

NOAA Data Report ERL PMEL-57



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Pacific Marine Environmental Laboratory  
Seattle, Washington  
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**noaa** NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION / Environmental Research Laboratories

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DEPARTMENT OF COMMERCE**

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ATMOSPHERIC ADMINISTRATION

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# Chlorofluorocarbon Measurements in the Southwestern Pacific During the CGC-90 Expedition

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**ABSTRACT.** This report presents chlorofluorocarbon (CFC) and hydrographic data collected in the Southwest Pacific Ocean during the 1990 NOAA Climate and Global Change (CGC-90) expedition on NOAA Research Ship *Malcolm Baldrige*. On this expedition, full water column CTD/hydrocast stations were made on a section extending along 170°W from 5°N to 60°S, on a short section crossing the Southwest Pacific Basin to the southeast of New Zealand, and on a short section along 32° 30'S east of the Kermadec Ridge. Measurements of dissolved and atmospheric dichlorodifluoromethane (CFC-12) and trichlorofluoromethane (CFC-11) made by the SIO and NOAA/PMEL groups are compared in this report. Also included in the report are hydrographic data (measurements of salinity, temperature, pressure and depth) collected by NOAA/PMEL investigators during this expedition. The CFC and hydrographic data sets included in this report are also available from the authors in digital format.

## 1. INTRODUCTION

Analytical techniques have been developed which allow trace levels of chlorofluorocarbons (CFCs) to be measured in the atmosphere and ocean. A number of recent studies have demonstrated the usefulness of dissolved CFCs as time-dependent (transient) tracers of ocean circulation and mixing processes (Bullister, 1989). CFC studies are now included as integral parts of many hydrographic programs, including the World Ocean Circulation Experiment (WOCE).

During the past decade, researchers at NOAA/PMEL have been engaged in a long-term program to document the entry of dissolved CFCs in the Pacific Ocean, by means of repeat hydrographic sections in key regions of the Pacific at 5–10 year intervals (Wisegarver *et al.*, 1993). Such studies of the entry of CFCs (and other tracers) into the ocean can provide a unique description of the time-integrated circulation of the ocean on decadal time scales, and of climatically forced changes in ventilation and circulation. CFC (and other tracer) studies may also provide a means for improving estimates of the evolving oceanic burden of carbon dioxide and other climate-linked trace gases. The CGC-90 expedition was part of this repeat section program, re-occupying stations in this region of the Southwest Pacific sampled by the PMEL group in 1984.

The NOAA Research Ship *Malcolm Baldrige* departed from Pago Pago, American Samoa on 23 February 1990 to begin Leg 1 of the CGC-90 expedition (see Fig. 1). A series of hydrographic stations were occupied southward along 170°W from 14°S to 60°S. At 60°S, the ship track turned

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northwestward, and a series of stations were occupied across the Southwest Pacific Basin to the edge of the Campbell Plateau. Leg 1 ended in Wellington, New Zealand. The *Malcolm Baldrige* departed Wellington on 26 March 1990 to begin Leg 2 of the CGC-90 expedition, and proceeded to occupy a series of stations along 32°30'S from about 178°W to 171°W. The ship track turned northward, and occupied a series of stations along 170°W from 30°S to 5°N. Several stations were occupied in the vicinity of Samoa Passage (10°S, 170°W). Because of severe CFC contamination problems encountered during the first seven stations of Leg 1 (from 14°S to 22°S along 170°W), several of these locations were resampled during Leg 2.

Leg 2 of the CGC-90 expedition ended in Honolulu. A total of 110 CTD/rosette casts were made at 69 locations during this expedition.

At each station of this expedition, vertical profiles of conductivity, temperature and depth were obtained using a Neil Brown Instruments System Mark III CTD, mounted on a General Oceanics Rosette. The rosette contained 12 (or 24) General Oceanics 10-liter Niskin Bottles, which were used to collect discrete seawater samples. A subsample was collected from each bottle for analysis of salinity and dissolved oxygen. Many of the bottles were also sampled for the analyses of CFCs, dissolved carbon dioxide, alkalinity, pH, nutrients, helium-3 ( $^3\text{He}$ ), tritium and other parameters. The CTD temperature, bottle salinity, CTD salinity, CFC-11 and CFC-12 are included in this report. Measurements of dissolved carbon dioxide have been reported elsewhere (Lamb *et al.*, 1993).

### **1.1 CTD Data Processing**

The CTD data, and the acquisition, processing and calibration procedures used on this cruise are documented in McTaggart *et al.* (1993). At each station, the CTD/rosette package was lowered through the water column on an electrical/mechanical cable. The digitized CTD signal was recorded on magnetic tape in the ship's laboratory. Initial processing of the data at sea yielded preliminary values for temperature, salinity and pressure. Final calibration and processing of the CTD data was done at PMEL following the completion of the expedition.

The CTD instruments were calibrated at the Northwest Regional Calibration Center (NRCC) (Seattle, WA) before and after the cruise. Although several reversing thermometers were used on most casts, the CTD pressure and temperature readings are considered to be more accurate and no corrections were applied from the thermometer data. Salinity samples drawn from each Niskin bottle were used to determine the calibration of the CTD conductivity cell. Temperatures are reported on the IPTS-68 temperature scale.

### **1.2 Salinity Data Processing**

Seawater samples were analyzed for salinity on a Guildline Autosol salinometer. Vials of IAPSO Standard Seawater (Batch P112) were used to calibrate the Autosol and were run before and after a batch of seawater samples (typically one station would be run as a batch). Data are reported in practical salinity units (PSU) discussed in Lewis and Fofonoff (1979).

### 1.3 Chlorofluorocarbon (CFC) Analytical Techniques

To reduce CFC contamination from elastomers, the internal elastic tubing normally used to close Niskin Bottles was replaced with an epoxy-coated spring, and the end cap O-rings used to seal the Niskin bottles were exchanged with vacuum-baked O-rings prior to the first station.

When collected, CFC samples were the first samples drawn from the Niskin Bottles. To minimize contact with air, seawater samples were drawn through the stopcocks of the 10-liter Niskin bottles directly into 100-ml glass syringes. Syringes containing seawater samples were stored in a stainless steel holding tank, which was continuously flushed with a supply of clean surface seawater. The holding tank was placed in the ship's wet laboratory and the outside hatch left open. This reduced the possibility of contamination of the stored samples due to high CFC levels frequently encountered in enclosed laboratory space on board research vessels.

The primary CFC system used on the CGC-90 expedition was an analytical system designed and constructed at SIO (Bullister and Weiss, 1988). A second, PMEL-designed CFC analytical system (Wisegarver *et al.*, 1993) was used at some stations to compare the two CFC-11 and CFC-12 techniques, and to develop and test analytical techniques for the determination of dissolved CFC-113 in seawater. The CFC-11 and CFC-12 data collected by both groups are presented in the data tables and displayed as vertical profiles in this data report. Due to the relatively small number of samples analyzed on the PMEL system, only the CFC data collected with the SIO system are shown in the contoured sections.

### 1.4 CFC Standardization

Concentrations of CFC-11 and CFC-12 in air and water samples were calibrated at sea using gas-phase CFC working standards stored in high pressure cylinders. Calibration curves were generated by injecting multiple volumes of these working standards into the analytical system using carefully calibrated loop volumes. The amounts of CFCs injected into the system in these calibration runs spanned the range of CFCs present in the air and water samples. Full calibration curves were typically run at 1–2 day intervals during the expedition. Single loop volumes of standard were run frequently between calibration curves to check for changes in sensitivity of the analytical system. The techniques used for fitting multi-term expressions to the standard gas calibration data, correcting for analytical blanks, correcting for changes in sensitivity, and calculating CFC-11 and CFC-12 concentrations in air and seawater samples are discussed in Bullister and Weiss (1988).

Dissolved CFC concentrations are reported in units of picomoles per kilogram of seawater (pmol/kg). Air concentration measurements are reported as dry air mole fraction and are expressed as ppt ( $1 \text{ ppt} = 10^{-12}$ ).

The SIO and PMEL measurements of CFC-11 and CFC-12 are reported on the SIO 1986 calibration scale (Bullister and Weiss, 1988). The SIO concentration measurements on CGC-90 were referenced to SIO working standard cylinder 16457 (see Table 1). The concentrations assigned to this working standard are based on comparisons with primary CFC standards prepared at SIO



(Bullister, 1984). The PMEL measurements made on CGC-90 are referenced to PMEL working standard 71487. During the cruise, the CFC-11 and CFC-12 concentrations in PMEL working standard 71487 were calibrated relative to the SIO standard 16457. The CFC-11 and CFC-12 concentrations assigned to 71487 are shown in Table 1.

Table 1. Summary of standards used for the calibration of the CFC analytical system. CFC concentrations are reported in the SIO 1986 scale (Bullister and Weiss, 1988).

Cylinder #	Calibration	CFC-11 (ppt)	CFC-12 (ppt)
16457 (SIO)	vs SIO primary standards	198.53	359.84
71487 (PMEL)	vs 16457	263.0	481.6

### 1.5 CFC Air Measurement Techniques

Air samples were analyzed for CFC-11 and CFC-12 on both instruments periodically on station or while the ship was underway. An air inlet was mounted on the bow jackstaff of the vessel, and clean marine air was pumped into the laboratory through 3/8-inch O.D. Dekabon tubing. Air samples were normally analyzed in groups of three or more, with a single geographic position reported for each group. Typical precision ( $\pm$  one standard deviation) for these groups averaged 0.5% to 1.0% for both gases.

These air samples were used to determine the temporal and spatial distribution of CFCs in the near-surface atmosphere along the ship tracks (Fig. 2). The averages of the atmospheric concentrations south of 10°S are 252.3 ppt and 461.3 ppt for CFC-11 and CFC-12 using the SIO system, and 253.3 ppt and 459.4 ppt for the PMEL system. Since the atmospheric measurements made with the SIO and PMEL systems agree to within the estimated analytical errors (see below) and air measurements were made more frequently with the SIO system on this expedition, the SIO air values are used in calculating equilibrium dissolved CFC concentrations for each station.

CFC atmospheric values for each hydrographic station location were determined by averaging measurements taken within  $\pm 7$  days of a station and within a radius starting at 60 km, and increased in steps of 60 km, until a minimum of 5 air values were found. These mean values are reported in the station listings. These atmospheric values, together with measurements of temperature and salinity and CFC solubility data (Warner and Weiss, 1985), are used to calculate equilibrium concentrations for dissolved CFC samples at each station. The ratio of measured dissolved CFC concentrations to calculated equilibrium concentrations are reported in the data tables as percent saturation.

### 1.6 CFC Blank Corrections

Two types of blank corrections were applied to the CFC samples. An analytical (or "system") blank, derived from the analysis of CFC-free gas, was subtracted from standard and air samples.

CFC-11 and CFC-12 peak areas generated from analysis of analytical blanks were typically less than 1% of those for standard or air samples.

Estimates of seawater blanks were sometimes more difficult to determine. CFC contamination can occur during storage of the seawater sample in a Niskin Bottle, glass syringe, or sparging chamber, during the seawater transfer procedures, and during sample analysis.

Based on earlier CFC studies (Wisegarver *et al.*, 1993) and other time-dependent tracer studies in the Pacific Ocean (Broecker and Peng, 1982), much of the deep water at stations sampled north of  $\sim 25^{\circ}\text{S}$  and away from western boundary influences should contain near-zero concentrations of dissolved CFCs at the present time. Estimates of CFC seawater blanks for samples collected at stations along the northern end of the CGC-90 section (stations north of  $25^{\circ}\text{S}$ ) are based on analysis of deep water samples in that area. Estimates of typical seawater sample blanks at the more southerly stations (south of  $25^{\circ}\text{S}$ ) of this expedition are based on estimates from the northern end of the section, analyses of replicate samples (several bottles closed at the same depth), and bottle incubation experiments (see Wisegarver *et al.*, 1993). The analytical blanks subtracted from the sample concentrations are listed below.

Table 2. Summary of the water sample blank corrections for the SIO and PMEL systems.

Stations	SIO sample blanks		Stations	PMEL sample blanks	
	CFC-11	CFC-12		CFC-11	CFC-12
9-37	0.013	0.000	9-37	0.008	0.003
38-47	0.008	0.010	38-69	0.007	0.004
48-49	0.006	0.010			
50-55	0.009	0.010			
56-69	0.011	0.010			

### 1.7 Estimation of Analytical Precision and Accuracy

Several techniques were used to obtain estimates of analytical precision for the CFC measurements in seawater samples. Replicate samples were obtained by filling two or more syringes with seawater from the same Niskin Bottle, or by closing two or more Niskin Bottles at the same depth at a station, and sampling each for CFCs. In some cases, estimates of analytical precision could also be made from analysis of samples collected in a region of near-uniform CFC distribution (e.g., from a set of Niskin bottles closed in the mixed layer, or from a set of Niskin Bottles closed in deep, CFC-free water). The standard deviations for analyses of these types of replicate samples were used to estimate the overall analytical precision.

At most stations, the dissolved CFC concentrations ranged from a high of 1 (or more) pmol/kg in the near surface waters, to near-zero concentration in deep waters. In many cases, the analytical precision for a group of samples of varying concentrations can be expressed as either fixed amount (in pmol/kg) or as a percent of sample concentration, whichever is greater.

Based on the analysis of replicate samples on the SIO system, the precision is estimated to be 0.005 pmol/kg or 1.4% (whichever is greater) for CFC-11 and 0.005 pmol/kg or 1.0% for CFC-12. There were not very many replicate samples measured on the PMEL system and those analyzed were on consecutive runs. This was done to increase the flushing of sample through the injection valve when experimenting with the analysis of CFC-113, and does not provide an accurate estimate of the precision of the method. Duplicate samples were usually run some time apart so as to include errors arising from drifting standard responses and sample storage. Based on the scatter of the data, the estimated precision for the PMEL samples is 1.5% or 0.007 pmole/kg for CFC-11 and 1.0% or 0.005 pmole/kg for CFC-12.

A comparison of analyses made using the two CFC systems on water from the same Niskin bottles is shown in Figs. 3 and 4. The slope of the linear regression through the CFC-11 data is 1.012 and the intercept is  $-0.0040$ . For CFC-12, the slope is 1.048 and the intercept 0.0015. For concentrations greater than 0.5 pmol/kg, the mean ratio of the PMEL to SIO concentrations was 1.003 for CFC-11 and 1.048 for CFC-12. For concentrations less than 0.5 pmol/kg, the mean difference of PMEL and SIO concentrations was 0.0024 for CFC-11 and 0.0062 for CFC-12. These differences in CFC-12 are somewhat greater than the estimated analytical precisions for the two systems, and may be due to small systematic differences in detector linearities and sensitivities, sample transfer and trapping techniques, chromatographic columns, peak integration techniques and other factors. Discussions of differences in reported CFC concentrations during intercomparison studies are given in Wallace (1992) and Bullister *et al.* (1993).

The sensitivity of the SIO and PMEL systems to low concentrations of dissolved CFC-12 was substantially less than that for CFC-11. For many vertical profiles where the deep CFC-11 concentration fell between 0.03 and 0.01 pmol/kg, the corresponding CFC-12 peak was too small to integrate either digitally or manually and was assigned a value of 0. For this cruise, it appears that the detection limit for CFC-12 on the SIO system was on the order of 0.01 to 0.015 pmole/kg. As a consequence, low concentration features which appear in the CFC-11 sections could not be contoured reliably with the same detail using the CFC-12 data (see Figs. 5c, 5d). Additionally, CFC-11/CFC-12 ratios at low CFC concentrations were often higher than expected, due to the difficulty in the measurement of very small peaks.

## 1.8 Flagging System

The flagging system used for the CFC data follows the system developed for WOCE (WOCE Operations Manual, 1994). The following flags were used for CFC-11 and CFC-12:

<b><u>Flag</u></b>	<b><u>Definition</u></b>
2	Acceptable measurement
3	Questionable measurement
4	Bad measurement
6	Mean value of replicate measurements
7	Manual integration of chromatographic peaks
9	Not sampled

Because of severe CFC contamination problems in the Niskin bottles used for Sta. 1–8, data from these stations are not included in this report. A different set of bottles was used after Sta. 8, which in general provided much reduced levels of CFC contamination for the rest of the cruise.

A flag of 4 has been assigned to samples that were considered bad due to analytical problems, or that had grossly anomalous CFC-11 and/or CFC-12 concentrations relative to surrounding samples. Data flagged as 3 (questionable) deviated significantly from otherwise relatively smooth concentration profiles. In many cases, the CFC-11/CFC-12 ratio provided a sensitive test for assigning the questionable flag to a CFC-11 or CFC-12 value.

In this report, most of the data marked questionable were samples with concentrations of CFC-11 greater than 0.03 pmole/kg and with CFC-11/CFC-12 ratios greater than 2.4, an indication of CFC-11 contamination. Samples that had CFC-11 concentrations below 0.03 pmoles/kg frequently had high or anomalous CFC-11/CFC-12 ratios, due to the large relative errors in CFC-11 and CFC-12 concentration measurements at low levels, and the reduced sensitivity of the instruments to low levels of CFC-12. These low-concentration samples were not generally flagged as questionable.

Values for samples flagged as “bad” or “questionable” are included in the data tables in this report, but are not included in the countoured sections or vertical profile plots. It is important to emphasize that the data have been flagged to identify serious “flyers” and contaminated samples. However, not all of the data have yet been subjected to the level of scrutiny associated with careful interpretive work. Readers are therefore requested to contact the authors for any revisions in the data which may post-date this report, and to draw to our attention any suspected inconsistencies.

## **1.9 Plotting Techniques**

The gridding and contouring routines used are based on those developed by D. Roemmich (1983). The contoured sections in this report follow a few protocols. North is always to the right in latitudinal plots, and east is to the right in longitudinal plots. Stations are listed on the upper axis. The section begins with a map of the stations used in the contour plots. Sections for the 170°W line (from 60°S to 5°N), the Southwest Basin and the Kermadec Ridge, are included in this report.

The plots of vertical profiles of CFC's shown in this report were generated using software developed by the CFC group at SIO. Each page consists of a map of the station locations, and CFC profiles from five stations. Each station is plotted on two scales so that both high and low CFC concentrations may be easily displayed. CFC-11 is represented with circles and CFC-12 with triangles; the solid symbols are plotted against the lower concentration scale on the bottom axis.

## 2. ACKNOWLEDGMENTS

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# **CGC-90 Data**

## **Station Locations**

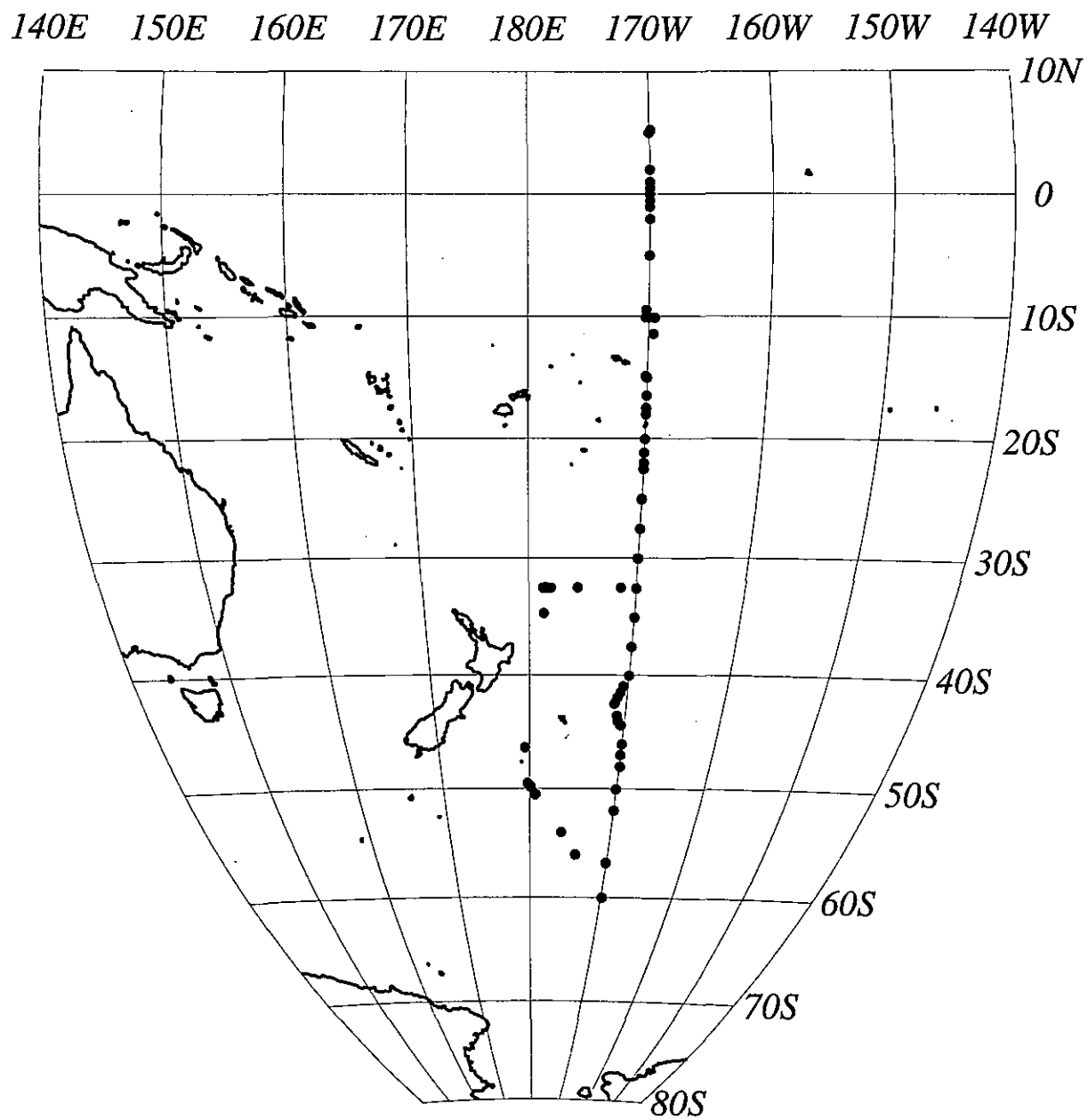


Fig. 1. Station locations for the CGC-90 expedition.



## CGC-90 Station List for Hydrographic Stations where CFCs were Measured

Station	Date	Latitude	Longitude	Bottom Depth (m)	Atm. F-11 $\times 10^{-12}$	Atm. F-12 $\times 10^{-12}$
9	27 Feb 90	25° 01.3' S	170° 00.9' W	5712	253.0	464.2
10	28 Feb 90	27° 30.8' S	170° 00.9' W	5316	251.8	461.5
11	1 Mar 90	30° 00.3' S	170° 02.6' W	5429	251.0	461.5
12	2 Mar 90	32° 33.2' S	170° 03.1' W	5568	251.1	461.2
13	2 Mar 90	35° 01.4' S	170° 00.6' W	5225	251.1	461.2
14	3 Mar 90	37° 32.6' S	170° 02.2' W	5170	252.3	461.5
15	4 Mar 90	40° 01.7' S	170° 01.7' W	4626	249.7	461.2
16	4 Mar 90	40° 58.1' S	170° 29.0' W	4323	249.7	461.2
17	5 Mar 90	41° 29.4' S	170° 43.4' W	3984	249.7	461.2
18	5 Mar 90	41° 58.9' S	170° 59.0' W	2974	249.7	461.2
19	5 Mar 90	42° 28.7' S	171° 12.5' W	1857	249.7	461.8
20	5 Mar 90	43° 30.1' S	170° 51.2' W	2904	249.0	461.5
21	6 Mar 90	43° 59.1' S	170° 41.6' W	4473	249.0	461.5
22	6 Mar 90	44° 22.2' S	170° 19.7' W	5108	249.0	461.5
23	6 Mar 90	46° 02.7' S	170° 00.1' W	5190	250.5	460.9
24	7 Mar 90	47° 00.4' S	170° 00.8' W	5252	250.5	460.9
25	7 Mar 90	48° 01.3' S	169° 54.9' W	5294	250.5	460.9
26	8 Mar 90	50° 04.0' S	170° 04.2' W	5279	252.1	460.1
27	9 Mar 90	51° 58.0' S	169° 59.1' W	5054	252.1	460.1
28	10 Mar 90	56° 46.1' S	170° 04.1' W	4822	251.0	456.9
29	11 Mar 90	60° 00.6' S	169° 53.0' W	4139	251.0	456.9
30	12 Mar 90	55° 59.8' S	174° 10.1' W	4970	251.0	456.9
31	13 Mar 90	53° 56.9' S	176° 09.5' W	5289	251.2	460.0
32	15 Mar 90	50° 30.3' S	179° 23.7' W	4448	252.0	460.8
33	15 Mar 90	49° 29.9' S	179° 44.7' E	2012	252.0	460.5
34	16 Mar 90	49° 43.5' S	179° 59.9' W	3111	251.9	460.1
35	16 Mar 90	49° 50.9' S	179° 52.7' W	4030	251.9	460.1
36	18 Mar 90	50° 29.0' S	179° 21.4' W	4458	252.0	460.8
37	20 Mar 90	46° 20.0' S	179° 28.9' E	3317	250.9	460.1
38	28 Mar 90	34° 38.9' S	178° 38.2' W	6556	254.0	461.4
39	28 Mar 90	32° 29.8' S	178° 18.8' W	4994	253.3	459.6
40	29 Mar 90	32° 30.6' S	178° 31.4' W	4172	253.3	460.3
41	29 Mar 90	32° 29.8' S	178° 44.6' W	2959	253.3	460.3
42	29 Mar 90	32° 29.0' S	178° 30.1' W	4211	253.3	460.3
43	29 Mar 90	32° 29.6' S	178° 17.8' W	5004	253.3	459.6
44	29 Mar 90	32° 29.5' S	178° 00.2' W	5898	253.3	459.6
45	30 Mar 90	32° 29.0' S	175° 29.0' W	5462	252.9	460.4
46	31 Mar 90	32° 28.8' S	171° 28.7' W	5182	252.7	460.7
47	1 Apr 90	30° 00.0' S	170° 00.4' W	5425	252.2	460.6
48	2 Apr 90	24° 58.6' S	170° 01.3' W	5740	251.5	461.0
49	2 Apr 90	22° 29.8' S	170° 00.4' W	5645	251.5	459.9
50	3 Apr 90	20° 00.4' S	170° 00.4' W	5398	252.9	459.7

## CGC-90 Station List for Hydrographic Stations where CFCs were Measured

Station	Date	Latitude	Longitude	Bottom Depth (m)	Atm. F-11 $\times 10^{-12}$	Atm. F-12 $\times 10^{-12}$
51	4 Apr 90	17° 29.5' S	170° 00.3' W	4848	252.9	459.7
52	4 Apr 90	15° 00.2' S	170° 00.6' W	4833	253.0	465.7
54	6 Apr 90	10° 06.1' S	169° 30.2' W	5249	256.2	466.7
55	6 Apr 90	10° 05.4' S	169° 59.5' W	5163	256.2	466.7
56	6 Apr 90	10° 05.3' S	170° 14.9' W	5051	256.2	466.7
58	7 Apr 90	05° 00.1' S	170° 00.8' W	5411	255.2	466.9
59	8 Apr 90	02° 00.3' S	170° 00.4' W	5214	255.2	467.5
60	9 Apr 90	00° 59.7' S	170° 01.2' W	5435	254.0	465.5
61	9 Apr 90	00° 29.9' S	170° 00.4' W	5698	254.1	465.2
62	9 Apr 90	00° -0.0' N	170° 01.2' W	5342	254.1	465.2
64	11 Apr 90	00° -0.0' N	170° 00.2' W	5508	254.1	465.2
65	11 Apr 90	00° 30.0' N	170° 00.3' W	5285	254.1	465.2
66	11 Apr 90	01° 00.1' N	170° 00.3' W	5316	254.1	465.2
67	12 Apr 90	02° 00.3' N	170° 00.9' W	5357	254.1	465.2
68	12 Apr 90	05° 00.1' N	170° 00.6' W	7161	254.1	465.2

# **Atmospheric CFC Measurements and Data Comparisons**

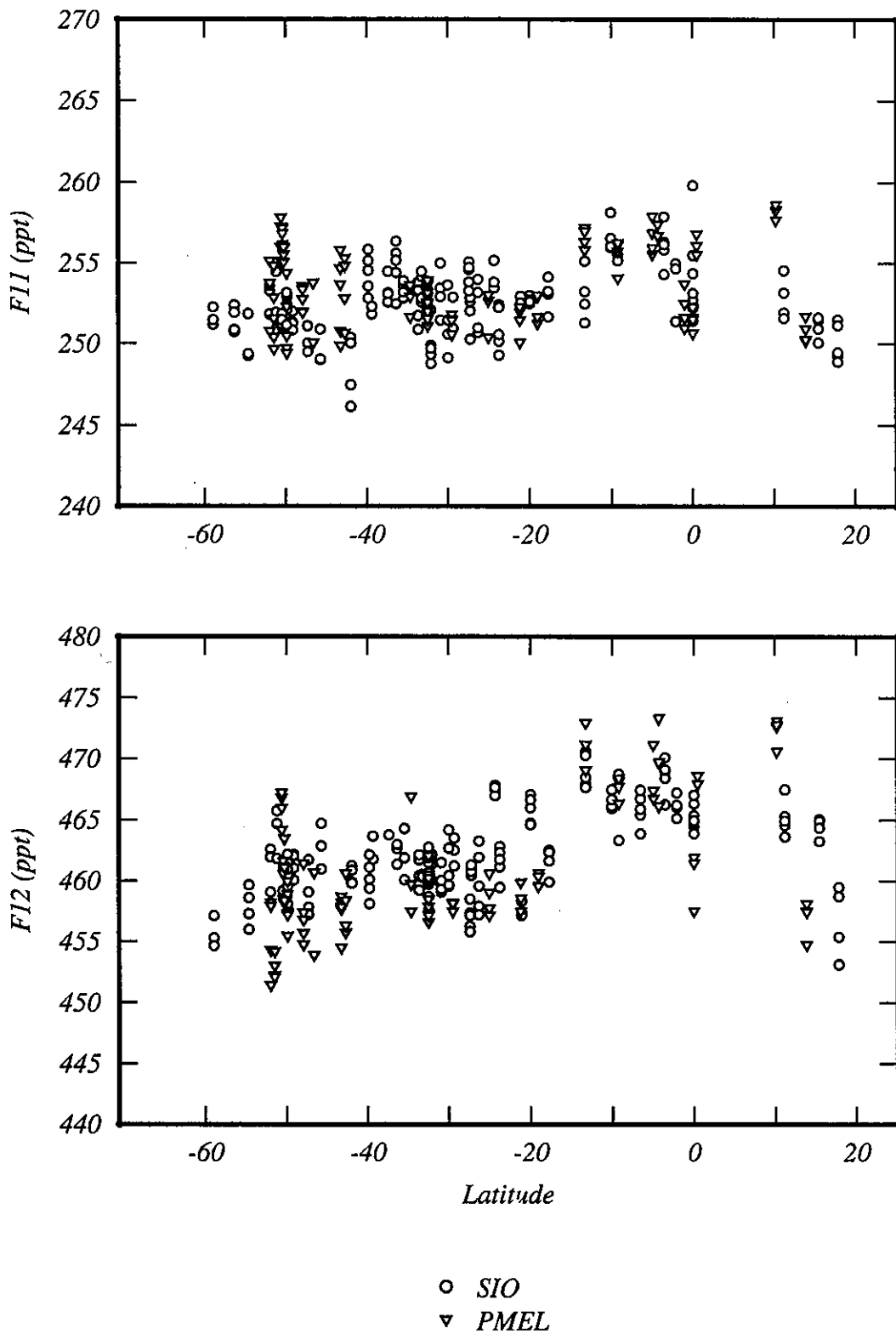


Fig. 2. Atmospheric measurement of CFC-11 and CFC-12 analyzed during the CGC-90 expedition using the SIO and PMEL systems. Concentrations are in ppt (1 ppt =  $10^{-12}$ ).

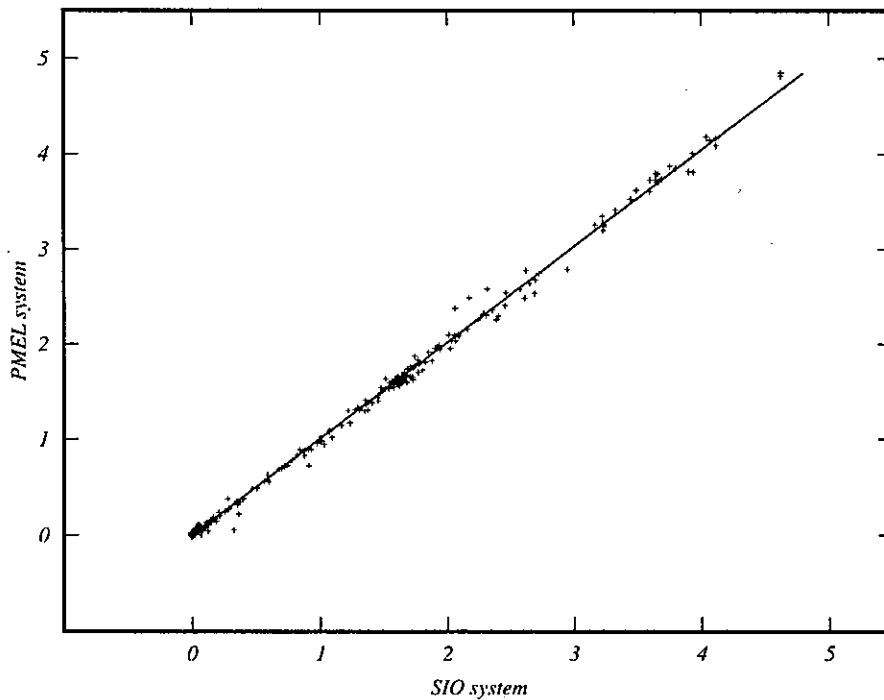


Fig. 3. Comparison of CFC-11 seawater measurements made on the SIO and PMEL systems. Concentrations are in pM/kg (1 pM =  $10^{-12}$  mole). A linear regression fit to the data gives the relationship:  $PMEL11 = 1.012 * SIO11 - 0.0040$ .

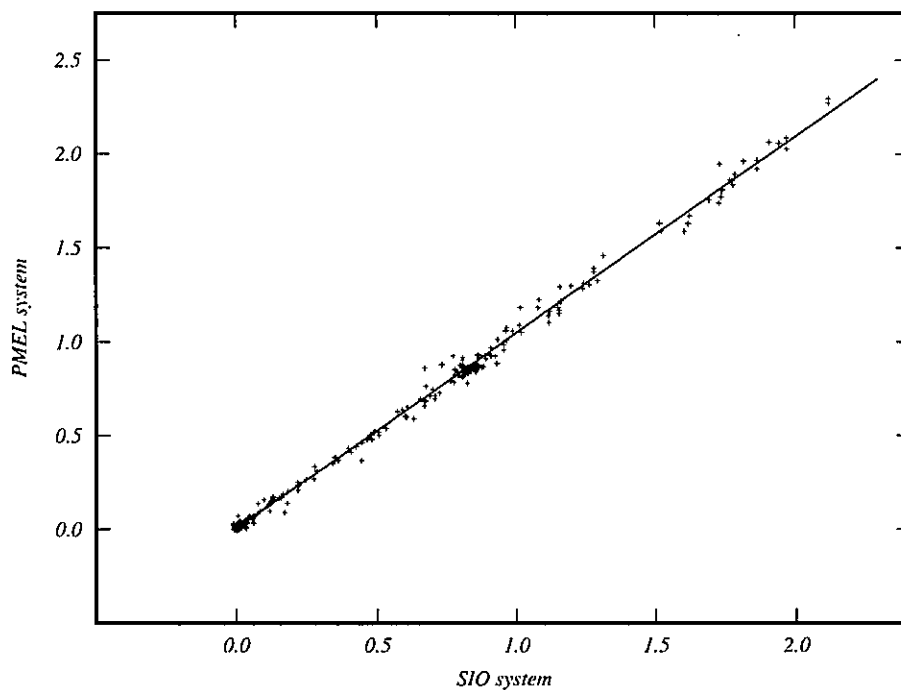


Fig. 4. Comparison of CFC-12 seawater measurements made on the SIO and PMEL systems. Concentrations are in pM/kg (1 pM =  $10^{-12}$  mole). A linear regression fit to the data gives the relationship:  $PMEL12 = 1.048 * SIO12 + 0.0015$ .

## CGC-90 SIO Atmospheric CFC Measurements

Date	Time	Latitude	Longitude	F-11 $\times 10^{-12}$	F-12 $\times 10^{-12}$
25 Feb 90	2053	20° 00.6' S	169° 59.0' W	253.0	464.7
25 Feb 90	2107			252.7	467.1
25 Feb 90	2133			252.5	464.6
25 Feb 90	2145			252.5	466.0
25 Feb 90	2158			252.6	466.7
27 Feb 90	0303	24° 18.0' S	169° 58.5' W	255.2	467.8
27 Feb 90	0342			253.5	467.5
27 Feb 90	0354			253.5	467.0
27 Feb 90	0405			253.8	467.6
28 Feb 90	0540	27° 13.1' S	170° 00.1' W	252.6	461.1
28 Feb 90	0552			252.9	460.5
28 Feb 90	0603			252.0	460.8
28 Feb 90	0615			250.3	461.3
28 Feb 90	1906	29° 19.0' S	170° 00.0' W	251.0	—
28 Feb 90	1918			252.9	463.5
28 Feb 90	1930			251.0	462.5
28 Feb 90	2010			—	461.2
1 Mar 90	1612	32° 05.9' S	169° 59.4' W	249.9	461.8
1 Mar 90	1624			249.4	462.1
1 Mar 90	1636			249.7	462.2
1 Mar 90	1648			252.1	460.1
1 Mar 90	1712			248.8	461.4
2 Mar 90	0843	33° 39.7' S	169° 59.8' W	251.7	461.7
2 Mar 90	0855			253.8	462.1
2 Mar 90	0907			253.3	460.4
2 Mar 90	0932			250.9	459.2
3 Mar 90	2126	39° 21.0' S	169° 59.0' W	251.8	461.8
3 Mar 90	2143			252.3	463.7
5 Mar 90	0706	41° 59.1' S	170° 59.4' W	250.4	459.9
5 Mar 90	0718			250.1	461.2
5 Mar 90	0731			247.5	459.8
5 Mar 90	0743			246.1	460.9
6 Mar 90	1443	45° 43.3' S	170° 04.7' W	249.0	460.9
6 Mar 90	1455			250.9	—
6 Mar 90	1507			249.0	462.9
6 Mar 90	1532			—	464.7

CGC-90 SIO Atmospheric CFC Measurements

Date	Time	Latitude	Longitude	F-11 $\times 10^{-12}$	F-12 $\times 10^{-12}$
8 Mar 90	0233	50° 00.4' S	170° 00.3' W	250.8	458.8
8 Mar 90	0243			251.8	458.7
8 Mar 90	0252			251.2	459.3
9 Mar 90	0231	52° 00.0' S	170° 00.0' W	253.3	462.6
9 Mar 90	0243			253.6	—
9 Mar 90	0253			251.8	461.9
9 Mar 90	0303			251.9	459.1
9 Mar 90	2320	56° 21.9' S	169° 58.0' W	252.4	—
9 Mar 90	2330			251.9	—
9 Mar 90	2349			250.7	—
9 Mar 90	2359			250.9	—
10 Mar 90	2003	58° 56.7' S	170° 00.5' W	—	455.3
10 Mar 90	2015			251.2	454.7
10 Mar 90	2028			252.3	457.1
10 Mar 90	2040			251.5	—
13 Mar 90	0617	54° 42.2' S	175° 32.3' W	249.3	457.3
13 Mar 90	0629			249.3	456.0
13 Mar 90	0653			249.4	459.7
13 Mar 90	0704			251.9	458.6
15 Mar 90	0010	51° 13.6' S	178° 58.9' W	250.9	464.7
15 Mar 90	0040			254.5	—
15 Mar 90	0104			—	465.7
15 Mar 90	0115			251.9	461.8
16 Mar 90	0301	49° 08.2' S	179° 52.5' E	251.3	462.2
16 Mar 90	0311			251.3	460.1
16 Mar 90	0320			252.0	461.0
16 Mar 90	0330			250.9	462.0
17 Mar 90	0220	49° 51.6' S	179° 17.6' W	252.1	460.5
17 Mar 90	0230			252.4	457.6
17 Mar 90	0250			252.1	461.4
17 Mar 90	0259			252.9	—
18 Mar 90	0745	50° 28.8' S	179° 21.2' W	251.9	459.1
18 Mar 90	0755			251.1	458.7
18 Mar 90	0805			251.2	458.8
18 Mar 90	0814			251.5	459.2

## CGC-90 SIO Atmospheric CFC Measurements

Date	Time	Latitude	Longitude	F-11 $\times 10^{-12}$	F-12 $\times 10^{-12}$
19 Mar 90	0359	49° 54.2' S	179° 08.5' E	253.1	460.9
19 Mar 90	0408			—	462.2
19 Mar 90	0418			253.2	459.5
19 Mar 90	0428			251.2	458.1
19 Mar 90	1813	47° 17.0' S	179° 50.0' W	251.1	457.8
19 Mar 90	1828			250.0	457.2
19 Mar 90	1840			249.5	461.7
19 Mar 90	1853			251.1	459.1
27 Mar 90	0455	39° 49.6' S	178° 28.8' E	252.8	460.1
27 Mar 90	0510			253.6	462.1
27 Mar 90	0523			255.1	459.4
27 Mar 90	0536			254.5	458.1
27 Mar 90	0548			255.8	461.1
27 Mar 90	1610	37° 22.7' S	179° 52.4' E	253.2	—
27 Mar 90	1640			254.5	—
27 Mar 90	1652			252.6	463.8
27 Mar 90	1704			253.1	—
27 Mar 90	2042	36° 23.5' S	179° 16.5' W	255.6	461.4
27 Mar 90	2054			255.2	462.6
27 Mar 90	2105			256.3	—
27 Mar 90	2118			252.5	—
27 Mar 90	2130			254.4	463.0
28 Mar 90	0157	35° 28.5' S	178° 45.2' W	253.6	461.9
28 Mar 90	0213			253.9	460.1
28 Mar 90	0225			252.8	460.1
28 Mar 90	0237			253.2	464.3
28 Mar 90	1654	33° 15.5' S	178° 28.4' W	254.2	460.5
28 Mar 90	1706			—	460.3
28 Mar 90	1718			252.6	—
28 Mar 90	1731			254.5	460.3
28 Mar 90	1743			252.8	—
30 Mar 90	1037	32° 29.3' S	175° 53.6' W	251.8	459.9
30 Mar 90	1108			253.9	459.7
30 Mar 90	1123			253.4	458.7
30 Mar 90	1135			253.1	457.6



## CGC-90 SIO Atmospheric CFC Measurements

Date	Time	Latitude	Longitude	F-11 $\times 10^{-12}$	F-12 $\times 10^{-12}$
31 Mar 90	0625	32° 30.0' S	172° 20.0' W	252.3	460.7
31 Mar 90	0637			252.2	461.5
31 Mar 90	0648			252.4	462.7
31 Mar 90	0700			251.9	461.9
31 Mar 90	2023	30° 56.0' S	170° 34.6' W	—	459.1
31 Mar 90	2035			253.4	459.6
31 Mar 90	2049			251.5	459.3
31 Mar 90	2101			255.0	460.0
31 Mar 90	2114			252.9	461.5
1 Apr 90	0304	29° 59.9' S	170° 00.7' W	250.6	462.7
1 Apr 90	0317			251.5	464.2
1 Apr 90	0329			249.1	459.6
1 Apr 90	0345			—	459.7
1 Apr 90	0357			253.6	460.4
1 Apr 90	1532	27° 22.9' S	169° 58.9' W	253.3	457.3
1 Apr 90	1544			254.6	457.2
1 Apr 90	1556			255.1	458.5
1 Apr 90	1608			254.7	456.2
1 Apr 90	1620			253.8	455.8
1 Apr 90	2029	26° 15.5' S	170° 00.1' W	254.0	459.6
1 Apr 90	2041			250.7	463.3
1 Apr 90	2053			—	463.3
1 Apr 90	2106			251.0	461.9
1 Apr 90	2141			253.2	457.9
1 Apr 90	2155			—	457.2
2 Apr 90	1722	23° 43.7' S	170° 00.0' W	250.2	462.8
2 Apr 90	1734			249.3	462.3
2 Apr 90	1746			250.6	461.2
2 Apr 90	1758			252.4	461.7
2 Apr 90	1810			252.2	459.5
3 Apr 90	0817	21° 06.0' S	170° 00.0' W	—	457.4
3 Apr 90	0829			—	458.4
3 Apr 90	0841			252.9	458.3
3 Apr 90	0853			252.5	457.2
4 Apr 90	0729	17° 43.4' S	170° 00.7' W	253.1	462.5
4 Apr 90	0741			254.1	462.3
4 Apr 90	0753			251.7	461.6
4 Apr 90	0812			253.3	459.9

## CGC-90 SIO Atmospheric CFC Measurements

Date	Time	Latitude	Longitude	F-11 $\times 10^{-12}$	F-12 $\times 10^{-12}$
5 Apr 90	1354	13° 15.6' S	169° 50.2' W	251.3	467.9
5 Apr 90	1406			252.5	467.7
5 Apr 90	1418			253.2	468.5
5 Apr 90	1430			—	470.6
5 Apr 90	1442			255.1	470.3
6 Apr 90	0652	10° 06.1' S	169° 30.3' W	—	467.5
6 Apr 90	0704			258.1	465.9
6 Apr 90	0716			256.0	466.7
6 Apr 90	0728			256.5	466.2
6 Apr 90	0740			256.0	466.7
7 Apr 90	0430	09° 14.3' S	170° 12.0' W	255.5	468.4
7 Apr 90	0442			255.1	468.7
7 Apr 90	0456			—	463.3
7 Apr 90	1547	06° 35.9' S	170° 08.1' W	—	465.4
7 Apr 90	1559			—	466.7
7 Apr 90	1613			—	465.9
7 Apr 90	1625			—	463.9
7 Apr 90	1637			—	467.4
8 Apr 90	1355	03° 33.6' S	170° 00.5' W	255.8	469.0
8 Apr 90	1407			254.3	466.3
8 Apr 90	1419			256.3	468.4
8 Apr 90	1432			256.2	470.1
8 Apr 90	1444			257.9	469.1
8 Apr 90	1955	02° 08.2' S	169° 59.8' W	255.0	465.1
8 Apr 90	2009			251.4	466.0
8 Apr 90	2022			254.7	467.2
8 Apr 90	2047			—	466.2
10 Apr 90	2115	00° 00.6' N	169° 30.2' W	252.3	464.5
10 Apr 90	2127			252.7	463.9
10 Apr 90	2141			255.5	464.8
10 Apr 90	2207			254.4	465.0
11 Apr 90	1416	00° 00.1' S	170° 00.2' W	253.1	—
11 Apr 90	1428			259.8	465.4
11 Apr 90	1441			255.5	466.3
11 Apr 90	1453			251.4	467.0
11 Apr 90	1505			252.2	465.0

CGC-90 SIO Atmospheric CFC Measurements

Date	Time	Latitude	Longitude	F-11 $\times 10^{-12}$	F-12 $\times 10^{-12}$
14 Apr 90	0634	11° 14.1' N	165° 28.2' W	254.6	465.3
14 Apr 90	0647			—	467.5
14 Apr 90	0659			253.2	463.6
14 Apr 90	0711			252.0	464.6
14 Apr 90	0723			251.6	465.0
15 Apr 90	0552	15° 26.6' N	162° 20.0' W	250.1	463.3
15 Apr 90	0605			251.5	465.1
15 Apr 90	0616			251.6	464.9
15 Apr 90	0633			250.9	464.4
15 Apr 90	1756	17° 50.7' N	160° 29.3' W	251.5	459.5
15 Apr 90	1816			251.2	458.7
15 Apr 90	1828			249.2	455.4
15 Apr 90	1840			249.5	453.1
15 Apr 90	1852			248.9	453.1

