P17/15

Not to be cited without prior reference to the Laboratory

FRV *SCOTIA*

Cruise 0594S

REPORT

2 - 9 April 1994

Ports

Loading	Aberdeen
Unloading	Aberdeen

Personnel

W R Turrell	PSO (in charge)
G Slesser	HSO
P A Gillibrand	HSO
R D Adams	SO
M Moyne-Picard	Visitor

Objectives

1. To perform hydrographic surveys along the Fair Isle - Munken (Faroe) [SEFOS standard section 19] and Nolso (Faroe) - Flugga (Shetland) [SEFOS standard section 18] standard sections.

2. To perform hydrographic surveys along the Faroe Bank - Butt of Lewis [SEFOS standard section 17] standard section.

3. To survey the standard JONSIS, East Shetland (ES) [SEFOS standard section 20] and northern North Sea (EC) sections.

4. Collect the Fair Isle radio-caesium sample for analysis by MAFF, Lowestoft.

Out-turn days per project

GBG1 4.0
BKC1 4.0

Narrative

FRV *Scotia* sailed from Aberdeen at 1030 Saturday 2 April (all times are BST), and steamed directly for the start of SEFOS section 17 north of the Butt of Lewis. On arrival at approximately 0700 on Sunday 3 April the wind strength had increased to Force 9. *Scotia* hence proceeded to shelter in the Minch, where it was hoped an ADCP survey might be undertaken. However, the sea conditions proved too poor, and *Scotia* proceeded

to Broad Bay where tests on the new Seacat were performed. By 1800 the wind had begun to abate, hence *Scotia* proceeded to station SEFOS 17/1, which was started at 2130.

At 0400 the following day, at station SEFOS 17/06 the Seabird CTD was lost. A full report describing the incident is available. As no possibility existed at the time for an attempt at retrieval, work recommenced using knudsen reversing bottles. The SEFOS 17 standard section was completed at 1700 on Monday 4 April. *Scotia* then proceeded to the start of the SEFOS 18 section, which commenced at 0140 on the 5 April and was completed by 0300 the following day.

As a large number of salinity samples had accumulated by this time, owing to a malfunctioning bench salinometer, *Scotia* proceeded to anchor in the sheltered waters of Vaag Fjord, Faroe. The salinometer was repaired and analysis of the salinity samples completed.

Scotia then proceeded to the start of the SEFOS 19 section, which commenced at 1617 on Wednesday 6 April, and was completed by 2100 on Thursday 7 April. *Scotia* then proceeded to the Fair Isle caesium position, and the sample was collected at 0630 on Friday 8 April. As time did not permit sampling along the SEFOS 20 section, *Scotia* proceeded to the JONSIS section. Survey work commenced at 0700 and was terminated at 1600 to permit enough time for *Scotia* to reach Aberdeen. *Scotia* entered Aberdeen harbour at 0600 on Saturday 9 April.

Results

SEFOS standard section 17: This section revealed the slope current above the 200m contour as a salinity maximum of 35.325. Cool, lowere salinity water fromed a lower extended core adjacent to the base of the continental slope (Figure 1).

SEFOS standard section 18: The section demonstrated low salinities compared to normal (Figure 2). The core of the slope current appeared diffuse, with salinities less than 35.25.

SEFOS standard section 19: Low salinities were again observed at this section, with the core of the slope current poorly delineated by salinity.

JONSIS section: The section was still predominantly well-mixed, with no signs of spring stratification. Salinities both within the Fair Isle Current, and further offshore, were also low.

