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In Confidence: Not to be quoted without prior reference to the Laboratory

FRV "EXPLORER"

CRUISE 9/83

9ER83 JR

REPORT

9 - 29 September 1983

Objectives:

1. To carry out a herring larval survey in the Orkney-Shetland area as part of the ICES Herring Larval Surveys.

2. To collect sea water samples at Fair Isle (59°30'N 02°00'W) as part of the Lowestoft programme of quantifying seawater contamination by Radio caesium.

3. To collect, measure and preserve in liquid nitrogen, freshly caught, recently hatched herring larvae as part of a project investigating the genetic composition of larvae from various spawning grounds in the North Sea and West Coast.

4. To pick out and tube fish larvae from as many plankton samples as possible during the cruise.

Narrative

FRV "Explorer" left Aberdeen at 1530 on 9 September and steamed towards Station I north east of Fraserburgh but was forced to dodge by the worsening northerly gale. Sampling commenced at 1300 on 10 September at Station 58 and continued until 2125 on the same day when "Explorer" was again forced to reduce speed after completing Station 8. On the following day Station 8 was repeated but further sampling was prevented by heavy weather and "Explorer" dodged overnight.

Sampling recommenced at Station 7 on 12 September and continued uninterrupted until 1820 on 17 September when gale force winds forced "Explorer" to steam southwards and eventually shelter in Inganess Bay in Orkney at 0100 on the 18th. "Explorer" remained at anchor for the rest of the day and then steamed for Kirkwall arriving at 0900 on 19 September.

"Explorer" left Kirkwall at 1000 on 20 September and due to the severe south westerly gale commenced sampling at Station 52 and worked southwards. Sampling was interrupted at 0200 on 24 September and restarted at 1400 on the same day at Station 72 due to a northerly gale. Work was again stopped at Station 97 on the 25th and "Explorer" sheltered overnight to the north east of Sumburgh. The grid was restarted at Station 82 on 26 September but sampling was again interrupted due to a strong southwesterly gale. "Explorer" then dodged southwestwards picking up stations 109 and 110 before a run for shelter was made due to the now westerly gale. "Explorer" dodged overnight to the east of Sumburgh and returned in the morning to the Foula area where sampling commenced at Station 95 at 1420 on the 27th. A further five stations were completed in this area before proceeding southwards to the east of Orkney where a further 3 stations were completed. "Explorer" then steamed for Aberdeen, docking at 1800 on 28 September. Radio contact was made and information on larval abundance and distribution exchanged with FRV "Tridens" and FRV "Dana" operating in the area at the time.

## Results

A total of 114 stations were sampled, 7 of these being sampled once, 94 twice and 3, 3 times. A preliminary examination of the samples indicate that fewer larvae were encountered than on the same survey in 1982.

