

MINISTRY OF AGRICULTURE, FISHERIES AND FOOD

FISHERIES LABORATORY, PAKEFIELD ROAD, LOWESTOFT NR33 OHT, SUFFOLK

1989 RESEARCH VESSEL PROGRAMME

REPORT: RV CIROLANA: CRUISE 8

STAFF: P G W Jones
 W C Camplin (16-25 October)
 A K Steele
 L S Austin
 R J Read
 P Blowers
 P S Burgess
 S Cogan
 C A Jones
 A Reeve

DURATION

Left Lowestoft 0641 hrs 27 September
 Arrived Lowestoft 0715 hrs 25 October
 All times are Greenwich Mean Time.

LOCALITY

North Sea, Norwegian Sea, Barents Sea, north and west of Scotland,
 Irish Sea, Bristol Channel, English Channel

AIMS

1. To survey the distribution of radiocaesium and other selected radionuclides in the waters of the above localities.
2. (Additional) To survey the distribution of tritium in the surface water of the Bristol Channel.

NARRATIVE:

The sailing date was delayed by one day from the original schedule for repairs to the bow thruster.

After departing from Lowestoft, CIROLANA proceeded northwards through the North Sea and worked a grid of stations off the Norwegian coast. Weather conditions were good for most of the time but on 1 October force 7-8 winds prevented the deployment of the rosette sampler at 2 stations.

On 2 October we received news from Lowestoft that the Soviet authorities had refused permission for CIROLANA to work in the eastern Barents Sea. Thus the next phase of the survey was confined to the area west of 30°E. Weather conditions remained good during this part of the investigation. Near bottom water samples and sediment samples were taken at 4 stations in the reported area of the sunken Soviet nuclear submarine. A gamma sensitive probe was also lowered to near the sea bed but no activity above background level was recorded.

An outer series of stations were then worked off the Norway coast between 9 and 14 October. Again the weather conditions were mainly good although the rosette sampler was not used at 2 stations on 11 October and CIROLANA dodged for a short period from 2200 hrs 12/10 to 0200 hrs 13/10.

Stations to the north and west of the Shetlands were worked prior to the vessel docking at 0845 hrs 16 October at Lerwick for the embarkation of Mr Camplin.

CIROLANA departed 1323 hrs the following day and continued the survey to the north and west of Scotland. The North Channel of the Irish Sea was worked during the afternoon of 21 October. Later that day course was set for Sellafield in order to make further measurements using the gamma probe. South westerly gales prevented the commencement of this work until 0800 hrs the following day.

The curtailment of our work in the Barents Sea and good weather conditions had, by this stage of the cruise, resulted in time to spare. Thus during 23 October surface water samples were collected in the Bristol Channel as far east as a line from Cardiff to Hinkley Point nuclear power station. The purpose of the exercise was to assess the levels of tritium in the water from waste discharges from Amersham International at Cardiff and from the power station.

CIROLANA then progressed up the English Channel and docked at Lowestoft 0715 hrs on 25 October.

RESULTS:

All samples collected require to be returned to the shore laboratory for counting/analysis.

A total of 195 stations were worked. Surface water samples were collected at each location and at 86 stations an array of 30 l Niskin bottles was used on the rosette sampler to collect subsurface water to a maximum depth of 2000 m. At 6 stations near-bottom water was collected from a pair of Niskin bottles on the hydrowire. From most samples approximately 50 l of water was processed for the analysis of radiocaesium and 364 cartridges were returned to the laboratory for this purpose.

At 12 selected stations surface water was processed for the analyses of total plutonium and at 9 of these stations samples were also collected for speciation. At 11 stations surface water was collected for measurement of strontium-90. A total of 19 surface samples were collected for the analysis of tritium, mainly from the Bristol Channel, but also on a track from Sellafield to Land's End.

Salinity samples were collected on most occasions and salinity/temperature profiles were recorded from the CTD probe attached to the rosette sampler. Reversing thermometers were employed at selected depths.

The boomerang corer was successfully deployed on 2 out of 3 drops in the Barents Sea at depths of 1600m and the Day grab was also used to obtain a sediment sample at a similar depth.