W R Turrell

8 June 1994

Seen in draft: P Ramsay

F.R.S.SCOTIA CRUISE 5 2-9 APRIL 1994

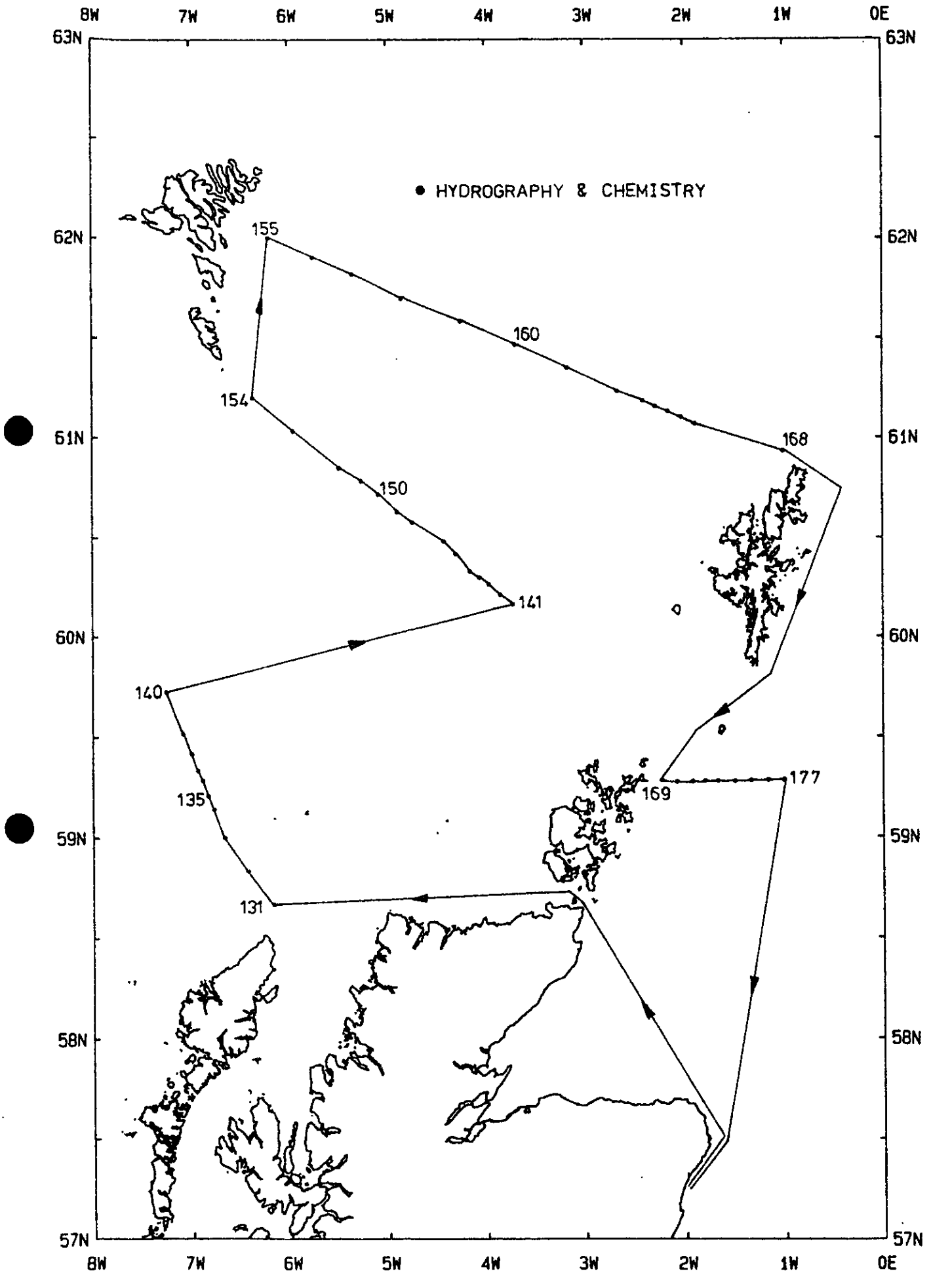
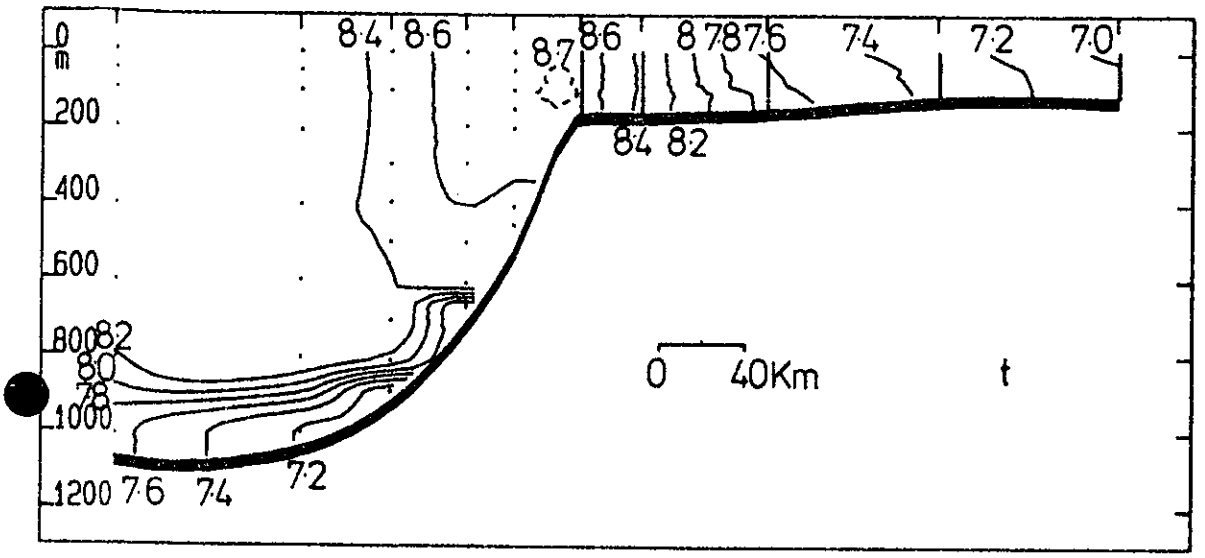


