9			9		9		9
25	2	451.2	36.441	36.443	2	17.549	17.472	26.527	195.2	2	196.7	2	37.0	0.01	2	5.66	2	0.26	2	1.80	2	9	9	9	9			9	9	9		9	9			9		9		9
24	2	498.8	36.336	36.335	2	16.970	16.886	26.589	190.2	2	189.2	2	47.3	0.01	2	7.42	2	0.36	2	2.30	2	9	9	9	9			9	9	9		9	9			9		9		9
23	2	550.8	36.147	36.160	2	15.802	15.714	26.717	183.7	2	182.9	2	59.3	0.01	2	9.56	2	0.50	2	3.10	2	9	9	9	9			9	9	9		9	9			9		9		9
22	2	600.2	35.972	35.979	2	14.715	14.623	26.825	178.2	2	176.4	2	71.4	0.01	2	11.91	2	0.65	2	4.20	2	9	9	9	9			9	9	9		9	9			9		9		9
21	2	701.2	35.651	35.657	2	12.575	12.478	27.021	167.2	2	162.4	2	97.1	0.01	2	16.99	2	1.00	2	7.20	2	9	9	9	9			9	9	9		9	9			9		9		9
20	2	796.2	35.386	35.385	2	10.565	10.466	27.190	156.1	2	152.3	2	119.0	0.01	2	21.38	2	1.31	2	10.90	2	9	9	9	9			9	9	9		9	9			9		9		9
19	2	901.1	35.183	35.188	2	8.751	8.651	27.333	149.2	2	150.4	2	132.3	0.01	2	24.51	2	1.55	2	14.70	2	9	9	9	9			9	9	9		9	9			9		9		9
18	2	1001.8	35.084	35.085	2	7.455	7.352	27.450	161.3	2	161.5	2	129.9	0.01	2	25.10	2	1.62	2	16.50	2	9	9	9	9			9	9	9		9	9			9		9		9
17	2	1200.0	35.079	35.079	2	5.766	5.656	27.673	218.0	2	215.3	2	87.8	0.01	2	20.80	2	1.34	2	14.00	2	9	9	9	9			9	9	9		9	9			9		9		9
16	2	1390.5	35.049	35.050	2	4.935	4.815	27.750	245.7	2	243.1	6	66.2	0.01	2	18.95	2	1.22	2	12.70	2	9	9	9	9			9	9	9		9	9			9		9		9
15	2	1601.2	35.011	35.011	2	4.240	4.107	27.797	260.4	2	259.6	2	55.2	0.01	2	18.17	2	1.18	2	13.10	2	9	9	9	9			9	9	9		9	9			9		9		9
14	2	1772.6	35.011	35.013	2	4.067	3.920	27.818	260.1	2	260.5	2	55.7	0.01	2	18.17	2	1.18	2	14.20	2	9	9	9	9			9	9	9		9	9			9		9		9
13	2	2051.2	34.988	34.989	2	3.684	3.516	27.842	263.3	2	264.6	2	54.8	0.01	2	18.17	2	1.19	2	16.00	2	9	9	9	9			9	9	9		9	9			9		9		9
12	2	2251.0	34.977	34.978	2	3.455	3.271	27.858	264.4	2	264.8	2	56.6	0.01	2	18.26	2	1.21	2	18.00	2	9	9	9	9			9	9	9		9	9			9		9		9
11	2	2449.4	34.962	34.962	2	3.226	3.027	27.870	266.1	2	267.3	2	56.1	0.01	2	18.27	2	1.20	2	19.20	2	9	9	9	9			9	9	9		9	9			9		9		9
10	2	2650.6	34.950	34.950	2	3.047	2.831	27.880	267.5	2	270.7	2	54.3	0.01	2	18.27	2	1.21	2	20.30	2	9	9	9	9			9	9	9		9	9			9		9		9
9	2	2848.7	34.941	34.941	2	2.892	2.659	27.889	264.6	2	270.0	2	56.4	0.01	2	18.17	2	1.21	2	21.10	2	9	9	9	9			9	9	9		9	9			9		9		9
8	2	3050.7	34.931	34.930	2	2.750	2.499	27.896	269.9	2	270.7	2	57.1	0.01	2	18.07	2	1.21	2	22.10	2	9	9	9	9			9	9	9		9	9			9		9		9
7	2	3346.6	34.918	34.919	2	2.557	2.280	27.906	271.6	2	272.6	2	57.0	0.01	2	18.07	2	1.21	2	23.90	2	9	9	9	9			9	9	9		9	9			9		9		9
6	2	3649.7	34.910	34.910	2	2.440	2.133	27.913	273.4	2	274.7	2	56.2	0.01	2	17.88	2	1.20	2	24.50	2	9	9	9	9			9	9	9		9	9			9		9		9
5	2	3950.3	34.903	34.903	2	2.369	2.030	27.917	272.4	2	273.7	2	58.1	0.01	2	18.07	2	1.21	2	26.40	2	9	9	9	9			9	9	9		9	9			9		9		9
4	2	4350.1	34.897	34.897	2	2.328	1.944	27.922	271.2	2	272.3	2	60.2	0.01	2	18.56	2	1.24	2	29.30	2	9	9	9	9			9	9	9		9	9			9		9		9
3	2	4750.0	34.892	34.892	2	2.315	1.883	27.926	269.6	2	270.3	2	62.7	0.01	2	18.85	2	1.27	2	31.80	2	9	9	9	9			9	9	9		9	9			9		9		9
2	2	5150.7	34.882	34.883	2	2.288	1.807	27.927	265.0	2	265.9	2	67.8	0.01	2	19.73	2	1.34	2	37.20	2	9	9	9	9			9	9	9		9	9			9		9		9
1	2	5579.8	34.853	34.861	2	2.106	1.575	27.923	250.5	2	258.6	2	77.2	0.01	6	21.49	3	1.47	3	47.90	3	9	9	9	9			9	9	9		9	9			9		9		9

* WOCE water sample quality flag (F) for parameter for the previous column
** WOCE quality flag (F) for "Niskin" sample bottle
*** PSS-78 scale
**** ITS0 scale

A5R
NOAA Ship Ronald H. Brown

STATION 96 DATE 2/18/1998 LATITUDE 26.500° N
LONGITUDE 71.734° W

Bottle Number	F**	Pressure db	CTD Salinity***	Bottle Salinity***	F*	Temp**** °C	Theta °C	Sigma Theta	CTD O2 µmol/kg	F*	Bottle O2 µmol/kg	F*	AOU	NO2 µmol/kg	F*	NO3 µmol/kg	F*	PO4 µmol/kg	F*	Si(OH)4 µmol/kg	F*	CFC-11 pmol/kg	F*	CFC-12 pmol/kg	F*	CFC-113 pmol/kg	F*	CCl4 pmol/kg	F*	fCO2 at 20 °C µatm	fCO2 INSITU µatm	F*	DIC µmol/kg	F*	pH	F*	Measured TA µmol/kg	F*	Calculated TA µmol/kg	TOC µmol/kg	F*	TON µmol/kg	F*
36	2	5.3	36.768	36.766	2	23.265	23.264	25.200	214.5	2	214.5	2	-4.5	0.00	2	0.00	2	0.00	2	0.60	2	1.94	2	1.12	2	0.15	2	1.98	2	280.7	319.5	2	2040.5	2	8.1022	2		5	2406		9		9
35	2	40.3	36.765	36.767	2	23.231	23.223	25.212	214.1	2	214.0	2	-3.8	0.00	2	0.00	2	0.00	2	0.60	2		9		9		9		9			9	2040.9	2	8.0981	2	2404	2	2403		9		9
34	2	91.5	36.760	36.759	2	23.145	23.126	25.239	214.0	2	213.7	2	-3.2	0.01	2	0.00	2	0.00	2	0.60	2	1.95	2	1.13	2	0.16	2		9	279.6	316.8	2	2043.1	2	8.0671	2		5	2383		9		9
33	2	118.8	36.755	36.756	2	23.100	23.075	25.253	214.3	2	213.9	2	-3.2	0.00	2	0.00	2	0.00	2	0.60	2		9		9		9		9			9		9		9		9			9		9
32	2	162.1	36.862	36.861	2	21.541	21.509	25.782	205.9	2	202.9	2	13.5	0.04	2	0.49	2	0.01	2	0.50	2	2.14	2	1.21	2	0.12	2		9			9	2084.8	2	8.0284	2	2405	2	2403		9		9
31	2	201.2	36.771	36.770	2	20.058	20.020	26.119	197.3	2	198.0	2	24.4	0.02	2	1.27	2	0.03	2	0.60	2	2.25	2	1.26	2	0.07	2		9	361.4	362.1	2	2095.9	2	8.0146	2		5	2405		9		9
30	2	222.1	36.712	36.709	2	19.541	19.500	26.213	198.0	2	198.2	2	26.4	0.01	2	1.76	2	0.04	2	0.70	2		9		9		9		9			9		9		9		9			9		9
29	2	251.4	36.639	36.636	2	18.953	18.908	26.311	197.1	2	200.0	2	27.2	0.01	2	2.63	2	0.08	2	0.80	2		9		9		9		9			9		9		9		9			9		9
28	2	272.7	36.609	36.608	2	18.681	18.632	26.359	198.0	2	201.8	2	26.6	0.01	2	2.93	2	0.11	2	0.90	2	2.32	6	1.29	6	0.04	6		9	374.3	354.9	2	2096.4	2	8.0013	2		5	2396		9		9
27	2	300.2	36.586	36.584	2	18.470	18.417	26.397	200.4	2	202.7	2	26.6	0.01	2	3.32	2	0.13	2	0.90	2		9		9		9		9			9		9		9		9			9		9
26	2	350.3	36.573	36.572	2	18.287	18.225	26.438	202.1	2	196.6	2	33.6	0.01	2	4.29	2	0.19	2	1.20	2	2.30	2	1.26	2	0.02	2		9	393.5	367.2	2	2106.1	2	7.9656	2	2385	2	2383		9		9
25	2	400.3	36.512	36.511	2	17.931	17.861	26.484	203.8	2	200.9	2	31.0	0.01	2	4.68	2	0.22	2	1.40	2		9		9		9		9			9		9		9		9			9		9
24	2	442.1	36.469	36.469	2	17.694	17.618	26.512	202.8	2	199.8	2	33.2	0.01	2	5.17	2	0.25	2	1.60	2	2.24	2	1.22	2	0.04	2		9	404.3	368.3	2	2105.0	2	7.9687	2	2382	2	2383		9		9
23	2	550.2	36.158	36.177	2	15.847	15.759	26.715	188.0	2	181.7	2	60.3	0.00	2	9.46	2	0.52	2	2.90	2	2.00	2	1.05	2	0.03	2		9			9	2129.2	2	7.9023	2	2368	2	2368		9		9
22	2	649.3	35.846	35.853	2	13.940	13.844	26.895	177.2	2	173.8	2	78.1	0.01	2	13.57	2	0.80	2	5.10	2		9		9		9		9			9		9		9		9			9		9
21	2	750.5	35.573	35.581	2	11.939	11.839	27.085	164.3	2	161.3	2	101.8	0.01	2	17.86	2	1.08	2	7.90	2	1.06	2	0.55	2	0.01	2		9	645.6	463.1	2	2162.6	2	7.7793	2	2338	2	2336		9		9
20	2	850.6	35.309	35.299	2	9.906	9.804	27.244	152.2	2	151.0	2	124.4	0.01	2	22.55	2	1.43	2	12.30	2	0.54	2	0.28	2	0.01	2		9	783.0	516.3	2	2182.4	2	7.7104	2	2326	2	2325		9		9
19	2	950.4	35.138	35.140	2	8.296	8.193	27.369	154.8	2	153.2	2	132.5	0.01	2	24.61	2	1.60	2	15.30	2	0.33	2	0.17	2	0.01	2		9	850.9	523.8	2	2192.5	6		9	2321	2			9		9
18	2	1049.2	35.066	35.064	2	6.964	6.860	27.505	169.3	2	170.5	2	124.2	0.01	2	24.41	2	1.61	2	16.60	2	0.28	2	0.15	2	0.01	2		9			9		9	7.6721	2		9			9		9
17	2	1251.3	35.072	35.071	2	5.341	5.230	27.718	228.0	2	229.4	2	76.8	0.01	2	19.63	2	1.29	2	13.20	2	0.58	2	0.29	2	0.01	2		9			9	2171.1	2	7.7166	2	2318	2	2315		9		9
16	2	1450.6	35.031	35.031	2	4.602	4.480	27.773	254.8	2	252.5	2	59.4	0.00	2	18.26	2	1.21	2	12.20	2	0.90	2	0.44	2	0.03	2		9	747.0	386.6	2	2164.5	2	7.7192	2	2315	2	2309		9		9
15	2	1651.1	34.987	34.988	2	4.080	3.945	27.796	264.0	2	264.2	2	51.9	0.01	2	17.77	2	1.18	2	12.40	2	0.94	2	0.46	2	0.04	2		9			9		9		9		9			9		9
14	2	1850.3	34.986	34.987	2	3.880	3.729	27.818	266.9	2	266.0	2	51.8	0.00	2	17.77	2	1.18	2	13.70	2	0.62	2	0.31	2	0.02	2		9	724.8	362.0	2	2161.0	2	7.7369	2	2313	2	2312		9		9
13	2	2020.8	34.991	34.992	2	3.736	3.570	27.839	264.0	2	264.0	2	55.0	0.01	2	17.97	2	1.20	2	15.50	2		9		9		9		9			9		9		9		9			9		9
12	2	2201.6	34.982	34.982	2	3.532	3.352	27.855	265.6	2	264.6	2	56.2	0.01	2	18.07	2	1.21	2	17.30	2	0.20	2	0.11	2	0.02	2		9	716.2	351.2	2	2163.5	2	7.7378	2	2318	2	2316		9		9
11	2	2400.7	34.963	34.963	2	3.292	3.096	27.865	268.3	2	267.5	2	55.3	0.01	2	17.97	2	1.21	2	18.30	2	0.26	2	0.13	2	0.02	2	0.74	2			9	2163.3	2	7.7403	2	2317	2	2316		9		9
10	2	2599.2	34.954	34.954	2	3.112	2.900	27.876	264.6	2	267.9	2	56.5	0.01	2	17.97	2	1.22	2	19.70	2	0.24	2	0.12	2	0.01	2		9			9		9		9		9			9		9
9	2	2799.8	34.940	34.940	2	2.918	2.690	27.885	269.0	2	270.5	2	55.7	0.01	2	17.77	2	1.21	2	20.30	2	0.35	2	0.17	2	0.02	2	0.80	2	715.6	340.4	2	2164.7	2	7.7401	2	2320	2	2318		9		9
8	2	3000.2	34.932	34.932	2	2.767	2.521	27.894	272.6	2	271.3	2	56.3	0.00	2	17.87	2	1.21	2	21.60	2	0.36	2	0.18	2	0.01	2		9			9		9		9		9			9		9
7	2	3201.3	34.922	34.923	2	2.636	2.372	27.900	275.3	2	272.9	2	56.0	0.01	2	17.68	2	1.21	2	21.80	2	0.44	2	0.22	2	0.02	2	0.93	2			9	2166.0	2	7.7407	2	2319	2	2319		9		9
6	2	3481.7	34.913	34.915	2	2.489	2.199	27.909	275.7	2	274.1	2	56.2	0.01	2	17.77	2	1.21	2	23.40	2	0.41	6	0.21	6	0.02	6		9	728.4	339.4	2	2167.2	2	7.7381	2	2321	2	2319		9		9
5	2	3801.0	34.906	34.906	2	2.385	2.062	27.916	276.0	2	274.3	2	57.2	0.01	2	17.87	2	1.22	2	25.20	2	0.43	2	0.22	2	0.02	2	0.98	2			9	2169.5	2	7.7380	2	2322	2	2322		9		9
4	2	4198.5	34.898	34.898	2	2.322	1.956	27.921	274.6	2	272.5	2	59.9	0.01	2	18.17	2	1.24	2	27.70	2	0.45	2	0.22	2	0.02	2	0.99	6			9	2173.6	2	7.7335	2	2325	2	2324		9		9
3	2	4600.6	34.892	34.892	2	2.299	1.886	27.925	272.3	2	270.2	2	62.8	0.01	2	18.75	2	1.28	2	31.10	2	0.38	2	0.19	2	0.04	2		9	735.4	338.9	2	2177.6	2	7.7324	2	2328	2	2328		9		9
2	2	4999.8	34.884	34.883	2	2.273	1.811	27.927	267.9	2	266.2	2	67.5	0.01	2	19.53	2	1.34	2	36.80	2	0.22	2	0.12	2	0.03	2	0.60	2			9		9		9		9			9		9
1	2	5465.3	34.853	34.854	2	2.101	1.586	27.922	252.5	2	255.3	6	80.4	0.01	6	22.07	2	1.53	6	52.30	6	0.04	2	0.03	2	0.01	2	0.22	2	780.2	355.0	2	2201.9	2		9	2350	2			9		9

* WOCE water sample quality flag (F) for parameter for the previous column
** WOCE quality flag (F) for "Niskin" sample bottle
*** PSS-78 scale
**** ITS0 scale

A5R
NOAA Ship Ronald H. Brown

STATION 97 DATE 2/18/1998 LATITUDE 26.501° N
LONGITUDE 72.100° W

Bottle Number	F**	Pressure db	CTD Salinity***	Bottle Salinity***	F*	Temp**** °C	Theta °C	Sigma Theta	CTD O2 µmol/kg	F*	Bottle O2 µmol/kg	F*	AOU	NO2 µmol/kg	F*	NO3 µmol/kg	F*	PO4 µmol/kg	F*	Si(OH)4 µmol/kg	F*	CFC-11 pmol/kg	F*	CFC-12 pmol/kg	F*	CFC-113 pmol/kg	F*	CCl4 pmol/kg	F*	fCO2 at 20 °C µatm	fCO2 INSITU µatm	F*	DIC µmol/kg	F*	pH	F*	Measured TA µmol/kg	F*	Calculated TA µmol/kg	TOC µmol/kg	F*	TON µmol/kg	F*
36	2	4.0	36.786	36.785	2	23.140	23.139	25.250	213.5	2	214.4	2	-3.9	0.00	2	0.00	2	0.00	2	0.60	2	9	9	9	9	280.1	317.3	2	2039.3	2	8.0918	2	5	2397	9	9
35	2	45.6	36.787	36.786	2	23.151	23.142	25.253	212.9	2	214.6	2	-4.2	0.00	2	0.00	2	0.01	2	0.60	2	9	9	9	9			9	9	9	9				9	9
34	2	88.0	36.774	36.774	2	23.071	23.053	25.272	213.2	2	214.6	2	-3.8	0.00	2	0.00	2	0.01	2	0.60	2	9	9	9	9	280.5	316.9	2	2039.8	2	8.0981	2	2397	2	2402	9	9
33	2	133.8	36.970	36.963	2	22.289	22.262	25.651	210.7	2	205.5	2	7.9	0.05	2	0.29	2	0.01	2	0.50	2	9	9	9	9	323.4	354.2	2	2076.6	2	8.0407	2	2412	2	2403	9	9
32	2	179.6	36.815	36.814	2	20.492	20.458	26.035	195.9	2	198.7	2	21.9	0.02	2	0.98	2	0.03	2	0.50	2	9	9	9	9			9	9	9	9				9	9
31	2	200.2	36.741	36.742	2	19.808	19.771	26.162	196.2	2	198.7	2	24.8	0.02	2	1.37	2	0.04	2	0.60	2	9	9	9	9			9	9	9	9				9	9
30	2	223.9	36.672	36.674	2	19.183	19.142	26.275	193.9	2	197.6	2	28.6	0.01	2	2.15	2	0.07	2	0.80	2	9	9	9	9			9	9	9	9				9	9
29	2	250.1	36.616	36.619	2	18.729	18.684	26.351	195.7	2	200.9	2	27.3	0.01	2	2.83	2	0.11	2	0.90	2	9	9	9	9	376.2	357.3	2	2093.1	2	7.9990	2	2390	2	2390	9	9
28	2	271.7	36.592	36.590	2	18.529	18.481	26.384	198.7	2	204.4	2	24.7	0.01	2	3.12	2	0.12	2	0.90	2	9	9	9	9			9	9	9	9				9	9
27	2	298.9	36.571	36.571	2	18.357	18.304	26.414	201.7	2	206.1	2	23.8	0.01	2	3.32	2	0.14	2	1.00	2	9	9	9	9			9	9	9	9				9	9
26	2	348.5	36.541	36.541	2	18.119	18.058	26.455	204.6	2	207.0	2	24.0	0.01	2	3.80	2	0.17	2	1.20	2	9	9	9	9			9	9	9	9				9	9
25	2	400.1	36.508	36.509	2	17.898	17.829	26.489	205.8	2	205.6	2	26.4	0.01	2	4.29	2	0.20	2	1.30	2	9	9	9	9	388.1	356.4	2	2096.2	2	7.9839	2	2384	2	2383	9	9
24	2	450.3	36.383	36.390	2	17.195	17.119	26.567	195.0	2	191.3	2	44.0	0.01	2	6.73	2	0.34	2	2.00	2	9	9	9	9			9	9	9	9				9	9
23	2	500.0	36.256	36.252	2	16.491	16.409	26.639	187.3	2	182.8	2	56.0	0.01	2	8.68	2	0.47	2	2.60	2	9	9	9	9			9	9	9	9				9	9
22	2	543.6	36.123	36.116	2	15.719	15.632	26.716	180.8	2	177.7	2	65.0	0.01	2	10.44	2	0.59	2	3.40	2	9	9	9	9	488.8	410.7	2	2129.2	2	7.8941	2	2364	2	2363	9	9
21	2	600.8	35.949	35.955	2	14.536	14.445	26.846	178.1	2	176.2	2	72.5	0.01	2	12.20	2	0.71	2	4.20	2	9	9	9	9			9	9	9	9				9	9
20	2	700.2	35.671	35.672	2	12.695	12.598	27.013	164.3	2	164.8	2	94.0	0.01	2	16.49	2	1.00	2	6.80	2	9	9	9	9			9	9	9	9				9	9
19	2	748.9	35.576	35.581	2	11.902	11.802	27.094	163.1	2	165.1	2	98.2	0.01	2	17.67	2	1.08	2	7.70	2	9	9	9	9	647.3	464.0	2	2158.4	2	7.7828	2	2336	2	2334	9	9
18	2	801.5	35.419	35.422	2	10.838	10.737	27.168	149.3	2	150.8	2	118.8	0.01	2	20.89	2	1.31	2	10.30	2	9	9	9	9			9	9	9	9				9	9
17	2	848.5	35.318	35.317	2	10.069	9.966	27.224	149.0	2	146.9	2	127.5	0.01	2	22.84	2	1.44	2	12.20	2	9	9	9	9	780.6	518.4	2	2178.5	2	7.7107	2	2326	2	2321	9	9
16	2	899.1	35.191	35.194	2	8.924	8.823	27.312	148.1	2	149.8	6	131.8	0.01	2	24.31	2	1.56	2	14.40	2	9	9	9	9	830.1	524.9	2	2187.4	6	7.6855	2	2322	2	2319	9	9
15	3	998.3	35.074		2	7.320	7.219	27.461	159.8	2		9			9		9		9		9	9	9	9	9			9	9	9	9				9	9
14	2	1249.5	35.072	35.073	2	5.430	5.318	27.708	228.6	2	227.7	2	77.9	0.01	2	19.72	2	1.31	2	13.30	2	9	9	9	9	770.9	415.1	2	2171.2	2		9	2320	2		9	9
13	2	1498.2	35.012	35.011	2	4.398	4.273	27.780	255.7	2	257.1	2	56.4	0.01	2	18.16	2	1.21	2	12.60	2	9	9	9	9	733.7	375.8	2	2160.6	2	7.7294	2		5	2309	9	9
12	2	1749.5	34.982	34.982	2	3.957	3.814	27.806	264.6	2	266.0	2	51.1	0.01	2	17.87	2	1.19	2	13.20	2	9	9	9	9			9	9	9	9				9	9
11	2	1998.0	35.001	35.001	2	3.812	3.647	27.840	260.1	2	262.2	2	56.2	0.01	2	18.26	2	1.22	2	15.90	2	9	9	9	9	725.6	361.1	6	2161.1	2		9	2326	2		9	9
10	2	2299.1	34.967	34.968	2	3.367	3.180	27.860	265.3	2	267.2	2	55.0	0.01	2	18.16	2	1.21	2	17.80	2	9	9	9	9			9	9	9	9				9	9
9	2	2596.6	34.950	34.951	2	3.069	2.858	27.877	266.0	2	268.5	2	56.3	0.01	2	18.16	2	1.23	2	19.70	2	9	9	9	9			9	9	9	9				9	9
8	2	2950.3	34.934	34.934	2	2.794	2.553	27.893	268.2	2	270.5	2	56.8	0.01	2	18.16	2	1.23	2	21.70	2	9	9	9	9			9	9	9	9				9	9
7	2	3248.6	34.921	34.920	2	2.574	2.307	27.904	271.0	2	272.4	2	57.0	0.01	2	18.07	2	1.23	2	23.40	2	9	9	9	9			9	9	9	9				9	9
6	2	3599.5	34.908	34.908	2	2.418	2.117	27.912	274.1	2	275.1	2	55.9	0.01	2	17.67	2	1.21	2	23.70	2	9	9	9	9			9	9	9	9				9	9
5	2	3946.8	34.901	34.900	2	2.334	1.996	27.918	273.1	2	274.4	2	57.7	0.01	2	17.97	2	1.24	2	26.30	2	9	9	9	9			9	9	9	9				9	9
4	2	4298.8	34.897	34.895	2	2.306	1.929	27.923	270.4	2	272.2	2	60.4	0.01	2	18.36	2	1.27	2	29.20	2	9	9	9	9			9	9	9	9				9	9
3	2	4648.4	34.891	34.890	2	2.291	1.872	27.925	268.5	2	269.5	2	63.6	0.01	2	18.85	2	1.31	2	32.20	2	9	9	9	9			9	9	9	9				9	9
2	2	4997.8	34.880	34.880	2	2.249	1.788	27.926	263.8	2	265.3	2	68.6	0.01	2	19.82	2	1.37	2	37.90	2	9	9	9	9			9	9	9	9				9	9
1	2	5352.3	34.855	34.855	2	2.093	1.593	27.922	251.0	2	256.6	2	79.0	0.01	6	21.97	6	1.54	6	51.20	6	9	9	9	9			9	9	9	9				9	9

* WOCE water sample quality flag (F) for parameter for the previous column
** WOCE quality flag (F) for "Niskin" sample bottle
*** PSS-78 scale
**** ITS0 scale

A5R
NOAA Ship Ronald H. Brown

STATION 98 DATE 2/18/1998 LATITUDE 26.501° N
LONGITUDE 72.467° W

Bottle Number	F**	Pressure db	CTD Salinity***	Bottle Salinity***	F*	Temp**** °C	Theta °C	Sigma Theta	CTD O2 µmol/kg	F*	Bottle O2 µmol/kg	F*	AOU	NO2 µmol/kg	F*	NO3 µmol/kg	F*	PO4 µmol/kg	F*	Si(OH)4 µmol/kg	F*	CFC-11 pmol/kg	F*	CFC-12 pmol/kg	F*	CFC-113 pmol/kg	F*	CCl4 pmol/kg	F*	fCO2 at 20 °C µatm	fCO2 INSITU µatm	F*	DIC µmol/kg	F*	pH	F*	Measured TA µmol/kg	F*	Calculated TA µmol/kg	TOC µmol/kg	F*	TON µmol/kg	F*
36	2	4.0	36.781	36.780	2	23.201	23.200	25.229	216.3	2	215.4	2	-5.2	0.00	2	0.00	2	0.01	2		4	1.97	2	1.13	2	0.16	2	1.96	2	276.8	314.3	2	2043.1	6	8.0972	2	2413	2	2405	68.7	2	4.4	2
35	2	30.0	36.781	36.781	2	23.171	23.165	25.240	216.1	2	215.0	2	-4.6	0.00	2	0.00	2	0.01	2		4		9		9		9		9	278.2	315.6	2	2043.0	2		9	2413	2		68.5	2	4.2	2
34	2	100.2	36.779	36.780	2	23.124	23.103	25.261	217.1	2	214.9	2	-4.3	0.00	2	0.00	2	0.01	2		4	1.96	2	1.12	2	0.16	2		9	279.1	316.0	2	2045.8	2	8.0981	2		5	2409	67.3	2	4.3	2
33	2	129.2	36.892	36.883	2	22.105	22.079	25.643	207.0	2	206.7	2	7.5	0.06	2	0.20	2	0.02	2		4		9		9		9		9	318.8	346.7	2	2079.3	2	8.0527	2	2409	2	2414	56.8	2	4.2	2
32	2	170.8	36.837	36.831	2	20.473	20.441	26.055	197.7	2	198.9	2	21.7	0.02	2	0.98	2	0.03	2		4	2.22	2	1.25	2	0.10	2		9	356.7	363.3	2	2095.7	2	8.0172	2	2407	2	2407	51.9	2		9
31	2	200.7	36.705	36.709	2	19.502	19.465	26.215	197.3	2	201.5	2	23.3	0.01	2	1.46	2	0.05	2	0.80	2	2.28	2	1.28	2	0.07	2		9			9	2095.1	2	8.0081	2	2398	2	2399	51.3	2	5.2	2
30	2	225.7	36.665	36.665	2	19.178	19.137	26.271	197.5	2	198.9	2	27.3	0.01	2	2.24	2	0.07	2	0.80	2		9		9		9		9	370.7	358.3	2	2097.3	2	8.0013	2	2395	2	2397	50.0	2		9
29	2	250.0	36.625	36.625	2	18.766	18.721	26.348	198.4	2	199.9	2	28.1	0.01	2	2.93	2	0.10	2	0.90	2	2.29	2	1.27	2	0.03	2		9			9	2098.7	2	7.9946	2		9	2394	48.1	2		9
28	2	270.9	36.593	36.592	2	18.553	18.505	26.379	198.6	2	201.1	2	27.9	0.01	2	3.32	2	0.13	2	0.80	2	2.35	2	1.28	2	0.03	2		9	376.7	355.4	2	2099.7	2	7.9947	2	2392	2	2395		9		9
27	2	300.5	36.568	36.572	2	18.348	18.295	26.414	200.8	2	203.2	2	26.7	0.01	2	3.51	2	0.14	2	0.80	2	2.34	2	1.28	2	0.03	2		9			9	2095.8	2	7.9930	2	2390	2	2389	46.5	2	7.1	2
26	2	350.3	36.534	36.533	2	18.098	18.037	26.455	203.3	2	203.6	2	27.5	0.01	2	4.20	2	0.18	2	1.00	2	2.32	6	1.27	6	0.03	6		9	387.0	358.3	2	2099.7	2	7.9864	2	2387	2	2389		9		9
25	2	399.5	36.478	36.491	2	17.742	17.673	26.503	196.1	2	201.1	2	31.6	0.01	2	4.88	2	0.23	2	1.30	2	2.27	2	1.24	2	0.04	2		9			9	2104.0	2		9	2385	2		46.0	2		9
24	2	449.2	36.395	36.398	2	17.253	17.177	26.562	194.1	2	190.4	2	44.7	0.01	2	6.73	2	0.33	2	1.70	2	2.17	2	1.16	2	0.02	2		9	429.4	384.2	2	2113.6	2	7.9464	2	2380	2	2378		9		9
23	2	501.1	36.227		2	16.266	16.184	26.669	187.2	2		9			9		9		9		9		9		9		9		9			9		9		9		9		45.0	2	12.2	2
22	2	599.8	35.926	35.938	2	14.390	14.300	26.859	177.3	2	174.4	6	75.1	0.01	2	12.59	2	0.71	2	4.20	2	1.74	2	0.90	2	0.03	2		9	535.0	425.4	2	2140.3	2	7.8578	2	2356	2	2354		9		9
21	2	649.1	35.788	35.798	2	13.486	13.392	26.944	173.9	2	170.9	2	83.5	0.01	2	14.45	2	0.83	2	6.00	2	1.52	2	0.79	2	0.02	2		9			9	2148.6	2		9	2348	2		44.4	2		9
20	2	749.0	35.510	35.512	2	11.513	11.415	27.115	160.2	2	156.2	2	109.4	0.00	2	19.34	2	1.17	2	8.80	2	0.89	2	0.46	2	0.02	2		9	684.9	483.1	2	2167.4	2	7.7603	2		5	2332		9		9
19	2	849.6	35.259	35.253	2	9.565	9.465	27.262	153.3	2	149.0	2	128.5	0.01	2	23.54	2	1.49	2	13.20	2	0.48	2	0.25	2	0.01	2		9	809.3	526.0	2	2185.4	2	7.6966	2	2330	2	2322	41.4	2	25.4	2
18	2	950.6	35.108	35.109	2	7.902	7.802	27.403	152.5	2	156.2	2	132.1	0.00	2	25.01	2	1.62	2	15.90	2	0.32	6	0.17	6	0.01	6		9	857.0	518.7	2	2193.6	2	7.6701	2	2324	2	2319		9		9
17	2	1048.2	35.079	35.079	2	6.904	6.800	27.523	178.0	2	177.2	2	117.9	0.00	2	23.84	2	1.56	2	15.80	2	0.34	2	0.17	2	0.01	2		9	846.3	489.2	2	2189.0	6	7.6783	2		5	2317	41.4	2		9
16	2	1248.7	35.072	35.073	2	5.343	5.232	27.718	231.8	2	230.2	2	76.0	0.00	2	19.63	2	1.28	2	12.80	2	0.63	2	0.31	2	0.02	2		9	768.3	411.9	2	2174.2	2	7.7161	2	2325	2	2318		9		9
15	2	1450.4	35.019	35.019	2	4.487	4.366	27.776	256.6	2	255.0	2	57.8	0.01	2	18.37	2	1.20	2	12.10	2	0.90	2	0.44	2	0.04	2		9			9	2165.7	2	7.7287	2	2320	2	2314	41.2	2	20.2	2
14	2	1643.2	34.986	34.988	2	4.047	3.913	27.798	265.9	2	264.8	2	51.5	0.01	2	17.88	2	1.17	2	12.40	2		9		9		9	1.57	2	734.4	370.0	2	2162.5	2	7.7319	2	2317	2	2312		9		9
13	2	1849.1	34.981	34.982	2	3.824	3.673	27.819	268.7	2	267.1	2	51.1	0.01	2	17.78	2	1.18	2	13.60	2	0.68	2	0.34	2	0.03	2	1.36	2			9	2161.8	2	7.7353	2		9	2313	42.6	2		9
12	2	2048.6	34.982	34.983	2	3.644	3.477	27.841	267.1	2	266.1	2	53.7	0.01	2	18.07	2	1.19	2	15.40	2	0.35	2	0.18	2	0.02	2		9	726.6	358.7	2	2160.2	2	7.7380	2		9	2312		9		9
11	2	2252.1	34.962	34.963	2	3.379	3.197	27.853	269.4	2	269.4	2	52.6	0.01	2	17.88	2	1.18	2	16.30	2	0.47	2	0.23	2	0.02	2	1.04	2			9	2161.0	2	7.7385	2		9	2313	41.5	2	19.9	2
10	2	2449.2	34.957	34.959	2	3.283	3.083	27.862	269.6	2	269.5	2	53.5	0.01	2	17.78	2	1.19	2	17.10	2	0.44	2	0.22	2	0.02	2		9			9	2161.0	2	7.7380	2		9	2313		9		9
9	2	2631.9	34.953	34.954	2	3.142	2.926	27.874	268.5	2	269.1	2	55.1	0.01	2	17.98	2	1.20	2	19.10	2	0.30	2	0.15	2	0.01	2	0.80	2	718.1	345.5	2	2161.9	2	7.7399	2	2317	2	2315	41.4	2		9
8	2	2826.8	34.940	34.940	2	2.932	2.701	27.884	270.2	2	271.3	2	54.8	0.01	2	17.88	2	1.19	2	19.90	2	0.41	2	0.20	2	0.01	2		9	724.4	345.1	2	2162.7	2	7.7390	2		9	2315		9		9
7	2	3049.2	34.930	34.929	2	2.766	2.515	27.894	272.8	2	274.3	2	53.4	0.01	2	17.59	2	1.18	2	20.30	2	0.51	2	0.25	2	0.02	2	1.02	2			9	2161.0	2		9		9		41.4	2	19.5	2
6	2	3349.8	34.916	34.916	2	2.548	2.271	27.904	274.8	2	276.0	2	53.7	0.01	2	17.49	2	1.18	2	21.70	2	0.61	6	0.30	6	0.02	6		9	725.5	339.2	2	2162.8	2	7.7363	2		9	2314		9		9
5	2	3649.6	34.907	34.906	2	2.400	2.094	27.913	275.9	2	276.1	2	55.1	0.01	2	17.59	2	1.20	2	24.00	2	0.67	2	0.33	2	0.03	2	1.24	2			9	2165.1	2	7.7316	2	2320	2	2314	41.4	2		9
4	2	3935.6	34.901	34.901	2	2.341	2.004	27.918	273.4	2	274.5	2	57.5	0.01	2	17.88	2	1.21	2	26.30	2	0.60	2	0.29	2	0.03	2	1.17	6	730.3	337.6	2	2168.3	2		9		9			9		9
3	2	4348.8	34.895	34.894	2	2.295	1.912	27.923	272.4	2	272.3	2	60.5	0.01	2	18.37	2	1.26	2	29.50	2	0.49	2	0.24	2	0.03	2	0.99	2			9	2173.1	2	7.7281	2		9	2321	41.4	2		9
2	2	4730.6	34.889	34.889	2	2.280	1.851	27.925	268.9	2	268.6	2	64.7	0.01	2	19.05	2	1.31	2	33.60	2	0.31	2	0.16	2	0.02	2	0.78	2	744.6	342.8	2	2178.1	2	7.7290	2		9	2327		9		9
1	2	5262.9	34.869	34.870	2	2.193	1.701	27.925	259.1	2	261.0	2	73.7	0.01	6	20.81	6	1.44	6	43.90	6	0.13	2	0.07	2	0.02	2	0.39	2	762.5	348.9	6	2191.6	2	7.7213	2	2347	2	2338	42.7	2		9

* WOCE water sample quality flag (F) for parameter for the previous column
** WOCE quality flag (F) for "Niskin" sample bottle
*** PSS-78 scale
**** ITS0 scale

