AUSTRALIAN NATIONAL ANTARCTIC RESEARCH EXPEDITIONS

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43

# FIBEX cruise to the Prydz Bay region, 1981: nutrient data

S.E. Humphries

ANTARCTIC DIVISION
DEPARTMENT OF SCIENCE

ANARE RESEARCH NOTES (ISSN 0729-6533)

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Published February 1987
ISBN: 0 7246 1509 1

CONTENTS



FIGURES



TABLE

# FIBEX CRUISE NUTRIENT DATA

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## ABSTRACT

Nitrate, phosphate and silicate data collected at selected CTD stations on the FIBEX cruise between January and March 1981 are plotted with depth and the raw data are tabulated. Sampling station locations and the average concentration of each nutrient in the top 100 m of the water column is mapped.

## 1. INTRODUCTION

Water samples for nutrient analyses were collected at fourteen of the fifty-one hydrographic stations occupied by MV Nella Dan during the FIBEX cruise to the Prydz Bay region between 20 January and 13 March 1981. The cruise was part of Australia's contribution to the First International BIOMASS Experiment (FIBEX) the aim of which was to determine the abundance and distribution of Antarctic krill, Euphausia superba. The nutrient data were collected to help interpret phytoplankton distribution and abundance, as phytoplankton are the principal food source of krill. The sampling locations and depths were not therefore selected on the basis of nutrient-related considerations.

The concentration of nitrate, phosphate and silicate is plotted with depth for each station to a standard depth of 600 m and for deeper casts, a second plot was produced. The sigma-t profile is included on each plot to give an indication of the water column structure at the time of sampling.

In addition to the depth profiles, the average concentration to 100 m of each nutrient species is also mapped to give a first order approximation of the horizontal pattern of nutrient distribution in the upper layers.

## 2. METHODS

Water samples were collected using a rosette sampler and 5 L Niskin bottles in conjunction with the CTD unit. Sub-samples of 250 mL were filtered through GF/F glass fibre filters, transferred to Whirlpacks and immediately frozen for later analysis in Australia.

Analyses were done by the Australian Government Analytical Laboratories with the standard methods of Grasshoff, K., Ehrhardt, M., Kremling, K. (1976) Methods of Seawater Analysis; Verlag Chemie.

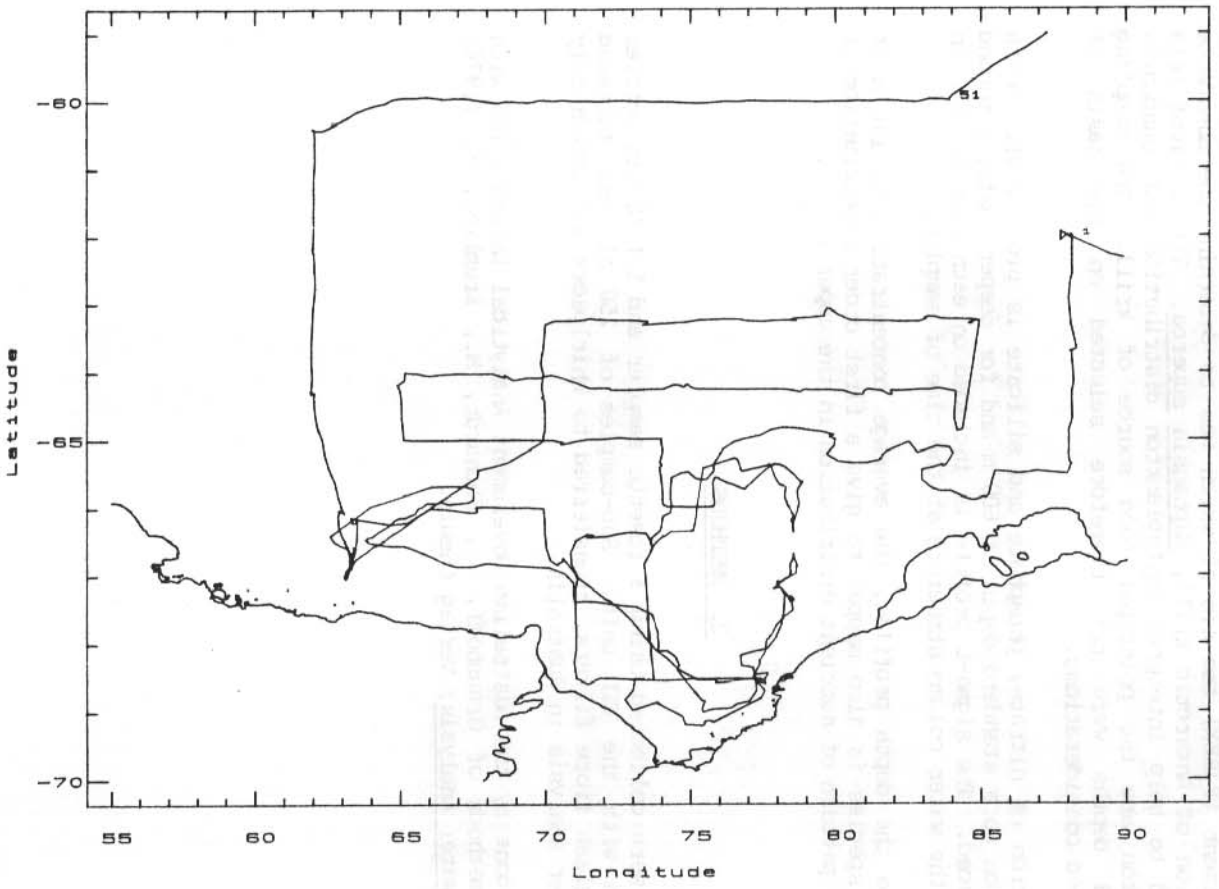



Figure 1. Cruise track of the FIBEX cruise, 20 January to 13 March 1981.

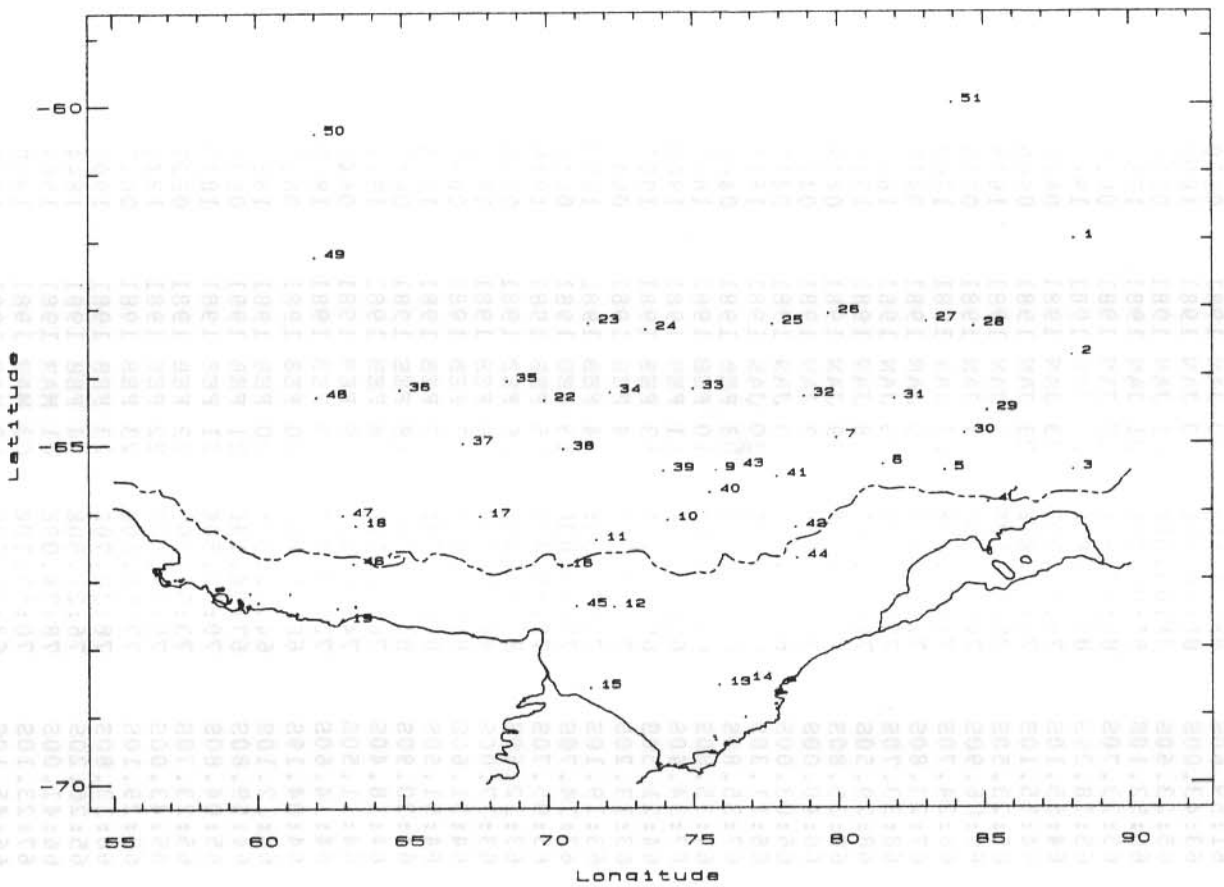



Figure 2. Location of CTD stations. Due to the proximity of some stations to each other, it was not possible to map all of the stations, but their exact locations are given in Table 1. The station numbers of those excluded are listed here, in brackets, following the number of the proximate mapped station: 19(20,21); 7(8). The dotted line marks the 1000 m contour.

Table 1. CTD station list for FIBEX, 20 January to 13 March 1981. The stations at which nutrient samples were taken are marked with an asterisk. Station 52 was outside the Prydz Bay region.

| CTD Station | Position | | Date | Time (GMT) |
|---|---|---|---|---|
| 1 | 61:59.60S | 88:04.60E | 20 JAN 1981 | 0600 |
| 2 | 63:43.00S | 88:00.00E | 20 JAN 1981 | 1800 |
| 3 | 65:23.60S | 88:03.00E | 21 JAN 1981 | 0500 |
| 4 | 65:52.10S | 85:07.30E | 21 JAN 1981 | 1750 |
| 5 | 65:23.70S | 83:37.90E | 22 JAN 1981 | 0625 |
| 6 | 65:18.29S | 81:29.80E | 22 JAN 1981 | 1945 |
| 7 | 64:55.10S | 79:54.80E | 23 JAN 1981 | 0600 |
| 8 | 64:55.10S | 79:54.80E | 23 JAN 1981 | 0600 |
| 9 | 65:23.50S | 75:45.10E | 23 JAN 1981 | 1935 |
| 10 | 66:06.90S | 74:05.00E | 24 JAN 1981 | 0515 |
| * 11 | 66:24.70S | 71:38.09E | 24 JAN 1981 | 1700 |
| 12 | 67:23.80S | 72:15.40E | 25 JAN 1981 | 0415 |
| 13 | 68:33.70S | 75:53.00E | 25 JAN 1981 | 1600 |
| 14 | 68:29.50S | 76:38.20E | 28 JAN 1981 | 1716 |
| * 15 | 68:35.80S | 71:26.40E | 29 JAN 1981 | 0419 |
| 16 | 66:48.00S | 70:28.00E | 29 JAN 1981 | 0417 |
| 17 | 66:03.00S | 67:39.30E | 30 JAN 1981 | 0417 |
| 18 | 66:11.30S | 63:20.60E | 30 JAN 1981 | 1615 |
| 19 | 67:35.80S | 62:51.20E | 03 FEB 1981 | 0400 |
| 20 | 67:35.80S | 62:51.30E | 10 FEB 1981 | 1800 |
| 21 | 67:34.40S | 62:53.80E | 11 FEB 1981 | 1900 |
| 22 | 64:21.50S | 69:53.20E | 13 FEB 1981 | 1900 |
| 23 | 63:13.20S | 71:24.20E | 14 FEB 1981 | 0640 |
| * 24 | 63:19.10S | 73:21.50E | 14 FEB 1981 | 1850 |
| 25 | 63:14.70S | 77:43.80E | 15 FEB 1981 | 0640 |
| * 26 | 63:05.70S | 79:39.40E | 15 FEB 1981 | 1845 |
| 27 | 63:12.60S | 83:00.60E | 16 FEB 1981 | 0650 |
| * 28 | 63:17.00S | 84:38.30E | 16 FEB 1981 | 1836 |
| 29 | 64:31.60S | 85:05.00E | 17 FEB 1981 | 0655 |
| * 30 | 64:51.50S | 84:19.29E | 17 FEB 1981 | 1905 |
| * 31 | 64:20.90S | 81:53.70E | 18 FEB 1981 | 0643 |
| * 32 | 64:18.40S | 78:48.10E | 18 FEB 1981 | 1923 |
| 33 | 64:11.50S | 74:58.50E | 19 FEB 1981 | 0644 |
| 34 | 64:14.60S | 72:07.40E | 19 FEB 1981 | 1852 |
| 35 | 64:04.19S | 68:35.09E | 20 FEB 1981 | 0636 |
| 36 | 64:12.10S | 64:52.60E | 20 FEB 1981 | 1857 |
| 37 | 64:59.80S | 67:04.19E | 21 FEB 1981 | 0635 |
| 38 | 65:04.80S | 70:31.50E | 21 FEB 1981 | 1830 |
| 39 | 65:23.70S | 73:57.70E | 22 FEB 1981 | 0627 |
| * 40 | 65:43.00S | 75:33.50E | 22 FEB 1981 | 1835 |
| * 41 | 65:29.10S | 77:51.80E | 23 FEB 1981 | 0627 |
| 42 | 66:13.80S | 78:30.70E | 23 FEB 1981 | 1905 |
| 43 | 65:20.20S | 76:21.50E | 24 FEB 1981 | 1844 |
| 44 | 66:41.00S | 78:34.09E | 01 MAR 1981 | 1503 |
| * 45 | 67:23.10S | 70:57.70E | 03 MAR 1981 | 1900 |
| * 46 | 66:45.10S | 63:16.29E | 08 MAR 1981 | 1159 |
| * 47 | 66:02.09S | 62:54.50E | 08 MAR 1981 | 1908 |
| * 48 | 64:18.20S | 62:01.00E | 09 MAR 1981 | 0845 |
| 49 | 62:14.10S | 61:57.80E | 10 MAR 1981 | 0230 |
| 50 | 60:24.80S | 61:59.20E | 10 MAR 1981 | 1608 |
| 51 | 59:58.90S | 83:54.00E | 13 MAR 1981 | 0412 |
| * 52 | 54:58.90S | 100:01.70E | 15 MAR 1981 | 0555 |

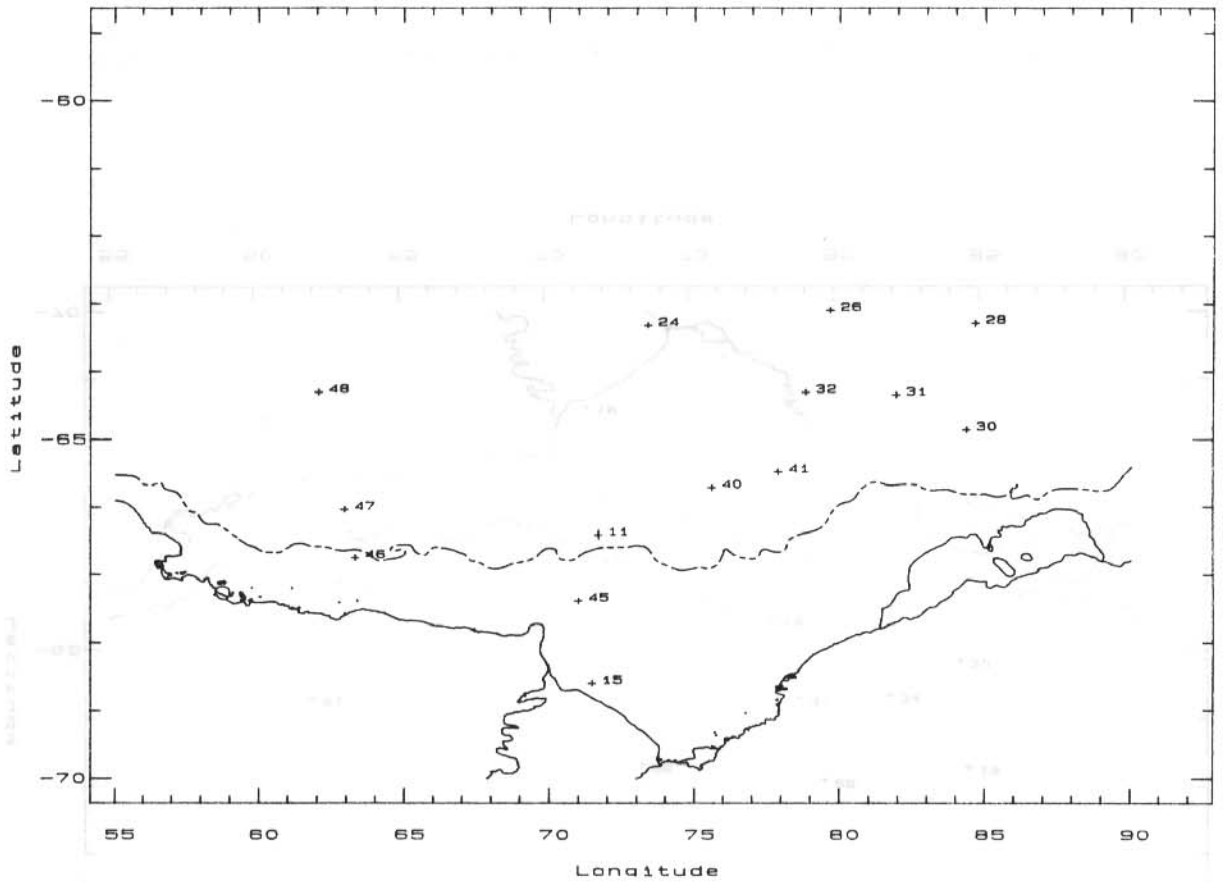



Figure 3. Location of CTD stations at which nutrient samples were taken. Station 52 lies outside the Prydz Bay region and is not shown.