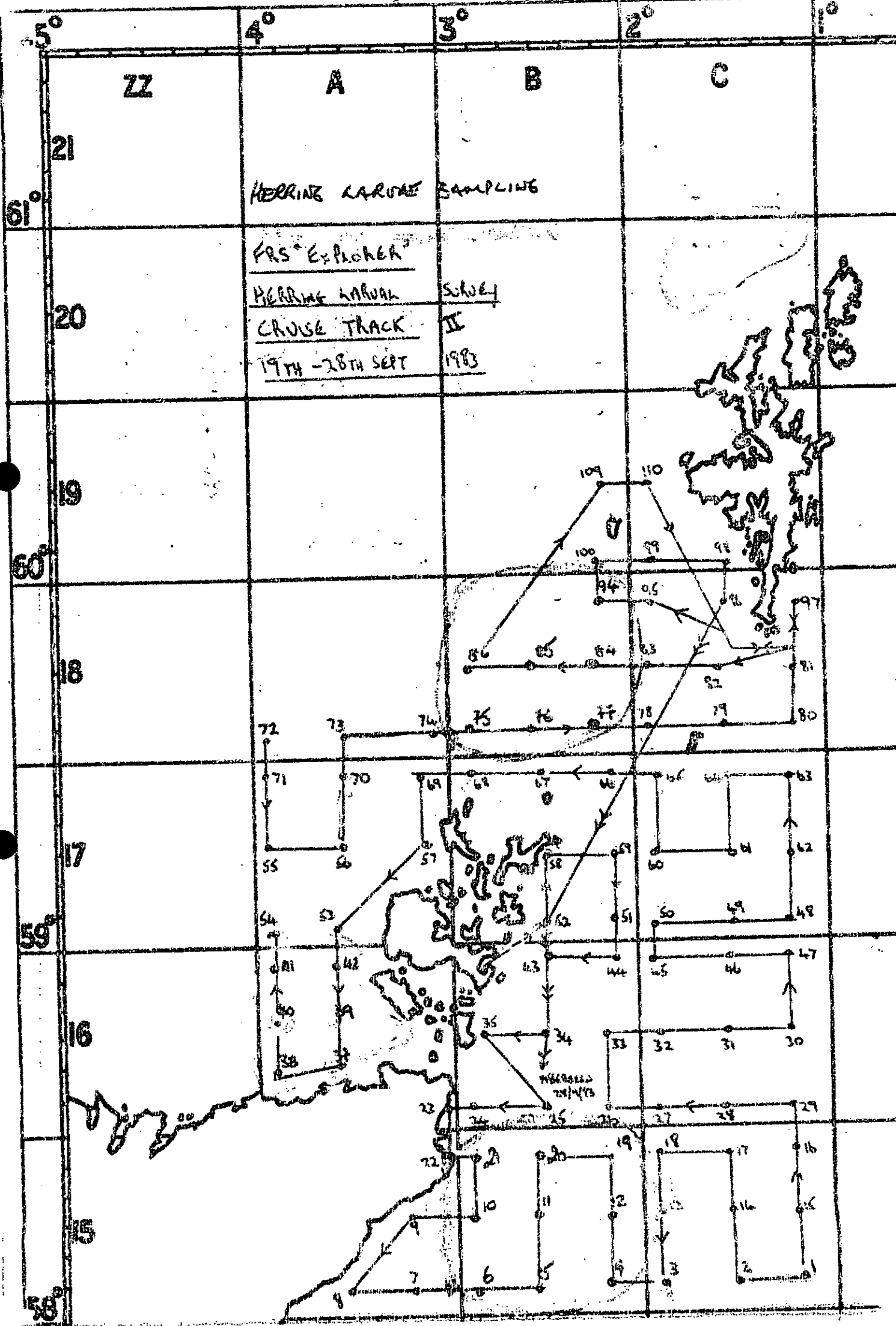
Sea water samples were collected near Fair Isle and 112 herring larvae were collected for genetic analysis.

All plankton samples were examined for herring larvae and a total of 13935 clupeid larvae picked out during the cruise.

P Rankine

15 November 1983

Senn in draft: B A Hall



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HERRING LARVAE SAMPLING

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FRS "EXPLORER"  
 HERRING LARVAE SURVEY  
 CHOUSE TRACK II  
 19TH - 28TH SEPT 1983