A5R
NOAA Ship Ronald H. Brown

STATION 99 DATE 2/18/1998 LATITUDE 26.500° N
LONGITUDE 72.850° W

Bottle Number	F**	Pressure db	CTD Salinity***	Bottle Salinity***	F*	Temp**** °C	Theta °C	Sigma Theta	CTD O2 µmol/kg	F*	Bottle O2 µmol/kg	F*	AOU	NO2 µmol/kg	F*	NO3 µmol/kg	F*	PO4 µmol/kg	F*	Si(OH)4 µmol/kg	F*	CFC-11 pmol/kg	F*	CFC-12 pmol/kg	F*	CFC-113 pmol/kg	F*	CCl4 pmol/kg	F*	fCO2 at 20 °C µatm	fCO2 INSITU µatm	F*	DIC µmol/kg	F*	pH	F*	Measured TA µmol/kg	F*	Calculated TA µmol/kg	TOC µmol/kg	F*	TON µmol/kg	F*
36	2	5.4	36.781	36.780	2	23.575	23.574	25.119	212.9	2	214.7	2	-5.8	0.00	2	0.00	2	0.01	2	4		9		9		9		9		285.4	328.8	6	2042.8	6	8.0997	6	2423	3	2407		9		9
35	2	51.0	36.788	36.788	2	23.314	23.303	25.206	214.5	2	214.9	2	-5.0	0.00	2	0.00	2	0.01	2	4		9		9		9		9					9		9		9		9				9		9
34	2	99.8	36.804	36.811	2	23.159	23.138	25.270	212.7	2	213.6	2	-3.2	0.01	2	0.00	2	0.02	2	4		9		9		9		9					9		9		9		9				9		9
33	2	152.7	36.856	36.853	2	20.940	20.911	25.941	199.5	2	201.3	2	17.4	0.03	2	0.59	2	0.03	2	4		9		9		9		9					9		9		9		9				9		9
32	2	201.3	36.706	36.698	2	19.533	19.496	26.208	198.1	2	199.0	2	25.6	0.01	2	1.76	2	0.06	2	1.70	3	9		9		9		9					9		9		9		9				9		9
31	2	224.5	36.643	36.642	2	18.971	18.931	26.307	198.8	2	199.6	2	27.5	0.01	2	2.44	2	0.09	2	1.80	3	9		9		9		9					9		9		9		9				9		9
30	2	250.6	36.609	36.606	2	18.657	18.612	26.363	199.5	2	200.7	2	27.8	0.01	2	2.93	2	0.11	2	1.80	3	9		9		9		9					9		9		9		9				9		9
29	2	275.3	36.585	36.584	2	18.474	18.425	26.393	205.4	2	204.4	2	24.9	0.01	2	3.12	2	0.12	2	1.80	3	9		9		9		9					9		9		9		9				9		9
28	2	301.1	36.562	36.563	2	18.311	18.258	26.419	207.2	2	207.2	2	22.9	0.01	2	3.22	2	0.14	2	1.80	3	9		9		9		9					9		9		9		9				9		9
27	2	350.1	36.535	36.534	2	18.079	18.018	26.461	207.6	2	208.3	2	22.8	0.01	2	3.61	2	0.17	2	2.00	3	9		9		9		9					9		9		9		9				9		9
26	2	401.0	36.468	36.468	2	17.691	17.622	26.508	203.8	2	199.7	2	33.3	0.01	2	5.07	2	0.24	2	2.00	3	9		9		9		9					9		9		9		9				9		9
25	2	450.6	36.383	36.377	2	17.194	17.118	26.567	193.9	2	192.0	2	43.4	0.01	2	6.63	2	0.33	2	2.40	3	9		9		9		9					9		9		9		9				9		9
24	2	500.3	36.245	36.245	2	16.358	16.276	26.661	183.4	2	182.6	2	56.8	0.01	2	8.68	2	0.47	2	2.80	3	9		9		9		9					9		9		9		9				9		9
23	2	540.7	36.133	36.129	2	15.686	15.600	26.731	183.7	2	179.7	2	63.1	0.01	2	10.05	2	0.56	2	3.40	3	9		9		9		9					9		9		9		9				9		9
22	2	599.7	35.928	35.915	2	14.449	14.359	26.848	174.8	2	172.9	2	76.3	0.01	2	12.79	2	0.74	2	4.90	3	9		9		9		9					9		9		9		9				9		9
21	2	700.4	35.632	35.628	2	12.421	12.325	27.037	159.7	2	160.2	2	100.1	0.01	2	17.38	2	1.04	2	7.50	2	9		9		9		9					9		9		9		9				9		9
20	2	799.3	35.362	35.367	2	10.379	10.281	27.204	151.5	2	152.2	2	120.2	0.01	2	21.58	2	1.34	2	11.10	2	9		9		9		9					9		9		9		9				9		9
19	2	901.8	35.149	35.149	2	8.420	8.322	27.358	153.9	2	152.0	2	132.9	0.01	2	24.71	2	1.59	2	15.40	2	9		9		9		9					9		9		9		9				9		9
18	2	1001.0	35.104	35.102	2	7.262	7.161	27.493	170.1	2	174.5	2	118.1	0.01	2	23.44	2	1.53	2	15.50	2	9		9		9		9					9		9		9		9				9		9
17	2	1199.8	35.078	35.078	2	5.512	5.405	27.702	222.7	2	225.6	2	79.3	0.01	2	19.73	2	1.30	2	13.30	2	9		9		9		9					9		9		9		9				9		9
16	2	1398.5	35.031	35.031	2	4.641	4.523	27.767	250.6	2	251.5	2	60.1	0.00	2	18.26	2	1.21	2	12.50	2	9		9		9		9					9		9		9		9				9		9
15	2	1600.9	34.990	34.991	2	4.097	3.966	27.796	262.1	2	264.0	2	51.9	0.01	2	17.78	2	1.17	2	12.70	2	9		9		9		9					9		9		9		9				9		9
14	2	1801.3	34.974	34.974	2	3.854	3.708	27.810	268.6	2	268.3	2	49.7	0.00	2	17.58	2	1.17	2	13.20	2	9		9		9		9					9		9		9		9				9		9
13	2	2000.0	34.970	34.969	2	3.656	3.494	27.829	268.4	2	269.2	2	50.5	0.01	2	17.58	2	1.17	2	14.50	2	9		9		9		9					9		9		9		9				9		9
12	2	2200.0	34.969	34.970	2	3.506	3.327	27.847	266.6	2	268.5	2	52.5	0.01	2	17.68	2	1.18	2	15.90	2	9		9		9		9					9		9		9		9				9		9
11	2	2400.0	34.960	34.959	2	3.284	3.089	27.863	268.1	2	269.0	2	53.9	0.01	2	17.68	2	1.19	2	17.50	2	9		9		9		9					9		9		9		9				9		9
10	2	2600.7	34.950	34.949	2	3.101	2.889	27.874	270.7	2	270.1	2	54.4	0.01	2	17.68	2	1.19	2	18.90	2	9		9		9		9					9		9		9		9				9		9
9	2	2799.2	34.941	34.941	2	2.939	2.710	27.884	270.1	2	271.3	2	54.7	0.01	2	17.68	2	1.20	2	20.00	2	9		9		9		9					9		9		9		9				9		9
8	2	3000.3	34.932	34.932	2	2.785	2.539	27.893	271.8	2	272.9	2	54.6	0.01	2	17.58	2	1.19	2	20.60	2	9		9		9		9					9		9		9		9				9		9
7	2	3291.5	34.919	34.918	2	2.582	2.310	27.904	272.5	2	274.9	2	54.5	0.01	2	17.39	2	1.19	2	21.80	2	9		9		9		9					9		9		9		9				9		9
6	2	3593.7	34.908	34.908	2	2.433	2.132	27.911	277.5	2	276.1	2	54.8	0.01	2	17.39	2	1.19	2	23.30	2	9		9		9		9					9		9		9		9				9		9
5	2	3900.4	34.902	34.901	2	2.344	2.011	27.917	280.2	2	275.5	2	56.4	0.01	2	17.68	2	1.21	2	25.70	2	9		9		9		9					9		9		9		9				9		9
4	2	4198.8	34.897	34.897	2	2.313	1.947	27.921	272.3	2	276.0	2	56.5	0.01	2	17.97	2	1.24	2	28.10	2	9		9		9		9					9		9		9		9				9		9
3	2	4499.8	34.892	34.891	2	2.288	1.887	27.923	272.3	2	271.6	2	61.4	0.01	2	18.46	2	1.27	2	30.90	2	9		9		9		9					9		9		9		9				9		9
2	2	4900.1	34.880	34.879	2	2.232	1.784	27.924	269.7	2	265.4	2	68.5	0.01	2	19.73	2	1.37	2	38.80	2	9		9		9		9					9		9		9		9				9		9
1	2	5214.9	34.855	34.853	2	2.070	1.588	27.920	254.5	2	256.4	6	79.3	0.01	6	21.88	6	1.53	6	52.00	6	9		9		9		9					9		9		9		9				9		9

* WOCE water sample quality flag (F) for parameter for the previous column
** WOCE quality flag (F) for "Niskin" sample bottle
*** PSS-78 scale
**** ITS0 scale

A5R
NOAA Ship Ronald H. Brown

STATION 100 DATE 2/18/1998 LATITUDE 26.500° N
LONGITUDE 73.217° W

Bottle Number	F**	Pressure db	CTD Salinity***	Bottle Salinity***	F*	Temp**** °C	Theta °C	Sigma Theta	CTD O2 µmol/kg	F*	Bottle O2 µmol/kg	F*	AOU	NO2 µmol/kg	F*	NO3 µmol/kg	F*	PO4 µmol/kg	F*	Si(OH)4 µmol/kg	F*	CFC-11 pmol/kg	F*	CFC-12 pmol/kg	F*	CFC-113 pmol/kg	F*	CCl4 pmol/kg	F*	fCO2 at 20 °C µatm	fCO2 INSITU µatm	F*	DIC µmol/kg	F*	pH	F*	Measured TA µmol/kg	F*	Calculated TA µmol/kg	TOC µmol/kg	F*	TON µmol/kg	F*
36	2	4.0	36.685	36.685	2	23.837	23.836	24.968	210.9	2	215.1	2	-7.0	0.00	2	0.00	2	0.01	2	0.90	2	1.93	2	1.12	2	0.15	2	1.96	2	280.6	326.5	2	2036.7	2	8.0970	2	2393	2	2397		9		9
35	2	40.8	36.756	36.759	2	23.486	23.477	25.131	212.9	2	212.3	2	-3.0	0.00	2	0.00	2	0.01	2	1.00	2		9		9		9		9	278.7	320.0	2	2038.2	2	8.1022	2	2398	2	2403		9		9
34	2	90.6	36.803	36.816	2	23.022	23.003	25.308	213.9	2	213.3	2	-2.4	0.01	2	0.10	2	0.01	2	0.80	2	2.00	2	1.14	2	0.15	2		9	289.9	326.8	2	2050.4	2	8.0875	2	2401	2	2407		9		9
33	2	141.4	36.843	36.844	2	20.901	20.874	25.941	193.7	2	200.4	2	18.5	0.03	2	0.78	2	0.03	2	0.90	2	2.26	2	1.28	2	0.12	2		9			9		9		9		9			9		9
32	2	200.6	36.663	36.661	2	19.123	19.087	26.281	195.4	2	198.5	2	27.9	0.01	2	2.34	2	0.07	2	0.80	2	2.29	2	1.28	2	0.04	2		9	374.9	361.9	2	2096.2	2	8.0005	2	2392	2	2395		9		9
31	2	225.2	36.618	36.617	2	18.753	18.713	26.343	198.7	2	202.9	2	25.1	0.01	2	2.73	2	0.09	2	1.20	2	2.34	2	1.31	2	0.04	2		9			9		9		9		9			9		9
30	2	251.2	36.590	36.587	2	18.521	18.476	26.383	202.6	2	203.0	2	26.1	0.01	2	3.22	2	0.12	2	1.00	2		9		9		9		9			9		9		9		9			9		9
29	2	272.9	36.570	36.568	2	18.358	18.310	26.410	206.3	2	205.0	2	24.8	0.01	2	3.41	2	0.13	2	1.10	2	2.34	2	1.30	2	0.03	2		9	376.5	352.2	2	2093.9	2	7.9951	2	2386	2	2388		9		9
28	2	299.8	36.558	36.557	2	18.238	18.185	26.434	207.1	2	207.9	2	22.5	0.01	2	3.41	2	0.14	2	1.10	2		9		9		9		9			9		9		9		9			9		9
27	2	350.6	36.540	36.540	2	18.073	18.012	26.465	206.8	2	209.8	2	21.4	0.01	2	3.61	2	0.16	2	1.10	2	2.34	2	1.30	2	0.04	2		9	371.9	344.0	2	2092.7	2	7.9946	2	2387	2	2387		9		9
26	2	400.8	36.501	36.496	2	17.865	17.796	26.491	203.9	2	203.7	2	28.5	0.01	2	4.58	2	0.21	2	1.30	2		9		9		9		9			9		9		9		9			9		9
25	2	451.1	36.393	36.396	2	17.277	17.201	26.555	191.1	2	193.7	2	41.3	0.01	2	6.34	2	0.31	2	1.70	2	2.25	6	1.23	6	0.04	6		9			9	2111.2	2	7.9534	2	2376	2	2380		9		9
24	2	500.3	36.253	36.255	2	16.487	16.405	26.638	187.6	2	185.9	2	52.9	0.01	2	8.39	2	0.43	2	2.40	2		9		9		9		9			9		9		9		9			9		9
23	2	550.0	36.104	36.101	2	15.597	15.510	26.730	180.3	2	179.8	2	63.5	0.01	2	10.24	2	0.56	2	3.00	2	1.95	2	1.03	2	0.03	2		9	492.8	412.1	2	2128.6	2	7.8954	2		9	2363		9		9
22	3	648.3	35.721	35.723	2	13.117	13.025	26.966	167.6	2	166.4	2	90.0	0.01	2	15.62	2	0.91	2	6.00	2	1.44	2	0.74	2	0.03	2		9			9		9		9	2362	2			9		9
21	3	752.0	35.393	35.394	2	10.657	10.563	27.177	153.3	2	152.2	2	118.5	0.01	2	21.18	2	1.30	2	10.20	2	0.74	2	0.38	2	0.01	2		9	735.7	500.7	2	2174.6	2	7.7318	2	2331	2	2326		9		9
20	2	850.9	35.177	35.181	2	8.753	8.658	27.327	151.6	2	149.1	2	133.6	0.01	2	24.51	2	1.56	2	14.20	2	0.37	2	0.19	2	0.01	2		9	838.1	526.1	2	2189.1	6	7.6814	2	2326	2	2319		9		9
19	2	950.3	35.071	35.071	2	7.360	7.264	27.452	161.9	2	159.8	2	132.2	0.01	2	25.29	2	1.65	2	16.50	2	0.23	2	0.12	2	0.01	2		9	879.4	519.6	2	2193.7	2	7.6641	2	2322	2	2317		9		9
18	2	1100.0	35.075	35.075	2	6.148	6.045	27.619	197.0	2	199.1	2	101.3	0.01	2	22.07	2	1.44	2	14.70	2	0.39	2	0.19	2	0.01	2		9	809.9	451.5	2	2182.7	2	7.6948	2	2323	2	2318		9		9
17	2	1300.9	35.047	35.048	2	4.932	4.820	27.746	242.0	2	242.3	2	67.0	0.01	2	18.75	2	1.22	2	12.10	2	0.84	2	0.41	2	0.03	2		9			9		9		9		9			9		9
16	2	1499.4	34.997	34.998	2	4.263	4.140	27.782	260.7	2	260.4	2	54.2	0.01	2	17.97	2	1.17	2	11.90	2	1.00	6	0.49	6	0.04	6		9	736.5	374.9	2	2162.6	2	7.7282	2	2316	2	2310		9		9
15	2	1700.0	34.986	34.987	2	3.985	3.846	27.805	265.6	2	265.3	2	51.6	0.01	2	17.77	2	1.16	2	12.60	2	0.80	2	0.39	2	0.03	2		9			9		9		9		9			9		9
14	2	1900.9	34.975	34.975	2	3.757	3.603	27.823	268.2	2	268.0	2	50.8	0.01	2	17.67	2	1.16	2	13.50	2	0.70	2	0.35	2	0.03	2		9			9	2159.1	2	7.7361	2	2318	2	2310		9		9
13	2	2099.7	34.970	34.970	2	3.578	3.407	27.839	268.3	2	268.8	2	51.5	0.01	2	17.67	2	1.16	2	14.70	2	0.54	2	0.27	2	0.02	2		9	716.4	352.4	2	2159.3	2	7.7374	2	2317	2	2311		9		9
12	2	2296.1	34.960	34.960	2	3.374	3.187	27.853	270.1	2	269.1	2	53.0	0.01	2	17.67	2	1.17	2	16.00	2	0.50	2	0.25	2	0.02	2		9			9	2159.0	2	7.7373	2	2319	2	2310		9		9
11	9	2498.5	34.952		2	3.178	2.975	27.867	269.5	2		9			9		9		9		9		9		9		9		9			9		9		9		9			9		9
10	2	2699.6	34.944	34.945	2	3.015	2.795	27.879	270.2	2	271.8	6	53.5	0.01	2	17.67	2	1.18	2	18.70	2	0.39	2	0.19	2	0.02	2	0.90	2			9	2161.3	2	7.7391	2	2323	2	2314		9		9
9	2	2900.6	34.934	34.935	2	2.839	2.602	27.889	272.2	2	272.0	2	54.9	0.01	2	17.48	2	1.18	2	19.80	2	0.44	2	0.21	2	0.02	2	0.94	2			9		9		9		9			9		9
8	2	3100.1	34.925	34.926	2	2.685	2.431	27.897	274.9	2	273.8	2	54.6	0.01	2	17.58	2	1.18	2	20.60	2	0.53	2	0.26	2	0.03	2		9	712.6	335.2	2	2162.2	2	7.7384	2	2321	2	2314		9		9
7	2	3298.7	34.916	34.916	2	2.571	2.298	27.902	277.5	2	275.6	2	53.9	0.01	2	17.28	2	1.16	2	20.70	2	0.75	2	0.36	2	0.03	2	1.32	2			9		9		9		9			9		9
6	2	3499.4	34.911	34.911	2	2.469	2.177	27.909	277.2	2	275.4	2	55.1	0.01	2	17.48	2	1.18	2	22.60	2	0.59	2	0.29	2	0.03	2	1.19	2			9	2164.0	2	7.7366	2		5	2315		9		9
5	2	3799.8	34.904	34.904	2	2.366	2.044	27.916	276.1	2	274.6	2	57.0	0.01	2	17.68	2	1.21	2	25.30	2	0.49	2	0.24	2	0.02	2	1.08	2			9	2167.1	2	7.7353	2		5	2318		9		9
4	2	4098.5	34.898	34.898	2	2.312	1.958	27.920	275.1	2	273.4	2	59.0	0.01	2	18.07	2	1.23	2	27.60	2	0.49	2	0.25	2	0.02	2	1.05	6			9	2170.0	2	7.7334	2	2329	2	2320		9		9
3	2	4401.9	34.893	34.893	2	2.283	1.894	27.923	272.7	2	271.2	2	61.7	0.01	2	18.55	2	1.27	2	30.70	2	0.41	2	0.21	2	0.02	2	0.91	2	738.2	340.1	2	2174.7	2	7.7317	2		5	2324		9		9
2	3	4699.2	34.887	34.887	2	2.262	1.838	27.925	269.7	2	268.0	2	65.4	0.01	2	19.14	2	1.31	2	34.60	2	0.31	2	0.16	2	0.03	2	0.76	2			9		9		9		9			9		9
1	2	5146.1	34.858	34.858	2	2.097	1.623	27.920	257.4	2	257.4	2	78.0	0.01	6	21.68	6	1.50	6	50.00	6	0.07	2	0.05	2	0.01	2	0.27	2	773.4	351.9	2	2195.3	2	7.7164	2	2347	2	2340		9		9

* WOCE water sample quality flag (F) for parameter for the previous column
** WOCE quality flag (F) for "Niskin" sample bottle
*** PSS-78 scale
**** ITS0 scale

A5R
NOAA Ship Ronald H. Brown

STATION 101 DATE 2/19/1998 LATITUDE 26.500° N
LONGITUDE 73.583° W

Bottle Number	F**	Pressure db	CTD Salinity***	Bottle Salinity***	F*	Temp**** °C	Theta °C	Sigma Theta	CTD O2 µmol/kg	F*	Bottle O2 µmol/kg	F*	AOU	NO2 µmol/kg	F*	NO3 µmol/kg	F*	PO4 µmol/kg	F*	Si(OH)4 µmol/kg	F*	CFC-11 pmol/kg	F*	CFC-12 pmol/kg	F*	CFC-113 pmol/kg	F*	CCl4 pmol/kg	F*	fCO2 at 20 °C µatm	fCO2 INSITU µatm	F*	DIC µmol/kg	F*	pH	F*	Measured TA µmol/kg	F*	Calculated TA µmol/kg	TOC µmol/kg	F*	TON µmol/kg	F*
36	2	3.9	36.657	36.657	2	22.271	22.270	25.403	216.3	2	219.8	2	-6.0	0.00	2	0.00	2	0.01	2	0.50	2	9	9	9	9	294.5	322.4	6	2042.2	6	8.0823	2	2394	2	2392	9	9
35	2	48.8	36.653	36.652	2	21.917	21.907	25.505	220.0	2	220.3	6	-5.1	0.01	2	0.00	2	0.02	2	0.50	2	9	9	9	9	295.4	318.9	2	9	8.0837	2	2390	2	9	9
34	2	100.6	36.564	36.574	2	21.247	21.227	25.629	220.7	2	221.1	2	-3.2	0.01	2	0.10	2	0.02	2	0.50	2	9	9	9	9	303.6	319.1	2	2044.9	2	8.0795	2	2392	2	2392	9	9
33	2	149.1	36.701	36.699	2	19.673	19.646	26.162	202.1	2	202.8	2	21.2	0.03	2	1.46	2	0.05	2	0.50	2	9	9	9	9	360.5	355.9	2	2090.0	2	8.0112	2	2394	2	2396	9	9
32	2	198.9	36.621	36.619	2	18.749	18.713	26.344	203.0	2	203.8	2	24.2	0.01	2	2.63	2	0.10	2	0.80	2	9	9	9	9			9	9	9		9		9	9	9
31	2	223.4	36.595	36.596	2	18.549	18.509	26.378	206.4	2	205.9	2	23.0	0.01	2	2.93	2	0.11	2	0.90	2	9	9	9	9			9	9	9		9		9	9	9
30	2	249.5	36.574	36.573	2	18.368	18.324	26.409	208.1	2	209.4	2	20.4	0.01	2	3.12	2	0.13	2	1.00	2	9	9	9	9	376.4	352.3	2	2091.3	2	8.0019	2	2392	2	2390	9	9
29	2	274.2	36.566	36.565	2	18.261	18.213	26.433	211.0	2	211.6	2	18.7	0.01	2	3.12	2	0.13	2	1.00	2	9	9	9	9			9	9	9		9		9	9	9
28	2	299.4	36.561	36.561	2	18.210	18.158	26.443	212.6	2	211.7	2	18.8	0.01	2	3.12	2	0.14	2	1.00	2	9	9	9	9			9	9	9		9		9	9	9
27	2	373.8	36.529	36.531	2	17.990	17.925	26.480	216.6	2	210.9	2	20.7	0.01	2	3.71	2	0.17	2	1.20	2	9	9	9	9			9	9	9		9		9	9	9
26	2	448.6	36.408	36.411	2	17.354	17.278	26.548	200.2	2	196.0	2	38.6	0.01	2	6.05	2	0.30	2	1.80	2	9	9	9	9	416.0	373.6	2	2108.1	2	9	2377	2	9	9
25	2	496.3	36.278	36.287	2	16.640	16.558	26.621	190.7	2	187.2	2	50.9	0.01	2	7.90	2	0.42	2	2.40	2	9	9	9	9			9	9	9		9		9	9	9
24	2	549.4	36.137	36.144	2	15.765	15.677	26.717	180.0	2	179.7	2	62.7	0.01	2	9.95	2	0.55	2	3.20	2	9	9	9	9			9	9	9		9		9	9	9
23	2	601.0	35.971	35.983	2	14.726	14.634	26.822	171.8	2	173.9	2	73.8	0.01	2	12.10	2	0.70	2	4.20	2	9	9	9	9			9	9	9		9		9	9	9
22	2	649.8	35.809	35.827	2	13.644	13.550	26.927	165.1	2	168.2	2	85.3	0.01	2	14.25	2	0.85	2	5.40	2	9	9	9	9	568.5	437.9	2	2146.6	2	7.8326	2	2352	2	2347	9	9
21	2	693.1	35.673	35.679	2	12.731	12.635	27.008	159.6	2	162.8	2	95.8	0.01	2	16.49	2	0.99	2	6.80	2	9	9	9	9			9	9	9		9		9	9	9
20	2	791.8	35.384	35.394	2	10.567	10.469	27.188	150.2	2	151.3	2	119.9	0.01	2	21.09	2	1.33	2	10.70	2	9	9	9	9	737.8	500.2	2	2175.1	2	7.7243	2	2329	2	2324	9	9
19	2	898.5	35.169	35.165	2	8.629	8.530	27.341	150.7	2	149.8	2	133.7	0.01	2	24.51	2	1.59	2	14.90	2	9	9	9	9	841.1	525.4	2	2188.4	2	7.6784	2	2325	2	2317	9	9
18	2	1000.5	35.072	35.077	2	7.257	7.156	27.468	168.6	2	165.3	2	127.4	0.01	2	24.61	2	1.62	2	16.40	2	9	9	9	9	866.4	509.2	2	2191.6	6	7.6653	2	2318	2	2315	9	9
17	2	1197.9	35.078	35.078	2	5.562	5.454	27.696	227.2	2	223.7	2	80.9	0.01	2	19.92	2	1.32	2	13.30	2	9	9	9	9			9	9	9		9		9	9	9
16	2	1397.2	35.033	35.034	2	4.669	4.551	27.766	251.6	2	250.2	2	61.2	0.01	2	18.36	2	1.22	2	12.50	2	9	9	9	9	744.0	386.2	2	2164.1	2	7.7249	2	2319	2	2311	9	9
15	2	1597.7	34.988	34.990	2	4.101	3.971	27.793	264.8	2	263.7	2	52.2	0.01	2	17.87	2	1.18	2	12.60	2	9	9	9	9			9	9	9		9		9	9	9
14	2	1797.1	34.976	34.976	2	3.836	3.690	27.813	269.0	2	268.1	2	50.0	0.01	2	17.58	2	1.18	2	13.40	2	9	9	9	9			9	9	9		9		9	9	9
13	2	1996.0	34.971	34.973	2	3.661	3.499	27.830	268.6	2	268.1	2	51.5	0.01	2	17.48	2	1.18	2	14.50	2	9	9	9	9	725.4	358.4	2	2159.6	2	7.7362	2	2312	2	2311	9	9
12	2	2199.2	34.971	34.971	2	3.496	3.317	27.849	267.7	2	267.7	2	53.4	0.01	2	17.77	2	1.19	2	16.20	2	9	9	9	9			9	9	9		9		9	9	9
11	2	2399.2	34.964	34.964	2	3.323	3.127	27.862	268.4	2	268.1	2	54.5	0.01	2	17.87	2	1.21	2	17.90	2	9	9	9	9			9	9	9		9		9	9	9
10	2	2598.2	34.952	34.953	2	3.139	2.927	27.873	269.5	2	269.2	2	55.0	0.01	2	17.77	2	1.21	2	18.70	2	9	9	9	9			9	9	9		9		9	9	9
9	2	2796.2	34.946	34.946	2	2.995	2.765	27.883	268.3	2	268.9	2	56.7	0.01	2	17.97	2	1.22	2	20.50	2	9	9	9	9			9	9	9		9		9	9	9
8	2	2999.9	34.931	34.931	2	2.803	2.556	27.891	274.2	2	273.4	2	53.9	0.01	2	17.48	2	1.19	2	19.90	2	9	9	9	9			9	9	9		9		9	9	9
7	2	3176.2	34.924	34.924	2	2.684	2.422	27.897	275.9	2	274.5	2	53.9	0.01	2	17.38	2	1.18	2	20.60	2	9	9	9	9			9	9	9		9		9	9	9
6	2	3397.9	34.916	34.916	2	2.543	2.260	27.906	276.2	2	275.5	2	54.3	0.01	2	17.28	2	1.19	2	21.80	2	9	9	9	9			9	9	9		9		9	9	9
5	2	3598.0	34.910	34.911	2	2.458	2.156	27.911	276.7	2	275.1	2	55.6	0.01	2	17.48	2	1.20	2	23.30	2	9	9	9	9			9	9	9		9		9	9	9
4	2	3799.0	34.904	34.905	2	2.373	2.051	27.916	276.3	2	274.7	2	56.9	0.01	2	17.68	2	1.21	2	25.00	2	9	9	9	9			9	9	9		9		9	9	9
3	2	4197.9	34.895	34.895	2	2.282	1.917	27.921	273.8	2	272.2	2	60.5	0.01	2	18.26	2	1.26	2	29.30	2	9	9	9	9			9	9	9		9		9	9	9
2	2	4600.1	34.886	34.886	2	2.244	1.833	27.923	269.2	2	267.7	2	65.8	0.01	2	19.14	2	1.32	2	34.90	2	9	9	9	9			9	9	9		9		9	9	9
1	2	5005.3	34.864	34.864	2	2.122	1.665	27.921	258.3	2	258.6	2	76.4	0.01	6	21.19	6	1.47	6	47.30	6	9	9	9	9			9	9	9		9		9	9	9

* WOCE water sample quality flag (F) for parameter for the previous column
** WOCE quality flag (F) for "Niskin" sample bottle
*** PSS-78 scale
**** ITS0 scale

A5R
NOAA Ship Ronald H. Brown

STATION 102 DATE 2/19/1998 LATITUDE 26.500° N
LONGITUDE 73.967° W

Bottle Number	F**	Pressure db	CTD Salinity***	Bottle Salinity***	F*	Temp**** °C	Theta °C	Sigma Theta	CTD O2 µmol/kg	F*	Bottle O2 µmol/kg	F*	AOU	NO2 µmol/kg	F*	NO3 µmol/kg	F*	PO4 µmol/kg	F*	Si(OH)4 µmol/kg	F*	CFC-11 pmol/kg	F*	CFC-12 pmol/kg	F*	CFC-113 pmol/kg	F*	CCl4 pmol/kg	F*	fCO2 at 20 °C µatm	fCO2 INSITU µatm	F*	DIC µmol/kg	F*	pH	F*	Measured TA µmol/kg	F*	Calculated TA µmol/kg	TOC µmol/kg	F*	TON µmol/kg	F*
36	2	4.6	36.672	36.668	2	21.985	21.984	25.495	218.3	2	220.3	2	-5.4	0.00	2	0.00	2	0.00	2	0.70	2	2.09	2	1.20	2	0.17	2	2.14	2	297.1	321.5	2	2047.7	6	8.0789	2		5	2396	63.4	2		9
35	2	17.2	36.675	36.674	2	21.865	21.862	25.533	219.9	2	220.5	2	-5.2	0.00	2	0.00	2	0.00	2	0.70	2		9		9		9		9			9	2046.4	2		9	2411	2		63.7	2		9
34	2	50.2	36.645	36.644	2	21.308	21.298	25.669	220.5	2	219.8	2	-2.3	0.00	2	0.00	2	0.00	2	0.70	2		9		9		9		9	299.3	315.4	2	2050.3	2	8.0740	2	2395	2	2395	60.8	2		9
33	2	75.1	36.641	36.640	2	21.193	21.178	25.700	220.8	2	219.8	2	-1.8	0.01	2	0.00	2	0.00	2	0.70	2	2.13	2	1.21	2	0.16	2		9	304.6	319.5	2	2050.6	2	8.0713	2	2395	2	2393	56.4	2		9
32	2	99.6	36.780	36.777	2	20.972	20.953	25.869	216.4	2	202.5	2	16.2	0.05	2	0.78	2	0.02	2	0.70	2	2.18	2	1.24	2	0.11	2		9	340.5	353.9	2	2080.6	2	8.0360	2	2403	2	2403	53.3	2		9
31	2	124.3	36.739	36.743	2	19.958	19.935	26.114	197.8	2	202.1	2	20.7	0.02	2	1.27	2	0.04	2	0.70	2	2.27	2	1.29	2	0.10	2		9	355.3	354.6	2	2090.1	2	8.0141	2	2400	2	2398	51.4	2		9
30	2	150.1	36.710	36.648	2	19.496	19.468	26.215	202.9	2	201.5	2	23.3	0.02	2	1.56	2	0.04	2	0.80	2	2.29	2	1.29	2	0.08	2		9	364.0	356.7	2	2093.5	6	8.0108	2	2398	2	2399	48.5	2		9
29	2	176.0	36.647	36.648	2	18.974	18.942	26.305	197.9	2	200.2	2	26.8	0.01	2	2.44	2	0.08	2	0.90	2	2.30	2	1.29	2	0.05	2		9	380.0	364.4	2		9	7.9997	2	2396	2		48.9	2		9
28	2	200.4	36.614	36.615	2	18.708	18.672	26.350	204.5	2	205.0	2	23.2	0.01	2	2.73	2	0.10	2	1.00	2	2.32	2	1.29	2	0.05	2		9			9	2089.9	2	8.0026	2	2392	2	2389		9		9
27	2	245.3	36.572	36.571	2	18.330	18.287	26.417	207.0	2	209.3	2	20.6	0.01	2	3.12	2	0.12	2	1.10	2	2.36	2	1.31	2	0.05	2		9	368.4	344.3	2	2089.7	2	8.0032	2	2390	2	2389	47.0	2		9
26	2	299.4	36.551	36.550	2	18.144	18.092	26.452	211.2	2	210.1	2	20.7	0.01	2	3.51	2	0.15	2	1.20	2	2.35	2	1.31	2	0.05	2	0.60	2			9	2091.2	2	7.9974	2	2388	2	2387		9		9
25	2	349.1	36.530	36.532	2	18.000	17.939	26.476	212.7	2	210.3	2	21.2	0.01	2	3.80	2	0.17	2	1.30	2	2.34	2	1.30	2	0.05	2		9	376.1	346.9	6	2092.2	2		9	2397	2		45.7	2		9
24	2	398.7	36.454	36.455	2	17.603	17.535	26.519	205.6	2	199.8	2	33.6	0.01	2	5.36	2	0.26	2	1.80	2	2.20	6	1.20	6	0.04	6		9			9	2101.8	2	7.9705	2		5	2381		9		9
23	2	500.8	36.237	36.246	2	16.364	16.282	26.654	185.4	2	183.9	2	55.5	0.01	2	8.68	2	0.47	2	2.80	2	2.03	2	1.08	2	0.03	2		9	457.4	394.2	2	2121.0	2	7.9197	2		5	2369	43.6	2		9
22	2	599.4	35.942	35.939	2	14.532	14.441	26.841	174.3	2	173.4	2	75.4	0.01	2	12.69	2	0.73	2	4.60	2		9		9		9		9			9	2139.1	2	7.8588	2		5	2353		9		9
21	2	694.0	35.650	35.654	2	12.563	12.467	27.022	163.1	2	162.3	2	97.2	0.01	2	16.98	2	1.03	2	7.10	2	1.21	2	0.62	2	0.01	2		9	629.6	463.2	2	2158.1	2		9	2359	2		42.5	2		9
20	2	800.0	35.336	35.341	2	10.174	10.077	27.218	149.5	2	150.1	2	123.6	0.01	2	22.06	2	1.40	2	11.70	2	0.61	2	0.32	2	0.01	2		9	764.9	509.5	2	2178.7	2	7.7176	2		5	2324		9		9
19	2	900.5	35.146	35.148	2	8.508	8.409	27.342	148.3	2	148.4	2	135.9	0.00	2	25.00	2	1.62	2	15.50	2	0.31	2	0.17	2	0.01	2	0.22	2	859.9	533.7	2	2191.3	2	7.6693	2	2324	2	2317	42.1	2		9
18	2	998.5	35.105	35.108	2	7.409	7.307	27.473	167.3	2	168.9	2	122.7	0.01	2	23.73	2	1.56	2	15.60	2	0.39	2	0.21	2	0.02	2		9	844.0	498.2	2	2187.3	6	7.6799	2	2323	2	2316		9		9
17	2	1199.2	35.083	35.082	2	5.513	5.406	27.706	223.6	2	224.1	2	80.8	0.01	2	19.92	2	1.32	2	13.80	2	0.51	2	0.26	2	0.02	2		9	762.1	410.7	2	2173.8	2	7.7147	2		5	2317	42.0	2		9
16	2	1400.3	35.034	35.034	2	4.672	4.554	27.766	250.3	2	250.1	2	61.2	0.01	2	18.45	2	1.23	2	12.70	2	0.84	2	0.42	2	0.03	2	1.40	2			9	2166.4	2	7.7258	2	2322	2	2314		9		9
15	2	1597.1	34.990	34.992	2	4.149	4.018	27.790	263.4	2	262.6	2	52.9	0.01	2	17.87	2	1.19	2	12.70	2	0.99	6	0.49	6	0.04	6		9	723.3	364.4	2	2160.8	2	7.7326	2	2311	2	2310	41.1	2		9
14	2	1793.2	34.975	34.976	2	3.873	3.727	27.809	267.9	2	267.5	2	50.3	0.01	2	17.67	2	1.18	2	13.40	2	0.88	2	0.43	2	0.04	2		9			9	2159.9	2	7.7355	2	2316	2	2311		9		9
13	2	1999.5	34.974	34.976	2	3.707	3.544	27.828	267.9	2	268.0	2	51.2	0.01	2	17.77	2	1.19	2	14.60	2	0.63	2	0.32	2	0.03	2	1.27	2	717.3	353.4	2	2159.9	2	7.7379	2	2312	2	2312	40.8	2		9
12	2	2200.8	34.970	34.970	2	3.514	3.334	27.846	268.3	2	268.3	2	52.6	0.01	2	17.77	2	1.20	2	16.00	2		9		9		9		9			9	2160.1	2	7.7377	2		9	2312		9		9
11	2	2400.8	34.960	34.961	2	3.300	3.104	27.862	268.4	2	268.7	2	54.1	0.01	2	17.77	2	1.21	2	17.70	2	0.38	2	0.20	2	0.02	2		9	717.5	346.3	2	2160.4	2	7.7392	2		9	2313	41.0	2		9
10	2	2599.7	34.951	34.952	2	3.149	2.936	27.871	269.0	2	270.1	2	54.1	0.01	2	17.77	2	1.20	2	18.60	2	0.39	2	0.20	2	0.02	2	0.90	2			9	2161.7	2	7.7380	2		9	2314		9		9
9	2	2799.8	34.941	34.943	2	2.970	2.741	27.881	270.6	2	271.6	2	54.2	0.01	2	17.67	2	1.20	2	19.50	2	0.41	2	0.20	2	0.02	2		9	720.5	341.9	2	2162.0	2		9	2315	2		41.0	2		9
8	2	2999.0	34.933	34.934	2	2.824	2.577	27.891	271.1	2	272.7	2	54.4	0.01	2	17.68	2	1.20	2	20.40	2	0.46	2	0.23	2	0.02	2	0.95	2			9	2161.8	2	7.7389	2		9	2314		9		9
7	2	3249.3	34.922	34.923	2	2.645	2.376	27.901	274.1	2	274.5	2	54.3	0.01	2	17.58	2	1.20	2	21.40	2	0.47	2	0.24	2	0.02	2		9	725.5	338.7	2	2162.2	2		9	2322	2		41.0	2		9
6	2	3498.0	34.911	34.912	2	2.465	2.174	27.909	275.3	2	275.6	2	54.9	0.01	2	17.58	2	1.20	2	23.00	2	0.57	2	0.28	2	0.02	2	1.14	6			9	2163.7	2	7.7370	2		9	2315		9		9
5	2	3746.9	34.903	34.904	2	2.360	2.044	27.915	274.6	2	275.3	2	56.3	0.01	2	17.68	2	1.22	2	25.30	2	0.58	2	0.29	2	0.02	2	1.14	2			9	2165.6	2	7.7350	2	2321	2	2316	41.6	2		9
4	2	3999.3	34.897	34.898	2	2.297	1.954	27.919	273.6	2	273.6	2	58.8	0.01	2	18.07	2	1.24	2	27.70	2	0.56	2	0.28	2	0.03	2	1.11	2	736.9	337.9	2	2169.6	2		9		9			9		9
3	2	4248.1	34.893	34.894	2	2.270	1.900	27.921	270.9	2	271.5	2	61.4	0.01	2	18.55	2	1.27	2	30.60	2	0.42	2	0.21	2	0.02	2		9			9	2173.0	2	7.7308	2		5	2322	41.6	2		9
2	2	4492.2	34.887	34.888	2	2.244	1.845	27.923	268.4	2	268.3	2	65.1	0.01	2	19.04	2	1.31	2	34.00	2	0.37	2	0.19	2	0.03	2	0.81	2			9	2177.9	2	7.7310	2		9	2328		9		9
1	2	4712.7	34.880	34.881	2	2.212	1.788	27.923	263.3	2	264.5	2	69.4	0.01	6	19.92	6	1.38	6	38.80	6	0.24	2	0.14	2	0.02	2	0.60	2	748.4	341.2	2	2184.2	2	7.7262	2	2337	2	2332	41.5	2		9