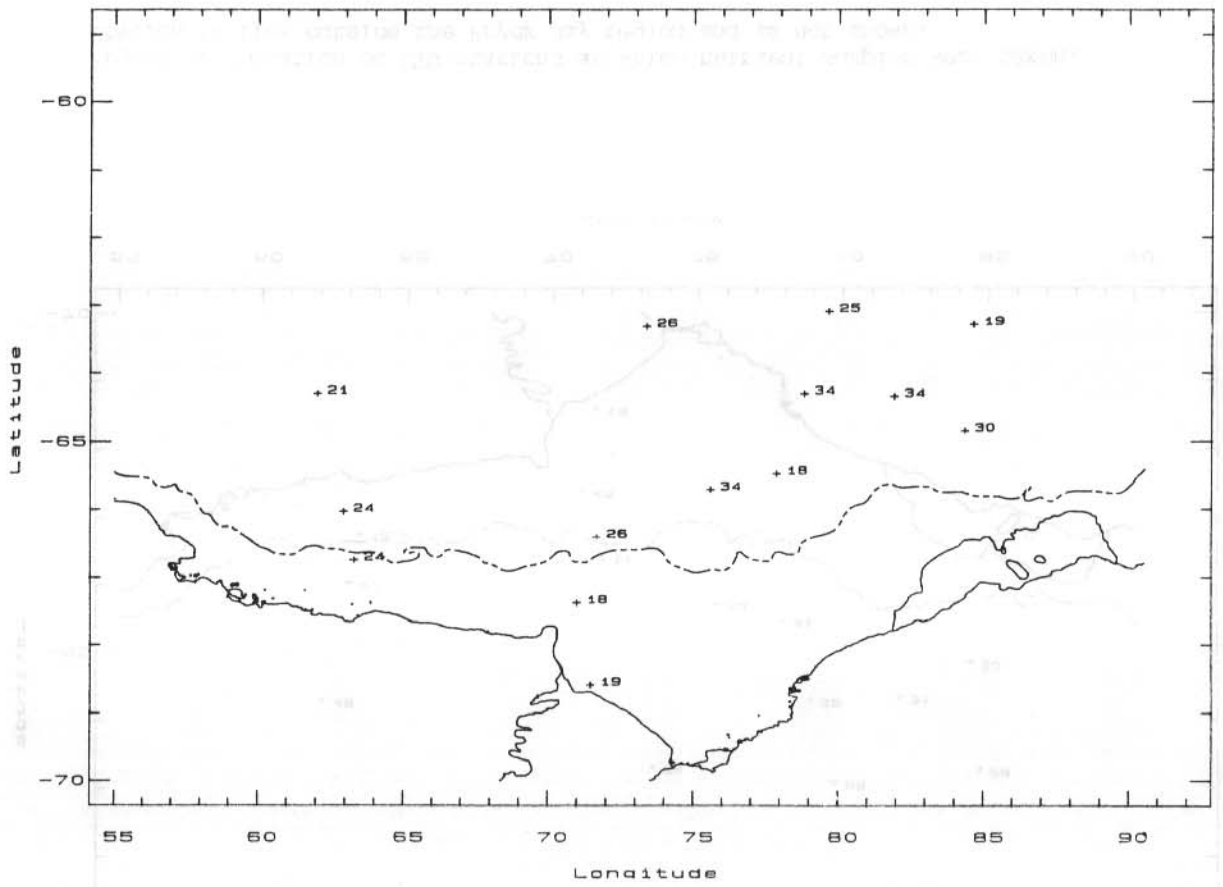



Figure 4. Average concentration at each station of $NO_3$-N between 0 and 100 m.

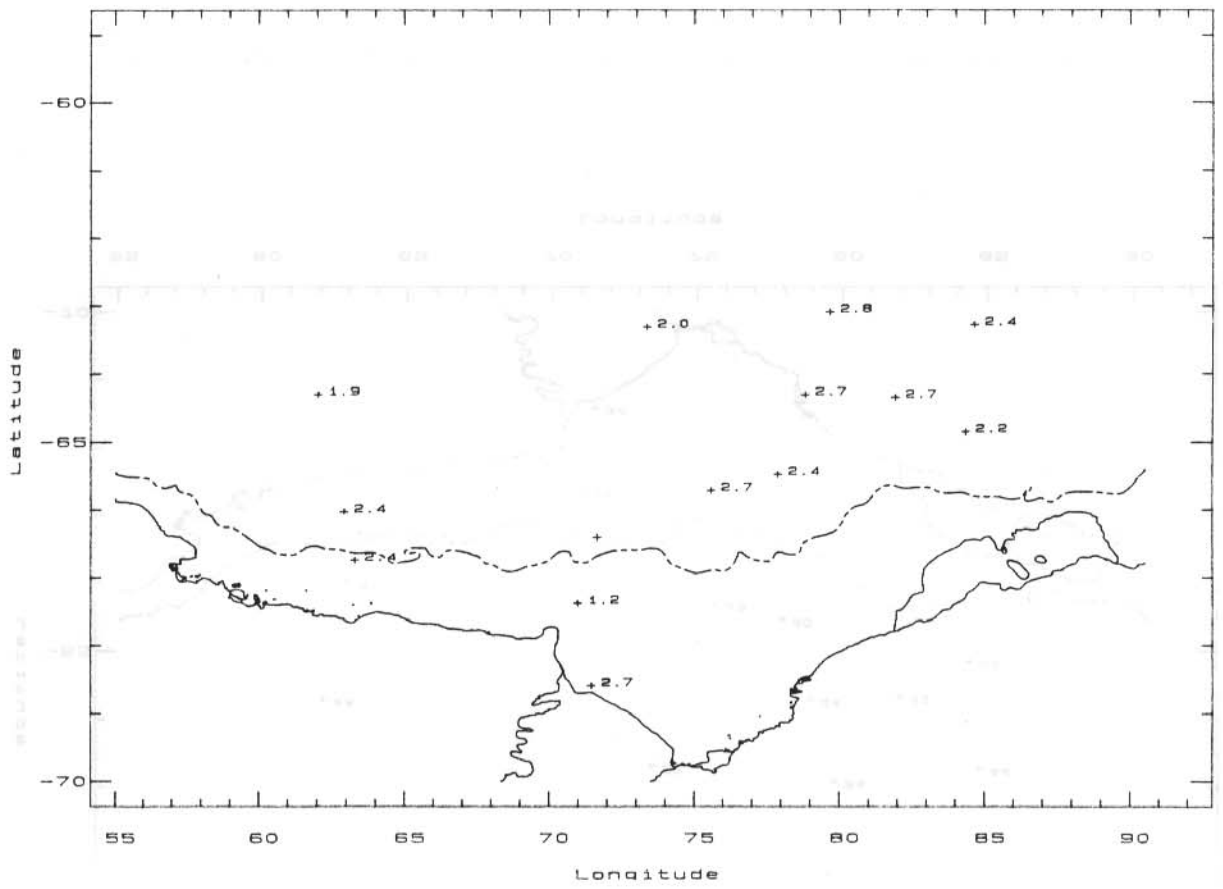



Figure 5. Average concentration at each station of $PO_4$-P between 0 and 100 m.

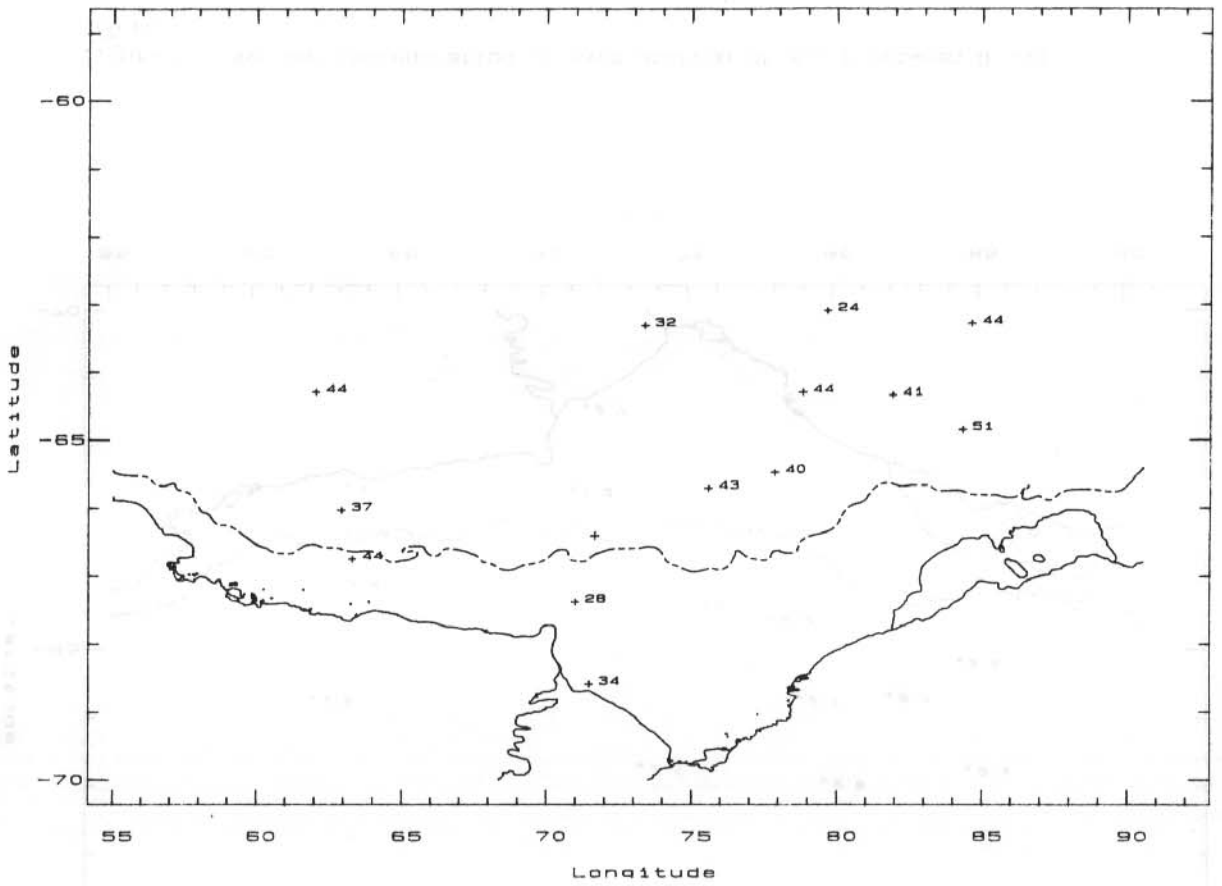



Figure 6. Average concentration at each station of $SiO_3$-Si between 0 and 100 m.

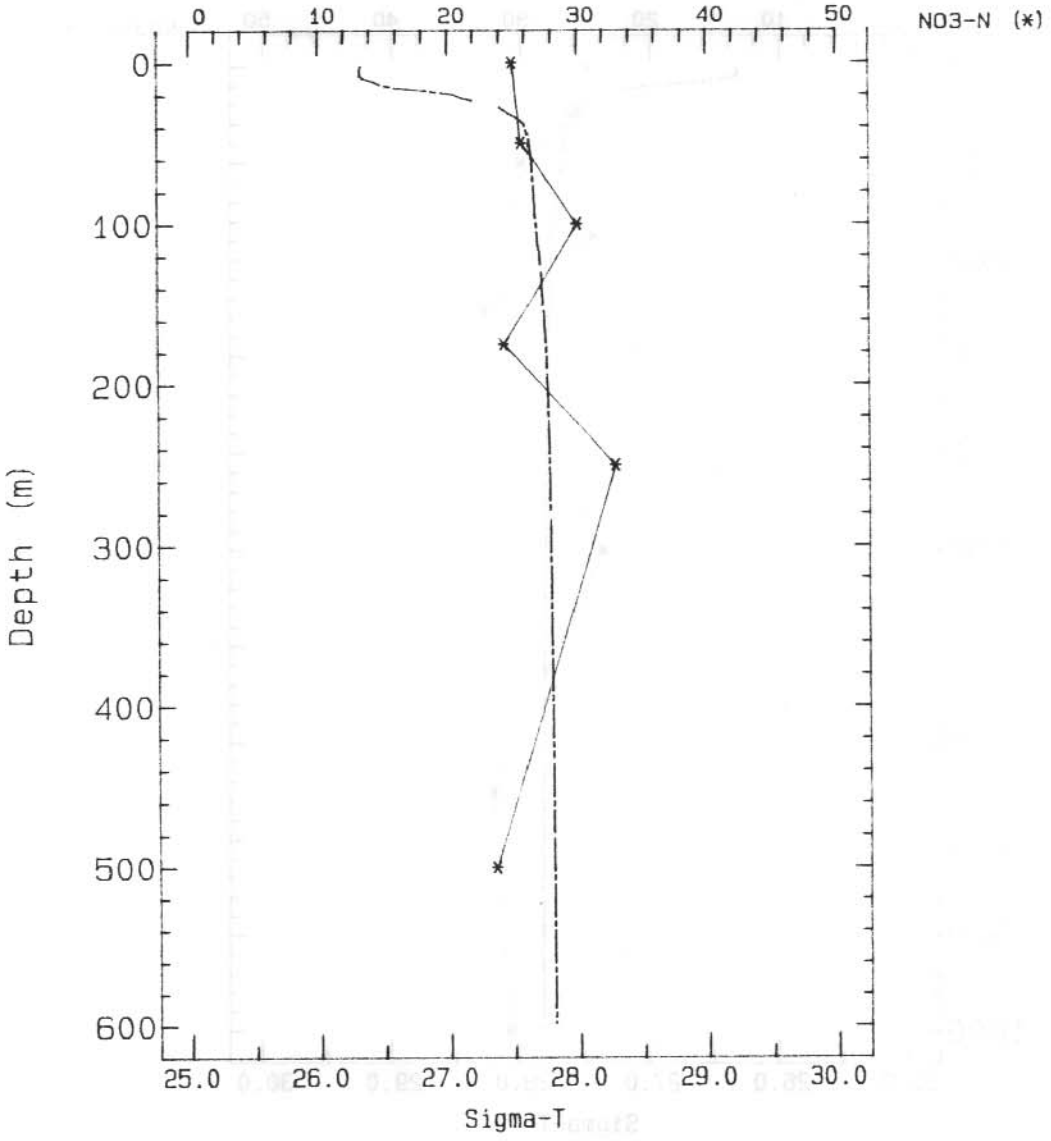
## 3. NUTRIENT DATA

Cruise : FIBEX
Station number : 11
Date : 24-JAN-1981 (DAY NUMBER 24)
Start Time : 1700 GMT
Ship : NELLA DAN
Position : 66:24.70S 71:38.09E
Cast Depth (m) : 1002
Bottom Depth (m) : Not Recorded

| Depth | NO3 | NO2 | PO4 | SiO3 |
|---|---|---|---|---|
| 0 | 25.0 | | | |
| 50 | 25.7 | | | |
| 100 | 30.0 | | | |
| 175 | 24.3 | | | |
| 250 | 32.9 | | | |
| 500 | 23.6 | | | |
| 750 | 32.1 | | | |
| 1000 | 30.7 | | | |

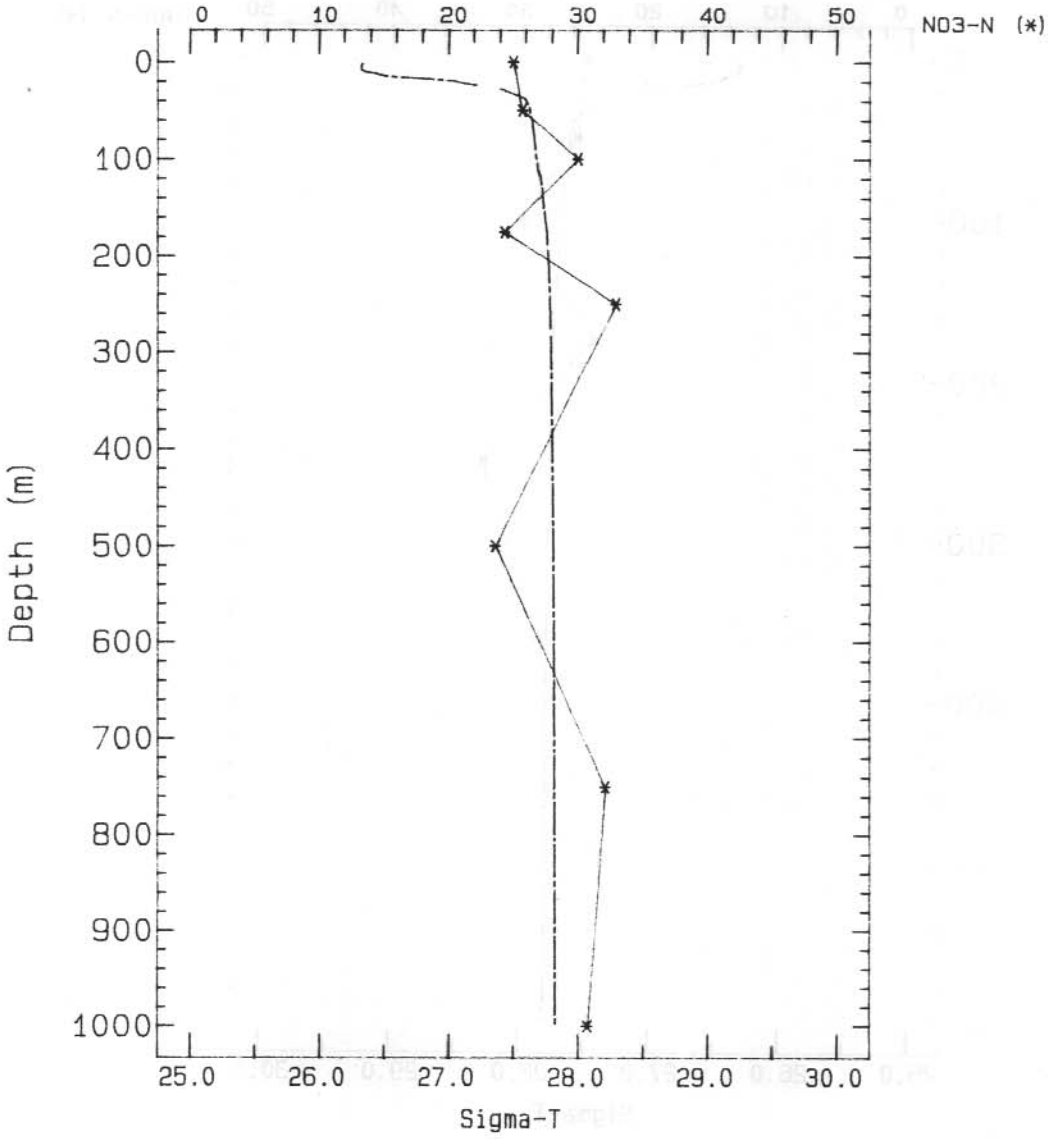
# FIBEX NUTRIENTS - SIGMA-T

Cruise : FIBEX Station 11
24-JAN-1981 1700 GMT
Lat 66: 24.70S Lon 71: 38.09E
Depth: CTD 1002 m Bottom 0 m