FIGURE 1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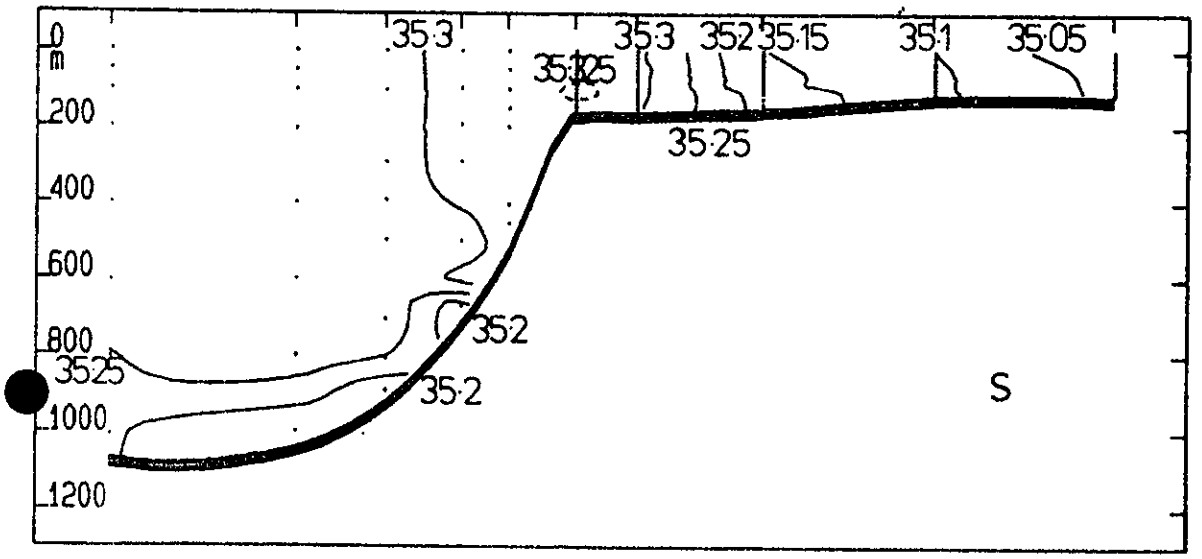
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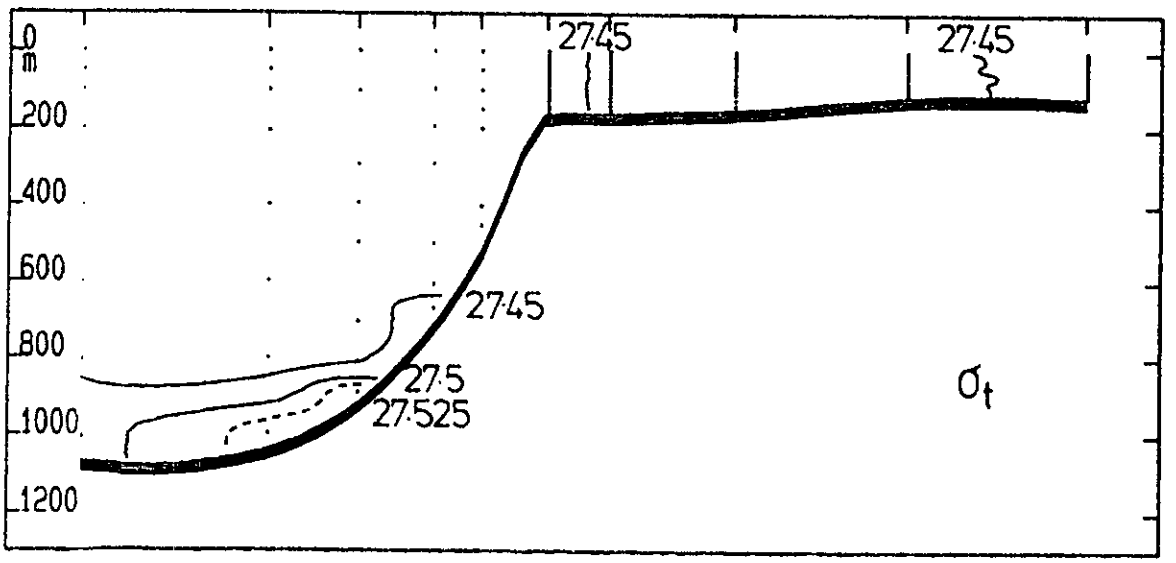