## CGC-90 PMEL Atmospheric CFC Measurements

Date	Time	Latitude	Longitude	F-11 $\times 10^{-12}$	F-12 $\times 10^{-12}$
14 Mar 90	0656	51° 58.6' S	178° 07.2' W	253.9	451.4
14 Mar 90	0804			—	454.3
14 Mar 90	0824			255.3	458.2
14 Mar 90	0846			251.0	457.9
14 Mar 90	1615	50° 36.0' S	179° 22.0' W	257.9	466.8
14 Mar 90	1638			255.3	467.2
14 Mar 90	1658			256.1	466.0
14 Mar 90	1724			257.3	464.2
16 Mar 90	0932	49° 53.9' S	179° 50.7' W	254.5	460.0
16 Mar 90	0953			250.0	457.3
16 Mar 90	1012			250.7	458.9
16 Mar 90	1033			252.5	455.5
16 Mar 90	1054			249.7	457.2
17 Mar 90	0337	50° 27.7' S	179° 18.9' W	257.2	461.0
17 Mar 90	0356			256.1	461.2
17 Mar 90	0414			257.1	460.6
17 Mar 90	0446			256.8	461.7
18 Mar 90	0624	51° 30.5' S	178° 32.1' W	249.7	452.2
18 Mar 90	0645			252.9	453.0
18 Mar 90	0703			251.6	452.1
18 Mar 90	0749			250.4	452.1
18 Mar 90	0818			254.8	454.2
18 Mar 90	1404	50° 18.0' S	179° 41.0' E	255.9	458.2
18 Mar 90	1424			255.1	463.4
18 Mar 90	1442			255.5	458.4
18 Mar 90	1501			256.0	461.1
10 Mar 90	0320	47° 54.0' S	179° 57.5' E	253.6	461.4
19 Mar 90	0339			252.0	457.4
19 Mar 90	0358			253.4	455.7
19 Mar 90	0417			252.0	454.7
19 Mar 90	0443			252.8	456.8
19 Mar 90	1041	46° 36.7' S	179° 40.6' E	250.1	453.9
19 Mar 90	1107			253.8	460.7
25 Mar 90	1214	43° 15.9' S	176° 34.4' E	250.8	457.7
25 Mar 90	1233			254.7	458.2
25 Mar 90	1251			249.9	454.5
25 Mar 90	1329			255.8	458.7
25 Mar 90	1354			253.7	457.8

## CGC-90 PMEL Atmospheric CFC Measurements

Date	Time	Latitude	Longitude	F-11 $\times 10^{-12}$	F-12 $\times 10^{-12}$
25 Mar 90	1821	42° 42.0' S	176° 03.0' E	250.7	455.7
25 Mar 90	1841			252.8	456.3
25 Mar 90	1906			254.8	458.4
25 Mar 90	1926			255.3	460.6
27 Mar 90	2231	34° 39.0' S	178° 38.3' W	251.7	457.5
27 Mar 90	2244			253.4	459.7
27 Mar 90	2256			252.9	459.7
27 Mar 90	2310			253.6	466.9
28 Mar 90	1057	32° 29.8' S	178° 19.6' W	252.9	460.5
28 Mar 90	1110			252.5	459.9
28 Mar 90	1125			253.2	460.2
28 Mar 90	1138			253.7	460.3
29 Mar 90	1438	32° 30.0' S	178° 00.0' W	253.9	462.1
29 Mar 90	1451			253.8	460.5
29 Mar 90	1503			253.9	460.2
29 Mar 90	1542			252.6	457.9
30 Mar 90	1815	32° 30.0' S	172° 22.0' W	251.1	456.6
30 Mar 90	1828			252.0	458.5
30 Mar 90	1840			251.5	457.2
30 Mar 90	1856			251.5	457.1
31 Mar 90	1902	29° 30.0' S	170° 00.0' W	251.8	458.2
31 Mar 90	1915			251.5	458.1
31 Mar 90	1929			250.6	458.2
31 Mar 90	1947			251.4	457.5
1 Apr 90	1935	25° 00.0' S	170° 00.0' W	252.7	457.7
1 Apr 90	1947			252.7	459.0
1 Apr 90	1959			253.0	460.6
1 Apr 90	2036			250.4	457.2
2 Apr 90	1955	21° 13.4' S	170° 00.8' W	250.1	458.6
2 Apr 90	2007			252.0	459.9
2 Apr 90	2019			252.3	457.5
2 Apr 90	2034			251.5	457.5
4 Apr 90	1401	19° 01.9' S	170° 00.6' W	251.3	460.7
4 Apr 90	1413			252.9	460.4
4 Apr 90	1424			251.7	459.6
4 Apr 90	1437			253.0	459.6

## CGC-90 PMEL Atmospheric CFC Measurements

Date	Time	Latitude	Longitude	F-11 $\times 10^{-12}$	F-12 $\times 10^{-12}$
5 Apr 90	0224	13° 15.6' S	169° 50.2' W	255.8	469.1
5 Apr 90	0239			257.2	471.2
5 Apr 90	0252			257.0	473.0
5 Apr 90	0306			256.3	—
6 Apr 90	1702	09° 14.3' S	170° 12.0' W	255.7	466.4
6 Apr 90	1714			256.1	468.2
6 Apr 90	1726			256.2	468.4
6 Apr 90	1751			254.1	467.7
7 Apr 90	1137	05° 00.0' S	170° 00.0' W	256.9	467.4
7 Apr 90	1155			257.9	471.1
7 Apr 90	1208			255.6	466.8
7 Apr 90	1238			255.9	467.4
7 Apr 90	2345	04° 19.2' S	170° 00.6' W	256.7	466.1
7 Apr 90	2357			256.7	469.7
8 Apr 90	0009			257.4	469.7
8 Apr 90	0034			257.4	473.3
8 Apr 90	1727	01° 00.0' S	170° 00.0' W	253.7	—
8 Apr 90	1743			252.5	—
8 Apr 90	1956			251.6	—
8 Apr 90	2009			251.0	—
9 Apr 90	1905	00° 00.0' N	169° 30.0' W	251.6	461.9
9 Apr 90	1917			250.7	457.5
9 Apr 90	1930			252.3	461.5
9 Apr 90	1951			251.5	461.5
11 Apr 90	0756	00° 30.0' N	170° 00.0' W	256.1	—
11 Apr 90	0808			256.8	468.6
11 Apr 90	0901			255.5	467.9
13 Apr 90	1357	10° 15.0' N	166° 12.0' W	258.3	473.1
13 Apr 90	1410			258.3	470.6
13 Apr 90	1424			258.6	472.7
13 Apr 90	1436			257.7	472.8
14 Apr 90	0856	13° 54.0' N	163° 27.0' W	251.0	454.7
14 Apr 90	0908			251.7	457.5
14 Apr 90	0921			250.2	458.1
14 Apr 90	0935			250.3	457.5

**Sections**  
**Potential temperature, salinity, CFC-11, CFC-12**  
**(5°N to 60°S, Southwest Basin, Kermadec Ridge)**

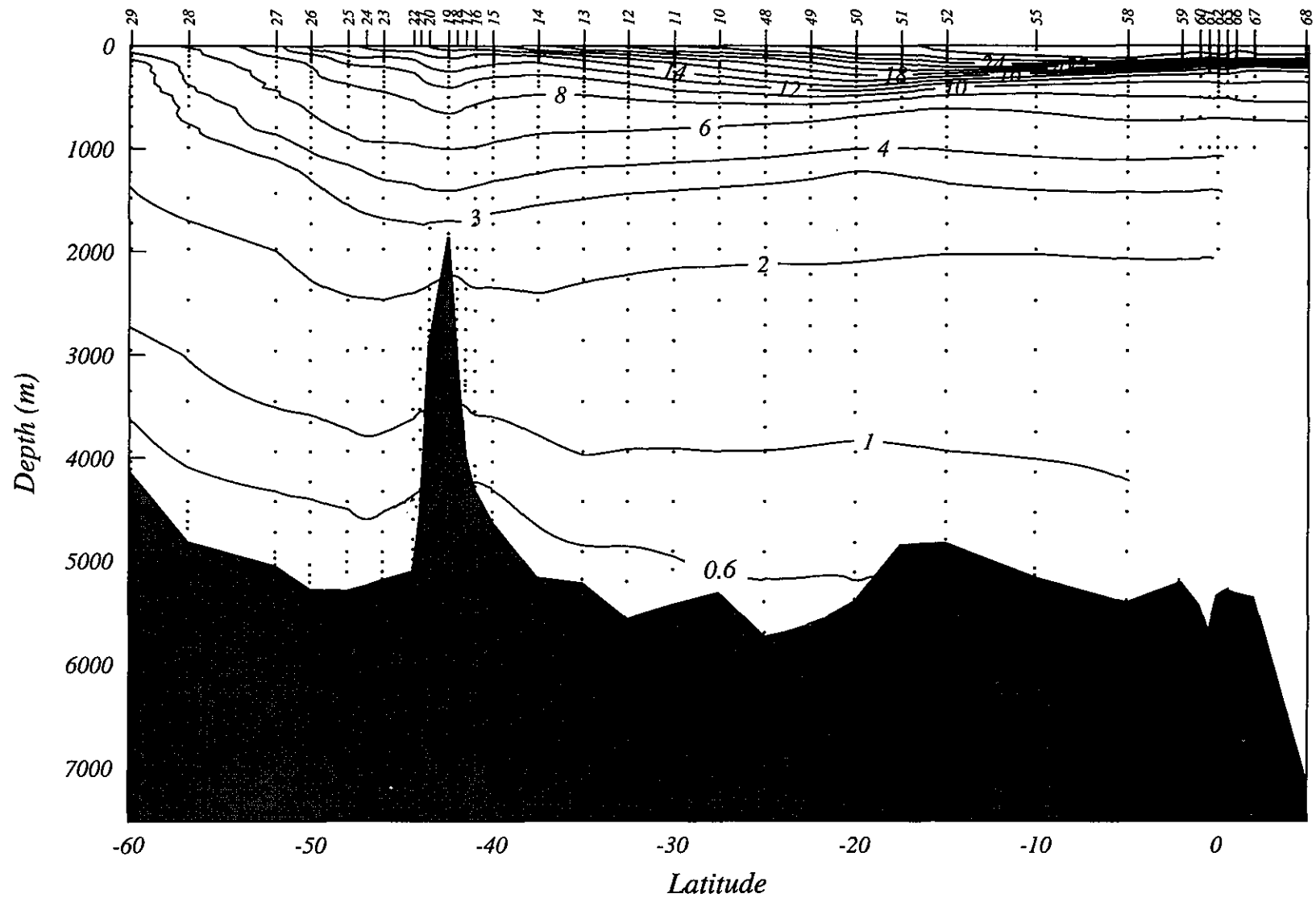


Fig. 5a. Potential Temperature (in °C) along 170°W during the CGC-90 expedition. Station numbers are along the top axis. Dots indicate locations where bottle samples were obtained.



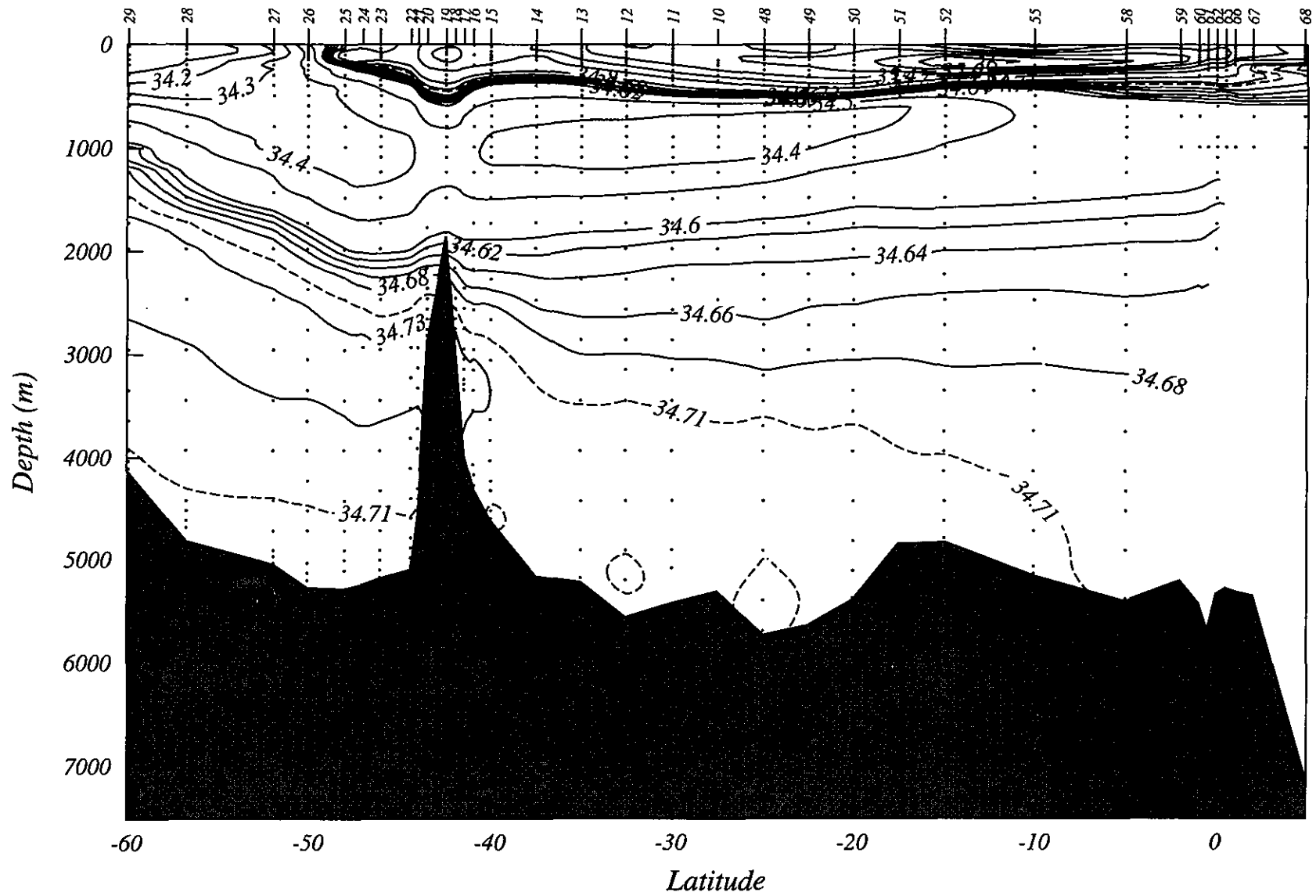


Fig. 5b. CTD salinity along 170°W during the CGC-90 expedition. Station numbers are along the top axis. Dots indicate locations where bottle samples were obtained.

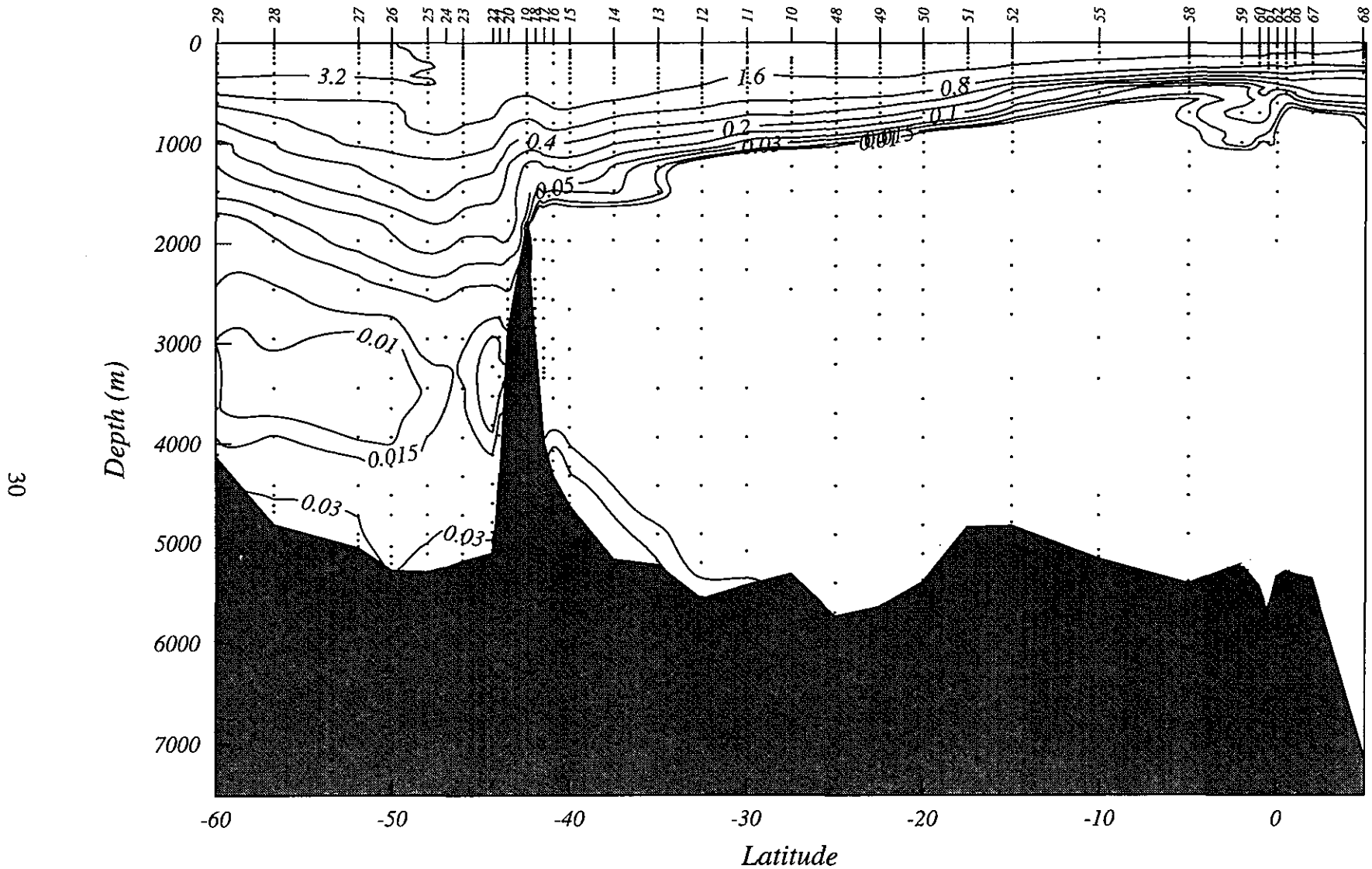


Fig. 5c. CFC-11 (in pM/kg) along 170°W during the CGC-90 expedition. Samples were analyzed using the SIO system. Station numbers are along the top axis. Dots indicate locations where bottle samples were obtained.

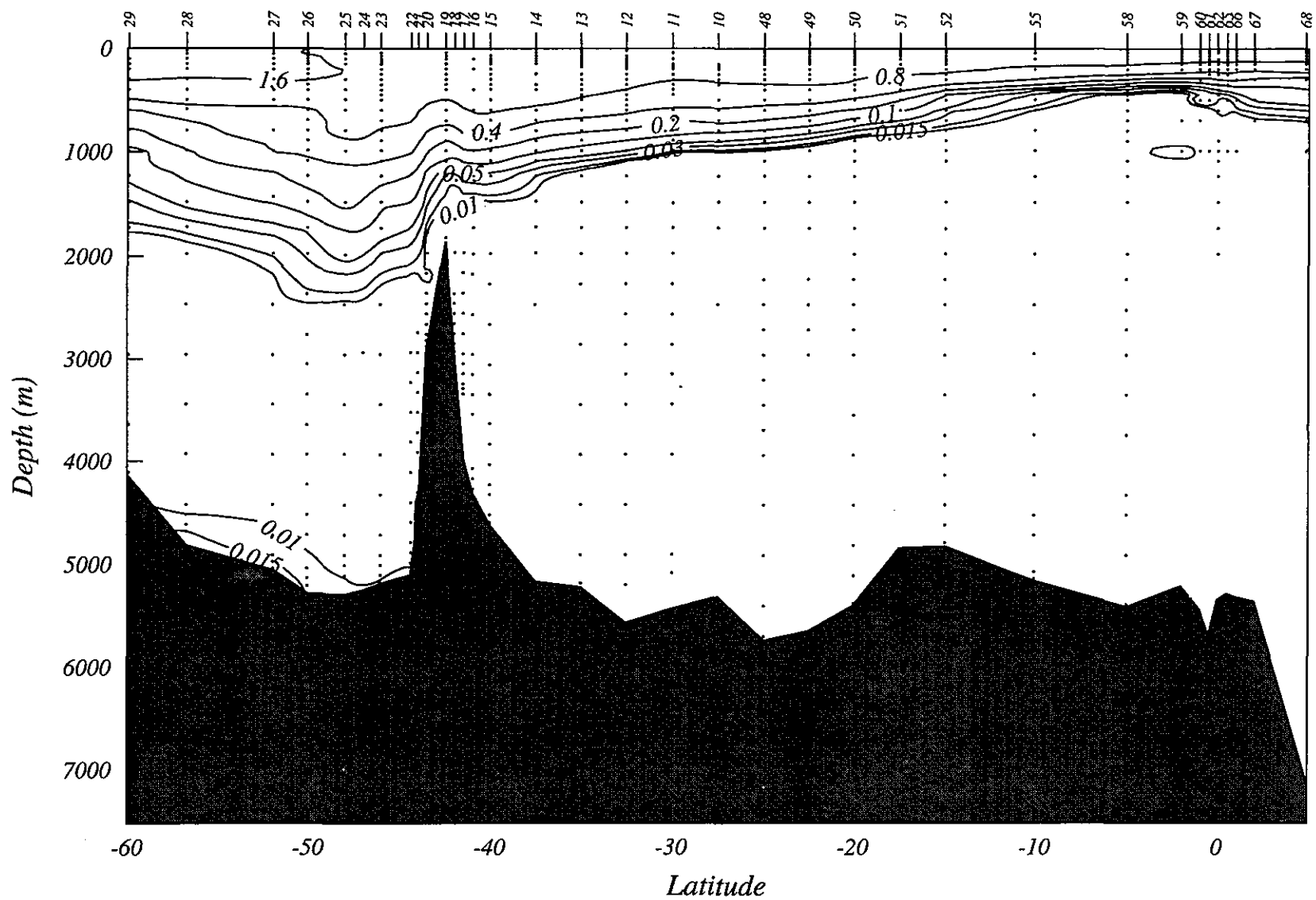


Fig. 5d. CFC-12 (in pM/kg) along 170°W during the CGC-90 expedition. Samples were analyzed using the SIO system. Station numbers are along the top axis. Dots indicate locations where bottle samples were obtained.

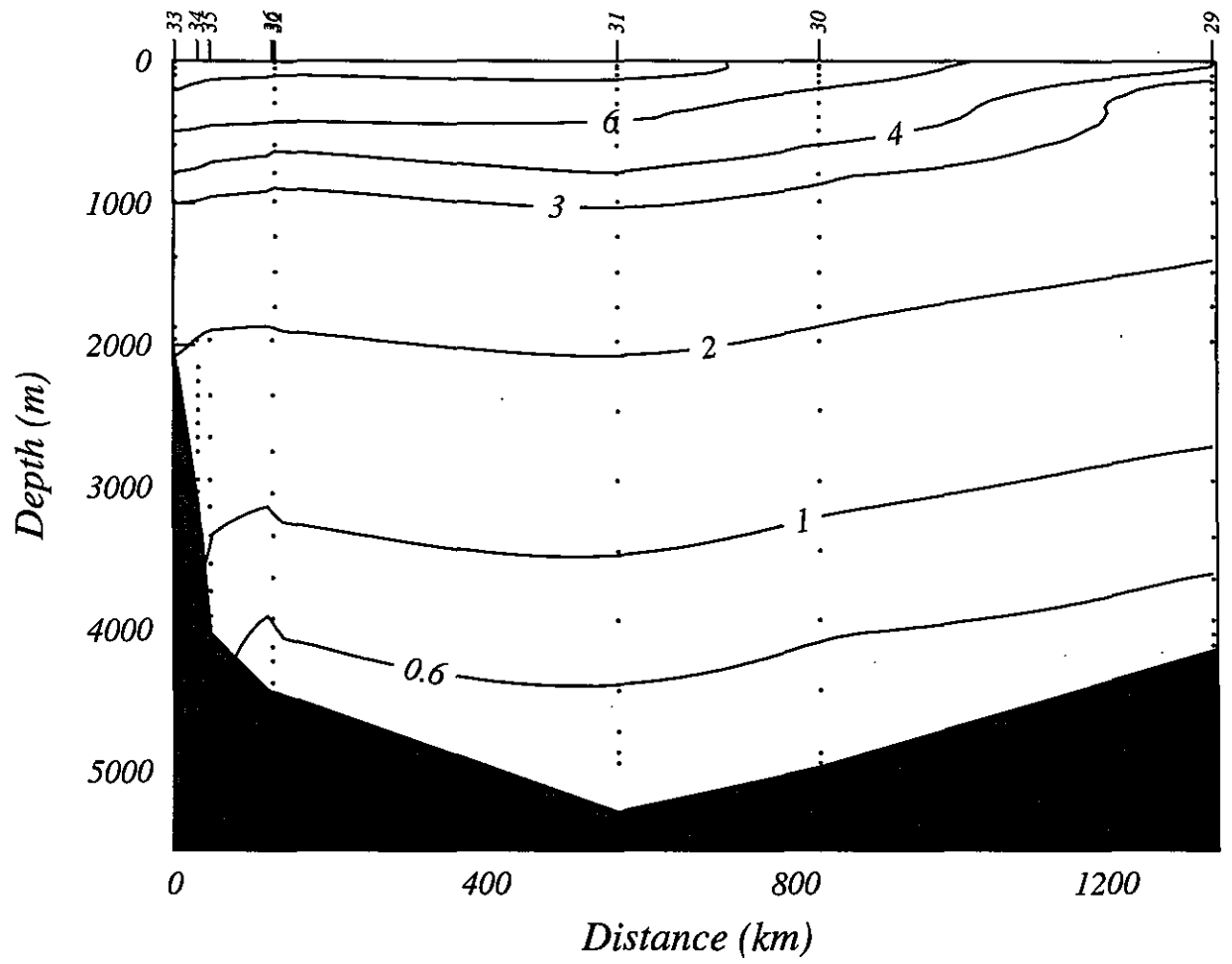


Fig. 6a. Potential Temperature (in °C) on diagonal section crossing the Southwest Pacific Basin during the CGC-90 expedition. Station numbers are along the top axis. Dots indicate locations where bottle samples were obtained.

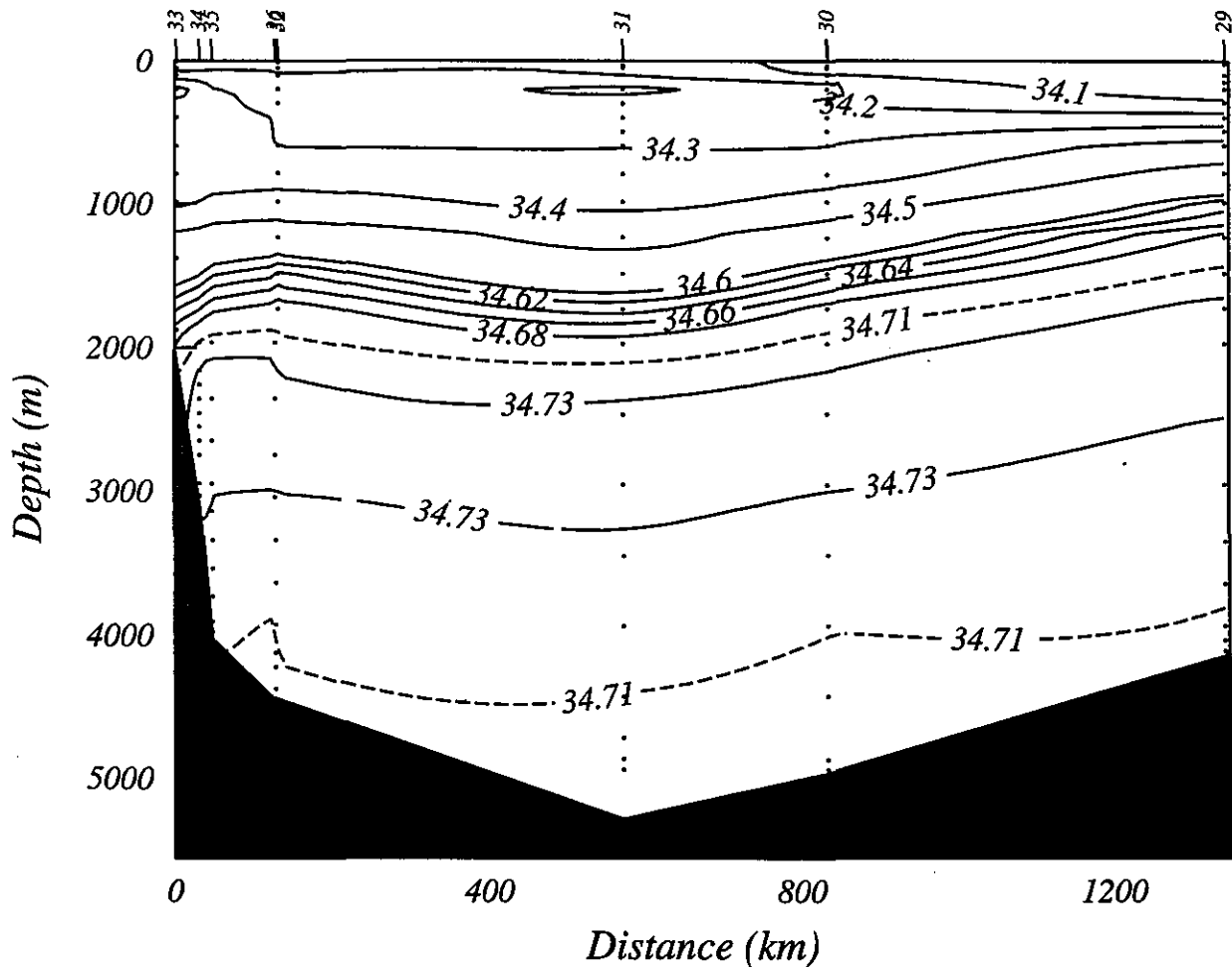


Fig. 6b. CTD salinity on diagonal section crossing the Southwest Pacific Basin during the CGC-90 expedition. Station numbers are along the top axis. Dots indicate locations where bottle samples were obtained.

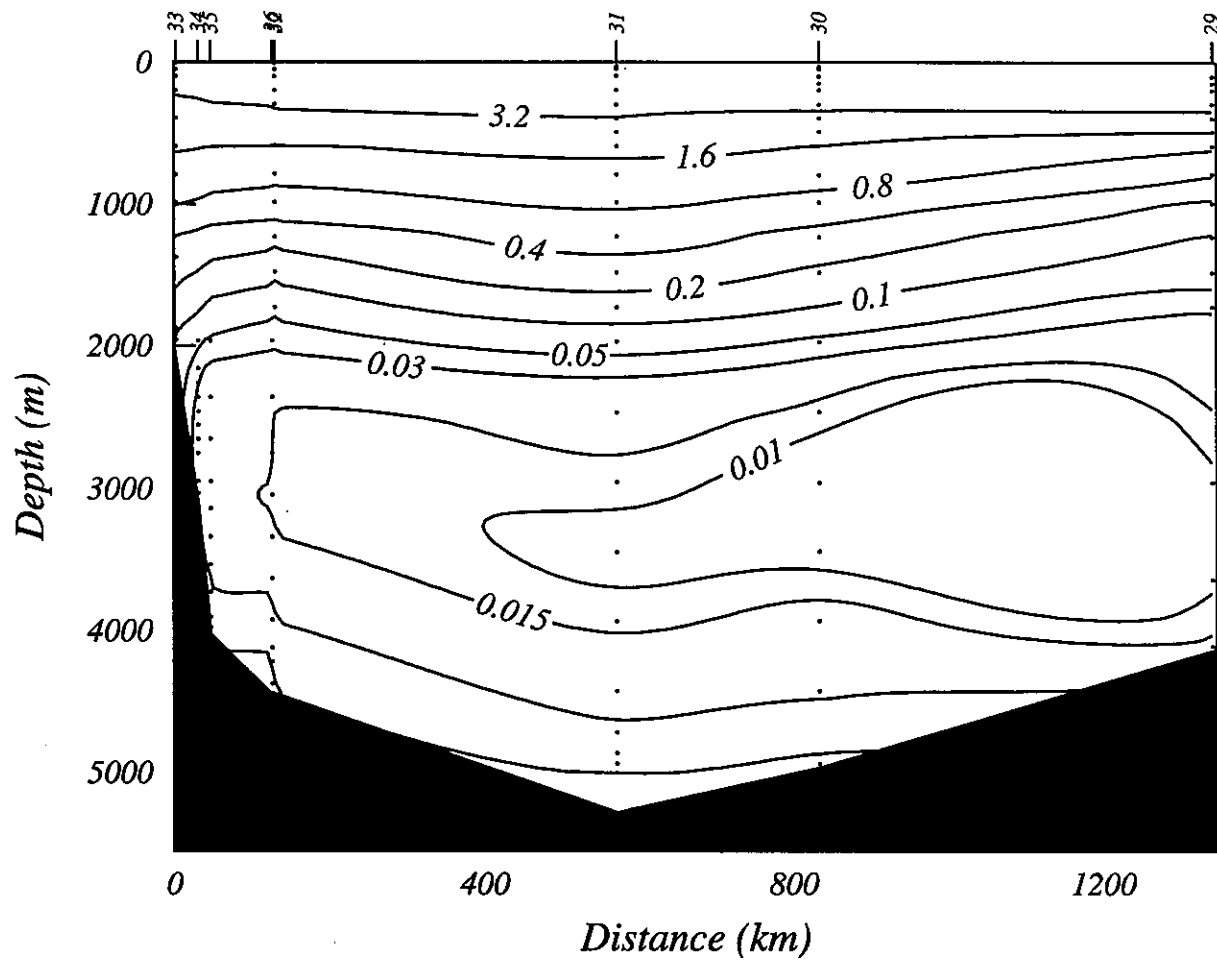


Fig. 6c. CFC-11 (in pM/kg) on diagonal section crossing the Southwest Pacific Basin during the CGC-90 expedition. Samples were analyzed using the SIO system. Station numbers are along the top axis. Dots indicate locations where bottle samples were obtained.

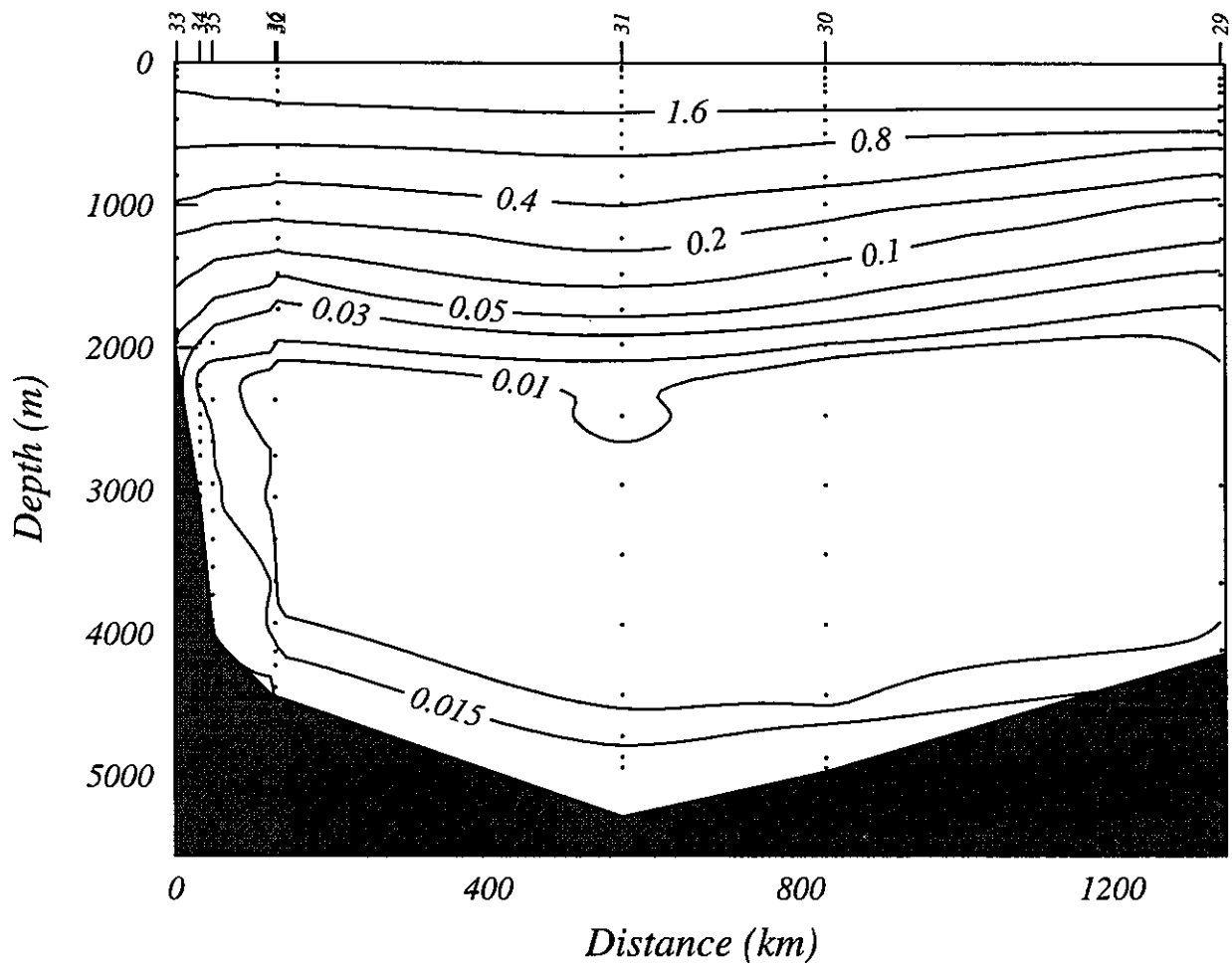


Fig. 6d. CFC-12 (in pM/kg) on diagonal section crossing the Southwest Pacific Basin during the CGC-90 expedition. Samples were analyzed using the SIO system. Station numbers are along the top axis. Dots indicate locations where bottle samples were obtained.

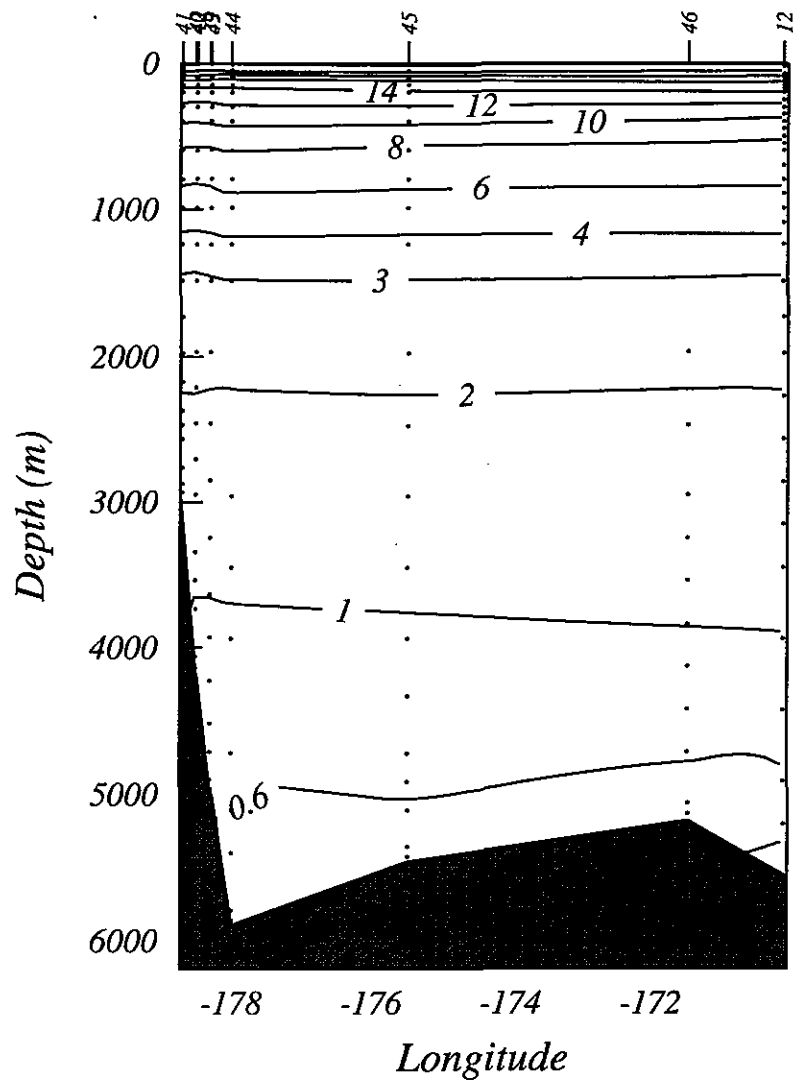


Fig. 7a. Potential Temperature (in  $^{\circ}\text{C}$ ) on section east of Kermadec Ridge during the CGC-90 expedition. Station numbers are along the top axis. Dots indicate locations where bottle samples were obtained.

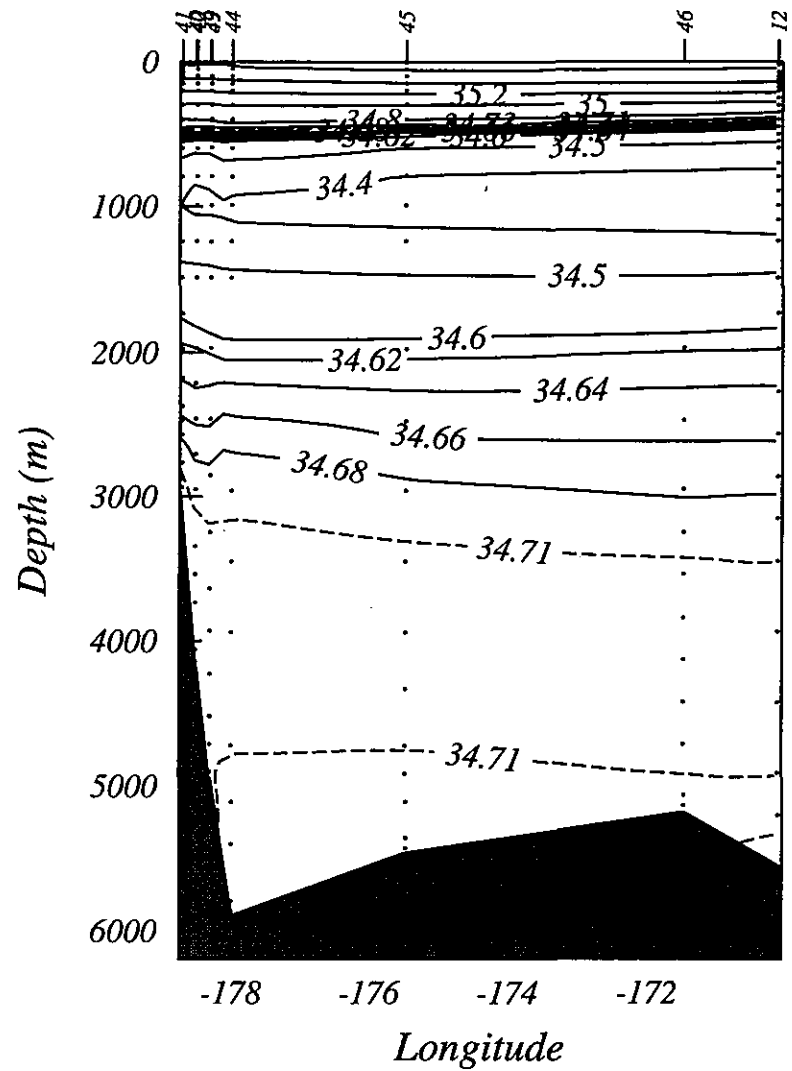


Fig. 7b. CTD salinity on section east of Kermadec Ridge during the CGC-90 expedition. Station numbers are along the top axis. Dots indicate locations where bottle samples were obtained.



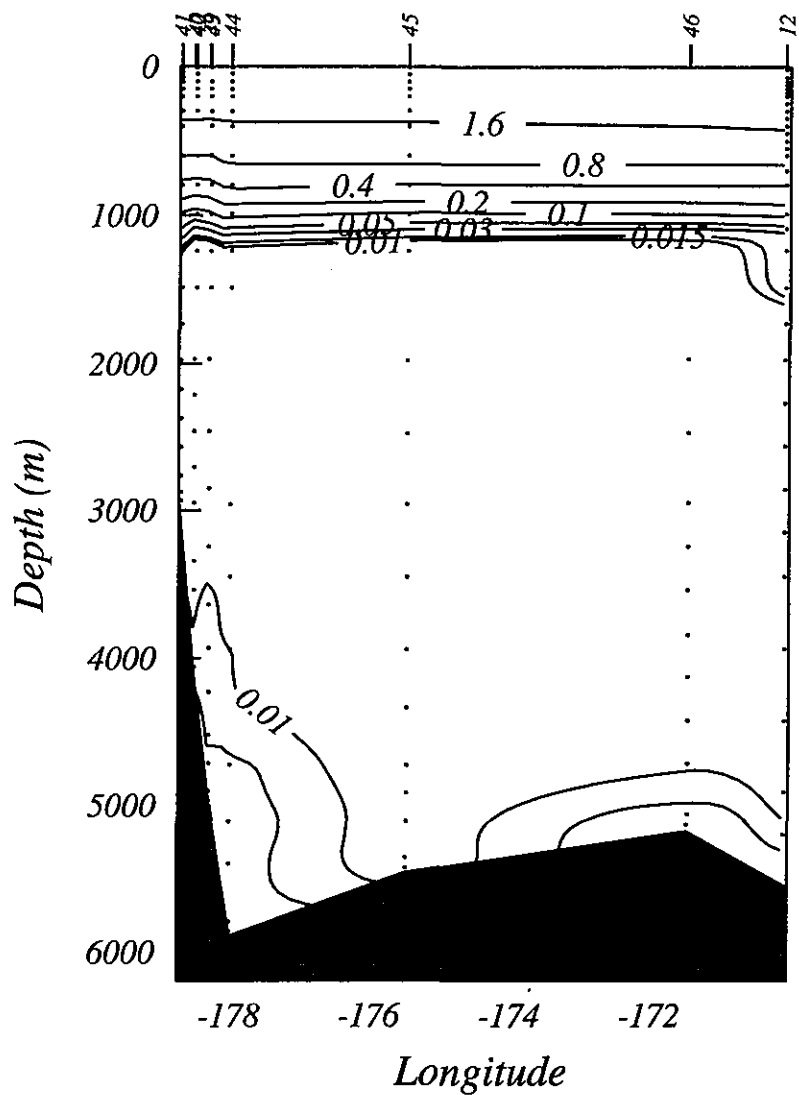


Fig. 7c. CFC-11 (in pM/kg) on section east of Kermadec Ridge during the CGC-90 expedition. Samples were analyzed using the SIO system. Station numbers are along the top axis. Dots indicate locations where bottle samples were obtained.

