



AUSTRALIAN NATIONAL ANTARCTIC RESEARCH EXPEDITIONS

ANARE RESEARCH NOTES 63

Oceanographic data: Prydz Bay region -
Australian Antarctic Marine Biological Ecosystem Research 86/87
MV Nella Dan, February - April 1987

E.J. Woehler and R. Williams

ANTARCTIC DIVISION
AUSTRALIA

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ANTARCTIC DIVISION
DEPARTMENT OF THE ARTS, SPORT,
THE ENVIRONMENT, TOURISM AND TERRITORIES

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Since the summer season of 1980-81, seven cruises have been undertaken by Australia to obtain data to contribute to the international BIOMASS (Biological Investigation of Marine Antarctic Systems and Stocks) program and the Division's own research programs on Antarctic marine biology.

<i>Cruise</i>	<i>Dates in study area</i>	<i>Principal objectives</i>
FIBEX	20 January 1981 - 10 March 1981	Acoustic survey for krill
GEOSCIENCE	20 January 1982 - 3 March 1982	Seismic survey
ADBEX I	19 November 1982 - 19 December 1982	Krill biology, oceanography
ADBEX II (= SIBEX I)	14 January 1984 - 6 February 1984	Krill biology
SIBEX II	3 January 1985 - 26 January 1985	Krill distribution, phytoplankton
ADBEX III	21 September 1985 - 13 December 1985	Seal survey
AAMBER 86/87	15 February 1987 - 23 March 1987	Fish and krill distribution and biology

This issue is one of a number of reports dealing with oceanographic data from these cruises that will appear in the *ANARE Research Notes* series.

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OCEANOGRAPHIC DATA: PRYDZ BAY REGION -
AUSTRALIAN ANTARCTIC MARINE BIOLOGICAL ECOSYSTEM
RESEARCH 86/87
MV *NELLA DAN*, FEBRUARY - APRIL 1987

by

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ABSTRACT

Ninety-four CTD stations were taken in Prydz Bay during the Australian Antarctic Marine Biological Ecosystem Research (AAMBER) 86/87 cruise, February to April 1987, as a supplement to the krill and fish research program. Casts were made to the bottom over the continental shelf and to either 200 m or 1000 m off the shelf. *In situ* salinity, temperature and sigma-t are tabulated for standard depths, and shown graphically. T/S plots for stations are given.

1. INTRODUCTION

Oceanographic data were obtained during the Australian Antarctic Marine Biological Ecosystem Research (AAMBER) 86/87 cruise on MV *Nella Dan*, February to April 1987. The principal aims of the cruise were to establish the distribution and abundance of demersal fishes on the Prydz Bay continental shelf, and to survey the krill (*Euphausia superba*) population, especially of larvae, between Enderby Land and the West Ice Shelf.

The cruise track is given in Figures 1(a) and 1(b). The area surveyed was south of 60°S to the Antarctic coast and between 60°E and 90°E, concentrating on Prydz Bay.

This *Research Note* is the sixth in the series presenting oceanographic data collected on an annual basis since 1980-81.

2. METHODS

2.1 INSTRUMENTATION AND SAMPLING PROCEDURES/COLLECTION OF DATA

Continuous vertical profiles of conductivity and temperature were obtained using a Neil Brown Mark III CTD (conductivity, temperature, depth probe #1103) system attached to a rosette water sampler (General Oceanics). Some problems were experienced with the conductivity cell freezing, and after 3 March 1987 both units were inoperable for conductivity measurements. Thereafter only temperature profiles could be taken.

Procedures for the collection and processing of data are described in Kerry *et al.* (1987), utilising the techniques of Fofonoff and Millard (1983), Millard (1982) and Perkins and Lewis (1980).

Measurements were made on the downcast and water samples taken on the upcast. An attempt was made to lower the CTD as close as possible to 1 m/sec. Depending on the readings obtained on the downcast, depths were chosen for water sampling on the upcast. Between sampling the CTD was raised at variable speeds between 1 and 2 m/sec. Hydrographic stations are listed in Table 1. The depth of each cast was usually to near bottom over the continental shelf. Deep stations were not possible due to time constraints.

3. PRESENTATION OF RESULTS

The header information for all profile and data listings consists of cruise and station number, GMT date and time, position, CTD depth and bottom depth. The data listing for each station presents values for temperature, salinity and sigma-t at NODC standard depths, shallowest and deepest observed depths. A t/s profile for all stations is given in Figure 3, as well as individual stations. CTD profiles are presented in two sections, 0-600 m and 600 m - bottom.

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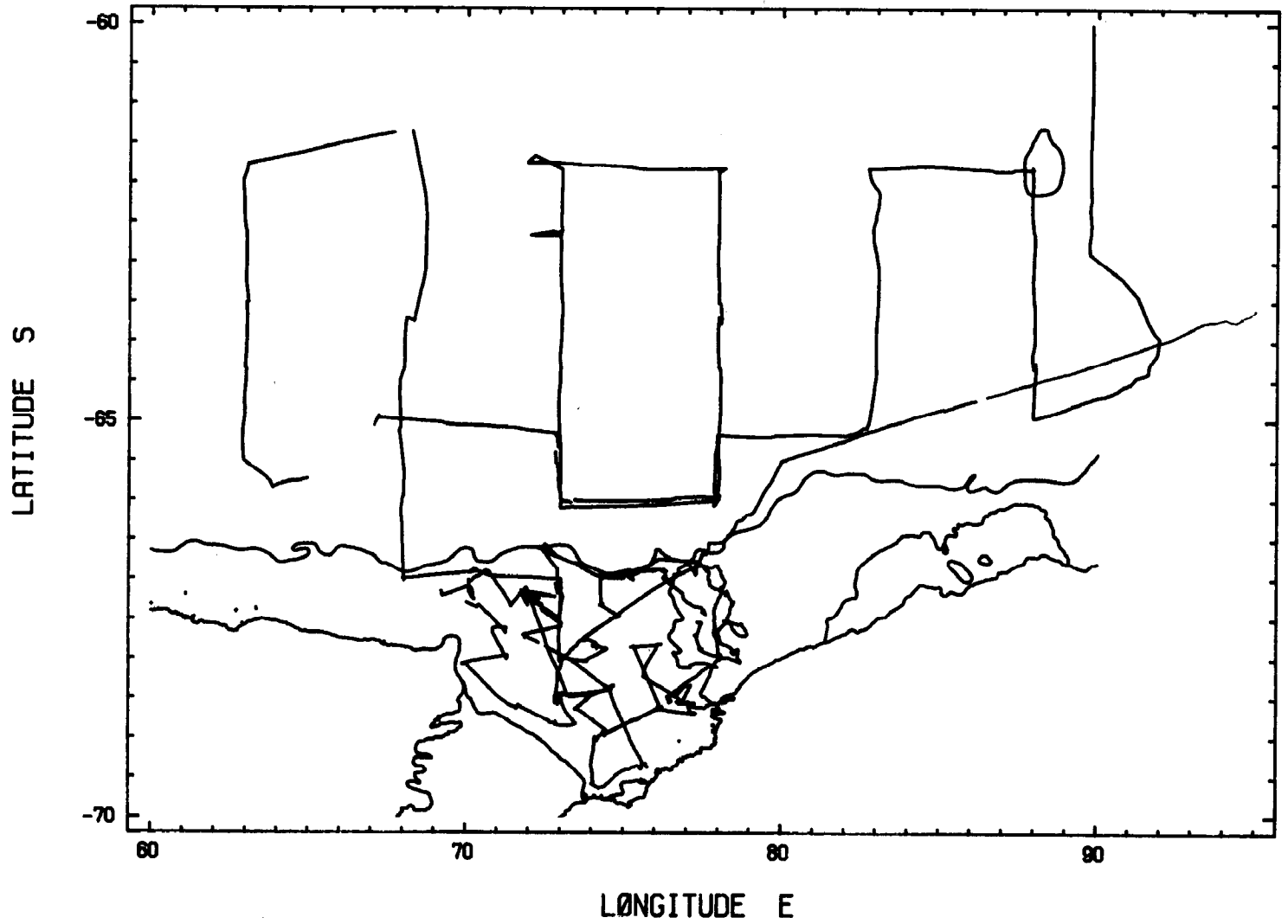


Figure 1(a). AAMBER 86/87 cruise track.

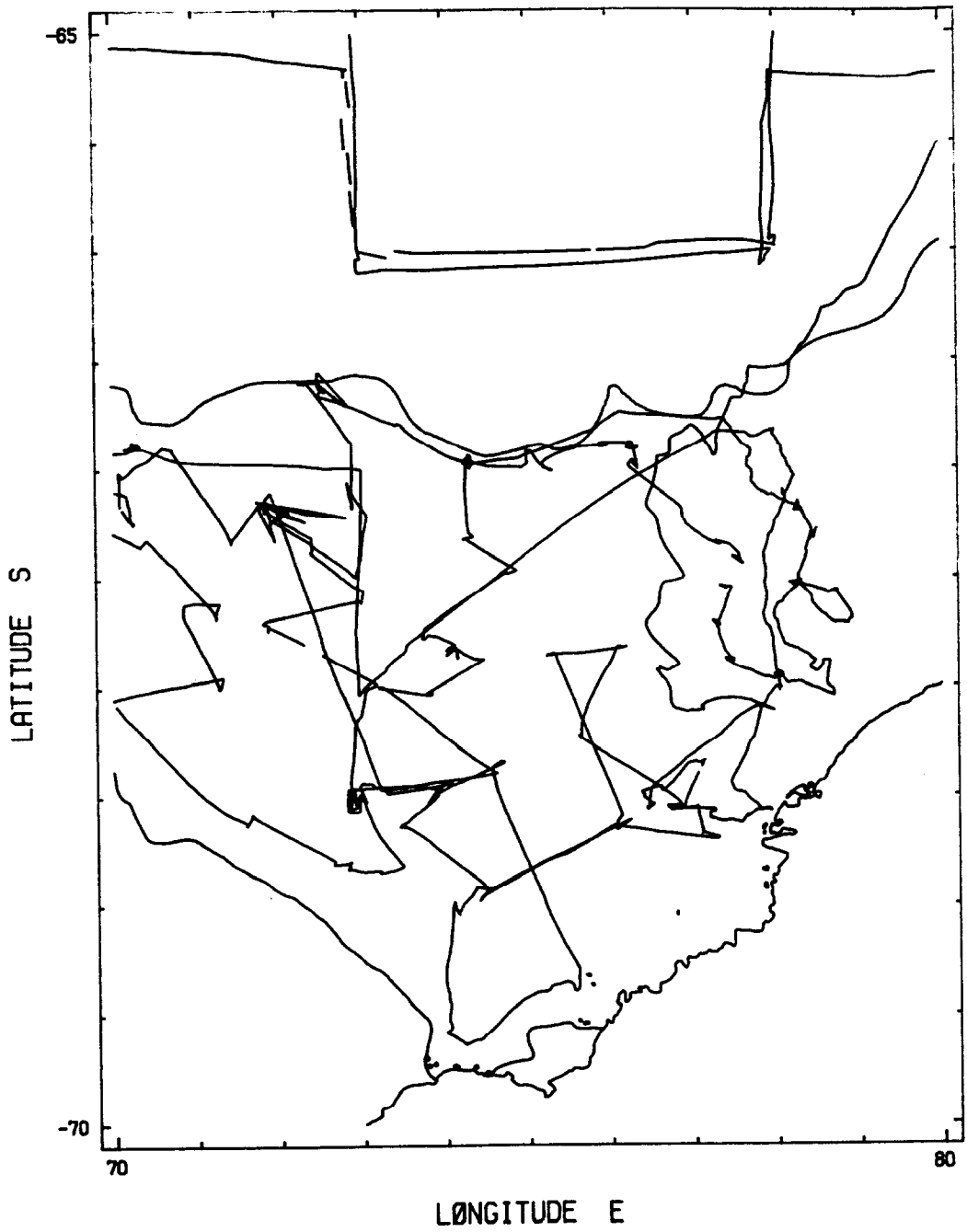


Figure 1(b). AAMBER 86/87 cruise track, detail for Prydz Bay.

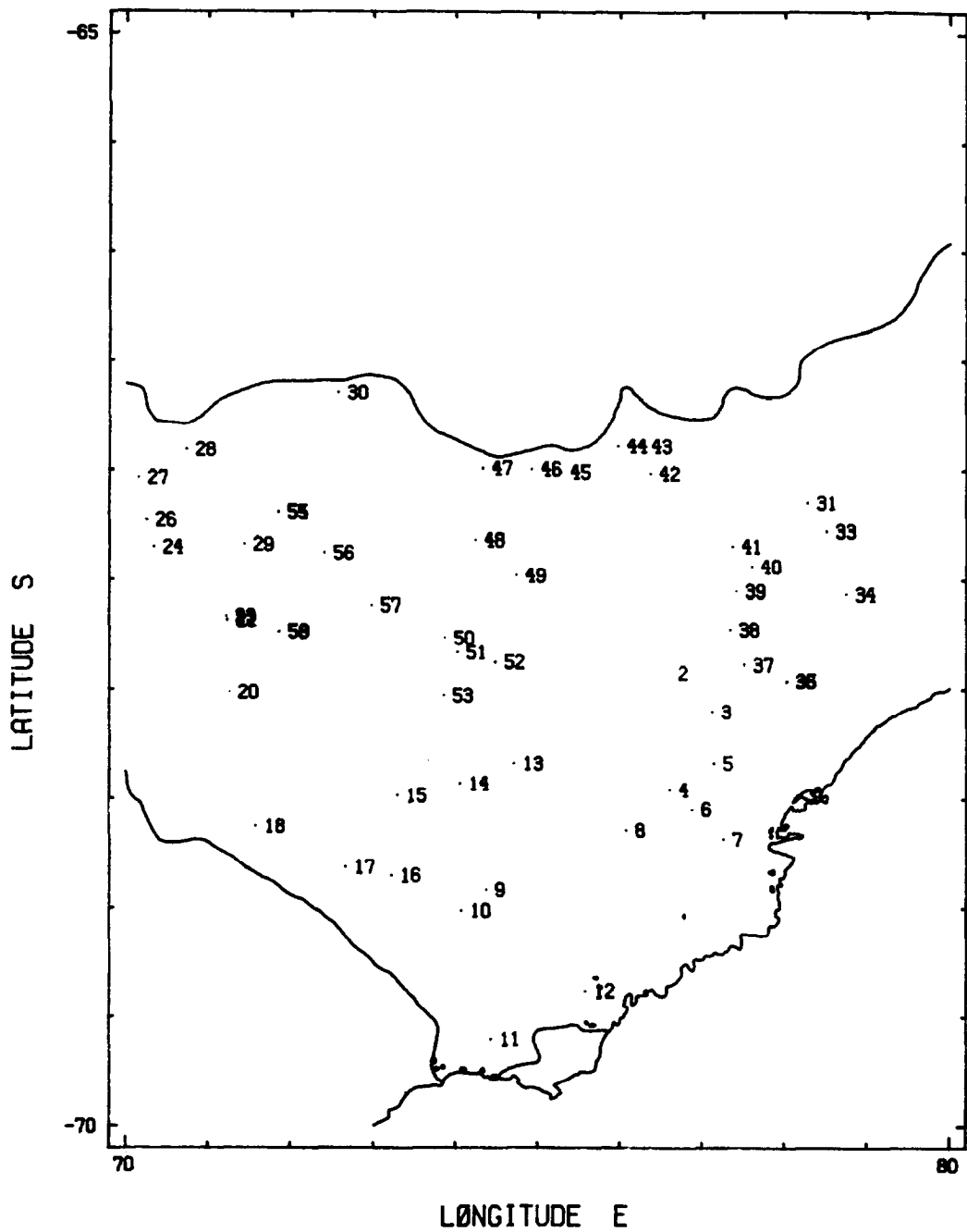


Figure 2. Location of CTD casts in Prydz Bay.

Table 1. Hydrographic stations, giving position, GMT date and time.

Cruise : AAMBER 86/87 Vessel: NELLA DAN

Station Number	CTD Number	Position		Date	Time (GMT)
1	1	64:32.70S	87:42.30E	15 FEB 1987	0913
2	2	67:55.59S	76:35.27E	17 FEB 1987	0033
3	3	68:06.38S	77:06.86E	17 FEB 1987	0438
4	4	68:27.65S	76:36.05E	17 FEB 1987	1816
5	5	68:20.35S	77:07.92E	17 FEB 1987	2211
6	6	68:33.00S	76:52.33E	18 FEB 1987	0010
7	7	68:41.33S	77:14.83E	18 FEB 1987	0536
8	8	68:38.79S	76:04.39E	18 FEB 1987	0830
9	9	68:55.08S	74:22.16E	18 FEB 1987	1818
10	10	69:00.74S	74:04.12E	18 FEB 1987	2219
11	11	69:36.18S	74:25.85E	19 FEB 1987	0406
12	12	69:22.97S	75:34.54E	19 FEB 1987	0728
13	13	68:20.31S	74:42.30E	19 FEB 1987	1533
14	14	68:25.83S	74:03.00E	19 FEB 1987	1941
15	15	68:29.08S	73:17.45E	19 FEB 1987	2153
16	16	68:51.18S	73:13.11E	20 FEB 1987	0657
17	17	68:48.86S	72:39.50E	20 FEB 1987	1051
18	18	68:37.53S	71:34.91E	20 FEB 1987	1527
19	19	68:04.57S	69:53.10E	20 FEB 1987	2028
20	20	68:00.78S	71:15.43E	21 FEB 1987	0136
21	23	67:39.84S	71:13.60E	21 FEB 1987	0730
22	24	67:21.16S	70:20.40E	21 FEB 1987	1118
23	25	67:12.38S	69:16.62E	21 FEB 1987	1558
24	26	67:13.96S	70:15.20E	21 FEB 1987	2010
25	27	67:02.19S	70:09.39E	21 FEB 1987	2310
26	28	66:54.43S	70:44.16E	22 FEB 1987	0237
27	29	67:20.37S	71:26.21E	22 FEB 1987	0720
29	30	66:38.87S	72:34.43E	24 FEB 1987	0452
31	31	67:09.17S	78:16.69E	25 FEB 1987	0732
32	33	67:16.78S	78:30.15E	25 FEB 1987	1037
33	34	67:33.98S	78:44.82E	25 FEB 1987	2001
35	35	67:57.74S	78:01.50E	26 FEB 1987	1617
35	36	67:57.98S	78:00.85E	26 FEB 1987	1701
36	37	67:53.32S	77:30.07E	26 FEB 1987	2002
37	38	67:43.56S	77:19.77E	26 FEB 1987	2248
38	39	67:33.09S	77:24.47E	27 FEB 1987	0203
39	40	67:26.42S	77:36.00E	27 FEB 1987	0656
40	41	67:20.89S	77:21.76E	27 FEB 1987	1124
41	42	67:00.96S	76:22.05E	27 FEB 1987	1703
42	43	66:53.50S	76:16.11E	27 FEB 1987	2036
43	44	66:53.45S	75:58.22E	27 FEB 1987	2334
44	45	67:00.55S	75:16.91E	28 FEB 1987	0351
45	46	66:59.70S	74:55.61E	28 FEB 1987	0655
46	47	66:59.47S	74:19.86E	28 FEB 1987	0943
47	48	67:19.20S	74:14.27E	28 FEB 1987	2110
48	49	67:28.85S	74:44.29E	01 MAR 1987	0044
49	50	67:45.77S	73:51.88E	01 MAR 1987	0532

Cruise : AAMBER 86/87 Vessel: NELLA DAN

Station Number	CTD Number	Position	Date	Time (GMT)
51	52	67:52.49S 74:28.91E	01 MAR 1987	1539
52	53	68:01.67S 73:51.33E	01 MAR 1987	1918
53	54	67:11.62S 71:51.24E	03 MAR 1987	0554
53	55	67:11.71S 71:51.20E	03 MAR 1987	0559
54	56	67:22.65S 72:24.40E	03 MAR 1987	0939
55	57	67:36.84S 72:58.80E	03 MAR 1987	1408
56	58	67:44.07S 71:51.34E	03 MAR 1987	1852
56	59	67:43.82S 71:52.08E	03 MAR 1987	1936
57	60	68:00.80S 73:02.21E	04 MAR 1987	0047
61	61	68:35.25S 76:07.37E	05 MAR 1987	0759
62	62	67:51.41S 75:13.49E	05 MAR 1987	1359
62	63	67:51.29S 75:13.65E	05 MAR 1987	1409
64	64	68:33.88S 76:44.25E	06 MAR 1987	0132
65	65	68:00.58S 78:03.75E	07 MAR 1987	0806
68	66	66:53.80S 70:15.30E	08 MAR 1987	2242
69	67	67:01.00S 68:01.81E	09 MAR 1987	0813
70	69	65:52.03S 68:01.36E	09 MAR 1987	1605
71	70	65:05.47S 67:53.83E	09 MAR 1987	2156
72	71	63:30.94S 62:59.62E	12 MAR 1987	1316
73	72	64:19.92S 62:57.56E	12 MAR 1987	1812
74	73	64:58.25S 67:12.06E	14 MAR 1987	0931
75	74	65:10.41S 72:50.01E	14 MAR 1987	2304
78	75	64:19.12S 77:58.55E	16 MAR 1987	0318
79	76	63:45.61S 78:01.94E	16 MAR 1987	0805
80	77	63:31.03S 77:59.35E	16 MAR 1987	1118
81	78	62:40.40S 77:57.69E	16 MAR 1987	1625
82	79	61:48.68S 78:11.45E	17 MAR 1987	0031
83	80	61:51.23S 73:00.55E	18 MAR 1987	0023
84	83	62:39.64S 72:56.40E	18 MAR 1987	1634
85	84	63:30.13S 72:59.30E	18 MAR 1987	2139
86	85	64:21.40S 72:56.95E	19 MAR 1987	0235
87	86	66:03.74S 72:58.33E	19 MAR 1987	1258
89	87	65:09.68S 77:58.81E	20 MAR 1987	0926
90	88	65:03.28S 82:42.49E	20 MAR 1987	2144
91	89	64:19.86S 82:58.30E	21 MAR 1987	0203
92	90	61:47.99S 87:54.79E	22 MAR 1987	1641
93	91	62:40.63S 87:57.66E	22 MAR 1987	2211
94	92	63:29.98S 87:56.65E	23 MAR 1987	0312
95	93	64:15.97S 88:01.52E	23 MAR 1987	1125
96	94	64:57.19S 87:59.80E	23 MAR 1987	1557

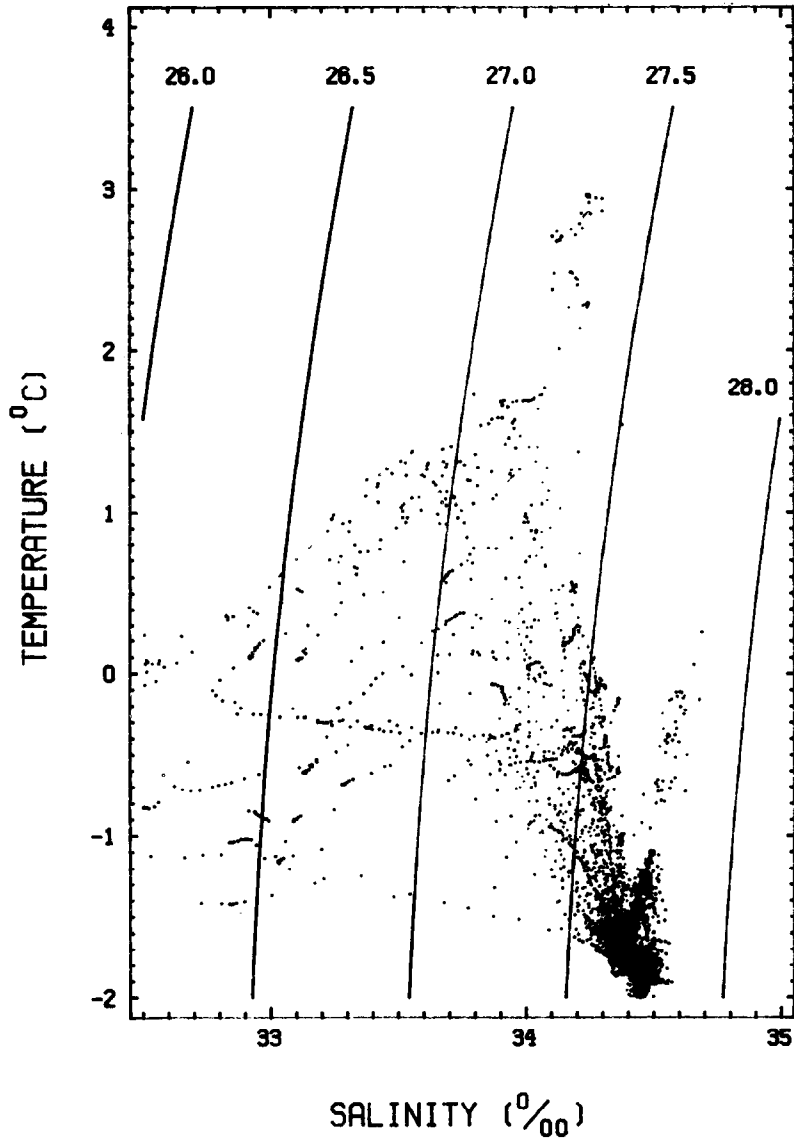


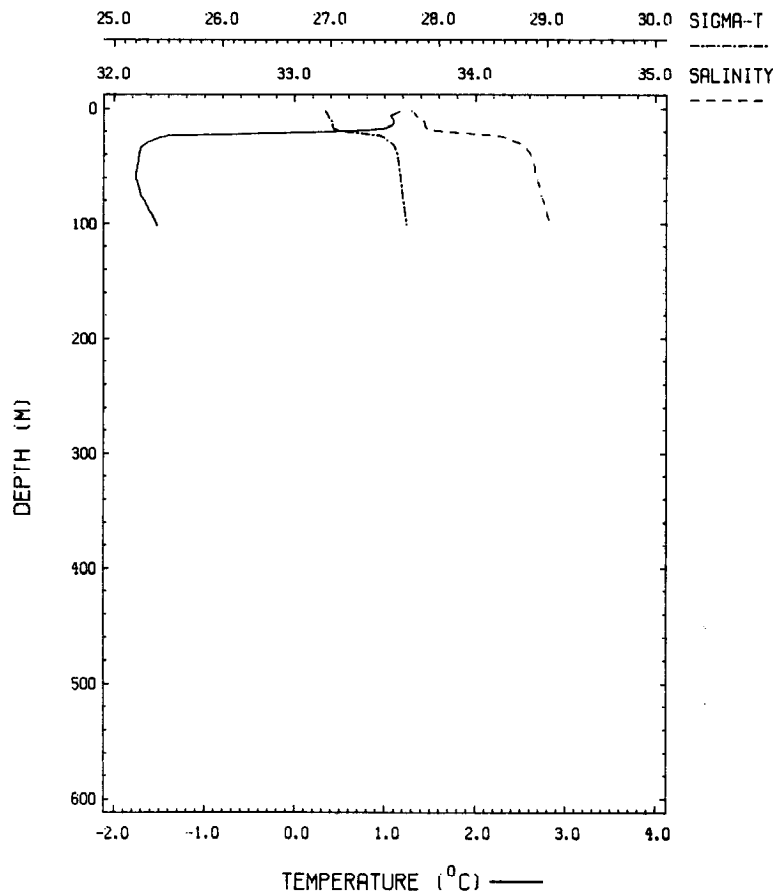
Figure 3. T/S data from all stations.

Cruise : AAMBER 86/87
 Cast number : 1
 Date : 15 FEB 1987
 Start Time : 0913 GMT
 Ship : NELLA DAN
 Position : 64:32.70S 87:42.30E
 Cast Depth (m) : 104
 Bottom Depth (m) : Not Recorded

CRUISE AAMBER 86/87 STATION 1
 15 FEB 1987 0913 GMT
 LATITUDE 64 32.70S
 LONGITUDE 87 42.30E
 DEPTH CTD 104 M BØTTØM 2560 M

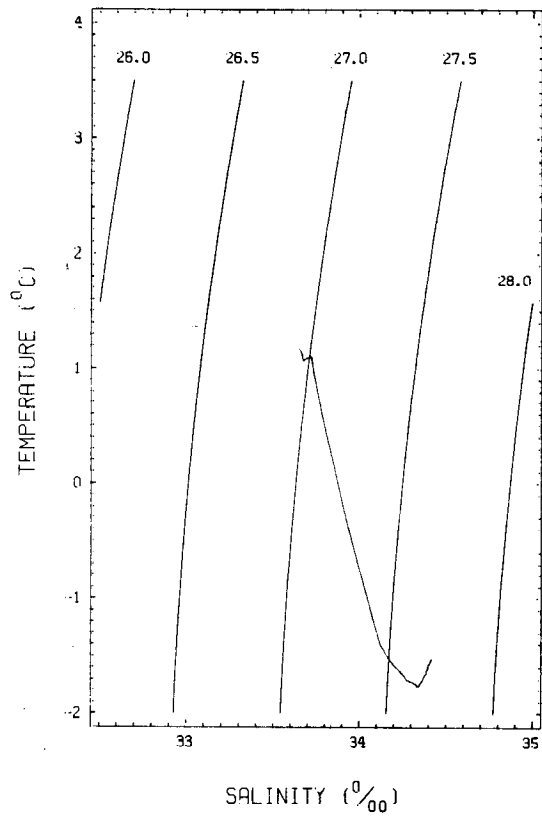
Depth d bar	Temperature (deg C)	Salinity	Sigma-T
0			
2	1.17	33.65	26.95
5	1.09	33.67	26.97
10	1.10	33.71	27.00
15	1.07	33.72	27.01
20	0.60	33.78	27.09
25	-1.46	34.14	27.48
30	-1.64	34.24	27.56
35	-1.71	34.28	27.59
40	-1.73	34.31	27.61
45	-1.74	34.32	27.62
50	-1.75	34.33	27.63
60	-1.76	34.34	27.65
70	-1.72	34.36	27.66
75	-1.71	34.37	27.66
80	-1.67	34.38	27.67
90	-1.60	34.40	27.68
100	-1.53	34.42	27.70
102	-1.53	34.42	27.70

10



CRUISE RAMBER 86/87 STATION 1
15 FEB 1987 0913 GMT
LATITUDE 64 32.70S
LONGITUDE 87 42.30E
DEPTH CTD 104 M BOTTOM 2560 M

11

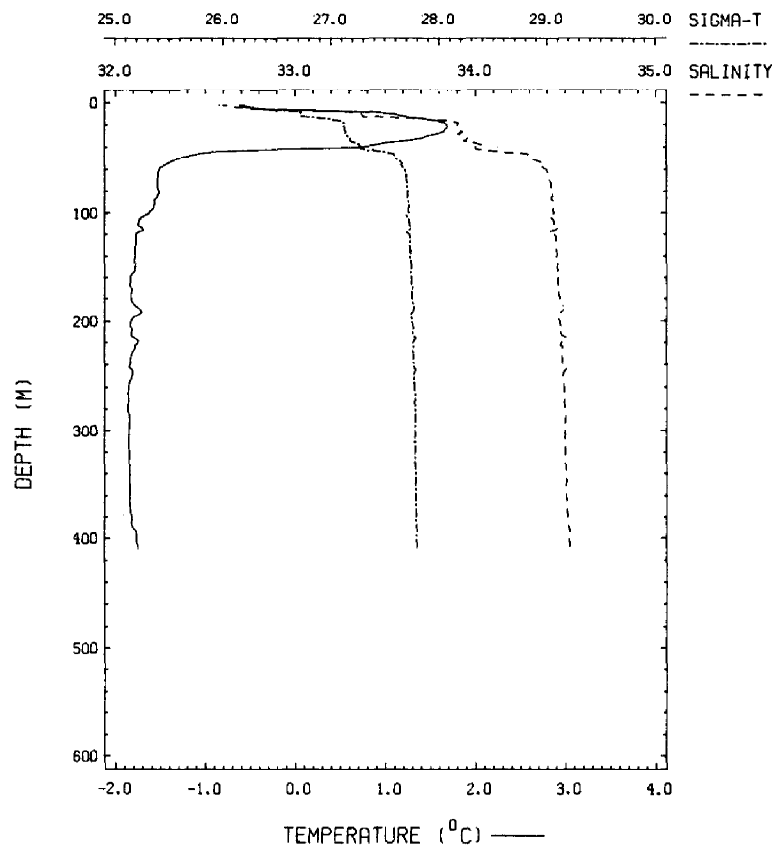


Cruise : AAMBER 86/87
 Cast number : 2
 Date : 17 FEB 1987
 Start Time : 0033 GMT
 Ship : NELLA DAN
 Position : 67:55.59S 76:35.27E
 Cast Depth (m) : 412
 Bottom Depth (m) : Not Recorded

CRUISE AAMBER 86/87 STATION 2
 17 FEB 1987 0033 GMT
 LATITUDE 67 55.59S
 LONGITUDE 76 35.27E
 DEPTH CTD 412 M BOTTOM 434 M

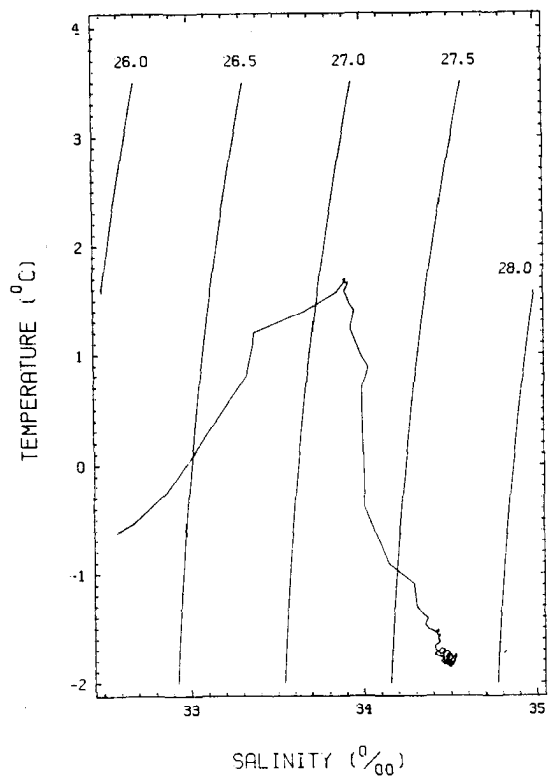
12

Depth d bar	Temperature (deg C)	Salinity	Sigma-T
0			
2	-0.62	32.58	26.18
5	-0.39	32.77	26.32
10	1.10	33.37	26.73
15	1.49	33.77	27.02
20	1.69	33.90	27.11
25	1.66	33.92	27.13
30	1.46	33.93	27.16
35	1.12	33.97	27.21
40	0.69	34.00	27.26
45	-1.00	34.22	27.52
50	-1.30	34.31	27.60
60	-1.52	34.39	27.68
70	-1.54	34.41	27.70
75	-1.53	34.42	27.70
80	-1.52	34.43	27.71
90	-1.56	34.44	27.72
100	-1.62	34.44	27.72
125	-1.77	34.45	27.73
150	-1.78	34.45	27.74
175	-1.83	34.46	27.75
200	-1.83	34.47	27.75
250	-1.82	34.48	27.76
300	-1.85	34.50	27.77
400	-1.76	34.52	27.79
410	-1.75	34.52	27.79



CRUISE RAMBER 86/87 STATION 2
17 FEB 1987 0033 GMT
LATITUDE 67 55.59S
LONGITUDE 76 35.27E
DEPTH CTD 412 M BØTTØM 434 M

13

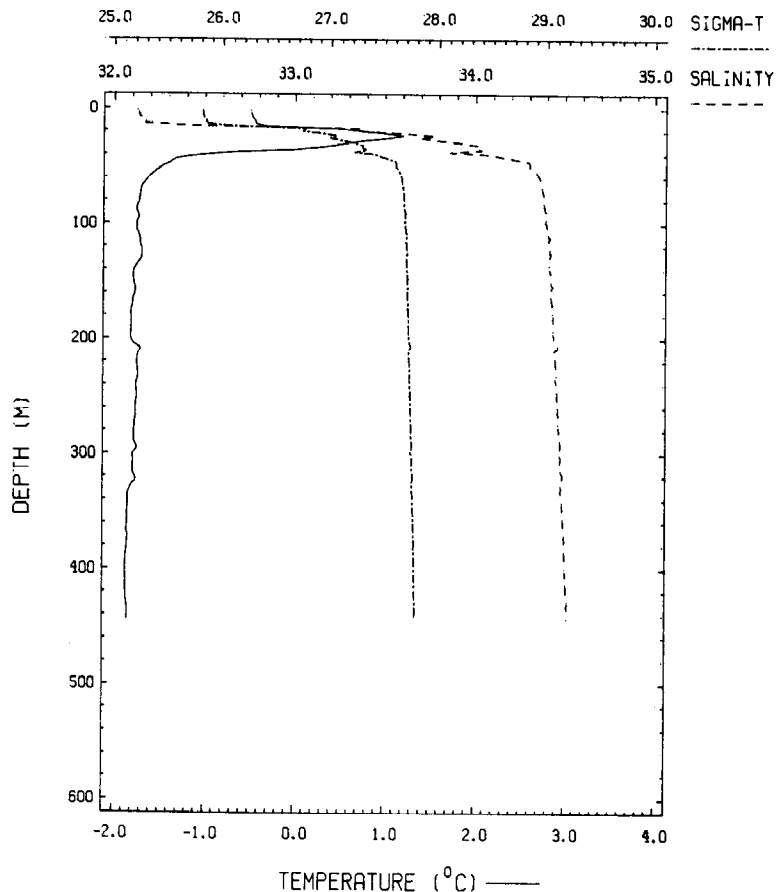


Cruise : AMBER 86/87
 Cast number : 3
 Date : 17 FEB 1987
 Start Time : 0438 GMT
 Ship : NELLA DAN
 Position : 68:06.38S 77:06.86E
 Cast Depth (m) : 446
 Bottom Depth (m) : Not Recorded

CRUISE AMBER 86/87 STATION 3
 17 FEB 1987 0438 GMT
 LATITUDE 68 06.38S
 LONGITUDE 77 06.86E
 DEPTH CTD 446 M BOTTOM 472 M

Depth d bar	Temperature (deg C)	Salinity	Sigma-T
0			
2	-0.50	32.13	25.81
5	-0.49	32.14	25.81
10	-0.46	32.16	25.84
15	-0.39	32.30	25.94
20	0.75	33.35	26.73
25	1.12	33.73	27.02
30	0.60	33.92	27.20
35	0.10	34.02	27.31
40	-0.94	34.09	27.42
45	-1.35	34.26	27.56
50	-1.46	34.30	27.60
60	-1.62	34.35	27.65
70	-1.70	34.37	27.67
75	-1.72	34.38	27.67
80	-1.72	34.38	27.68
90	-1.75	34.40	27.69
100	-1.75	34.40	27.69
125	-1.69	34.42	27.70
150	-1.78	34.42	27.71
175	-1.81	34.43	27.72
200	-1.81	34.44	27.72
250	-1.75	34.46	27.74
300	-1.79	34.47	27.75
400	-1.87	34.50	27.78
444	-1.85	34.52	27.79

14



CRUISE RAMBER 86/87 STATION 3

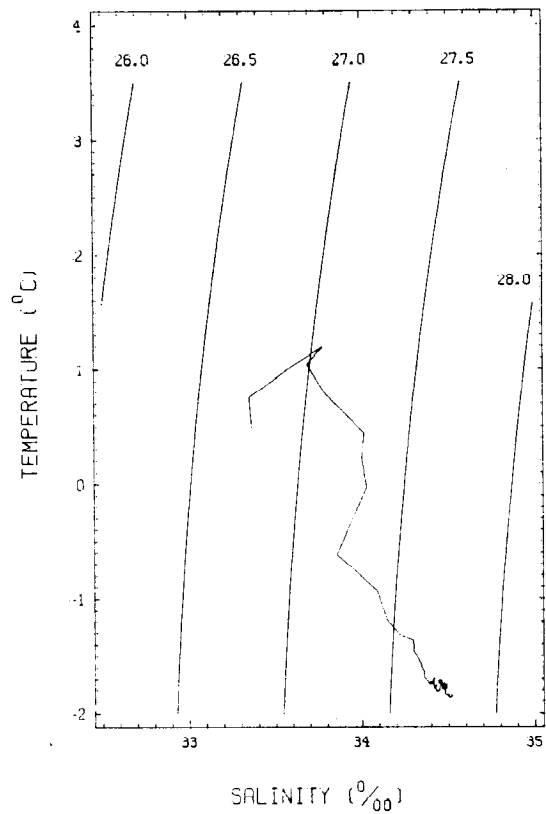
17 FEB 1987 0438 GMT

LATITUDE 68 06.38S

LONGITUDE 77 06.86E

DEPTH CTD 446 M BOTTOM 472 M

SI

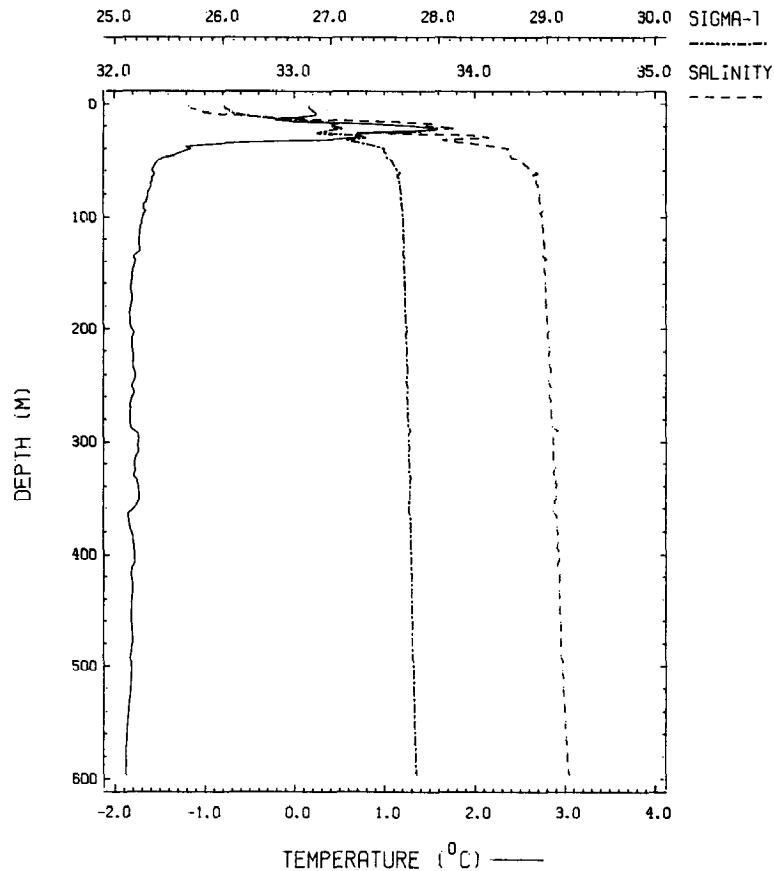


Cruise : AAMBER 86/87
 Cast number : 4
 Date : 17 FEB 1987
 Start Time : 1816 GMT
 Ship : NELLA DAN
 Position : 68:27.65S 76:36.05E
 Cast Depth (m) : 598
 Bottom Depth (m) : Not Recorded

CRUISE AAMBER 86/87 STATION 4
 17 FEB 1987 1816 GMT
 LATITUDE 68 27.65S
 LONGITUDE 76 36.05E
 DEPTH CTD 598 M BOTTOM 620 M