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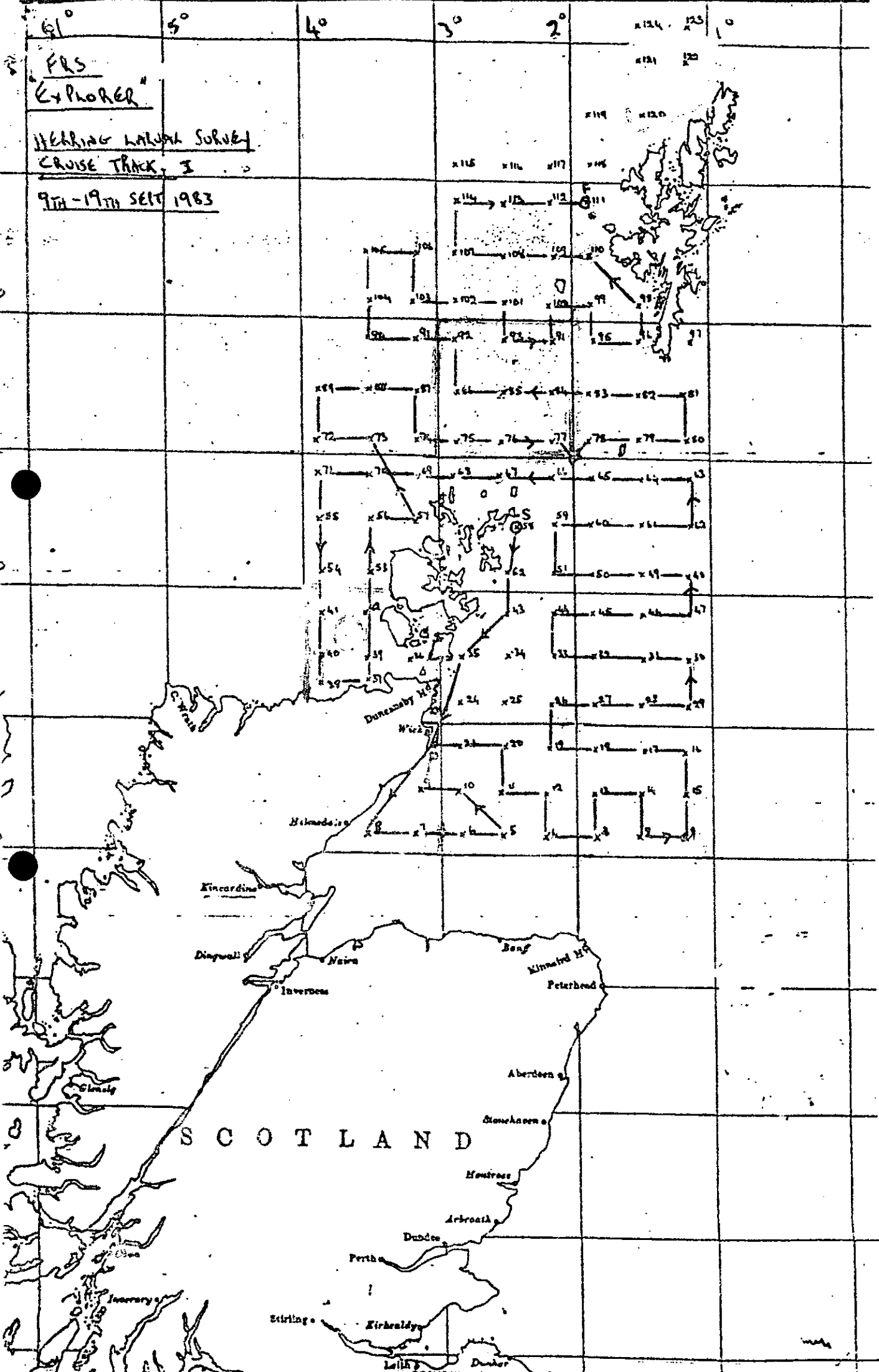
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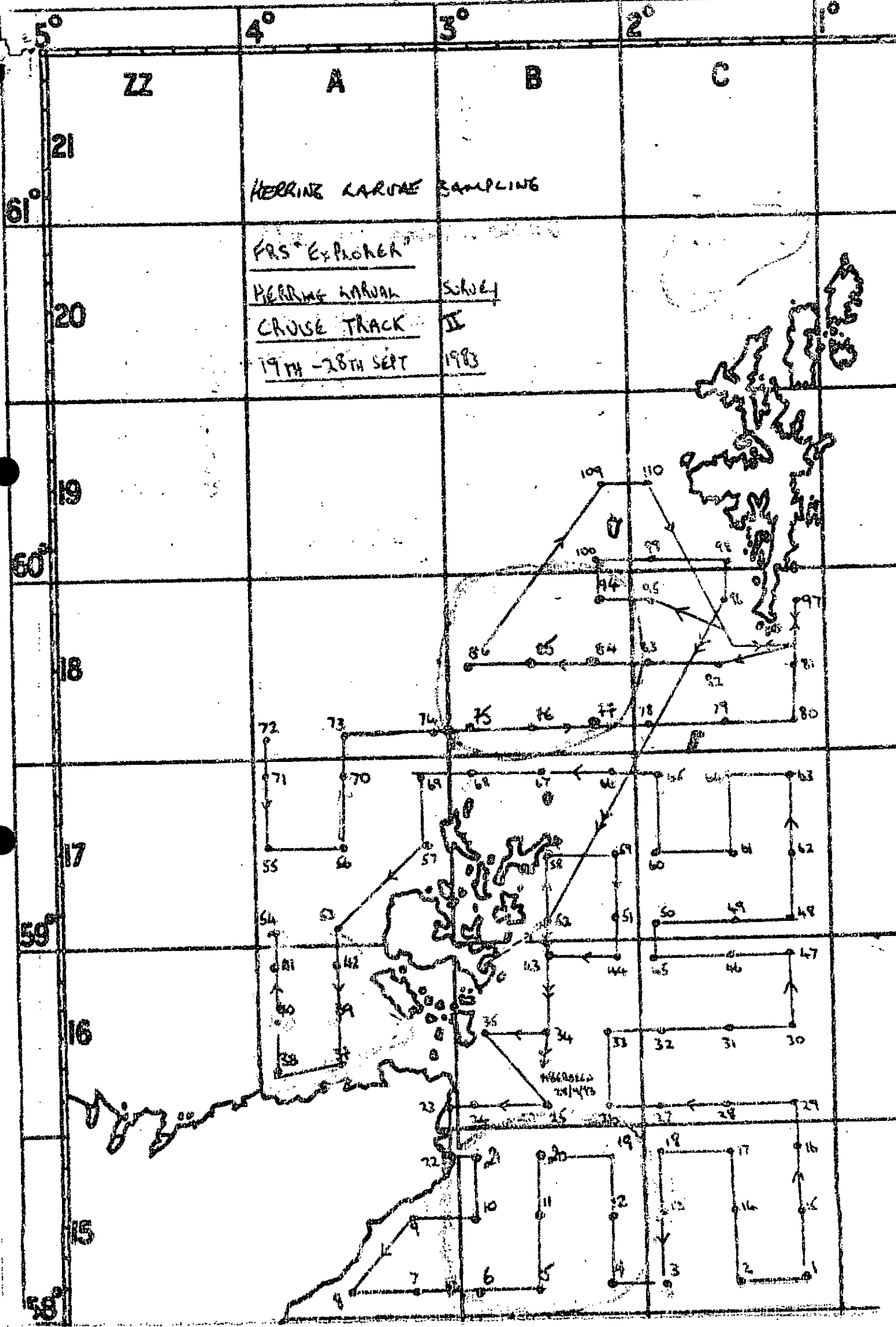
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FRS  
 Explorer

