Preliminary Report
of
The Hakuho Maru Cruise KH-80-2
(CYGNUS Expedition)

April 25-June 18, 1980

and
The Hakuho Maru Cruise KH-82-1
(CEPHEUS Expedition)

January 22-March 17, 1982

Northwest Pacific

Ocean Research Institute

University of Tokyo

1983

Preliminary Report
of
The Hakuho Maru Cruise KH-80-2
(CYGNUS Expedition)

April 25-June 18, 1980

and
The Hakuho Maru Cruise KH-82-1
(CEPHEUS Expedition)

January 22-March 17, 1982

Northwest Pacific

by

The Scientific Members of the Expedition

Edited by

Yoshio HORIBE

CONTENTS

1. Introduction 1

2. Scientists Aboard 5

3. Hydrocast and Oceanographic Data 7

4. CTD Observation 8

5. Large Volume Water Sampling 11

6. Tables and Figures of the Data 14

Oceanographic Data - CYGNUS 14-23

" - CEPHEUS 24-47

T-S Diagram 48-51

Vertical Profile of Dissolved Oxygen 52-55

" Nitrate+Nitrite 56-59

" Phosphate 60-63

" Silicate 64-67

" temperature(CTD) 68-73

6. Current Measurement 74

1. INTRODUCTION

KH-80-2, CYGNUS Expedition, and KH-82-1, CEPHEUS Expedition, (R/V "Hakuho Maru") of the Ocean Research Institute, University of Tokyo, were planned to study the distribution of stable and radioactive isotopes, heavy metals, and nutrients for chemical studies of water movement and vertical transport of materials between 40°N and 10°N west of 170°W in the Northwest Pacific.

42 CTD stations, 32 serial observation stations, 7 large volume water sampling stations, 4 tripod coring stations were occupied, and 24 bottom radon casts were done during the cruises. GEOSECS 226, 227, and 229 stations were re-occupied to take samples for tritium, carbon 14 and heavy radionuclides with the large volume water sampler systems as a part of Transient Tracers of the Ocean Studies in the Pacific. Stations were listed in Table 1A(CYGNUS Expedition), and 1B(CEPHEUS Expedition), and were shown in Fig.1.

Three mooring systems for deep current measurement were recovered and three mooring systems were deployed successfully in the area of 100 km west of Site B, the proposed dump site of the low-level radioactive waste by Japanese Government. This is the continuation of long term measurement of deep current, and the continuous record of deep current of more than 3 years were obtained at present.

Fish-trap systems were deployed and recovered successfully at site B, and 19 bottom fishes of more than 5 kg were obtained. This allowed us to measure the background radioactivity of fallout nuclides in bottom fishes.

In Mariana Trough, the detailed survey of bottom topography was done, and a small temperature anomaly near bottom at the crest and methane anomaly above 500 m from bottom were observed. These findings confirmed the existence of hydrothermal activities in Mariana Trough.

The cruises were the parts of the Special Project Research "The Ocean Characteristics and their Changes", funded by the Ministry of Education, Science, and Culture (Project No.56117009, 57110008). We, scientists aboard, are grateful to Captian I.Tadama, officers and crew of the "Hakuho Maru" for assisting us in our research works aboard.

Table 1A. List of CYGNUS stations.

Station[1] No.	Location Latitude	Longitude	Serial Obs.	CTD-cast	Rn-cast	LV-sampling	Coring (WHOI)
1	34°45'N	144°19'E		+			
2	34°50'N	146°36'E		+	+		
3	34°50'N	148°29'E	+	+			
4(G223)	34°56'N	152°09'E	+	+	+		
5	40°00'N	156°00'E	+	+	+	+	+
6	39°03'N	166°00'E	+	+	+	+	+
7	39°01'N	170°00'E		+	+		
8	38°03'N	179°45'W	+	+++	+	+	+
9	30°00'N	170°01'W	+	++	+		+
10	29°25'N	176°50'W	+	+	+		
11(G226)	30°34'N	170°36'E	+	++	+	+	
12	30°19'N	165°00'E		+			
13	30°00'N	160°00'E	+	+	+		
14	30°01'N	155°00'E		+			
15	30°01'N	150°32'E		+	+		
16(B)	30°03'N	146°53'E	+	++	+		
17(TA)	30°00'N	145°38'E		+			
18(TC)	30°48'N	145°50'E		+			
TA	30°02.9'N	145°43.1'E	CM Recovery and Deployment				
TF	29°59.8'N	145°01.3'E	CM Recovery and Deployment				
TC	30°49.5'N	145°45.8'E	CM Recovery and Deployment				

1) Accurate locations for each observation are listed in the description of each observation. G223, G226, G227, and G229 are Geosecs stations, and B is a proposed dump site of low-level radioactive waste.

Table 1B. List of CEPHEUS stations.

Station[1] No.	Location Latitude	Longitude	Serial Obs.	CTD-cast	Rn-cast	LV-Sampling	Remarks
1	26°02'N	150°01'E	+	+	+		
2	25°00'N	155°00'E	+	+	+		
3	25°01'N	160°00'E	+	+			
4	25°01'N	164°59'E	+	+	+		
5(G227)	25°00'N	169°59'E	+	+		+	
6	18°59'N	169°30'E	+	+	+		
7	12°00'N	175°28'E		+			
8(G229)	12°45'N	173°14'E	+	+		+	
9	15°04'N	169°54'E	+	+			
10	16°00'N	165°00'E	+	+	+		
11	13°59'N	159°00'E	+	+			
12	10°01'N	155°40'E	+	+	+		
13	12°00'N	152°30'E	+	+		+	
14	12°20'N	149°00'E	+	+	+		
15	13°00'N	146°09'E	+	+			
16	18°13'N	144°42'E	+	+	+		Mariana Trough
17[2]	18°14'N	144°42'E	+	+			"
18[2]	18°12'N	144°42'E	+	+	+		"
19[2]	18°01'N	144°18'E	+	+			"
20,20'[2]	18°13'N	144°42'E	+	+	+		"
21[2]	18°12'N	144°42'E	+	+			"
22[2]	18°12'N	144°43'E	+				"
23[2]	18°15'N	144°42'E	+	+			"
24(B)	30°04'N	146°46'E		+	+		
25(B)	30°07'N	146°49'E		+	+		
TA	30°00'N	145°45'E	CM Recovery and deployment				
TC	31°00'N	145°30'E	CM Recovery				
TF	30°00'N	145°00'E	CM Recovery and deployment				
TH	29°30'N	145°20'E	CM Deployment				
FT3	30°06'N	146°55'E	Fish trap deployment and recovery				
FT4	30°06'N	147°00'E	Fish trap deployment and recovery				

1) Table 1A footnote.

2) Deep cast only.

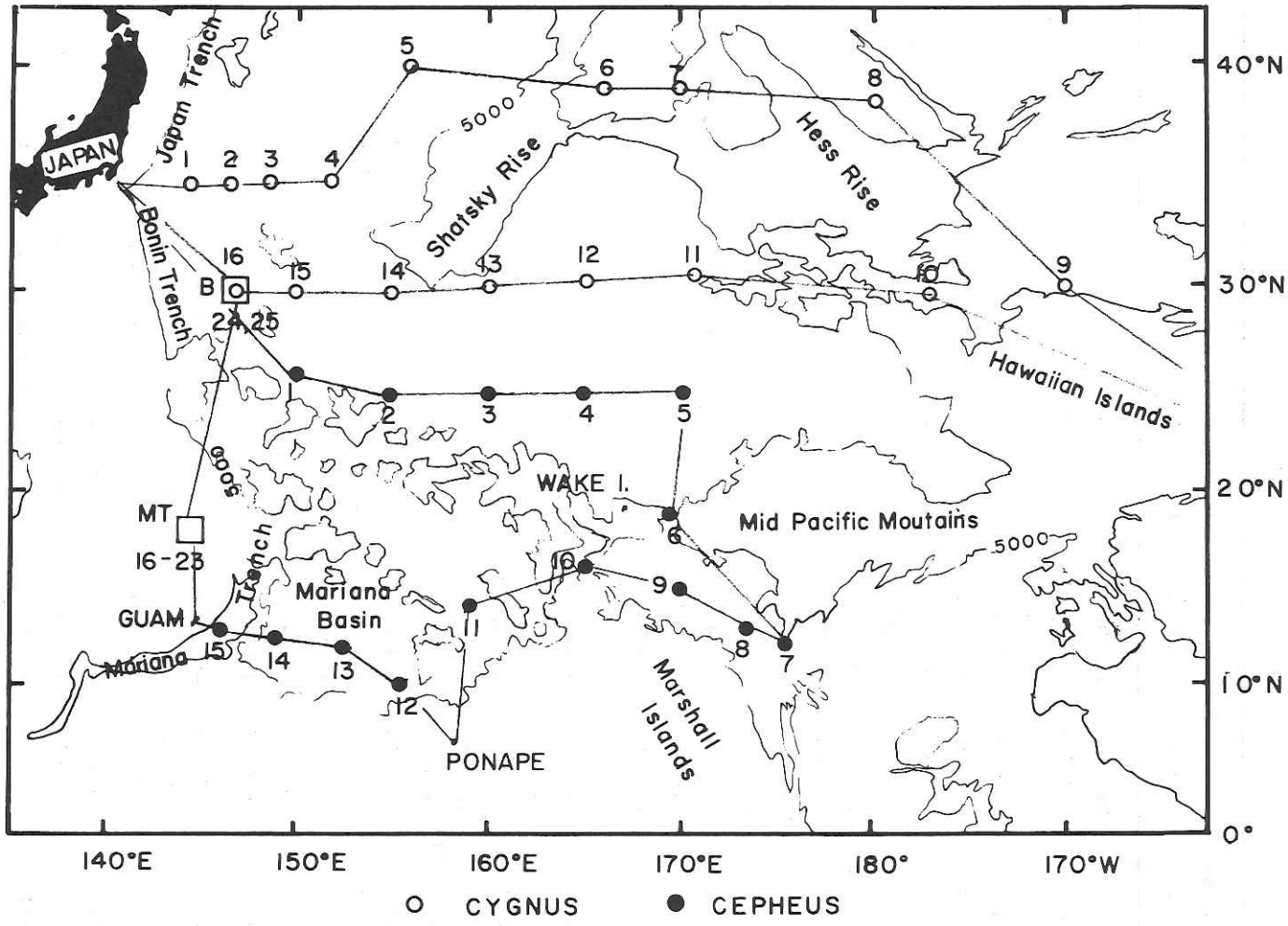


Fig. 1. Stations of CYGNUS and CEPHEUS Expedition.

2. Scientists Aboard

CYGNUS Expedition

ABIKO, Tsutomu	Muroran Institute Technology	Anal. Chemistry
AKAGI, Tasuku	Dept. Chemistry, U. Tokyo	Chemistry
BURKE, John C.	Woods Hole Oceanogr. Inst.	Chemistry
CHAEN, Masaaki	Dept. Fisheries, Kagoshima U.	Phys. Oceanography
FUJIWARA, Kitao	Dept. Chemistry, U. Tokyo	Anal. Chemistry
GAMO, Toshitaka	Ocean Res. Inst., U. Tokyo	Marine Chemistry
GORDON, Allan G.	Woods Hole Oceanogr. Inst.	Chemistry
HARADA, Koh	Dept. Fisheries, Hokkaido U.	Chemistry
HASUMOTO, Hiroshi	Ocean Res. Inst., U. Tokyo	Biology
HAYASE, Kohji	Faculty Integrated Arts & Sci. Hiroshima U.	Anal. Chemistry
HORIBE, Yoshio[1)]	Ocean Res. Inst., U. Tokyo	Marine Chemistry
IKEGAMI, Hisashi	Water Res. Inst., Nagoya U.	Chemistry
KANEKO, Ikuo	Ocean Res. Inst., U. Tokyo	Phys. Oceanography
KITAGAWA, Shoji	Ocean Res. Inst., U. Tokyo	Phys. Oceanography
KODAMA, Yukio	Ocean Res. Inst., U. Tokyo	Anal. Chemistry
KONDO, Tadahiro	Dept. Fisheries, Hokkaido U.	Chemistry
KUTSUWADA, Kunio	Ocean Res. Inst., U. Tokyo	Phys. Oceanography
NAGAYA, Yutaka	Natl. Inst. Radiological Sci.	Radio-ecology
NAKAMURA, Kiyoshi	Natl. Inst. Radiological Sci.	Radio-ecology
NAKAMURA, Seiji	Muroran Institute Technology	Anal. Chemistry
NOZAKI, Yoshiyuki	Ocean Res. Inst., U. Tokyo	Marine Chemistry
OHTA, Noriyoshi	Faculty Integrated Arts & Sci. Hiroshima U.	Chemistry
OHKUBO, Takuya	Faculty Integrated Arts & Sci. Hiroshima U.	Chemistry
OTOBE, Hirotaka	Ocean Res. Inst., U. Tokyo	Phys. Oceanography
SATO, Tomonobu	Water Res. Inst., Nagoya U.	Chemistry
TAIRA, Keisuke	Ocean Res. Inst., U. Tokyo	Phys. Oceanography
TAJIRI, Kohji	Ocean Res. Inst., U. Tokyo	Chemistry
TSUBOTA, Hiroyuki	Faculty Integrated Arts & Sci. Hiroshima U.	Marine Chemistry
YABUKI, Naoto	Faculty Integrated Arts & Sci. Hiroshima U.	Chemistry

1) chief scientist.

CEPHEUS Expedition

FUKASAWA, Masao	Ocean Res. Inst., U. Tokyo	Phys. Oceanography
GAMO, Toshitaka	Ocean Res. Inst., U. Tokyo	Marine Chemistry
HAYASE, Kohji	Faculty Integrated Arts & Sci. Hiroshima U.	Anal. Chemistry
HASUMOTO, Hiroshi	Ocean Res. Inst., U. Tokyo	Biology
HORIBE, Yoshio[1)]	Ocean Res. Inst., U. Tokyo	Marine Chemistry
INOKUCHI, Hiroo	Faculty Sci., Kobe U.	Geophysics
KANADA, Masahiro	Res. Inst. Atmospherics, Nagoya U.	Geophysics
KANEKO, Ikuo	Ocean Res. Inst., U. Tokyo	Phys. Oceanography
KANAMORI, Satoru	Water Res. Inst., Nagoya U.	Marine Chemistry
KASHIMA, Masaji	Nichiyu Giken Kogyo Co.Ltd.	Physics
KIKUYA, Akira	Dept. Oceanogr., Tokai U.	Chemistry
KIM, Kyung Ryul	Scripps Inst. Oceanogr.	Chemistry
KITAGAWA, Shoji	Ocean Res. Inst., U. Tokyo	Phys. Oceanography
KODAMA, Tetsuo	Faculty Integrated Arts & Sci. Hiroshima U.	Chemistry
KODAMA, Yukio	Ocean Res. Inst., U. Tokyo	Anal. Chemistry
KURABAYASHI,Mizumi	Rad. Waste Management Center	Biology
LEE, Kwan Woo	Korean Ocean Res. Develop. Inst.	Anal. Chemistry
MIYAJIMA,Shigehiro	Faculty Sci., Kanazawa U.	Chemistry
MORINAGA, Hayao	Faculty Sci., Kobe U.	Geophysics
NAGAYA, Yutaka	Natl. Inst. Radiological Sci.	Radioecology
NAGATANI, Masahiro	Res. Inst. Atmospherics, Nagoya U.	Geophysics
NAKAMURA, Kiyoshi	Natl. Inst. Radiological Sci.	Radio-ecology
NAKAMURA, Seiji	Muroran Inst. Technology	Anal. Chemistry
NAKANISHI, Takashi	Faculty Sci., Kanazawa U.	Radiation Chemistry
NAGAIKE, Tadakatsu	Rad. Waste Management Center	Marine Engineering
NOZAKI, Yoshiyuki	Ocean Res. Inst., U. Tokyo	Marine Chemistry
OHTA, Keiichi	Water Res. Inst., Nagoya U.	Marine Chemistry
TAIRA, Keisuke	Ocean Res. Inst., U. Tokyo	Phys. Oceanography
TSUBOTA, Hiroyuki	Faculty Integrated Arts & Sci. Hiroshima U.	Marine Chemistry
YAMAMOTO, Makoto	Faculty Integrared Arts & Sci. Hiroshima U.	Chemistry

1) chief scientist.

3. Hydrocast and Oceanographic Data

Water samples were taken at 32 stations in the Northwest Pacific with NISKIN-type samplers of 23 and 2.7 liters capacity, which are made with PVC tube, acryl lids with O-rings, and stainless steel spring. Each sampler has two protected and one unprotected reversing thermometers. The spacing of the samplers on the three strand 6.4 mm steel wire in the serial observations were:

Shallow cast: surface, 10, 30, 50, 75, 100, 125[1)], 150, 200, 300, 400, 500, 600, 700, 800, 1000, 1200, 1500 meters

Deep cast: 1500, 1750, 2000, 2250, (every 250 meters). ..... bottom - 10 meters.

A pinger (Benthos Model 2216) was attached at the top of the wire, and the distance between the pinger and sea floor was measured on the record of PDR. The distance between the deepest sampler and the pinger was usually one meter.

The corrected depth (COR.D) in the oceanographic data in pages between 14 and 38 was calculated from the sound velocity, which was calculated from depth, temperature, salinity data in the range of serial observations, and sound velocity at the depth of deepest sampler, and the observed depth on PDR. Depth D(P-B) is the depth calculated from the depth of deepest sampler and the distance between sea-floor and the pinger.

The oceanographic data of 34 stations, including two Rn-casts, were shown in pages 14 through 47. T-S diagrams and depth profiles of dissolved oxygen, and nutrients of some representative stations were shown in pages 48 through 67.

3.1 Salinity Salinity was measured on board with an AUTO LAB 601 MK III salinometer. Seawater samples of each station were measured successively using an ampoule of IAPSO Standard Sea-Water P75 and the filtered surface sea water as sub-standard.

---

1) 125 meter samples was not taken in CYGNUS Expedition.

3.2. Dissolved oxygen. A modified Carpenter's method was adopted to improve accuracy of analysis and to decrease the labor for analysis. Details of the procedure and the results of comparison with other methods were reported in Preliminary Report of the Hakuho Maru Cruise KH-77-3, p.53-55 (Ocean Research Institute, University of Tokyo, 1981).

3.3. Nutrients. An automatic nutrients analyzer system of three channels was used for the analysis of nitrite+nitrate, phosphate and silicate. Detailes were reported in Preliminary Report of the Hakuho Maru KH-77-3, p.8-10 (Ocean Research Institute, University of Tokyo, 1981).

3.4. pH pH was measured in the course of alkalinity measurements by Dr.Kanamori and Mr.Ikegami (Calcium-alkalinity relationship in the North Pacific, S.Kanamori and H.Ikegami, J.Oceanogr.Soc.Japan, 38 57-62, 1982).

4. CTD Observation

47 casts of CTD observations were done with a Niel-Brown Mark III CTD system at 42 stations in the Northwest Pacific. A pinger was attached 5 meters below the fish, and a continuous record of temperature and conductivity from surface to 1-26 meters above sea-floor was obtained as is shown in Table 2A and 2B.

The data of each station were processed with WANG 2000C, and the average potential temperature, salinity, and sigma theta of every one meter in one station were stored in a diskette.

Potential temperature profiles of most stations were shown in page 68 through 73. These figures clearly show that cold bottom water flows in between Mid-Pacific Mountains and Marshal Islands to the north-west, and separate to the north and west. The main part of bottom water goes up to the north between Wake Island and Mid-Pacific Mountains and spreads to the west and east along 30°N. Also, the temperature discontinuity near bottom was observed at some stations. The discontinuity corresponds to the break of Rn-profile, and shows the existence of benthic boundary layer in the North Pacific.

Table 2A. CTD Stations (CYGNUS Expedition)

Station Name	Position Latitude	Position Longitude	Depth[1] (db)	Distance Fish-bottom (m)
CY1	34°45.4'N	144°19.4'N	5763	13
CY2	34°49.7'N	146°36.4'N	5876	3
CY3	34°50.8'N	148°28.2'E	6196	8
CY4	34°55.5'N	152°08.5'E	6195	5
CY5	40°01.1'N	156°02.7'E	5588	12
CY6	39°00.3'N	166°01.4'E	5748	5
CY7	39°01.0'N	169°59.9'E	5960	10
CY8-1	38°01.6'N	179°44.7'W	5638	11
CY8-2	38°03.3'N	179°44.1'W	5648	4
CY8-3	38°02.5'N	179°46.0'W	5635	13
CY9-1	29°59.9'N	169°59.0'W	5574	4
CY9-2	30°01.3'N	170°00.7'W	5579	4
CY10	29°25.9'N	176°49.3'W	5510	10
CY11-1	30°33.7'N	170°36.7'E	5589	5
CY11-2	30°33.4'N	170°35.8'E	5598	10
CY12	30°18.5'N	165°00.0'E	5797	14
CY13	30°00.4'N	159°58.4'E	5824	3
CY14	30°01.0'N	155°00.2'E	5794	5
CY15	30°01.1'N	150°32.2'E	6155	14
CY16-1	30°02.4'N	146°55.0'E	6367	7
CY16-2	30°03.6'N	146°54.1'E	6379	8
CY17(TA)	29°59.7'N	145°37.8'E	6026	10
CY18(TC)	30°47.6'N	145°49.9'E	5257	8

1) This is the deepest depth of which data was obtained.

Table 2B. CTD Station (CEPHEUS Expedition)

Station Name	Position Latitude	Longitude	Depth[1] (db)	Distance Fish-bottom (m)
CE1	26°03.9'N	150°01.7'E	6046	5
CE2	24°59.6'N	154°58.5'E	5785	4
CE3	25°00.4'N	160°00.2'E	5900	3
CE4	25°01.0'N	164°59.1'E	6068	4
CE5	25°03.0'N	169°59.4'E	6120	8
CE6	18°58.7'N	169°30.6'E	5373	7
CE7	11°59.9'N	175°28.4'E	5725	3
CE8	12°44.8'N	173°15.8'E	5836	4
CE9	15°03.5'N	169°54.6'E	5712	5
CE10	16°00.3'N	165°00.0'E	5496	4
CE11	13°58.7'N	158°59.1'E	5885	5
CE12	10°00.8'N	155°40.4'E	5545	3
CE13	11°59.9'N	152°29.6'E	6039	5
CE14	12°19.2'N	148°59.3'E	5950	4
CE15	12°59.8'N	146°08.9'E	6016	-
CE16	18°13.2'N	144°41.7'E	3785	9
CE17	18°14.2'N	144°42.1'E	3734	10
CE18	18°11.8'N	144°42.0'E	3695	7
CE19	18°00.8'N	144°17.9'E	3608	26
CE20	18°13.3'N	144°42.1'E	3642	5
CE21	18°11.6'N	144°42.8'E	3727	5
CE23	18°14.4'N	144°42.1'E	3684	12
CE24(B)	30°04.0'N	146°45.8'E	6197	8
CE25(B)	30°07.2'N	146°49.3'E	6407	1

1) See footnote of Table 2A.

5. Large Volume Water Sampling.

Seawater samples of more than 200 liters were taken at 7 stations for the analysis of ^{14}C, ^{90}Sr, ^{137}Cs, and radioisotopes of Ra and Th series.

The details of samplers were described in the Preliminary Report of the Hakuho Maru Cruise KH-77-3, p.33-4 (Ocean Research Institute, University of Tokyo, 1981), and the stations were listed in page 12 and 13. The temperature was measured with the attached reversing thermometers and the depth was calculated by the data of unprotected thermometer. The salinity was measured with an AUTO LAB 601 MK III Salinometer.

Table 3A. Large Volume Water Sampling Stations - CYGNUS Expedition.

CY5-LV 39°59' - 40°03'N 156°00' - 156°04'E

Sample No.	Depth (m)	Temp. (°C)	Salinity (°/oo)
- 0	0	8.2	34.004
- 200	188	6.15	33.848
- 400	385	4.42	33.952
- 700	674	3.69	34.241
-1200	1150	(2.85)	34.436
-1700	1651	2.13	34.565
-2200	2140	1.77	34.616
-3000	2980	--	34.633
-4000	3952	1.47	34.679
-5000	4965	1.50	34.689
- B	5505	1.56	34.699

CY8-LV 38°01' - 38°05'N 179°40' - 179°45'W

Sample No.	Depth (m)	Temp. (°C)	Salinity (°/oo)
- 0	0	15.2	34.629
- 100	96	12.49	34.368
- 250	255	10.56	34.286
- 500	538	5.87	33.949
- 750	801	4.06	34.178
-1000	978	3.41	34.297
-1000S	1024	--	34.290
-1500	1500	2.52	34.486
-1750	1755	2.19	34.545
-2000	1990	1.98	34.585
-2250	2263	1.82	34.607
-2500	2525	1.71	34.633
-3000	2964	1.59	34.662
-4000	4032	1.48	34.682
-5000	5333?	1.62?	34.675
- B	5514	1.54	34.689

CY6-LV 38°59' - 39°06'N 165°58' - 166°01'E

Sample No.	Depth (m)	Temp. (°C)	Salinity (°/oo)
- 0	0	12.8	34.477
- 100	158	11.28	34.333
- 250	301	7.70	34.985
- 500	494	5.10	33,984
- 750	737	3.95	34.007
-1000	1035	3.08	34.374
-1500	1537	2.36	34.505
-2000	1979	1.98	34.585
-2250	2258	1.80	34.617
-2500	2492	(1.60)	34.634
-2750	2777	1.67	34.649
-3000	2949	--	34.660
-4000	3955	1.46	34.679
-5000	4800	--	34.688
- B	5473	1.60	34.688

CY11-LV 30°30' - 30°34'N 170°37' - 170°40'E

Sample No.	Depth (m)	Temp. (°C)	Salinity (°/oo)
- 0	10	22.5	35.283
- 100	94	16.19	34.731
- 200	221	14.68	34.625
- 400	467	9.75	34.223
- 600	684	5.28	34.020
- 800	808	4.31	34.141
-1000	1001	3.54	34.296
-1200	1235	2.94	34.419
-1500	1559	2.37	34.523
-2000	2022	1.83	34.609
-2500	2542	1.59	34.649
-3000	3012	1.53	34.681?
-4000	4055	1.48	34.660?
-5000	4953	1.44	34.665?
- B	5396	1.46	34.704

Table 3B. Large Volume Water Sampling Station - CEPHEUS Expedition

CE5-LV	24°57' - 25°06'N 169°55' - 170°03'E		
Sample No.	Depth (m)	Temp. (°C)	Salinity (°/oo)
- 0	10	(24.17)	35.267
- 60	56	23.72	35.428
- 130	129	20.08	35.037
- 200	194	16.92	34.809
- 300	289	15.45	34.693
- 400	392	12.89	34.444
- 500	501	9.99	34.211
- 600	600	8.05	34.109
- 800	784	5.15	34.145
-1200	1197	3.26	34.433
-1700	1686	2.30	34.581
-2200	2989	1.59	34.660
-3000	2989	1.59	34.666
-4000	3996	1.52	34.682
-5000	4984	1.48	34.694
-5500	5513	1.50	34.695
- B	5896	1.54	34.694

CE13-LV	11°59' - 12°00'N 152°27' - 152°31'E		
Sample No.	Depth (m)	Temp. (°C)	Salinity (°/oo)
- 0	10	27.9	34.297
- 100	98	27.26	34.547
- 150	147	23.14	34.914
- 200	194	18.27	34.807
- 200'	197	17.86	34.781
- 300	(300)	11.26	34.470
- 400	394	8.48	34.425
- 500	500	7.33	34.478
- 700	692	5.82	34.498
-1000	980	4.50	34.538
-1500	1494	2.84	34.594
-2500	2493	1.84	34.654
-3500	3482	1.54	34.681
-4500	4505	1.48	34.690
-B300	5589	1.54	34.696
- B	5870	1.56	34.691

CE8-LV	12°45' - 12°47'N 173°20' - 173°16'E		
Sample No.	Depth (m)	Temp. (°C)	Salinity (°/oo)
- 0	10	26.3	34.932
- 130	127	24.11	35.024
- 200	196	16.78	34.663
- 300	296	10.09	34.361
- 400	394	8.67	34.528
- 500	504	7.48	34.517
- 600	605	6.69	34.519
- 800	803	5.42	34.529
-1000	988	4.81	34.537
-1200	1188	3.97	34.549
-1500	1495	3.06	34.584
-2000	1985	2.17	34.631
-3000	2980	1.65	34.669
-4000	3997	1.42	34.691
-B300	5377	1.40	34.701
- B	5676	1.42	34.703

KH80-2, STATION 3

COR.D= 6079, D(P-B)= 6085, 34.50.7N 148.28.8E. 28. APRIL, 1980

N	DEPTH (METER)	TEMP. (DEG.C)	SALINITY (PERMIL)	OXYGEN	NITRATE	PHOSPHATE	SILICATE	PH	T POT (DEG.C)	SIGMA T	SAT.02
				(MICROMOLES/KG AT IN SITU TEMP.)							
1	1	18.50	34.826	232.5	0.8	0.08	1.9	8.196	18.499	25.033	237.3
2	10	18.54	34.823	232.1	0.6	0.08	1.9	8.194	18.538	25.021	237.1
3	30	18.55	34.818	231.7	0.9	0.09	2.0	8.196	18.544	25.014	237.1
4	49	18.53	34.814	229.5	0.8	0.07	2.2	8.193	18.521	25.016	237.2
5	74	18.14	34.792	236.4	0.4	0.08	1.7	8.194	18.126	25.097	239.0
6	99	17.93	34.792	233.4	0.9	0.12	2.2	8.184	17.912	25.148	239.9
7	148	17.45	34.828	229.0	2.5	0.19	2.9	8.169	17.424	25.293	242.1
8	197	17.07	34.821	231.1	2.6	0.21	3.4	8.162	17.036	25.378	243.9
9	296	16.51	34.817	208.5	5.4	0.40	6.3	8.117	16.460	25.507	246.6
10	394	15.18	34.634	194.1	8.9	0.62	10.2	8.060	15.117	25.669	253.5
11	493	13.21	34.512	187.5	12.6	0.95	17.8	7.995	13.138	25.991	264.1
12	591	10.49	34.356	159.1	19.5	1.42	34.1	7.881	10.416	26.384	280.1
13	690	8.02	34.202	146.9	25.4	1.87	49.6	7.785	7.946	26.665	296.2
14	788	5.48	34.029	133.0	30.4	2.25	67.2	7.672	5.410	26.872	314.7
15	985	4.14	34.209	61.2	39.0	2.88	106.1	7.525	4.062	27.165	324.7
16	1232	3.20	34.366	43.4	40.8	3.05	131.4	7.490	3.109	27.383	332.0
17	1480	2.66	34.462	39.5	41.9	3.10	154.7	7.488	2.554	27.508	336.3
18	1602	2.52	34.499	43.4	41.8	3.08	148.8	7.493	2.406	27.550	337.4
19	2098	1.99	34.597	72.1	40.3	2.93	163.4	7.557	1.841	27.671	341.8
20	2346	1.84	34.623	90.7	39.2	2.84	160.5	7.596	1.671	27.704	343.0
21	2594	1.73	34.640	104.2	38.3	2.75	162.4	7.618	1.540	27.726	344.0
22	2843	1.63	34.660	119.0	37.3	2.65	158.5	7.638	1.418	27.749	344.8
23	3340	1.53	34.676	135.5	36.4	2.57	156.6	7.672	1.270	27.769	345.7
24	3588	1.51	34.680	140.2	36.0	2.52	153.7	7.682	1.225	27.774	345.8
25	3837	1.50	34.682	147.6	35.8	2.50	152.7	7.687	1.187	27.776	345.9
26	4083	1.50	34.685	149.8	35.4	2.47	151.7	7.692	1.159	27.779	345.9
27	4331	1.51	34.689	154.1	35.0	2.45	150.8	7.697	1.140	27.781	345.8
28	4580	1.50	34.690	156.8	35.1	2.44	150.8	7.704	1.100	27.783	345.9
29	4830	1.51	34.693	160.7	34.8	2.38	147.8	7.707	1.078	27.784	345.8
30	5329	1.56	34.694	164.6	34.3	2.40	145.9	7.719	1.062	27.782	345.3
31	5577	1.61	34.694	###.#	34.3	2.39	145.9	7.716	1.076	27.778	344.9
32	6076	1.65	34.697	168.9	34.0	2.32	139.1	7.717	1.044	27.777	344.5