* WOCE water sample quality flag (F) for parameter for the previous column
** WOCE quality flag (F) for "Niskin" sample bottle
*** PSS-78 scale
**** ITS0 scale

A5R
NOAA Ship Ronald H. Brown

STATION 103 DATE 2/19/1998 LATITUDE 26.500° N
LONGITUDE 74.251° W

Bottle Number	F**	Pressure db	CTD Salinity***	Bottle Salinity***	F*	Temp**** °C	Theta °C	Sigma Theta	CTD O2 µmol/kg	F*	Bottle O2 µmol/kg	F*	AOU	NO2 µmol/kg	F*	NO3 µmol/kg	F*	PO4 µmol/kg	F*	Si(OH)4 µmol/kg	F*	CFC-11 pmol/kg	F*	CFC-12 pmol/kg	F*	CFC-113 pmol/kg	F*	CCl4 pmol/kg	F*	fCO2 at 20 °C µatm	fCO2 INSITU µatm	F*	DIC µmol/kg	F*	pH	F*	Measured TA µmol/kg	F*	Calculated TA µmol/kg	TOC µmol/kg	F*	TON µmol/kg	F*
36	2	3.7	36.639	36.638	2	21.938	21.937	25.483	220.7	2	222.4	6	-7.3	0.00	2	0.00	2	0.00	2	0.70	2	9	9	9	9	297.7	321.6	6	2045.9	2	8.0772	6	2400	2	2392		9		9
35	2	49.9	36.633	36.632	2	21.562	21.552	25.589	221.6	2	220.7	2	-4.1	0.00	2	0.00	2	0.01	2	0.70	2	9	9	9	9			9	9		9	9		9		9		9		9
34	2	99.6	36.682	36.682	2	21.132	21.113	25.751	218.5	2	213.1	2	5.1	0.12	2	0.39	2	0.01	2	0.70	2	9	9	9	9			9	9		9	9		9		9		9		9
33	2	145.4	36.770	36.769	2	20.250	20.223	26.062	199.0	2	197.8	2	23.8	0.02	2	1.37	2	0.04	2	0.70	2	9	9	9	9			9	9		9	9		9		9		9		9
32	2	200.5	36.665	36.662	2	19.038	19.002	26.304	193.6	2	192.8	2	34.0	0.01	2	2.93	2	0.09	2	0.90	2	9	9	9	9			9	9		9	9		9		9		9		9
31	2	224.8	36.617	36.616	2	18.694	18.654	26.357	195.5	2	196.3	2	32.0	0.01	2	3.32	2	0.12	2	1.00	2	9	9	9	9			9	9		9	9		9		9		9		9
30	2	247.4	36.581	36.580	2	18.439	18.395	26.397	198.1	2	201.6	2	27.8	0.01	2	3.61	2	0.14	2	1.10	2	9	9	9	9			9	9		9	9		9		9		9		9
29	2	274.9	36.564	36.563	2	18.292	18.244	26.423	208.3	2	207.0	2	23.1	0.01	2	3.51	2	0.14	2	1.10	2	9	9	9	9			9	9		9	9		9		9		9		9
28	2	299.4	36.556	36.556	2	18.203	18.151	26.441	209.9	2	208.9	2	21.6	0.01	2	3.41	2	0.14	2	1.10	2	9	9	9	9			9	9		9	9		9		9		9		9
27	2	349.1	36.533	36.533	2	18.035	17.974	26.469	209.9	2	208.2	2	23.1	0.01	2	3.80	2	0.18	2	1.30	2	9	9	9	9			9	9		9	9		9		9		9		9
26	2	400.0	36.488	36.490	2	17.793	17.724	26.499	204.2	2	202.5	2	30.0	0.01	2	4.78	2	0.22	2	1.50	2	9	9	9	9			9	9		9	9		9		9		9		9
25	2	449.3	36.389	36.398	2	17.250	17.174	26.558	191.6	2	192.3	2	42.8	0.01	2	6.54	2	0.33	2	2.00	2	9	9	9	9			9	9		9	9		9		9		9		9
24	2	499.6	36.205	36.213	2	16.193	16.112	26.668	186.0	2	182.8	2	57.4	0.01	2	9.07	2	0.49	2	2.90	2	9	9	9	9			9	9		9	9		9		9		9		9
23	2	550.3	36.063	36.072	2	15.348	15.262	26.754	180.7	2	178.1	2	66.4	0.01	2	10.83	2	0.61	2	3.70	2	9	9	9	9			9	9		9	9		9		9		9		9
22	2	599.4	35.926	35.920	2	14.506	14.415	26.834	173.6	2	173.5	2	75.4	0.01	2	12.69	2	0.74	2	4.80	2	9	9	9	9			9	9		9	9		9		9		9		9
21	2	649.8	35.742	35.747	2	13.258	13.165	26.954	168.2	2	167.6	2	88.0	0.01	2	15.23	2	0.91	2	6.20	2	9	9	9	9			9	9		9	9		9		9		9		9
20	2	699.9	35.625	35.630	2	12.378	12.282	27.039	160.3	2	160.6	2	100.0	0.00	2	17.28	2	1.05	2	7.40	2	9	9	9	9			9	9		9	9		9		9		9		9
19	2	749.4	35.467	35.468	2	11.185	11.089	27.141	156.5	2	154.8	2	112.7	0.00	2	19.91	2	1.23	2	9.60	2	9	9	9	9			9	9		9	9		9		9		9		9
18	2	798.3	35.331	35.338	2	10.170	10.073	27.215	151.6	2	150.7	2	123.0	0.00	2	22.06	2	1.38	2	11.70	2	9	9	9	9			9	9		9	9		9		9		9		9
17	2	900.3	35.158	35.162	2	8.418	8.320	27.364	154.6	2	154.6	2	130.3	0.00	2	24.02	2	1.56	2	14.80	2	9	9	9	9			9	9		9	9		9		9		9		9
16	2	1100.3	35.085	35.088	2	6.210	6.107	27.619	199.1	2	201.6	2	98.3	0.00	2	21.58	2	1.41	2	14.50	2	9	9	9	9			9	9		9	9		9		9		9		9
15	2	1300.6	35.068	35.068	2	5.116	5.003	27.742	237.1	2	237.5	2	70.4	0.00	2	19.04	2	1.26	2	13.00	2	9	9	9	9			9	9		9	9		9		9		9		9
14	2	1500.2	35.017	35.017	2	4.410	4.285	27.782	254.2	2	256.7	2	56.7	0.00	2	18.16	2	1.20	2	12.60	2	9	9	9	9			9	9		9	9		9		9		9		9
13	2	1697.4	34.980	34.979	2	3.981	3.843	27.801	266.4	2	266.5	2	50.4	0.00	2	17.68	2	1.18	2	12.70	2	9	9	9	9			9	9		9	9		9		9		9		9
12	2	1899.2	34.973	34.974	2	3.793	3.638	27.817	268.4	2	268.3	2	50.2	0.00	2	17.68	2	1.18	2	13.60	2	9	9	9	9			9	9		9	9		9		9		9		9
11	2	2098.7	34.968	34.968	2	3.600	3.429	27.835	268.6	2	269.5	2	50.7	0.00	2	17.97	2	1.20	2	16.90	2	9	9	9	9			9	9		9	9		9		9		9		9
10	2	2290.8	34.972	34.971	2	3.462	3.274	27.854	266.9	2	267.2	2	54.2	0.01	2	17.68	2	1.18	2	14.80	2	9	9	9	9			9	9		9	9		9		9		9		9
9	2	2491.3	34.958	34.958	2	3.252	3.048	27.866	268.2	2	269.1	2	54.1	0.00	2	17.68	2	1.20	2	17.90	2	9	9	9	9			9	9		9	9		9		9		9		9
8	2	2699.8	34.947	34.947	2	3.043	2.822	27.878	269.1	2	270.1	2	55.0	0.01	2	17.77	2	1.20	2	19.20	2	9	9	9	9			9	9		9	9		9		9		9		9
7	2	2898.4	34.938	34.937	2	2.869	2.632	27.889	269.1	2	271.3	2	55.4	0.01	2	17.68	2	1.21	2	20.70	2	9	9	9	9			9	9		9	9		9		9		9		9
6	2	3197.7	34.920	34.921	2	2.611	2.348	27.901	275.0	2	274.5	2	54.6	0.01	2	17.38	2	1.19	2	21.40	2	9	9	9	9			9	9		9	9		9		9		9		9
5	2	3496.2	34.909	34.908	2	2.418	2.128	27.911	274.4	2	275.4	2	55.5	0.01	2	17.58	2	1.20	2	23.70	2	9	9	9	9			9	9		9	9		9		9		9		9
4	2	3799.8	34.901	34.900	2	2.310	1.990	27.917	273.2	2	274.1	2	58.0	0.01	2	17.77	2	1.23	2	26.40	2	9	9	9	9			9	9		9	9		9		9		9		9
3	2	4099.3	34.895	34.894	2	2.266	1.913	27.921	272.6	2	272.3	2	60.5	0.01	2	18.26	2	1.26	2	29.50	2	9	9	9	9			9	9		9	9		9		9		9		9
2	2	4388.9	34.888	34.889	2	2.237	1.851	27.922	269.5	2	268.9	2	64.4	0.01	2	18.95	2	1.31	2	33.40	2	9	9	9	9			9	9		9	9		9		9		9		9
1	2	4605.0	34.880	34.881	2	2.202	1.791	27.922	263.9	2	264.6	2	69.3	0.01	6	19.73	6	1.38	6	38.50	6	9	9	9	9			9	9		9	9		9		9		9		9

* WOCE water sample quality flag (F) for parameter for the previous column
** WOCE quality flag (F) for "Niskin" sample bottle
*** PSS-78 scale
**** ITS0 scale

A5R
NOAA Ship Ronald H. Brown

STATION 104 DATE 2/19/1998 LATITUDE 26.500° N
LONGITUDE 74.517° W

Bottle Number	F**	Pressure db	CTD Salinity***	Bottle Salinity***	F*	Temp**** °C	Theta °C	Sigma Theta	CTD O2 µmol/kg	F*	Bottle O2 µmol/kg	F*	AOU	NO2 µmol/kg	F*	NO3 µmol/kg	F*	PO4 µmol/kg	F*	Si(OH)4 µmol/kg	F*	CFC-11 pmol/kg	F*	CFC-12 pmol/kg	F*	CFC-113 pmol/kg	F*	CCl4 pmol/kg	F*	fCO2 at 20 °C µatm	fCO2 INSITU µatm	F*	DIC µmol/kg	F*	pH	F*	Measured TA µmol/kg	F*	Calculated TA µmol/kg	TOC µmol/kg	F*	TON µmol/kg	F*
36	2	4.4	36.636	36.635	2	22.293	22.292	25.381	220.5	2	220.1	2	-6.3	0.00	2	0.00	2	0.00	2	0.40	2	2.07	2	1.19	2	0.16	2	2.09	2	289.9	317.5	2	2044.7	2	8.0789	2	2396	2	2392	64.1	2		9
35	2	40.8	36.635	36.631	2	21.635	21.627	25.569	220.7	2	220.8	6	-4.5	0.00	2	0.00	2	0.01	2	0.40	2	2.08	2	1.19	2	0.16	2		9	293.0	312.8	2	2045.6	2	8.0736	2	2393	2	2389	62.9	2		9
34	2	90.4	36.644	36.643	2	21.592	21.574	25.593	221.2	2	218.9	2	-2.4	0.03	2	0.10	2	0.01	2	0.30	2	2.10	2	1.20	2	0.18	2	2.02	6			9		9		9		9		60.9	2		9
33	2	120.4	36.638	36.610	2	21.217	21.194	25.696	218.6	2	217.2	2	0.8	0.18	2	0.10	2	0.02	2	0.30	2	2.14	2	1.22	2	0.16	2		9	305.2	320.5	2	2052.7	2	8.0652	2	2391	2	2391	57.9	2		9
32	2	182.0	36.767	36.763	2	19.964	19.930	26.139	193.6	2	194.0	2	28.8	0.01	2	1.56	2	0.05	2	0.40	2	2.28	2	1.30	2	0.06	2	0.61	6			9		9		9		9		52.0	2		9
31	2	210.3	36.698	36.696	2	19.337	19.299	26.254	192.6	2	192.6	2	32.9	0.01	2	2.34	2	0.08	2	0.60	2	2.28	2	1.27	2	0.04	2		9	373.8	364.0	2	2100.6	2	7.9950	2	2396	2	2396	49.9	2		9
30	2	235.7	36.656	36.656	2	19.017	18.974	26.306	194.1	2	194.5	2	32.4	0.01	2	2.73	2	0.13	2	0.70	2		9		9		9		9			9		9		9		9				9	
29	2	260.3	36.617	36.617	2	18.688	18.642	26.363	197.2	2	195.0	2	33.3	0.01	2	3.51	2	0.14	2	0.80	2	2.30	6	1.26	6	0.02	6		9			9		9		9		9		47.2	2		9
28	2	279.1	36.590	36.590	2	18.507	18.458	26.389	195.7	2	199.1	2	30.1	0.01	2	3.61	2	0.17	2	0.80	2	2.31	2	1.27	2	0.03	2		9	375.8	353.9	2	2097.9	2	7.9909	2	2391	2	2390		9		9
27	2	315.4	36.561	36.560	2	18.284	18.229	26.426	199.8	2	199.2	2	31.0	0.01	2	4.10	2	0.25	3	1.00	2	2.29	2	1.25	2	0.03	2		9			9		9		9		9		45.3	2		9
26	2	373.8	36.498	36.500	2	17.872	17.807	26.485	201.1	2	200.1	2	32.0	0.01	2	4.78	2	0.24	2	1.20	2	2.26	2	1.23	2	0.04	2	0.46	2			9	2101.6	2	7.9775	2	2395	2	2385		9		9
25	2	450.8	36.380	36.392	2	17.219	17.143	26.559	191.3	2	190.1	2	45.1	0.00	2	6.73	2	0.36	2	1.80	2	2.12	2	1.14	2	0.03	2		9	424.0	378.5	2	2113.0	2	7.9487	2	2379	2	2379	44.5	2		9
24	2	500.0	36.260	36.256	2	16.528	16.446	26.633	186.4	2	185.5	2	53.1	0.00	2	8.39	2	0.46	2	2.40	2	2.06	2	1.10	2	0.03	2		9			9		9		9		9				9	
23	2	547.8	36.118	36.121	2	15.669	15.582	26.724	182.3	2	182.4	2	60.5	0.00	2	9.95	2	0.57	2	3.10	2		9		9		9		9			9		9		9		9		48.0	2		9
22	2	600.1	35.942	35.937	2	14.633	14.542	26.820	176.5	2	174.9	2	73.4	0.00	2	12.40	2	0.74	2	4.40	2	1.77	2	0.92	2	0.03	2	0.41	2	538.6	432.7	2	2138.4	2	7.8613	2	2366	2	2354		9		9
21	2	650.4	35.781	35.794	2	13.539	13.445	26.927	168.1	2	168.6	2	85.5	0.00	2	14.54	2	0.89	2	5.60	2		9		9		9		9			9		9		9		9		43.1	2		9
20	2	749.4	35.495	35.503	2	11.431	11.333	27.118	162.1	2	161.4	2	104.7	0.00	2	18.65	2	1.18	2	8.70	2	1.16	2	0.60	2	0.02	2		9	669.7	470.7	2	2164.4	2	7.7653	2	2335	2	2331		9		9
19	2	851.0	35.254	35.257	2	9.428	9.329	27.279	151.4	2	150.7	2	127.6	0.00	2	23.05	2	1.48	2	13.00	2		9		9		9		9	797.3	514.9	2	2182.0	2	7.7008	2	2326	2	2320	42.3	2		9
18	2	950.7	35.075	35.073	2	7.598	7.500	27.421	155.1	2	154.9	2	135.5	0.00	2	25.59	2	1.69	2	16.80	2	0.25	2	0.13	2	0.01	2	0.25	2	878.7	524.8	2	2196.8	2	7.6612	2		5	2319		9		9
17	2	1049.5	35.079	35.081	2	6.701	6.599	27.550	182.4	2	182.4	2	114.1	0.00	2	23.05	2	1.55	2	15.80	2		9		9		9		9	830.4	475.0	2	2190.3	6	7.6826	2		5	2321		9		9
16	2	1249.8	35.075	35.075	2	5.294	5.184	27.727	233.3	2	231.5	2	75.1	0.00	2	19.44	2	1.29	2	13.40	2	0.59	2	0.30	2	0.02	2		9			9		9		9		9				9	
15	2	1449.8	35.025	35.026	2	4.509	4.388	27.778	253.1	2	254.1	2	58.5	0.00	2	18.17	2	1.22	2	12.80	2	0.80	2	0.40	2	0.03	2		9	738.0	379.9	2	2166.8	2	7.7311	2	2328	3	2316	41.8	2		9
14	2	1644.8	34.982	34.983	2	4.038	3.904	27.796	265.6	2	265.2	2	51.2	0.00	2	17.68	2	1.19	2	12.80	2	0.99	2	0.48	2	0.05	2	1.69	2			9		9		9		9				9	
13	2	1849.3	34.979	34.980	2	3.844	3.693	27.817	267.7	2	267.1	2	51.0	0.00	2	17.58	2	1.19	2	13.90	2	0.73	2	0.36	2	0.03	2		9	721.4	359.5	2	2162.3	2	7.7351	2		5	2313		9		9
12	2	2050.4	34.970	34.971	2	3.616	3.449	27.834	268.0	2	268.6	2	51.4	0.00	2	17.58	2	1.19	2	14.80	2		9		9		9		9			9		9		9		9				9	
11	2	2249.1	34.967	34.968	2	3.434	3.251	27.852	267.6	2	268.1	2	53.5	0.00	2	17.78	2	1.21	2	16.70	2	0.37	2	0.19	2	0.02	2	0.94	2			9	2164.6	2	7.7389	2	2323	2	2317		9		9
10	2	2451.0	34.956	34.957	2	3.234	3.035	27.865	269.0	2	269.6	2	53.7	0.00	2	17.68	2	1.21	2	17.90	2		9		9		9		9			9		9		9		9				9	
9	2	2650.3	34.947	34.949	2	3.047	2.831	27.877	268.8	2	269.7	2	55.3	0.00	2	17.78	2	1.23	2	19.40	2	0.35	2	0.17	2	0.01	2	0.84	2			9	2167.6	2	7.7396	2		9	2321		9		9
8	2	2850.6	34.935	34.936	2	2.860	2.628	27.887	270.4	2	271.7	2	55.0	0.00	2	17.58	2	1.21	2	20.20	2		9		9		9		9			9		9		9		9				9	
7	2	3098.8	34.925	34.925	2	2.663	2.409	27.898	273.9	2	273.9	2	54.7	0.00	2	17.48	2	1.21	2	21.60	2	0.45	2	0.22	2	0.02	2		9	718.3	337.5	2	2166.9	2	7.7393	2	2327	2	2320		9		9
6	2	3314.8	34.914	34.915	2	2.490	2.218	27.907	274.9	2	275.5	2	54.7	0.00	2	17.39	2	1.21	2	23.00	2	0.54	2	0.27	2	0.02	2	1.08	2			9	2167.9	2	7.7371	2	2330	2	2320		9		9
5	2	3595.7	34.905	34.905	2	2.350	2.051	27.914	274.8	2	275.2	2	56.4	0.00	2	17.68	2	1.22	2	25.60	2	0.53	2	0.26	2	0.03	2		9			9		9	7.7352	2		9			9		9
4	2	3873.1	34.897	34.898	2	2.279	1.951	27.918	273.3	2	274.9	2	57.6	0.00	2	17.97	2	1.24	2	28.20	2	0.56	2	0.28	2	0.03	2	1.11	6			9	2174.2	2	7.7327	2		9	2324		9		9
3	2	4050.4	34.894	34.894	2	2.260	1.913	27.920	270.8	2	272.1	2	60.7	0.00	2	18.27	2	1.26	2	30.10	2	0.51	6	0.25	6	0.03	6		9			9		9		9		9				9	
2	2	4301.1	34.888	34.889	2	2.232	1.856	27.921	269.1	2	268.9	2	64.4	0.00	2	18.75	2	1.31	2	33.70	2	0.38	2	0.19	2	0.02	2		9	735.3	337.4	2	2181.4	2	7.7301	2	2339	2	2331		9		9
1	2	4561.6	34.879	34.879	2	2.188	1.783	27.921	262.9	2	264.4	2	69.5	0.01	6	19.73	6	1.38	6	39.80	2	0.23	2	0.13	2	0.03	2	0.59	2	743.5	340.0	2	2189.5	2	7.7272	2		5	2338		9		9

* WOCE water sample quality flag (F) for parameter for the previous column
** WOCE quality flag (F) for "Niskin" sample bottle
*** PSS-78 scale
**** ITS0 scale

A5R
NOAA Ship Ronald H. Brown

STATION 105 DATE 2/19/1998 LATITUDE 26.500° N
LONGITUDE 74.800° W

Bottle Number	F**	Pressure db	CTD Salinity***	Bottle Salinity***	F*	Temp**** °C	Theta °C	Sigma Theta	CTD O2 µmol/kg	F*	Bottle O2 µmol/kg	F*	AOU	NO2 µmol/kg	F*	NO3 µmol/kg	F*	PO4 µmol/kg	F*	Si(OH)4 µmol/kg	F*	CFC-11 pmol/kg	F*	CFC-12 pmol/kg	F*	CFC-113 pmol/kg	F*	CCl4 pmol/kg	F*	fCO2 at 20 °C µatm	fCO2 INSITU µatm	F*	DIC µmol/kg	F*	pH	F*	Measured TA µmol/kg	F*	Calculated TA µmol/kg	TOC µmol/kg	F*	TON µmol/kg	F*
36	2	3.8	36.651	36.650	2	22.181	22.180	25.424	219.2	2	221.6	2	-7.4	0.00	2	0.00	2	0.01	2	0.40	2	2.09	2	1.19	2	0.17	2	2.08	2	296.8	323.7	2	2046.6	2	8.0791	2	2398	2	2395		9		9
35	2	50.8	36.646	36.644	2	21.665	21.655	25.570	220.0	2	218.7	2	-2.5	0.00	2	0.00	2	0.01	2	0.40	2		9		9		9		9			9		9		9		9			9		9
34	2	100.7	36.646	36.644	2	21.583	21.563	25.599	220.5	2	217.4	2	-0.9	0.09	2	0.00	2	0.02	2	0.40	2		9		9		9		9	301.2	320.8	2		9	8.0736	2	2395	2			9		9
33	2	151.7	36.591	36.602	2	20.965	20.936	25.732	218.3	2	216.5	2	2.5	0.20	2	0.10	2	0.02	2	0.40	2		9		9		9		9			9		9		9		9			9		9
32	2	201.6	36.791	36.783	2	20.168	20.130	26.105	200.9	2	195.9	2	26.0	0.02	2	1.27	2	0.04	2	0.40	2		9		9		9		9	354.2	356.6	2		9	8.0114	2	2400	2			9		9
31	2	226.3	36.714	36.706	2	19.496	19.454	26.226	199.4	2	197.6	2	27.2	0.01	2	1.85	2	0.06	2	0.50	2		9		9		9		9			9		9		9		9			9		9
30	2	251.4	36.657	36.657	2	19.129	19.083	26.280	195.6	2	199.6	2	26.8	0.01	2	2.15	2	0.08	2	0.60	2		9		9		9		9			9		9		9		9			9		9
29	2	276.1	36.622	36.617	2	18.744	18.695	26.354	195.1	2	196.7	2	31.4	0.01	2	3.22	2	0.13	2	0.70	2		9		9		9		9			9		9		9		9			9		9
28	2	300.1	36.593	36.589	2	18.521	18.468	26.390	199.1	2	197.5	2	31.6	0.01	2	3.51	2	0.16	2	0.80	2		9		9		9		9	383.5	361.3	2		9	7.9893	2	2393	2			9		9
27	2	330.0	36.564	36.563	2	18.317	18.259	26.421	200.9	2	201.1	2	29.0	0.01	2	3.80	2	0.17	2	0.90	2		9		9		9		9			9		9		9		9			9		9
26	2	359.9	36.542	36.540	2	18.160	18.097	26.446	202.7	2	200.8	2	30.0	0.01	2	4.10	2	0.20	2	1.00	2		9		9		9		9			9		9		9		9			9		9
25	2	396.9	36.511	36.510	2	17.958	17.889	26.476	201.3	2	200.9	2	30.8	0.01	2	4.59	2	0.22	2	1.20	2		9		9		9		9			9		9		9		9			9		9
24	2	448.9	36.431	36.435	2	17.500	17.423	26.531	192.6	2	192.4	2	41.5	0.01	2	6.05	2	0.31	2	1.60	2		9		9		9		9			9		9		9		9			9		9
23	2	499.9	36.349	36.347	2	17.023	16.939	26.586	186.0	2	185.8	2	50.4	0.01	2	7.32	2	0.40	2	2.00	2		9		9		9		9	440.7	390.6	2		9	7.9386	2	2390	2			9		9
22	2	550.2	36.194	36.196	2	16.110	16.021	26.683	180.8	2	180.5	2	60.2	0.01	2	9.27	2	0.53	2	2.70	2		9		9		9		9			9		9		9		9			9		9
21	3	600.3	36.053	36.052	2	15.255	15.161	26.770	176.5	2	175.9	2	69.1	0.01	2	11.22	2	0.65	2	3.50	2		9		9		9		9			9		9		9		9			9		9
20	2	700.1	35.722	35.714	2	13.152	13.053	26.962	167.8	2	167.5	2	88.8	0.00	2	15.52	2	0.95	2	6.20	2		9		9		9		9			9		9		9		9			9		9
19	2	797.4	35.462	35.456	2	11.187	11.084	27.139	161.9	2	161.0	2	106.6	0.00	2	19.23	2	1.21	2	9.20	2		9		9		9		9	700.4	487.6	2		9	7.7547	2	2343	3			9		9
18	2	893.2	35.200	35.232	2	8.927	8.826	27.319	152.3	2	155.3	2	126.2	0.00	2	22.85	2	1.48	2	12.80	2		9		9		9		9	793.1	501.2	2		9	7.7003	2	2327	2			9		9
17	2	1002.0	35.088	35.087	2	7.317	7.215	27.473	168.9	2	167.5	2	124.8	0.00	2	24.22	2	1.60	2	15.70	2		9		9		9		9	851.8	502.3	2		9	7.6743	2	2333	2			9		9
16	2	1099.5	35.090	35.089	2	6.390	6.285	27.600	193.7	2	195.8	6	102.8	0.00	2	21.87	2	1.45	2	14.40	2		9		9		9		9			9		9		9		9			9		9
15	2	1288.7	35.068	35.068	2	5.166	5.053	27.736	237.5	2	235.6	2	71.9	0.00	2	19.14	2	1.28	2	12.70	2		9		9		9		9			9		9		9		9			9		9
14	2	1500.3	35.029	35.029	2	4.501	4.375	27.783	257.6	2	253.9	2	58.8	0.00	2	18.16	2	1.22	2	12.50	2		9		9		9		9	736.6	379.2	2		9	7.7297	2	2328	3			9		9
13	2	1701.3	34.981	34.980	2	3.958	3.820	27.804	267.3	2	266.1	2	51.0	0.00	2	17.58	2	1.19	2	12.60	2		9		9		9		9			9		9		9		9			9		9
12	2	1899.5	34.973	34.972	2	3.740	3.586	27.822	268.7	2	268.3	2	50.6	0.00	2	17.58	2	1.20	2	13.70	2		9		9		9		9			9		9		9		9			9		9
11	2	2100.3	34.974	34.973	2	3.574	3.403	27.842	267.1	2	267.5	2	52.9	0.00	2	17.77	2	1.20	2	15.40	2		9		9		9		9			9		9		9		9			9		9
10	2	2289.4	34.969	34.969	2	3.394	3.208	27.858	268.1	2	269.2	2	52.7	0.00	2	17.87	2	1.21	2	17.20	2		9		9		9		9			9		9		9		9			9		9
9	2	2499.3	34.956	34.955	2	3.168	2.965	27.871	268.6	2	268.5	2	55.4	0.00	2	17.87	2	1.22	2	18.60	2		9		9		9		9	724.9	349.4	2		9	7.7392	2	2330	3			9		9
8	2	2699.9	34.947	34.946	2	3.001	2.781	27.882	268.8	2	268.9	2	56.5	0.00	2	17.97	2	1.22	2	20.20	2		9		9		9		9			9		9		9		9			9		9
7	2	2899.8	34.937	34.936	2	2.839	2.602	27.891	270.5	2	270.8	2	56.1	0.00	2	17.78	2	1.24	3	21.00	2		9		9		9		9			9		9		9		9			9		9
6	2	3099.9	34.926	34.925	2	2.670	2.416	27.898	273.6	2	273.9	2	54.6	0.00	2	17.48	2	1.20	2	21.20	2		9		9		9		9			9		9		9		9			9		9
5	2	3398.2	34.915	34.913	2	2.477	2.196	27.910	275.9	2	275.0	2	55.4	0.00	2	17.48	2	1.21	2	22.90	2		9		9		9		9			9		9		9		9			9		9
4	2	3698.7	34.905	34.902	2	2.336	2.026	27.917	274.9	2	274.7	2	57.1	0.00	2	17.87	2	1.23	2	25.80	2		9		9		9		9	725.6	335.1	2		9	7.7356	6	2341	3			9		9
3	2	3999.2	34.897	34.895	2	2.260	1.918	27.921	272.7	2	272.0	2	60.7	0.01	2	18.26	2	1.28	2	29.30	2		9		9		9		9			9		9		9		9			9		9
2	2	4299.8	34.889	34.887	2	2.216	1.841	27.922	269.4	2	268.1	2	65.3	0.01	2	19.05	2	1.32	2	34.00	2		9		9		9		9			9		9		9		9			9		9
1	2	4602.2	34.873	34.871	2	2.136	1.728	27.921	261.4	2	261.2	2	73.2	0.01	6	20.51	6	1.43	6	43.00	6		9		9		9		9	762.2	347.8	2		9	7.7246	2	2354	3			9		9

* WOCE water sample quality flag (F) for parameter for the previous column
** WOCE quality flag (F) for "Niskin" sample bottle
*** PSS-78 scale
**** ITS0 scale

A5R
NOAA Ship Ronald H. Brown

STATION 106 DATE 2/20/1998 LATITUDE 26.500° N
LONGITUDE 75.084° W

Bottle Number	F**	Pressure db	CTD Salinity***	Bottle Salinity***	F*	Temp**** °C	Theta °C	Sigma Theta	CTD O2 µmol/kg	F*	Bottle O2 µmol/kg	F*	AOU	NO2 µmol/kg	F*	NO3 µmol/kg	F*	PO4 µmol/kg	F*	Si(OH)4 µmol/kg	F*	CFC-11 pmol/kg	F*	CFC-12 pmol/kg	F*	CFC-113 pmol/kg	F*	CCl4 pmol/kg	F*	fCO2 at 20 °C µatm	fCO2 INSITU µatm	F*	DIC µmol/kg	F*	pH	F*	Measured TA µmol/kg	F*	Calculated TA µmol/kg	TOC µmol/kg	F*	TON µmol/kg	F*
36	2	3.6	36.669	36.667	2	22.376	22.375	25.382	217.8	2	218.3	2	-4.9	0.00	2	0.00	2	0.01	2	0.70	2	2.05	2	1.17	2	0.16	2	2.12	4	287.1	315.5	2	2041.5	6	8.0742	2	2393	9	2386	65.6	2		9
35	2	29.2	36.662	36.661	2	22.235	22.229	25.420	218.7	2	218.1	6	-4.1	0.00	2	0.00	2	0.01	2	0.70	2		9		9		9		9	291.6	318.7	2	2042.5	2		9	2391	9		65.0	2		9
34	2	79.0	36.664	36.663	2	21.924	21.908	25.515	219.1	2	218.7	2	-3.5	0.00	2	0.00	2	0.02	2	0.70	2	2.06	2	1.18	2	0.16	2		9	293.2	316.6	2	2045.3	2	8.0843	2	2393	9	2397	63.4	2		9
33	2	129.7	36.649	36.650	2	21.730	21.704	25.563	216.8	2	216.6	2	-0.6	0.04	2	0.10	2	0.02	2	0.70	2		9		9		9		9	300.8	322.3	2	2048.0	2		9	2391	9		61.6	2		9
32	2	180.4	36.777	36.788	2	21.255	21.220	25.798	198.7	2	201.2	2	16.4	0.05	2	0.78	2	0.03	2	0.70	2	2.16	2	1.23	2	0.11	2		9	335.0	352.1	2	2079.4	2	8.0373	2	2400	9	2403	56.5	2		9
31	2	209.8	36.794	36.774	2	20.480	20.440	26.025	192.0	2	198.0	2	22.7	0.02	2	1.17	2	0.05	2	0.80	2	2.23	2	1.26	2	0.08	2		9	357.6	364.4	2	2092.6	2	8.0157	2	2400	9	2402	54.2	2		9
30	2	232.3	36.718	36.714	2	19.551	19.508	26.215	194.2	2	192.8	2	31.8	0.01	2	2.05	2	0.07	2	0.90	2		9		9		9		9	382.5	375.5	2	2102.1	2	7.9987	2	2398	9	2401	52.9	2		9
29	2	259.5	36.663	36.663	2	19.084	19.037	26.296	192.4	2	195.1	2	31.5	0.01	2	2.54	2	0.10	2	1.00	2	2.29	2	1.27	2	0.03	2		9			9	2100.1	2	7.9958	2	2392	9	2396	51.3	2		9
28	2	285.3	36.611	36.608	2	18.691	18.640	26.360	194.0	2	197.8	2	30.6	0.01	2	3.12	2	0.13	2	1.10	2	2.31	2	1.28	2	0.03	2		9	386.2	366.3	2		9	7.9919	2	2389	9			9		9
27	2	324.3	36.567	36.566	2	18.357	18.300	26.413	199.0	2	201.6	2	28.3	0.01	2	3.61	2	0.16	2	1.20	2	2.35	2	1.29	2	0.03	2		9	384.0	359.4	2	2096.9	6	7.9919	2	2386	9	2390	48.8	2		9
26	2	375.1	36.532	36.531	2	18.098	18.032	26.455	202.8	2	203.2	2	27.9	0.01	2	4.10	2	0.20	2	1.40	2	2.32	2	1.27	2	0.02	2		9	382.4	354.0	2	2097.0	2	7.9879	2	2386	9	2387		9		9
25	2	449.3	36.440	36.449	2	17.547	17.470	26.526	194.7	2	194.4	2	39.3	0.01	2	5.66	2	0.30	2	1.90	2		9		9		9		9	412.9	373.9	2	2107.8	2		9	2379	9		47.3	2		9
24	2	499.9	36.328	36.330	2	16.905	16.821	26.598	186.3	2	185.0	2	51.8	0.01	2	7.61	2	0.42	2	2.40	2	2.07	2	1.10	2	0.02	2		9	441.9	389.7	2	2118.1	2	7.9362	2	2376	9	2376		9		9
23	2	549.4	36.212	36.215	2	16.238	16.149	26.668	181.3	2	180.8	2	59.3	0.01	2	9.07	2	0.51	2	3.00	2		9		9		9		9			9	2124.6	2	7.9109	2	2368	9	2368	45.9	2		9
22	2	599.8	36.038	36.048	2	15.164	15.071	26.778	175.5	2	174.9	2	70.6	0.01	2	11.32	2	0.66	2	4.00	2	1.82	2	0.95	2	0.02	2		9	508.9	418.0	2	2134.4	2	7.8788	2	2361	9	2360		9		9
21	2	648.8	35.898	35.906	2	14.260	14.163	26.868	170.7	2	169.6	2	80.6	0.01	2	13.27	2	0.79	2	5.10	2	1.64	2	0.85	2	0.02	2		9			9	2142.0	2		9	2351	9		45.1	2		9
20	2	746.8	35.600	35.608	2	12.312	12.210	27.035	164.8	2	163.6	2	97.4	0.01	2	17.08	2	1.06	2	7.80	2	1.34	2	0.69	2	0.03	2		9	637.8	464.6	2	2157.2	2	7.7893	2	2342	9	2336		9		9
19	2	849.7	35.308	35.311	2	9.839	9.738	27.255	159.1	2	157.9	2	117.8	0.01	2	21.58	2	1.38	2	11.90	2		9		9		9		9	754.1	495.6	2	2176.2	2	7.7210	2	2326	9	2323	42.8	2		9
18	2	950.0	35.087	35.089	2	7.765	7.666	27.407	155.5	2	154.3	2	135.0	0.01	2	25.49	2	1.67	2	16.80	2	0.27	6	0.14	6	0.00	6		9	874.9	526.4	2	2192.6	6		9	2322	9			9		9
17	2	1048.1	35.077	35.076	2	6.872	6.769	27.526	175.8	2	176.0	2	119.3	0.01	2	23.83	2	1.58	2	16.30	2	0.33	2	0.17	2	0.01	2		9	847.3	488.8	2	2188.5	2	7.6783	2	2319	9	2317	42.9	2		9
16	2	1198.5	35.080	35.080	2	5.622	5.514	27.690	220.1	2	221.6	2	82.5	0.01	2	20.12	2	1.34	2	13.70	2		9		9		9		9	772.3	419.6	2	2173.7	2	7.7132	2	2322	9	2316		9		9
15	2	1400.7	35.051	35.052	2	4.777	4.657	27.768	248.0	2	246.7	2	63.8	0.01	2	18.55	2	1.25	2	13.00	2	0.68	2	0.34	2	0.02	2		9			9	2164.9	2	7.7292	2	2316	9	2313	42.9	2		9
14	2	1600.4	34.999	35.000	2	4.211	4.079	27.791	262.3	2	261.6	2	53.4	0.01	2	17.87	2	1.21	2	12.90	2	0.88	2	0.43	2	0.04	2		9	726.1	368.4	2	2160.3	2	7.7341	2	2318	9	2311		9		9
13	2	1800.6	34.973	34.975	2	3.859	3.713	27.809	266.8	2	267.6	2	50.3	0.01	2	17.68	2	1.19	2	13.40	2	0.90	2	0.44	2	0.04	2		9			9	2159.4	2	7.7358	2	2317	9	2310	43.0	2		9
12	2	2000.8	34.986	34.987	2	3.751	3.587	27.834	265.6	2	265.3	2	53.6	0.01	2	17.87	2	1.21	2	15.20	2	0.42	2	0.21	2	0.02	2	1.04	6			9	2159.6	2	7.7375	2	2321	9	2311		9		9
11	2	2200.3	34.974	34.974	2	3.531	3.351	27.848	266.4	2	267.2	2	53.6	0.01	2	17.77	2	1.21	2	16.50	2		9		9		9	0.95	2	714.5	350.4	2	2160.0	2	7.7387	2	2315	9	2312	43.0	2		9
10	2	2399.8	34.965	34.966	2	3.335	3.139	27.862	267.8	2	267.6	2	54.9	0.01	2	17.87	2	1.22	2	18.00	2	0.31	2	0.16	2	0.01	2		9			9	2161.1	2	7.7393	2		9	2314		9		9
9	2	2589.2	34.954	34.953	2	3.139	2.928	27.874	268.9	2	269.2	2	55.0	0.01	2	17.77	2	1.22	2	19.00	2	0.33	2	0.16	2	0.01	2	0.81	2			9	2161.5	2		9	2320	9		42.9	2		9
8	2	2799.3	34.939	34.938	2	2.907	2.679	27.885	271.2	2	271.9	2	54.4	0.01	2	17.58	2	1.21	2	19.90	2		9		9		9		9	716.7	341.0	2	2160.4	2	7.7367	2		9	2312		9		9
7	2	3000.7	34.929	34.929	2	2.734	2.489	27.895	273.6	2	273.5	2	54.4	0.01	2	17.48	2	1.20	2	20.60	2	0.52	2	0.25	2	0.02	2	1.04	2			9	2160.6	2		9	2316	9		43.0	2		9
6	2	3201.0	34.921	34.922	2	2.601	2.338	27.902	274.6	2	274.3	2	54.8	0.01	2	17.38	2	1.21	2	22.00	2		9		9		9	1.01	2			9	2161.6	2		4		9			9		9
5	2	3501.7	34.910	34.910	2	2.426	2.135	27.912	275.9	2	275.5	2	55.4	0.01	2	17.38	2	1.22	2	23.60	2	0.62	2	0.30	2	0.03	2	1.19	2	720.7	334.6	2	2163.9	2	7.7362	2	2324	9	2315	42.9	2		9
4	2	3799.3	34.903	34.902	2	2.337	2.016	27.917	275.0	2	274.5	2	57.4	0.01	2	17.58	2	1.23	2	25.90	2		9		9		9		9			9	2167.1	2		9		9			9		9
3	2	4100.9	34.895	34.894	2	2.267	1.914	27.920	271.5	2	271.4	2	61.4	0.01	2	18.17	2	1.29	2	30.50	2	0.52	2	0.25	2	0.03	2	1.02	2			9	2173.2	2	7.7319	2	2326	9	2323	43.2	2		9
2	2	4390.0	34.886	34.884	2	2.207	1.822	27.922	266.8	2	266.5	2	67.1	0.01	2	19.24	2	1.36	2	36.40	2	0.32	2	0.16	2	0.03	2	0.71	2	739.0	338.6	2	2181.0	2	7.7292	2		9	2330		9		9
1	2	4675.7	34.875	34.905	2	2.162	1.744	27.922	262.0	2	272.6	3	61.6	0.01	6	17.87	3	1.26	6	27.20	3	0.51	4	0.26	4	0.03	4	1.03	2	730.8	334.8	2	2169.6	3	7.7342	2	2325	9	2320	44.5	3		9