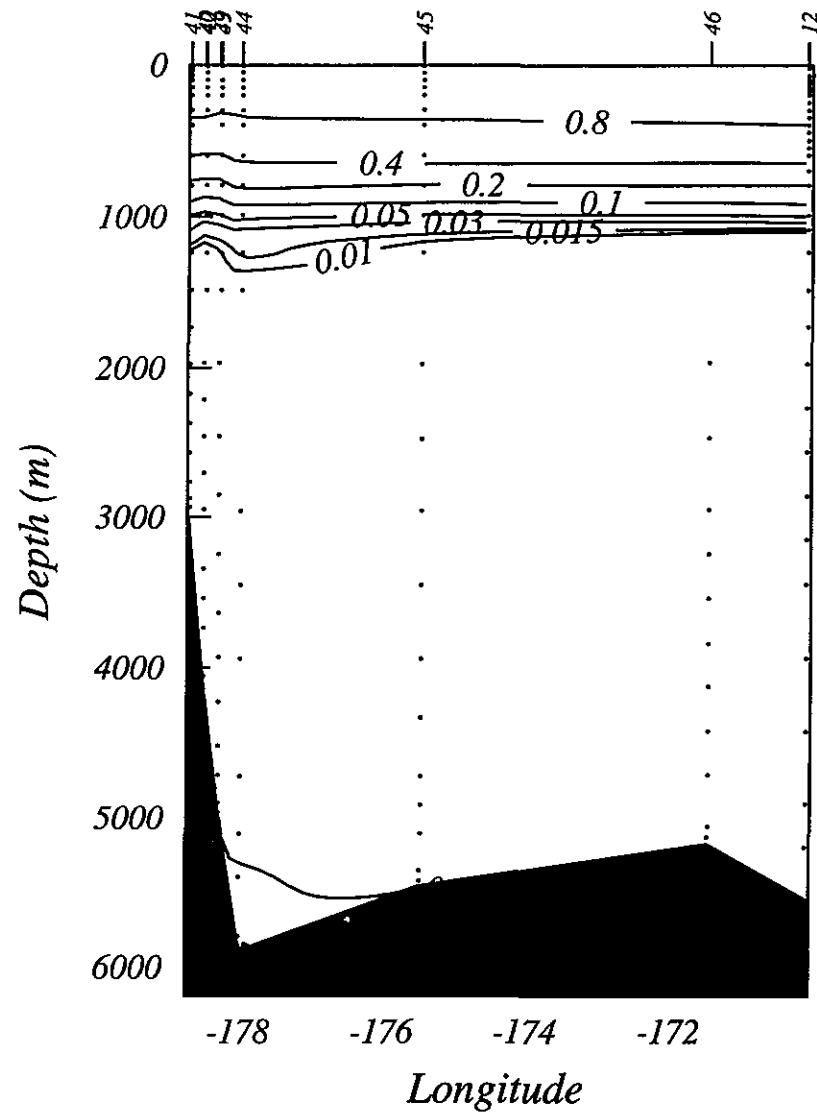
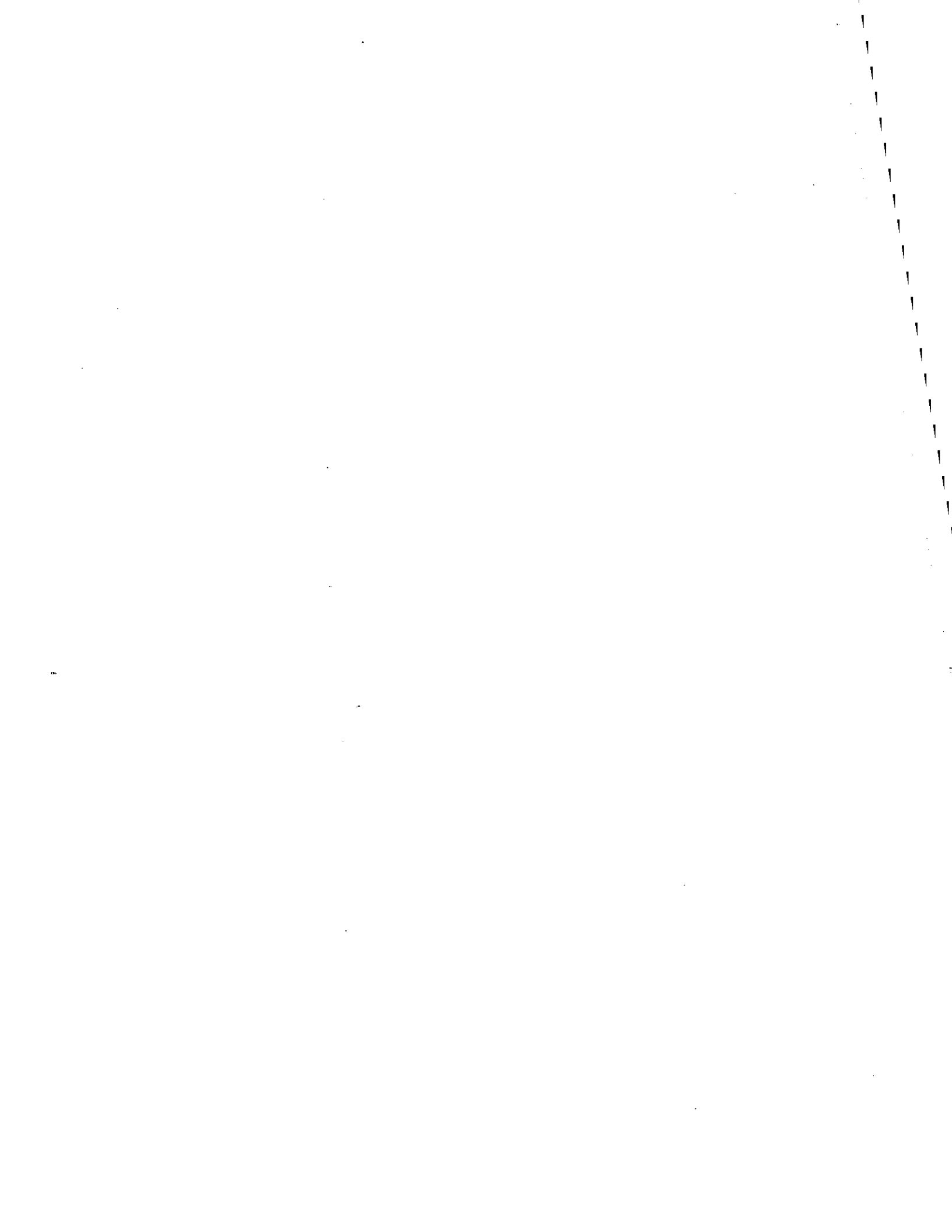


Fig. 7d. CFC-12 (in pM/kg) on section east of Kermadec Ridge during the CGC-90 expedition. Samples were analyzed using the SIO system. Station numbers are along the top axis. Dots indicate locations where bottle samples were obtained.



## CFC Bottle Data

The following tables include listings of :

Sample Number

Depth (meters)

Pressure (dBar)

Theta (°C)

Bottle Salinity

CTD Salinity

Sigma-0

SIO F-11 (pM/kg)

PMEL F-11 (pM/kg)

SIO F-12 (pM/kg)

PMEL F-12 (pM/kg)

SIO F-11/F-12 ratio (for concentrations of F-11 >0.05 pM/kg and F-12>0.05 pM/kg)

PMEL F-11/F-12 ratio (for concentrations of F-11 >0.05 pM/kg and F-12>0.05 pM/kg)

SIO F-11 saturation (relative to SIO atmospheric F-11 measurements)

PMEL F11 saturation (relative to SIO atmospheric F-11 measurements)

SIO F-12 saturation (relative to SIO atmospheric F-12 measurements)

PMEL F-12 saturation (relative to SIO atmospheric F-12 measurements)

Flag (digits correspond to SIO F-11, PMEL F-11, SIO F-12 and PMEL F-12 measurements, respectively)

## CGC-90 CFC BOTTLE DATA

STATION 9

LATITUDE		LONGITUDE		DAY-MO-YR		BOTTOM DEPTH				ATM. F-11		ATM. F-12					
25° 1.3' S		170° 0.9' W		27 2 90		5712 m				253.0 ppt		464.2 ppt					
SAMP	DEP	PRS	THETA	SAL	CTD-S	SIG-0	SIO F-11	PMEL F-11	SIO F-12	PMEL F-12	SIO F11 F12	PMEL F11 F12	SIO F11 SAT	PMEL F11 SAT	SIO F12 SAT	PMEL F12 SAT	FLAG
	m	db	C			Kg/m <sup>3</sup>	pM/kg	pM/kg	pM/kg	pM/kg							----
1252	6	6	24.651		35.344	23.709	1.912		0.890		2.1		105.8		94.4		2939
1251	19	19	24.650	35.346	35.342	23.708	1.833		0.892		2.1		101.4		94.6		2939
1250	26	27	24.641		35.343	23.711											9999
1249	58	58	23.427	35.372	35.355	24.080	1.913		0.968		2.0		100.4		98.0		2929
1248	98	99	20.410	35.611	35.606	25.116	1.966		0.910		2.2		90.4		82.0		4939
1247	138	139	19.347	35.641	35.648	25.428	2.351		0.972		2.4		103.0		83.9		4929
1246	169	170	18.568	35.628	35.626	25.611	1.820		0.904		2.0		76.8		75.5		2929
1245	199	201	17.586	35.546	35.551	25.797	1.735		0.860		2.0		69.8		68.9		2929
1244	296	298	15.202		35.370	26.213	1.761		0.814		2.2		63.0		58.7		2929
1243	394	398	12.069		34.965	26.549	1.588		0.604		2.6		48.1		37.6		2939
1242	495	499	9.259	34.648	34.646	26.799	0.876		0.539		1.6		22.7		29.3		2949
1241	595	599	7.334	34.451	34.449	26.938	0.660		0.327		2.0		15.3		16.1		2929
1352	689	694	6.521		34.380	26.995	0.410		0.181		2.3		9.1		8.6		2929
1351	789	795	5.739	34.345	34.349	27.071	0.149		0.044				3.2		2.0		2949
1350	986	995	4.415	34.357	34.361	27.234	0.014		-0.001				0.3		0.0		4979
1349	1231	1243	3.288	34.466	34.465	27.431	0.040		-0.006				0.7		-0.2		4979
1348	1477	1492	2.578	34.562	34.560	27.571	-0.006	0.012	-0.004	0.001			-0.1	0.2	-0.2	0.0	2277
1347	1972	1994	2.062	34.634	34.633	27.673	-0.007	0.004	-0.006	0.004			-0.1	0.1	-0.2	0.2	2676
1346	2462	2493	1.760	34.654	34.659	27.717		0.004		0.001			0.1		0.0	0.0	9696
1116	2463	2494	1.776	34.655	34.661	27.718	0.031		0.003				0.5		0.1		4979
1104	2463	2494	1.776	34.656	34.659	27.716	0.016		-0.002				0.3		-0.1		4979
1345	2955	2996	1.512	34.673	34.674	27.748	0.003	0.005	-0.007	-0.002			0.1	0.1	-0.2	-0.1	2777
1344	3443	3493	1.296	34.702	34.702	27.786	0.019		-0.004				0.3		-0.1		4979
1343	3934	3997	0.990	34.724	34.723	27.823	-0.003		-0.007				-0.1		-0.2		2979
1342	4420	4495	0.725	34.715	34.716	27.835	0.092		0.000				1.4		0.0		4979
1341	4962	5053	0.616	34.713	34.712	27.838	0.009		-0.004				0.1		-0.1		4979

## CGC-90 CFC BOTTLE DATA

STATION 10

LATITUDE		LONGITUDE		DAY-MO-YR		BOTTOM DEPTH				ATM. F-11		ATM. F-12					
27° 30.8' S		170° 0.9' W		28 2 90		5316 m				251.8 ppt		461.5 ppt					
SAMP	DEP	PRS	THETA	SAL	CTD-S	SIG-0	SIO F-11	PMEL F-11	SIO F-12	PMEL F-12	SIO F11 F12	PMEL F11 F12	SIO F11 SAT	PMEL F11 SAT	SIO F12 SAT	PMEL F12 SAT	FLAG
	m	db	C			Kg/m <sup>3</sup>	pM/kg	pM/kg	pM/kg	pM/kg							----
1452	146	147	17.678	35.602	35.598	25.810	1.971		0.994		2.0		80.1		80.4		2929
1451	170	171	17.033	35.553	35.551	25.931											9999
1450	170	171	17.033	35.554	35.551	25.931	1.987		0.978		2.0		78.2		77.0		2929
1449	170	171	17.033	35.554	35.551	25.931											9999
1448	194	195	16.349	35.477	35.476	26.034	1.793		0.886		2.0		68.2		67.6		2929
1447	244	246	15.447	35.414	35.414	26.193	1.899		0.921		2.1		69.1		67.6		2929
1446	244	246	15.447	35.415	35.414	26.193	1.903		0.920		2.1		69.2		67.5		2929
1445	294	296	14.054	35.261	35.252	26.371	1.838		0.903		2.0		62.2		62.2		6969
1444	294	296	14.054	35.262	35.252	26.371	1.765		0.842		2.1		59.8		58.0		2929
1443	294	296	14.054	35.263	35.252	26.371	2.038		0.889		2.3		69.0		61.2		3929
1442	294	296	14.054	35.263	35.252	26.371	2.044		0.905		2.3		69.2		62.3		3929
1441	345	348	12.445	35.046	35.047	26.540	1.552		0.763		2.0		48.2		48.7		6969
1552	491	495	8.803	34.612	34.612	26.846	1.134		0.552		2.1		28.8		29.5		2929
1551	589	594	7.507	34.472	34.471	26.931	0.813		0.390		2.1		19.2		19.5		2929
1550	589	594	7.507	34.469	34.471	26.931	0.812		0.400		2.0		19.2		20.0		6969
1549	688	694	6.615	34.390	34.389	26.990	0.507		0.258		2.0		11.4		12.3		2929
1548	787	794	5.949	34.350	34.349	27.045	0.225		0.110		2.0		4.8		5.1		6969
1547	883	891	5.302	34.332	34.334	27.112	0.092		0.055		1.7		1.9		2.5		2929
1546	984	994	4.806	34.349	34.348	27.181	0.039		0.012				0.8		0.5		2929
1545	1231	1243	3.392	34.442	34.445	27.405	-0.001		-0.002				0.0		-0.1		2979
1544	1477	1493	2.720	34.542	34.543	27.545	-0.007		-0.002				-0.1		-0.1		2979
1543	1723	1742	2.360	34.602	34.604	27.625	0.021		-0.005				0.4		-0.2		4979
1542	1970	1993	2.146	34.628	34.628	27.662	0.054		0.094		0.6		0.9		3.5		4949
1541	2462	2493	1.824	34.654	34.656	27.710	-0.003		-0.002				-0.1		-0.1		2979

## CGC-90 CFC BOTTLE DATA

STATION 11

LATITUDE		LONGITUDE		DAY-MO-YR			BOTTOM DEPTH				ATM. F-11		ATM. F-12				
30° 0.3' S		170° 2.6' W		1 3 90			5429 m				251.0 ppt		461.5 ppt				
SAMP	DEP	PRS	THETA	SAL	CTD-S	SIG-0	SIO F-11	PMEL F-11	SIO F-12	PMEL F-12	SIO F11 F12	PMEL F11 F12	SIO SAT	PMEL SAT	SIO SAT	PMEL SAT	FLAG
	m	db	C			Kg/m <sup>3</sup>	pM/kg	pM/kg	pM/kg	pM/kg							
1652	3	3	23.727	35.558	35.556	24.145	1.934	1.986	3.144	3.355	0.6	0.6	103.8	106.6	324.5	346.2	2244
1651	20	20	23.700		35.557	24.154		1.987		1.397		1.4		106.6		144.0	9294
1650	29	29	23.680	35.566	35.558	24.160											9999
1649	38	38	23.629	35.573	35.572	24.186	1.904	1.951	0.956	0.957	2.0	2.0	101.8	104.3	98.3	98.4	2222
1648	68	69	20.297	35.599	35.607	25.147											9999
1647	97	97	18.522	35.607	35.611	25.611	2.290	2.327	1.079	1.182	2.1	2.0	97.2	98.8	90.5	99.1	2222
1646	121	122	17.033	35.574	35.578	25.951											9999
1645	146	147	16.267	35.511	35.512	26.081	2.083	2.103	0.963	1.060	2.2	2.0	79.2	80.0	73.3	80.7	2626
1644	171	172	15.619	35.448	35.441	26.175	1.917	0.928			2.1	2.1	70.6		68.6		2929
1643	194	195	15.152	35.399	35.397	26.245	2.011	2.095	0.934	1.014	2.2	2.1	72.3	75.3	67.6	73.4	2222
1642	246	248	14.061	35.273	35.266	26.381	1.921		0.917		2.1		65.3		63.2		2929
1641	298	300	12.743	35.094	35.099	26.522	1.675	1.738	0.789	0.843	2.1	2.1	53.1	55.1	51.1	54.6	6262
1752	342	345	11.586	34.931	34.926	26.611	1.254		0.607		2.1		37.3		37.2		2929
1751	391	394	10.651	34.828	34.826	26.703	1.217	1.296	0.573	0.627	2.1	2.1	34.4	36.7	33.5	36.7	2222
1750	441	445	9.899	34.736	34.736	26.763	1.129		0.542		2.1		30.6		30.6		2929
1749	491	495	8.790	34.603	34.602	26.840	0.837	0.887	0.339	0.449	2.5	2.0	21.3	22.6	18.1	24.0	3242
1748	586	591	7.345	34.460	34.458	26.944	0.589	0.620	0.278	0.333	2.1	1.9	13.8	14.5	13.8	16.5	2223
1747	688	694	6.597	34.397	34.389	26.992	0.364		0.158		2.3		8.2		7.5		2929
1746	786	793	5.905		34.351	27.052	0.163	0.185	0.077	0.135	2.1	1.4	3.5	4.0	3.5	6.2	6262
1745	886	894	5.253	34.339	34.340	27.123	0.062		0.003				1.3		0.1		2939
1744	984	993	4.626	34.356	34.357	27.208	0.033	0.064	0.007	0.069		0.9	0.7	1.3	0.3	3.0	2723
1743	1083	1094	4.057	34.381	34.382	27.289											9999
1742	1231	1243	3.391	34.464	34.443	27.404	0.037	0.057	0.035	0.011			0.7	1.1	1.4	0.4	4444
1741	1489	1505	2.697	34.540	34.543	27.548	0.024	0.009	-0.008	0.021			0.4	0.2	-0.3	0.8	3233
1851	1723	1742	2.328	34.597	34.602	27.626	-0.009	-0.005	-0.003	-0.001			-0.2	-0.1	-0.1	0.0	2777
1850	1969	1992	2.106	34.633	34.630	27.667	-0.002	-0.003	-0.005	0.002			0.0	-0.1	-0.2	0.1	2777
1849	2265	2293	1.914	34.648	34.650	27.698	0.000	0.002	-0.002	-0.001			0.0	0.0	-0.1	0.0	2777
1848	2559	2593	1.754	34.660	34.659	27.718	0.013		-0.005				0.2		-0.2		4979
1847	2855	2895	1.618	34.669	34.669	27.736	0.011		-0.004				0.2		-0.2		4979
1846	3145	3191	1.474	34.675	34.685	27.759	0.008		0.000				0.1		0.0		4979
1845	3443	3495	1.336	34.713	34.712	27.791	-0.001		-0.006				0.0		-0.2		2979
1844	3931	3995	0.950	34.724	34.723	27.826	0.002		-0.002				0.0		-0.1		2979
1843	4418	4496	0.696	34.715	34.716	27.837	0.001		0.021				0.0		0.7		2949
1842	4902	4993	0.601	34.712	34.712	27.839	0.058		-0.002				0.9		-0.1		4979
1841	5079	5176	0.592	34.719	34.711	27.839	0.009		0.001				0.1		0.0		6969

## CGC-90 CFC BOTTLE DATA

STATION 12

LATITUDE			LONGITUDE			DAY-MO-YR			BOTTOM DEPTH				ATM. F-11		ATM. F-12			
32° 33.2' S			170° 3.1' W			2 3 90			5568 m				251.1 ppt		461.2 ppt			
SAMP	DEP	PRS	THETA	SAL	CTD-S	SIG-0	SIO F-11	PMEL F-11	SIO F-12	PMEL F-12	SIO F11 F12	PMEL F11 F12	SIO F11 SAT	PMEL F11 SAT	SIO F12 SAT	PMEL F12 SAT	FLAG	
	m	db	C			Kg/m <sup>3</sup>	pM/kg	pM/kg	pM/kg	pM/kg							----	
1952	4	4	22.078	35.677	35.673	24.709	2.057		1.153		1.8		102.8		111.8		2949	
1951	18	18	22.080	35.677	35.673	24.708	2.118		1.125		1.9		105.9		109.1		2929	
1950	37	37	22.079		35.676	24.711											9999	
1949	68	69	18.954	35.488	35.491	25.410	2.440		1.173		2.1		105.5		100.1		2929	
1948	97	97	16.952	35.486	35.496	25.907	2.539		1.193		2.1		99.8		93.6		2929	
1947	122	122	15.843	35.418	35.412	26.101	2.553		1.247		2.0		95.0		93.1		2929	
1946	147	148	15.258	35.383	35.381	26.209	2.549		1.229		2.1		92.1		89.4		2929	
1945	169	170	14.717	35.316	35.321	26.282	2.626		1.248		2.1		92.3		88.6		2929	
1944	195	197	13.921	35.230	35.231	26.383	2.514		1.229		2.0		84.8		84.1		2929	
1943	245	247	12.567	35.082	35.080	26.542	2.514		1.195		2.1		78.9		76.8		2929	
1942	295	297	11.311	34.913	34.915	26.653	2.093		1.018		2.1		61.4		61.6		6969	
1941	344	347	10.302	34.788	34.787	26.734	1.866		0.912		2.0		51.8		52.5		2929	
2052	394	397	9.497	34.692	34.691	26.796	1.707		0.798		2.1		45.3		44.2		2929	
2051	442	446	8.773	34.613	34.609	26.848	1.520		0.726		2.1		38.7		38.7		2929	
2050	493	498	8.119	34.544	34.535	26.891	1.309		0.615		2.1		32.1		31.7		2929	
2049	542	547	7.728	34.503	34.498	26.920	1.225		0.584		2.1		29.4		29.6		2929	
2048	590	595	7.419	34.472	34.470	26.943	1.023		0.481		2.1		24.1		24.0		2929	
2047	691	697	6.803	34.420	34.419	26.988	0.684		0.328		2.1		15.5		15.8		2929	
2046	788	795	6.219	34.372	34.373	27.029	0.371		0.173		2.1		8.1		8.1		2929	
2045	886	894	5.694	34.358	34.357	27.083											9999	
2044	986	996	5.023	34.352	34.350	27.157	0.114		0.053		2.2		2.3		2.3		2929	
2043	1083	1094	4.480	34.356	34.357	27.224	0.026		0.005				0.5		0.2		2929	
2042	1231	1244	3.672	34.405	34.405	27.346	0.029		0.003				0.6		0.1		3979	
2041	1481	1497	2.820	34.521	34.522	27.520	0.030		0.002				0.5		0.1		3969	
2152	1721	1741	2.453	34.587	34.588	27.604	0.010	0.028	-0.001	0.010			0.2	0.5	0.0	0.4	4777	
2151	1723	1742	2.452	34.587	34.589	27.605	-0.008	0.019	-0.002	0.006			-0.1	0.3	-0.1	0.2	2377	
2150	1969	1992	2.198	34.621	34.622	27.653	-0.003	0.017	-0.001	0.007			-0.1	0.3	0.0	0.3	2377	
2149	2264	2293	1.976	34.642	34.642	27.687	-0.006	0.019	0.000	0.004			-0.1	0.3	0.0	0.2	2377	
2148	2558	2592	1.790	34.660	34.657	27.713	-0.005	0.013	0.000	0.014			-0.1	0.2	0.0	0.5	2373	
2147	2855	2895	1.627	34.670	34.672	27.738	-0.009	0.025	-0.001	0.006			-0.2	0.4	0.0	0.2	2377	
2146	3144	3191	1.484	34.691	34.692	27.764	0.000		-0.001				0.0		0.0		2969	
2145	3442	3495	1.326	34.715	34.714	27.793	-0.010	0.026	0.000	0.009			-0.2	0.4	0.0	0.3	2377	
2144	3931	3996	0.954	34.723	34.721	27.824	0.001		-0.001				0.0		0.0		2969	
2143	4419	4497	0.663	34.713	34.712	27.836	0.011		0.003				0.2		0.1		6969	
2142	4905	4997	0.594	34.711	34.710	27.838	0.004		0.001				0.1		0.0		2969	
2141	5196	5297	0.582	34.709	34.709	27.838	0.005		0.001				0.1		0.0		2969	

## CGC-90 CFC BOTTLE DATA

STATION 13

LATITUDE 35° 1.4' S			LONGITUDE 170° 0.6' W			DAY-MO-YR 2 3 90			BOTTOM DEPTH 5225 m				ATM. F-11 251.1 ppt		ATM. F-12 461.2 ppt			
SAMP	DEP	PRS	THETA	SAL	CTD-S	SIG-0	SIO F-11	PMEL F-11	SIO F-12	PMEL F-12	SIO F11 F12	PMEL F11 F12	SIO SAT	PMEL SAT	SIO SAT	PMEL SAT	PMEL F12 SAT	FLAG
	m	db	C			Kg/m <sup>3</sup>	pM/kg	pM/kg	pM/kg	pM/kg								
2252	4	4	20.740	35.351	35.354	24.835	2.159	2.158	5.103	5.068	0.4	0.4	101.3	101.2	467.7	464.5	2244	
2251	18	19	20.736	35.355	35.357	24.839	2.211		1.083		2.0		103.7		99.2		2929	
2352	28	28	20.658		35.382	24.879											9999	
2250	38	38	20.690	35.378	35.380	24.869	2.144		1.062		2.0		100.4		97.2		2929	
2249	68	68	17.896	35.384	35.387	25.595	2.530	2.491	1.232	1.303	2.1	1.9	104.0	102.4	100.5	106.2	6262	
2248	97	98	15.470	35.382	35.386	26.166	2.548		1.327		1.9		93.0		97.5		2929	
2247	118	119	14.790	35.325	35.323	26.268	2.709		1.250		2.2		95.5		89.0		2929	
2246	146	148	13.999	35.241	35.238	26.372	2.578	2.581	1.198	1.297	2.2	2.0	87.3	87.4	82.3	89.1	2222	
2245	172	173	13.003	35.106	35.093	26.465	2.542		1.186		2.1		81.6		77.8		2929	
2244	196	197	12.458	35.041	35.042	26.534											9999	
2243	245	247	11.474	34.919	34.926	26.632	2.724	2.750	1.293	1.325	2.1	2.1	80.6	81.3	78.8	80.8	2222	
2242	296	299	10.475	34.797	34.800	26.714	2.386		1.158		2.1		66.8		67.2		6969	
2241	345	348	9.432	34.660	34.666	26.787	2.353	2.299	1.102	1.101	2.1	2.1	62.1	60.7	60.8	60.7	6262	
2351	393	396	8.745	34.597	34.599	26.845	1.942	1.946	0.904	0.937	2.1	2.1	49.3	49.4	48.2	49.9	2222	
2350	442	446	8.271	34.550	34.550	26.880	1.777		0.827		2.1		43.9		43.0		2929	
2349	492	496	7.828	34.509	34.511	26.916	1.470	1.485	0.724	0.731	2.0	2.0	35.4	35.8	36.8	37.2	2222	
2348	590	595	7.266	34.452	34.455	26.952	1.094		0.550		2.0		25.5		27.2		2929	
2347	688	695	6.727	34.406	34.406	26.988	0.739	0.725	0.347	0.383	2.1	1.9	16.7	16.4	16.7	18.4	2222	
2346	789	797	6.280	34.376	34.376	27.024	0.478		0.217		2.2		10.5		10.2		2929	
2345	884	892	5.683	34.358	34.360	27.087	0.282	0.272	0.133	0.170	2.1	1.6	6.0	5.8	6.1	7.7	2222	
2344	986	995	5.015	34.358	34.362	27.168	0.158		0.081		2.0		3.2		3.6		2929	
2343	1084	1095	4.380	34.363	34.363	27.239		0.014		0.055			0.3		0.2	2.3	9393	
2342	1231	1244	3.665	34.397	34.402	27.344	0.015		0.006				0.3		0.2		2979	
2341	1479	1496	2.892	34.507	34.508	27.502	0.022		-0.003				0.4		-0.1		2939	
2451	1721	1741	2.464	34.585	34.588	27.604	-0.001	0.004	-0.001	0.002			0.0	0.1	0.0	0.1	6767	
2450	1969	1993	2.220	34.622	34.623	27.652	-0.002	0.003	0.001	0.005			0.0	0.1	0.0	0.2	2777	
2449	2265	2294	2.001	34.640	34.642	27.685	-0.009	0.002	-0.001	0.004			-0.2	0.0	0.0	0.2	2777	
2448	2561	2596	1.808		34.657	27.712	-0.012	-0.001	-0.001	0.004			-0.2	0.0	0.0	0.2	7777	
2447	2853	2894	1.649	34.667	34.669	27.733	0.018	0.026	-0.002	0.014			0.3	0.4	-0.1	0.5	3423	
2446	3151	3198	1.504		34.683	27.756											9999	
2445	3444	3498	1.376	34.708	34.710	27.786	-0.010	-0.001	-0.002	0.005			-0.2	0.0	-0.1	0.2	2777	
2444	3933	3999	1.032	34.727	34.724	27.822	0.000	0.006	-0.002	0.006			0.0	0.1	-0.1	0.2	2777	
2443	4420	4499	0.694	34.714	34.715	27.836	-0.001	0.022	-0.001	0.011			0.0	0.4	0.0	0.4	2777	
2442	4905	4998	0.590	34.710	34.711	27.839	0.013	0.021	0.001	0.013			0.2	0.3	0.0	0.4	6767	
2441	5174	5276	0.579	34.710	34.711	27.840	0.015	0.020	0.001	0.015			0.2	0.3	0.0	0.5	6767	

## CGC-90 CFC BOTTLE DATA

STATION 14

LATITUDE 37° 32.6' S			LONGITUDE 170° 2.2' W			DAY-MO-YR 3 3 90			BOTTOM DEPTH 5170 m				ATM. F-11 252.3 ppt		ATM. F-12 461.5 ppt			
SAMP	DEP	PRS	THETA	SAL	CTD-S	SIG-0	SIO F-11	PMEL F-11	SIO F-12	PMEL F-12	SIO F11 F12	PMEL F11 F12	SIO SAT	PMEL SAT	SIO SAT	PMEL SAT	PMEL F12 SAT	FLAG
	m	db	C			Kg/m <sup>3</sup>	pM/kg	pM/kg	pM/kg	pM/kg								
2552	4	4	19.622	35.191	35.194	25.010	2.390	2.259	1.383	1.446	1.7	1.6	105.8	100.0	120.9	126.4	2234	
2551	17	17	19.560	35.206	35.200	25.031											9999	
2550	36	37	19.480	35.253	35.255	25.094	2.264	2.284	1.151	1.182	2.0	1.9	99.6	100.5	100.1	102.8	2222	
2549	67	68	16.822	35.201	35.185	25.699	2.671		1.240		2.2		103.5		96.3		2929	
2548	96	97	13.431	34.930	34.937	26.257	3.099		1.450		2.1		101.1		96.7		2929	
2547	119	120	12.463	34.870	34.875	26.403	3.045		1.471		2.1		94.4		93.8		2929	
2546	144	146	12.061	34.847	34.870	26.477	2.948		1.420		2.1		89.5		88.9		2929	
2545	196	197	11.328		34.855	26.603	2.982		1.391		2.1		87.1		84.1		2929	
2544	243	245	10.555	34.790	34.793	26.694	2.675		1.287		2.1		74.9		75.0		2929	
2543	292	295	9.612	34.680	34.685	26.772	2.301		1.003		2.3		61.1		55.8		3949	
2542	345	348	9.032	34.627	34.624	26.819	2.249		1.065		2.1		57.8		57.5		6969	
2541	392	396	8.479	34.556	34.559	26.855	2.580		1.239		2.1		64.2		65.1		2929	
2652	490	495	7.994		34.529	26.905											9999	
2651	590	595	7.444	34.478	34.485	26.951	1.258		0.599		2.1		29.5		29.9		2929	
2650	690	696	6.969	34.445	34.449	26.989	0.825		0.394		2.1		18.8		19.2		2929	
2649	788	796	6.266	34.384	34.384	27.032	0.533		0.262		2.0		11.7		12.3		6969	
2648	887	896	5.753	34.377	34.378	27.092	0.324		0.150		2.2		6.9		6.8		2929	
2647	987	997	5.157	34.372	34.373	27.160	0.180		0.073		2.5		3.7		3.2		2939	
2646	1084	1095	4.700	34.387	34.390	27.226	0.099		0.034				2.0		1.5		2929	
2645	1230	1243	4.052	34.429	34.432	27.329	0.035		0.009				0.7		0.4		6929	
2644	1471	1487	3.147	34.509	34.511	27.481	0.040	0.050	0.010	0.031			0.7	0.9	0.4	1.2	2723	
2643	1714	1734	2.589	34.573	34.582	27.588	-0.008	-0.012	0.003	0.002			-0.1	-0.2	0.1	0.1	7777	
2642	1964	1989	2.335	34.608	34.612	27.634	0.007	0.002	0.003	0.000			0.1	0.0	0.1	0.0	6767	
2641	2464	2498	1.979	34.643	34.650	27.693	0.011	0.017	0.001	0.004			0.2	0.3	0.0	0.2	6262	

## CGC-90 CFC BOTTLE DATA

STATION 15

LATITUDE		LONGITUDE		DAY-MO-YR		BOTTOM DEPTH		ATM. F-11		ATM. F-12							
40° 1.7' S		170° 1.7' W		4 3 90		4626 m		249.7 ppt		461.2 ppt							
SAMP	DEP	PRS	THETA	SAL	CTD-S	SIG-0	SIO F-11	PMEL F-11	SIO F-12	PMEL F-12	SIO F11 F12	PMEL F11 F12	SIO F11 SAT	PMEL F11 SAT	SIO F12 SAT	PMEL F12 SAT	FLAG
	m	db	C			Kg/m <sup>3</sup>	pM/kg	pM/kg	pM/kg	pM/kg							
2752	2	2	17.404	34.966	34.966	25.392	2.595		1.277		2.0		104.3		101.6		2929
2751	18	18	16.837	34.983	34.985	25.542											9999
2750	38	38	16.700		34.960	25.556	2.652	2.649	1.280	1.370	2.1	1.9	103.0	102.9	98.8	105.7	2222
2749	65	66	14.067	35.175	35.168	26.303	2.741		1.312		2.1		93.6		90.3		2929
2748	97	98	13.376	35.237	35.238	26.501	2.697	2.683	1.279	1.390	2.1	1.9	88.9	88.5	85.4	92.8	2222
2747	121	122	12.957	35.171	35.166	26.531	2.813		1.271		2.2		90.7		83.2		2929
2746	145	146	12.359	35.054	35.055	26.563	3.020		1.372		2.2		94.3		87.3		2929
2745	194	196	11.930	34.997	35.004	26.606	2.949	2.792	1.313	1.458	2.2	1.9	90.0	85.2	81.8	90.9	2222
2744	244	246	11.085	34.877	34.879	26.666	2.565		1.236		2.1		74.7		73.9		2929
2743	293	296	10.093	34.753	34.748	26.740	2.692	2.540	1.243	1.310	2.2	1.9	74.2	70.0	70.8	74.7	2222
2742	343	346	9.371	34.666	34.660	26.792	2.496		1.193		2.1		66.1		65.6		6969
2741	389	393	8.789	34.586	34.585	26.827	2.902		1.360		2.1		74.3		72.6		6969
2847	491	496	8.060	34.515	34.513	26.883	2.483		1.163		2.1		61.0		59.8		2929
2846	589	595	7.606	34.479	34.479	26.923	2.023	1.955	0.908	0.969	2.2	2.0	48.4	46.8	45.6	48.7	2222
2845	687	694	7.189	34.445	34.445	26.955	1.490		0.680		2.2		34.8		33.5		2929
2844	787	795	6.749	34.412	34.413	26.991	1.009	0.977	0.481	0.479	2.1	2.0	23.0	22.2	23.1	23.0	2222
2843	885	894	6.196	34.391	34.389	27.045	0.663		0.292		2.3		14.6		13.6		2929
2842	983	993	5.717	34.390	34.392	27.108	0.384	0.379	0.172	0.088	2.2	4.3	8.2	8.1	7.8	4.0	6263
2841	1081	1093	5.073	34.389	34.387	27.181	0.296		0.131		2.3		6.1		5.8		2929
2852	1229	1243	4.261	34.397	34.403	27.284	0.132		0.047				2.6		2.0		2929
2851	1475	1492	3.404	34.494	34.492	27.442	0.025	0.069	0.000	0.016			0.5	1.3	0.0	0.7	2337
2850	1723	1744	2.768	34.574	34.576	27.567											9999
2849	1968	1993	2.360	34.616	34.618	27.636	0.006		0.001				0.1		0.0		2979
2848	2264	2294	2.045	34.646	34.649	27.687	0.041		0.001				0.7		0.0		4969
2946	2656	2694	1.706	34.696	34.699	27.753	-0.003	0.013	0.000	0.021			-0.1	0.2	0.0	0.8	2773
2947	2656	2694	1.705	34.695	34.700	27.754											9999
2945	3050	3097	1.424	34.728	34.730	27.799	-0.006		0.003				-0.1		0.1		7979
2944	3341	3394	1.172	34.735	34.730	27.817	-0.003	0.005	0.001	0.006			-0.1	0.1	0.0	0.2	2777
2943	3625	3685	0.945	34.710	34.730	27.832	0.004		0.001				0.1		0.0		2979
2942	3829	3894	0.804	34.717	34.719	27.832	0.007	0.011	0.001	0.015			0.1	0.2	0.0	0.5	2272
2941	4026	4097	0.697	34.715	34.715	27.836	0.011		0.004				0.2		0.1		2979
2951	4224	4300	0.616	34.710	34.712	27.838	0.014		0.005				0.2		0.2		2979
2950	4318	4396	0.591	34.711	34.712	27.840	0.015	0.028	0.005	0.032			0.2	0.4	0.2	1.1	2273
2949	4514	4598	0.549	34.708	34.709	27.840	0.021		0.004				0.3		0.1		6969
2948	4589	4675	0.538	34.713	34.708	27.840	0.025		0.004				0.4		0.1		6969

## CGC-90 CFC BOTTLE DATA

STATION 16

LATITUDE		LONGITUDE		DAY-MO-YR		BOTTOM DEPTH		ATM. F-11		ATM. F-12							
40° 58.1' S		170° 29.0' W		4 3 90		4323 m		249.7 ppt		461.2 ppt							
SAMP	DEP	PRS	THETA	SAL	CTD-S	SIG-0	SIO F-11	PMEL F-11	SIO F-12	PMEL F-12	SIO F11 F12	PMEL F11 F12	SIO F11 SAT	PMEL F11 SAT	SIO F12 SAT	PMEL F12 SAT	FLAG
	m	db	C			Kg/m <sup>3</sup>	pM/kg	pM/kg	pM/kg	pM/kg							
3047	4	4	17.573	35.078	35.082	25.440	2.505		2.002		1.3		101.6		160.6		2949
3046	28	29	17.072		35.097	25.573											9999
3045	97	98	12.982	35.087	35.091	26.468	2.957		1.419		2.1		95.4		92.9		2929
3044	195	197	12.213	35.040	35.037	26.577	3.029		1.427		2.1		93.8		90.2		2929
3043	392	395	9.139	34.637	34.639	26.813	2.432		1.125		2.2		63.5		61.1		2929
3042	589	595	7.824	34.506	34.507	26.913	1.770		0.848		2.1		42.9		43.1		2929
3041	787	795	7.017	34.443	34.447	26.981	1.068		0.525		2.0		24.7		25.6		2929
3052	986	996	5.910	34.404	34.406	27.095	0.386		0.176		2.2		8.4		8.1		6969
3051	1230	1244	4.527	34.424	34.428	27.275	0.093		0.039				1.9		1.7		2929
3050	1477	1494	3.463	34.428	34.501	27.443	0.023		0.003				0.4		0.1		6969
3049	1722	1743	2.802	34.574	34.575	27.564	0.002		0.001				0.0		0.0		2979
3048	1972	1997	2.386	34.615	34.619	27.635	-0.004		0.001				-0.1		0.0		6969
3146	2167	2195	2.151	34.672	34.638	27.670	-0.008		0.002				-0.1		0.1		6969
3145	2559	2595	1.828	34.685	34.681	27.730	-0.008		0.000				-0.1		0.0		2979
3144	2947	2991	1.569	34.728	34.730	27.788	0.000		0.000				0.0		0.0		2979
3143	3147	3195	1.374	34.731	34.736	27.807	0.001		0.001				0.0		0.0		6969
3142	3342	3396	1.188	34.725	34.733	27.818	0.006		0.008				0.1		0.3		2929
3141	3537	3595	1.003	34.726	34.728	27.827	0.001		0.000				0.0		0.0		2979
3152	3734	3797	0.837		34.723	27.833	0.017		0.003				0.3		0.1		3939
3151	3929	3997	0.713		34.718	27.837	0.030		0.004				0.5		0.1		6929
3150	4066	4137	0.663	34.711	34.715	27.838	0.015		0.003				0.2		0.1		2979
3149	4163	4238	0.617	34.703	34.714	27.840	0.024		0.012				0.4		0.4		6969
3148	4266	4343	0.567	34.727	34.712	27.841	0.018		0.002				0.3		0.1		6969



## CGC-90 CFC BOTTLE DATA

STATION 17

LATITUDE			LONGITUDE			DAY-MO-YR			BOTTOM DEPTH				ATM. F-11		ATM. F-12				
41° 29.4' S			170° 43.4' W			5 3 90			3984 m				249.7 ppt		461.2 ppt				
SAMP	DEP	PRS	THETA	SAL	CTD-S	SIG-0	SIO F-11	PMEL F-11	SIO F-12	PMEL F-12	SIO F11 F12	PMEL F11 F12	SIO SAT	PMEL SAT	SIO SAT	PMEL SAT	SIO SAT	PMEL SAT	FLAG
	m	db	C			Kg/m <sup>3</sup>	pM/kg	pM/kg	pM/kg	pM/kg									
3247	1968	1993	2.406	34.612	34.618	27.632	-0.002		0.003				0.0		0.1				7979
3246	2162	2191	2.152	34.636	34.639	27.670	-0.005		0.000				-0.1		0.0				2929
3245	2360	2392	1.954	34.658	34.662	27.705	0.003		0.001				0.1		0.0				2979
3244	2554	2590	1.788	34.681	34.689	27.739	-0.002		0.003				0.0		0.1				2979
3243	2754	2794	1.647	34.709	34.712	27.768	-0.005		0.001				-0.1		0.0				2979
3242	2952	2996	1.511	34.724	34.729	27.792	0.014		0.000				0.2		0.0				4929
3241	3049	3096	1.435	34.728	34.734	27.802	-0.001		0.001				0.0		0.0				2979
3251	3148	3196	1.289	34.730	34.736	27.813	-0.003		0.001				-0.1		0.0				2979
3250	3248	3299	1.167	34.753	34.733	27.820	-0.001		0.001				0.0		0.0				6969
3249	3291	3344	1.134	34.724	34.733	27.822	0.001		0.001				0.0		0.0				2979
3248	3346	3400	1.077	34.736	34.731	27.824	-0.002		0.002				0.0		0.1				6969

## CGC-90 CFC BOTTLE DATA

STATION 18

LATITUDE			LONGITUDE			DAY-MO-YR			BOTTOM DEPTH				ATM. F-11		ATM. F-12				
41° 58.9' S			170° 59.0' W			5 3 90			2974 m				249.7 ppt		461.2 ppt				
SAMP	DEP	PRS	THETA	SAL	CTD-S	SIG-0	SIO F-11	PMEL F-11	SIO F-12	PMEL F-12	SIO F11 F12	PMEL F11 F12	SIO SAT	PMEL SAT	SIO SAT	PMEL SAT	SIO SAT	PMEL SAT	FLAG
	m	db	C			Kg/m <sup>3</sup>	pM/kg	pM/kg	pM/kg	pM/kg									
3346	1967	1992	2.387	34.616	34.620	27.636	-0.004		0.001				-0.1		0.0				2979
3347	1967	1993	2.387		34.620	27.636	-0.001		0.000				0.0		0.0				2929
3345	2164	2193	2.115	34.639	34.644	27.677			0.001				0.0		0.0				9999
3344	2367	2400	1.857	34.672	34.678	27.725	0.002		0.001				0.0		0.0				2979
3343	2458	2493	1.745	34.697	34.693	27.746	-0.010		0.000				-0.2		0.0				2929
3342	2556	2592	1.673	34.706	34.712	27.766	-0.004		0.000				-0.1		0.0				2929
3341	2656	2694	1.593	34.718	34.723	27.781	0.003		0.000				0.1		0.0				2929
3351	2753	2793	1.488	34.727	34.732	27.796	-0.003		0.000				-0.1		0.0				2929
3350	2851	2893	1.377	34.734	34.736	27.807	0.000		0.001				0.0		0.0				2979
3349	2851	2894	1.377	34.730	34.735	27.806	-0.006		0.000				-0.1		0.0				2929
3348	2928	2972	1.296	34.730	34.735	27.812	-0.004		0.000				-0.1		0.0				6969

## CGC-90 CFC BOTTLE DATA

STATION 19

LATITUDE		LONGITUDE		DAY-MO-YR		BOTTOM DEPTH		ATM. F-11		ATM. F-12							
42° 28.7' S		171° 12.5' W		5 3 90		1857 m		249.7 ppt		461.8 ppt							
SAMP	DEP	PRS	THETA	SAL	CTD-S	SIG-0	SIO F-11	PMEL F-11	SIO F-12	PMEL F-12	SIO F11 F12	PMEL F11 F12	SIO SAT	PMEL SAT	SIO SAT	PMEL SAT	FLAG
	m	db	C			Kg/m <sup>3</sup>	pM/kg	pM/kg	pM/kg	pM/kg							----
3447	3	3	17.785	35.114	35.116	25.415	2.594		1.901		1.4		106.3		153.7		2949
3547	29	29	17.379		35.133	25.527											9999
3446	35	36	17.320	35.140	35.141	25.547	2.491		1.184		2.1		99.9		93.9		2939
3445	67	67	14.887	35.351	35.353	26.270	2.563		1.223		2.1		91.4		87.4		2929
3444	95	96	14.050		35.285	26.398											9999
3546	98	98	14.219	35.300	35.304	26.376	2.471		1.198		2.1		85.1		83.1		2969
3443	120	121	13.752		35.254	26.436	2.457		1.224		2.0		82.6		83.1		6969
3442	145	146	13.457	35.253	35.258	26.500	2.567		1.285		2.0		85.0		86.0		2929
3441	195	196	12.896	35.166	35.157	26.536	2.547		1.258		2.0		81.8		82.0		2929
3452	243	245	12.048	35.020	35.003	26.583	2.439		1.197		2.0		74.9		74.9		2929
3451	292	295	11.376	34.918	34.923	26.647	2.373		1.148		2.1		70.2		69.6		2929
3450	342	345	10.721	34.837	34.840	26.702	2.172		1.077		2.0		62.0		63.2		2929
3449	393	396	10.123	34.778	34.784	26.763	1.828		0.924		2.0		50.5		52.7		2929
3448	492	496	9.251	34.688	34.693	26.837	1.585		0.756		2.1		41.7		41.3		2929
3545	588	594	8.407	34.610	34.609	26.905	1.267		0.559		2.3		31.8		29.2		2929
3544	690	697	7.838	34.554	34.557	26.950	0.961		0.469		2.0		23.3		23.8		2929
3543	785	793	7.172	34.504	34.504	27.004	0.627		0.282		2.2		14.6		13.9		2929
3542	886	895	6.594	34.474	34.474	27.060	0.432		0.190		2.3		9.8		9.1		6969
3541	984	995	6.077	34.464	34.466	27.121	0.282		0.126		2.2		6.2		5.8		2929
3551	1086	1097	5.407	34.458	34.445	27.187	0.157		0.063		2.5		3.3		2.8		2939
3550	1229	1243	4.646	34.471	34.483	27.306	0.074		0.021				1.5		0.9		6969
3549	1477	1495	3.630	34.590	34.528	27.448											9999
3548	1814	1836	2.566	34.622	34.608	27.611	-0.001		-0.002				0.0		-0.1		6969

## CGC-90 CFC BOTTLE DATA

STATION 20

LATITUDE		LONGITUDE		DAY-MO-YR		BOTTOM DEPTH		ATM. F-11		ATM. F-12							
43° 30.1' S		170° 51.2' W		5 3 90		2904 m		249.0 ppt		461.5 ppt							
SAMP	DEP	PRS	THETA	SAL	CTD-S	SIG-0	SIO F-11	PMEL F-11	SIO F-12	PMEL F-12	SIO F11 F12	PMEL F11 F12	SIO SAT	PMEL SAT	SIO SAT	PMEL SAT	FLAG
	m	db	C			Kg/m <sup>3</sup>	pM/kg	pM/kg	pM/kg	pM/kg							----
3647	28	28	14.793		34.684	25.774											9999
3646	1774	1797	2.545	34.551	34.554	27.569	0.188		0.058		3.2		3.3		2.2		2939
3645	1970	1996	2.309	34.615	34.618	27.641	0.109		0.024				1.9		0.9		2939
3644	2168	2197	2.104	34.660	34.666	27.696	0.038		0.017				0.7		0.6		2929
3643	2360	2393	1.958	34.700	34.707	27.740	0.033		0.004				0.6		0.2		2979
3642	2461	2496	1.892	34.713	34.717	27.753	0.035		0.014				0.6		0.5		2929
3641	2558	2595	1.832	34.729	34.728	27.767	0.028		0.013				0.5		0.5		2979
3651	2659	2698	1.693	34.724	34.728	27.778	0.022		-0.001				0.4		0.0		2979
3650	2760	2801	1.550	34.736	34.739	27.797	0.019		0.005				0.3		0.2		2979
3649	2817	2859	1.488	34.733	34.738	27.801	0.016		0.002				0.3		0.1		2979
3648	2874	2917	1.468	34.739	34.740	27.804	0.009		0.001				0.2		0.0		2979

## CGC-90 CFC BOTTLE DATA

STATION 21

LATITUDE			LONGITUDE			DAY-MO-YR		BOTTOM DEPTH				ATM. F-11		ATM. F-12					
43° 59.1' S			170° 41.6' W			6 3 90		4473 m				249.0 ppt		461.5 ppt					
SAMP	DEP	PRS	THETA	SAL	CTD-S	SIG-0	SIO	PMEL	SIO	PMEL	SIO	PMEL	SIO	PMEL	SIO	PMEL	SIO	PMEL	FLAG
	m	db	C				Kg/m <sup>3</sup>	pM/kg	pM/kg	pM/kg	pM/kg								----
3747	2753	2794	1.719	34.734	34.733	27.780	0.014			0.003					0.2		0.1		2979
3746	2949	2994	1.563	34.735	34.738	27.795	0.008			0.004					0.1		0.2		2979
3745	3145	3195	1.346	34.734	34.737	27.810	0.014			0.004					0.2		0.1		2979
3744	3339	3393	1.167	34.730	34.734	27.820	0.006			0.008					0.1		0.3		2979
3743	3535	3594	0.992	34.726	34.728	27.827	0.011			0.001					0.2		0.0		2979
3742	3732	3796	0.839	34.720	34.722	27.833	0.018			0.005					0.3		0.2		2979
3741	3925	3994	0.706	34.714	34.718	27.838	0.025			0.005					0.4		0.2		2979
3751	4122	4197	0.632	34.714	34.714	27.839	0.031			0.008					0.5		0.3		2979
3750	4316	4396	0.573	34.715	34.711	27.840	0.032			0.009					0.5		0.3		2979
3749	4415	4498	0.557	34.709	34.711	27.841	0.035			0.012					0.6		0.4		6969
3748	4558	4645	0.532	34.708	34.709	27.841	0.038			0.012					0.6		0.4		6969