KH80-2, STATION 4

COR.D=6082, D(P-B)=6081, 34.55.5N, 152.08.9E, 30 APRIL, 1980

N	DEPTH (METER)	TEMP. (DEG.C)	SALINITY (PERMIL)	OXYGEN	NITRATE	PHOSPHATE	SILICATE	PH	T POT (DEG.C)	SIGMA T	SAT.02
				(MICROMOLES/KG AT IN SITU TEMP.)							
1	1	23.80	35.164	210.6	0.0	0.06	2.8	8.249	23.799	23.844	215.1
2	10	23.85	35.156	212.3	0.0	0.07	2.8	8.248	23.847	23.824	214.9
3	28	23.60	35.163	214.0	0.0	0.06	2.9	8.179	23.593	23.902	215.9
4	47	22.28	35.100	218.3	0.0	0.06	2.9	8.232	22.270	24.234	221.0
5	71	21.51	34.989	220.5	0.0	0.08	3.1	8.225	21.495	24.365	224.2
6	94	21.31	34.944	220.9	0.0	0.07	3.2	8.218	21.290	24.386	225.1
7	118	20.84	34.830	221.8	0.0	0.08	3.3	8.214	20.816	24.427	227.2
8	142	19.12	34.895	210.8	1.5	0.27	4.6	8.156	19.093	24.929	234.4
9	190	16.90	34.814	208.9	4.1	0.42	6.1	8.115	16.867	25.413	244.7
10	286	15.07	34.662	214.1	6.5	0.58	9.5	8.078	15.025	25.714	254.0
11	382	12.50	34.420	202.7	11.5	0.98	17.1	7.995	12.447	26.062	268.2
12	479	9.86	34.232	187.8	18.1	1.47	30.6	7.895	9.802	26.396	284.2
13	577	7.70	34.102	154.3	25.4	2.00	49.3	7.765	7.640	26.634	298.6
14	675	5.86	34.080	106.5	33.4	2.56	76.4	7.631	5.799	26.865	311.8
15	774	4.73	34.143	69.9	38.6	2.89	102.2	7.538	4.666	27.049	320.2
16	971	3.82	34.353	38.2	43.1	3.13	131.4	7.488	3.745	27.312	327.0
17	1169	3.37	34.456	49.5	43.3	3.11	144.0	7.491	3.282	27.438	330.4
18	1466	2.71	34.554	72.1	42.5	3.03	154.7	7.562	2.605	27.577	335.7
19	1517	2.58	34.558	78.6	41.5	2.89	159.5	7.572	2.472	27.591	336.8
20	1760	2.26	34.590	86.8	40.1	2.88	164.4	7.588	2.136	27.644	339.4
21	2006	2.01	34.613	89.9	38.9	2.87	167.3	7.611	1.868	27.682	341.6
22	2250	1.85	34.631	110.7	39.1	2.73	168.3	7.631	1.689	27.709	342.9
23	2495	1.75	34.646	118.1	38.7	2.72	170.2	7.643	1.569	27.729	343.8
24	2739	1.67	34.658	122.4	38.0	2.73	169.3	7.654	1.468	27.745	344.5
25	2984	1.61	34.667	130.7	37.6	2.72	168.3	7.666	1.385	27.756	345.0
26	3236	1.57	34.672	137.6	37.0	2.61	169.2	7.676	1.320	27.763	345.3
27	3475	1.55	34.676	142.0	36.2	2.66	166.3	7.684	1.276	27.768	345.5
28	3719	1.54	34.681	146.8	36.0	2.40	163.4	7.693	1.239	27.773	345.6
29	3964	1.51	34.684	152.0	36.4	2.52	165.4	7.699	1.183	27.777	345.8
30	4209	1.49	34.688	157.2	35.8	2.35	160.5	7.705	1.135	27.782	346.0
31	4453	1.50	34.690	161.5	35.6	2.38	157.6	7.712	1.116	27.783	345.9
32	4698	1.50	34.692	165.9	34.9	2.33	155.6	7.716	1.085	27.784	345.9
33	4955	1.47	34.693	171.5	34.7	2.49	153.7	7.722	1.024	27.787	346.1
34	5199	1.50	34.696	175.0	34.9	2.31	150.8	7.725	1.021	27.787	345.9
35	5445	1.48	34.696	177.2	34.8	2.37	152.7	7.726	0.969	27.789	346.1
36	5671	1.53	34.700	178.5	35.4	2.34	151.7	7.728	0.986	27.789	345.6
37	5690	1.52	34.695	178.0	34.5	2.51	152.7	7.728	0.974	27.785	345.7
38	5818	1.54	34.696	178.0	35.4	2.48	151.7	7.728	0.975	27.785	345.5
39	5892	1.56	34.700	178.5	36.2	2.32	150.8	7.728	0.984	27.786	345.3
40	5927	1.56	34.699	178.9	35.8	2.24	152.7	7.728	0.979	27.786	345.3
41	5937	1.56	34.699	179.3	34.7	2.44	151.7	7.729	0.978	27.786	345.3
42	5947	1.56	34.697	178.9	34.6	2.46	143.9	7.728	0.976	27.784	345.3
43	5957	1.56	34.695	177.2	34.3	2.42	146.9	7.730	0.975	27.782	345.3

KH80-2, STATION 5

COR.D = 5509, D(P-B) = 5520 40.00.0N, 156.00.0E 1 MAY, 1980

N	DEPTH (METER)	TEMP. (DEG.C)	SALINITY (PERMIL)	OXYGEN	NITRATE	PHOSPHATE	SILICATE	PH	T POT (DEG.C)	SIGMA T	SAT.02
				(MICROMOLES/KG AT IN SITU TEMP.)							
1	1	8.00	33.986	292.2	13.2	1.10	23.4	7.961	7.999	26.499	296.8
2	10	7.81	33.980	293.5	13.1	1.09	23.4	7.963	7.808	26.522	298.1
3	29	7.80	33.995	291.3	13.1	1.09	23.2	7.966	7.797	26.536	298.1
4	49	7.79	33.996	291.8	13.0	1.09	23.0	7.966	7.785	26.538	298.2
5	74	7.78	33.993	293.1	13.0	1.09	23.2	7.961	7.772	26.537	298.3
6	98	7.75	33.990	290.5	13.3	1.11	23.3	7.961	7.740	26.539	298.5
7	147	6.83	33.933	279.6	15.6	1.25	27.1	7.927	6.816	26.624	305.0
8	172	6.45	33.886	275.2	16.4	1.31	28.7	7.912	6.434	26.637	307.8
9	197	6.00	33.832	279.1	17.1	1.40	30.1	7.905	5.982	26.652	311.2
10	296	4.87	33.812	188.6	27.1	2.11	54.3	7.727	4.846	26.771	319.8
11	394	4.70	33.971	123.4	33.1	2.51	74.1	7.615	4.669	26.916	320.8
12	493	3.82	34.031	77.3	38.5	2.88	98.3	7.507	3.784	27.056	327.7
13	591	3.74	34.169	53.8	40.5	2.98	110.9	7.484	3.697	27.174	328.0
14	690	3.68	34.259	47.8	40.9	3.00	119.7	7.486	3.629	27.251	328.3
15	789	3.32	34.316	44.7	41.6	3.06	127.5	7.482	3.264	27.332	331.1
16	988	2.88	34.389	37.8	42.4	3.11	143.0	7.474	2.812	27.430	334.6
17	1237	2.51	34.471	39.9	42.7	3.11	153.7	7.484	2.426	27.528	337.6
18	1481	2.25	34.527	49.9	42.5	3.07	159.5	7.504	2.149	27.594	339.7
19	1555	2.20	34.547	50.8	42.4	3.07	163.4	7.482	2.094	27.614	340.1
20	1801	2.01	34.588	66.0	41.3	2.98	165.4	7.515	1.886	27.662	341.6
21	2047	1.83	34.617	82.5	40.2	2.89	165.4	7.549	1.688	27.700	343.1
22	2292	1.70	34.640	99.4	39.0	2.81	162.4	7.582	1.539	27.728	344.2
23	2539	1.62	34.655	112.5	38.3	2.74	160.5	7.606	1.438	27.746	344.9
24	2785	1.56	34.664	122.9	37.8	2.68	159.5	7.624	1.356	27.757	345.4
25	3033	1.53	34.674	130.7	37.1	2.65	156.6	7.640	1.302	27.768	345.7
26	3279	1.47	34.681	138.5	36.6	2.60	154.7	7.650	1.218	27.778	346.2
27	3525	1.47	34.685	142.9	36.2	2.59	154.7	7.661	1.192	27.781	346.2
28	3772	1.46	34.691	150.2	35.9	2.55	150.8	7.670	1.156	27.786	346.2
29	4023	1.47	34.692	152.8	35.8	2.53	150.8	7.678	1.137	27.786	346.1
30	4270	1.48	34.695	158.1	35.4	2.51	148.8	7.683	1.118	27.788	346.1
31	4521	1.48	34.695	158.1	35.2	2.51	146.9	7.685	1.088	27.788	346.1
32	4767	1.48	34.698	162.4	35.2	2.49	147.8	7.688	1.057	27.791	346.0
33	5014	1.53	34.698	162.8	34.9	2.46	144.9	7.693	1.074	27.787	345.6
34	5261	1.55	34.699	164.1	34.8	2.42	143.9	7.694	1.061	27.786	345.4
35	5508	1.59	34.702	165.0	34.8	2.44	143.0	7.695	1.066	27.786	345.1

KH80-2, STATION 6

COR.D = 5654, D(P-B) = 5649, 39.02.6N 166.00.0E 7 MAY. 1980

N	DEPTH (METER)	TEMP. (DEG.C)	SALINITY (PERMIL)	OXYGEN	NITRATE	PHOSPHATE	SILICATE	PH	T POT (DEG.C)	SIGMA T	SAT.02
				(MICROMOLES/KG AT IN SITU TEMP.)							
1	1	12.00	34.393	264.0	7.5	0.75	13.2	8.056	11.999	26.137	271.1
2	10	11.95	34.355	265.8	7.5	0.67	13.4	8.059	11.948	26.117	271.4
3	29	11.95	34.357	264.9	7.4	0.66	13.2	8.059	11.946	26.119	271.4
4	49	11.95	34.359	264.9	7.4	0.67	13.5	8.059	11.943	26.120	271.4
5	74	11.94	34.373	263.6	7.4	0.67	13.2	8.058	11.930	26.133	271.4
6	99	11.86	34.360	264.0	7.7	0.73	13.8	8.056	11.846	26.138	271.9
7	148	11.18	34.354	247.0	10.2	0.86	15.8	8.022	11.161	26.260	275.9
8	197	9.75	34.125	238.3	12.3	1.04	19.8	7.989	9.727	26.331	285.1
9	295	7.59	34.015	212.6	19.6	1.54	33.6	7.795	7.560	26.582	299.5
10	393	6.25	33.955	186.5	24.3	1.89	45.3	7.774	6.214	26.718	309.1
11	491	5.10	33.989	129.5	31.9	2.45	69.5	7.638	5.059	26.885	317.7
12	589	4.44	34.081	85.6	36.8	2.77	89.0	7.550	4.394	27.032	322.6
13	687	4.15	34.153	66.0	38.7	2.90	100.2	7.516	4.097	27.119	324.7
14	785	3.72	34.241	51.7	40.4	3.01	115.8	7.488	3.662	27.233	328.0
15	981	3.17	34.346	39.9	42.2	3.13	136.2	7.469	3.100	27.370	332.3
16	1227	2.72	34.431	34.7	42.7	3.17	149.8	7.469	2.634	27.478	335.9
17	1474	2.39	34.496	38.2	42.8	3.14	160.5	7.481	2.288	27.558	338.5
18	1664	2.20	34.537	###.#	42.6	3.11	166.4	7.496	2.085	27.607	340.1
19	1906	2.01	34.574	62.5	41.4	3.03	167.3	7.530	1.877	27.651	341.7
20	2158	1.86	34.612	75.5	40.6	2.98	168.3	7.557	1.708	27.693	342.9
21	2397	1.75	34.629	92.5	39.6	2.92	166.3	7.587	1.578	27.715	343.8
22	2646	1.64	34.646	108.1	38.5	2.80	163.4	7.618	1.447	27.737	344.7
23	2892	1.55	34.659	120.7	37.4	2.72	161.5	7.646	1.335	27.754	345.5
24	3143	1.54	34.666	129.4	36.9	2.66	159.5	7.661	1.301	27.761	345.6
25	3389	1.49	34.673	136.3	36.2	2.60	156.6	7.675	1.226	27.770	346.0
26	3639	1.48	34.678	142.9	36.2	2.62	153.7	7.685	1.190	27.775	346.1
27	3891	1.47	34.682	147.2	35.9	2.59	153.7	7.694	1.152	27.778	346.2
28	4137	1.46	34.685	153.3	35.7	2.56	150.8	7.700	1.114	27.782	346.3
29	4388	1.49	34.688	155.5	35.3	2.55	149.8	7.707	1.114	27.782	346.0
30	4638	1.50	34.688	157.2	35.4	2.54	150.8	7.709	1.093	27.781	345.9
31	4889	1.52	34.688	157.6	35.3	2.53	151.7	7.710	1.081	27.780	345.7
32	5140	1.54	34.690	157.6	35.1	2.53	150.8	7.710	1.067	27.780	345.5
33	5391	1.59	34.694	158.9	35.1	2.52	150.8	7.710	1.082	27.779	345.1
34	5642	1.62	34.689	158.1	35.2	2.51	149.8	7.710	1.076	27.773	344.8

KH80-2, STATION 8

COR.D= 5548, D(P-B)= 5552, 38.02.9N 179.45.3W, 12 MAY. 1980

N	DEPTH (METER)	TEMP. (DEG.C)	SALINITY (PERMIL)	OXYGEN	NITRATE	PHOSPHATE	SILICATE	PH	T POT (DEG.C)	SIGMA T	SAT.02
				(MICROMOLES/KG AT IN SITU TEMP.)							
1	1	13.20	34.484	259.7	5.8	0.64	9.7	8.085	13.199	25.972	264.2
2	10	13.37	34.476	259.3	5.8	0.61	9.8	8.080	13.368	25.931	263.2
3	30	13.18	34.456	257.5	6.4	0.63	10.1	8.073	13.175	25.954	264.3
4	49	13.08	34.465	249.3	7.1	0.70	10.4	8.068	13.073	25.981	264.9
5	74	12.77	34.447	240.6	8.1	0.76	11.0	8.051	12.759	26.029	266.6
6	98	12.36	34.416	249.3	7.9	0.75	11.0	8.051	12.346	26.086	269.0
7	147	11.90	34.402	240.5	9.2	0.82	12.6	8.021	11.880	26.163	271.6
8	195	11.24	34.211	262.7	13.6	1.15	19.6	7.962	11.215	26.138	275.8
9	293	10.01	34.212	236.6	##.#	#.##	###.#	#.###	9.975	26.355	283.3
10	390	8.38	34.085	216.1	18.5	1.50	29.1	7.884	8.338	26.519	294.0
11	487	6.32	33.979	180.0	25.4	1.98	47.0	7.763	6.275	26.727	308.6
12	584	5.24	34.000	126.5	32.4	2.49	69.1	7.638	5.190	26.877	316.6
13	682	4.58	34.081	86.9	37.0	2.78	87.9	7.553	4.525	27.016	321.5
14	779	4.09	34.160	62.1	39.8	2.97	103.2	7.499	4.030	27.131	325.2
15	974	3.41	34.293	32.5	42.9	3.17	126.5	7.452	3.338	27.305	330.4
16	1219	2.88	34.408	23.4	44.1	3.24	145.9	7.445	2.793	27.446	334.6
17	1465	2.52	34.483	26.9	44.4	3.24	158.6	7.466	2.417	27.537	337.5
18	1621	2.31	34.522	31.2	43.9	3.21	165.4	7.471	2.197	27.586	339.2
19	1865	2.05	34.569	47.3	43.2	3.09	172.2	7.503	1.920	27.644	341.3
20	2106	1.90	34.602	62.5	42.1	3.04	173.2	7.537	1.751	27.682	342.6
21	2350	1.77	34.626	81.6	40.5	2.93	172.2	7.574	1.602	27.711	343.6
22	2596	1.65	34.645	99.4	39.7	2.88	171.2	7.606	1.462	27.736	344.7
23	2842	1.59	34.658	113.3	38.8	2.82	164.4	7.631	1.379	27.750	345.2
24	3087	1.53	34.668	125.9	37.8	2.75	161.5	7.653	1.297	27.763	345.7
25	3332	1.48	34.676	136.3	37.2	2.68	158.5	7.668	1.223	27.773	346.1
26	3578	1.45	34.681	142.4	36.7	2.67	157.6	7.683	1.167	27.779	346.4
27	3823	1.45	34.685	148.5	36.1	2.64	155.6	7.692	1.140	27.782	346.3
28	4067	1.46	34.682	149.8	36.1	2.61	155.6	7.695	1.123	27.779	346.3
29	4313	1.49	34.689	152.8	36.1	2.61	156.6	7.702	1.123	27.783	346.0
30	4558	1.50	34.690	153.3	36.2	2.59	156.6	7.705	1.103	27.783	345.9
31	4804	1.53	34.691	154.1	36.1	2.58	157.6	7.705	1.101	27.781	345.6
32	5050	1.55	34.689	153.7	36.1	2.60	157.6	7.705	1.089	27.778	345.4
33	5295	1.60	34.689	153.3	36.0	2.58	156.6	7.705	1.105	27.775	345.0
34	5542	1.65	34.689	154.1	35.9	2.59	155.6	7.704	1.119	27.771	344.6

KH80-2, STATION 9

COR.D= 5381, D(P-B)= 5382, 29.59.6N 170.01.4W. 16 MAY. 1980

N	DEPTH (METER)	TEMP. (DEG.C)	SALINITY (PERMIL)	OXYGEN	NITRATE	PHOSPHATE	SILICATE	PH	T POT (DEG.C)	SIGMA T	SAT.02
				(MICROMOLES/KG AT IN SITU TEMP.)							
1	1	20.10	35.213	232.1	0.1	0.17	3.6	8.179	20.099	24.916	229.8
2	10	20.52	35.196	231.7	0.0	0.17	3.6	8.181	20.518	24.791	228.0
3	30	19.79	35.150	238.6	0.0	0.16	3.6	8.181	19.784	24.950	231.2
4	49	19.01	35.075	243.0	0.0	0.18	3.9	8.181	19.000	25.094	234.7
5	74	17.66	34.942	242.5	0.0	0.21	4.3	8.166	17.647	25.329	241.0
6	98	16.69	34.898	234.1	1.4	0.29	4.8	8.141	16.673	25.527	245.6
7	146	15.57	34.736	235.0	3.0	0.38	5.8	8.119	15.546	25.660	251.3
8	195	14.64	34.601	231.5	4.9	0.53	7.6	8.090	14.610	25.761	256.3
9	292	12.46	34.390	213.1	10.7	0.91	13.7	8.005	12.419	26.046	268.4
10	340	11.46	34.326	212.2	12.5	1.06	16.9	7.977	11.415	26.186	274.3
11	388	10.63	34.256	207.4	14.6	1.19	20.3	7.947	10.581	26.282	279.4
12	485	8.72	34.124	197.8	19.2	1.52	30.3	7.874	8.666	26.497	291.7
13	583	7.15	34.037	161.7	25.9	2.01	47.2	7.760	7.092	26.661	302.5
14	680	5.49	34.021	102.6	33.8	2.58	71.7	7.608	5.430	26.864	314.6
15	778	4.54	34.118	63.8	38.8	2.94	93.0	7.511	4.477	27.050	321.7
16	974	3.55	34.291	23.4	42.9	3.23	125.5	7.442	3.477	27.290	329.3
17	1220	2.99	34.446	21.7	43.6	3.26	144.0	7.454	2.902	27.466	333.6
18	1465	2.59	34.526	35.6	43.4	3.19	154.7	7.484	2.486	27.565	336.8
19	1468	2.55	34.523	35.6	43.2	3.21	156.6	7.481	2.446	27.566	337.1
20	1708	2.23	34.584	60.8	41.5	3.07	160.5	7.538	2.110	27.642	339.7
21	1952	1.96	34.614	77.7	40.4	2.99	165.4	7.567	1.824	27.687	342.0
22	2195	1.78	34.631	90.7	39.5	2.92	166.3	7.593	1.626	27.715	343.5
23	2439	1.68	34.646	104.2	38.5	2.84	166.3	7.617	1.506	27.734	344.4
24	2683	1.58	34.660	113.8	38.0	2.80	167.3	7.635	1.385	27.753	345.2
25	2927	1.56	34.666	123.3	37.5	2.75	164.4	M.MMM	1.342	27.759	345.4
26	3170	1.50	34.674	134.2	36.6	2.69	159.5	7.670	1.259	27.770	345.9
27	3415	1.46	34.679	139.4	36.4	2.67	158.5	7.682	1.194	27.777	346.3
28	3659	1.45	34.684	145.5	36.0	2.61	158.5	7.690	1.159	27.781	346.3
29	3904	1.47	34.688	149.4	35.8	2.62	156.6	7.697	1.151	27.783	346.2
30	4150	1.49	34.689	152.0	35.6	2.58	155.6	7.702	1.142	27.783	346.0
31	4394	1.49	34.692	153.3	35.5	2.59	155.6	7.705	1.113	27.785	346.0
32	4639	1.51	34.691	156.3	35.3	2.57	153.7	7.716	1.102	27.783	345.8
33	4884	1.53	34.695	157.6	35.2	2.56	151.7	7.712	1.091	27.785	345.6
34	5128	1.55	34.695	159.8	35.0	2.54	147.8	7.714	1.079	27.783	345.4
35	5374	1.57	34.698	165.4	34.6	2.52	143.9	7.717	1.065	27.784	345.2

KH80-2, STATION 10

COR.D = 5433, D(P-B) = 5439, 29.24.6N 176.50.0W 2 JUNE. 1980

N	DEPTH (METER)	TEMP. (DEG.C)	SALINITY (PERMIL)	OXYGEN	NITRATE	PHOSPHATE	SILICATE	PH	T POT (DEG.C)	SIGMA T	SAT.02
				(MICROMOLES/KG AT IN SITU TEMP.)							
1	1	22.80	35.419	220.9	0.1	0.12	2.3	8.210	22.799	24.328	218.6
2	10	22.76	35.355	222.7	0.0	0.12	2.3	8.211	22.757	24.291	218.8
3	29	22.36	35.401	223.1	0.0	0.12	2.2	8.215	22.353	24.440	220.3
4	49	20.23	35.163	232.1	0.0	0.14	3.0	8.193	20.220	24.843	229.3
5	73	18.56	35.047	236.4	0.0	0.17	3.6	8.178	18.546	25.187	236.7
6	98	17.72	35.025	223.3	1.6	0.26	3.9	8.151	17.702	25.378	240.6
7	147	16.47	34.867	228.5	2.8	0.33	4.9	8.130	16.445	25.555	246.7
8	195	15.77	34.765	231.9	3.8	0.39	5.8	8.119	15.738	25.637	250.3
9	292	14.12	34.539	216.7	7.8	0.65	9.5	8.058	14.076	25.824	259.1
10	389	11.99	34.347	212.7	11.7	0.93	15.0	7.985	11.937	26.103	271.2
11	487	10.04	34.206	204.4	16.1	1.23	22.7	7.916	9.981	26.346	283.1
12	584	8.15	34.091	186.1	21.7	1.62	36.1	7.835	8.087	26.559	295.6
13	682	6.17	34.008	145.6	29.0	2.17	57.8	7.704	6.106	26.770	309.6
14	780	4.85	34.066	86.9	36.7	2.68	84.2	7.565	4.785	26.974	319.4
15	976	3.67	34.266	33.8	42.9	3.11	121.6	7.459	3.596	27.258	328.4
16	1222	2.97	34.427	19.9	44.3	3.21	146.9	7.452	2.882	27.453	333.8
17	1469	2.59	34.508	35.1	43.5	3.14	157.6	7.488	2.486	27.551	336.8
18	1507	2.51	34.521	36.9	43.4	3.13	157.6	7.486	2.404	27.568	337.5
19	1749	2.19	34.576	61.6	41.8	3.01	162.5	7.535	2.068	27.638	340.1
20	1992	1.94	34.608	81.2	40.3	2.91	167.3	7.577	1.801	27.684	342.2
21	2235	1.77	34.630	96.0	39.6	2.85	168.3	7.601	1.612	27.715	343.6
22	2723	1.59	34.656	120.3	38.0	2.72	163.4	7.645	1.391	27.749	345.2
23	2966	1.53	34.656	127.7	37.3	2.65	159.5	7.661	1.309	27.753	345.7
24	3211	1.51	34.671	135.0	37.2	2.64	160.5	7.672	1.264	27.767	345.8
25	3455	1.50	34.675	141.1	36.6	2.62	159.5	7.680	1.229	27.771	345.9
26	3703	1.48	34.680	145.0	36.3	2.58	160.5	7.687	1.183	27.776	346.1
27	3950	1.48	34.682	148.9	35.9	2.56	158.5	7.695	1.155	27.778	346.1
28	4196	1.48	34.687	152.8	35.9	2.55	156.6	7.700	1.127	27.782	346.1
29	4443	1.48	34.691	155.9	35.7	2.52	154.7	7.707	1.097	27.785	346.1
30	4688	1.48	34.690	160.2	35.3	2.51	150.8	7.710	1.067	27.784	346.1
31	4935	1.48	34.691	163.3	35.1	2.51	147.8	7.715	1.036	27.785	346.1
32	5181	1.50	34.692	165.9	34.8	2.48	144.9	7.717	1.024	27.784	345.9
33	5428	1.53	34.694	168.0	34.8	2.46	143.9	7.719	1.019	27.784	345.6

KH80-2, STATION 11

COR.D = 5510, D(P-B) = 5510, 30.34.3N 170.35.5W 6 JUNE. 1980

N	DEPTH (METER)	TEMP. (DEG.C)	SALINITY (PERMIL)	OXYGEN	NITRATE	PHOSPHATE	SILICATE (MICROMOLES/KG AT IN SITU TEMP.)	PH	T POT (DEG.C)	SIGMA T	SAT.02
1	1	21.60	34.970	228.3	0.1	0.14	4.6	8.163	21.599	24.326	223.9
2	10	21.67	34.959	228.3	0.0	0.14	4.7	8.168	21.667	24.298	223.6
3	29	19.83	34.902	243.9	0.0	0.13	4.4	8.173	19.824	24.750	231.3
4	49	17.62	34.772	258.2	0.0	0.15	4.7	8.174	17.611	25.209	241.4
5	73	16.75	34.783	235.5	2.4	0.28	4.5	8.149	16.737	25.425	245.5
6	98	16.29	34.740	228.9	3.8	0.37	5.4	8.130	16.273	25.499	247.8
7	147	15.39	34.684	234.6	4.6	0.42	6.5	8.115	15.366	25.661	252.3
8	195	14.97	34.655	236.3	5.4	0.47	7.3	8.102	14.939	25.731	254.5
9	293	13.43	34.502	218.8	9.1	0.75	12.2	8.043	13.387	25.939	262.9
10	390	11.40	34.350	237.9	10.6	0.87	15.5	8.011	11.349	26.216	274.6
11	487	9.17	34.174	201.3	18.1	1.41	29.1	7.893	9.114	26.465	288.7
12	584	6.84	34.046	174.3	24.7	1.90	46.4	7.774	6.783	26.711	304.7
13	682	5.25	34.020	119.1	32.7	2.48	72.6	7.626	5.191	26.892	316.5
14	780	4.52	34.092	79.5	37.5	2.80	92.4	7.540	4.457	27.032	321.9
15	976	3.64	34.261	35.6	41.9	3.09	121.6	7.462	3.566	27.257	328.6
16	1222	2.95	34.408	29.5	42.9	3.14	145.0	7.461	2.862	27.439	334.0
17	1470	2.53	34.496	34.3	43.2	3.15	161.5	7.474	2.427	27.546	337.3
18	1594	2.30	34.536	44.7	42.8	3.10	166.4	7.494	2.189	27.598	339.2
19	1836	2.01	34.583	63.4	41.5	3.01	171.2	7.531	1.883	27.658	341.6
20	2078	1.82	34.617	83.4	40.7	2.88	171.2	7.572	1.675	27.700	343.2
21	2320	1.69	34.637	98.1	39.4	2.85	168.3	7.599	1.526	27.726	344.3
22	2563	1.62	34.649	111.2	38.4	2.77	165.4	7.623	1.435	27.741	344.9
23	2807	1.56	34.663	122.9	37.7	2.73	164.4	7.645	1.353	27.757	345.4
24	3051	1.51	34.669	132.0	37.1	2.68	161.5	7.660	1.281	27.765	345.8
25	3295	1.48	34.677	139.8	36.6	2.64	158.5	7.675	1.226	27.774	346.1
26	3540	1.46	34.680	145.5	36.3	2.62	158.5	7.687	1.181	27.778	346.3
27	3784	1.45	34.683	154.1	36.1	2.58	156.6	7.693	1.145	27.781	346.3
28	4029	1.45	34.685	153.7	35.9	2.58	156.6	7.699	1.117	27.782	346.3
29	4275	1.44	34.688	157.2	35.6	2.53	152.7	7.704	1.079	27.785	346.4
30	4521	1.45	34.690	162.8	35.6	2.52	147.8	7.709	1.059	27.786	346.3
31	4767	1.45	34.693	166.7	34.9	2.49	143.9	7.714	1.029	27.789	346.3
32	5014	1.45	34.695	171.1	34.6	2.47	141.0	7.719	0.997	27.790	346.3
33	5260	1.47	34.696	173.3	34.3	2.46	139.1	7.719	0.984	27.790	346.1
34	5507	1.49	34.698	177.2	34.0	2.43	136.2	7.722	0.970	27.790	346.0

KH80-2, STATION 13

COR.D=5729, D(P-8)=5730, 30.00.1N, 160.00.2E, 10 JUNE, 1980

N	DEPTH (METER)	TEMP. (DEG.C)	SALINITY (PERMIL)	OXYGEN	NITRATE	PHOSPHATE	SILICATE	PH	T POT (DEG.C)	SIGMA T	SAT.02
				(MICROMOLES/KG AT IN SITU TEMP.)							
1	1	25.10	35.381	211.9	0.0	0.09	1.5	8.218	25.099	23.619	210.1
2	10	24.78	35.345	213.6	0.0	0.08	1.5	8.218	24.777	23.689	211.3
3	30	19.96	35.011	238.7	0.0	0.10	1.9	8.198	19.954	24.799	230.6
4	50	18.52	34.913	243.0	0.0	0.11	2.0	8.190	18.510	25.094	237.1
5	74	17.92	34.884	241.2	0.0	0.15	2.1	8.183	17.906	25.221	239.8
6	99	17.28	34.828	227.2	2.3	0.27	3.0	8.156	17.262	25.334	242.9
7	149	16.80	34.796	224.6	3.6	0.35	3.9	8.146	16.774	25.423	245.2
8	198	16.64	34.789	226.8	3.9	0.35	4.4	8.144	16.606	25.455	246.0
9	296	15.85	34.710	218.0	5.7	0.48	6.6	8.110	15.801	25.577	250.0
10	395	14.38	34.575	202.3	9.3	0.75	11.4	8.046	14.319	25.797	257.7
11	494	11.79	34.390	189.2	14.7	1.13	22.0	7.962	11.723	26.174	272.3
12	594	8.78	34.157	182.6	20.4	1.55	34.2	7.855	8.713	26.514	291.3
13	693	6.04	34.009	149.1	28.5	2.15	58.4	7.712	5.976	26.787	310.6
14	793	4.88	34.045	111.2	34.4	2.57	80.8	7.601	4.814	26.954	319.2
15	993	3.86	34.240	49.9	40.4	2.96	116.8	7.498	3.783	27.218	326.9
16	1243	3.00	34.396	34.7	42.8	3.10	142.1	7.472	2.910	27.425	333.6
17	1495	2.58	34.498	39.5	42.9	3.10	155.7	7.489	2.474	27.544	336.9
18	1729	2.19	34.554	55.6	42.0	3.02	164.4	7.518	2.069	27.621	340.1
19	1977	1.94	34.597	76.0	40.7	2.95	165.4	7.557	1.802	27.675	342.2
20	2226	1.78	34.630	99.0	39.3	2.84	163.4	7.604	1.623	27.714	343.5
21	2473	1.68	34.642	110.7	38.6	2.80	160.5	7.626	1.502	27.731	344.4
22	2724	1.62	34.653	119.8	38.0	2.73	159.5	7.643	1.420	27.744	344.9
23	2974	1.58	34.661	127.7	37.4	2.67	159.5	7.656	1.357	27.754	345.2
24	3223	1.53	34.668	136.3	36.8	2.69	157.6	7.668	1.283	27.763	345.7
25	3473	1.50	34.672	141.6	36.2	2.59	155.6	7.678	1.227	27.768	345.9
26	3722	1.48	34.676	147.6	36.2	2.60	152.7	7.690	1.181	27.773	346.1
27	3972	1.48	34.676	151.5	36.0	2.57	152.7	7.695	1.153	27.773	346.1
28	4221	1.48	34.683	154.6	35.6	2.54	152.7	7.699	1.124	27.779	346.1
29	4471	1.46	34.683	158.5	35.5	2.51	149.8	7.704	1.075	27.780	346.3
30	4720	1.48	34.687	162.8	35.1	2.51	147.8	7.712	1.063	27.782	346.1
31	4970	1.48	34.692	167.2	34.8	2.46	143.0	7.714	1.032	27.786	346.1
32	5219	1.48	34.693	172.0	34.4	2.49	141.0	7.717	0.999	27.787	346.1
33	5472	1.53	34.695	172.8	34.3	2.44	139.1	7.720	1.013	27.785	345.6
34	5722	1.55	34.696	173.7	34.3	2.44	139.1	7.724	0.998	27.784	345.4