# FIBEX NUTRIENTS - SIGMA-T

Cruise : FIBEX Station 11
24-JAN-1981 1700 GMT
Lat 66: 24.70S Lon 71: 38.09E
Depth: CTD 1002 m Bottom 0 m

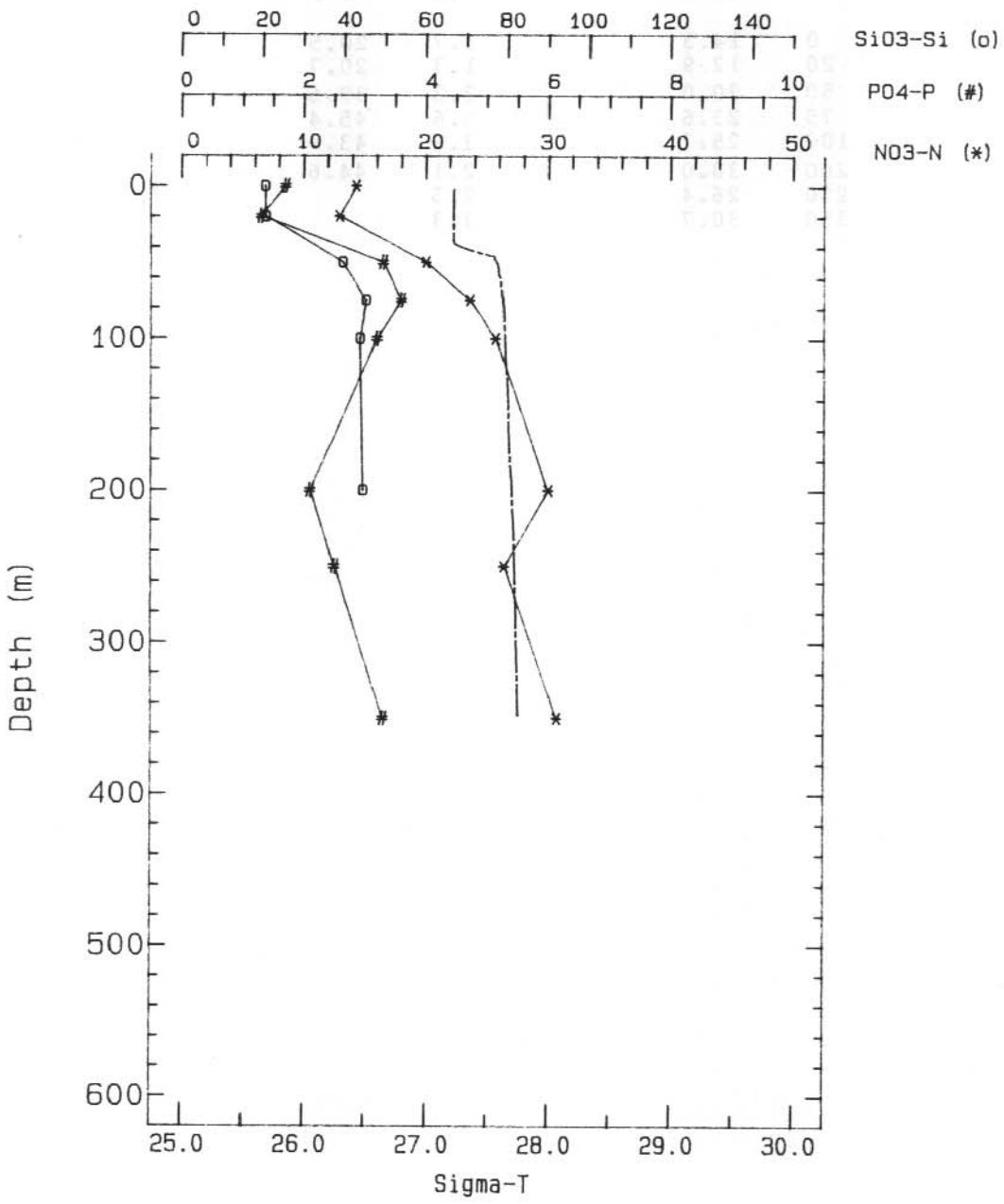


Cruise : FIBEX
Station number : 15
Date : 29-JAN-1981 (DAY NUMBER 29)
Start Time : 0419 GMT
Ship : NELLA DAN
Position : 68:35.80S 71:26.40E
Cast Depth (m) : 352
Bottom Depth (m) : Not Recorded

| Depth | NO3 | NO2 | PO4 | SiO3 |
|---|---|---|---|---|
| 0 | 14.3 | | 1.7 | 20.5 |
| 20 | 12.9 | | 1.3 | 20.7 |
| 50 | 20.0 | | 3.3 | 39.6 |
| 75 | 23.6 | | 3.6 | 45.4 |
| 100 | 25.7 | | 3.2 | 43.9 |
| 200 | 30.0 | | 2.1 | 44.6 |
| 250 | 26.4 | | 2.5 | |
| 350 | 30.7 | | 3.3 | |

# FIBEX NUTRIENTS – SIGMA-T

Cruise : FIBEX Station 15
29-JAN-1981 0419 GMT
Lat 68: 35.80S Lon 71: 26.40E
Depth: CTD 352 m Bottom 0 m

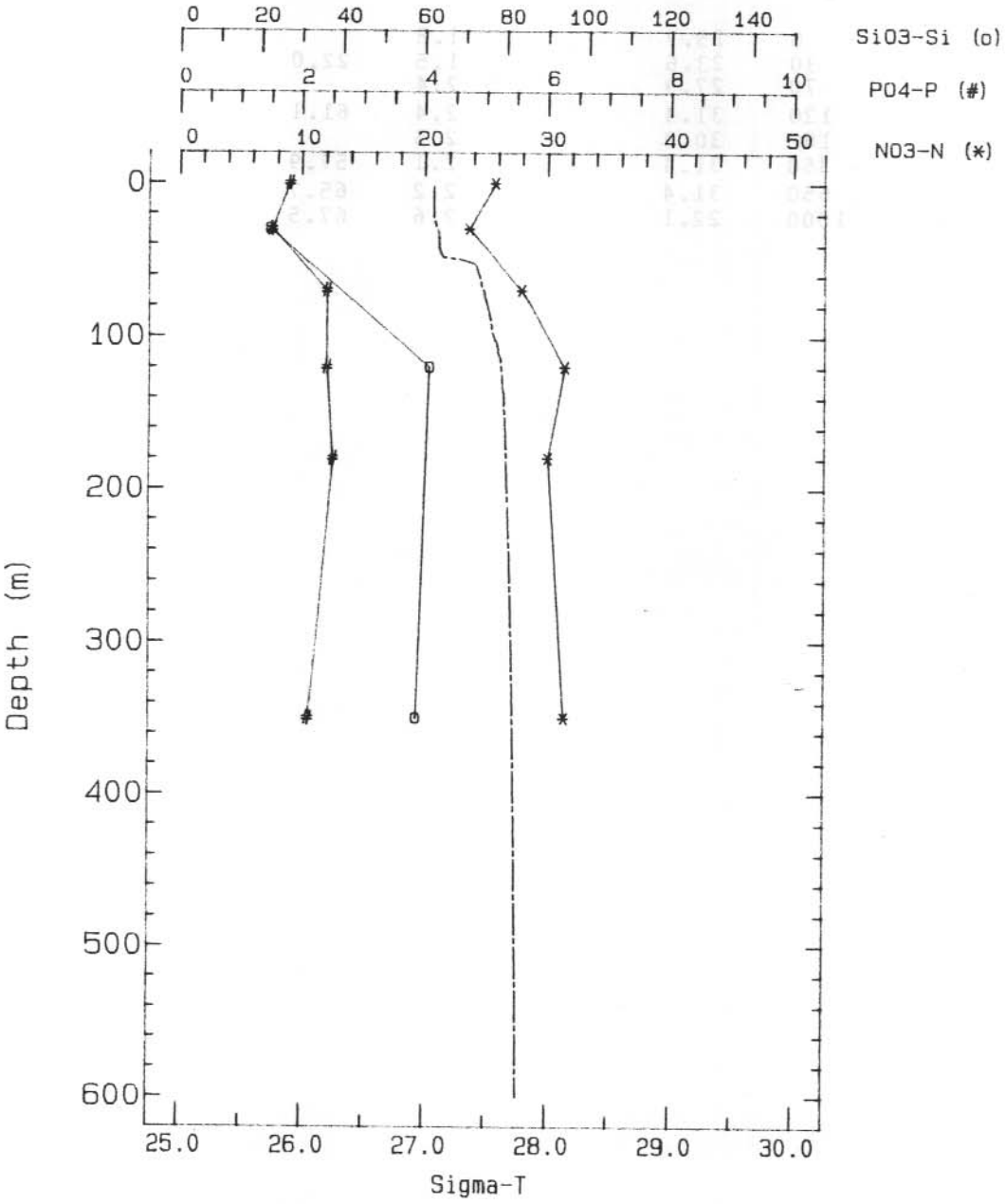


Cruise : FIBEX
Station number : 24
Date : 14-FEB-1981 (DAY NUMBER 45)
Start Time : 1850 GMT
Ship : NELLA DAN
Position : 63:19.10S 73:21.50E
Cast Depth (m) : 1002
Bottom Depth (m) : 5000

| Depth | NO3 | NO2 | PO4 | SiO3 |
|---|---|---|---|---|
| 0 | 25.7 | | 1.8 | |
| 30 | 23.6 | | 1.5 | 22.0 |
| 70 | 27.9 | | 2.4 | |
| 120 | 31.4 | | 2.4 | 61.1 |
| 180 | 30.0 | | 2.5 | |
| 350 | 31.4 | | 2.1 | 57.9 |
| 650 | 31.4 | | 2.2 | 65.7 |
| 1000 | 22.1 | | 2.6 | 67.5 |

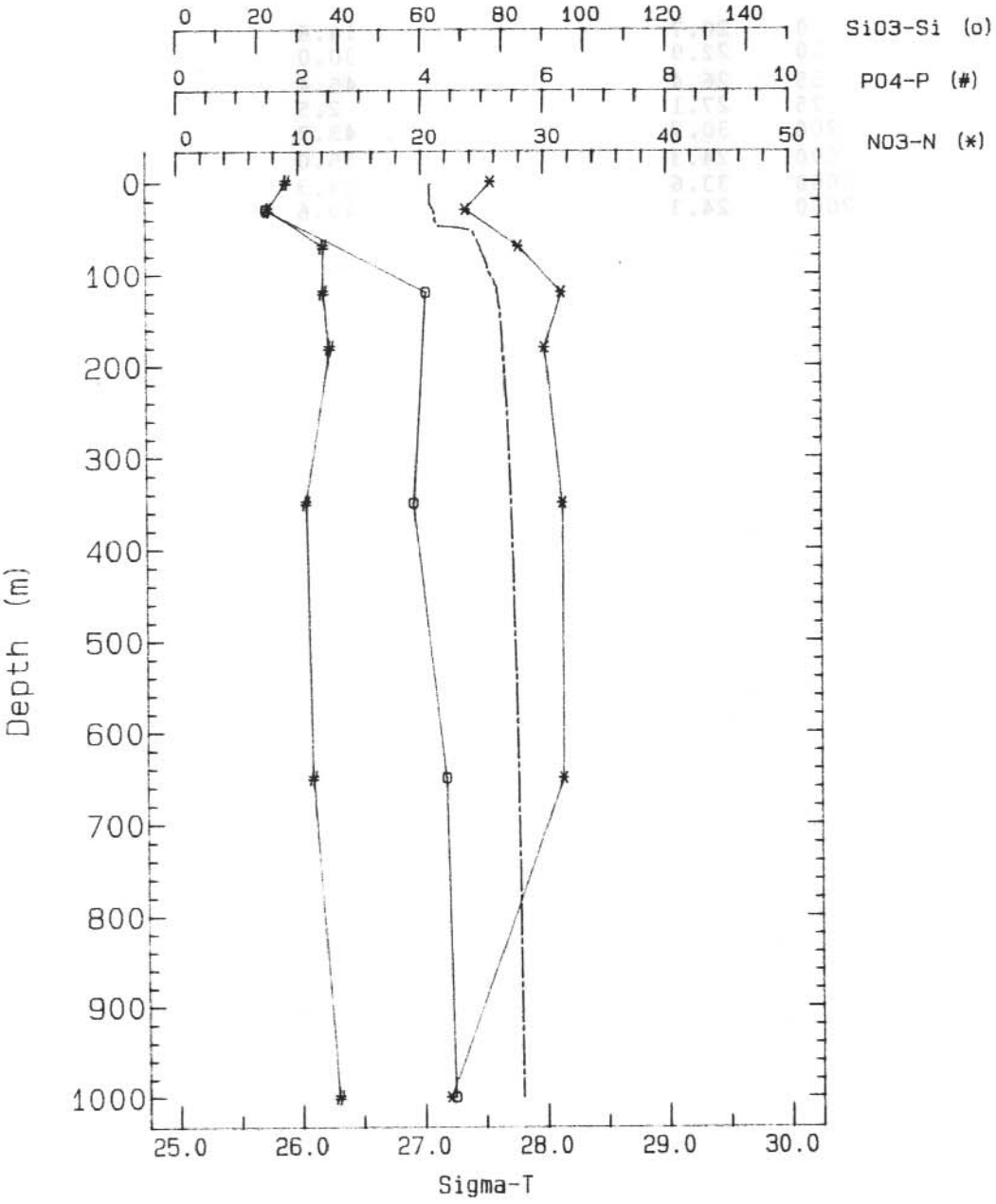
# FIBEX NUTRIENTS – SIGMA-T

Cruise : FIBEX Station 24
14-FEB-1981 1850 GMT
Lat 63: 19.10S Lon 73: 21.50E
Depth: CTD 1002 m Bottom 5000 m



# FIBEX NUTRIENTS-SGMA-T

Cruise : FIBEX Station 24
14-FEB-1981 1850 GMT
Lat 63: 19.10S Lon 73: 21.50E
Depth: CTD 1002 m Bottom 5000 m

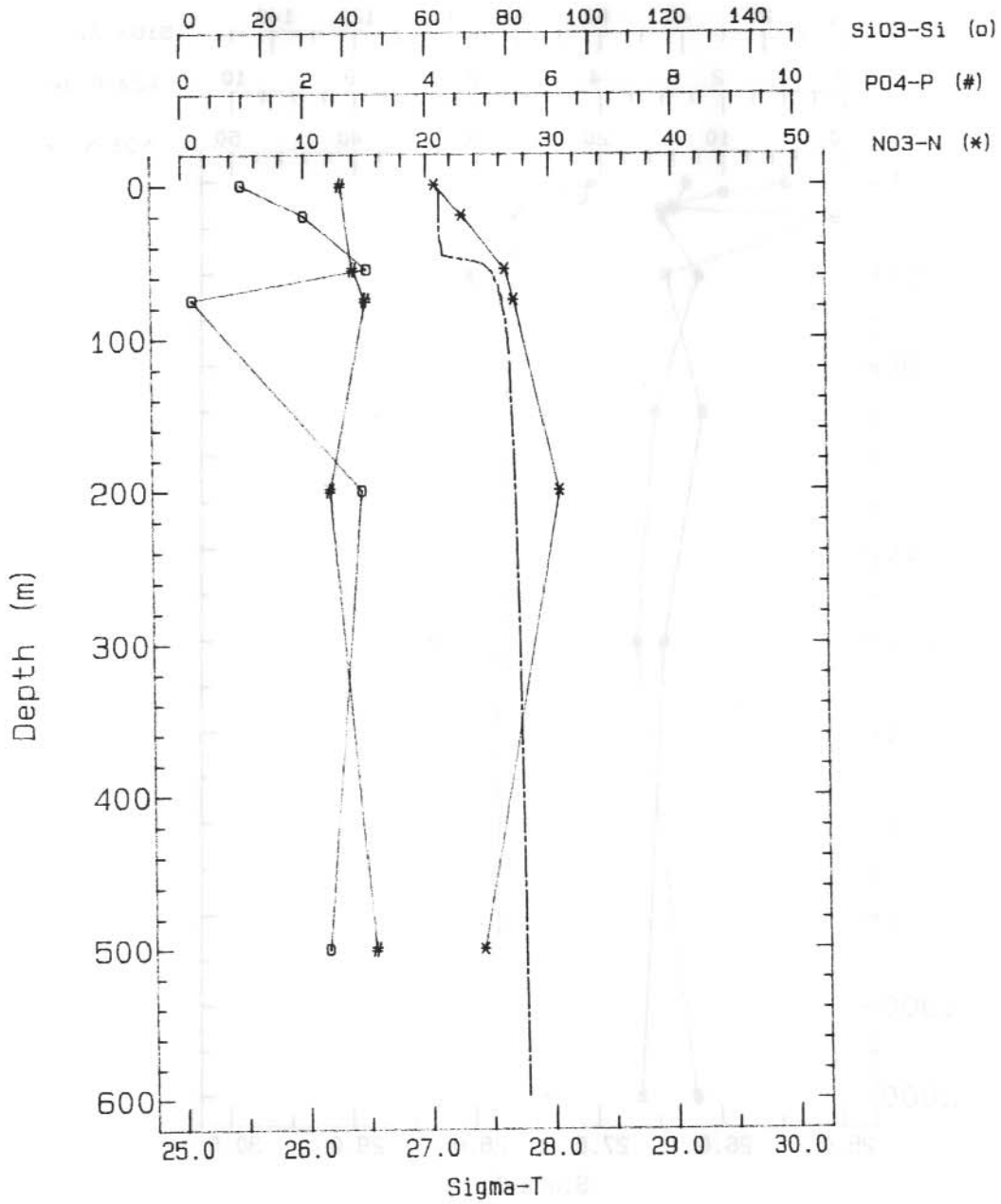


Cruise : FIBEX
Station number : 26
Date : 15-FEB-1981 (DAY NUMBER 46)
Start Time : 1845 GMT
Ship : NELLA DAN
Position : 63:05.70S 79:39.40E
Cast Depth (m) : 1640
Bottom Depth (m) : 3800

| Depth | NO3 | NO2 | PO4 | SiO3 |
|---|---|---|---|---|
| 0 | 20.7 | | 2.6 | 14.6 |
| 20 | 22.9 | | | 30.0 |
| 55 | 26.4 | | 2.8 | 45.4 |
| 75 | 27.1 | | 3.0 | 2.5 |
| 200 | 30.7 | | 2.4 | 43.9 |
| 500 | 24.3 | | 3.1 | 35.0 |
| 1000 | 33.6 | | 3.4 | 44.3 |
| 2000 | 24.3 | | 2.4 | 49.6 |