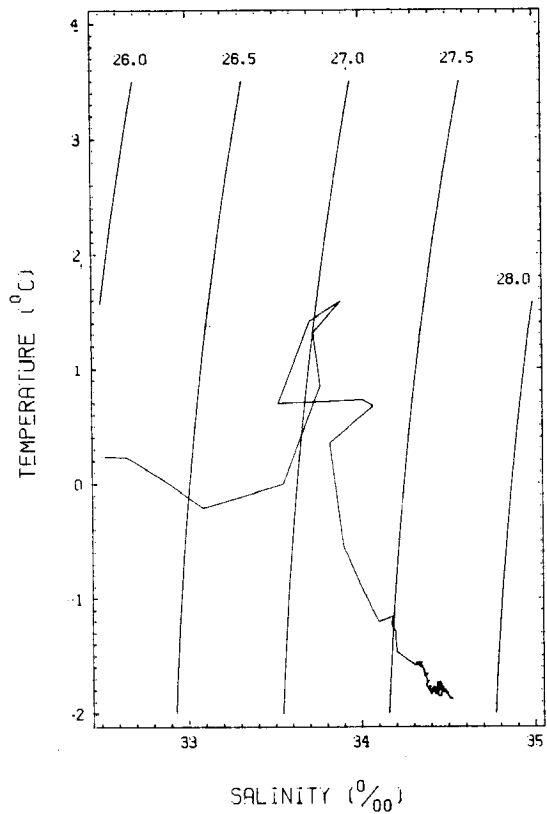
16

Depth d bar	Temperature (deg C)	Salinity	Sigma-T
0			
2	0.16	32.41	26.01
5	0.18	32.44	26.03
10	0.23	32.65	26.20
15	-0.11	33.32	26.75
20	1.31	33.73	27.00
25	1.05	33.61	26.93
30	0.67	34.07	27.32
35	-0.74	33.96	27.30
40	-1.16	34.18	27.50
45	-1.32	34.20	27.51
50	-1.51	34.24	27.56
60	-1.59	34.31	27.61
70	-1.60	34.34	27.64
75	-1.61	34.35	27.65
80	-1.63	34.36	27.66
90	-1.67	34.36	27.66
100	-1.69	34.37	27.67
125	-1.72	34.38	27.68
150	-1.80	34.39	27.68
175	-1.81	34.39	27.69
200	-1.81	34.41	27.70
250	-1.81	34.42	27.71
300	-1.74	34.43	27.72
400	-1.78	34.46	27.74
500	-1.82	34.49	27.76
596	-1.88	34.52	27.79



CRUISE RAMBER 86/87 STATION 4
17 FEB 1987 1816 GMT
LATITUDE 68 27.65S
LONGITUDE 76 36.05E
DEPTH CTD 598 M BOTTOM 620 M

17

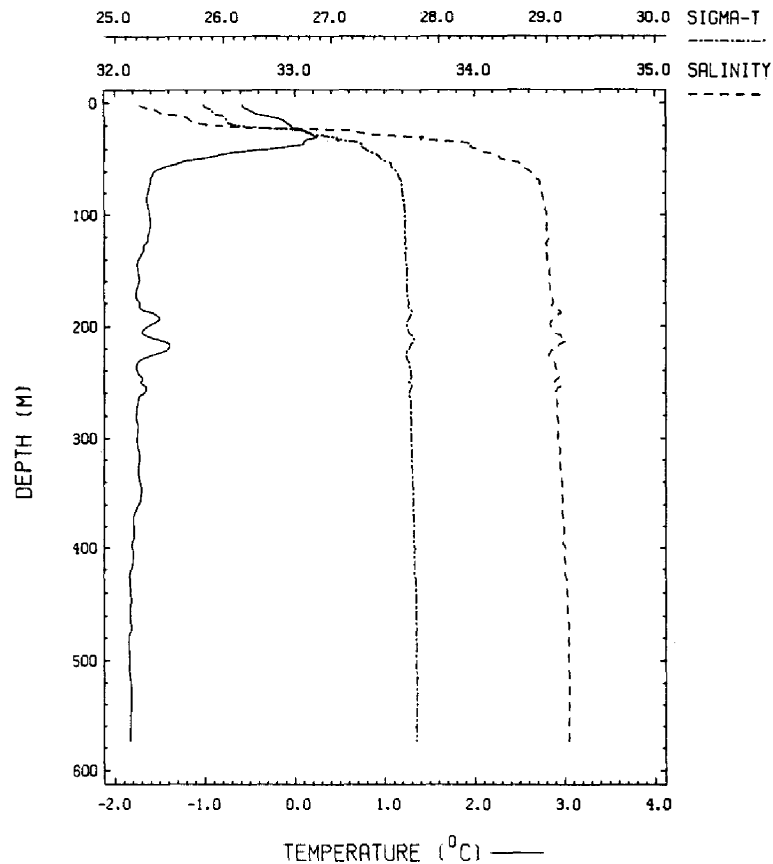


Cruise : AMBER 86/87
 Cast number : 5
 Date : 17 FEB 1987
 Start Time : 2211 GMT
 Ship : NELLA DAN
 Position : 68:20.35S 77:07.92E
 Cast Depth (m) : 576
 Bottom Depth (m) : Not Recorded

CRUISE AMBER 86/87 STATION 5
 17 FEB 1987 2211 GMT
 LATITUDE 68 20.35S
 LONGITUDE 77 07.92E
 DEPTH CTD 576 M BOTTOM 599 M

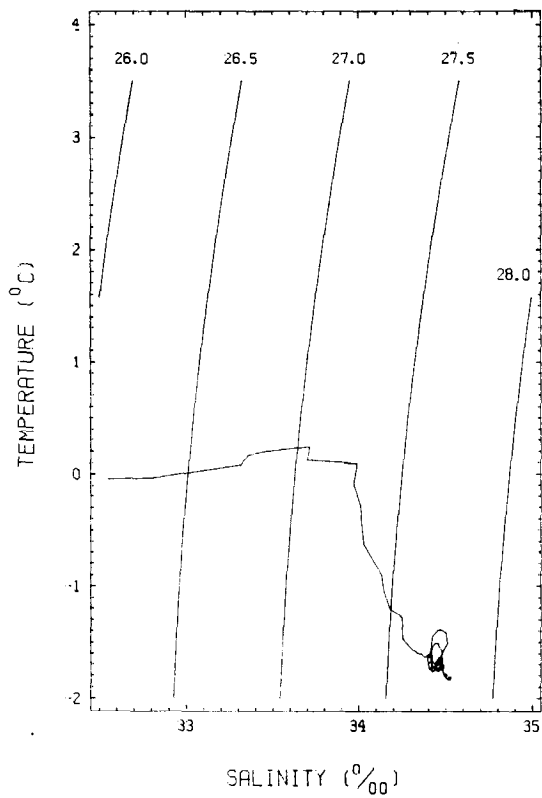
18

Depth d bar	Temperature (deg C)	Salinity	Sigma-T
0			
2	-0.58	32.14	25.82
5	-0.54	32.19	25.86
10	-0.44	32.26	25.92
15	-0.15	32.41	26.02
20	-0.05	32.55	26.13
25	0.12	33.34	26.76
30	0.24	33.71	27.06
35	0.09	33.96	27.26
40	-0.29	34.01	27.32
45	-0.85	34.11	27.43
50	-1.21	34.18	27.50
60	-1.57	34.31	27.61
70	-1.60	34.36	27.66
75	-1.62	34.37	27.66
80	-1.64	34.37	27.67
90	-1.63	34.39	27.68
100	-1.61	34.40	27.68
125	-1.65	34.40	27.69
150	-1.74	34.42	27.70
175	-1.76	34.43	27.72
200	-1.64	34.42	27.70
250	-1.72	34.44	27.73
300	-1.75	34.46	27.74
400	-1.80	34.50	27.78
500	-1.84	34.52	27.79
574	-1.82	34.52	27.79



CRUISE AAMBER 86/87 STATION 5
17 FEB 1987 2211 GMT
LATITUDE 68 20.35S
LONGITUDE 77 07.92E
DEPTH CTD 576 M BOTTOM 599 M

19

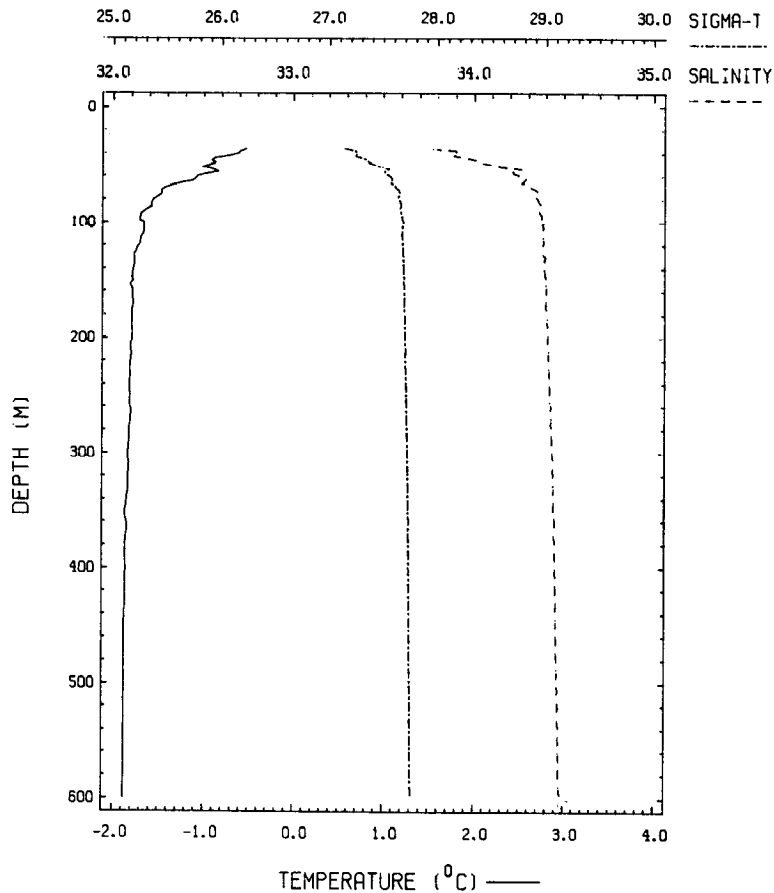


Cruise : AAMBER 86/87
 Cast number : 6
 Date : 18 FEB 1987
 Start Time : 0010 GMT
 Ship : NELLA DAN
 Position : 68:33.00S 76:52.33E
 Cast Depth (m) : 684
 Bottom Depth (m) : Not Recorded

CRUISE AAMBER 86/87 STATION 6
 18 FEB 1987 0010 GMT
 LATITUDE 68 33.00S
 LONGITUDE 76 52.33E
 DEPTH CTD 684 M BØTTØM 710 M

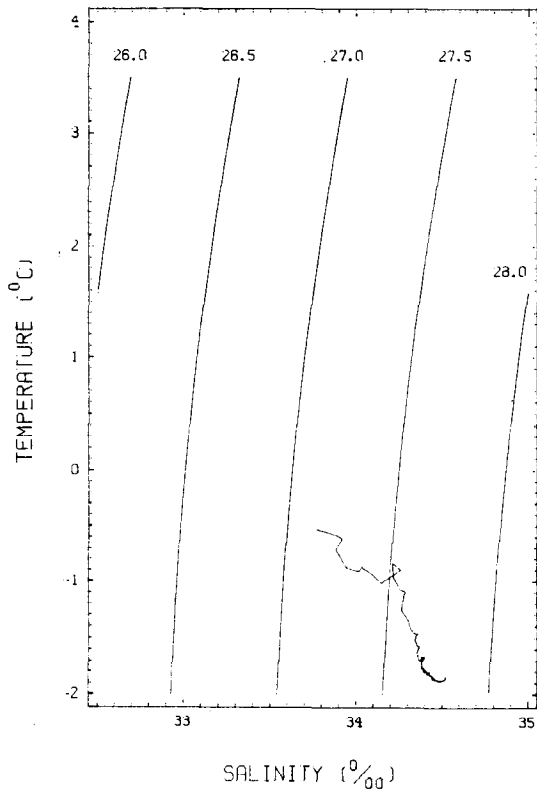
Depth d bar	Temperature (deg C)	Salinity	Sigma-T
0			
5			
10			
15			
20			
25			
30			
35			
36	-0.53	33.77	27.14
40	-0.62	33.92	27.26
45	-0.89	33.98	27.32
50	-0.94	34.10	27.42
60	-1.07	34.26	27.55
70	-1.43	34.32	27.61
75	-1.47	34.35	27.65
80	-1.55	34.35	27.65
90	-1.66	34.36	27.66
100	-1.67	34.40	27.69
125	-1.75	34.38	27.68
150	-1.78	34.40	27.69
175	-1.79	34.40	27.69
200	-1.80	34.41	27.70
250	-1.82	34.42	27.71
300	-1.84	34.44	27.72
400	-1.86	34.45	27.74
500	-1.88	34.47	27.75
600	-1.88	34.49	27.76
682	-1.85	34.52	27.80

20



CRUISE RAMBER 86/87 STATION 6
18 FEB 1987 0010 GMT
LATITUDE 68 33.00S
LONGITUDE 76 52.33E
DEPTH CTD 684 M BOTTOM 710 M

21

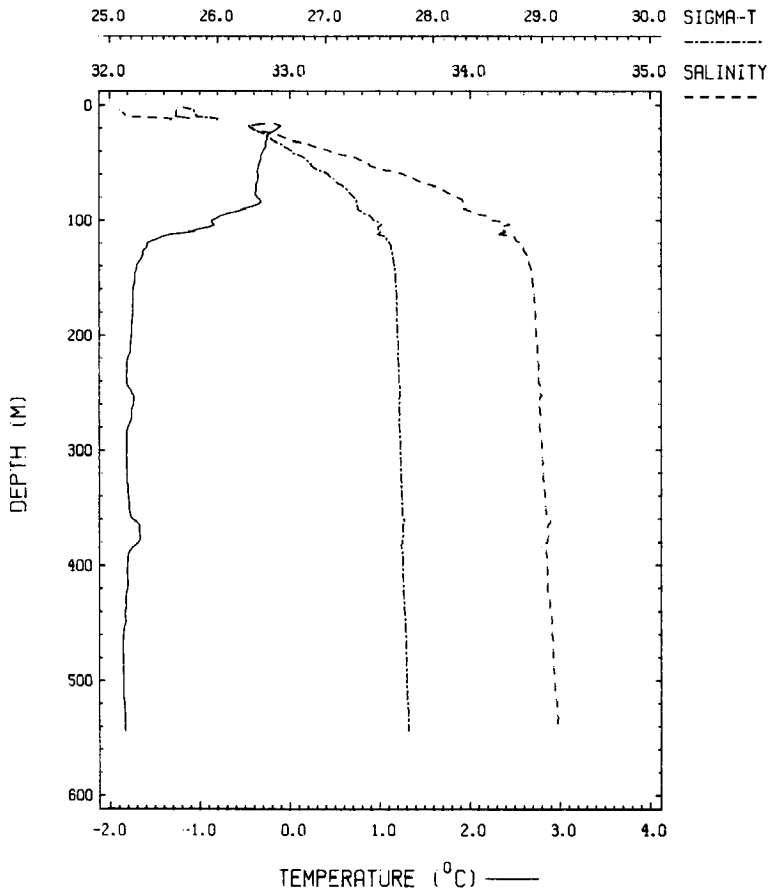


Cruise : AAMBER 86/87
 Cast number : 7
 Date : 18 FEB 1987
 Start Time : 0536 GMT
 Ship : NELLA DAN
 Position : 68:41.33S 77:14.83E
 Cast Depth (m) : 546
 Bottom Depth (m) : Not Recorded

CRUISE AAMBER 86/87 STATION 7
 18 FEB 1987 0536 GMT
 LATITUDE 68 41.33S
 LONGITUDE 77 14.83E
 DEPTH CTD 546 M BØTTØM 604 M

Depth d bar	Temperature (deg C)	Salinity	Sigma-T
0			
2	-1.25	31.94	25.68
5	-1.26	32.06	25.78
10	-1.27	32.09	25.80
15			
20	-0.13	32.78	26.33
25	-0.23	32.91	26.43
30	-0.26	32.99	26.50
35	-0.27	33.12	26.60
40	-0.30	33.22	26.68
45	-0.33	33.34	26.78
50	-0.34	33.42	26.85
60	-0.36	33.63	27.02
70	-0.38	33.79	27.15
75	-0.39	33.87	27.21
80	-0.36	33.93	27.26
90	-0.51	33.96	27.29
100	-0.87	34.13	27.44
125	-1.61	34.30	27.60
150	-1.73	34.35	27.65
175	-1.75	34.36	27.66
200	-1.76	34.37	27.67
250	-1.76	34.39	27.68
300	-1.82	34.40	27.69
400	-1.81	34.43	27.72
500	-1.85	34.47	27.75
544	-1.83	34.49	27.76

22



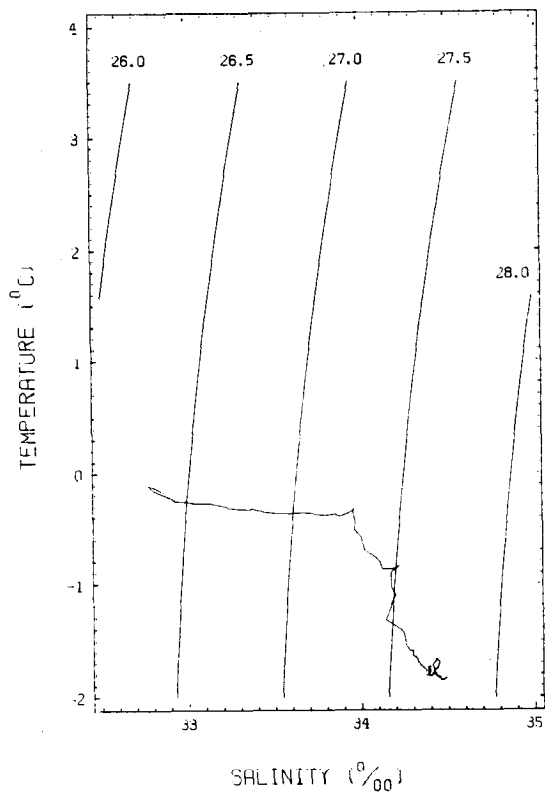
CRUISE RAMBER 86/87 STATION 7

18 FEB 1987 0536 GMT

LATITUDE 68 41.33S

LONGITUDE 77 14.83E

DEPTH CTD 546 M BØTTØM 604 M

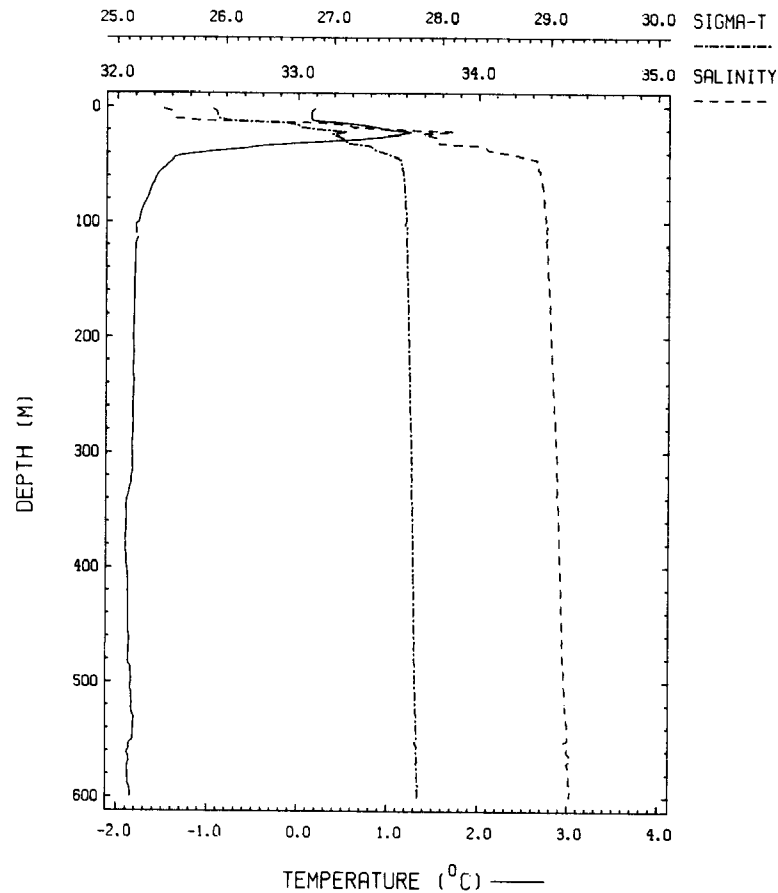


Cruise : AAMBER 86/87
 Cast number : 8
 Date : 18 FEB 1987
 Start Time : 0830 GMT
 Ship : NELLA DAN
 Position : 68:38.79S 76:04.39E
 Cast Depth (m) : 672
 Bottom Depth (m) : Not Recorded

CRUISE AAMBER 86/87 STATION 8
 18 FEB 1987 0830 GMT
 LATITUDE 68 38.79S
 LONGITUDE 76 04.39E
 DEPTH CTD 672 M BOTTOM 699 M

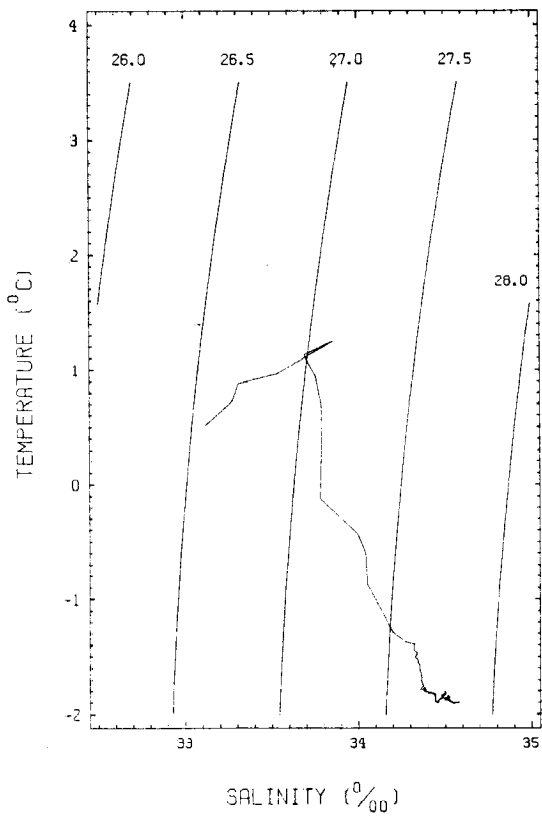
Depth d bar	Temperature (deg C)	Salinity	Sigma-T
0			
2	0.19	32.25	25.88
5	0.15	32.30	25.92
10	0.14	32.32	25.94
15	0.62	33.20	26.62
20	0.97	33.53	26.87
25	1.03	33.72	27.02
30	0.29	33.79	27.11
35	-0.52	34.02	27.34
40	-1.09	34.13	27.45
45	-1.38	34.30	27.60
50	-1.45	34.33	27.62
60	-1.57	34.35	27.65
70	-1.63	34.36	27.65
75	-1.65	34.36	27.66
80	-1.67	34.36	27.66
90	-1.74	34.37	27.66
100	-1.76	34.37	27.67
125	-1.80	34.38	27.68
150	-1.81	34.39	27.69
175	-1.81	34.40	27.69
200	-1.82	34.40	27.70
250	-1.82	34.42	27.71
300	-1.83	34.44	27.73
400	-1.88	34.46	27.75
500	-1.84	34.48	27.76
600	-1.85	34.51	27.78
670	-1.90	34.58	27.84

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CRUISE HAMBER 86/87 STATION 8
18 FEB 1987 0830 GMT
LATITUDE 68 38.79S
LONGITUDE 76 04.39E
DEPTH CTD 672 M BOTTOM 699 M

25

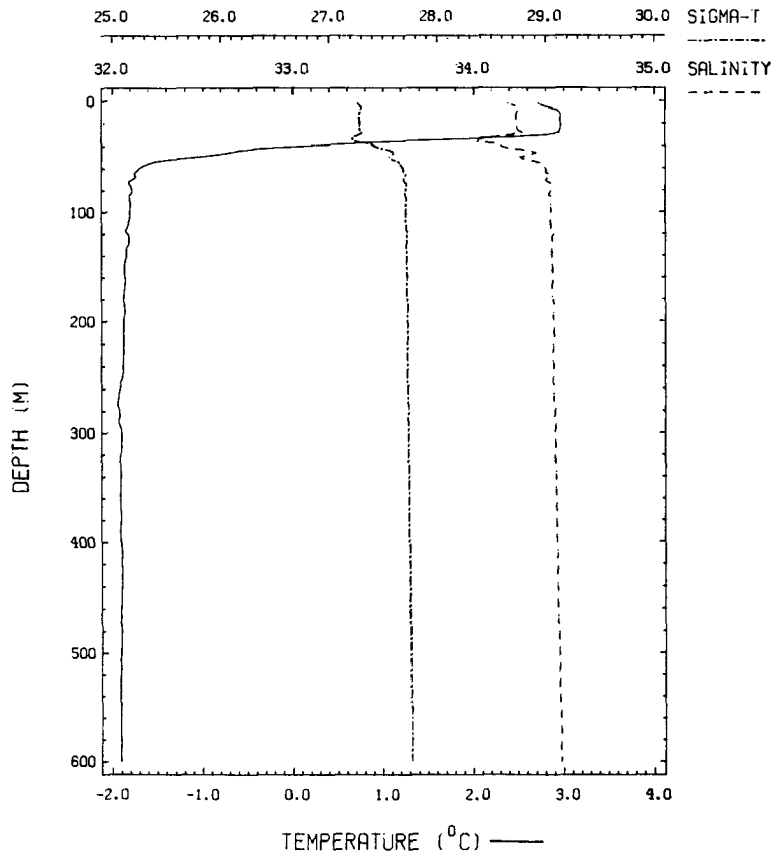


Cruise : AMBER 86/87
 Cast number : 9
 Date : 18 FEB 1987
 Start Time : 1818 GMT
 Ship : NELLA DAN
 Position : 68:55.08S 74:22.16E
 Cast Depth (m) : 740
 Bottom Depth (m) : Not Recorded

CRUISE AMBER 86/87 STATION 9
 18 FEB 1987 1818 GMT
 LATITUDE 68 55.08S
 LONGITUDE 74 22.16E
 DEPTH CTD 740 M BOTTOM 767 M

26

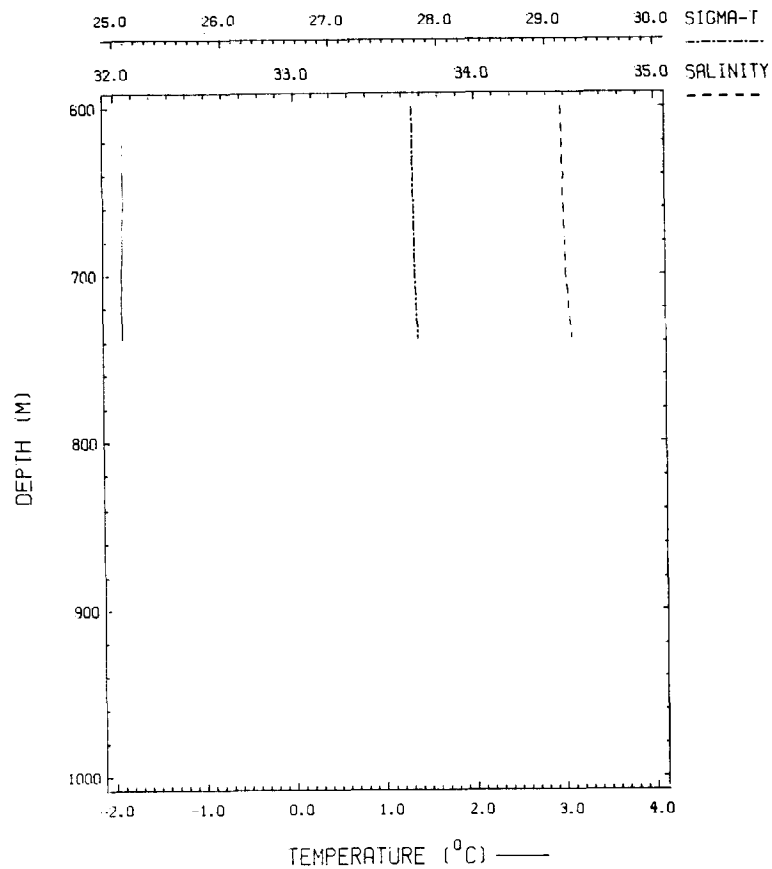
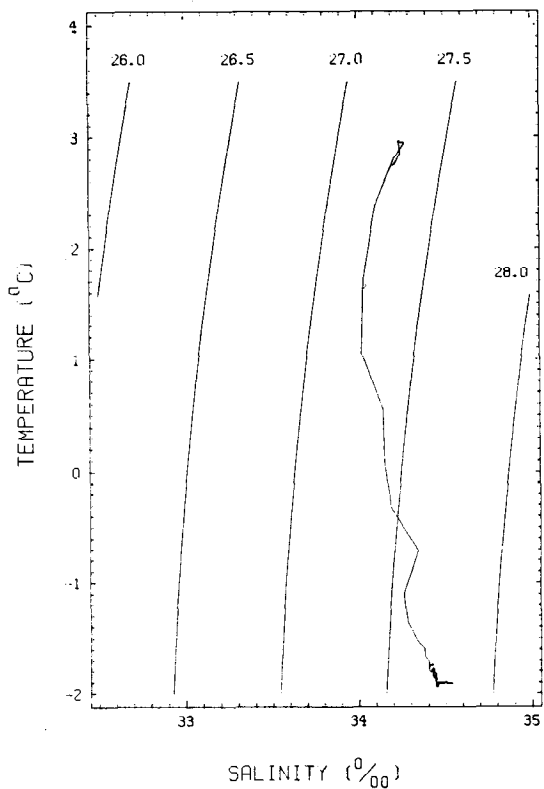
Depth d bar	Temperature (deg C)	Salinity	Sigma-T
0			
2	2.71	34.19	27.27
5	2.80	34.24	27.29
10	2.95	34.24	27.29
15	2.96	34.24	27.28
20	2.97	34.25	27.29
25	2.96	34.25	27.29
30	2.79	34.21	27.27
35	1.38	34.03	27.24
40	0.10	34.15	27.42
45	-0.65	34.32	27.59
50	-1.10	34.26	27.56
60	-1.70	34.40	27.69
70	-1.77	34.40	27.69
75	-1.80	34.43	27.72
80	-1.78	34.43	27.72
90	-1.80	34.43	27.72
100	-1.80	34.43	27.72
125	-1.82	34.43	27.72
150	-1.87	34.44	27.73
175	-1.87	34.44	27.73
200	-1.88	34.44	27.73
250	-1.89	34.44	27.73
300	-1.90	34.45	27.74
400	-1.90	34.46	27.75
500	-1.91	34.47	27.76
600	-1.91	34.49	27.76
700	-1.92	34.51	27.78
738	-1.91	34.54	27.81



CRUISE RAMBER 86/87 STATION 9
 18 FEB 1987 1818 GMT
 LATITUDE 68 55.08S
 LONGITUDE 74 22.16E
 DEPTH CTD 740 M BOTTOM 767 M

CRUISE RAMBER 86/87 STATION 9
 18 FEB 1987 1818 GMT
 LATITUDE 68 55.08S
 LONGITUDE 74 22.16E
 DEPTH CTD 740 M BOTTOM 767 M

27

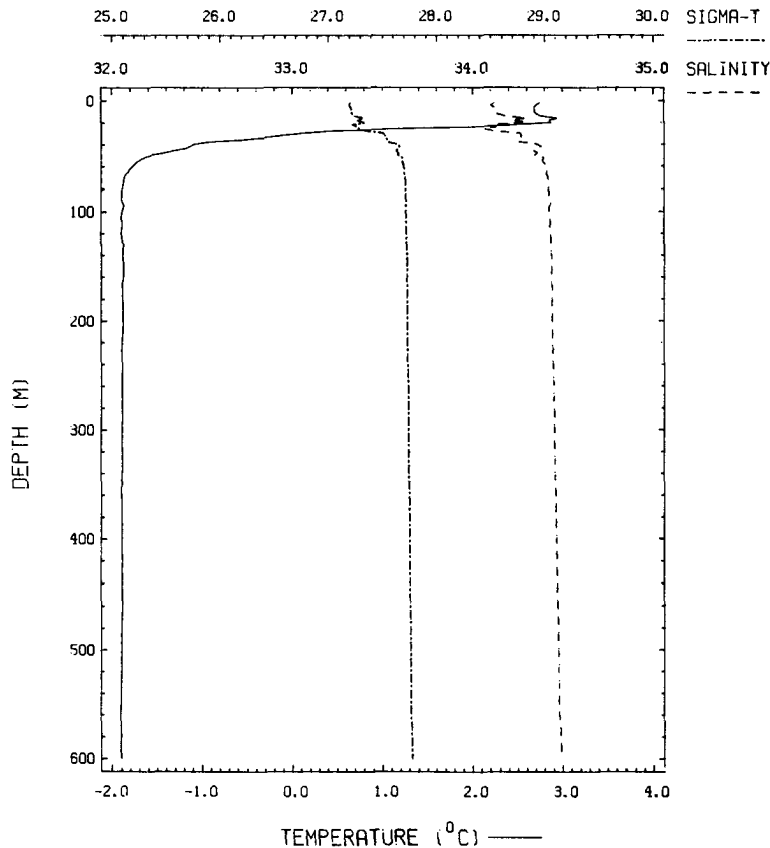


Cruise : AMBER 86/87
 Cast number : 10
 Date : 18 FEB 1987
 Start Time : 2219 GMT
 Ship : NELLA DAN
 Position : 69:00.74S 74:04.12E
 Cast Depth (m) : 688
 Bottom Depth (m) : Not Recorded

CRUISE AMBER 86/87 STATION 10
 18 FEB 1987 2219 GMT
 LATITUDE 69 00.74S
 LONGITUDE 74 04.12E
 DEPTH CTD 688 M BOTTOM 715 M

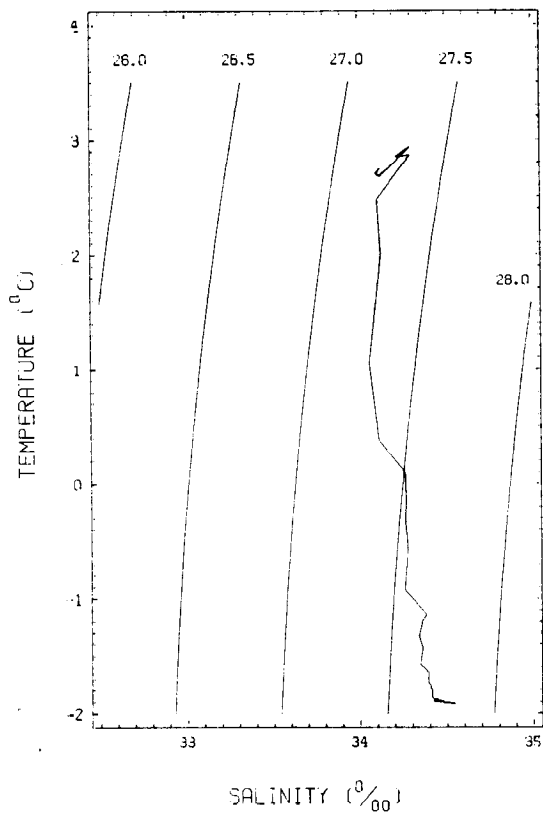
28

Depth d bar	Temperature (deg C)	Salinity	Sigma-T
0			
2	2.74	34.12	27.21
5	2.69	34.11	27.20
10	2.68	34.13	27.22
15	2.85	34.24	27.29
20	2.86	34.30	27.34
25	1.53	34.10	27.28
30	0.09	34.26	27.51
35	-0.43	34.27	27.54
40	-1.09	34.35	27.63
45	-1.26	34.35	27.63
50	-1.57	34.34	27.64
60	-1.78	34.40	27.69
70	-1.87	34.42	27.71
75	-1.88	34.42	27.71
80	-1.89	34.42	27.71
90	-1.90	34.43	27.72
100	-1.90	34.43	27.72
125	-1.89	34.44	27.72
150	-1.88	34.44	27.72
175	-1.89	34.44	27.73
200	-1.88	34.44	27.73
250	-1.90	34.45	27.74
300	-1.89	34.46	27.74
400	-1.90	34.47	27.75
500	-1.90	34.48	27.76
600	-1.91	34.49	27.77
686	-1.92	34.54	27.81



CRUISE RAMBER 86/87 STATION 10
18 FEB 1987 2219 GMT
LATITUDE 69 00.74S
LONGITUDE 74 04.12E
DEPTH CTD 688 M BOTTOM 715 M

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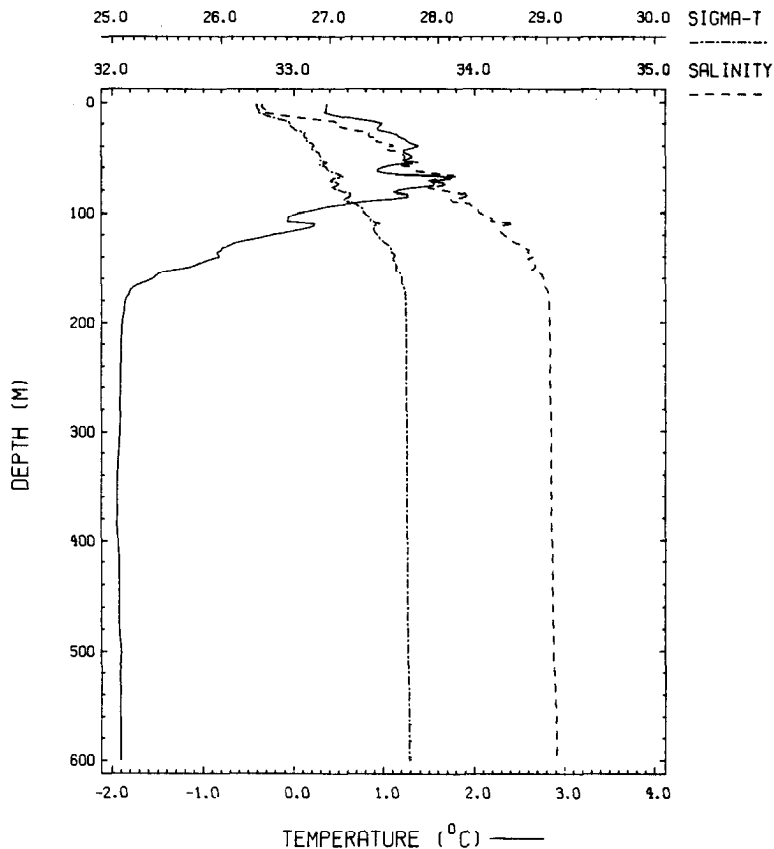


Cruise : AAMBER 86/87
 Cast number : 11
 Date : 19 FEB 1987
 Start Time : 0406 GMT
 Ship : NELLA DAN
 Position : 69:36.18S 74:25.85E
 Cast Depth (m) : 654
 Bottom Depth (m) : Not Recorded

CRUISE AAMBER 86/87 STATION 11
 19 FEB 1987 0406 GMT
 LATITUDE 69 36.18S
 LONGITUDE 74 25.85E
 DEPTH CTD 654 M BOTTOM 652 M

30

Depth d bar	Temperature (deg C)	Salinity	Sigma-T
0			
2	0.37	32.83	26.33
5	0.36	32.83	26.33
10	0.34	32.83	26.34
15	0.63	33.05	26.50
20	0.99	33.25	26.64
25	0.94	33.30	26.68
30	1.16	33.42	26.76
35	1.25	33.47	26.79
40	1.38	33.56	26.86
45	1.23	33.56	26.87
50	1.30	33.62	26.91
60	0.99	33.65	26.96
70	1.73	33.79	27.03
75	1.54	33.84	27.07
80	1.16	33.81	27.08
90	0.78	33.88	27.16
100	0.06	34.03	27.32
125	-0.50	34.20	27.48
150	-1.17	34.34	27.62
175	-1.83	34.41	27.70
200	-1.89	34.41	27.71
250	-1.91	34.42	27.71
300	-1.92	34.42	27.72
400	-1.94	34.43	27.72
500	-1.90	34.44	27.73
600	-1.90	34.46	27.74
652	-1.89	34.47	27.75



CRUISE RAMBER 86/87 STATION 11

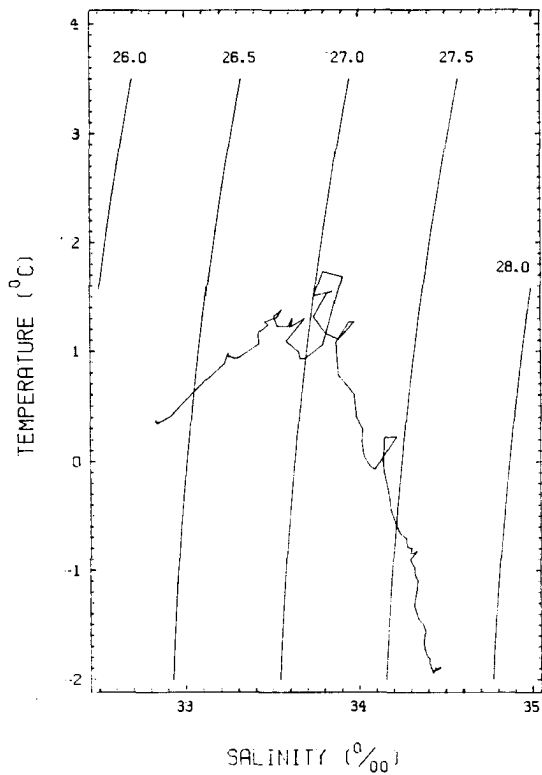
19 FEB 1987 0406 GMT

LATITUDE 69 36.18S

LONGITUDE 74 25.85E

DEPTH CTD 654 M BOTTOM 652 M

13

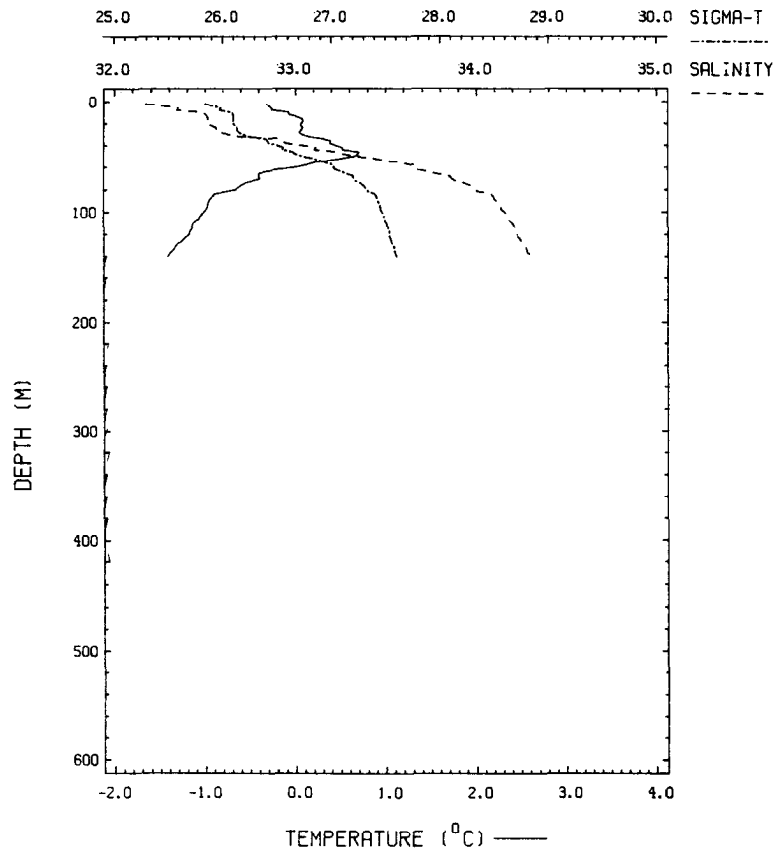


Cruise : AAMBER 86/87
 Cast number : 12
 Date : 19 FEB 1987
 Start Time : 0728 GMT
 Ship : NELLA DAN
 Position : 69:22.97S 75:34.54E
 Cast Depth (m) : 142
 Bottom Depth (m) : Not Recorded