Herring Larval Survey  
 CRUISE TRACK, I

9th - 19th Sept 1983





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HERRING LARVAE SAMPLING

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FRS "EXPLORER"  
HERRING LARVAE SURVEY  
CRUISE TRACK II  
19TH - 28TH SEPT 1983

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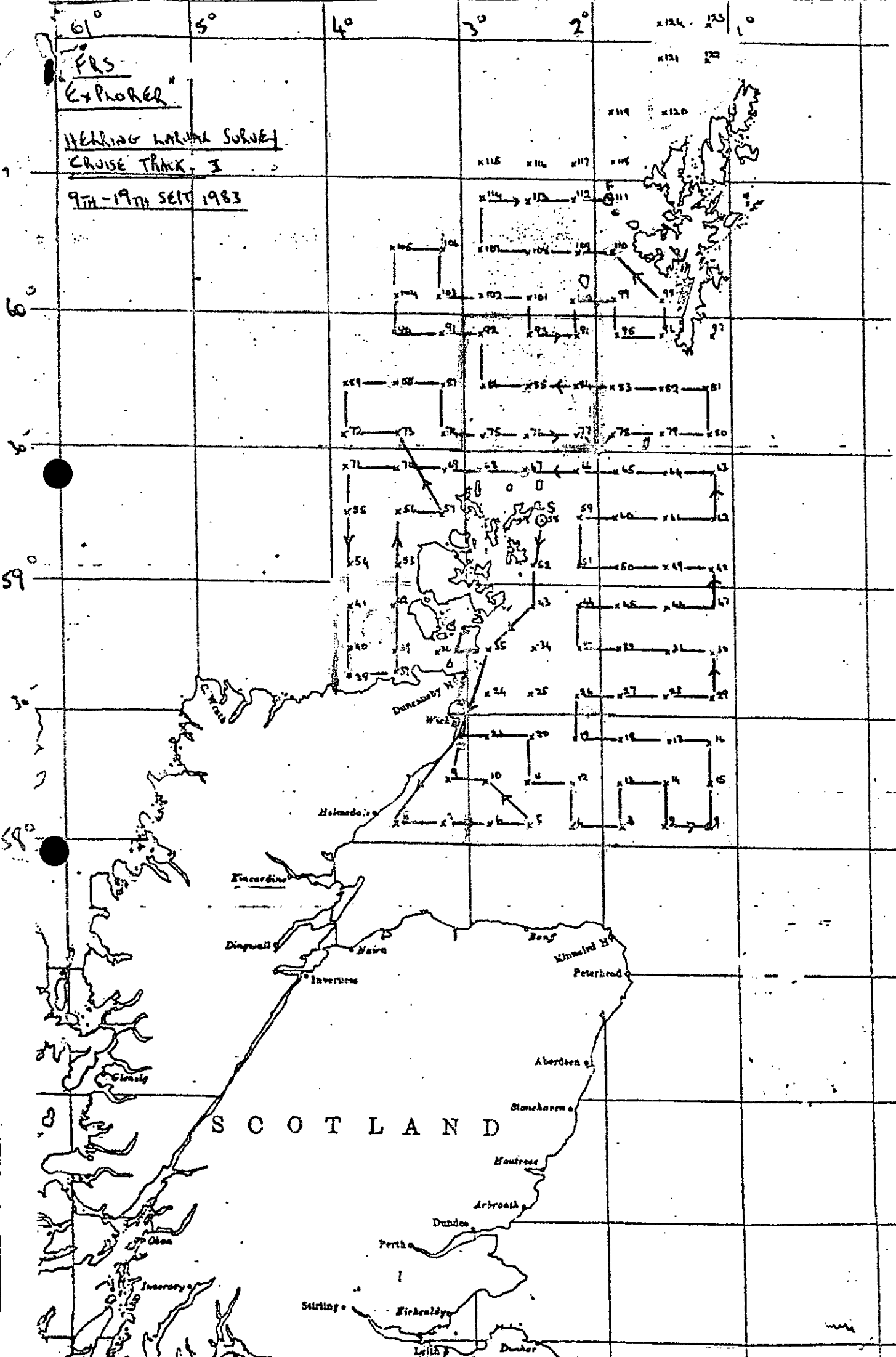
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28/9/83