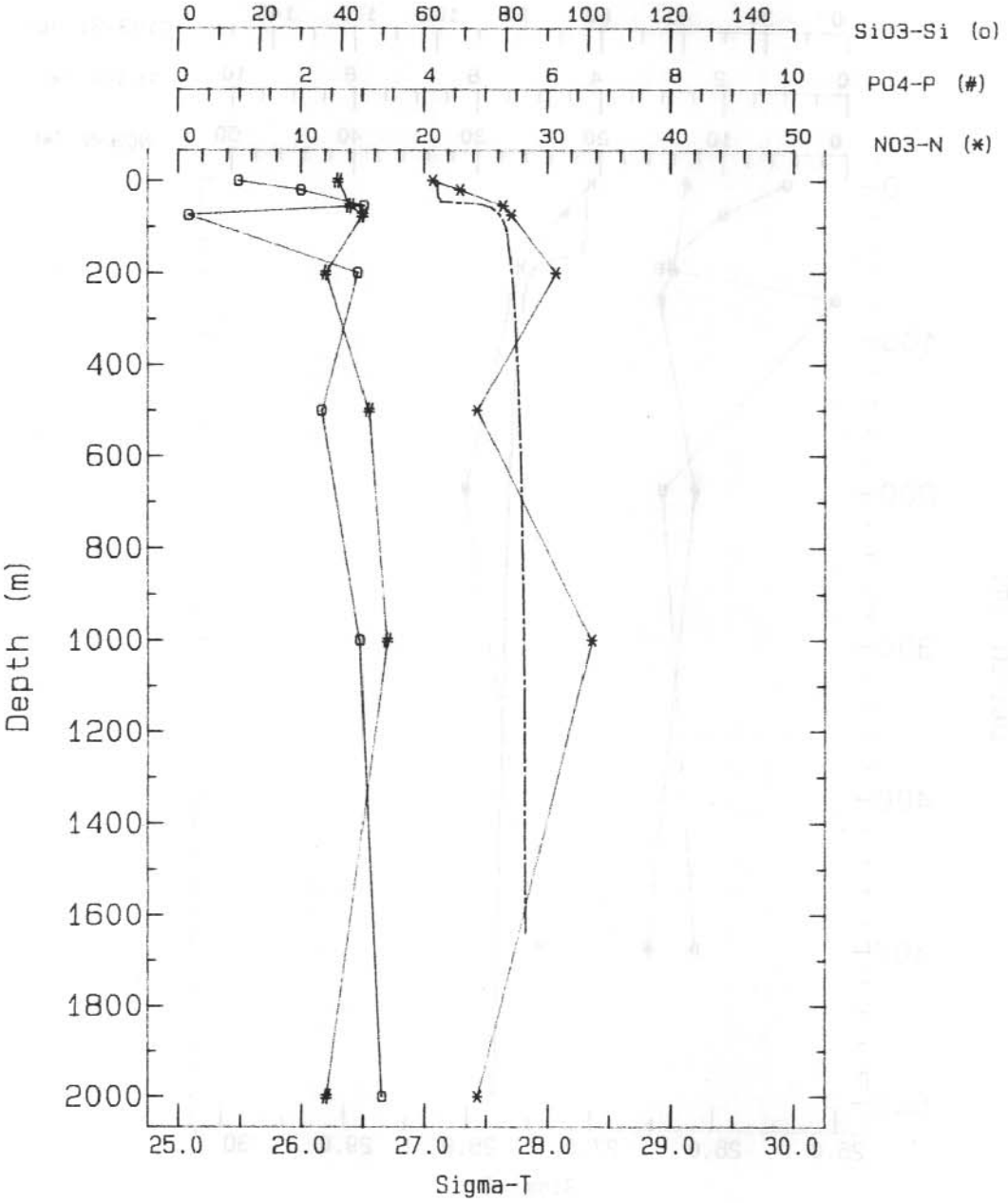
# FIBEX NUTRIENTS - SIGMA-T

Cruise : FIBEX Station 26
15-FEB-1981 1845 GMT
Lat 63: 05.70S Lon 79: 39.40E
Depth: CTD 1640 m Bottom 3800 m



# FIBEX NUTRIENTS - SIGMA-T

Cruise : FIBEX Station 26
15-FEB-1981 1845 GMT
Lat 63: 05.70S Lon 79: 39.40E
Depth: CTD 1640 m Bottom 3800 m

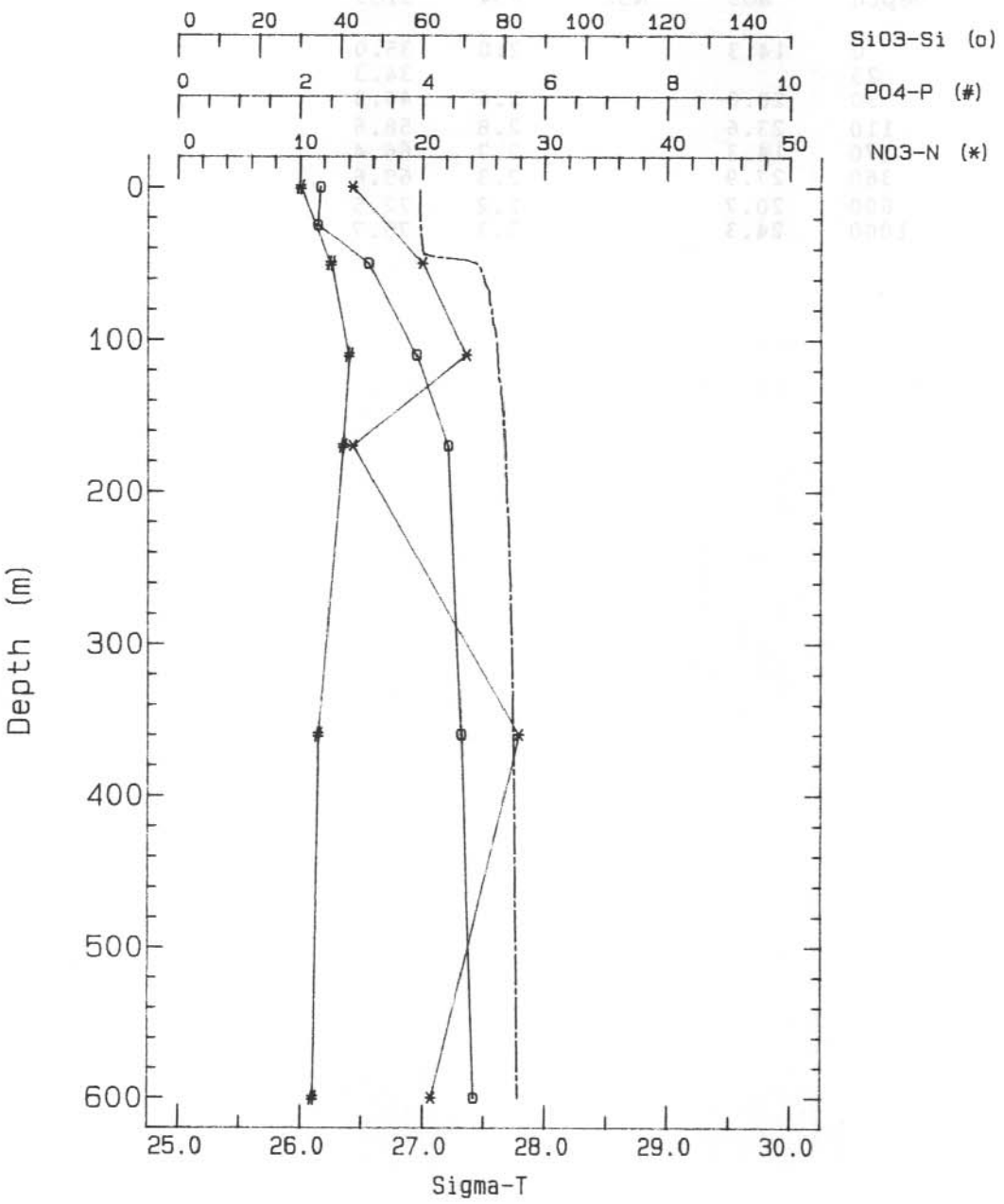


Cruise : FIBEX
Station number : 28
Date : 16-FEB-1981 (DAY NUMBER 47)
Start Time : 1836 GMT
Ship : NELLA DAN
Position : 63:17.00S 84:38.30E
Cast Depth (m) : 1640
Bottom Depth (m) : 3408

| Depth | NO3 | NO2 | PO4 | SiO3 |
|---|---|---|---|---|
| 0 | 14.3 | | 2.0 | 35.0 |
| 25 | | | | 34.3 |
| 50 | 20.0 | | 2.5 | 46.8 |
| 110 | 23.6 | | 2.8 | 58.6 |
| 170 | 14.3 | | 2.7 | 66.4 |
| 360 | 27.9 | | 2.3 | 69.6 |
| 600 | 20.7 | | 2.2 | 72.5 |
| 1000 | 24.3 | | 2.3 | 75.7 |

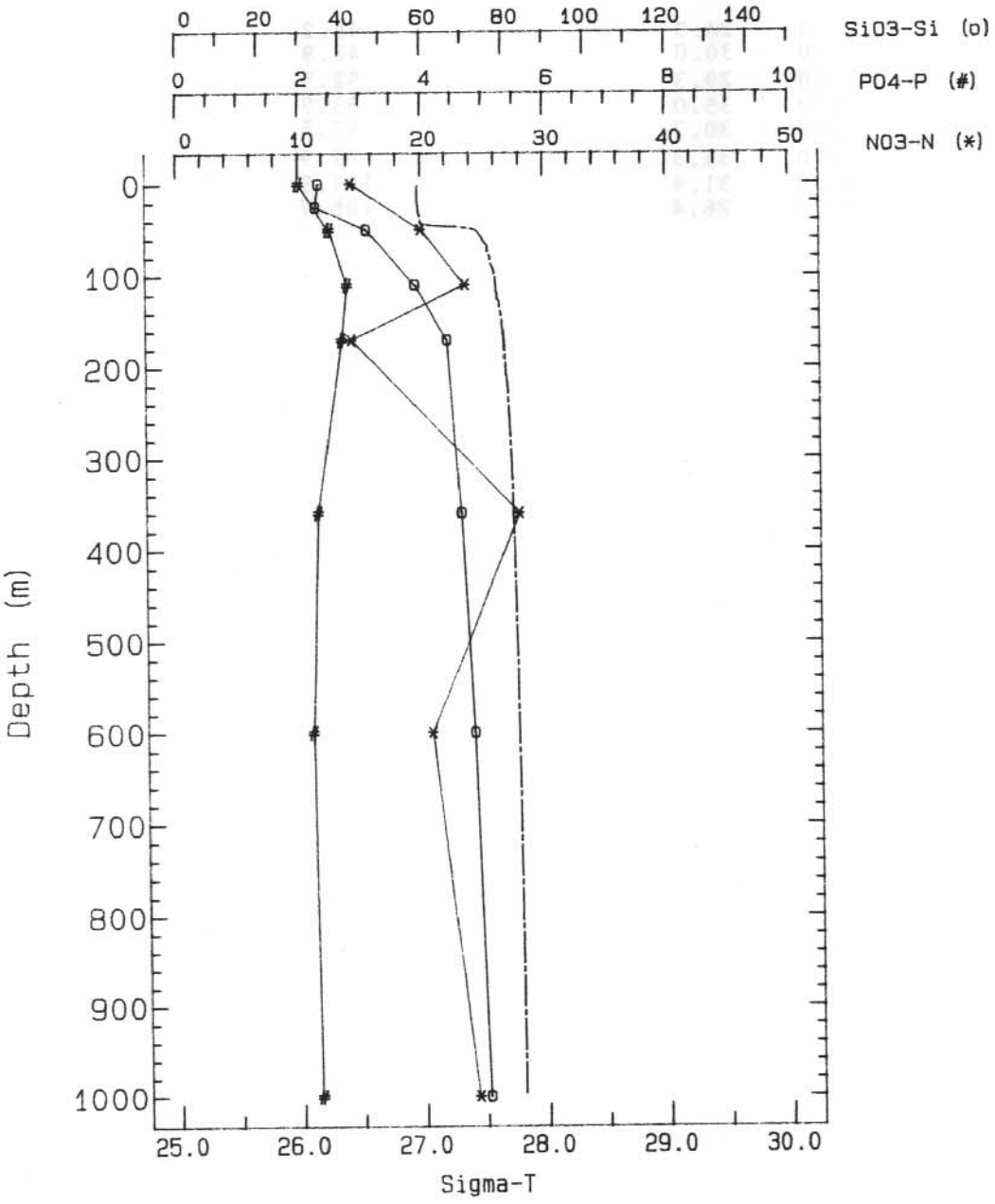
# FIBEX NUTRIENTS - SIGMA-T

Cruise : FIBEX Station 28
16-FEB-1981 1836 GMT
Lat 63: 17.00S Lon 84: 38.30E
Depth: CTD 1640 m Bottom 3408 m



# FIBEX NUTRIENTS – SIGMA-T

Cruise : FIBEX Station 28
16-FEB-1981 1836 GMT
Lat 63: 17.00S Lon 84: 38.30E
Depth: CTD 1640 m Bottom 3408 m

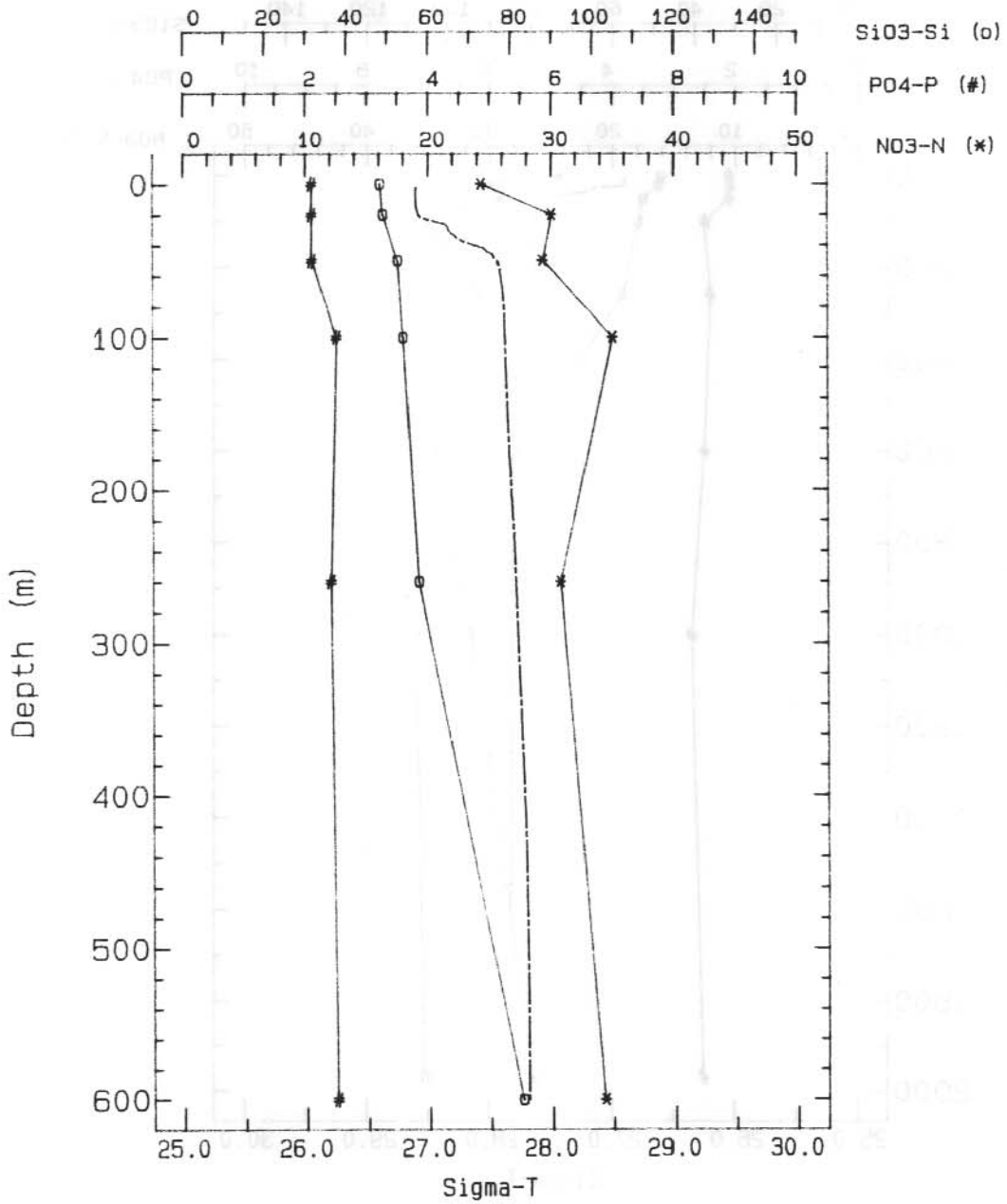


Cruise : FIBEX
Station number : 30
Date : 17-FEB-1981 (DAY NUMBER 48)
Start Time : 1905 GMT
Ship : NELLA DAN
Position : 64:51.50S 84:19.29E
Cast Depth (m) : 1640
Bottom Depth (m) : 3520

| Depth | NO3 | NO2 | PO4 | SiO3 |
|---|---|---|---|---|
| 0 | 24.3 | | 2.1 | 48.2 |
| 20 | 30.0 | | 2.1 | 48.9 |
| 50 | 29.3 | | 2.1 | 52.5 |
| 100 | 35.0 | | 2.5 | 53.9 |
| 260 | 30.7 | | 2.4 | 57.5 |
| 600 | 34.3 | | 2.5 | 82.9 |
| 1000 | 31.4 | | 2.7 | 107.9 |
| 1970 | 26.4 | | 2.5 | 105.7 |