## CGC-90 CFC BOTTLE DATA

STATION 22

LATITUDE			LONGITUDE			DAY-MO-YR		BOTTOM DEPTH				ATM. F-11		ATM. F-12					
44° 22.2' S			170° 19.7' W			6 3 90		5108 m				249.0 ppt		461.5 ppt					
SAMP	DEP	PRS	THETA	SAL	CTD-S	SIG-0	SIO	PMEL	SIO	PMEL	SIO	PMEL	SIO	PMEL	SIO	PMEL	SIO	PMEL	FLAG
	m	db	C				Kg/m <sup>3</sup>	pM/kg	pM/kg	pM/kg	pM/kg								----
3847	2949	2994	1.533	34.737	34.741	27.800	0.008			0.001					0.1		0.0		2979
3846	3242	3294	1.263	34.737	34.737	27.816	0.005			0.007					0.1		0.2		2979
3845	3536	3595	1.051	34.728	34.729	27.824	0.003			0.001					0.1		0.0		2979
3844	3826	3893	0.829	34.719	34.722	27.833	0.006			0.001					0.1		0.0		2979
3843	4123	4198	0.666	34.711	34.715	27.838	0.014			0.011					0.2		0.4		2979
3842	4416	4499	0.582	34.711	34.712	27.841	0.017			0.008					0.3		0.3		2979
3841	4608	4696	0.550	34.706	34.710	27.841	0.033			0.007					0.5		0.2		3979
3851	4802	4897	0.530	34.712	34.709	27.841	0.023			0.007					0.4		0.2		2979
3850	4900	4998	0.522	34.705	34.708	27.841	0.030			0.011					0.5		0.4		2979
3849	4998	5098	0.517	34.703	34.708	27.841	0.032			0.007					0.5		0.2		6969
3848	5080	5183	0.514	34.703	34.709	27.842	0.034			0.014					0.5		0.5		6969

## CGC-90 CFC BOTTLE DATA

STATION 23

LATITUDE		LONGITUDE		DAY-MO-YR		BOTTOM DEPTH				ATM. F-11		ATM. F-12					
46° 2.7' S		170° 0.1' W		6 3 90		5190 m				250.5 ppt		460.9 ppt					
SAMP	DEP	PRS	THETA	SAL	CTD-S	SIG-0	SIO F-11	PMEL F-11	SIO F-12	PMEL F-12	SIO F11 F12	PMEL F11 F12	SIO F11 SAT	PMEL F11 SAT	SIO F12 SAT	PMEL F12 SAT	FLAG
	m	db	C			Kg/m <sup>3</sup>	pM/kg	pM/kg	pM/kg	pM/kg							----
3947	4	4	14.689	34.704	34.707	25.815	2.977		1.691		1.8		104.1		119.3		2949
3946	19	19	14.681		34.706	25.816	3.018		1.343		2.2		105.4		94.7		2939
3945	29	29	14.419		34.716	25.880											9999
3944	38	38	14.371	34.717	34.718	25.891	3.019		1.338		2.3		103.8		93.0		2939
3943	69	70	13.924	34.712	34.726	25.992	2.878		1.347		2.1		96.8		91.8		2929
3942	97	97	11.635	34.854	34.847	26.540	3.162		1.524		2.1		94.5		93.6		2929
3941	122	123	11.208	34.852	34.854	26.625	3.130		1.503		2.1		91.4		90.5		6969
3952	147	148	10.790	34.795	34.797	26.656	3.025		1.431		2.1		86.4		84.4		2929
3951	196	198	10.014	34.692	34.694	26.711	3.025		1.486		2.0		82.7		84.4		2929
3950	245	248	9.381	34.633	34.634	26.770	3.260		1.564		2.1		86.0		86.1		2929
3949	296	299	9.004	34.609	34.616	26.817	2.938		1.372		2.1		75.9		74.1		6969
3948	345	348	8.670	34.578	34.582	26.843	2.804		1.309		2.1		71.1		69.5		2929
4047	394	398	8.203	34.522	34.519	26.866	2.700		1.264		2.1		66.6		65.6		2929
4046	442	447	7.957	34.494	34.495	26.884	2.708		1.312		2.1		65.9		67.2		2929
4045	492	497	7.735	34.476	34.479	26.904	2.620		1.235		2.1		62.9		62.5		2929
4044	591	597	7.386	34.444	34.445	26.928	2.409		1.142		2.1		56.7		56.8		2929
4043	688	695	7.100	34.424	34.426	26.953	2.020		0.965		2.1		46.8		47.3		2929
4042	786	794	6.688	34.404	34.401	26.990	1.603		0.691		2.3		36.2		33.2		2929
4041	883	893	6.206	34.375	34.378	27.035	1.284		0.595		2.2		28.2		27.8		2929
4052	983	994	5.628	34.356	34.361	27.094	1.089		0.527		2.1		23.1		23.9		2929
4051	1082	1094	5.060	34.383	34.358	27.160	0.895		0.395		2.3		18.4		17.4		2929
4050	1229	1243	4.232	34.362	34.368	27.259	0.540		0.241		2.2		10.6		10.2		6929
4049	1477	1494	3.336	34.437	34.444	27.410	0.232		0.095		2.4		4.3		3.8		2929
4048	1723	1744	2.769	34.514	34.525	27.527	0.160		0.055		2.9		2.9		2.2		6939
4147	1969	1995	2.431	34.591	34.590	27.608	0.076		0.023				1.3		0.9		2929
4146	2460	2496	2.005	34.686	34.688	27.721	0.026		0.003				0.4		0.1		2979
4145	2947	2993	1.662	34.730	34.738	27.788	0.018		0.001				0.3		0.0		2979
4144	3438	3495	1.231	34.728	34.734	27.816	0.018		0.001				0.3		0.0		2979
4143	3928	3998	0.855	34.718	34.721	27.831	0.021		0.001				0.3		0.0		2979
4142	4319	4400	0.639	34.710	34.711	27.836	0.030		0.003				0.5		0.1		2979
4141	4707	4800	0.553	34.706	34.708	27.839	0.050		0.005				0.8		0.2		3979
4151	4902	5000	0.531	34.705	34.707	27.840	0.029		0.011				0.4		0.4		2979
4150	4999	5100	0.520	34.705	34.707	27.840	0.033		0.008				0.5		0.3		2979
4149	5094	5199	0.509	34.698	34.707	27.841	0.038		0.011				0.6		0.4		2979
4148	5165	5272	0.506	34.706	34.707	27.841	0.041		0.010				0.6		0.3		6969

## CGC-90 CFC BOTTLE DATA

STATION 24

LATITUDE		LONGITUDE		DAY-MO-YR		BOTTOM DEPTH				ATM. F-11		ATM. F-12					
47° 0.4' S		170° 0.8' W		7 3 90		5252 m				250.5 ppt		460.9 ppt					
SAMP	DEP	PRS	THETA	SAL	CTD-S	SIG-0	SIO F-11	PMEL F-11	SIO F-12	PMEL F-12	SIO F11 F12	PMEL F11 F12	SIO F11 SAT	PMEL F11 SAT	SIO F12 SAT	PMEL F12 SAT	FLAG
	m	db	C			Kg/m <sup>3</sup>	pM/kg	pM/kg	pM/kg	pM/kg							----
4249	2947	2992	1.650	34.736	34.740	27.790	0.013		0.003				0.2		0.1		6969
4248	2948	2994	1.651	34.735	34.739	27.790	0.021		0.003				0.4		0.1		6969

## CGC-90 CFC BOTTLE DATA

STATION 25

LATITUDE		LONGITUDE		DAY-MO-YR			BOTTOM DEPTH				ATM. F-11		ATM. F-12				
48° 1.3' S		169° 54.9' W		7 3 90			5294 m				250.5 ppt		460.9 ppt				
SAMP	DEP	PRS	THETA	SAL	CTD-S	SIG-0	SIO F-11	PMEL F-11	SIO F-12	PMEL F-12	SIO F11 F12	PMEL F11 F12	SIO F11 SAT	PMEL F11 SAT	SIO F12 SAT	PMEL F12 SAT	FLAG
	m	db	C			Kg/m <sup>3</sup>	pM/kg	pM/kg	pM/kg	pM/kg							
4347	2	2	13.729	34.752	34.746	26.048	2.977		1.478		2.0		99.1		99.9		6969
4346	27	27	13.654		34.746	26.063											9999
4345	46	46	13.533	34.740	34.740	26.084	3.038		1.465		2.1		100.2		98.1		2929
4344	96	97	12.390	35.042	35.055	26.557	2.861		1.437		2.0		89.2		91.6		2929
4343	145	146	11.538	34.913	34.920	26.615	2.830		1.463		1.9		84.2		89.5		2929
4342	194	196	10.567	34.785	34.788	26.688											9999
4341	292	295	9.120	34.603	34.575	26.766	3.022		1.490		2.0		78.6		80.9		2929
4352	391	394	7.812	34.408	34.406	26.835	3.409		1.583		2.2		82.2		80.4		2929
4351	489	494	7.652	34.420	34.414	26.865	3.337		1.535		2.2		79.7		77.4		2929
4350	588	594	7.204	34.409	34.402	26.920	3.005		1.398		2.1		70.0		68.9		2929
4349	786	794	6.660	34.383	34.382	26.978	2.607		1.198		2.2		58.8		57.4		2929
4348	983	994	5.878	34.378	34.382	27.080	1.381		0.616		2.2		29.8		28.3		2929
4447	1479	1497	3.176	34.410	34.409	27.397	0.576		0.268		2.1		10.6		10.7		2929
4446	1976	2002	2.351	34.597	34.598	27.621	0.145		0.053		2.7		2.5		2.0		2939
4445	2459	2495	1.977	34.721	34.710	27.741	0.033		0.005				0.6		0.2		2979
4444	2951	2997	1.626	34.743	34.737	27.790	0.023		0.003				0.4		0.1		6969
4443	3438	3496	1.192	34.732	34.733	27.818	0.009		0.011				0.2		0.4		2979
4442	3921	3991	0.836	34.727	34.721	27.832	0.017		0.012				0.3		0.4		2929
4441	4416	4500	0.602	34.710	34.711	27.838	0.021		0.003				0.3		0.1		2979
4451	4708	4801	0.549	34.709	34.708	27.839	0.025		0.003				0.4		0.1		6969
4450	4901	5000	0.525	34.707	34.707	27.840	0.028		0.006				0.4		0.2		2979
4449	4996	5099	0.518	34.707	34.706	27.840	0.030		0.010				0.5		0.3		2979
4448	5098	5204	0.513	34.707	34.669	27.810	0.037		0.005				0.6		0.2		6939

## CGC-90 CFC BOTTLE DATA

STATION 26

LATITUDE		LONGITUDE		DAY-MO-YR			BOTTOM DEPTH				ATM. F-11		ATM. F-12				
50° 4.0' S		170° 4.2' W		8 3 90			5279 m				252.1 ppt		460.1 ppt				
SAMP	DEP	PRS	THETA	SAL	CTD-S	SIG-0	SIO F-11	PMEL F-11	SIO F-12	PMEL F-12	SIO F11 F12	PMEL F11 F12	SIO F11 SAT	PMEL F11 SAT	SIO F12 SAT	PMEL F12 SAT	FLAG
	m	db	C			Kg/m <sup>3</sup>	pM/kg	pM/kg	pM/kg	pM/kg							
4547	6	6	12.564	34.500	34.501	26.093	3.230	3.234	1.617	1.628	2.0	2.0	100.4	100.5	103.5	104.2	2626
4546	19	20	12.456	34.491	34.493	26.108	3.121		1.503		2.1		96.4		95.8		2929
4545	38	39	12.181	34.451	34.454	26.131	3.237	3.248	1.515	1.630	2.1	2.0	98.5	98.9	95.2	102.5	2626
4544	68	69	10.016	34.359	34.363	26.452	3.519		1.712		2.1		95.3		97.1		2929
4543	95	96	8.702	34.444	34.438	26.726	3.446	3.524	1.692	1.753	2.0	2.0	86.8	88.8	90.0	93.3	2222
4542	121	122	8.100	34.402	34.389	26.779	3.612		1.708		2.1		87.9		88.2		2929
4541	146	147	7.789	34.362	34.363	26.805	3.598	3.725	1.738	1.805	2.1	2.1	86.1	89.1	88.3	91.7	2222
4552	196	198	7.822	34.400	34.403	26.831	3.595	3.606	1.736	1.769	2.1	2.0	86.2	86.4	88.4	90.1	2222
4551	245	248	7.690	34.396	34.396	26.845	3.530		1.689		2.1		84.0		85.4		2929
4550	294	297	7.652	34.401	34.402	26.856	3.327	3.411	1.621	1.669	2.1	2.0	79.0	81.0	81.8	84.2	2222
4549	343	346	7.364	34.384	34.389	26.887	3.151		1.538		2.0		73.6		76.5		2929
4548	395	399	7.072	34.366	34.369	26.912	3.167	3.254	1.523	1.590	2.1	2.0	72.7	74.7	74.6	77.9	2222
4647	490	495	6.842	34.388	34.374	26.947	1.311		0.607		2.2		29.7		29.4		2929
4646	588	594	6.438	34.382	34.382	27.008	1.293	1.328	0.589	0.638	2.2	2.1	28.6	29.4	27.9	30.3	2222
4645	687	694	5.833	34.369	34.379	27.083	1.075		0.511		2.1		23.0		23.5		2929
4644	785	794	5.273	34.368	34.367	27.142	1.070	1.095	0.492	0.524	2.2	2.1	22.1	22.6	22.0	23.4	2222
4643	883	893	4.504	34.342	34.342	27.209	1.093		0.494		2.2		21.6		21.2		2929
4642	981	992	4.024	34.360	34.359	27.274	0.862	0.874	0.397	0.432	2.2	2.0	16.5	16.8	16.6	18.0	2222
4641	1081	1093	3.547	34.376	34.366	27.327	0.799		0.368		2.2		14.9		15.0		2929
4652	1228	1242	3.051	34.414	34.414	27.413	0.560	0.559	0.248	0.266	2.3	2.1	10.1	10.1	9.8	10.6	2222
4651	1474	1493	2.643	34.511	34.514	27.529	0.286	0.280	0.123	0.136	2.3	2.1	5.1	4.9	4.8	5.3	2222
4650	1720	1743	2.420	34.594	34.597	27.615	0.094		0.041				1.6		1.6		2929
4649	1967	1994	2.182	34.657	34.660	27.685	0.082	0.055	0.032	0.038			1.4	0.9	1.2	1.4	2227
4648	2360	2394	1.942	34.718	34.722	27.754	0.035		0.015				0.6		0.6		2979
4747	2752	2794	1.635	34.740	34.739	27.791	0.011	0.023	0.000	0.011			0.2	0.4	0.0	0.4	2777
4746	3038	3087	1.382	34.740	34.739	27.809	0.005	0.018	0.003	0.021			0.1	0.3	0.1	0.8	2773
4745	3338	3394	1.120	34.731	34.731	27.821	0.006		0.003				0.1		0.1		2979
4744	3639	3702	0.922	34.724	34.720	27.826	0.012	0.016	0.002	0.008			0.2	0.2	0.1	0.3	2777
4743	3923	3994	0.763	34.717	34.718	27.834	0.008		0.003				0.1		0.1		2979
4742	4217	4296	0.631	34.718	34.712	27.838	0.012	0.022	0.008	0.011			0.2	0.3	0.3	0.4	2777
4741	4508	4596	0.563	34.709	34.709	27.839	0.016		0.011				0.2		0.4		2979
4751	4704	4798	0.540	34.711	34.709	27.841	0.016	0.033	0.007	0.022			0.2	0.5	0.2	0.8	2777
4750	5023	5128	0.520	34.707	34.707	27.840	0.029		0.015				0.4		0.5		2929
4749	5119	5227	0.517	34.709	34.707	27.840	0.026	0.050	0.015	0.037			0.4	0.8	0.5	1.3	2777
4748	5193	5302	0.516	34.708	34.707	27.840	0.025		0.014				0.4		0.5		6969

## CGC-90 CFC BOTTLE DATA

STATION 27

LATITUDE 51° 58.0' S			LONGITUDE 169° 59.1' W			DAY-MO-YR 9 3 90		BOTTOM DEPTH 5054 m				ATM. F-11 252.1 ppt		ATM. F-12 460.1 ppt			
SAMP	DEP	PRS	THETA	SAL	CTD-S	SIG-0	SIO F-11	PMEL F-11	SIO F-12	PMEL F-12	SIO F11 F12	PMEL F11 F12	SIO SAT	PMEL SAT	SIO SAT	PMEL SAT	F12 FLAG
	m	db	C				Kg/m <sup>3</sup>	pM/kg	pM/kg	pM/kg	pM/kg						
4847	6	6	9.429	34.238	34.238	26.452	3.657		5.260		0.7		95.8		289.5		2949
4846	18	19	9.402	34.237	34.239	26.458	3.766		1.679		2.2		98.5		92.3		2939
4845	47	47	9.361	34.241	34.235	26.461	3.722		1.735		2.1		97.1		95.2		2929
4844	96	97	8.876	34.216	34.224	26.531	3.758		1.756		2.1		95.4		94.0		2929
4843	147	148	7.709	34.350	34.360	26.814	3.785		1.766		2.1		90.1		89.4		2929
4842	197	199	7.446	34.348	34.348	26.843	3.651		1.753		2.1		85.6		87.5		6969
4841	295	297	7.118	34.346	34.343	26.885	3.439		1.644		2.1		79.1		80.7		2929
4852	392	396	6.856	34.353	34.354	26.930	3.112		1.467		2.1		70.6		71.1		2929
4851	491	496	6.354	34.331	34.333	26.980	2.729		1.275		2.1		60.1		60.2		2929
4850	587	593	5.865		34.327	27.038											9999
4849	787	796	4.704	34.320	34.323	27.172	1.477		0.654		2.3		29.5		28.3		2929
4848	984	996	3.504	34.338	34.337	27.309	1.065		0.468		2.3		19.8		19.0		2929
4947	1426	1443	2.611	34.509	34.510	27.529	0.289		0.125		2.3		5.1		4.8		2929
4946	1965	1992	2.150	34.676	34.671	27.696	0.070		0.024				1.2		0.9		6939
4945	2459	2496	1.828	34.735	34.733	27.771	0.027		0.012				0.4		0.4		2979
4944	2947	2995	1.427	34.742	34.739	27.806	0.007		0.001				0.1		0.0		2979
4943	3436	3495	1.046	34.727	34.730	27.825	0.002		0.001				0.0		0.0		2979
4942	3923	3995	0.741	34.716	34.717	27.835	0.008		0.002				0.1		0.1		2979
4941	4410	4496	0.566	34.708	34.709	27.839	0.029		0.009				0.4		0.3		2979
4951	4707	4802	0.528	34.708	34.707	27.840	0.032		0.010				0.5		0.4		2979
4950	4899	5000	0.518	34.714	34.708	27.841	0.031		0.012				0.5		0.4		2929
4949	4958	5062	0.515	34.708	34.708	27.841	0.031		0.017				0.5		0.6		2929
4948	5023	5128	0.510	34.708	34.707	27.841	0.036		0.018				0.6		0.6		6969

## CGC-90 CFC BOTTLE DATA

STATION 28

LATITUDE 56° 46.1' S			LONGITUDE 170° 4.1' W			DAY-MO-YR 10 3 90		BOTTOM DEPTH 4822 m				ATM. F-11 251.0 ppt		ATM. F-12 456.9 ppt			
SAMP	DEP	PRS	THETA	SAL	CTD-S	SIG-0	SIO F-11	PMEL F-11	SIO F-12	PMEL F-12	SIO F11 F12	PMEL F11 F12	SIO SAT	PMEL SAT	SIO SAT	PMEL SAT	F12 FLAG
	m	db	C				Kg/m <sup>3</sup>	pM/kg	pM/kg	pM/kg	pM/kg						
5047	5	5	5.525	33.954	33.957	26.787											9999
5046	17	17	5.471	33.954	33.954	26.791	4.603		2.076		2.2		96.3		93.9		6969
5045	47	47	5.404	33.957	33.955	26.800	4.695		2.120		2.2		97.8		95.6		2929
5044	95	96	5.404	33.957	33.957	26.801	4.501		2.083		2.2		93.8		93.9		2929
5043	144	146	4.661	34.079	34.083	26.986	4.247		2.004		2.1		84.7		87.0		2929
5042	195	197	4.275	34.090	34.086	27.031	4.029		1.883		2.1		78.5		80.1		2929
5041	292	295	4.098	34.162	34.162	27.110	3.082		1.466		2.1		59.5		61.8		2929
5052	392	396	3.603	34.199	34.201	27.191	2.470		1.160		2.1		46.3		47.6		2929
5051	490	495	2.894	34.218	34.217	27.270	2.286		1.083		2.1		41.0		42.8		2929
5050	580	586	2.931	34.302	34.304	27.336	1.390		0.643		2.2		25.0		25.5		2929
5049	785	794	2.617	34.438	34.435	27.468	0.600		0.294		2.0		10.6		11.5		2929
5048	982	994	2.356	34.535	34.539	27.573	0.366		0.177		2.1		6.4		6.8		6969
5147	1474	1494	2.101	34.695	34.692	27.717	0.069		0.012				1.2		0.5		2939
5146	1710	1734	1.963	34.722	34.722	27.752	0.045		0.018				0.8		0.7		2929
5145	1966	1994	1.780	34.741	34.738	27.779	0.026		0.004				0.4		0.2		2929
5144	2458	2495	1.377	34.744	34.740	27.810	0.013		-0.002				0.2		-0.1		2979
5143	2946	2994	1.002	34.732	34.727	27.826	0.014		0.004				0.2		0.1		6969
5142	3434	3495	0.733	34.720	34.718	27.836	0.007		0.014				0.1		0.5		2939
5141	3917	3991	0.564	34.718	34.710	27.840	0.020		0.019				0.3		0.7		2939
5151	4409	4497	0.512	34.710	34.709	27.842	0.029		0.005				0.4		0.2		2929
5150	4504	4594	0.507	34.718	34.708	27.842	0.026		0.012				0.4		0.4		2979
5149	4603	4697	0.495	34.712	34.707	27.842	0.033		0.016				0.5		0.6		2929
5148	4671	4767	0.491	34.757	34.708	27.843	0.040		0.016				0.6		0.6		6929

## CGC-90 CFC BOTTLE DATA

STATION 29

LATITUDE 60° 0.6' S			LONGITUDE 169° 53.0' W			DAY-MO-YR 11 3 90		BOTTOM DEPTH 4139 m				ATM. F-11 251.0 ppt		ATM. F-12 456.9 ppt			
SAMP	DEP	PRS	THETA	SAL	CTD-S	SIG-0	SIO F-11	PMEL F-11	SIO F-12	PMEL F-12	SIO F11 F12	PMEL F11 F12	SIO F11 SAT	PMEL F11 SAT	SIO F12 SAT	PMEL F12 SAT	FLAG
	m	db	C			Kg/m <sup>3</sup>	pM/kg	pM/kg	pM/kg	pM/kg							
5247	17	17	3.787	34.002	33.928	26.955		5.146		3.103		1.7		97.2		128.3	9294
5246	47	47	3.759		33.930	26.959	5.067		2.215		2.3		95.6		91.5		6969
5245	97	98	3.615	33.935	33.938	26.980	4.935		2.201		2.2		92.3		90.2		2929
5244	145	146	2.471	34.009	34.009	27.140	4.622	4.834	2.119	2.283	2.2	2.1	80.6	84.3	81.6	88.0	2626
5243	194	196	2.176	34.044	34.032	27.182	4.658		2.140		2.2		79.8		81.1		2929
5242	291	294	1.951	34.110	34.106	27.259	3.934	4.009	1.740	1.810	2.3	2.2	66.5	67.7	65.2	67.8	2222
5241	392	396	2.204	34.239	34.239	27.346	2.460		1.096		2.2		42.3		41.7		2929
5252	489	494	2.184	34.342	34.348	27.435	1.512	1.631	0.689	0.714	2.2	2.3	26.0	28.0	26.2	27.2	2222
5251	587	594	2.338	34.443	34.454	27.507	0.832		0.348		2.4		14.4		13.4		2929
5250	587	594	2.338	34.441	34.454	27.507	0.816	0.835	0.362	0.367	2.3	2.3	14.2	14.5	13.9	14.1	2222
5249	782	791	2.300	34.586	34.560	27.595	0.348	0.358	0.152	0.169	2.3	2.1	6.0	6.2	5.8	6.5	2222
5248	986	998	2.233	34.645	34.643	27.667	0.137		0.058		2.4		2.4		2.2		6969
5347	1225	1240	2.091	34.692	34.692	27.718	0.089		0.053		1.7		1.5		2.0		2929
5346	1475	1494	1.943	34.721	34.721	27.753	0.065		0.024				1.1		0.9		2929
5345	1717	1741	1.753	34.733	34.739	27.782	0.027		0.012				0.4		0.4		2979
5344	1964	1993	1.556	34.752	34.742	27.799											9999
5343	2451	2489	1.171		34.733	27.819											9999
5342	2944	2994	0.859	34.724	34.720	27.830	0.008		0.009				0.1		0.3		2929
5341	3335	3394	0.666	34.714	34.714	27.837											9999
5351	3630	3696	0.561	34.718	34.710	27.840	0.008		0.008				0.1		0.3		2929
5350	3922	3997	0.530	34.709	34.709	27.841											9999
5349	4020	4097	0.525	34.710	34.708	27.841											9999
5348	4094	4174	0.521	34.712	34.708	27.841	0.015		0.002				0.2		0.1		6929

## CGC-90 CFC BOTTLE DATA

STATION 30

LATITUDE 55° 59.8' S			LONGITUDE 174° 10.1' W			DAY-MO-YR 12 3 90		BOTTOM DEPTH 4970 m				ATM. F-11 251.0 ppt		ATM. F-12 456.9 ppt			
SAMP	DEP	PRS	THETA	SAL	CTD-S	SIG-0	SIO F-11	PMEL F-11	SIO F-12	PMEL F-12	SIO F11 F12	PMEL F11 F12	SIO F11 SAT	PMEL F11 SAT	SIO F12 SAT	PMEL F12 SAT	FLAG
	m	db	C			Kg/m <sup>3</sup>	pM/kg	pM/kg	pM/kg	pM/kg							
5447	29	29	6.988	33.407	34.058	26.678	4.148		1.960		2.1		94.9		96.0		2929
5446	47	47	6.988	34.062	34.058	26.678	4.116	4.127	1.969	2.056	2.1	2.0	94.2	94.4	96.4	100.7	2626
5445	97	98	6.945	34.064	34.065	26.690	4.069	4.146	1.942	2.057	2.1	2.0	92.8	94.6	94.9	100.5	2222
5444	146	147	6.466	34.222	34.225	26.880	3.803	3.853	1.863	1.920	2.0	2.0	84.6	85.7	89.0	91.7	2222
5443	195	197	5.933	34.196	34.195	26.925	3.688	3.743	1.767	1.859	2.1	2.0	79.4	80.6	82.1	86.4	2222
5442	294	297	5.231	34.159	34.161	26.983	3.667	3.708	1.777	1.834	2.1	2.0	75.8	76.6	79.6	82.1	2222
5441	392	396	5.042	34.258	34.256	27.081	2.357	2.365	1.122	1.161	2.1	2.0	48.2	48.4	49.8	51.5	2222
5452	489	494	4.420	34.275	34.274	27.164	1.826	1.811	0.856	0.849	2.1	2.1	36.0	35.7	36.8	36.5	2222
5451	489	494	4.420	34.274	34.274	27.164	1.879	1.826	0.863	0.872	2.2	2.1	37.0	36.0	37.1	37.4	2222
5450	588	595	3.856	34.281	34.283	27.230		1.575		0.746		2.1		30.0		31.1	9292
5449	790	799	2.940	34.344	34.344	27.367	1.091	1.018	0.481	0.482	2.3	2.1	19.6	18.3	19.1	19.1	2222
5448	983	994	2.630	34.457	34.458	27.485	0.505	0.491	0.218	0.241	2.3	2.0	8.9	8.7	8.5	9.4	2626
5546	1229	1244	2.364	34.563	34.559	27.589	0.277	0.379	0.129	0.170	2.1	2.2	4.8	6.6	5.0	6.5	2222
5545	1477	1497	2.198	34.651	34.648	27.674	0.139	0.156	0.064	0.068	2.2	2.3	2.4	2.7	2.4	2.6	2227
5544	1721	1745	2.057	34.703	34.701	27.728		0.096		0.038				1.6		1.4	9696
5543	1966	1993	1.899	34.728	34.724	27.758	0.037	0.061	0.012	0.024			0.6	1.0	0.4	0.9	2676
5542	2454	2492	1.505	34.743	34.739	27.800	0.014	0.041	0.006	0.016			0.2	0.7	0.2	0.6	2676
5541	2946	2994	1.115	34.732	34.730	27.821	0.005	0.024	0.002	0.011			0.1	0.4	0.1	0.4	2777
5552	3433	3493	0.809	34.719	34.718	27.831	0.009	0.027	0.012	0.014			0.1	0.4	0.4	0.5	2727
5551	3921	3995	0.612	34.712	34.709	27.836	0.025	0.034	0.009	0.017			0.4	0.5	0.3	0.6	2777
5550	4414	4502	0.514	34.717	34.705	27.839	0.028	0.043	0.005	0.025			0.4	0.7	0.2	0.9	2777
5549	4854	4956	0.473	34.706	34.703	27.840	0.052	0.068	0.039	0.028			0.8	1.0	1.4	1.0	2737
5548	4924	5028	0.468	34.708	34.703	27.840	0.059	0.076	0.013	0.032			0.9	1.2	0.4	1.1	6626

## CGC-90 CFC BOTTLE DATA

STATION 31

LATITUDE			LONGITUDE			DAY-MO-YR			BOTTOM DEPTH				ATM. F-11		ATM. F-12			
53° 56.9' S			176° 9.5' W			13 3 90			5289 m				251.2 ppt		460.0 ppt			
SAMP	DEP	PRS	THETA	SAL	CTD-S	SIG-0	SIO F-11	PMEL F-11	SIO F-12	PMEL F-12	SIO F11 F12	PMEL F11 F12	SIO F11 SAT	PMEL F11 SAT	SIO F12 SAT	PMEL F12 SAT	FLAG	
	m	db	C			Kg/m <sup>3</sup>	pM/kg	pM/kg	pM/kg	pM/kg								
5747	28	29	9.098	34.211	34.206	26.481	3.658	3.789	1.775	1.856	2.1	2.0	94.3	97.7	96.1	100.5	2222	
5746	45	46	8.910	34.196	34.193	26.501	3.737		1.838		2.0		95.4		98.6		2929	
5745	96	97	8.693	34.191	34.186	26.529	3.716		1.811		2.1		93.7		96.1		2929	
5753	195	196	7.590	34.376	34.368	26.838	3.490	3.617	1.728	1.737	2.0	2.1	82.8	85.8	86.9	87.4	2222	
5743	296	299	6.809	34.314	34.310	26.902	3.410		1.687		2.0		77.3		81.5		2929	
5742	394	398	6.225	34.278	34.272	26.949	3.225	3.342	1.603	1.587	2.0	2.1	70.7	73.2	75.2	74.4	2222	
5741	394	398	6.225	34.279	34.272	26.949	3.234		1.526		2.1		70.9		71.5		2929	
5752	493	498	5.771	34.279	34.278	27.011	2.623	2.779	1.240	1.283	2.1	2.2	56.0	59.3	56.8	58.8	2222	
5751	591	598	5.271	34.301	34.304	27.092	2.076		0.979		2.1		43.0		43.7		2929	
5750	789	797	4.180	34.314	34.316	27.223	1.306	1.305	0.605	0.598	2.2	2.2	25.4	25.3	25.5	25.2	2222	
5749	983	994	3.220	34.334	34.337	27.336	1.031		0.452		2.3		18.9		18.1		2929	
5748	1225	1240	2.637	34.446	34.449	27.478	0.596	0.576	0.275	0.269	2.2	2.1	10.5	10.2	10.7	10.4	2222	
5646	1478	1497	2.443	34.538	34.537	27.565	0.307		0.132		2.3		5.4		5.1		2929	
5645	1724	1747	2.270	34.628	34.627	27.651	0.140		0.059		2.4		2.4		2.2		2929	
5653	1965	1992	2.115	34.686	34.687	27.712	0.070		0.022				1.2		0.8		2979	
5643	2459	2496	1.811	34.744	34.734	27.773	0.024	0.058	0.013	0.016			0.4	1.0	0.5	0.6	2373	
5642	2945	2992	1.388	34.741	34.737	27.807	0.014	0.024	0.012	0.010			0.2	0.4	0.4	0.4	2727	
5641	3437	3497	0.998	34.734	34.726	27.825	0.006		0.001				0.1		0.0		2979	
5652	3924	3997	0.776	34.718	34.718	27.833	0.013	0.028	0.002	0.014			0.2	0.4	0.1	0.5	2777	
5651	4413	4500	0.578	34.711	34.709	27.838	0.024		0.009				0.4		0.3		6969	
5650	4703	4798	0.523	34.709	34.707	27.840	0.032	0.059	0.010	0.024			0.5	0.9	0.4	0.8	2727	
5649	4849	4949	0.499	34.708	34.708	27.842	0.036		0.030				0.6		1.0		2939	
5648	4923	5026	0.485	34.708	34.705	27.841	0.049	0.094	0.014	0.048			0.8	1.4	0.5	1.7	6262	

## CGC-90 CFC BOTTLE DATA

STATION 32

LATITUDE			LONGITUDE			DAY-MO-YR			BOTTOM DEPTH				ATM. F-11		ATM. F-12			
50° 30.3' S			179° 23.7' W			15 3 90			4448 m				252.0 ppt		460.8 ppt			
SAMP	DEP	PRS	THETA	SAL	CTD-S	SIG-0	SIO F-11	PMEL F-11	SIO F-12	PMEL F-12	SIO F11 F12	PMEL F11 F12	SIO F11 SAT	PMEL F11 SAT	SIO F12 SAT	PMEL F12 SAT	FLAG	
	m	db	C			Kg/m <sup>3</sup>	pM/kg	pM/kg	pM/kg	pM/kg								
5847	5	5	10.208	34.188	34.186	26.281	3.643	3.718	2.653	2.870	1.4	1.3	99.5	101.6	151.3	163.7	2644	
5846	47	47	10.189	34.193	34.185	26.284	3.576		1.719		2.1		97.6		97.9		2929	
5845	96	97	7.288	34.198	34.195	26.745	4.040	4.179	1.907	2.063	2.1	2.0	93.8	97.0	94.2	101.9	2222	
5853	194	196	6.195	34.228	34.223	26.914	3.753	3.874	1.785	1.891	2.1	2.0	81.8	84.4	83.4	86.3	2222	
5843	293	296	5.653	34.221	34.220	26.979	3.320		1.558		2.1		70.1		70.8		2929	
5842	391	395	5.192		34.258	27.065	2.465	2.542	1.161	1.217	2.1	2.1	50.7	52.2	51.5	54.0	2222	
5841	587	593	3.974	34.298	34.293	27.226	1.453	1.430	0.667	0.685	2.2	2.1	27.8	27.3	27.7	28.5	2626	
5852	783	791	3.061	34.365	34.363	27.371	0.876	0.880	0.407	0.412	2.2	2.1	15.8	15.9	16.1	16.3	2222	
5851	981	992	2.641	34.466	34.466	27.491	0.470	0.485	0.222	0.231	2.1	2.1	8.3	8.6	8.6	8.9	2222	
5850	1225	1240	2.374	34.579	34.575	27.601	0.207	0.237	0.119	0.097	1.7	2.4	3.6	4.1	4.5	3.7	2222	
5849	1474	1492	2.212	34.656	34.655	27.678	0.100		0.039				1.7		1.5		2979	
5848	1723	1746	2.060	34.702	34.702	27.728	0.053	0.111	0.021	0.029			0.9	1.9	0.8	1.1	2373	



## CGC-90 CFC BOTTLE DATA

STATION 33

LATITUDE			LONGITUDE			DAY-MO-YR			BOTTOM DEPTH				ATM. F-11		ATM. F-12			
49° 29.9' S			179° 44.7' E			15 3 90			2012 m				252.0 ppt		460.5 ppt			
SAMP	DEP	PRS	THETA	SAL	CTD-S	SIG-0	SIO F-11	PMEL F-11	SIO F-12	PMEL F-12	SIO F11 F12	PMEL F11 F12	SIO F11 SAT	PMEL F11 SAT	SIO F12 SAT	PMEL F12 SAT	FLAG	
	m	db	C			Kg/m <sup>3</sup>	pM/kg	pM/kg	pM/kg	pM/kg							----	
5946	5	5	8.804	34.145	34.135	26.472	3.940	3.810	1.864	1.966	2.1	1.9	99.6	96.3	99.3	104.7	2222	
5945	46	46	8.686	34.150	34.129	26.486	3.902	3.816	1.815	1.961	2.1	1.9	98.0	95.8	96.1	103.8	2222	
5953	97	98	8.207	34.269	34.251	26.655	3.641	3.794	1.730	1.945	2.1	2.0	89.1	92.8	89.6	100.7	2222	
5943	197	199	8.214	34.492	34.480	26.833	3.271		1.600		2.0		80.3		83.1		2929	
5942	391	395	6.949	34.390	34.380	26.938	2.456	2.413	1.163	1.216	2.1	2.0	56.0	55.0	56.6	59.2	2222	
5941	591	597	5.385	34.341	34.332	27.101	1.705	1.659	0.808	0.819	2.1	2.0	35.5	34.5	36.2	36.7	2222	
5952	786	795	3.906	34.325	34.316	27.252	1.277		0.597		2.1		24.3		24.8		2929	
5951	983	994	3.005	34.386	34.379	27.389	0.827		0.380		2.2		14.9		15.0		6969	
5950	1370	1386	2.423	34.561	34.552	27.578	0.276		0.131		2.1		4.8		5.0		6969	
5949	1869	1894	2.176	34.675	34.668	27.691	0.109	0.135	0.055	0.059	2.0	2.3	1.9	2.3	2.1	2.2	2222	
5948	1954	1980	2.146	34.681	34.675	27.700	0.100	0.100	0.053	0.052	1.9	1.9	1.7	1.7	2.0	2.0	6267	

## CGC-90 CFC BOTTLE DATA

STATION 34

LATITUDE			LONGITUDE			DAY-MO-YR			BOTTOM DEPTH				ATM. F-11		ATM. F-12			
49° 43.5' S			179° 59.9' W			16 3 90			3111 m				251.9 ppt		460.1 ppt			
SAMP	DEP	PRS	THETA	SAL	CTD-S	SIG-0	SIO F-11	PMEL F-11	SIO F-12	PMEL F-12	SIO F11 F12	PMEL F11 F12	SIO F11 SAT	PMEL F11 SAT	SIO F12 SAT	PMEL F12 SAT	FLAG	
	m	db	C			Kg/m <sup>3</sup>	pM/kg	pM/kg	pM/kg	pM/kg							----	
6046	1967	1993	1.952	34.723	34.721	27.752	0.052	0.065	0.028	0.028			0.9	1.1	1.0	1.0	2727	
6045	2160	2191	1.789	34.754	34.734	27.775	0.036		0.011				0.6		0.4		2929	
6053	2260	2293	1.731	34.742	34.735	27.780	0.029	0.043	0.008	0.017			0.5	0.7	0.3	0.6	2727	
6043	2363	2397	1.623	34.744	34.736	27.789	0.025		0.018				0.4		0.7		2929	
6042	2462	2498	1.576	34.744	34.738	27.794	0.021		0.019				0.4		0.7		2929	
6041	2555	2593	1.495	34.744	34.739	27.801	0.022	0.031	0.022	0.015			0.4	0.5	0.8	0.6	2727	
6052	2653	2693	1.472	34.744	34.737	27.801	0.022		0.027				0.4		1.0		2929	
6051	2750	2793	1.453	34.748	34.737	27.803	0.018		0.023				0.3		0.8		2929	
6050	2946	2993	1.422	34.748	34.737	27.805	0.019	0.031	0.019	0.012			0.3	0.5	0.7	0.4	2727	
6049	3031	3080	1.407	34.743	34.736	27.805	0.022	0.029	0.011	0.013			0.4	0.5	0.4	0.5	2777	
6048	3034	3082	1.407	34.744	34.736	27.805	0.020	0.056	0.010	0.022			0.3	0.9	0.4	0.8	2676	

## CGC-90 CFC BOTTLE DATA

STATION 35

LATITUDE			LONGITUDE			DAY-MO-YR			BOTTOM DEPTH				ATM. F-11		ATM. F-12			
49° 50.9' S			179° 52.7' W			16 3 90			4030 m				251.9 ppt		460.1 ppt			
SAMP	DEP	PRS	THETA	SAL	CTD-S	SIG-0	SIO F-11	PMEL F-11	SIO F-12	PMEL F-12	SIO F11 F12	PMEL F11 F12	SIO F11 SAT	PMEL F11 SAT	SIO F12 SAT	PMEL F12 SAT	FLAG	
	m	db	C			Kg/m <sup>3</sup>	pM/kg	pM/kg	pM/kg	pM/kg							----	
6146	1968	1995	1.947	34.723	34.719	27.751	0.049		0.024				0.8		0.9		2929	
6145	2359	2393	1.647	34.742	34.738	27.789	0.023	0.033	0.016	0.014			0.4	0.6	0.6	0.5	2727	
6153	2651	2692	1.435	34.743	34.737	27.804	0.020	0.024	0.016	0.014			0.3	0.4	0.6	0.5	2727	
6143	2949	2996	1.221	34.736	34.730	27.813	0.015		0.018				0.2		0.7		2929	
6142	3140	3191	1.108	34.735	34.727	27.819	0.020	0.020	0.015	0.015			0.3	0.3	0.5	0.5	2727	
6141	3339	3395	0.968	34.730	34.722	27.824	0.018		0.021				0.3		0.7		2929	
6152	3535	3596	0.884	34.724	34.721	27.829	0.027	0.026	0.020	0.018			0.4	0.4	0.7	0.6	2727	
6151	3729	3795	0.802	34.720	34.717	27.831	0.031		0.029				0.5		1.0		2929	
6150	3906	3977	0.764	34.722	34.714	27.831	0.036	0.033	0.028	0.024			0.6	0.5	1.0	0.8	2727	
6149	3979	4052	0.730	34.720	34.713	27.832	0.039		0.031				0.6		1.1		2929	
6148	3980	4053	0.735	34.719	34.713	27.832		0.027		0.024				0.4		0.8	9797	

## CGC-90 CFC BOTTLE DATA

STATION 36

LATITUDE			LONGITUDE			DAY-MO-YR		BOTTOM DEPTH				ATM. F-11		ATM. F-12			
50° 29.0' S			179° 21.4' W			18 3 90		4458 m				252.0 ppt		460.8 ppt			
SAMP	DEP	PRS	THETA	SAL	CTD-S	SIG-0	SIO F-11	PMEL F-11	SIO F-12	PMEL F-12	SIO F11 F12	PMEL F11 F12	SIO SAT	PMEL SAT	SIO SAT	PMEL SAT	FLAG
m	db		C			Kg/m <sup>3</sup>	pM/kg	pM/kg	pM/kg	pM/kg							
6246	1967	1994	1.922	34.727	34.723	27.756	0.036	0.044	0.020	0.022			0.6	0.7	0.8	0.8	2727
6245	2359	2393	1.606	34.738	34.740	27.794	0.020	0.031	0.004	0.019			0.3	0.5	0.2	0.7	2777
6253	2752	2794	1.267	34.734	34.735	27.814	0.022	0.029	0.012	0.026			0.4	0.5	0.4	0.9	2723
6243	3043	3093	1.030	34.728	34.728	27.825	0.012	0.018	0.007	0.009			0.2	0.3	0.2	0.3	6767
6242	3339	3395	0.837	34.719	34.721	27.832	0.022	0.026	0.014	0.016			0.4	0.4	0.5	0.6	2727
6241	3633	3697	0.585	34.713	34.713	27.835	0.026	0.035	0.017	0.019			0.4	0.6	0.6	0.7	2626
6252	3924	3996	0.559	34.708	34.707	27.838	0.042	0.048	0.008	0.024			0.7	0.7	0.3	0.8	2727
6251	4121	4198	0.510	34.710	34.707	27.841	0.051	0.060	0.012	0.031			0.8	0.9	0.4	1.1	2676
6250	4218	4297	0.494	34.707	34.705	27.840	0.050	0.068	0.034	0.032			0.8	1.0	1.2	1.1	2227
6249	4374	4458	0.465	34.706	34.705	27.842	0.067	0.058	0.035	0.035			1.0	0.9	1.2	1.2	6267
6248	4441	4528	0.459	34.712	34.704	27.841	0.069	0.082	0.036	0.042			1.1	1.3	1.2	1.4	6666

## CGC-90 CFC BOTTLE DATA

STATION 38

LATITUDE			LONGITUDE			DAY-MO-YR		BOTTOM DEPTH				ATM. F-11		ATM. F-12			
34° 38.9' S			178° 38.2' W			28 3 90		6556 m				254.0 ppt		461.4 ppt			
SAMP	DEP	PRS	THETA	SAL	CTD-S	SIG-0	SIO F-11	PMEL F-11	SIO F-12	PMEL F-12	SIO F11 F12	PMEL F11 F12	SIO SAT	PMEL SAT	SIO SAT	PMEL SAT	FLAG
m	db		C			Kg/m <sup>3</sup>	pM/kg	pM/kg	pM/kg	pM/kg							
6552	2948	2990	1.596	34.706	34.702	27.764	-0.001	0.001	0.001	0.000			0.0	0.0	0.0	0.0	2777
6551	2949	2991	1.594	34.705	34.702	27.764	-0.001		0.001				0.0		0.0		2979
6549	2949	2992	1.593	34.702	34.703	27.765	0.001		0.001				0.0		0.0		7979
6550	2949	2992	1.592	34.702	34.704	27.766	0.000	0.001	0.004	0.002			0.0	0.0	0.2	0.1	2477
6548	2949	2992	1.592	34.703	34.704	27.766	0.000	0.001	0.001	0.000			0.0	0.0	0.0	0.0	2777
6547	2949	2992	1.591	34.703	34.704	27.766	0.019		0.008				0.3		0.3		4949
6546	2949	2992	1.590	34.703	34.702	27.764	-0.001	0.005	-0.010	0.029			0.0	0.1	-0.4	1.1	2723
6553	2950	2993	1.588	34.713	34.703	27.765	0.000	0.001	-0.004	0.009			0.0	0.0	-0.2	0.3	7777
6542	2950	2993	1.586	34.707	34.703	27.766	0.007	0.000	-0.004	0.006			0.1	0.0	-0.2	0.2	2777
6543	2951	2993	1.585	34.706	34.704	27.766	0.002		-0.004				0.0		-0.2		2979
6545	2951	2994	1.585	34.703	34.703	27.766	0.002		-0.004				0.0		-0.2		2979
6541	2952	2994	1.586	34.712	34.702	27.765	0.001	0.006	-0.003	0.015			0.0	0.1	-0.1	0.6	6663

## CGC-90 CFC BOTTLE DATA

STATION 39

LATITUDE			LONGITUDE			DAY-MO-YR		BOTTOM DEPTH				ATM. F-11		ATM. F-12			
32° 29.8' S			178° 18.8' W			28 3 90		4994 m				253.3 ppt		459.6 ppt			
SAMP	DEP	PRS	THETA	SAL	CTD-S	SIG-0	SIO F-11	PMEL F-11	SIO F-12	PMEL F-12	SIO F11 F12	PMEL F11 F12	SIO SAT	PMEL SAT	SIO SAT	PMEL SAT	FLAG
m	db		C			Kg/m <sup>3</sup>	pM/kg	pM/kg	pM/kg	pM/kg							
6651	1970	1993	2.241	34.620	34.619	27.647	0.002	0.003	0.000	-0.001			0.0	0.1	0.0	0.0	2777
6650	2461	2494	1.876	34.654	34.650	27.701	0.014	0.017	0.008	-0.003			0.2	0.3	0.3	-0.1	3327
6649	2853	2893	1.586	34.690	34.686	27.752	0.003	0.005	0.005	-0.002			0.1	0.1	0.2	-0.1	2777
6648	3247	3295	1.318	34.724	34.721	27.799	0.000		0.000				0.0		0.0		7979
6647	3637	3695	0.995	34.725	34.723	27.823	0.022	0.009	0.010	0.007			0.4	0.1	0.4	0.2	3727
6646	3928	3993	0.794	34.717	34.716	27.830	0.009		-0.003				0.1		-0.1		2979
6645	4225	4298	0.675	34.713	34.711	27.834	0.012	0.019	0.007	0.018			0.2	0.3	0.2	0.6	2773
6653	4517	4598	0.627	34.711	34.710	27.836	0.013		0.004				0.2		0.1		2979
6643	4711	4797	0.616	34.713	34.709	27.836	0.018	0.024	0.015	0.008			0.3	0.4	0.5	0.3	2777
6642	4898	4991	0.605	34.717	34.710	27.837	0.016	0.021	0.008	0.009			0.2	0.3	0.3	0.3	2676
6641	4967	5061	0.601	34.711	34.710	27.838	0.018	0.023	0.009	0.010			0.3	0.4	0.3	0.4	6767