* WOCE water sample quality flag (F) for parameter for the previous column
** WOCE quality flag (F) for "Niskin" sample bottle
*** PSS-78 scale
**** ITS0 scale

A5R
NOAA Ship Ronald H. Brown

STATION 107 DATE 2/20/1998 LATITUDE 26.500° N
LONGITUDE 75.300° W

Bottle Number	F**	Pressure db	CTD Salinity***	Bottle Salinity***	F*	Temp**** °C	Theta °C	Sigma Theta	CTD O2 µmol/kg	F*	Bottle O2 µmol/kg	F*	AOU	NO2 µmol/kg	F*	NO3 µmol/kg	F*	PO4 µmol/kg	F*	Si(OH)4 µmol/kg	F*	CFC-11 pmol/kg	F*	CFC-12 pmol/kg	F*	CFC-113 pmol/kg	F*	CCl4 pmol/kg	F*	fCO2 at 20 °C µatm	fCO2 INSITU µatm	F*	DIC µmol/kg	F*	pH	F*	Measured TA µmol/kg	F*	Calculated TA µmol/kg	TOC µmol/kg	F*	TON µmol/kg	F*
36	2	3.6	36.666	36.665	2	22.439	22.438	25.362	218.1	2	218.1	2	-4.9	0.00	2	0.00	2	0.01	2	0.70	2	9	9	9	9	292.8	322.6	6	2041.6	6	8.0876	6	2394	6	2395		9		9
35	2	32.8	36.663	36.662	2	22.165	22.158	25.441	218.7	2	218.9	2	-4.7	0.00	2	0.00	2	0.01	2	0.70	2	9	9	9	9			9	9	9	9	9		9		9		9		9
34	2	67.7	36.643	36.642	2	21.926	21.913	25.497	217.8	2	218.9	2	-3.7	0.01	2	0.00	2	0.01	2	0.70	2	9	9	9	9			9	9	9	9	9		9		9		9		9
33	2	104.2	36.657	36.652	2	21.760	21.739	25.558	215.1	2	216.3	2	-0.5	0.07	2	0.00	2	0.01	2	0.70	2	9	9	9	9			9	9	9	9	9		9		9		9		9
32	2	140.6	36.692	36.695	2	21.421	21.393	25.683	215.0	2	214.3	2	2.8	0.10	2	0.20	2	0.01	2	0.70	2	9	9	9	9			9	9	9	9	9		9		9		9		9
31	2	174.2	36.817	36.807	2	20.807	20.774	25.950	205.1	2	203.5	2	15.9	0.04	2	0.78	2	0.03	2	0.70	2	9	9	9	9			9	9	9	9	9		9		9		9		9
30	2	199.7	36.778	36.780	2	20.101	20.064	26.113	199.6	2	194.5	2	27.7	0.02	2	1.46	2	0.05	2	0.70	2	9	9	9	9			9	9	9	9	9		9		9		9		9
29	2	213.8	36.721	36.716	2	19.705	19.665	26.175	191.3	2	196.9	2	27.0	0.02	2	1.85	2	0.06	2	0.80	2	9	9	9	9			9	9	9	9	9		9		9		9		9
28	2	249.2	36.660	36.655	2	19.057	19.012	26.301	194.3	2	194.5	2	32.2	0.01	2	2.83	2	0.10	2	0.90	2	9	9	9	9			9	9	9	9	9		9		9		9		9
27	2	271.3	36.613	36.614	2	18.680	18.632	26.362	195.8	2	196.8	2	31.6	0.01	2	3.32	2	0.13	2	1.00	2	9	9	9	9			9	9	9	9	9		9		9		9		9
26	2	297.2	36.581	36.576	2	18.438	18.385	26.401	203.0	2	200.2	2	29.3	0.01	2	3.71	2	0.16	2	1.20	2	9	9	9	9			9	9	9	9	9		9		9		9		9
25	2	343.7	36.553	36.552	2	18.236	18.176	26.434	206.7	2	202.5	2	27.9	0.01	2	4.00	2	0.18	2	1.20	2	9	9	9	9			9	9	9	9	9		9		9		9		9
24	2	397.4	36.523	36.524	2	18.029	17.960	26.468	203.1	2	201.8	2	29.6	0.01	2	4.49	2	0.21	2	1.40	2	9	9	9	9			9	9	9	9	9		9		9		9		9
23	2	448.5	36.455	36.459	2	17.626	17.549	26.518	197.0	2	197.2	2	36.1	0.01	2	5.56	2	0.28	2	1.70	2	9	9	9	9			9	9	9	9	9		9		9		9		9
22	2	499.3	36.315	36.319	2	16.825	16.742	26.606	187.9	2	184.9	2	52.3	0.01	2	7.90	2	0.42	2	2.40	2	9	9	9	9			9	9	9	9	9		9		9		9		9
21	2	550.2	36.174	36.180	2	15.993	15.904	26.695	182.3	2	179.7	2	61.6	0.01	2	9.66	2	0.54	2	3.10	2	9	9	9	9			9	9	9	9	9		9		9		9		9
20	2	651.5	35.870	35.870	2	14.081	13.984	26.884	172.4	2	168.8	2	82.4	0.01	2	13.86	2	0.82	2	5.20	2	9	9	9	9			9	9	9	9	9		9		9		9		9
19	2	748.6	35.563	35.565	2	11.996	11.896	27.067	163.9	2	162.4	2	100.4	0.01	2	17.76	2	1.10	2	8.20	2	9	9	9	9			9	9	9	9	9		9		9		9		9
18	2	849.0	35.304	35.315	2	9.795	9.694	27.259	159.7	2	158.0	2	118.0	0.01	2	21.48	2	1.37	2	11.70	2	9	9	9	9			9	9	9	9	9		9		9		9		9
17	2	949.1	35.130	35.132	2	8.008	7.907	27.405	158.3	2	157.7	2	129.9	0.01	2	24.31	2	1.59	2	15.40	2	9	9	9	9			9	9	9	9	9		9		9		9		9
16	2	1146.3	35.085	35.083	2	6.077	5.970	27.637	202.1	2	203.5	2	97.4	0.01	2	21.58	2	1.43	2	14.70	2	9	9	9	9			9	9	9	9	9		9		9		9		9
15	2	1341.6	35.045	35.045	2	4.913	4.798	27.747	242.0	2	242.8	2	66.7	0.01	2	18.75	2	1.25	2	12.70	2	9	9	9	9			9	9	9	9	9		9		9		9		9
14	2	1548.2	35.000	34.999	2	4.287	4.159	27.783	260.7	2	260.2	6	54.2	0.01	2	17.97	2	1.20	2	12.50	2	9	9	9	9			9	9	9	9	9		9		9		9		9
13	9	1744.7	34.980	34.982	2	3.978	3.835	27.802	266.1	2		9			9		9		9		9	9	9	9	9			9	9	9	9	9		9		9		9		9
12	2	1941.8	34.972	34.971	2	3.758	3.600	27.820	268.1	2	268.8	2	50.0	0.01	2	17.58	2	1.19	2	13.90	2	9	9	9	9			9	9	9	9	9		9		9		9		9
11	2	2147.4	34.975	34.974	2	3.600	3.424	27.841	267.3	2	267.8	2	52.4	0.01	2	17.77	2	1.20	2	15.50	2	9	9	9	9			9	9	9	9	9		9		9		9		9
10	2	2348.8	34.964	34.964	2	3.379	3.187	27.857	268.5	2	268.8	2	53.3	0.01	2	17.77	2	1.21	2	17.00	2	9	9	9	9			9	9	9	9	9		9		9		9		9
9	2	2547.3	34.955	34.955	2	3.177	2.969	27.871	268.6	2	269.2	2	54.7	0.01	2	17.77	2	1.22	2	18.70	2	9	9	9	9			9	9	9	9	9		9		9		9		9
8	2	2749.4	34.944	34.943	2	2.987	2.762	27.881	269.9	2	271.2	2	54.4	0.01	2	17.67	2	1.21	2	19.50	2	9	9	9	9			9	9	9	9	9		9		9		9		9
7	2	2932.1	34.932	34.932	2	2.807	2.567	27.890	272.2	2	273.3	2	53.9	0.01	2	17.48	2	1.20	2	20.10	2	9	9	9	9			9	9	9	9	9		9		9		9		9
6	2	3194.3	34.923	34.922	2	2.640	2.377	27.900	274.9	2	274.9	2	53.9	0.01	2	17.28	2	1.20	2	21.10	2	9	9	9	9			9	9	9	9	9		9		9		9		9
5	2	3539.8	34.910	34.908	2	2.425	2.130	27.912	275.4	2	275.1	2	55.8	0.01	2	17.48	2	1.22	2	24.10	2	9	9	9	9			9	9	9	9	9		9		9		9		9
4	2	3798.5	34.902	34.902	2	2.329	2.008	27.917	274.5	2	274.4	2	57.6	0.01	2	17.77	2	1.24	2	26.30	2	9	9	9	9			9	9	9	9	9		9		9		9		9
3	2	4131.3	34.894	34.894	2	2.265	1.908	27.921	272.6	2	271.8	2	61.0	0.01	2	18.16	2	1.27	2	29.90	2	9	9	9	9			9	9	9	9	9		9		9		9		9
2	2	4395.3	34.888	34.888	2	2.235	1.848	27.922	269.3	2	268.6	2	64.8	0.01	2	18.94	2	1.32	2	34.00	2	9	9	9	9			9	9	9	9	9		9		9		9		9
1	2	4705.3	34.875	34.875	2	2.175	1.753	27.922	262.5	2	262.8	6	71.4	0.01	6	20.12	6	1.42	6	41.60	6	9	9	9	9			9	9	4	9		9		9		9		9

* WOCE water sample quality flag (F) for parameter for the previous column
** WOCE quality flag (F) for "Niskin" sample bottle
*** PSS-78 scale
**** ITS0 scale

A5R
NOAA Ship Ronald H. Brown

STATION 108 DATE 2/20/1998 LATITUDE 26.500° N
LONGITUDE 75.500° W

Bottle Number	F**	Pressure db	CTD Salinity***	Bottle Salinity***	F*	Temp**** °C	Theta °C	Sigma Theta	CTD O2 µmol/kg	F*	Bottle O2 µmol/kg	F*	AOU	NO2 µmol/kg	F*	NO3 µmol/kg	F*	PO4 µmol/kg	F*	Si(OH)4 µmol/kg	F*	CFC-11 pmol/kg	F*	CFC-12 pmol/kg	F*	CFC-113 pmol/kg	F*	CCl4 pmol/kg	F*	fCO2 at 20 °C µatm	fCO2 INSITU µatm	F*	DIC µmol/kg	F*	pH	F*	Measured TA µmol/kg	F*	Calculated TA µmol/kg	TOC µmol/kg	F*	TON µmol/kg	F*
36	2	3.8	36.668	36.667	2	22.425	22.424	25.367	218.0	2	218.5	2	-5.3	0.01	2	0.00	3	0.01	2	0.40	2	2.05	2	1.18	2	0.17	2	2.10	2	289.3	318.6	2	2042.2	2	8.0860	2	2397	2	2395		9		9
35	2	48.0	36.672	36.676	2	22.114	22.104	25.464	218.0	2	218.2	6	-3.8	0.01	2	0.00	3	0.01	2	0.40	2	2.04	2	1.17	2	0.16	2		9			9		9		9		9			9		9
34	2	74.8	36.682	36.682	2	21.886	21.871	25.538	217.6	2	215.8	2	-0.5	0.04	2	0.10	3	0.02	2	0.40	2	2.05	2	1.18	2	0.16	2		9	304.7	328.5	2	2048.8	2	8.0777	2	2410	2	2396		9		9
33	2	100.8	36.670	36.670	2	21.675	21.655	25.591	214.5	2	216.0	2	0.1	0.07	2	0.00	3	0.02	2	0.40	2	2.08	2	1.19	2	0.16	2		9	299.2	320.1	2	2049.7	2	8.0753	2	2397	2	2396		9		9
32	2	150.7	36.782	36.789	2	21.169	21.140	25.822	207.4	2	207.0	2	11.0	0.05	2	0.59	3	0.03	2	0.30	2	2.18	2	1.24	2	0.13	2		9	327.2	343.0	2	2076.7	2	8.0429	2		9	2403		9		9
31	2	173.5	36.805	36.793	2	20.332	20.299	26.070	206.6	2	200.1	2	21.2	0.02	2	0.88	3	0.04	2	0.30	2	2.23	2	1.26	2	0.09	2		9			9		9		9		9			9		9
30	2	200.6	36.723	36.723	2	19.558	19.521	26.214	195.7	2	196.0	2	28.5	0.02	2	1.46	3	0.06	2	0.50	2	2.26	2	1.26	2	0.06	2		9			9		9		9		9			9		9
29	2	224.9	36.672	36.672	2	19.135	19.094	26.287	192.1	2	196.7	2	29.7	0.01	2	2.05	3	0.09	2	0.60	2		9		9		9		9	372.0	359.3	2	2101.5	2	7.9983	2		5	2399		9		9
28	2	249.9	36.633	36.632	2	18.849	18.804	26.333	196.4	2	199.0	2	28.6	0.01	2	2.44	3	0.11	2	0.60	2	2.32	2	1.29	2	0.03	2		9			9		9		9		9			9		9
27	2	269.6	36.604	36.607	2	18.637	18.589	26.366	198.1	2	200.3	2	28.3	0.01	2	2.73	3	0.13	2	0.70	2		9		9		9		9			9	2098.3	2	7.9964	2	2392	2	2394		9		9
26	2	300.1	36.586	36.586	2	18.468	18.415	26.398	198.0	2	198.3	2	31.1	0.01	2	3.32	3	0.16	2	0.80	2	2.32	6	1.27	6	0.02	6		9			9		9		9		9			9		9
25	2	349.7	36.549	36.547	2	18.204	18.143	26.440	203.8	2	201.6	2	29.0	0.01	2	3.61	3	0.19	2	1.00	2		9		9		9		9	389.2	362.0	2	2100.4	2	7.9877	2	2388	2	2391		9		9
24	2	400.1	36.515	36.516	2	17.976	17.906	26.474	201.9	2	202.5	2	29.2	0.01	2	4.00	3	0.22	2	1.10	2	2.29	2	1.25	2	0.02	2		9			9		9		9		9			9		9
23	2	448.9	36.445	36.457	2	17.580	17.503	26.522	192.7	2	194.6	2	38.9	0.01	2	5.17	3	0.29	2	1.50	2		9		9		9		9			9		9		9		9			9		9
22	2	550.3	36.196	36.192	2	16.130	16.041	26.680	179.5	2	179.5	2	61.1	0.01	2	8.78	3	0.53	2	2.70	2	1.95	2	1.03	2	0.03	2		9	471.2	402.6	2	2129.1	2	7.9062	2	2369	2	2370		9		9
21	2	649.7	35.859	35.871	2	14.031	13.935	26.886	170.3	2	169.0	2	82.4	0.01	2	12.78	3	0.82	2	5.00	2	1.60	2	0.83	2	0.03	2		9			9	2146.6	2	7.8405	2	2353	2	2351		9		9
20	2	749.1	35.626	35.614	2	12.439	12.336	27.031	162.6	2	160.6	2	99.7	0.01	2	16.30	3	1.07	2	7.50	2		9		9		9		9	651.1	477.5	2	2161.3	2	7.7854	2		5	2338		9		9
19	2	849.3	35.311	35.315	2	9.879	9.778	27.250	155.7	2	154.3	2	121.2	0.01	2	20.50	3	1.39	2	11.70	2	0.73	2	0.37	2	0.02	2		9	758.8	499.4	2	2180.1	2	7.7176	2	2328	2	2326		9		9
18	2	990.0	35.120	35.117	2	7.609	7.506	27.456	169.0	2	167.3	2	123.0	0.01	2	22.36	3	1.56	2	15.30	2	0.42	2	0.22	2	0.01	2		9	835.2	498.1	2	2188.8	6	7.6811	2	2325	2	2319		9		9
17	2	1199.5	35.088	35.090	2	5.728	5.619	27.684	215.7	2	217.2	2	86.2	0.01	2	19.23	3	1.35	2	13.80	2	0.55	2	0.28	2	0.02	2		9	775.8	423.6	2	2176.9	2	7.7090	2		5	2318		9		9
16	2	1399.5	35.031	35.031	2	4.736	4.617	27.757	248.6	2	248.5	2	62.4	0.01	2	17.57	3	1.24	2	12.60	2	0.97	6	0.48	6	0.04	6		9			9		9		9		9			9		9
15	2	1599.6	35.009	35.006	2	4.264	4.131	27.794	259.8	2	260.4	2	54.2	0.01	2	17.09	3	1.20	2	12.90	2	0.81	2	0.40	2	0.03	2		9	733.2	373.1	2	2163.7	2	7.7307	2	2324	2	2313		9		9
14	2	1800.5	34.990	34.990	2	3.951	3.803	27.813	265.5	2	264.9	2	52.3	0.01	2	16.99	3	1.20	2	13.80	2	0.67	2	0.33	2	0.03	2		9			9	2162.0	2	7.7359	2	2320	2	2313		9		9
13	2	2000.0	34.968	34.968	2	3.663	3.500	27.827	267.7	2	269.4	2	50.2	0.01	2	16.89	3	1.19	2	14.50	2	0.74	2	0.36	2	0.03	2		9			9		9		9		9			9		9
12	2	2200.7	34.980	34.979	2	3.561	3.381	27.850	266.1	2	265.9	2	54.6	0.01	2	17.38	3	1.21	2	16.80	2		9		9		9		9			9	2163.2	2	7.7388	2		5	2316		9		9
11	2	2398.8	34.967	34.968	2	3.350	3.154	27.863	266.4	2	267.4	2	55.0	0.01	2	17.28	3	1.23	2	18.20	2	0.25	2	0.13	2	0.01	2	0.76	2	722.1	351.0	2	2162.5	2	7.7396	2		9	2315		9		9
10	2	2593.0	34.954	34.953	2	3.152	2.940	27.873	268.9	2	269.0	2	55.1	0.01	2	17.19	3	1.22	2	18.90	2		9		9		9		9			9		9		9		9			9		9
9	2	2798.2	34.942	34.941	2	2.954	2.725	27.884	270.4	2	271.4	2	54.5	0.01	2	16.99	3	1.21	2	19.70	2		9		9		9	0.87	2			9	2162.2	2	7.7392	2		5	2315		9		9
8	2	3000.7	34.933	34.933	2	2.789	2.543	27.894	271.6	2	272.5	2	54.9	0.01	2	16.99	3	1.21	2	20.80	2	0.40	2	0.20	2	0.01	2	1.00	2			9		9		9		9			9		9
7	2	3249.0	34.922	34.922	2	2.619	2.351	27.902	274.8	2	274.5	2	54.5	0.01	2	16.99	3	1.20	2	21.80	2	0.46	2	0.23	2	0.02	2	1.10	2			9	2163.5	2	7.7387	2		5	2316		9		9
6	2	3496.7	34.913	34.911	2	2.454	2.163	27.912	274.4	2	275.3	2	55.3	0.01	2	16.99	3	1.21	2	23.50	2	0.52	2	0.26	2	0.03	2	1.12	2	722.0	335.7	2	2165.3	2	7.7365	2	2328	2	2317		9		9
5	2	3747.6	34.904	34.903	2	2.340	2.025	27.917	274.9	2	274.9	2	56.9	0.01	2	17.28	3	1.23	2	25.90	2	0.55	2	0.27	2	0.03	2	1.12	2			9	2168.5	2	7.7345	2		9	2319		9		9
4	2	3968.7	34.899	34.899	2	2.302	1.963	27.920	273.6	2	273.4	2	58.9	0.01	2	17.58	3	1.24	2	27.70	2	0.54	2	0.27	2	0.03	2	1.09	2			9		9		9		9			9		9
3	2	4248.6	34.894	34.892	2	2.267	1.897	27.922	272.1	2	271.8	2	61.1	0.01	2	18.16	3	1.28	2	30.80	2	0.46	2	0.23	2	0.03	2	0.98	2			9	2174.3	2	7.7324	2	2331	2	2324		9		9
2	2	4476.1	34.890	34.889	2	2.251	1.854	27.924	269.4	2	268.9	2	64.4	0.01	2	18.75	3	1.31	2	33.70	2	0.34	2	0.18	2	0.03	2	0.81	2			9	2178.4	2	7.7314	2		9	2328		9		9
1	2	4751.4	34.880	34.880	2	2.215	1.786	27.924	264.0	2	262.9	2	71.0	0.01	6	19.72	3	1.38	6	39.20	6	0.23	2	0.13	2	0.02	2	0.60	2	748.1	342.8	6	2187.4	2	7.7278	2		5	2336		9		9

* WOCE water sample quality flag (F) for parameter for the previous column
** WOCE quality flag (F) for "Niskin" sample bottle
*** PSS-78 scale
**** ITS0 scale

A5R
NOAA Ship Ronald H. Brown

STATION 109 DATE 2/20/1998 LATITUDE 26.500° N
LONGITUDE 75.701° W

Bottle Number	F**	Pressure db	CTD Salinity***	Bottle Salinity***	F*	Temp**** °C	Theta °C	Sigma Theta	CTD O2 µmol/kg	F*	Bottle O2 µmol/kg	F*	AOU	NO2 µmol/kg	F*	NO3 µmol/kg	F*	PO4 µmol/kg	F*	Si(OH)4 µmol/kg	F*	CFC-11 pmol/kg	F*	CFC-12 pmol/kg	F*	CFC-113 pmol/kg	F*	CCl4 pmol/kg	F*	fCO2 at 20 °C µatm	fCO2 INSITU µatm	F*	DIC µmol/kg	F*	pH	F*	Measured TA µmol/kg	F*	Calculated TA µmol/kg	TOC µmol/kg	F*	TON µmol/kg	F*
36	2	4.2	36.661	36.661	2	22.363	22.362	25.379	217.7	2	219.7	2	-6.2	0.00	2	0.00	2	0.00	2	0.30	2	9		9		9		9		295.5	324.6	2	2047.1	6	8.0819	2	2398	6	2397		9		9
35	2	33.4	36.670	36.666	2	21.923	21.916	25.514	219.0	2	219.1	2	-4.0	0.00	2	0.00	2	0.00	2	0.30	2	9		9		9		9				9		9		9		9				9		9
34	2	70.0	36.663	36.664	2	21.662	21.648	25.587	216.6	2	219.3	2	-3.1	0.01	2	0.00	2	0.01	2	0.20	2	9		9		9		9		300.3	320.9	2		9	8.0717	2		9				9		9
33	2	104.6	36.673	36.678	2	21.535	21.514	25.633	212.2	2	215.7	2	1.0	0.07	2	0.00	2	0.01	2	0.20	2	9		9		9		9				9		9		9		9				9		9
32	2	140.4	36.822	36.820	2	20.543	20.516	26.022	204.9	2	190.5	3	29.9	0.02	2	0.49	2	0.03	2	0.20	2	9		9		9		9				9		9		9		9				9		9
31	2	188.7	36.680	36.672	2	19.372	19.338	26.229	197.1	2	201.0	2	24.3	0.02	2	1.07	2	0.06	2	0.30	2	9		9		9		9		368.4	359.3	2		9	8.0059	2		9				9		9
30	2	213.0	36.649	36.642	2	19.002	18.964	26.302	197.5	2	199.1	2	27.8	0.01	2	1.76	2	0.09	2	0.50	2	9		9		9		9		373.4	358.7	2		9	7.9979	2		9				9		9
29	2	240.5	36.619	36.617	2	18.729	18.686	26.352	196.5	2	189.8	3	38.4	0.01	2	2.15	2	0.12	2	0.50	2	9		9		9		9		380.3	361.3	2		9	7.9941	2		9				9		9
28	2	264.9	36.596	36.591	2	18.564	18.517	26.378	198.0	2	200.7	2	28.2	0.01	2	2.44	2	0.14	2	0.60	2	9		9		9		9				9		9		9		9				9		9
27	2	291.3	36.575	36.574	2	18.404	18.353	26.405	201.6	2	202.4	2	27.2	0.01	2	2.63	2	0.15	2	0.70	2	9		9		9		9				9		9		9		9				9		9
26	2	340.2	36.549	36.547	2	18.183	18.123	26.444	204.8	2	205.9	2	24.8	0.01	2	2.83	2	0.17	2	0.80	2	9		9		9		9				9		9		9		9				9		9
25	2	401.0	36.518	36.518	2	17.974	17.904	26.478	204.7	2	206.5	2	25.2	0.01	2	3.22	2	0.20	2	0.90	2	9		9		9		9				9		9		9		9				9		9
24	2	448.8	36.459	36.456	2	17.648	17.571	26.516	200.1	2	197.5	2	35.7	0.01	2	4.59	2	0.29	2	1.30	2	9		9		9		9				9		9		9		9				9		9
23	2	500.0	36.359	36.356	2	17.094	17.010	26.577	190.6	2	189.2	2	46.7	0.01	2	6.34	2	0.39	2	1.80	2	9		9		9		9				9		9		9		9				9		9
22	2	599.6	36.092	36.090	2	15.532	15.437	26.739	183.6	2		9		0.01	2	9.66	2	0.59	2	3.10	2	9		9		9		9				9		9		9		9				9		9
21	2	699.8	35.800	35.797	2	13.620	13.518	26.929	166.6	2	166.1	2	87.6	0.01	2	14.64	2	0.92	2	5.50	2	9		9		9		9		582.9	449.1	2		9	7.8247	2		9				9		9
20	2	800.4	35.505	35.504	2	11.580	11.475	27.101	156.9	2	156.5	6	108.8	0.01	2	19.43	2	1.19	2	8.90	2	9		9		9		9		692.1	489.9	2		9	7.7599	2		9				9		9
19	2	899.4	35.273	35.273	2	9.479	9.374	27.289	158.2	2	158.6	2	119.4	0.01	2	22.65	2	1.40	2	12.20	2	9		9		9		9		768.2	497.2	2		9	7.7117	2		9				9		9
18	2	1000.9	35.107	35.107	2	7.390	7.288	27.477	169.6	2	169.9	2	121.8	0.01	2	24.51	2	1.54	2	15.20	2	9		9		9		9		838.8	496.0	2		9	7.6811	2		9				9		9
17	2	1098.8	35.090	35.090	2	6.323	6.219	27.609	194.3	2	198.6	2	100.5	0.00	2	22.46	2	1.43	2	14.60	2	9		9		9		9				9		9		9		9				9		9
16	2	1303.1	35.075	35.075	2	5.283	5.168	27.729	235.3	2	232.9	2	73.8	0.00	2	19.73	2	1.29	2	13.10	2	9		9		9		9				9		9		9		9				9		9
15	2	1487.1	35.025	35.025	2	4.539	4.414	27.775	255.3	2	254.0	2	58.4	0.01	2	18.46	2	1.22	2	12.50	2	9		9		9		9				9		9		9		9				9		9
14	2	1700.4	34.995	34.996	2	4.085	3.945	27.802	263.7	2	261.5	2	54.6	0.01	2	17.97	2	1.20	2	12.90	2	9		9		9		9		735.9	371.4	2		9	7.7332	2		9				9		9
13	2	1900.4	34.981	34.982	2	3.843	3.687	27.819	266.2	2	266.8	2	51.3	0.01	2	17.97	2	1.19	2	13.60	2	9		9		9		9				9		9		9		9				9		9
12	2	2099.3	34.973	34.973	2	3.645	3.473	27.835	267.7	2	268.1	2	51.7	0.01	2	17.78	2	1.21	2	14.70	2	9		9		9		9				9		9		9		9				9		9
11	2	2302.1	34.976	34.976	2	3.505	3.316	27.854	266.6	2	265.1	2	56.0	0.01	2	18.07	2	1.26	2	16.80	2	9		9		9		9				9		9		9		9				9		9
10	2	2501.3	34.959	34.960	2	3.265	3.060	27.866	267.6	2	268.5	2	54.6	0.01	2	17.97	2	1.21	2	17.80	2	9		9		9		9				9		9		9		9				9		9
9	2	2700.9	34.948	34.948	2	3.063	2.842	27.878	268.9	2	269.5	2	55.4	0.01	2	17.78	2	1.21	2	19.20	2	9		9		9		9				9		9		9		9				9		9
8	2	2900.8	34.940	34.940	2	2.903	2.665	27.888	269.7	2	269.4	2	57.0	0.01	2	17.87	2	1.22	2	20.60	2	9		9		9		9				9		9		9		9				9		9
7	2	3100.0	34.929	34.929	2	2.739	2.483	27.896	272.9	2	269.2	2	58.7	0.01	2	17.58	2	1.20	2	21.10	2	9		9		9		9		730.3	344.7	2		9	7.7392	6	0	2				9		9
6	2	3299.0	34.920	34.920	2	2.586	2.313	27.904	274.7	2	274.3	2	55.1	0.01	2	17.48	2	1.20	2	22.30	2	9		9		9		9				9		9		9		9				9		9
5	2	3500.8	34.912	34.912	2	2.454	2.163	27.911	274.6	2	274.8	2	55.8	0.01	2	17.58	2	1.22	2	24.00	2	9		9		9		9				9		9		9		9				9		9
4	2	3799.0	34.900	34.900	2	2.312	1.992	27.917	274.5	2	274.6	2	57.5	0.01	2	17.68	2	1.23	2	26.30	2	9		9		9		9				9		9		9		9				9		9
3	2	4095.6	34.896	34.895	2	2.277	1.924	27.921	272.6	2	272.6	2	60.1	0.01	2	18.17	2	1.36	3	29.10	2	9		9		9		9				9		9		9		9				9		9
2	2	4400.4	34.889	34.888	2	2.251	1.863	27.922	269.3	2	269.6	2	63.6	0.01	2	18.66	2	1.32	2	32.70	2	9		9		9		9				9		9		9		9				9		9
1	2	4763.2	34.876	34.876	2	2.188	1.758	27.922	262.7	2	263.2	2	70.9	0.01	6	20.22	6	1.44	6	41.40	6	9		9		9		9		752.2	344.2	2		9	7.7260	2		9				9		9

* WOCE water sample quality flag (F) for parameter for the previous column
** WOCE quality flag (F) for "Niskin" sample bottle
*** PSS-78 scale
**** ITS0 scale

A5R
NOAA Ship Ronald H. Brown

STATION 110 DATE 2/20/1998 LATITUDE 26.500° N
LONGITUDE 75.900° W

Bottle Number	F**	Pressure db	CTD Salinity***	Bottle Salinity***	F*	Temp**** °C	Theta °C	Sigma Theta	CTD O2 µmol/kg	F*	Bottle O2 µmol/kg	F*	AOU	NO2 µmol/kg	F*	NO3 µmol/kg	F*	PO4 µmol/kg	F*	Si(OH)4 µmol/kg	F*	CFC-11 pmol/kg	F*	CFC-12 pmol/kg	F*	CFC-113 pmol/kg	F*	CCl4 pmol/kg	F*	fCO2 at 20 °C µatm	fCO2 INSITU µatm	F*	DIC µmol/kg	F*	pH	F*	Measured TA µmol/kg	F*	Calculated TA µmol/kg	TOC µmol/kg	F*	TON µmol/kg	F*
36	2	4.3	36.646	36.644	2	23.095	23.094	25.157	209.3	2	217.6	2	-6.8	0.01	2	0.00	2	0.01	2	0.70	2	1.97	2	1.14	2	0.16	2	2.03	2	283.9	321.0	2	2037.3	6	8.0935	2		5	2395	65.6	2	4.3	2
35	2	50.0	36.673	36.673	2	22.520	22.510	25.349	214.6	2	215.5	2	-2.6	0.01	2	0.00	2	0.00	2	0.70	2		9		9		9		9	288.9	319.3	2	2011.3	3		9	2392	2		64.1	2	4.2	2
34	2	96.2	36.656	36.671	2	22.034	22.015	25.479	214.3	2	213.9	2	0.9	0.10	2	0.00	2	0.01	2	0.70	2	2.05	2	1.18	2	0.16	2	1.82	2	301.3	326.7	6	2051.7	2	8.0763	2		5	2399	61.2	2	4.5	2
33	2	150.5	36.809	36.810	2	20.481	20.452	26.030	204.1	2	208.8	2	11.8	0.03	2	0.39	2	0.02	2	0.60	2	2.22	2	1.26	2	0.13	2		9	342.7	349.3	2	2088.8	2	8.0314	2		5	2409	55.0	2		9
32	2	200.2	36.749	36.733	2	19.659	19.622	26.208	208.5	2	202.2	2	21.9	0.02	2	0.88	2	0.03	2	0.60	2	2.28	6	1.29	6	0.10	6		9	356.5	351.7	2	2107.0	3	8.0168	2		9	2418	51.2	2	5.1	2
31	2	221.9	36.693	36.691	2	19.291	19.251	26.262	209.1	2	205.2	2	20.5	0.02	2	1.27	2	0.05	2	0.70	2		9		9		9		9	360.6	350.5	2	2092.8	2	8.0132	2		9	2400	50.7	2	5.2	2
30	2	249.8	36.641	36.638	2	18.901	18.856	26.326	208.5	2	206.2	2	21.2	0.01	2	1.76	2	0.08	2	0.80	2	2.32	2	1.30	2	0.05	2	0.57	2	363.5	347.7	2	2093.6	2	8.0082	2		5	2397	48.9	2	5.9	2
29	2	270.6	36.614	36.611	2	18.707	18.659	26.356	205.2	2	203.9	2	24.4	0.01	2	2.15	2	0.10	2	0.90	2		9		9		9		9			9	2094.4	2	8.0031	2		9	2394	47.8	2	6.1	2
28	2	300.3	36.592	36.591	2	18.541	18.488	26.384	208.6	2	206.7	2	22.3	0.01	2	2.44	2	0.12	2	0.90	2	2.33	2	1.30	2	0.04	2		9	377.6	356.0	2	2094.2	2	8.0030	2		5	2394		9		9
27	2	350.8	36.562	36.561	2	18.245	18.183	26.439	212.6	2	210.5	2	19.9	0.01	2	2.63	2	0.19	3	1.10	2		9		9		9		9			9	2092.5	2	8.0006	2	2387	2	2391	46.9	2	6.7	2
26	2	399.9	36.550	36.550	2	18.134	18.064	26.463	215.6	2	212.3	2	18.6	0.01	2	2.83	2	0.15	2	1.20	2	2.36	2	1.31	2	0.07	2	0.64	6	369.4	342.6	2	2093.9	2	8.0004	2	2387	2	2392		9		9
25	2	450.1	36.519	36.519	2	17.952	17.874	26.488	210.4	2	208.7	2	23.1	0.01	2	3.41	2	0.19	2	1.30	2		9		9		9		9			9	2097.1	2		9	2383	2		45.2	2	7.6	2
24	2	499.8	36.423	36.422	2	17.445	17.360	26.542	194.4	2	195.7	2	38.5	0.01	2	5.46	2	0.31	2	1.90	2		9		9		9		9	413.4	372.8	2	2109.2	2	7.9605	2	2382	2	2382		9		9
23	2	548.4	36.279	36.279	2	16.616	16.525	26.631	188.8	2	181.1	6	57.1	0.01	2	7.90	2	0.45	2	2.50	2	2.05	2	1.09	2	0.03	2	0.41	2			9	2119.7	2	7.9251	2		5	2371	43.9	2	11.4	2
22	2	649.9	35.935	35.933	2	14.542	14.443	26.837	176.1	2	174.2	2	74.6	0.01	2	12.39	2	0.75	2	4.50	2		9		9		9		9	530.8	424.9	2	2139.0	2	7.8599	2	2353	2	2354		9		9
21	3	748.4	35.670	35.666	2	12.748	12.644	27.005	162.5	2	160.8	2	97.7	0.01	2	16.98	2	1.03	2	7.00	2	1.26	2	0.65	2	0.02	2	0.34	2	626.8	465.4	2	2158.7	2		9	2339	2		45.6	2	19.9	2
20	2	849.3	35.354	35.354	2	10.298	10.194	27.214	149.1	2	155.7	2	117.2	0.01	2	21.67	2	1.34	2	11.10	2		9		9		9		9	740.7	496.1	2	2176.1	2	7.7268	2		5	2326		9		9
19	2	950.2	35.129	35.128	2	8.174	8.072	27.380	151.5	2	153.4	2	133.1	0.01	2	25.77	2	1.64	2	15.50	2	0.31	2	0.16	2	0.01	2		9	849.0	519.6	2	2190.2	2	7.6727	2	2320	2	2317	41.1	2	27.5	2
18	2	1043.4	35.069	35.069	2	6.955	6.852	27.509	170.5	2	171.8	2	123.0	0.01	2	24.99	2	1.60	2	16.40	2	0.29	2	0.15	2	0.01	2	0.34	2	862.0	499.7	2	2191.2	6	7.6728	2		5	2317		9		9
17	2	1201.5	35.085	35.085	2	5.782	5.672	27.675	218.2	2	217.1	2	85.9	0.01	2	20.79	2	1.35	2	13.60	2		9		9		9		9			9	2175.5	2	7.7089	2	2321	2	2316	41.1	2	22.7	2
16	2	1399.3	35.044	35.045	2	4.767	4.648	27.764	248.5	2	247.3	2	63.3	0.01	2	18.84	2	1.23	2	12.60	2	0.74	2	0.37	2	0.03	2		9	738.8	385.1	2	2165.5	2	7.7266	2	2322	2	2313		9		9
15	2	1600.6	34.995	34.996	2	4.191	4.059	27.790	262.0	2	260.2	2	55.0	0.01	2	18.06	2	1.19	2	12.40	2	0.97	2	0.47	2	0.04	2	1.62	2			9	2164.7	2	7.7317	2	2325	2	2314	41.2	2	20.2	2
14	2	1799.8	34.976	34.977	2	3.882	3.735	27.809	268.3	2	267.4	2	50.3	0.01	2	17.87	2	1.18	2	13.10	2	0.90	2	0.44	2	0.04	2		9	734.9	367.3	2	2161.2	2	7.7346	2	2322	2	2312		9		9
13	2	1998.6	34.982	34.982	2	3.737	3.573	27.832	267.7	2	266.6	2	52.4	0.01	2	18.06	2	1.21	2	14.50	2	0.52	2	0.26	2	0.02	2		9			9	2163.3	2	7.7378	2		9	2315	41.2	2	20.2	2
12	2	2198.7	34.974	34.972	2	3.539	3.359	27.848	267.5	2	267.4	2	53.3	0.01	2	17.96	2	1.21	2	16.00	2		9		9		9		9	719.6	353.2	2	2161.9	2	7.7383	2		9	2314		9		9
11	2	2400.1	34.966	34.967	2	3.360	3.163	27.861	268.1	2	267.6	2	54.7	0.01	2	18.16	2	1.21	2	17.60	2	0.30	2	0.15	2	0.01	2	0.81	2			9	2164.4	2	7.7399	2		9	2317	41.2	2	20.3	2
10	2	2600.5	34.955	34.954	2	3.134	2.921	27.875	269.4	2	270.7	2	53.6	0.01	2	18.16	2	1.22	2	19.00	2		9		9		9		9	723.3	348.0	2	2161.5	2	7.7407	2	2322	2	2315		9		9
9	2	2800.7	34.941	34.941	2	2.954	2.725	27.883	271.6	2	271.3	2	54.6	0.01	2	17.87	2	1.20	2	19.60	2	0.39	2	0.20	2	0.01	2	0.87	2			9	2163.6	2		9		9		41.5	2	20.1	2
8	2	3000.0	34.931	34.930	2	2.773	2.527	27.893	274.7	2	273.3	2	54.3	0.01	2	17.77	2	1.20	2	20.20	2		9		9		9		9	730.3	345.3	2	2165.2	2	7.7400	2		9	2318		9		9
7	2	3199.8	34.922	34.922	2	2.623	2.360	27.901	276.5	2	273.9	2	55.1	0.01	2	17.57	2	1.19	2	21.00	2	0.57	2	0.28	2	0.02	2	1.09	2			9	2164.3	2		9		9		41.4	2	19.4	2
6	2	3400.4	34.914	34.913	2	2.495	2.213	27.908	277.3	2	275.8	2	54.4	0.01	2	17.38	2	1.23	3	21.90	2		9		9		9		9			9	2166.8	2	7.7369	2		5	2318		9		9
5	2	3599.6	34.908	34.907	2	2.398	2.097	27.913	277.2	2	275.7	2	55.5	0.01	2	17.67	2	1.22	2	23.60	2	0.69	2	0.33	2	0.03	2	1.25	6	726.0	336.7	2	2168.1	2	7.7348	2	2323	2	2319	41.6	2	19.7	2
4	2	3829.8	34.902	34.901	2	2.327	2.003	27.918	276.3	2	274.7	2	57.3	0.01	2	17.87	2	1.24	2	25.90	2	0.64	2	0.31	2	0.04	2	1.19	2			9	2170.5	2		9		9			9		9
3	2	4201.4	34.896	34.894	2	2.280	1.915	27.922	274.3	2	272.3	2	60.5	0.01	2	18.45	2	1.34	3	29.30	2	0.52	6	0.25	6	0.03	6		9	740.8	341.4	2	2171.8	2	7.7328	2		5	2322	41.5	2		9
2	3	4497.3	34.890	34.888	2	2.253	1.854	27.924	269.9	2	269.1	2	64.2	0.01	2	19.23	2	1.33	2	33.20	2	0.37	2	0.19	2	0.03	2	0.83	2	745.2	342.6	2	2178.0	2	7.7311	2		9	2328		9		9
1	2	4817.4	34.879	34.878	2	2.209	1.772	27.924	264.5	2	263.6	2	70.4	0.01	6	20.41	6	1.40	6	39.60	6	0.21	2	0.12	2	0.04	3	0.56	2	755.9	346.4	2	2189.1	2	7.7275	2	2341	2	2338	45.3	3	21.2	2