KH80-2, STATION 16

COR.D = 6257, D(P-B) = 6260, 30.02.6N 146.53.3E 13 JUNE. 1980

N	DEPTH (METER)	TEMP. (DEG.C)	SALINITY (PERMIL)	OXYGEN	NITRATE	PHOSPHATE	SILICATE	PH	T POT (DEG.C)	SIGMA T	SAT.02
				(MICROMOLES/KG AT IN SITU TEMP.)							
1	1	24.00	34.775	215.9	0.0	0.13	1.8	8.200	23.999	23.492	214.8
2	10	24.04	34.767	218.0	0.0	0.13	1.8	8.203	24.037	23.474	214.7
3	30	19.47	34.885	235.2	0.0	0.15	2.0	8.203	19.464	24.831	232.9
4	51	18.46	34.787	245.6	0.0	0.16	2.2	8.196	18.450	25.013	237.5
5	76	17.72	34.777	246.4	0.0	0.20	2.1	8.190	17.706	25.188	240.9
6	101	17.26	34.804	222.4	2.9	0.34	3.8	8.154	17.242	25.320	243.0
7	151	16.89	34.792	222.9	3.4	0.38	3.8	8.146	16.864	25.399	244.8
8	201	16.73	34.791	226.8	3.5	0.39	4.2	8.146	16.696	25.436	245.6
9	301	15.89	34.693	205.4	6.8	0.60	7.1	8.097	15.840	25.555	249.8
10	401	14.03	34.547	189.7	11.1	0.91	13.7	8.024	13.969	25.849	259.6
11	502	11.44	34.375	178.7	16.3	1.31	24.6	7.936	11.373	26.228	274.3
12	602	8.62	34.169	170.9	21.9	1.71	38.8	7.839	8.553	26.548	292.3
13	703	6.21	34.034	145.6	28.4	2.23	58.8	7.715	6.144	26.785	309.3
14	805	5.04	34.097	91.7	36.1	2.73	83.4	7.587	4.971	26.977	317.9
15	1006	3.91	34.269	47.8	40.9	3.07	114.8	7.498	3.832	27.236	326.4
16	1259	3.08	34.405	37.3	43.1	3.19	110.9	7.479	2.988	27.425	332.9
17	1512	2.53	34.499	46.4	43.0	3.14	154.7	7.499	2.423	27.549	337.3
18	1765	2.21	34.552	59.9	42.0	3.05	160.5	7.528	2.086	27.618	340.0
19	1811	2.18	34.565	65.1	41.9	3.08	161.5	7.535	2.053	27.630	340.2
20	2057	1.95	34.602	84.2	40.6	2.92	162.5	7.575	1.805	27.678	342.1
21	2302	1.80	34.627	100.3	39.4	2.86	161.5	7.609	1.636	27.710	343.4
22	2548	1.70	34.643	114.2	38.5	2.79	157.6	7.633	1.515	27.730	344.2
23	2795	1.64	34.652	125.5	38.0	2.74	158.6	7.650	1.433	27.742	344.7
24	3042	1.61	34.662	131.1	37.3	2.70	154.7	7.663	1.379	27.752	345.0
25	3290	1.56	34.669	136.8	37.1	2.68	155.6	7.673	1.305	27.761	345.4
26	3537	1.54	34.673	142.9	36.6	2.64	153.7	7.682	1.259	27.766	345.6
27	3778	1.53	34.678	145.5	36.4	2.62	152.7	7.688	1.223	27.771	345.6
28	4025	1.52	34.679	149.4	36.0	2.60	151.7	7.693	1.185	27.772	345.7
29	4272	1.52	34.682	153.3	36.0	2.58	150.8	7.699	1.157	27.775	345.7
30	4518	1.49	34.686	156.8	35.7	2.56	149.8	7.704	1.098	27.780	346.0
31	4765	1.52	34.686	159.8	35.4	2.55	147.8	7.707	1.096	27.778	345.7
32	5012	1.52	34.688	164.1	35.4	2.53	146.9	7.710	1.065	27.780	345.7
33	5259	1.52	34.692	165.4	35.1	2.51	143.9	7.714	1.032	27.783	345.7
34	5506	1.58	34.694	167.6	35.0	2.51	143.0	7.717	1.057	27.780	345.2
35	5753	1.59	34.695	171.1	34.7	2.49	141.0	7.719	1.032	27.780	345.1
36	6001	1.60	34.696	170.7	34.8	2.49	141.0	7.720	1.007	27.780	345.0
37	6249	1.63	34.694	170.7	34.7	2.50	140.1	7.722	1.000	27.776	344.7

KH82-1, STATION 1

COR.D= 5930, D(P-B)= 5919, 26.01.5N 150.00.5E, 25 JAN. 1982

N	DEPTH (METER)	TEMP. (DEG.C)	SALINITY (PERMIL)	OXYGEN	NITRATE	PHOSPHATE	SILICATE	PH	T POT (DEG.C)	SIGMA T	SAT.02
				(MICROMOLES/KG AT IN SITU TEMP.)							
1	1	23.10	34.980	214.5	0.2	0.06	3.9	8.244	23.099	23.909	218.0
2	10	22.88	34.974	216.2	0.0	0.07	3.9	8.242	22.877	23.968	218.8
3	29	22.26	34.991	217.9	0.0	0.07	4.4	8.237	22.253	24.157	221.2
4	48	22.01	34.997	218.8	0.0	0.07	4.3	8.237	22.000	24.232	222.2
5	72	21.68	34.999	220.0	0.0	0.09	4.1	8.235	21.665	24.326	223.5
6	96	20.52	34.942	220.9	0.0	0.13	5.8	8.198	20.501	24.598	228.4
7	121	19.05	34.911	213.8	0.8	0.22	5.2	8.164	19.027	24.959	234.7
8	145	18.19	34.885	209.0	2.3	0.31	5.7	8.145	18.164	25.155	238.6
9	194	16.94	34.814	211.1	3.9	0.40	6.3	8.126	16.906	25.404	244.5
10	292	15.74	34.710	210.2	5.9	0.54	8.7	8.096	15.692	25.602	250.5
11	391	13.54	34.513	192.7	11.1	0.91	14.4	8.012	13.482	25.925	262.3
12	489	10.97	34.322	185.3	16.1	1.28	23.0	7.926	10.907	26.273	277.2
13	588	8.49	34.143	172.2	21.8	1.71	35.1	7.830	8.425	26.548	293.2
14	687	5.95	34.066	120.8	31.3	2.41	62.7	7.666	5.887	26.843	311.1
15	785	5.11	34.133	79.1	36.4	2.76	81.4	7.568	5.043	26.998	317.3
16	983	4.02	34.328	43.0	41.0	3.11	115.8	7.501	3.943	27.272	325.4
17	1181	3.40	34.444	48.6	41.8	3.16	129.4	7.518	3.311	27.426	330.2
18	1445	2.71	34.524	65.1	40.7	3.06	145.9	7.544	2.606	27.553	335.8
19	1478	2.54	34.538	65.1	40.6	3.05	149.8	7.543	2.436	27.579	337.2
20	1692	2.31	34.571	76.0	40.4	3.01	152.7	7.559	2.191	27.625	339.1
21	1940	1.99	34.606	91.6	39.5	2.92	153.7	7.592	1.854	27.678	341.8
22	2188	1.83	34.634	109.4	38.4	2.86	152.7	7.688	1.675	27.713	343.1
23	2436	1.72	34.648	119.8	37.9	2.80	152.7	7.645	1.545	27.733	344.0
24	2684	1.64	34.661	128.1	37.3	2.74	152.7	7.657	1.443	27.749	344.7
25	2931	1.60	34.667	132.0	36.9	2.71	149.8	7.666	1.380	27.757	345.1
26	3178	1.56	34.674	140.7	36.5	2.70	150.8	7.676	1.316	27.766	345.4
27	3424	1.55	34.678	143.7	36.0	2.64	148.8	7.685	1.281	27.769	345.5
28	3669	1.52	34.684	148.9	35.8	2.66	145.9	7.688	1.225	27.776	345.7
29	3914	1.51	34.687	151.5	35.6	2.64	145.9	7.695	1.188	27.780	345.8
30	4158	1.50	34.690	156.8	35.3	2.62	142.0	7.702	1.151	27.783	345.9
31	4404	1.51	34.692	160.7	35.0	2.61	140.1	7.708	1.131	27.784	345.8
32	4652	1.52	34.693	163.7	34.8	2.58	137.1	7.710	1.110	27.784	345.7
33	4900	1.53	34.694	166.7	34.6	2.58	135.2	7.715	1.089	27.784	345.6
34	5150	1.54	34.696	168.9	34.1	2.49	134.2	7.716	1.066	27.785	345.5
35	5400	1.53	34.698	172.4	34.2	2.53	130.3	7.720	1.023	27.787	345.6
36	5626	1.58	34.697	###.#	##.#	#.##	###.#	#.###	1.040	27.782	345.2
37	5650	1.55	34.702	175.4	33.9	2.53	129.4	7.723	1.008	27.789	345.4
38	5774	1.58	34.697	###.#	##.#	#.##	###.#	#.###	1.020	27.782	345.2
39	5848	1.61	34.697	###.#	##.#	#.##	###.#	#.###	1.038	27.780	344.9
40	5882	1.59	34.696	###.#	##.#	#.##	###.#	#.###	1.014	27.781	345.1
41	5900	1.58	34.702	176.7	34.7	2.53	129.4	7.724	1.002	27.786	345.1
42	5902	1.59	34.696	###.#	##.#	#.##	###.#	#.###	1.011	27.781	345.1
43	5912	1.59	34.696	###.#	##.#	#.##	###.#	#.###	1.010	27.781	345.1

KH82-1, STATION 2

COR.D= 5666, D(P-B)= 5665, 24.59.6N 154.59.6E, 27 JAN. 1982

N	DEPTH (METER)	TEMP. (DEG.C)	SALINITY (PERMIL)	OXYGEN	NITRATE	PHOSPHATE	SILICATE (MICROMOLES/KG AT IN SITU TEMP.)	PH	T POT (DEG.C)	SIGMA T	SAT.O2
1	1	22.20	34.954	216.6	0.0	0.11	4.2	8.245	22.199	24.146	221.5
2	9	22.33	34.937	217.0	0.0	0.11	4.2	8.243	22.328	24.097	221.0
3	28	22.33	34.943	216.6	0.0	0.11	4.2	8.242	22.324	24.101	221.0
4	47	22.31	34.940	217.0	0.0	0.12	4.2	8.243	22.300	24.105	221.1
5	71	21.82	34.971	218.7	0.0	0.12	4.4	8.231	21.805	24.265	223.0
6	95	19.38	34.935	214.7	0.2	0.23	5.1	8.170	19.362	24.893	233.2
7	119	18.33	34.899	206.8	1.7	0.33	5.5	8.146	18.308	25.131	238.0
8	143	17.60	34.862	217.2	3.0	0.40	6.0	8.132	17.574	25.282	241.4
9	192	16.69	34.787	208.0	4.3	0.47	6.9	8.116	16.657	25.442	245.8
10	290	15.64	34.726	###.#	5.4	0.55	8.3	8.103	15.593	25.637	251.0
11	389	13.99	34.540	201.4	9.2	0.82	12.1	8.036	13.931	25.852	259.8
12	488	11.69	34.358	193.5	14.1	1.18	19.1	7.958	11.624	26.168	272.9
13	587	8.57	34.152	159.6	22.4	1.82	34.4	7.810	8.505	26.543	292.6
14	687	6.49	34.090	115.6	30.2	2.38	55.5	7.669	6.424	26.792	307.1
15	786	5.14	34.143	73.4	36.4	2.84	79.7	7.562	5.072	27.002	317.0
16	985	3.96	34.323	41.2	41.2	3.11	112.9	7.495	3.883	27.274	325.9
17	1183	3.39	34.454	51.7	40.9	3.10	127.5	7.527	3.301	27.435	330.2
18	1482	2.67	34.518	74.7	40.4	3.05	146.9	7.555	2.564	27.552	336.1
19	1485	2.65	34.544	69.0	40.2	3.04	148.8	7.558	2.544	27.574	336.2
20	1726	2.23	34.578	82.5	39.8	2.96	160.5	7.578	2.109	27.637	339.7
21	1973	1.96	34.613	96.4	39.1	2.94	164.4	7.608	1.822	27.686	342.0
22	2217	1.82	34.638	109.0	38.2	2.85	164.4	7.630	1.663	27.717	343.2
23	2461	1.70	34.649	120.3	37.5	2.80	163.4	7.646	1.523	27.735	344.2
24	2703	1.64	34.660	127.7	37.1	2.77	163.4	7.661	1.442	27.748	344.7
25	2946	1.58	34.668	134.6	36.4	2.73	162.4	7.670	1.359	27.759	345.2
26	3189	1.54	34.672	140.7	36.1	2.69	162.4	7.680	1.296	27.765	345.6
27	3438	1.52	34.681	144.6	35.8	2.66	159.5	7.686	1.250	27.774	345.7
28	3682	1.51	34.681	149.8	35.6	2.64	159.5	7.693	1.214	27.775	345.8
29	3924	1.50	34.686	153.3	35.2	2.60	156.6	7.698	1.178	27.779	345.9
30	4165	1.49	34.686	158.5	35.3	2.58	137.1	7.704	1.140	27.780	346.0
31	4407	1.49	34.692	162.8	34.7	2.57	134.2	7.710	1.111	27.785	346.0
32	4651	1.50	34.694	165.9	34.4	2.54	132.3	7.713	1.091	27.786	345.9
33	4896	1.52	34.695	167.2	34.2	2.51	130.3	7.715	1.080	27.785	345.7
34	5142	1.53	34.697	172.4	34.1	2.50	129.4	7.720	1.057	27.786	345.6
35	5368	1.55	34.696	###.#	##.#	#.##	###.#	#.###	1.047	27.784	345.4
36	5388	1.54	34.696	172.4	34.2	2.49	129.4	7.721	1.034	27.785	345.5
37	5525	1.56	34.693	###.#	##.#	#.##	###.#	#.###	1.035	27.781	345.3
38	5591	1.60	34.699	###.#	##.#	#.##	###.#	#.###	1.064	27.783	345.0
39	5626	1.58	34.690	###.#	##.#	#.##	###.#	#.###	1.040	27.777	345.2
40	5636	1.58	34.696	171.5	34.0	2.47	129.4	7.721	1.039	27.782	345.2
41	5646	1.58	34.696	###.#	##.#	#.##	###.#	#.###	1.038	27.782	345.2
42	5656	1.59	34.696	###.#	##.#	#.##	###.#	#.###	1.046	27.781	345.1

KH82-1, STATION 3

COR.D= 5800, D(P-B)= 5806, 25.01.1N 160.00.1E, 28 JAN. 1982

N	DEPTH (METER)	TEMP. (DEG.C)	SALINITY (PERMIL)	OXYGEN	NITRATE	PHOSPHATE	SILICATE	PH	T POT (DEG.C)	SIGMA T	SAT.02
				(MICROMOLES/KG AT IN SITU TEMP.)							
1	1	23.40	35.032	214.0	0.0	0.00	3.7	8.244	23.399	23.862	216.8
2	10	23.38	35.027	214.0	0.0	0.01	3.7	8.251	23.377	23.864	216.9
3	29	23.28	35.029	NNN.N	0.0	0.01	3.8	8.250	23.273	23.894	217.2
4	48	23.24	35.024	213.6	0.0	0.02	3.9	8.249	23.229	23.902	217.4
5	72	21.04	35.026	216.5	0.1	0.10	4.5	8.191	21.025	24.522	226.1
6	96	18.99	34.943	213.4	0.6	0.16	5.0	8.158	18.972	24.999	234.9
7	120	17.98	34.904	204.2	2.9	0.29	5.6	8.129	17.958	25.222	239.5
8	144	17.34	34.850	206.8	3.9	0.35	6.1	8.123	17.315	25.336	242.6
9	192	16.46	34.769	211.5	5.0	0.40	6.8	8.113	16.427	25.482	246.9
10	290	15.31	34.667	211.0	7.0	0.53	8.8	8.085	15.263	25.665	252.8
11	388	12.91	34.453	200.1	13.8	0.89	15.0	8.006	12.855	26.006	265.8
12	487	10.35	34.268	195.7	20.1	1.27	23.9	7.925	10.289	26.340	281.1
13	586	7.71	34.084	170.0	23.5	1.85	39.7	7.802	7.649	26.619	298.6
14	685	6.05	34.038	125.2	30.9	2.36	60.1	7.674	5.987	26.808	310.4
15	785	4.80	34.141	70.4	38.0	2.81	88.4	7.547	4.735	27.039	319.7
16	983	3.79	34.323	37.3	42.2	3.11	120.7	7.488	3.715	27.291	327.3
17	1182	3.36	34.472	53.8	41.7	3.04	132.3	7.534	3.271	27.452	330.4
18	1479	2.66	34.548	73.4	40.8	2.98	147.9	7.566	2.554	27.577	336.1
19	1596	2.51	34.562	79.5	40.8	2.93	152.7	7.574	2.396	27.601	337.4
20	1842	2.19	34.597	92.9	39.6	2.87	157.6	7.598	2.060	27.655	340.0
21	2088	1.96	34.620	102.0	37.6	2.81	167.3	7.615	1.812	27.692	342.0
22	2335	1.81	34.643	115.1	37.4	2.76	167.3	7.637	1.643	27.722	343.2
23	2582	1.71	34.653	122.0	37.1	2.71	166.3	7.651	1.522	27.738	344.1
24	2830	1.62	34.664	129.8	36.6	2.68	167.3	7.663	1.410	27.753	344.9
25	3077	1.57	34.670	135.0	35.3	2.64	166.3	7.672	1.337	27.762	345.3
26	3323	1.55	34.676	141.6	35.3	2.60	165.4	7.682	1.292	27.768	345.5
27	3570	1.54	34.677	145.0	36.3	2.61	160.5	7.687	1.256	27.769	345.6
28	3817	1.53	34.685	150.7	36.8	2.57	158.5	7.695	1.219	27.777	345.6
29	4063	1.51	34.691	153.3	35.9	2.53	161.5	7.700	1.171	27.783	345.8
30	4310	1.50	34.690	157.6	35.2	2.51	159.5	7.706	1.133	27.783	345.9
31	4556	1.51	34.697	162.0	34.9	2.49	154.7	7.712	1.113	27.788	345.8
32	4802	1.52	34.693	165.0	34.2	2.46	152.7	7.716	1.092	27.784	345.7
33	5049	1.52	34.696	168.0	34.5	2.46	148.8	7.719	1.060	27.786	345.7
34	5298	1.56	34.698	170.7	34.6	2.43	147.8	7.722	1.066	27.785	345.3
35	5547	1.58	34.698	171.5	34.7	2.42	146.9	7.724	1.051	27.783	345.2
36	5797	1.59	34.696	172.4	34.8	2.42	144.9	7.724	1.026	27.781	345.1

KH82-1, STATION 4

COR.D= 5983, D(P-B)= 5967, 25.00.7N 164.58.5E, 29-30 JAN. 1982

N	DEPTH (METER)	TEMP. (DEG.C)	SALINITY (PERMIL)	OXYGEN	NITRATE	PHOSPHATE	SILICATE	PH	T POT (DEG.C)	SIGMA T	SAT.02
				(MICROMOLES/KG AT IN SITU TEMP.)							
1	1	23.80	35.164	210.6	0.0	0.06	2.8	8.249	23.799	23.844	215.1
2	10	23.85	35.156	212.3	0.0	0.07	2.8	8.248	23.847	23.824	214.9
3	28	23.60	35.163	214.0	0.0	0.06	2.9	8.179	23.593	23.902	215.9
4	47	22.28	35.100	218.3	0.0	0.06	2.9	8.232	22.270	24.234	221.0
5	71	21.51	34.989	220.5	0.0	0.08	3.1	8.225	21.495	24.365	224.2
6	94	21.31	34.944	220.9	0.0	0.07	3.2	8.218	21.290	24.386	225.1
7	118	20.84	34.830	221.8	0.0	0.08	3.3	8.214	20.816	24.427	227.2
8	142	19.12	34.895	210.8	1.5	0.27	4.6	8.156	19.093	24.929	234.4
9	190	16.90	34.814	208.9	4.1	0.42	6.1	8.115	16.867	25.413	244.7
10	286	15.07	34.662	214.1	6.5	0.58	9.5	8.078	15.025	25.714	254.0
11	382	12.50	34.420	202.7	11.5	0.98	17.1	7.995	12.447	26.062	268.2
12	479	9.86	34.232	187.8	18.1	1.47	30.6	7.895	9.802	26.396	284.2
13	577	7.70	34.102	154.3	25.4	2.00	49.3	7.765	7.640	26.634	298.6
14	675	5.86	34.080	106.5	33.4	2.56	76.4	7.631	5.799	26.865	311.8
15	774	4.73	34.143	69.9	38.6	2.89	102.2	7.538	4.666	27.049	320.2
16	971	3.82	34.353	38.2	43.1	3.13	131.4	7.488	3.745	27.312	327.0
17	1169	3.37	34.456	49.5	43.3	3.11	144.0	7.491	3.282	27.438	330.4
18	1466	2.71	34.554	72.1	42.5	3.03	154.7	7.562	2.605	27.577	335.7
19	1517	2.58	34.558	78.6	41.5	2.89	159.5	7.572	2.472	27.591	336.8
20	1760	2.26	34.590	86.8	40.1	2.88	164.4	7.588	2.136	27.644	339.4
21	2006	2.01	34.613	89.9	38.9	2.87	167.3	7.611	1.868	27.682	341.6
22	2250	1.85	34.631	110.7	39.1	2.73	168.3	7.631	1.689	27.709	342.9
23	2495	1.75	34.646	118.1	38.7	2.72	170.2	7.643	1.569	27.729	343.8
24	2739	1.67	34.658	122.4	38.0	2.73	169.3	7.654	1.468	27.745	344.5
25	2984	1.61	34.667	130.7	37.6	2.72	168.3	7.666	1.385	27.756	345.0
26	3236	1.57	34.672	137.6	37.0	2.61	169.2	7.676	1.320	27.763	345.3
27	3475	1.55	34.676	142.0	36.2	2.66	166.3	7.684	1.276	27.768	345.5
28	3719	1.54	34.681	146.8	36.0	2.40	163.4	7.693	1.239	27.773	345.6
29	3964	1.51	34.684	152.0	36.4	2.52	165.4	7.699	1.183	27.777	345.8
30	4209	1.49	34.688	157.2	35.8	2.35	160.5	7.705	1.135	27.782	346.0
31	4453	1.50	34.690	161.5	35.6	2.38	157.6	7.712	1.116	27.783	345.9
32	4698	1.50	34.692	165.9	34.9	2.33	155.6	7.716	1.085	27.784	345.9
33	4955	1.47	34.693	171.5	34.7	2.49	153.7	7.722	1.024	27.787	346.1
34	5199	1.50	34.696	175.0	34.9	2.31	150.8	7.725	1.021	27.787	345.9
35	5445	1.48	34.696	177.2	34.8	2.37	152.7	7.726	0.969	27.789	346.1
36	5671	1.53	34.700	178.5	35.4	2.34	151.7	7.728	0.986	27.789	345.6
37	5690	1.52	34.695	178.0	34.5	2.51	152.7	7.728	0.974	27.785	345.7
38	5818	1.54	34.696	178.0	35.4	2.48	151.7	7.728	0.975	27.785	345.5
39	5892	1.56	34.700	178.5	36.2	2.32	150.8	7.728	0.984	27.786	345.3
40	5927	1.56	34.699	178.9	35.8	2.24	152.7	7.728	0.979	27.786	345.3
41	5937	1.56	34.699	179.3	34.7	2.44	151.7	7.729	0.978	27.786	345.3
42	5947	1.56	34.697	178.9	34.6	2.46	143.9	7.728	0.976	27.784	345.3
43	5957	1.56	34.695	177.2	34.3	2.42	146.9	7.730	0.975	27.782	345.3

KH82-1, STATION 5

COR.D= 6025, D(P-B)= 6031, 25.00.2N 169.59.3E, 31 JAN. - 1 FEB. 1982

N	DEPTH (METER)	TEMP. (DEG.C)	SALINITY (PERMIL)	OXYGEN	NITRATE	PHOSPHATE	SILICATE	PH	T POT (DEG.C)	SIGMA T	SAT.02
				(MICROMOLES/KG AT IN SITU TEMP.)							
1	1	23.90	35.244	209.7	0.0	0.00	4.9	8.234	23.899	23.875	214.6
2	10	24.17	35.234	210.6	0.0	0.00	4.9	8.242	24.167	23.788	213.6
3	29	24.19	35.231	209.7	0.0	0.00	5.0	8.246	24.183	23.780	213.6
4	49	24.19	35.231	209.7	0.0	0.00	5.0	8.247	24.179	23.780	213.6
5	73	23.69	35.301	209.7	0.0	0.00	5.1	8.237	23.673	23.980	215.3
6	97	22.24	35.201	203.9	0.0	0.01	5.5	8.190	22.219	24.322	221.0
7	121	20.93	35.126	203.4	0.0	0.07	6.0	8.160	20.905	24.628	226.4
8	145	19.27	35.032	197.3	1.3	0.18	6.6	8.133	19.242	24.995	233.6
9	193	17.03	34.819	203.3	3.9	0.36	8.2	8.094	16.997	25.386	244.1
10	290	15.14	34.651	214.1	6.2	0.49	10.9	8.070	15.094	25.691	253.6
11	388	12.82	34.433	208.8	10.0	0.84	16.2	8.000	12.765	26.009	266.3
12	487	10.31	34.237	197.0	15.5	1.29	26.1	7.911	10.250	26.323	281.4
13	585	7.69	34.108	140.8	24.8	2.05	47.9	7.736	7.629	26.640	298.7
14	684	6.20	34.074	111.3	29.9	2.47	65.5	7.640	6.136	26.818	309.3
15	782	5.15	34.176	59.9	36.0	2.93	88.5	7.526	5.083	27.027	316.9
16	980	3.88	34.341	37.8	38.9	3.16	118.7	7.477	3.804	27.296	326.5
17	1178	3.31	34.459	47.3	39.0	3.14	132.3	7.503	3.222	27.446	330.9
18	1475	2.56	34.534	60.8	38.8	3.11	150.8	7.522	2.456	27.574	337.0
19	1579	2.52	34.544	60.8	38.5	3.06	151.8	7.529	2.407	27.585	337.3
20	1823	2.20	34.583	79.9	38.2	3.00	157.6	7.561	2.071	27.643	340.0
21	2069	1.96	34.614	92.5	37.4	2.92	160.5	7.588	1.814	27.687	342.0
22	2315	1.80	34.640	108.5	36.9	2.86	159.5	7.617	1.635	27.720	343.3
23	2561	1.72	34.649	###.#	36.4	2.78	160.5	7.631	1.533	27.734	344.0
24	2807	1.65	34.660	###.#	35.7	2.74	157.6	7.652	1.441	27.748	344.6
25	3053	1.60	34.669	131.6	35.3	2.71	157.6	7.663	1.368	27.759	345.0
26	3299	1.55	34.675	###.#	35.0	2.67	156.6	7.672	1.294	27.767	345.5
27	3545	1.54	34.679	145.0	34.9	2.65	154.7	7.684	1.258	27.771	345.6
28	3791	1.54	34.683	148.9	34.2	2.63	151.7	7.691	1.231	27.774	345.5
29	4036	1.52	34.688	153.7	34.4	2.60	151.7	7.696	1.184	27.780	345.7
30	4282	1.50	34.690	155.9	34.1	2.59	148.8	7.700	1.136	27.783	345.9
31	4528	1.49	34.697	163.7	33.6	2.54	146.9	7.708	1.097	27.789	346.0
32	4774	1.50	34.693	168.5	33.5	2.50	143.0	7.713	1.076	27.785	345.9
33	5021	1.47	34.694	172.8	33.0	2.49	140.1	7.719	1.016	27.788	346.1
34	5270	1.50	34.699	175.4	32.8	2.46	139.1	7.723	1.012	27.790	345.9
35	5519	1.51	34.691	###.#	33.3	2.47	138.1	7.718	0.988	27.783	345.8
36	5768	1.52	34.692	174.6	32.7	2.46	136.2	7.727	0.963	27.783	345.7
37	6017	1.56	34.706	###.#	32.7	2.42	135.2	7.731	0.966	27.791	345.3

KH82-1, STATION 6

COR.D= 5290, D(P-B)= 5273, 18.58.8N 169.30.4E, 3-4 FEB. 1982

N	DEPTH (METER)	TEMP. (DEG.C)	SALINITY (PERMIL)	OXYGEN	NITRATE	PHOSPHATE	SILICATE	PH	T POT (DEG.C)	SIGMA T	SAT.02
				(MICROMOLES/KG AT IN SITU TEMP.)							
1	1	25.70	35.122	205.0	0.0	0.04	2.7	8.263	25.699	23.239	208.3
2	10	25.72	35.114	204.6	0.0	0.06	2.8	8.258	25.717	23.227	208.2
3	29	25.73	35.118	205.0	0.0	0.07	2.9	8.264	25.723	23.227	208.2
4	48	25.73	35.117	204.6	0.0	0.04	2.9	8.261	25.718	23.226	208.2
5	72	25.67	35.143	205.4	0.0	0.04	3.0	8.267	25.652	23.264	208.3
6	96	25.48	35.138	204.1	0.0	0.05	3.1	8.261	25.457	23.319	209.0
7	120	24.61	35.174	204.9	0.0	0.06	3.4	8.237	24.582	23.611	212.1
8	144	22.32	35.184	201.7	0.0	0.11	3.9	8.196	22.289	24.287	220.8
9	193	19.06	35.004	192.9	2.3	0.30	5.4	8.129	19.024	25.027	234.6
10	290	15.78	34.706	205.0	5.7	0.49	8.6	8.087	15.732	25.590	250.3
11	388	12.37	34.387	191.4	12.2	0.99	17.8	7.970	12.316	26.061	268.9
12	486	8.89	34.159	169.6	20.7	1.63	36.2	7.837	8.835	26.498	290.5
13	585	6.68	34.127	101.3	30.7	2.38	62.9	7.648	6.623	26.796	305.7
14	683	5.76	34.311	52.5	37.0	2.83	82.1	7.547	5.698	27.060	312.0
15	781	5.06	34.395	50.4	38.6	2.92	93.8	7.540	4.993	27.211	317.1
16	878	4.29	34.502	66.9	38.6	2.91	108.0	7.568	4.220	27.381	322.9
17	1176	3.64	34.539	74.7	38.7	2.90	121.6	7.581	3.549	27.478	328.0
18	1469	2.88	34.583	83.4	38.9	2.89	138.1	7.591	2.772	27.585	334.2
19	1486	2.76	34.578	82.5	38.7	2.89	136.2	7.590	2.652	27.592	335.2
20	1733	2.44	34.605	92.5	38.5	2.84	146.9	7.606	2.315	27.641	337.9
21	1980	2.14	34.627	101.2	37.9	2.79	152.7	7.620	1.998	27.683	340.4
22	2227	1.94	34.640	110.3	37.4	2.74	155.6	7.634	1.780	27.710	342.1
23	2473	1.79	34.651	119.4	36.9	2.71	158.6	7.646	1.610	27.730	343.4
24	2719	1.68	34.666	127.2	36.5	2.66	158.5	7.659	1.479	27.750	344.3
25	2965	1.61	34.671	132.0	36.0	2.65	157.6	7.669	1.387	27.759	345.0
26	3210	1.57	34.677	137.6	35.8	2.61	158.5	7.679	1.323	27.767	345.3
27	3455	1.54	34.682	142.9	35.2	2.57	156.6	7.687	1.268	27.773	345.5
28	3700	1.52	34.686	148.5	35.0	2.56	154.7	7.694	1.222	27.778	345.7
29	3945	1.50	34.688	154.1	34.6	2.53	152.7	7.704	1.175	27.781	345.9
30	4189	1.46	34.693	162.0	33.9	2.48	147.8	7.712	1.108	27.788	346.2
31	4433	1.46	34.695	167.6	33.7	2.45	144.9	7.719	1.079	27.790	346.2
32	4676	1.43	34.702	173.7	33.1	2.42	141.0	7.722	1.021	27.797	346.5
33	4784	1.42	34.704	177.6	33.8	2.41	138.1	7.729	0.997	27.800	346.6
34	4922	1.41	34.705	179.8	32.9	2.39	137.1	7.729	0.970	27.801	346.7
35	4980	1.40	34.708	181.9	33.1	2.41	136.2	7.731	0.953	27.804	346.7
36	5128	1.40	34.707	183.2	33.0	2.36	135.2	7.733	0.934	27.803	346.7
37	5167	1.42	34.709	183.7	32.3	2.37	134.2	7.733	0.948	27.804	346.6
38	5177	1.41	34.707	184.5	33.0	2.35	135.2	7.733	0.937	27.803	346.7
39	5206	1.41	34.707	185.0	32.6	2.37	134.2	7.732	0.934	27.803	346.7
40	5220	1.41	34.707	184.5	32.3	2.36	134.2	7.733	0.932	27.803	346.7
41	5235	1.43	34.707	185.4	32.4	2.37	133.2	7.734	0.949	27.801	346.5
42	5245	1.42	34.707	185.4	32.3	2.37	132.3	7.734	0.938	27.802	346.6
43	5255	1.42	34.708	185.9	32.4	2.34	134.2	7.733	0.937	27.803	346.6
44	5265	1.42	34.707	185.4	32.3	2.33	134.2	7.730	0.936	27.802	346.6