Total Distance Covered 6653 n. miles.

Seen in draft. Capt Sinclair
J Harper

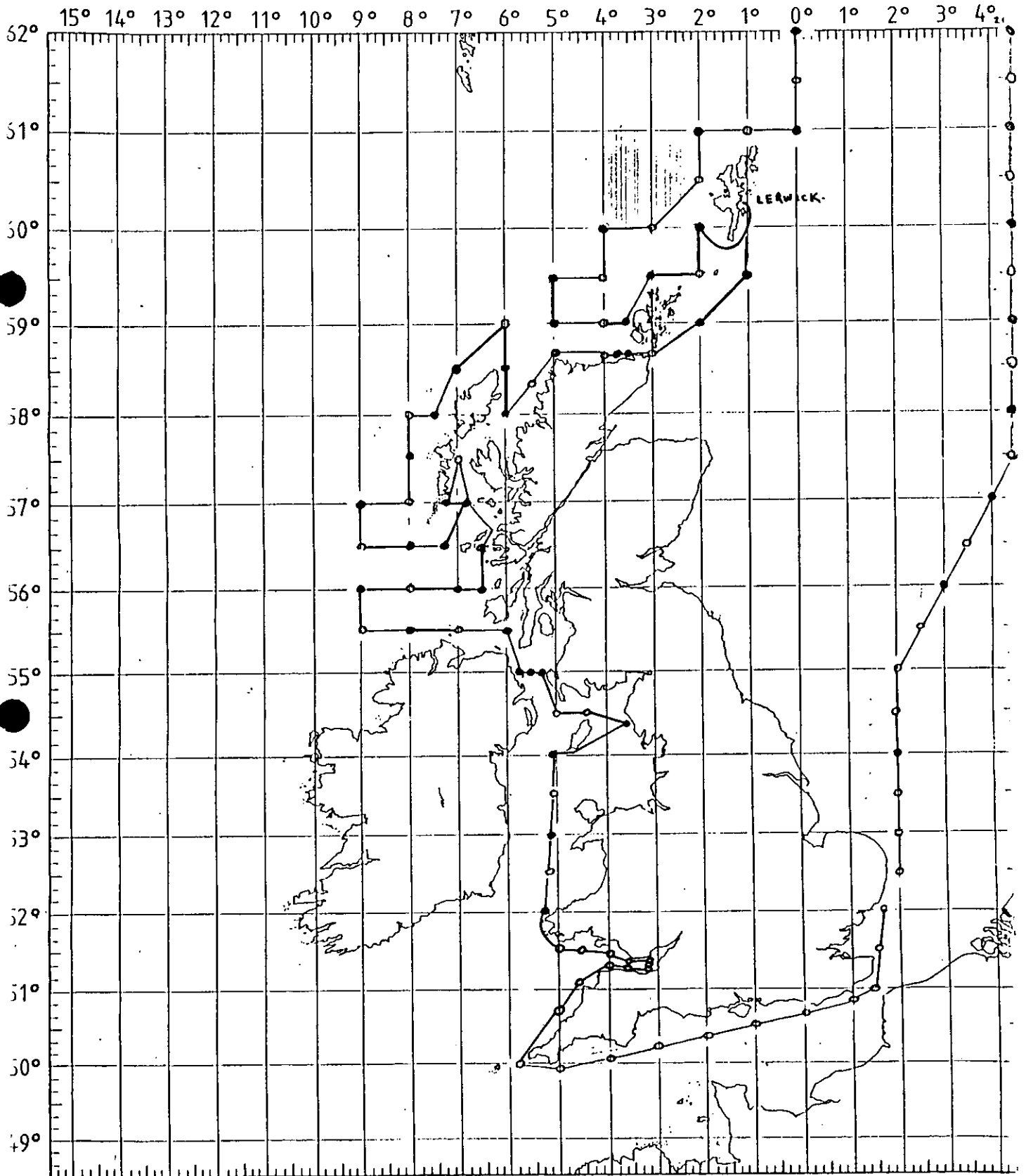
P G W Jones
25 October 1989

Initialled CEP

Distribution

Basic List +

P G W Jones
W C Camplin
A K Steele
L S Austin
R J Read
P Blowers
P S Burgess
S Cogan
C A Jones
A Reeve