* WOCE water sample quality flag (F) for parameter for the previous column
** WOCE quality flag (F) for "Niskin" sample bottle
*** PSS-78 scale
**** ITS0 scale

A5R
NOAA Ship Ronald H. Brown

STATION 111 DATE 2/20/1998 LATITUDE 26.500° N
LONGITUDE 76.083° W

Bottle Number	F**	Pressure db	CTD Salinity***	Bottle Salinity***	F*	Temp**** °C	Theta °C	Sigma Theta	CTD O2 µmol/kg	F*	Bottle O2 µmol/kg	F*	AOU	NO2 µmol/kg	F*	NO3 µmol/kg	F*	PO4 µmol/kg	F*	Si(OH)4 µmol/kg	F*	CFC-11 pmol/kg	F*	CFC-12 pmol/kg	F*	CFC-113 pmol/kg	F*	CCl4 pmol/kg	F*	fCO2 at 20 °C µatm	fCO2 INSITU µatm	F*	DIC µmol/kg	F*	pH	F*	Measured TA µmol/kg	F*	Calculated TA µmol/kg	TOC µmol/kg	F*	TON µmol/kg	F*
36	2	4.2	36.645	36.648	2	22.888	22.887	25.217	215.9	2	216.0	2	-4.4	0.01	2	0.00	2	0.00	2	0.60	2	9	9	9	9	285.8	320.4	6	2039.0	6	8.0916	6	2392	6	2395	9	9
35	2	41.2	36.673	36.672	2	22.554	22.546	25.338	216.5	2	216.9	2	-4.1	0.01	2	0.00	2	0.00	2	0.60	2	9	9	9	9			9	9	9	9		9	9
34	2	91.2	36.658	36.658	2	22.166	22.148	25.443	216.0	2	213.7	2	0.6	0.02	2	0.10	2	0.01	2	0.60	2	9	9	9	9			9	9	9	9		9	9
33	2	140.8	36.712	36.707	2	21.538	21.510	25.666	213.8	2	209.1	2	7.5	0.10	2	0.20	2	0.01	2	0.50	2	9	9	9	9			9	9	9	9		9	9
32	2	192.3	36.806	36.803	2	20.090	20.054	26.136	209.1	2	187.2	2	35.0	0.03	2	0.68	2	0.03	2	0.50	2	9	9	9	9			9	9	9	9		9	9
31	2	219.0	36.743	36.734	2	19.658	19.618	26.205	204.1	2	189.1	2	35.0	0.02	2	1.37	2	0.05	2	0.60	2	9	9	9	9			9	9	9	9		9	9
30	2	245.3	36.674	36.672	2	19.146	19.102	26.288	207.0	2	189.1	2	37.2	0.02	2	1.76	2	0.07	2	0.70	2	9	9	9	9			9	9	9	9		9	9
29	2	270.1	36.645	36.641	2	18.922	18.873	26.326	207.7	2	203.8	2	23.5	0.01	2	1.95	2	0.08	2	0.70	2	9	9	9	9			9	9	9	9		9	9
28	2	295.0	36.599	36.596	2	18.592	18.540	26.376	206.1	2	200.9	2	27.9	0.01	2	2.63	2	0.12	2	0.90	2	9	9	9	9			9	9	9	9		9	9
27	2	346.3	36.570	36.569	2	18.281	18.220	26.436	207.3	2	211.2	2	19.0	0.01	2	2.93	2	0.14	2	1.00	2	9	9	9	9			9	9	9	9		9	9
26	2	395.3	36.536	36.536	2	18.074	18.005	26.466	207.1	2	205.7	2	25.5	0.01	2	3.51	2	0.18	2	1.20	2	9	9	9	9			9	9	9	9		9	9
25	2	450.8	36.466	36.465	2	17.700	17.622	26.509	200.9	2	196.6	2	36.4	0.01	2	5.07	2	0.27	2	1.60	2	9	9	9	9			9	9	9	9		9	9
24	2	500.2	36.394	36.392	2	17.291	17.206	26.557	193.4	2	190.9	2	44.0	0.01	2	6.44	2	0.35	2	2.00	2	9	9	9	9			9	9	9	9		9	9
23	2	599.6	36.070	36.070	2	15.396	15.302	26.752	185.1	2	177.5	2	66.8	0.01	2	10.24	2	0.60	2	3.50	2	9	9	9	9			9	9	9	9		9	9
22	3	699.5	35.730	35.715	2	13.194	13.094	26.960	167.3	2	166.6	2	89.5	0.01	2	15.32	2	0.95	2	6.50	2	9	9	9	9			9	9	9	9		9	9
21	3	801.0	35.464	35.456	2	11.198	11.095	27.139	155.3	2	154.9	2	112.6	0.01	2	19.82	2	1.25	2	9.70	2	9	9	9	9			9	9	9	9		9	9
20	2	900.3	35.193	35.192	2	8.941	8.839	27.311	148.7	2	148.7	2	132.8	0.01	2	24.02	2	1.57	2	14.40	2	9	9	9	9			9	9	9	9		9	9
19	2	999.7	35.102	35.100	2	7.471	7.368	27.462	164.4	2	160.5	2	130.7	0.01	2	23.82	2	1.58	2	15.70	2	9	9	9	9			9	9	9	9		9	9
18	2	1100.7	35.074	35.073	2	6.479	6.373	27.577	188.8	2	188.5	2	109.6	0.01	2	22.55	2	1.51	2	15.70	2	9	9	9	9			9	9	9	9		9	9
17	2	1301.1	35.057	35.059	2	5.132	5.018	27.732	238.0	2	237.5	2	70.3	0.01	2	18.75	2	1.26	2	12.70	2	9	9	9	9			9	9	9	9		9	9
16	2	1500.7	35.009	35.009	2	4.393	4.268	27.778	258.1	2	257.5	2	56.1	0.01	2	17.67	2	1.20	2	12.40	2	9	9	9	9			9	9	9	9		9	9
15	2	1699.9	34.985	34.984	2	4.047	3.908	27.798	266.6	2	265.2	2	51.2	0.01	2	17.48	2	1.18	2	12.50	2	9	9	9	9			9	9	9	9		9	9
14	2	1899.0	34.973	34.973	2	3.841	3.686	27.813	268.7	2	261.1	3	57.0	0.01	2	17.28	2	1.18	2	13.20	2	9	9	9	9			9	9	9	9		9	9
13	2	2099.5	34.973	34.974	2	3.644	3.472	27.835	268.7	2	267.9	2	51.9	0.01	2	17.38	2	1.19	2	14.70	2	9	9	9	9			9	9	9	9		9	9
12	2	2299.9	34.969	34.970	2	3.443	3.255	27.854	268.3	2	267.9	2	53.7	0.01	2	17.58	2	1.20	2	16.80	2	9	9	9	9			9	9	9	9		9	9
11	2	2501.0	34.958	34.958	2	3.235	3.031	27.867	268.5	2	263.8	3	59.6	0.01	2	17.38	2	1.20	2	18.10	2	9	9	9	9			9	9	9	9		9	9
10	2	2701.0	34.947	34.947	2	3.048	2.827	27.878	269.8	2	268.8	2	56.3	0.01	2	17.38	2	1.20	2	19.10	2	9	9	9	9			9	9	9	9		9	9
9	2	2899.3	34.934	34.934	2	2.834	2.597	27.889	272.5	2	272.8	2	54.2	0.01	2	17.19	2	1.19	2	19.90	2	9	9	9	9			9	9	9	9		9	9
8	2	3098.3	34.925	34.925	2	2.677	2.423	27.898	275.1	2	274.0	6	54.4	0.01	2	16.99	2	1.18	2	20.60	2	9	9	9	9			9	9	9	9		9	9
7	2	3300.9	34.916	34.916	2	2.535	2.263	27.905	277.1	2	273.8	2	56.0	0.01	2	16.99	2	1.19	2	21.70	2	9	9	9	9			9	9	9	9		9	9
6	2	3497.9	34.909	34.910	2	2.425	2.135	27.911	277.3	2	275.9	2	55.0	0.01	2	17.19	2	1.20	2	23.20	2	9	9	9	9			9	9	9	9		9	9
5	2	3700.0	34.903	34.903	2	2.348	2.038	27.915	276.3	2	275.6	2	56.1	0.01	2	17.28	2	1.21	2	25.30	2	9	9	9	9			9	9	9	9		9	9
4	2	3981.1	34.899	34.898	2	2.301	1.960	27.919	275.2	2	270.2	2	62.2	0.01	2	17.77	2	1.24	2	27.50	2	9	9	9	9			9	9	9	9		9	9
3	2	4300.6	34.893	34.894	2	2.283	1.906	27.922	273.0	2	252.6	4	80.2	0.01	2	18.16	2	1.27	2	30.20	2	9	9	9	9			9	9	9	9		9	9
2	2	4600.2	34.886	34.887	2	2.250	1.838	27.924	269.1	2	268.2	2	65.2	0.01	2	18.94	2	1.32	2	34.80	2	9	9	9	9			9	9	9	9		9	9
1	2	4875.4	34.877	34.877	2	2.210	1.766	27.923	263.6	2	263.3	2	70.8	0.01	6	19.92	6	1.40	6	40.60	6	9	9	9	9			9	9	9	9		9	9

* WOCE water sample quality flag (F) for parameter for the previous column
** WOCE quality flag (F) for "Niskin" sample bottle
*** PSS-78 scale
**** ITS0 scale

A5R
NOAA Ship Ronald H. Brown

STATION 112 DATE 2/21/1998 LATITUDE 26.500° N
LONGITUDE 76.200° W

Bottle Number	F**	Pressure db	CTD Salinity***	Bottle Salinity***	F*	Temp**** °C	Theta °C	Sigma Theta	CTD O2 µmol/kg	F*	Bottle O2 µmol/kg	F*	AOU	NO2 µmol/kg	F*	NO3 µmol/kg	F*	PO4 µmol/kg	F*	Si(OH)4 µmol/kg	F*	CFC-11 pmol/kg	F*	CFC-12 pmol/kg	F*	CFC-113 pmol/kg	F*	CCl4 pmol/kg	F*	fCO2 at 20 °C µatm	fCO2 INSITU µatm	F*	DIC µmol/kg	F*	pH	F*	Measured TA µmol/kg	F*	Calculated TA µmol/kg	TOC µmol/kg	F*	TON µmol/kg	F*
36	2	3.2	36.645	36.644	2	22.773	22.772	25.250	218.1	2	217.0	2	-5.0	0.00	2	0.00	2	0.00	2	0.90	2	1.99	2	1.15	2	0.16	2	2.12	2	283.8	316.8	2	2038.8	2	8.0822	2		5	2388	63.8	2		9
35	2	23.9	36.650	36.651	2	22.762	22.757	25.259	217.3	2	217.4	6	-5.4	0.00	2	0.00	2	0.00	2	0.90	2		9		9		9		9				9		9		9		9	64.2	2		9
34	2	49.5	36.658	36.659	2	22.161	22.151	25.440	219.0	2	217.1	2	-2.8	0.01	2	0.00	2	0.01	2	0.90	2	2.03	2	1.17	2	0.17	2		9	292.0	318.3	2	2042.3	2	8.0830	2	2393	2	2393	66.4	2		9
33	2	75.4	36.652	36.652	2	22.075	22.060	25.462	217.2	2	217.1	2	-2.5	0.01	2	0.00	2	0.01	2	1.00	2		9		9		9		9				9		9		9		9	64.9	2		9
32	2	100.0	36.657	36.658	2	21.955	21.935	25.503	217.0	2	217.7	2	-2.6	0.01	2	0.00	2	0.01	2	1.00	2	2.04	2	1.18	2	0.16	2		9	295.5	319.5	2	2044.9	2	8.0822	2	2401	2	2395	61.3	2		9
31	2	127.0	36.652	36.655	2	21.773	21.748	25.553	217.7	2	218.4	2	-2.6	0.01	2	0.10	2	0.02	2	1.00	2		9		9		9		9	298.4	320.4	2	2045.3	2	8.0795	2		9	2394	59.2	2		9
30	2	149.2	36.652	36.653	2	21.613	21.584	25.601	217.6	2	218.5	2	-2.1	0.01	2	0.00	2	0.02	2	1.00	2	2.07	6	1.19	6	0.16	6		9	299.1	318.9	2	1845.0	3	8.0777	2	2409	2	2169		9		9
29	2	174.7	36.787	36.773	2	21.267	21.233	25.802	212.0	2	210.9	2	6.7	0.07	2	0.29	2	0.02	2	1.00	2		9		9		9		9				9		9		9		9	54.3	2		9
28	2	200.2	36.830	36.823	2	20.105	20.067	26.152	210.7	2	210.5	2	11.6	0.02	2	0.59	2	0.04	2	1.00	2	2.25	2	1.28	2	0.15	2		9			9	2087.8	2	8.0331	2		5	2409		9		9
27	2	249.0	36.731	36.735	2	19.514	19.468	26.236	208.3	2	205.4	2	19.3	0.01	2	1.17	2	0.06	2	1.30	2		9		9		9		9	355.0	347.3	2	2086.8	2	8.0189	2	2397	2	2398	49.1	2		9
26	2	299.7	36.585	36.589	2	18.489	18.436	26.392	199.1	2	199.9	2	29.4	0.01	2	3.32	2	0.14	2	1.50	2	2.32	2	1.28	2	0.03	2		9			9		9		9		9			9		9
25	2	349.8	36.552	36.553	2	18.217	18.156	26.439	205.3	2	204.4	2	26.1	0.01	2	3.61	2	0.17	2	1.60	2		9		9		9		9				9	2094.4	2	7.9940	2	2388	2	2388		9		9
24	2	399.0	36.541	36.542	2	18.088	18.018	26.467	212.8	2	209.3	2	21.8	0.01	2	3.51	2	0.18	2	1.60	2	2.33	2	1.29	2	0.06	2		9			9		9		9		9			9		9
23	2	498.8	36.380	36.380	2	17.204	17.120	26.566	191.7	2	191.2	2	44.2	0.00	2	6.63	2	0.36	2	2.40	2		9		9		9		9	430.7	384.6	2	2110.9	2	7.9474	2	2376	2	2376	43.8	2		9
22	2	600.4	36.047	36.048	2	15.232	15.138	26.770	175.9	2	179.2	2	66.0	0.00	2	10.73	2	0.63	2	4.10	2	1.89	2	1.00	2	0.02	2		9			9	2131.0	2	7.8851	2	2362	2	2359		9		9
21	2	700.4	35.730	35.735	2	13.104	13.005	26.978	166.2	2	162.9	2	93.6	0.00	2	15.52	2	0.94	2	6.50	2		9		9		9		9				9	2152.6	2	7.8124	2	2343	2	2343		9		9
20	2	791.4	35.416	35.422	2	10.744	10.645	27.182	157.3	2	154.5	2	115.7	0.00	2	20.31	2	1.28	2	10.40	2	0.76	2	0.39	2	0.01	2		9			9	2171.9	2		9	2332	2			9		9
19	2	901.4	35.152	35.155	2	8.552	8.453	27.340	149.3	2	148.2	2	135.8	0.00	2	24.61	2	1.61	2	15.40	2		9		9		9		9	727.3	450.5	3	2189.3	2	7.6753	2	2320	2	2317	41.5	2		9
18	2	999.4	35.091	35.094	2	7.453	7.351	27.456	167.7	2	162.9	2	128.4	0.00	2	24.41	2	1.61	2	16.30	2	0.33	6	0.17	6	0.01	6		9	857.5	508.6	2	2190.4	6	7.6698	2	2320	2	2316		9		9
17	2	1200.0	35.085	35.085	2	5.759	5.649	27.678	217.1	2	214.0	2	89.2	0.00	2	20.31	2	1.37	2	14.50	2	0.44	2	0.22	2	0.01	2		9	778.2	425.7	2	2176.0	2	7.7072	2	2318	2	2316		9		9
16	2	1401.0	35.026	35.026	2	4.671	4.553	27.760	250.8	2	248.5	2	62.9	0.00	2	18.16	2	1.22	2	12.80	2	0.97	2	0.48	2	0.04	2		9			9		9		9		9		41.6	2		9
15	2	1598.9	34.992	34.994	2	4.188	4.056	27.788	261.9	2	261.8	2	53.4	0.00	2	17.68	2	1.19	2	12.80	2	1.04	2	0.51	2	0.04	2		9	740.6	375.9	2	2160.1	2	7.7323	2	2306	2	2310	41.6	2		9
14	2	1800.2	34.979	34.979	2	3.944	3.797	27.805	266.8	2	258.8	4	58.5	0.00	2	17.48	2	1.18	2	13.30	2		9		9		9		9				9		9		9		9	41.2	2		9
13	2	2000.2	34.973	34.972	2	3.723	3.560	27.826	269.0	2	268.7	2	50.4	0.00	2	17.38	2	1.18	2	14.40	2	0.74	2	0.37	2	0.03	2	1.41	2			9		9		9		9			9		9
12	2	2194.9	34.973	34.974	2	3.566	3.386	27.844	266.8	2	267.5	2	53.0	0.00	2	17.48	2	1.20	2	16.00	2		9		9		9		9	730.9	359.7	2	2159.1	2	7.7382	2	2314	2	2311		9		9
11	2	2400.0	34.966	34.966	2	3.370	3.173	27.860	267.8	2	267.8	2	54.4	0.00	2	17.78	2	1.20	2	17.70	2	0.33	2	0.17	2	0.01	2	0.86	2			9		9		9		9			9		9
10	2	2599.8	34.954	34.955	2	3.165	2.952	27.872	267.9	2	269.2	2	54.8	0.00	2	17.68	2	1.21	2	18.90	2	0.29	2	0.15	2	0.01	2	0.78	2			9		9		9		9			9		9
9	2	2800.7	34.941	34.942	2	2.954	2.725	27.883	270.5	2	271.5	2	54.4	0.00	2	17.48	2	1.20	2	19.70	2		9		9		9		9	727.1	347.0	2	2161.8	2	7.7396	2	2318	2	2314		9		9
8	2	3001.8	34.931	34.932	2	2.784	2.538	27.892	273.8	2	273.4	2	54.1	0.00	2	17.38	2	1.19	2	20.30	2	0.47	2	0.23	2	0.02	2	0.97	2			9		9		9		9			9		9
7	2	3250.8	34.919	34.919	2	2.576	2.308	27.903	276.1	2	275.5	2	53.9	0.00	2	17.29	2	1.19	2	21.60	2		9		9		9		9				9		9		9		9			9		9
6	2	3495.2	34.909	34.909	2	2.422	2.132	27.911	276.1	2	275.7	2	55.2	0.00	2	17.29	2	1.20	2	23.40	2	0.64	2	0.32	2	0.03	2	1.22	2			9		9		9		9		41.4	2		9
5	2	3731.0	34.904	34.905	2	2.360	2.046	27.915	275.1	2	275.4	2	56.2	0.00	2	17.39	2	1.21	2	25.20	2	0.63	2	0.30	2	0.03	2	1.22	2	733.4	339.7	2	2166.5	2	7.7334	2	2319	2	2317	41.4	2		9
4	2	3998.1	34.898	34.898	2	2.312	1.969	27.919	274.8	2	274.3	2	58.0	0.00	2	17.78	2	1.23	2	27.20	2	0.63	2	0.31	2	0.04	2	1.21	2			9		9		9		9		41.6	2		9
3	2	4211.7	34.896	34.896	2	2.293	1.926	27.921	273.8	2	272.9	2	59.8	0.00	2	18.07	2	1.26	2	28.90	2	0.55	2	0.27	2	0.02	2	1.08	2			9	2171.2	2	7.7304	2	2328	2	2320		9		9
2	2	4493.9	34.890	34.891	2	2.272	1.872	27.923	270.8	2	270.3	2	62.8	0.00	2	18.56	2	1.29	2	32.10	2	0.44	2	0.22	2	0.03	2	0.91	2			9		9		9		9			9		9
1	2	4888.7	34.877	34.877	2	2.210	1.764	27.923	263.0	2	263.7	2	70.4	0.01	6	20.02	6	1.40	6	40.60	6	0.20	2	0.11	2	0.02	2	0.54	2	752.7	344.9	2	2188.7	2	7.7258	2	2341	2	2337		9		9

* WOCE water sample quality flag (F) for parameter for the previous column
** WOCE quality flag (F) for "Niskin" sample bottle
*** PSS-78 scale
**** ITS0 scale

A5R
NOAA Ship Ronald H. Brown

STATION 113 DATE 2/21/1998 LATITUDE 26.483° N
LONGITUDE 76.300° W

Bottle Number	F**	Pressure db	CTD Salinity***	Bottle Salinity***	F*	Temp**** °C	Theta °C	Sigma Theta	CTD O2 µmol/kg	F*	Bottle O2 µmol/kg	F*	AOU	NO2 µmol/kg	F*	NO3 µmol/kg	F*	PO4 µmol/kg	F*	Si(OH)4 µmol/kg	F*	CFC-11 pmol/kg	F*	CFC-12 pmol/kg	F*	CFC-113 pmol/kg	F*	CCl4 pmol/kg	F*	fCO2 at 20 °C µatm	fCO2 INSITU µatm	F*	DIC µmol/kg	F*	pH	F*	Measured TA µmol/kg	F*	Calculated TA µmol/kg	TOC µmol/kg	F*	TON µmol/kg	F*
36	2	3.3	36.656	36.655	2	22.694	22.693	25.280	221.0	2	217.2	2	-4.9	0.00	2	0.00	2	0.00	2	0.90	2		9		9		9		9	287.6	320.0	6	2040.1	6		9	2393	6			9		9
35	2	49.7	36.651	36.650	2	22.064	22.054	25.462	218.2	2	218.4	2	-3.8	0.00	2	0.00	2	0.00	2	0.90	2		9		9		9		9				9		9		9		9			9		9
34	2	100.3	36.658	36.660	2	21.968	21.948	25.500	216.5	2	218.0	2	-3.0	0.00	2	0.00	2	0.01	2	0.90	2		9		9		9		9				9		9		9		9			9		9
33	2	123.2	36.655	36.655	2	21.811	21.787	25.544	217.7	2	218.5	2	-2.8	0.01	2	0.00	2	0.01	2	0.90	2		9		9		9		9				9		9		9		9			9		9
32	2	150.0	36.653	36.655	2	21.655	21.625	25.590	218.5	2	218.9	2	-2.6	0.01	2	0.00	2	0.01	2	0.90	2		9		9		9		9				9		9		9		9			9		9
31	2	200.5	36.815	36.818	2	20.802	20.763	25.953	207.5	2	211.5	2	7.9	0.04	2	0.49	2	0.02	2	0.80	2		9		9		9		9				9		9		9		9			9		9
30	2	225.4	36.828	36.828	2	20.152	20.110	26.141	203.8	2	211.7	2	10.3	0.02	2	0.49	2	0.03	2	0.80	2		9		9		9		9				9		9		9		9			9		9
29	2	251.0	36.738	36.727	2	19.552	19.506	26.233	194.0	2	206.7	2	17.9	0.01	2	1.37	2	0.05	2	0.90	2		9		9		9		9				9		9		9		9			9		9
28	2	274.7	36.645	36.645	2	18.938	18.889	26.322	196.6	2	196.5	2	30.8	0.00	2	2.73	2	0.10	2	1.20	2		9		9		9		9				9		9		9		9			9		9
27	2	298.1	36.624	36.623	2	18.795	18.742	26.344	202.3	2	198.3	2	29.6	0.00	2	2.93	2	0.11	2	1.20	2		9		9		9		9				9		9		9		9			9		9
26	2	344.9	36.569	36.569	2	18.338	18.277	26.422	207.8	2	206.3	2	23.7	0.00	2	3.41	2	0.15	2	1.30	2		9		9		9		9				9		9		9		9			9		9
25	2	398.7	36.544	36.545	2	18.105	18.035	26.465	202.6	2	210.1	2	21.0	0.00	2	3.51	2	0.17	2	1.40	2		9		9		9		9				9		9		9		9			9		9
24	2	499.3	36.392	36.400	2	17.286	17.201	26.556	190.7	2	191.1	2	43.9	0.00	2	6.54	2	0.34	2	2.20	2		9		9		9		9				9		9		9		9			9		9
23	2	600.1	36.036	36.040	2	15.202	15.108	26.769	180.7	2	176.6	2	68.7	0.00	2	11.22	2	0.65	2	4.20	2		9		9		9		9				9		9		9		9			9		9
22	2	699.8	35.640	35.653	2	12.501	12.405	27.027	161.6	2	161.0	2	98.9	0.00	2	16.89	2	1.03	2	7.60	2		9		9		9		9				9		9		9		9			9		9
21	2	799.7	35.398	35.404	2	10.695	10.595	27.177	150.9	2	150.8	2	119.7	0.00	2	21.19	2	1.33	2	11.10	2		9		9		9		9				9		9		9		9			9		9
20	2	900.2	35.189	35.189	2	8.872	8.771	27.319	150.4	2	148.4	2	133.5	0.00	2	24.32	2	1.58	2	15.10	2		9		9		9		9				9		9		9		9			9		9
19	2	999.3	35.071	35.075	2	7.301	7.200	27.461	165.6	2	163.7	2	128.7	0.00	2	24.90	2	1.64	2	17.30	2		9		9		9		9				9		9		9		9			9		9
18	2	1150.6	35.087	35.088	2	5.963	5.857	27.653	205.6	2	206.1	2	95.6	0.00	2	21.29	2	1.42	2	15.20	2		9		9		9		9				9		9		9		9			9		9
17	2	1298.8	35.061	35.065	2	5.110	4.997	27.738	236.5	2	236.5	2	71.5	0.00	2	19.14	2	1.28	2	13.60	2		9		9		9		9				9		9		9		9			9		9
16	2	1449.3	35.019	35.021	2	4.542	4.420	27.769	253.5	2	253.7	2	58.7	0.00	2	18.26	2	1.22	2	13.00	2		9		9		9		9				9		9		9		9			9		9
15	2	1596.6	34.991	34.992	2	4.186	4.055	27.787	261.7	2	262.8	2	52.4	0.00	2	17.87	2	1.20	2	13.20	2		9		9		9		9				9		9		9		9			9		9
14	2	1749.0	34.982	34.982	2	3.974	3.831	27.804	266.8	2	266.4	2	50.6	0.00	2	17.78	2	1.19	2	13.70	2		9		9		9		9				9		9		9		9			9		9
13	2	1892.7	34.974	34.974	2	3.817	3.662	27.816	267.6	2	268.6	2	49.7	0.00	2	17.68	2	1.19	2	14.30	2		9		9		9		9				9		9		9		9			9		9
12	2	2044.5	34.973	34.974	2	3.692	3.525	27.830	267.4	2	268.5	2	50.9	0.00	2	17.68	2	1.20	2	15.20	2		9		9		9		9				9		9		9		9			9		9
11	2	2198.5	34.970	34.970	2	3.541	3.361	27.844	268.5	2	268.5	2	52.2	0.00	2	17.68	2	1.21	2	16.50	2		9		9		9		9				9		9		9		9			9		9
10	2	2394.1	34.965	34.966	2	3.365	3.169	27.859	267.7	2	268.0	2	54.3	0.00	2	17.78	2	1.22	2	18.30	2		9		9		9		9				9		9		9		9			9		9
9	2	2596.9	34.953	34.952	2	3.148	2.936	27.873	268.5	2	269.9	2	54.3	0.00	2	17.78	2	1.22	2	19.40	2		9		9		9		9				9		9		9		9			9		9
8	2	2798.4	34.941	34.941	2	2.948	2.719	27.884	270.5	2	271.2	2	54.8	0.00	2	17.68	2	1.22	2	20.60	2		9		9		9		9				9		9		9		9			9		9
7	2	3098.2	34.927	34.926	2	2.693	2.439	27.898	273.7	2	274.6	2	53.7	0.00	2	17.48	2	1.20	2	21.70	2		9		9		9		9				9		9		9		9			9		9
6	2	3394.4	34.915	34.914	2	2.497	2.216	27.908	276.4	2	276.1	2	54.1	0.00	2	17.29	2	1.20	2	23.30	2		9		9		9		9				9		9		9		9			9		9
5	2	3699.2	34.906	34.905	2	2.375	2.064	27.915	275.3	2	275.7	2	55.8	0.00	2	17.48	2	1.22	2	25.80	2		9		9		9		9				9		9		9		9			9		9
4	2	3998.9	34.900	34.899	2	2.311	1.968	27.920	274.8	2	274.1	2	58.2	0.00	2	17.87	2	1.25	2	28.70	2		9		9		9		9				9		9		9		9			9		9
3	2	4298.2	34.895	34.894	2	2.286	1.909	27.922	272.5	2	272.4	2	60.4	0.00	2	18.27	2	1.28	2	31.50	2		9		9		9		9				9		9		9		9			9		9
2	2	4597.5	34.890	34.888	2	2.266	1.854	27.925	268.5	2	268.8	2	64.5	0.00	2	18.95	2	1.33	2	35.90	2		9		9		9		9				9		9		9		9			9		9
1	2	4909.2	34.877	34.876	2	2.206	1.758	27.925	261.6	2	263.0	6	71.1	0.01	6	20.22	2	1.45	2	44.00	6		9		9		9		9				9		9	8.0896	6		9			9		9

* WOCE water sample quality flag (F) for parameter for the previous column
** WOCE quality flag (F) for "Niskin" sample bottle
*** PSS-78 scale
**** ITS0 scale