KH82-1, STATION 8

COR.D= 5729, D(P-B)= 5719, 12.44.5N 173.14.3E, 7 FEB. 1982

N	DEPTH (METER)	TEMP. (DEG.C)	SALINITY (PERMIL)	OXYGEN	NITRATE	PHOSPHATE	SILICATE	PH	T POT (DEG.C)	SIGMA T	SAT.02
				(MICROMOLES/KG AT IN SITU TEMP.)							
1	1	26.40	34.468	203.8	0.0	0.14	4.7	8.249	26.399	22.529	206.6
2	10	26.29	34.610	203.4	0.0	0.15	4.6	8.251	26.287	22.670	206.8
3	29	26.15	34.941	203.8	0.0	0.13	4.7	8.245	26.143	22.963	206.9
4	48	26.12	34.947	189.8	0.0	0.15	4.6	8.242	26.108	22.977	207.0
5	71	26.10	34.946	203.7	0.0	0.13	4.7	8.244	26.082	22.982	207.1
6	95	26.08	34.938	198.1	0.0	0.16	4.7	8.246	26.057	22.982	207.1
7	119	23.47	35.049	176.5	0.1	0.25	5.0	8.180	23.443	23.854	216.5
8	143	20.44	34.969	166.8	2.5	0.41	6.4	8.117	20.411	24.640	228.7
9	192	16.74	34.689	162.4	7.9	0.83	10.9	8.015	16.707	25.355	245.7
10	289	10.38	34.366	87.4	24.8	2.12	33.1	7.722	10.344	26.411	280.7
11	387	8.79	34.518	29.1	33.5	2.72	46.6	7.566	8.746	26.794	290.5
12	485	7.65	34.523	36.0	35.6	2.84	56.1	7.559	7.599	26.971	298.1
13	583	6.94	34.521	46.5	36.6	2.87	63.0	7.564	6.882	27.071	303.1
14	681	6.19	34.516	43.8	38.1	2.98	72.9	7.550	6.126	27.167	308.4
15	780	5.60	34.528	43.0	39.7	3.06	81.1	7.538	5.530	27.251	312.8
16	977	4.76	34.547	54.7	40.2	3.11	96.0	7.547	4.677	27.365	319.1
17	1174	4.04	34.555	61.6	39.8	3.08	110.9	7.559	3.945	27.450	324.8
18	1470	3.12	34.585	76.0	39.3	3.01	132.3	7.575	3.009	27.565	332.2
19	1534	2.91	34.595	79.9	39.0	2.97	136.2	7.583	2.796	27.592	333.9
20	1778	2.41	34.621	93.8	38.4	2.94	147.9	7.602	2.282	27.656	338.1
21	2023	2.14	34.637	103.8	37.8	2.85	153.7	7.620	1.995	27.691	340.4
22	2268	1.94	34.651	113.8	37.0	2.77	156.6	7.637	1.776	27.718	342.1
23	2513	1.83	34.658	###.#	36.8	2.77	157.6	7.648	1.646	27.732	343.0
24	2758	1.74	34.669	124.2	36.4	2.74	159.5	7.654	1.534	27.748	343.8
25	3006	1.64	34.673	130.3	36.1	2.71	161.5	7.667	1.412	27.759	344.7
26	3254	1.57	34.677	138.1	35.7	2.68	160.5	7.677	1.318	27.767	345.3
27	3500	1.52	34.681	144.2	35.2	2.59	158.5	7.687	1.244	27.774	345.7
28	3746	1.49	34.687	151.5	34.7	2.59	155.6	7.694	1.188	27.781	346.0
29	3992	1.45	34.688	158.9	34.3	2.52	150.8	7.702	1.121	27.785	346.3
30	4236	1.39	34.695	170.2	33.6	2.43	143.9	7.715	1.035	27.795	346.9
31	4480	1.38	34.696	176.7	33.0	2.51	139.1	7.721	0.996	27.796	346.9
32	4724	1.36	34.699	182.8	32.4	2.39	136.2	7.725	0.947	27.800	347.1
33	4969	1.35	34.703	186.3	32.3	2.39	134.2	7.727	0.907	27.804	347.2
34	5215	1.39	34.702	187.6	32.3	2.40	133.2	7.727	0.913	27.800	346.8
35	5461	1.40	34.704	185.4	32.3	2.44	132.3	7.729	0.890	27.801	346.7
36	5709	1.44	34.705	188.5	32.2	2.36	131.3	7.730	0.895	27.799	346.4

KH82-1, STATION 9

COR.D= 5615, D(P-B)= 5605, 15.03.8N 169.54.2E, 9 FEB. 1982

N	DEPTH (METER)	TEMP. (DEG.C)	SALINITY (PERMIL)	OXYGEN	NITRATE	PHOSPHATE	SILICATE	PH	T POT (DEG.C)	SIGMA T	SAT.02
				(MICROMOLES/KG AT IN SITU TEMP.)							
1	1	26.20	34.799	203.3	0.0	0.04	4.4	8.235	26.199	22.840	206.9
2	10	26.34	34.767	203.4	0.0	0.09	4.3	8.246	26.337	22.772	206.4
3	29	26.11	34.907	203.8	0.0	0.09	4.3	8.249	26.103	22.950	207.1
4	49	26.04	34.956	204.6	0.0	0.09	4.3	8.244	26.028	23.008	207.3
5	73	26.03	34.954	203.7	0.0	0.09	4.4	8.250	26.012	23.010	207.3
6	97	26.02	34.960	HHH.H	0.0	0.09	4.4	8.246	25.996	23.018	207.3
7	121	26.02	34.960	202.9	0.0	0.10	4.4	8.244	25.991	23.018	207.3
8	145	25.92	34.962	202.0	0.0	0.12	4.5	8.246	25.885	23.050	207.7
9	193	21.98	35.048	183.4	1.5	0.33	5.3	8.151	21.939	24.279	222.3
10	288	12.67	34.383	148.3	15.3	1.29	18.8	7.900	12.629	26.000	267.3
11	387	9.76	34.453	48.2	29.9	2.40	38.5	7.624	9.714	26.585	284.4
12	484	7.70	34.355	65.6	33.3	2.66	55.8	7.579	7.649	26.832	298.1
13	582	6.96	34.477	42.1	37.8	2.89	64.2	7.556	6.902	27.033	303.0
14	679	5.86	34.462	46.5	37.6	2.94	78.5	7.548	5.798	27.167	311.0
15	970	4.60	34.536	53.0	40.4	3.04	101.2	7.550	4.519	27.374	320.4
16	1166	3.89	34.555	64.3	40.0	3.01	114.8	7.563	3.798	27.465	326.0
17	1461	3.07	34.588	76.8	40.2	2.99	134.2	7.579	2.961	27.572	332.6
18	1705	2.59	34.611	87.7	38.7	2.91	144.9	7.597	2.466	27.633	336.6
19	1948	2.24	34.632	99.9	38.7	2.86	151.7	7.618	2.100	27.679	339.5
20	2191	2.01	34.648	109.4	38.2	2.81	155.6	7.633	1.852	27.710	341.5
21	2435	1.87	34.657	115.9	38.4	2.77	159.5	7.643	1.692	27.729	342.7
22	2679	1.75	34.662	121.6	37.5	2.74	160.5	7.655	1.552	27.742	343.7
23	2923	1.66	34.668	127.7	37.5	2.71	160.5	7.662	1.440	27.753	344.5
24	3167	1.60	34.676	123.7	36.6	2.68	158.5	7.674	1.357	27.764	345.0
25	3410	1.55	34.680	140.7	36.2	2.64	158.5	7.684	1.283	27.771	345.5
26	3653	1.52	34.684	146.3	37.0	2.61	156.6	7.687	1.227	27.776	345.7
27	3896	1.50	34.687	152.8	35.2	2.59	155.6	7.696	1.181	27.780	345.9
28	4138	1.46	34.691	160.7	35.0	2.54	147.8	7.707	1.114	27.786	346.2
29	4378	1.44	34.696	168.9	34.1	2.51	143.9	7.713	1.067	27.792	346.4
30	4620	1.41	34.700	175.4	34.1	2.47	139.1	7.724	1.008	27.797	346.7
31	4863	1.40	34.703	181.5	33.1	2.42	136.2	7.728	0.968	27.800	346.8
32	5107	1.38	34.704	185.0	33.7	2.42	135.2	7.729	0.918	27.803	346.9
33	5352	1.42	34.705	187.6	33.1	2.39	134.2	7.733	0.924	27.800	346.6
34	5597	1.43	34.705	188.0	32.4	2.38	133.2	7.732	0.900	27.800	346.5

KH82-1, STATION 10

COR.D= 5401, D(P-B)= 5385, 16.00.0N 164.59.8E, 10-11 FEB. 1982

N	DEPTH (METER)	TEMP. (DEG.C)	SALINITY (PERMIL)	OXYGEN	NITRATE	PHOSPHATE	SILICATE	PH	T POT (DEG.C)	SIGMA T	SAT.02
				(MICROMOLES/KG AT IN SITU TEMP.)							
1	1	26.40	34.938	202.5	0.0	0.07	4.3	8.257	26.399	22.882	206.0
2	10	26.60	34.921	202.0	0.0	0.08	4.4	8.259	26.597	22.806	205.4
3	29	26.64	34.919	202.9	0.0	0.06	4.3	8.256	26.632	22.792	205.2
4	48	26.62	34.921	202.9	0.0	0.07	4.3	8.262	26.608	22.800	205.3
5	72	26.62	34.923	202.5	0.0	0.06	4.3	8.260	26.602	22.801	205.3
6	95	26.63	34.940	202.5	0.0	0.06	4.3	8.262	26.606	22.811	205.2
7	120	26.58	34.956	201.6	0.0	0.06	4.3	8.261	26.550	22.839	205.4
8	143	25.09	35.153	195.4	0.8	0.08	4.3	8.221	25.056	23.450	210.4
9	191	21.61	35.172	186.9	1.6	0.20	5.1	8.158	21.570	24.476	223.6
10	286	15.09	34.611	186.2	8.2	1.05	11.6	8.028	15.045	25.671	254.0
11	382	10.70	34.263	181.8	15.7	1.40	24.9	7.904	10.652	26.275	279.0
12	479	7.82	34.172	108.2	27.3	2.34	50.0	7.689	7.770	26.671	297.6
13	575	6.24	34.330	49.1	35.8	2.99	73.9	7.548	6.186	27.014	308.5
14	672	5.71	34.436	49.5	37.5	3.06	82.9	7.549	5.649	27.165	312.1
15	769	5.31	34.485	53.4	37.7	3.05	86.7	7.554	5.243	27.252	315.0
16	964	4.60	34.521	63.8	37.7	3.07	97.3	7.569	4.520	27.363	320.4
17	1159	3.90	34.546	68.6	38.3	3.14	113.8	7.572	3.808	27.457	325.9
18	1455	3.11	34.578	80.8	38.2	3.05	128.4	7.587	3.001	27.560	332.3
19	1686	2.52	34.603	93.4	37.4	2.96	143.0	7.601	2.398	27.632	337.2
20	1930	2.20	34.627	101.2	37.6	2.95	149.8	7.618	2.062	27.678	339.9
21	2175	1.97	34.642	111.6	36.7	2.85	152.7	7.634	1.814	27.709	341.8
22	2420	1.80	34.650	118.1	35.9	2.84	156.6	7.647	1.625	27.728	343.3
23	2664	1.70	34.662	125.9	35.8	2.78	156.6	7.656	1.504	27.746	344.2
24	2908	1.64	34.667	131.1	35.7	2.78	156.6	7.668	1.422	27.754	344.7
25	3154	1.55	34.675	139.8	35.6	2.70	155.6	7.679	1.309	27.767	345.5
26	3402	1.52	34.680	144.2	35.1	2.69	155.6	7.689	1.254	27.773	345.7
27	3646	1.48	34.678	151.1	34.5	2.67	152.7	7.696	1.189	27.775	346.1
28	3890	1.47	34.686	156.3	34.1	2.63	149.8	7.704	1.152	27.782	346.2
29	4134	1.44	34.692	164.6	33.8	2.54	143.0	7.711	1.095	27.789	346.4
30	4378	1.43	34.697	170.2	33.0	2.54	140.1	7.717	1.057	27.793	346.5
31	4623	1.42	34.699	176.3	32.7	2.51	136.2	7.724	1.018	27.796	346.6
32	5093	1.40	34.705	185.0	32.5	2.49	131.3	7.733	0.939	27.802	346.7
33	5113	1.40	34.700	186.7	31.9	2.45	131.3	7.730	0.936	27.798	346.8
34	5240	1.39	34.703	185.4	32.3	2.45	131.3	7.730	0.910	27.801	346.8
35	5314	1.42	34.699	186.7	32.2	2.53	132.3	7.732	0.929	27.796	346.6
36	5348	1.41	34.699	188.0	32.0	2.50	136.2	7.736	0.915	27.796	346.7
37	5358	1.41	34.696	185.9	32.2	2.46	136.2	7.732	0.914	27.794	346.7
38	5368	1.43	34.699	185.4	32.6	2.45	135.2	7.735	0.931	27.795	346.5
39	5378	1.42	34.699	185.4	32.2	2.45	134.2	7.732	0.921	27.796	346.6

KH82-1, STATION 11

COR.D= 5787, D(P-B)= 5767, 13.58.9N 159.00.2E, 12 FEB. 1982

N	DEPTH (METER)	TEMP. (DEG.C)	SALINITY (PERMIL)	OXYGEN	NITRATE	PHOSPHATE	SILICATE	PH	T POT (DEG.C)	SIGMA T	SAT.02
				(MICROMOLES/KG AT IN SITU TEMP.)							
1	1	26.80	34.703	201.6	0.0	0.17	4.4	8.249	26.799	22.579	204.9
2	10	26.89	34.674	201.2	0.0	0.14	4.4	8.257	26.887	22.529	204.7
3	29	26.84	34.675	201.2	0.0	0.14	4.4	8.261	26.832	22.545	204.8
4	48	26.82	34.675	201.2	0.0	0.14	4.4	8.261	26.808	22.552	204.9
5	72	26.82	34.673	203.0	0.0	0.14	4.4	8.261	26.802	22.550	204.9
6	95	26.83	34.677	202.1	0.0	0.16	4.4	8.259	26.806	22.550	204.9
7	119	26.11	34.995	198.9	0.0	0.13	4.7	8.238	26.081	23.016	207.0
8	143	24.07	35.088	190.5	0.0	0.18	4.8	8.199	24.038	23.707	214.2
9	191	20.86	35.188	195.1	1.0	0.22	5.5	8.167	20.821	24.694	226.6
10	287	13.52	34.470	172.7	11.5	1.20	15.8	7.970	13.478	25.896	262.4
11	384	9.65	34.426	59.1	29.4	2.62	39.3	7.654	9.604	26.583	285.2
12	480	8.04	34.500	41.7	34.3	2.90	50.9	7.587	7.989	26.896	295.5
13	579	7.06	34.488	46.0	35.9	2.95	62.4	7.571	7.002	27.028	302.3
14	674	6.27	34.492	49.5	37.1	3.02	72.7	7.564	6.206	27.138	307.9
15	771	5.66	34.503	48.6	39.3	3.11	81.8	7.554	5.590	27.224	312.4
16	965	4.67	34.531	58.6	38.8	3.11	100.2	7.563	4.589	27.363	319.8
17	1160	3.90	34.552	70.3	39.4	3.07	112.8	7.578	3.808	27.462	325.9
18	1450	3.07	34.585	83.8	38.4	3.02	130.4	7.595	2.961	27.569	332.6
19	1637	2.79	34.596	91.2	37.4	2.95	138.1	7.605	2.669	27.603	334.9
20	1881	2.47	34.607	98.6	37.3	2.81	142.0	7.617	2.332	27.640	337.6
21	2125	2.16	34.632	106.8	36.9	2.78	148.8	7.632	2.005	27.686	340.2
22	2369	2.00	34.644	113.8	36.9	2.80	151.7	7.643	1.826	27.708	341.6
23	2613	1.87	34.657	119.8	36.3	2.80	152.7	7.655	1.675	27.729	342.7
24	2853	1.78	34.662	125.1	35.9	2.82	154.7	7.665	1.564	27.739	343.5
25	3096	1.71	34.667	131.1	35.6	2.79	154.7	7.672	1.471	27.749	344.1
26	3339	1.63	34.672	135.9	35.2	2.78	154.7	7.677	1.368	27.759	344.8
27	3580	1.60	34.676	141.1	35.2	2.77	152.7	7.684	1.313	27.764	345.0
28	3820	1.55	34.680	148.5	34.3	2.76	150.8	7.694	1.238	27.771	345.5
29	4061	1.52	34.682	154.6	34.7	2.78	144.0	7.705	1.181	27.775	345.7
30	4302	1.50	34.689	161.5	34.0	2.72	141.0	7.711	1.134	27.782	345.9
31	4543	1.49	34.691	167.2	33.9	2.71	140.1	7.715	1.095	27.784	346.0
32	4784	1.50	34.696	172.8	33.7	2.64	135.2	7.725	1.075	27.787	345.9
33	5026	1.47	34.697	175.4	32.7	2.65	134.2	7.723	1.015	27.790	346.1
34	5123	1.51	34.696	176.7	33.3	2.62	134.2	7.727	1.041	27.787	345.8
35	5220	1.50	34.697	177.6	32.7	2.61	134.2	7.721	1.018	27.788	345.9
36	5317	1.52	34.695	178.9	32.8	2.61	134.2	7.726	1.025	27.785	345.7
37	5415	1.51	34.697	178.9	32.3	2.58	133.2	7.725	1.002	27.788	345.8
38	5515	1.51	34.700	179.3	32.0	2.55	134.2	7.728	0.988	27.790	345.8
39	5761	1.54	34.697	179.8	31.8	2.55	133.2	7.728	0.983	27.785	345.5

KH82-1, STATION 12

COR.D= 5453, D(P-B)= 5431, 10.00.5N 155.40.1E, 13 FEB. 1982

N	DEPTH (METER)	TEMP. (DEG.C)	SALINITY (PERMIL)	OXYGEN	NITRATE	PHOSPHATE	SILICATE (MICROMOLES/KG AT IN SITU TEMP.)	PH	T POT (DEG.C)	SIGMA T	SAT.02
1	1	27.60	34.189	198.7	0.0	0.04	3.0	8.261	27.599	21.937	202.8
2	10	27.78	34.174	199.2	0.0	0.05	3.2	8.270	27.777	21.867	202.2
3	29	27.78	34.174	198.7	0.0	0.06	2.5	8.269	27.772	21.867	202.2
4	48	27.79	34.174	198.7	0.0	0.06	2.7	8.267	27.777	21.864	202.2
5	72	27.78	34.174	197.4	0.2	0.06	3.1	8.267	27.761	21.867	202.2
6	96	26.14	34.716	202.5	0.2	0.17	3.3	8.230	26.116	22.797	207.2
7	120	22.41	34.877	183.1	0.6	0.39	3.9	8.148	22.384	24.029	220.8
8	143	19.68	34.860	170.7	3.8	0.63	5.6	8.083	19.652	24.758	232.1
9	191	13.70	34.485	153.1	9.4	1.24	15.7	7.937	13.672	25.870	261.4
10	288	10.05	34.602	29.1	27.8	2.61	36.5	7.609	10.015	26.652	282.3
11	385	8.88	34.612	35.2	29.7	2.65	42.7	7.587	8.836	26.853	289.8
12	482	7.94	34.570	44.7	33.3	2.73	50.0	7.589	7.889	26.965	296.1
13	579	6.94	34.543	56.5	31.5	2.77	59.0	7.593	6.882	27.088	303.0
14	677	6.17	34.529	59.1	31.4	2.87	69.8	7.583	6.106	27.180	308.6
15	774	5.52	34.535	66.0	36.3	2.92	78.8	7.587	5.451	27.266	313.4
16	970	4.68	34.550	78.6	34.4	2.92	92.6	7.603	4.598	27.377	319.7
17	1165	3.91	34.568	83.4	33.7	2.92	109.9	7.604	3.817	27.474	325.8
18	1269	3.64	34.574	88.6	35.5	2.90	114.8	7.610	3.541	27.506	327.9
19	1457	3.01	34.601	93.8	32.2	2.91	127.4	7.616	2.902	27.587	333.1
20	1513	2.90	34.605	96.0	38.7	2.84	129.4	7.617	2.788	27.601	334.0
21	1757	2.51	34.618	100.7	36.0	2.85	140.1	7.626	2.382	27.645	337.2
22	2000	2.25	34.633	107.2	34.5	2.76	148.8	7.635	2.105	27.679	339.4
23	2243	2.05	34.645	114.2	36.3	2.75	153.7	7.641	1.886	27.705	341.1
24	2488	1.91	34.655	120.3	36.3	2.74	153.7	7.653	1.726	27.724	342.3
25	2732	1.79	34.664	125.9	35.3	2.71	153.7	7.667	1.586	27.740	343.4
26	2977	1.68	34.669	133.3	31.0	2.60	152.7	7.676	1.454	27.753	344.3
27	3220	1.62	34.677	140.3	34.1	2.62	150.8	7.682	1.371	27.763	344.8
28	3461	1.54	34.682	147.2	33.8	2.56	150.8	7.689	1.267	27.773	345.5
29	3703	1.53	34.685	152.0	30.8	2.59	147.8	7.701	1.231	27.777	345.6
30	3946	1.51	34.687	157.6	32.8	2.59	144.9	7.710	1.185	27.780	345.8
31	4188	1.50	34.687	162.0	33.9	2.59	144.9	7.713	1.147	27.780	345.9
32	4430	1.50	34.692	166.7	34.2	2.58	140.1	7.720	1.118	27.784	345.9
33	4672	1.49	34.692	170.2	33.3	2.51	139.1	7.722	1.079	27.785	346.0
34	4914	1.51	34.696	172.8	33.6	2.57	138.1	7.727	1.068	27.787	345.8
35	5136	1.51	34.696	174.6	33.3	2.58	139.1	7.725	1.039	27.787	345.8
36	5154	1.51	34.696	176.3	33.0	2.54	138.1	7.727	1.037	27.787	345.8
37	5282	1.52	34.697	175.9	33.3	2.57	138.1	7.727	1.029	27.787	345.7
38	5355	1.54	34.696	###.#	33.2	2.53	138.1	7.728	1.039	27.785	345.5
39	5389	1.54	34.697	###.#	33.4	2.52	137.1	7.727	1.034	27.785	345.5
40	5398	1.54	34.698	175.9	34.3	2.56	137.1	7.730	1.033	27.786	345.5
41	5407	1.54	34.695	175.4	33.2	2.55	135.2	7.728	1.032	27.784	345.5
42	5417	1.54	34.695	175.4	33.2	2.51	136.2	7.728	1.030	27.784	345.5

KH82-1, STATION 13

COR.D= 5933, D(P-B)= 5923, 11.59.9N 152.30.1E, 21-22 FEB. 1982

N	DEPTH (METER)	TEMP. (DEG.C)	SALINITY (PERMIL)	OXYGEN	NITRATE	PHOSPHATE	SILICATE	PH	T POT (DEG.C)	SIGMA T	SAT.02
				(MICROMOLES/KG AT IN SITU TEMP.)							
1	1	27.00	34.329	201.7	0.1	0.03	4.8	8.262	26.999	22.234	204.7
2	10	27.22	34.304	###.#	0.0	0.04	4.9	8.264	27.217	22.145	204.0
3	29	27.23	34.304	200.9	0.0	0.04	5.0	8.269	27.222	22.142	203.9
4	48	27.22	34.305	201.3	0.0	0.11	5.0	8.264	27.208	22.146	204.0
5	72	27.21	34.313	200.4	0.0	0.11	5.0	8.267	27.192	22.155	204.0
6	95	27.19	34.503	200.8	0.0	0.16	5.0	8.266	27.166	22.304	203.8
7	118	27.20	34.582	200.4	0.0	0.20	5.0	8.261	27.170	22.361	203.7
8	142	25.43	34.978	196.7	0.5	0.23	5.2	8.224	25.396	23.214	209.4
9	190	19.00	34.842	168.1	5.4	0.66	8.4	8.072	18.964	24.919	235.0
10	286	11.72	34.490	77.4	24.2	1.87	28.1	7.744	11.682	26.265	272.5
11	383	8.72	34.393	66.0	30.1	2.34	45.5	7.642	8.677	26.708	291.2
12	479	7.53	34.476	56.5	33.5	2.56	56.2	7.606	7.481	26.952	299.0
13	576	6.56	34.473	56.0	36.1	2.71	67.3	7.583	6.505	27.085	305.9
14	673	5.95	34.499	63.4	36.3	2.75	74.2	7.588	5.888	27.184	310.2
15	770	5.36	34.506	62.1	38.2	2.80	84.4	7.577	5.292	27.263	314.6
16	963	4.53	34.532	74.3	37.7	2.80	98.3	7.591	4.450	27.379	320.9
17	1158	3.76	34.562	79.9	38.2	2.75	113.8	7.597	3.669	27.484	327.0
18	1449	2.95	34.588	90.7	37.7	2.71	132.3	7.608	2.843	27.583	333.6
19	1534	2.78	34.591	91.6	37.7	2.70	138.1	7.608	2.668	27.600	335.0
20	1777	2.36	34.619	105.1	37.2	2.69	144.0	7.627	2.233	27.659	338.5
21	2020	2.14	34.634	111.2	37.1	2.63	147.9	7.640	1.995	27.689	340.4
22	2264	1.97	34.644	118.1	36.1	2.60	151.7	7.648	1.806	27.710	341.8
23	2507	1.83	34.645	123.3	36.0	2.53	152.7	7.658	1.646	27.722	343.1
24	2751	1.73	34.657	129.0	35.8	2.49	155.6	7.664	1.525	27.739	343.9
25	2994	1.57	34.669	134.6	35.6	2.40	154.7	7.676	1.345	27.761	345.3
26	3237	1.57	34.673	141.1	35.4	2.41	153.7	7.684	1.320	27.764	345.3
27	3479	1.55	34.680	146.8	34.9	2.29	152.7	7.690	1.275	27.771	345.5
28	3720	1.50	34.681	154.6	34.1	2.19	148.8	7.701	1.200	27.775	345.9
29	3961	1.50	34.687	159.8	34.4	2.11	145.9	7.711	1.173	27.780	345.9
30	4202	1.49	34.688	163.3	33.4	2.08	145.9	7.713	1.136	27.782	346.0
31	4445	1.48	34.687	167.2	33.5	2.02	143.0	7.718	1.097	27.782	346.1
32	4689	1.50	34.691	170.7	33.1	2.02	142.0	7.721	1.087	27.783	345.9
33	4932	1.48	34.690	172.8	33.4	2.05	141.0	7.725	1.037	27.784	346.1
34	5175	1.52	34.689	171.1	33.2	2.04	139.1	7.722	1.044	27.780	345.7
35	5419	1.53	34.696	175.4	33.1	2.03	140.1	7.727	1.021	27.785	345.6
36	5664	1.57	34.697	176.3	32.7	2.01	140.1	7.727	1.025	27.783	345.2
37	5909	1.57	34.696	177.6	33.0	2.01	138.1	7.724	0.991	27.782	345.2

KH82-1, STATION 14

COR.D = 5843, D(P-B) = 5828, 12.20.0N 148.59.5E, 23 FEB. 1982

N	DEPTH (METER)	TEMP. (DEG.C)	SALINITY (PERMIL)	OXYGEN	NITRATE	PHOSPHATE	SILICATE	PH	T POT (DEG.C)	SIGMA T	SAT.02
				(MICROMOLES/KG AT IN SITU TEMP.)							
1	1	27.60	34.146	200.0	0.0	0.14	4.3	8.270	27.599	21.904	202.9
2	10	27.48	34.278	200.9	0.0	0.13	4.4	8.272	27.477	22.042	203.1
3	28	27.43	34.315	200.9	0.0	0.13	4.4	8.270	27.423	22.086	203.3
4	47	27.42	34.332	200.9	0.0	0.12	4.4	8.269	27.408	22.102	203.3
5	71	27.34	34.427	200.4	0.0	0.12	4.5	8.269	27.322	22.199	203.4
6	94	27.32	34.572	200.4	0.0	0.16	4.5	8.260	27.296	22.315	203.3
7	118	27.24	34.835	199.5	0.0	0.14	4.6	8.261	27.210	22.538	203.3
8	142	25.38	34.928	198.0	0.0	0.22	4.7	8.217	25.346	23.192	209.6
9	189	20.04	34.936	173.8	3.5	0.52	6.8	8.094	20.003	24.721	230.4
10	284	12.01	34.450	109.1	20.5	1.70	25.6	7.800	11.971	26.179	270.9
11	379	8.84	34.413	65.6	30.1	2.43	45.7	7.633	8.797	26.704	290.4
12	474	7.67	34.459	57.8	33.5	2.60	56.5	7.600	7.621	26.918	298.1
13	570	6.78	34.475	58.6	35.5	2.68	66.1	7.586	6.724	27.056	304.3
14	665	6.23	34.490	60.4	36.2	2.77	73.6	7.581	6.167	27.141	308.2
15	761	5.59	34.504	64.3	37.2	2.80	82.7	7.581	5.522	27.233	312.9
16	953	4.68	34.528	69.9	38.7	2.88	101.2	7.581	4.600	27.359	319.8
17	1146	3.88	34.552	73.8	39.2	2.90	116.7	7.584	3.789	27.464	326.0
18	1413	3.01	34.589	88.1	38.6	2.87	131.3	7.598	2.905	27.578	333.1
19	1436	2.95	34.586	87.3	37.9	2.85	138.1	7.599	2.844	27.581	333.6
20	1656	2.50	34.608	97.7	38.6	2.84	143.0	7.618	2.381	27.638	337.3
21	1899	2.23	34.632	107.2	##.#	2.77	145.9	7.628	2.094	27.680	339.6
22	2143	2.00	34.645	115.9	##.#	2.73	150.8	7.641	1.846	27.709	341.6
23	2386	1.85	34.654	122.4	36.9	2.72	152.7	7.656	1.677	27.728	342.9
24	2629	1.74	34.664	128.5	36.9	2.67	154.7	7.663	1.547	27.744	343.8
25	2872	1.68	34.670	133.7	34.7	2.64	155.6	7.672	1.464	27.753	344.3
26	3115	1.60	34.675	139.4	35.0	2.63	153.7	7.680	1.362	27.763	345.0
27	3358	1.56	34.679	145.5	34.2	2.58	149.8	7.691	1.298	27.770	345.4
28	3602	1.53	34.683	151.5	33.6	2.53	148.8	7.700	1.242	27.775	345.6
29	3845	1.50	34.686	156.8	33.7	2.55	148.8	7.704	1.187	27.779	345.9
30	4089	1.50	34.689	161.1	33.7	2.49	146.9	7.709	1.159	27.782	345.9
31	4333	1.49	34.691	163.7	32.4	2.50	144.9	7.714	1.120	27.784	346.0
32	4577	1.50	34.685	167.6	32.8	#.##	143.9	7.717	1.100	27.779	345.9
33	4821	1.45	34.697	171.5	32.8	2.49	141.0	7.722	1.022	27.792	346.3
34	5064	1.52	34.697	173.7	32.1	2.39	140.1	7.722	1.058	27.787	345.7
35	5307	1.52	34.699	175.4	32.2	2.40	138.1	7.723	1.026	27.788	345.7
36	5531	1.54	34.701	174.6	32.9	2.43	139.1	7.724	1.015	27.789	345.5
37	5550	1.55	34.699	177.2	32.3	2.39	138.1	7.724	1.022	27.786	345.4
38	5677	1.56	34.699	177.2	32.8	2.45	139.1	7.724	1.014	27.786	345.3
39	5750	1.58	34.699	177.6	33.0	2.46	139.1	7.725	1.023	27.784	345.2
40	5785	1.57	34.700	176.7	33.2	2.47	138.1	7.724	1.009	27.786	345.2
41	5794	1.56	34.699	177.6	32.9	2.38	138.1	7.723	0.998	27.786	345.3
42	5804	1.58	34.695	177.6	33.5	2.37	138.1	7.722	1.016	27.781	345.2
43	5814	1.58	34.699	177.2	33.4	2.33	138.1	7.722	1.014	27.784	345.2