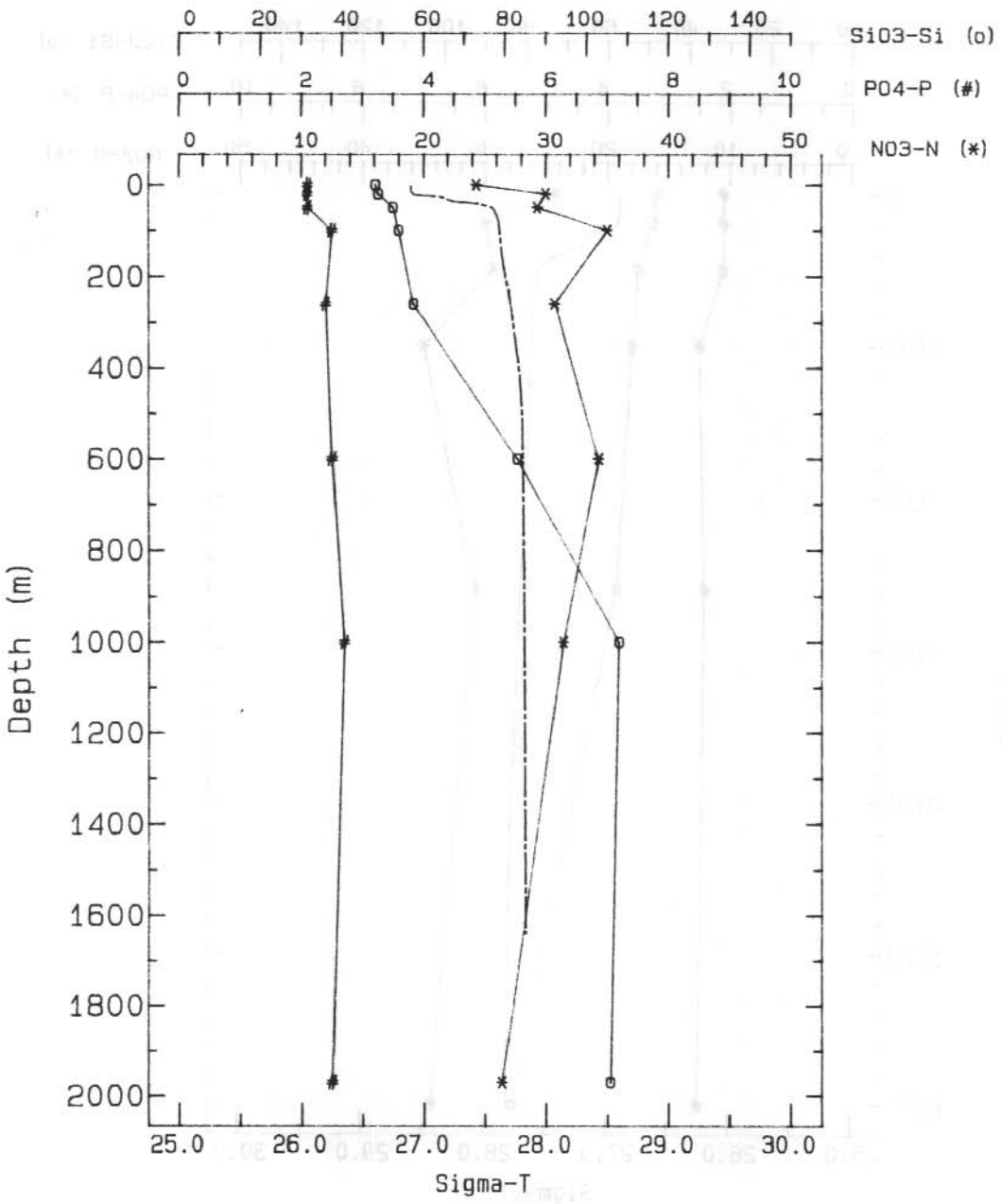
# FIBEX NUTRIENTS - SIGMA-T

Cruise : FIBEX Station 30
17-FEB-1981 1905 GMT
Lat 64: 51.50S Lon 84: 19.29E
Depth: CTD 1640 m Bottom 3520 m



# FIBEX NUTRIENTS - SIGMA-T

Cruise : FIBEX Station 30
17-FEB-1981 1905 GMT
Lat 64: 51.50S Lon 84: 19.29E
Depth: CTD 1640 m Bottom 3520 m

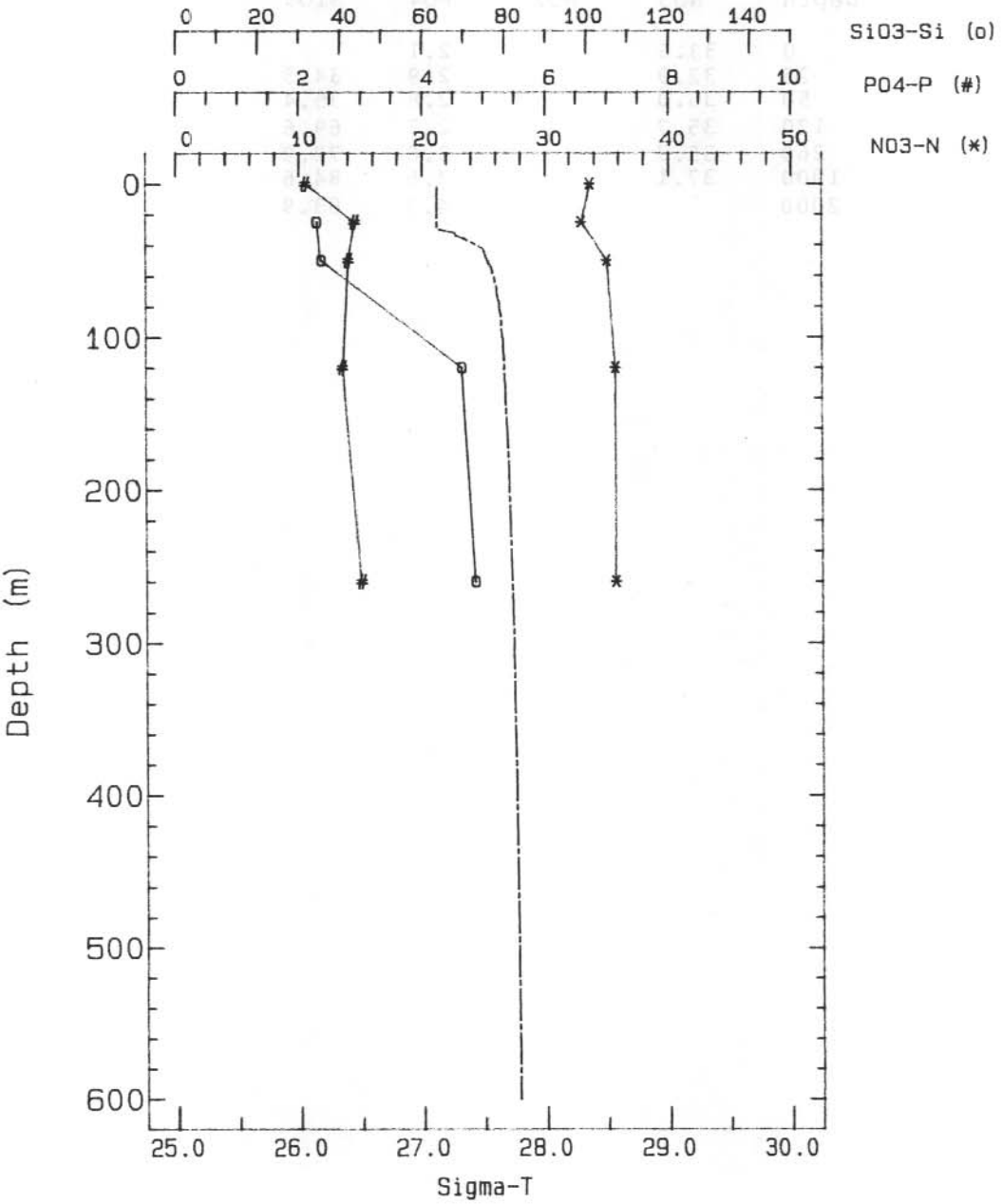


Cruise : FIBEX
Station number : 31
Date : 18-FEB-1981 (DAY NUMBER 49)
Start Time : 0643 GMT
Ship : NELLA DAN
Position : 64:20.90S 81:53.70E
Cast Depth (m) : 1640
Bottom Depth (m) : 3713

| Depth | NO3 | NO2 | PO4 | SiO3 |
|---|---|---|---|---|
| 0 | 33.6 | | 2.1 | |
| 25 | 32.9 | | 2.9 | 34.3 |
| 50 | 35.0 | | 2.8 | 35.4 |
| 120 | 35.7 | | 2.7 | 69.6 |
| 260 | 35.7 | | 3.0 | 72.9 |
| 1000 | 37.1 | | 3.5 | 84.6 |
| 2000 | | | 4.3 | 83.9 |

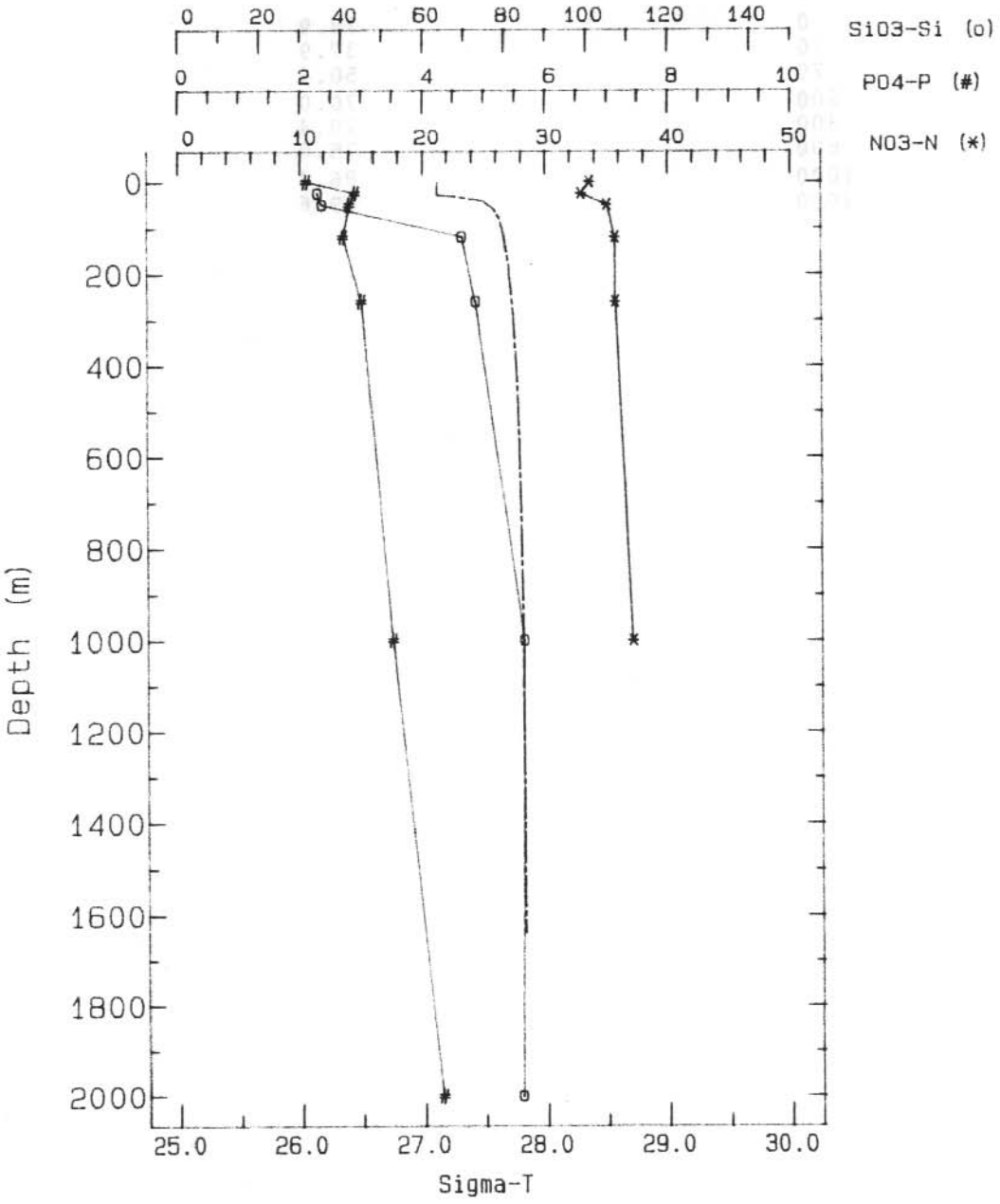
# FIBEX NUTRIENTS - SIGMA-T

Cruise : FIBEX Station 31
18-FEB-1981 0643 GMT
Lat 64: 20.90S Lon 81: 53.70E
Depth: CTD 1640 m Bottom 3713 m



# FIBEX NUTRIENTS - SIGMA-T

Cruise : FIBEX Station 31
18-FEB-1981 0643 GMT
Lat 64: 20.90S Lon 81: 53.70E
Depth: CTD 1640 m Bottom 3713 m

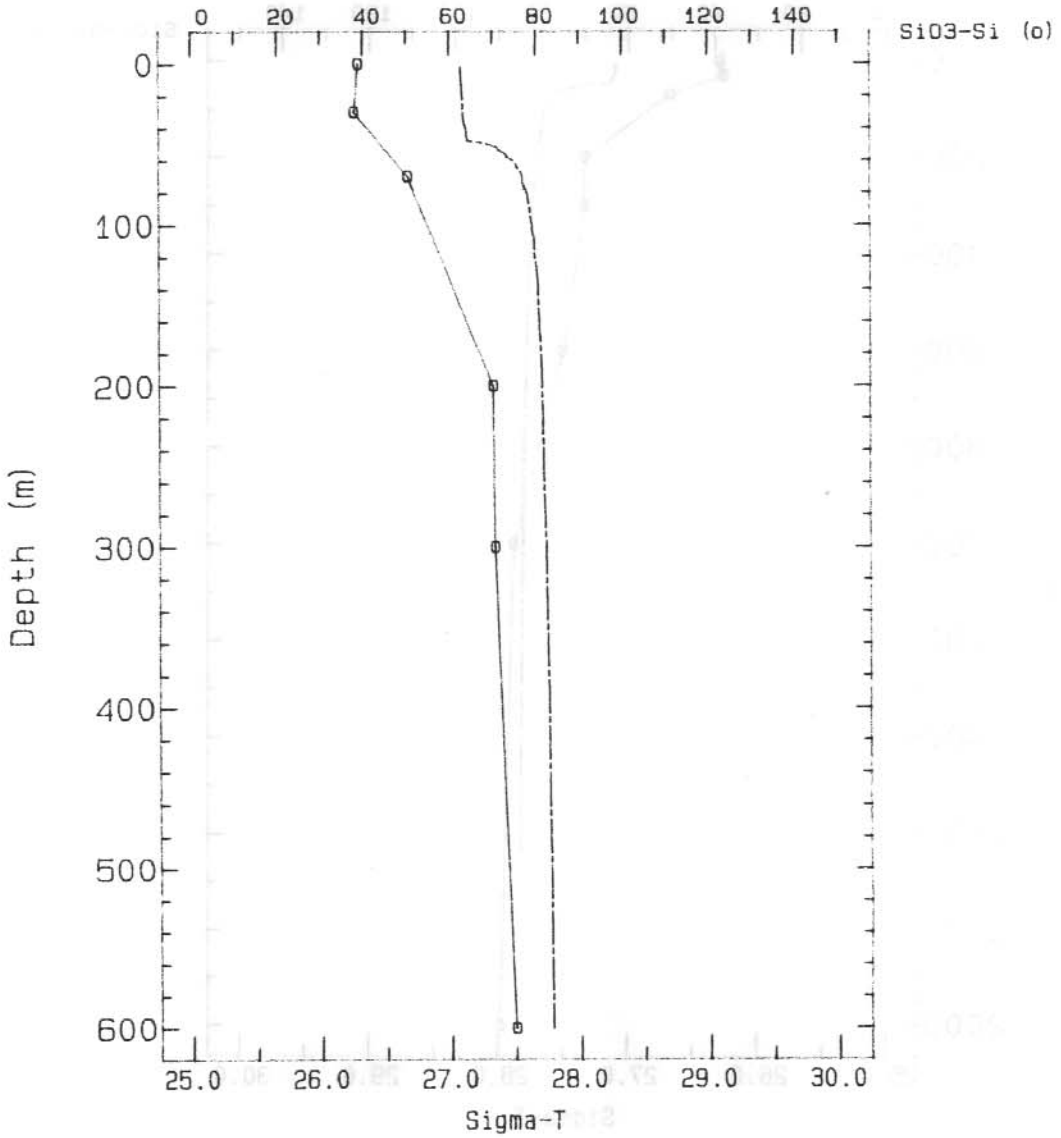


Cruise : FIBEX
Station number : 32
Date : 18-FEB-1981 (DAY NUMBER 49)
Start Time : 1923 GMT
Ship : NELLA DAN
Position : 64:18.40S 78:48.10E
Cast Depth (m) : 1640
Bottom Depth (m) : 3667

| Depth | NO3 | NO2 | PO4 | SiO3 |
|---|---|---|---|---|
| 0 | | | | 38.9 |
| 30 | | | | 37.9 |
| 70 | | | | 50.4 |
| 200 | | | | 70.0 |
| 300 | | | | 70.4 |
| 600 | | | | 75.0 |
| 1000 | | | | 86.4 |
| 2000 | | | | 89.6 |