A5R
NOAA Ship Ronald H. Brown

STATION 114 DATE 2/21/1998 LATITUDE 26.505° N
LONGITUDE 76.422° W

Bottle Number	F**	Pressure db	CTD Salinity***	Bottle Salinity***	F*	Temp**** °C	Theta °C	Sigma Theta	CTD O2 µmol/kg	F*	Bottle O2 µmol/kg	F*	AOU	NO2 µmol/kg	F*	NO3 µmol/kg	F*	PO4 µmol/kg	F*	Si(OH)4 µmol/kg	F*	CFC-11 pmol/kg	F*	CFC-12 pmol/kg	F*	CFC-113 pmol/kg	F*	CCl4 pmol/kg	F*	fCO2 at 20 °C µatm	fCO2 INSITU µatm	F*	DIC µmol/kg	F*	pH	F*	Measured TA µmol/kg	F*	Calculated TA µmol/kg	TOC µmol/kg	F*	TON µmol/kg	F*
36	2	3.5	36.662	36.663	2	22.647	22.646	25.299	215.0	2	217.4	2	-5.0	0.00	2	0.00	2	0.00	2	0.60	2	2.01	2	1.16	2	0.17	2	2.12	2	285.0	316.6	2	2040.5	6	8.0895	2	2397	2	2396	65.9	2		9
35	2	35.7	36.656	36.656	2	22.518	22.511	25.335	215.8	2	207.0	4	5.9	0.00	2	0.00	2	0.00	2	0.60	2	2.01	2	1.16	2	0.16	2		9			9	2038.8	2		9	2392	2		65.3	2		9
34	2	69.5	36.660	36.659	2	22.167	22.153	25.442	217.1	2	202.5	4	11.8	0.00	2	0.00	2	0.01	2	0.60	2		9		9		9		9	289.8	315.9	2	2047.4	2	8.0844	2	2399	2	2399	64.7	2		9
33	2	103.9	36.672	36.672	2	22.071	22.050	25.482	217.6	2	214.6	2	0.0	0.00	2	0.00	2	0.01	2	0.50	2	2.09	2	1.20	2	0.17	2		9	291.5	316.6	2	2045.0	2	8.0814	2	2398	2	2395	63.2	2		9
32	2	139.3	36.685	36.683	2	21.970	21.942	25.525	217.6	2	214.3	2	0.7	0.01	2	0.00	2	0.01	2	0.50	2		9		9		9		9			9	2047.5	2	8.0786	2	2394	2	2396	62.7	2		9
31	2	176.0	36.685	36.687	2	21.554	21.519	25.645	212.2	2	210.0	2	6.6	0.06	2	0.00	2	0.03	2	0.50	2	2.09	2	1.20	2	0.16	2		9	302.9	322.3	2	2052.5	2	8.0709	2		9	2396	61.9	2		9
30	2	211.6	36.785	36.783	2	20.318	20.278	26.061	198.1	2	201.9	2	19.5	0.02	2	0.98	2	0.03	2	0.50	2		9		9		9		9	351.3	355.8	2	2088.8	2	8.0215	2	2405	2	2402	55.0	2		9
29	2	225.6	36.766	36.764	2	19.943	19.901	26.148	196.3	2	198.3	2	24.6	0.02	2	1.37	2	0.05	2	0.40	2	2.25	2	1.27	2	0.08	2		9	358.6	357.8	2	2093.3	2	8.0112	2		9	2400	52.8	2		9
28	2	251.7	36.688	36.685	2	19.293	19.247	26.262	193.2	2	191.5	2	34.2	0.01	2	2.24	2	0.07	2	0.50	2		9		9		9		9			9	2096.3	2		9	2403	2			9		9
27	2	275.5	36.612	36.621	2	18.696	18.647	26.358	193.0	2	200.6	2	27.7	0.01	2	2.83	2	0.10	2	0.70	2	2.30	2	1.29	2	0.04	2		9	372.0	353.0	2	2095.0	2	7.9980	2		9	2392	47.6	2		9
26	2	299.7	36.583	36.582	2	18.457	18.404	26.398	203.8	2	200.2	2	29.2	0.01	2	3.12	2	0.12	2	0.70	2	2.34	2	1.31	2	0.04	2		9	375.4	352.7	2	2090.9	2	8.0012	2	2390	2	2389		9		9
25	2	350.9	36.578	36.578	2	18.290	18.228	26.441	212.7	2	209.1	2	21.1	0.01	2	2.83	2	0.12	2	0.70	2	2.35	2	1.32	2	0.06	2		9			9	2088.6	2		9	2395	2		46.0	2		9
24	2	400.8	36.552	36.554	2	18.121	18.051	26.467	211.3	2	209.8	2	21.2	0.01	2	3.22	2	0.14	2	0.80	2	2.37	6	1.33	6	0.06	6		9	370.4	343.3	2	2091.2	2	8.0002	2	2386	2	2389		9		9
23	2	446.6	36.506	36.511	2	17.890	17.812	26.493	210.1	2	206.3	2	25.8	0.01	2	4.10	2	0.20	2	1.10	2	2.31	2	1.28	2	0.05	2		9			9	2096.8	2	7.9856	2	2391	2	2385	41.9	2		9
22	3	501.4	36.350	36.350	2	17.037	16.953	26.583	190.6	2	185.2	2	51.0	0.00	2	7.22	2	0.38	2	2.00	2		9		9		9		9	438.3	388.7	2	2114.4	2	7.9407	2	2374	2	2375		9		9
21	3	550.5	36.212	36.214	2	16.210	16.120	26.674	180.6	2	179.0	2	61.2	0.00	2	9.07	2	0.50	2	2.60	2	1.99	2	1.05	2	0.02	2		9			9	2122.9	2		9	2378	2		41.6	2		9
20	2	650.6	35.802	35.802	2	13.602	13.508	26.930	168.6	2	157.0	3	96.7	0.01	2	14.74	2	0.87	2	5.50	2		9		9		9		9	586.1	451.3	2	2147.3	2	7.8250	2		9	2344		9		9
19	2	748.1	35.481	35.485	2	11.336	11.239	27.125	161.3	2	154.6	2	112.0	0.00	2	19.62	2	1.21	2	9.20	2	0.89	2	0.47	2	0.01	2		9	695.5	486.8	2	2165.5	2	7.7528	2		5	2327	41.3	2		9
18	2	849.3	35.264	35.264	2	9.513	9.414	27.274	151.1	2	149.6	2	128.2	0.00	2	23.24	2	1.47	2	13.00	2		9		9		9		9	801.1	519.6	2	2181.2	2	7.7008	2		5	2320		9		9
17	2	951.5	35.094	35.095	2	7.732	7.633	27.417	157.3	2	156.7	2	132.8	0.00	2	25.10	2	1.63	2	16.40	2	0.30	2	0.15	2	0.01	2		9	864.8	519.4	2	2182.0	3	7.6671	2		5	2306		9		9
16	2	1052.9	35.074	35.075	2	6.601	6.499	27.560	183.8	2	184.3	2	112.9	0.00	2	23.15	2	1.51	2	15.50	2		9		9		9		9	834.5	475.5	2	2187.8	6	7.6838	2	2326	2	2318		9		9
15	2	1149.8	35.079	35.082	2	5.954	5.848	27.648	206.1	2	207.0	2	94.7	0.00	2	21.29	2	1.39	2	14.40	2	0.43	2	0.22	2	0.01	2		9			9	2177.0	2	7.7040	2		9	2316	41.6	2		9
14	2	1349.7	35.040	35.043	2	4.828	4.713	27.753	246.3	2	242.2	2	67.9	0.00	2	18.65	2	1.23	2	12.40	2		9		9		9		9	744.0	389.1	2	2167.5	2	7.7235	2		9	2314		9		9
13	2	1546.3	34.986	34.987	2	4.182	4.055	27.782	262.7	2	253.8	2	61.4	0.00	2	17.87	2	1.17	2	12.20	2	1.25	6	0.61	6	0.06	6		9			9	2163.4	2	7.7274	2	2310	2	2311	41.9	2		9
12	2	1746.4	34.980	34.982	2	3.974	3.831	27.802	267.7	2	234.3	4	82.7	0.00	2	17.78	2	1.17	2	12.90	2	0.94	2	0.46	2	0.04	2		9	730.5	366.6	2	2161.0	2	7.7326	2	2319	2	2311		9		9
11	2	1948.3	34.974	34.974	2	3.755	3.596	27.823	268.3	2	257.5	4	61.3	0.00	2	17.78	2	1.17	2	14.10	2		9		9		9		9			9	2159.9	2	7.7350	2	2311	2	2310	41.5	2		9
10	2	2148.7	34.971	34.972	2	3.587	3.411	27.839	267.1	2	267.8	2	52.5	0.01	2	17.87	2	1.18	2	15.40	2	0.53	2	0.26	2	0.02	2		9	714.8	351.6	2	2161.2	2	7.7370	2		9	2313		9		9
9	2	2399.5	34.962	34.962	2	3.326	3.130	27.861	267.3	2	250.0	4	72.6	0.00	2	17.97	2	1.19	2	17.60	2		9		9		9		9			9	2162.7	2		9		9		42.0	2		9
8	2	2649.9	34.949	34.950	2	3.079	2.863	27.876	268.5	2	256.7	4	68.1	0.01	2	17.87	2	1.19	2	19.00	2	0.34	2	0.17	2	0.01	2	0.85	2	714.6	342.8	2	2163.2	2	7.7398	2		9	2316		9		9
7	2	2900.9	34.937	34.936	2	2.866	2.628	27.888	271.1	2	269.6	2	57.1	0.01	2	17.68	2	1.18	2	19.40	2		9		9		9		9			9	2163.8	2		9	2317	2		41.5	2		9
6	2	3200.7	34.922	34.924	2	2.637	2.373	27.900	274.6	2	260.6	4	68.2	0.01	2	17.29	2	1.18	2	20.00	2	0.56	2	0.28	2	0.02	2	1.13	6			9	2157.6	2	7.7370	2		9	2309		9		9
5	2	3496.6	34.912	34.911	2	2.455	2.164	27.911	275.7	2	272.7	2	57.9	0.01	2	17.39	2	1.19	2	22.00	2		9		9		9	1.24	2	724.3	337.1	2	2164.7	2	7.7354	2	2325	2	2315		9		9
4	2	3789.8	34.903	34.903	2	2.342	2.022	27.917	275.2	2	268.4	4	63.4	0.01	2	17.68	2	1.23	2	24.40	2	0.67	2	0.33	2	0.03	2	1.24	6			9	2171.0	2		9		9			9		9
3	2	4099.6	34.898	34.898	2	2.301	1.947	27.921	273.1	2	272.7	2	59.8	0.01	2	18.07	2	1.25	2	27.30	2	0.59	2	0.29	2	0.03	2	1.12	2	735.0	339.1	6	2174.1	2	7.7327	2		5	2324	41.7	2		9
2	2	4496.3	34.891	34.891	2	2.268	1.868	27.924	270.3	2	266.1	2	67.1	0.01	2	18.75	2	1.29	2	31.80	2	0.52	6	0.26	6	0.03	6	0.88	2	732.7	337.0	2	2180.0	2	7.7310	2		9	2330		9		9
1	2	4910.5	34.875	34.876	2	2.188	1.740	27.924	261.2	2	260.2	2	74.1	0.01	2	20.41	2	1.41	2	41.50	2	0.17	2	0.10	2	0.02	2	0.48	2	758.4	347.1	2	2191.9	2	7.7248	2		9	2340	41.8	2		9

* WOCE water sample quality flag (F) for parameter for the previous column
** WOCE quality flag (F) for "Niskin" sample bottle
*** PSS-78 scale
**** ITS0 scale

A5R
NOAA Ship Ronald H. Brown

STATION 115 DATE 2/21/1998 LATITUDE 26.500° N
LONGITUDE 76.517° W

Bottle Number	F**	Pressure db	CTD Salinity***	Bottle Salinity***	F*	Temp**** °C	Theta °C	Sigma Theta	CTD O2 µmol/kg	F*	Bottle O2 µmol/kg	F*	AOU	NO2 µmol/kg	F*	NO3 µmol/kg	F*	PO4 µmol/kg	F*	Si(OH)4 µmol/kg	F*	CFC-11 pmol/kg	F*	CFC-12 pmol/kg	F*	CFC-113 pmol/kg	F*	CCl4 pmol/kg	F*	fCO2 at 20 °C µatm	fCO2 INSITU µatm	F*	DIC µmol/kg	F*	pH	F*	Measured TA µmol/kg	F*	Calculated TA µmol/kg	TOC µmol/kg	F*	TON µmol/kg	F*
36	2	4.3	36.443	36.448	2	23.579	23.578	24.861	211.0	2	215.7	2	-6.4	0.00	2	0.00	2	0.00	2	1.40	3		9		9		9		9	289.3	333.4	6	2035.5	2	8.0843	6	2388	6	2384		9		9
35	2	47.7	36.595	36.613	2	23.051	23.041	25.137	208.0	2	211.1	6	-0.1	0.08	2	0.00	2	0.00	2		4		9		9		9		9				9		9		9		9				9		9
34	2	101.1	36.656	36.657	2	22.103	22.083	25.461	214.6	2	216.4	2	-1.9	0.02	2	0.10	2	0.00	2	1.60	3		9		9		9		9				9		9		9		9				9		9
33	2	126.5	36.662	36.662	2	21.907	21.882	25.523	213.0	2	218.7	2	-3.4	0.00	2	0.00	2	0.02	2	1.60	3		9		9		9		9				9		9		9		9				9		9
32	2	173.7	36.900	36.902	2	21.445	21.411	25.838	198.1	2	198.4	2	18.3	0.02	2	0.68	2	0.02	2	1.50	3		9		9		9		9				9		9		9		9				9		9
31	2	216.3	36.742	36.746	2	19.802	19.762	26.166	196.0	2	197.5	2	26.0	0.01	2	1.37	2	0.03	2	1.70	3		9		9		9		9				9		9		9		9				9		9
30	2	241.3	36.687	36.682	2	19.299	19.255	26.258	197.2	2	199.3	2	26.4	0.01	2	1.85	2	0.05	2	1.70	3		9		9		9		9				9		9		9		9				9		9
29	2	266.8	36.612	36.608	2	18.692	18.644	26.358	199.6	2	203.3	2	25.0	0.01	2	2.83	2	0.10	2	1.70	3		9		9		9		9				9		9		9		9				9		9
28	2	290.8	36.577	36.575	2	18.394	18.343	26.409	201.8	2	206.5	2	23.2	0.01	2	3.22	2	0.12	2	1.90	3		9		9		9		9				9		9		9		9				9		9
27	2	319.6	36.560	36.561	2	18.233	18.177	26.438	206.6	2	209.4	2	21.0	0.01	2	3.22	2	0.14	2	2.50	3		9		9		9		9				9		9		9		9				9		9
26	2	351.5	36.553	36.551	2	18.155	18.093	26.456	208.6	2	211.0	2	19.8	0.01	2	3.32	2	0.15	2	3.20	3		9		9		9		9				9		9		9		9				9		9
25	2	402.4	36.536	36.537	2	18.034	17.964	26.477	211.0	2	210.7	2	20.7	0.01	2	3.61	2	0.16	2	3.20	3		9		9		9		9				9		9		9		9				9		9
24	2	450.1	36.475	36.474	2	17.704	17.626	26.515	204.4	2	204.0	2	29.0	0.00	2	4.78	2	0.23	2	3.40	3		9		9		9		9				9		9		9		9				9		9
23	2	499.9	36.299	36.312	2	16.735	16.652	26.616	186.7	2	185.6	2	52.0	0.00	2	7.80	2	0.42	2	4.30	3		9		9		9		9				9		9		9		9				9		9
22	2	601.8	35.961	35.962	2	14.671	14.579	26.826	170.3	2	168.1	2	79.9	0.00	2	12.88	2	0.75	2	6.40	3		9		9		9		9				9		9		9		9				9		9
21	2	700.6	35.568	35.575	2	11.998	11.904	27.067	157.1	2	154.1	2	108.6	0.00	2	18.54	2	1.14	2	10.10	3		9		9		9		9				9		9		9		9				9		9
20	2	800.3	35.322	35.329	2	10.128	10.031	27.215	148.7	2	149.7	2	124.3	0.00	2	22.25	2	1.41	2	13.80	3		9		9		9		9				9		9		9		9				9		9
19	2	900.2	35.148	35.148	2	8.366	8.268	27.364	153.9	2	153.0	2	132.2	0.00	2	24.60	2	1.60	2	17.30	3		9		9		9		9				9		9		9		9				9		9
18	2	997.8	35.085	35.080	2	6.888	6.790	27.528	174.1	2	175.3	2	119.9	0.00	2	23.82	2	1.57	2	17.80	3		9		9		9		9				9		9		9		9				9		9
17	2	1201.9	35.066	35.066	2	5.334	5.228	27.713	229.1	2	230.9	2	75.4	0.00	2	19.33	2	1.30	2	14.90	3		9		9		9		9				9		9		9		9				9		9
16	2	1400.8	35.010	35.010	2	4.481	4.365	27.768	255.0	2	255.1	2	57.7	0.00	2	18.06	2	1.21	2	14.40	3		9		9		9		9				9		9		9		9				9		9
15	2	1599.7	34.997	34.998	2	4.181	4.049	27.793	262.3	2	231.6	4	83.7	0.00	2	17.77	2	1.19	2	14.80	3		9		9		9		9				9		9		9		9				9		9
14	2	1801.9	34.991	34.991	2	4.003	3.855	27.809	264.0	2	216.6	4	100.2	0.00	2	17.77	2	1.19	2	15.40	3		9		9		9		9				9		9		9		9				9		9
13	2	2000.9	34.952	34.953	2	3.636	3.474	27.817	271.7	2	255.1	4	64.8	0.00	2	17.38	2	1.17	2	15.60	3		9		9		9		9				9		9		9		9				9		9
12	2	2201.2	34.965	34.953	2	3.520	3.340	27.842	269.3	2	267.9	2	53.0	0.00	2	17.57	2	1.19	2	17.40	2		9		9		9		9				9		9		9		9				9		9
11	2	2400.4	34.965	34.966	2	3.381	3.184	27.859	267.4	2	254.2	4	67.9	0.00	2	17.77	2	1.20	2	18.90	2		9		9		9		9				9		9		9		9				9		9
10	2	2600.8	34.954	34.954	2	3.169	2.956	27.872	268.4	2	244.9	4	79.1	0.00	2	17.77	2	1.21	2	20.00	2		9		9		9		9				9		9		9		9				9		9
9	2	2798.9	34.939	34.939	2	2.954	2.725	27.881	270.9	2	244.6	4	81.3	0.00	2	17.48	2	1.19	2	20.40	2		9		9		9		9				9		9		9		9				9		9
8	2	2984.5	34.932	34.933	2	2.811	2.566	27.891	272.5	2	245.2	4	82.0	0.00	2	17.48	2	1.19	2	21.30	2		9		9		9		9				9		9		9		9				9		9
7	2	3199.8	34.923	34.923	2	2.658	2.394	27.900	274.7	2	269.9	2	58.8	0.00	2	17.38	2	1.19	2	21.90	2		9		9		9		9				9		9		9		9				9		9
6	2	3395.7	34.915	34.914	2	2.513	2.231	27.907	275.9	2	260.8	4	69.3	0.00	2	17.28	2	1.19	2	22.80	2		9		9		9		9				9		9		9		9				9		9
5	2	3699.7	34.905	34.905	2	2.382	2.071	27.914	274.6	2	252.9	4	78.5	0.00	2	17.48	2	1.21	2	25.00	2		9		9		9		9				9		9		9		9				9		9
4	2	3998.9	34.900	34.900	2	2.325	1.982	27.919	274.5	2	264.1	4	68.1	0.00	2	17.77	2	1.23	2	27.10	2		9		9		9		9				9		9		9		9				9		9
3	2	4299.0	34.896	34.895	2	2.305	1.928	27.922	272.9	2	271.4	2	61.3	0.00	2	18.16	2	1.25	2	29.30	2		9		9		9		9				9		9		9		9				9		9
2	2	4600.4	34.892	34.892	2	2.296	1.883	27.925	270.9	2	245.1	4	87.9	0.00	2	18.55	2	1.28	2	31.70	2		9		9		9		9				9		9		9		9				9		9
1	2	4918.5	34.875	34.876	2	2.199	1.750	27.924	261.8	2	261.9	2	72.3	0.01	6	20.21	6	1.41	6	41.70	6		9		9		9		9				9		9		9		9				9		9

* WOCE water sample quality flag (F) for parameter for the previous column
** WOCE quality flag (F) for "Niskin" sample bottle
*** PSS-78 scale
**** ITS0 scale

A5R
NOAA Ship Ronald H. Brown

STATION 116 DATE 2/21/1998 LATITUDE 26.500° N
LONGITUDE 76.617° W

Bottle Number	F**	Pressure db	CTD Salinity***	Bottle Salinity***	F*	Temp**** °C	Theta °C	Sigma Theta	CTD O2 µmol/kg	F*	Bottle O2 µmol/kg	F*	AOU	NO2 µmol/kg	F*	NO3 µmol/kg	F*	PO4 µmol/kg	F*	Si(OH)4 µmol/kg	F*	CFC-11 pmol/kg	F*	CFC-12 pmol/kg	F*	CFC-113 pmol/kg	F*	CCl4 pmol/kg	F*	fCO2 at 20 °C µatm	fCO2 INSITU µatm	F*	DIC µmol/kg	F*	pH	F*	Measured TA µmol/kg	F*	Calculated TA µmol/kg	TOC µmol/kg	F*	TON µmol/kg	F*
36	2	4.3	36.548	36.547	2	23.302	23.301	25.023	212.1	2	215.2	2	-5.0	0.00	2	0.00	2	0.01	2	0.90	2	1.99	2	1.15	2	0.16	2	2.04	2	284.0	323.7	2	2037.2	2	8.0885	2		5	2390	66.5	2	4.2	2
35	2	39.0	36.578	36.583	2	23.099	23.091	25.108	213.3	2	212.0	2	-1.1	0.06	2	0.00	2	0.02	2	0.90	2		9		9		9		9			9		9		9		9		66.4	2	4.4	2
34	2	91.5	36.684	36.696	2	22.849	22.830	25.268	201.1	2	207.1	2	4.6	0.09	2	0.19	2	0.02	2	0.90	2	1.97	2	1.14	2	0.16	2		9	299.0	334.8	2	2052.0	2	8.0759	2		5	2399	62.3	2	4.4	2
33	2	141.0	36.879	36.880	2	21.823	21.795	25.713	193.3	2	196.1	2	19.2	0.03	2	0.97	2	0.04	2	0.80	2		9		9		9		9	335.6	360.8	2	2087.1	2	8.0356	2	2406	2	2411	58.1	2	4.5	2
32	2	201.4	36.776	36.768	2	20.107	20.069	26.110	192.5	2	193.0	2	29.2	0.01	2	1.75	2	0.05	2	0.90	2	2.23	2	1.25	2	0.05	2		9	363.7	365.3	2	2100.0	2	8.0064	2		5	2404	52.0	2	5.5	2
31	2	227.7	36.702	36.696	2	19.434	19.392	26.233	192.6	2	195.6	2	29.5	0.01	2	2.14	2	0.07	2	1.00	2	2.29	2	1.28	2	0.05	2		9			9		9		9		9		50.4	2	5.6	2
30	2	250.3	36.651	36.642	2	19.003	18.958	26.307	191.7	2	197.2	2	29.8	0.01	2	2.73	2	0.10	2	1.10	2	2.29	2	1.28	2	0.04	2		9			9		9		9				9		9
29	2	273.5	36.611	36.608	2	18.664	18.615	26.365	190.2	2	196.8	2	31.7	0.01	2	3.41	2	0.13	2	1.20	2	2.31	2	1.28	2	0.03	2		9	376.9	357.1	2	2100.8	2	7.9889	2	2389	2	2392	47.8	2	7.1	2
28	2	299.8	36.588	36.582	2	18.469	18.416	26.399	192.4	2	195.8	2	33.6	0.01	2	4.00	2	0.18	2	1.40	2	2.27	2	1.25	2	0.02	2		9			9		9		9		9			9		9
27	2	351.9	36.544	36.541	2	18.175	18.113	26.444	193.7	2	195.3	2	35.4	0.01	2	4.58	2	0.22	2	1.60	2	2.29	2	1.25	2	0.03	2		9	391.9	364.1	2	2105.3	2	7.9766	2		5	2389	45.8	2	8.0	2
26	2	402.1	36.479	36.477	2	17.769	17.700	26.498	193.1	2	193.7	2	38.9	0.00	2	5.56	2	0.27	2	1.90	2	2.19	6	1.20	6	0.03	6		9			9		9		9		9			9		9
25	2	450.9	36.385	36.384	2	17.227	17.151	26.560	185.0	2	187.2	2	48.0	0.01	2	7.02	2	0.37	2	2.30	2		1		1	0.03	2		9	428.3	382.9	2	2117.3	2	7.9428	2	2376	2	2380	43.9	2	10.4	2
24	2	502.6	36.202	36.201	2	16.151	16.070	26.676	181.1	2	179.3	2	61.2	0.00	2	9.46	2	0.53	2	3.30	2	1.93	2	1.03	2	0.02	2		9			9		9		9		9			9		9
23	2	548.7	36.066	36.057	2	15.327	15.241	26.761	174.1	2	172.9	2	71.7	0.00	2	11.51	2	0.66	2	4.20	2		9		9		9		9			9		9		9		9		42.6	2		9
22	2	652.1	35.701	35.698	2	12.950	12.858	26.984	161.5	2	160.2	2	97.1	0.00	2	16.68	2	1.02	2	7.20	2	1.28	2	0.67	2	0.01	2		9			9		9		9		9			9		9
21	2	749.9	35.417	35.406	2	10.877	10.782	27.157	149.2	2	150.4	2	119.0	0.00	2	21.27	2	1.33	2	11.10	2		9		9		9		9	731.5	502.9	2	2177.1	2	7.7320	2	2329	2	2329	41.8	2	23.7	2
20	2	849.9	35.190	35.189	2	8.872	8.777	27.318	149.0	2	149.1	2	132.8	0.00	2	24.60	2	1.58	2	15.00	2	0.35	2	0.19	2	0.00	2		9	828.7	522.9	2	2189.7	2	7.6831	2	2322	2	2321			9		9
19	2	950.2	35.065	35.067	2	7.125	7.030	27.479	164.8	2	165.4	2	128.2	0.00	2	24.99	2	1.65	2	17.40	2		9		9		9		9	872.1	510.0	2	2193.0	6	7.6673	2	2317	2	2317			9		9
18	2	1102.5	35.089	35.089	2	5.923	5.822	27.659	214.2	2	213.1	2	88.8	0.00	2	20.60	2	1.36	2	14.10	2		9		9		9		9	784.3	432.3	2	2180.8	2	7.7060	2	2318	2	2320			9		9
17	2	1301.1	35.029	35.029	2	4.662	4.553	27.761	251.9	2	250.2	2	61.1	0.00	2	18.55	2	1.23	2	12.90	2		9		9		9		9			9	2169.0	2		9		9			9		9
16	2	1499.7	34.977	34.980	2	4.037	3.916	27.790	265.5	2	264.8	2	51.5	0.00	2	17.86	2	1.19	2	13.00	2	1.19	6	0.59	6	0.05	6		9	741.9	373.7	2	2163.3	2	7.7289	2	2318	2	2311			9		9
15	2	1700.7	34.966	34.967	2	3.902	3.764	27.797	267.8	2	268.0	2	49.5	0.00	2	17.67	2	1.18	2	13.20	2	1.24	2	0.61	2	0.06	2		9			9		9		9		9			9		9
14	2	1896.8	34.963	34.963	2	3.809	3.654	27.808	267.6	2	269.7	2	48.7	0.00	2	17.67	2	1.18	2	13.50	2		9		9		9		9	724.8	360.8	2	2161.6	2	7.7321	2	2310	2	2311			9		9
13	2	2101.9	34.981	34.983	2	3.802	3.627	27.827	265.5	2	266.1	2	52.5	0.00	2	17.86	2	1.21	2	14.70	2	0.63	2	0.32	2	0.03	2		9	722.6	359.4	2	2161.9	2	7.7357	2	2307	3	2313			9		9
12	2	2299.8	34.958	34.959	2	3.486	3.297	27.842	269.4	2	270.7	2	50.5	0.00	2	17.67	2	1.20	2	15.70	2		9		9		9		9			9		9		9		9			9		9
11	2	2499.8	34.958	34.958	2	3.295	3.090	27.862	268.0	2	269.3	2	53.6	0.00	2	17.77	2	1.21	2	17.90	2	0.43	2	0.22	2	0.02	2		9	727.8	353.1	2	2160.1	2	7.7385	2	2314	2	2312	41.0	2		9
10	2	2700.0	34.945	34.945	2	3.051	2.830	27.876	269.7	2	270.8	2	54.2	0.00	2	17.67	2	1.20	2	19.00	2	0.50	2	0.24	2	0.02	2	1.00	6			9	2161.2	2	7.7379	2	2317	2	2313			9		9
9	2	2897.8	34.939	34.938	2	2.943	2.704	27.884	270.0	2	271.9	2	54.2	0.00	2	17.57	2	1.20	2	19.50	2		9		9		9		9			9		9		9		9			9		9
8	2	3101.5	34.929	34.929	2	2.759	2.503	27.894	272.4	2	273.3	2	54.5	0.00	2	17.57	2	1.19	2	20.80	2	0.61	6	0.30	6	0.02	6	1.05	2			9	2162.3	2	7.7382	2	2316	2	2314			9		9
7	2	3302.3	34.919	34.919	2	2.603	2.329	27.902	274.6	2	274.8	6	54.4	0.00	2	17.47	2	1.22	2	21.80	2		9		9		9		9			9		9		9		9			9		9
6	2	3501.6	34.912	34.913	2	2.487	2.195	27.909	275.6	2	275.5	2	54.9	0.00	2	17.48	2	1.20	2	23.00	2	0.64	2	0.31	2	0.03	2	1.23	2			9	2165.5	2	7.7349	2	2323	2	2316			9		9
5	2	3696.4	34.906	34.906	2	2.394	2.083	27.914	274.8	2	275.7	2	55.6	0.00	2	17.57	2	1.21	2	24.70	2		9		9		9		9			9	2167.6	2	7.7343	2	2319	2	2318			9		9
4	2	3901.8	34.902	34.901	2	2.347	2.014	27.917	274.3	2	274.0	2	57.9	0.00	2	17.87	2	1.22	2	26.40	2	0.66	2	0.32	2	0.03	2	1.21	2			9		9		9		9			9		9
3	2	4187.9	34.897	34.898	2	2.318	1.953	27.920	273.1	2	273.1	2	59.3	0.00	2	18.06	2	1.25	2	28.30	2		9		9		9		9	736.3	339.9	6	2171.7	2	7.7317	2	2325	2	2321			9		9
2	3	4500.6	34.892	34.893	2	2.295	1.894	27.924	270.0	2	270.3	2	62.6	0.00	2	18.55	2	1.29	2	31.70	2	0.48	2	0.24	2	0.03	2	0.96	2			9	2175.3	2	7.7309	2	2328	2	2325			9		9
1	2	4805.9	34.890	34.891	2	2.305	1.866	27.926	268.7	2	268.8	2	64.4	0.01	6	18.94	6	1.31	6	33.60	6	0.41	2	0.21	2	0.02	2	0.87	2	736.3	339.2	2	2177.7	2	7.7300	2	2332	2	2327			9		9

* WOCE water sample quality flag (F) for parameter for the previous column
** WOCE quality flag (F) for "Niskin" sample bottle
*** PSS-78 scale
**** ITS0 scale

A5R
NOAA Ship Ronald H. Brown

STATION 117 DATE 2/22/1998 LATITUDE 26.500° N
LONGITUDE 76.683° W

Bottle Number	F**	Pressure db	CTD Salinity***	Bottle Salinity***	F*	Temp**** °C	Theta °C	Sigma Theta	CTD O2 µmol/kg	F*	Bottle O2 µmol/kg	F*	AOU	NO2 µmol/kg	F*	NO3 µmol/kg	F*	PO4 µmol/kg	F*	Si(OH)4 µmol/kg	F*	CFC-11 pmol/kg	F*	CFC-12 pmol/kg	F*	CFC-113 pmol/kg	F*	CCl4 pmol/kg	F*	fCO2 at 20 °C µatm	fCO2 INSITU µatm	F*	DIC µmol/kg	F*	pH	F*	Measured TA µmol/kg	F*	Calculated TA µmol/kg	TOC µmol/kg	F*	TON µmol/kg	F*
36	2	3.1	36.516	36.521	2	23.253	23.252	25.012	218.3	2	214.9	2	-4.5	0.00	2	0.00	2	0.01	2	0.90	2	9	9	9	9	288.9	328.6	6	2036.4	6	8.0877	2	5	2388	9	9
35	2	49.5	36.644	36.646	2	22.945	22.935	25.205	214.1	2	214.3	2	-2.9	0.00	2	0.00	2	0.01	2	0.90	2	9	9	9	9			9	9	9	9		9	9		9	9
34	2	99.6	36.709	36.719	2	22.792	22.772	25.304	210.5	2	208.2	2	3.7	0.07	2	0.19	2	0.01	2	0.90	2	9	9	9	9			9	9	9	9		9	9		9	9
33	2	142.5	36.909	36.914	2	21.639	21.611	25.788	192.6	2	193.3	2	22.7	0.02	2	1.07	2	0.03	2	0.80	2	9	9	9	9			9	9	9	9		9	9		9	9
32	2	195.9	36.770	36.772	2	20.068	20.031	26.115	190.7	2	192.2	2	30.2	0.01	2	1.85	2	0.06	2	0.90	2	9	9	9	9			9	9	9	9		9	9		9	9
31	2	223.3	36.716	36.702	2	19.508	19.467	26.224	192.1	2	193.0	2	31.8	0.01	2	2.34	2	0.08	2	1.00	2	9	9	9	9			9	9	9	9		9	9		9	9
30	2	247.7	36.641	36.639	2	18.917	18.872	26.321	195.0	2	196.5	2	30.8	0.01	2	2.83	2	0.10	2	1.10	2	9	9	9	9			9	9	9	9		9	9		9	9
29	2	272.8	36.595	36.594	2	18.565	18.517	26.378	199.0	2	200.5	2	28.4	0.01	2	3.32	2	0.13	2	1.20	2	9	9	9	9			9	9	9	9		9	9		9	9
28	2	300.4	36.569	36.569	2	18.350	18.297	26.414	199.1	2	203.2	2	26.7	0.00	2	3.51	2	0.15	2	1.30	2	9	9	9	9			9	9	9	9		9	9		9	9
27	2	349.6	36.536	36.536	2	18.092	18.031	26.458	204.7	2	204.8	2	26.3	0.00	2	3.90	2	0.18	2	1.40	2	9	9	9	9			9	9	9	9		9	9		9	9
26	2	397.9	36.498	36.490	2	17.858	17.789	26.490	197.2	2	202.0	2	30.2	0.00	2	4.78	2	0.23	2	1.70	2	9	9	9	9			9	9	9	9		9	9		9	9
25	2	449.4	36.353	36.358	2	17.022	16.947	26.585	183.8	2	184.4	2	51.8	0.00	2	7.51	2	0.40	2	2.50	2	9	9	9	9			9	9	9	9		9	9		9	9
24	2	500.3	36.196	36.196	2	16.141	16.060	26.674	179.1	2	178.9	2	61.6	0.00	2	9.56	2	0.53	2	3.30	2	9	9	9	9			9	9	9	9		9	9		9	9
23	2	547.8	36.016	36.038	2	15.017	14.932	26.790	171.4	2	172.7	2	73.5	0.00	2	11.61	2	0.67	2	4.30	2	9	9	9	9			9	9	9	9		9	9		9	9
22	2	588.6	35.913	35.920	2	14.358	14.270	26.855	167.8	2	167.5	2	82.2	0.00	2	13.36	2	0.78	2	5.20	2	9	9	9	9			9	9	9	9		9	9		9	9
21	2	697.9	35.517	35.523	2	11.610	11.518	27.100	155.0	2	154.0	2	111.0	0.00	2	19.22	2	1.19	2	9.30	2	9	9	9	9			9	9	9	9		9	9		9	9
20	2	788.7	35.265	35.267	2	9.579	9.487	27.261	149.5	2	148.8	2	128.6	0.00	2	23.03	2	1.48	2	13.40	2	9	9	9	9			9	9	9	9		9	9		9	9
19	2	895.3	35.100	35.101	2	7.686	7.593	27.426	158.7	2	158.4	2	131.3	0.00	2	24.79	2	1.63	2	16.40	2	9	9	9	9			9	9	9	9		9	9		9	9
18	2	996.4	35.065	35.064	2	6.609	6.513	27.550	176.8	2	180.8	2	116.3	0.00	2	23.62	2	1.56	2	16.70	2	9	9	9	9			9	9	9	9		9	9		9	9
17	2	1199.4	35.025	35.025	2	4.701	4.601	27.752	243.2	2	247.1	2	63.9	0.00	2	18.64	2	1.24	2	13.20	2	9	9	9	9			9	9	9	9		9	9		9	9
16	2	1399.5	34.998	34.998	2	4.281	4.167	27.779	260.2	2	258.7	6	55.7	0.00	2	18.06	2	1.20	2	13.00	2	9	9	9	9			9	9	9	9		9	9		9	9
15	3	1599.6	34.979		2	4.038	3.908	27.793	264.6	2		9			9		9		9		9	9	9	9	9		9	9	9	9		9	9		9	9
14	2	1799.6	34.965	34.965	2	3.854	3.708	27.803	267.7	2	268.8	2	49.2	0.00	2	17.67	2	1.18	2	13.30	2	9	9	9	9			9	9	9	9		9	9		9	9
13	2	1996.4	34.959	34.958	2	3.692	3.529	27.817	269.9	2	270.5	2	48.9	0.00	2	17.57	2	1.18	2	13.90	2	9	9	9	9			9	9	9	9		9	9		9	9
12	2	2199.5	34.956	34.956	2	3.545	3.365	27.832	269.2	2	270.8	2	49.9	0.00	2	17.57	2	1.18	2	14.90	2	9	9	9	9			9	9	9	9		9	9		9	9
11	2	2393.1	34.959	34.959	2	3.365	3.169	27.854	268.5	2	269.4	2	52.9	0.00	2	17.67	2	1.20	2	17.00	2	9	9	9	9			9	9	9	9		9	9		9	9
10	2	2598.8	34.949	34.949	2	3.131	2.919	27.871	269.1	2	270.5	2	53.8	0.00	2	17.67	2	1.20	2	18.50	2	9	9	9	9			9	9	9	9		9	9		9	9
9	2	2796.6	34.942	34.942	2	2.998	2.768	27.880	269.1	2	271.1	2	54.5	0.00	2	17.57	2	1.20	2	19.40	2	9	9	9	9			9	9	9	9		9	9		9	9
8	2	2998.5	34.934	34.934	2	2.842	2.595	27.890	270.7	2	272.3	2	54.7	0.00	2	17.47	2	1.20	2	20.40	2	9	9	9	9			9	9	9	9		9	9		9	9
7	2	3197.5	34.924	34.925	2	2.687	2.422	27.898	273.5	2	274.1	2	54.3	0.00	2	17.47	2	1.19	2	21.10	2	9	9	9	9			9	9	9	9		9	9		9	9
6	2	3366.0	34.917	34.916	2	2.542	2.263	27.906	274.5	2	275.0	2	54.8	0.00	2	17.38	2	1.19	2	22.30	2	9	9	9	9			9	9	9	9		9	9		9	9
5	2	3598.0	34.908	34.907	2	2.414	2.113	27.912	274.8	2	276.2	2	54.9	0.01	2	17.47	2	1.20	2	24.10	2	9	9	9	9			9	9	9	9		9	9		9	9
4	2	3801.6	34.903	34.903	2	2.356	2.034	27.916	274.0	2	274.7	2	57.0	0.00	2	17.57	2	1.22	2	25.70	2	9	9	9	9			9	9	9	9		9	9		9	9
3	2	4001.2	34.897	34.897	2	2.292	1.949	27.919	271.1	2	272.4	2	60.1	0.01	2	18.06	2	1.25	2	28.70	2	9	9	9	9			9	9	9	9		9	9		9	9
2	2	4301.2	34.893	34.893	2	2.277	1.900	27.922	269.3	2	270.4	2	62.5	0.00	2	18.65	2	1.28	2	31.50	2	9	9	9	9			9	9	9	9		9	9		9	9
1	2	4659.6	34.893	34.893	2	2.316	1.895	27.925	269.6	2	270.0	6	62.9	0.01	6	18.65	6	1.29	6	32.10	6	9	9	9	9			9	9	9	9		9	9		9	9

* WOCE water sample quality flag (F) for parameter for the previous column
** WOCE quality flag (F) for "Niskin" sample bottle
*** PSS-78 scale
**** ITS0 scale