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FRS  
"EXPLORER"  
HEBRIDIC LAKUNA SURVEY  
CRUISE TRACK, I  
9th - 19th SEPT 1983



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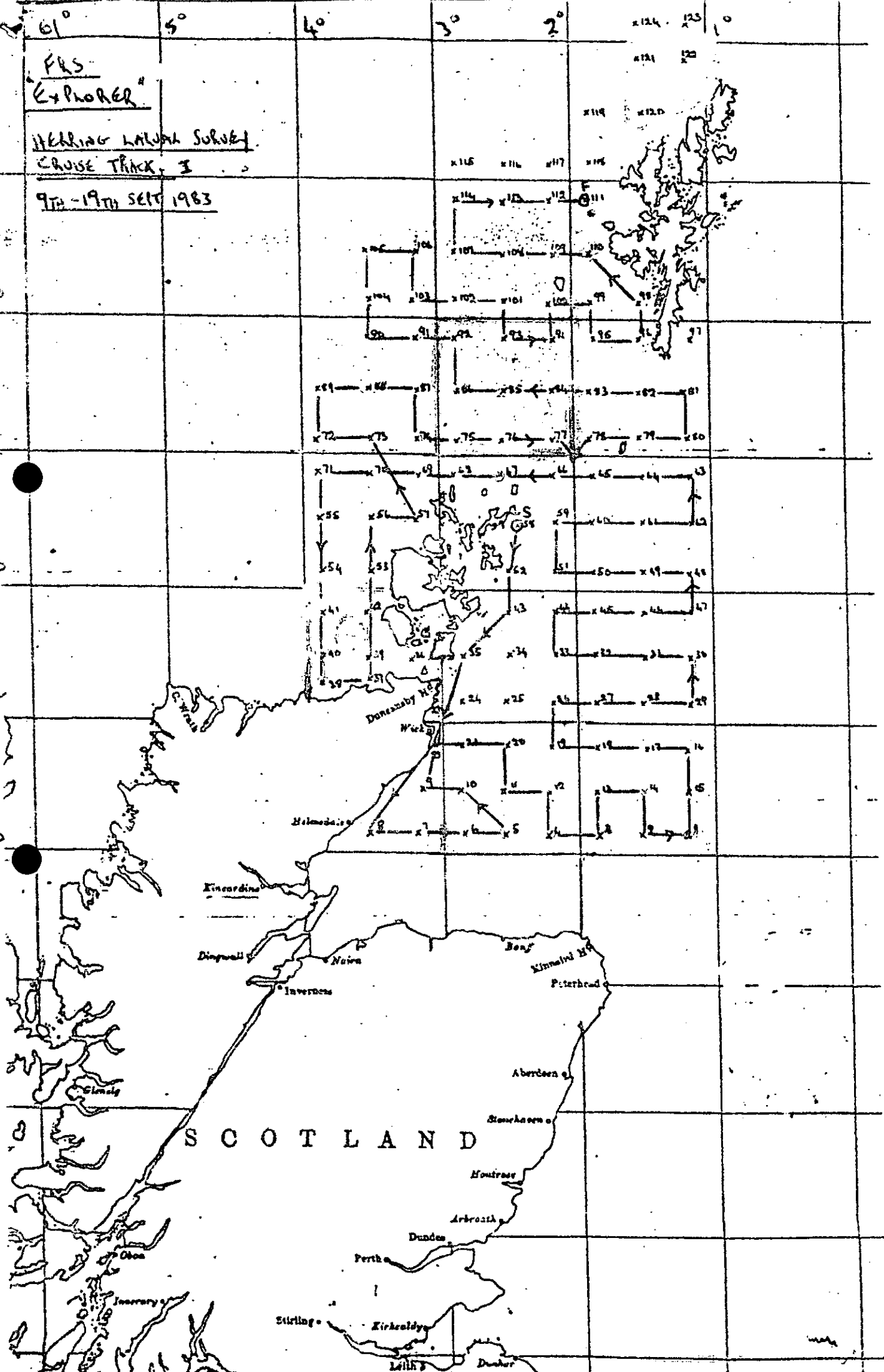
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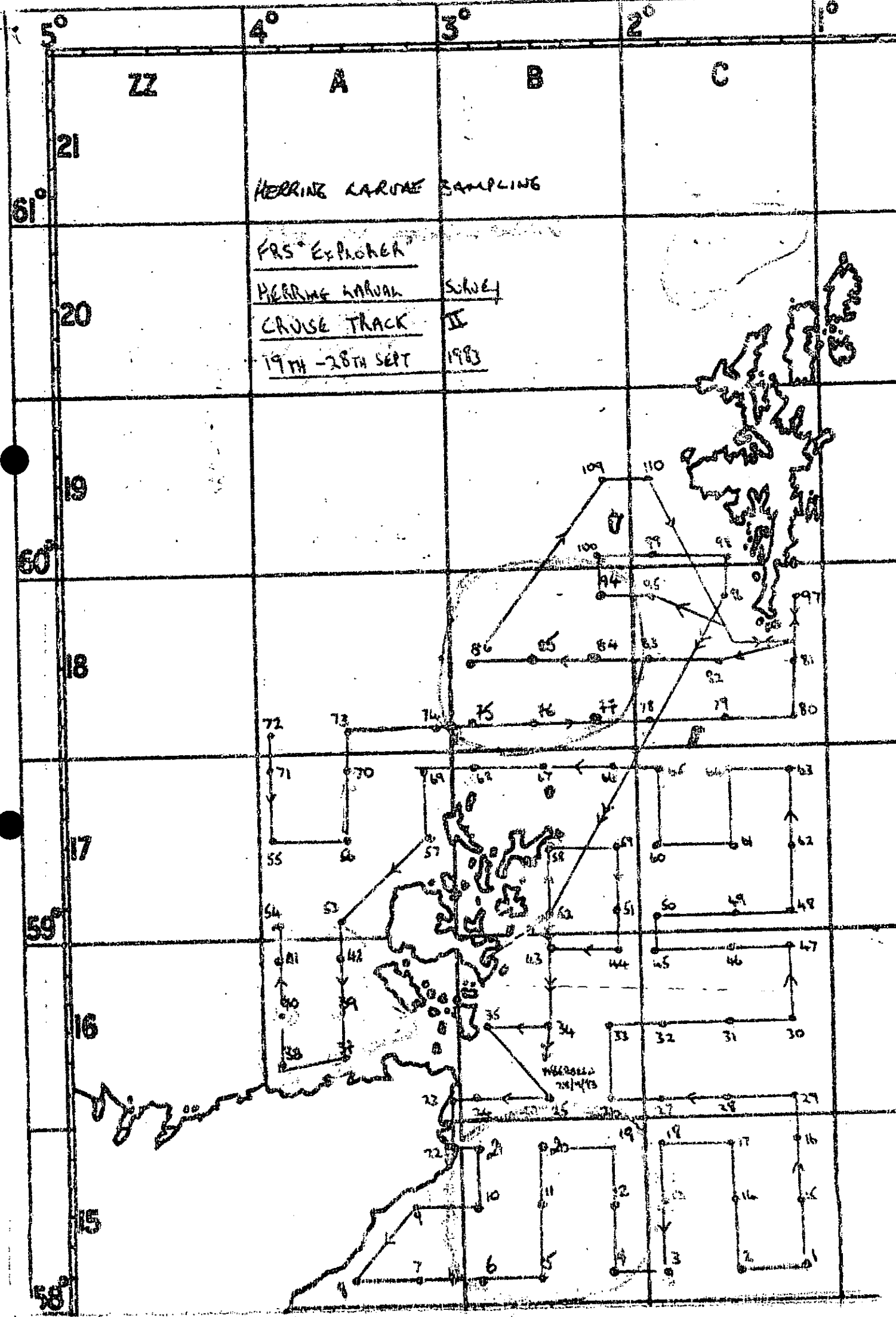
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FRS  
"EXPLORER"