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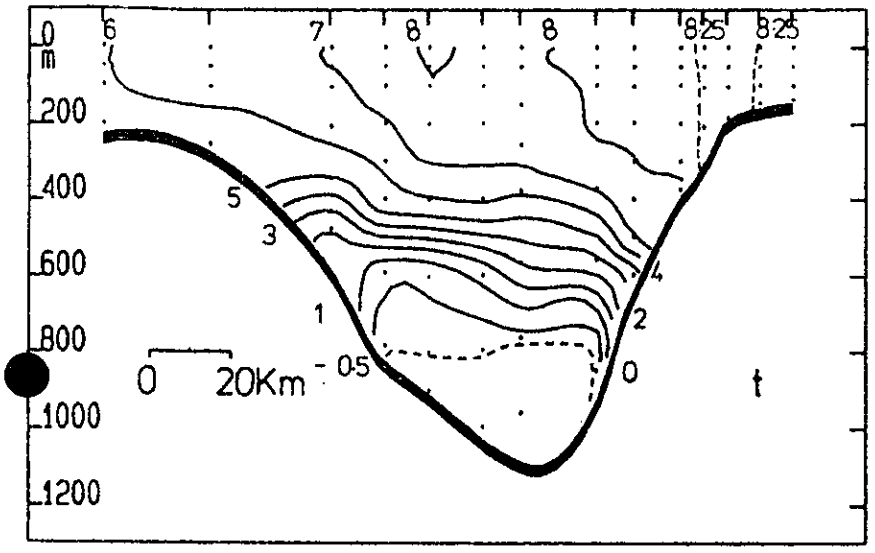
FIGURE 2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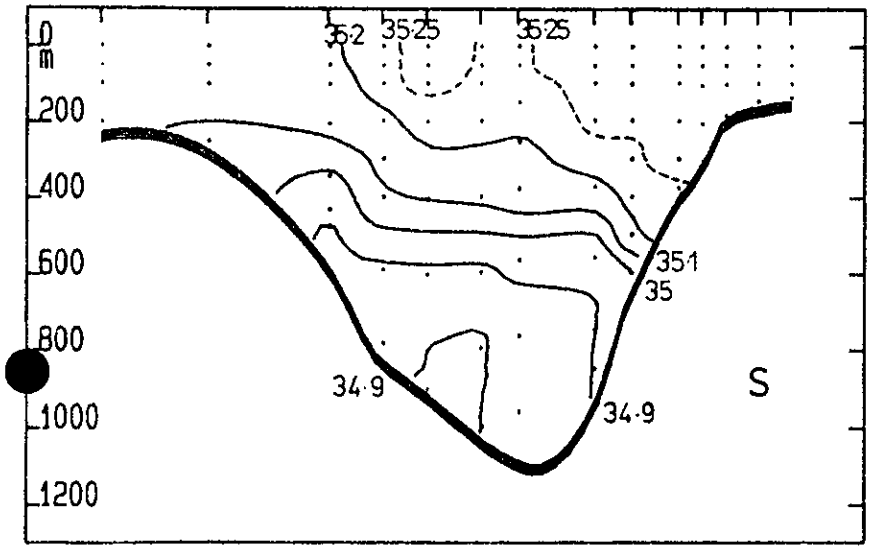