KH82-1, STATION 15

COR.D= 9750, D(P-B)= ****, 12.59.7N 146.09.2E, 24 FEB. 1982

N	DEPTH (METER)	TEMP. (DEG.C)	SALINITY (PERMIL)	OXYGEN	NITRATE	PHOSPHATE	SILICATE	PH	T POT (DEG.C)	SIGMA T	SAT.02
				(MICROMOLES/KG AT IN SITU TEMP.)							
1	1	27.50	34.440	200.0	0.0	0.13	4.6	8.273	27.499	22.157	202.9
2	10	27.52	34.432	200.9	0.0	0.12	4.6	8.274	27.517	22.145	202.8
3	29	27.42	34.428	200.9	0.0	0.13	4.6	8.273	27.412	22.174	203.2
4	48	27.42	34.429	200.9	0.0	0.13	4.5	8.272	27.408	22.175	203.2
5	72	27.44	34.446	###.#	0.0	0.11	4.5	8.269	27.421	22.181	203.1
6	95	27.53	34.516	200.0	0.0	0.13	4.6	8.267	27.506	22.205	202.7
7	119	27.56	34.596	200.4	0.0	0.14	4.7	8.266	27.530	22.255	202.5
8	143	25.75	35.023	197.6	0.0	0.16	4.7	8.227	25.716	23.149	208.2
9	191	20.22	34.931	172.5	3.2	0.49	7.1	8.094	20.182	24.670	229.6
10	286	12.36	34.383	178.3	33.3	1.10	19.1	7.940	12.320	26.060	269.0
11	382	9.28	34.339	90.4	27.6	2.16	40.7	7.690	9.236	26.576	287.7
12	478	7.04	34.355	58.2	34.3	2.63	63.8	7.576	6.993	26.926	302.7
13	574	6.06	34.431	63.4	36.7	2.70	76.4	7.581	6.007	27.117	309.6
14	671	5.58	34.454	66.4	38.5	2.75	84.0	7.582	5.520	27.195	313.1
15	768	5.37	34.513	69.0	38.3	2.79	83.7	7.587	5.302	27.267	314.5
16	961	4.35	34.533	75.1	38.9	2.84	104.1	7.586	4.272	27.399	322.3
17	1155	3.66	34.567	82.9	39.7	2.84	116.7	7.600	3.571	27.498	327.8
18	1446	2.94	34.596	92.1	38.5	2.83	134.2	7.608	2.833	27.590	333.7
19	1452	2.93	34.594	91.6	38.7	2.81	133.3	7.606	2.823	27.589	333.7
20	1696	2.49	34.616	102.5	37.8	2.75	141.0	7.624	2.368	27.645	337.4
21	1939	2.20	34.633	110.7	37.3	2.72	145.9	7.634	2.061	27.683	339.9
22	2182	1.99	34.647	118.5	36.7	2.68	149.8	7.646	1.833	27.711	341.7
23	2425	1.82	34.656	124.6	36.0	2.63	152.7	7.656	1.644	27.732	343.1
24	2668	1.73	34.664	130.3	35.9	2.61	153.7	7.662	1.533	27.745	343.9
25	2911	1.68	34.670	135.0	35.8	2.56	152.7	7.673	1.460	27.753	344.3
26	3154	1.61	34.674	138.9	35.1	2.55	152.7	7.680	1.368	27.762	344.9
27	3397	1.58	34.677	144.2	34.9	2.52	151.7	7.687	1.313	27.766	345.2
28	3640	1.53	34.681	150.2	34.9	2.49	150.8	7.695	1.238	27.773	345.6
29	3884	1.52	34.688	155.0	34.4	2.47	148.8	7.703	1.201	27.780	345.7
30	4127	1.48	34.691	160.7	34.6	2.44	147.8	7.711	1.135	27.785	346.1
31	4370	1.48	34.692	165.0	34.3	2.43	143.9	7.714	1.106	27.786	346.1
32	4613	1.49	34.695	168.9	33.6	2.37	142.0	7.719	1.086	27.787	346.0
33	4856	1.47	34.695	171.5	33.3	2.37	140.1	7.720	1.037	27.789	346.1
34	5340	1.54	34.701	174.1	32.7	2.34	139.1	7.724	1.041	27.789	345.5
35	5826	1.47	34.700	176.3	33.6	2.36	137.1	7.724	0.907	27.793	346.1
36	6312	1.68	34.701	176.3	33.8	2.31	137.1	7.726	1.038	27.778	344.3

KH82-1, STATION 16

COR.D= 3719, D(P-B)= 3766, 18.12.6N 144.41.9E, 3 MAR. 1982

N	DEPTH (METER)	TEMP. (DEG.C)	SALINITY (PERMIL)	OXYGEN	NITRATE	PHOSPHATE	SILICATE (MICROMOLES/KG AT IN SITU TEMP.)	PH	T POT (DEG.C)	SIGMA T	SAT.02
1	1	27.00	34.669	202.5	0.0	0.07	4.4	8.269	26.999	22.490	204.3
2	10	26.96	34.660	201.2	0.0	0.06	4.4	8.275	26.957	22.496	204.4
3	29	26.92	34.652	202.1	0.0	0.06	4.4	8.277	26.912	22.503	204.6
4	48	26.93	34.669	201.2	0.0	0.05	4.4	8.275	26.918	22.512	204.5
5	72	26.93	34.669	201.2	0.0	0.06	4.4	8.273	26.912	22.512	204.5
6	95	26.92	34.683	201.2	0.0	0.05	4.5	8.272	26.896	22.526	204.6
7	119	26.84	34.673	200.8	0.0	0.05	4.5	8.272	26.810	22.544	204.8
8	143	25.83	35.026	198.9	0.0	0.06	4.6	8.242	25.796	23.127	207.9
9	191	22.40	35.129	183.5	0.9	0.19	5.3	8.175	22.359	24.222	220.5
10	287	17.12	34.809	195.4	4.5	0.36	8.3	8.097	17.070	25.357	243.7
11	383	12.77	34.407	177.5	12.4	0.99	18.1	7.960	12.716	25.998	266.7
12	480	9.68	34.241	142.2	22.3	1.61	41.2	7.810	9.623	26.433	285.3
13	577	7.67	34.261	82.1	30.7	2.25	56.3	7.641	7.610	26.763	298.5
14	675	6.04	34.232	72.5	34.0	2.52	76.9	7.585	5.978	26.963	310.1
15	772	5.20	34.354	63.8	36.4	2.65	91.8	7.564	5.133	27.162	316.1
16	968	4.11	34.475	75.6	37.8	2.69	112.9	7.584	4.033	27.379	324.4
17	1164	3.21	34.515	79.0	38.3	2.73	134.3	7.581	3.124	27.500	331.6
18	1458	2.83	34.572	94.2	37.4	2.69	139.1	7.609	2.724	27.581	334.6
19	1560	2.61	34.589	96.4	38.0	2.64	142.0	7.612	2.498	27.614	336.5
20	1802	2.25	34.609	104.6	37.2	2.67	147.9	7.628	2.122	27.660	339.5
21	2044	2.08	34.623	110.7	37.0	2.60	152.7	7.632	1.934	27.685	340.9
22	2287	1.87	34.641	120.3	37.0	2.60	156.6	7.647	1.706	27.716	342.7
23	2529	1.73	34.653	127.2	36.4	2.51	157.6	7.663	1.546	27.736	343.9
24	2783	1.70	34.658	131.1	35.6	2.51	155.6	7.670	1.493	27.742	344.2
25	3028	1.71	34.660	134.2	35.7	2.48	154.7	7.675	1.478	27.743	344.1
26	3270	1.69	34.665	135.0	35.2	2.45	152.7	7.675	1.434	27.749	344.3
27	3339	1.70	34.664	135.0	37.3	2.50	153.7	7.677	1.436	27.747	344.2
28	3408	1.71	34.664	135.5	36.2	2.49	153.7	7.678	1.438	27.746	344.1
29	3476	1.70	34.653	###.#	36.3	2.49	152.7	#.###	1.421	27.738	344.2
30	3535	1.72	34.664	135.9	36.4	2.48	152.7	7.678	1.434	27.746	344.0
31	3594	1.71	34.664	###.#	36.6	2.48	153.7	#.###	1.418	27.746	344.1
32	3653	1.72	34.663	###.#	35.9	2.45	151.7	#.###	1.422	27.745	344.0
33	3702	1.74	34.663	###.#	36.1	2.46	152.7	#.###	1.435	27.743	343.8
34	3730	1.71	34.665	###.#	35.8	2.47	152.7	#.###	1.403	27.747	344.1
35	3750	1.74	34.665	###.#	35.7	2.47	151.7	#.###	1.430	27.745	343.8
36	3760	1.74	34.666	###.#	36.1	2.42	152.7	#.###	1.429	27.746	343.8

KH82-1, STATION 17

COR.D= ****, D(P-B)= 3683, 18.14.1N 144.42.3E, 4 MAR. 1982

N	DEPTH (METER)	TEMP. (DEG.C)	SALINITY (PERMIL)	OXYGEN	NITRATE	PHOSPHATE	SILICATE	PH	T POT (DEG.C)	SIGMA T	SAT.02
				(MICROMOLES/KG AT IN SITU TEMP.)							
1	983	4.01	34.479	###.#	##.#	#.##	###.#	#.###	3.933	27.393	325.2
2	1957	2.10	34.622	###.#	##.#	#.##	###.#	#.###	1.961	27.682	340.8
3	2690	1.71	34.658	130.3	35.9	2.54	155.6	7.667	1.511	27.742	344.1
4	3181	1.69	34.665	133.7	36.2	2.51	153.7	7.674	1.443	27.749	344.3
5	3250	1.70	34.663	135.9	36.9	2.50	153.7	7.676	1.445	27.746	344.2
6	3319	1.70	34.667	136.3	35.4	2.51	153.7	7.677	1.438	27.750	344.2
7	3388	1.69	34.663	136.8	35.8	2.49	153.7	7.678	1.421	27.747	344.3
8	3446	1.70	34.668	137.2	35.0	2.48	154.7	7.677	1.425	27.750	344.2
9	3504	1.70	34.668	136.8	35.7	2.48	154.7	7.676	1.418	27.750	344.2
10	3563	1.72	34.669	136.3	35.5	2.49	155.6	7.677	1.431	27.750	344.0
11	3612	1.73	34.670	136.8	35.8	2.48	155.6	7.678	1.436	27.750	343.9
12	3641	1.73	34.669	136.3	37.5	2.48	154.7	7.678	1.433	27.749	343.9
13	3661	1.73	34.669	135.9	36.1	2.47	155.6	7.678	1.430	27.749	343.9
14	3671	1.73	34.666	135.9	35.5	2.44	156.6	7.679	1.429	27.746	343.9

KH82-1, STATION 18

COR.D= ****, D(P-B)= 3706, 18.11.7N 144.42.2E, 5 MAR. 1982

N	DEPTH (METER)	TEMP. (DEG.C)	SALINITY (PERMIL)	OXYGEN	NITRATE	PHOSPHATE	SILICATE	PH	T POT (DEG.C)	SIGMA T	SAT.02
				(MICROMOLES/KG AT IN SITU TEMP.)							
1	1095	3.44	34.498	###.#	##.#	#.##	###.#	#.###	3.358	27.465	329.7
2	2084	1.97	34.633	###.#	##.#	#.##	###.#	#.###	1.822	27.702	341.9
3	3112	1.69	34.665	###.#	##.#	#.##	159.5	7.669	1.450	27.749	344.3
4	3200	1.69	34.665	###.#	##.#	#.##	158.5	7.667	1.441	27.749	344.3
5	3249	1.69	34.666	###.#	##.#	#.##	158.5	7.669	1.436	27.749	344.3
6	3298	1.71	34.668	###.#	##.#	#.##	156.6	7.670	1.450	27.750	344.1
7	3347	1.70	34.666	###.#	##.#	#.##	154.7	7.669	1.435	27.749	344.2
8	3396	1.70	34.667	###.#	##.#	#.##	157.6	7.669	1.430	27.750	344.2
9	3445	1.72	34.669	###.#	##.#	#.##	157.6	7.670	1.444	27.750	344.0
10	3499	1.71	34.669	###.#	##.#	#.##	154.7	7.672	1.429	27.750	344.1
11	3548	1.72	34.668	###.#	##.#	#.##	158.5	7.671	1.433	27.749	344.0
12	3597	1.71	34.669	###.#	##.#	#.##	156.6	7.674	1.418	27.750	344.1
13	3646	1.73	34.667	###.#	##.#	#.##	152.7	7.673	1.432	27.747	343.9
14	3695	1.74	34.667	###.#	##.#	#.##	155.6	7.675	1.436	27.747	343.8

KH82-1, STATION 19

COR.D= ****, D(P-B)= 3534, 18.00.8N 144.18.2E, 5 MAR. 1982

N	DEPTH (METER)	TEMP. (DEG.C)	SALINITY (PERMIL)	OXYGEN	NITRATE	PHOSPHATE	SILICATE	PH	T POT (DEG.C)	SIGMA T	SAT.02
				(MICROMOLES/KG AT IN SITU TEMP.)							
1	1080	3.69	34.512	###.#	##.#	#.##	###.#	#.###	3.607	27.451	327.7
2	2048	2.04	34.624	###.#	##.#	#.##	###.#	#.###	1.894	27.689	341.3
3	2930	1.68	34.661	###.#	##.#	#.##	155.6	7.667	1.459	27.746	344.4
4	3027	1.69	34.664	###.#	##.#	#.##	155.6	7.669	1.459	27.748	344.3
5	3076	1.69	34.661	###.#	##.#	#.##	154.7	7.669	1.454	27.745	344.3
6	3125	1.70	34.665	###.#	##.#	#.##	155.6	7.669	1.458	27.748	344.2
7	3174	1.69	34.665	###.#	##.#	#.##	154.7	7.670	1.444	27.749	344.3
8	3223	1.68	34.665	###.#	##.#	#.##	154.7	7.671	1.429	27.749	344.3
9	3272	1.70	34.665	###.#	##.#	#.##	154.7	7.670	1.443	27.748	344.2
10	3320	1.70	34.666	###.#	##.#	#.##	153.7	7.671	1.438	27.749	344.2
11	3369	1.70	34.666	###.#	##.#	#.##	153.7	7.670	1.433	27.749	344.2
12	3418	1.70	34.666	###.#	##.#	#.##	154.7	7.670	1.428	27.749	344.2
13	3466	1.72	34.666	###.#	##.#	#.##	154.7	7.670	1.442	27.747	344.0
14	3515	1.71	34.666	###.#	##.#	#.##	154.7	7.671	1.427	27.748	344.1

KH82-1, STATION 20 & 20'

20: COR.D= ****, D(P-B)= 3615, 18.13.3N 144.42.2E, 6 MAR. 1982
20': COR.D= ****, D(P-B)= 3568, 18.13.3N 144.42.1E, 7 MAR. 1982

N	DEPTH (METER)	TEMP. (DEG.C)	SALINITY (PERMIL)	OXYGEN (MICROMOLES/KG AT	NITRATE IN SITU	PHOSPHATE TEMP.)	SILICATE	PH	T POT (DEG.C)	SIGMA T	SAT.02
1	742	5.71	34.288	###.#	##.#	#.##	###.#	#.###	5.643	27.048	312.4
2	1157	3.38	34.502	###.#	##.#	#.##	###.#	#.###	3.293	27.474	330.2
3	1692	2.45	34.599	###.#	##.#	#.##	###.#	#.###	2.329	27.635	337.8
4	2128	1.99	34.628	###.#	##.#	#.##	###.#	#.###	1.838	27.696	341.7
5	2470	1.76	34.650	###.#	##.#	#.##	156.6	7.653	1.581	27.731	343.7
6	2567	1.75	34.655	###.#	##.#	#.##	156.6	7.657	1.562	27.736	343.8
7	2615	1.73	34.658	###.#	##.#	#.##	156.6	7.659	1.538	27.740	343.9
8	2664	1.72	34.657	###.#	##.#	#.##	156.6	7.660	1.524	27.740	344.0
9	2713	1.70	34.660	###.#	##.#	#.##	156.6	7.662	1.499	27.744	344.2
10	2761	1.69	34.662	###.#	##.#	#.##	157.6	7.665	1.485	27.746	344.3
11	2810	1.71	34.662	###.#	##.#	#.##	156.6	7.666	1.500	27.745	344.1
12	2859	1.70	34.664	###.#	##.#	#.##	156.6	7.666	1.485	27.747	344.2
13	2957	1.70	34.664	###.#	##.#	#.##	157.6	7.665	1.475	27.747	344.2
14	2996	1.69	34.663	###.#	##.#	#.##	156.6	7.673	1.462	27.747	344.3
15	3094	1.69	34.663	###.#	##.#	#.##	157.6	7.672	1.452	27.747	344.3
16	3143	1.69	34.662	###.#	##.#	#.##	156.6	7.672	1.447	27.746	344.3
17	3191	1.70	34.664	###.#	##.#	#.##	156.6	7.671	1.452	27.747	344.2
18	3240	1.70	34.665	###.#	##.#	#.##	156.6	7.673	1.446	27.748	344.2
19	3289	1.69	34.665	###.#	##.#	#.##	157.6	7.671	1.432	27.749	344.3
20	3338	1.71	34.665	###.#	##.#	#.##	157.6	7.672	1.446	27.747	344.1
21	3387	1.69	34.665	###.#	##.#	#.##	156.6	7.673	1.421	27.749	344.3
22	3436	1.71	34.664	###.#	##.#	#.##	158.5	7.673	1.435	27.746	344.1
23	3485	1.70	34.666	###.#	##.#	#.##	157.6	7.675	1.420	27.749	344.2
24	3535	1.72	34.666	###.#	##.#	#.##	157.6	7.675	1.434	27.747	344.0
25	3585	1.72	34.667	###.#	##.#	#.##	157.6	7.675	1.429	27.748	344.0

KH82-1, STATION 21

COR.D= ****, D(P-B)= 3698, 18.11.8N 144.42.3E, 6 MAR. 1982

N	DEPTH (METER)	TEMP. (DEG.C)	SALINITY (PERMIL)	OXYGEN	NITRATE	PHOSPHATE	SILICATE	PH	T POT (DEG.C)	SIGMA T	SAT.02
				(MICROMOLES/KG AT IN SITU TEMP.)							
1	1196	3.24	34.512	###.#	##.#	#.##	###.#	#.###	3.151	27.495	331.3
2	2158	2.00	34.630	###.#	##.#	#.##	###.#	#.###	1.845	27.697	341.6
3	2923	1.70	34.661	###.#	##.#	#.##	154.7	7.665	1.479	27.745	344.2
4	2972	1.70	34.661	###.#	##.#	#.##	151.7	7.664	1.474	27.745	344.2
5	3020	1.69	34.661	###.#	##.#	#.##	152.7	7.665	1.459	27.745	344.3
6	3069	1.70	34.661	###.#	##.#	#.##	155.6	7.666	1.464	27.745	344.2
7	3117	1.70	34.665	###.#	##.#	#.##	158.5	7.666	1.459	27.748	344.2
8	3166	1.69	34.662	###.#	##.#	#.##	154.7	7.665	1.444	27.746	344.3
9	3243	1.71	34.666	###.#	##.#	#.##	155.6	7.668	1.456	27.748	344.1
10	3321	1.70	34.661	###.#	##.#	#.##	157.6	7.667	1.438	27.745	344.2
11	3399	1.71	34.663	###.#	##.#	#.##	155.6	7.669	1.439	27.746	344.1
12	3477	1.70	34.664	###.#	##.#	#.##	157.6	7.668	1.421	27.747	344.2
13	3555	1.73	34.664	###.#	##.#	#.##	155.6	7.671	1.442	27.745	343.9
14	3642	1.73	34.665	###.#	##.#	#.##	153.7	7.672	1.432	27.746	343.9

KH82-1, STATION 22

COR.D= ****, D(P-B)= 3690, 18.12.2N 144.42.6E, 7 MAR. 1982

N	DEPTH (METER)	TEMP. (DEG.C)	SALINITY (PERMIL)	OXYGEN	NITRATE	PHOSPHATE	SILICATE	PH	T POT (DEG.C)	SIGMA T	SAT.02
				(MICROMOLES/KG AT IN SITU TEMP.)							
1	1301	3.05	34.562	###.#	##.#	#.##	###.#	#.###	2.954	27.553	332.8
2	2239	1.94	34.635	###.#	##.#	#.##	###.#	#.###	1.779	27.706	342.1
3	2775	1.71	34.658	###.#	##.#	#.##	157.6	7.668	1.503	27.742	344.1
4	2824	1.71	34.660	###.#	##.#	#.##	157.6	7.667	1.498	27.743	344.1
5	2861	1.70	34.660	###.#	##.#	#.##	###.#	#.###	1.485	27.744	344.2
6	2872	1.71	34.659	###.#	##.#	#.##	156.6	7.666	1.494	27.742	344.1
7	2921	1.69	34.663	###.#	##.#	#.##	157.6	7.669	1.469	27.747	344.3
8	2970	1.69	34.663	###.#	##.#	#.##	157.6	7.670	1.464	27.747	344.3
9	3019	1.69	34.664	###.#	##.#	#.##	156.6	7.668	1.459	27.748	344.3
10	3068	1.69	34.666	###.#	##.#	#.##	156.6	7.667	1.454	27.749	344.3
11	3117	1.70	34.665	###.#	##.#	#.##	156.6	7.669	1.459	27.748	344.2
12	3166	1.69	34.665	###.#	##.#	#.##	156.6	7.667	1.444	27.749	344.3
13	3215	1.69	34.667	###.#	##.#	#.##	156.6	7.668	1.439	27.750	344.3
14	3293	1.71	34.666	###.#	##.#	#.##	156.6	7.670	1.451	27.748	344.1
15	3371	1.71	34.666	###.#	##.#	#.##	156.6	7.671	1.442	27.748	344.1
16	3450	1.71	34.665	###.#	##.#	#.##	155.6	7.671	1.434	27.747	344.1
17	3529	1.71	34.664	###.#	##.#	#.##	157.6	7.671	1.425	27.746	344.1

KH82-1, STATION 23

COR.D= ****, D(P-B)= 3650, 18.14.6N 144.42.1E, 7 MAR. 1982

N	DEPTH (METER)	TEMP. (DEG.C)	SALINITY (PERMIL)	OXYGEN	NITRATE	PHOSPHATE	SILICATE	PH	T POT (DEG.C)	SIGMA T	SAT.02
				(MICROMOLES/KG AT IN SITU TEMP.)							
1	1197	3.23	34.546	###.#	##.#	#.##	###.#	#.###	3.141	27.523	331.4
2	2170	1.92	34.637	###.#	##.#	#.##	###.#	#.###	1.765	27.709	342.3
3	2608	1.73	34.656	###.#	##.#	#.##	155.6	7.659	1.539	27.738	343.9
4	2705	1.72	34.657	###.#	##.#	#.##	155.6	7.660	1.520	27.740	344.0
5	2803	1.71	34.661	###.#	##.#	#.##	154.7	7.663	1.500	27.744	344.1
6	2852	1.70	34.663	###.#	##.#	#.##	154.7	7.664	1.486	27.746	344.2
7	2901	1.69	34.664	###.#	##.#	#.##	154.7	7.663	1.471	27.748	344.3
8	2949	1.71	34.664	###.#	##.#	#.##	154.7	7.665	1.486	27.746	344.1
9	2998	1.71	34.664	###.#	##.#	#.##	154.7	7.667	1.481	27.746	344.1
10	3047	1.70	34.664	###.#	##.#	#.##	154.7	7.667	1.466	27.747	344.2
11	3145	1.70	34.667	###.#	##.#	#.##	154.7	7.668	1.456	27.750	344.2
12	3242	1.71	34.661	###.#	##.#	#.##	155.6	7.668	1.456	27.744	344.1
13	3340	1.72	34.661	###.#	##.#	#.##	154.7	7.669	1.455	27.743	344.0
14	3438	1.71	34.664	###.#	##.#	#.##	154.7	7.670	1.435	27.746	344.1
15	3536	1.72	34.664	###.#	##.#	#.##	155.6	7.670	1.434	27.746	344.0

KH82-1, STATION 24

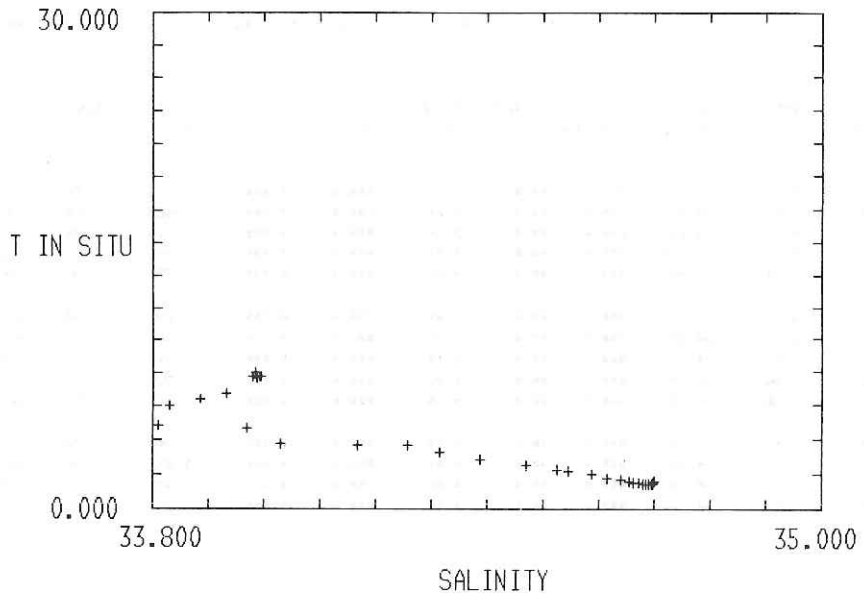
COR.D= ****, D(P-B)= 5938, 30.04.0N 146.46.0E, 10-11 MAR. 1982

N	DEPTH (METER)	TEMP. (DEG.C)	SALINITY (PERMIL)	OXYGEN (MICROMOLES/KG AT IN SITU TEMP.)	NITRATE	PHOSPHATE	SILICATE	PH	T POT (DEG.C)	SIGMA T	SAT.02
1	1017	4.47	34.167	###.#	##.#	#.##	###.#	#.###	4.386	27.096	322.2
2	2036	2.03	34.584	###.#	##.#	#.##	###.#	#.###	1.885	27.658	341.5
3	3007	1.65	34.648	###.#	##.#	#.##	###.#	#.###	1.422	27.738	344.7
4	3979	1.54	34.670	###.#	##.#	#.##	###.#	#.###	1.210	27.764	345.6
5	4952	1.51	34.687	###.#	##.#	#.##	###.#	#.###	1.063	27.780	345.8
6	5640	1.61	34.683	###.#	##.#	#.##	###.#	#.###	1.067	27.769	344.9
7	5737	1.62	34.682	###.#	##.#	#.##	###.#	#.###	1.063	27.767	344.8
8	5815	1.62	34.682	###.#	##.#	#.##	###.#	#.###	1.052	27.767	344.8
9	5864	1.64	34.678	###.#	##.#	#.##	###.#	#.###	1.065	27.763	344.7
10	5893	1.64	34.682	###.#	##.#	#.##	###.#	#.###	1.061	27.766	344.7
11	5912	1.64	34.682	###.#	##.#	#.##	###.#	#.###	1.058	27.766	344.7
12	5922	1.64	34.682	###.#	##.#	#.##	###.#	#.###	1.056	27.766	344.7

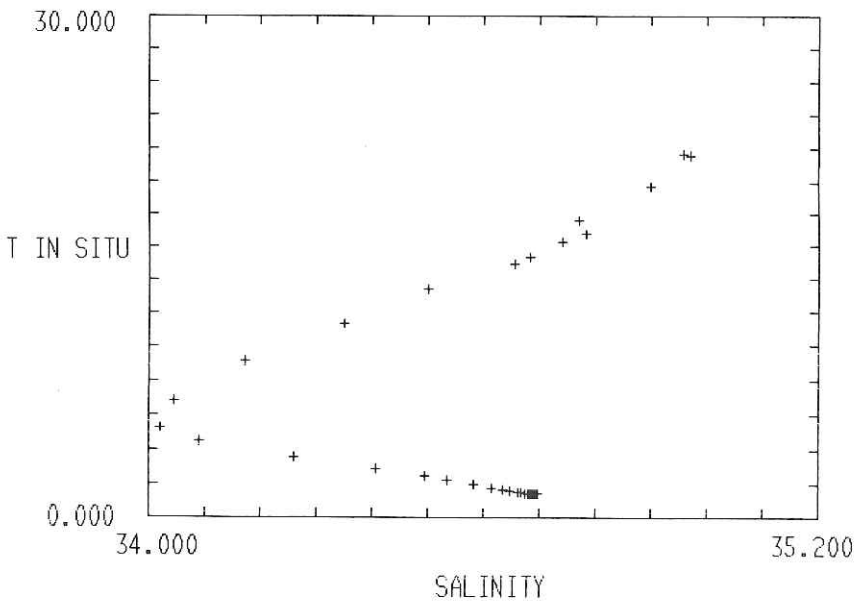
KH82-1, STATION 25

COR.D= ****, D(P-B)= 6268, 30.07.3N 146.49.3E, 12-13 MAR. 1982

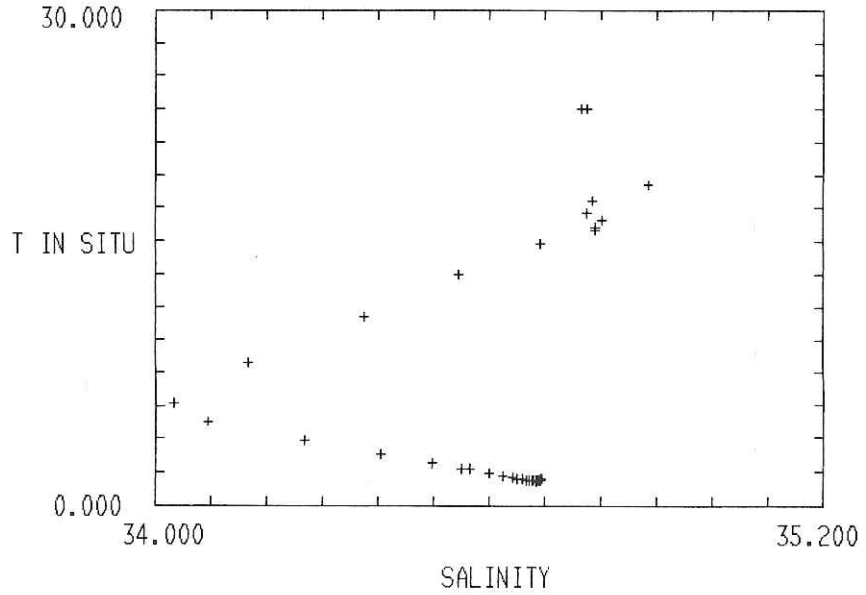
N	DEPTH (METER)	TEMP. (DEG.C)	SALINITY (PERMIL)	OXYGEN	NITRATE	PHOSPHATE	SILICATE	PH	T POT (DEG.C)	SIGMA T	SAT.02
				(MICROMOLES/KG AT IN SITU TEMP.)							
1	9	18.58	34.930	###.#	##.#	#.##	###.#	#.###	18.578	25.092	236.8
2	92	18.60	34.928	###.#	##.#	#.##	###.#	#.###	18.583	25.086	236.7
3	1069	4.00	34.243	###.#	##.#	#.##	###.#	#.###	3.916	27.206	325.7
4	2037	2.07	34.579	###.#	##.#	#.##	###.#	#.###	1.925	27.651	341.1
5	3140	1.64	34.651	###.#	##.#	#.##	###.#	#.###	1.398	27.741	344.7
6	4109	1.54	34.673	###.#	##.#	#.##	###.#	#.###	1.195	27.766	345.6
7	5080	1.51	34.681	###.#	##.#	#.##	###.#	#.###	1.046	27.775	345.8
8	5921	1.63	34.684	###.#	##.#	#.##	###.#	#.###	1.047	27.768	344.7
9	6067	1.66	34.685	###.#	##.#	#.##	###.#	#.###	1.055	27.767	344.5
10	6145	1.66	34.685	###.#	##.#	#.##	###.#	#.###	1.043	27.767	344.5
11	6193	1.67	34.685	###.#	##.#	#.##	###.#	#.###	1.046	27.766	344.4
12	6223	1.66	34.684	###.#	##.#	#.##	###.#	#.###	1.032	27.766	344.5
13	6243	1.67	34.685	###.#	##.#	#.##	###.#	#.###	1.039	27.766	344.4
14	6253	1.67	34.684	###.#	##.#	#.##	###.#	#.###	1.037	27.765	344.4