A5R
NOAA Ship Ronald H. Brown

STATION 118 DATE 2/22/1998 LATITUDE 26.499° N
LONGITUDE 76.753° W

Bottle Number	F**	Pressure db	CTD Salinity***	Bottle Salinity***	F*	Temp**** °C	Theta °C	Sigma Theta	CTD O2 µmol/kg	F*	Bottle O2 µmol/kg	F*	AOU	NO2 µmol/kg	F*	NO3 µmol/kg	F*	PO4 µmol/kg	F*	Si(OH)4 µmol/kg	F*	CFC-11 pmol/kg	F*	CFC-12 pmol/kg	F*	CFC-113 pmol/kg	F*	CCl4 pmol/kg	F*	fCO2 at 20 °C µatm	fCO2 INSITU µatm	F*	DIC µmol/kg	F*	pH	F*	Measured TA µmol/kg	F*	Calculated TA µmol/kg	TOC µmol/kg	F*	TON µmol/kg	F*
36	2	4.0	36.450	36.450	2	23.360	23.359	24.931	212.8	2	214.3	2	-4.2	0.00	2	0.00	2	0.00	2	0.70	2	1.94	2	1.12	2	0.16	2	1.95	2	288.5	329.5	2	2032.8	6	8.0808	2	2379	2	2379		9	4.6	2
35	2	24.0	36.450	36.453	2	23.361	23.356	24.933	214.3	2	213.1	2	-3.0	0.00	2	0.00	2	0.00	2	0.70	2	1.93	2	1.12	2	0.16	2		9			9	2030.8	2	8.0852	2	2391	2	2380		9		9
34	2	49.1	36.551	36.552	2	23.126	23.116	25.081	214.1	2	178.8	3	32.1	0.04	2	0.10	2	0.01	2	0.70	2		9		9		9		9			9	2035.5	2	8.0845	2	2386	2	2385		9	4.7	2
33	2	74.1	36.645	36.645	2	22.952	22.937	25.206	212.8	2	203.9	2	7.5	0.00	2	0.00	2	0.01	2	0.70	2	1.97	2	1.14	2	0.16	2		9	289.0	324.9	2	2038.5	2	8.0888	2	2403	2	2393		9		9
32	2	99.7	36.663	36.663	2	22.895	22.875	25.239	211.9	2	211.5	2	0.1	0.00	2	0.00	2	0.01	2	0.70	2		9		9		9		9	286.2	321.1	2	2040.2	2		9	2392	2			9		9
31	2	125.2	36.766	36.780	2	22.713	22.687	25.373	202.6	2	201.9	2	10.2	0.06	2	0.29	2	0.02	2	0.70	2	2.03	2	1.16	2	0.14	2	1.14	2	306.9	341.7	2	2060.1	2	8.0653	2	2399	2	2401		9		9
30	2	146.6	36.886	36.881	2	21.921	21.892	25.692	193.9	2	194.2	2	20.7	0.03	2	0.97	2	0.03	2	0.70	2		9		9		9		9			9	2083.3	2		9		9			9	4.8	2
29	2	172.8	36.863	36.866	2	20.814	20.781	25.983	189.4	2	190.1	2	29.1	0.01	2	1.37	2	0.05	2	0.70	2	2.15	2	1.21	2	0.06	2		9			9	2095.9	2		9		9			9	5.4	2
28	2	198.3	36.778	36.778	2	20.009	19.972	26.138	186.4	2	188.4	2	34.2	0.01	2	2.05	2	0.07	2	0.70	2		9		9		9		9	369.3	369.4	2	2100.4	2	8.0017	2		5	2401		9	6.1	2
27	2	221.1	36.710	36.711	2	19.483	19.442	26.226	186.6	2	177.3	3	47.6	0.00	2	2.54	2	0.09	2	0.80	2	2.19	2	1.22	2	0.04	2		9			9	2099.9	2		9		9			9	6.3	2
26	2	248.2	36.642	36.643	2	18.946	18.901	26.315	197.5	2	197.0	2	30.2	0.01	2	2.73	2	0.10	2	0.90	2	2.33	2	1.29	2	0.04	2	0.47	2			9	2095.2	2		9		9			9		9
25	2	272.9	36.610	36.612	2	18.635	18.586	26.372	190.5	2	187.1	2	41.5	0.00	2	3.51	2	0.15	2	1.10	2	2.31	2	1.27	2	0.03	2		9	387.7	367.0	2	2098.8	2	7.9875	2	2391	2	2389		9	7.6	2
24	2	300.2	36.570	36.569	2	18.361	18.308	26.412	199.8	2	190.3	2	39.5	0.00	2	3.71	2	0.16	2	1.20	2	2.32	2	1.28	2	0.03	2		9			9	2095.1	2		9		9			9		9
23	2	350.0	36.534	36.534	2	18.087	18.026	26.458	206.9	2	197.3	2	33.8	0.00	2	4.10	2	0.19	2	1.20	2		9		9		9		9			9	2095.6	2		9		9			9	7.6	2
22	2	390.7	36.493	36.491	2	17.829	17.761	26.493	203.1	2	191.1	2	41.2	0.00	2	4.78	2	0.24	2	1.50	2	2.27	6	1.24	6	0.03	6		9	398.6	365.0	2	2099.2	2	7.9750	2	2390	2	2381		9		9
21	2	443.9	36.353	36.365	2	17.027	16.952	26.584	184.9	2	176.0	2	60.1	0.00	2	7.41	2	0.40	2	2.30	2		9		9		9		9			9	2116.8	2		9		9			9	10.7	2
20	2	499.0	36.165	36.169	2	15.916	15.836	26.701	179.6	2	176.9	2	64.7	0.00	2	10.05	2	0.56	2	3.40	2	1.90	2	1.00	2	0.03	2	0.40	2			9	2130.8	2		9	2365	2			9		9
19	2	599.1	35.797	35.796	2	13.586	13.499	26.927	160.4	2	161.1	2	92.7	0.00	2	15.22	2	0.91	2	6.20	2		9		9		9		9	587.7	452.1	2	2151.4	2	7.8127	2		9	2342		9	17.5	2
18	2	697.0	35.475	35.482	2	11.309	11.219	27.122	154.9	2	150.1	2	116.6	0.00	2	19.81	2	1.23	2	10.00	2	0.93	2	0.48	2	0.01	2		9			9		9		9	2332	2			9		9
17	2	794.6	35.240	35.253	2	9.358	9.266	27.278	151.5	2	150.8	2	127.9	0.00	2	23.14	2	1.48	2	13.70	2		9		9		9		9	793.3	510.4	2	2196.5	2	7.6998	2		5	2335		9	25.2	2
16	2	897.8	35.126	35.131	2	7.788	7.694	27.433	164.5	2	164.2	2	124.8	0.00	2	23.92	2	1.56	2	15.40	2	0.45	2	0.23	2	0.01	2	0.39	2	825.0	495.8	2	2188.5	2	7.6817	2	2313	2	2319		9		9
15	2	998.8	35.086	35.085	2	6.620	6.524	27.565	188.8	2	186.9	2	110.1	0.00	2	22.75	2	1.51	2	15.60	2		9		9		9		9	820.8	467.7	2	2185.3	6	7.6880	2	2318	2	2318		9	25.1	2
14	2	1199.2	35.030	35.031	2	4.830	4.729	27.742	241.5	2	243.3	2	66.7	0.00	2	18.84	2	1.26	2	13.00	2	0.96	2	0.47	2	0.04	2		9	754.4	394.7	2	2168.7	2	7.7199	2	2312	2	2313		9		9
13	2	1399.3	35.002	35.002	2	4.347	4.232	27.775	255.7	2	247.9	3	65.9	0.00	2	18.16	2	1.21	2	12.80	2		9		9		9		9			9	2164.9	2		9		9			9	20.7	2
12	2	1598.8	34.976	34.976	2	3.995	3.866	27.794	264.7	2	263.3	2	53.4	0.00	2	17.67	2	1.19	2	13.00	2	1.16	6	0.57	6	0.06	6		9	737.7	370.8	2	2160.9	2	7.7292	2	2309	2	2309		9		9
11	2	1792.7	34.967	34.967	2	3.864	3.718	27.804	267.2	2	268.3	2	49.6	0.00	2	17.57	2	1.18	2	13.00	2	1.17	2	0.57	2	0.06	2	1.84	2			9	2160.7	2		9		9			9	20.4	2
10	2	1998.4	34.959	34.959	2	3.706	3.543	27.816	268.3	2	266.3	2	53.0	0.00	2	17.57	2	1.18	2	13.50	2	0.86	6	0.42	6	0.05	6		9			9	2160.2	2		9		9			9		9
9	2	2199.2	34.960	34.961	2	3.526	3.346	27.837	268.5	2	257.6	4	63.3	0.00	2	17.57	2	1.19	2	15.00	2		9		9		9		9	728.9	357.9	2	2157.7	2	7.7357	2	2312	2	2308		9	20.0	2
8	2	2399.0	34.955	34.956	2	3.284	3.089	27.859	268.1	2	264.5	2	58.4	0.00	2	17.67	2	1.20	2	17.10	2	0.51	2	0.25	2	0.02	2	1.07	2			9	2160.6	2	7.7388	2	2316	2	2313		9		9
7	2	2600.7	34.948	34.949	2	3.131	2.919	27.870	269.0	2	270.4	2	53.9	0.00	2	17.58	2	1.20	2	18.10	2		9		9		9		9			9	2161.4	2	7.7385	2	2314	2	2314		9	20.2	2
6	2	2797.8	34.942	34.943	2	3.006	2.776	27.880	269.3	2	271.0	2	54.5	0.00	2	17.58	2	1.20	2	18.90	2	0.49	2	0.24	2	0.02	2	0.99	2			9	2161.1	2		9		9			9		9
5	2	2997.8	34.933	34.933	2	2.830	2.583	27.890	270.7	2	271.5	2	55.6	0.00	2	17.58	2	1.20	2	20.00	2		9		9		9		9	726.1	344.3	2	2161.9	2	7.7409	2	2318	2	2315		9		9
4	2	3199.6	34.923	34.923	2	2.647	2.383	27.900	273.4	2	274.2	2	54.6	0.00	2	17.48	2	1.19	2	20.80	2	0.60	2	0.29	2	0.03	2	1.13	6			9	2162.5	2		9		9			9		9
3	2	3298.0	34.919	34.918	2	2.574	2.301	27.904	273.9	2	275.0	2	54.5	0.00	2	17.38	2	1.20	2	21.70	2		9		9		9		9			9	2162.6	2		9		9			9	20.0	2
2	2	3397.0	34.913	34.913	2	2.507	2.225	27.906	274.2	2	274.7	2	55.4	0.00	2	17.38	2	1.20	2	22.60	2	0.66	2	0.32	2	0.04	2	1.23	2			9	2164.4	2		9		9			9		9
1	2	3910.2	34.899	34.898	2	2.305	1.972	27.918	271.3	2	269.8	2	62.5	0.00	6	18.06	6	1.25	6	27.90	6		9		9		9	1.11	2	740.5	341.8	2	2170.6	2	7.7310	2	2322	2	2320		9	20.3	2

* WOCE water sample quality flag (F) for parameter for the previous column
** WOCE quality flag (F) for "Niskin" sample bottle
*** PSS-78 scale
**** ITS0 scale

A5R
NOAA Ship Ronald H. Brown

STATION 119 DATE 2/22/1998 LATITUDE 26.500° N
LONGITUDE 76.784° W

Bottle Number	F**	Pressure db	CTD Salinity***	Bottle Salinity***	F*	Temp**** °C	Theta °C	Sigma Theta	CTD O2 µmol/kg	F*	Bottle O2 µmol/kg	F*	AOU	NO2 µmol/kg	F*	NO3 µmol/kg	F*	PO4 µmol/kg	F*	Si(OH)4 µmol/kg	F*	CFC-11 pmol/kg	F*	CFC-12 pmol/kg	F*	CFC-113 pmol/kg	F*	CCl4 pmol/kg	F*	fCO2 at 20 °C µatm	fCO2 INSITU µatm	F*	DIC µmol/kg	F*	pH	F*	Measured TA µmol/kg	F*	Calculated TA µmol/kg	TOC µmol/kg	F*	TON µmol/kg	F*
36	2	2.8	36.243	36.243	2	24.154	24.153	24.539	217.3	2	210.9	2	-3.3	0.00	2	0.00	2	0.00	2	0.80	2	9	9	9	9	9	9	9	9	9	9	8.0912	2	2381	6	9	9
35	2	68.1	36.509	36.500	2	23.202	23.188	25.029	209.9	2	213.0	2	-2.3	0.03	2	0.10	2	0.00	2	0.60	2	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
34	2	105.7	36.643	36.644	2	23.002	22.980	25.194	210.5	2	210.5	2	0.7	0.08	2	0.00	2	0.00	2	0.60	2	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
33	2	104.5	36.642	36.645	2	23.003	22.982	25.193	210.4	2	211.8	2	-0.6	0.04	2	0.10	2	0.01	2	0.60	2	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
32	2	139.0	36.685	36.688	2	22.851	22.823	25.273	210.4	2	211.3	2	0.4	0.03	2	0.10	2	0.01	2	0.50	2	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
31	2	175.0	36.845	36.849	2	21.447	21.413	25.796	192.5	2	194.2	2	22.6	0.03	2	1.17	2	0.04	2	0.50	2	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
30	2	211.4	36.806	36.803	2	20.302	20.262	26.082	189.4	2	190.3	2	31.1	0.01	2	1.76	2	0.06	2	0.50	2	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
29	2	245.2	36.655	36.658	2	19.031	18.987	26.303	190.4	2	195.1	2	31.7	0.00	2	2.73	2	0.10	2	0.70	2	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
28	2	279.1	36.605	36.605	2	18.631	18.581	26.370	196.0	2	198.3	2	30.3	0.00	2	3.32	2	0.13	2	0.80	2	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
27	2	307.4	36.579	36.578	2	18.432	18.378	26.402	200.7	2	201.1	2	28.4	0.00	2	3.51	2	0.15	2	0.90	2	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
26	2	360.5	36.538	36.538	2	18.114	18.051	26.455	204.6	2	204.5	2	26.5	0.00	2	3.90	2	0.18	2	1.00	2	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
25	2	396.1	36.499	36.499	2	17.868	17.799	26.488	199.8	2	201.2	2	31.0	0.00	2	4.68	2	0.23	2	1.30	2	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
24	2	420.8	36.451	36.442	2	17.603	17.531	26.519	193.6	2	193.1	2	40.3	0.00	2	5.95	2	0.30	2	1.60	2	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
23	2	451.2	36.344	36.340	2	16.987	16.911	26.587	183.8	2	183.3	2	53.1	0.00	2	7.71	2	0.41	2	2.10	2	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
22	2	500.2	36.140	36.142	2	15.773	15.693	26.715	179.1	2	177.7	2	64.6	0.00	2	10.15	2	0.57	2	3.10	2	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
21	2	552.0	35.978	35.976	2	14.793	14.709	26.809	171.7	2	171.3	2	76.1	0.00	2	12.39	2	0.72	2	4.20	2	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
20	2	600.5	35.763	35.774	2	13.404	13.318	26.938	164.2	2	164.3	2	90.5	0.00	2	15.22	2	0.91	2	5.90	2	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
19	2	650.7	35.619	35.632	2	12.371	12.282	27.033	159.4	2	157.8	2	102.8	0.00	2	17.37	2	1.06	2	7.40	2	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
18	2	698.3	35.478	35.478	2	11.341	11.251	27.119	152.3	2	152.1	2	114.5	0.00	2	19.91	2	1.24	2	9.50	2	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
17	2	747.7	35.340	35.352	2	10.223	10.132	27.211	150.3	2	150.4	2	122.9	0.00	2	21.67	2	1.37	2	11.50	2	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
16	2	799.7	35.205	35.206	2	9.009	8.919	27.307	148.6	2	150.4	2	130.6	0.00	2	23.82	2	1.54	2	14.20	2	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
15	2	899.7	35.115	35.114	2	7.347	7.256	27.486	170.0	2	172.9	2	119.0	0.00	2	23.34	2	1.52	2	15.00	2	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
14	2	999.9	35.091	35.091	2	6.227	6.134	27.619	200.4	2	201.4	2	98.3	0.00	2	21.38	2	1.41	2	14.40	2	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
13	2	1099.3	35.055	35.056	2	5.308	5.212	27.706	229.5	2	228.8	2	77.6	0.00	2	19.72	2	1.30	2	13.40	2	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
12	2	1200.5	35.036	35.036	2	4.950	4.848	27.733	240.9	2	240.3	2	68.8	0.00	2	19.04	2	1.26	2	13.20	2	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
11	2	1297.8	35.026	35.026	2	4.720	4.611	27.753	249.2	2	247.1	2	63.8	0.00	2	18.75	2	1.24	2	13.10	2	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
10	2	1399.0	35.005	35.006	2	4.400	4.285	27.772	256.3	2	255.2	2	58.2	0.00	2	18.26	2	1.21	2	13.00	2	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
9	2	1498.9	34.980	34.982	2	4.066	3.945	27.789	264.3	2	263.9	2	52.2	0.00	2	17.87	2	1.18	2	12.90	2	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
8	2	1601.4	34.975	34.975	2	3.980	3.851	27.795	266.0	2	265.6	2	51.2	0.00	2	17.87	2	1.19	2	13.10	2	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
7	2	1699.3	34.965	34.965	2	3.864	3.727	27.800	268.2	2	269.1	2	48.7	0.00	2	17.68	2	1.18	2	12.90	2	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
6	2	1798.9	34.963	34.964	2	3.793	3.648	27.808	268.7	2	268.3	2	50.2	0.00	2	17.48	2	1.18	2	13.10	2	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
5	2	1899.3	34.962	34.962	2	3.770	3.616	27.810	269.0	2	269.7	2	49.0	0.00	2	17.48	2	1.18	2	13.00	2	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
4	2	1999.9	34.958	34.959	2	3.703	3.540	27.816	269.6	2	281.5	4	37.8	0.00	2	17.48	2	1.18	2	13.40	2	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
3	2	2100.6	34.957	34.957	2	3.643	3.471	27.822	269.9	2	270.9	2	49.0	0.00	2	17.48	2	1.18	2	13.80	2	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
2	2	2197.2	34.955	34.956	2	3.489	3.310	27.837	270.0	2	270.8	2	50.3	0.00	2	17.48	2	1.18	2	15.00	2	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
1	2	2322.6	34.955	34.955	2	3.359	3.170	27.851	269.2	2	270.5	6	51.8	0.00	6	17.58	6	1.19	6	16.40	6	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9

* WOCE water sample quality flag (F) for parameter for the previous column
** WOCE quality flag (F) for "Niskin" sample bottle
*** PSS-78 scale
**** ITS0 scale

A5R
NOAA Ship Ronald H. Brown

STATION 120 DATE 2/22/1998 LATITUDE 26.500° N
LONGITUDE 76.816° W

Bottle Number	F**	Pressure db	CTD Salinity***	Bottle Salinity***	F*	Temp**** °C	Theta °C	Sigma Theta	CTD O2 µmol/kg	F*	Bottle O2 µmol/kg	F*	AOU	NO2 µmol/kg	F*	NO3 µmol/kg	F*	PO4 µmol/kg	F*	Si(OH)4 µmol/kg	F*	CFC-11 pmol/kg	F*	CFC-12 pmol/kg	F*	CFC-113 pmol/kg	F*	CCl4 pmol/kg	F*	fCO2 at 20 °C µatm	fCO2 INSITU µatm	F*	DIC µmol/kg	F*	pH	F*	Measured TA µmol/kg	F*	Calculated TA µmol/kg	TOC µmol/kg	F*	TON µmol/kg	F*
32	2	3.9	36.286	36.285	2	24.120	24.119	24.581	211.3	2	211.5	2	-3.9	0.00	2	0.00	2	0.00	2	1.20	2	1.85	2	1.09	2	0.14	2	1.85	2	286.4	337.0	2	2025.1	2	8.0902	2	2374	2	2376	64.9	2		9
31	2	25.5	36.293	36.293	2	24.094	24.089	24.597	214.3	2	211.5	2	-3.8	0.00	2	0.00	2	0.01	2	1.20	2	1.88	2	1.10	2	0.15	2		9			9		9		9		9		65.3	2	4.6	2
30	2	50.5	36.333	36.347	2	23.753	23.742	24.732	213.6	2	210.4	2	-1.5	0.08	2	0.00	2	0.01	2	1.10	2	1.89	2	1.10	2	0.14	2		9	294.8	341.9	2	2032.0	2	8.0854	2		5	2380	64.4	2		9
29	2	74.7	36.431	36.444	2	23.395	23.379	24.915	215.6	2	212.1	2	-2.0	0.08	2	0.00	2	0.01	2	1.00	2		9		9		9		9			9		9		9		9		63.9	2		9
28	2	99.4	36.512	36.532	2	23.298	23.277	25.008	217.0	2	213.9	2	-3.6	0.01	2	0.00	2	0.01	2	1.00	2	1.96	2	1.13	2	0.15	2		9	288.5	328.7	2	2038.6	2	8.0865	2	2390	2	2390	62.7	2	4.4	2
27	2	125.2	36.590	36.593	2	23.097	23.071	25.128	217.8	2	213.4	2	-2.4	0.02	2	0.00	2	0.01	2	1.00	2		9		9		9		9	290.3	328.2	2	2039.4	2	8.0880	2		9	2393	63.4	2		9
26	2	151.3	36.651	36.674	2	22.932	22.901	25.226	216.4	2	212.0	2	-0.5	0.02	2	0.10	2	0.01	2	1.00	2	1.97	2	1.14	2	0.14	2	1.72	2	292.3	328.3	2	2045.6	2	8.0827	2	2398	2	2396	60.2	2		9
25	2	174.4	36.794	36.803	2	22.123	22.088	25.569	207.2	2	199.4	2	14.9	0.06	2	0.68	2	0.04	2	0.90	2		9		9		9		9			9		9		9		9		55.7	2		9
24	2	199.6	36.849	36.848	2	21.011	20.972	25.922	196.6	2	192.5	2	26.0	0.02	2	1.27	2	0.05	2	1.00	2		9		9		9		9			9		9		9		9			9		9
23	2	225.3	36.776	36.783	2	20.014	19.972	26.137	193.1	2	191.0	2	31.6	0.01	2	1.76	2	0.06	2	1.00	2		9		9		9		9	368.7	368.9	2	2102.0	2	8.0022	2	2400	3	2404		9		9
22	2	248.6	36.672	36.672	2	19.193	19.148	26.275	197.6	2	196.5	2	29.6	0.01	2	2.34	2	0.09	2	1.20	2	2.25	2	1.26	2	0.03	2		9			9		9		9		9			9		9
21	2	273.1	36.609	36.610	2	18.666	18.617	26.363	198.9	2	199.1	2	29.4	0.00	2	3.12	2	0.13	2	1.30	2		9		9		9		9			9	2097.9	2	7.9946	2	2396	2	2393	47.6	2	6.3	2
20	2	302.8	36.581	36.581	2	18.431	18.377	26.404	199.3	2	200.1	2	29.4	0.00	2	3.51	2	0.16	2	1.40	2	2.22	6	1.25	6	0.05	6	0.43	6			9		9		9		9			9		9
19	2	348.2	36.544	36.543	2	18.137	18.076	26.452	203.8	2	205.3	2	25.6	0.00	2	3.80	2	0.18	2	1.60	2		9		9		9		9	381.0	353.3	2	2094.6	2	7.9915	2	2388	2	2387		9		9
18	2	399.8	36.504	36.507	2	17.903	17.834	26.484	202.9	2	203.0	2	29.0	0.00	2	4.39	2	0.22	2	1.80	2	2.29	2	1.26	2	0.03	2		9			9		9		9		9			9		9
17	2	453.5	36.356	36.359	2	17.051	16.975	26.581	189.0	2	186.4	2	49.6	0.00	2	7.22	2	0.39	2	2.60	2		9		9		9		9			9		9		9		9		43.9	2		9
16	2	507.2	36.111	36.126	2	15.578	15.498	26.737	179.5	2	175.9	2	67.4	0.00	2	10.44	2	0.59	2	3.80	2	1.66	6	0.87	6	0.02	6		9	496.4	414.6	2	2130.7	2	7.8911	2		5	2363		9		9
15	2	548.8	35.927	35.927	2	14.471	14.388	26.839	172.2	2	169.8	2	79.3	0.00	2	12.98	2	0.76	2	5.20	2		9		9		9		9			9		9		9		9			9		9
14	2	595.6	35.763	35.765	2	13.379	13.294	26.942	167.6	2	164.6	2	90.3	0.00	2	15.23	2	0.92	2	6.40	2		9		9		9		9			9		9		9		9			9		9
13	2	640.5	35.645	35.664	2	12.591	12.503	27.010	162.4	2	159.4	2	99.9	0.00	2	16.89	2	1.04	2	7.50	2		9		9		9	0.34	2	633.3	467.5	2	2157.2	2	7.7932	2	2340	2	2338	42.2	2	19.5	2
12	2	692.6	35.484	35.495	2	11.395	11.305	27.113	157.6	2	153.8	2	112.4	0.00	2	19.52	2	1.22	2	9.70	2		9		9		9		9			9		9		9		9			9		9
11	2	749.6	35.335	35.336	2	10.196	10.105	27.212	153.3	2	149.9	2	123.6	0.00	2	22.06	2	1.40	2	12.20	2		9		9		9		9	773.9	516.8	2	2178.2	6	7.7168	2		9	2324		9		9
10	2	801.3	35.181	35.182	2	8.708	8.619	27.334	153.0	2	151.1	2	131.8	0.00	2	24.31	2	1.57	2	15.00	2	0.36	2	0.19	2	0.00	2		9			9		9		9		9			9		9
9	2	846.9	35.133	35.126	2	7.925	7.836	27.416	162.0	2	165.8	2	122.3	0.00	2	23.73	2	1.55	2	15.40	2		9		9		9		9	851.0	515.2	2	2185.6	2	7.6814	2	2320	2	2315	41.6	2		9
8	2	900.8	35.087	35.084	2	6.698	6.611	27.553	176.4	2	183.0	2	113.4	0.00	2	23.05	2	1.52	2	15.80	2	0.40	2	0.20	2	0.01	2	0.47	2	839.1	480.4	2	2183.1	2	7.6847	2		9	2314		9		9
7	2	945.3	35.095	35.094	2	6.542	6.452	27.581	194.1	2	194.1	2	103.4	0.00	2	22.07	2	1.44	2	14.70	2		9		9		9		9	814.1	462.3	2	2179.7	2	7.6948	2	2321	2	2315		9		9
6	2	999.8	35.088	35.089	2	6.035	5.943	27.641	208.2	2	208.2	2	92.9	0.00	2	20.70	2	1.38	2	14.20	2	0.67	2	0.32	2	0.02	2		9	795.6	441.1	2	2177.7	2	7.7028	2		9	2316		9		9
5	2	1101.7	35.051	35.051	2	5.291	5.195	27.704	230.7	2	230.3	2	76.2	0.00	2	19.53	2	1.30	2	13.60	2		9		9		9	1.30	2	776.9	415.8	2	2169.3	2	7.7138	2	2317	2	2311	41.5	2	22.0	2
4	2	1195.1	35.041	35.040	2	5.023	4.921	27.729	240.0	2	238.7	2	69.9	0.00	2	19.14	2	1.27	2	13.40	2	0.93	2	0.45	2	0.03	2		9			9		9		9		9			9		9
3	2	1299.7	35.035	35.036	2	4.906	4.795	27.740	243.2	2	242.1	2	67.4	0.00	2	18.94	2	1.25	2	13.20	2	0.94	2	0.45	2	0.03	2		9	765.6	402.3	6	2167.6	2	7.7200	2		9	2312		9		9
2	2	1349.7	35.005	35.006	2	4.409	4.298	27.770	254.3	2	255.5	6	57.8	0.00	2	18.36	2	1.21	2	13.00	2		9		9		9		9			9		9		9		9			9		9
1	2	1382.1	35.000	35.001	2	4.332	4.219	27.775	256.3	2	257.5	2	56.5	0.00	6	18.16	6	1.23	6	13.00	6	1.05	2	0.51	2	0.04	2	1.60	2	750.6	383.6	2	2162.4	2	7.7257	2	2314	2	2309	41.6	2		9

* WOCE water sample quality flag (F) for parameter for the previous column
** WOCE quality flag (F) for "Niskin" sample bottle
*** PSS-78 scale
**** ITS0 scale

A5R
NOAA Ship Ronald H. Brown

STATION 121 DATE 2/22/1998 LATITUDE 26.520° N
LONGITUDE 76.901° W

Bottle Number	F**	Pressure db	CTD Salinity***	Bottle Salinity***	F*	Temp**** °C	Theta °C	Sigma Theta	CTD O2 µmol/kg	F*	Bottle O2 µmol/kg	F*	AOU	NO2 µmol/kg	F*	NO3 µmol/kg	F*	PO4 µmol/kg	F*	Si(OH)4 µmol/kg	F*	CFC-11 pmol/kg	F*	CFC-12 pmol/kg	F*	CFC-113 pmol/kg	F*	CCl4 pmol/kg	F*	fCO2 at 20 °C µatm	fCO2 INSITU µatm	F*	DIC µmol/kg	F*	pH	F*	Measured TA µmol/kg	F*	Calculated TA µmol/kg	TOC µmol/kg	F*	TON µmol/kg	F*
18	2	5.0	36.265	36.264	2	24.098	24.097	24.573	215.2	2	211.8	2	-4.1		9		9		9		9	1.86	2	1.09	2	0.14	2	1.76	2	289.2	340.0	2	2023.1	6	8.0882	2	2370	2	2372		9		9
17	2	25.6	36.265	36.263	2	24.098	24.093	24.575	215.0	2	211.7	2	-4.0	0.04	2	0.10	2	0.00	2	1.00	2	1.87	2	1.09	2	0.15	2	1.76	2	289.7	340.4	2	2023.1	2	8.0924	2		5	2375		9		9
16	2	51.0	36.265	36.265	2	24.085	24.074	24.582	214.5	2	211.3	6	-3.5	0.05	2	0.10	2	0.00	2	1.00	2		9		9		9		9				9		9	8.0884	2		9				9	9
15	2	74.6	36.269	36.268	2	24.062	24.046	24.595	214.9	2	210.9	2	-3.0	0.06	2	0.00	2	0.00	2	1.00	2	1.84	2	1.08	2	0.14	2		9	287.6	337.6	2	2024.2	2	8.0869	2	2370	2	2372		9		9
14	2	100.6	36.277	36.278	2	23.996	23.975	24.624	214.0	2	209.7	2	-1.6	0.08	2	0.00	2	0.00	2	1.10	2		9		9		9		9				9		9	8.0859	2		9				9	9
13	2	124.7	36.434	36.449	2	23.361	23.335	24.933	213.0	2	209.8	2	0.4	0.19	2	0.00	2	0.01	2	1.00	2	1.91	2	1.12	2	0.15	2	1.77	2	296.1	338.2	2	2035.4	2	8.0819	2	2384	2	2382		9		9
12	2	152.5	36.498	36.500	2	23.230	23.198	25.023	212.9	2	210.1	2	0.5	0.19	2	0.00	2	0.01	2	1.00	2		9		9		9		9				9		9	8.0838	2		9				9	9
11	2	174.5	36.604	36.605	2	23.003	22.967	25.172	212.7	2	210.9	2	0.4	0.12	2	0.00	2	0.01	2	1.00	2	1.96	2	1.13	2	0.16	2		9	293.2	330.3	2	2041.1	2	8.0844	2	2392	2	2392		9		9
10	2	199.6	36.632	36.643	2	22.878	22.837	25.232	212.5	2	209.7	2	2.1	0.10	2	0.10	2	0.01	2	0.90	2		9		9		9		9				9		9	8.0815	2		9				9	9
9	2	215.7	36.807	36.808	2	21.668	21.625	25.710	198.4	2	197.3	2	18.8	0.05	2	0.98	2	0.03	2	0.90	2	2.12	2	1.21	2	0.09	2	0.69	2			9	2080.1	2	8.0384	2	2402	2	2404		9		9
8	2	233.8	36.683	36.686	2	19.273	19.230	26.261	191.7	2	193.2	2	32.6	0.01	2	2.73	2	0.10	2	1.20	2		9		9		9		9				9		9	7.9932	2		9				9	9
7	2	249.8	36.612	36.622	2	18.723	18.678	26.349	192.1	2	194.7	2	33.5	0.01	2	3.41	2	0.14	2	1.40	2	2.24	2	1.24	2	0.03	2		9	392.3	372.6	2	2101.3	2	7.9877	2	2403	2	2392		9		9
6	2	275.4	36.583	36.580	2	18.444	18.395	26.399	194.9	2	196.1	2	33.3	0.01	2	3.90	2	0.17	2	1.50	2		9		9		9		9				9		9	7.9831	2		9				9	9
5	2	301.8	36.542	36.542	2	18.165	18.112	26.440	196.1	2	196.4	2	34.3	0.01	2	4.39	2	0.20	2	1.60	2	2.24	2	1.23	2	0.02	2	0.43	2	397.7	369.1	2	2102.9	2	7.9772	2	2385	2	2387		9		9
4	2	324.4	36.502	36.499	2	17.920	17.864	26.472	195.4	2	195.1	2	36.8	0.01	2	5.07	2	0.24	2	1.80	2		9		9		9		9				9		9	7.9714	2		9				9	9
3	2	350.8	36.458	36.453	2	17.642	17.582	26.508	195.0	2	192.5	2	40.7	0.01	2	5.76	2	0.29	2	2.00	2	2.18	2	1.19	2	0.03	2		9	412.4	374.9	6	2108.5	2	7.9614	2	2388	2	2382		9		9
2	2	376.0	36.435	36.432	2	17.504	17.440	26.527	194.4	2	191.4	2	42.4	0.01	2	6.05	2	0.31	2	2.10	2		9		9		9		9				9		9	7.9562	2		9				9	9
1	2	407.0	36.378	36.375	2	17.155	17.086	26.569	192.2	2	188.0	2	47.5	0.01	6	6.93	6	0.37	6	2.40	6	2.13	2	1.14	2	0.02	2	0.43	2	430.6	383.7	2	2114.7	2	7.9426	2	2374	2	2377		9		9

* WOCE water sample quality flag (F) for parameter for the previous column
** WOCE quality flag (F) for "Niskin" sample bottle
*** PSS-78 scale
**** ITS0 scale

A5R
NOAA Ship Ronald H. Brown

STATION 122 DATE 2/23/1998 LATITUDE 27.001° N
LONGITUDE 79.200° W

Bottle Number	F**	Pressure db	CTD Salinity***	Bottle Salinity***	F*	Temp**** °C	Theta °C	Sigma Theta	CTD O2 µmol/kg	F*	Bottle O2 µmol/kg	F*	AOU	NO2 µmol/kg	F*	NO3 µmol/kg	F*	PO4 µmol/kg	F*	Si(OH)4 µmol/kg	F*	CFC-11 pmol/kg	F*	CFC-12 pmol/kg	F*	CFC-113 pmol/kg	F*	CCl4 pmol/kg	F*	fCO2 at 20 °C µatm	fCO2 INSITU µatm	F*	DIC µmol/kg	F*	pH	F*	Measured TA µmol/kg	F*	Calculated TA µmol/kg	TOC µmol/kg	F*	TON µmol/kg	F*
18	2	3.8	36.176	36.176	2	26.089	26.088	23.896	204.8	2	203.6	2	-2.5	0.00	2	0.00	2	0.00	2	1.20	2	1.73	2	1.01	2	0.14	2	1.75	2	273.8	348.8	2	2014.1	6	8.0967	2	2365	2	2367	61.6	2		9
17	2	24.5	36.176	36.175	2	26.092	26.087	23.897	204.4	2	203.5	2	-2.4	0.00	2	0.00	2	0.00	2	1.20	2	1.74	2	1.02	2	0.15	2		9	273.9	349.0	2	2013.5	2	8.0983	2	2362	3	2367	61.9	2		9
16	2	50.1	36.162	36.166	2	25.750	25.739	23.997	203.0	2	202.8	2	-0.6	0.04	2	0.00	2	0.01	2	1.10	2		9		9		9		9			9		9		9		9		62.6	2		9
15	2	74.2	36.155	36.156	2	25.423	25.407	24.097	202.5	2	203.4	2	0.0	0.10	2	0.00	2	0.01	2	1.00	2	1.76	2	1.03	2	0.15	2		9	279.0	346.6	2	2016.6	2	8.0979	2	2362	3	2370	61.1	2		9
14	2	97.6	36.174	36.155	2	25.126	25.105	24.205	201.8	2	202.7	2	1.7	0.24	2	0.10	2	0.02	2	1.00	2		9		9		9		9			9		9		9		9		55.7	2		9
13	2	121.7	36.493	36.494	2	25.089	25.062	24.461	184.7	2	183.7	2	20.4	0.08	2	1.37	2	0.08	2	1.10	2	1.82	2	1.06	2	0.09	2		9	314.6	385.6	2	2055.2	3	8.0562	2	2385	2	2386		9		9
12	2	148.6	36.724	36.711	2	23.663	23.632	25.067	172.7	2	171.8	2	37.0	0.05	2	2.93	2	0.14	2	1.30	2		9		9		9		9			9		9		9		9			9		9
11	2	174.1	36.819	36.825	2	23.047	23.011	25.323	164.7	2	163.7	2	47.2	0.02	2	3.71	2	0.18	2	1.50	2	1.94	2	1.10	2	0.05	2		9	369.9	418.7	2	2104.9	3	8.0016	2	2403	2	2407	51.2	2		9
10	2	199.5	36.831	36.832	2	21.924	21.884	25.655	166.0	2	170.5	2	44.5	0.02	2	3.61	2	0.17	2	1.40	2		9		9		9		9			9		9		9		9			9		9
9	2	222.8	36.799	36.829	2	20.759	20.716	25.955	177.3	2	176.6	2	43.0	0.01	2	3.22	2	0.15	2	1.30	2	2.07	2	1.17	2	0.05	2		9	376.4	389.6	2	2108.1	2	7.9991	2	2400	3	2409	50.1	2		9
8	2	247.7	36.746	36.745	2	19.753	19.707	26.185	173.9	2	180.1	2	43.6	0.01	2	3.71	2	0.17	2	1.30	2		9		9		9		9			9		9		9		9			9		9
7	2	275.9	36.687	36.695	2	19.263	19.213	26.270	177.2	2	181.4	2	44.4	0.01	2	4.19	2	0.19	2	1.40	2	2.20	2	1.21	2	0.02	2		9	399.4	387.5	2	2114.1	2	7.9760	2	2395	2	2399	47.0	2		9
6	2	297.5	36.661	36.650	2	19.115	19.061	26.291	175.4	2	176.5	2	50.0	0.01	2	4.97	2	0.24	2	1.70	2		9		9		9		9			9		9		9		9			9		9
5	2	323.4	36.547	36.545	2	18.361	18.304	26.397	170.0	2	174.2	2	55.7	0.01	2	6.54	2	0.33	2	2.10	2	2.10	2	1.15	2	0.02	2		9	431.8	403.7	2	2123.1	2	7.9472	2	2399	2	2390	45.8	2		9
4	2				9					9		9		0.00	2	8.78	2	0.47	2	3.00	2		9		9		9		9			9		9		9		9			9		9
3	2	398.7	36.302	36.299	2	16.793	16.727	26.596	166.5	2	168.2	2	69.1	0.01	2	9.56	2	0.53	2	3.30	2	1.95	2	1.05	2	0.03	2		9	479.6	419.8	2	2133.8	2	7.9040	2	2372	2	2375		9		9
2	2	449.8	36.108	36.099	2	15.760	15.688	26.689	153.4	2	151.1	2	91.3	0.01	2	13.17	2	0.77	2	5.00	2		9		9		9		9			9		9		9		9			9		9
1	2	470.9	36.075	36.071	2	15.547	15.473	26.713	152.3	2	151.0	6	92.5	0.01	6	13.47	6	0.79	6	5.10	6	1.64	2	0.87	2	0.02	2		9	554.2	460.5	2	2151.3	2	7.8471	2	2360	2	2361	43.1	2		9

* WOCE water sample quality flag (F) for parameter for the previous column
** WOCE quality flag (F) for "Niskin" sample bottle
*** PSS-78 scale
**** ITS0 scale