## CGC-90 CFC BOTTLE DATA

STATION 40

LATITUDE			LONGITUDE			DAY-MO-YR			BOTTOM DEPTH				ATM. F-11		ATM. F-12			
32° 30.6' S			178° 31.4' W			29 3 90			4172 m				253.3 ppt		460.3 ppt			
SAMP	DEP	PRS	THETA	SAL	CTD-S	SIG-0	SIO F-11	PMEL F-11	SIO F-12	PMEL F-12	SIO F11 F12	PMEL F11 F12	SIO SAT	PMEL SAT	SIO SAT	PMEL SAT	FLAG	
	m	db	C			Kg/m <sup>3</sup>	pM/kg	pM/kg	pM/kg	pM/kg								
6751	1970	1994	2.209	34.624	34.623	27.653	0.003	0.003	-0.005	0.000			0.1	0.1	-0.2	0.0	2777	
6750	2216	2244	2.039	34.640	34.638	27.679	0.004		-0.003				0.1		-0.1		2979	
6749	2462	2494	1.846	34.657	34.654	27.706	0.002	0.001	0.005	0.000			0.0	0.0	0.2	0.0	2777	
6748	2707	2744	1.687	34.671	34.670	27.732	-0.003		0.001				-0.1		0.0		7979	
6747	2952	2994	1.554	34.701	34.700	27.765	0.001		0.008				0.0		0.3		2979	
6746	3149	3195	1.425		34.502	27.616	-0.001	0.001	0.003	0.004			0.0	0.0	0.1	0.2	2777	
6745	3345	3395	1.222	34.726	34.729	27.812	0.002		-0.003				0.0		-0.1		2979	
6753	3540	3595	1.039	34.726	34.726	27.823	0.007	0.006	0.001	0.002			0.1	0.1	0.0	0.1	2777	
6743	3736	3796	0.907	34.722	34.723	27.829	0.010		0.001				0.2		0.0		2979	
6742	4058	4126	0.789	34.717	34.718	27.833	0.011	0.010	-0.001	0.002			0.2	0.2	0.0	0.1	2727	
6741	4141	4212	0.785	34.717	34.718	27.833	0.008	0.013	0.002	0.003			0.1	0.2	0.1	0.1	2767	

## CGC-90 CFC BOTTLE DATA

STATION 41

LATITUDE			LONGITUDE			DAY-MO-YR			BOTTOM DEPTH				ATM. F-11		ATM. F-12			
32° 29.8' S			178° 44.6' W			29 3 90			2959 m				253.3 ppt		460.3 ppt			
SAMP	DEP	PRS	THETA	SAL	CTD-S	SIG-0	SIO F-11	PMEL F-11	SIO F-12	PMEL F-12	SIO F11 F12	PMEL F11 F12	SIO SAT	PMEL SAT	SIO SAT	PMEL SAT	FLAG	
	m	db	C			Kg/m <sup>3</sup>	pM/kg	pM/kg	pM/kg	pM/kg								
6852	5	5	22.037	35.616	35.617	24.678	1.990		0.950		2.1		98.4		92.1		2939	
6851	17	18	22.033	35.616	35.616	24.678	2.044		1.004		2.0		101.0		97.3		2929	
6850	37	37	21.975	35.614	35.615	24.694	2.060		1.018		2.0		101.5		98.4		2929	
6849	66	67	18.945	35.445	35.452	25.382	2.391		1.190		2.0		102.4		101.7		2929	
6848	97	98	16.602	35.431	35.454	25.958	2.521		1.257		2.0		96.6		97.2		2929	
6847	145	146	14.379	35.336	35.341	26.371	2.433		1.228		2.0		83.3		86.1		2929	
6846	194	196	13.308	35.214	35.208	26.492	2.110		1.042		2.0		68.3		69.5		2929	
6845	293	296	11.594	34.992	34.998	26.665	1.870		0.928		2.0		55.2		57.1		2929	
6853	393	396	10.096	34.789	34.790	26.772	1.451		0.712		2.0		39.4		40.7		2929	
6843	589	594	7.870	34.558	34.553	26.942	0.860		0.424		2.0		20.6		21.7		2929	
6842	787	794	6.271	34.419	34.417	27.057	0.309		0.157		2.0		6.7		7.4		2929	
6841	983	993	5.023	34.393	34.398	27.195	0.082		0.047				1.7		2.1		6969	
6951	1231	1244	3.543	34.446	34.448	27.393	0.009		0.006				0.2		0.2		2979	
6950	1477	1493	2.809	34.542	34.540	27.535	-0.001		0.001				0.0		0.0		2979	
6949	1724	1743	2.420	34.600	34.601	27.618	0.001		0.011				0.0		0.4		7979	
6948	1968	1992	2.216	34.626	34.626	27.655	0.000		0.003				0.0		0.1		2979	
6947	2166	2193	2.058	34.637	34.638	27.677	-0.005		-0.004				-0.1		-0.2		7979	
6946	2363	2393	1.885	34.656	34.653	27.703	-0.002		0.002				0.0		0.1		2979	
6945	2461	2494	1.798	34.662	34.661	27.716											9999	
6953	2560	2594	1.691	34.678	34.676	27.736	0.000		0.005				0.0		0.2		2979	
6943	2755	2793	1.507	34.713	34.713	27.779	0.000		0.001				0.0		0.0		7979	
6942	2866	2906	1.421	34.720	34.720	27.791	-0.002		0.002				0.0		0.1		2979	
6941	2926	2967	1.366	34.724	34.726	27.800	0.001		-0.003				0.0		-0.1		6969	

## CGC-90 CFC BOTTLE DATA

STATION 42

LATITUDE			LONGITUDE			DAY-MO-YR			BOTTOM DEPTH				ATM. F-11		ATM. F-12			
32° 29.0' S			178° 30.1' W			29 3 90			4211 m				253.3 ppt		460.3 ppt			
SAMP	DEP	PRS	THETA	SAL	CTD-S	SIG-0	SIO F-11	PMEL F-11	SIO F-12	PMEL F-12	SIO F11 F12	PMEL F11 F12	SIO SAT	PMEL SAT	SIO SAT	PMEL SAT	FLAG	
	m	db	C			Kg/m <sup>3</sup>	pM/kg	pM/kg	pM/kg	pM/kg							----	
7052	6	6	21.965	35.615	35.614	24.696	2.050		0.933		2.2		101.0		90.2		2939	
7051	47	47	21.915	35.608	35.614	24.710	2.074		0.981		2.1		102.0		94.7		2939	
7050	96	96	15.594	35.414	35.411	26.157	2.524		1.327		1.9		91.9		98.2		3929	
7049	145	146	14.186	35.318	35.318	26.394	2.444		1.224		2.0		82.9		85.0		2929	
7048	195	196	13.305	35.198	35.207	26.492	2.329		1.145		2.0		75.4		76.3		2929	
7047	292	295	11.379	34.960	34.955	26.672	1.750		0.832		2.1		51.1		50.6		2929	
7046	392	396	9.837		34.730	26.769	1.549		0.729		2.1		41.5		41.1		2929	
7045	590	595	7.510	34.502	34.501	26.954	0.731		0.351		2.1		17.1		17.6		2929	
7053	785	793	6.041	34.402	34.401	27.074	0.231		0.115		2.0		5.0		5.3		2929	
7043	985	995	4.798	34.387	34.383	27.209	0.054		0.032				1.1		1.4		2929	
7042	1232	1245	3.557	34.445	34.449	27.393	0.003		0.014				0.1		0.6		2929	
7041	1477	1493	2.807	34.540	34.545	27.539	-0.001		0.002				0.0		0.1		2979	

## CGC-90 CFC BOTTLE DATA

STATION 43

LATITUDE			LONGITUDE			DAY-MO-YR			BOTTOM DEPTH				ATM. F-11		ATM. F-12			
32° 29.6' S			178° 17.8' W			29 3 90			5004 m				253.3 ppt		459.6 ppt			
SAMP	DEP	PRS	THETA	SAL	CTD-S	SIG-0	SIO F-11	PMEL F-11	SIO F-12	PMEL F-12	SIO F11 F12	PMEL F11 F12	SIO SAT	PMEL SAT	SIO SAT	PMEL SAT	FLAG	
	m	db	C			Kg/m <sup>3</sup>	pM/kg	pM/kg	pM/kg	pM/kg							----	
7152	4	4	21.951	35.617	35.612	24.698	2.058	2.092	1.013	1.088	2.0	1.9	101.3	103.0	98.0	105.3	2222	
7151	47	48	21.946		35.616	24.703	2.032		0.951		2.1		100.0		92.0		2939	
7150	97	97	16.010	35.476	35.469	26.107	2.318	2.587	1.159	1.293	2.0	2.0	86.2	96.2	87.5	97.7	2222	
7149	145	146	14.602	35.355	35.356	26.334	2.173	2.492	1.083	1.225	2.0	2.0	75.3	86.3	76.8	86.9	2222	
7148	195	197	13.462	35.223	35.219	26.469	2.061	2.380	1.016	1.183	2.0	2.0	67.3	77.7	68.3	79.6	2222	
7147	294	297	11.653	34.990	34.990	26.648	1.743	1.872	0.773	0.926	2.3	2.0	51.6	55.5	47.7	57.2	2222	
7146	391	394	10.319	34.824	34.814	26.752	1.475	1.538	0.674	0.765	2.2	2.0	40.6	42.3	39.0	44.2	2222	
7145	585	590	7.989	34.567	34.561	26.931	0.911	0.721	0.444	0.366	2.1	2.0	22.0	17.4	22.8	18.8	2222	
7153	786	793	6.452	34.435	34.434	27.047	0.363	0.221	0.181	0.138	2.0	1.6	8.0	4.9	8.6	6.6	2222	
7143	985	994	5.301	34.410	34.408	27.171	0.123	0.044	0.062	0.032	2.0		2.5	0.9	2.8	1.4	2227	
7142	1232	1245	3.703	34.434	34.435	27.367	0.006	0.008	0.010	0.002			0.1	0.2	0.4	0.1	2777	
7141	1478	1494	2.859	34.535	34.536	27.528	0.002	-0.001	0.006	-0.002			0.0	0.0	0.2	-0.1	2777	

## CGC-90 CFC BOTTLE DATA

STATION 44

LATITUDE		LONGITUDE		DAY-MO-YR		BOTTOM DEPTH				ATM. F-11		ATM. F-12					
32° 29.5' S		178° 0.2' W		29 3 90		5898 m				253.3 ppt		459.6 ppt					
SAMP	DEP	PRS	THETA	SAL	CTD-S	SIG-0	SIO F-11	PMEL F-11	SIO F-12	PMEL F-12	SIO F11 F12	PMEL F11 F12	SIO SAT	PMEL SAT	SIO SAT	PMEL SAT	FLAG
	m	db	C			Kg/m <sup>3</sup>	pM/kg	pM/kg	pM/kg	pM/kg							
7252	6	6	21.727	35.594	35.593	24.746	2.039		1.014		2.0		99.4		97.2		2929
7251	46	46	21.709	35.593	35.596	24.754	2.052		1.024		2.0		99.9		98.1		2929
7250	97	98	15.699	35.444	35.445	26.160	2.234		1.134		2.0		81.8		84.5		2929
7249	147	148	14.330	35.328	35.325	26.369	2.162		1.078		2.0		73.8		75.5		2929
7248	195	197	13.533	35.236	35.234	26.466	2.113		1.119		1.9		69.2		75.5		2929
7247	294	297	11.830	35.026	35.016	26.634	1.753		0.882		2.0		52.4		54.9		2929
7246	393	397	10.671	34.865	34.866	26.731	1.584		0.762		2.1		44.5		44.9		2929
7245	590	596	8.157	34.577	34.577	26.918	0.977		0.460		2.1		23.8		23.9		6969
7253	787	794	6.823	34.467	34.465	27.022	0.483		0.233		2.1		10.9		11.3		2929
7243	983	993	5.355	34.394	34.388	27.149	0.122		0.061		2.0		2.5		2.7		2929
7242	1231	1244	3.833	34.419	34.427	27.347	0.010		0.021				0.2		0.9		2939
7241	1478	1494	2.934	34.519	34.526	27.513	0.003		0.006				0.1		0.2		2979
7351	1969	1993	2.272		34.615	27.641											9999
7350	2461	2493	1.923		34.649	27.697	0.004		0.000				0.1		0.0		6969
7349	2951	2993	1.526	34.707	34.706	27.772	0.003		-0.003				0.1		-0.1		2979
7348	3442	3495	1.154	34.726	34.726	27.815	0.007		-0.004				0.1		-0.1		2979
7347	3931	3996	0.813	34.724	34.718	27.831	0.011		0.012				0.2		0.4		2979
7346	4327	4403	0.678		34.714	27.836	0.014		0.010				0.2		0.4		2979
7345	4711	4797	0.620	34.714	34.710	27.837	0.019		0.005				0.3		0.2		2979
7353	5099	5198	0.592	34.709	34.709	27.837	0.022		0.010				0.3		0.4		2929
7343	5390	5497	0.581	34.707	34.708	27.837	0.018		0.012				0.3		0.4		2979
7342	5782	5903	0.569	34.708	34.707	27.837	0.019		0.011				0.3		0.4		2929
7341	5849	5972	0.568	34.709	34.707	27.837	0.018		0.008				0.3		0.3		6969

## CGC-90 CFC BOTTLE DATA

STATION 45

LATITUDE		LONGITUDE		DAY-MO-YR		BOTTOM DEPTH				ATM. F-11		ATM. F-12					
32° 29.0' S		175° 29.0' W		30 3 90		5462 m				252.9 ppt		460.4 ppt					
SAMP	DEP	PRS	THETA	SAL	CTD-S	SIG-0	SIO F-11	PMEL F-11	SIO F-12	PMEL F-12	SIO F11 F12	PMEL F11 F12	SIO SAT	PMEL SAT	SIO SAT	PMEL SAT	FLAG
	m	db	C			Kg/m <sup>3</sup>	pM/kg	pM/kg	pM/kg	pM/kg							
7452	5	5	21.957	35.667	35.661	24.734	2.033	2.033	0.965	1.074	2.1	1.9	100.3	100.3	93.3	103.8	2232
7451	48	49	21.906	35.661	35.661	24.748	2.065	2.035	0.988	1.057	2.1	1.9	101.7	100.2	95.3	102.0	2232
7450	96	97	15.253	35.490	35.494	26.070	2.405		1.184		2.0		90.7		90.2		2929
7449	145	146	15.166	35.431	35.424	26.263	2.309	2.310	1.155	1.161	2.0	2.0	82.5	82.5	83.9	84.3	2626
7448	194	196	13.895	35.278	35.270	26.419	2.246	2.262	1.117	1.139	2.0	2.0	75.1	75.7	76.5	78.0	2222
7447	292	294	11.970	35.014	35.010	26.603	2.092	2.085	1.019	1.052	2.1	2.0	63.1	62.9	63.8	65.8	2222
7446	392	395	10.368	34.803	34.803	26.735	1.408	1.382	0.675	0.684	2.1	2.0	38.9	38.2	39.1	39.6	6262
7445	589	594	7.582	34.490	34.487	26.933	1.000	1.016	0.489	0.516	2.0	2.0	23.6	24.0	24.6	26.0	2222
7453	787	794	6.319	34.388	34.386	27.027	0.326	0.056	0.166	0.187	2.0	0.3	7.1	1.2	7.8	8.8	2322
7443	985	995	5.066	34.390	34.382	27.178	0.071	-0.002	0.037	0.004			1.4	0.0	1.6	0.2	2727
7442	1230	1243	3.633	34.434	34.435	27.374	0.004		0.008				0.1		0.3		2979
7441	1478	1494	2.870		34.534	27.525	0.000	-0.012	0.006	-0.001			0.0	-0.2	0.2	0.0	2777
7547	1970	1994	2.272	34.615	34.613	27.640	-0.002	-0.001	0.002	0.000			0.0	0.0	0.1	0.0	2777
7546	2468	2501	1.920	34.648	34.647	27.695	0.005	0.008	0.002	-0.001			0.1	0.1	0.1	0.0	2777
7545	2952	2994	1.600	34.685	34.683	27.748	-0.003	0.001	0.004	0.002			-0.1	0.0	0.2	0.1	2777
7553	3443	3496	1.253	34.728	34.723	27.806	0.001		0.003				0.0		0.1		2979
7543	3930	3995	0.823	34.719	34.716	27.829	0.000	0.004	0.008	0.000			0.0	0.1	0.3	0.0	2777
7542	4320	4395	0.719	34.715	34.713	27.833	0.004	0.005	0.004	0.004			0.1	0.1	0.1	0.1	2777
7541	4712	4799	0.634	34.714	34.710	27.836	0.003	0.006	-0.001	0.006			0.1	0.1	0.0	0.2	2727
7551	4903	4995	0.613	34.714	34.708	27.836	0.007		0.001				0.1		0.0		2929
7550	5098	5197	0.600	34.714	34.708	27.836	0.007	0.011	0.007	0.003			0.1	0.2	0.2	0.1	2777
7549	5347	5453	0.583	34.711	34.708	27.837	0.005		0.002				0.1		0.1		2979
7548	5415	5524	0.583	34.718	34.707	27.837	0.004	0.006	0.015	0.010			0.1	0.1	0.5	0.4	2737

## CGC-90 CFC BOTTLE DATA

STATION 46

LATITUDE			LONGITUDE			DAY-MO-YR			BOTTOM DEPTH				ATM. F-11		ATM. F-12			
32° 28.8' S			171° 28.7' W			31 3 90			5182 m				252.7 ppt		460.7 ppt			
SAMP	DEP	PRS	THETA	SAL	CTD-S	SIG-0	SIO F-11	PMEL F-11	SIO F-12	PMEL F-12	SIO F11 F12	PMEL F11 F12	SIO SAT	PMEL SAT	SIO SAT	PMEL SAT	FLAG	
	m	db	C			Kg/m <sup>3</sup>	pM/kg	pM/kg	pM/kg	pM/kg							----	
7647	1969	1993	2.201	34.621	34.621	27.652	0.004	0.010	-0.004	0.009			0.1	0.2	-0.2	0.3	2777	
7646	2473	2505	1.831	34.656	34.654	27.708	0.001	0.007	0.002	0.008			0.0	0.1	0.1	0.3	2777	
7645	2951	2993	1.595	34.676	34.675	27.742	-0.002	0.001	0.001	-0.001			0.0	0.0	0.0	0.0	6666	
7653	3246	3295	1.435	34.707	34.700	27.774	-0.003	0.003	-0.002	0.001			-0.1	0.1	-0.1	0.0	2777	
7643	3540	3595	1.255	34.721	34.719	27.802	-0.001	0.010	-0.003	0.037			0.0	0.2	-0.1	1.3	2774	
7642	3840	3903	0.999	34.723	34.721	27.821	0.004	0.007	0.004	0.001			0.1	0.1	0.1	0.0	2777	
7641	4126	4196	0.808	34.720	34.719	27.832	0.000		0.001				0.0		0.0		2979	
7651	4419	4497	0.678	34.714	34.714	27.836	0.005	0.011	0.003	0.004			0.1	0.2	0.1	0.1	2777	
7650	4711	4798	0.610	34.711	34.712	27.839	0.011	0.016	0.006	0.006			0.2	0.2	0.2	0.2	2777	
7649	5060	5157	0.581	34.711	34.709	27.838	0.013	0.025	0.006	0.008			0.2	0.4	0.2	0.3	2777	
7648	5131	5230	0.577	34.711	34.709	27.838	0.033	0.047	0.011	0.009			0.5	0.7	0.4	0.3	6767	

## CGC-90 CFC BOTTLE DATA

STATION 47

LATITUDE			LONGITUDE			DAY-MO-YR			BOTTOM DEPTH				ATM. F-11		ATM. F-12			
30° 0.0' S			170° 0.4' W			1 4 90			5425 m				252.2 ppt		460.6 ppt			
SAMP	DEP	PRS	THETA	SAL	CTD-S	SIG-0	SIO F-11	PMEL F-11	SIO F-12	PMEL F-12	SIO F11 F12	PMEL F11 F12	SIO SAT	PMEL SAT	SIO SAT	PMEL SAT	FLAG	
	m	db	C			Kg/m <sup>3</sup>	pM/kg	pM/kg	pM/kg	pM/kg							----	
7751	491	495	8.586	34.578	34.578	26.853											9999	
7750	589	594	7.473		34.470	26.935	0.775	0.779	0.353	0.380	2.2	2.0	18.2	18.3	17.6	19.0	2222	
7749	788	795	6.038	34.360	34.356	27.039	0.253	0.244	0.124	0.149	2.0	1.6	5.5	5.3	5.8	6.9	2222	
7748	984	994	4.836	34.347	34.346	27.176	0.066	0.067	0.029	0.044			1.3	1.4	1.3	1.9	2222	
7747	1230	1242	3.559	34.415	34.415	27.365	0.006	0.010	0.006	0.006			0.1	0.2	0.2	0.2	2777	
7746	1477	1492	2.762	34.525	34.523	27.526	0.003	0.005	0.000	0.000			0.1	0.1	0.0	0.0	6767	
7745	3442	3494	1.346	34.708	34.705	27.785	-0.002		0.001				0.0		0.0		2979	
7753	3929	3993	1.000	34.724	34.720	27.820	0.001	0.041	0.000	0.000			0.0	0.7	0.0	0.0	2472	
7743	4420	4497	0.696	34.713	34.713	27.834	0.010		0.001				0.2		0.0		3929	
7742	4905	4996	0.603	34.714	34.709	27.837	0.002	0.003	0.003	0.008			0.0	0.1	0.1	0.3	6666	
7741	5395	5501	0.587	34.715	34.708	27.837	0.005	0.008	0.001	0.005			0.1	0.1	0.0	0.2	6666	

## CGC-90 CFC BOTTLE DATA

STATION 48

LATITUDE		LONGITUDE		DAY-MO-YR			BOTTOM DEPTH				ATM. F-11		ATM. F-12				
24° 58.6' S		170° 1.3' W		2 4 90			5740 m				251.5 ppt		461.0 ppt				
SAMP	DEP	PRS	THETA	SAL	CTD-S	SIG-0	SIO F-11	PMEL F-11	SIO F-12	PMEL F-12	SIO F11 F12	PMEL F11 F12	SIO SAT	PMEL SAT	SIO SAT	PMEL SAT	FLAG
	m	db	C			Kg/m <sup>3</sup>	pM/kg	pM/kg	pM/kg	pM/kg							----
7852	6	6	25.009	35.353	35.352	23.607	1.774	1.793	0.863	0.932	2.1	1.9	100.2	101.3	93.4	100.9	2636
7851	17	17	24.996	35.351	35.351	23.610	1.798		0.847		2.1		101.5		91.6		2939
7850	37	37	24.936	35.355	35.353	23.629	1.786	1.806	0.924	0.924	1.9	2.0	100.6	101.7	99.8	99.8	2222
7849	66	67	24.290	35.383	35.391	23.853	1.842		0.942		2.0		101.0		99.3		2929
7848	96	97	20.748	35.594	35.595	25.017	1.916	1.980	0.966	1.010	2.0	2.0	90.0	93.0	88.8	92.9	2222
7847	120	121	19.737	35.619	35.620	25.305	1.970		1.002		2.0		88.3		88.4		2929
7846	147	148	19.106	35.638	35.639	25.484	1.850	1.914	0.956	0.986	1.9	1.9	80.6	83.4	82.2	84.8	2222
7845	194	196	17.904	35.592	35.591	25.750	1.767	1.831	0.887	0.928	2.0	2.0	72.7	75.3	72.5	75.9	2222
7853	244	246	16.690	35.502	35.505	25.977	1.783		0.883		2.0		69.1		68.5		2929
7843	292	294	15.451	35.375	35.379	26.165	1.660	1.699	0.836	0.849	2.0	2.0	60.5	61.9	61.4	62.3	2626
7842	341	344	14.056	35.230	35.234	26.357	1.603		0.815		2.0		54.3		56.2		2929
7841	393	396	12.192	34.986	34.987	26.543	1.288	1.309	0.638	0.656	2.0	2.0	39.5	40.2	40.3	41.4	6666
7952	490	494	9.202	34.627	34.624	26.792	0.859		0.426		2.0		22.4		23.2		2929
7951	589	594	7.523	34.464	34.459	26.919	0.572		0.293		2.0		13.5		14.7		2929
7950	687	693	6.464	34.376	34.374	26.998	0.318		0.179		1.8		7.1		8.5		2929
7949	788	795	5.739	34.342	34.338	27.062	0.145		0.082		1.8		3.1		3.7		2929
7948	886	894	5.156	34.342	34.335	27.130	0.064		0.039				1.3		1.7		2929
7947	985	994	4.539	34.370	34.370	27.228	0.012		0.006				0.2		0.3		2979
7946	1084	1094	3.967	34.402	34.402	27.314	0.008		0.004				0.2		0.2		2929
7945	1230	1242	3.316	34.468	34.459	27.424	0.016		0.001				0.3		0.0		3979
7953	1476	1491	2.635	34.558	34.556	27.563	-0.003		0.003				-0.1		0.1		7979
7943	1723	1741	2.299	34.610	34.611	27.636	-0.002		0.001				0.0		0.0		2929
7942	1957	1979	2.102	34.630	34.631	27.668	0.001		0.027				0.0		1.0		2949
7941	2220	2246	1.907	34.648	34.648	27.697	0.014		0.004				0.2		0.2		2969
8051	2463	2493	1.809	34.651	34.652	27.708	0.012		-0.004				0.2		-0.2		3979
8050	2708	2743	1.666	34.671	34.662	27.727	0.061		-0.003				1.0		-0.1		4979
8049	2956	2996	1.544	34.680	34.670	27.742	-0.003		-0.010				-0.1		-0.4		7929
8048	3200	3245	1.414	34.680	34.680	27.760	0.007		0.000				0.1		0.0		2929
8047	3447	3498	1.265	34.704	34.704	27.789	0.000		-0.002				0.0		-0.1		4979
8046	3691	3747	1.141	34.720	34.719	27.810	-0.001		-0.002				0.0		-0.1		2979
8045	3935	3998	0.967	34.720	34.720	27.823	0.001		-0.003				0.0		-0.1		2929
8053	4420	4495	0.733	34.715	34.714	27.833	0.009		-0.004				0.1		-0.1		2979
8043	4908	4998	0.623	34.711	34.709	27.836	0.004		-0.002				0.1		-0.1		2979
8042	5392	5496	0.600	34.710	34.709	27.837	0.009		0.001				0.1		0.0		2929
8041	5688	5802	0.594	34.710	34.709	27.837	0.004		-0.001				0.1		0.0		6969

## CGC-90 CFC BOTTLE DATA

STATION 49

LATITUDE		LONGITUDE		DAY-MO-YR			BOTTOM DEPTH				ATM. F-11		ATM. F-12				
22° 29.8' S		170° 0.4' W		2 4 90			5645 m				251.5 ppt		459.9 ppt				
SAMP	DEP	PRS	THETA	SAL	CTD-S	SIG-0	SIO F-11	PMEL F-11	SIO F-12	PMEL F-12	SIO F11 F12	PMEL F11 F12	SIO SAT	PMEL SAT	SIO SAT	PMEL SAT	FLAG
	m	db	C			Kg/m <sup>3</sup>	pM/kg	pM/kg	pM/kg	pM/kg							----
8147	5	5	25.563		35.199	23.321	1.738			0.893	1.9		100.4		98.8		2929
8146	18	18	25.560	35.198	35.199	23.322	1.739			0.879	2.0		100.4		97.2		2929
8145	37	38	25.546	35.198	35.197	23.325	1.696			0.885	1.9		97.9		97.8		2929
8153	68	69	25.128	35.206	35.235	23.482	1.749			0.899	1.9		99.2		97.9		2929
8143	96	97	21.858	35.508	35.524	24.657	1.815			0.943	1.9		89.6		90.8		2929
8142	119	119	21.204	35.609	35.612	24.906	1.762			0.939	1.9		84.5		88.2		6969
8141	144	145	20.424	35.659	35.660	25.154	1.729			0.926	1.9		80.1		84.3		2929
8152	194	195	18.960	35.616	35.611	25.500	1.640			0.864	1.9		70.9		74.0		2929
8151	245	246	17.511	35.528	35.523	25.794	1.640			0.839	2.0		66.1		67.6		2929
8150	293	295	16.372	35.477	35.474	26.027	1.723			0.895	1.9		65.7		68.6		2929
8149	391	394	13.110	35.119	35.121	26.465	1.440			0.744	1.9		46.4		49.2		2929
8148	491	495	10.140	34.765	34.763	26.743	1.094			0.535	2.0		30.0		30.6		2929
8253	591	596	7.547	34.455	34.460	26.916	0.514			0.266	1.9		12.2		13.4		2929
8243	688	694	6.361	34.368	34.369	27.008	0.272			0.150	1.8		6.0		7.1		2929
8242	787	794	5.595	34.344	34.344	27.085	0.096			0.059	1.6		2.0		2.7		2929
8241	983	992	4.238	34.392	34.393	27.278	0.006			0.002			0.1		0.1		2929
8252	1231	1243	3.149	34.500	34.500	27.472	0.000			-0.001			0.0		0.0		2929
8251	1478	1493	2.594	34.576	34.578	27.584	0.003			0.000			0.1		0.0		2979
8250	1723	1741	2.335	34.612	34.609	27.631	0.000			0.005			0.0		0.2		2929
8249	1971	1993	2.119		34.629	27.665	0.010			0.007			0.2		0.3		2929
8248	2215	2241	1.941	34.642	34.645	27.692	0.001			0.000			0.0		0.0		2979
8247	2464	2494	1.772	34.657	34.658	27.715	-0.004			0.004			-0.1		0.2		6969
8246	2708	2743	1.641	34.661	34.668	27.733	-0.003			0.005			-0.1		0.2		7979
8245	2953	2993	1.530	34.674	34.674	27.746	0.000			0.001			0.0		0.0		7979

## CGC-90 CFC BOTTLE DATA

STATION 50

LATITUDE			LONGITUDE			DAY-MO-YR			BOTTOM DEPTH				ATM. F-11		ATM. F-12				
20° 0.4' S			170° 0.4' W			3 4 90			5398 m				252.9 ppt		459.7 ppt				
SAMP	DEP	PRS	THETA	SAL	CTD-S	SIG-0	SIO	PMEL	SIO	PMEL	SIO	PMEL	SIO	PMEL	SIO	PMEL	SIO	PMEL	FLAG
	m	db	C			Kg/m <sup>3</sup>	pM/kg	pM/kg	pM/kg	pM/kg	F11	F12	F11	F12	SAT	SAT	SAT	SAT	----
8352	6	6	27.175	35.579	35.575	23.097	1.653	1.663	0.961	1.033	1.7	1.6	101.9	102.5	113.3	121.8	2644		
8351	17	17	27.175	35.574	35.573	23.095	1.650		0.781		2.1		101.7		92.0		2939		
8350	37	37	27.178	35.576	35.574	23.095	1.661	1.665	0.839	0.863	2.0	1.9	102.4	102.7	98.9	101.7	2222		
8349	66	67	27.164	35.576	35.576	23.101	1.588		0.860		1.8		97.9		101.3		2929		
8348	95	96	25.489	35.739	35.722	23.739	1.731	1.750	0.862	0.916	2.0	1.9	99.6	100.7	95.6	101.6	2222		
8347	120	121	23.914	35.742	35.748	24.235	1.759		0.898		2.0		94.7		93.9		2929		
8346	147	148	22.621	35.718	35.707	24.581	1.779	1.808	0.908	0.926	2.0	2.0	90.5	91.9	90.3	92.1	2222		
8345	194	196	20.995	35.764	35.768	25.082	1.690	1.731	0.860	0.881	2.0	2.0	80.0	81.9	80.2	82.2	2222		
8353	245	246	19.333	35.641	35.636	25.423	1.632		0.818		2.0		71.4		71.2		2929		
8343	294	296	17.473	35.486	35.486	25.775	1.613	1.633	0.791	0.822	2.0	2.0	64.6	65.4	63.6	66.1	2222		
8342	343	345	16.033	35.362	35.355	26.014	1.548		0.771		2.0		57.7		58.2		2929		
8341	393	396	14.241	35.149	35.150	26.253	1.381	1.406	0.668	0.697	2.1	2.0	47.0	47.8	46.5	48.5	6262		
8452	491	494	9.470	34.628	34.638	26.759	0.679	0.690	0.341	0.351	2.0	2.0	17.8	18.1	18.9	19.5	2222		
8451	589	594	6.879	34.399	34.398	26.961		0.236		0.129			1.8	5.3	6.3		9292		
8450	689	695	5.817	34.355	34.356	27.067	0.109		0.061		1.8		2.3		2.8		2929		
8449	788	794	5.129	34.363	34.367	27.159	0.041	0.031	0.026	0.026			0.8	0.6	1.1	1.1	2222		
8448	886	893	4.584	34.412	34.414	27.258	0.005		0.000				0.1		0.0		2979		
8447	985	994	4.025	34.445	34.448	27.344	0.000	-0.003	0.003	-0.001			0.0	-0.1	0.1	0.0	2777		
8446	1084	1094	3.497	34.479	34.482	27.425	-0.003		0.001				-0.1		0.0		2979		
8445	1234	1246	2.903	34.525	34.528	27.517	-0.002		0.001				0.0		0.0		2929		
8453	1477	1492	2.489	34.593	34.596	27.608	0.009		0.001				0.2		0.0		2979		
8443	1726	1744	2.277	34.616	34.618	27.643	-0.001		0.005				0.0		0.2		2929		
8442	1974	1996	2.084	34.639	34.635	27.673	-0.004		-0.003				-0.1		-0.1		7979		
8441	2217	2243	1.906	34.646	34.651	27.699	0.010		0.000				0.2		0.0		6929		
8551	2464	2494	1.748	34.657	34.658	27.717	0.005		0.004				0.1		0.2		2969		
8550	2709	2744	1.617	34.665	34.668	27.735	0.010		0.000				0.2		0.0		2979		
8549	2954	2993	1.493	34.671	34.676	27.751	0.005		-0.004				0.1		-0.2		2979		
8548	3347	3395	1.297	34.688	34.692	27.778	0.014		0.030				0.2		1.1		4949		
8547	3546	3598	1.172	34.707	34.710	27.801	0.005		0.001				0.1		0.0		2979		
8546	3745	3802	1.034		34.720	27.818	0.004		-0.001				0.1		0.0		2929		
8545	3934	3996	0.905	34.715	34.719	27.826	0.007		0.003				0.1		0.1		2969		
8553	4422	4496	0.675	34.721	34.713	27.836	0.003		0.000				0.1		0.0		2979		
8543	4813	4898	0.617	34.703	34.712	27.838	0.004		0.001				0.1		0.0		2979		
8542	5104	5198	0.607	34.705	34.710	27.837	0.004		0.004				0.1		0.1		2979		
8541	5368	5470	0.601	34.715	34.711	27.839	0.004		0.002				0.1		0.1		6969		

## CGC-90 CFC BOTTLE DATA

STATION 51

LATITUDE			LONGITUDE			DAY-MO-YR			BOTTOM DEPTH				ATM. F-11		ATM. F-12				
17° 29.5' S			170° 0.3' W			4 4 90			4848 m				252.9 ppt		459.7 ppt				
SAMP	DEP	PRS	THETA	SAL	CTD-S	SIG-0	SIO	PMEL	SIO	PMEL	SIO	PMEL	SIO	PMEL	SIO	PMEL	SIO	PMEL	FLAG
	m	db	C			Kg/m <sup>3</sup>	pM/kg	pM/kg	pM/kg	pM/kg	F11	F12	F11	F12	SAT	SAT	SAT	SAT	----
8647	5	5	27.564	35.579	35.579	22.974	1.628	1.615	0.914	1.024	1.8	1.6	102.0	101.2	109.2	122.4	2244		
8646	17	17	27.560	35.579	35.580	22.976	1.660	1.626	0.807	0.910	2.1	1.8	104.0	101.8	96.5	108.8	2626		
8645	38	38	27.563	35.578	35.579	22.975	1.598	1.614	0.732	0.880	2.2	1.8	100.1	101.1	87.5	105.2	2232		
8653	65	65	27.112	35.637	35.670	23.189	1.676	1.651	0.731	0.878	2.3	1.9	103.2	101.6	86.0	103.3	2232		
8643	98	98	24.635	35.672	35.651	23.946	1.803	1.726	0.891	0.912	2.0	1.9	100.0	95.8	95.7	97.9	2222		
8642	146	147	22.400	35.875	35.863	24.762	1.769	1.703	0.930	0.886	1.9	1.9	89.2	85.9	91.8	87.5	2222		
8641	195	196	20.823	35.827	35.817	25.166	1.724	1.653	0.875	0.865	2.0	1.9	81.0	77.6	81.1	80.2	2222		
8652	243	245	19.414	35.653	35.653	25.415	1.708	1.762	0.806	0.880	2.1	2.0	75.1	77.4	70.4	76.9	2222		
8651	343	345	14.555	35.077	35.083	26.134	1.166	1.143	0.630	0.588	1.9	1.9	40.2	39.5	44.5	41.5	2222		
8650	392	395	11.930	34.810	34.818	26.462	0.863	0.827	0.419	0.442	2.1	1.9	25.9	24.9	26.2	27.6	6262		
8649	491	494	8.005	34.473	34.480	26.865	0.350	0.340	0.183	0.202	1.9	1.7	8.5	8.2	9.4	10.4	2222		
8648	590	595	6.280	34.368	34.373	27.021	0.214	0.200	0.111	0.122	1.9	1.6	4.7	4.4	5.2	5.8	2222		



CGC-90 CFC BOTTLE DATA

STATION 52

LATITUDE		LONGITUDE		DAY-MO-YR		BOTTOM DEPTH				ATM. F-11		ATM. F-12					
15° 0.2' S		170° 0.6' W		4 4 90		4833 m				253.0 ppt		465.7 ppt					
SAMP	DEP	PRS	THETA	SAL	CTD-S	SIG-0	SIO F-11	PMEL F-11	SIO F-12	PMEL F-12	SIO F11 F12	PMEL F11 F12	SIO F11 SAT	PMEL F11 SAT	SIO F12 SAT	PMEL F12 SAT	FLAG
	m	db	C			Kg/m <sup>3</sup>	pM/kg	pM/kg	pM/kg	pM/kg							----
8752	4	4	28.489	35.155	35.180	22.371	1.636	1.616	0.832	0.924	2.0	1.7	105.9	104.6	101.1	112.3	2224
8751	18	18	28.617	35.410	35.412	22.503	1.593		0.789		2.0		103.9		96.5		2929
8750	35	35	28.536	35.411	35.419	22.535	1.626	1.604	0.834	0.856	1.9	1.9	105.7	104.3	101.7	104.4	2626
8749	67	67	27.952	35.568	35.550	22.826	1.613		0.853		1.9		102.6		102.0		2929
8748	97	98	27.090	35.950	35.960	23.414	1.614	1.626	0.824	0.859	2.0	1.9	99.5	100.3	95.9	100.0	2222
8747	121	121	26.333	36.037	36.045	23.719	1.640		0.796		2.1		98.1		90.2		2929
8746	146	147	25.045	36.203	36.211	24.245	1.696		0.815		2.1		96.2		88.2		2929
8745	196	197	22.751	36.133	36.157	24.885	1.642	1.643	0.857	0.862	1.9	1.9	84.3	84.4	84.9	85.4	2222
8753	245	246	19.842	35.745	35.748	25.376	1.533		0.800		1.9		68.8		70.3		2929
8743	294	296	16.238	35.252	35.260	25.894	1.230	1.167	0.601	0.602	2.0	1.9	46.2	43.9	45.2	45.2	2626
8742	343	346	12.975	34.878	34.869	26.297	0.740		0.381		1.9		23.5		24.6		2929
8741	391	394	10.246	34.649	34.657	26.642	0.371	0.341	0.183	0.668	2.0	0.5	10.2	9.4	10.4	37.9	2624
8852	441	444	8.720	34.561	34.556	26.815	0.180	0.171	0.087	0.096	2.1	1.8	4.5	4.3	4.6	5.1	6262
8851	492	496	7.760	34.519	34.519	26.932	0.115	0.112	0.060	0.068	1.9	1.6	2.7	2.7	3.0	3.4	2222
8850	590	595	6.124	34.464	34.462	27.112	0.048	0.052	0.029	0.039			1.0	1.1	1.3	1.8	2222
8849	688	694	5.394	34.476	34.473	27.211	0.021	0.023	0.031	0.007			0.4	0.5	1.4	0.3	2232
8848	787	793	4.818	34.477	34.479	27.283	0.009		0.009				0.2		0.4		2979
8847	884	892	4.423	34.496	34.493	27.338	0.004	0.007	0.001	-0.004			0.1	0.1	0.0	-0.2	2272
8846	984	992	4.087	34.508	34.509	27.386	0.002		0.002				0.0		0.1		2979
8845	1083	1093	3.767	34.524	34.525	27.432	-0.001		0.004				0.0		0.2		2979
8853	1231	1242	3.224		34.559	27.512	0.000		0.002				0.0		0.1		2979
8843	1477	1492	2.703	34.587	34.589	27.584	-0.004		-0.003				-0.1		-0.1		7979
8842	1732	1749	2.334	34.612	34.616	27.637	0.056		0.009				1.0		0.3		4929
8841	1971	1992	2.031	34.633	34.641	27.682	0.007		0.002				0.1		0.1		2929
8951	2219	2244	1.844	34.653	34.652	27.705	0.007		0.006				0.1		0.2		2979
8950	2463	2492	1.714	34.664	34.663	27.724	0.006		0.003				0.1		0.1		2929
8949	2709	2743	1.591	34.672	34.672	27.740	0.015		0.004				0.2		0.1		3979
8948	2956	2995	1.495	34.678	34.676	27.751	0.029		0.002				0.5		0.1		4979
8947	3347	3394	1.334	34.687	34.685	27.769	0.005		0.009				0.1		0.3		6969
8946	3746	3802	1.126	34.702	34.701	27.797	0.002		0.001				0.0		0.0		2979
8945	3938	3998	0.975	34.712	34.712	27.816	0.007		0.002				0.1		0.1		2979
8953	4132	4197	0.837	34.714	34.715	27.827	0.000		-0.003				0.0		-0.1		2979
8943	4425	4498	0.697	34.716	34.714	27.835	0.005		0.005				0.1		0.2		2979
8942	4619	4697	0.660	34.717	34.713	27.837	0.008		0.002				0.1		0.1		2979
8941	4790	4873	0.639	34.710	34.712	27.837	0.002		0.000				0.0		0.0		6969

CGC-90 CFC BOTTLE DATA

STATION 54

LATITUDE		LONGITUDE		DAY-MO-YR		BOTTOM DEPTH				ATM. F-11		ATM. F-12					
10° 6.1' S		169° 30.2' W		6 4 90		5249 m				256.2 ppt		466.7 ppt					
SAMP	DEP	PRS	THETA	SAL	CTD-S	SIG-0	SIO F-11	PMEL F-11	SIO F-12	PMEL F-12	SIO F11 F12	PMEL F11 F12	SIO F11 SAT	PMEL F11 SAT	SIO F12 SAT	PMEL F12 SAT	FLAG
	m	db	C			Kg/m <sup>3</sup>	pM/kg	pM/kg	pM/kg	pM/kg							----
9142	1972	1993	2.012	34.645	34.641	27.683	-0.003		0.000				-0.1		0.0		2979
9141	2464	2493	1.671	34.669	34.666	27.729	0.014		0.004				0.2		0.2		3979
9151	2956	2994	1.416	34.682	34.679	27.759	0.005		0.001				0.1		0.0		6969
9150	3349	3395	1.306	34.686	34.684	27.770	-0.001		-0.002				0.0		-0.1		2979
9149	3740	3795	1.175	34.692	34.691	27.785	0.009		0.000				0.1		0.0		2979
9148	4131	4196	0.963	34.707	34.705	27.811	0.028		0.003				0.4		0.1		4929
9147	4523	4597	0.706	34.712	34.711	27.832	0.002		0.006				0.0		0.2		2929
9146	4714	4794	0.670	34.711	34.712	27.835	0.004		-0.003				0.1		-0.1		2979
9145	4913	4999	0.661	34.720	34.711	27.835	0.006		0.005				0.1		0.2		2979
9153	5206	5301	0.655	34.712	34.711	27.835	0.004		0.001				0.6		0.0		4979
9143	5207	5301	0.655	34.712	34.712	27.836	0.009		0.004				0.1		0.1		6969

## CGC-90 CFC BOTTLE DATA

STATION 55

LATITUDE			LONGITUDE			DAY-MO-YR			BOTTOM DEPTH				ATM. F-11		ATM. F-12				
10° 5.4' S			169° 59.5' W			6 4 90			5163 m				256.2 ppt		466.7 ppt				
SAMP	DEP	PRS	THETA	SAL	CTD-S	SIG-0	SIO F-11	PMEL F-11	SIO F-12	PMEL F-12	SIO F11 F12	PMEL F11 F12	SIO SAT	PMEL SAT	SIO SAT	PMEL SAT	SIO SAT	PMEL SAT	FLAG
	m	db	C			Kg/m <sup>3</sup>	pM/kg	pM/kg	pM/kg	pM/kg									
9242	5	5	28.693	34.784	34.762	21.990	1.583	1.618	0.808	0.896	2.0	1.8	101.6	103.8	98.3	109.0	2224		
9241	38	38	28.612	34.950	34.946	22.155	1.650	1.616	0.825	0.831	2.0	1.9	105.8	103.6	100.2	101.0	2222		
9252	97	97	28.059	35.431	35.434	22.704	1.660	1.615	0.817	0.854	2.0	1.9	104.6	101.7	97.8	102.2	2222		
9251	196	197	21.770	35.941	35.937	24.996	1.540	1.534	0.763	0.795	2.0	1.9	74.6	74.3	72.4	75.5	2222		
9250	292	294	13.654	34.781	34.963	26.232	0.731	0.706	0.378	0.379	1.9	1.9	23.8	22.9	25.2	25.3	4242		
9249	393	396	8.676	34.630	34.626	26.877	0.074	0.065	0.037	0.048			1.8	1.6	1.9	2.5	2222		
9248	490	494	7.226	34.562	34.562	27.042	0.049	0.032	0.029	0.022			1.1	0.7	1.4	1.1	2222		
9247	590	595	6.276	34.530	34.529	27.145	0.014		0.011				0.3		0.5		6969		
9246	786	792	5.042	34.520	34.518	27.288	0.004	-0.002	0.003	-0.001			0.1	0.0	0.1	0.0	2727		
9245	984	992	4.349	34.528	34.530	27.375	-0.003		0.000				-0.1		0.0		2979		
9253	1233	1244	3.459	34.561	34.562	27.492	-0.002		0.002				0.0		0.1		2979		
9243	1482	1496	2.760	34.602	34.595	27.583	0.000		0.001				0.0		0.0		2979		
9353	1973	1994	2.020	34.640	34.641	27.683	-0.002	-0.002	0.001	0.001			0.0	0.0	0.0	0.0	6767		
9343	2466	2494	1.652	34.666	34.666	27.731	-0.005	-0.004	-0.003	0.000			-0.1	-0.1	-0.1	0.0	2777		
9342	2944	2982	1.432	34.680	34.679	27.757	0.002	0.003	0.002	-0.001			0.0	0.1	0.1	0.0	6767		
9341	3350	3396	1.312	34.686	34.684	27.770	0.005	0.019	0.001	0.012			0.1	0.3	0.0	0.4	2373		
9351	3741	3796	1.189	34.691	34.691	27.784	0.048	0.034	-0.001	0.005			0.8	0.5	0.0	0.2	4477		
9350	4133	4197	0.894	34.711	34.711	27.820	0.047		0.000				0.7		0.0		4979		
9349	4523	4598	0.678	34.712	34.712	27.835	0.011	0.010	0.005	0.011			0.2	0.2	0.2	0.4	2777		
9348	4718	4798	0.654	34.713	34.712	27.836	0.003		0.002				0.1		0.1		2979		
9347	5067	5157	0.648	34.711	34.710	27.835	0.005	-0.002	0.001	0.002			0.1	0.0	0.0	0.1	2777		
9346	5134	5226	0.648	34.714	34.711	27.836	0.004		-0.001				0.1		0.0		6969		
9345	5137	5230	0.648	34.713	34.711	27.836	0.012		0.000				0.2		0.0		2929		