CRUISE AAMBER 86/87 STATION 12
 19 FEB 1987 0728 GMT
 LATITUDE 69 22.97S
 LONGITUDE 75 34.54E
 DEPTH CTD 142 M BOTTOM 146 M

Depth d bar	Temperature (deg C)	Salinity	Sigma-T
0			
2	-0.31	32.17	25.84
5	-0.27	32.31	25.94
10	-0.08	32.49	26.08
15	0.04	32.52	26.10
20	0.06	32.51	26.09
25	0.07	32.56	26.13
30	0.07	32.63	26.19
35	0.34	32.92	26.41
40	0.44	33.04	26.50
45	0.62	33.17	26.59
50	0.65	33.34	26.73
60	0.01	33.65	27.02
70	-0.39	33.87	27.21
75	-0.58	33.95	27.28
80	-0.66	33.99	27.32
90	-0.96	34.11	27.43
100	-1.02	34.16	27.47
125	-1.25	34.24	27.55
140	-1.42	34.30	27.60

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CRUISE RAMBER 86/87 STATION 12

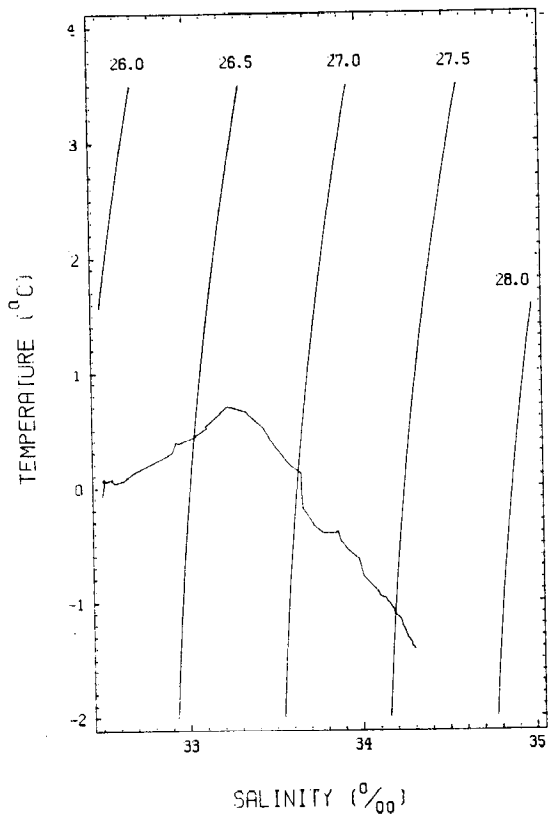
19 FEB 1987 0728 GMT

LATITUDE 69 22.97S

LONGITUDE 75 34.54E

DEPTH CTD 142 M BOTTOM 146 M

33

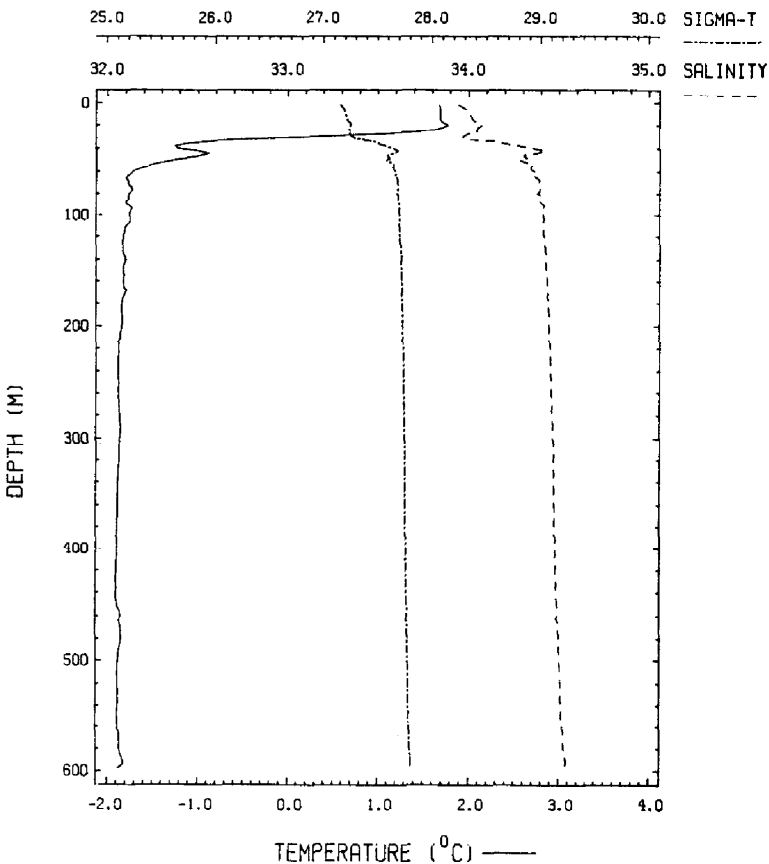


Cruise : AAMBER 86/87
 Cast number : 13
 Date : 19 FEB 1987
 Start Time : 1533 GMT
 Ship : NELIA DAN
 Position : 68:20.31S 74:42.30E
 Cast Depth (m) : 600
 Bottom Depth (m) : Not Recorded

CRUISE AAMBER 86/87 STATION 13
 19 FEB 1987 1533 GMT
 LATITUDE 68 20.31S
 LONGITUDE 74 42.30E
 DEPTH CTD 600 M BOTTOM 625 M

34

Depth d bar	Temperature (deg C)	Salinity	Sigma-T
0			
2	1.68	33.95	27.15
5	1.69	33.98	27.17
10	1.69	34.00	27.20
15	1.70	34.02	27.21
20	1.77	34.07	27.25
25	1.52	34.05	27.24
30	0.38	33.97	27.25
35	-1.00	34.17	27.48
40	-1.22	34.36	27.64
45	-0.93	34.34	27.61
50	-1.28	34.28	27.58
60	-1.72	34.36	27.66
70	-1.77	34.39	27.68
75	-1.73	34.40	27.69
80	-1.76	34.38	27.68
90	-1.79	34.41	27.70
100	-1.76	34.41	27.70
125	-1.82	34.42	27.71
150	-1.82	34.43	27.72
175	-1.83	34.44	27.72
200	-1.84	34.44	27.73
250	-1.87	34.46	27.74
300	-1.86	34.47	27.75
400	-1.89	34.48	27.76
500	-1.88	34.50	27.78
598	-1.87	34.54	27.81



CRUISE RAMBER 86/87 STATION 13

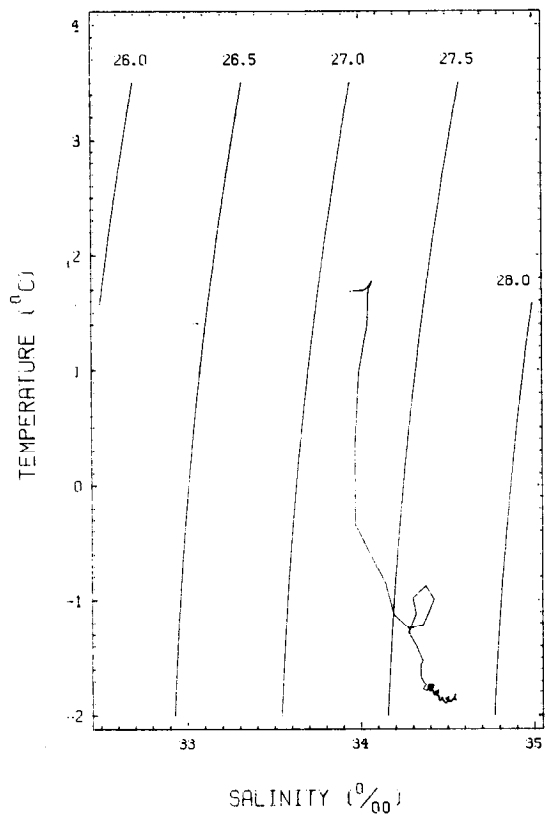
19 FEB 1987 1533 GMT

LATITUDE 68 20.31S

LONGITUDE 74 42.30E

DEPTH CTD 600 M BOTTOM 625 M

33

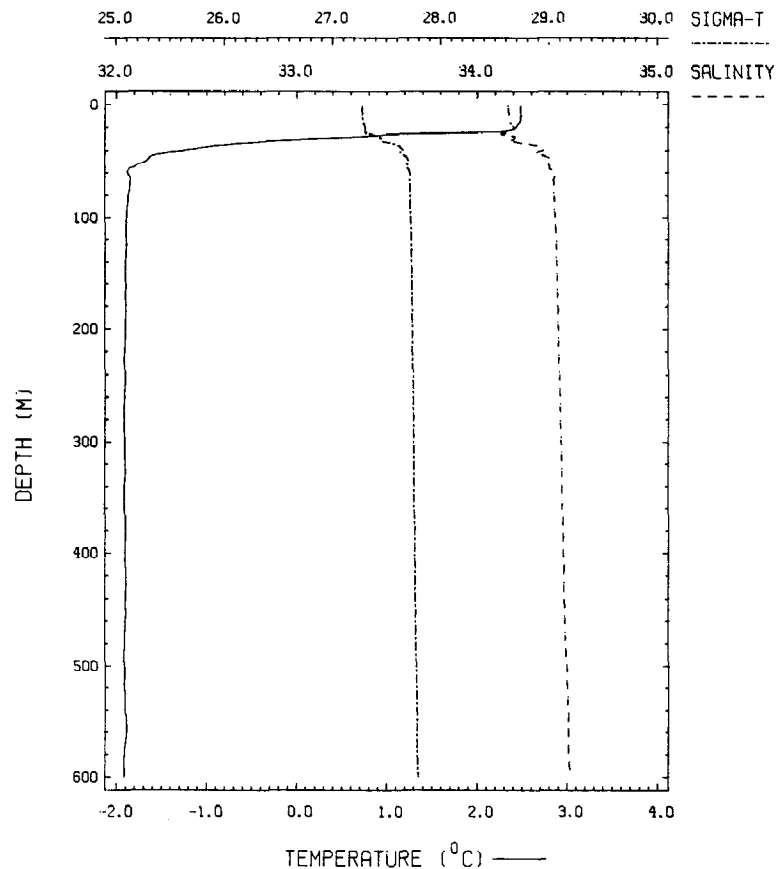


Cruise : AAMBER 86/87
 Cast number : 14
 Date : 19 FEB 1987
 Start Time : 1941 GMT
 Ship : NELLA DAN
 Position : 68:25.83S 74:03.00E
 Cast Depth (m) : 618
 Bottom Depth (m) : Not Recorded

CRUISE AAMBER 86/87 STATION 14
 19 FEB 1987 1941 GMT
 LATITUDE 68 25.83S
 LONGITUDE 74 03.00E
 DEPTH CTD 618 M BOTTOM 693 M

36

Depth d bar	Temperature (deg C)	Salinity	Sigma-T
0			
2	2.48	34.17	27.27
5	2.48	34.17	27.27
10	2.49	34.17	27.27
15	2.48	34.18	27.28
20	2.44	34.20	27.30
25	1.65	34.15	27.31
30	0.16	34.20	27.45
35	-0.81	34.31	27.59
40	-1.25	34.37	27.65
45	-1.61	34.38	27.67
50	-1.69	34.40	27.69
60	-1.87	34.42	27.71
70	-1.84	34.43	27.72
75	-1.85	34.43	27.72
80	-1.87	34.43	27.72
90	-1.87	34.43	27.72
100	-1.88	34.43	27.72
125	-1.89	34.44	27.73
150	-1.90	34.44	27.73
175	-1.89	34.45	27.74
200	-1.90	34.45	27.74
250	-1.90	34.46	27.74
300	-1.90	34.47	27.75
400	-1.90	34.48	27.76
500	-1.91	34.50	27.77
600	-1.91	34.52	27.79
616	-1.91	34.52	27.80



CRUISE HAMBER 86/87 STATION 14

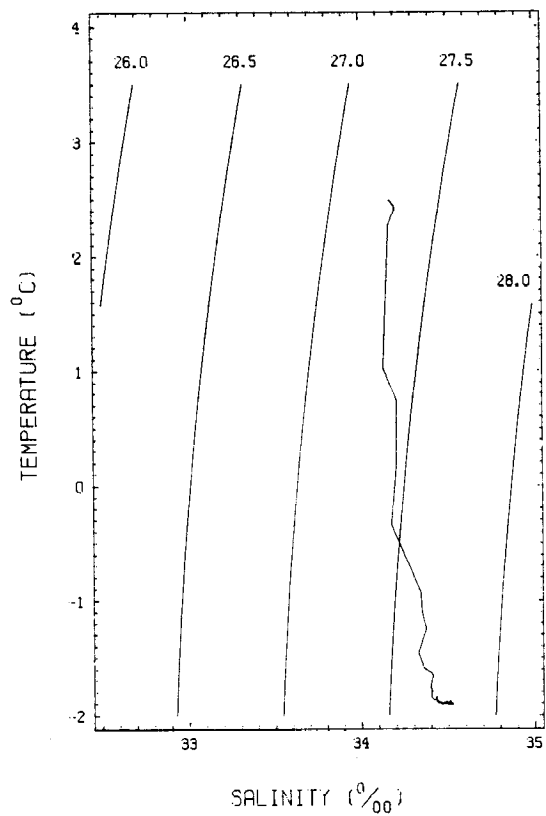
19 FEB 1987 1941 GMT

LATITUDE 68 25.83S

LONGITUDE 74 03.00E

DEPTH CTD 618 M BOTTOM 693 M

37

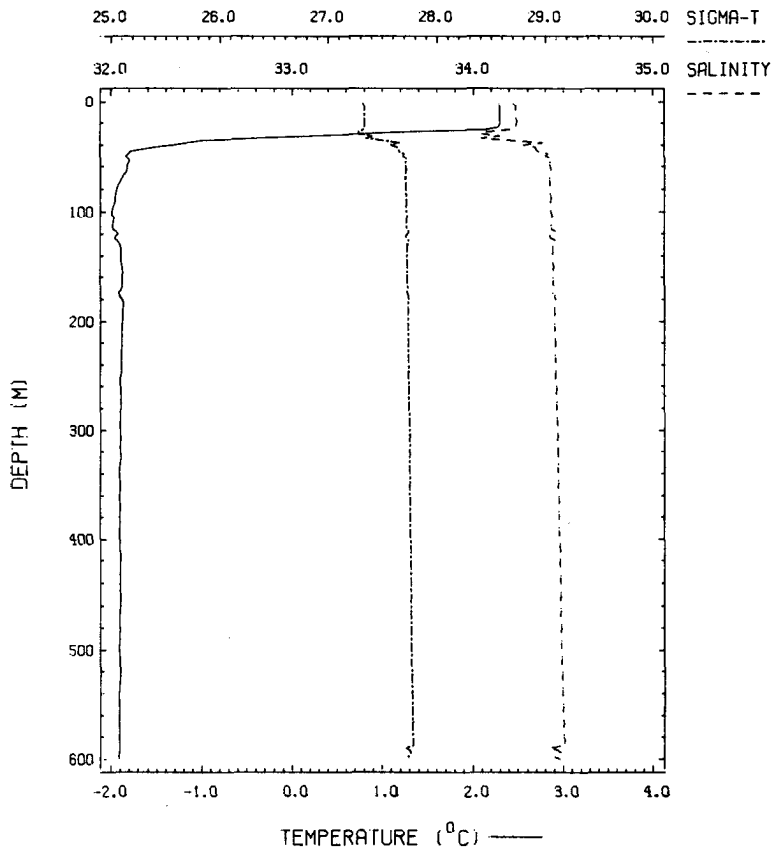


Cruise : AAMBER 86/87
 Cast number : 15
 Date : 19 FEB 1987
 Start Time : 2153 GMT
 Ship : NELLA DAN
 Position : 68:29.08S 73:17.45E
 Cast Depth (m) : 732
 Bottom Depth (m) : Not Recorded

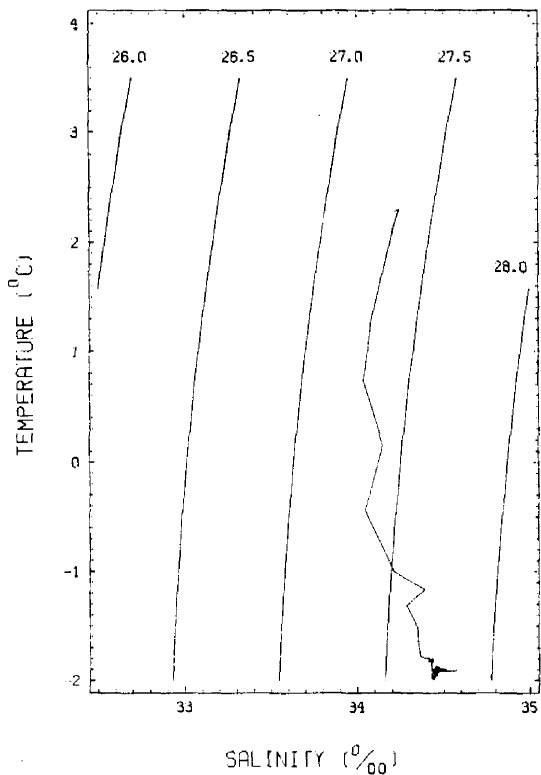
CRUISE AAMBER 86/87 STATION 15
 19 FEB 1987 2153 GMT
 LATITUDE 68 29.08S
 LONGITUDE 73 17.45E
 DEPTH CTD 732 M BØTTØM 773 M

Depth d bar	Temperature (deg C)	Salinity	Sigma-T
0			
2	2.28	34.22	27.33
5	2.29	34.24	27.34
10	2.29	34.24	27.34
15	2.29	34.24	27.34
20	2.30	34.24	27.34
25	2.20	34.22	27.33
30	0.73	34.04	27.29
35	-0.72	34.13	27.44
40	-1.31	34.28	27.58
45	-1.72	34.36	27.66
50	-1.83	34.40	27.69
60	-1.83	34.43	27.72
70	-1.88	34.42	27.71
75	-1.91	34.42	27.72
80	-1.94	34.43	27.72
90	-1.96	34.43	27.72
100	-2.00	34.43	27.72
125	-1.95	34.45	27.73
150	-1.88	34.45	27.73
175	-1.91	34.44	27.73
200	-1.87	34.45	27.74
250	-1.89	34.46	27.74
300	-1.90	34.47	27.75
400	-1.90	34.48	27.76
500	-1.91	34.49	27.77
600	-1.91	34.48	27.76
700	-1.91	34.55	27.82
730	-1.91	34.57	27.83

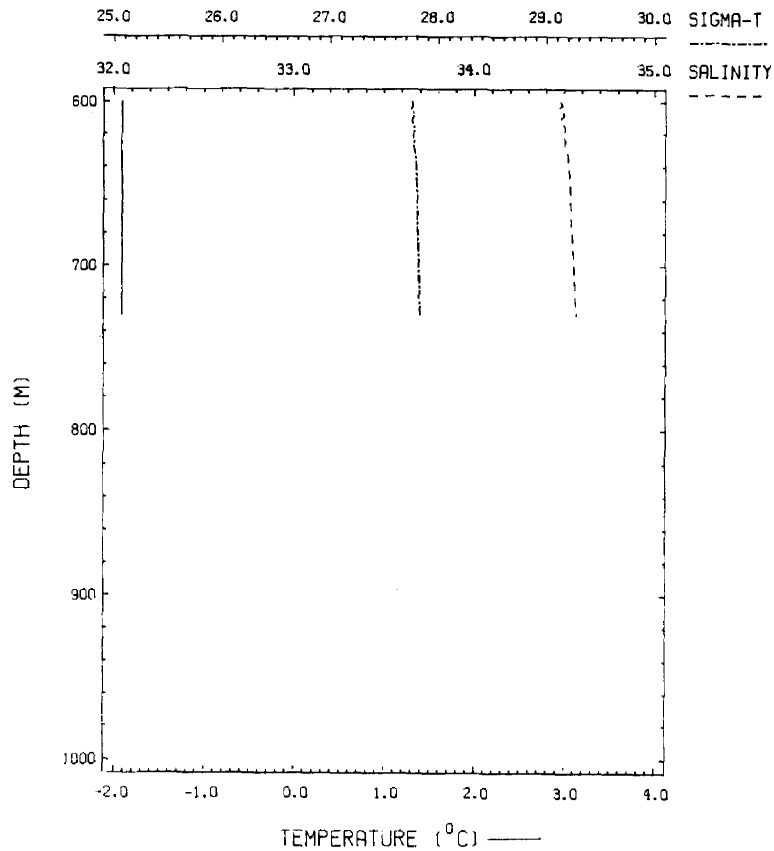
38



CRUISE RAMBER 86/87 STATION 15
 19 FEB 1987 2153 GMT
 LATITUDE 68 29.08S
 LONGITUDE 73 17.45E
 DEPTH CTD 732 M BOTTOM 773 M



CRUISE RAMBER 86/87 STATION 15
 19 FEB 1987 2153 GMT
 LATITUDE 68 29.08S
 LONGITUDE 73 17.45E
 DEPTH CTD 732 M BOTTOM 773 M

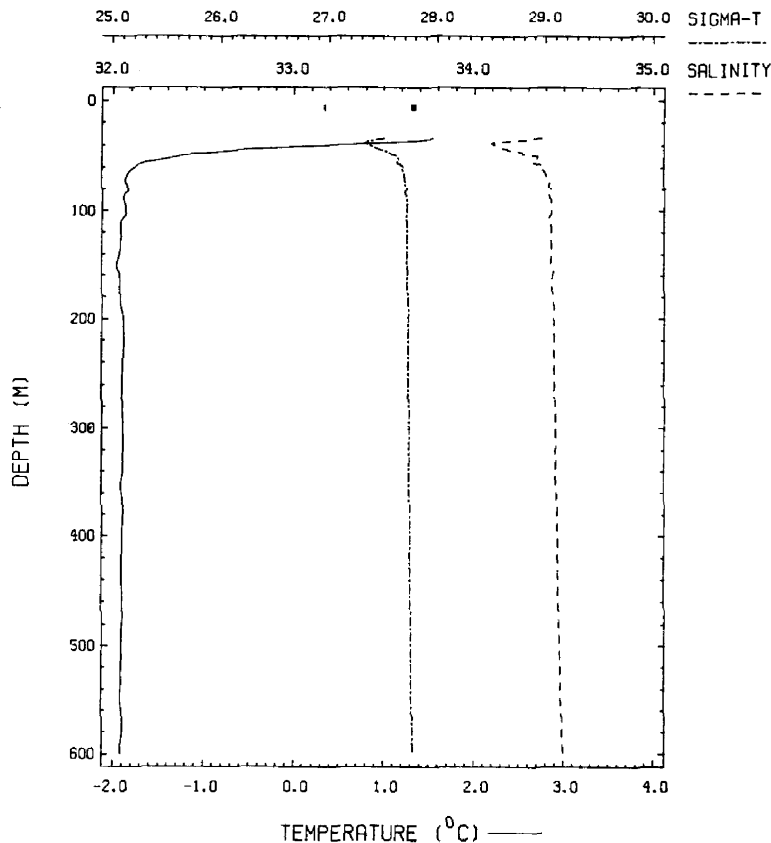


Cruise : AAMBER 86/87
 Cast number : 16
 Date : 20 FEB 1987
 Start Time : 0657 GMT
 Ship : NELLA DAN
 Position : 68:51.18S 73:13.11E
 Cast Depth (m) : 794
 Bottom Depth (m) : Not Recorded

CRUISE AAMBER 86/87 STATION 16
 20 FEB 1987 0657 GMT
 LATITUDE 68 51.18S
 LONGITUDE 73 13.11E
 DEPTH CTD 794 M BOTTOM 821 M

Depth d bar	Temperature (deg C)	Salinity	Sigma-T
0			
4	1.32	33.68	26.96
5	1.32	33.68	26.96
10			
15			
20			
25			
30			
35	1.46	34.29	27.44
40	0.34	34.12	27.38
45	-0.70	34.23	27.52
50	-1.26	34.35	27.64
60	-1.75	34.40	27.69
70	-1.85	34.41	27.70
75	-1.84	34.42	27.71
80	-1.82	34.42	27.71
90	-1.88	34.43	27.72
100	-1.86	34.43	27.72
125	-1.91	34.43	27.72
150	-1.95	34.43	27.72
175	-1.92	34.44	27.73
200	-1.88	34.44	27.73
250	-1.89	34.45	27.74
300	-1.89	34.46	27.74
400	-1.90	34.47	27.75
500	-1.91	34.48	27.76
600	-1.91	34.50	27.78
700	-1.91	34.53	27.80
792	-1.91	34.54	27.81

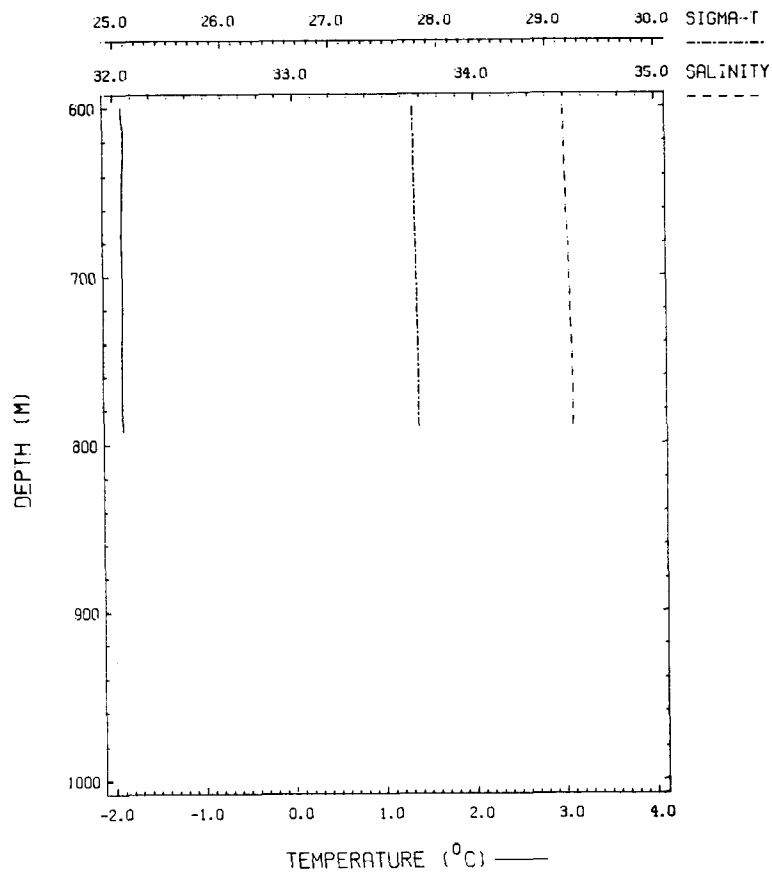
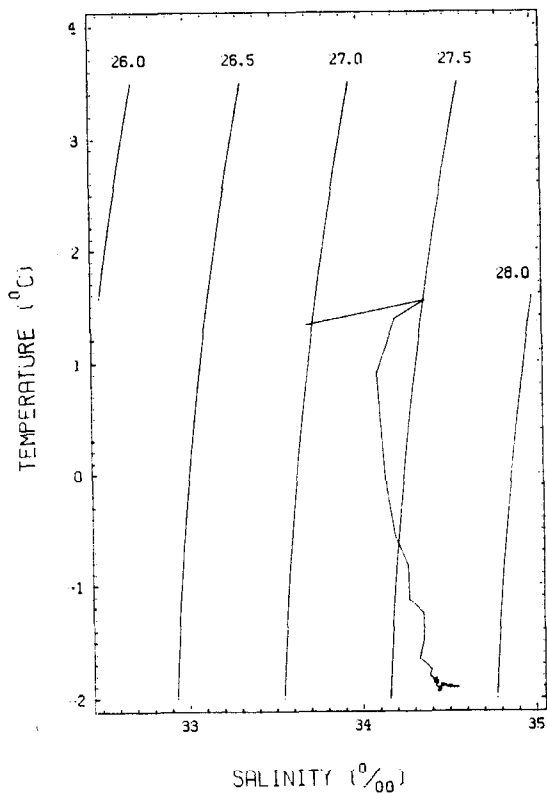
40



CRUISE AMBER 86/87 STATION 16
20 FEB 1987 0657 GMT
LATITUDE 68 51.18S
LONGITUDE 73 13.11E
DEPTH CTD 794 M BØTTØM 821 M

CRUISE AMBER 86/87 STATION 16
20 FEB 1987 0657 GMT
LATITUDE 68 51.18S
LONGITUDE 73 13.11E
DEPTH CTD 794 M BØTTØM 821 M

41

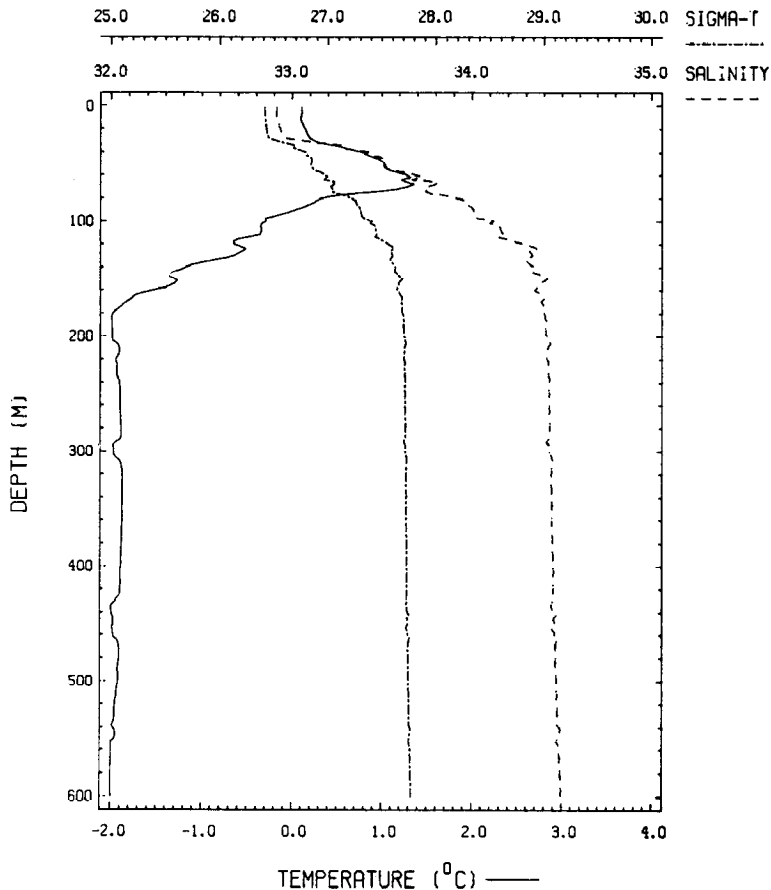


Cruise : AAMBER 86/87
 Cast number : 17
 Date : 20 FEB 1987
 Start Time : 1051 GMT
 Ship : NELLA DAN
 Position : 68:48.86S 72:39.50E
 Cast Depth (m) : 754
 Bottom Depth (m) : Not Recorded

CRUISE AAMBER 86/87 STATION 17
 20 FEB 1987 1051 GMT
 LATITUDE 68 48.86S
 LONGITUDE 72 39.50E
 DEPTH CTD 754 M BOTTOM 784 M

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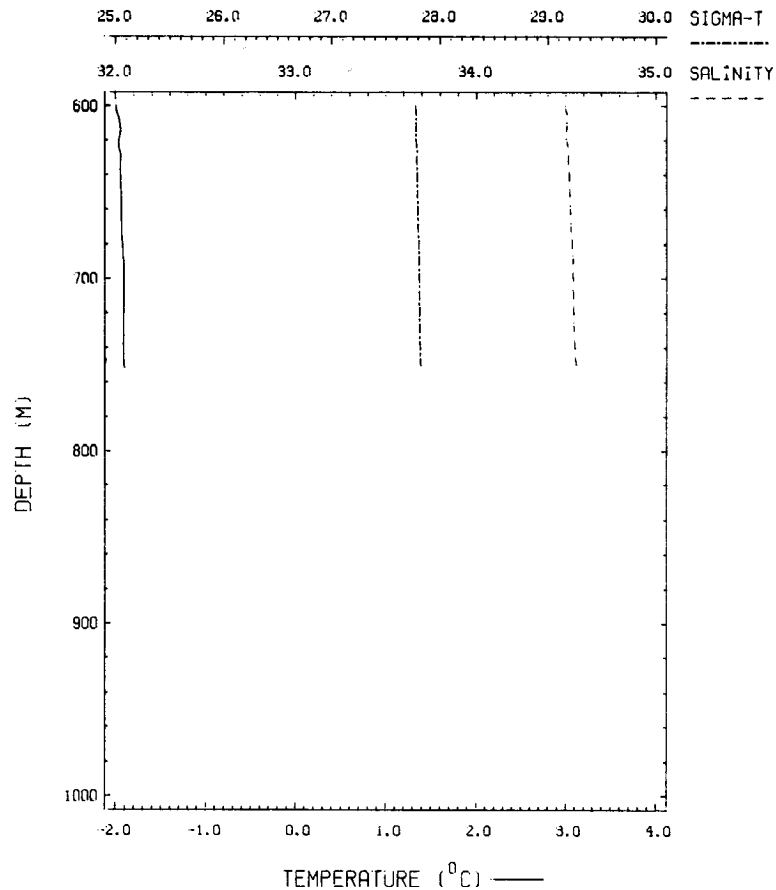
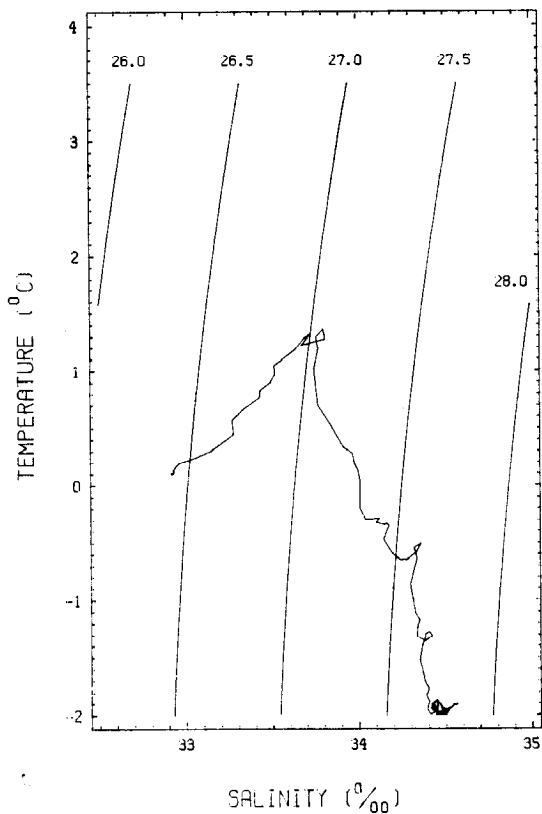
Depth d bar	Temperature (deg C)	Salinity	Sigma-T
0			
2	0.11	32.92	26.42
5	0.11	32.92	26.42
10	0.10	32.92	26.42
15	0.11	32.93	26.43
20	0.14	32.94	26.43
25	0.18	32.95	26.44
30	0.25	33.06	26.53
35	0.51	33.27	26.68
40	0.77	33.43	26.80
45	0.94	33.50	26.85
50	1.03	33.51	26.85
60	1.28	33.69	26.97
70	1.29	33.76	27.03
75	0.85	33.76	27.05
80	0.33	33.92	27.21
90	0.05	34.01	27.30
100	-0.28	34.12	27.41
125	-0.52	34.34	27.60
150	-1.31	34.42	27.70
175	-1.90	34.40	27.69
200	-2.04	34.42	27.71
250	-1.90	34.43	27.72
300	-1.97	34.43	27.72
400	-1.89	34.45	27.74
500	-1.92	34.47	27.75
600	-2.00	34.50	27.78
700	-1.91	34.54	27.81
752	-1.91	34.56	27.83



CRUISE AMBER 86/87 STATION 17
20 FEB 1987 1051 GMT
LATITUDE 68 48.86S
LONGITUDE 72 39.50E
DEPTH CTD 754 M BOTTOM 784 M

CRUISE AMBER 86/87 STATION 17
20 FEB 1987 1051 GMT
LATITUDE 68 48.86S
LONGITUDE 72 39.50E
DEPTH CTD 754 M BOTTOM 784 M

43

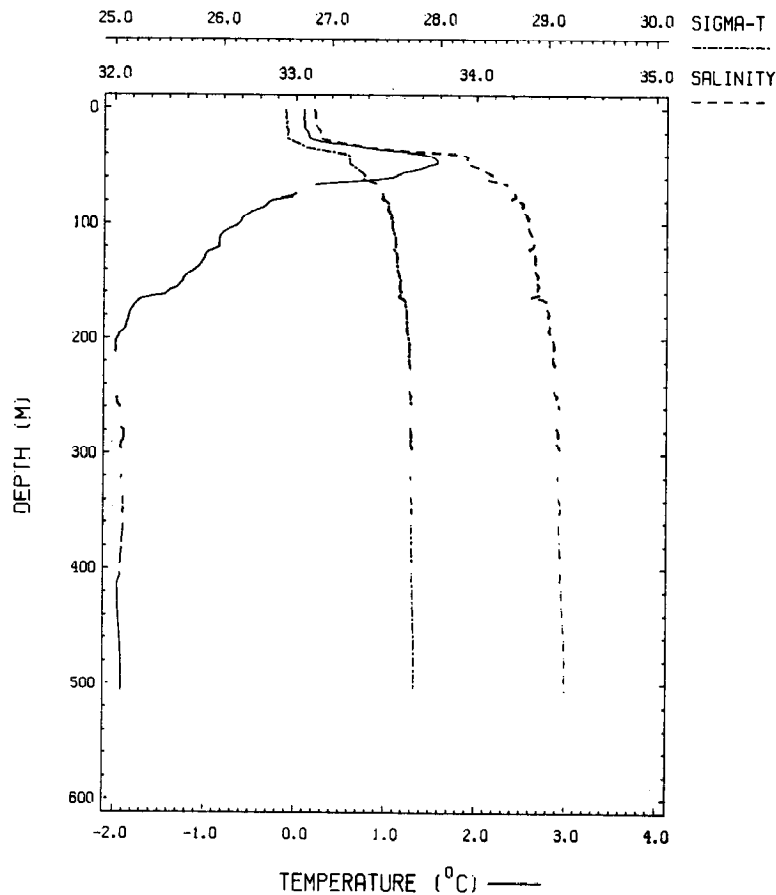


Cruise : AAMBER 86/87
 Cast number : 18
 Date : 20 FEB 1987
 Start Time : 1527 GMT
 Ship : NELLA DAN
 Position : 68:37.53S 71:34.91E
 Cast Depth (m) : 508
 Bottom Depth (m) : Not Recorded

CRUISE AAMBER 86/87 STATION 18
 20 FEB 1987 1527 GMT
 LATITUDE 68 37.53S
 LONGITUDE 71 34.91E
 DEPTH CTD 508 M BOTTOM 5323 M

Depth d bar	Temperature (deg C)	Salinity	Sigma-T
0			
2	0.09	33.10	26.57
5	0.09	33.11	26.57
10	0.08	33.11	26.58
15	0.09	33.11	26.58
20	0.12	33.14	26.60
25	0.15	33.13	26.59
30	0.38	33.25	26.68
35	0.85	33.45	26.81
40	1.42	33.92	27.15
45	1.56	33.95	27.16
50	1.47	33.98	27.19
60	1.07	34.08	27.30
70			
75	-0.02	34.22	27.47
80	-0.27	34.23	27.50
90	-0.49	34.26	27.53
100	-0.63	34.29	27.56
125	-0.98	34.31	27.60
150	-1.25	34.36	27.64
175	-1.82	34.40	27.69
200	-1.97	34.42	27.72
250	-2.00	34.46	27.74
300			
400			
500	-1.92	34.50	27.78
506	-1.92	34.50	27.78

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CRUISE RAMBER 86/87 STATION 18

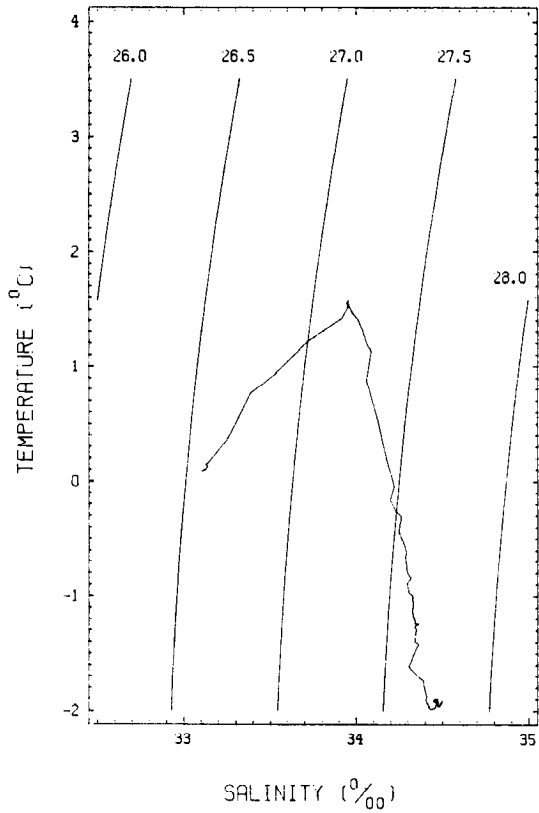
20 FEB 1987 1527 GMT

LATITUDE 68 37.53S

LONGITUDE 71 34.91E

DEPTH CTD 508 M BOTTOM 5323 M

45

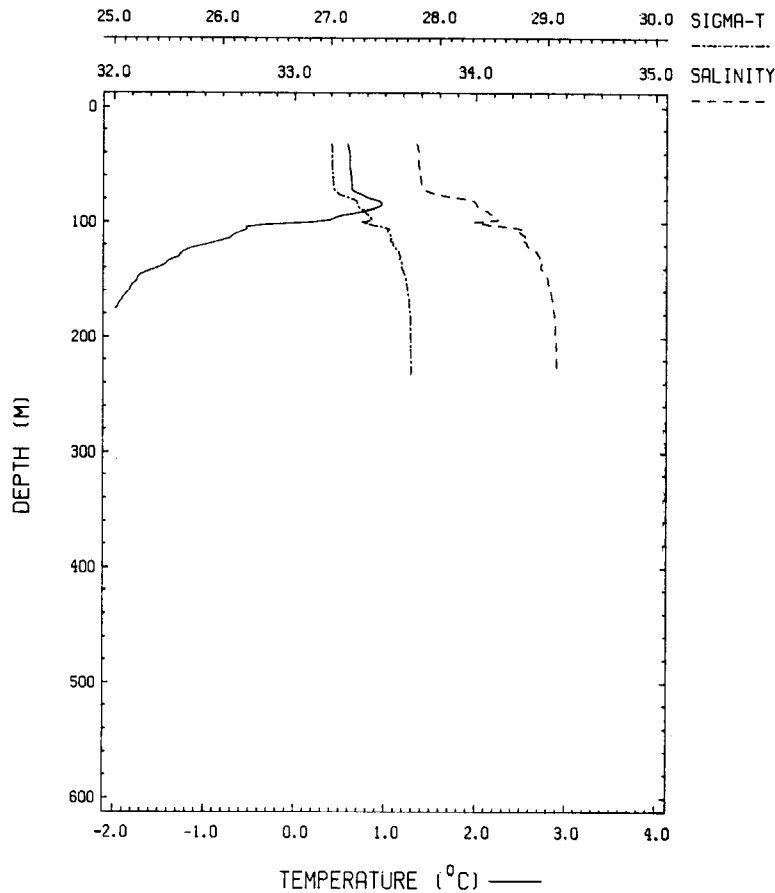


Cruise : AAMBER 86/87
 Cast number : 19
 Date : 20 FEB 1987
 Start Time : 2028 GMT
 Ship : NELLA DAN
 Position : 68:04.57S 69:53.10E
 Cast Depth (m) : 234
 Bottom Depth (m) : Not Recorded