A5R
NOAA Ship Ronald H. Brown

STATION 123 DATE 2/23/1998 LATITUDE 27.002° N
LONGITUDE 79.283° W

Bottle Number	F**	Pressure db	CTD Salinity***	Bottle Salinity***	F*	Temp**** °C	Theta °C	Sigma Theta	CTD O2 µmol/kg	F*	Bottle O2 µmol/kg	F*	AOU	NO2 µmol/kg	F*	NO3 µmol/kg	F*	PO4 µmol/kg	F*	Si(OH)4 µmol/kg	F*	CFC-11 pmol/kg	F*	CFC-12 pmol/kg	F*	CFC-113 pmol/kg	F*	CCl4 pmol/kg	F*	fCO2 at 20 °C µatm	fCO2 INSITU µatm	F*	DIC µmol/kg	F*	pH	F*	Measured TA µmol/kg	F*	Calculated TA µmol/kg	TOC µmol/kg	F*	TON µmol/kg	F*
20	2	3.1	36.170	36.169	2	25.833	25.832	23.971	206.2	2	204.2	2	-2.3	0.00	2	0.00	2	0.00	2	1.30	2		9		9		9		9	282.8	356.1	6	2013.4	6		9	2370	2			9		9
19	2	23.8	36.170	36.170	2	25.839	25.834	23.972	206.1	2	204.2	2	-2.3	0.00	2	0.00	2	0.00	2	1.30	2		9		9		9		9			9		9		9		9			9		9
18	2	48.3	36.169	36.168	2	25.840	25.829	23.974	205.5	2	204.4	2	-2.5	0.01	2	0.00	2	0.01	2	1.30	2		9		9		9		9			9		9		9		9			9		9
17	2	72.9	36.160	36.164	2	25.723	25.707	24.007	204.5	2	203.5	2	-1.2	0.04	2	0.00	2	0.01	2	1.30	2		9		9		9		9			9		9		9		9			9		9
16	2	99.0	36.158	36.159	2	25.174	25.152	24.178	204.0	2	203.6	2	0.6	0.17	2	0.00	2	0.02	2	1.20	2		9		9		9		9			9		9		9		9			9		9
15	2	127.4	36.426	36.427	2	24.837	24.809	24.487	185.9	2	186.0	2	19.0	0.11	2	1.37	2	0.07	2	1.30	2		9		9		9		9			9		9		9		9			9		9
14	2	149.4	36.526	36.528	2	24.579	24.547	24.644	181.8	2	179.2	2	26.6	0.07	2	1.95	2	0.10	2	1.40	2		9		9		9		9			9		9		9		9			9		9
13	2	175.2	36.863	36.871	2	22.821	22.785	25.421	158.6	2	158.9	2	52.7	0.01	2	4.29	2	0.21	2	1.70	2		9		9		9		9			9		9		9		9			9		9
12	2	199.5	36.827	36.827	2	20.618	20.580	26.012	169.7	2	172.5	2	47.6	0.01	2	3.90	2	0.18	2	1.50	2		9		9		9		9			9		9		9		9			9		9
11	2	216.4	36.694	36.694	2	19.458	19.418	26.220	172.2	2	165.4	3	59.6	0.01	2	5.75	2	0.29	2	2.00	2		9		9		9		9			9		9		9		9			9		9
10	2	250.1	36.691	36.684	2	19.266	19.220	26.271	180.2	2	185.3	2	40.5	0.01	2	3.61	2	0.16	2	1.30	2		9		9		9		9			9		9		9		9			9		9
9	2	276.5	36.605	36.601	2	18.680	18.631	26.357	171.6	2	177.7	2	50.7	0.01	2	5.46	2	0.27	2	1.90	2		9		9		9		9			9		9		9		9			9		9
8	2	299.0	36.573	36.571	2	18.388	18.335	26.408	185.7	2	189.7	2	40.0	0.01	2	4.68	2	0.22	2	1.60	2		9		9		9		9			9		9		9		9			9		9
7	2	324.4	36.508	36.504	2	18.023	17.967	26.451	166.3	2	179.9	2	51.5	0.01	2	6.34	2	0.33	2	2.10	2		9		9		9		9			9		9		9		9			9		9
6	2	347.6	36.421	36.425	2	17.546	17.487	26.503	172.4	2	174.3	2	59.3	0.01	2	7.71	2	0.41	2	2.60	2		9		9		9		9			9		9		9		9			9		9
5	2	394.9	36.257	36.255	2	16.542	16.477	26.620	160.7	2	165.7	2	72.8	0.00	2	10.15	2	0.57	2	3.60	2		9		9		9		9			9		9		9		9			9		9
4	2	453.8	36.045	36.043	2	15.303	15.232	26.743	153.2	2	154.2	2	90.5	0.00	2	13.37	2	0.78	2	5.10	2		9		9		9		9			9		9		9		9			9		9
3	2	497.4	35.783	35.776	2	13.847	13.774	26.856	136.7	2	137.1	2	115.3	0.00	2	17.57	2	1.07	2	7.40	2		9		9		9		9			9		9		9		9			9		9
2	2	550.2	35.702	35.698	2	13.333	13.255	26.902	138.4	2	136.2	2	119.0	0.00	2	18.54	2	1.14	2	8.10	2		9		9		9		9			9		9		9		9			9		9
1	2	610.2	35.502	35.550	2	11.767	11.687	27.055	144.4	2		9		0.00	6	19.52	6	1.22	6	9.30	6		9		9		9		9			9		9		9		9			9		9

* WOCE water sample quality flag (F) for parameter for the previous column
** WOCE quality flag (F) for "Niskin" sample bottle
*** PSS-78 scale
**** ITS0 scale

A5R
NOAA Ship Ronald H. Brown

STATION 124 DATE 2/23/1998 LATITUDE 27.001° N
LONGITUDE 79.381° W

Bottle Number	F**	Pressure db	CTD Salinity***	Bottle Salinity***	F*	Temp**** °C	Theta °C	Sigma Theta	CTD O2 µmol/kg	F*	Bottle O2 µmol/kg	F*	AOU	NO2 µmol/kg	F*	NO3 µmol/kg	F*	PO4 µmol/kg	F*	Si(OH)4 µmol/kg	F*	CFC-11 pmol/kg	F*	CFC-12 pmol/kg	F*	CFC-113 pmol/kg	F*	CCl4 pmol/kg	F*	fCO2 at 20 °C µatm	fCO2 INSITU µatm	F*	DIC µmol/kg	F*	pH	F*	Measured TA µmol/kg	F*	Calculated TA µmol/kg	TOC µmol/kg	F*	TON µmol/kg	F*
21	2	3.9	36.079	36.078	2	26.275	26.274	23.764	205.5	2	204.1	2	-3.5	0.00	2	0.00	2	0.00	2	1.40	2	9	9	9	9	276.3	353.9	6	2006.8	6	8.0968	2	2363	6	2358	62.3	2	4.4	2
20	2	27.5	36.161	36.161	2	26.244	26.238	23.839	204.7	2	203.7	2	-3.1	0.00	2	0.00	2	0.01	2	1.40	2	9	9	9	9		9		9		9		9				9		9
19	2	50.5	36.175	36.176	2	25.757	25.746	24.005	204.4	2	203.9	2	-1.7	0.02	2	0.00	2	0.01	2	1.30	2	9	9	9	9		9		9		9		9			62.6	2	4.4	2
18	2	74.5	36.161	36.162	2	25.504	25.488	24.076	202.3	2	201.9	2	1.2	0.16	2	0.00	2	0.02	2	1.30	2	9	9	9	9		9		9		9		9				9		9
17	2	101.9	36.147	36.148	2	25.224	25.202	24.155	201.6	2	204.7	2	-0.6	0.09	2	0.00	2	0.02	2	1.20	2	9	9	9	9		9		9		9		9			59.5	2	4.6	2
16	2	124.6	36.223	36.227	2	24.985	24.958	24.289	198.7	2	198.6	2	6.2	0.22	2	0.39	2	0.04	2	1.20	2	9	9	9	9		9		9		9		9				9		9
15	2	151.6	36.868	36.871	2	23.084	23.053	25.346	161.4	2	161.6	2	49.1	0.02	2	3.80	2	0.19	2	1.60	2	9	9	9	9		9		9		9		9			51.6	2	8.0	2
14	2	173.5	36.886	36.892	2	21.967	21.932	25.682	159.6	2	165.6	2	49.2	0.01	2	3.90	2	0.19	2	1.60	2	9	9	9	9		9		9		9		9				9		9
13	2	199.7	36.789	36.794	2	20.599	20.561	25.988	158.2	2	159.2	2	61.0	0.01	2	5.56	2	0.28	2	2.00	2	9	9	9	9		9		9		9		9			47.5	2	9.4	2
12	2	224.4	36.614	36.621	2	18.958	18.918	26.288	164.2	2	159.9	2	67.3	0.01	2	7.12	2	0.37	2	2.50	2	9	9	9	9		9		9		9		9				9		9
11	2	249.5	36.504	36.498	2	18.189	18.145	26.400	150.6	2	160.2	2	70.5	0.01	2	8.39	2	0.44	2	2.90	2	9	9	9	9		9		9		9		9			46.1	2	12.9	2
10	2	271.0	36.454	36.455	2	17.921	17.874	26.430	151.7	2	156.6	2	75.3	0.01	2	9.27	2	0.50	2	3.30	2	9	9	9	9		9		9		9		9				9		9
9	2	302.0	36.372	36.365	2	17.417	17.366	26.493	147.8	2	153.1	2	81.2	0.00	2	10.44	2	0.58	2	3.80	2	9	9	9	9		9		9		9		9				9		9
8	2	313.2	36.309	36.313	2	17.038	16.986	26.536	147.6	2	151.4	2	84.7	0.00	2	10.93	2	0.62	2	3.90	2	9	9	9	9		9		9		9		9				9		9
7	2	352.8	36.251	36.251	2	16.670	16.612	26.582	148.5	2	150.6	2	87.3	0.00	2	11.61	2	0.66	2	4.40	2	9	9	9	9		9		9		9		9			44.6	2	16.0	2
6	2	396.7	36.001	35.994	2	15.243	15.181	26.719	140.9	2	141.4	2	103.6	0.00	2	15.13	2	0.89	2	6.10	2	9	9	9	9		9		9		9		9				9		9
5	2	444.7	35.668	35.674	2	13.209	13.146	26.894	131.0	2	131.9	2	124.0	0.00	2	19.33	2	1.18	2	8.90	2	9	9	9	9		9		9		9		9				9		9
4	2	499.8	35.517	35.515	2	12.279	12.212	26.963	128.2	2	127.0	2	134.2	0.00	2	21.48	2	1.33	2	10.30	2	9	9	9	9		9		9		9		9				9		9
3	2	549.4	35.412	35.408	2	11.578	11.507	27.016	126.9	2	126.1	2	139.2	0.00	2	22.94	2	1.44	2	11.50	2	9	9	9	9		9		9		9		9			42.1	2		9
2	2	565.0	35.352	35.339	2	11.220	11.148	27.036	126.0	2	123.4	2	144.0	0.00	2	23.92	2	1.50	2	12.40	2	9	9	9	9		9		9		9		9				9		9
1	2	662.4	35.098	35.100	2	8.848	8.775	27.243	132.0	2	128.6	6	153.5	0.00	6	26.95	6	1.71	6	16.60	6	9	9	9	9		9		9		9		9			41.4	2	29.8	2

* WOCE water sample quality flag (F) for parameter for the previous column
** WOCE quality flag (F) for "Niskin" sample bottle
*** PSS-78 scale
**** ITS0 scale

A5R
NOAA Ship Ronald H. Brown

STATION 125 DATE 2/23/1998 LATITUDE 27.038° N
LONGITUDE 79.481° W

Bottle Number	F**	Pressure db	CTD Salinity***	Bottle Salinity***	F*	Temp**** °C	Theta °C	Sigma Theta	CTD O2 µmol/kg	F*	Bottle O2 µmol/kg	F*	AOU	NO2 µmol/kg	F*	NO3 µmol/kg	F*	PO4 µmol/kg	F*	Si(OH)4 µmol/kg	F*	CFC-11 pmol/kg	F*	CFC-12 pmol/kg	F*	CFC-113 pmol/kg	F*	CCl4 pmol/kg	F*	fCO2 at 20 °C µatm	fCO2 INSITU µatm	F*	DIC µmol/kg	F*	pH	F*	Measured TA µmol/kg	F*	Calculated TA µmol/kg	TOC µmol/kg	F*	TON µmol/kg	F*
23	2	4.0	36.101	36.100	2	26.487	26.486	23.713	208.5	2	202.3	2	-2.5	0.01	2	0.10	2	0.00	2	1.30	2	1.69	2	1.00	2	0.15	2	1.69	2	272.9	352.2	2	2007.7	6	8.1011	2	2371	2	2362		9		9
22	2	25.5	36.109	36.117	2	26.454	26.448	23.733	203.9	2	202.6	2	-2.7	0.01	2	0.10	2	0.01	2	1.30	2	1.72	6	1.00	6	0.15	6		9			9		9	8.1006	2		9			9		9
21	2	51.6	36.153	36.154	2	25.330	25.319	24.121	206.5	2	205.7	2	-2.0	0.02	2	0.10	2	0.01	2	1.10	2	1.77	2	1.04	2	0.58	4	1.70	2			9		9	8.0944	2		9			9		9
20	2	75.5	36.141	36.142	2	25.160	25.143	24.167	202.5	2	204.2	2	0.1	0.12	2	0.10	2	0.02	2	1.10	2	1.76	2	1.04	2	0.14	2		9	283.0	347.3	2	2019.7	2	8.0911	2	2361	3	2369		9		9
19	2	99.9	36.148	36.150	2	25.125	25.103	24.186	199.3	2	202.5	2	1.9	0.28	2	0.10	2	0.03	2	1.10	2	1.76	2	1.04	2	0.14	2		9			9		9	8.0894	2		9			9		9
18	2	124.4	36.412	36.358	2	24.562	24.535	24.560	188.1	2	189.8	2	16.3	0.16	2	1.07	2	0.07	2	1.20	2	1.81	2	1.06	2	0.10	2	1.12	2	310.4	372.2	2	2043.9	3	8.0606	2	2382	2	2376		9		9
17	2	150.5	36.864	36.866	2	22.690	22.659	25.457	159.1	2	159.1	2	53.0	0.02	2	4.19	2	0.21	2	1.60	2		9		9		9		9			9		9	7.9906	2		9			9		9
16	2	175.3	36.856	36.836	2	21.030	20.996	25.919	155.7	2	160.2	2	58.2	0.01	2	5.07	2	0.25	2	1.80	2	1.98	2	1.12	2	0.04	2		9	415.3	432.7	2	2125.6	3	7.9665	2	2404	3	2407		9		9
15	2	200.7	36.750	36.752	2	19.631	19.594	26.216	162.9	2	185.7	3	38.5	0.01	2	3.02	2	0.12	2	1.10	2		9		9		9		9			9		9		4		9			9		9
14	2	225.5	36.536	36.540	2	18.445	18.405	26.358	152.5	2	155.6	2	73.9	0.01	2	8.39	2	0.45	2	2.80	2	1.96	2	1.07	2	0.02	2	0.23	2			9		9	7.9144	2		9			9		9
13	2	251.6	36.430	36.429	2	17.816	17.773	26.436	150.5	2	153.0	2	79.4	0.01	2	9.76	2	0.54	2	3.40	2		9		9		9		9	484.0	442.7	2	2142.6	2	7.8981	2	2387	2	2381		9		9
12	2	267.4	36.415	36.412	2	17.674	17.628	26.461	150.0	2	155.2	2	77.8	0.01	2	9.76	2	0.54	2	3.40	2	1.93	2	1.03	2	0.02	2		9			9		9	7.8996	2		9			9		9
11	2	298.7	36.299	36.296	2	16.992	16.942	26.539	149.0	2	151.6	2	84.7	0.01	2	11.22	2	0.63	2	4.00	2	1.82	2	0.98	2	0.01	2	0.25	2	505.6	446.9	2	2146.3	2	7.8783	2	2392	3	2373		9		9
10	2	325.1	36.135	36.135	2	16.010	15.958	26.644	145.2	2	145.2	2	95.9	0.01	2	13.37	2	0.78	2	5.00	2	1.67	6	0.89	6	0.02	2		9			9		9	7.8497	2		9			9		9
9	2	349.3	36.089	36.087	2	15.761	15.706	26.667	144.0	2	144.2	2	98.2	0.01	2	13.86	2	0.82	2	5.30	2		9		9		9		9			9		9	7.8393	2		9			9		9
8	2	397.9	35.762	35.761	2	13.804	13.746	26.843	135.4	2	134.5	2	118.1	0.01	2	18.06	2	1.10	2	7.60	2	1.28	2	0.68	2	0.01	2	0.27	6	650.1	503.2	2	2170.2	2	7.7778	2	2352	2	2345		9		9
7	2	449.1	35.414	35.410	2	11.614	11.556	27.006	126.5	2	124.8	2	140.2	0.01	2	22.75	2	1.44	2	11.00	2		9		9		9		9			9		9	7.7067	2		9			9		9
6	2	499.0	35.261	35.252	2	10.526	10.465	27.086	125.5	2	123.3	2	148.2	0.01	2	24.80	2	1.59	2	12.90	2	0.65	2	0.34	2	0.01	2		9	842.6	569.1	2	2190.9	2	7.6745	2	2317	2	2319		9		9
5	2	547.5	35.107	35.108	2	9.400	9.338	27.158	124.8	2	120.3	2	158.3	0.01	2	27.05	2	1.75	2	15.40	2		9		9		9	0.23	2			9		9	7.6424	2		9			9		9
4	2	598.4	34.985	34.983	2	8.193	8.130	27.252	126.9	2	123.1	2	163.4	0.01	2	28.81	2	1.89	2	18.40	2	0.24	2	0.13	2	0.01	2		9	980.0	600.3	2	2206.6	2	7.6151	2	2323	3	2310		9		9
3	2	647.6	34.936	34.935	2	7.522	7.457	27.313	132.5	2	128.8	2	162.2	0.01	2	29.11	2	1.94	2	19.90	2		9		9		9		9			9		9	7.6080	2		9			9		9
2	2	700.6	34.901	34.901	2	7.036	6.968	27.355	137.9	2	132.2	2	162.1	0.01	6	29.60	6	1.98	6	21.50	6	0.10	2	0.06	2	0.01	2	0.16	2			9		9	7.6024	2		9			9		9
1	2	738.3	34.898	34.897	2	6.624	6.554	27.409	145.3	2	139.4	6	157.8		9		9		9		9	0.08	2	0.04	2	0.01	2	0.16	2	1018.1	585.5	2	1987.1	3	7.6071	2	2326	2	2080		9		9

* WOCE water sample quality flag (F) for parameter for the previous column
** WOCE quality flag (F) for "Niskin" sample bottle
*** PSS-78 scale
**** ITS0 scale

A5R
NOAA Ship Ronald H. Brown

STATION 126 DATE 2/23/1998 LATITUDE 27.013° N
LONGITUDE 79.605° W

Bottle Number	F**	Pressure db	CTD Salinity***	Bottle Salinity***	F*	Temp**** °C	Theta °C	Sigma Theta	CTD O2 µmol/kg	F*	Bottle O2 µmol/kg	F*	AOU	NO2 µmol/kg	F*	NO3 µmol/kg	F*	PO4 µmol/kg	F*	Si(OH)4 µmol/kg	F*	CFC-11 pmol/kg	F*	CFC-12 pmol/kg	F*	CFC-113 pmol/kg	F*	CCl4 pmol/kg	F*	fCO2 at 20 °C µatm	fCO2 INSITU µatm	F*	DIC µmol/kg	F*	pH	F*	Measured TA µmol/kg	F*	Calculated TA µmol/kg	TOC µmol/kg	F*	TON µmol/kg	F*
21	2	3.3	36.131		2	26.589	26.588	23.704	211.0	2	201.9	2	-2.4		9		9		9		9		9		9		9		9	278.1	360.4	6	2011.0	6	8.1005	2	2362	6		63.1	2	4.4	2
20	2	25.3	36.129	36.131	2	26.590	26.584	23.705	201.1	2	201.7	2	-2.2	0.01	2	0.10	2	0.01	2	1.40	2		9		9		9		9			9		9		9		9			9		9
19	2	51.7	36.158	36.158	2	25.523	25.512	24.065	196.8	2	206.2	2	-3.2	0.00	2	0.10	2	0.01	2	1.30	2		9		9		9		9			9		9		9		9			62.9	2	4.3	2
18	2	76.0	36.179	36.175	2	25.264	25.247	24.164	189.1	2	202.7	2	1.2	0.16	2	0.10	2	0.02	2	1.30	2		9		9		9		9			9		9		9		9				9		9
17	2	100.1	36.306	36.334	2	24.894	24.872	24.376	175.0	2	190.0	2	15.0	0.14	2	1.17	2	0.06	2	1.30	2		9		9		9		9			9		9		9		9			56.9	2	5.7	2
16	2	124.6	36.876	36.880	2	23.604	23.578	25.197	165.0	2	168.8	2	40.0	0.02	2	3.02	2	0.16	2	1.60	2		9		9		9		9			9		9		9		9				9		9
15	3	150.9	36.931	36.932	2	21.970	21.940	25.713	158.4	2	164.4	2	50.3	0.02	2	4.19	2	0.21	2	1.80	2		9		9		9		9			9		9		9		9			54.3	2	6.8	2
14	2	175.3	36.834	36.836	2	20.566	20.533	26.029	155.9	2	161.1	2	59.2	0.01	2	5.36	2	0.27	2	2.00	2		9		9		9		9			9		9		9		9				9		9
13	2	200.2	36.681	36.677	2	19.311	19.275	26.246	154.0	2	158.6	2	67.0	0.01	2	7.02	2	0.36	2	2.40	2		9		9		9		9			9		9		9		9			50.7	2	10.7	2
12	2	225.2	36.462	36.463	2	17.859	17.820	26.448	151.4	2	162.3	4	69.8	0.01	2	8.68	2	0.46	2	3.00	2		9		9		9		9			9		9		9		9				9		9
11	2	250.8	36.333	36.333	2	17.105	17.063	26.534	150.2	2	156.9	2	78.8	0.01	2	10.34	2	0.58	2	3.70	2		9		9		9		9			9		9		9		9			48.7	2	13.9	2
10	2	273.6	36.209	36.210	2	16.414	16.369	26.604	145.1	2	149.8	2	89.3	0.01	2	12.20	2	0.70	2	4.50	2		9		9		9		9			9		9		9		9				9		9
9	2	300.1	36.085	36.083	2	15.693	15.646	26.675	141.0	2	145.3	2	97.4	0.00	2	13.86	2	0.81	2	5.30	2		9		9		9		9			9		9		9		9				9		9
8	2	325.9	35.886	35.886	2	14.541	14.492	26.778	126.9	2	133.1	2	115.5	0.01	2	17.08	2	1.02	2	7.20	2		9		9		9		9			9		9		9		9				9		9
7	2	352.6	35.704	35.704	2	13.441	13.391	26.870	123.2	2	130.0	2	124.5	0.01	2	19.13	2	1.18	2	8.50	2		9		9		9		9			9		9		9		9			45.4	2	22.7	2
6	2	400.8	35.458	35.450	2	11.893	11.840	26.986	124.1	2	124.9	2	138.4	0.00	2	22.45	2	1.41	2	10.80	2		9		9		9		9			9		9		9		9				9		9
5	2	452.1	35.241	35.239	2	10.465	10.410	27.079	122.2	2	123.2	6	148.7	0.01	2	25.29	2	1.60	2	13.30	2		9		9		9		9			9		9		9		9				9		9
4	2	502.6	35.030	35.024	2	8.634	8.580	27.217	123.0	2	122.5	2	161.0	0.01	2	28.42	2	1.85	2	17.50	2		9		9		9		9			9		9		9		9				9		9
3	2	543.8	34.961	34.962	2	7.939	7.883	27.269	126.2	2	126.4	2	161.7	0.01	2	29.20	2	1.91	2	19.00	2		9		9		9		9			9		9		9		9			42.8	2		9
2	2	599.3	34.906	34.907	2	6.412	6.357	27.440	145.9	2	148.0	2	150.5	0.01	2		4	1.92	2	22.80	2		9		9		9		9			9		9		9		9				9		9
1	2	666.0	34.901	34.899	2	6.052	5.992	27.483	153.0	2	151.6	2	149.5	0.01	6	28.42	6	1.91	6	23.80	6		9		9		9		9			9		9		9		9			41.9	2	32.4	2

* WOCE water sample quality flag (F) for parameter for the previous column
** WOCE quality flag (F) for "Niskin" sample bottle
*** PSS-78 scale
**** ITS0 scale

A5R
NOAA Ship Ronald H. Brown

STATION 127 DATE 2/23/1998 LATITUDE 27.020° N
LONGITUDE 79.674° W

Bottle Number	F**	Pressure db	CTD Salinity***	Bottle Salinity***	F*	Temp**** °C	Theta °C	Sigma Theta	CTD O2 µmol/kg	F*	Bottle O2 µmol/kg	F*	AOU	NO2 µmol/kg	F*	NO3 µmol/kg	F*	PO4 µmol/kg	F*	Si(OH)4 µmol/kg	F*	CFC-11 pmol/kg	F*	CFC-12 pmol/kg	F*	CFC-113 pmol/kg	F*	CCl4 pmol/kg	F*	fCO2 at 20 °C µatm	fCO2 INSITU µatm	F*	DIC µmol/kg	F*	pH	F*	Measured TA µmol/kg	F*	Calculated TA µmol/kg	TOC µmol/kg	F*	TON µmol/kg	F*
20	2	4.3	36.198	36.199	2	25.932	25.931	23.961	206.6	2	204.9	2	-3.4	0.00	2	0.00	2	0.00	2	1.20	2	9		9		9		9		281.4	355.7	6	2016.7	6	8.0959	2	2378	6	2370		9		9
19	2	25.6	36.213	36.214	2	25.734	25.728	24.037	205.3	2	205.5	2	-3.3	0.00	2	0.00	2	0.00	2	1.10	2	9		9		9		9				9		9		9		9				9		9
18	2	51.3	36.222	36.224	2	25.619	25.608	24.084	205.2	2	205.4	2	-2.8	0.00	2	0.00	2	0.01	2	1.10	2	9		9		9		9				9		9		9		9				9		9
17	2	75.8	36.555	36.568	2	25.227	25.210	24.459	202.8	2	180.2	3	23.3	0.11	2	1.66	2	0.08	2	1.30	2	9		9		9		9				9		9		9		9				9		9
16	2	100.3	36.800	36.800	2	24.463	24.441	24.880	168.2	2	168.2	2	37.6	0.03	2	2.54	2	0.11	2	1.30	2	9		9		9		9				9		9		9		9				9		9
15	2	100.6	36.798	36.803	2	24.456	24.434	24.881	168.2	2	168.4	2	37.4	0.03	2	2.54	2	0.12	2	1.30	2	9		9		9		9				9		9		9		9				9		9
14	2	125.3	36.525	36.256	2	21.550	21.525	25.519	200.4	2	206.3	2	10.9	0.49	2	1.27	2	0.10	2	1.30	2	9		9		9		9				9		9		9		9				9		9
13	2	150.1	36.859	36.860	2	21.105	21.076	25.898	155.8	2	159.1	2	59.0	0.01	2	5.46	2	0.26	2	2.00	2	9		9		9		9				9		9		9		9				9		9
12	2	175.6	36.686	36.687	2	19.522	19.490	26.193	151.7	2	155.6	2	69.1	0.01	2	7.32	2	0.37	2	2.40	2	9		9		9		9				9		9		9		9				9		9
11	2	198.5	36.593	36.599	2	18.767	18.732	26.318	150.8	2	154.2	2	73.8	0.01	2	8.19	2	0.42	2	2.70	2	9		9		9		9				9		9		9		9				9		9
10	2	220.2	36.507	36.520	2	18.138	18.100	26.413	152.6	2	159.1	2	71.7	0.01	2	8.49	2	0.44	2	2.80	2	9		9		9		9				9		9		9		9				9		9
9	2	250.1	36.298	36.296	2	17.065	17.023	26.517	142.2	2	148.1	2	87.8	0.01	2	11.61	2	0.64	2	4.40	2	9		9		9		9				9		9		9		9				9		9
8	2	274.5	36.061	36.062	2	15.619	15.576	26.672	131.4	2	134.1	2	108.9	0.01	2	15.22	2	0.88	2	6.20	2	9		9		9		9				9		9		9		9				9		9
7	2	301.2	35.853	35.868	2	14.346	14.301	26.792	126.8	2	130.2	2	119.4	0.01	2	17.57	2	1.05	2	7.70	2	9		9		9		9				9		9		9		9				9		9
6	2	325.4	35.744	35.732	2	13.676	13.629	26.851	127.2	2	130.5	2	122.7	0.01	2	18.94	2	1.14	2	8.50	2	9		9		9		9				9		9		9		9				9		9
5	2	352.0	35.556	35.554	2	12.498	12.450	26.943	124.6	2	127.6	2	132.2	0.00	2	21.19	2	1.30	2	10.20	2	9		9		9		9				9		9		9		9				9		9
4	2	401.1	35.298	35.286	2	10.558	10.509	27.105	123.1	2	127.3	6	143.9	0.01	2	24.90	2	1.57	2	14.50	2	9		9		9		9				9		9		9		9				9		9
3	2	452.0	35.049	35.048	2	8.520	8.472	27.248	125.6	2	127.7	2	156.4	0.01	2	28.03	2	1.81	2	18.70	2	9		9		9		9				9		9		9		9				9		9
2	2	501.3	34.901	34.899	2	6.181	6.136	27.463	149.7	2	149.0	2	151.1	0.00	2	28.81	2	1.92	2	24.30	2	9		9		9		9				9		9		9		9				9		9
1	2	530.4	34.900	34.899	2	5.979	5.932	27.489	155.3	2	152.7	2	148.8	0.01	6	28.42	6	1.92	6	24.50	2	9		9		9		9				9		9		9		9				9		9

* WOCE water sample quality flag (F) for parameter for the previous column
** WOCE quality flag (F) for "Niskin" sample bottle
*** PSS-78 scale
**** ITS0 scale

A5R
NOAA Ship Ronald H. Brown

STATION 128 DATE 2/23/1998 LATITUDE 27.002° N
LONGITUDE 79.788° W

Bottle Number	F**	Pressure db	CTD Salinity***	Bottle Salinity***	F*	Temp**** °C	Theta °C	Sigma Theta	CTD O2 µmol/kg	F*	Bottle O2 µmol/kg	F*	AOU	NO2 µmol/kg	F*	NO3 µmol/kg	F*	PO4 µmol/kg	F*	Si(OH)4 µmol/kg	F*	CFC-11 pmol/kg	F*	CFC-12 pmol/kg	F*	CFC-113 pmol/kg	F*	CCl4 pmol/kg	F*	fCO2 at 20 °C µatm	fCO2 INSITU µatm	F*	DIC µmol/kg	F*	pH	F*	Measured TA µmol/kg	F*	Calculated TA µmol/kg	TOC µmol/kg	F*	TON µmol/kg	F*
16	2	1.9	36.279		2	25.039	25.039	24.299	212.5	2		9			9		9		9		9		9		9		9		9		9		9		9		9		9		9		9
15	2	20.5	36.277	36.279	2	25.032	25.028	24.302	209.9	2	208.5	2	-4.0	0.00	2	0.00	2	0.01	2	1.00	2		9		9		9		9		9		9		9		9		9	67.8	2	4.8	2
14	2	49.6	36.296	36.302	2	25.010	24.999	24.327	207.2	2	205.6	2	-1.0	0.03	2	0.20	2	0.03	2	1.00	2		9		9		9		9		9		9		9		9		9	65.9	2	5.7	2
13	2	76.3	36.324	36.329	2	22.271	22.256	25.157	197.8	2	202.3	2	12.0	0.32	2	1.27	2	0.08	2	1.10	2		9		9		9		9		9		9		9		9		9	65.8	2	6.2	2
12	2	100.6	36.142	36.145	2	20.851	20.832	25.416	208.9	2	217.0	6	3.1	0.41	2	0.29	2	0.06	2	1.00	2		9		9		9		9		9		9		9		9		9		9		9
11	2	124.8	36.146	36.152	2	20.068	20.045	25.631	192.5	2	195.4	2	27.8	0.09	2	3.42	2	0.20	2	1.90	2		9		9		9		9		9		9		9		9		9	60.4	2	8.1	2
10	2	150.1	36.404	36.418	2	19.057	19.030	26.096	152.1	2	148.7	2	78.3	0.02	2	8.98	2	0.48	2	3.30	2		9		9		9		9		9		9		9		9		9		9		9
9	2	174.2	36.248	36.245	2	17.265	17.236	26.424	135.3	2	135.1	2	100.0	0.02	2	12.88	2	0.73	2	5.00	2		9		9		9		9		9		9		9		9		9	50.6	2	13.6	2
8	2	200.2	35.983	36.000	2	15.188	15.157	26.703	131.6	2	131.8	2	113.3	0.02	2	16.01	2	0.94	2	6.60	2		9		9		9		9		9		9		9		9		9		9		9
7	2	224.5	35.830	35.821	2	14.266	14.233	26.787	130.2	2	130.7	2	119.3	0.02	2	18.06	2	1.09	2	8.20	2		9		9		9		9		9		9		9		9		9	48.2	2	20.0	2
6	2	251.2	35.497	35.493	2	11.949	11.916	26.999	126.5	2	126.7	2	136.1	0.02	2	22.16	2	1.39	2	11.70	2		9		9		9		9		9		9		9		9		9		9		9
5	2	273.3	35.220	35.232	2	10.078	10.046	27.122	122.3	2	123.4	2	150.7	0.01	2	25.39	2	1.63	2	14.20	2		9		9		9		9		9		9		9		9		9	47.1	2	27.4	2
4	2	300.8	35.138	35.136	2	9.543	9.509	27.149	119.7	2	120.9	2	156.6	0.01	2	26.76	2	1.72	2	15.20	2		9		9		9		9		9		9		9		9		9		9		9
3	2	324.9	35.108	35.107	2	9.196	9.160	27.183	123.2	2	124.1	2	155.6	0.01	2	26.95	2	1.75	2	16.30	2		9		9		9		9		9		9		9		9		9	43.5	2		9
2	2	348.7	34.948	34.946	2	7.575	7.540	27.306	129.4	2	128.9	2	161.5	0.00	2	29.11	2	1.93	2	20.10	2		9		9		9		9		9		9		9		9		9		9		9
1	2	374.3	34.907	34.909	2	6.686	6.651	27.399	138.4	2	138.0	2	158.5	0.01	6	29.11	6	1.94	6	22.40	6		9		9		9		9		9		9		9		9		9	43.2	2	20.9	2

* WOCE water sample quality flag (F) for parameter for the previous column
** WOCE quality flag (F) for "Niskin" sample bottle
*** PSS-78 scale
**** ITS0 scale

A5R
NOAA Ship Ronald H. Brown

STATION 129 DATE 2/23/1998 LATITUDE 27.006° N
LONGITUDE 79.857° W

Bottle Number	F**	Pressure db	CTD Salinity***	Bottle Salinity***	F*	Temp**** °C	Theta °C	Sigma Theta	CTD O2 µmol/kg	F*	Bottle O2 µmol/kg	F*	AOU	NO2 µmol/kg	F*	NO3 µmol/kg	F*	PO4 µmol/kg	F*	Si(OH)4 µmol/kg	F*	CFC-11 pmol/kg	F*	CFC-12 pmol/kg	F*	CFC-113 pmol/kg	F*	CCl4 pmol/kg	F*	fCO2 at 20 °C µatm	fCO2 INSITU µatm	F*	DIC µmol/kg	F*	pH	F*	Measured TA µmol/kg	F*	Calculated TA µmol/kg	TOC µmol/kg	F*	TON µmol/kg	F*
11	2	4.4	36.156	36.157	2	23.971	23.970	24.528	218.2	2	215.1	6	-6.8	0.00	2	0.10	2	0.00	2	1.00	2	1.90	2	1.12	2	0.16	2	9		291.8	342.5	2	2026.3	6	8.0840	2	2366	3	2371		9		9
10	2	26.7	36.178	36.172	2	23.873	23.867	24.576	217.1	2	214.9	2	-6.2	0.00	2	0.10	2	0.00	2	1.00	2	1.94	2	1.13	2	0.16	2	9		292.3	341.7	2	2027.4	2	8.0846	2	2382	2	2373		9		9
9	2	51.5	36.174	36.179	2	21.710	21.700	25.199	218.3	2	220.6	2	-3.9	0.02	2	0.10	2	0.02	2	1.10	2	2.07	2	1.19	2	0.17	2	9		311.0	333.5	2	2046.4	2	8.0641	2	2376	3	2380		9		9
8	2	75.4	36.189	36.193	2	21.280	21.265	25.332	216.5	2	217.9	2	0.4	0.14	2	0.29	2	0.04	2	1.20	2	2.11	2	1.21	2	0.17	2	9		318.1	335.2	2	2057.0	2	8.0550	2	2375	3	2385		9		9
7	2	98.8	36.160	36.158	2	20.329	20.310	25.570	194.4	2	196.1	2	26.0	0.12	2	3.22	2	0.18	2	2.00	2	2.07	6	1.18	6	0.14	6	9		364.5	369.4	2	2084.9	2	8.0123	2	2384	2	2387		9		9
6	2	123.9	36.352	36.340	2	19.141	19.119	26.032	152.9	2	151.6	2	75.2	0.03	2	8.88	2	0.48	2	3.70	2	1.89	2	1.05	2	0.06	2	9		455.1	441.1	2	2133.3	3	7.9212	2	2383	2	2384		9		9
5	2	150.1	35.884	35.880	2	15.556	15.533	26.540	143.9	2	145.1	2	98.4	0.06	2	14.84	2	0.89	2	7.50	2	1.41	2	0.78	2	0.05	2	9		561.4	468.6	2	2153.1	2	7.8398	2	2357	2	2358		9		9
4	2	173.9	35.575	35.547	2	12.692	12.668	26.910	130.0	2	129.3	2	129.3	0.03	2	21.19	2	1.31	2	11.10	2	0.97	2	0.52	2	0.02	2	9		730.9	540.4	2	2180.8	2	7.7383	2	2338	2	2337		9		9
3	2	195.6	35.356	35.349	2	11.019	10.995	27.059	127.0	2	125.1	2	143.2	0.01	2	24.12	2	1.52	2	13.20	2	0.73	2	0.38	2	0.01	2	9		819.6	564.6	2	2191.1	2	7.6918	2	2328	2	2326		9		9
2	2	220.9	35.191	35.189	2	9.890	9.864	27.129	125.9	2	122.1	2	153.1	0.01	2	26.07	2	1.67	2	14.60	2	0.53	2	0.28	2	0.01	2	9		896.1	589.1	2	2198.1	2	7.6572	2	2317	2	2319		9		9
1	2	267.5	35.114	35.115	2	9.084	9.055	27.203	131.3	2	125.1	2	155.2	0.01	6	26.95	6	1.75	6	16.60	6	0.42	2	0.23	2	0.01	2	9		935.3	594.0	2	2204.2	2	7.6443	2	2320	2	2320		9		9

* WOCE water sample quality flag (F) for parameter for the previous column
** WOCE quality flag (F) for "Niskin" sample bottle
*** PSS-78 scale
**** ITS0 scale

A5R
NOAA Ship Ronald H. Brown

STATION 130 DATE 2/23/1998 LATITUDE 26.999° N
LONGITUDE 79.937° W

Bottle Number	F**	Pressure db	CTD Salinity***	Bottle Salinity***	F*	Temp**** °C	Theta °C	Sigma Theta	CTD O2 µmol/kg	F*	Bottle O2 µmol/kg	F*	AOU	NO2 µmol/kg	F*	NO3 µmol/kg	F*	PO4 µmol/kg	F*	Si(OH)4 µmol/kg	F*	CFC-11 pmol/kg	F*	CFC-12 pmol/kg	F*	CFC-113 pmol/kg	F*	CCl4 pmol/kg	F*	fCO2 at 20 °C µatm	fCO2 INSITU µatm	F*	DIC µmol/kg	F*	pH	F*	Measured TA µmol/kg	F*	Calculated TA µmol/kg	TOC µmol/kg	F*	TON µmol/kg	F*
6	2	3.0	36.024		2	23.327	23.326	24.617	225.1	2	219.9	2	0.1		9		9		9		9		9		9		9	2.11	6	304.9	349.0	6	2040.7	3	8.0762	2	2385	2		66.3	2	10.3	2
5	2	24.9	36.147	36.149	2	22.386	22.381	24.985	222.2	2	221.6	2	-7.5	0.00	2	0.00	2	0.01	2	0.90	2		9		9		9		9			9		9		9		9		62.8	2	5.4	2
4	2	49.6	36.148	36.135	2	20.864	20.855	25.412	207.7	2	210.0	6	10.0	0.26	2	1.66	2	0.12	2	1.70	2		9		9		9		9			9		9		9		9		59.2	2	6.5	2
3	2	75.8	35.992	35.988	2	17.933	17.920	26.056	172.5	2	176.2	2	56.2	0.19	2	8.69	2	0.53	2	4.80	2		9		9		9		9			9		9		9		9		53.1	2	12.7	2
2	2	96.4	35.832	35.817	2	14.915	14.900	26.640	140.6	2	139.3	2	107.4	0.06	2	16.50	2	1.00	2	8.00	2		9		9		9		9			9		9		9		9		43.9	2	19.5	2
1	2	129.5	35.483	35.502	2	11.797	11.780	27.010	121.9	2	126.4	2	137.2	0.03	6	22.07	6	1.39	6	12.10	6		9		9		9		9			9		9		9		9		41.4	2	24.7	2

* WOCE water sample quality flag (F) for parameter for the previous column
** WOCE quality flag (F) for "Niskin" sample bottle
*** PSS-78 scale
**** ITS0 scale