## CGC-90 CFC BOTTLE DATA

STATION 56

LATITUDE			LONGITUDE			DAY-MO-YR			BOTTOM DEPTH				ATM. F-11		ATM. F-12				
10° 5.3' S			170° 14.9' W			6 4 90			5051 m				256.2 ppt		466.7 ppt				
SAMP	DEP	PRS	THETA	SAL	CTD-S	SIG-0	SIO F-11	PMEL F-11	SIO F-12	PMEL F-12	SIO F11 F12	PMEL F11 F12	SIO SAT	PMEL SAT	SIO SAT	PMEL SAT	SIO SAT	PMEL SAT	FLAG
	m	db	C			Kg/m <sup>3</sup>	pM/kg	pM/kg	pM/kg	pM/kg									
9453	1972	1993	2.023	34.644	34.641	27.682	0.003		0.001				0.1		0.0		2979		
9443	2465	2494	1.652	34.667	34.665	27.730	-0.003		-0.001				-0.1		0.0		2979		
9442	2956	2994	1.438	34.682	34.679	27.757	-0.001		0.002				0.0		0.1		2929		
9441	3348	3394	1.302	34.684	34.685	27.772	0.006		0.001				0.1		0.0		6929		
9451	3740	3795	1.156	34.695	34.693	27.788	-0.001		0.002				0.0		0.1		2929		
9450	4131	4196	0.808	34.712	34.712	27.826	-0.001		0.005				0.0		0.2		2929		
9449	4523	4597	0.702	34.712	34.712	27.833	0.000		0.000				0.0		0.0		2929		
9448	4718	4798	0.668	34.712	34.712	27.835	0.004		0.009				0.1		0.3		2929		
9447	4955	5042	0.659	34.719	34.711	27.835	0.000		0.006				0.0		0.2		2979		
9446	5018	5107	0.659	34.712	34.712	27.836	0.006		-0.001				0.1		0.0		2979		
9445	5022	5111	0.660	34.713	34.712	27.836	-0.001		-0.001				0.0		0.0		6969		

## CGC-90 CFC BOTTLE DATA

STATION 58

LATITUDE		LONGITUDE		DAY-MO-YR			BOTTOM DEPTH				ATM. F-11		ATM. F-12				
5° 0.1' S		170° 0.8' W		7 4 90			5411 m				255.2 ppt		466.9 ppt				
SAMP	DEP	PRS	THETA	SAL	CTD-S	SIG-0	SIO F-11	PMEL F-11	SIO F-12	PMEL F-12	SIO F11 F12	PMEL F11 F12	SIO F11 SAT	PMEL F11 SAT	SIO F12 SAT	PMEL F12 SAT	FLAG
	m	db	C			Kg/m <sup>3</sup>	pM/kg	pM/kg	pM/kg	pM/kg							----
9653	5	5	29.045	35.531	35.530	22.449		1.559		0.831							
9643	17	17	29.001	35.534	35.534	22.467	1.573	1.571	0.777	0.824	2.0	1.9	103.4	103.3	96.2	102.0	2232
9642	36	36	28.982	35.536	35.535	22.474	1.607	1.600	0.821	0.839	2.0	1.9	105.6	105.1	101.6	103.8	2222
9641	67	68	28.838	35.547	35.543	22.528	1.641	1.657	0.831	0.848	2.0	2.0	107.2	108.2	102.3	104.4	2222
9652	98	98	28.281	35.696	35.696	22.828	1.582	1.606	0.807	0.841	2.0	1.9	101.2	102.8	97.6	101.7	2222
9651	122	122	28.157	35.715	35.704	22.875	1.617	1.611	0.854	0.841	1.9	1.9	103.0	102.6	102.8	101.2	2222
9650	146	147	27.039	35.801	35.811	23.319	1.597	1.605	0.807	0.845	2.0	1.9	97.3	97.8	93.4	97.8	2222
9649	197	198	20.591	35.842	35.840	25.246	1.490	1.517	0.776	0.785	1.9	1.9	68.6	69.9	70.2	71.0	2222
9648	246	248	14.021	35.098	35.090	26.253	0.697	0.692	0.349	0.364	2.0	1.9	23.2	23.0	23.7	24.7	2222
9647	293	295	11.543	34.861	34.866	26.572	0.257	0.243	0.127	0.151	2.0	1.6	7.5	7.1	7.7	9.1	2626
9646	344	347	10.201	34.764	34.764	26.734	0.129	0.114	0.048	0.072		1.6	3.5	3.1	2.7	4.1	2222
9645	394	397	9.365	34.710	34.711	26.833	0.067	0.052	0.031	0.037			1.7	1.4	1.7	2.0	2227
9753	442	445	8.596	34.666	34.663	26.918	0.029	0.031	0.015	0.014			0.7	0.8	0.8	0.7	2727
9743	490	494	8.253	34.648	34.646	26.958	0.028	0.026	0.006	0.010			0.7	0.6	0.3	0.5	2777
9742	590	595	7.414	34.604	34.603	27.048	0.069	0.038	0.020	0.017			1.6	0.9	1.0	0.8	4333
9741	689	694	6.434	34.562	34.559	27.148	0.010	0.006	0.002	0.003			0.2	0.1	0.1	0.1	2777
9752	788	795	5.785	34.542	34.541	27.217	0.039		0.016				0.8		0.7		4939
9751	888	895	5.150	34.537	34.536	27.290	0.030		0.008				0.6		0.4		4929
9750	984	992	4.627		34.541	27.354	0.008		0.001				0.2		0.0		2979
9749	1084	1094	4.122	34.556	34.552	27.417	0.001		0.006				0.0		0.2		2929
9748	1229	1240	3.523	34.576	34.573	27.495	-0.001		0.002				0.0		0.1		2979
9747	1479	1493	2.817	34.612	34.604	27.586	0.000		-0.001				0.0		0.0		2979
9746	1726	1743	2.374	34.632	34.628	27.643	0.018		0.008				0.3		0.3		4949
9745	1973	1994	2.067	34.647	34.647	27.684	0.009		0.000				0.2		0.0		2979
9853	2218	2243	1.915	34.653	34.653	27.700	0.005		-0.001				0.1		0.0		6969
9843	2514	2543	1.713	34.664	34.662	27.723	0.002		-0.003				0.0		-0.1		6969
9842	2706	2739	1.606	34.678	34.667	27.735	0.004		0.002				0.1		0.1		6969
9841	2955	2993	1.462	34.677	34.676	27.753	0.009		0.004				0.2		0.1		6969
9851	3349	3394	1.298	34.685	34.684	27.771	0.001		-0.001				0.0		0.0		2979
9850	3744	3798	1.170	34.692	34.690	27.785	0.004		-0.010				0.1		-0.4		2929
9849	4132	4196	1.032	34.701	34.697	27.800	0.006		0.018				0.1		0.6		2949
9848	4328	4397	0.965	34.703	34.700	27.807	0.012		-0.001				0.2		0.0		3979
9847	4521	4595	0.877	34.708	34.704	27.816	0.006		-0.001				0.1		0.0		2979
9846	4907	4992	0.774	34.712	34.709	27.826	0.002		0.002				0.0		0.1		2979
9845	5381	5480	0.761	34.711	34.708	27.826	0.002		0.007				0.0		0.2		2929

## CGC-90 CFC BOTTLE DATA

STATION 59

LATITUDE		LONGITUDE		DAY-MO-YR			BOTTOM DEPTH				ATM. F-11		ATM. F-12					
2° 0.3' S		170° 0.4' W		8 4 90			5214 m				255.2 ppt		467.5 ppt					
SAMP	DEP	PRS	THETA	SAL	CTD-S	SIG-0	SIO F-11	PMEL F-11	SIO F-12	PMEL F-12	SIO F11 F12	PMEL F11 F12	SIO F11 SAT	PMEL F11 SAT	SIO F12 SAT	PMEL F12 SAT	FLAG	
	m	db	C			Kg/m <sup>3</sup>	pM/kg	pM/kg	pM/kg	pM/kg							----	
9948	6	6	28.329	35.366	35.362	22.561	1.676	1.673	0.905	0.969	1.9	1.7	107.1	106.9	109.1	116.8	2224	
9947	17	17	28.330	35.367	35.363	22.561	1.633		0.862			1.9		104.3		103.9		2929
9946	36	36	28.301	35.366	35.363	22.571	1.611	1.592	0.779	0.851	2.1	1.9	102.8	101.6	93.8	102.5	2222	
9945	67	67	27.916	35.494	35.490	22.793	1.653		0.820			2.0		104.0		97.5		2929
9953	95	96	27.435	35.576	35.574	23.012	1.642	1.646	0.824	0.874	2.0	1.9	101.4	101.6	96.4	102.2	2222	
9943	123	124	26.939	35.592	35.590	23.184	1.655	1.662	0.845	0.886	2.0	1.9	100.2	100.6	97.1	101.8	2222	
9942	145	146	24.424	35.781	35.803	24.125	1.634	1.619	0.833	0.857	2.0	1.9	89.2	88.3	87.4	89.9	2222	
9941	197	198	16.564	35.338	35.330	25.872	0.974	0.957	0.475	0.504	2.1	1.9	36.9	36.3	36.1	38.3	2222	
9952	295	297	10.607		34.769	26.666												9999
9951	490	494	8.382		34.693	26.975	0.095	0.087	0.037	0.051			1.7	2.3	2.1	1.9	2.6	2222
9950	689	694	6.078	34.558	34.559	27.194	0.053		0.001				1.1		0.1		2939	
9949	986	994	4.342	34.560	34.559	27.399	0.028		0.019				0.5		0.8		2929	

## CGC-90 CFC BOTTLE DATA

STATION 60

LATITUDE		LONGITUDE		DAY-MO-YR		BOTTOM DEPTH				ATM. F-11		ATM. F-12						
0° 59.7' S		170° 1.2' W		9 4 90		5435 m				254.0 ppt		465.5 ppt						
SAMP	DEP	PRS	THETA	SAL	CTD-S	SIG-0	SIO	PMEL	SIO	PMEL	SIO	PMEL	SIO	PMEL	SIO	PMEL	FLAG	
	m	db	C			Kg/m <sup>3</sup>	pM/kg	pM/kg	pM/kg	pM/kg	F11	F12	F11	F12	F11	F12	SAT	
10048	5	5	28.210	35.367	35.367	22.604	1.632	1.595	0.853	0.866	1.9	1.8	104.3	101.9	102.8	104.4	2222	
10047	19	19	28.098	35.364	35.362	22.637	1.723		0.842		2.0		109.6		101.1		2929	
10046	39	39	28.071	35.365	35.364	22.647	1.681	1.596	0.844	0.861	2.0	1.9	106.8	101.4	101.3	103.3	2222	
10045	67	68	28.041	35.370	35.368	22.660	1.690		0.839		2.0		107.2		100.5		2929	
10053	97	98	27.609	35.465	35.460	22.870	1.647	1.606	0.866	0.869	1.9	1.8	102.8	100.2	102.3	102.6	2222	
10043	120	121	26.704	35.571	35.581	23.252	1.729	1.623	0.859	0.876	2.0	1.9	104.1	97.7	98.3	100.2	2222	
10042	146	147	21.138	35.470	35.486	24.828	1.346	1.297	0.706	0.696	1.9	1.9	63.6	61.3	65.2	64.3	2222	
10041	195	196	15.624	35.167	35.170	25.965	1.029	0.943	0.506	0.503	2.0	1.9	37.3	34.2	37.0	36.8	2222	
10052	294	296	11.231	34.807	34.817	26.591	0.350	0.319	0.159	0.167	2.2	1.9	10.1	9.2	9.5	10.0	6222	
10051	494	498	8.122	34.627	34.634	26.968	0.088	0.066	0.042	0.058			1.1	2.1	1.6	2.2	3.0	2222
10050	688	694	6.016	34.557	34.562	27.205	0.051		0.001				1.1		0.1		2939	
10049	986	994	4.528	34.556	34.560	27.380	0.002		0.005				0.0		0.2		2979	

## CGC-90 CFC BOTTLE DATA

STATION 61

LATITUDE		LONGITUDE		DAY-MO-YR		BOTTOM DEPTH				ATM. F-11		ATM. F-12					
0° 29.9' S		170° 0.4' W		9 4 90		5698 m				254.1 ppt		465.2 ppt					
SAMP	DEP	PRS	THETA	SAL	CTD-S	SIG-0	SIO	PMEL	SIO	PMEL	SIO	PMEL	SIO	PMEL	SIO	PMEL	FLAG
	m	db	C			Kg/m <sup>3</sup>	pM/kg	pM/kg	pM/kg	pM/kg	F11	F12	F11	F12	F11	F12	SAT
10152	6	6	28.206	35.386	35.390	22.622	1.622	1.564	0.780	0.854	2.1	1.8	103.6	99.9	94.1	103.0	2232
10151	17	18	28.122	35.384	35.397	22.655	1.605		0.782		2.1		102.2		94.1		2939
10150	38	38	28.072	35.382	35.385	22.663	1.618	1.574	0.803	0.864	2.0	1.8	102.8	100.0	96.4	103.7	2232
10149	67	67	28.032	35.380	35.384	22.675	1.679		0.850		2.0		106.5		101.9		2929
10148	97	97	27.529	35.498	35.522	22.943	1.613	1.581	0.830	0.865	1.9	1.8	100.4	98.4	97.9	102.0	2222
10147	120	121	26.155	35.572	35.561	23.410	1.577	1.544	0.821	0.848	1.9	1.8	92.8	90.8	92.1	95.1	2222
10146	146	147	21.490	35.362	35.307	24.595	1.372	1.302	0.688	0.713	2.0	1.8	65.8	62.4	64.4	66.7	2222
10145	195	196	14.948	35.052	35.048	26.021	0.928	0.890	0.465	0.479	2.0	1.9	32.5	31.2	33.0	34.0	2222
10153	245	246	12.399	34.914	34.907	26.440	0.600	0.556	0.286	0.310	2.1	1.8	18.4	17.1	18.0	19.6	2222
10143	343	345	10.348		34.762	26.706	0.188	0.143	0.113	0.132	1.7	1.1	5.2	3.9	6.5	7.5	2323
10142	493	497	8.324	34.641	34.651	26.951	0.044	0.045	0.022	0.027			1.1	1.1	1.1	1.4	2727
10141	985	994	4.328	34.562	34.571	27.410	0.017		0.005				0.3		0.2		2979

## CGC-90 CFC BOTTLE DATA

STATION 62

LATITUDE			LONGITUDE			DAY-MO-YR			BOTTOM DEPTH				ATM. F-11		ATM. F-12				
0° 0.0'			170° 1.2' W			9 4 90			5342 m				254.1 ppt		465.2 ppt				
SAMP	DEP	PRS	THETA	SAL	CTD-S	SIG-0	SIO F-11	PMEL F-11	SIO F-12	PMEL F-12	SIO F11 F12	PMEL F11 F12	SIO SAT	PMEL SAT	SIO SAT	PMEL SAT	SIO SAT	PMEL SAT	FLAG
	m	db	C			Kg/m <sup>3</sup>	pM/kg	pM/kg	pM/kg	pM/kg									
10352	4	4	28.026	35.391	35.393	22.684	1.603	1.660	0.796	0.876	2.0	1.9	101.6	105.2	95.4	105.0	2232		
10351	18	18	28.025	35.396	35.392	22.683	1.655	1.662	0.799	0.875	2.1	1.9	104.9	105.4	95.8	104.9	2232		
10350	37	37	27.971	35.391	35.390	22.700	1.610	1.658	0.670	0.861	2.4	1.9	101.8	104.9	80.2	103.0	2232		
10349	66	67	27.933	35.390	35.388	22.711		1.680		0.871		1.9		106.1		104.1	9292		
10348	97	97	27.689	35.408	35.426	22.819	1.668	1.656	0.882	0.868	1.9	1.9	104.4	103.6	104.5	102.8	2222		
10347	119	120	27.168	35.550	35.558	23.087	1.594	1.625	0.833	0.862	1.9	1.9	97.8	99.7	97.0	100.3	2222		
10346	147	147	21.020	35.266	35.315	24.730	1.359	1.364	0.707	0.712	1.9	1.9	63.8	64.0	64.9	65.4	2222		
10345	194	195	15.542	35.120	35.135	25.956	0.997	0.984	0.506	0.518	2.0	1.9	36.0	35.5	36.9	37.8	2222		
10353	245	247	12.961	34.888	34.891	26.317	0.718	0.715	0.352	0.383	2.0	1.9	22.7	22.6	22.8	24.8	2222		
10343	295	297	11.709	34.836	34.847	26.526	0.432		0.213		2.0		12.8		13.0		2929		
10342	344	346	10.235	34.745	34.748	26.715	0.148	0.129	0.075	0.081	2.0	1.6	4.0	3.5	4.3	4.6	2222		
10341	392	394	9.860	34.725	34.736	26.770	0.145		0.065		2.2		3.9		3.6		2929		
10252	443	446	8.398	34.643	34.650	26.939	0.051		0.014				1.3		0.7		2929		
10251	491	495	8.153	34.633	34.638	26.967	0.084		0.015				2.0		0.8		4949		
10250	591	596	6.628	34.571	34.577	27.136	0.023		0.019				0.5		0.9		2929		
10249	690	695	5.871		34.560	27.221	0.016		0.013				0.3		0.6		2929		
10248	789	795	5.396		34.532	27.258	0.013		-0.010				0.3		-0.4		3929		
10247	887	894	4.924	34.550	34.554	27.330	0.002		0.003				0.0		0.1		2979		
10246	985	993	4.341	34.559	34.564	27.403	0.020		-0.001				0.4		0.0		3979		
10245	1084	1093	3.924	34.569	34.576	27.457	0.001		-0.003				0.0		-0.1		2979		
10253	1232	1243	3.397	34.588	34.595	27.524	-0.005		0.009				-0.1		0.4		2929		
10243	1480	1494	2.820	34.610	34.617	27.596	0.000		0.002				0.0		0.1		2979		
10242	1728	1745	2.366	34.630	34.639	27.653	0.001		-0.001				0.0		0.0		2979		
10241	1972	1992	2.054	34.646	34.656	27.692	0.013		-0.001				0.2		0.0		3979		

## CGC-90 CFC BOTTLE DATA

STATION 64

LATITUDE			LONGITUDE			DAY-MO-YR			BOTTOM DEPTH				ATM. F-11		ATM. F-12				
0° 0.0'			170° 0.2' W			11 4 90			5508 m				254.1 ppt		465.2 ppt				
SAMP	DEP	PRS	THETA	SAL	CTD-S	SIG-0	SIO F-11	PMEL F-11	SIO F-12	PMEL F-12	SIO F11 F12	PMEL F11 F12	SIO SAT	PMEL SAT	SIO SAT	PMEL SAT	SIO SAT	PMEL SAT	FLAG
	m	db	C			Kg/m <sup>3</sup>	pM/kg	pM/kg	pM/kg	pM/kg									
10551	2219	2244	1.813	34.656	34.657	27.712	0.003	0.007	-0.004	0.006			0.1	0.1	-0.2	0.2	2777		
10550	2464	2492	1.697	34.666	34.665	27.727	0.026	0.035	-0.002	0.014			0.4	0.6	-0.1	0.5	4474		
10549	2712	2745	1.538	34.669	34.670	27.743	0.027		0.003				0.4		0.1		4929		
10548	2958	2996	1.413	34.677	34.677	27.757	0.002		-0.003				0.0		-0.1		2979		
10547	3447	3495	1.270	34.683	34.684	27.773	0.002		-0.003				0.0		-0.1		2979		
10546	3940	3999	1.082	34.694	34.696	27.796	0.026		0.004				0.4		0.1		4979		
10545	4231	4297	0.981	34.698	34.699	27.805	0.006		0.001				0.1		0.0		2979		
10553	4525	4599	0.877	34.705	34.705	27.816	-0.003		0.000				-0.1		0.0		2979		
10543	4817	4899	0.831	34.706	34.707	27.821	0.002		-0.003				0.0		-0.1		2979		
10542	5108	5198	0.818	34.705	34.709	27.823	0.017		0.005				0.3		0.2		3929		
10541	5477	5579	0.815	34.710	34.707	27.822	0.003		0.003				0.1		0.1		2929		

## GC90 CFC BOTTLE DATA

STATION 65

LATITUDE		LONGITUDE		DAY-MO-YR			BOTTOM DEPTH				ATM. F-11		ATM. F-12				
0° 30.0' N		170° 0.3' W		11 4 90			5285 m				254.1 ppt		465.2 ppt				
SAMP	DEP	PRS	THETA	SAL	CTD-S	SIG-0	SIO F-11	PMEL F-11	SIO F-12	PMEL F-12	SIO F11 F12	PMEL F11 F12	SIO SAT	PMEL SAT	SIO SAT	PMEL SAT	FLAG
	m	db	C			Kg/m <sup>3</sup>	pM/kg	pM/kg	pM/kg	pM/kg							----
10647	5	5	28.017	35.379	35.381	22.678	1.646	1.626	0.857	0.875	1.9	1.9	104.3	103.1	102.7	104.8	2222
10646	16	16	28.001	35.380	35.381	22.683	1.651		0.848		1.9		104.6		101.5		2929
10645	38	38	27.973	35.378	35.378	22.690	1.632		0.789		2.1		103.2		94.4		2939
10653	66	67	27.855	35.382	35.383	22.732	1.615		0.823		2.0		101.7		98.0		2929
10643	96	97	27.718	35.460	35.484	22.853	1.634	1.637	0.811	0.864	2.0	1.9	102.4	102.6	96.2	102.5	2232
10642	121	122	26.798	35.370	35.372	23.065	1.544	1.592	0.817	0.843	1.9	1.9	93.1	96.0	93.7	96.7	2222
10641	148	149	25.063	35.409	35.441	23.657	1.532	1.534	0.805	0.813	1.9	1.9	85.9	86.1	86.6	87.5	2222
10652	195	196	15.058	35.020	34.985	25.948	1.071	1.073	0.531	0.538	2.0	2.0	37.7	37.8	37.8	38.3	2222
10651	244	245	12.798	34.856	34.860	26.326	0.696		0.344		2.0		21.8		22.1		2929
10650	345	348	10.699	34.767	34.768	26.649	0.259		0.103		2.5		7.2		6.0		2939
10649	493	496	8.110	34.629	34.632	26.969	0.026		0.011				0.6		0.6		2929
10648	986	994	4.306	34.557	34.564	27.407	0.085	0.078	0.001	0.012			1.6	1.5	0.0	0.5	4423

## CGC-90 CFC BOTTLE DATA

STATION 66

LATITUDE		LONGITUDE		DAY-MO-YR			BOTTOM DEPTH				ATM. F-11		ATM. F-12				
1° 0.1' N		170° 0.3' W		11 4 90			5316 m				254.1 ppt		465.2 ppt				
SAMP	DEP	PRS	THETA	SAL	CTD-S	SIG-0	SIO F-11	PMEL F-11	SIO F-12	PMEL F-12	SIO F11 F12	PMEL F11 F12	SIO SAT	PMEL SAT	SIO SAT	PMEL SAT	FLAG
	m	db	C			Kg/m <sup>3</sup>	pM/kg	pM/kg	pM/kg	pM/kg							----
10752	5	5	28.055	35.324	35.328	22.625	1.643		0.796		2.1		104.2		95.5		2939
10751	16	16	28.000	35.335	35.334	22.648	1.619	1.646	0.816	0.852	2.0	1.9	102.5	104.2	97.7	102.0	2222
10750	37	37	27.964	35.338	35.339	22.663	1.611		0.792		2.0		101.8		94.7		2939
10749	67	68	27.803	35.337	35.338	22.715	1.595	1.609	0.827	0.844	1.9	1.9	100.2	101.0	98.3	100.3	2222
10748	97	98	27.270	35.380	35.377	22.917	1.599	1.585	0.823	0.779	1.9	2.0	98.3	97.4	96.0	90.9	2223
10747	121	122	26.797	35.356	35.359	23.055	1.577	1.594	0.815	0.839	1.9	1.9	95.1	96.1	93.4	96.2	2222
10746	147	148	21.673	35.088	34.773	24.138	1.452	1.434	0.700	0.745	2.1	1.9	69.8	68.9	65.7	69.9	2222
10745	195	196	13.694	34.806	34.809	26.104	0.909	0.893	0.445	0.461	2.0	1.9	29.8	29.3	29.8	30.8	2222
10753	294	296	11.654	34.834	34.826	26.520	0.400	0.381	0.218	0.207	1.8	1.8	11.8	11.2	13.3	12.6	2222
10743	491	494	8.684	34.657	34.658	26.901	0.074	0.060	0.032	0.032			1.9	1.5	1.7	1.7	2227
10742	690	695	6.208		34.560	27.178	0.021		0.016				0.5		0.7		2929
10741	986	994	4.492	34.557	34.561	27.385	0.093		0.008				1.8		0.3		4929

## CGC-90 CFC BOTTLE DATA

STATION 67

LATITUDE		LONGITUDE		DAY-MO-YR			BOTTOM DEPTH				ATM. F-11		ATM. F-12				
2° 0.3' N		170° 0.9' W		12 4 90			5357 m				254.1 ppt		465.2 ppt				
SAMP	DEP	PRS	THETA	SAL	CTD-S	SIG-0	SIO F-11	PMEL F-11	SIO F-12	PMEL F-12	SIO F11 F12	PMEL F11 F12	SIO SAT	PMEL SAT	SIO SAT	PMEL SAT	FLAG
	m	db	C			Kg/m <sup>3</sup>	pM/kg	pM/kg	pM/kg	pM/kg							----
10852	6	6	28.422	35.306	35.309	22.490	1.687		0.837		2.0		108.6		101.7		2929
10851	18	18	28.094	35.300	35.302	22.593	1.672		0.804		2.1		106.2		96.5		2929
10850	37	37	27.955	35.302	35.300	22.637	1.612		0.823		2.0		101.8		98.3		2929
10849	68	68	27.924	35.299	35.298	22.646	1.644		0.854		1.9		103.7		101.9		2929
10848	95	96	27.610	35.282	35.284	22.737	1.618		0.838		1.9		100.8		98.9		2929
10847	119	120	27.168	35.202	35.205	22.821	1.599		0.821		1.9		97.7		95.2		2929
10846	146	147	24.248	35.054	35.055	23.611	1.537		0.776		2.0		83.0		80.7		2929
10845	193	194	12.962	34.668	34.671	26.146	0.801		0.404		2.0		25.3		26.1		2929
10853	294	296	11.058	34.774	34.778	26.593	0.314		0.167		1.9		9.0		9.9		2929
10843	491	495	8.931	34.652	34.661	26.864	0.119		0.065		1.8		3.0		3.5		2929
10842	692	697	6.211	34.557	34.564	27.181	0.008		0.009				0.2		0.4		2979
10841	986	994	4.301	34.560	34.567	27.410	0.028		0.014				0.5		0.6		4979

GC90 CFC BOTTLE DATA

STATION 68

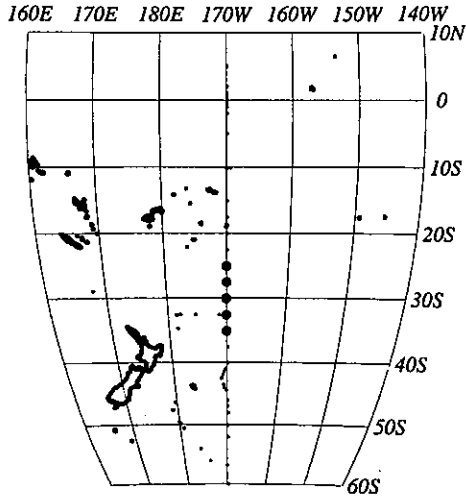
LATITUDE		LONGITUDE		DAY-MO-YR		BOTTOM DEPTH				ATM. F-11		ATM. F-12					
5° 0.1' N		170° 0.6' W		12 4 90		7161 m				254.1 ppt		465.2 ppt					
SAMP	DEP	PRS	THETA	SAL	CTD-S	SIG-0	SIO F-11	PMEL F-11	SIO F-12	PMEL F-12	SIO F11 F12	PMEL F11 F12	SIO F11 SAT	PMEL F11 SAT	SIO F12 SAT	PMEL F12 SAT	FLAG
	m	db	C			Kg/m <sup>3</sup>	pM/kg	pM/kg	pM/kg	pM/kg							----
10952	5	5	28.362	34.998	34.999	22.277	1.741	1.773	1.931	2.116	0.9	0.8	111.4	113.5	233.4	255.7	2244
10951	18	18	28.368	35.002	35.001	22.277	1.608	1.639	0.831	0.852	1.9	1.9	102.9	104.9	100.5	103.0	2222
10950	39	39	28.431	35.048	35.049	22.292	1.598		0.838		1.9		102.6		101.6		2929
10949	65	66	28.425	35.116	35.114	22.343	1.586		0.855		1.9		101.9		103.7		2929
10948	96	97	28.022	35.155	35.151	22.503	1.564	1.606	0.810	0.842	1.9	1.9	98.9	101.6	96.9	100.7	2222
10947	121	122	26.300	35.095	35.093	23.012	1.525		0.809		1.9		89.8		90.8		2929
10946	145	146	23.147	34.955	34.956	23.859	1.510	1.528	0.766	0.796	2.0	1.9	77.6	78.5	76.2	79.2	2222
10945	195	196	14.413	34.613	34.595	25.787	1.178		0.586		2.0		40.0		40.4		2929
10953	293	295	9.951	34.661	34.668	26.701	0.163	0.167	0.098	0.156	1.7	1.1	4.4	4.5	5.5	8.8	2224
10943	493	496	7.927		34.611	26.979	0.019	0.015	0.003	0.014			0.5	0.4	0.2	0.7	2272
10942	689	695	6.145	34.553	34.558	27.185	0.009		0.005				0.2		0.2		2979
10941	988	996	4.413	34.564	34.568	27.399	0.001		0.006				0.0		0.2		2979



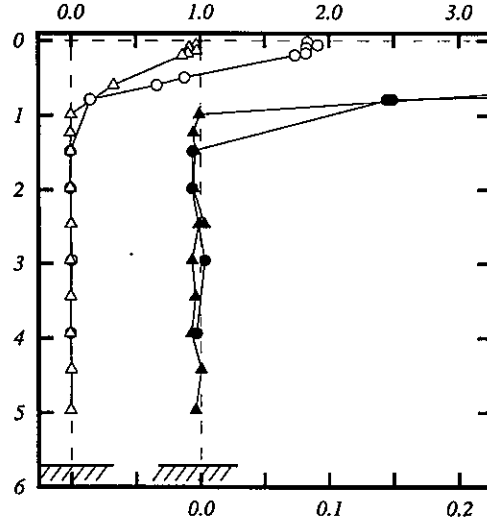


**CFC Profile Plots**  
**(measurements using SIO system)**

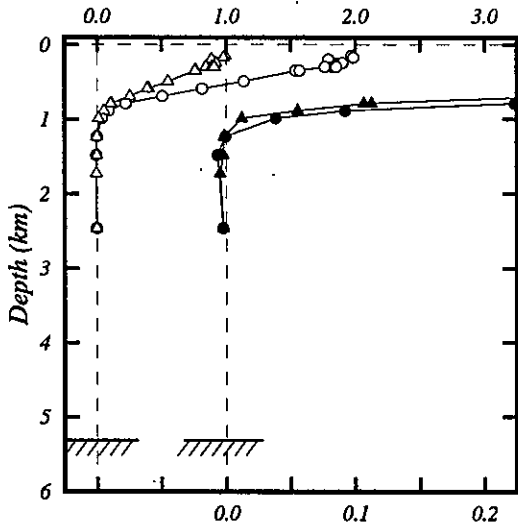
Locations of Stations on This Page



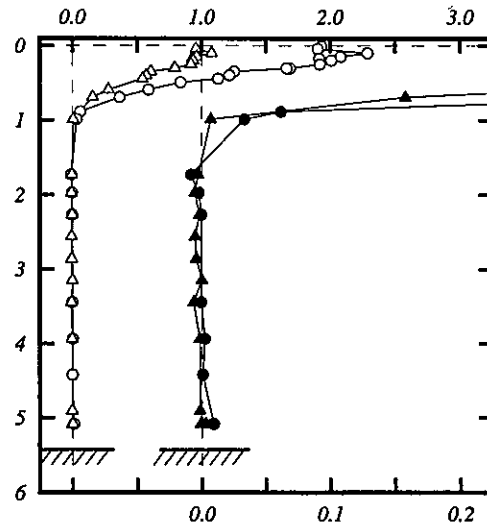
Station 9



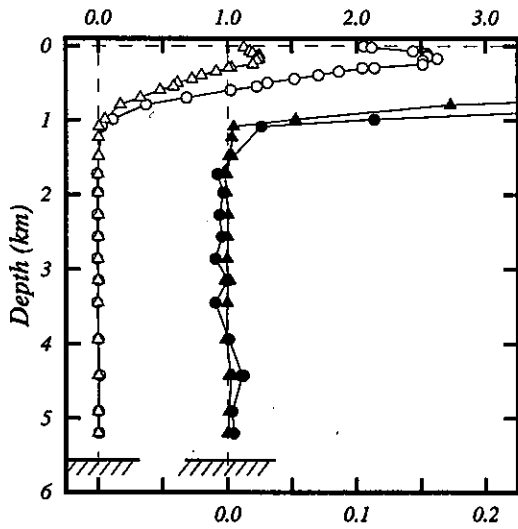
Station 10



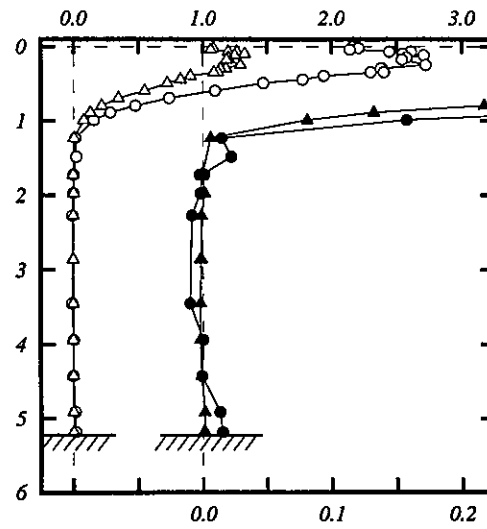
Station 11



Station 12



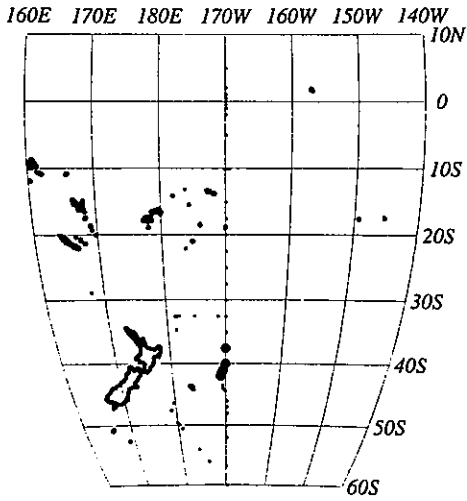
Station 13



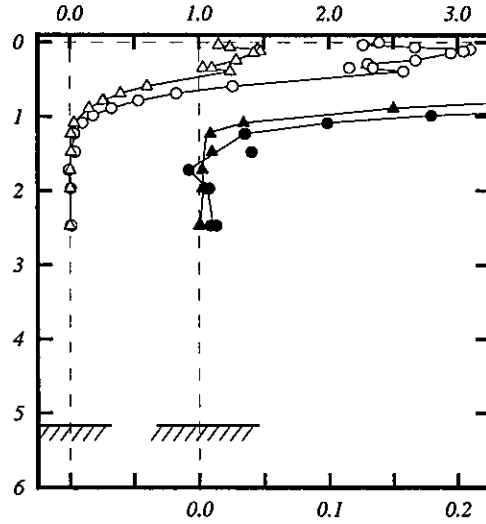
SIO CFC (pmol/kg)

SIO CFC (pmol/kg)

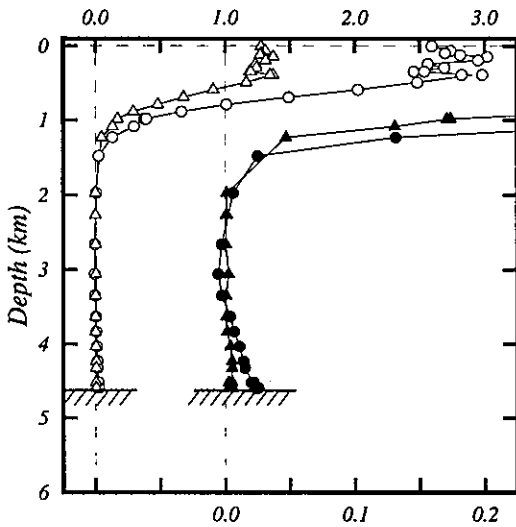
Locations of Stations on This Page



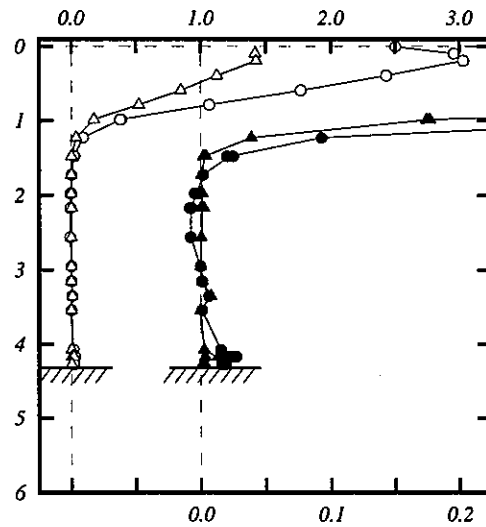
Station 14



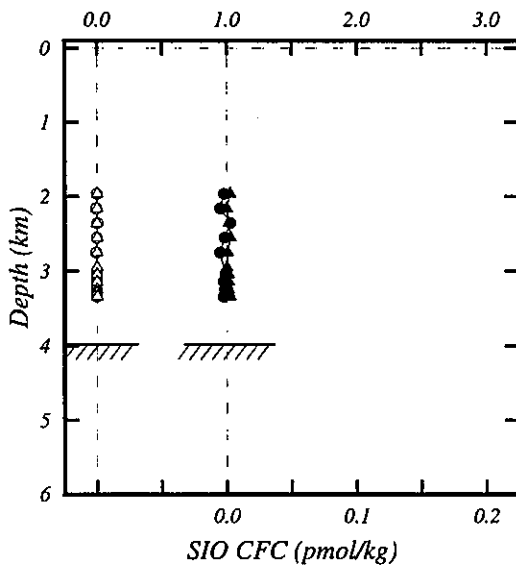
Station 15



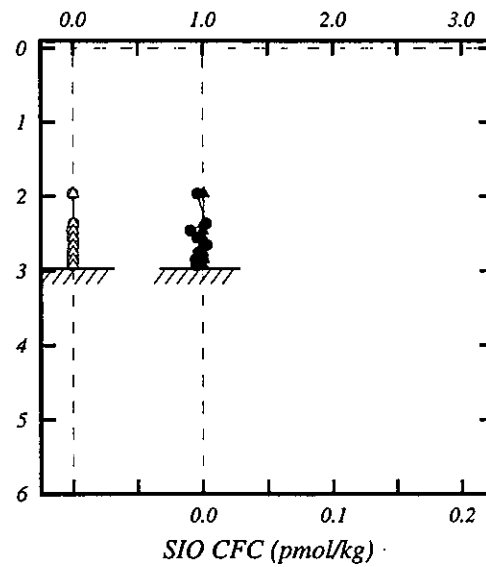
Station 16



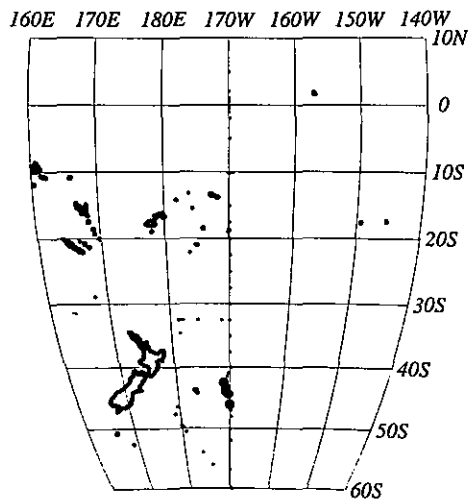
Station 17



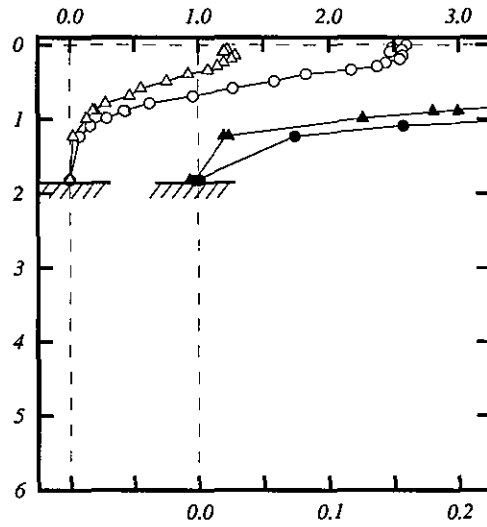
Station 18



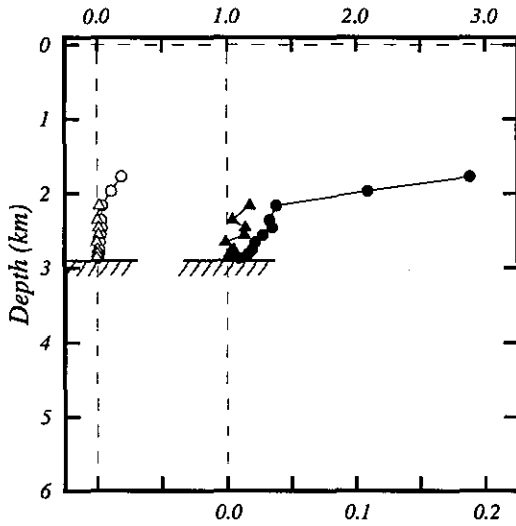
Locations of Stations on This Page



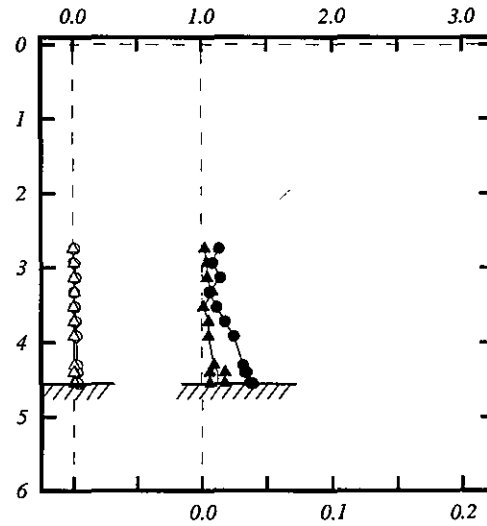
Station 19



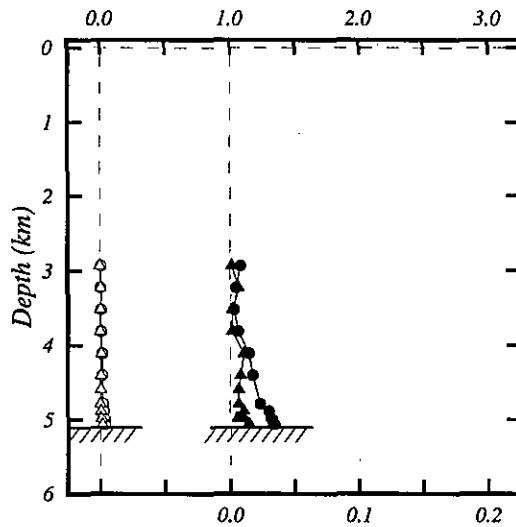
Station 20



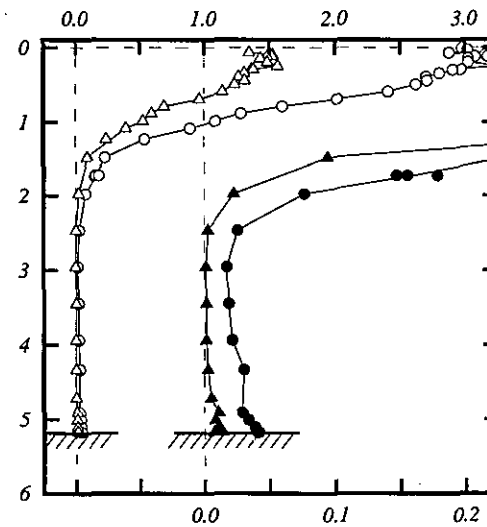
Station 21



Station 22



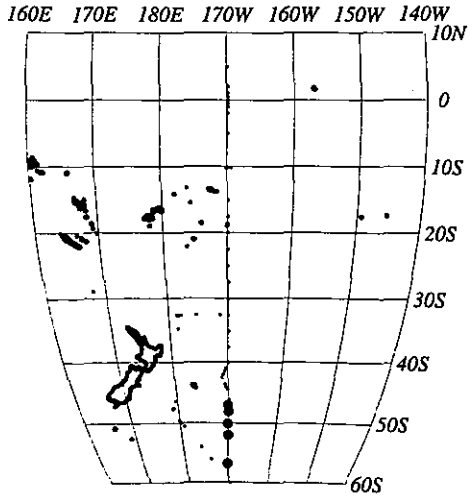
Station 23



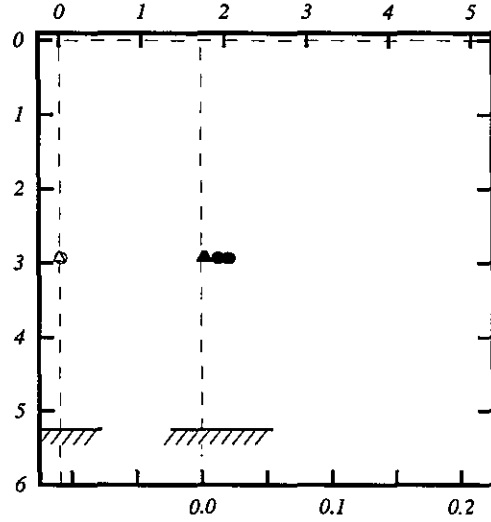
SIO CFC (pmol/kg)

SIO CFC (pmol/kg)