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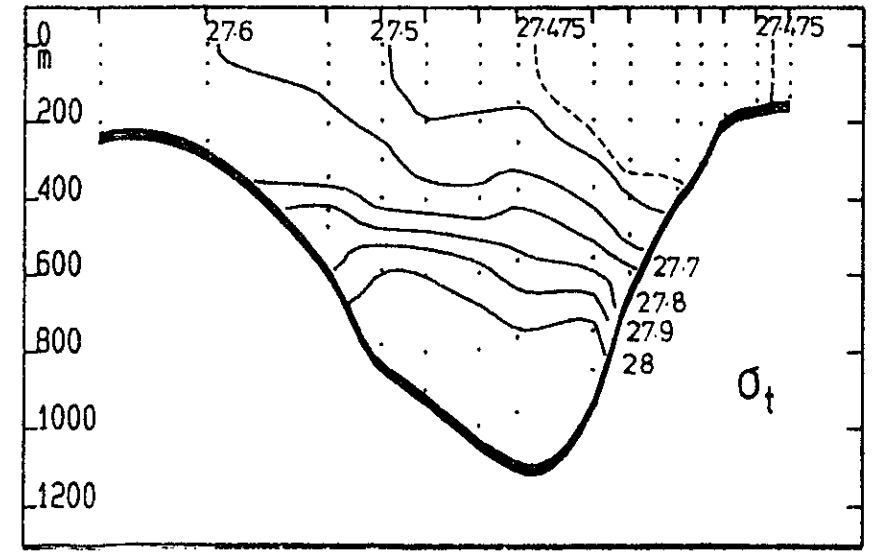
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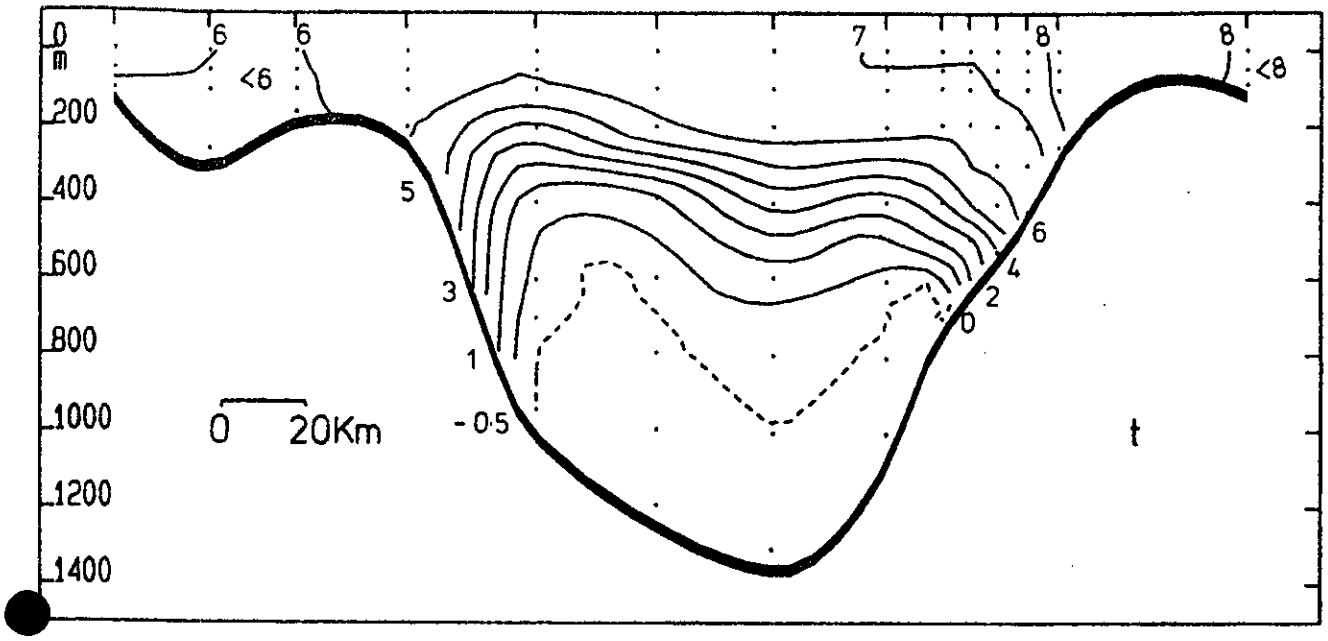
FIGURE 3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