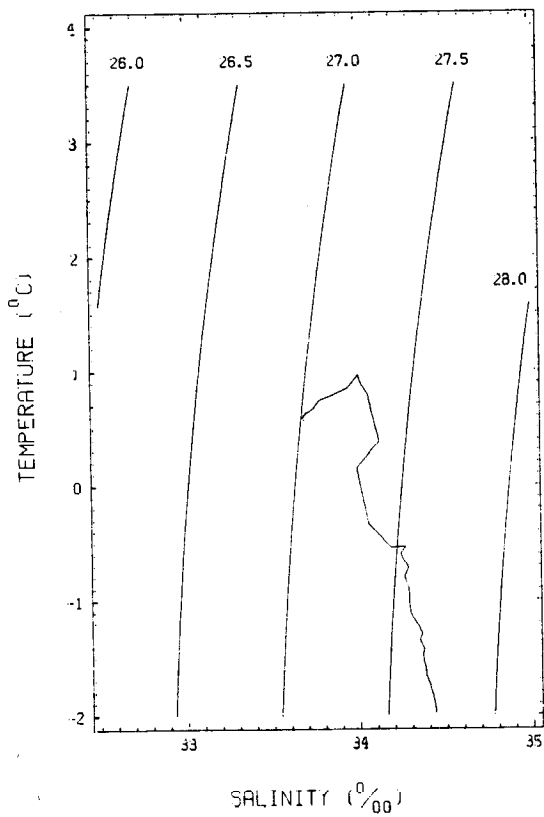
CRUISE AAMBER 86/87 STATION 19
 20 FEB 1987 2028 GMT
 LATITUDE 68 04.57S
 LONGITUDE 69 53.10E
 DEPTH CTD 234 M BOTTOM 248 M

Depth d bar	Temperature (deg C)	Salinity	Sigma-T
0			
2	0.57	33.69	27.01
5			
10			
15			
20			
25			
30			
35	0.60	33.68	27.01
40	0.61	33.68	27.01
45	0.61	33.68	27.01
50	0.61	33.68	27.01
60	0.63	33.70	27.02
70	0.63	33.70	27.02
75	0.71	33.76	27.07
80	0.85	33.94	27.20
90	0.78	34.06	27.30
100	0.15	33.99	27.28
125	-1.21	34.33	27.62
150	-1.75	34.40	27.69
175	-1.98	34.43	27.72
200	-2.01	34.45	27.74
232	-2.01	34.45	27.74

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CRUISE RAMBER 86/87 STATION 19
20 FEB 1987 2028 GMT
LATITUDE 68 04.57S
LONGITUDE 69 53.10E
DEPTH CTD 234 M BOTTOM 248 M

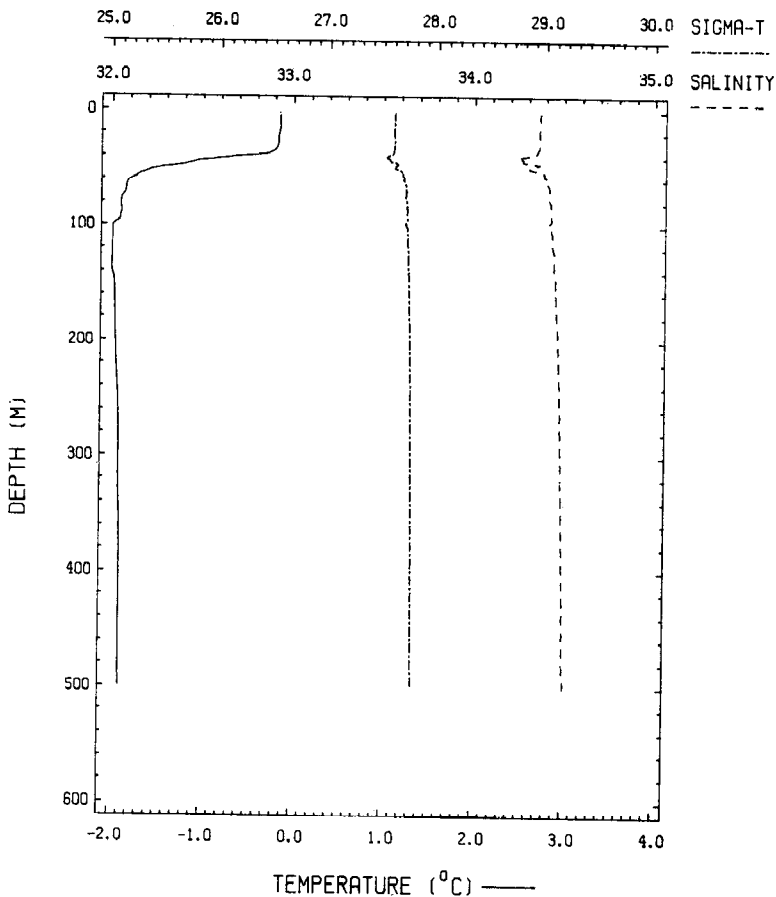


Cruise : AMBER 86/87
 Cast number : 20
 Date : 21 FEB 1987
 Start Time : 0136 GMT
 Ship : NELLA DAN
 Position : 68:00.78S 71:15.43E
 Cast Depth (m) : 502
 Bottom Depth (m) : Not Recorded

CRUISE AMBER 86/87 STATION 20
 21 FEB 1987 0136 GMT
 LATITUDE 68 00.78S
 LONGITUDE 71 15.43E
 DEPTH CTD 502 M BOTTOM 530 M

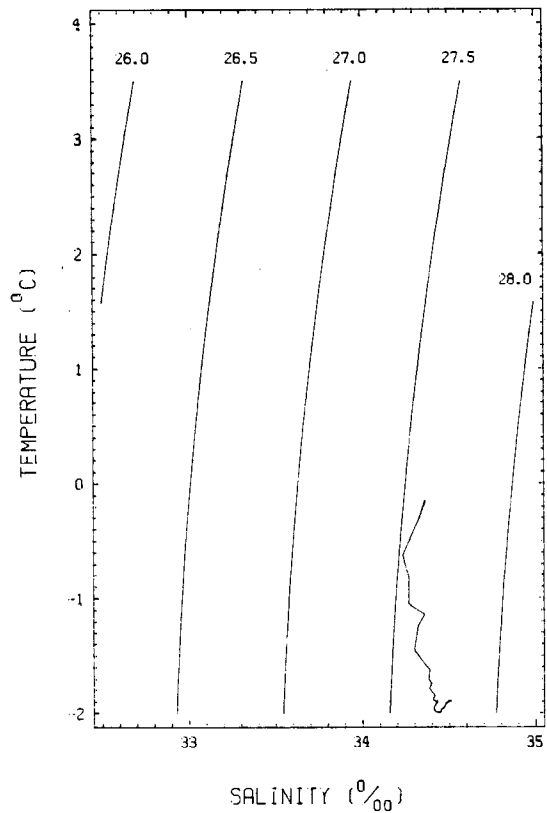
48

Depth d bar	Temperature (deg C)	Salinity	Sigma-T
0			
2	-0.15	34.36	27.60
5	-0.15	34.36	27.60
10	-0.15	34.36	27.60
15	-0.15	34.36	27.60
20	-0.16	34.36	27.59
25	-0.17	34.36	27.60
30	-0.17	34.36	27.60
35	-0.21	34.35	27.59
40	-0.62	34.23	27.52
45	-1.10	34.31	27.60
50	-1.45	34.30	27.60
60	-1.79	34.39	27.68
70	-1.85	34.42	27.71
75	-1.88	34.41	27.70
80	-1.90	34.42	27.71
90	-1.90	34.43	27.72
100	-1.99	34.42	27.72
125	-2.03	34.45	27.74
150	-1.97	34.45	27.74
175	-1.96	34.46	27.75
200	-1.95	34.47	27.75
250	-1.92	34.48	27.76
300	-1.91	34.49	27.77
400	-1.90	34.50	27.78
500	-1.89	34.51	27.78
500	-1.89	34.51	27.78



CRUISE RAMBER 86/87 STATION 20
21 FEB 1987 0136 GMT
LATITUDE 68 00.78S
LONGITUDE 71 15.43E
DEPTH CTD 502 M BOTTOM 530 M

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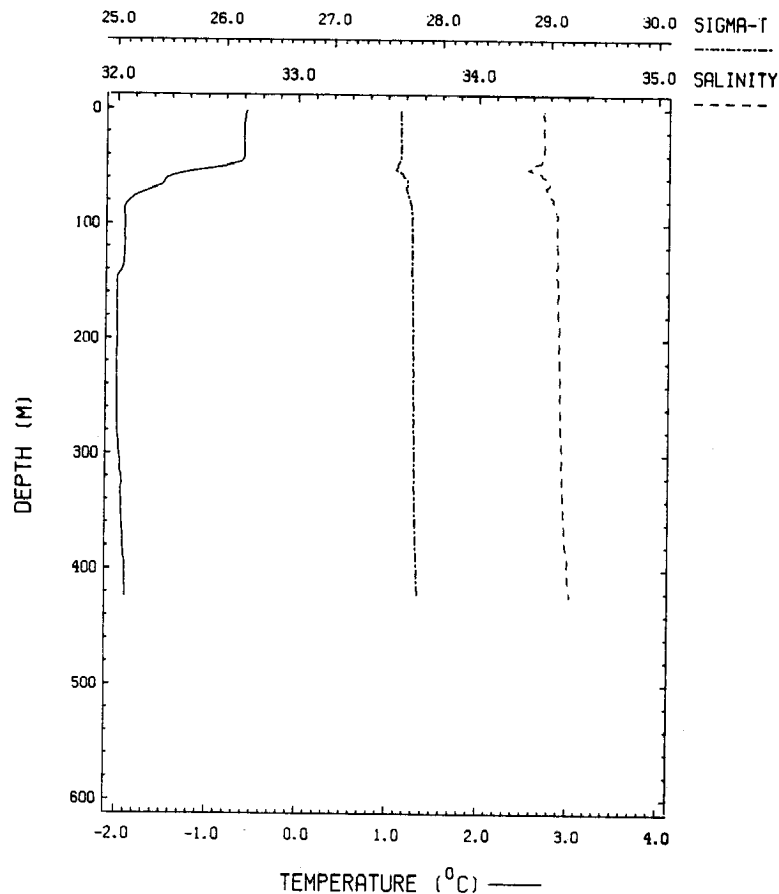


Cruise : AAMBER 86/87
 Cast number : 23
 Date : 21 FEB 1987
 Start Time : 0730 GMT
 Ship : NELLA DAN
 Position : 67:39.84S 71:13.60E
 Cast Depth (m) : 426
 Bottom Depth (m) : Not Recorded

CRUISE AAMBER 86/87 STATION 23
 21 FEB 1987 0730 GMT
 LATITUDE 67 39.84S
 LONGITUDE 71 13.60E
 DEPTH CTD 426 M BOTTOM 442 M

Depth d bar	Temperature (deg C)	Salinity	Sigma-T
0			
2	-0.58	34.36	27.62
5	-0.59	34.36	27.62
10	-0.60	34.36	27.62
15	-0.61	34.36	27.62
20	-0.61	34.36	27.62
25	-0.61	34.36	27.62
30	-0.61	34.36	27.62
35	-0.60	34.36	27.62
40	-0.60	34.36	27.62
45	-0.62	34.35	27.61
50	-0.83	34.32	27.59
60	-1.46	34.37	27.66
70	-1.64	34.38	27.67
75	-1.79	34.39	27.69
80	-1.87	34.41	27.70
90	-1.93	34.43	27.72
100	-1.92	34.44	27.73
125	-1.92	34.44	27.73
150	-2.00	34.44	27.73
175	-2.01	34.45	27.74
200	-1.99	34.45	27.74
250	-2.00	34.46	27.75
300	-1.97	34.47	27.76
400	-1.90	34.51	27.78
424	-1.89	34.52	27.79

50



CRUISE RAMBER 86/87 STATION 23

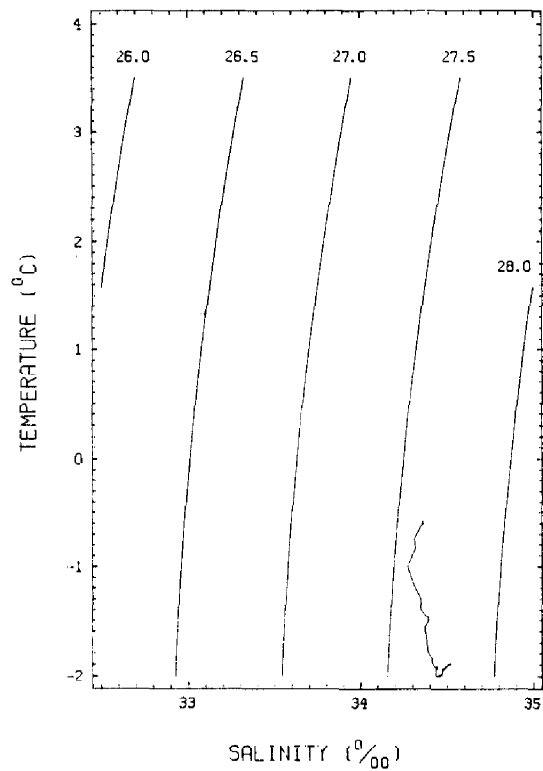
21 FEB 1987 0730 GMT

LATITUDE 67 39.84S

LONGITUDE 71 13.60E

DEPTH CTD 426 M BOTTOM 442 M

51

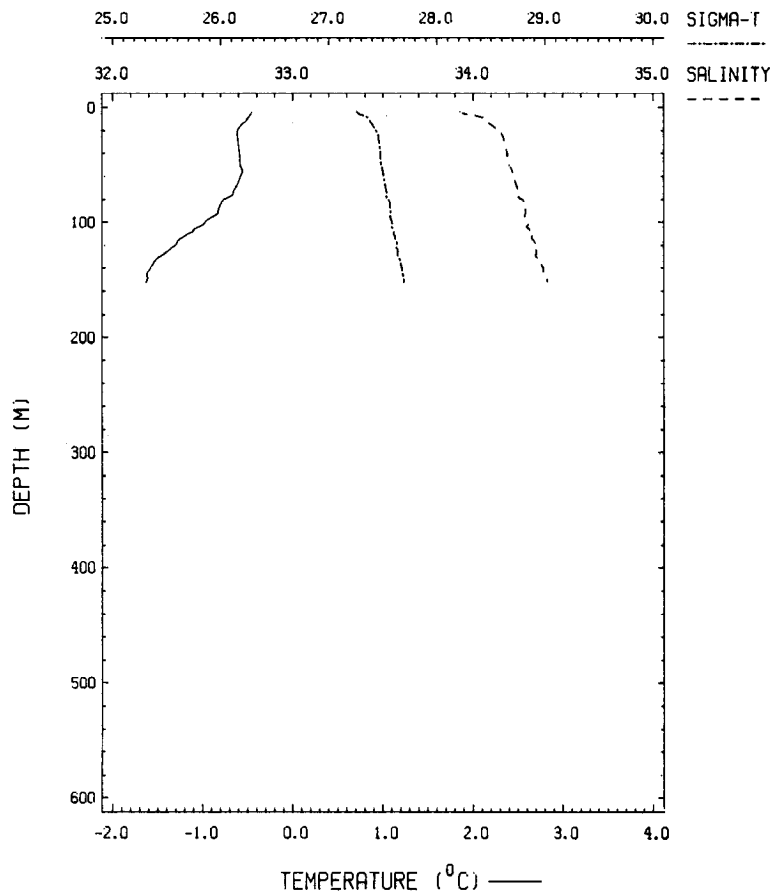


Cruise : AAMBER 86/87
 Cast number : 24
 Date : 21 FEB 1987
 Start Time : 1118 GMT
 Ship : NELLA DAN
 Position : 67:21.16S 70:20.40E
 Cast Depth (m) : 154
 Bottom Depth (m) : Not Recorded

CRUISE AAMBER 86/87 STATION 24
 21 FEB 1987 1118 GMT
 LATITUDE 67 21.16S
 LONGITUDE 70 20.40E
 DEPTH CTD 154 M BOTTOM 169 M

Depth d bar	Temperature (deg C)	Salinity	Sigma-T
0			
4	-0.46	33.93	27.26
5	-0.46	33.94	27.27
10	-0.51	34.07	27.38
15	-0.57	34.10	27.41
20	-0.62	34.14	27.44
25	-0.61	34.17	27.46
30	-0.61	34.17	27.47
35	-0.60	34.18	27.48
40	-0.59	34.19	27.48
45	-0.59	34.19	27.48
50	-0.58	34.20	27.49
60	-0.58	34.23	27.51
70	-0.64	34.25	27.53
75	-0.67	34.26	27.54
80	-0.77	34.27	27.56
90	-0.83	34.29	27.57
100	-0.97	34.30	27.59
125	-1.39	34.35	27.64
150	-1.62	34.41	27.70
152	-1.63	34.42	27.70

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CRUISE RAMBER 86/87 STATION 24

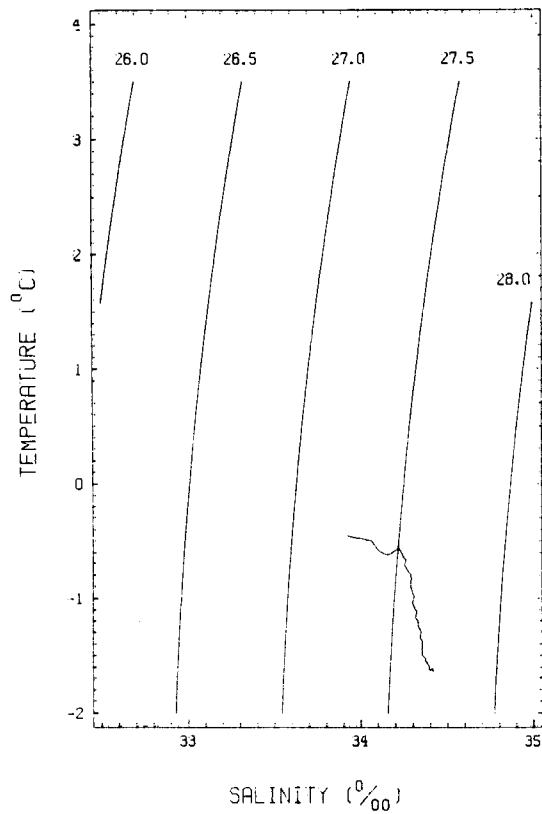
21 FEB 1987 1118 GMT

LATITUDE 67 21.16S

LONGITUDE 70 20.40E

DEPTH CTD 154 M BOTTOM 169 M

53

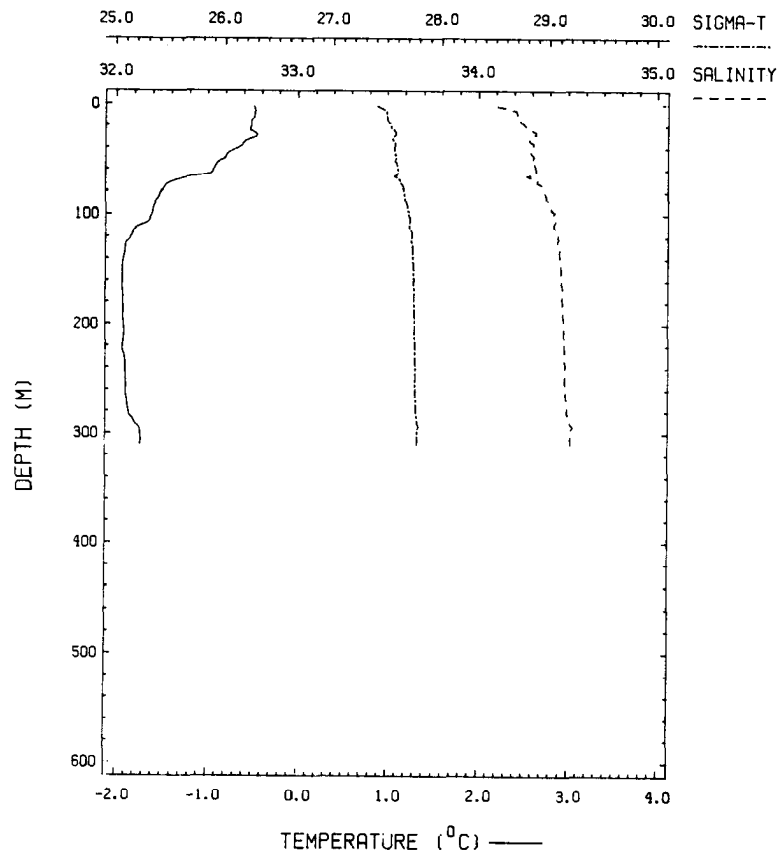


Cruise : AMBER 86/87
 Cast number : 25
 Date : 21 FEB 1987
 Start Time : 1558 GMT
 Ship : NELLA DAN
 Position : 67:12.38S 69:16.62E
 Cast Depth (m) : 312
 Bottom Depth (m) : Not Recorded

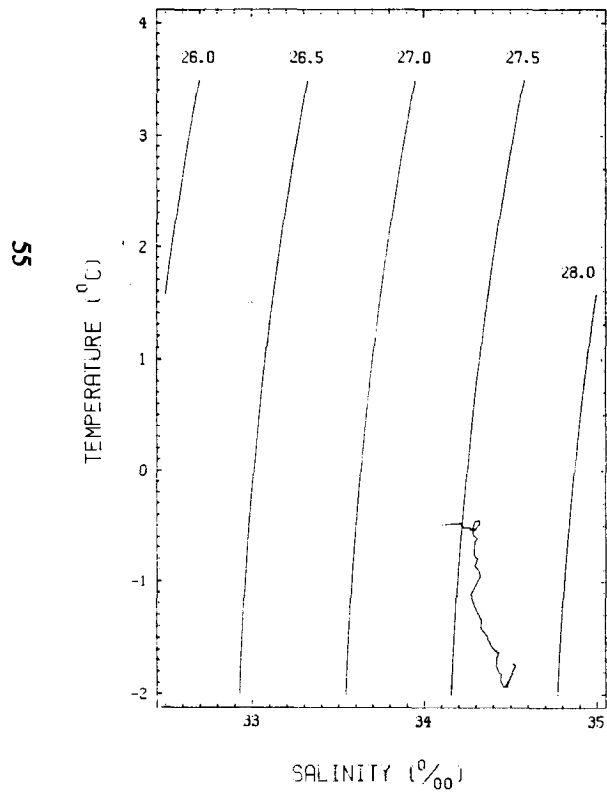
CRUISE AMBER 86/87 STATION 25
 21 FEB 1987 1558 GMT
 LATITUDE 67 12.38S
 LONGITUDE 69 16.62E
 DEPTH CTD 312 M BOTTOM 325 M

54

Depth d bar	Temperature (deg C)	Salinity	Sigma-T
0			
2	-0.49	34.11	27.41
5	-0.48	34.19	27.47
10	-0.48	34.22	27.50
15	-0.51	34.22	27.50
20	-0.51	34.26	27.53
25	-0.51	34.31	27.57
30	-0.46	34.29	27.56
35	-0.59	34.30	27.57
40	-0.65	34.29	27.57
45	-0.77	34.29	27.57
50	-0.81	34.31	27.58
60	-0.93	34.32	27.60
70	-1.34	34.33	27.63
75	-1.46	34.36	27.65
80	-1.51	34.37	27.66
90	-1.57	34.39	27.68
100	-1.61	34.41	27.70
125	-1.88	34.44	27.73
150	-1.93	34.46	27.75
175	-1.92	34.47	27.75
200	-1.91	34.47	27.76
250	-1.89	34.48	27.76
300	-1.73	34.51	27.78
310	-1.73	34.51	27.78



CRUISE RAMBER 86/87 STATION 25
21 FEB 1987 1558 GMT
LATITUDE 67 12.38S
LONGITUDE 69 16.62E
DEPTH CTD 312 M BOTTOM 325 M

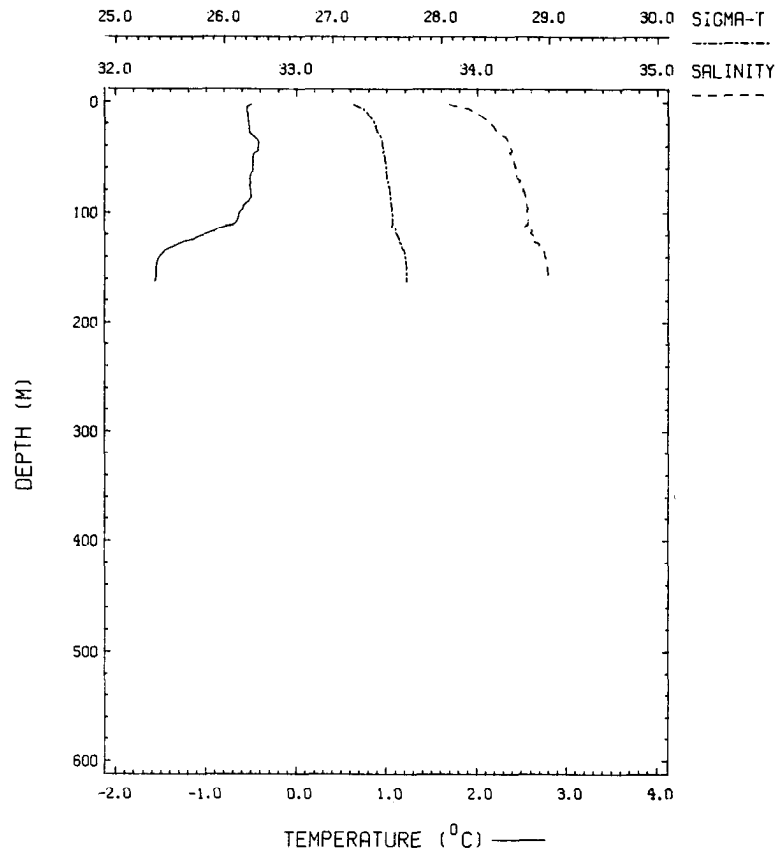


Cruise : AAMBER 86/87
 Cast number : 26
 Date : 21 FEB 1987
 Start Time : 2010 GMT
 Ship : NELLA DAN
 Position : 67:13.96S 70:15.20E
 Cast Depth (m) : 164
 Bottom Depth (m) : Not Recorded

CRUISE AAMBER 86/87 STATION 26
 21 FEB 1987 2010 GMT
 LATITUDE 67 13.96S
 LONGITUDE 70 15.20E
 DEPTH CTD 164 M BOTTOM 177 M

56

Depth d bar	Temperature (deg C)	Salinity	Sigma-T
0			
2	-0.50	33.85	27.20
5	-0.54	33.92	27.26
10	-0.54	34.00	27.33
15	-0.54	34.04	27.36
20	-0.53	34.08	27.39
25	-0.52	34.10	27.40
30	-0.49	34.14	27.43
35	-0.43	34.17	27.46
40	-0.42	34.18	27.46
45	-0.44	34.19	27.47
50	-0.48	34.20	27.48
60	-0.48	34.22	27.50
70	-0.52	34.22	27.50
75	-0.51	34.24	27.51
80	-0.50	34.26	27.53
90	-0.53	34.27	27.54
100	-0.63	34.28	27.56
125	-1.19	34.32	27.61
150	-1.56	34.39	27.68
162	-1.57	34.39	27.68



CRUISE RAMBER 86/87 STATION 26

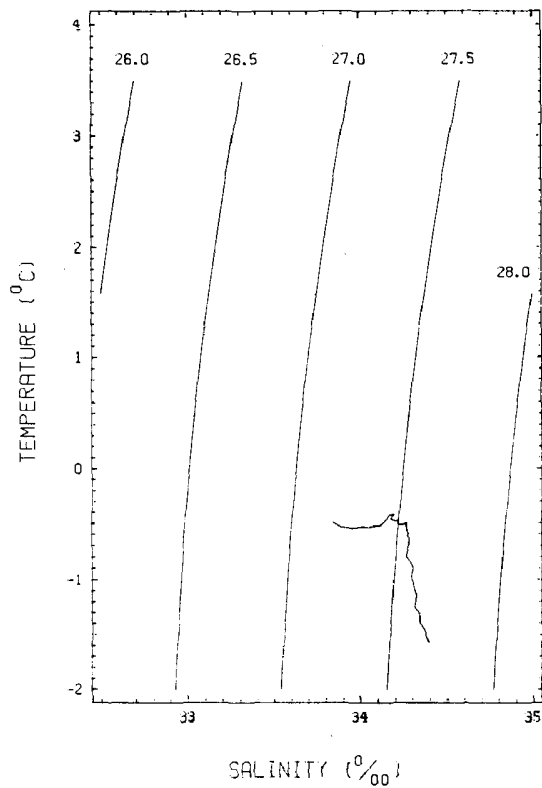
21 FEB 1987 2010 GMT

LATITUDE 67 13.96S

LONGITUDE 70 15.20E

DEPTH CTD 164 M BOTTOM 177 M

57

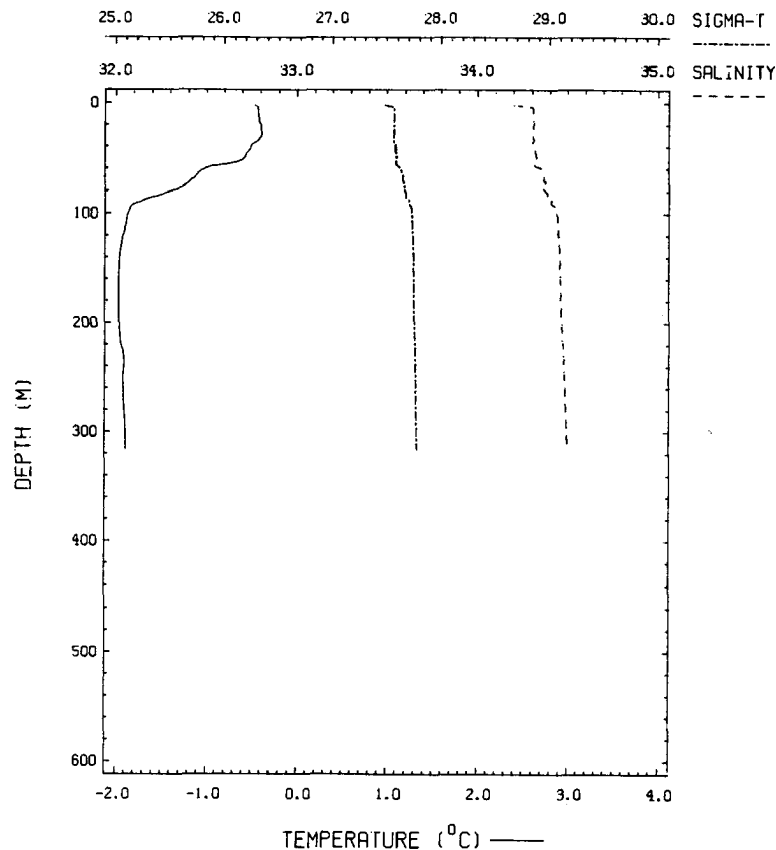


Cruise : AAMBER 86/87
 Cast number : 27
 Date : 21 FEB 1987
 Start Time : 2310 GMT
 Ship : NELLA DAN
 Position : 67:02.19S 70:09.39E
 Cast Depth (m) : 318
 Bottom Depth (m) : Not Recorded

CRUISE AAMBER 86/87 STATION 27
 21 FEB 1987 2310 GMT
 LATITUDE 67 02.19S
 LONGITUDE 70 09.39E
 DEPTH CTD 318 M BOTTOM 337 M

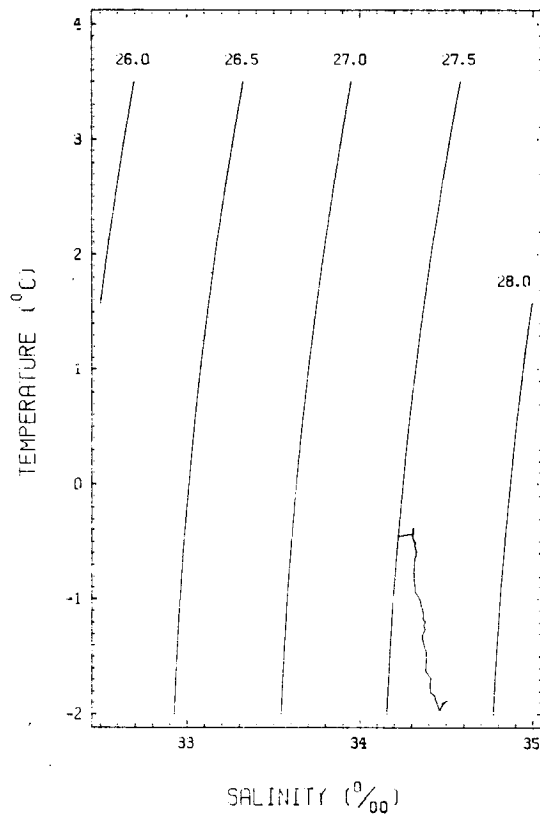
58

Depth d bar	Temperature (deg C)	Salinity	Sigma-T
0			
2	-0.46	34.20	27.49
5	-0.43	34.31	27.57
10	-0.43	34.31	27.57
15	-0.41	34.31	27.57
20	-0.39	34.31	27.57
25	-0.39	34.31	27.57
30	-0.39	34.31	27.57
35	-0.44	34.31	27.57
40	-0.51	34.32	27.58
45	-0.54	34.32	27.58
50	-0.57	34.33	27.59
60	-1.01	34.35	27.63
70	-1.17	34.37	27.65
75	-1.24	34.37	27.66
80	-1.40	34.37	27.66
90	-1.74	34.41	27.70
100	-1.87	34.44	27.72
125	-1.93	34.45	27.74
150	-1.96	34.46	27.74
175	-1.96	34.46	27.75
200	-1.96	34.47	27.75
250	-1.92	34.48	27.76
300	-1.89	34.49	27.77
316	-1.88	34.51	27.78



CRUISE RAMBER 86/87 STATION 27
21 FEB 1987 2310 GMT
LATITUDE 67 02.19S
LONGITUDE 70 09.39E
DEPTH CTD 318 M BOTTOM 337 M

65

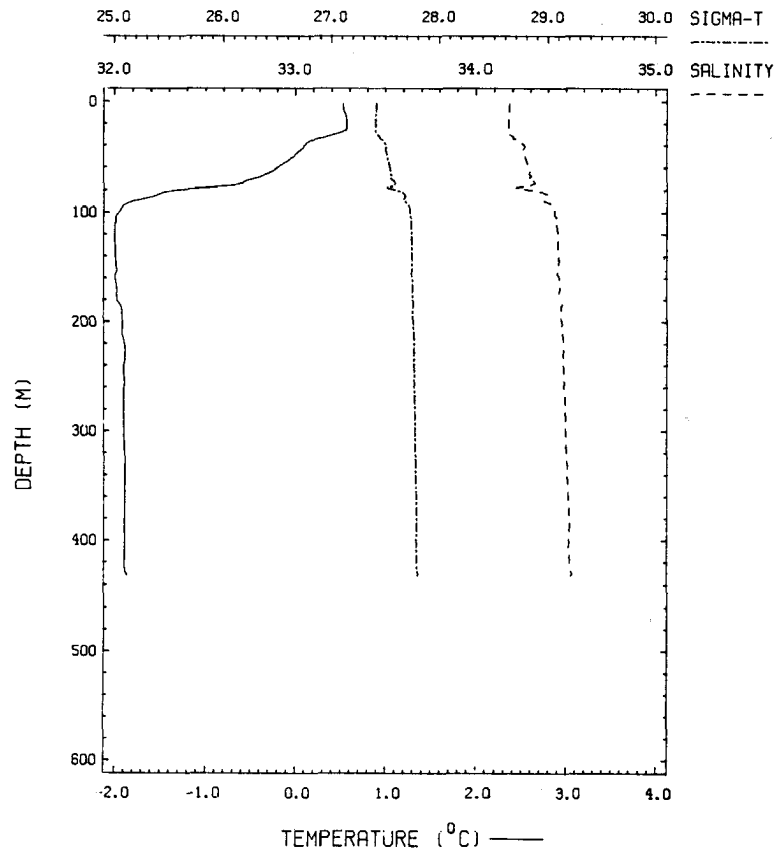


Cruise : AAMBER 86/87
 Cast number : 28
 Date : 22 FEB 1987
 Start Time : 0237 GMT
 Ship : NELLA DAN
 Position : 66:54.43S 70:44.16E
 Cast Depth (m) : 434
 Bottom Depth (m) : Not Recorded

CRUISE AAMBER 86/87 STATION 28
 22 FEB 1987 0237 GMT
 LATITUDE 66 54.43S
 LONGITUDE 70 44.16E
 DEPTH CTD 434 M BOTTOM 453 M

Depth d bar	Temperature (deg C)	Salinity	Sigma-T
0			
2	0.53	34.18	27.42
5	0.53	34.18	27.42
10	0.55	34.18	27.42
15	0.57	34.18	27.41
20	0.57	34.18	27.41
25	0.57	34.18	27.41
30	0.43	34.18	27.42
35	0.21	34.22	27.47
40	0.10	34.27	27.51
45	0.05	34.26	27.51
50	-0.01	34.27	27.52
60	-0.19	34.29	27.55
70	-0.46	34.29	27.55
75	-0.64	34.31	27.58
80	-1.31	34.28	27.58
90	-1.79	34.38	27.67
100	-1.95	34.44	27.73
125	-2.00	34.45	27.74
150	-1.98	34.46	27.75
175	-1.98	34.46	27.75
200	-1.92	34.47	27.76
250	-1.89	34.49	27.77
300	-1.89	34.50	27.77
400	-1.89	34.52	27.79
432	-1.86	34.53	27.80

09



CRUISE RAMBER 86/87 STATION 28

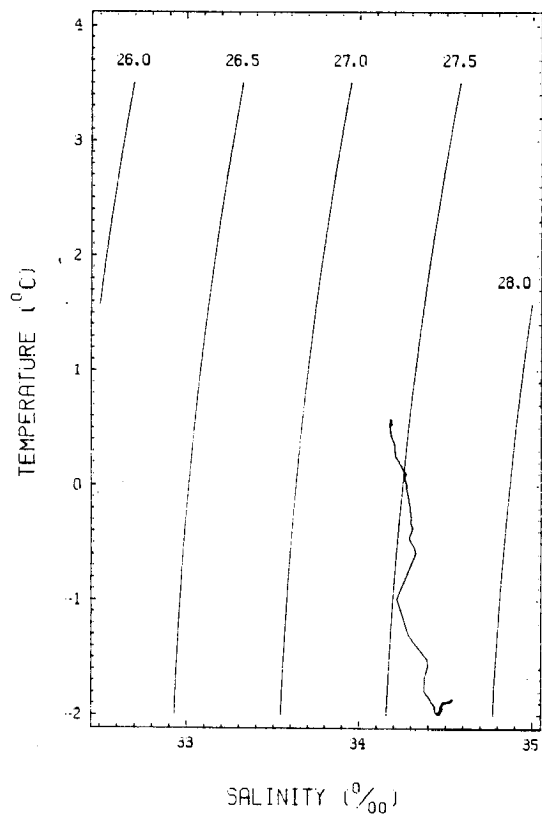
22 FEB 1987 0237 GMT

LATITUDE 66 54.43S

LONGITUDE 70 44.16E

DEPTH CTD 434 M BOTTOM 453 M

19

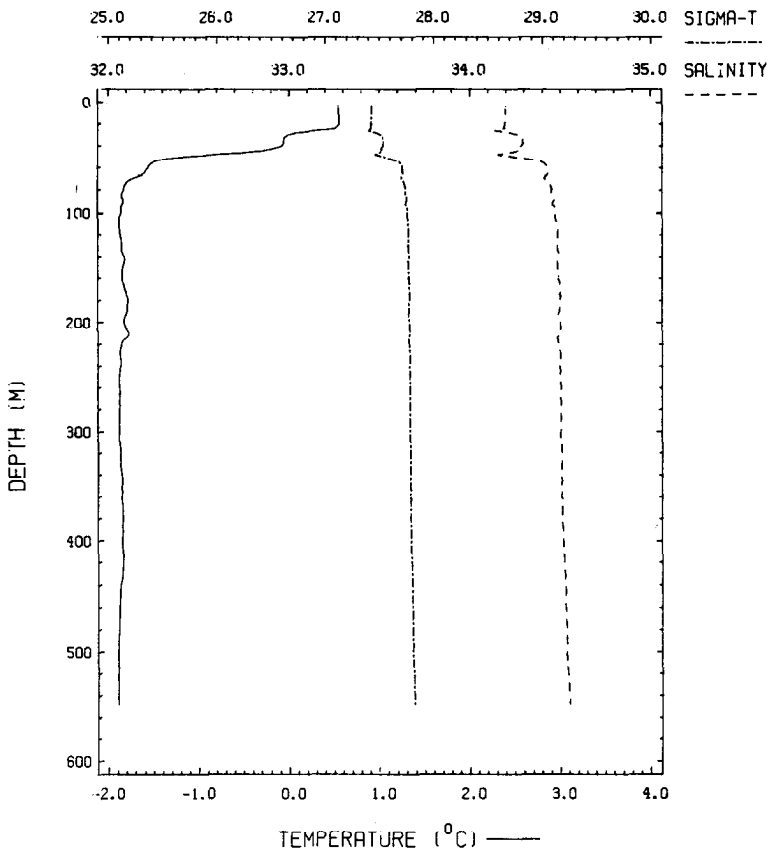


Cruise : AAMBER 86/87
 Cast number : 29
 Date : 22 FEB 1987
 Start Time : 0720 GMT
 Ship : NELLA DAN
 Position : 67:20.37S 71:26.21E
 Cast Depth (m) : 550
 Bottom Depth (m) : Not Recorded

CRUISE AAMBER 86/87 STATION 29
 22 FEB 1987 0720 GMT
 LATITUDE 67 20.37S
 LONGITUDE 71 26.21E
 DEPTH CTD 550 M BOTTOM 573 M

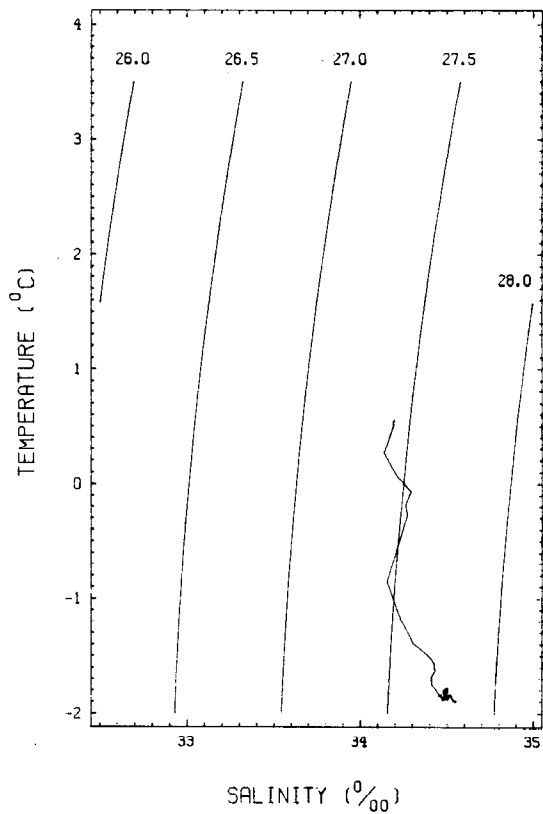
Depth d bar	Temperature (deg C)	Salinity	Sigma-T
0			
4	0.54	34.19	27.43
5	0.54	34.19	27.43
10	0.55	34.19	27.42
15	0.55	34.19	27.43
20	0.55	34.19	27.42
25	0.39	34.16	27.41
30	-0.02	34.27	27.52
35	-0.06	34.29	27.54
40	-0.09	34.29	27.53
45	-0.39	34.25	27.52
50	-1.17	34.23	27.54
60	-1.57	34.43	27.71
70	-1.75	34.41	27.70
75	-1.82	34.44	27.73
80	-1.83	34.45	27.74
90	-1.84	34.46	27.74
100	-1.86	34.47	27.75
125	-1.86	34.48	27.76
150	-1.85	34.48	27.76
175	-1.80	34.50	27.77
200	-1.82	34.50	27.77
250	-1.88	34.50	27.77
300	-1.88	34.50	27.78
400	-1.85	34.52	27.79
500	-1.90	34.53	27.81
548	-1.90	34.55	27.82