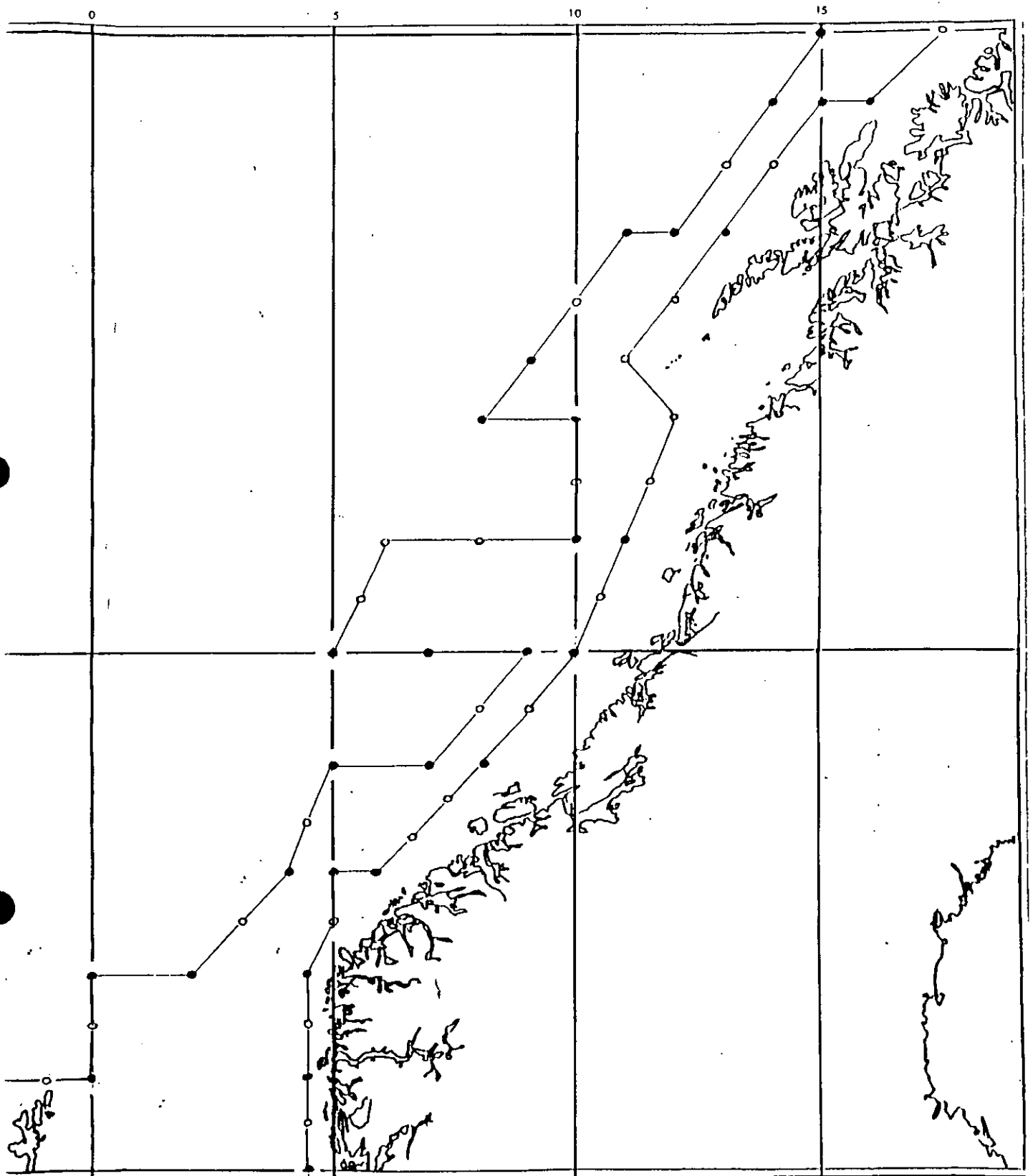


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Cruise Track

○ Surface observations

● Surface/subsurface observations

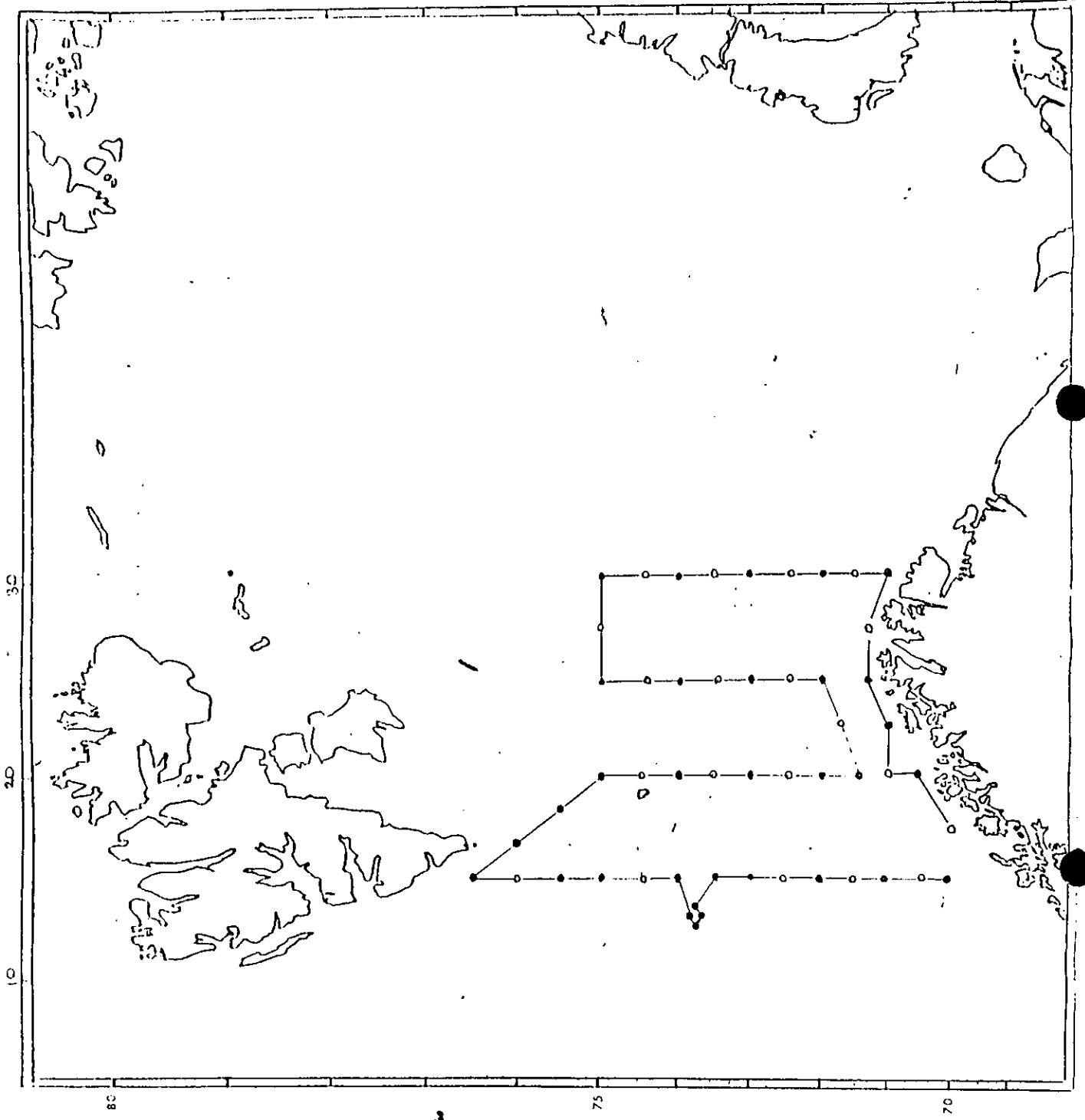


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Cruise Track

012/87

- Surface observation
- Surface/subsurface observation



Ciclana 8/85
Cruise

Track

- O Surface observations
- Surface/surface observations