HERRING LARVA SURVEY  
CRUISE TRACK, I

9th - 19th SEPT 1983





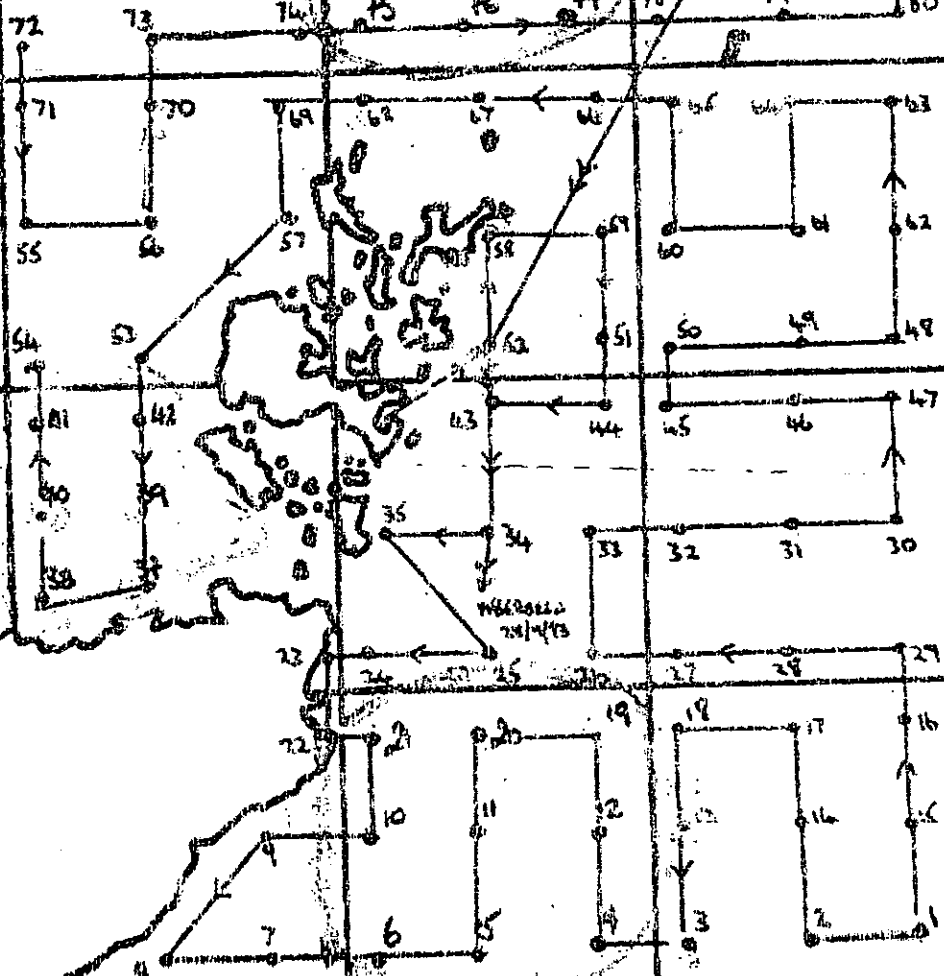
HERRING LARVAE SAMPLING

FRS Explorer

HERRING LARVAL SURVEY

CRUISE TRACK II

19TH - 28TH SEPT 1983



WATER 28/9/83