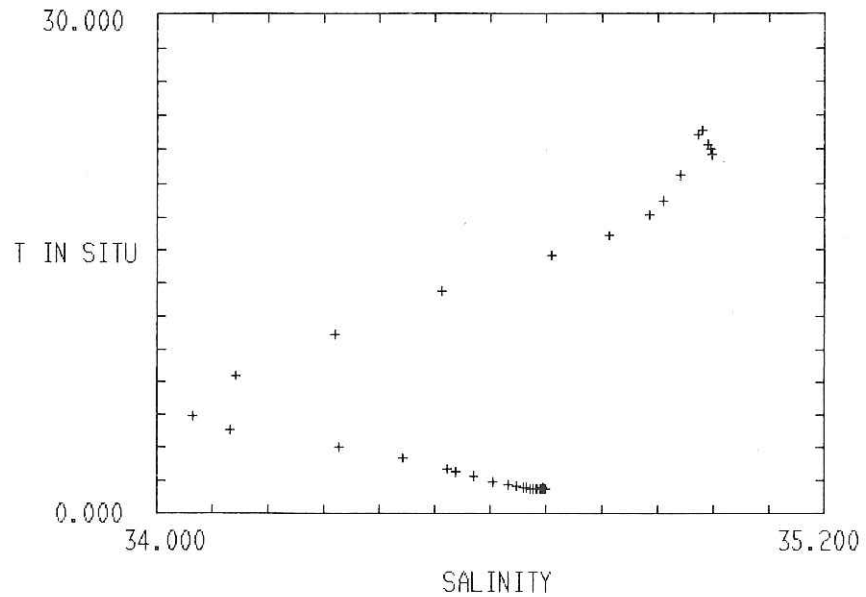
CY5, COR.D=5509, D(P-B)=5520, 40.00N, 56.00E, 1 MAY, 1980



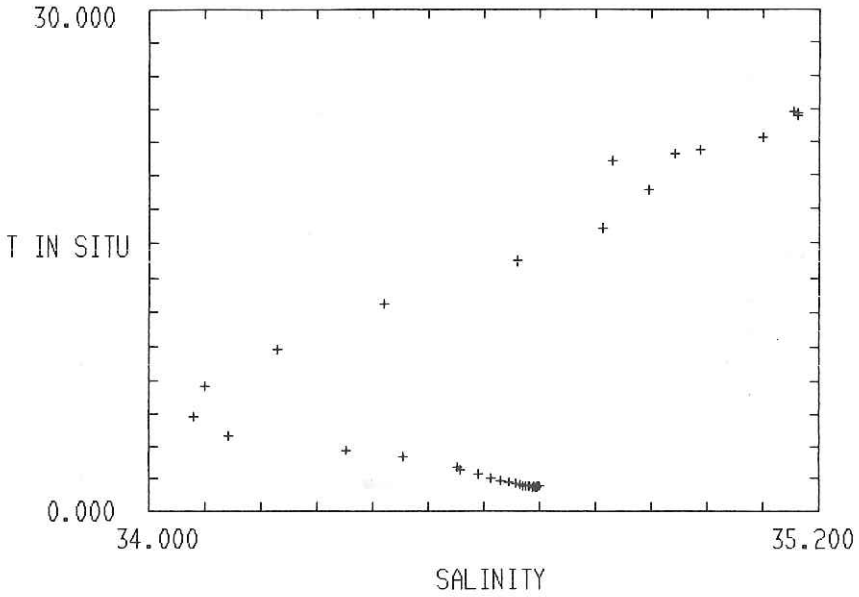
CY11, COR.D=5510, D(P-B)= 5510, 30.34.3N, 170.35.5E, 6 JUNE, 1980



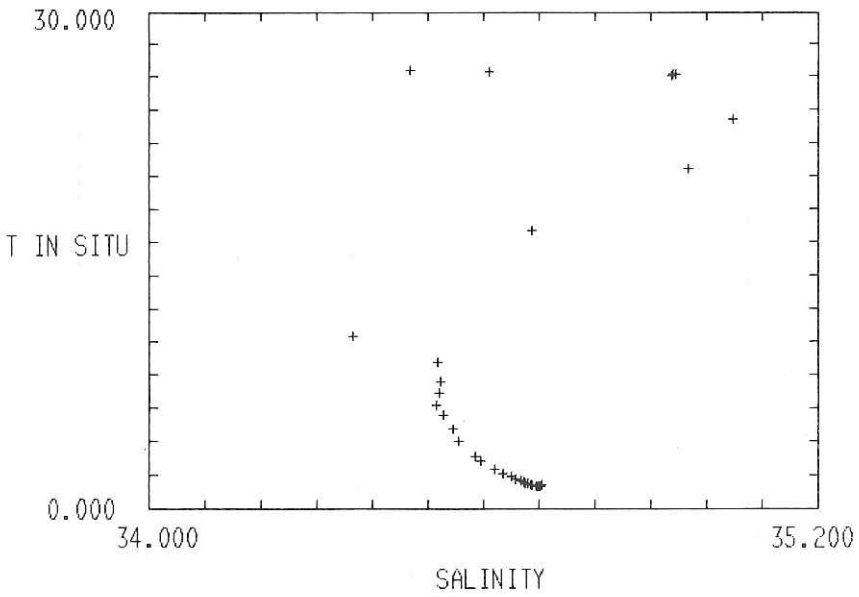
CY16, COR.D=6257, D(P-B)= 6260, 30.02.6N, 146.53.3E, 13 JUNE, 1980



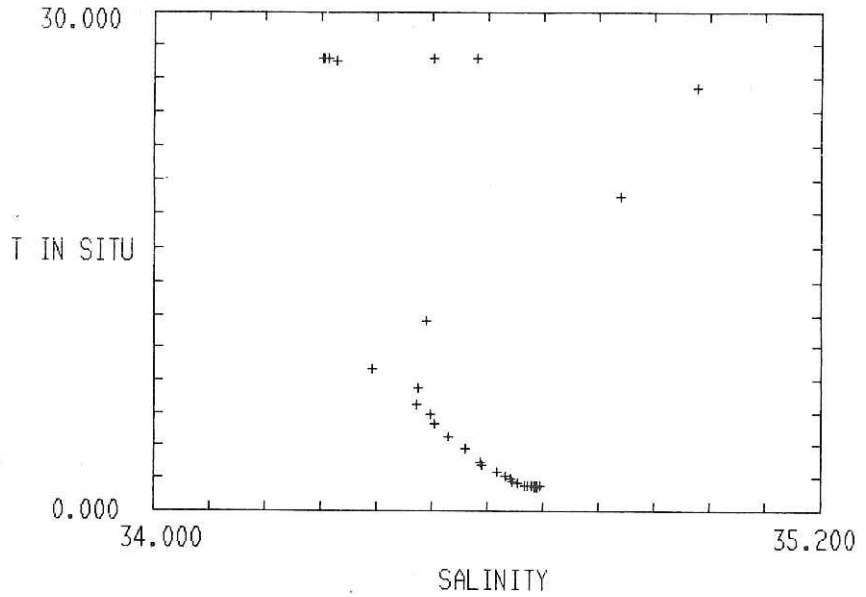
CE 1, COR.D=5930, D(P-B)=5919, 26.01.5N 150.00.5E 25 JAN. 1982



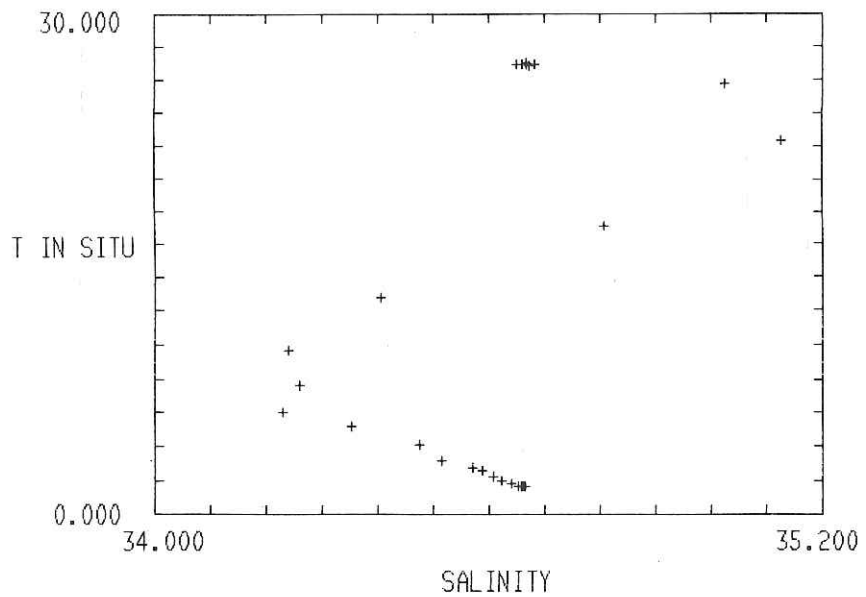
CE 4, COR.D=5983, D(P-B)=5967, 25.00.7N 164.58.5E 29 JAN. 1982



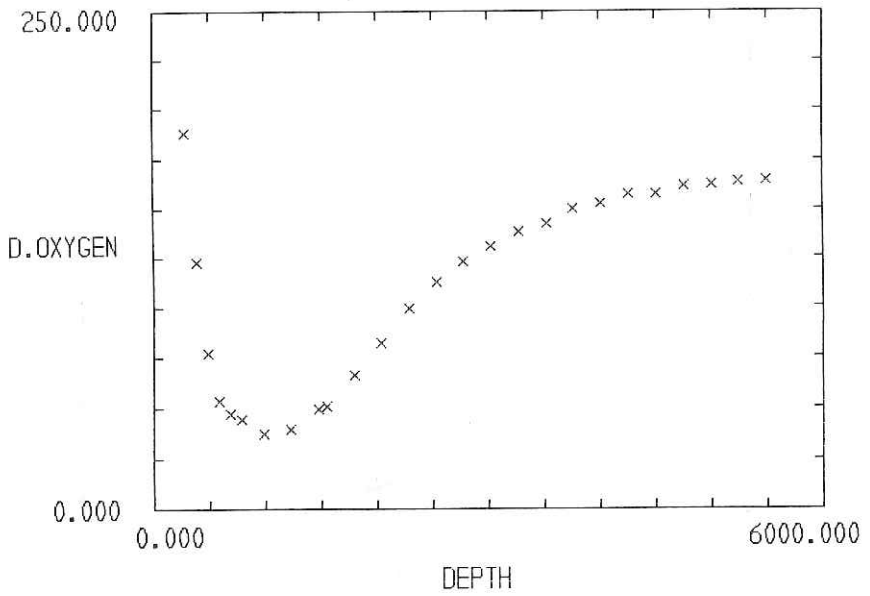
CE 8, COR.D=5729, D(P-B)=5719, 12.44.5N 173.14.3E 7 FEB. 1982



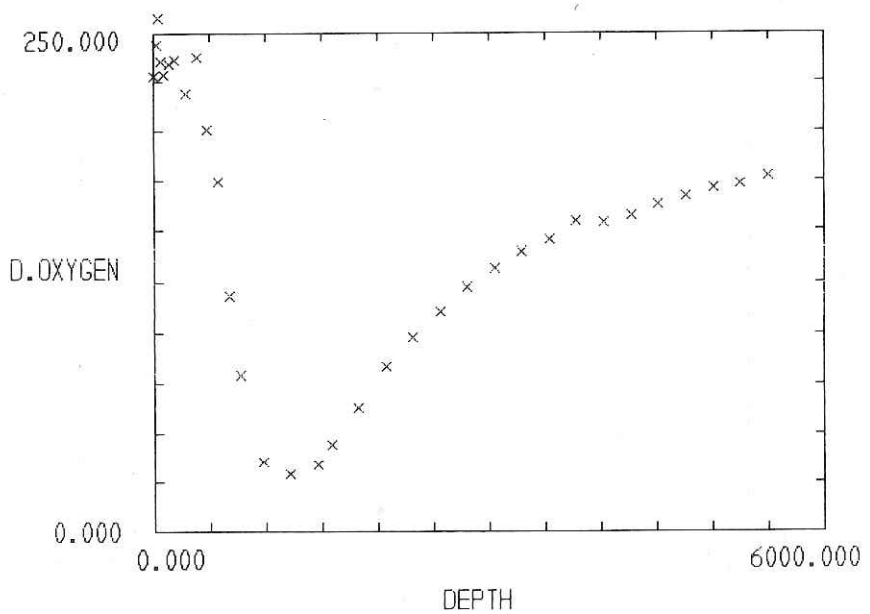
CE13, COR.D=5933, D(P-B)=5923, 11.59.9N 152.30.1E 21 FEB. 1982



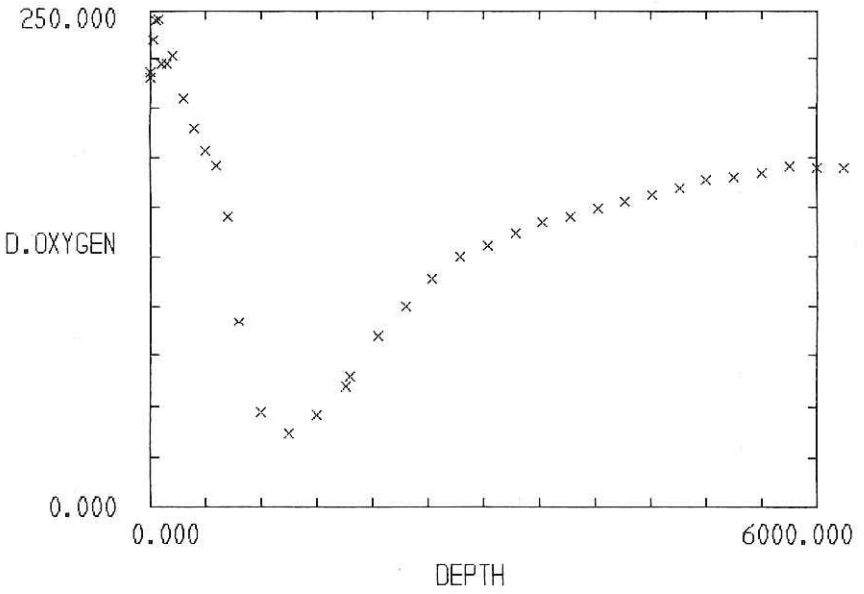
CE16, COR.D=3719, D(P-B)=3766, 18.12.6N 144.41.9E 3 MAR. 1982



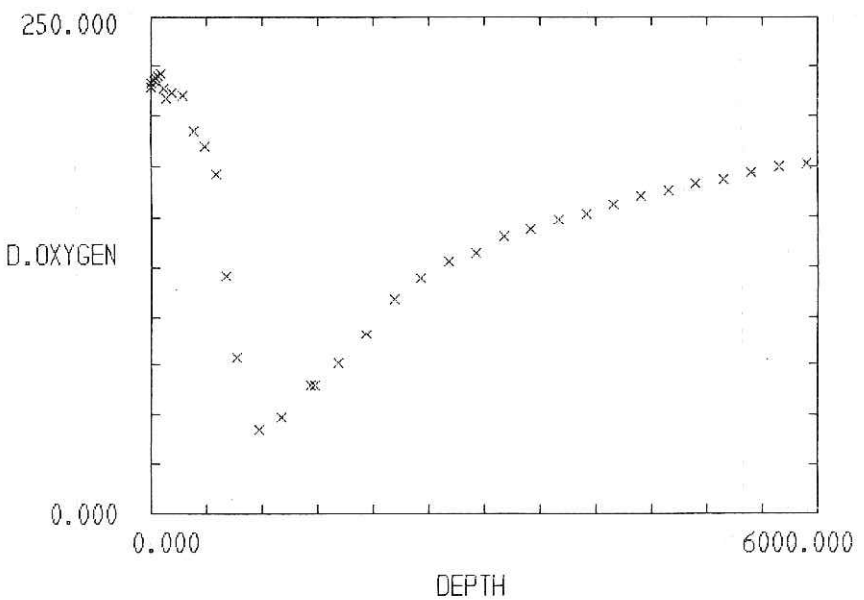
CY5, COR.D=5509, D(P-B)=5520, 40.00N, 56.00E, 1 MAY, 1980



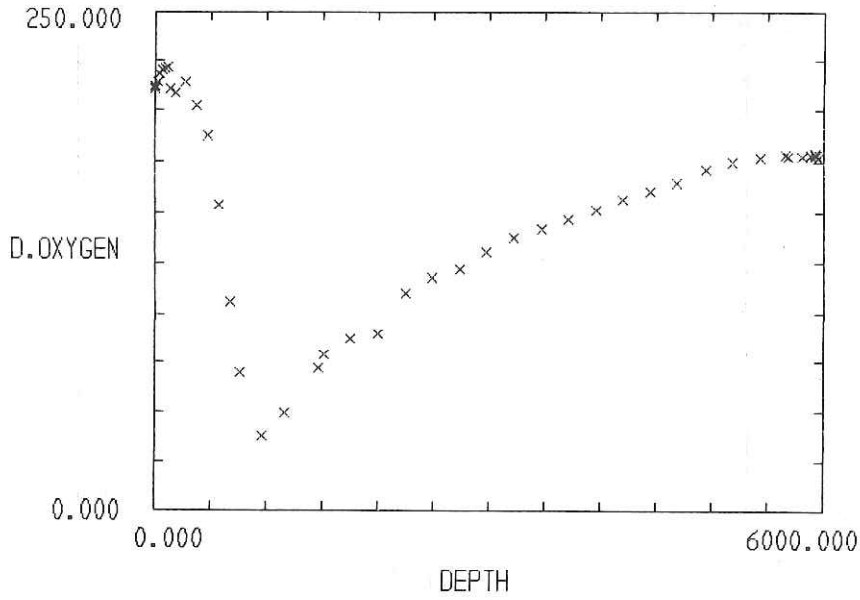
CY11, COR.D=5510, D(P-B)= 5510, 30.34.3N, 170.35.5E, 6 JUNE, 1980



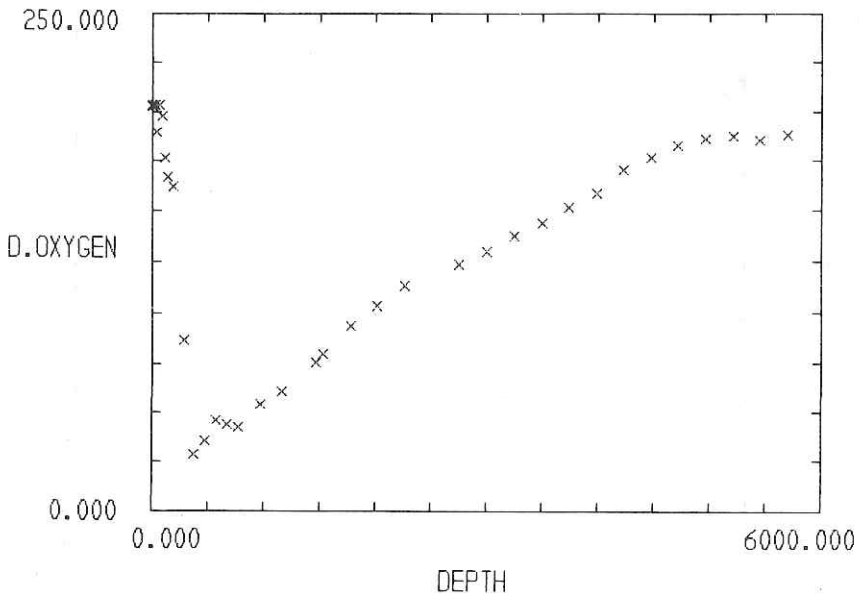
CY16, COR.D=6257, D(P-B)= 6260, 30.02.6N, 146.53.3E, 13 JUNE, 1980



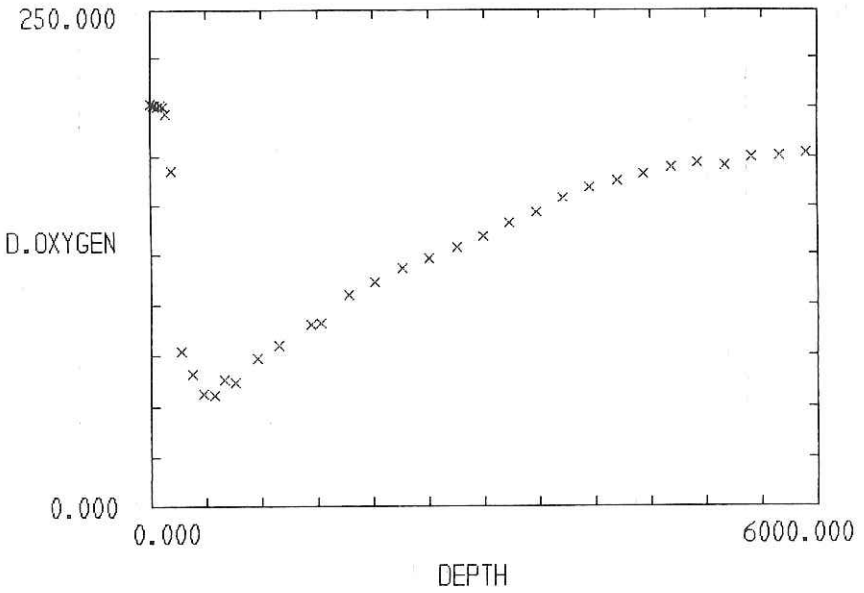
CE 1, COR.D=5930, D(P-B)=5919, 26.01.5N 150.00.5E 25 JAN. 1982



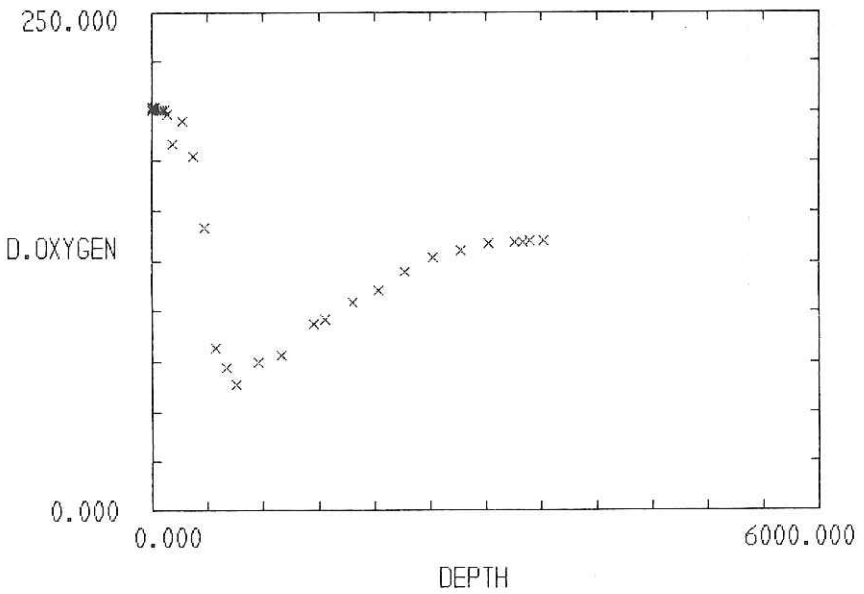
CE 4, COR.D=5983, D(P-B)=5967, 25.00.7N 164.58.5E 29 JAN. 1982



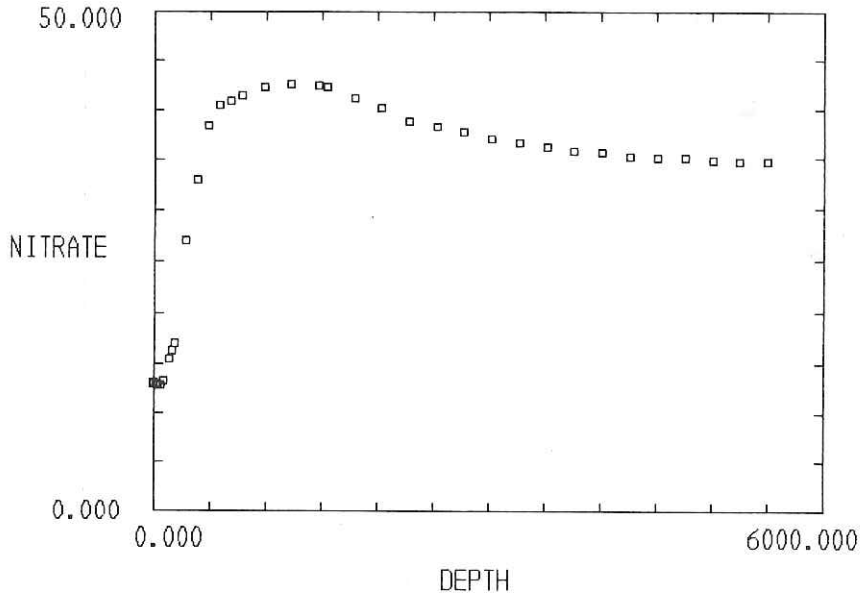
CE 8, COR.D=5729, D(P-B)=5719, 12.44.5N 173.14.3E 7 FEB. 1982



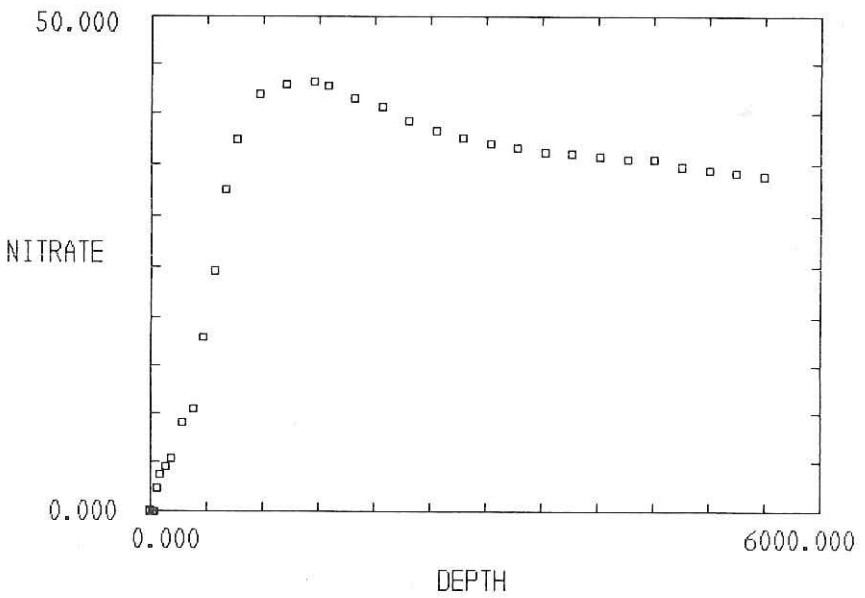
CE13, COR.D=5933, D(P-B)=5923, 11.59.9N 152.30.1E 21 FEB. 1982



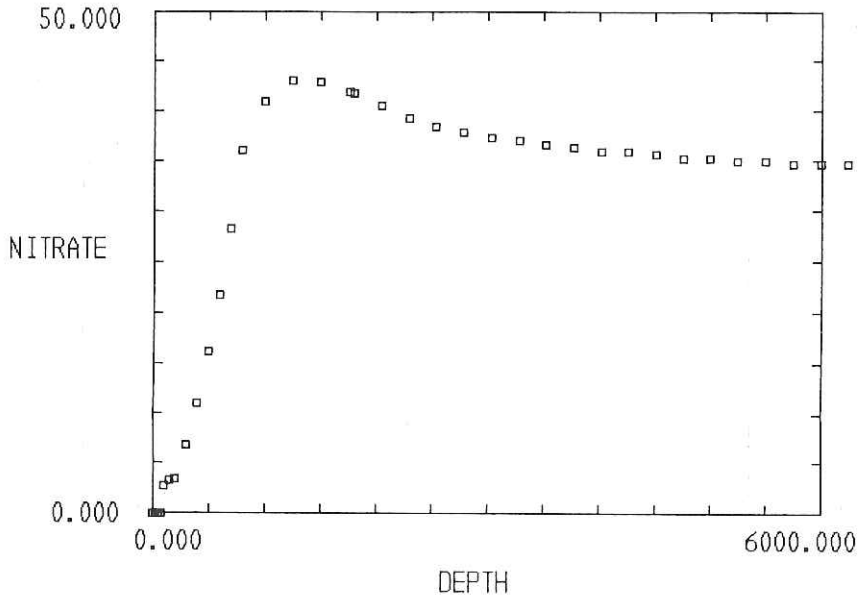
CE16, COR.D=3719, D(P-B)=3766, 18.12.6N 144.41.9E 3 MAR. 1982



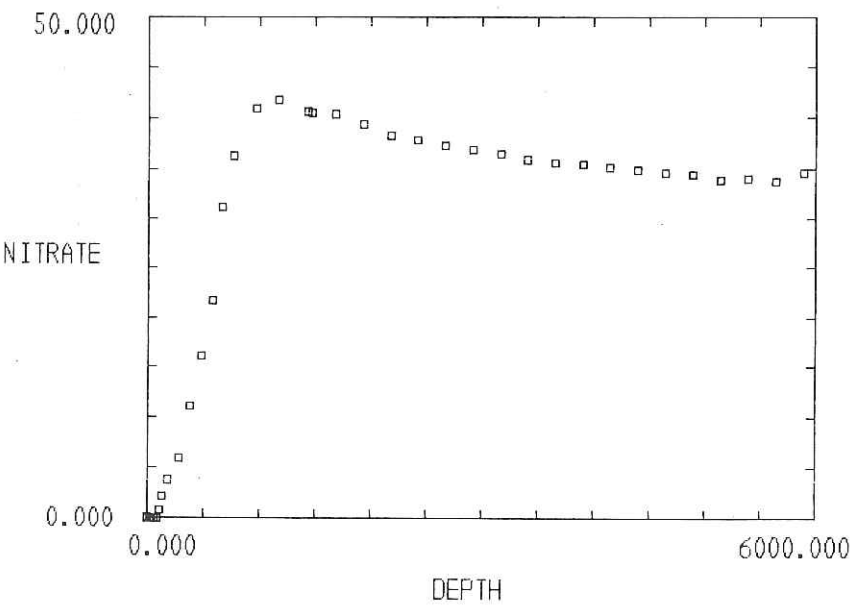
CY5, COR.D=5509, D(P-B)=5520, 40.00N, 56.00E, 1 MAY, 1980



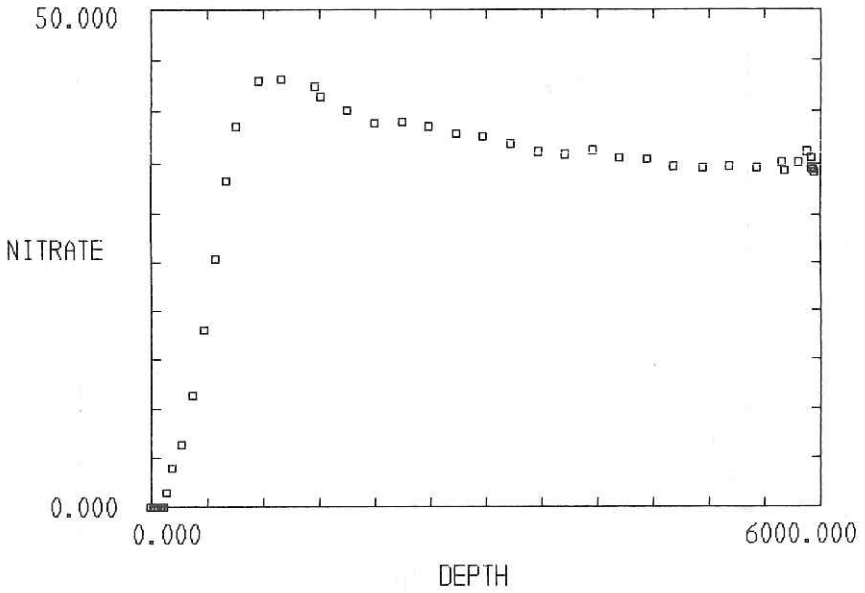
CY11, COR.D=5510, D(P-B)= 5510, 30.34.3N, 170.35.5E, 6 JUNE, 1980