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CRUISE RAMBER 86/87 STATION 29
22 FEB 1987 0720 GMT
LATITUDE 67 20.37S
LONGITUDE 71 26.21E
DEPTH CTD 550 M BOTTOM 573 M

89

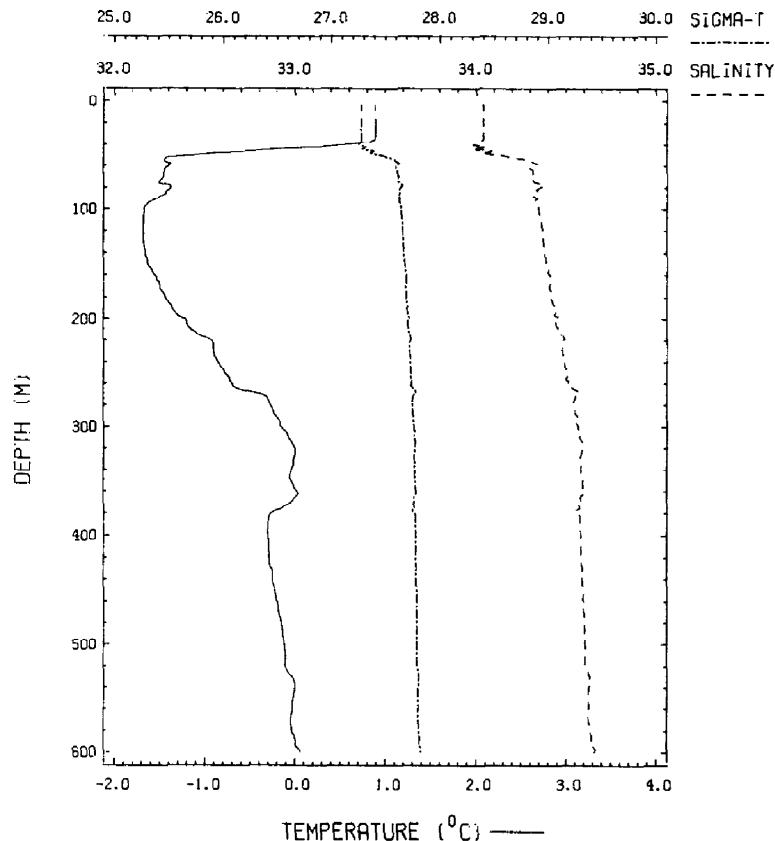


Cruise : AAMBER 86/87
 Cast number : 30
 Date : 24 FEB 1987
 Start Time : 0452 GMT
 Ship : NELLA DAN
 Position : 66:38.87S 72:34.43E
 Cast Depth (m) : 740
 Bottom Depth (m) : Not Recorded

CRUISE AAMBER 86/87 STATION 30
 24 FEB 1987 0452 GMT
 LATITUDE 66 38.87S
 LONGITUDE 72 34.43E
 DEPTH CTD 740 M BOTTOM 767 M

Depth d bar	Temperature (deg C)	Salinity	Sigma-T
0			
4	0.88	34.04	27.28
5	0.88	34.04	27.28
10			
15			
20	0.89	34.04	27.28
25	0.89	34.04	27.28
30	0.89	34.04	27.28
35	0.89	34.04	27.28
40	0.54	33.98	27.25
45	-0.36	34.03	27.34
50	-1.14	34.15	27.47
60	-1.39	34.31	27.60
70	-1.46	34.33	27.62
75	-1.51	34.33	27.63
80	-1.38	34.35	27.64
90	-1.53	34.34	27.64
100	-1.67	34.35	27.65
125	-1.68	34.37	27.67
150	-1.63	34.39	27.68
175	-1.47	34.42	27.70
200	-1.22	34.47	27.73
250	-0.78	34.50	27.74
300	-0.16	34.57	27.77
400	-0.30	34.58	27.79
500	-0.11	34.61	27.80
600	0.06	34.66	27.83
700	0.26	34.69	27.84
738	0.25	34.69	27.84

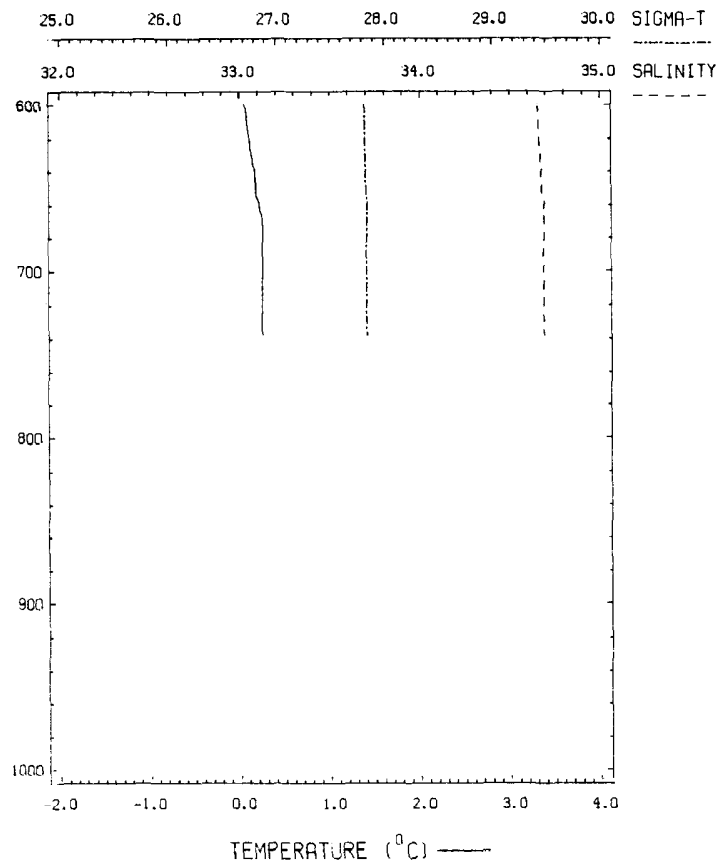
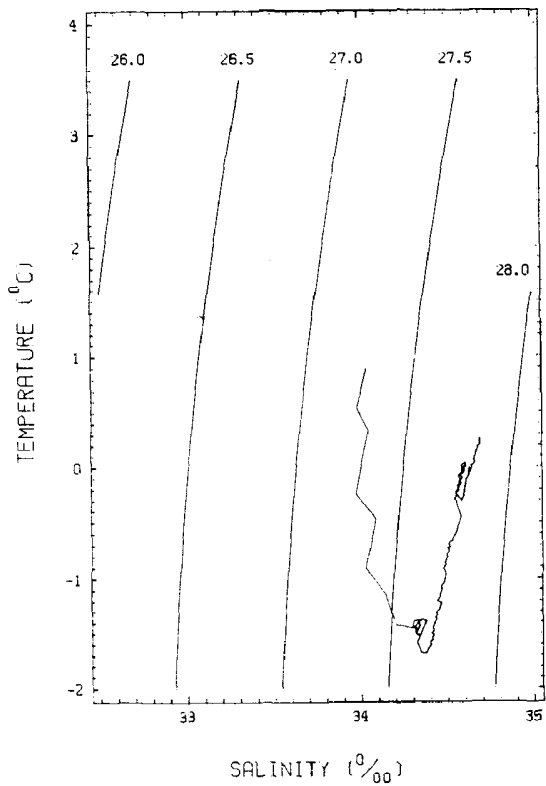
64



CRUISE AMBER 86/87 STATION 30
24 FEB 1987 0452 GMT
LATITUDE 66 38.87S
LONGITUDE 72 34.43E
DEPTH CTD 740 M BOTTOM 767 M

CRUISE AMBER 86/87 STATION 30
24 FEB 1987 0452 GMT
LATITUDE 66 38.87S
LONGITUDE 72 34.43E
DEPTH CTD 740 M BOTTOM 767 M

59

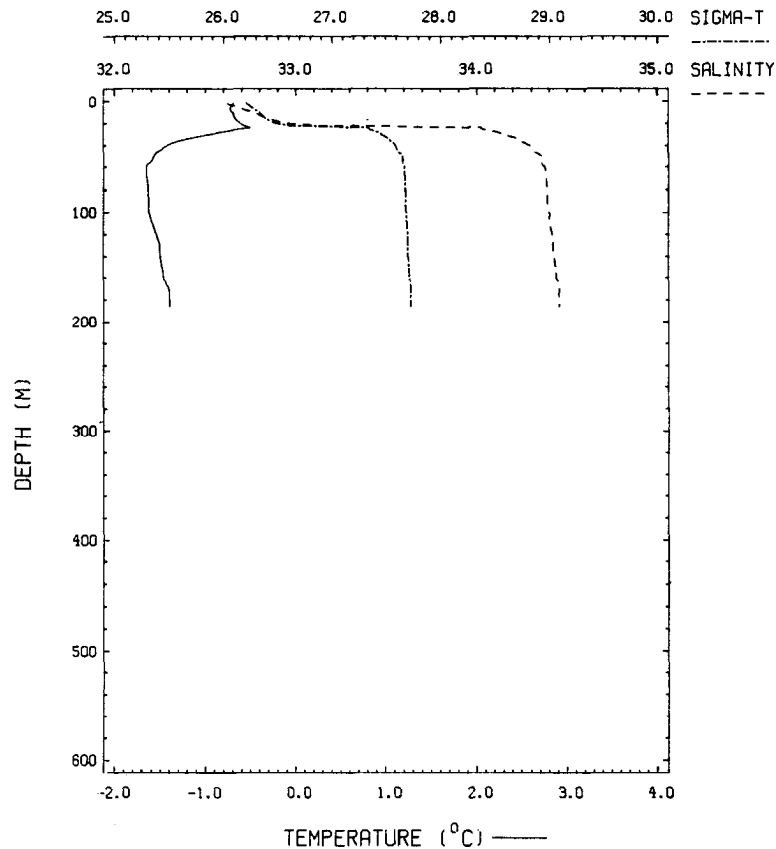


Cruise : AAMBER 86/87
 Cast number : 31
 Date : 25 FEB 1987
 Start Time : 0732 GMT
 Ship : NELLA DAN
 Position : 67:09.17S 78:16.69E
 Cast Depth (m) : 188
 Bottom Depth (m) : Not Recorded

CRUISE AAMBER 86/87 STATION 31
 25 FEB 1987 0732 GMT
 LATITUDE 67 09.17S
 LONGITUDE 78 16.69E
 DEPTH CTD 188 M BOTTOM 194 M

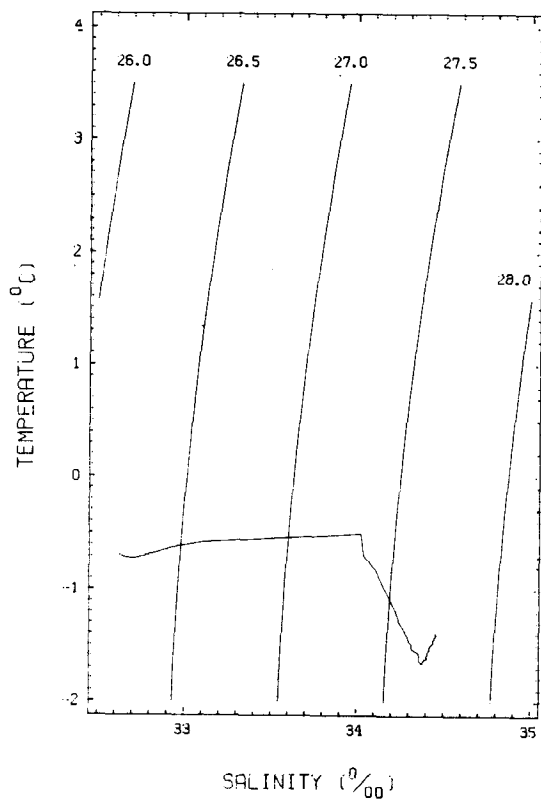
99

Depth d bar	Temperature (deg C)	Salinity	Sigma-T
0			
2	-0.69	32.62	26.22
5	-0.72	32.67	26.25
10	-0.70	32.77	26.34
15	-0.67	32.83	26.39
20	-0.62	32.95	26.48
25	-0.60	34.03	27.35
30	-0.94	34.14	27.46
35	-1.24	34.23	27.54
40	-1.42	34.29	27.59
45	-1.51	34.32	27.62
50	-1.57	34.35	27.65
60	-1.66	34.37	27.67
70	-1.65	34.38	27.68
75	-1.64	34.38	27.68
80	-1.64	34.39	27.68
90	-1.63	34.39	27.68
100	-1.63	34.40	27.69
125	-1.52	34.42	27.70
150	-1.48	34.44	27.72
175	-1.40	34.45	27.72
186	-1.40	34.45	27.73



CRUISE AMBER 86/87 STATION 31
25 FEB 1987 0732 GMT
LATITUDE 67 09.17S
LONGITUDE 78 16.69E
DEPTH CTD 188 M BOTTOM 194 M

67

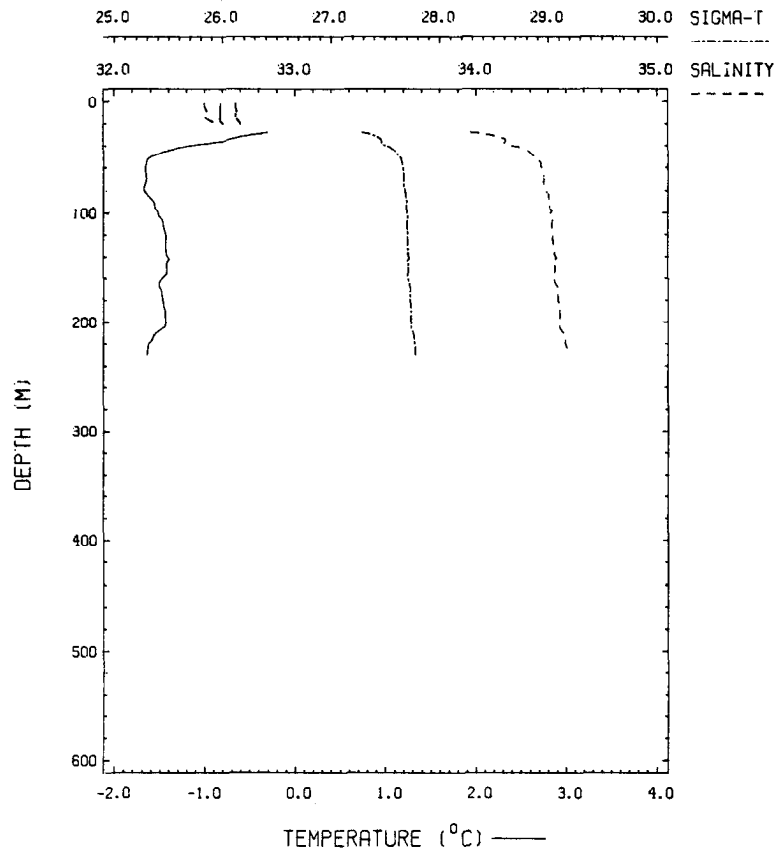


Cruise : AAMBER 86/87
 Cast number : 33
 Date : 25 FEB 1987
 Start Time : 1037 GMT
 Ship : NELLA DAN
 Position : 67:16.78S 78:30.15E
 Cast Depth (m) : 232
 Bottom Depth (m) : Not Recorded

CRUISE AAMBER 86/87 STATION 33
 25 FEB 1987 1037 GMT
 LATITUDE 67 16.78S
 LONGITUDE 78 30.15E
 DEPTH CTD 232 M BOTTOM 241 M

Depth d bar	Temperature (deg C)	Salinity	Sigma-T
0			
2	-0.82	32.50	26.12
5	-0.82	32.50	26.12
10	-0.82	32.51	26.13
15	-0.83	32.51	26.13
20	-0.79	32.56	26.17
25			
30	-0.48	34.07	27.38
35	-0.75	34.17	27.47
40	-1.16	34.19	27.50
45	-1.43	34.28	27.59
50	-1.60	34.32	27.62
60	-1.66	34.36	27.66
70	-1.65	34.38	27.67
75	-1.67	34.38	27.67
80	-1.67	34.39	27.68
90	-1.57	34.41	27.70
100	-1.52	34.41	27.70
125	-1.43	34.43	27.70
150	-1.42	34.44	27.71
175	-1.48	34.45	27.73
200	-1.44	34.46	27.73
230	-1.64	34.51	27.78

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CRUISE RAMBER 86/87 STATION 33

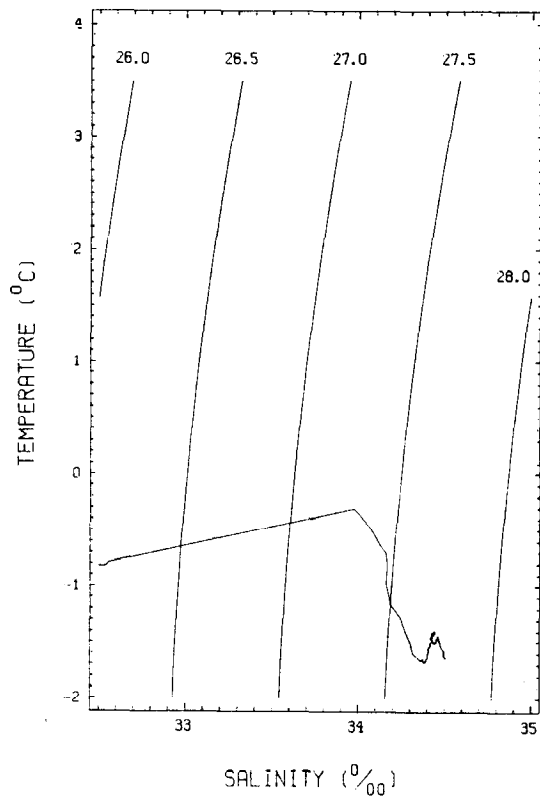
25 FEB 1987 1037 GMT

LATITUDE 67 16.78S

LONGITUDE 78 30.15E

DEPTH CTD 232 M BOTTOM 241 M

69

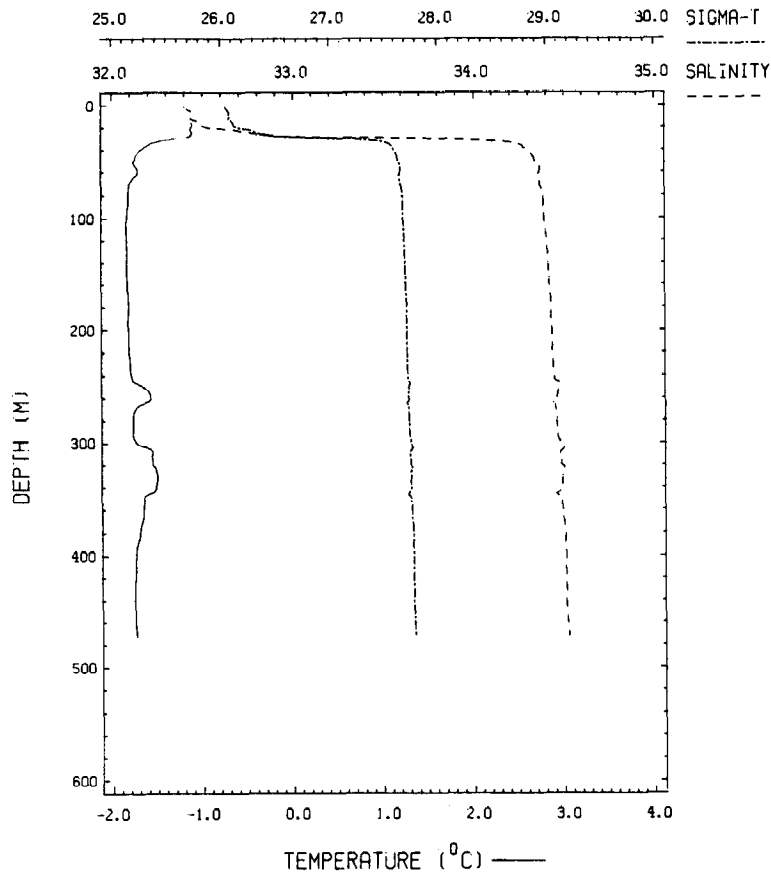


Cruise : AAMBER 86/87
 Cast number : 34
 Date : 25 FEB 1987
 Start Time : 2001 GMT
 Ship : NELLA DAN
 Position : 67:33.98S 78:44.82E
 Cast Depth (m) : 474
 Bottom Depth (m) : Not Recorded

CRUISE AAMBER 86/87 STATION 34
 25 FEB 1987 2001 GMT
 LATITUDE 67 33.98S
 LONGITUDE 78 44.82E
 DEPTH CTD 474 M BOTTOM 482 M

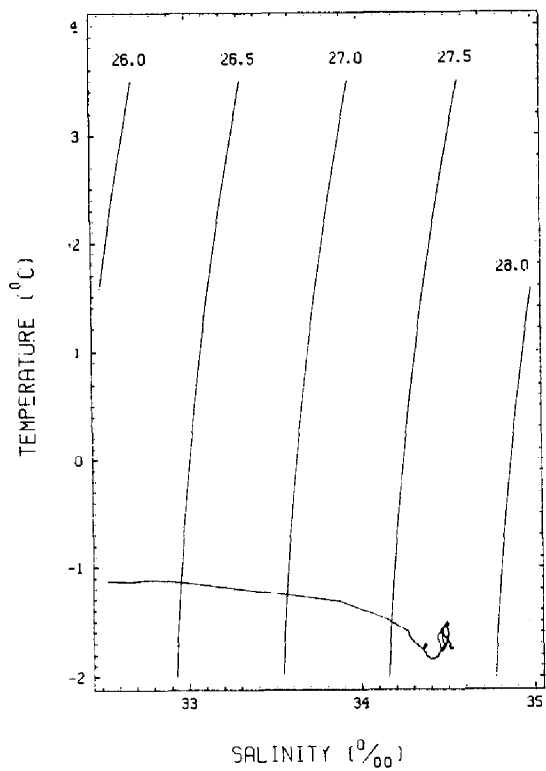
Depth d bar	Temperature (deg C)	Salinity	Sigma-T
0			
2	-1.11	32.40	26.05
5	-1.12	32.43	26.07
10	-1.14	32.45	26.09
15	-1.13	32.48	26.11
20	-1.12	32.53	26.15
25	-1.11	32.77	26.35
30	-1.32	33.87	27.25
35	-1.58	34.25	27.57
40	-1.68	34.30	27.60
45	-1.73	34.33	27.63
50	-1.76	34.34	27.64
60	-1.71	34.36	27.66
70	-1.81	34.37	27.67
75	-1.82	34.38	27.67
80	-1.82	34.38	27.68
90	-1.83	34.38	27.68
100	-1.84	34.39	27.68
125	-1.84	34.41	27.70
150	-1.83	34.42	27.71
175	-1.82	34.43	27.72
200	-1.82	34.43	27.72
250	-1.65	34.46	27.74
300	-1.73	34.48	27.75
400	-1.74	34.51	27.78
472	-1.74	34.52	27.79

70



CRUISE RAMBER 86/87 STATION 34
25 FEB 1987 2001 GMT
LATITUDE 67 33.98S
LONGITUDE 78 44.82E
DEPTH CTD 474 M BOTTOM 482 M

71

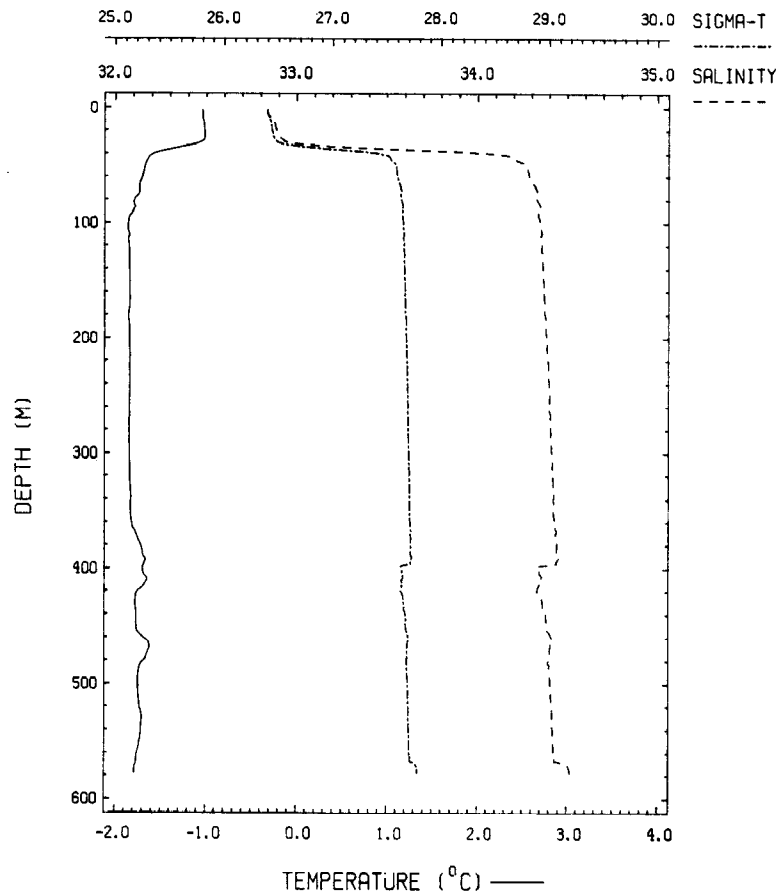


Cruise : AMBER 86/87
 Cast number : 35
 Date : 26 FEB 1987
 Start Time : 1617 GMT
 Ship : NELLA DAN
 Position : 67:57.74S 78:01.50E
 Cast Depth (m) : 580
 Bottom Depth (m) : Not Recorded

CRUISE AMBER 86/87 STATION 35
 26 FEB 1987 1617 GMT
 LATITUDE 67 57.74S
 LONGITUDE 78 01.50E
 DEPTH CTD 580 M BOTTOM 595 M

Depth d bar	Temperature (deg C)	Salinity	Sigma-T
0			
2	-1.04	32.84	26.40
5	-1.04	32.84	26.41
10	-1.04	32.85	26.41
15	-1.02	32.88	26.44
20	-1.02	32.89	26.44
25	-1.02	32.90	26.45
30	-1.05	32.94	26.49
35	-1.32	33.34	26.82
40	-1.58	34.09	27.43
45	-1.65	34.21	27.54
50	-1.68	34.27	27.59
60	-1.71	34.29	27.60
70	-1.74	34.32	27.63
75	-1.74	34.33	27.63
80	-1.79	34.33	27.64
90	-1.81	34.34	27.65
100	-1.86	34.35	27.65
125	-1.85	34.36	27.66
150	-1.84	34.37	27.67
175	-1.85	34.37	27.67
200	-1.85	34.38	27.68
250	-1.84	34.40	27.70
300	-1.85	34.41	27.71
400	-1.70	34.34	27.64
500	-1.75	34.41	27.70
578	-1.79	34.52	27.79

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CRUISE RAMBER 86/87 STATION 35

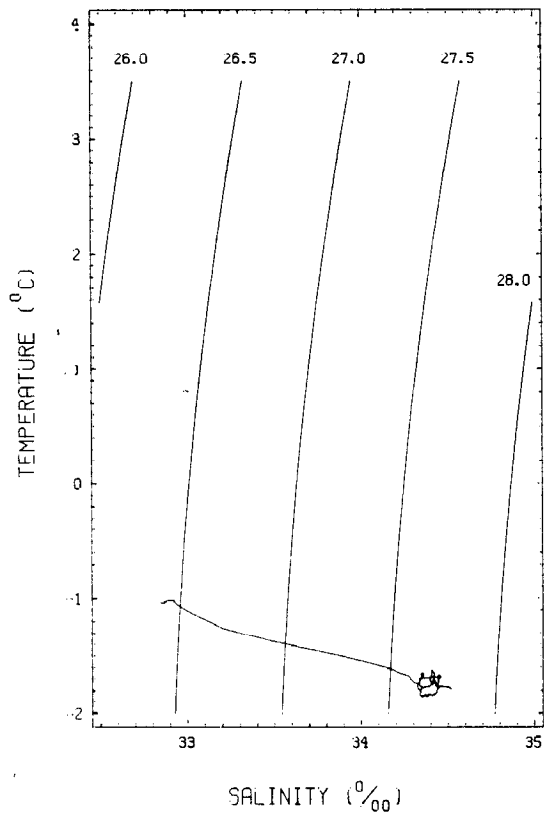
26 FEB 1987 1617 GMT

LATITUDE 67 57.74S

LONGITUDE 78 01.50E

DEPTH CTD 580 M BOTTOM 595 M

73

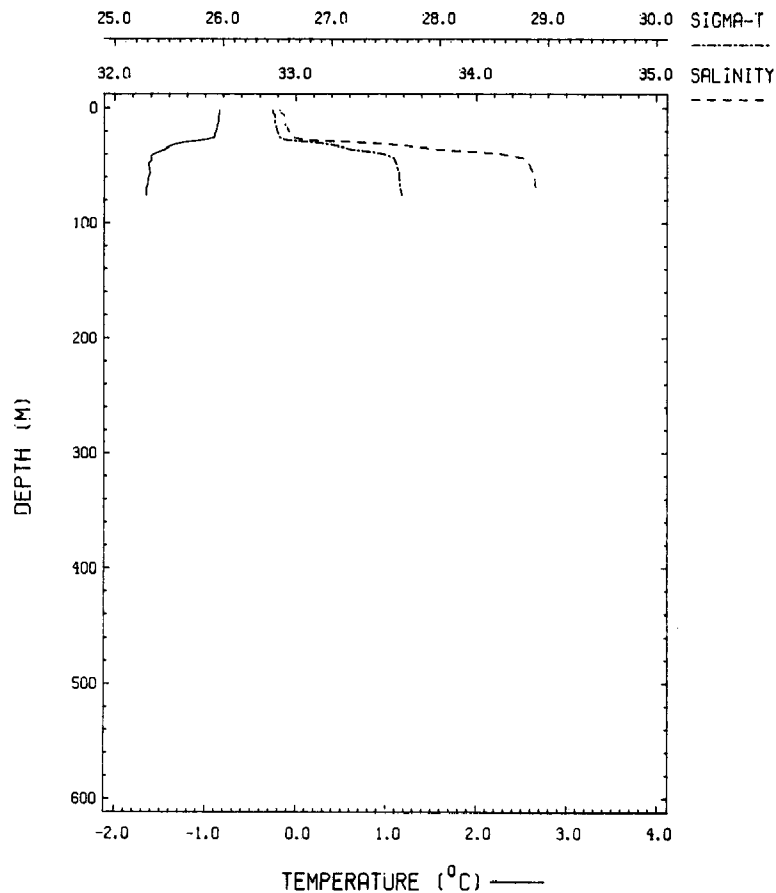


Cruise : AAMBER 86/87
 Cast number : 36
 Date : 26 FEB 1987
 Start Time : 1701 GMT
 Ship : NELLA DAN
 Position : 67:57.98S 78:00.85E
 Cast Depth (m) : 78
 Bottom Depth (m) : Not Recorded

CRUISE AAMBER 86/87 STATION 36
 26 FEB 1987 1701 GMT
 LATITUDE 67 57.98S
 LONGITUDE 78 00.85E
 DEPTH CTD 78 M BØTTØM 587 M

Depth d bar	Temperature (deg C)	Salinity	Sigma-T
0			
2	-0.84	32.91	26.46
5	-0.85	32.92	26.47
10	-0.86	32.94	26.48
15	-0.87	32.94	26.48
20	-0.88	32.96	26.50
25	-0.90	32.99	26.52
30	-1.25	33.35	26.83
35	-1.43	33.72	27.13
40	-1.58	34.14	27.47
45	-1.60	34.27	27.58
50	-1.62	34.30	27.60
60	-1.63	34.32	27.63
70	-1.65	34.33	27.63
75	-1.65	34.35	27.65

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CRUISE RAMBER 86/87 STATION 36

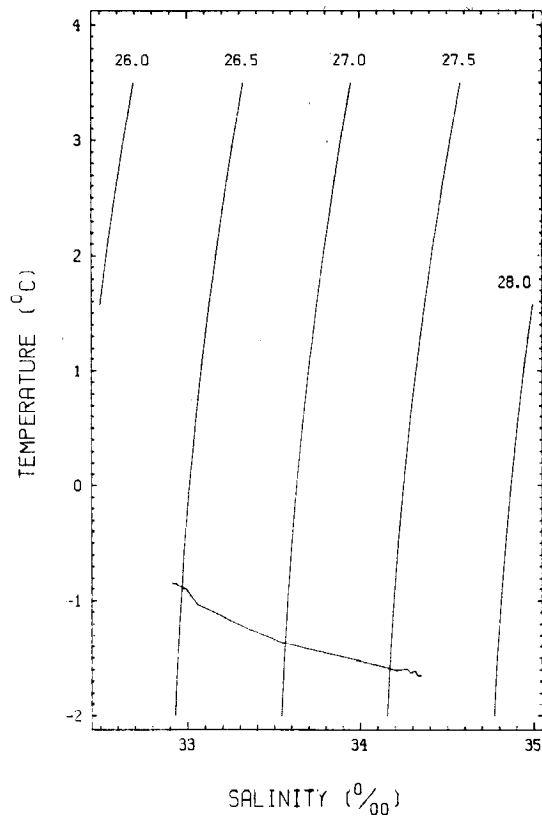
26 FEB 1987 1701 GMT

LATITUDE 67 57.98S

LONGITUDE 78 00.85E

DEPTH CTD 78 M BOTTOM 587 M

75

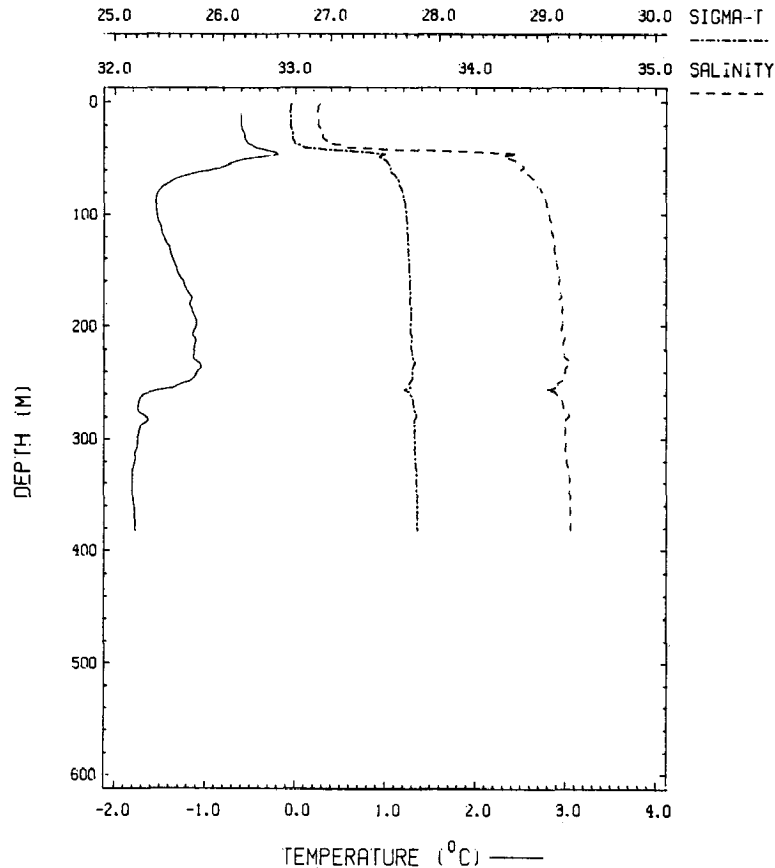


Cruise : AAMBER 86/87
 Cast number : 37
 Date : 26 FEB 1987
 Start Time : 2002 GMT
 Ship : NELLA DAN
 Position : 67:53.32S 77:30.07E
 Cast Depth (m) : 384
 Bottom Depth (m) : Not Recorded

CRUISE AAMBER 86/87 STATION 37
 26 FEB 1987 2002 GMT
 LATITUDE 67 53.32S
 LONGITUDE 77 30.07E
 DEPTH CTD 384 M BOTTOM 390 M

Depth d bar	Temperature (deg C)	Salinity	Sigma-T
0			
2	-0.61	33.14	26.63
5	-0.61	33.13	26.62
10	-0.61	33.13	26.62
15	-0.60	33.13	26.62
20	-0.60	33.13	26.62
25	-0.58	33.15	26.64
30	-0.56	33.15	26.64
35	-0.53	33.18	26.66
40	-0.44	33.30	26.75
45	-0.20	34.10	27.39
50	-0.54	34.18	27.47
60	-0.95	34.25	27.54
70	-1.38	34.34	27.63
75	-1.48	34.35	27.64
80	-1.53	34.37	27.66
90	-1.55	34.39	27.68
100	-1.53	34.41	27.69
125	-1.43	34.43	27.71
150	-1.31	34.45	27.72
175	-1.15	34.47	27.73
200	-1.10	34.48	27.74
250	-1.25	34.46	27.72
300	-1.75	34.50	27.77
382	-1.77	34.53	27.80

76



CRUISE AAMBER 86/87 STATION 37

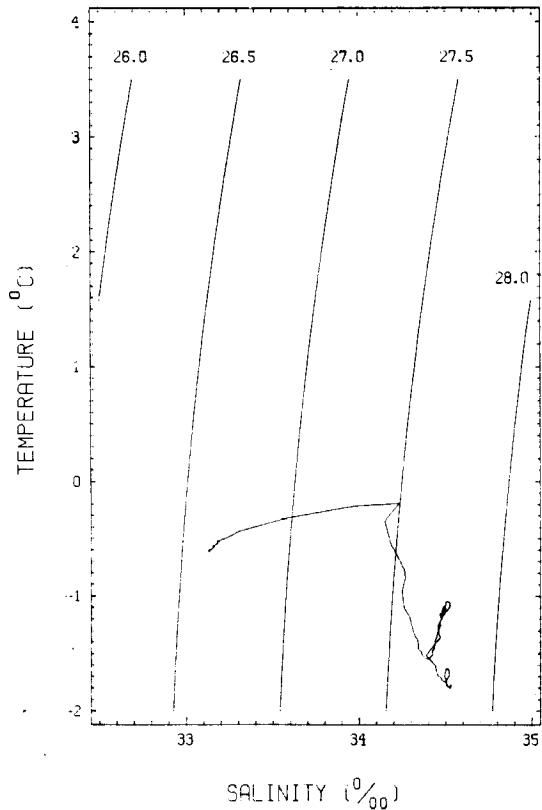
26 FEB 1987 2002 GMT

LATITUDE 67 53.32S

LONGITUDE 77 30.07E

DEPTH CTD 384 M BOTTOM 390 M

77

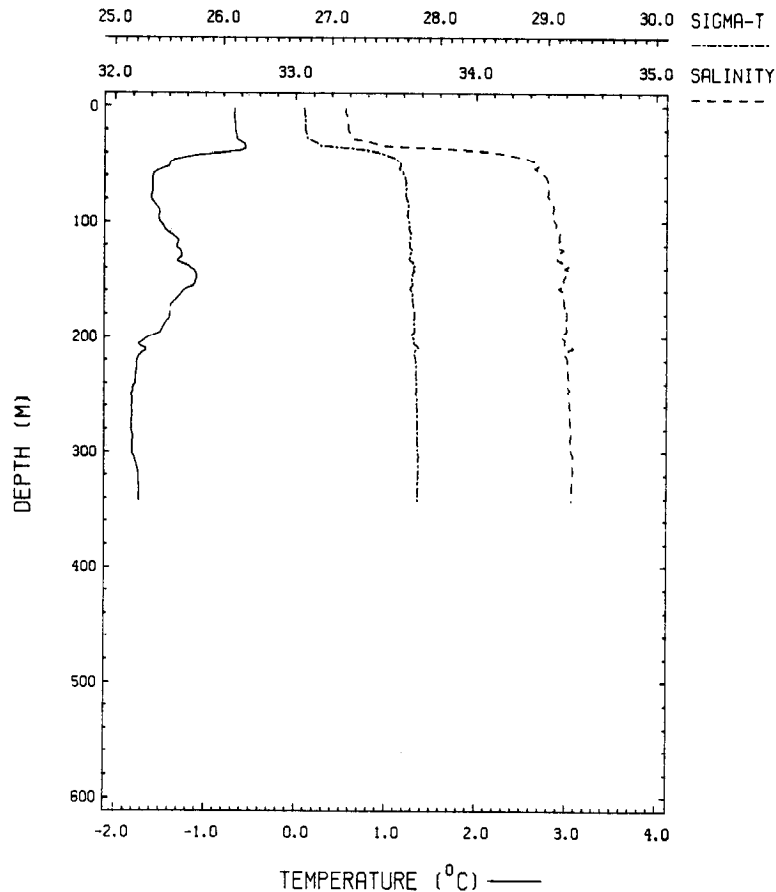


Cruise : AAMBER 86/87
 Cast number : 38
 Date : 26 FEB 1987
 Start Time : 2248 GMT
 Ship : NELLA DAN
 Position : 67:43.56S 77:19.77E
 Cast Depth (m) : 344
 Bottom Depth (m) : Not Recorded

CRUISE AAMBER 86/87 STATION 38
 26 FEB 1987 2248 GMT
 LATITUDE 67 43.56S
 LONGITUDE 77 19.77E
 DEPTH CTD 344 M BOTTOM 361 M

Depth d bar	Temperature (deg C)	Salinity	Sigma-T
0			
2	-0.68	33.28	26.75
5	-0.68	33.28	26.75
10	-0.68	33.28	26.75
15	-0.67	33.29	26.76
20	-0.67	33.29	26.76
25	-0.66	33.30	26.77
30	-0.61	33.39	26.84
35	-0.56	33.62	27.02
40	-0.85	34.13	27.44
45	-1.29	34.28	27.58
50	-1.40	34.35	27.64
60	-1.59	34.38	27.67
70	-1.59	34.40	27.69
75	-1.59	34.40	27.69
80	-1.60	34.41	27.70
90	-1.51	34.43	27.71
100	-1.50	34.44	27.72
125	-1.27	34.48	27.74
150	-1.10	34.49	27.74
175			
200	-1.63	34.47	27.75
250	-1.82	34.51	27.78
300	-1.81	34.53	27.80
342	-1.73	34.53	27.80