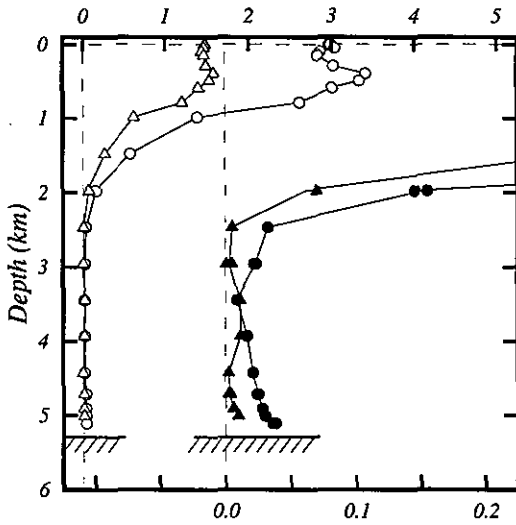
Locations of Stations on This Page



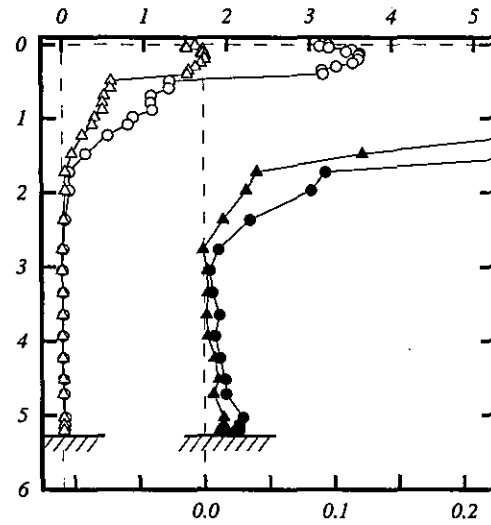
Station 24



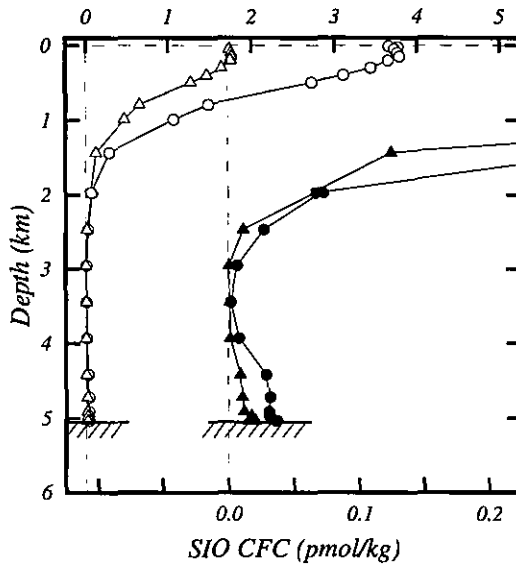
Station 25



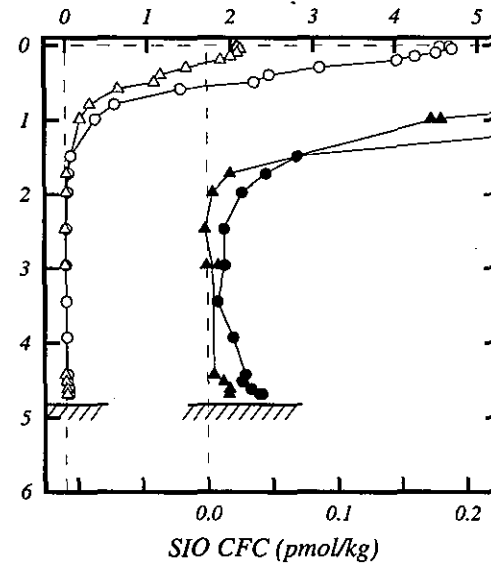
Station 26



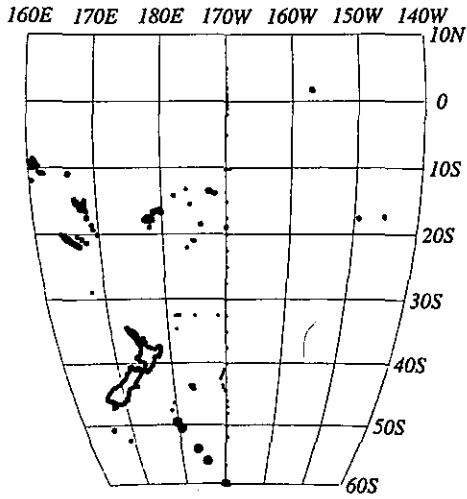
Station 27



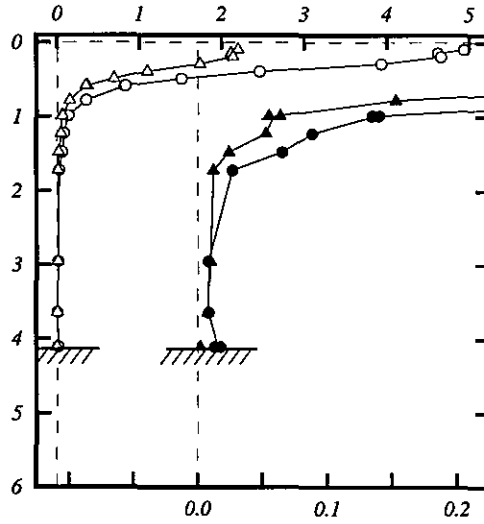
Station 28



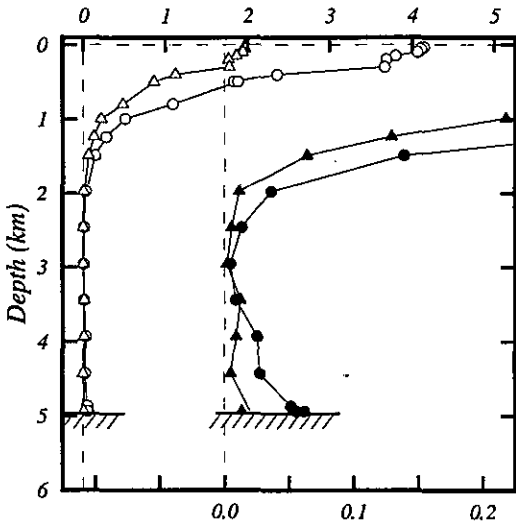
Locations of Stations on This Page



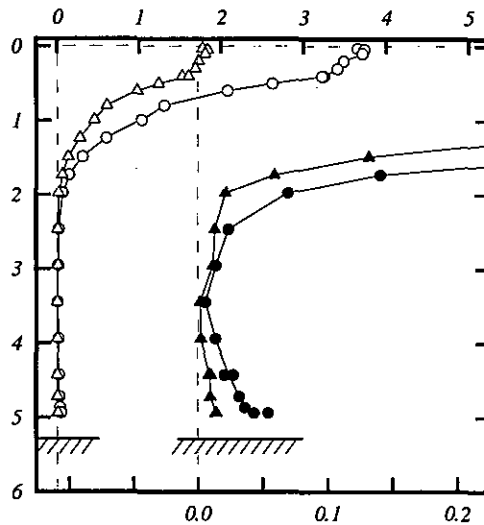
Station 29



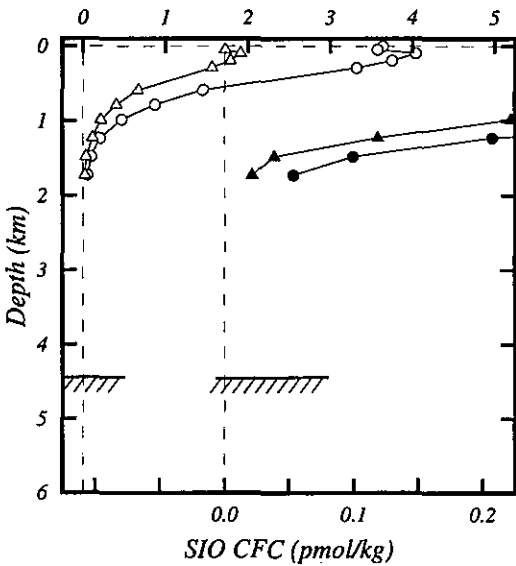
Station 30



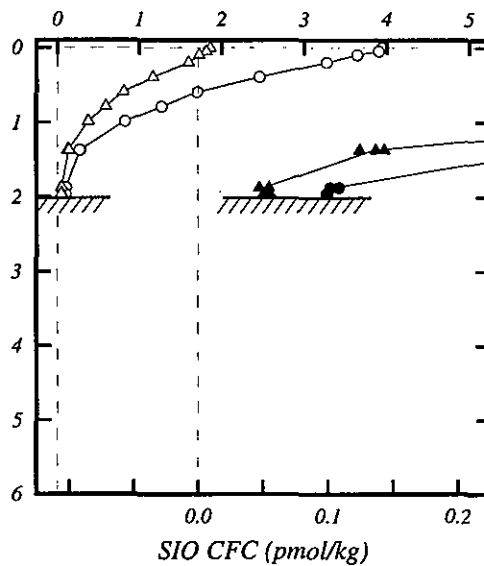
Station 31



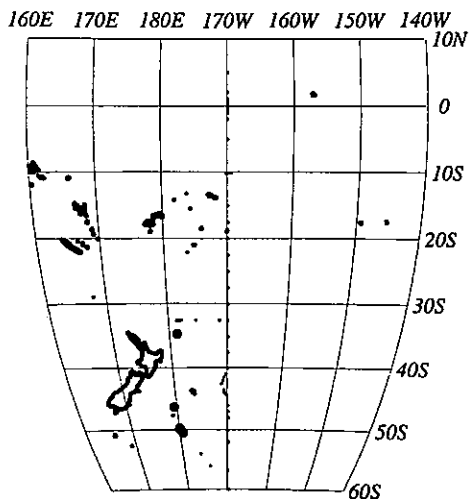
Station 32



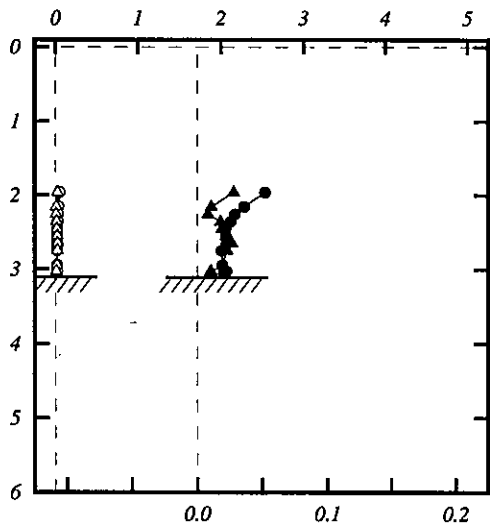
Station 33



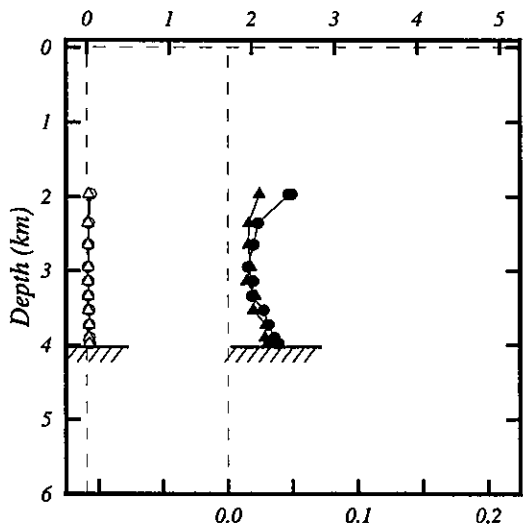
Locations of Stations on This Page



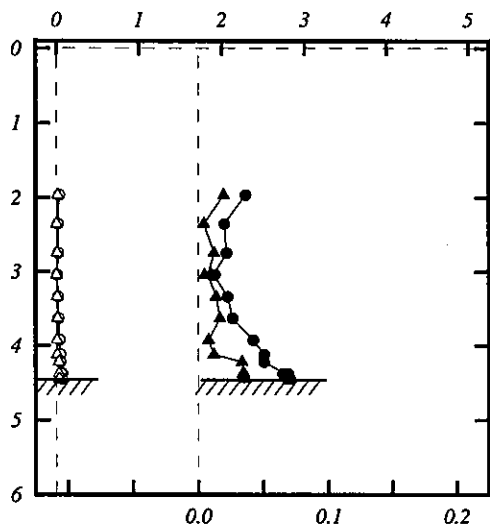
Station 34



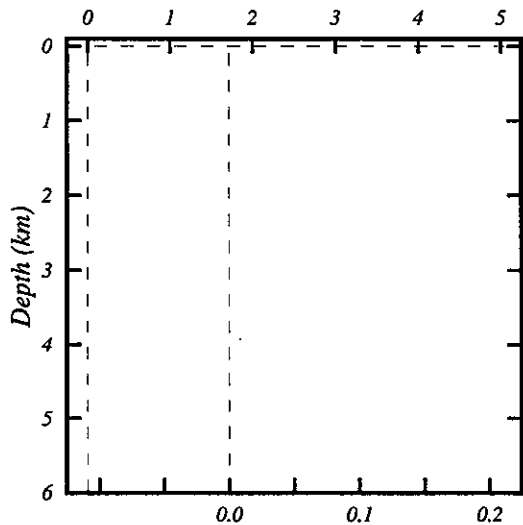
Station 35



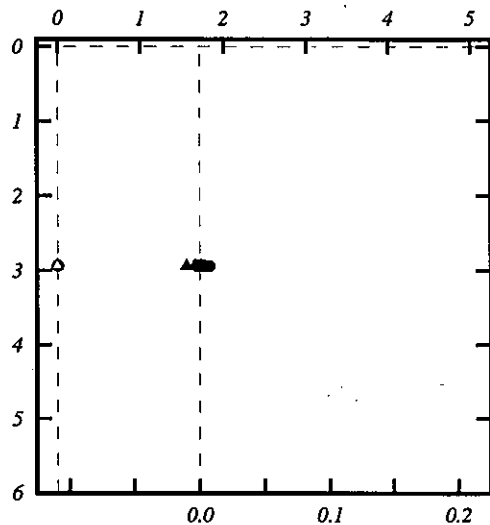
Station 36



Station 37



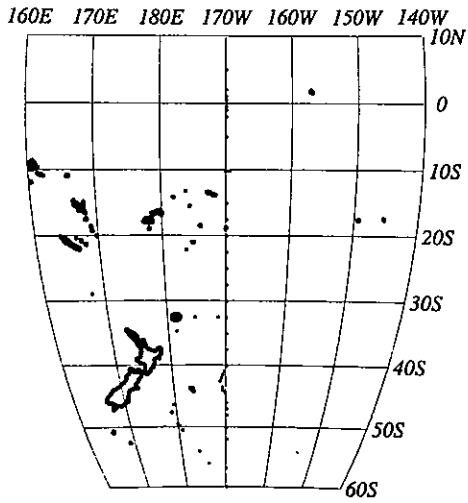
Station 38



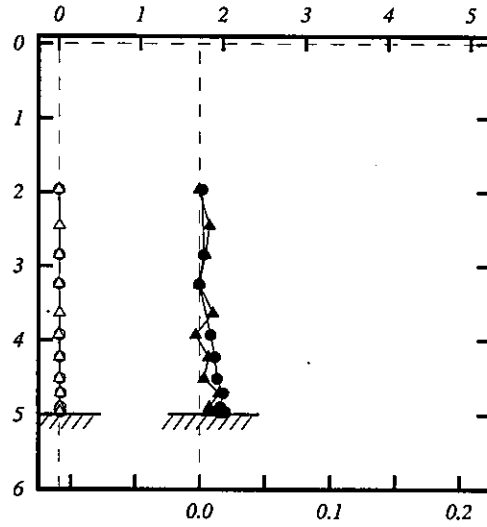
SIO CFC (pmol/kg)

SIO CFC (pmol/kg)

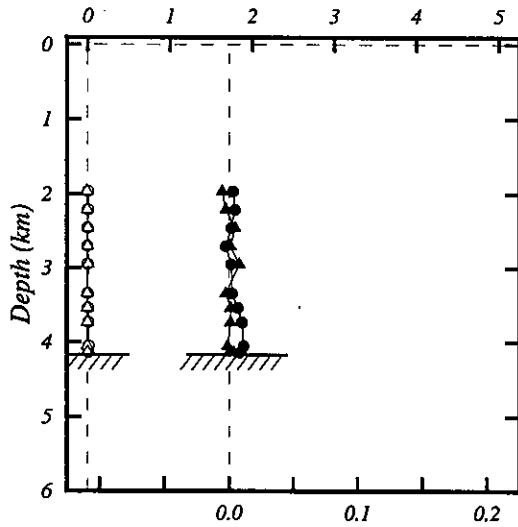
Locations of Stations on This Page



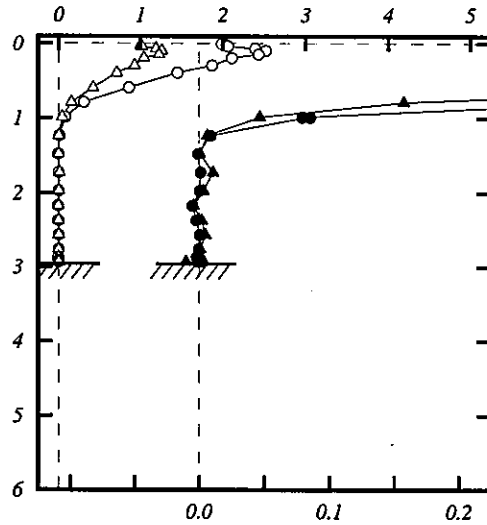
Station 39



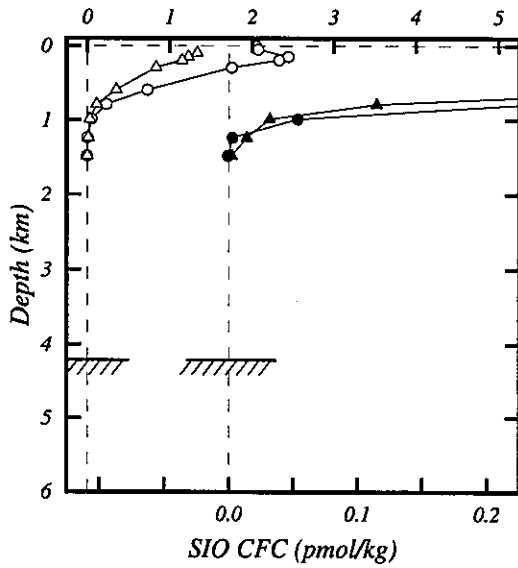
Station 40



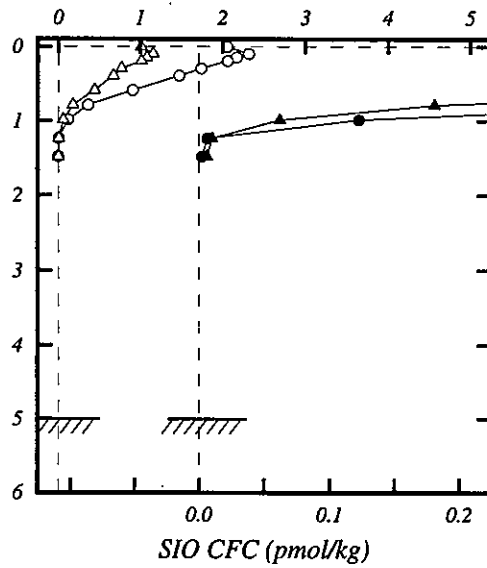
Station 41



Station 42

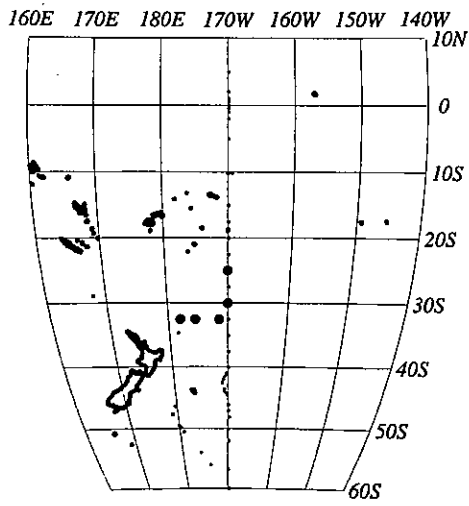


Station 43

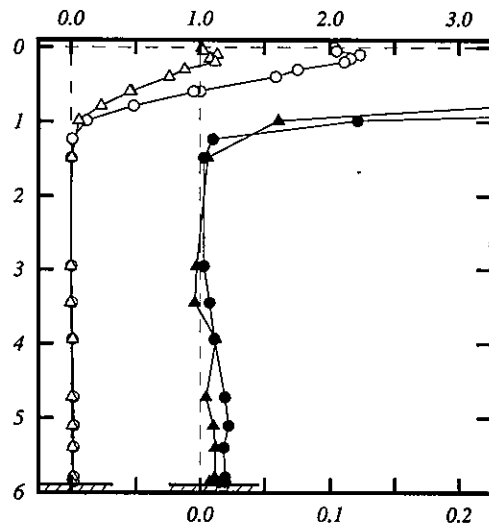




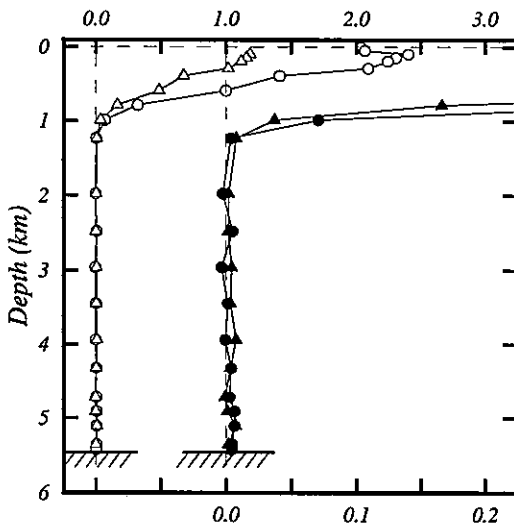
Locations of Stations on This Page



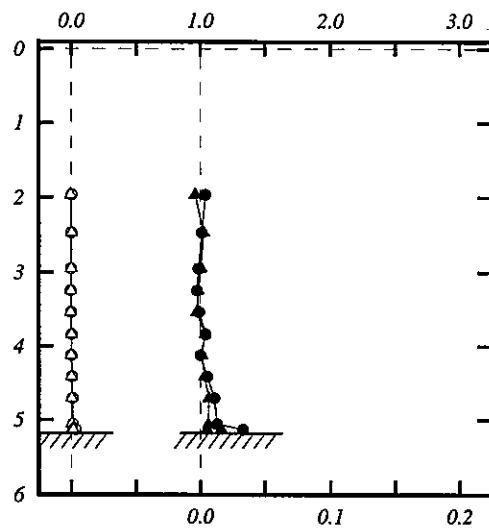
Station 44



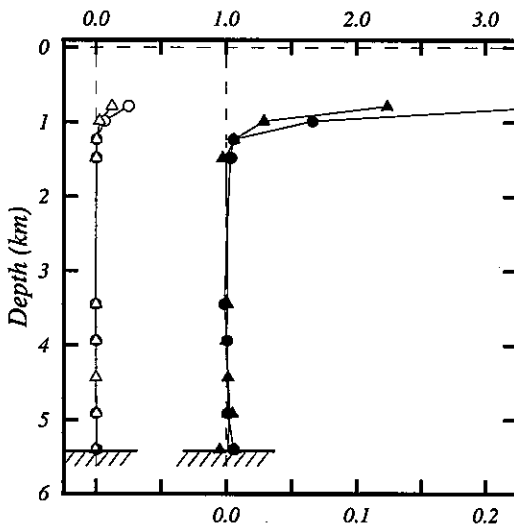
Station 45



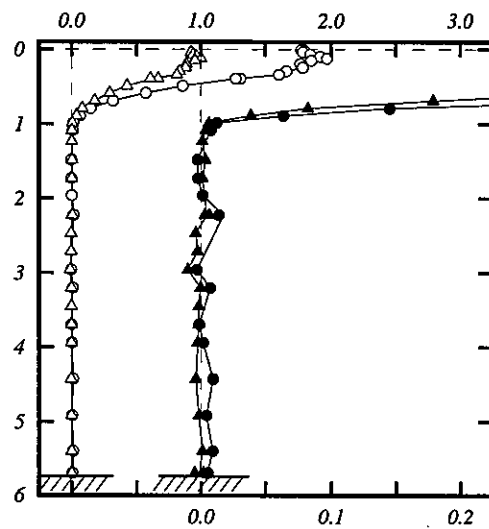
Station 46



Station 47



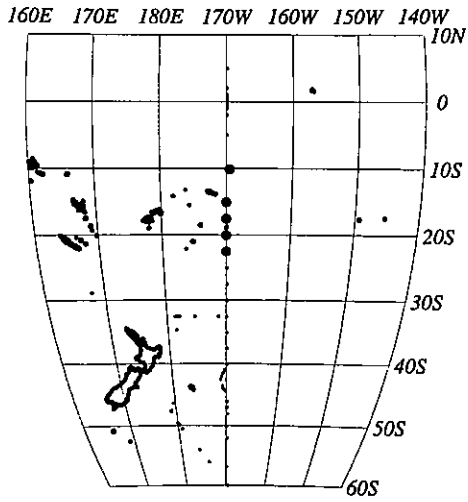
Station 48



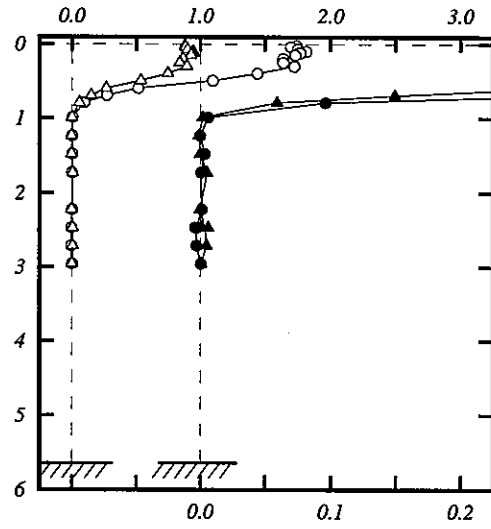
SIO CFC (pmol/kg)

SIO CFC (pmol/kg)

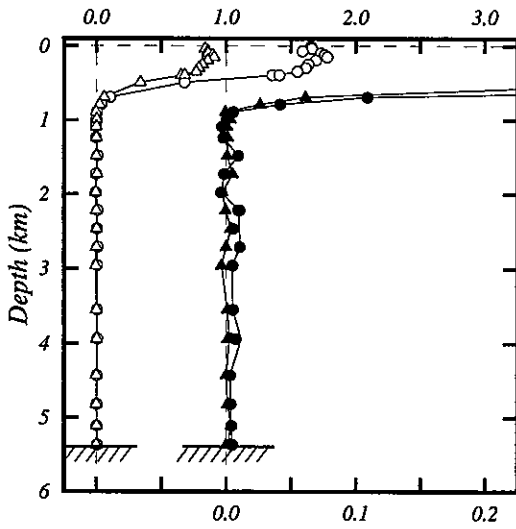
Locations of Stations on This Page



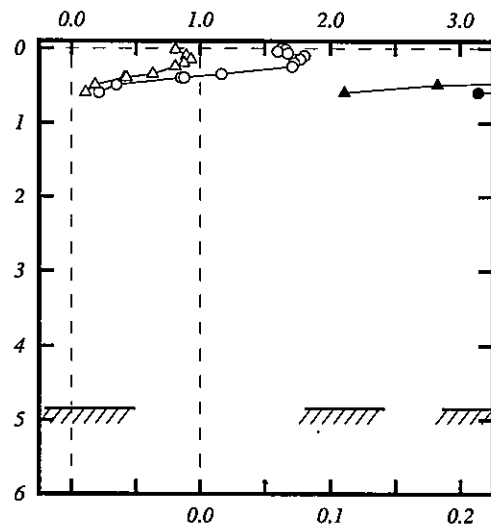
Station 49



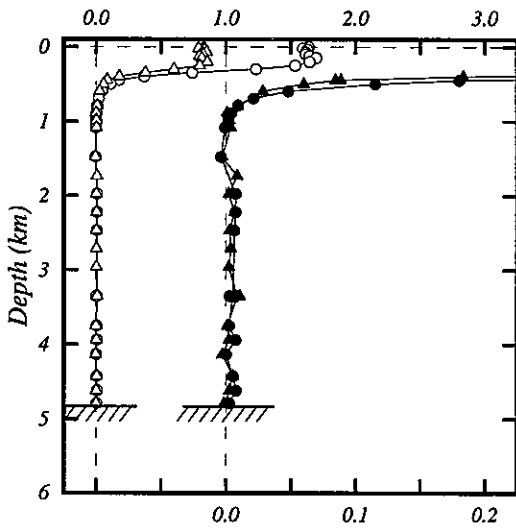
Station 50



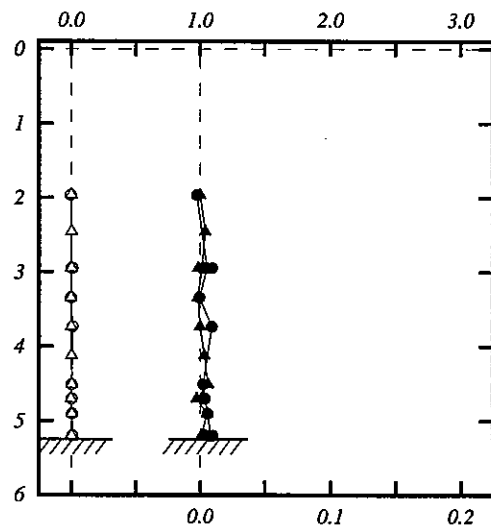
Station 51



Station 52



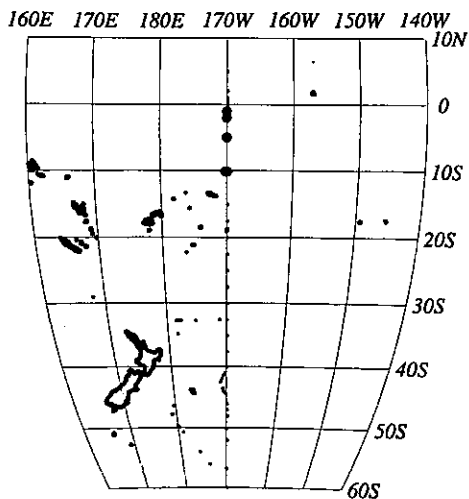
Station 54



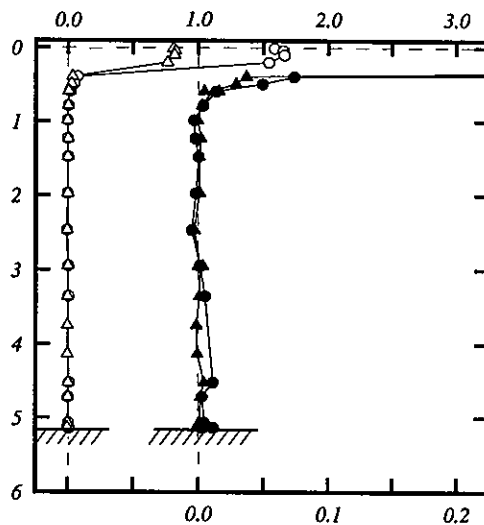
SIO CFC (pmol/kg)

SIO CFC (pmol/kg)

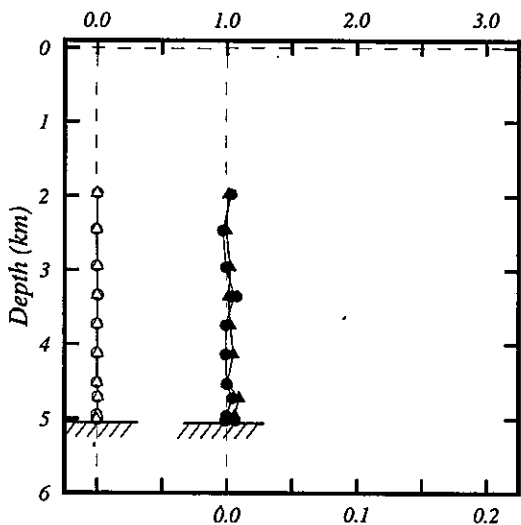
Locations of Stations on This Page



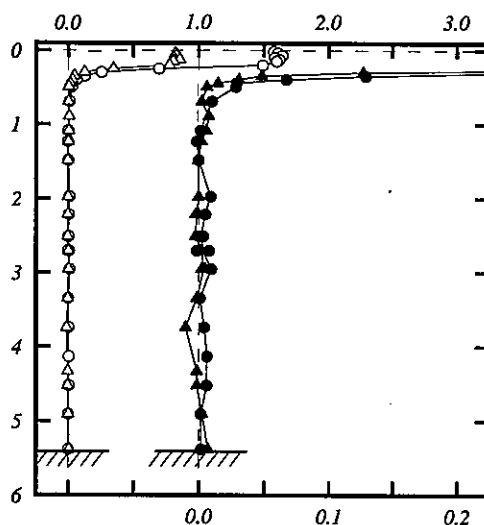
Station 55



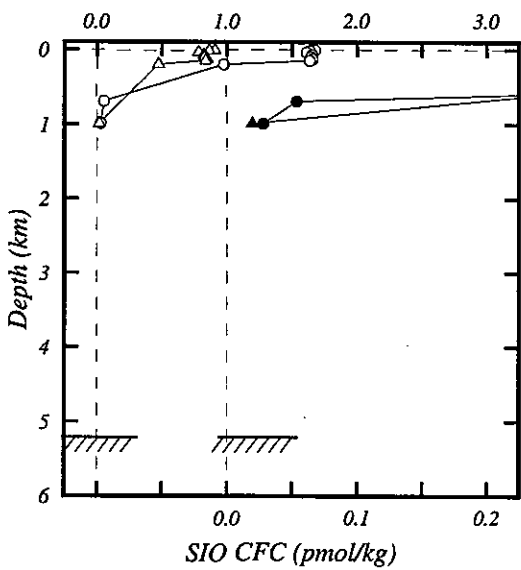
Station 56



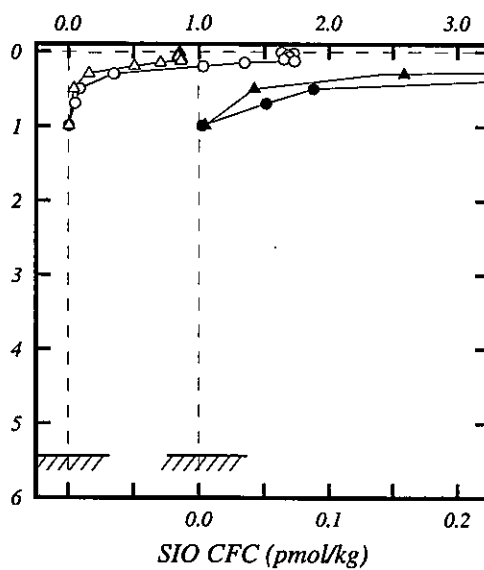
Station 58



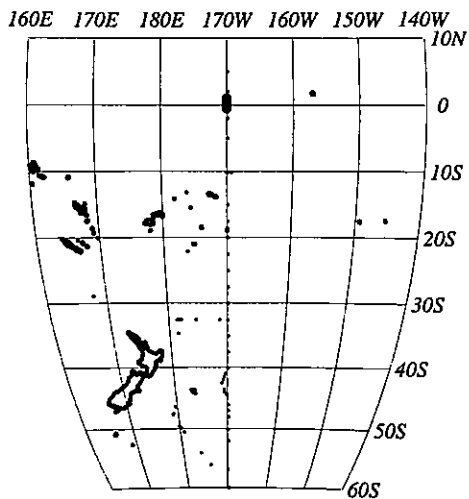
Station 59



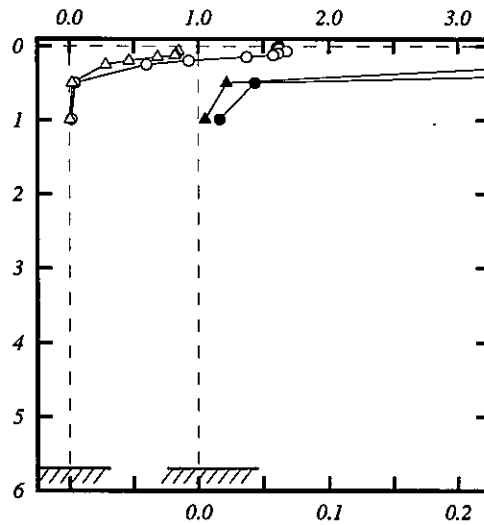
Station 60



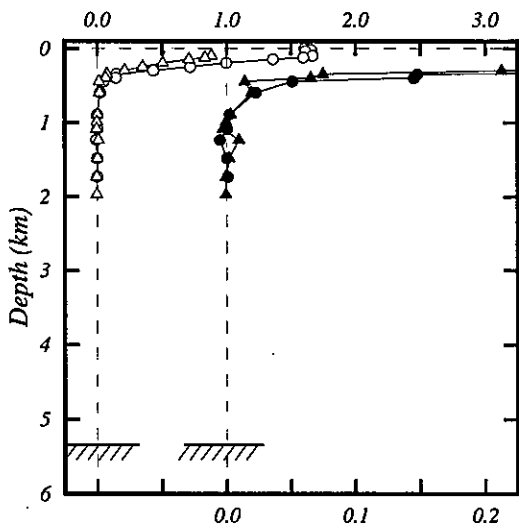
Locations of Stations on This Page



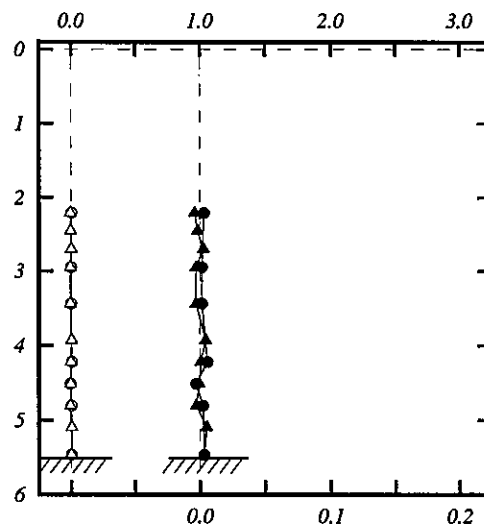
Station 61



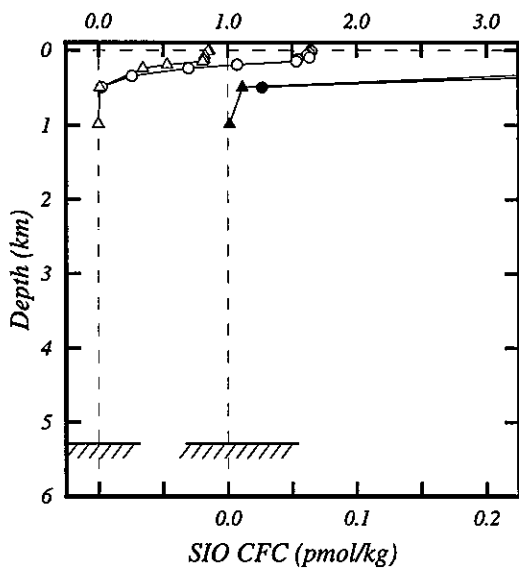
Station 62



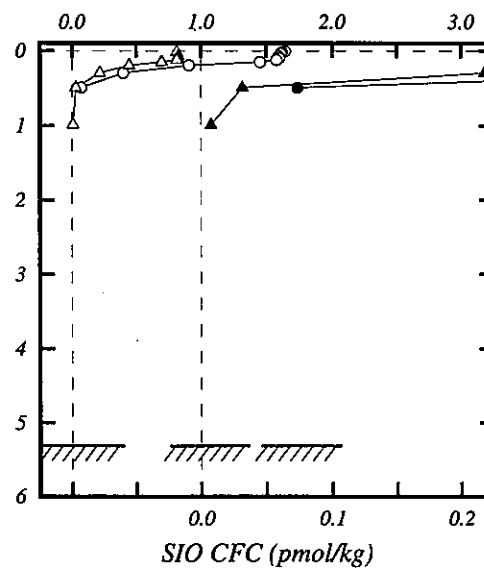
Station 64



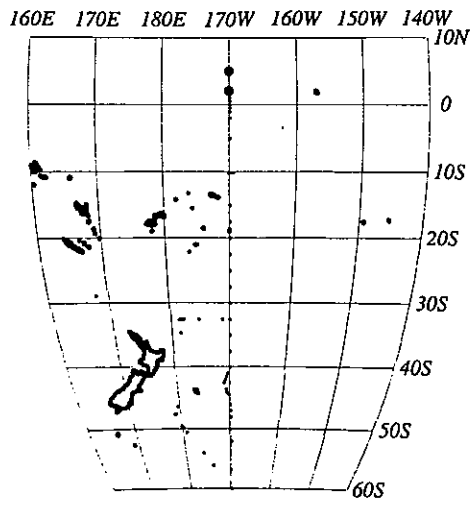
Station 65



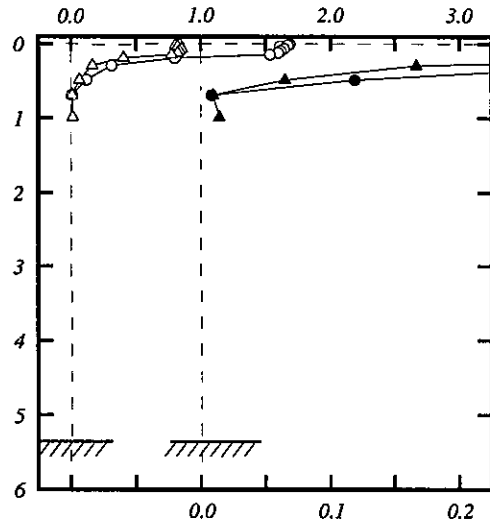
Station 66



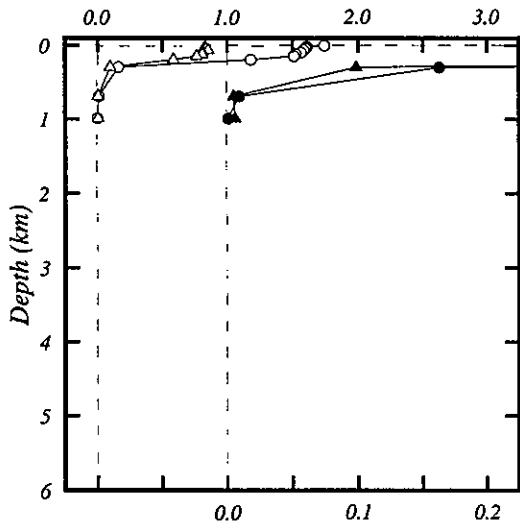
Locations of Stations on This Page

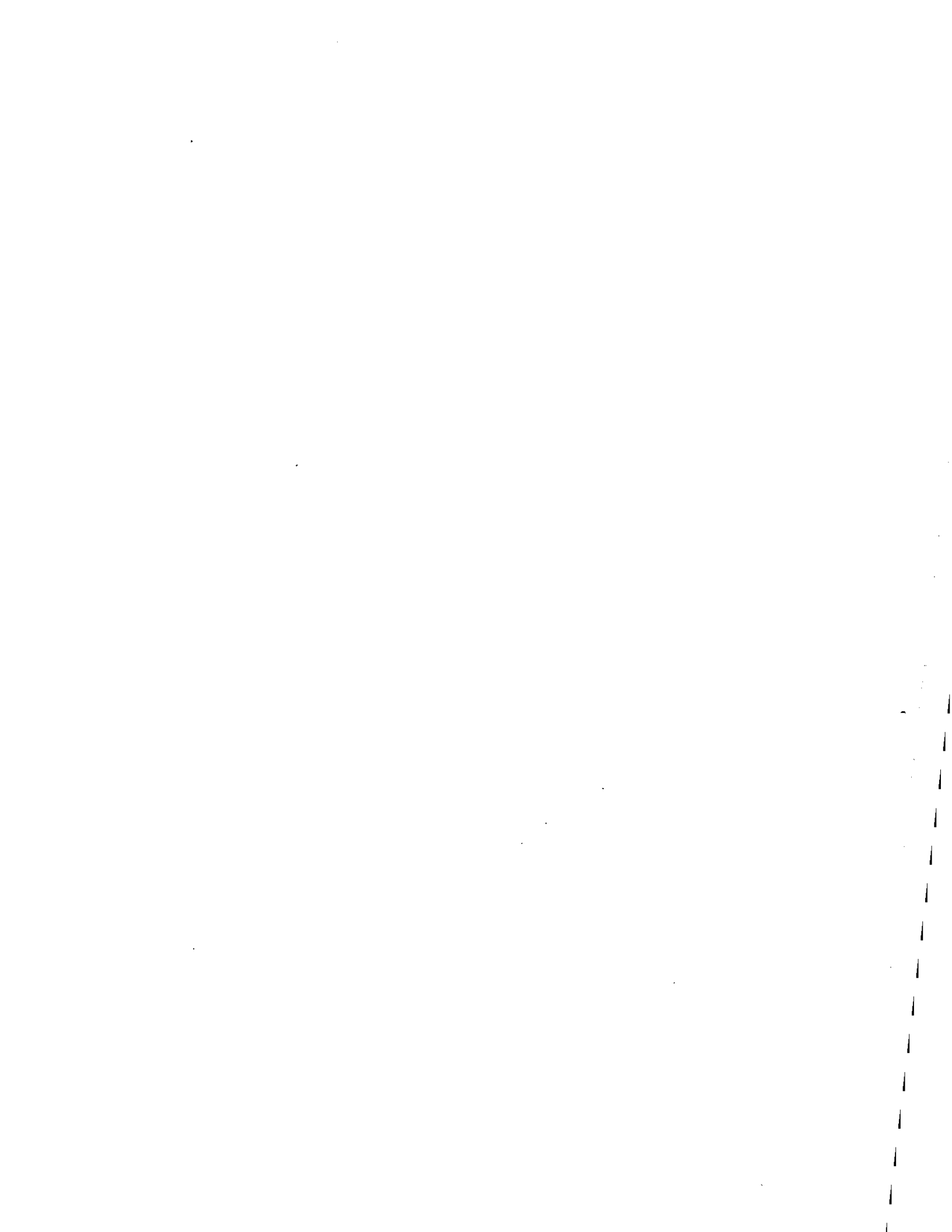


Station 67



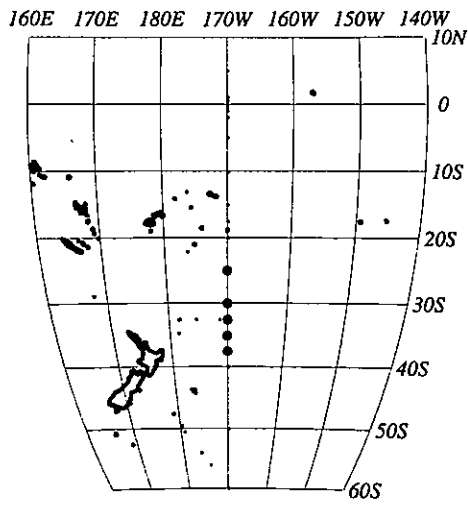
Station 68



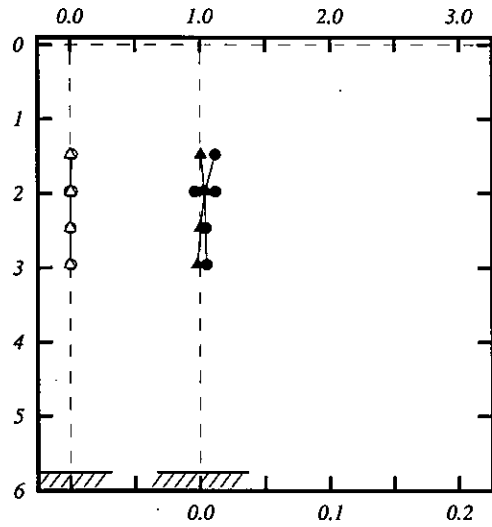


**CFC Profile Plots**  
**(measurements using PMEL system)**

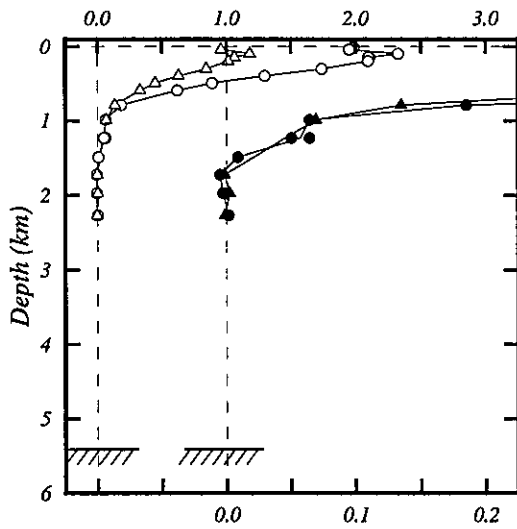
Locations of Stations on This Page



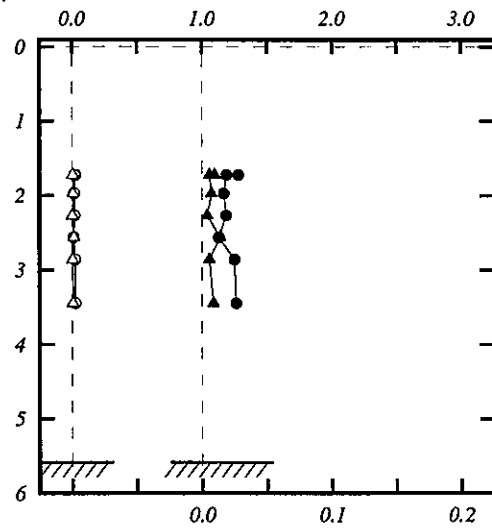
Station 9



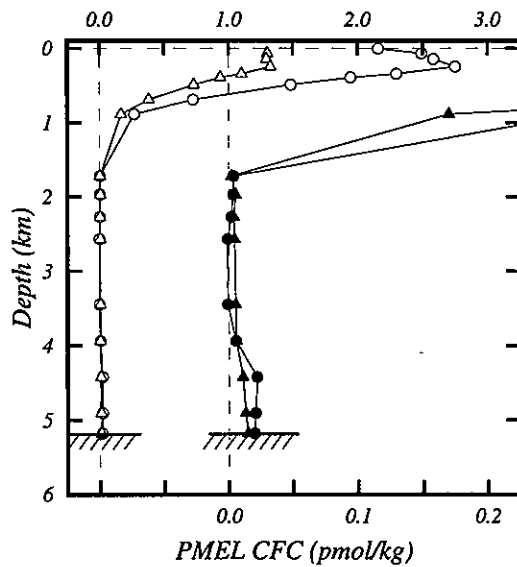
Station 11



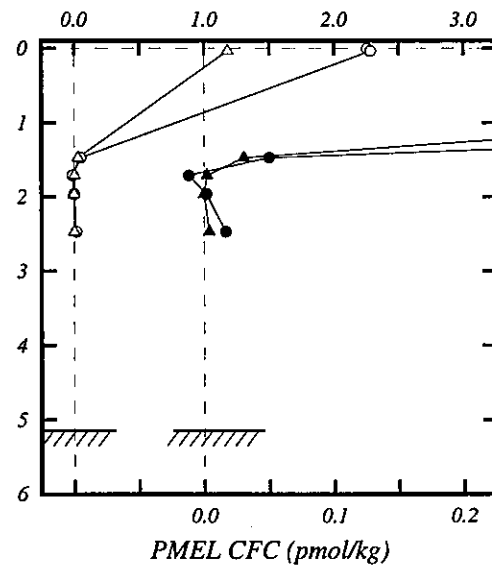
Station 12



Station 13

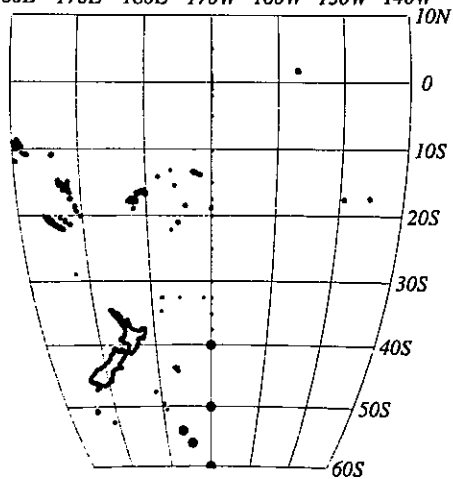


Station 14

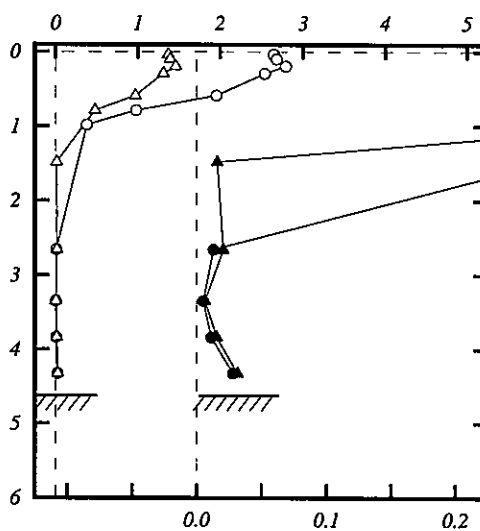




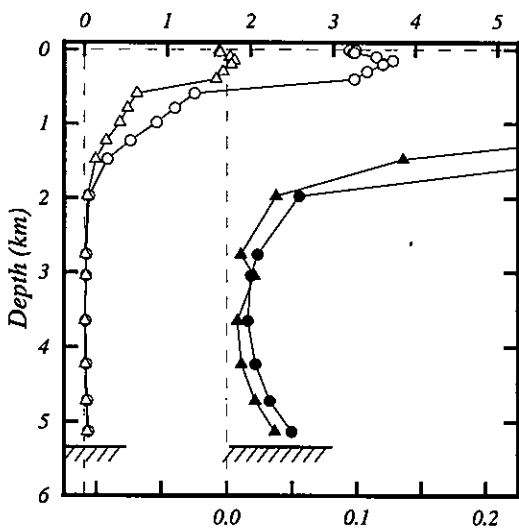
Locations of Stations on This Page  
 160E 170E 180E 170W 160W 150W 140W