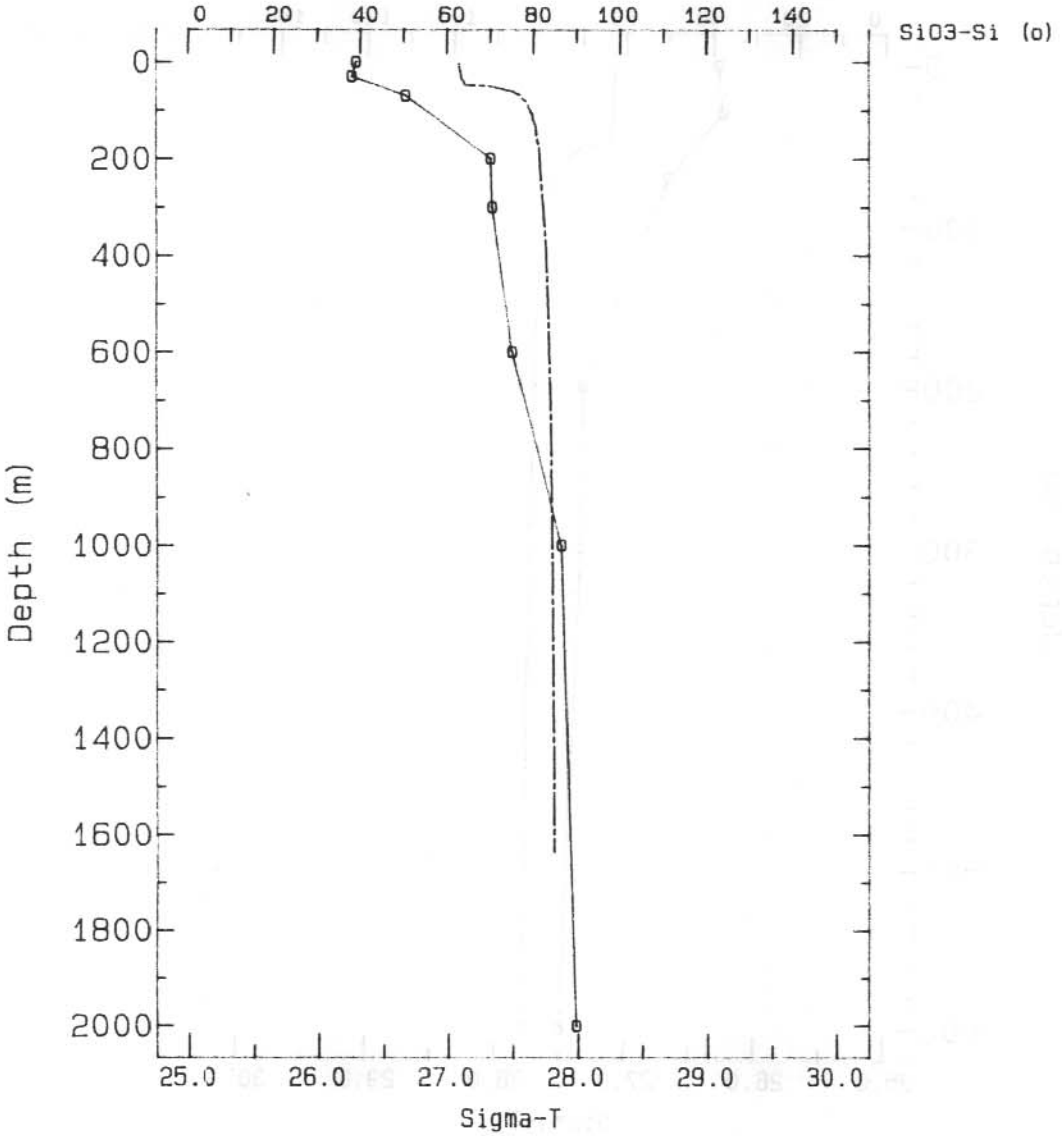
# FIBEX NUTRIENTS - SIGMA-T

Cruise : FIBEX Station 32
18-FEB-1981 1923 GMT
Lat 64: 18.40S Lon 78: 48.10E
Depth: CTD 1640 m Bottom 3667 m



# FIBEX NUTRIENTS - SIGMA-T

Cruise : FIBEX Station 32
18-FEB-1981 1923 GMT
Lat 64: 18.40S Lon 78: 48.10E
Depth: CTD 1640 m Bottom 3667 m

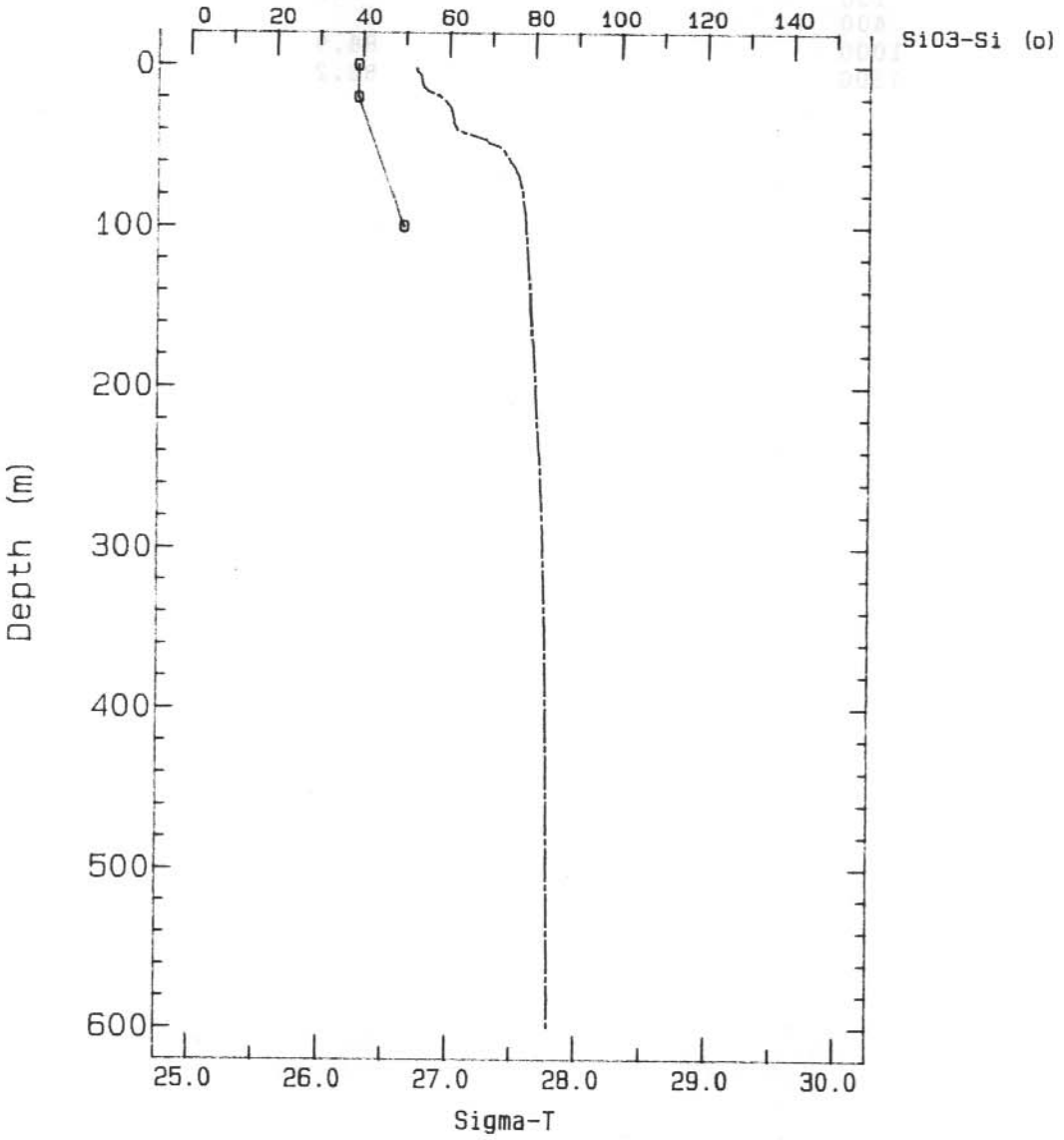


Cruise : FIBEX
Station number : 40
Date : 22-FEB-1981 (DAY NUMBER 53)
Start Time : 1835 GMT
Ship : NELLA DAN
Position : 65:43.00S 75:33.50E
Cast Depth (m) : 1640
Bottom Depth (m) : 3247

| Depth | NO3 | NO2 | PO4 | SiO3 |
|---|---|---|---|---|
| 0 | | | | 38.9 |
| 20 | | | | 38.9 |
| 40 | | | | |
| 100 | | | | 49.6 |
| 400 | | | | |
| 1000 | | | | 88.9 |
| 1500 | | | | 88.2 |

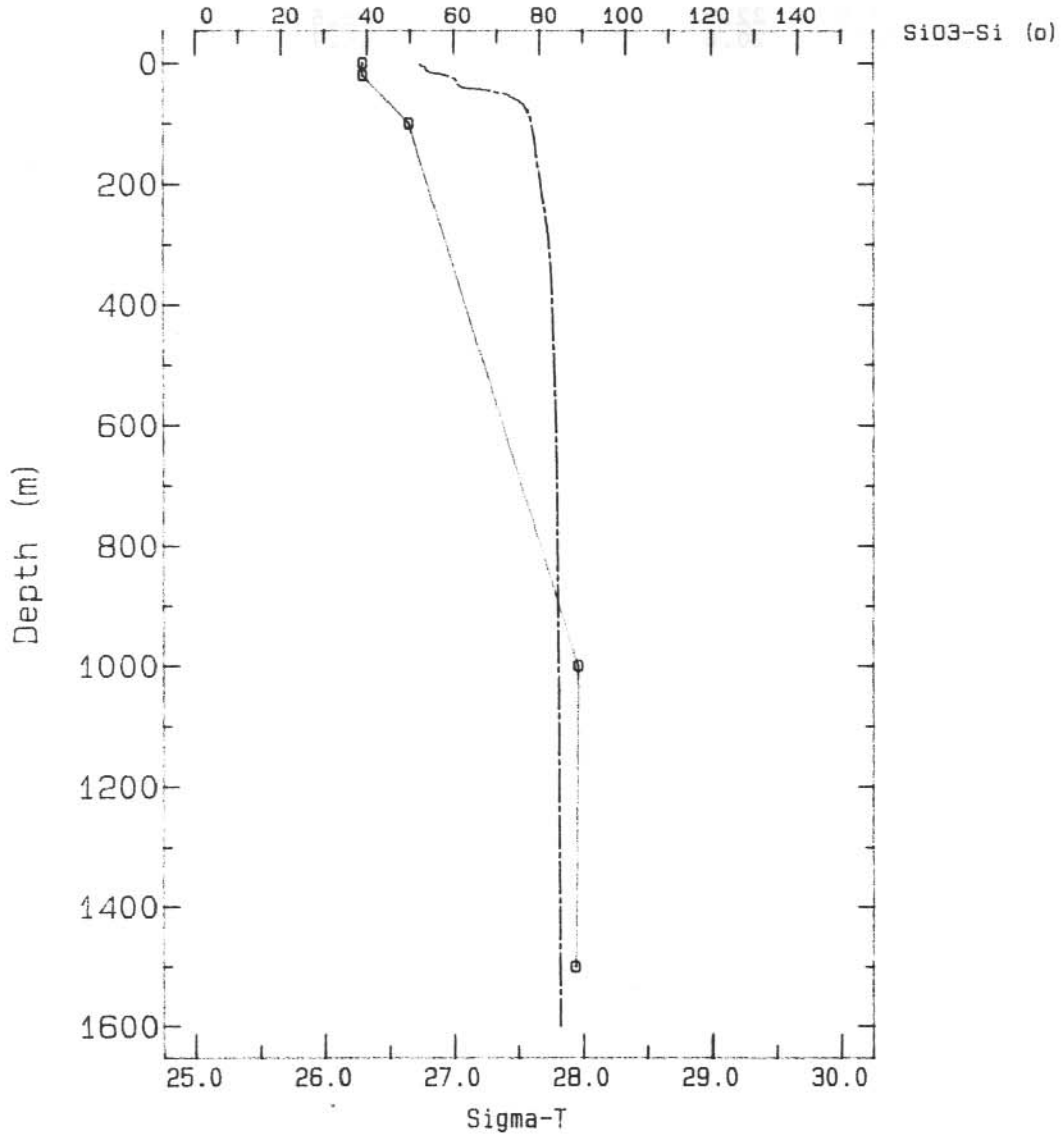
# FIBEX NUTRIENTS – SIGMA-T

Cruise : FIBEX Station 40
22-FEB-1981 1835 GMT
Lat 65: 43.00S Lon 75: 33.50E
Depth: CTD 1640 m Bottom 3247 m



# FIBEX NUTRIENTS - SIGMA-T

Cruise : FIBEX Station 40
22-FEB-1981 1835 GMT
Lat 65: 43.00S Lon 75: 33.50E
Depth: CTD 1640 m Bottom 3247 m

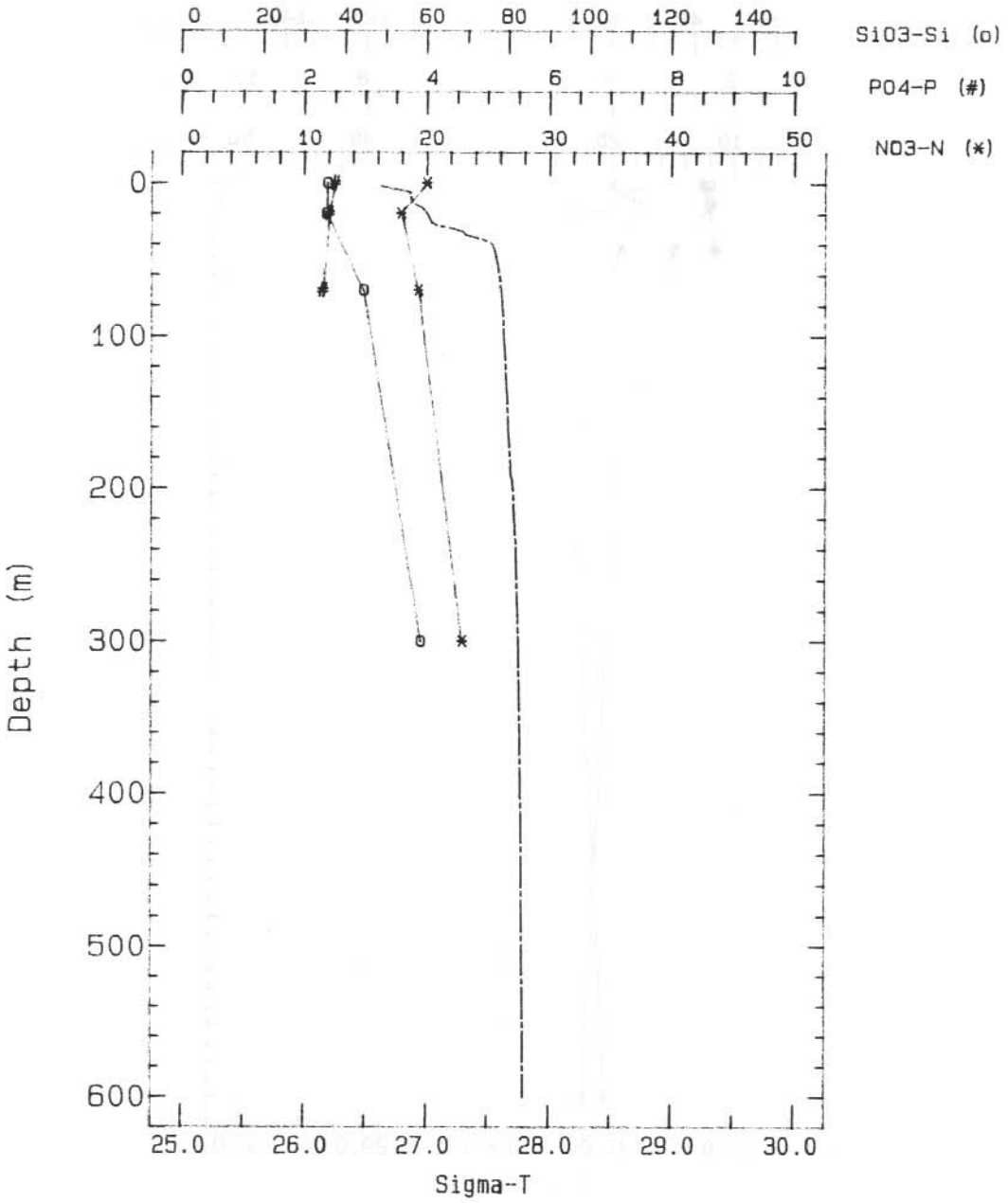


Cruise : FIBEX
Station number : 41
Date : 23-FEB-1981 (DAY NUMBER 54)
Start Time : 0627 GMT
Ship : NELLA DAN
Position : 65:29.10S 77:51.80E
Cast Depth (m) : 1370
Bottom Depth (m) : 3295

| Depth | NO3 | NO2 | PO4 | SiO3 |
|---|---|---|---|---|
| 0 | 20.0 | | 2.5 | 35.7 |
| 20 | 17.9 | | 2.4 | 35.4 |
| 70 | 19.3 | | 2.3 | 44.6 |
| 200 | | | | |
| 300 | 22.9 | | | 58.6 |
| 1000 | 20.0 | | | 65.7 |