78



CRUISE NUMBER 86/87 STATION 38

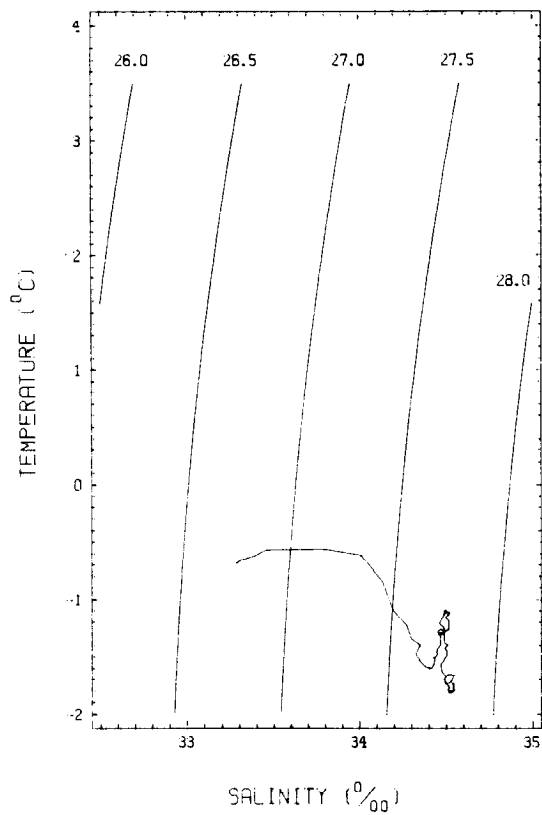
26 FEB 1987 2248 GMT

LATITUDE 67 43.56S

LONGITUDE 77 19.77E

DEPTH CTD 344 M BOTTOM 361 M

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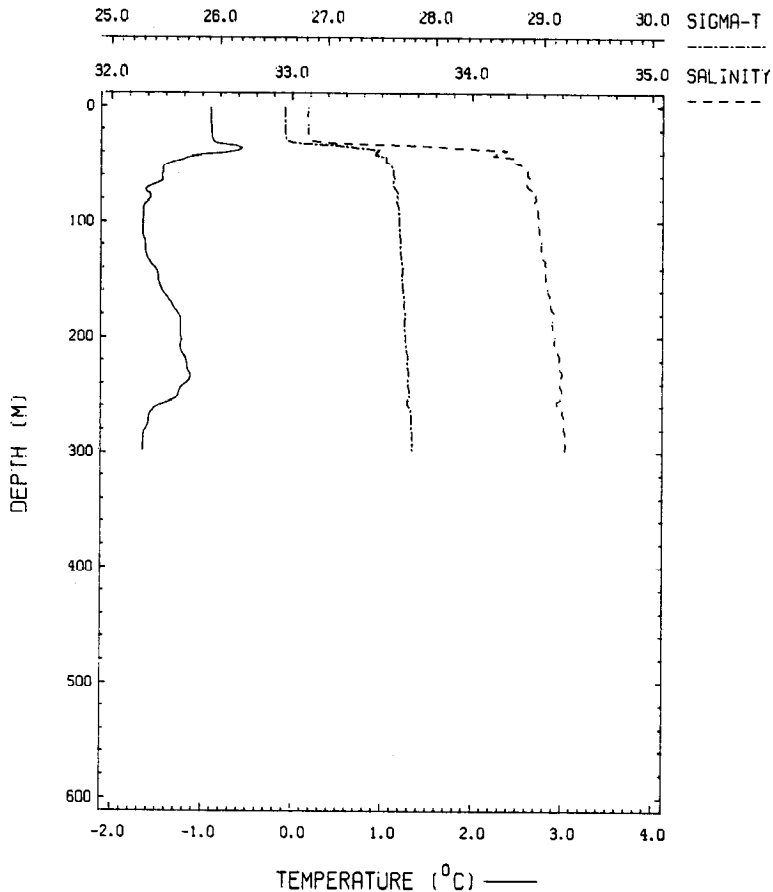


Cruise : AAMBER 86/87
 Cast number : 39
 Date : 27 FEB 1987
 Start Time : 0203 GMT
 Ship : NELLA DAN
 Position : 67:33.09S 77:24.47E
 Cast Depth (m) : 300
 Bottom Depth (m) : Not Recorded

CRUISE AAMBER 86/87 STATION 39
 27 FEB 1987 0203 GMT
 LATITUDE 67 33.09S
 LONGITUDE 77 24.47E
 DEPTH CTD 300 M BOTTOM 309 M

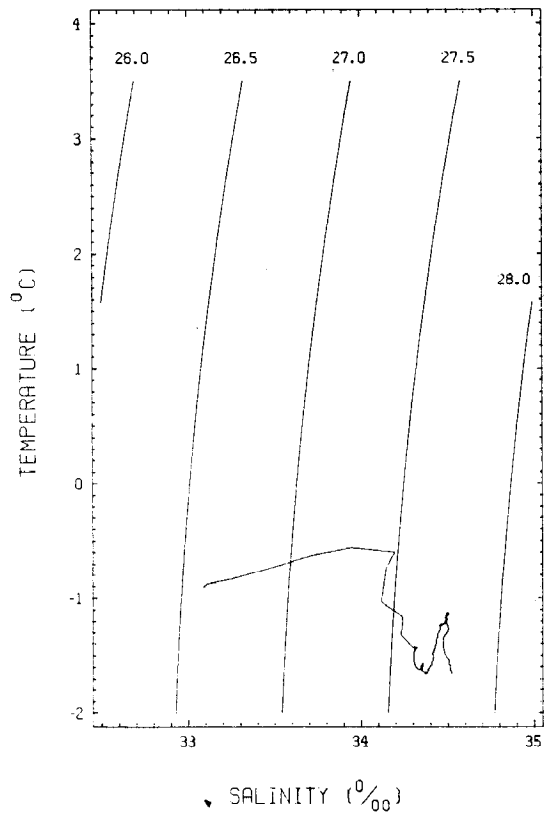
Depth d bar	Temperature (deg C)	Salinity	Sigma-T
0			
2	-0.91	33.09	26.60
5	-0.90	33.09	26.60
10	-0.91	33.09	26.60
15	-0.90	33.09	26.60
20	-0.90	33.09	26.60
25	-0.90	33.10	26.61
30	-0.88	33.12	26.62
35	-0.59	33.83	27.19
40	-0.74	34.14	27.45
45	-1.19	34.24	27.54
50	-1.39	34.27	27.58
60	-1.45	34.31	27.61
70	-1.60	34.31	27.62
75	-1.60	34.35	27.65
80	-1.57	34.36	27.65
90	-1.65	34.37	27.66
100	-1.65	34.37	27.67
125	-1.62	34.39	27.68
150	-1.48	34.41	27.69
175	-1.31	34.44	27.71
200	-1.23	34.46	27.73
250	-1.26	34.50	27.76
298	-1.65	34.52	27.79

08



CRUISE AMBER 86/87 STATION 39
27 FEB 1987 0203 GMT
LATITUDE 67 33.09S
LONGITUDE 77 24.47E
DEPTH CTD 300 M BØTTØM 309 M

18

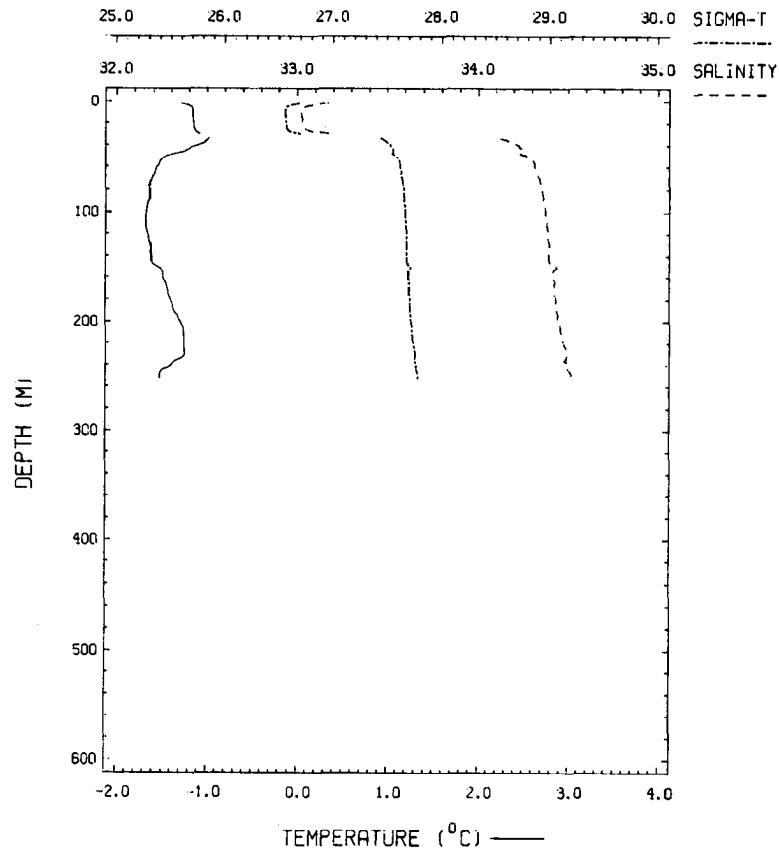


Cruise : AAMBER 86/87
 Cast number : 40
 Date : 27 FEB 1987
 Start Time : 0656 GMT
 Ship : NELLA DAN
 Position : 67:26.42S 77:36.00E
 Cast Depth (m) : 254
 Bottom Depth (m) : Not Recorded

CRUISE AAMBER 86/87 STATION 40
 27 FEB 1987 0656 GMT
 LATITUDE 67 26.42S
 LONGITUDE 77 36.00E
 DEPTH CTD 254 M BOTTOM 263 M

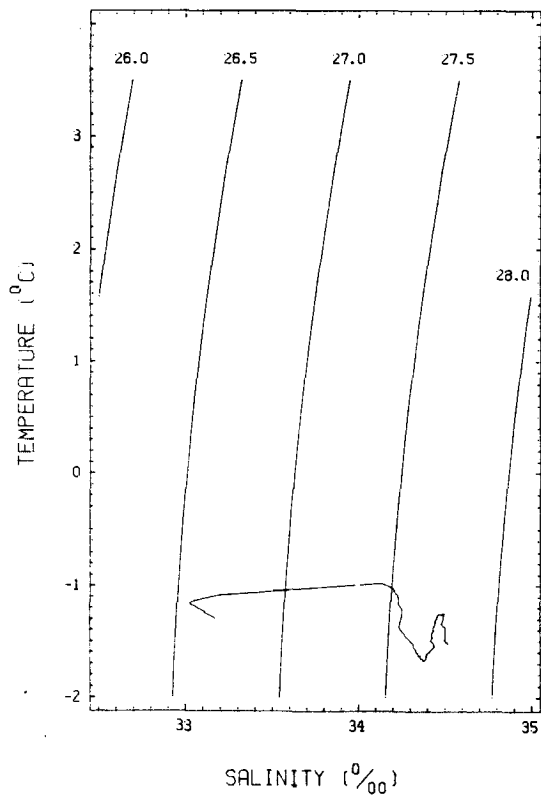
82

Depth d bar	Temperature (deg C)	Salinity	Sigma-T
0			
2	-1.29	33.17	26.68
5	-1.18	33.05	26.58
10	-1.15	33.02	26.56
15	-1.15	33.03	26.56
20	-1.15	33.03	26.57
25	-1.14	33.04	26.57
30	-1.08	33.20	26.69
35	-0.99	34.15	27.46
40	-1.09	34.23	27.53
45	-1.24	34.25	27.56
50	-1.45	34.27	27.58
60	-1.55	34.32	27.62
70	-1.61	34.34	27.64
75	-1.63	34.35	27.65
80	-1.64	34.35	27.65
90	-1.65	34.36	27.66
100	-1.67	34.37	27.67
125	-1.64	34.39	27.68
150	-1.55	34.44	27.72
175	-1.43	34.42	27.70
200	-1.29	34.45	27.72
250	-1.52	34.52	27.78
252	-1.52	34.52	27.78



CRUISE AAMBER 86/87 STATION 40
27 FEB 1987 0656 GMT
LATITUDE 67 26.42S
LONGITUDE 77 36.00E
DEPTH CTD 254 M BOTTOM 263 M

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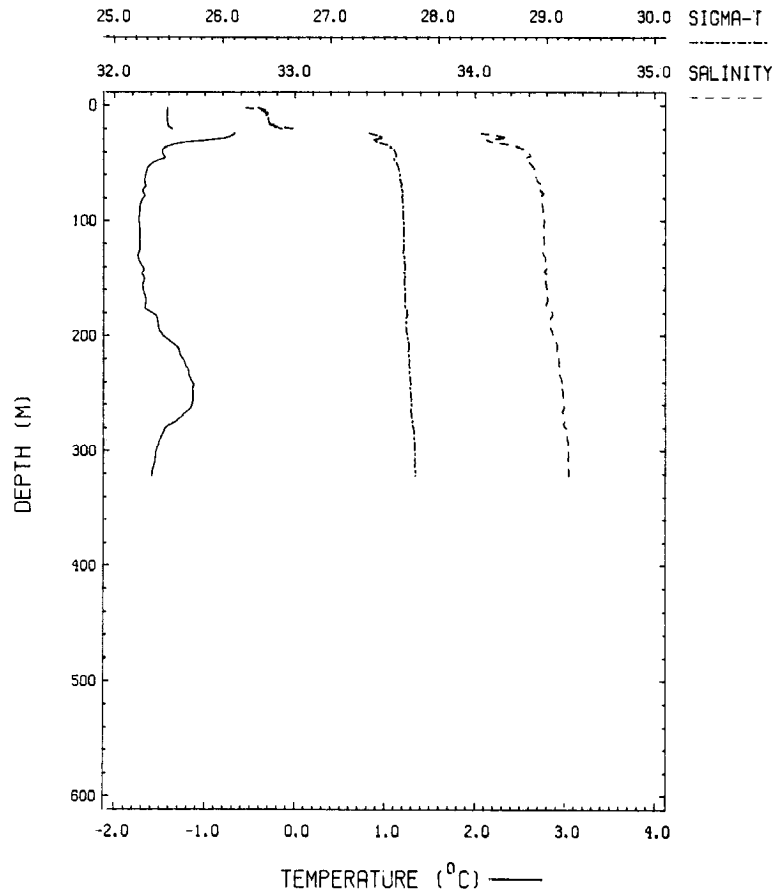


Cruise : AAMBER 86/87
 Cast number : 41
 Date : 27 FEB 1987
 Start Time : 1124 GMT
 Ship : NELLA DAN
 Position : 67:20.89S 77:21.76E
 Cast Depth (m) : 324
 Bottom Depth (m) : Not Recorded

CRUISE AAMBER 86/87 STATION 41
 27 FEB 1987 1124 GMT
 LATITUDE 67 20.89S
 LONGITUDE 77 21.76E
 DEPTH CTD 324 M BOTTOM 336 M

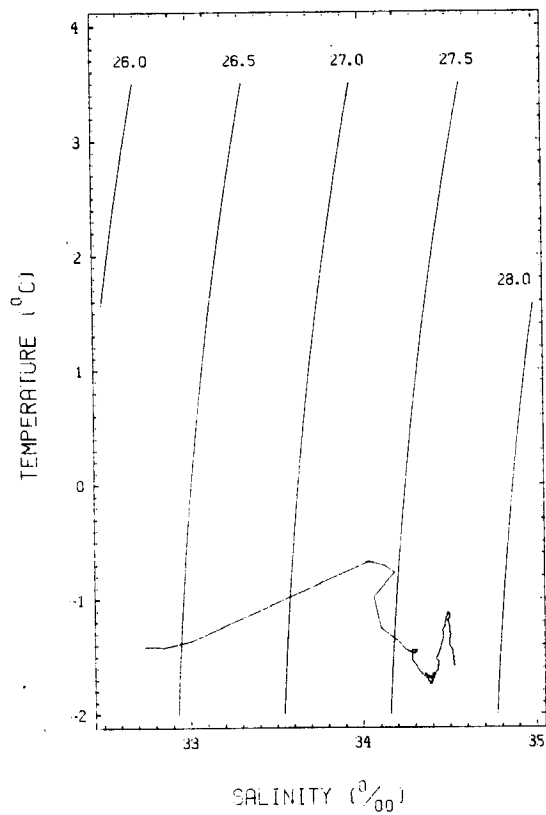
Depth d bar	Temperature (deg C)	Salinity	Sigma-T
0			
2	-1.41	32.73	26.32
5	-1.42	32.82	26.40
10	-1.42	32.84	26.42
15	-1.42	32.86	26.43
20	-1.36	33.00	26.55
25	-0.69	34.08	27.40
30	-0.98	34.06	27.39
35	-1.41	34.23	27.54
40	-1.47	34.30	27.60
45	-1.45	34.30	27.60
50	-1.58	34.31	27.61
60	-1.66	34.34	27.64
70	-1.65	34.36	27.65
75	-1.68	34.37	27.67
80	-1.68	34.37	27.66
90	-1.72	34.38	27.67
100	-1.73	34.39	27.68
125	-1.72	34.38	27.68
150	-1.67	34.40	27.69
175	-1.66	34.40	27.69
200	-1.46	34.44	27.71
250	-1.13	34.49	27.75
300	-1.54	34.52	27.78
322	-1.59	34.52	27.79

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CRUISE RAMBER 86/87 STATION 41
27 FEB 1987 1124 GMT
LATITUDE 67 20.89S
LONGITUDE 77 21.76E
DEPTH CTD 324 M BOTTOM 336 M

58

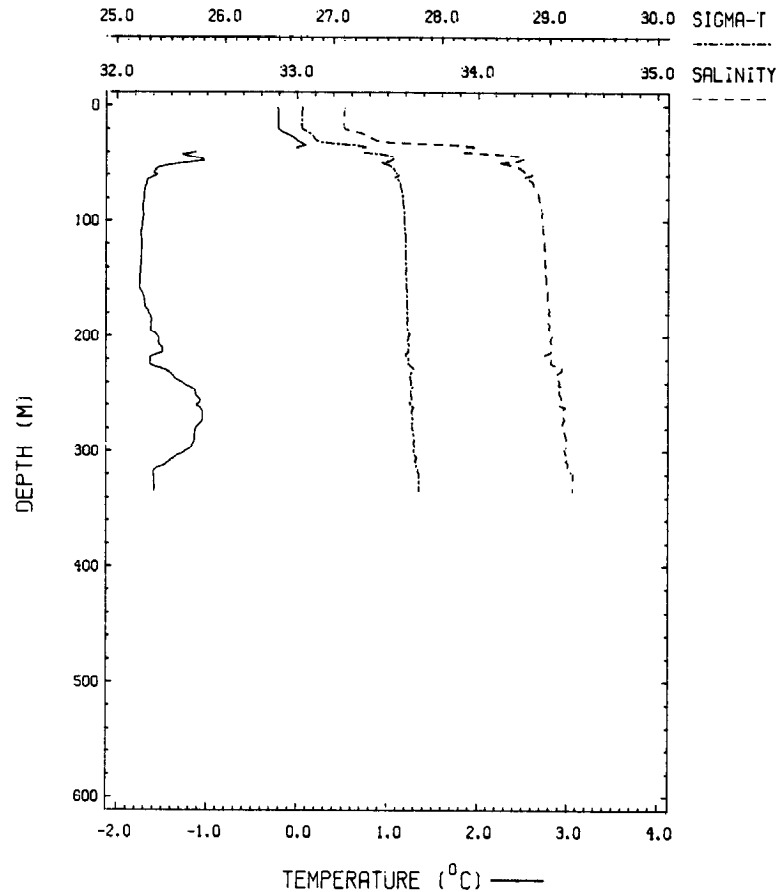


Cruise : AAMBER 86/87
 Cast number : 42
 Date : 27 FEB 1987
 Start Time : 1703 GMT
 Ship : NELLA DAN
 Position : 67:00.96S 76:22.05E
 Cast Depth (m) : 336
 Bottom Depth (m) : Not Recorded

CRUISE AAMBER 86/87 STATION 42
 27 FEB 1987 1703 GMT
 LATITUDE 67 00.96S
 LONGITUDE 76 22.05E
 DEPTH CTD 336 M BØTTØM 336 M

Depth d bar	Temperature (deg C)	Salinity	Sigma-T
0			
2	-0.22	33.26	26.72
5	-0.21	33.26	26.71
10	-0.21	33.26	26.71
15	-0.21	33.26	26.71
20	-0.21	33.26	26.72
25	-0.09	33.38	26.80
30	0.00	33.44	26.85
35	0.04	33.94	27.25
40	-1.13	33.92	27.28
45	-1.13	34.25	27.55
50	-1.25	34.11	27.44
60	-1.56	34.30	27.61
70	-1.68	34.31	27.62
75	-1.70	34.33	27.64
80	-1.70	34.34	27.64
90	-1.71	34.35	27.65
100	-1.72	34.36	27.66
125	-1.73	34.37	27.67
150	-1.75	34.38	27.68
175	-1.68	34.40	27.69
200	-1.55	34.42	27.70
250	-1.13	34.46	27.72
300	-1.24	34.49	27.75
334	-1.59	34.53	27.79

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CRUISE AMBER 86/87 STATION 42

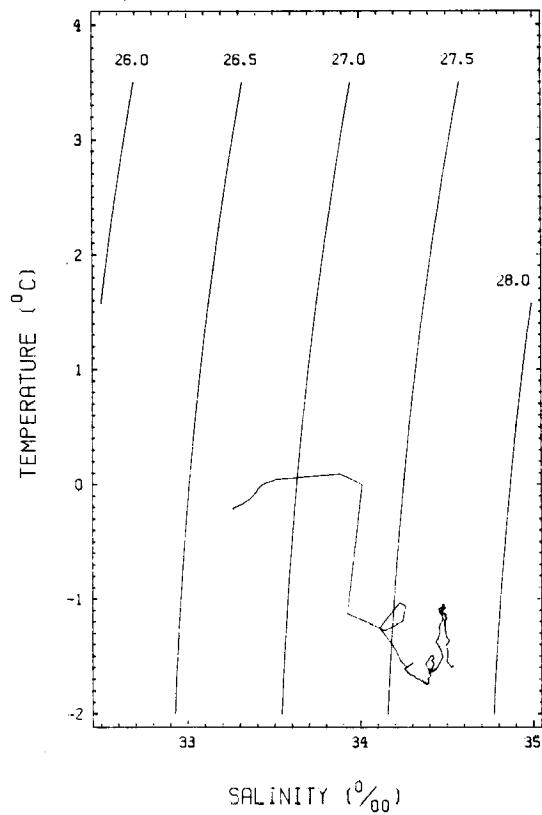
27 FEB 1987 1703 GMT

LATITUDE 67 00.96S

LONGITUDE 76 22.05E

DEPTH CTD 336 M BOTTOM 336 M

87

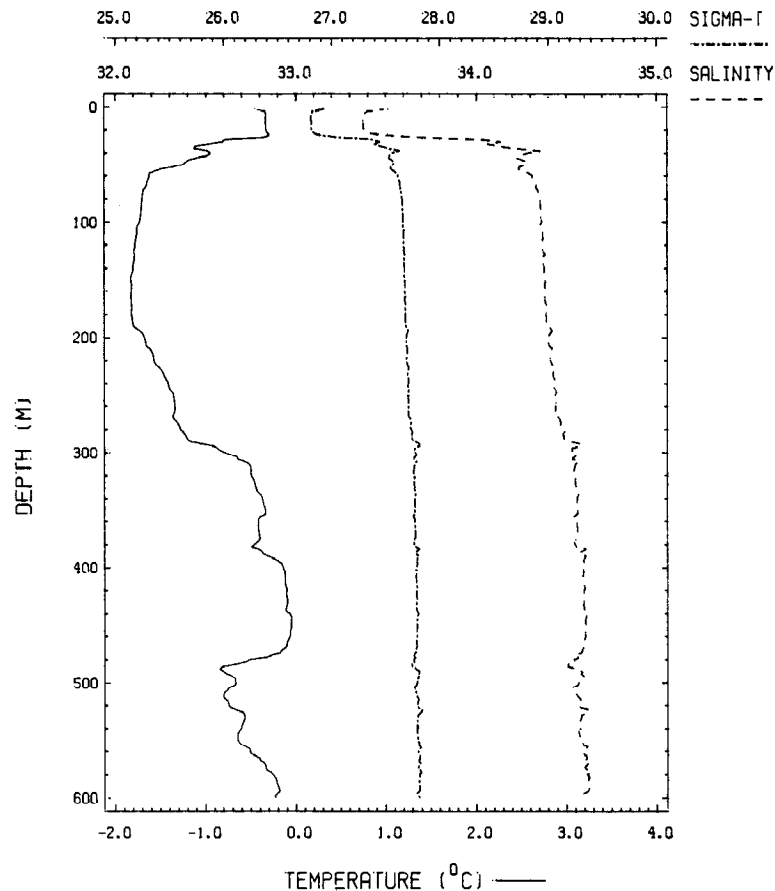


Cruise : AAMBER 86/87
 Cast number : 43
 Date : 27 FEB 1987
 Start Time : 2036 GMT
 Ship : NELLA DAN
 Position : 66:53.50S 76:16.11E
 Cast Depth (m) : 730
 Bottom Depth (m) : Not Recorded

CRUISE AAMBER 86/87 STATION 43
 27 FEB 1987 2036 GMT
 LATITUDE 66 53.50S
 LONGITUDE 76 16.11E
 DEPTH CTD 730 M BOTTOM 734 M

Depth d bar	Temperature (deg C)	Salinity	Sigma-T
0			
2	-0.45	33.51	26.93
5	-0.34	33.39	26.82
10	-0.33	33.37	26.81
15	-0.33	33.38	26.81
20	-0.33	33.38	26.82
25	-0.32	33.56	26.96
30	-0.81	34.14	27.45
35	-1.12	34.18	27.49
40	-0.94	34.28	27.57
45	-1.15	34.24	27.55
50	-1.25	34.27	27.57
60	-1.62	34.31	27.62
70	-1.66	34.33	27.63
75	-1.69	34.35	27.65
80	-1.70	34.35	27.65
90	-1.71	34.36	27.66
100	-1.73	34.36	27.66
125	-1.79	34.37	27.67
150	-1.82	34.38	27.68
175	-1.81	34.39	27.68
200	-1.67	34.40	27.69
250	-1.35	34.44	27.71
300	-0.79	34.54	27.77
400	-0.14	34.59	27.78
500	-0.67	34.57	27.79
600	-0.23	34.62	27.81
700	-0.20	34.60	27.80
728	0.08	34.66	27.83

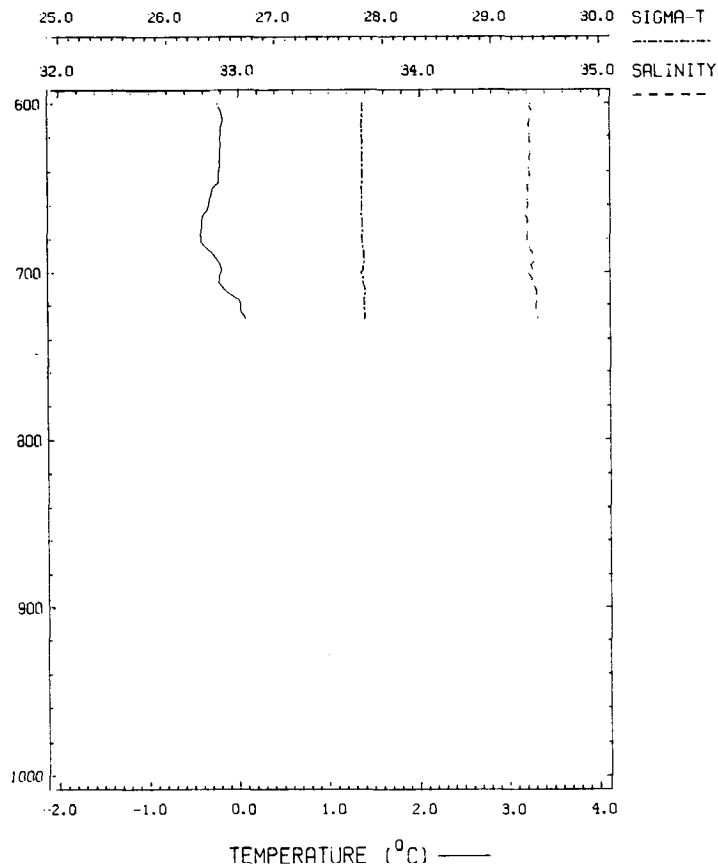
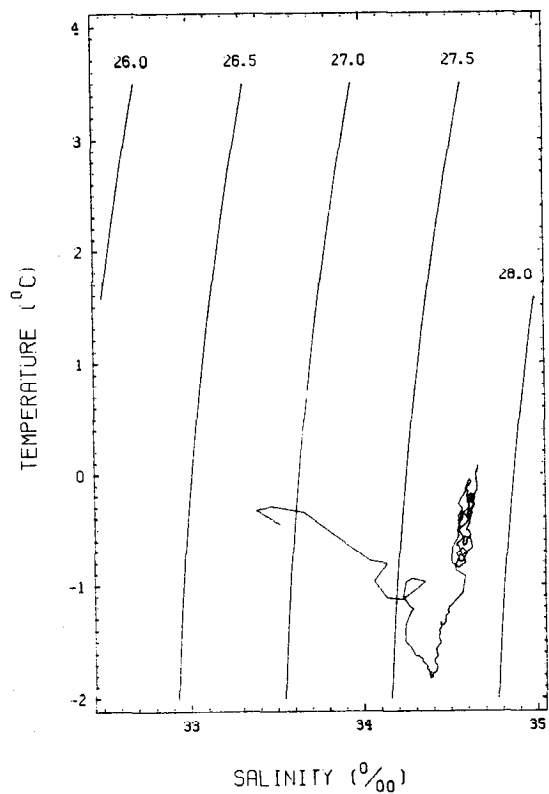
88



CRUISE RAMBER 86/87 STATION 43
27 FEB 1987 2036 GMT
LATITUDE 66 53.50S
LONGITUDE 76 16.11E
DEPTH CTD 730 M BOTTOM 734 M

CRUISE RAMBER 86/87 STATION 43
27 FEB 1987 2036 GMT
LATITUDE 66 53.50S
LONGITUDE 76 16.11E
DEPTH CTD 730 M BOTTOM 734 M

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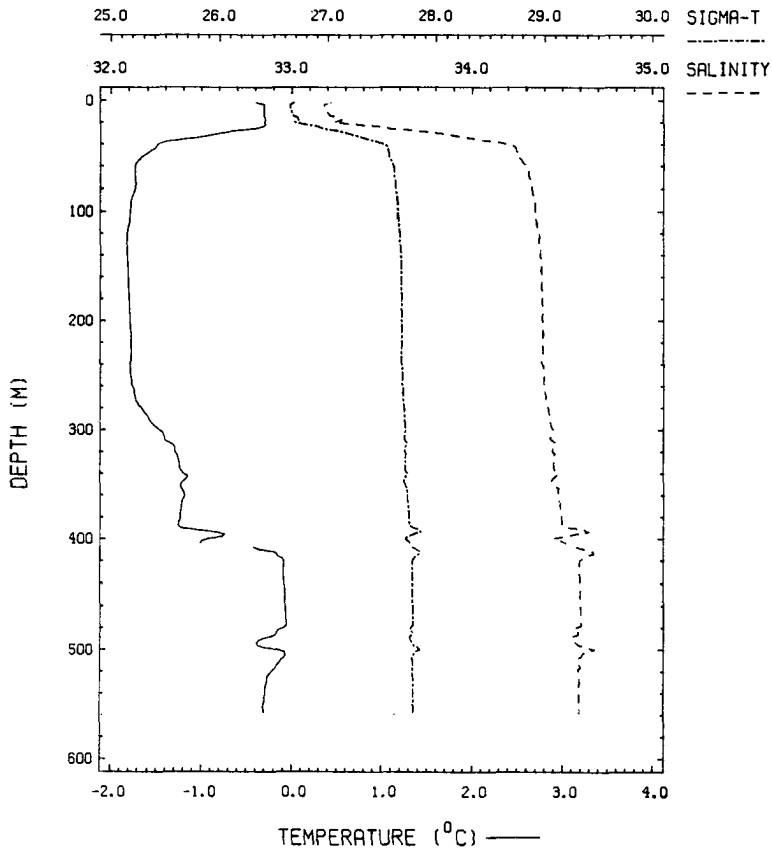


Cruise : AAMBER 86/87
 Cast number : 44
 Date : 27 FEB 1987
 Start Time : 2334 GMT
 Ship : NELLA DAN
 Position : 66:53.45S 75:58.22E
 Cast Depth (m) : 560
 Bottom Depth (m) : Not Recorded

CRUISE AAMBER 86/87 STATION 44
 27 FEB 1987 2334 GMT
 LATITUDE 66 53.45S
 LONGITUDE 75 58.22E
 DEPTH CTD 560 M BOTTOM 535 M

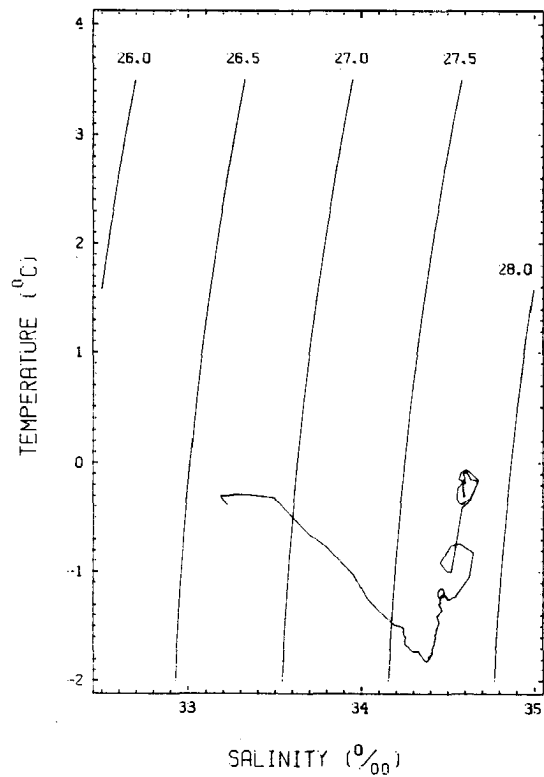
06

Depth d bar	Temperature (deg C)	Salinity	Sigma-T
0			
2	-0.39	33.22	26.69
5	-0.30	33.18	26.65
10	-0.30	33.20	26.66
15	-0.30	33.24	26.70
20	-0.29	33.24	26.70
25	-0.36	33.52	26.93
30	-0.77	33.80	27.17
35	-1.14	34.00	27.34
40	-1.49	34.19	27.51
45	-1.54	34.24	27.56
50	-1.63	34.25	27.57
60	-1.73	34.31	27.61
70	-1.73	34.31	27.62
75	-1.72	34.33	27.63
80	-1.73	34.33	27.63
90	-1.77	34.34	27.65
100	-1.78	34.35	27.65
125	-1.82	34.37	27.67
150	-1.81	34.38	27.68
175	-1.80	34.39	27.68
200	-1.78	34.39	27.68
250	-1.78	34.40	27.69
300	-1.47	34.45	27.72
400	-0.92	34.45	27.71
500	-0.16	34.68	27.85
558	-0.29	34.60	27.79



CRUISE AMBER 86/87 STATION 44
27 FEB 1987 2334 GMT
LATITUDE 66 53.45S
LONGITUDE 75 58.22E
DEPTH CTD 560 M BØTTØM 535 M

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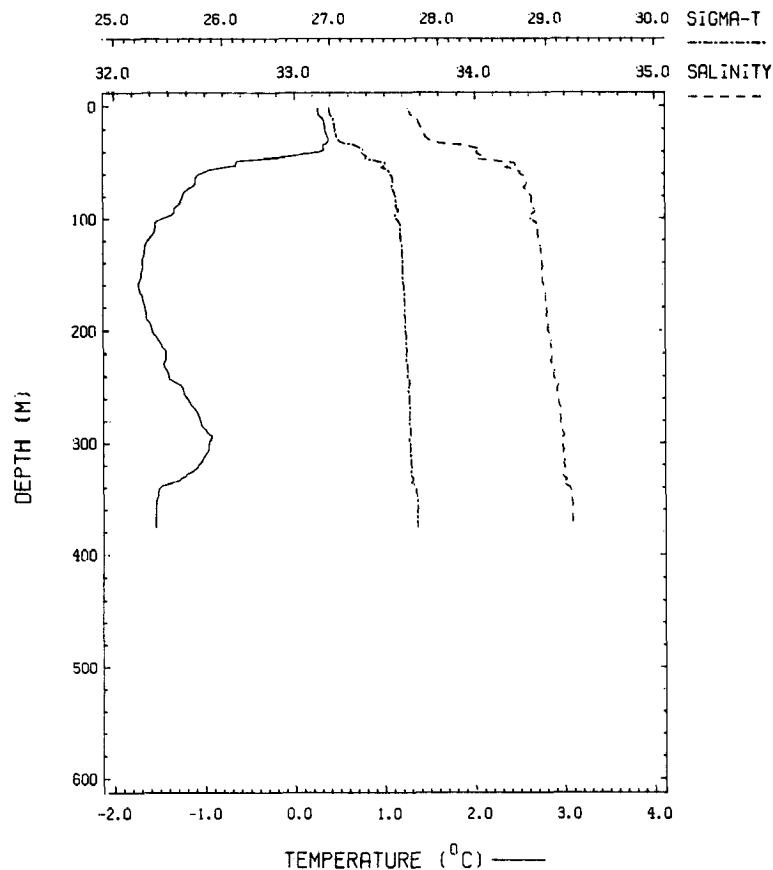


Cruise : AAMBER 86/87
 Cast number : 45
 Date : 28 FEB 1987
 Start Time : 0351 GMT
 Ship : NELLA DAN
 Position : 67:00.55S 75:16.91E
 Cast Depth (m) : 378
 Bottom Depth (m) : Not Recorded

CRUISE AAMBER 86/87 STATION 45
 28 FEB 1987 0351 GMT
 LATITUDE 67 00.55S
 LONGITUDE 75 16.91E
 DEPTH CTD 378 M BOTTOM 373 M

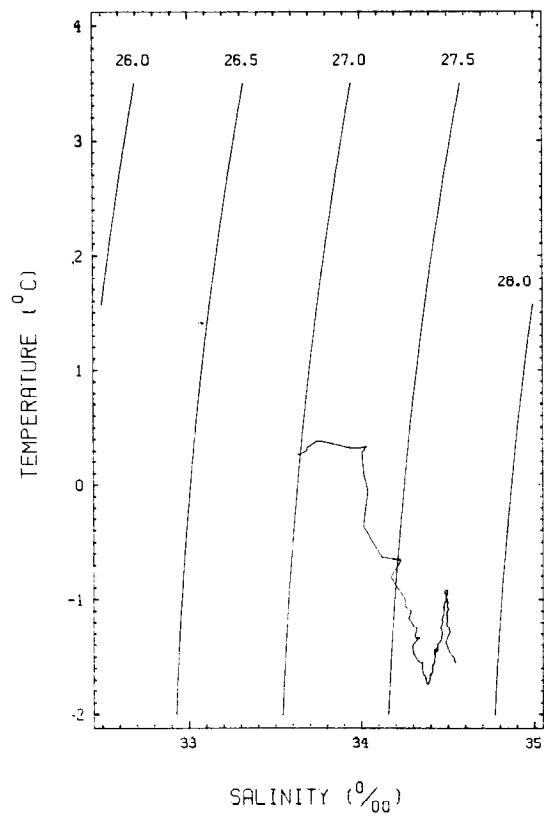
Depth d bar	Temperature (deg C)	Salinity	Sigma-T
0			
2	0.26	33.63	26.99
5	0.27	33.64	26.99
10	0.31	33.69	27.03
15	0.33	33.69	27.03
20	0.35	33.71	27.05
25	0.36	33.72	27.06
30	0.38	33.76	27.08
35	0.32	33.96	27.25
40	0.29	34.01	27.29
45	-0.20	34.03	27.33
50	-0.65	34.23	27.51
60	-1.06	34.25	27.55
70	-1.11	34.28	27.58
75	-1.21	34.29	27.59
80	-1.24	34.32	27.61
90	-1.34	34.31	27.61
100	-1.47	34.30	27.60
125	-1.66	34.37	27.66
150	-1.70	34.38	27.67
175	-1.67	34.40	27.69
200	-1.58	34.41	27.69
250	-1.25	34.46	27.72
300	-0.95	34.49	27.74
376	-1.55	34.54	27.80

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CRUISE RAMBER 86/87 STATION 45
28 FEB 1987 0351 GMT
LATITUDE 67 00.55S
LONGITUDE 75 16.91E
DEPTH CTD 378 M BOTTOM 373 M

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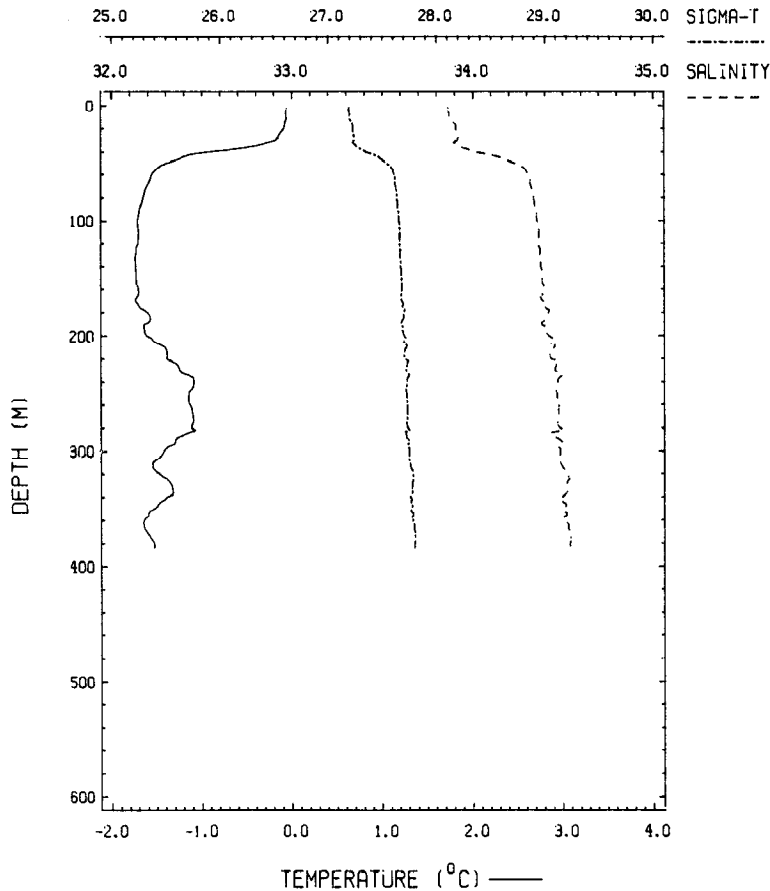


Cruise : AAMBER 86/87
 Cast number : 46
 Date : 28 FEB 1987
 Start Time : 0655 GMT
 Ship : NELLA DAN
 Position : 66:59.70S 74:55.61E
 Cast Depth (m) : 386
 Bottom Depth (m) : Not Recorded

CRUISE AAMBER 86/87 STATION 46
 28 FEB 1987 0655 GMT
 LATITUDE 66 59.70S
 LONGITUDE 74 55.61E
 DEPTH CTD 386 M BOTTOM 386 M

Depth d bar	Temperature (deg C)	Salinity	Sigma-T
0			
2	-0.06	33.87	27.19
5	-0.07	33.87	27.19
10	-0.06	33.87	27.20
15	-0.08	33.90	27.22
20	-0.09	33.91	27.23
25	-0.14	33.92	27.24
30	-0.18	33.92	27.24
35	-0.44	33.93	27.26
40	-0.96	34.01	27.35
45	-1.23	34.15	27.47
50	-1.40	34.23	27.54
60	-1.56	34.31	27.61
70	-1.61	34.33	27.63
75	-1.64	34.33	27.64
80	-1.65	34.34	27.64
90	-1.70	34.35	27.65
100	-1.72	34.36	27.66
125	-1.73	34.37	27.67
150	-1.73	34.38	27.68
175	-1.69	34.40	27.69
200	-1.62	34.42	27.70
250	-1.15	34.47	27.73
300	-1.43	34.48	27.75
384	-1.53	34.54	27.80

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CRUISE RAMBER 86/87 STATION 46