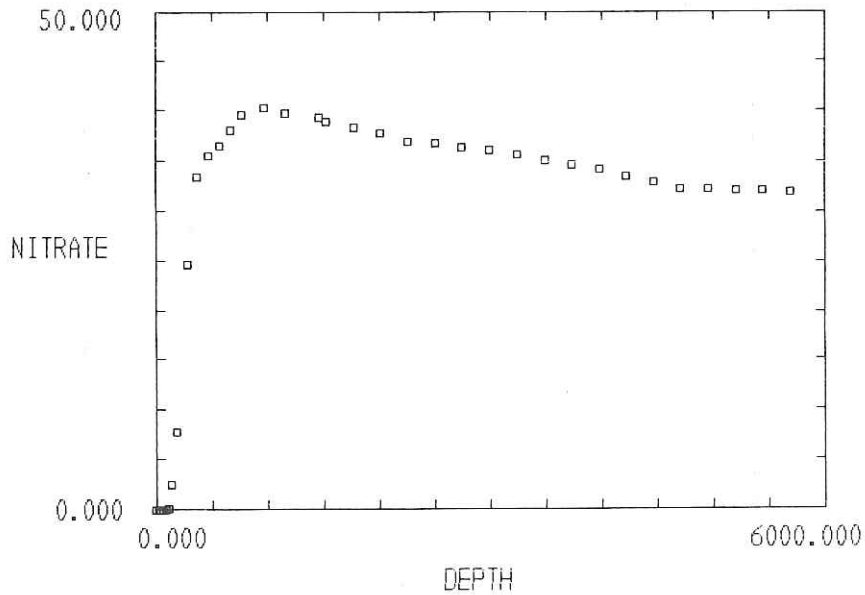
CY16. COR.D=6257. D⟨P-B⟩= 6260. 30.02.6N. 146.53.3E. 13 JUNE. 1980



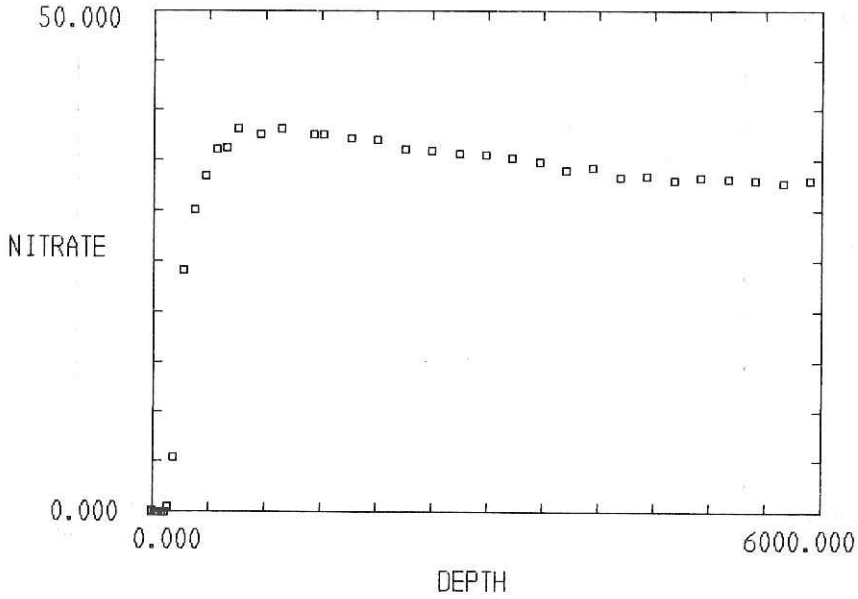
CE 1. COR.D=5930. D⟨P-B⟩=5919. 26.01.5N 150.00.5E 25 JAN. 1982



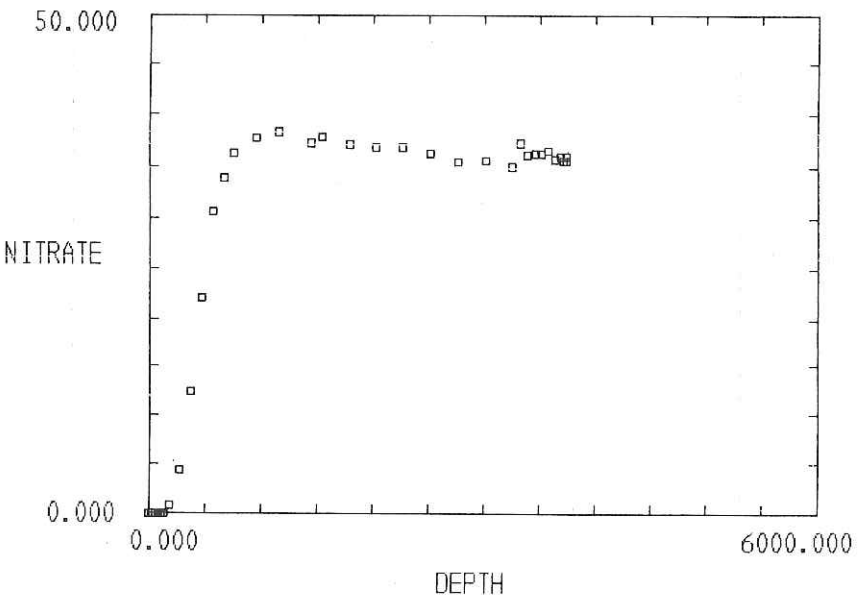
CE 4, COR.D=5983, D(P-B)=5967, 25.00.7N 164.58.5E 29 JAN. 1982



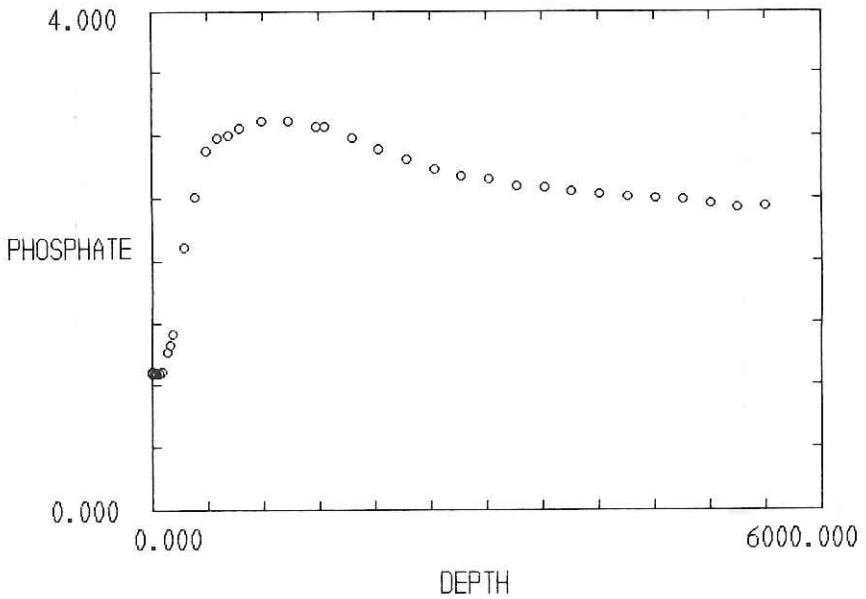
CE 8, COR.D=5729, D(P-B)=5719, 12.44.5N 173.14.3E 7 FEB. 1982



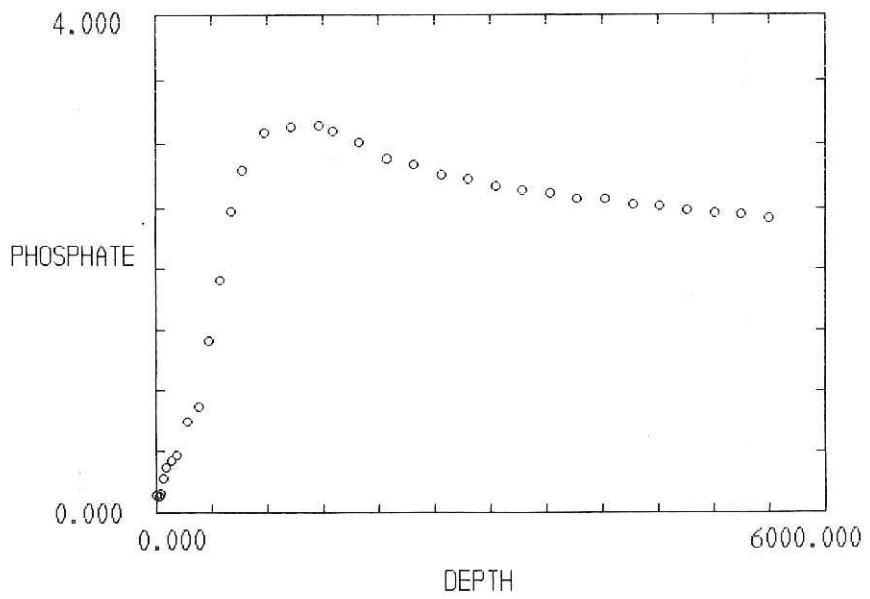
CE13, COR.D=5933, D(P-B)=5923, 11.59.9N 152.30.1E 21 FEB. 1982



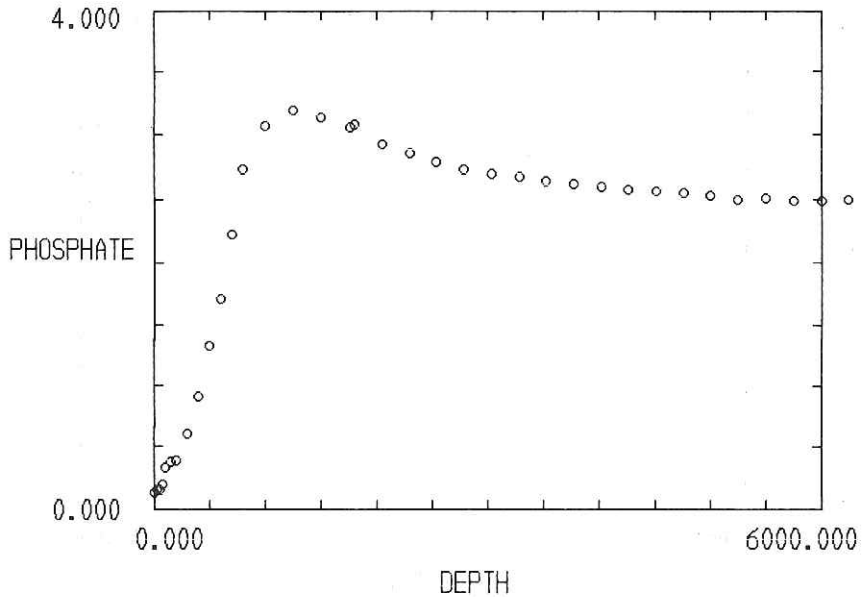
CE16, COR.D=3719, D(P-B)=3766, 18.12.6N 144.41.9E 3 MAR. 1982



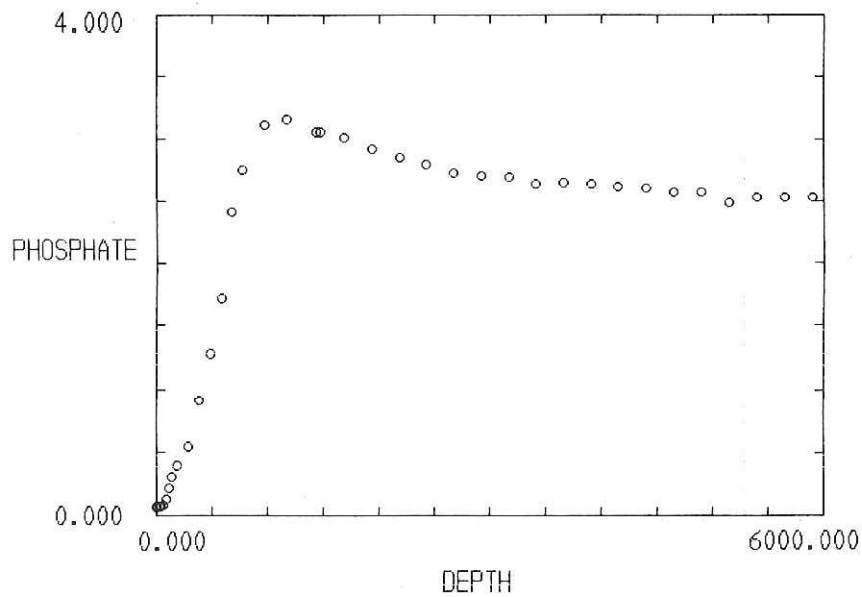
CY5, COR.D=5509, D(P-B)=5520, 40.00N, 56.00E, 1 MAY, 1980



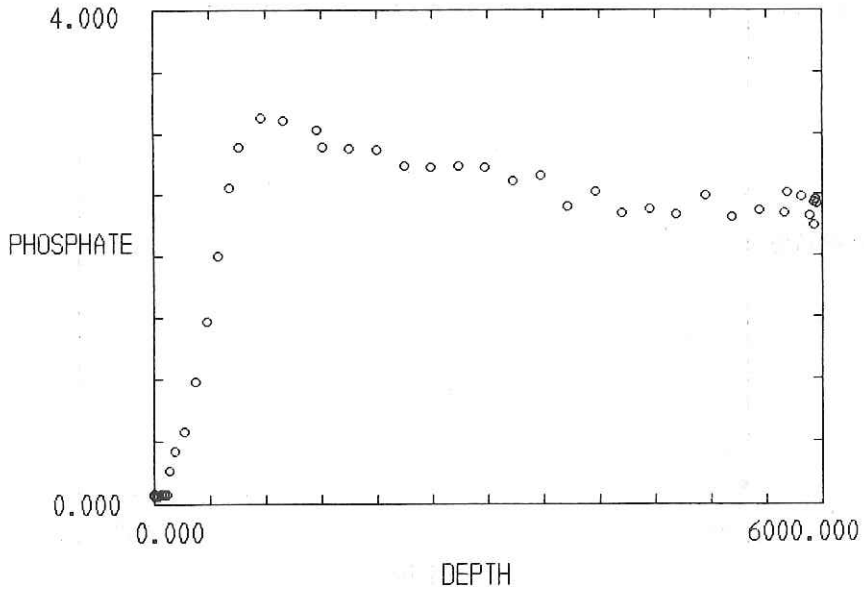
CY11, COR.D=5510, D(P-B)= 5510, 30.34.3N, 170.35.5E, 6 JUNE, 1980



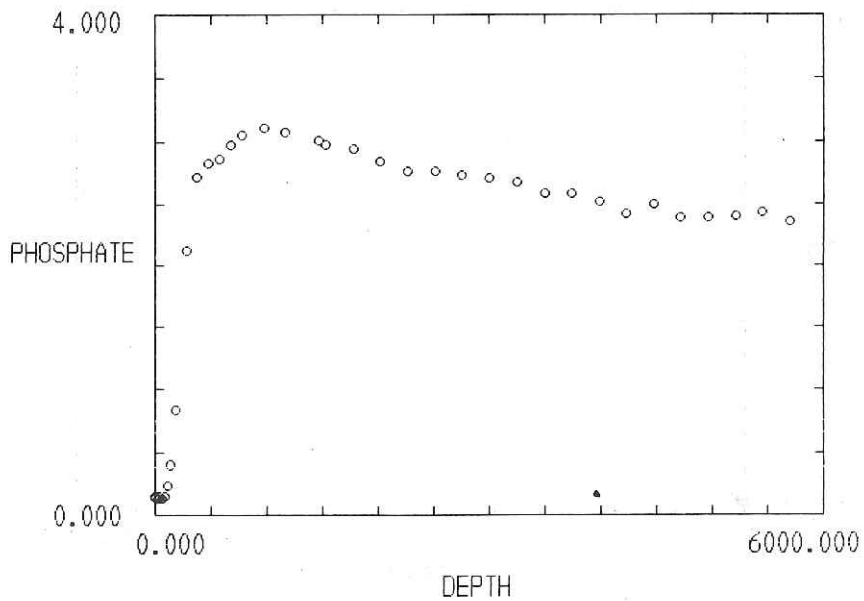
CY16, COR.D=6257, D(P-B)= 6260, 30.02.6N, 146.53.3E, 13 JUNE, 1980



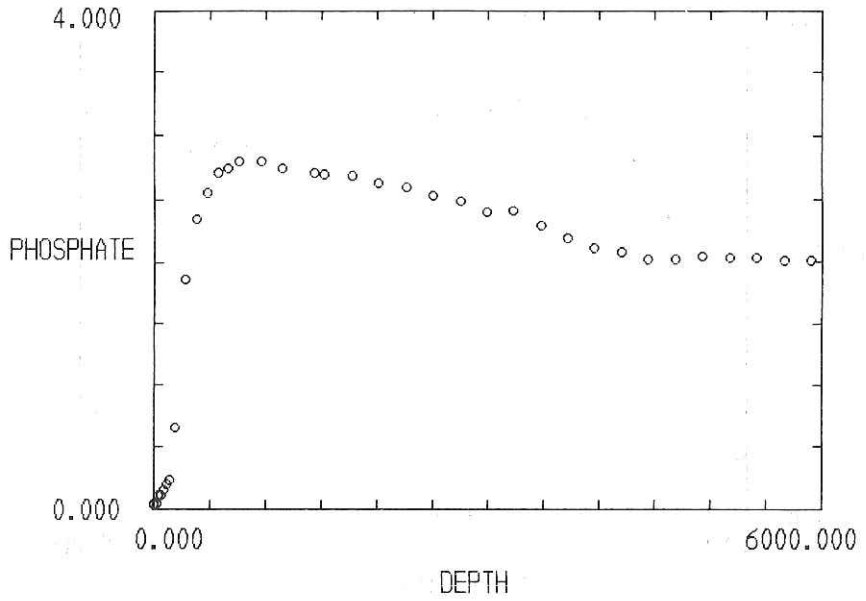
CE 1, COR.D=5930, D(P-B)=5919, 26.01.5N 150.00.5E 25 JAN. 1982



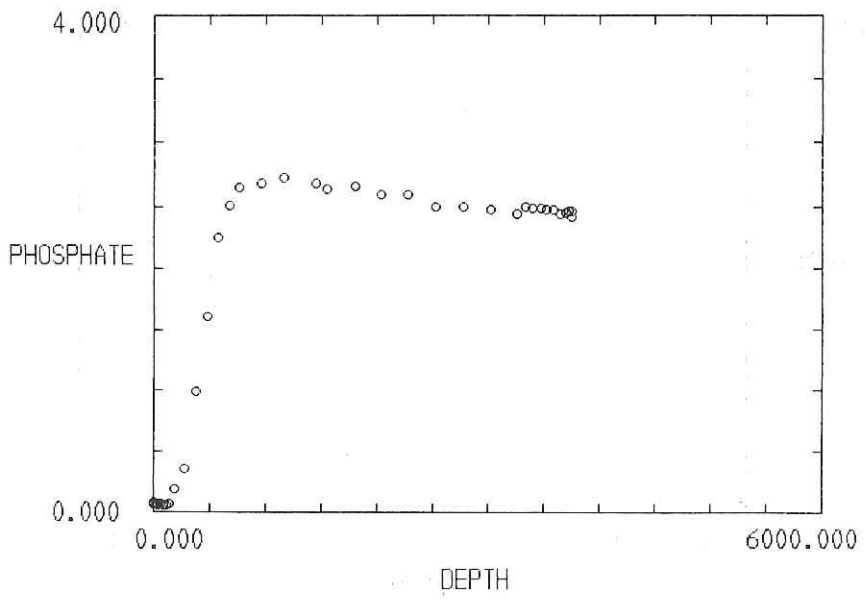
CE 4, COR.D=5983, D(P-B)=5967, 25.00.7N 164.58.5E 29 JAN. 1982



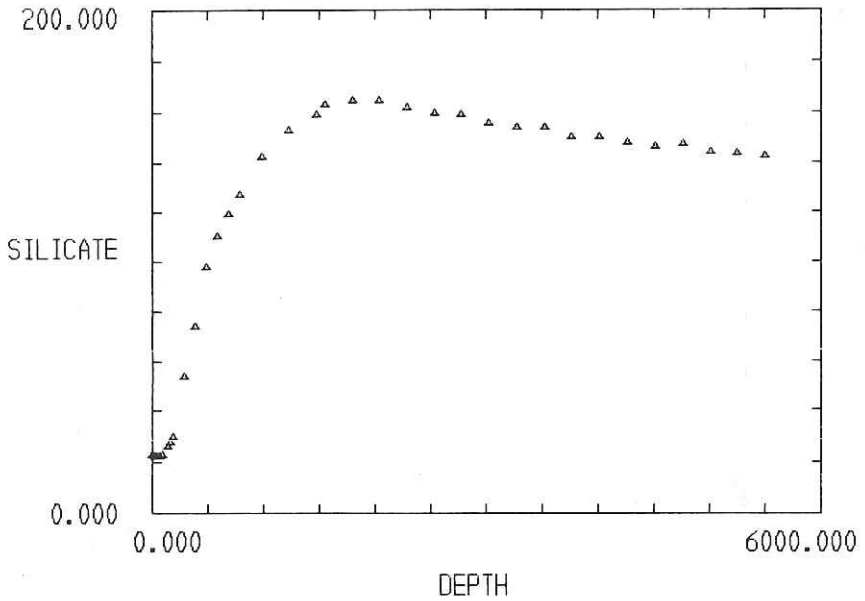
CE 8, COR.D=5729, D(P-B)=5719, 12.44.5N 173.14.3E 7 FEB. 1982



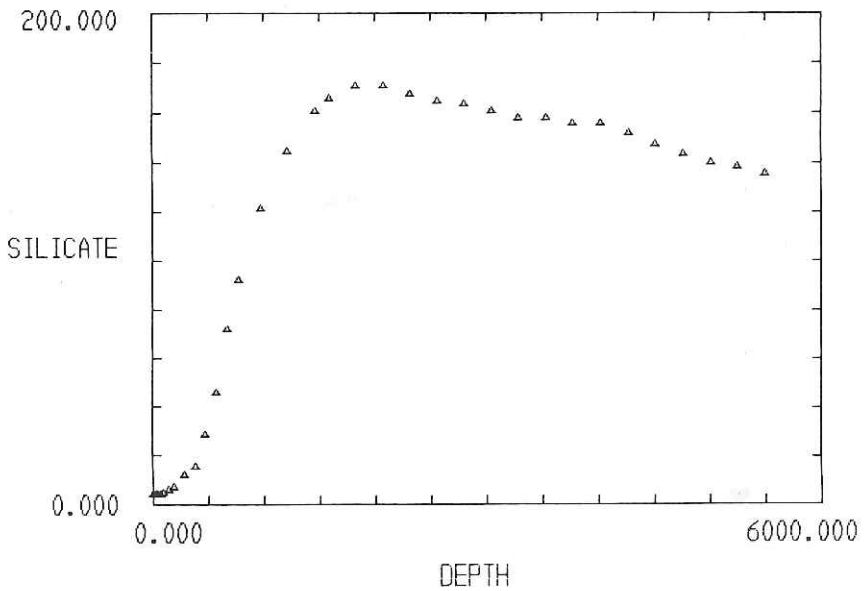
CE13, COR.D=5933, D(P-B)=5923, 11.59.9N 152.30.1E 21 FEB. 1982



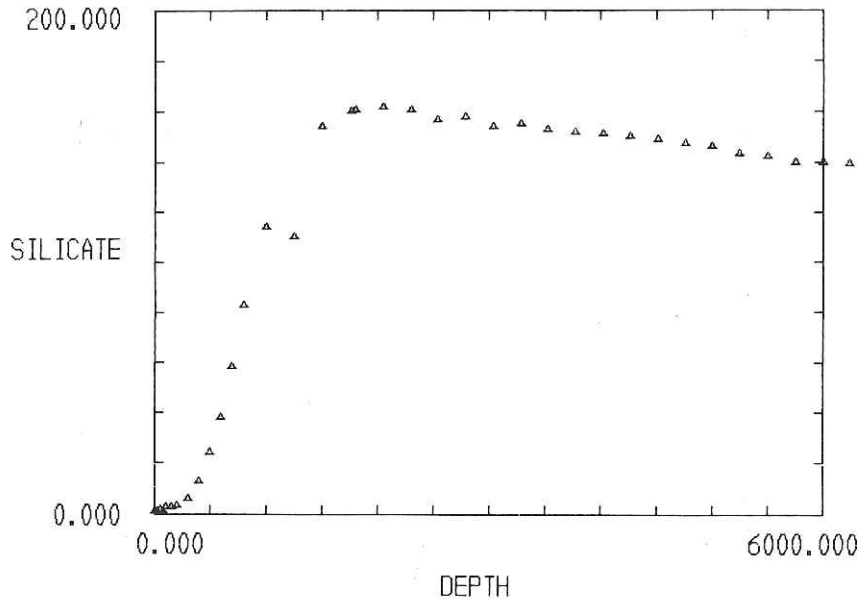
CE16, COR.D=3719, D(P-B)=3766, 18.12.6N 144.41.9E 3 MAR. 1982



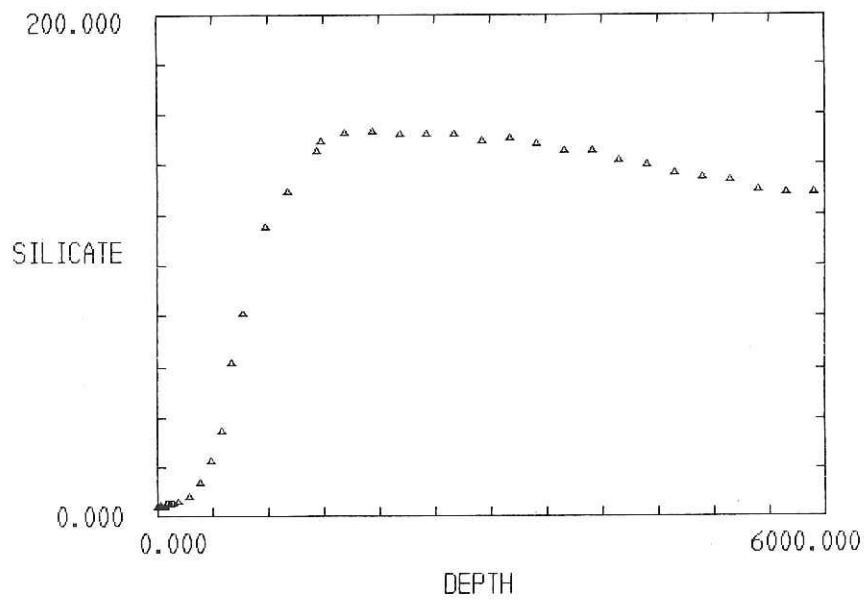
CY5, COR.D=5509, D(P-B)=5520, 40.00N, 56.00E, 1 MAY, 1980



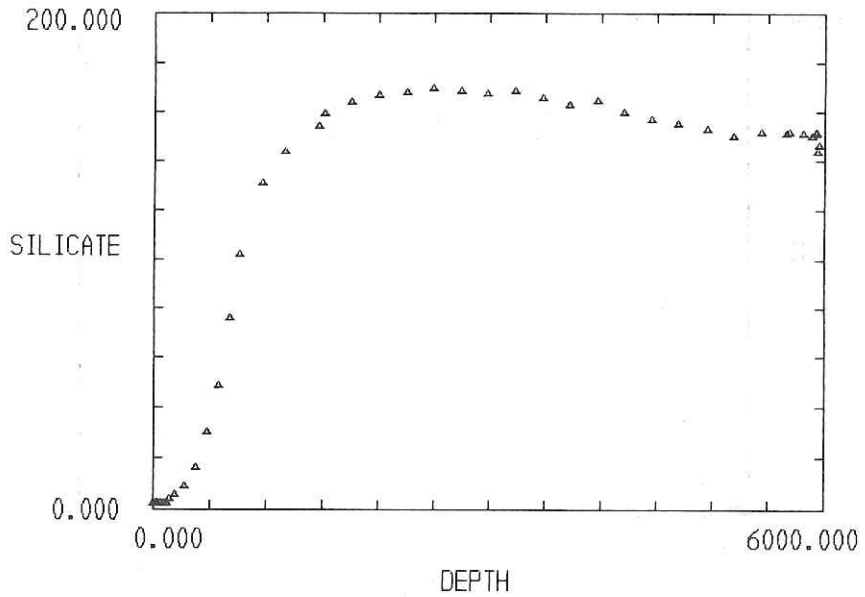
CY11, COR.D=5510, D(P-B)= 5510, 30.34.3N, 170.35.5E, 6 JUNE, 1980



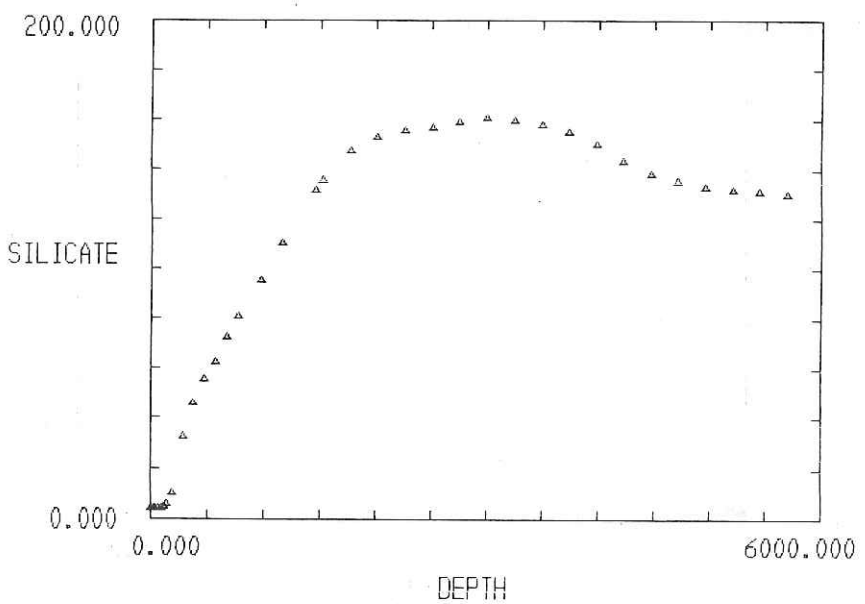
CY16, COR.D=6257, D⟨P-B⟩= 6260, 30.02.6N, 146.53.3E, 13 JUNE, 1980



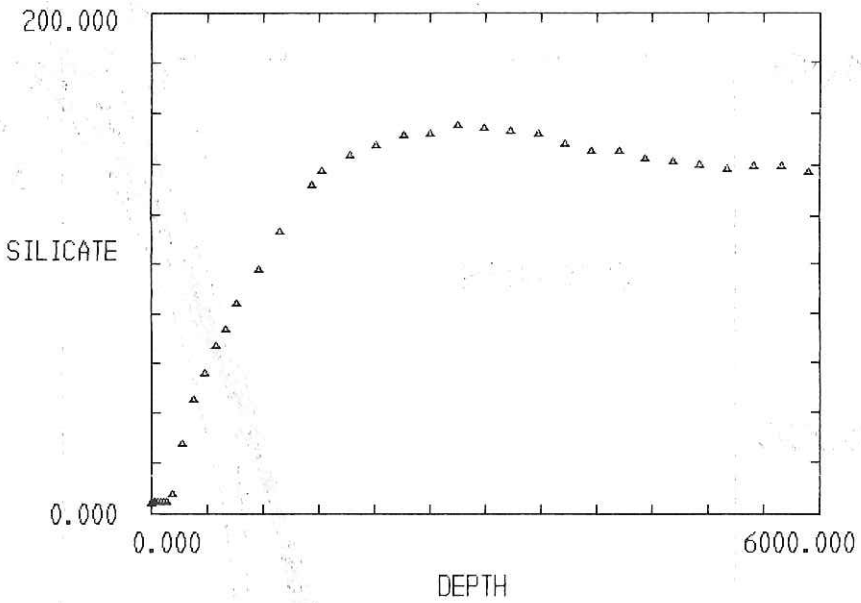
CE 1, COR.D=5930, D⟨P-B⟩=5919, 26.01.5N 150.00.5E 25 JAN. 1982