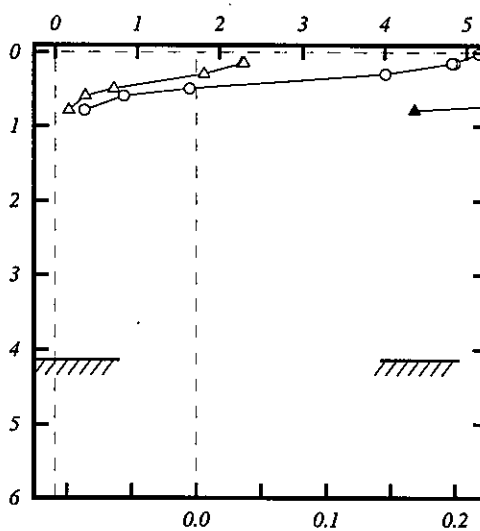
Station 15



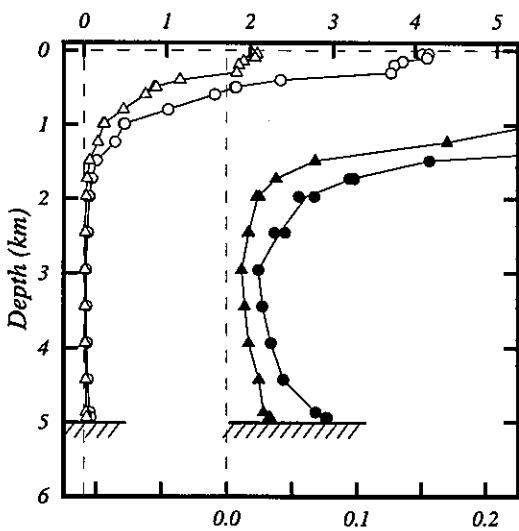
Station 26



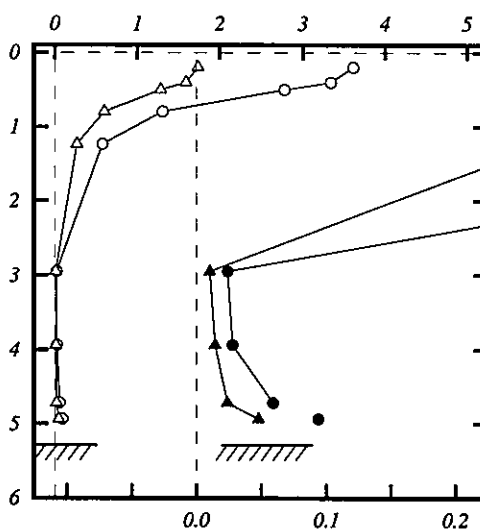
Station 29



Station 30



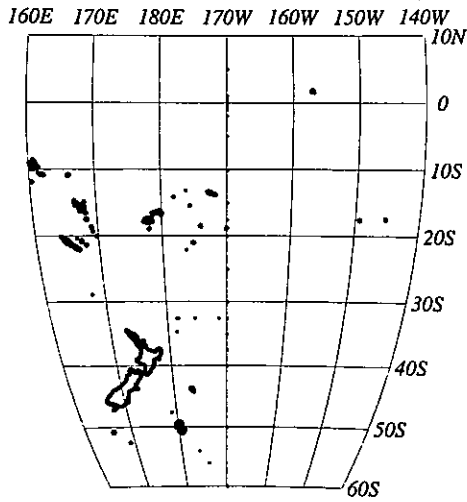
Station 31



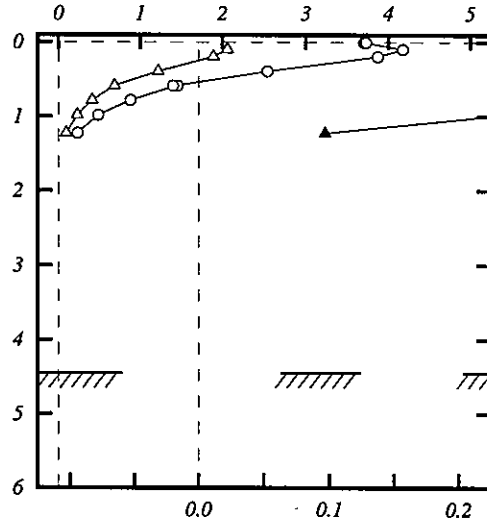
PMEL CFC (pmol/kg)

PMEL CFC (pmol/kg)

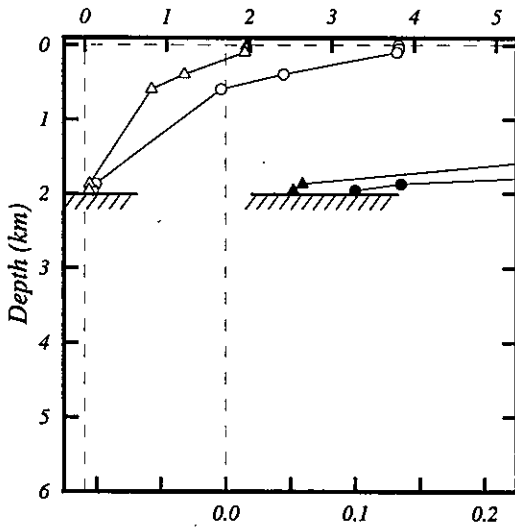
Locations of Stations on This Page



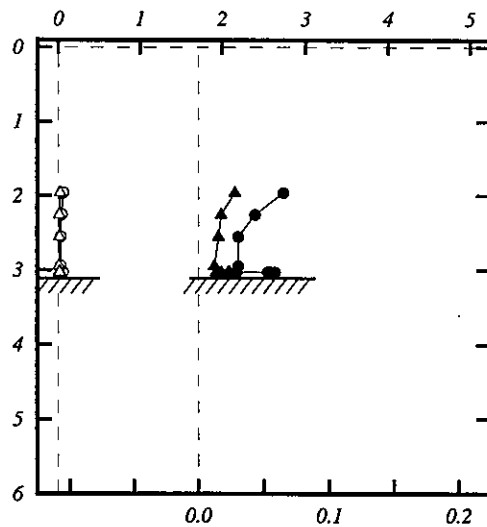
Station 32



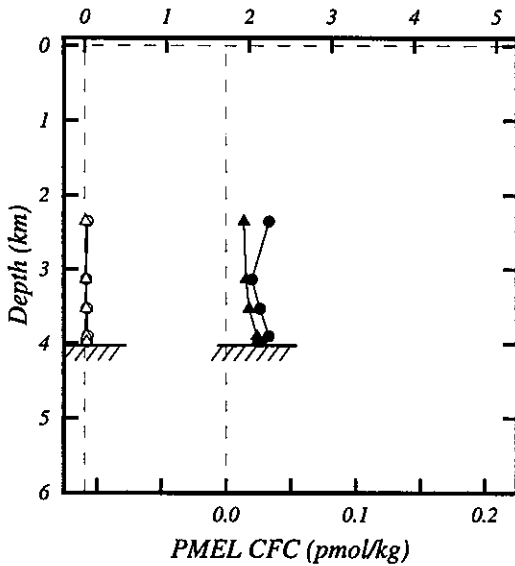
Station 33



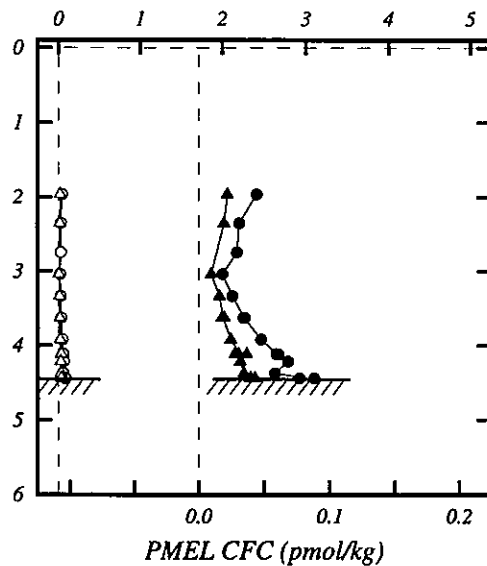
Station 34



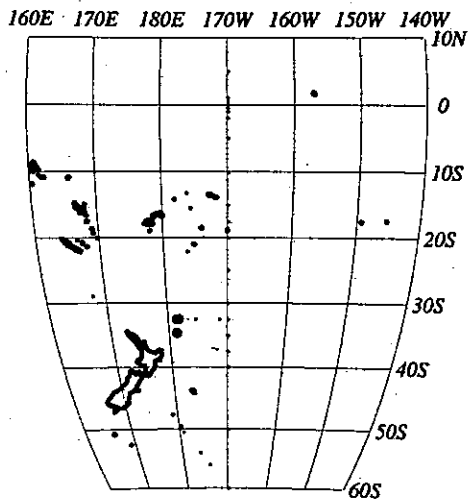
Station 35



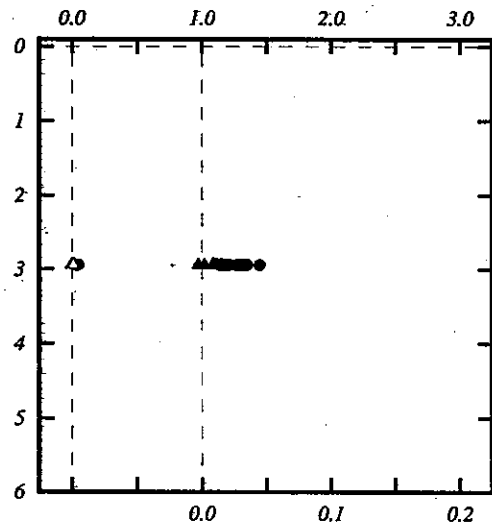
Station 36



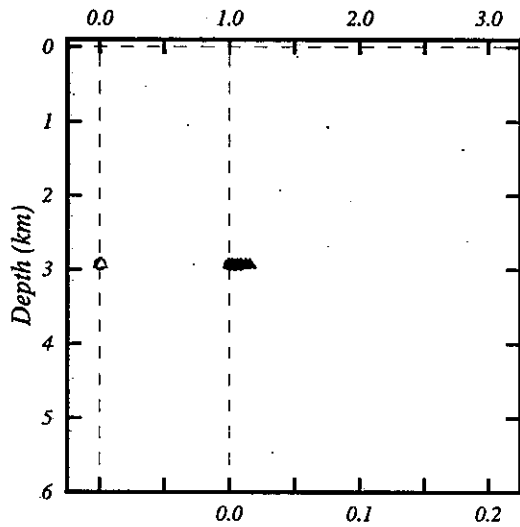
Locations of Stations on This Page



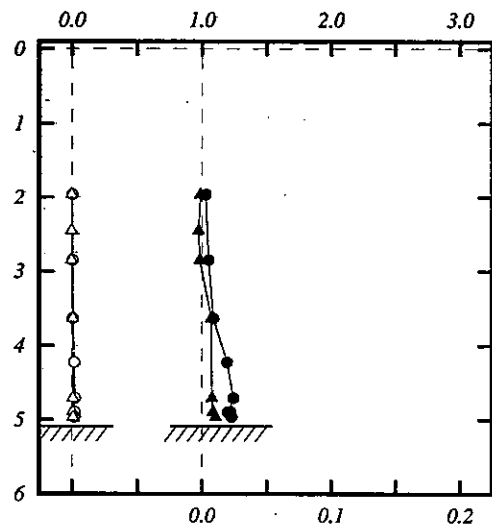
Station 37



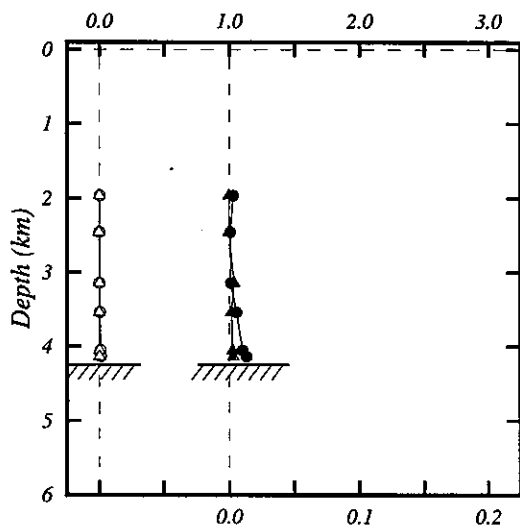
Station 38



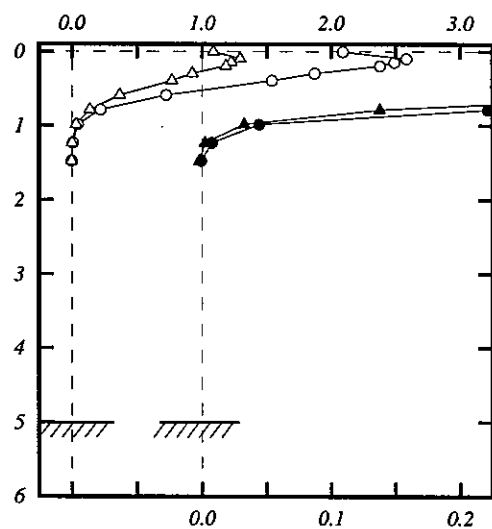
Station 39



Station 40



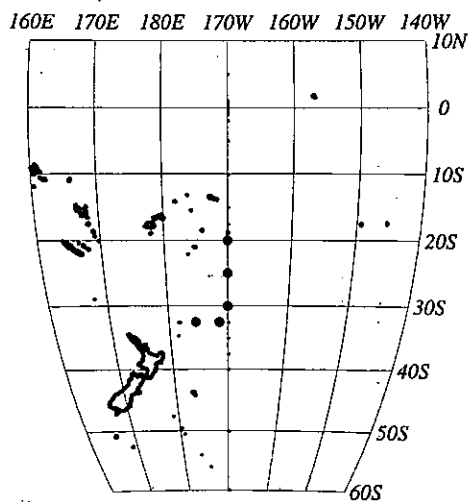
Station 43



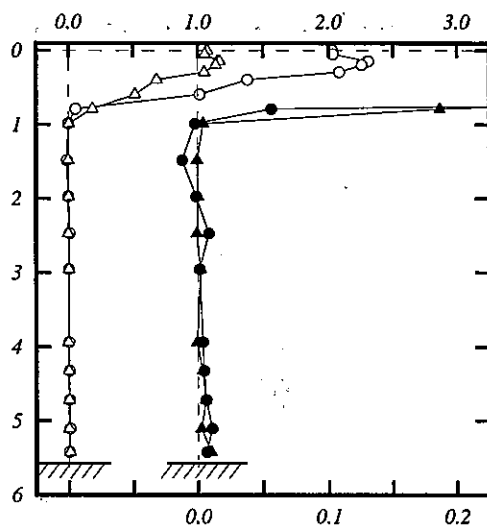
PMEL CFC (pmol/kg)

PMEL CFC (pmol/kg)

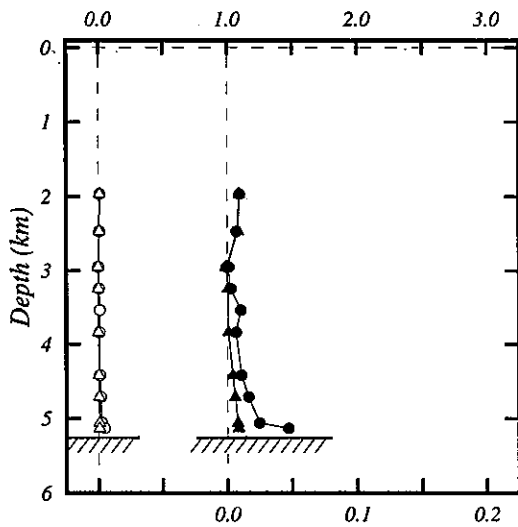
Locations of Stations on This Page



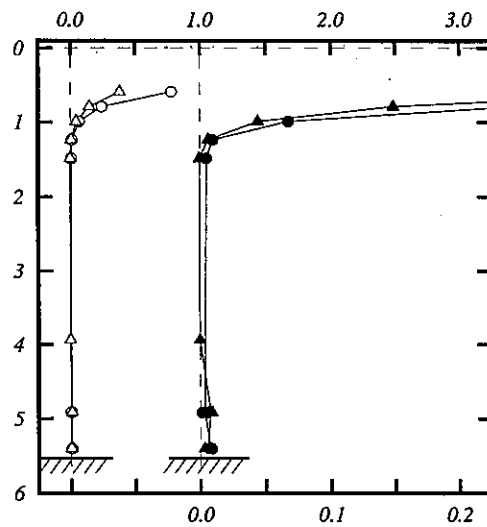
Station 45



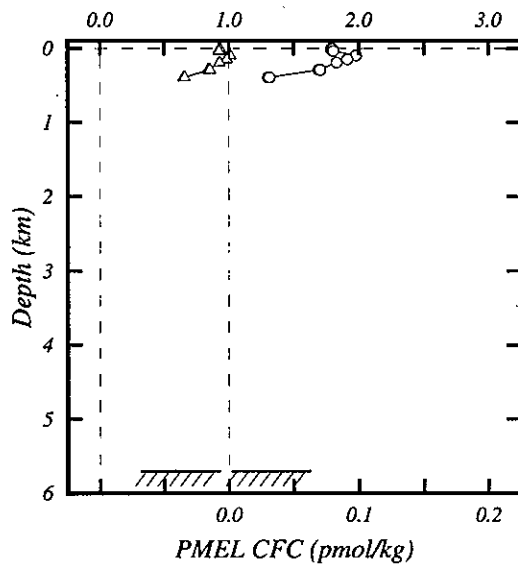
Station 46



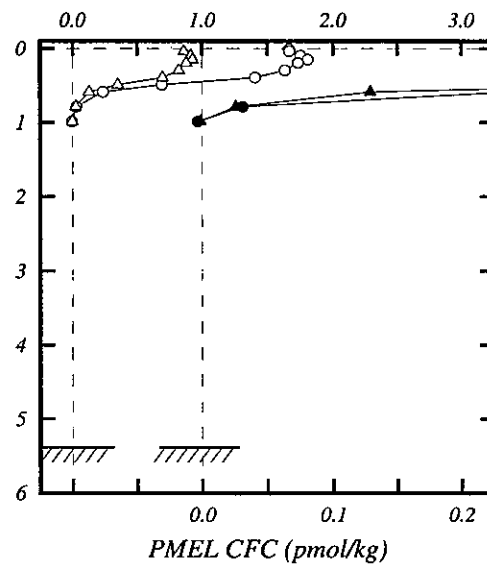
Station 47



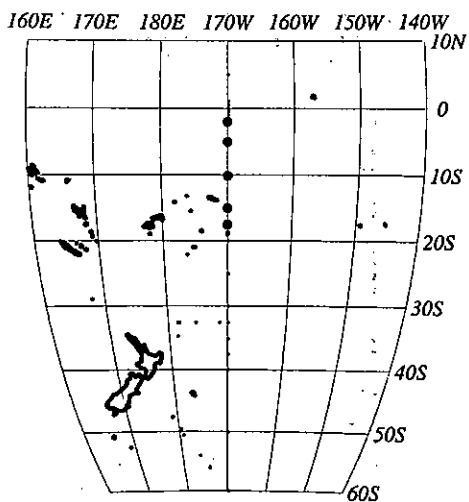
Station 48



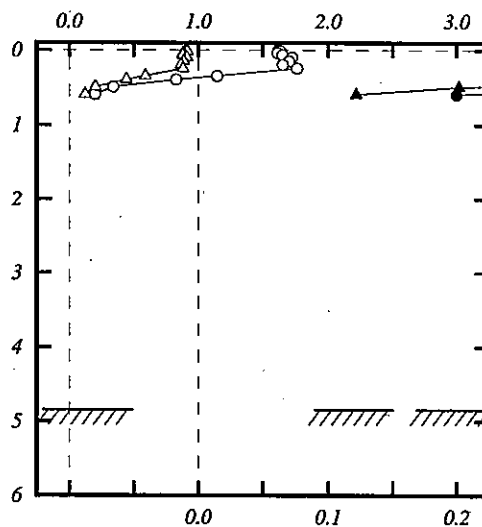
Station 50



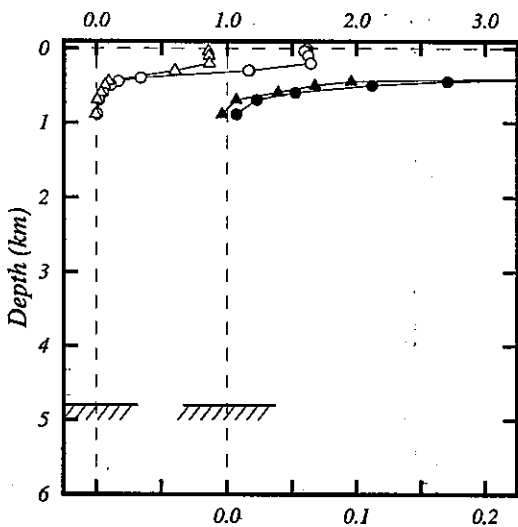
Locations of Stations on This Page



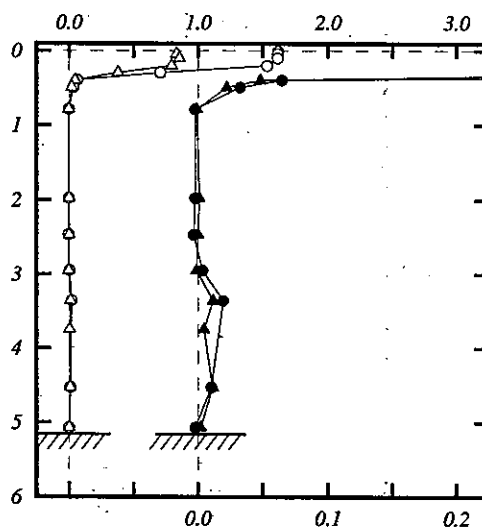
Station 51



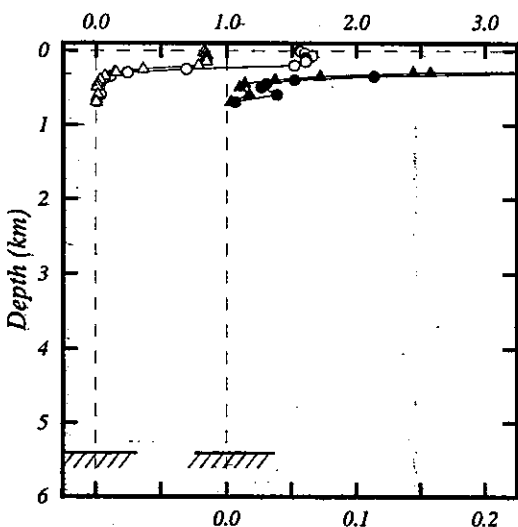
Station 52



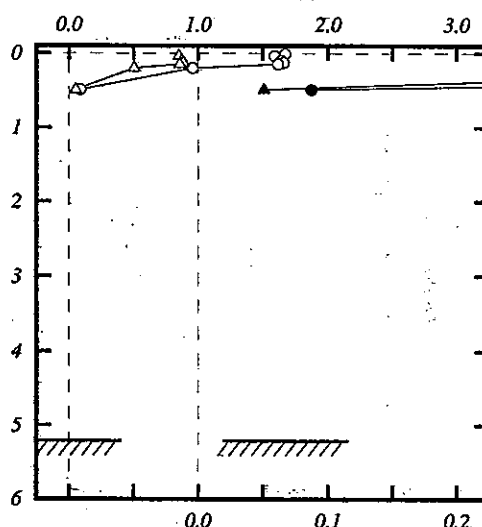
Station 55



Station 58



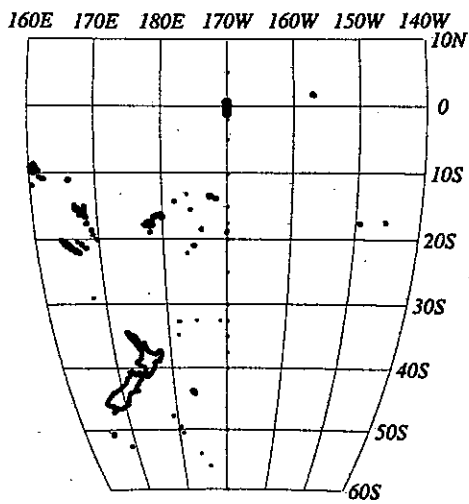
Station 59



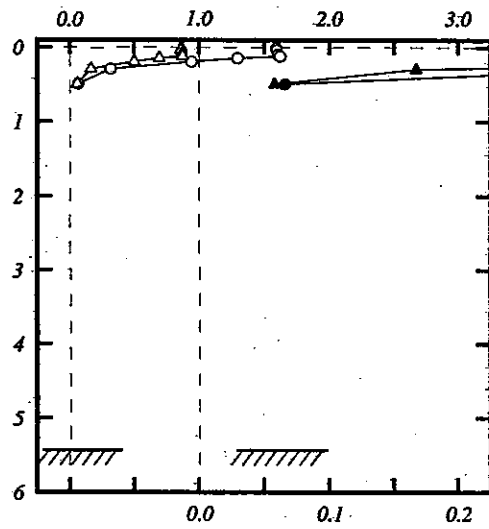
PMEL CFC (pmol/kg)

PMEL CFC (pmol/kg)

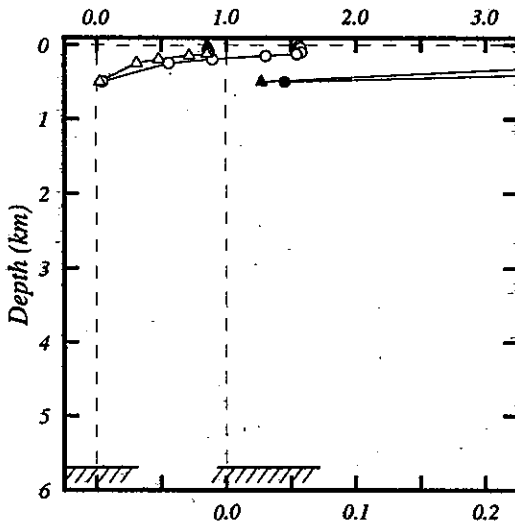
**Locations of Stations on This Page**



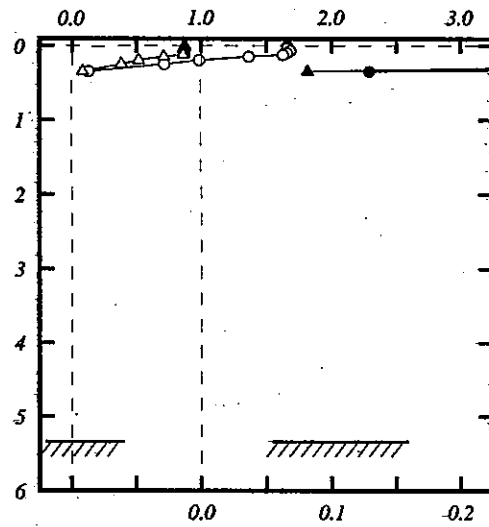
**Station 60**



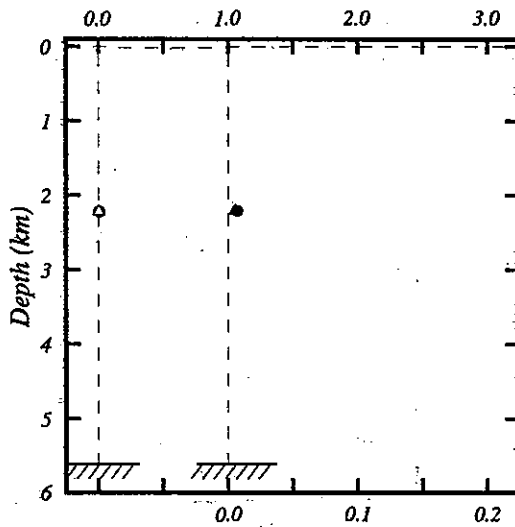
**Station 61**



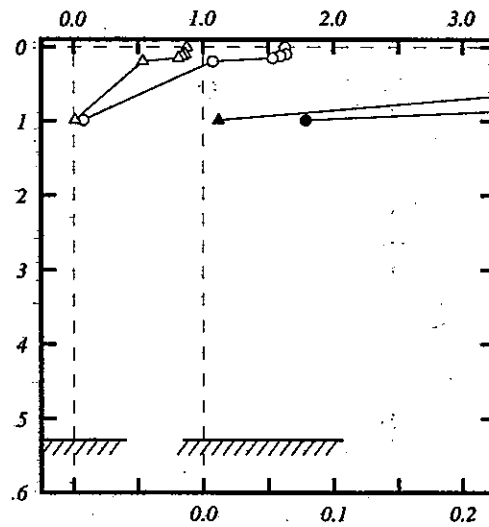
**Station 62**



**Station 64**



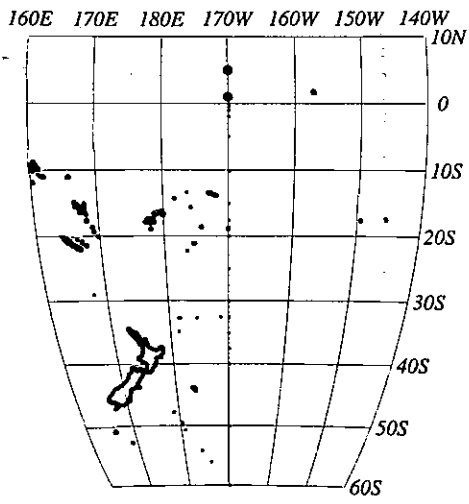
**Station 65**



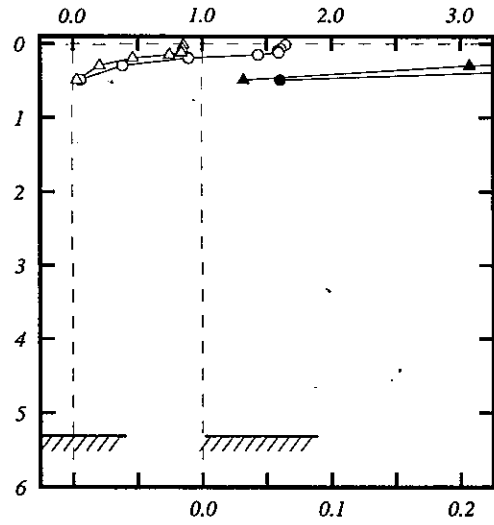
PMEL CFC (pmol/kg)

PMEL CFC (pmol/kg)

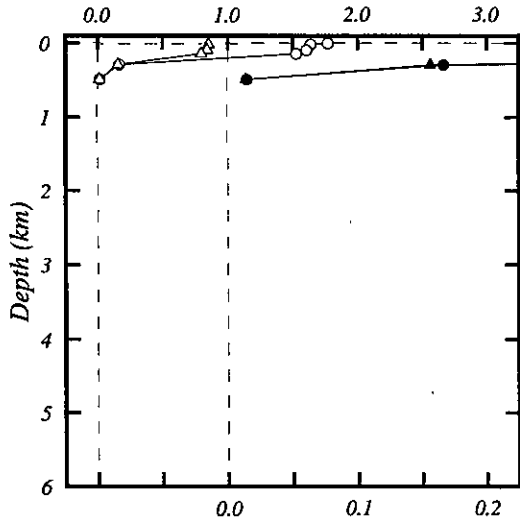
Locations of Stations on This Page

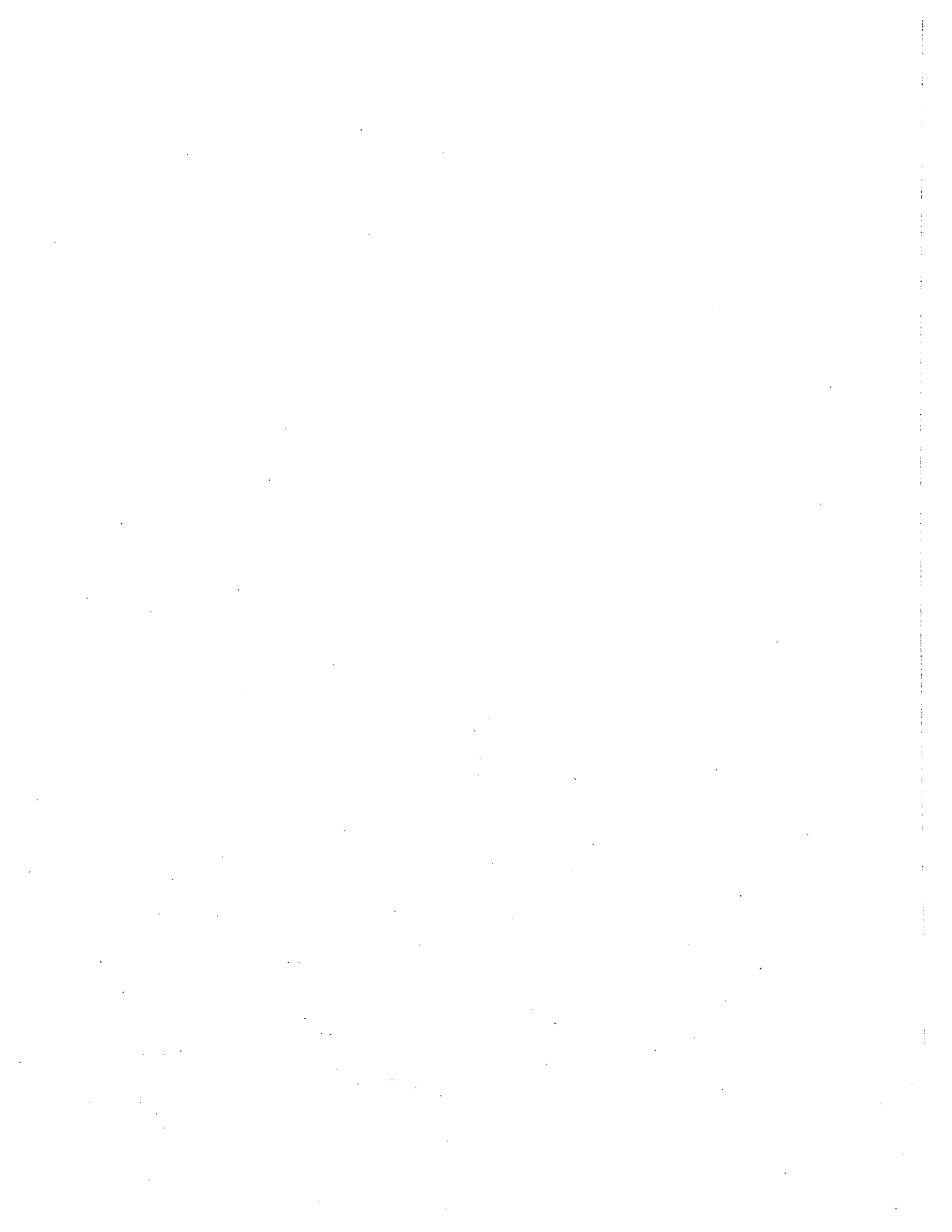


Station 66



Station 68







**Replicate CFC Seawater Measurements  
(using SIO system)**

CGC-90 SIO Replicate CFC Measurements

Station	Sample No.	F-11 (pM/kg)	F-12 (pM/kg)	F-11/F-12	Station	Sample No.	F-11 (pM/kg)	F-12 (pM/kg)	F-11/F-12
					13	2241	2.303 2.404	1.085 1.119	2.12 2.15
9	1248	1.822 —	0.919 0.910	1.98 —	13	2242	2.380 2.392	1.136 1.180	2.10 2.03
9	1351	0.149 0.145	— —	— —	13	2249	2.446 2.613	1.199 1.264	2.04 2.07
10	1441	1.568 1.536	0.759 0.767	2.07 2.00	13	2441	0.015 0.015	0.001 M 0.001 M	— —
10	1445	1.822 1.854	0.896 0.910	2.03 2.04	13	2442	0.013 0.013	0.001 M 0.001 M	— —
10	1548	0.227 0.223	0.113 0.107	2.02 2.09	13	2447	— —	-0.002 M -0.001 M	— —
10	1550	0.815 0.810	0.405 0.394	2.01 2.05	13	2451	0.001 -0.003	0.000 M -0.001 M	— —
11	1641	1.662 1.689	0.793 0.786	2.10 2.15	14	2542	2.341 2.157	1.100 1.029	2.13 2.10
11	1746	0.165 0.161	0.077 0.077	2.14 2.10	14	2641	0.009 0.013	0.001 M 0.000	— —
11	1841	0.009 0.009	0.003 M -0.001 M	— —	14	2642	0.005 0.008	0.004 M 0.002 M	— —
12	1942	2.046 2.140	1.007 1.030	2.03 2.08	14	2645	0.036 0.035	0.009 M —	— —
12	2041	— —	0.003 M 0.001 M	— —	14	2649	0.532 0.534	0.268 0.255	1.99 2.09
12	2141	0.005 —	0.000 M 0.001 M	— —	15	2741	2.824 2.980	1.348 1.371	2.10 2.17
12	2142	— 0.004	0.001 M 0.001 M	— —	15	2742	2.454 2.537	1.198 1.188	2.05 2.14
12	2143	0.010 0.012	0.004 M 0.001 M	— —	15	2842	0.392 0.377	0.171 0.174	2.30 2.17
12	2144	0.001 —	-0.001 M -0.001 M	— —	15	2848	— —	0.001 M 0.001 M	— —
12	2146	-0.000 —	0.001 M -0.002 M	— —					

M = manual peak integration

## CGC-90 SIO Replicate-CFC Measurements

Station	Sample No.	F-11 (pM/kg)	F-12 (pM/kg)	F-11/F-12	Station	Sample No.	F-11 (pM/kg)	F-12 (pM/kg)	F-11/F-12
					19	3548	-0.003 0.001	0.001 M -0.006 M	— —
15	2948	0.026 0.023	0.005 M 0.003 M	— —	19	3550	0.074 0.074	0.019 0.023	3.81 3.21
15	2949	0.022 0.020	0.005 M 0.003 M	— —	21	3748	0.039 0.037	0.018 0.007 M	2.18 —
16	3048	-0.005 -0.002	0.000 M 0.001 M	— —	21	3749	0.034 0.035	0.018 0.007 M	1.85 —
16	3050	0.025 0.020	0.004 M 0.002 M	— —	22	3848	0.033 0.034	0.013 M 0.014	2.46 2.33
16	3052	0.381 0.390	0.175 0.177	2.18 2.20	22	3849	0.032 0.031	0.005 M 0.010	— 3.01
16	3143	0.001 0.001	0.001 M 0.001 M	— —	23	3941	3.082 3.178	1.485 1.522	2.08 2.09
16	3146	-0.007 M -0.008	0.003 M 0.000	— —	23	3949	2.906 2.970	1.379 1.364	2.11 2.18
16	3148	0.019 0.016	0.001 M 0.003 M	— —	23	4048	0.178 0.155 0.147	— — —	— — —
16	3149	0.027 0.023 0.022	0.018 0.013 M 0.004 M	1.46 1.76 —	23	4050	0.539 0.541	— 0.241	— 2.24
16	3151	0.029 0.030	0.004 M —	— —	23	4148	0.040 0.041	0.007 M 0.013 M	— 3.09
17	3248	-0.002 -0.003	0.001 M 0.003 M	— —	24	4241	0.016 0.018 0.015	0.001 M 0.001 M 0.003 M	— — —
17	3250	-0.002 0.000	0.001 M 0.001 M	— —	24	4242	0.022 0.023 0.023	0.001 M 0.004 M 0.003 M	— — —
18	3348	-0.004 -0.005	0.000 0.000	— —	24	4243	0.016 0.018 0.018	0.003 M 0.003 M 0.001 M	— — —
19	3443	2.468 2.445	1.228 1.221	2.01 2.00	24	4248	0.022 0.020 0.020	0.003 M 0.003 M 0.003 M	— — —
19	3542	0.426 0.437	0.180 0.200	2.36 2.19					
19	3546	— 2.471	1.204 1.192	— 2.07					

M = manual peak integration

CGC-90 SIO Replicate CFC Measurements

Station	Sample No.	F-11 (pM/kg)	F-12 (pM/kg)	F-11/F-12
24	4249	0.013 0.013 0.013	0.004 M 0.001 M 0.003 M	— — —
24	4250	0.022 0.020 0.020	0.003 M 0.003 M 0.004 M	— — —
24	4251	0.029 0.026 0.027	— 0.001 M —	— — —
24	4252	0.023 0.028 0.021	0.001 M — —	— — —
25	4347	2.967 2.988	1.483 1.473	2.00 2.03
25	4444	0.024 0.022	0.005 M 0.001 M	— —
25	4446	0.155 0.145	0.070 —	2.22 —
25	4448	0.036 0.038	— —	— —
25	4451	0.024 0.025	0.002 M 0.004 M	— —
26	4748	0.027 0.024	0.016 M 0.011 M	1.69 2.15
27	4842	3.650 3.651	1.758 1.749	2.08 2.09
27	4946	0.067 0.073	— —	— —
27	4948	0.036 0.037	0.015 M 0.020 M	2.38 1.81
28	5046	4.661 4.546	2.069 2.083	2.25 2.18
28	5048	0.365 0.366	0.181 0.173	2.02 2.11

Station	Sample No.	F-11 (pM/kg)	F-12 (pM/kg)	F-11/F-12
28	5143	0.013 0.014	-0.000 0.008 M	— —
28	5148	0.041 0.039	— 0.016	— 2.48
29	5246	5.087 5.047	2.231 2.199	2.28 2.29
29	5248	0.134 0.140	0.063 0.054	2.12 2.57
29	5348	0.018 0.013	— 0.002 M	— —
30	5548	0.056 0.062	0.013 M —	4.15 —
31	5648	0.054 0.043	0.014 M 0.014 M	3.77 3.13
31	5651	0.027 0.021	0.010 M 0.009 M	2.71 —
31	5741	3.234 3.251	1.526 —	2.12 —
33	5948	0.099 0.100	0.056 0.050	1.77 1.99
33	5949	0.102 0.109	0.047 0.055	2.15 1.98
33	5950	0.274 0.279 0.274	0.137 0.125 0.144	2.00 2.23 1.91
33	5951	0.828 0.827	0.378 0.383	2.19 2.16
35	6146	0.046 0.049	— 0.024	— 2.02
36	6243	0.013 0.011	0.010 M 0.005 M	— —
36	6248	0.070 0.069	0.036 0.036	1.94 1.90

M = manual peak integration

CGC-90 SIO Replicate CFC Measurements

Station	Sample No.	F-11 (pM/kg)	F-12 (pM/kg)	F-11/F-12	Station	Sample No.	F-11 (pM/kg)	F-12 (pM/kg)	F-11/F-12
					47	7746	0.002 0.004	-0.003 M 0.002 M	— —
36	6249	0.069 0.065	0.035 0.034	1.96 1.91	48	7841	1.269 1.306	0.608 0.669	2.09 1.95
37	6448	0.014 0.018	0.001 M —	— —	48	7941	0.014 —	0.006 M 0.003	— —
37	6451	0.021 0.021	— —	— —	48	8041	0.005 0.004	0.002 M -0.005 M	— —
38	6541	0.002 -0.001 M -0.002 0.005	-0.003 M -0.003 M -0.003 M -0.003 M	— — — —	49	8142	1.770 1.753	0.932 0.947	1.90 1.85
39	6641	0.016 0.020	0.012 M 0.006 M	1.29 —	49	8247	-0.003 M -0.004	0.006 0.001	— —
40	6741	0.008 —	0.004 M -0.000	— —	50	8341	1.408 1.353	0.681 0.654	2.07 2.07
41	6841	0.079 0.085	0.047 0.047	1.69 1.83	50	8441	0.011 0.009	-0.000 M —	— —
41	6941	-0.001 0.002 M	0.003 M -0.010	— —	50	8541	0.004 0.005	-0.000 M 0.003 M	— —
44	7245	0.950 1.005	0.453 0.467	2.09 2.15	50	8545	0.007 —	0.001 M 0.004 M	— —
44	7341	0.020 0.015	0.007 0.009	— —	50	8551	0.005 —	0.004 M 0.003	— —
44	7350	-0.000 0.007	-0.003 M 0.002 M	— —	51	8650	0.850 0.875	0.412 0.425	2.06 2.06
45	7446	1.405 1.411	0.673 0.677	2.09 2.09	52	8852	0.180 0.180	0.089 0.084	2.03 2.14
46	7645	-0.002 -0.001	-0.000 M 0.001 M	— —	52	8941	0.002 0.002	0.001 M -0.001 M	— —
46	7648	0.033 0.033	0.005 0.016 M	— 2.05	52	8947	0.003 0.008	0.011 0.007	— —
47	7741	0.006 0.005	-0.005 M 0.007 M	— —	54	9143	0.010 0.007	0.004 M 0.004 M	— —
47	7742	0.002 0.001	0.005 M 0.001 M	— —					

M = manual peak integration

CGC-90 SIO Replicate CFC Measurements

Station	Sample No.	F-11 (pM/kg)	F-12 (pM/kg)	F-11 F-12
54	9151	0.005	0.002 M	—
		0.009	-0.002 M	—
		0.002	0.002 M	—
55	9247	0.014	0.016	0.89
		0.013	0.005 M	—
55	9342	0.001	0.004 M	—
		0.002	-0.000 M	—
55	9346	0.004	-0.000 M	—
		0.003	-0.001	—
55	9353	-0.002	0.001 M	—
		-0.001	-0.000 M	—
56	9441	0.004	0.001	—
		0.008	—	—
56	9445	-0.001	-0.001 M	—
		-0.001	0.000 M	—
58	9841	0.009	0.002	—
		0.009	0.005 M	—
58	9842	-0.001	0.002 M	—
		0.008	0.002 M	—
58	9843	0.000	-0.003 M	—
		0.003	-0.003 M	—
58	9853	0.005	-0.002 M	—
		0.005	-0.000 M	—
60	10052	0.352	0.159	2.22
		0.347	—	—

M = manual peak integration