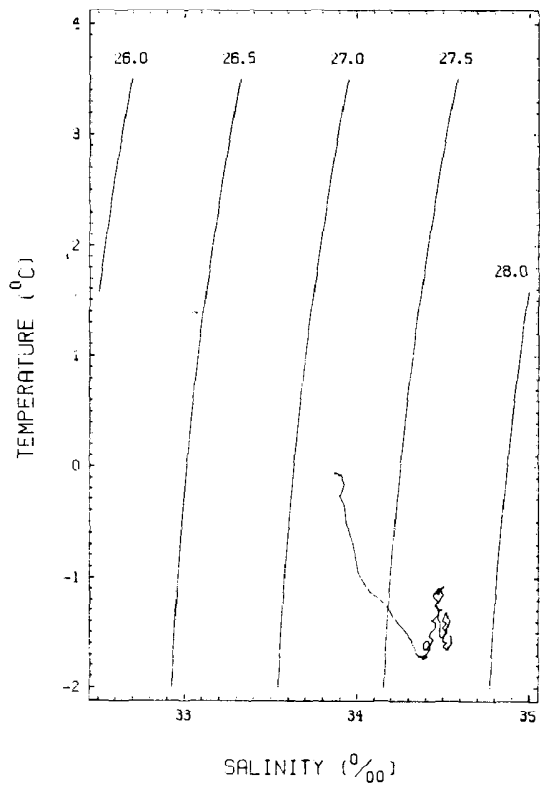
28 FEB 1987 0655 GMT

LATITUDE 66 59.70S

LONGITUDE 74 55.61E

DEPTH CTD 386 M BOTTOM 386 M

56

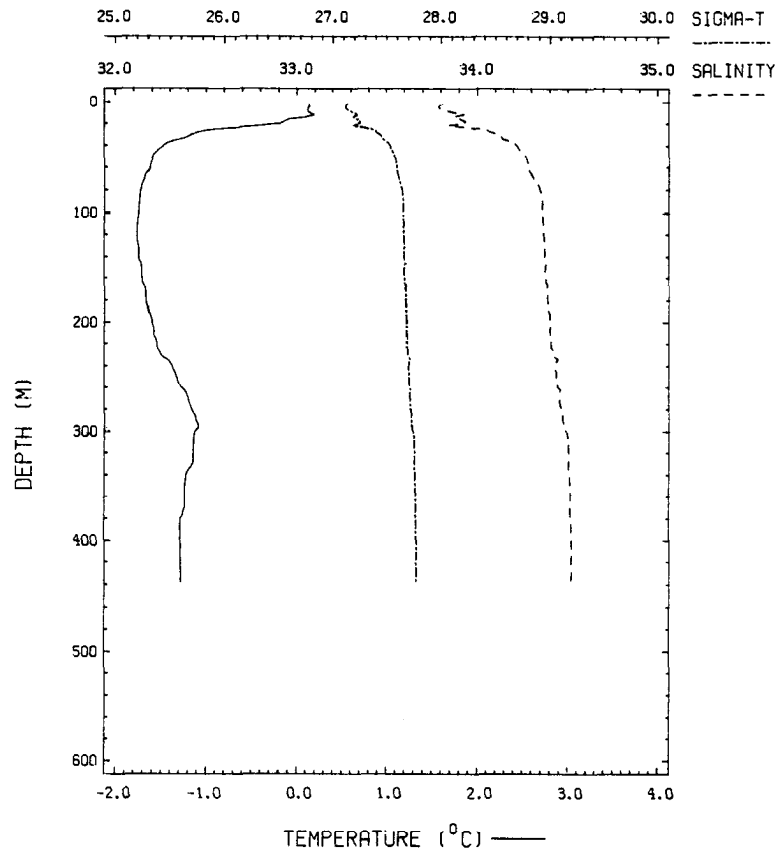


Cruise : AAMBER 86/87
 Cast number : 47
 Date : 28 FEB 1987
 Start Time : 0943 GMT
 Ship : NELLA DAN
 Position : 66:59.47S 74:19.86E
 Cast Depth (m) : 440
 Bottom Depth (m) : Not Recorded

CRUISE AAMBER 86/87 STATION 47
 28 FEB 1987 0943 GMT
 LATITUDE 66 59.47S
 LONGITUDE 74 19.86E
 DEPTH CTD 440 M BOTTOM 433 M

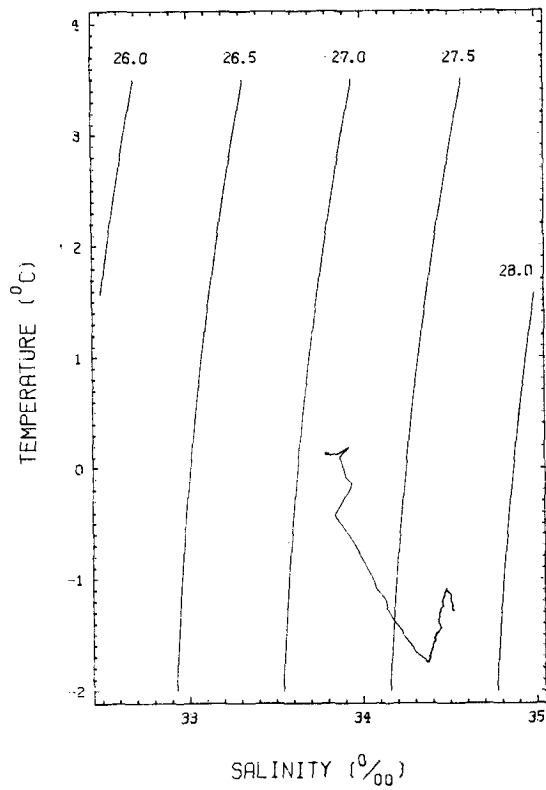
96

Depth d bar	Temperature (deg C)	Salinity	Sigma-T
0			
2	0.13	33.81	27.14
5	0.13	33.79	27.12
10	0.14	33.87	27.19
15	0.01	33.89	27.21
20	-0.19	33.93	27.25
25	-0.84	34.01	27.34
30	-1.15	34.12	27.44
35	-1.32	34.16	27.48
40	-1.46	34.22	27.54
45	-1.54	34.24	27.56
50	-1.59	34.27	27.58
60	-1.62	34.29	27.60
70	-1.68	34.31	27.62
75	-1.70	34.33	27.64
80	-1.72	34.34	27.65
90	-1.73	34.36	27.66
100	-1.74	34.36	27.66
125	-1.75	34.37	27.67
150	-1.70	34.38	27.67
175	-1.66	34.39	27.68
200	-1.60	34.40	27.69
250	-1.32	34.44	27.71
300	-1.12	34.49	27.75
400	-1.29	34.52	27.77
438	-1.28	34.52	27.77



CRUISE RAMBER 86/87. STATION 47
28 FEB 1987 0943 GMT.
LATITUDE 66 59.47S
LONGITUDE 74 19.86E.
DEPTH CTD 440 M BOTTOM 433 M

96

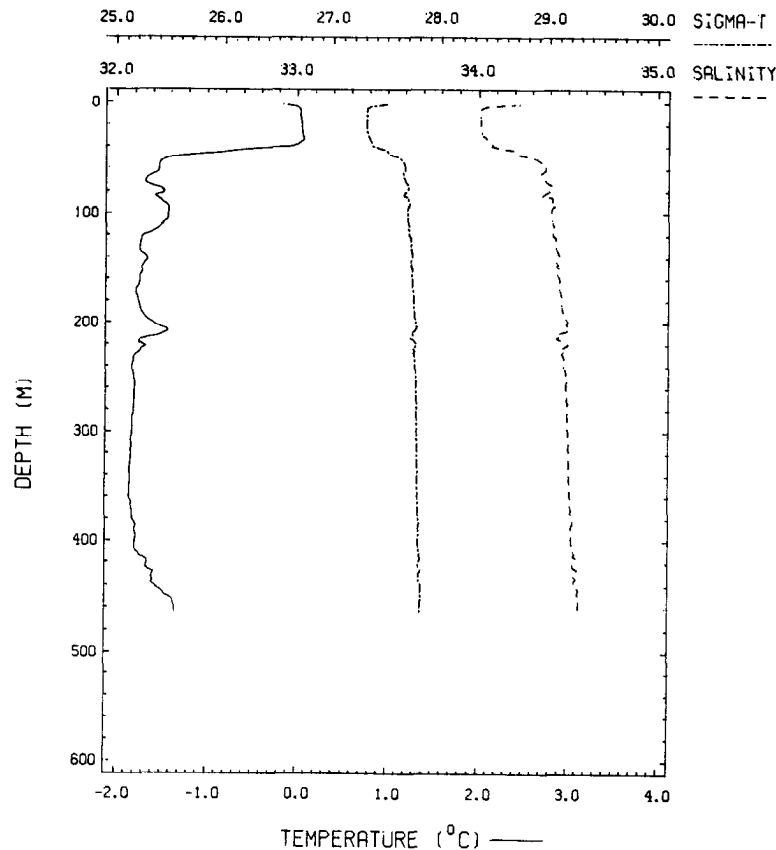


Cruise : AAMBER 86/87
 Cast number : 48
 Date : 28 FEB 1987
 Start Time : 2110 GMT
 Ship : NELLA DAN
 Position : 67:19.20S 74:14.27E
 Cast Depth (m) : 466
 Bottom Depth (m) : Not Recorded

CRUISE AAMBER 86/87 STATION 48
 28 FEB 1987 2110 GMT
 LATITUDE 67 19.20S
 LONGITUDE 74 14.27E
 DEPTH CTD 466 M BOTTOM 470 M

Depth d bar	Temperature (deg C)	Salinity	Sigma-T
0			
2	-0.16	34.23	27.49
5	0.01	34.03	27.33
10	0.03	34.01	27.30
15	0.04	34.01	27.31
20	0.05	34.01	27.31
25	0.05	34.01	27.31
30	0.06	34.02	27.31
35	0.06	34.06	27.34
40	-0.06	34.07	27.36
45	-0.79	34.20	27.50
50	-1.39	34.29	27.59
60	-1.53	34.38	27.67
70	-1.68	34.37	27.67
75	-1.63	34.41	27.69
80	-1.47	34.40	27.68
90	-1.48	34.41	27.70
100	-1.43	34.41	27.69
125	-1.73	34.43	27.72
150	-1.73	34.45	27.73
175	-1.77	34.47	27.75
200	-1.60	34.50	27.77
250	-1.81	34.49	27.77
300	-1.83	34.50	27.78
400	-1.79	34.52	27.79
464	-1.34	34.57	27.81

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CRUISE AMBER 86/87. STATION 48

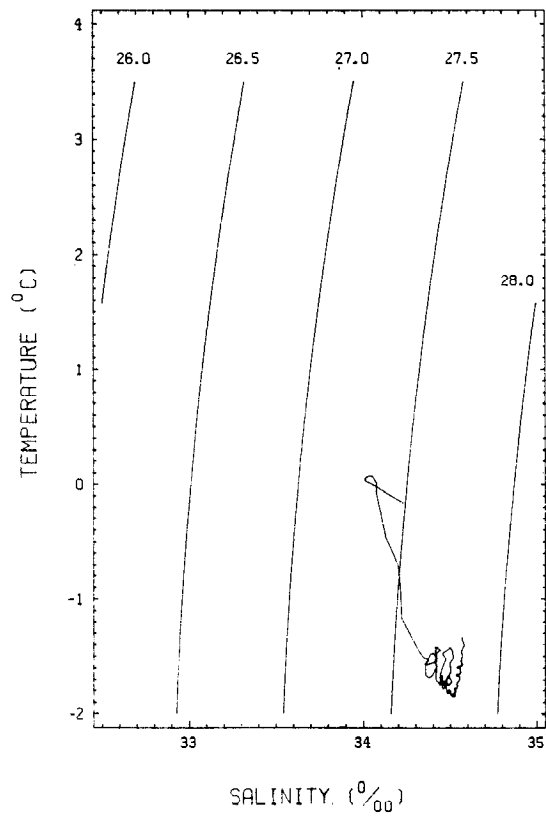
28 FEB 1987 2110 GMT

LATITUDE 67 19.20S

LONGITUDE 74 14.27E.

DEPTH CTD 466 M BØTTØM 470 M

66

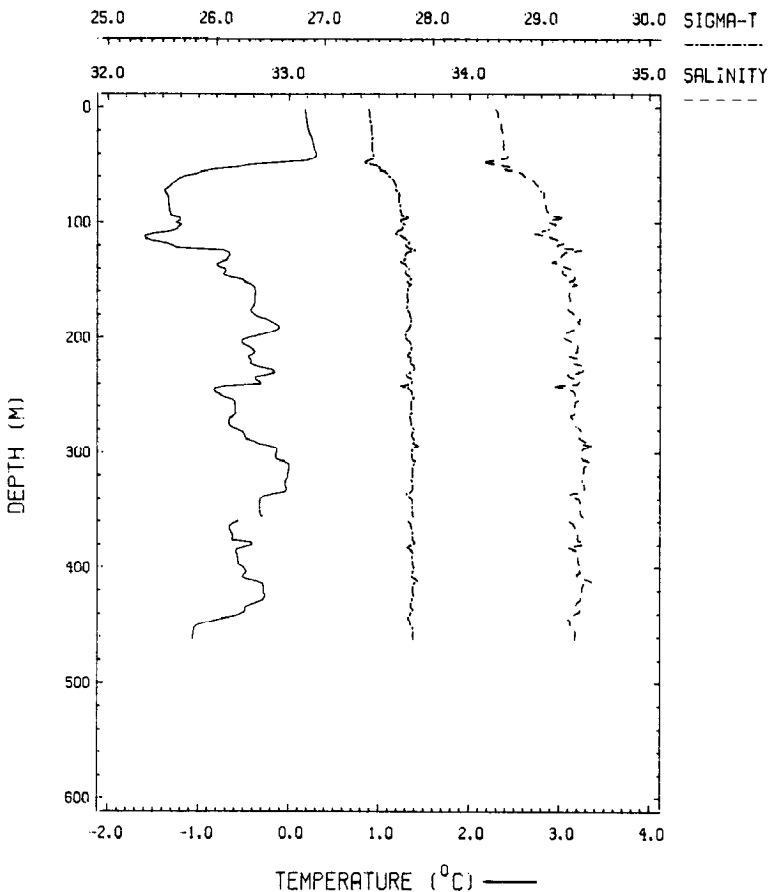


Cruise : AAMBER 86/87
 Cast number : 49
 Date : 1 MAR 1987
 Start Time : 0044 GMT
 Ship : NELLA DAN
 Position : 67:28.85S 74:44.29E
 Cast Depth (m) : 464
 Bottom Depth (m) : Not Recorded

CRUISE AAMBER 86/87 STATION 49
 01 MAR 1987 0044 GMT
 LATITUDE 67 28.85S
 LONGITUDE 74 44.29E
 DEPTH CTD 464 M BØTTOM 467 M

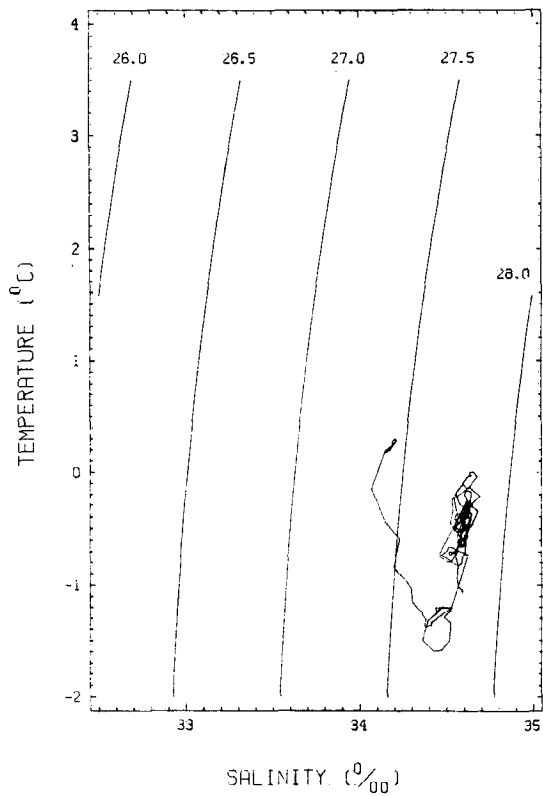
Depth d bar	Temperature (deg C)	Salinity	Sigma-T
0			
2	0.18	34.14	27.41
5	0.18	34.15	27.41
10	0.19	34.17	27.42
15	0.20	34.17	27.43
20	0.22	34.18	27.43
25	0.24	34.19	27.44
30	0.26	34.19	27.44
35	0.28	34.19	27.44
40	0.30	34.20	27.44
45	0.23	34.18	27.43
50	-0.45	34.15	27.44
60	-1.15	34.30	27.59
70	-1.34	34.37	27.66
75	-1.36	34.41	27.69
80	-1.33	34.41	27.69
90	-1.32	34.43	27.70
100	-1.25	34.44	27.71
125	-0.69	34.58	27.80
150	-0.51	34.59	27.80
175	-0.42	34.55	27.76
200	-0.45	34.52	27.74
250	-0.75	34.59	27.81
300	-0.14	34.62	27.81
400	-0.50	34.63	27.83
462	-1.07	34.59	27.82

100



CRUISE AMBER 86/87. STATION 49
01 MAR 1987 0044 GMT
LATITUDE 67 28.85S
LONGITUDE 74 44.29E.
DEPTH CTD 464 M BØTTØM 467 M

101

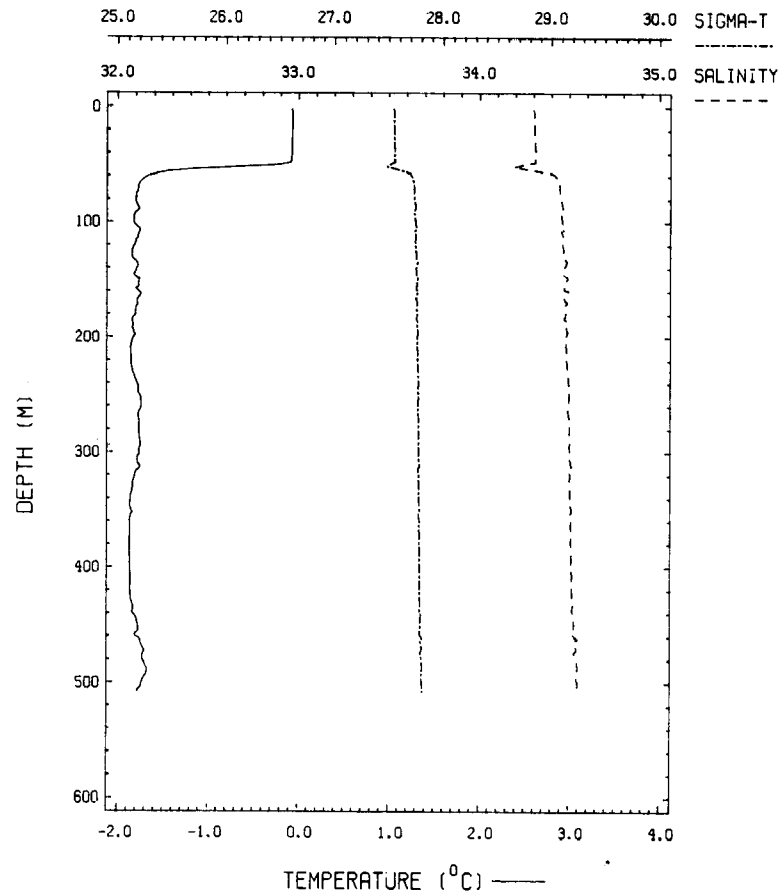


Cruise : AAMBER 86/87
 Cast number : 50
 Date : 1 MAR 1987
 Start Time : 0532 GMT
 Ship : NELLA DAN
 Position : 67:45.77S 73:51.88E
 Cast Depth (m) : 510
 Bottom Depth (m) : Not Recorded

CRUISE AAMBER 86/87 STATION 50
 01 MAR 1987 0532 GMT
 LATITUDE 67 45.77S
 LONGITUDE 73 51.88E
 DEPTH CTD 510 M BOTTOM 560 M

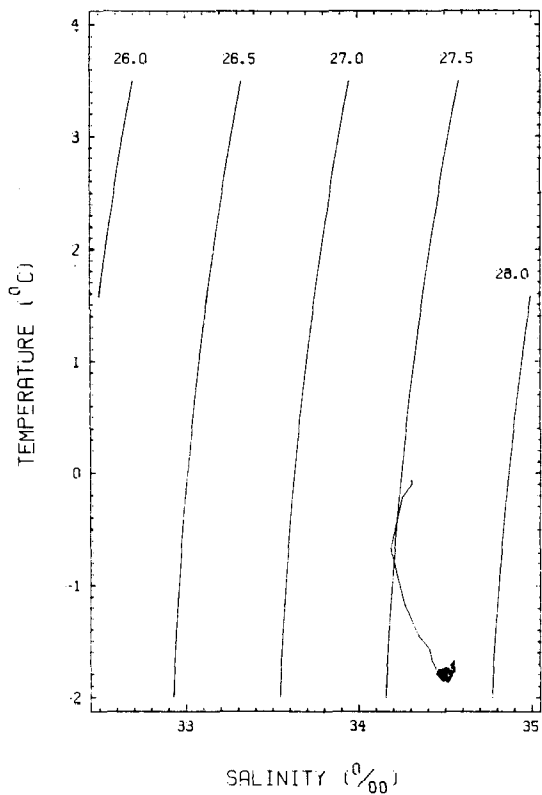
Depth d bar	Temperature (deg C)	Salinity	Sigma-T
0			
2	-0.07	34.30	27.54
5	-0.07	34.30	27.55
10	-0.07	34.30	27.55
15	-0.07	34.30	27.55
20	-0.07	34.31	27.55
25	-0.07	34.31	27.55
30	-0.07	34.31	27.55
35	-0.08	34.31	27.55
40	-0.08	34.31	27.55
45	-0.08	34.31	27.55
50	-0.22	34.25	27.51
60	-1.66	34.42	27.71
70	-1.77	34.45	27.73
75	-1.79	34.45	27.73
80	-1.80	34.45	27.74
90	-1.77	34.46	27.74
100	-1.82	34.46	27.74
125	-1.84	34.47	27.75
150	-1.76	34.49	27.76
175	-1.80	34.48	27.76
200	-1.82	34.48	27.76
250	-1.76	34.50	27.77
300	-1.76	34.51	27.78
400	-1.86	34.51	27.79
500	-1.73	34.55	27.81
508	-1.78	34.55	27.81

102



CRUISE AMBER 86/87 STATION 50
01 MAR 1987 0532 GMT
LATITUDE 67 45.77S
LONGITUDE 73 51.88E
DEPTH CTD 510 M BØTTØM 560 M

103

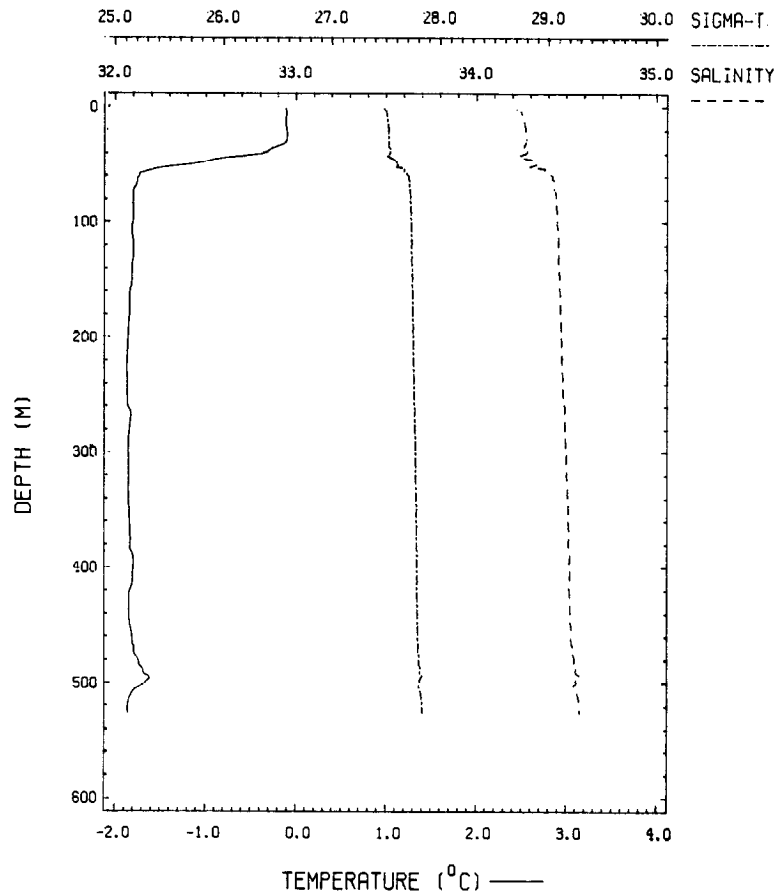


Cruise : AAMBER 86/87
 Cast number : 52
 Date : 1 MAR 1987
 Start Time : 1539 GMT
 Ship : NELLA DAN
 Position : 67:52.49S 74:28.91E
 Cast Depth (m) : 528
 Bottom Depth (m) : Not Recorded

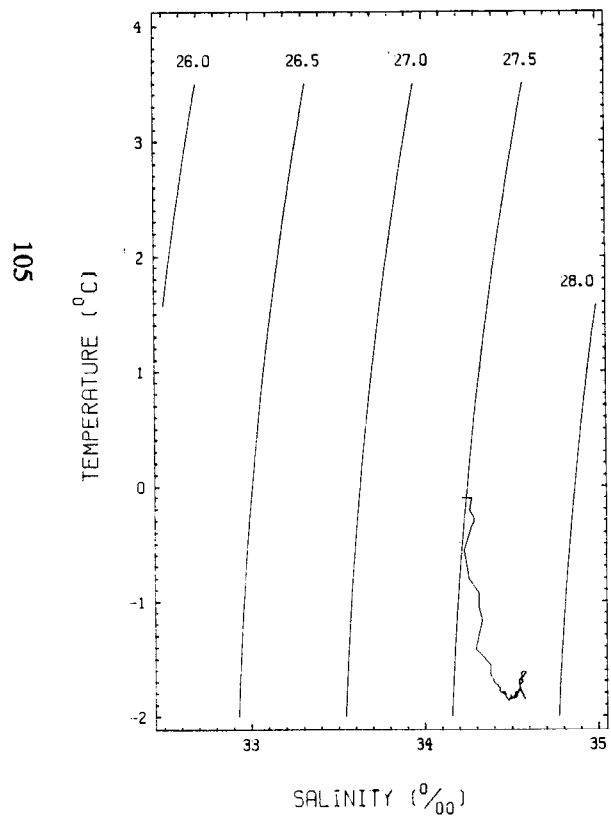
CRUISE AAMBER 86/87 STATION 52
 01 MAR 1987 1539 GMT
 LATITUDE 67 52.49S
 LONGITUDE 74 28.91E
 DEPTH CTD 528 M BOTTOM 525 M

Depth d bar	Temperature (deg C)	Salinity	Sigma-T
0			
2	-0.11	34.22	27.48
5	-0.11	34.25	27.50
10	-0.11	34.26	27.51
15	-0.11	34.27	27.52
20	-0.10	34.27	27.52
25	-0.10	34.27	27.52
30	-0.11	34.28	27.53
35	-0.24	34.27	27.53
40	-0.37	34.27	27.53
45	-0.87	34.29	27.57
50	-1.17	34.33	27.62
60	-1.74	34.42	27.71
70	-1.78	34.43	27.72
75	-1.80	34.44	27.73
80	-1.80	34.44	27.73
90	-1.80	34.45	27.73
100	-1.80	34.45	27.73
125	-1.80	34.45	27.74
150	-1.81	34.46	27.75
175	-1.84	34.47	27.75
200	-1.85	34.47	27.75
250	-1.86	34.48	27.76
300	-1.85	34.50	27.77
400	-1.80	34.52	27.79
500	-1.66	34.56	27.82
526	-1.86	34.58	27.84

104



CRUISE AMBER 86/87 STATION 52
01 MAR 1987 1539 GMT
LATITUDE 67 52.49S
LONGITUDE 74 28.91E
DEPTH CTD 528 M BOTTOM 525 M

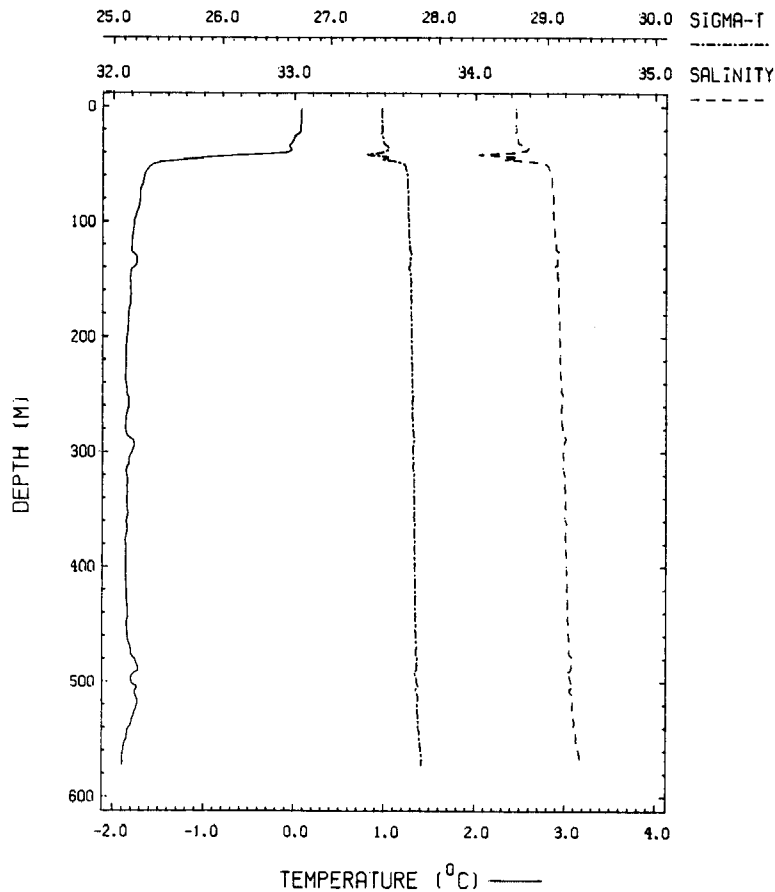


Cruise : AAMBER 86/87
 Cast number : 53
 Date : 1 MAR 1987
 Start Time : 1918 GMT
 Ship : NELLA DAN
 Position : 68:01.67S 73:51.33E
 Cast Depth (m) : 574
 Bottom Depth (m) : Not Recorded

CRUISE AAMBER 86/87 STATION 53
 01 MAR 1987 1918 GMT
 LATITUDE 68 01.67S
 LONGITUDE 73 51.33E
 DEPTH CTD 574 M BOTTOM 570 M

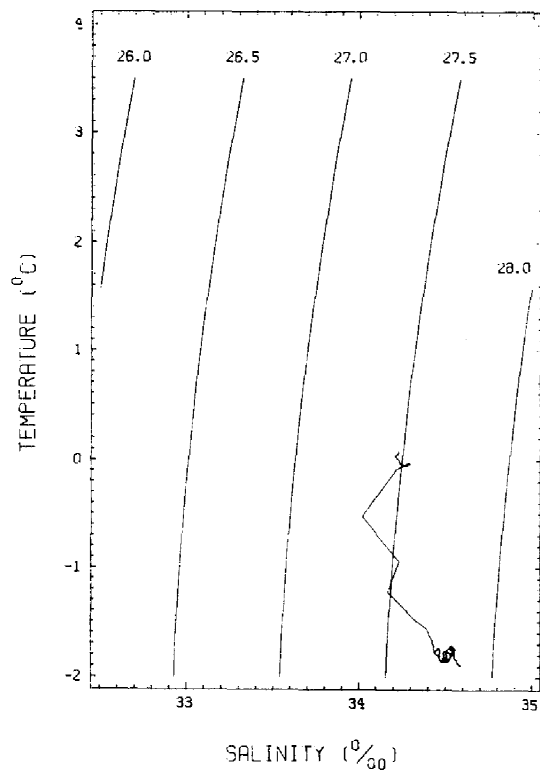
106

Depth d bar	Temperature (deg C)	Salinity	Sigma-T
0			
2	0.08	34.22	27.48
5	0.07	34.23	27.48
10	0.07	34.23	27.48
15	0.07	34.23	27.48
20	0.07	34.23	27.48
25	0.02	34.22	27.48
30	-0.02	34.24	27.49
35	-0.05	34.29	27.53
40	-0.09	34.22	27.48
45	-1.08	34.20	27.51
50	-1.57	34.39	27.68
60	-1.66	34.42	27.71
70	-1.70	34.42	27.71
75	-1.71	34.43	27.72
80	-1.71	34.43	27.72
90	-1.73	34.43	27.72
100	-1.77	34.44	27.73
125	-1.80	34.46	27.74
150	-1.82	34.46	27.74
175	-1.83	34.46	27.75
200	-1.85	34.47	27.75
250	-1.85	34.49	27.77
300	-1.79	34.49	27.77
400	-1.86	34.51	27.78
500	-1.80	34.53	27.80
572	-1.89	34.59	27.85



CRUISE HAMBER 86/87 STATION 53
01 MAR 1987 1918 GMT
LATITUDE 68 01.67S
LONGITUDE 73 51.33E
DEPTH CTD 574 M BOTTOM 570 M

107

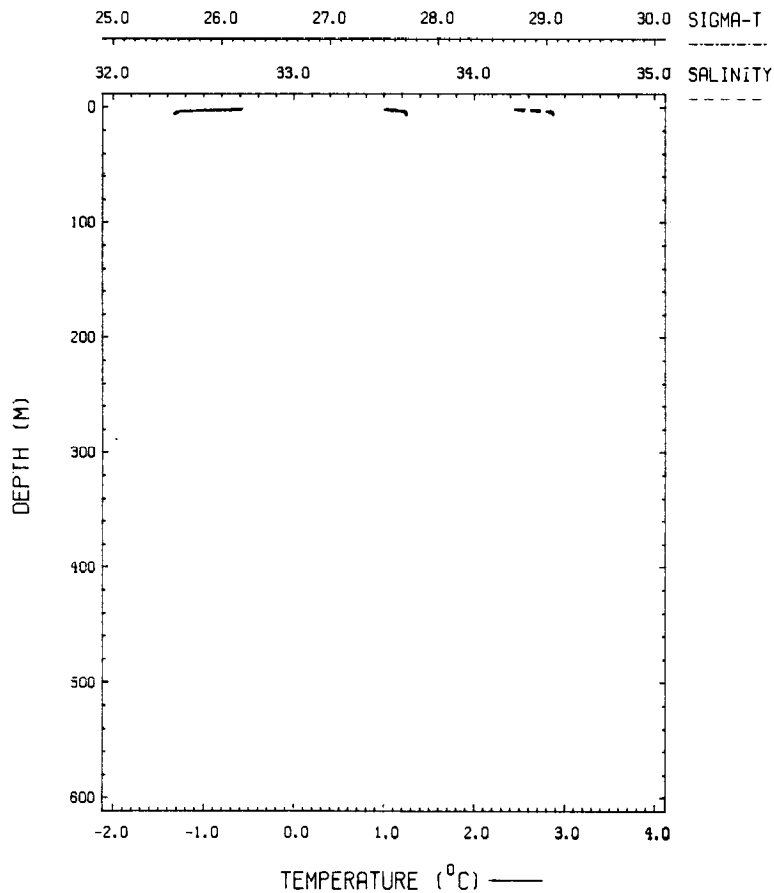


Cruise : AAMBER 86/87
 Cast number : 54
 Date : 3 MAR 1987
 Start Time : 0554 GMT
 Ship : NELLA DAN
 Position : 67:11.62S 71:51.24E
 Cast Depth (m) : 56
 Bottom Depth (m) : Not Recorded

CRUISE AAMBER 86/87 STATION 54
 03 MAR 1987 0554 GMT
 LATITUDE 67 11.62S
 LONGITUDE 71 51.24E
 DEPTH CTD 56 M BOTTOM NR

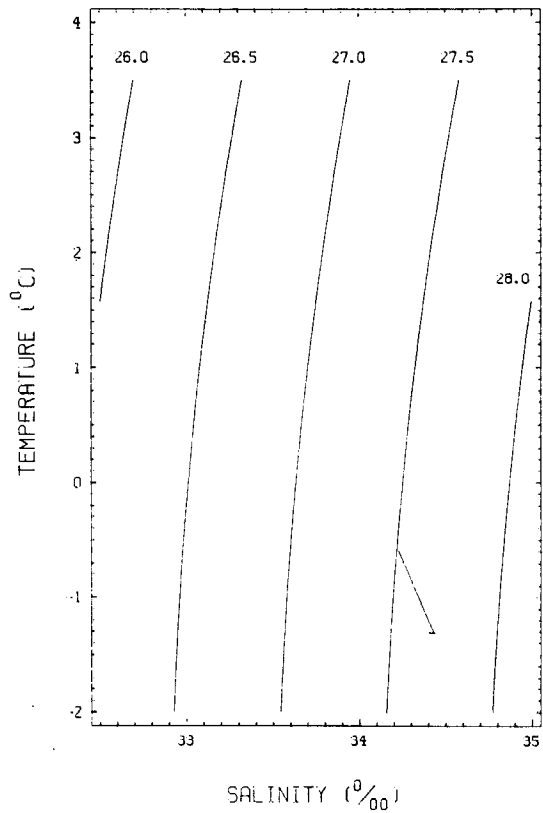
Depth d bar	Temperature (deg C)	Salinity	Sigma-T
0			
2	-0.60	34.23	27.51
5	-1.31	34.43	27.70
10			
15			
20			
25			
30			
35			
40			
45			
50			

108



CRUISE RAMBER 86/87 STATION 54
03 MAR 1987 0554 GMT
LATITUDE 67 11.62S
LONGITUDE 71 51.24E
DEPTH CTD 56 M BØTTØM NR

109

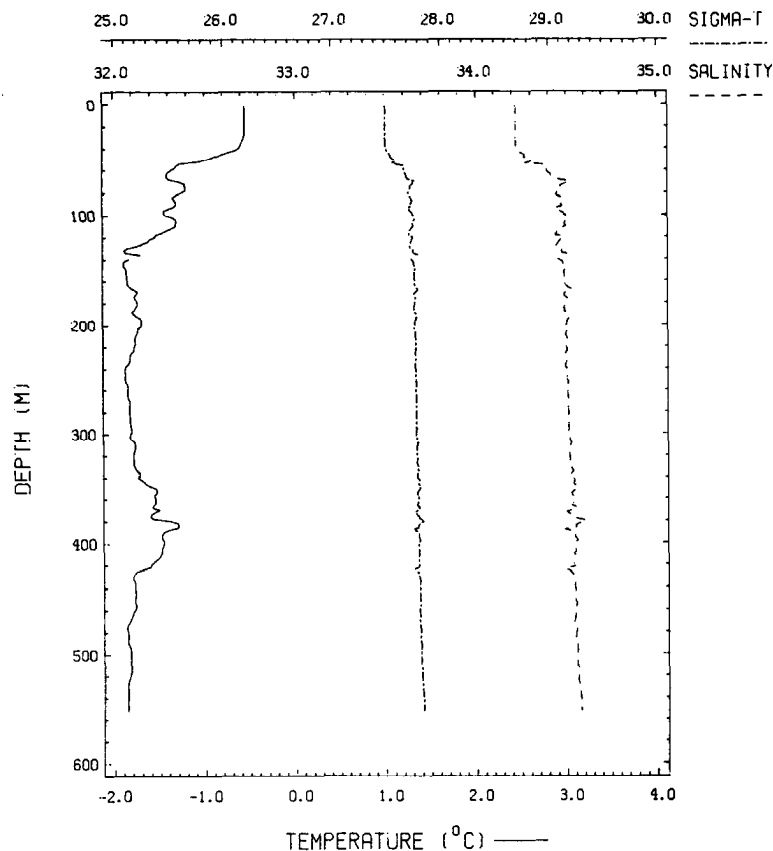


Cruise : AAMBER 86/87
 Cast number : 55
 Date : 3 MAR 1987
 Start Time : 0559 GMT
 Ship : NELLA DAN
 Position : 67:11.71S 71:51.20E
 Cast Depth (m) : 554
 Bottom Depth (m) : Not Recorded

CRUISE AAMBER 86/87 STATION 55
 03 MAR 1987 0559 GMT
 LATITUDE 67 11.71S
 LONGITUDE 71 51.20E
 DEPTH CTD 554 M BOTTOM 548 M

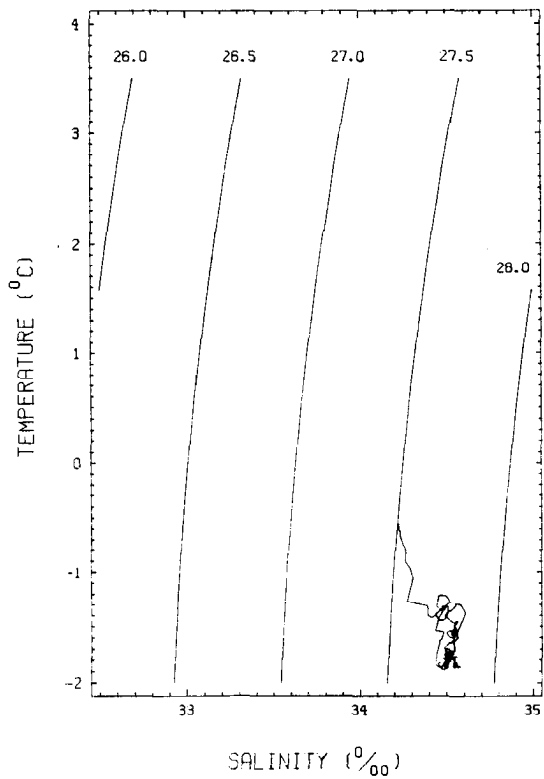
Depth d bar	Temperature (deg C)	Salinity	Sigma-T
0			
2	-0.56	34.22	27.50
5	-0.56	34.22	27.50
10	-0.56	34.22	27.50
15	-0.56	34.22	27.50
20	-0.56	34.22	27.50
25	-0.56	34.22	27.51
30	-0.56	34.22	27.50
35	-0.59	34.22	27.51
40	-0.62	34.23	27.51
45	-0.78	34.26	27.54
50	-0.97	34.29	27.58
60	-1.37	34.39	27.67
70	-1.28	34.52	27.77
75	-1.21	34.47	27.73
80	-1.26	34.45	27.72
90	-1.32	34.47	27.74
100	-1.42	34.50	27.76
125	-1.66	34.46	27.73
150	-1.86	34.49	27.77
175	-1.77	34.50	27.77
200	-1.70	34.50	27.77
250	-1.87	34.50	27.78
300	-1.82	34.51	27.78
400	-1.46	34.55	27.80
500	-1.82	34.55	27.82
552	-1.86	34.58	27.84

110



CRUISE RAMBER 86/87 STATION 55
03 MAR 1987 0559 GMT
LATITUDE 67 11.71S
LONGITUDE 71 51.20E
DEPTH CTD 554 M BØTTØM 548 M

III

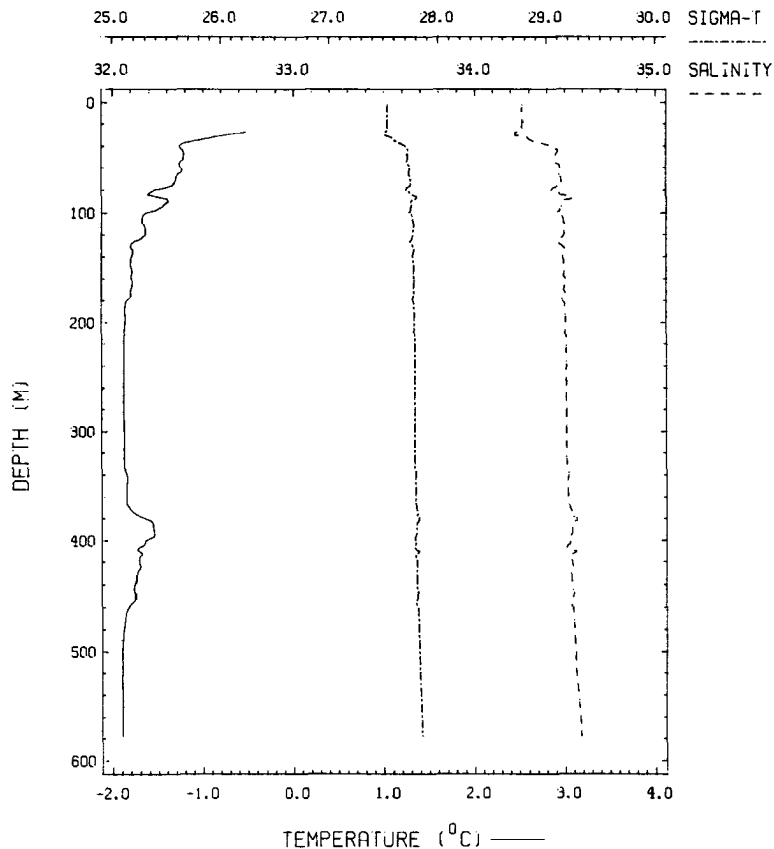


Cruise : AAMBER 86/87
 Cast number : 56
 Date : 3 MAR 1987
 Start Time : 0939 GMT
 Ship : NELLA DAN
 Position : 67:22.65S 72:24.40E
 Cast Depth (m) : 580
 Bottom Depth (m) : Not Recorded