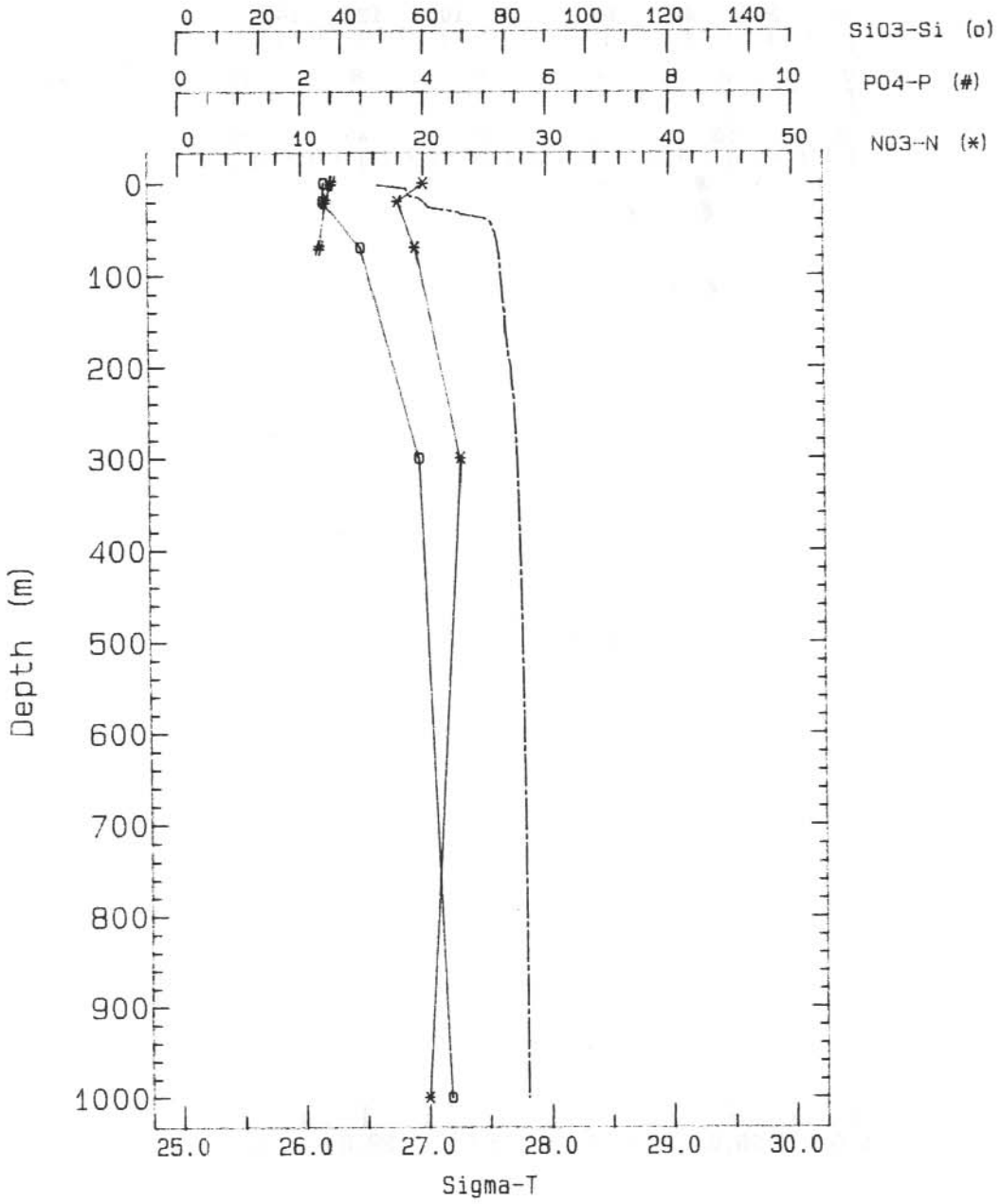
# FIBEX NUTRIENTS - SIGMA-T

Cruise : FIBEX Station 41
23-FEB-1981 0627 GMT
Lat 65: 29.10S Lon 77: 51.80E
Depth: CTD 1370 m Bottom 3295 m



# FIBEX NUTRIENTS – SIGMA-T

Cruise : FIBEX Station 41
23-FEB-1981 0627 GMT
Lat 65: 29.10S Lon 77: 51.80E
Depth: CTD 1370 m Bottom 3295 m

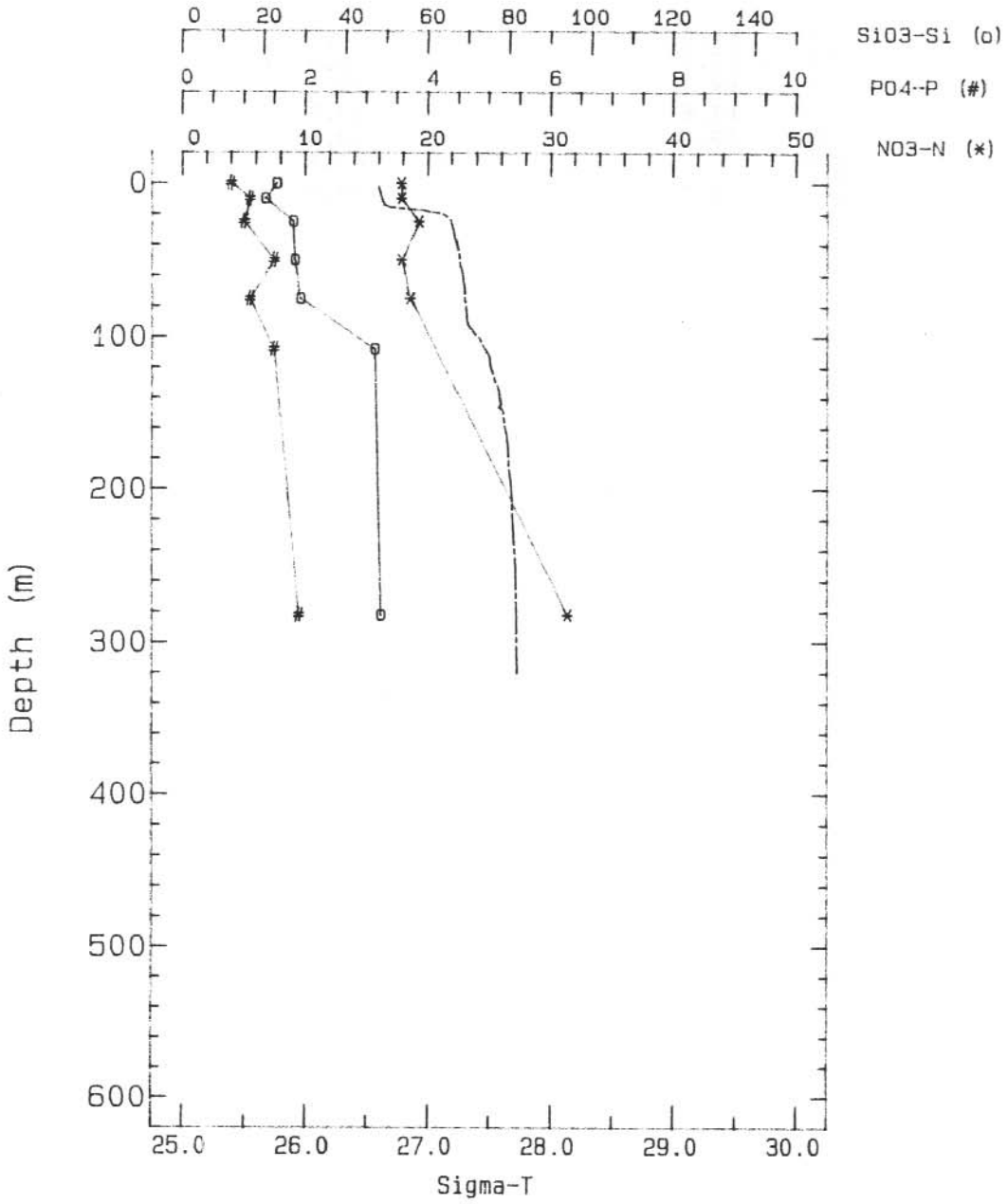


Cruise : FIBEX
Station number : 45
Date : 03-MAR-1981 (DAY NUMBER 62)
Start Time : 1900 GMT
Ship : NELLA DAN
Position : 67:23.10S 70:57.70E
Cast Depth (m) : 322
Bottom Depth (m) : 350

| Depth | NO3 | NO2 | PO4 | SiO3 |
|---|---|---|---|---|
| 0 | 17.9 | | 0.8 | 23.2 |
| 10 | 17.9 | | 1.1 | 20.4 |
| 25 | 19.3 | | 1.0 | 27.1 |
| 50 | 17.9 | | 1.5 | 27.5 |
| 75 | 18.6 | | 1.1 | 28.9 |
| 108 | | | 1.5 | 47.1 |
| 282 | 31.4 | | 1.9 | 48.6 |

# FIBEX NUTRIENTS - SIGMA-T

Cruise : FIBEX Station 45
03-MAR-1981 1900 GMT
Lat 67: 23.10S Lon 70: 57.70E
Depth: CTD 322 m Bottom 350 m

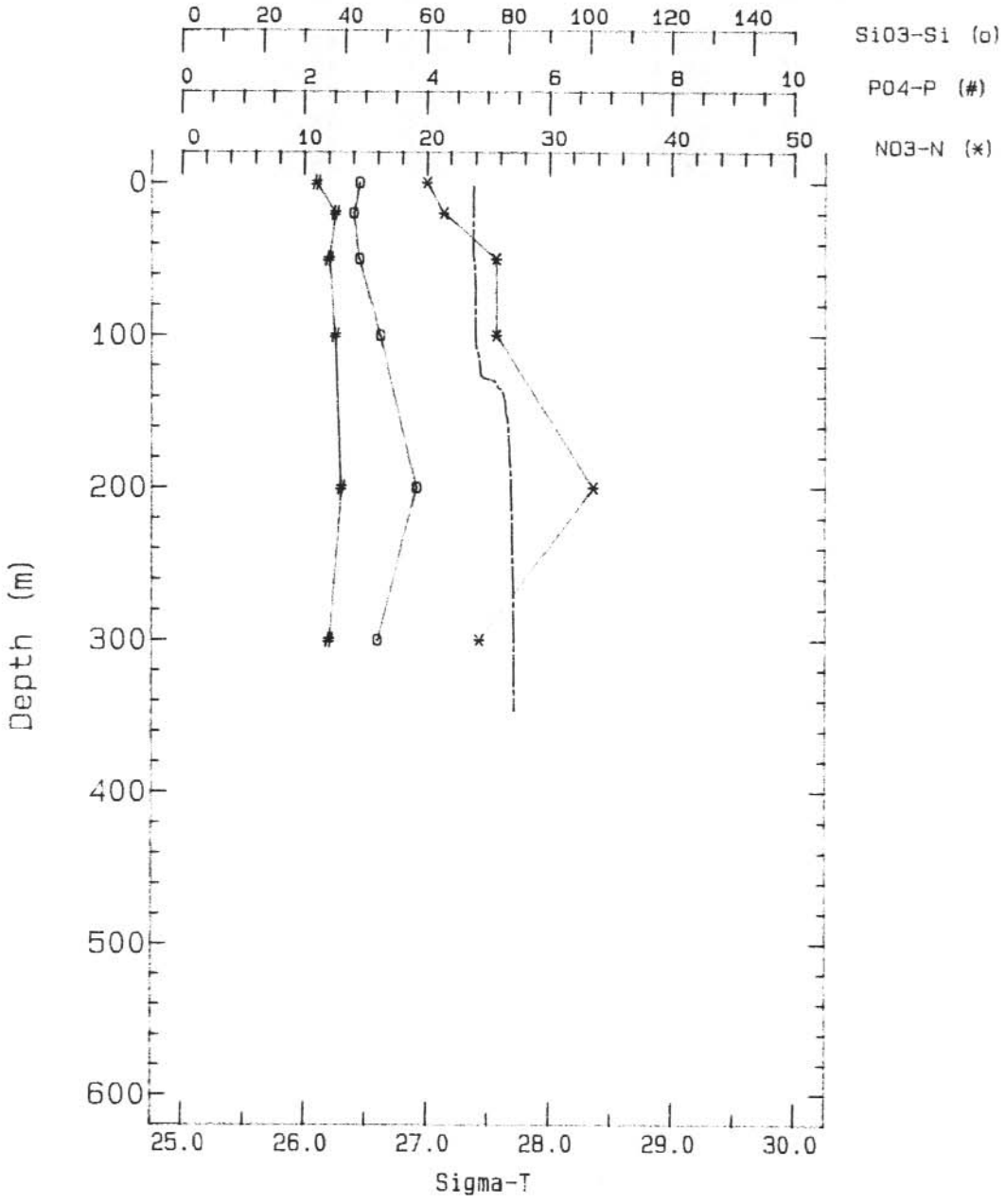


Cruise : FIBEX
Station number : 46
Date : 08-MAR-1981 (DAY NUMBER 67)
Start Time : 1159 GMT
Ship : NELLA DAN
Position : 66:45.10S 63:16.29E
Cast Depth (m) : 348
Bottom Depth (m) : 350

| Depth | NO3 | NO2 | PO4 | SiO3 |
|---|---|---|---|---|
| 0 | 20.0 | | 2.2 | 43.6 |
| 20 | 21.4 | | 2.5 | 42.1 |
| 50 | 25.7 | | 2.4 | 43.6 |
| 100 | 25.7 | | 2.5 | 48.6 |
| 200 | 33.6 | | 2.6 | 57.5 |
| 300 | 24.3 | | 2.4 | 47.9 |

# FIBEX NUTRIENTS - SIGMA-T

Cruise : FIBEX Station 46
08-MAR-1981 1159 GMT
Lat 66: 45.10S Lon 63: 16.29E
Depth: CTD 348 m Bottom 350 m

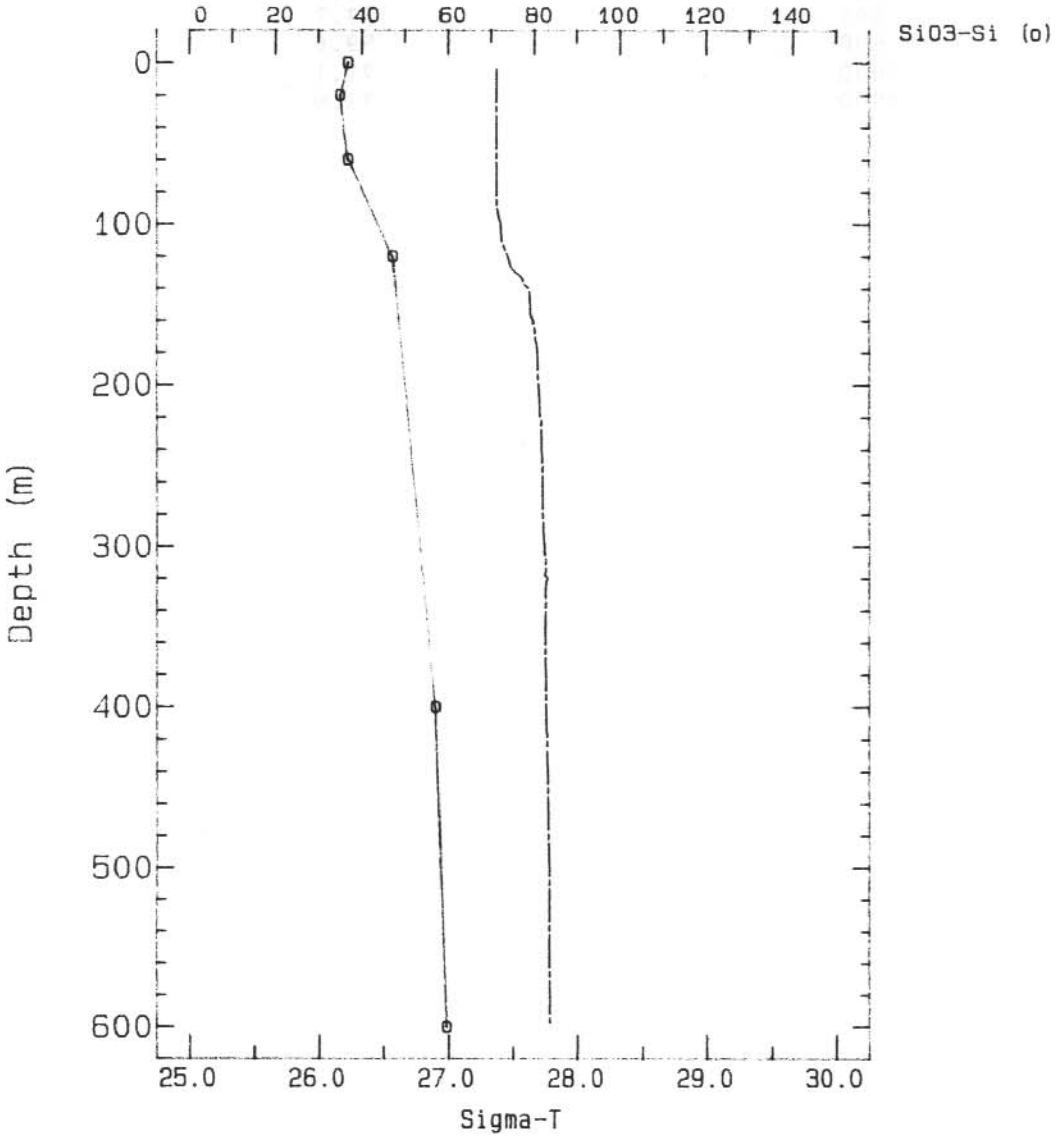


Cruise : FIBEX
Station number : 47
Date : 08-MAR-1981 (DAY NUMBER 67)
Start Time : 1908 GMT
Ship : NELLA DAN
Position : 66:02.09S 62:54.50E
Cast Depth (m) : 1640
Bottom Depth (m) : 3320

| Depth | NO3 | NO2 | PO4 | SiO3 |
|---|---|---|---|---|
| 0 | | | | 36.8 |
| 20 | | | | 35.0 |
| 60 | | | | 36.8 |
| 120 | | | | 47.1 |
| 400 | | | | 57.1 |
| 600 | | | | 59.6 |
| 1000 | | | | 71.1 |
| 2000 | | | | 73.9 |