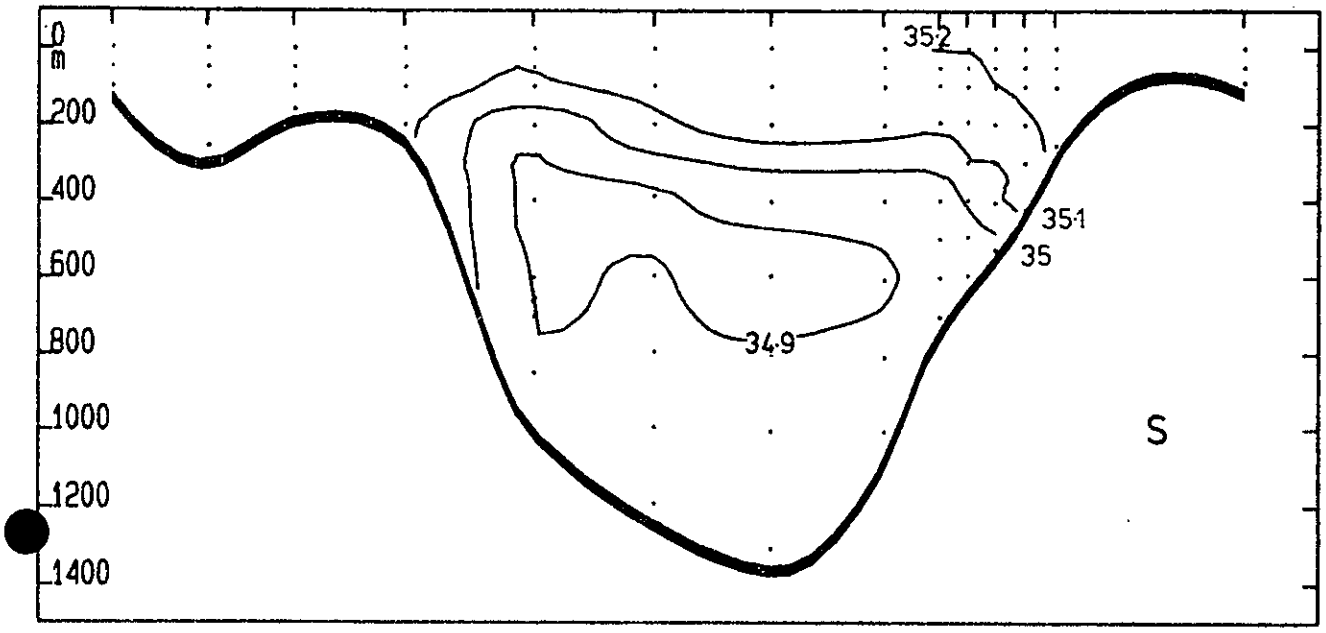
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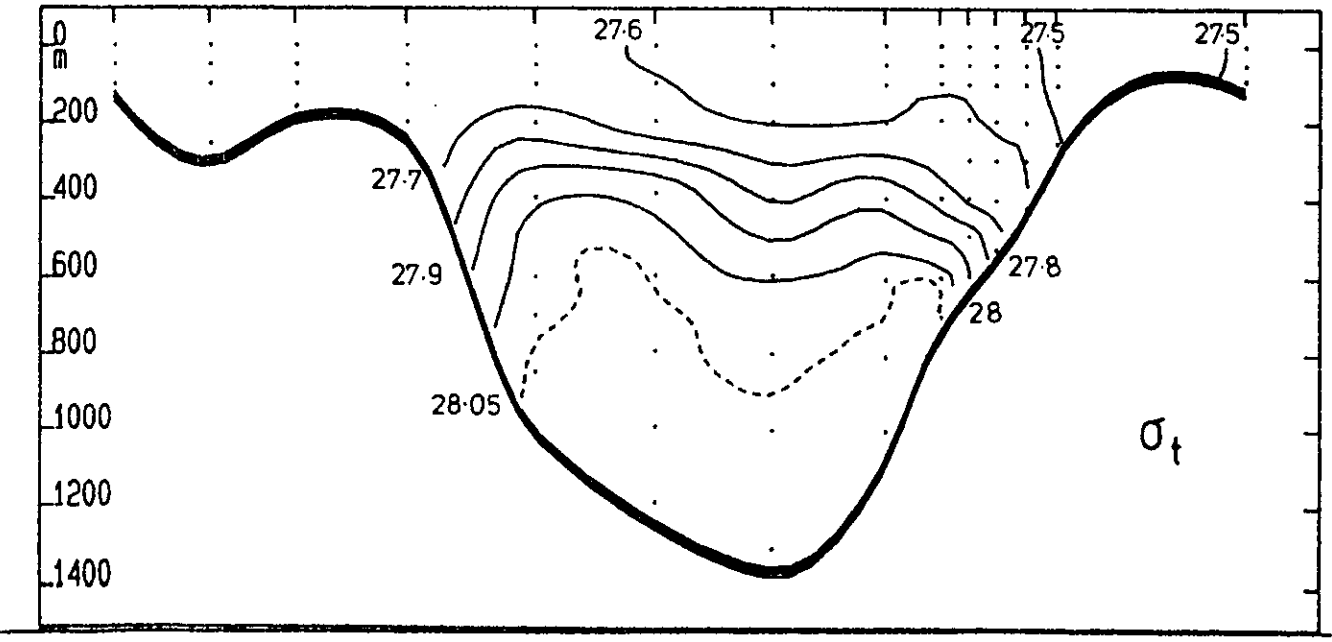
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