CRUISE AAMBER 86/87 STATION 56
 03 MAR 1987 0939 GMT
 LATITUDE 67 22.65S
 LONGITUDE 72 24.40E
 DEPTH CTD 580 M BOTTOM 569 M

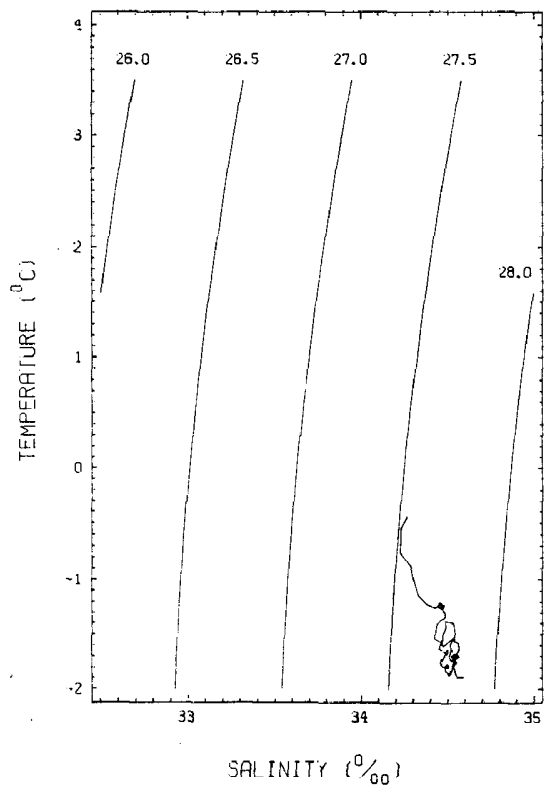
112

Depth d bar	Temperature (deg C)	Salinity	Sigma-T
0			
2	-0.45	34.27	27.54
5	-0.46	34.26	27.53
10	-0.46	34.27	27.54
15	-0.46	34.27	27.54
20	-0.45	34.27	27.54
25	-0.45	34.27	27.54
30	-0.76	34.22	27.51
35	-1.08	34.32	27.60
40	-1.26	34.43	27.70
45	-1.22	34.46	27.72
50	-1.22	34.45	27.72
60	-1.25	34.47	27.74
70	-1.30	34.48	27.74
75	-1.33	34.48	27.75
80	-1.54	34.42	27.71
90	-1.39	34.48	27.75
100	-1.63	34.45	27.73
125	-1.73	34.47	27.75
150	-1.79	34.50	27.78
175	-1.79	34.50	27.78
200	-1.86	34.50	27.78
250	-1.88	34.51	27.78
300	-1.87	34.51	27.78
400	-1.64	34.52	27.79
500	-1.90	34.56	27.82
578	-1.89	34.59	27.85



CRUISE AMBER 86/87 STATION 56
03 MAR 1987 0939 GMT
LATITUDE 67 22.65S
LONGITUDE 72 24.40E
DEPTH CTD 580 M BOTTOM 569 M

111

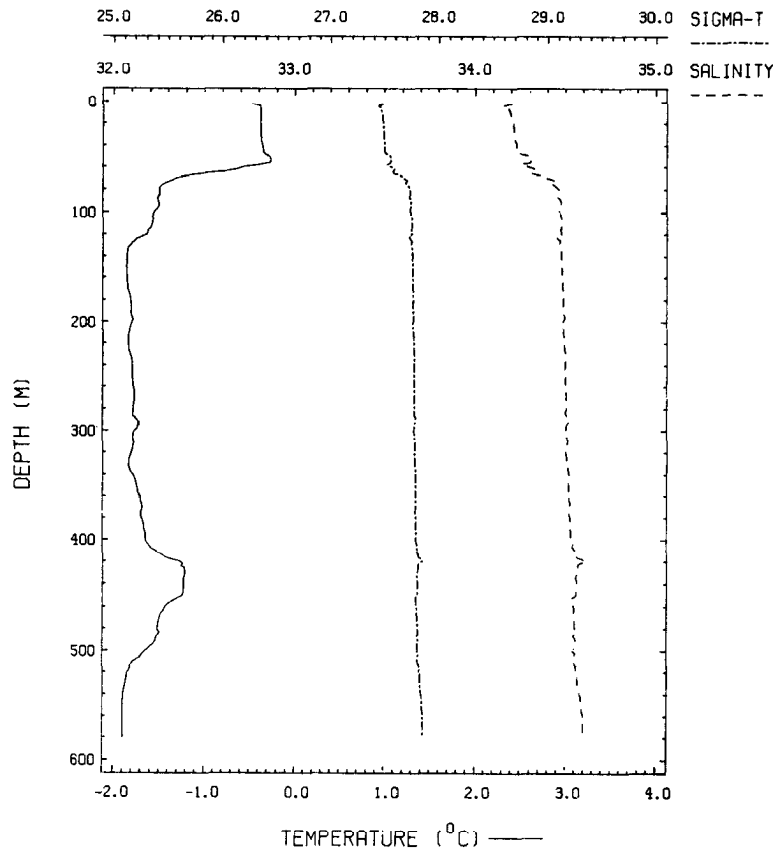


Cruise : AAMBER 86/87
 Cast number : 57
 Date : 3 MAR 1987
 Start Time : 1408 GMT
 Ship : NELLA DAN
 Position : 67:36.84S 72:58.80E
 Cast Depth (m) : 582
 Bottom Depth (m) : Not Recorded

CRUISE AAMBER 86/87 STATION 57
 03 MAR 1987 1408 GMT
 LATITUDE 67 36.84S
 LONGITUDE 72 58.80E
 DEPTH CTD 582 M BOTTOM 576 M

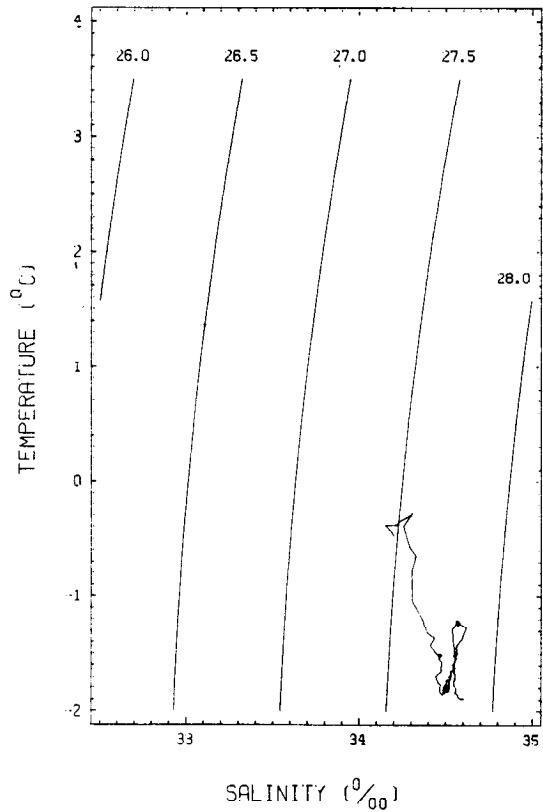
114

Depth d bar	Temperature (deg C)	Salinity	Sigma-T
0			
2	-0.47	34.20	27.48
5	-0.38	34.17	27.45
10	-0.38	34.19	27.47
15	-0.38	34.20	27.48
20	-0.38	34.21	27.49
25	-0.38	34.21	27.49
30	-0.38	34.22	27.49
35	-0.37	34.22	27.50
40	-0.36	34.23	27.50
45	-0.35	34.23	27.50
50	-0.29	34.30	27.56
60	-0.57	34.29	27.56
70	-1.32	34.39	27.67
75	-1.45	34.42	27.70
80	-1.51	34.46	27.73
90	-1.51	34.47	27.75
100	-1.56	34.47	27.74
125	-1.76	34.46	27.74
150	-1.86	34.48	27.76
175	-1.82	34.49	27.77
200	-1.79	34.49	27.76
250	-1.79	34.50	27.77
300	-1.76	34.50	27.77
400	-1.65	34.53	27.79
500	-1.65	34.54	27.81
580	-1.89	34.59	27.85



CRUISE RAMBER 86/87 STATION 57
03 MAR 1987 1408 GMT
LATITUDE 67 36.84S
LONGITUDE 72 58.80E
DEPTH CTD 582 M BØITØM 576 M

511

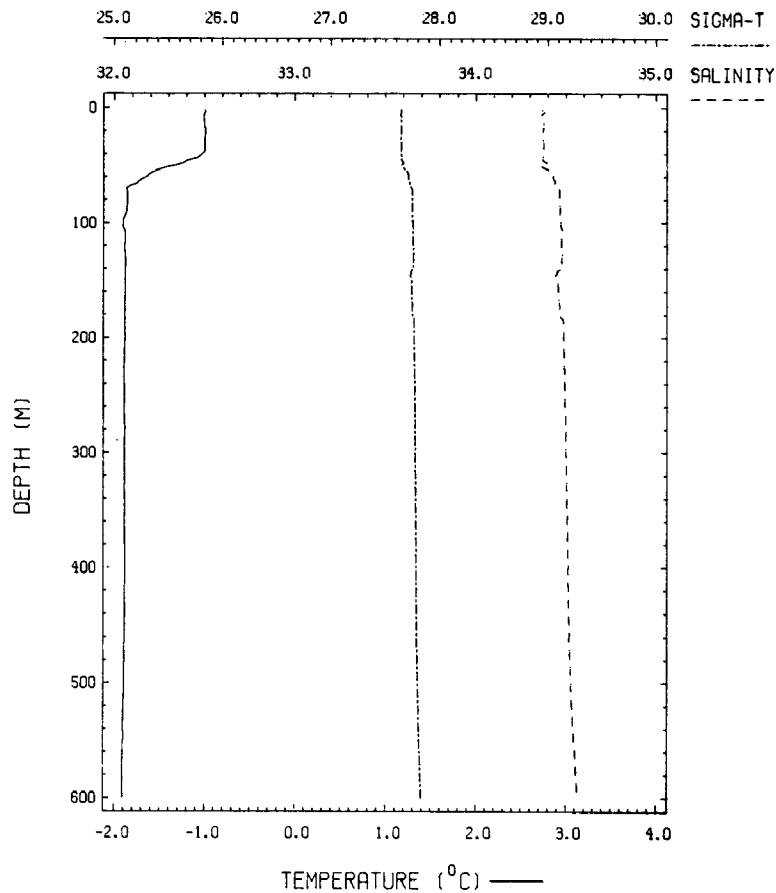


Cruise : AAMBER 86/87
 Cast number : 58
 Date : 3 MAR 1987
 Start Time : 1852 GMT
 Ship : NELLA DAN
 Position : 67:44.07S 71:51.34E
 Cast Depth (m) : 676
 Bottom Depth (m) : Not Recorded

CRUISE AAMBER 86/87 STATION 58
 03 MAR 1987 1852 GMT
 LATITUDE 67 44.07S
 LONGITUDE 71 51.34E
 DEPTH CTD 676 M BOTTOM 672 M

116

Depth d bar	Temperature (deg C)	Salinity	Sigma-T
0			
2	-1.00	34.37	27.64
5	-1.00	34.37	27.65
10	-1.01	34.38	27.65
15	-1.00	34.38	27.65
20	-0.99	34.37	27.65
25	-1.00	34.37	27.65
30	-1.00	34.38	27.65
35	-1.00	34.38	27.65
40	-1.02	34.37	27.65
45	-1.14	34.37	27.65
50	-1.32	34.36	27.65
60	-1.64	34.43	27.71
70	-1.86	34.46	27.74
75	-1.86	34.46	27.75
80	-1.86	34.47	27.75
90	-1.87	34.47	27.75
100	-1.90	34.47	27.75
125	-1.88	34.48	27.76
150	-1.88	34.45	27.74
175	-1.88	34.46	27.75
200	-1.88	34.49	27.77
250	-1.89	34.49	27.77
300	-1.89	34.50	27.78
400	-1.88	34.52	27.79
500	-1.89	34.53	27.80
600	-1.91	34.57	27.83
674	-1.90	34.60	27.86



CRUISE AAMBER 86/87 STATION 58

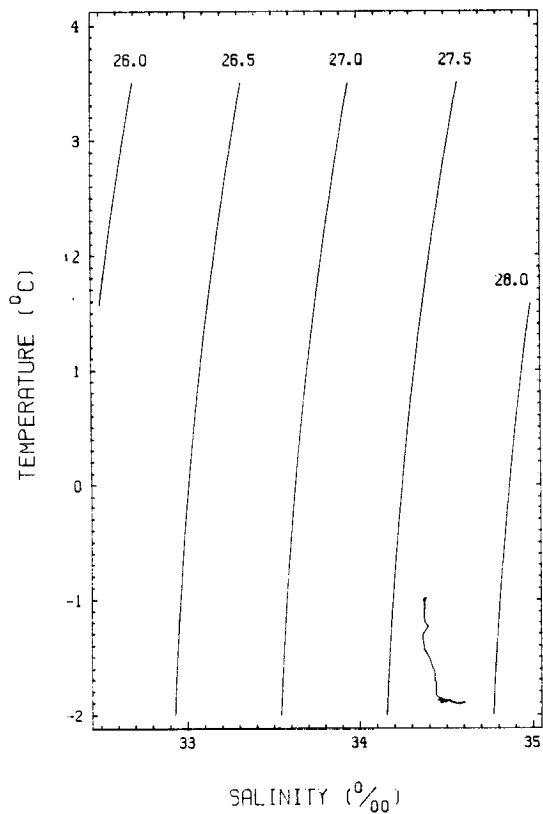
03 MAR 1987 1852 GMT

LATITUDE 67 44.07S

LONGITUDE 71 51.34E

DEPTH CTD 676 M BOTTOM 672 M

117

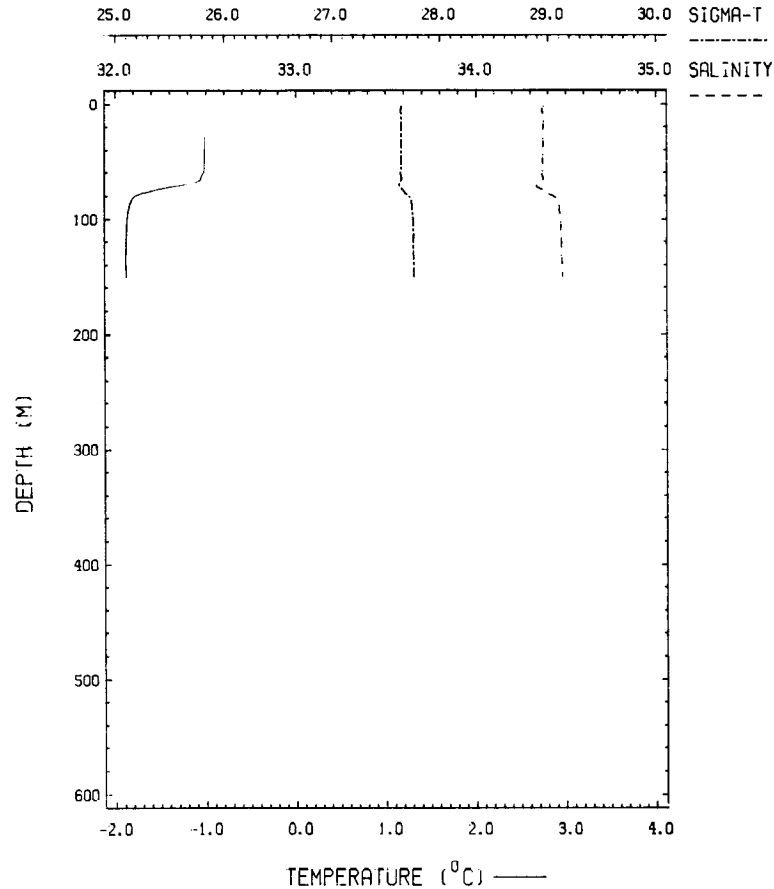


Cruise : AAMBER 86/87
 Cast number : 59
 Date : 3 MAR 1987
 Start Time : 1936 GMT
 Ship : NELLA DAN
 Position : 67:43.82S 71:52.08E
 Cast Depth (m) : 152
 Bottom Depth (m) : Not Recorded

CRUISE AAMBER 86/87 STATION 59
 03 MAR 1987 1936 GMT
 LATITUDE 67 43.82S
 LONGITUDE 71 52.08E
 DEPTH CTD 152 M BOTTOM 672 M

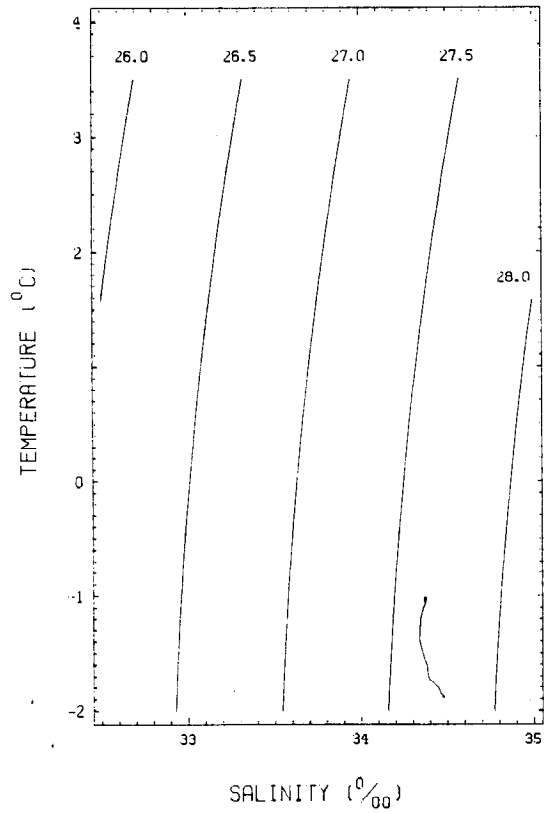
118

Depth d bar	Temperature (deg C)	Salinity	Sigma-T
0			
2	-1.01	34.37	27.65
5	-1.02	34.37	27.64
10	-1.03	34.37	27.65
15	-1.03	34.38	27.65
20	-1.01	34.37	27.65
25	-1.01	34.37	27.64
30	-1.01	34.37	27.65
35	-1.01	34.37	27.65
40	-1.02	34.37	27.65
45	-1.02	34.37	27.64
50	-1.02	34.37	27.64
60	-1.03	34.37	27.64
70	-1.20	34.34	27.63
75	-1.56	34.37	27.66
80	-1.78	34.43	27.72
90	-1.85	34.46	27.75
100	-1.87	34.47	27.75
125	-1.88	34.47	27.75
150	-1.88	34.48	27.76
150	-1.88	34.48	27.76



CRUISE AMBER 86/87 STATION 59
03 MAR 1987 1936 GMT
LATITUDE 67 43.82S
LONGITUDE 71 52.08E
DEPTH CTD 152 M BOTTOM 672 M

611



Cruise : AAMBER 86/87
 Cast number : 60
 Date : 4 MAR 1987
 Start Time : 0047 GMT
 Ship : NELLA DAN
 Position : 68:00.80S 73:02.21E
 Cast Depth (m) : 650
 Bottom Depth (m) : Not Recorded

Cruise : AAMBER 86/87
 Cast number : 61
 Date : 5 MAR 1987
 Start Time : 0759 GMT
 Ship : NELLA DAN
 Position : 68:35.25S 76:07.37E
 Cast Depth (m) : 656
 Bottom Depth (m) : Not Recorded

120

Depth d bar	Temperature (deg C)	Salinity	Sigma-T
0			
2	-0.47		
5	-0.47		
10	-0.49		
15	-0.47		
20	-0.46		
25	-0.46		
30	-0.47		
35	-0.48		
40	-0.50		
45	-0.62		
50	-1.20		
60	-1.73		
70	-1.84		
75	-1.84		
80	-1.85		
90	-1.85		
100	-1.86		
125	-1.87		
150	-1.87		
175	-1.88		
200	-1.88		
250	-1.88		
300	-1.88		
400	-1.88		
500	-1.88		
600	-1.91		
648	-1.90		

Depth d bar	Temperature (deg C)	Salinity	Sigma-T
0			
2	-1.63		
5	-1.66		
10	-1.66		
15	-1.66		
20	-1.27		
25	-1.10		
30	-1.21		
35	-1.47		
40	-1.00		
45	-0.66		
50	-0.77		
60	-1.16		
70	-1.28		
75	-1.39		
80	-1.39		
90	-1.49		
100	-1.54		
125	-1.73		
150	-1.72		
175	-1.77		
200	-1.78		
250	-1.81		
300	-1.81		
400	-1.85		
500	-1.86		
600	-1.89		
654	-1.91		

Cruise : AAMBER 86/87
 Cast number : 62
 Date : 5 MAR 1987
 Start Time : 1359 GMT
 Ship : NELLA DAN
 Position : 67:51.41S 75:13.49E
 Cast Depth (m) : 84
 Bottom Depth (m) : Not Recorded

Cruise : AAMBER 86/87
 Cast number : 63
 Date : 5 MAR 1987
 Start Time : 1409 GMT
 Ship : NELLA DAN
 Position : 67:51.29S 75:13.65E
 Cast Depth (m) : 462
 Bottom Depth (m) : Not Recorded

121

Depth d bar	Temperature (deg C)	Salinity	Sigma-T
0			
2	-0.62		
5	-0.32		
10	-0.27		
15	-0.60		
20	-1.68		
25	-1.74		
30			
35			
40			
45			
50			
60			
70			
75			
80	-1.75		

Depth d bar	Temperature (deg C)	Salinity	Sigma-T
0			
5			
10			
12	-0.26		
15	-0.26		
20	-0.25		
25	-0.25		
30	-0.23		
35	-0.19		
40	-0.18		
45	-0.93		
50	-1.58		
60	-1.70		
70	-1.71		
75	-1.70		
80	-1.69		
90	-1.68		
100	-1.77		
125	-1.80		
150	-1.79		
175	-1.83		
200	-1.84		
250	-1.86		
300	-1.87		
400	-1.86		
460	-1.76		

Cruise : AAMBER 86/87
 Cast number : 64
 Date : 6 MAR 1987
 Start Time : 0132 GMT
 Ship : NELLA DAN
 Position : 68:33.88S 76:44.25E
 Cast Depth (m) : 690
 Bottom Depth (m) : Not Recorded

Cruise : AAMBER 86/87
 Cast number : 65
 Date : 7 MAR 1987
 Start Time : 0806 GMT
 Ship : NELLA DAN
 Position : 68:00.58S 78:03.75E
 Cast Depth (m) : 604
 Bottom Depth (m) : Not Recorded

122

Depth d bar	Temperature (deg C)	Salinity	Sigma-T
0			
2	-1.48		
5	-1.47		
10	-1.47		
15	-1.47		
20	-1.41		
25	-1.31		
30	-0.75		
35	-0.73		
40	-0.96		
45	-1.30		
50	-0.98		
60	-1.14		
70	-1.30		
75	-1.41		
80	-1.48		
90	-1.55		
100	-1.63		
125	-1.70		
150	-1.73		
175	-1.79		
200	-1.79		
250	-1.82		
300	-1.84		
400	-1.86		
500	-1.89		
600	-1.88		
688	-1.91		

Depth d bar	Temperature (deg C)	Salinity	Sigma-T
0			
2	-1.80		
5	-1.80		
10	-1.81		
15	-1.80		
20	-1.79		
25	-1.77		
30	-1.75		
35	-1.73		
40	-1.70		
45	-1.69		
50	-1.60		
60	-1.54		
70	-1.40		
75	-1.39		
80	-1.45		
90	-1.60		
100	-1.66		
125	-1.79		
150	-1.84		
175	-1.83		
200	-1.84		
250	-1.85		
300	-1.85		
400	-1.81		
500	-1.72		
600	-1.74		
602	-1.74		

Cruise : AAMBER 86/87
 Cast number : 66
 Date : 8 MAR 1987
 Start Time : 2242 GMT
 Ship : NELLA DAN
 Position : 66:53.80S 70:15.30E
 Cast Depth (m) : 202
 Bottom Depth (m) : Not Recorded

Cruise : AAMBER 86/87
 Cast number : 67
 Date : 9 MAR 1987
 Start Time : 0813 GMT
 Ship : NELLA DAN
 Position : 67:01.00S 68:01.81E
 Cast Depth (m) : 602
 Bottom Depth (m) : Not Recorded

123

Depth d bar	Temperature (deg C)	Salinity	Sigma-T
0			
2	-1.43		
5	-1.43		
10	-1.43		
15	-1.43		
20	-1.43		
25	-1.43		
30	-1.43		
35	-1.43		
40	-1.40		
45	-1.40		
50	-1.39		
60	-1.38		
70	-1.38		
75	-1.37		
80	-1.35		
90	-1.29		
100	-1.27		
125	-1.47		
150	-1.52		
175	-1.75		
200	-1.88		
200	-1.88		

Depth d bar	Temperature (deg C)	Salinity	Sigma-T
0			
2	-1.12		
5	-1.12		
10	-1.01		
15	-0.89		
20	-0.79		
25	-0.77		
30	-0.73		
35	-0.73		
40	-0.73		
45	-0.74		
50	-0.75		
60	-0.74		
70	-1.02		
75	-1.10		
80	-1.22		
90	-1.43		
100	-1.44		
125	-1.36		
150	-1.49		
175	-1.73		
200	-1.74		
250	-0.44		
300	-0.28		
400	0.05		
500	0.21		
572	0.24		

Cruise : AAMBER 86/87
 Cast number : 69
 Date : 9 MAR 1987
 Start Time : 1605 GMT
 Ship : NELLA DAN
 Position : 65:52.03S 68:01.36E
 Cast Depth (m) : 1004
 Bottom Depth (m) : Not Recorded

Cruise : AAMBER 86/87
 Cast number : 70
 Date : 9 MAR 1987
 Start Time : 2156 GMT
 Ship : NELLA DAN
 Position : 65:05.47S 67:53.83E
 Cast Depth (m) : 604
 Bottom Depth (m) : Not Recorded

Depth d bar	Temperature (deg C)	Salinity	Sigma-T
0			
2	-0.56		
5	-0.56		
10	-0.55		
15	-0.55		
20	-0.55		
25	-0.55		
30	-0.56		
35	-0.55		
40	-0.54		
45	-0.57		
50	-0.63		
60	-0.87		
70	-0.91		
75	-1.04		
80	-1.20		
90	-1.49		
100	-1.50		
125	-1.32		
150	-1.26		
175	-1.31		
200	-1.61		
250	-1.23		
300	-0.44		
400	0.11		
500	0.07		
598	0.27		

Depth d bar	Temperature (deg C)	Salinity	Sigma-T
0			
2	-0.08		
5	-0.08		
10	-0.09		
15	-0.08		
20	-0.08		
25	-0.08		
30	-0.08		
35	-0.25		
40	-0.51		
45	-1.22		
50	-1.38		
60	-1.44		
70	-1.36		
75	-1.49		
80	-1.55		
90	-1.71		
100	-1.74		
125	-1.71		
150	-1.42		
175	-1.27		
200	-1.02		
250	-0.26		
300	0.27		
352			

Cruise : AMBER 86/87
 Cast number : 71
 Date : 12 MAR 1987
 Start Time : 1316 GMT
 Ship : NELLA DAN
 Position : 63:30.94S 62:59.62E
 Cast Depth (m) : 602
 Bottom Depth (m) : Not Recorded

Cruise : AMBER 86/87
 Cast number : 72
 Date : 12 MAR 1987
 Start Time : 1812 GMT
 Ship : NELLA DAN
 Position : 64:19.92S 62:57.56E
 Cast Depth (m) : 604
 Bottom Depth (m) : Not Recorded

125

Depth d bar	Temperature (deg C)	Salinity	Sigma-T
0			
2	1.31		
5	1.30		
10	1.30		
15	1.30		
20	1.29		
25	1.29		
30	1.28		
35	1.28		
40	1.27		
45	1.27		
50	1.25		
60	-1.39		
70	-1.46		
75	-1.46		
80	-1.37		
90	-0.92		
100	-0.21		
116	0.68		

Depth d bar	Temperature (deg C)	Salinity	Sigma-T
0			
2	0.42		
5	0.42		
10	0.42		
15	0.42		
20	0.42		
25	0.41		
30	0.41		
35	0.41		
40	0.40		
45	0.40		
50	0.40		
60	0.11		
70	-1.19		
75	-1.40		
80	-1.33		
90	-1.46		
100	-1.38		
125	-0.77		
150	-0.10		
175	0.19		
200	0.49		
206	0.53		

Cruise : AAMBER 86/87
Cast number : 73
Date : 14 MAR 1987
Start Time : 0931 GMT
Ship : NELLA DAN
Position : 64:58.25S 67:12.06E
Cast Depth (m) : 206
Bottom Depth (m) : Not Recorded

Cruise : AAMBER 86/87
Cast number : 74
Date : 14 MAR 1987
Start Time : 2304 GMT
Ship : NELLA DAN
Position : 65:10.41S 72:50.01E
Cast Depth (m) : 604
Bottom Depth (m) : Not Recorded

126

Depth d bar	Temperature (deg C)	Salinity	Sigma-T
0			
2	-0.44		
5	-0.45		
10	-0.45		
15	-0.45		
20	-0.45		
25	-0.45		
30	-0.45		
35	-0.45		
40	-0.46		
45	-0.51		
50	-0.85		
60	-1.47		
70	-1.54		
75	-1.59		
80	-1.53		
90	-1.47		
100	-1.31		
125	-1.24		
150	-1.07		
175	-0.39		
200	-0.09		
204	-0.06		

Depth d bar	Temperature (deg C)	Salinity	Sigma-T
0			
2	0.12		
5	0.08		
10	0.08		
15	0.09		
20	0.09		
25	0.09		
30	0.09		
35	0.09		
40	0.09		
45	0.01		
50	-0.94		
60	-1.49		
70	-1.49		
75	-1.45		
80	-1.36		
90	-1.43		
100	-1.29		
125	-0.89		
150	-0.59		
175	0.01		
200	0.14		
250	0.68		
292	0.77		

Cruise : AAMBER 86/87
 Cast number : 75
 Date : 16 MAR 1987
 Start Time : 0318 GMT
 Ship : NELLA DAN
 Position : 64:19.12S 77:58.55E
 Cast Depth (m) : 602
 Bottom Depth (m) : Not Recorded

Cruise : AAMBER 86/87
 Cast number : 76
 Date : 16 MAR 1987
 Start Time : 0805 GMT
 Ship : NELLA DAN
 Position : 63:45.61S 78:01.94E
 Cast Depth (m) : 202
 Bottom Depth (m) : Not Recorded

Depth d bar	Temperature (deg C)	Salinity	Sigma-T
0			
2	0.48		
5	0.48		
10	0.49		
15	0.48		
20	0.49		
25	0.49		
30	0.49		
35	0.49		
40	0.37		
45	-0.43		
50	-0.96		
60	-1.33		
70	-1.27		
75	-1.25		
80	-1.18		
90	-0.78		
100	-0.53		
125	0.10		
150	0.55		
175	0.74		
190	0.87		

Depth d bar	Temperature (deg C)	Salinity	Sigma-T
0			
2	1.02		
5	1.01		
10	1.01		
15	1.01		
20	1.01		
25	1.01		
30	1.01		
35	1.01		
40	0.87		
45	-0.15		
50	-0.77		
60	-0.46		
70	0.06		
75	0.44		
80	0.74		
90			
100	0.99		
100	0.99		

Cruise : AAMBER 86/87
Cast number : 77
Date : 16 MAR 1987
Start Time : 1118 GMT
Ship : NELLA DAN
Position : 63:31.03S 77:59.35E
Cast Depth (m) : 602
Bottom Depth (m) : Not Recorded

Cruise : AAMBER 86/87
Cast number : 78
Date : 16 MAR 1987
Start Time : 1625 GMT
Ship : NELLA DAN
Position : 62:40.40S 77:57.69E
Cast Depth (m) : 602
Bottom Depth (m) : Not Recorded

Depth d bar	Temperature (deg C)	Salinity	Sigma-T
0			
2	1.33		
5	1.33		
10	1.32		
15	1.32		
20	1.32		
25	1.33		
30	1.34		
35	1.34		
40	1.34		
45	0.93		
50	-1.17		
60	-0.95		
70	-0.38		
75	0.09		
80	0.66		
86	0.99		

Depth d bar	Temperature (deg C)	Salinity	Sigma-T
0			
2	0.69		
5	0.72		
10	0.73		
15	0.73		
20	0.73		
25	0.73		
30	0.73		
35	0.74		
40	0.74		
45	0.73		
50	0.41		
60	-0.72		
70	-0.35		
75	-0.03		
80	0.17		
90	0.74		
98	0.93		

Cruise : AAMBER 86/87
Cast number : 79
Date : 17 MAR 1987
Start Time : 0031 GMT
Ship : NELLA DAN
Position : 61:48.68S 78:11.45E
Cast Depth (m) : 204
Bottom Depth (m) : Not Recorded

Cruise : AAMBER 86/87
Cast number : 80
Date : 18 MAR 1987
Start Time : 0023 GMT
Ship : NELLA DAN
Position : 61:51.23S 73:00.55E
Cast Depth (m) : 6
Bottom Depth (m) : Not Recorded

129

Depth d bar	Temperature (deg C)	Salinity	Sigma-T
0			
2	1.42		
5	1.41		
10	1.39		
15	1.41		
20	1.44		
25	1.45		
30	1.46		
35	1.46		
40	1.46		
45	1.45		
50	1.42		
60	-1.37		
70	-1.52		
75	-1.54		
80	-1.52		
90	-1.38		
100	-0.93		
125	0.74		
132	1.07		

Depth d bar	Temperature (deg C)	Salinity	Sigma-T
0			
4	1.23		

Cruise : AAMBER 86/87
 Cast number : 83
 Date : 18 MAR 1987
 Start Time : 1634 GMT
 Ship : NELLA DAN
 Position : 62:39.64S 72:56.40E
 Cast Depth (m) : 604
 Bottom Depth (m) : Not Recorded

Cruise : AAMBER 86/87
 Cast number : 84
 Date : 18 MAR 1987
 Start Time : 2139 GMT
 Ship : NELLA DAN
 Position : 63:30.13S 72:59.30E
 Cast Depth (m) : 604
 Bottom Depth (m) : Not Recorded

130

Depth d bar	Temperature (deg C)	Salinity	Sigma-T
0			
2	1.04		
5	1.04		
10	1.03		
15	1.03		
20	1.03		
25	1.03		
30	1.03		
35	1.03		
40	1.03		
45	1.03		
50	1.02		
60	-0.67		
70	-1.07		
75	-0.83		
80	-0.56		
90	0.00		
100	0.47		
118			

Depth d bar	Temperature (deg C)	Salinity	Sigma-T
0			
2	0.16		
5	0.18		
10	0.18		
15	0.18		
20	0.16		
25	0.15		
30	0.14		
35	0.07		
40	-0.33		
45	-1.20		
50	-1.33		
60	-1.08		
70	0.22		
75	0.45		
80	0.68		
82	0.80		

Cruise : AAMBER 86/87
 Cast number : 85
 Date : 19 MAR 1987
 Start Time : 0235 GMT
 Ship : NELLA DAN
 Position : 64:21.40S 72:56.95E
 Cast Depth (m) : 602
 Bottom Depth (m) : Not Recorded

Cruise : AAMBER 86/87
 Cast number : 86
 Date : 19 MAR 1987
 Start Time : 1258 GMT
 Ship : NELLA DAN
 Position : 66:03.74S 72:58.33E
 Cast Depth (m) : 602
 Bottom Depth (m) : Not Recorded

131

Depth d bar	Temperature (deg C)	Salinity	Sigma-T
0			
2	0.57		
5	0.57		
10	0.56		
15	0.56		
20	0.56		
25	0.56		
30	0.56		
35	0.56		
40	0.56		
45	0.55		
50	0.23		
60	-0.65		
70	-0.58		
75	-0.78		
80	-0.74		
90	-0.62		
100	-0.48		
116	0.42		

Depth d bar	Temperature (deg C)	Salinity	Sigma-T
0			
4	-1.27		
5	-1.19		
10	-1.62		
15	-1.62		
20			
25			
30			
35			
40			
45			
50			
60			
70			
75			
80			
90			
100	-1.61		
100	-1.63		
125	-1.09		
150	-0.44		
175	0.09		
200	0.27		
250	0.36		
300	0.34		
400	0.46		
500	0.58		
504	0.59		

Cruise : AAMBER 86/87
 Cast number : 87
 Date : 20 MAR 1987
 Start Time : 0926 GMT
 Ship : NELLA DAN
 Position : 65:09.68S 77:58.81E
 Cast Depth (m) : 602
 Bottom Depth (m) : Not Recorded

Cruise : AAMBER 86/87
 Cast number : 88
 Date : 20 MAR 1987
 Start Time : 2144 GMT
 Ship : NELLA DAN
 Position : 65:03.28S 82:42.49E
 Cast Depth (m) : 604
 Bottom Depth (m) : Not Recorded

Depth d bar	Temperature (deg C)	Salinity	Sigma-T
0			
2	-0.08		
5	-0.08		
10	-0.12		
15	-0.12		
20	-0.12		
25	-0.13		
30	-0.12		
35	-0.12		
40	-0.11		
45	-0.12		
50	-0.11		
60	-0.74		
70	-1.51		
75	-1.53		
80	-1.53		
90	-1.55		
100	-1.47		
125	-1.17		
150	-0.64		
175	-0.04		
200	0.31		
250	0.60		
286	0.74		

Depth d bar	Temperature (deg C)	Salinity	Sigma-T
0			
2	-1.61		
5	-1.59		
10	-1.61		
15	-1.60		
20	-1.45		
25	-0.28		
30	0.12		
35	0.31		
40	0.19		
45	-0.23		
50	-0.76		
60	-1.41		
70	-1.39		
75	-1.36		
80	-1.30		
90	-1.25		
100	-1.11		
125	-0.67		
150	0.05		
175			
200			
242	0.79		

Cruise : AAMBER 86/87
 Cast number : 89
 Date : 21 MAR 1987
 Start Time : 0203 GMT
 Ship : NELLA DAN
 Position : 64:19.86S 82:58.30E
 Cast Depth (m) : 602
 Bottom Depth (m) : Not Recorded

Cruise : AAMBER 86/87
 Cast number : 90
 Date : 22 MAR 1987
 Start Time : 1641 GMT
 Ship : NELLA DAN
 Position : 61:47.99S 87:54.79E
 Cast Depth (m) : 602
 Bottom Depth (m) : Not Recorded

133

Depth d bar	Temperature (deg C)	Salinity	Sigma-T
0			
2	-0.28		
5	-0.29		
10	-0.29		
15	-0.29		
20	-0.29		
25	-0.29		
30	-0.28		
35	-0.28		
40	-0.28		
45	-0.34		
50	-0.97		
60	-1.51		
70	-1.50		
75	-1.51		
80	-1.53		
90	-1.56		
100	-1.59		
125	-1.50		
150	-1.37		
175	-1.14		
200	-0.67		
250	0.03		
284			

Depth d bar	Temperature (deg C)	Salinity	Sigma-T
0			
2	0.12		
5	0.12		
10	0.12		
15	0.12		
20	0.12		
25	0.12		
30	0.12		
35	0.11		
40	0.11		
45	0.10		
50	-0.14		
60	-1.17		
70	-1.12		
75	-1.31		
80	-1.34		
90	-1.32		
100	-1.36		
125	-0.94		
150	-0.45		
175	0.20		
200			
208			

Cruise : AAMBER 86/87
 Cast number : 91
 Date : 22 MAR 1987
 Start Time : 2211 GMT
 Ship : NELLA DAN
 Position : 62:40.63S 87:57.66E
 Cast Depth (m) : 606
 Bottom Depth (m) : Not Recorded

Cruise : AAMBER 86/87
 Cast number : 92
 Date : 23 MAR 1987
 Start Time : 0312 GMT
 Ship : NELLA DAN
 Position : 63:29.98S 87:56.65E
 Cast Depth (m) : 602
 Bottom Depth (m) : Not Recorded

134

Depth d bar	Temperature (deg C)	Salinity	Sigma-T
0			
2	0.01		
5	0.00		
10	0.00		
15	0.00		
20	0.01		
25	0.01		
30	0.01		
35	0.01		
40	0.01		
45	0.01		
50	0.00		
60	-0.20		
70	-0.72		
75	-0.63		
80	-0.19		
90	0.23		
100	0.11		
125	-0.07		
150	0.53		
170			

Depth d bar	Temperature (deg C)	Salinity	Sigma-T
0			
2	-0.01		
5	-0.01		
10	-0.03		
15	-0.03		
20	-0.03		
25	-0.03		
30	-0.03		
35	-0.03		
40	-0.03		
45	-0.03		
50	-0.04		
60	-0.76		
70			
75	-0.71		
80	-1.16		
90	-1.45		
100	-1.36		
125	-0.99		
150	-0.12		
175	0.58		
196			

Cruise : AAMBER 86/87
 Cast number : 93
 Date : 23 MAR 1987
 Start Time : 1125 GMT
 Ship : NELLA DAN
 Position : 64:15.97S 88:01.52E
 Cast Depth (m) : 604
 Bottom Depth (m) : Not Recorded

Cruise : AAMBER 86/87
 Cast number : 94
 Date : 23 MAR 1987
 Start Time : 1557 GMT
 Ship : NELLA DAN
 Position : 64:57.19S 87:59.80E
 Cast Depth (m) : 602
 Bottom Depth (m) : Not Recorded

135

Depth d bar	Temperature (deg C)	Salinity	Sigma-T
0			
2	-0.23		
5	-0.23		
10	-0.25		
15	-0.26		
20	-0.26		
25	-0.26		
30	-0.27		
35	-0.31		
40	-0.67		
45	-1.02		
50	-1.35		
60	-1.38		
70	-1.37		
75	-1.35		
80	-1.35		
90	-1.35		
100	-1.51		
125	-1.47		
150	-1.22		
175	-0.98		
200	0.24		
250	0.35		
300	0.54		
308			

Depth d bar	Temperature (deg C)	Salinity	Sigma-T
0			
2	-1.69		
5	-1.68		
10	-1.68		
15	-1.68		
20	-1.68		
25	-1.68		
30	-1.40		
35	-1.03		
40	-0.94		
45	-1.02		
50	-1.17		
60	-1.66		
70	-1.72		
75	-1.72		
80	-1.74		
90	-1.74		
100	-1.74		
125	-1.74		
150	-1.70		
175	-1.57		
200	-1.43		
250	-1.00		
300	-0.77		
400	0.37		
452	0.63		

4. DATA STORAGE AND AVAILABILITY

Data exist in three formats; raw data, as collected; uncalibrated and de-spiked but corrected for sensor constants etc., i.e. processed; and 2 dbar averages used for plotting and presentation.

Data may be made available to other research workers and institutions on nine track magnetic tape. Enquiries should be made to:

The Director
Antarctic Division
Department of the Arts, Sport, The Environment, Tourism and Territories
Channel Highway
KINGSTON TAS 7050

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