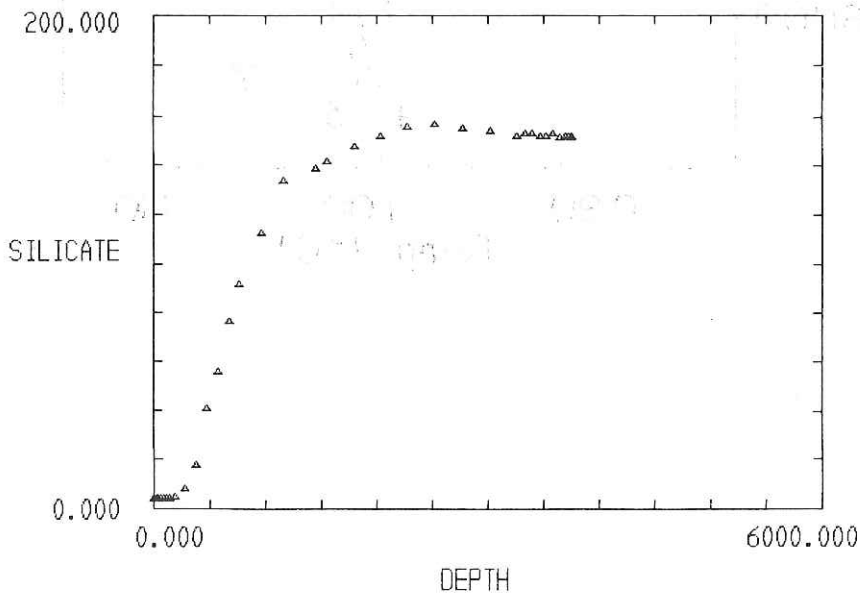
CE 4, COR.D=5983, D(P-B)=5967, 25.00.7N 164.58.5E 29 JAN. 1982



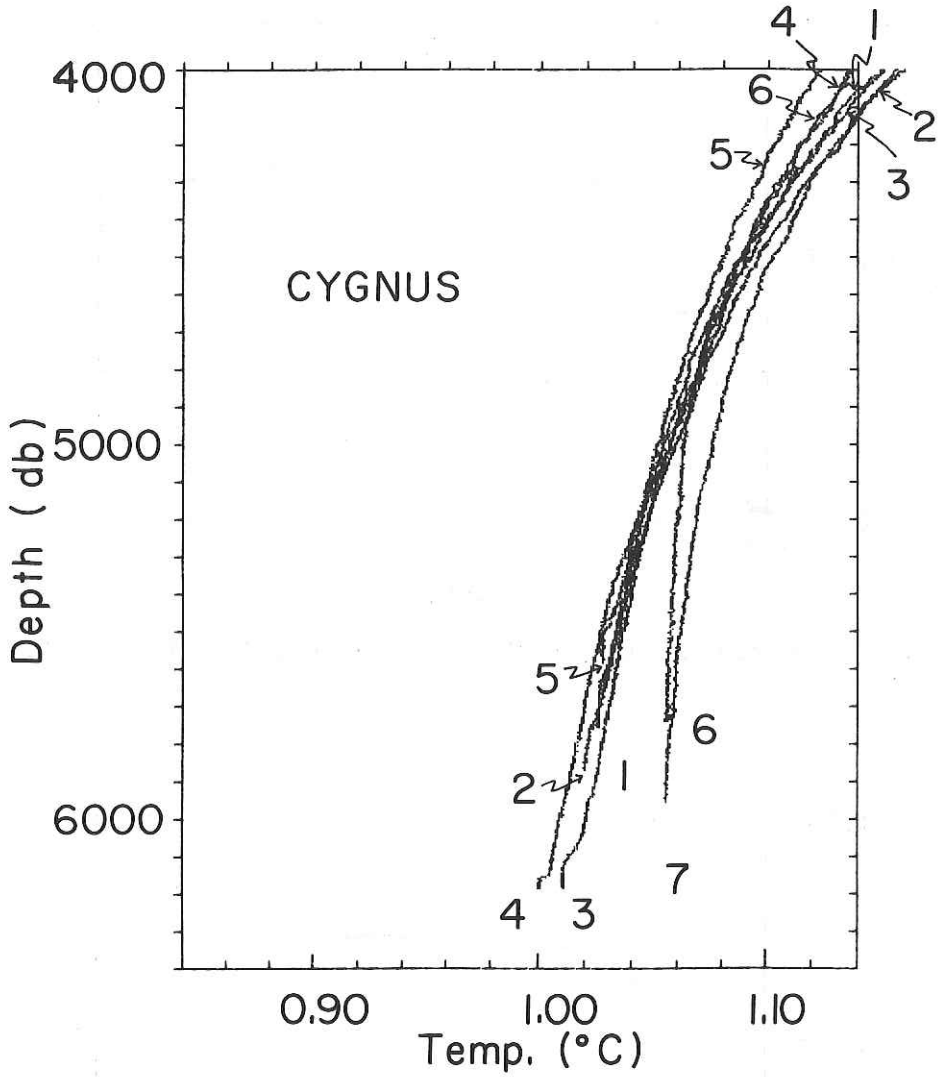
CE 8, COR.D=5729, D(P-B)=5719, 12.44.5N 173.14.3E 7 FEB. 1982

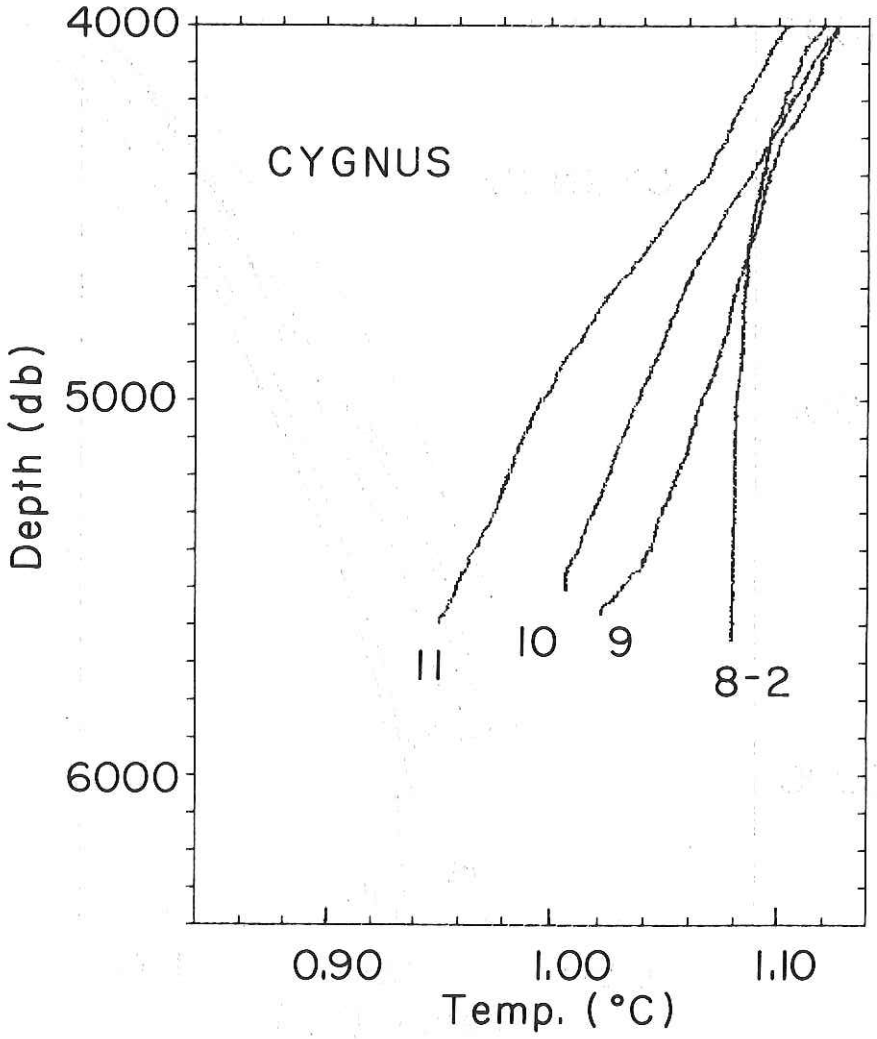


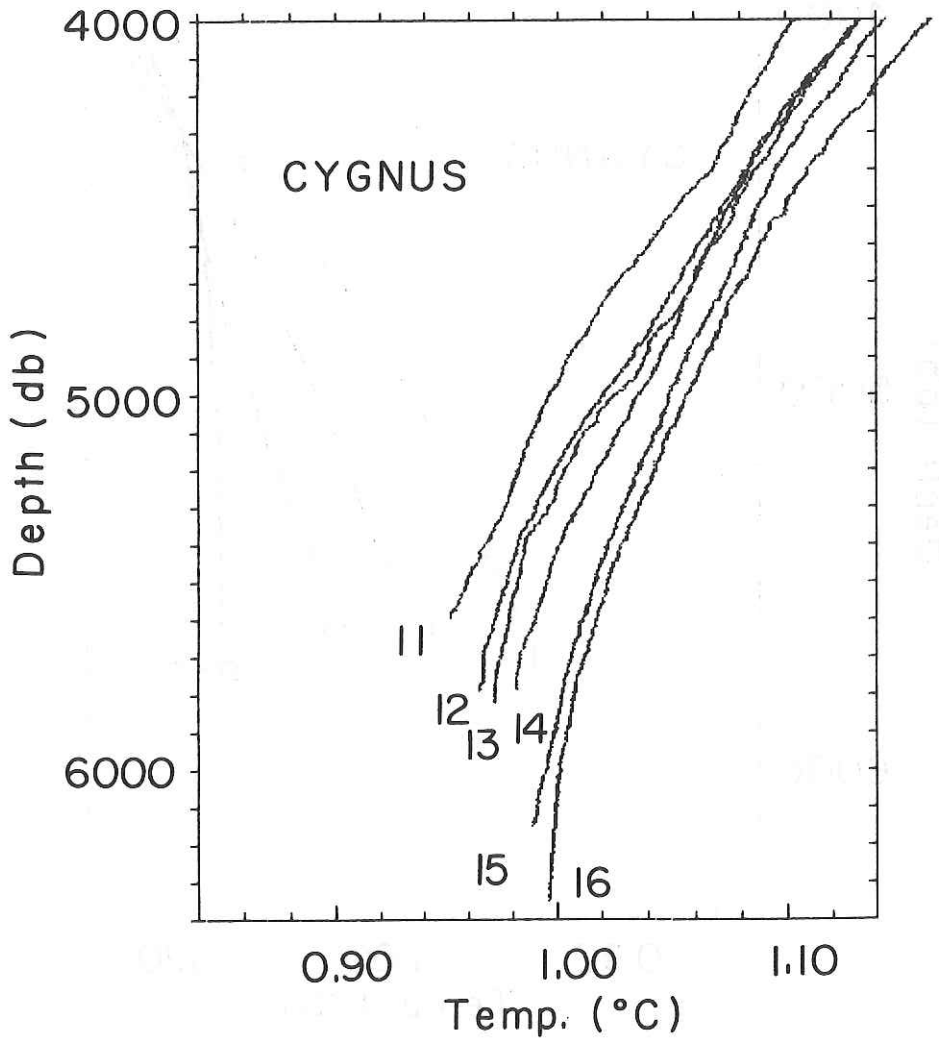
CE13, COR.D=5933, D(P-B)=5923, 11.59.9N 152.30.1E 21 FEB. 1982

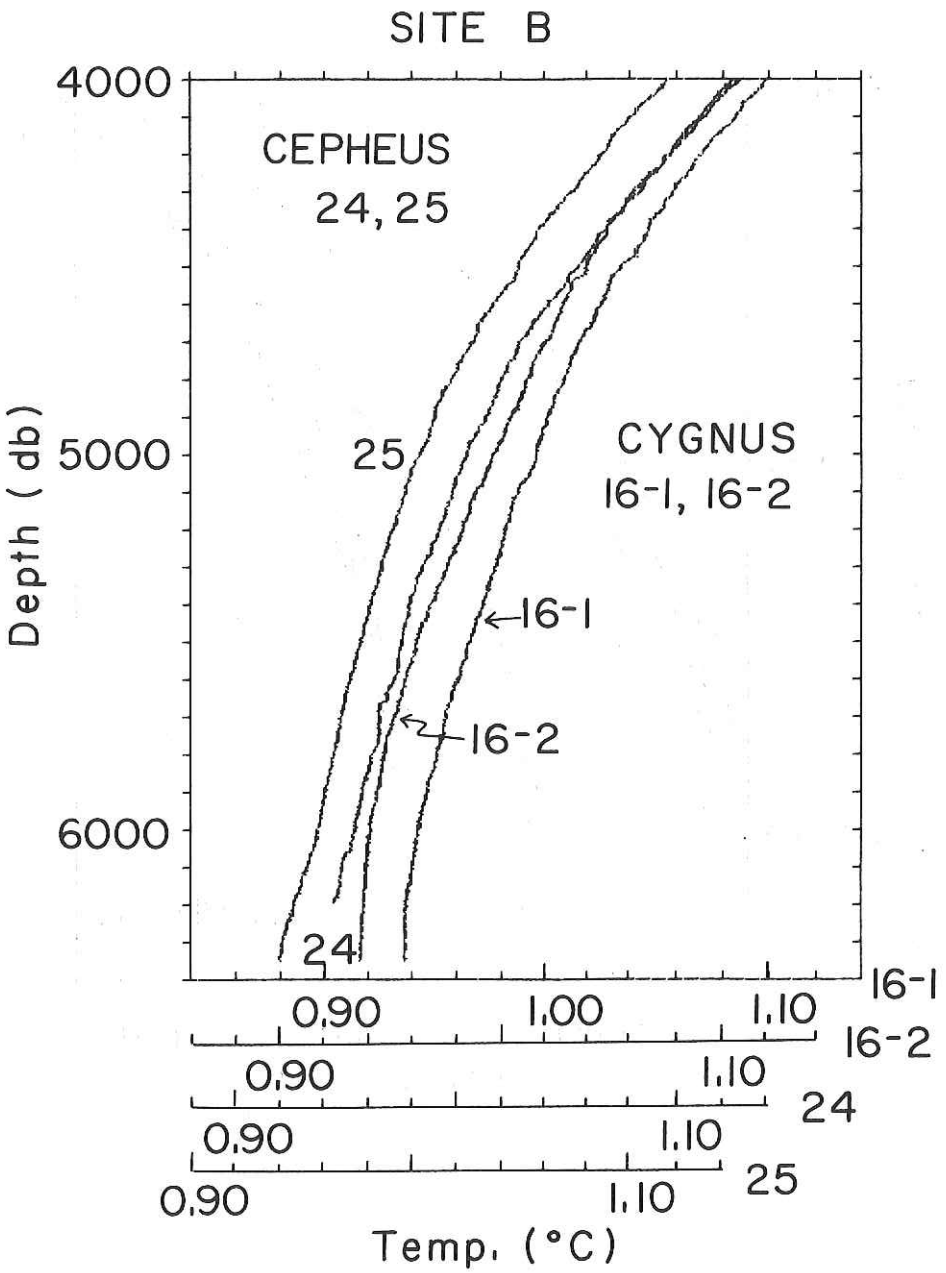


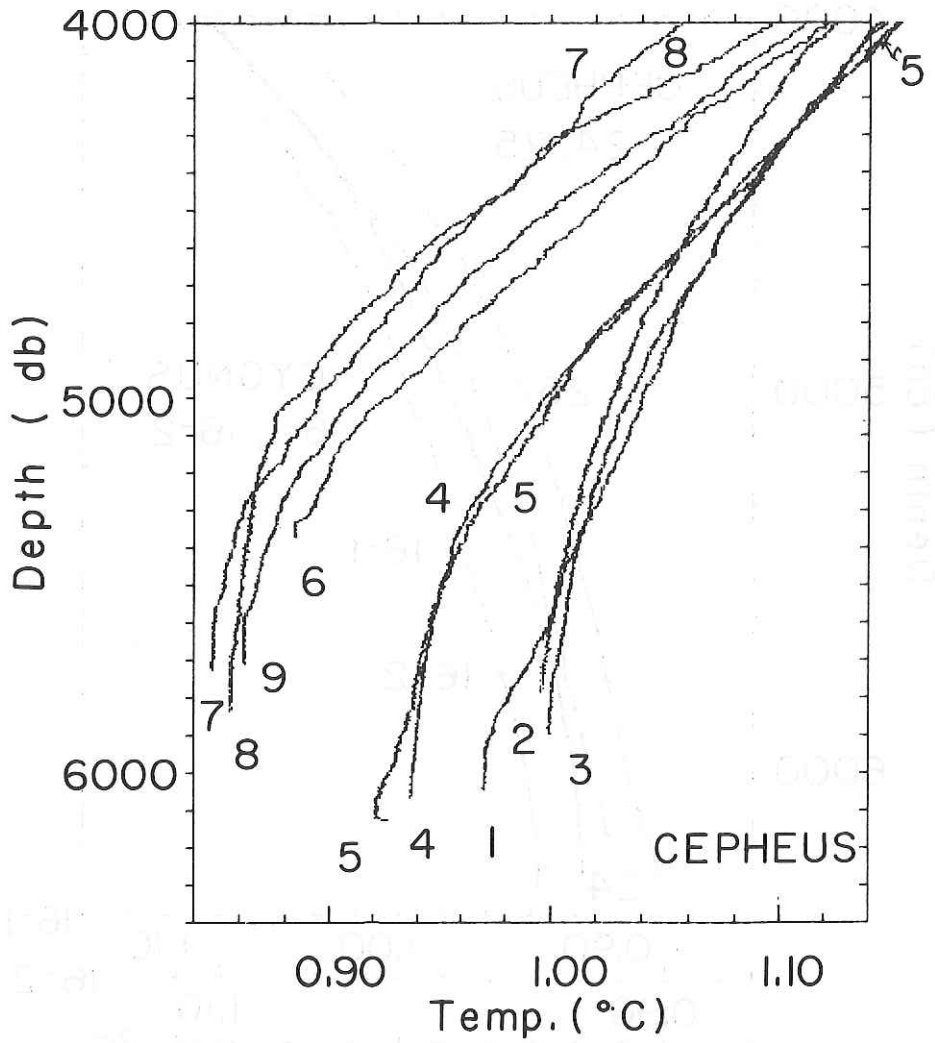
CE16, COR.D=3719, D(P-B)=3766, 18.12.6N 144.41.9E 3 MAR. 1982

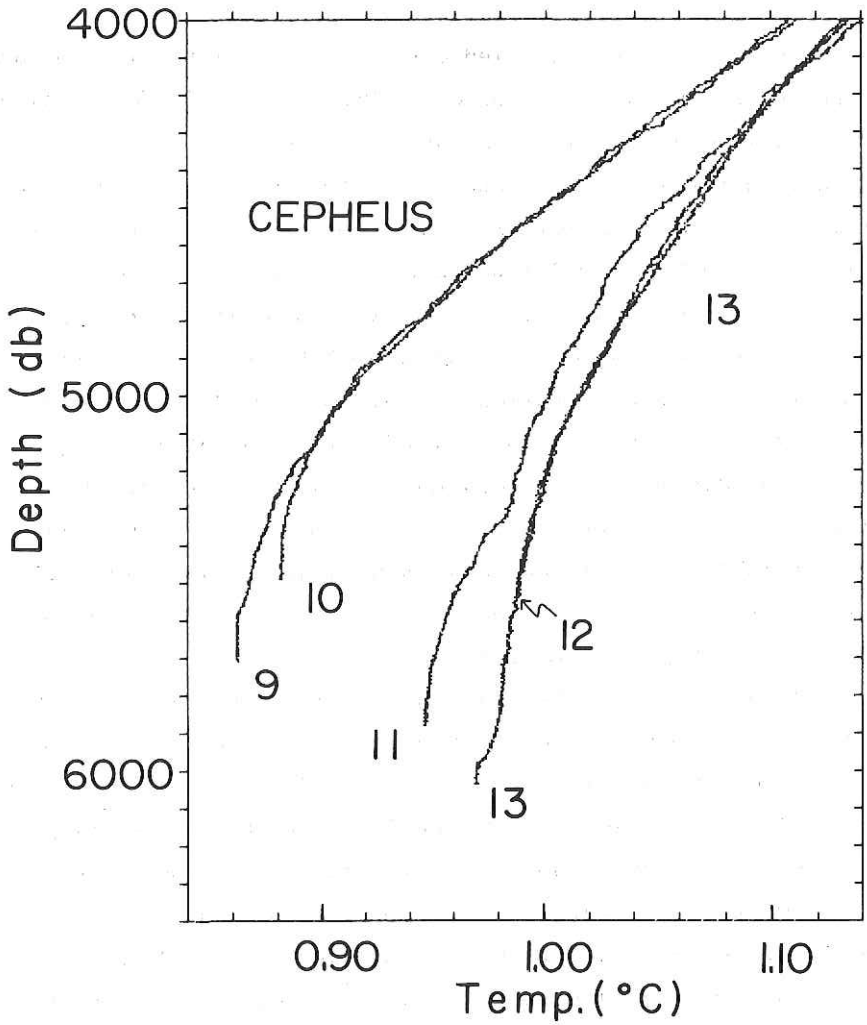

CYGNUS
Depth (db)
4000
5000
6000
0.90
1.00
1.10
Temp. (°C)
4
1
6
2
5
3
5
6
2
1
7
4
3


CYGNUS
Depth (db)
4000
5000
6000
11
10
9
8-2
0.90
1.00
1.10
Temp. (°C)


CYGNUS
4000
5000
6000
Depth (db)
11
12
13
14
15
16
0.90
1.00
1.10
Temp. (°C)


SITE B
4000
5000
6000
Depth (db)
CEPHEUS
24, 25
CYGNUS
16-1, 16-2
25
16-1
16-2
24
0.90
1.00
1.10
16-1
16-2
24
25
Temp. (°C)


4000
5000
6000
Depth (db)
0.90
1.00
1.10
Temp. (°C)
CEPHEUS
7
8
5
6
9
4
1
2
3


4000
5000
6000
Depth (db)
CEPHEUS
13
10
12
9
11
13
0.90
1.00
1.10
Temp.(°C)

6. CURRENT MEASUREMENT

Mooring operations were carried out by a group of physical oceanographers headed by Dr. Taira of the Ocean Research Institute (K.Taira, M.Fukazawa, S.Kitagawa, K.Kutsuwada, and I.Kaneko).

CYGNUS Expedition Three mooring systems were to be recovered. Two systems (TA9A and TF9A) were recovered successfully, but one at station TC9B (30°50'N, 145°46'E) was not recovered due to the malfunction of an acoustic release. Three mooring systems were deployed. Position and depth of stations were shown in Table 4A. The depth of current meters was shown schematically in Figure 2A. The deployed mooring systems were recovered successfully in April, 1981.

CEPHEUS Expedition Three mooring systems were recovered successfully, and three were deployed. Positions and depth of stations were shown in Table 4B. The depth of current meters was shown schematically in Figure 2B. The mooring systen of TA23, TF23, and TH23 are scheduled to be recovered in May, 1983.

Taira, Teramoto and Horibe (in preparation) show that a southward mean flow is superposed on velocity fluctuations of about 130 days period at station TA. Directions of the mean flow at deep layers along 30°N between 144°E and 146°40'E were southward on the eastern slope of a seamount located at 30°N, 145°10'E, and northward on the western slope. The mooring system TH23 was deployed on the southern slope of the seamount to examine the direction of the mean flow. A westward flow is expected when the mean flow is circumfluent around the seamount.

The operations in two cruises are the parts of the long-term deep-sea current measurement project, which started in December 1977.

Table 4A. CYGNUS data of currentmeter moorings.

Name of mooring	Latitude	Longitude	Water depth	Meter height	Date of Deployment	Date of Recover
TA9A	30°03'N	145°43'E	5800m	50m, 200m, 400m, 600m, 800m, 1800m,	31 October 1979	14 June 1980
TC9B	30°50'N	145°46'E	5900m	1020m, 2020m,	1 November 1979	Not recovered
TF9A	30°00'N	145°01'E	5900m	120m, 520m,	30 October 1979	15 June 1980
TA06	30°00'N	145°45'E	5780m	50m, 200m, 400m, 600m, 800m, 1800m,	14 June 1980	
TC06	30°59'N	145°43'E	5900m	1020m, 2020m,	15 June 1980	
TF06	30°00'N	145°00E	5900m	120m, 520m,	15 June 1980	

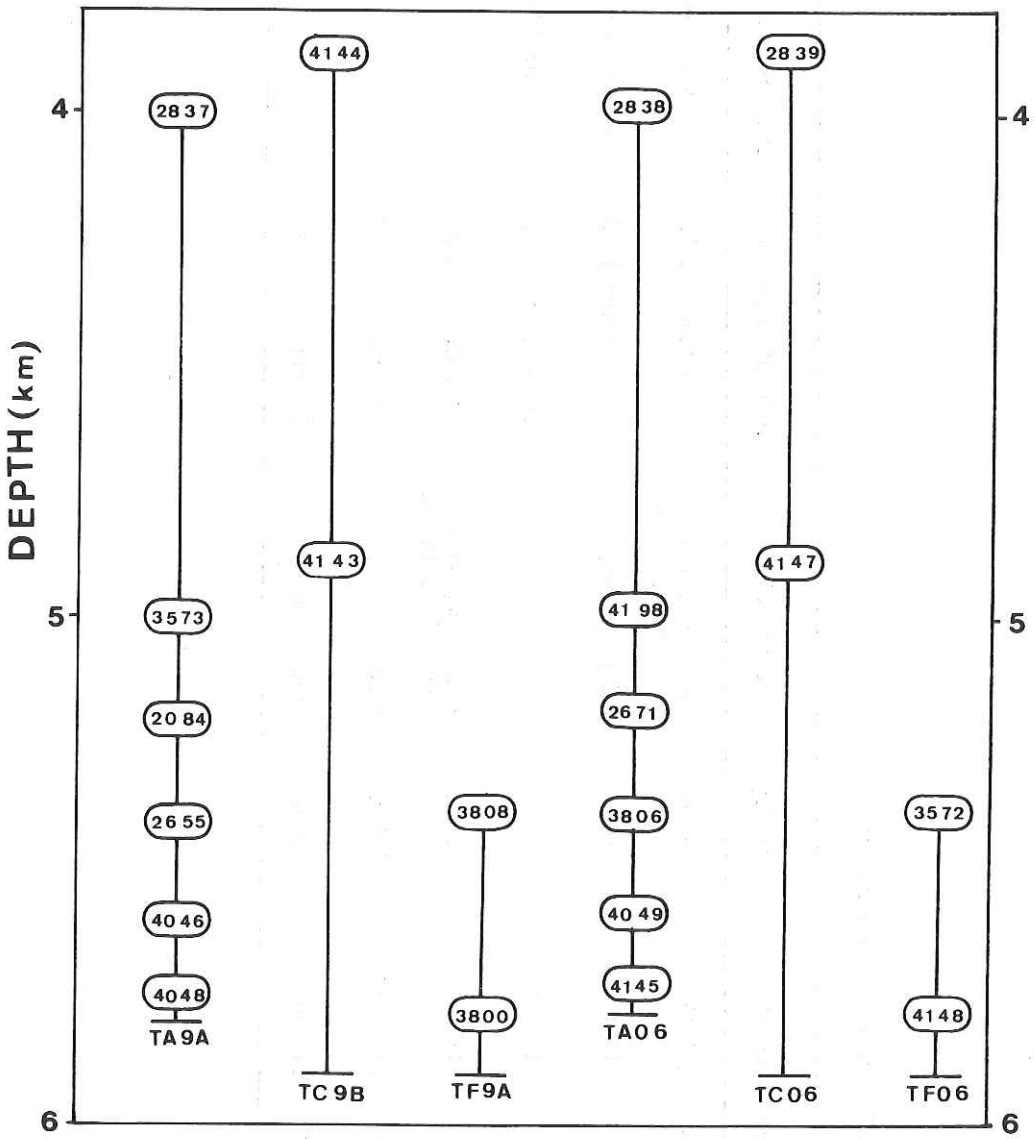


Figure 2A. CYGNUS mooring systems.

Table 4B. CEPHEUS data of currentmeter moorings.

Name of mooring	Latitude	Longitude	Water depth	Meter height	Date of Deployment	Date of Recover
TA14	30°02'N	145°44'E	5780m	50m, 200m, 400m, 600m, 800m, 1800m,	16 April 1981	10 March 1982
TC14	31°00'N	145°44'E	5900m	1020m, 2020m,	18 April 1981	14 March 1982
TF14	29°59'N	145°00'E	5900m	120m, 520m,	16 April 1981	12 March 1982
TA23	30°00'N	145°46'E	5800m	50m, 200m, 400m, 600m, 800m, 1800m,	12 March 1982	
TF23	30°00'N	145°00'E	5910m	30m, 230m,	12 March 1982	
TH23	29°30'N	145°20'E	5846m	30m, 230m,	10 March 1982	

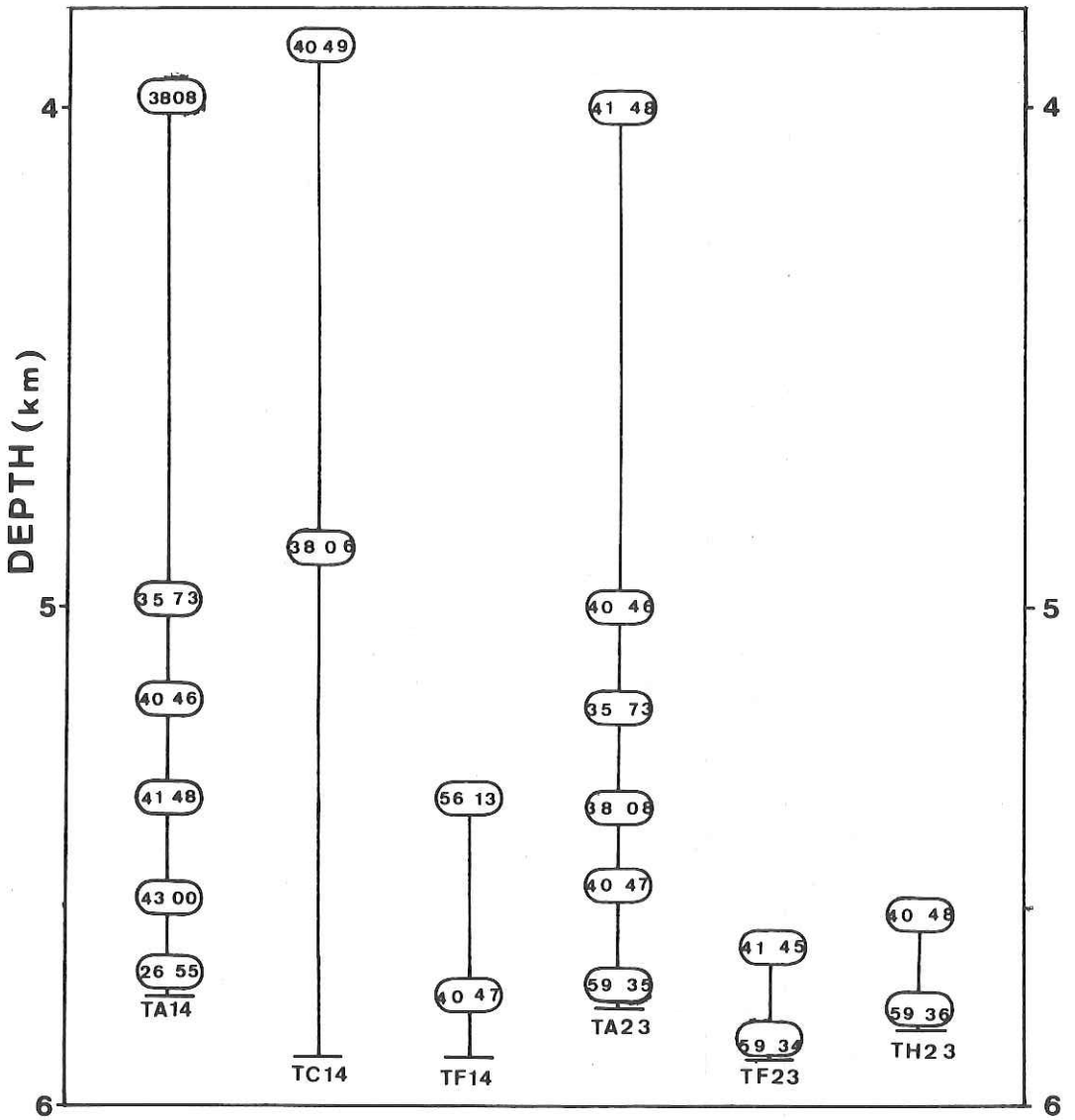


Figure 2B. CEPHEUS mooring systems.