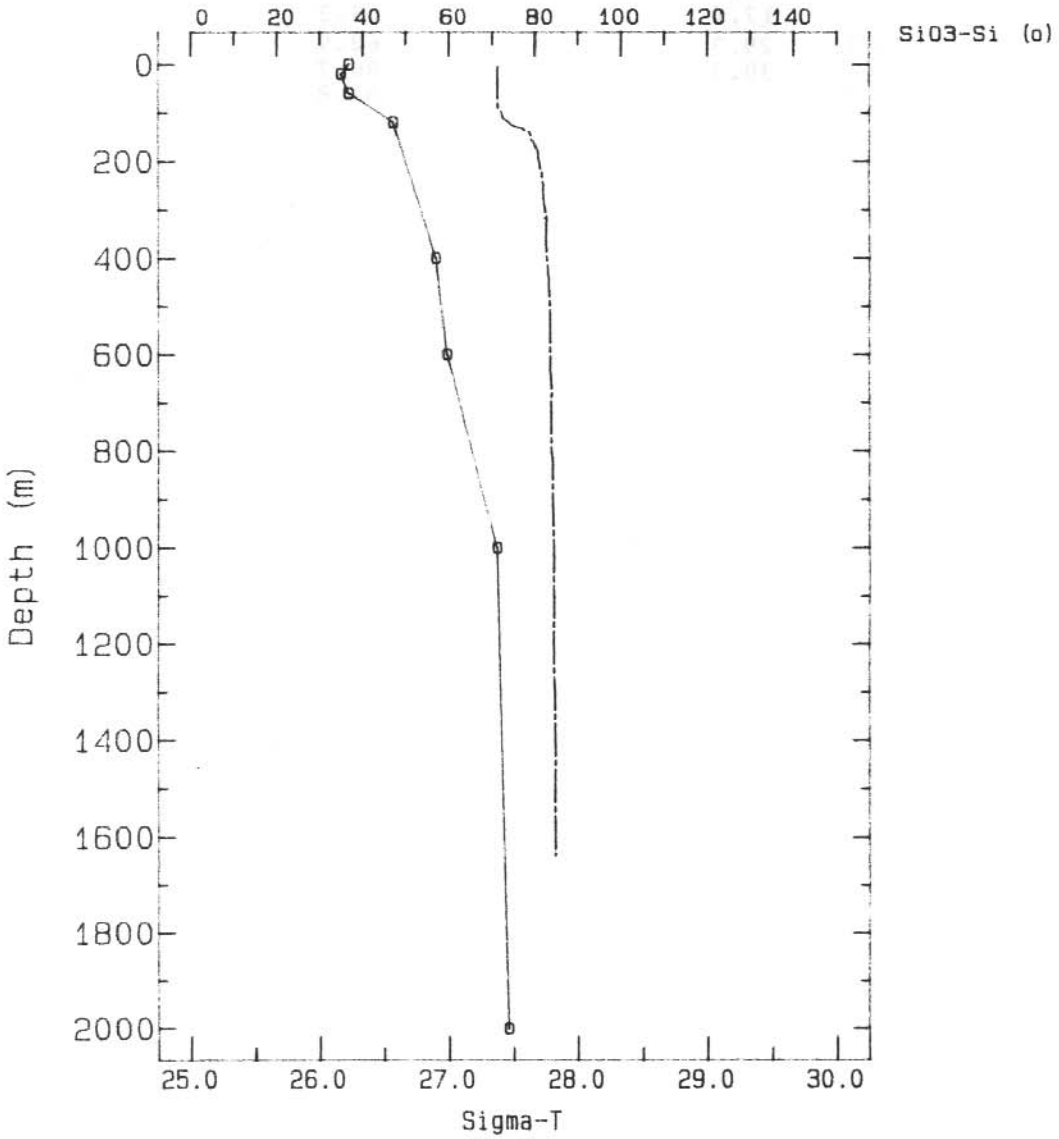
# FIBEX NUTRIENTS - SIGMA-T

Cruise : FIBEX Station 47
08-MAR-1981 1908 GMT
Lat 66: 02.09S Lon 62: 54.50E
Depth: CTD 1640 m Bottom 3320 m



# FIBEX NUTRIENTS - SIGMA-T

Cruise : FIBEX Station 47
08-MAR-1981 1908 GMT
Lat 66: 02.09S Lon 62: 54.50E
Depth: CTD 1640 m Bottom 3320 m

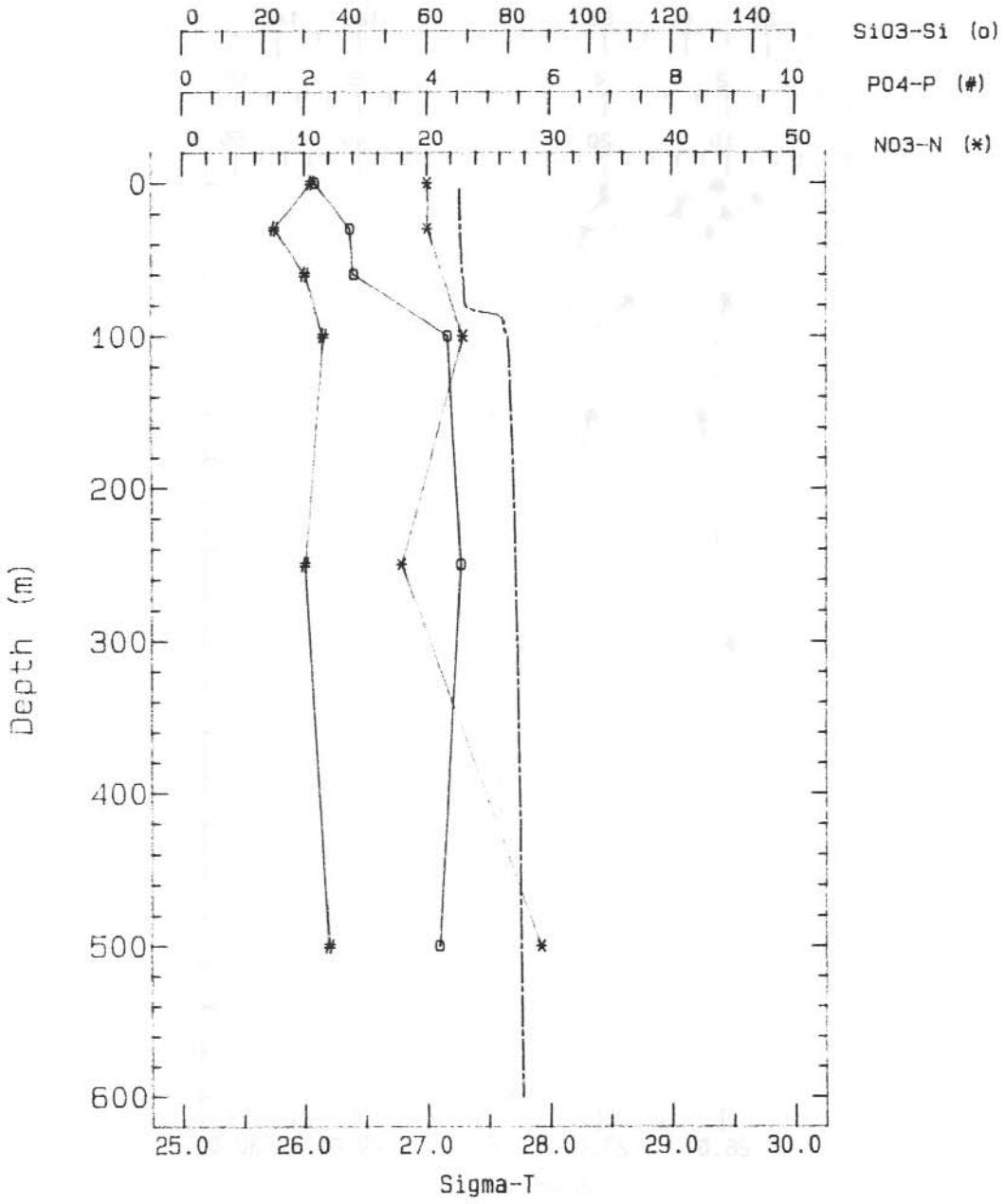


Cruise : FIBEX
Station number : 48
Date : 09-MAR-1981 (DAY NUMBER 68)
Start Time : 0845 GMT
Ship : NELLA DAN
Position : 64:18.20S 62:01.00E
Cast Depth (m) : 1640
Bottom Depth (m) : 3896

| Depth | NO3 | NO2 | PO4 | SiO3 |
|---|---|---|---|---|
| 0 | 20.0 | | 2.1 | 32.5 |
| 30 | 20.0 | | 1.5 | 41.1 |
| 60 | | | 2.0 | 42.1 |
| 100 | 22.9 | | 2.3 | 65.0 |
| 250 | 17.9 | | 2.0 | 68.2 |
| 500 | 29.3 | | 2.4 | 62.9 |
| 1000 | 30.7 | | 1.9 | 80.7 |
| 2000 | | | | 81.8 |

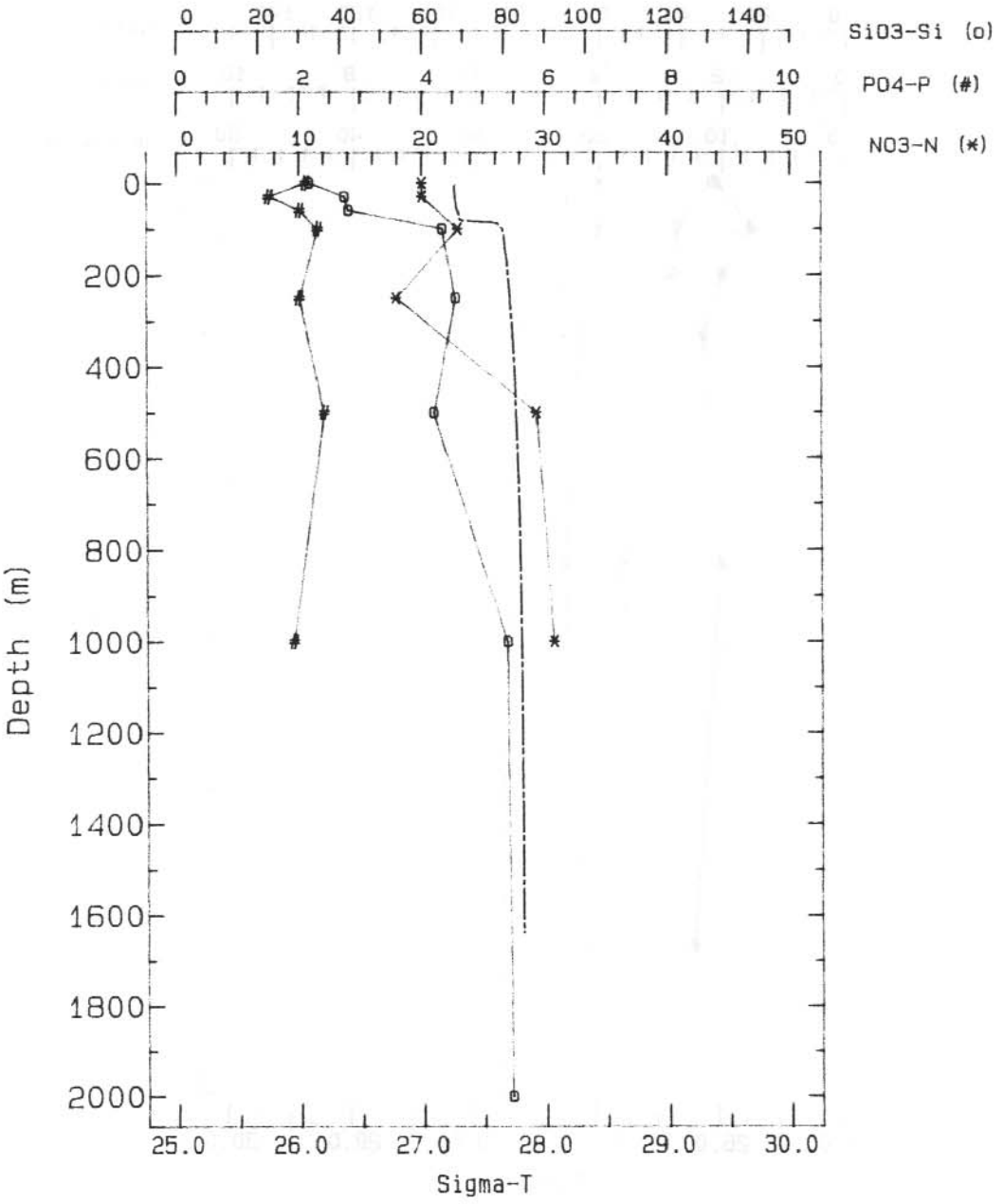
# FIBEX NUTRIENTS - SIGMA-T

Cruise : FIBEX Station 48
09-MAR-1981 0845 GMT
Lat 64: 18.20S Lon 62: 01.00E
Depth: CTD 1640 m Bottom 3896 m



# FIBEX NUTRIENTS - SIGMA-T

Cruise : FIBEX Station 48
09-MAR-1981 0845 GMT
Lat 64: 18.20S Lon 62: 01.00E
Depth: CTD 1640 m Bottom 3896 m

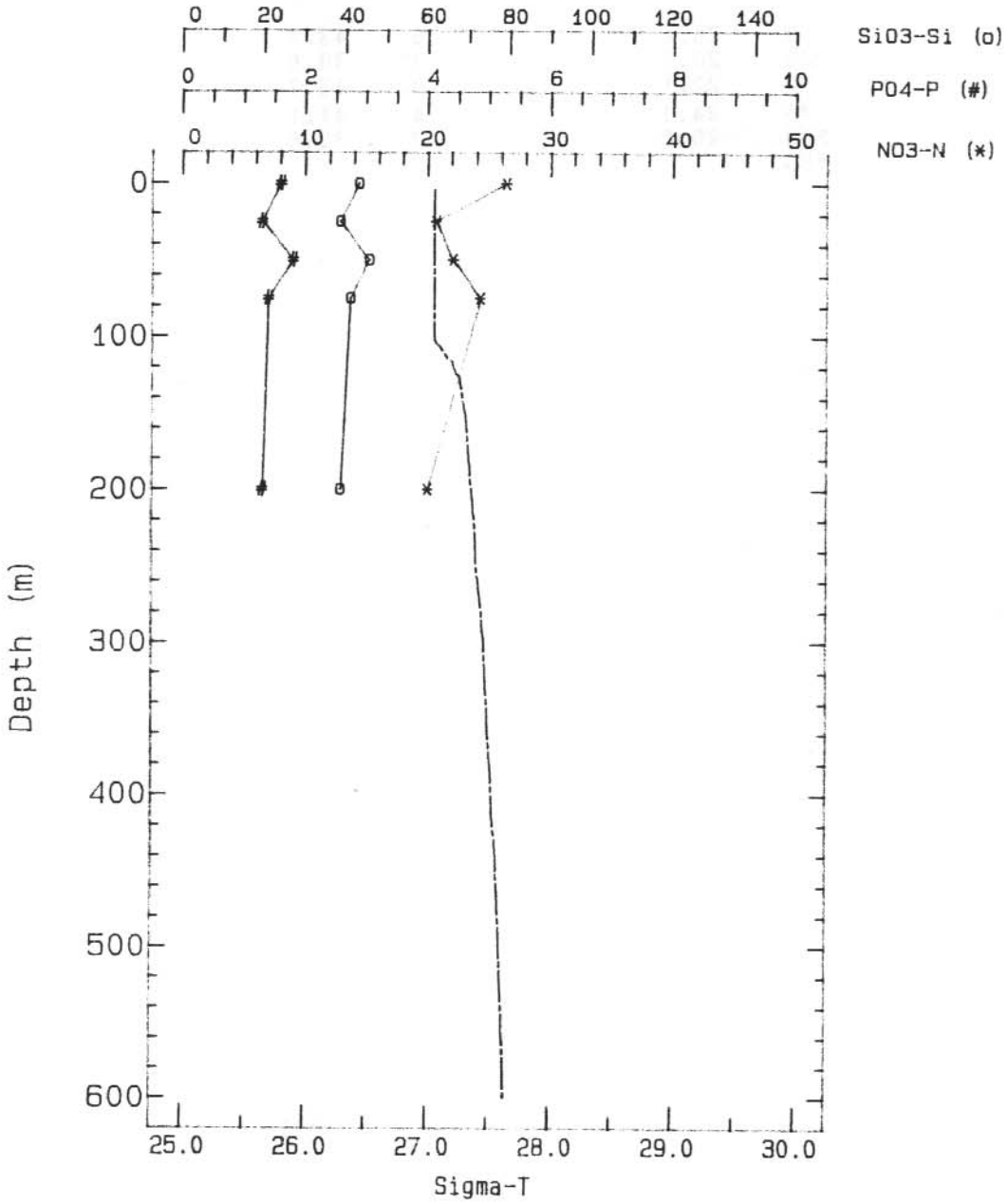


Cruise : FIBEX
Station number : 52
Date : 15-MAR-1981 (DAY NUMBER 74)
Start Time : 0555 GMT
Ship : NELLA DAN
Position : 54:58.90S 100:01.70E
Cast Depth (m) : 1002
Bottom Depth (m) : Not Recorded

| Depth | NO3 | NO2 | PO4 | SiO3 |
|---|---|---|---|---|
| 0 | 26.4 | | 1.6 | 43.2 |
| 25 | 20.7 | | 1.3 | 38.6 |
| 50 | 22.1 | | 1.8 | 45.7 |
| 75 | 24.3 | | 1.4 | 41.1 |
| 200 | 20.0 | | 1.3 | 38.6 |
| 990 | | | | |

# FIBEX NUTRIENTS – SIGMA-T

Cruise : FIBEX Station 52
15-MAR-1981 0555 GMT
Lat 54: 58.90S Lon 100: 01.70E
Depth: CTD 1002 m Bottom 0 m



## ACKNOWLEDGMENTS

The water samples were collected by Dr Harvey Marchant, Dr Simon Wright, Rick Perrin and John Shearer. Eric Woehler processed the CTD data. Dr David Watts developed the plotting software.