MR BADE

MINISTRY OF AGRICULTURE, FISHERIES AND FOOD
FISHERIES LABORATORY, LOWESTOFT, SUFFOLK, ENGLAND

1975 RESEARCH VESSEL PROGRAMME

REPORT: RV CIROLANA: CRUISE 3(a)

(Provisional: Not to be quoted without prior reference to the author)

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DURATION

Left Grimsby 0830h 3 March

Arrived Yarmouth 1135h 13 March

All times are Greenwich Mean Time

LOCALITY

Central North Sea West of Dogger Bank

AIMS

1. To re-establish the 2 Lowestoft long term moored current meter stations in the Flamborough Head - Dogger Bank area.

2. To establish a short-term line of moored stations between the River Tyne and the Dogger Bank.

3. To make serial hydrographic measurements on the Tyne-Dogger line.

4. To measure in detail the current profile over a tidal cycle in the sprat patch area off the River Tyne identified by Dr P O Johnson.

5. To collect plaice eggs from the Flamborough Off Ground for Dr Purdom.

6. To measure ship's noise whilst underway for Mr Stewardson.

NARRATIVE

The ship left Grimsby at 0830h 3 March and steamed at slow speed for JONSIS Station 1 some six miles off Filey Bay. (See Map). During the journey, and for the rest of the day as the ship cruised in the vicinity of the station, detailed preparations were made for launching 9 current meter rigs. The first station was laid in thick fog by 1117h the next day and the vessel moved slowly through the fog to the vicinity of JONSIS Station 2 during the afternoon. The helicopter from the Royal Aircraft

Establishment, Farnborough, which was making a trial run over the buoy stations ready for a joint exercise in April, was not able to locate JONSIS/1 in the fog.

A detailed echo-sounder reconnaissance of the area around JONSIS/2 showed that the advertised position lay on the top of a shoal area and so a new site was chosen two miles to the south. (The shoal is not shown incidentally on Kingfisher Chart KE154.1B). Once a suitable position had been found the rig was laid and the vessel moved off at half-speed through the persistant thick fog to Station G. The following day (Wednesday 5 March) stations G, F, E and D of the Tyne-Dogger line were laid with the fog continuing to slow down the rate of progress. A fleet of 30 trawlers was seen on the radar between stations F and E. By dawn on Thursday, 6 March the fog had lifted and in fairly heavy seas stations C, B and A were laid during the morning thus completing the planned line of moorings.

In rapidly improving conditions a first series of "ship's noise" measurements were made during the afternoon whilst gear was being prepared for an anchored Direct Reading Current Meter (DRCM) station. By 1940h the ship lay at anchor close to station A and the 12½ hour cycle of DRCM readings began. Direct Reading Current meter 167 was badly damaged during this exercise but the exact nature of the damage cannot be assessed for some time. Once the operation had been completed the anchor was hove in and the ship lay broadside to the wind while the Ryland fish-egg net was streamed. There were no fish eggs on the plankton silks after an hour's tow and so a second series of noise trials was embarked on before the vessel moved, at 1600 hours, 7 March, to the first station of a grid of water-sampling stations that linked the Tyne-Dogger rigs with the two JONSIS stations.

This grid was completed at 0100h, 10 March. En route a final set of noise trials was done, the fish-egg net was streamed for a 2 hour period each day and Woodhead sea-bed drifters were released at JONSIS stations 1 and 2. Once the final station had been completed the ship moved back to station G and at 0900h, 10 March this rig was recovered after some CLAC tests had been made and a large-scale water sample collected. Station F was recovered in the early afternoon; the vessel steaming through a fleet of 27 Russian trawlers and an attendant "Mother Ship" that was working the area in the immediate vicinity of the rig. Stations E and D were recovered later the same afternoon. Whilst the last station was being grappled HMS CARRINGTON came alongside and asked for the last known position of the Russian Mother-ship.

Shortly after station D had been brought aboard the fine weather broke and the ship dodged all night and the following day in the region of stations C and B. By dawn on 12 March there had been some moderation and in rapidly improving conditions stations C, B and A were recovered in the fore-noon. Unfortunately during the final recovery operation Mr V Laursen of the Deck Crew broke a rib whilst working at the ship's rail. The ship then steamed south-south-eastwards at full speed in order to reach the region of Flamborough Head during daylight and once there lay-to for six hours whilst the plankton net was streamed and the rig wires were hauled off the buoy winch. Course was then set for Yarmouth, the vessel docking at 1135h, 13 March.

RESULTS

AIM 1. JONSIS stations 1 and 2 were re-established, JONSIS/2 now occupying position 54°21.9, 01°06.5.

2. The Tyne-Dogger line of moored stations was recovered intact and all 14 current meters appear to have worked successfully over the 4-6 day observation period. Of the 9 MAFF Acoustic releases put out 8 were successfully interrogated after launching. Of the 6 recovered 4 were successfully called up while 2 out of the 3 guillotines that could be fired cut their respective meter wires very cleanly. A separate gear report has been drawn up for internal circulation within the Research Support Group.

3. The original aim was expanded to include the whole area west of the Dogger Bank lying between the Tyne and Flamborough Head. The temperature data collected suggests that the region was filled with a virtually homogeneous water-mass. The very slight temperature gradients that existed imply the presence of the tongue of Atlantic water reaching almost as far south as the Flamborough line that is generally thought to be typical of the area.

4. A series of DRCM measurements over 12½ hours were made for Dr Johnson at 55°30 01°30'W.

5. Several attempts were made to collect a large quantity of plaice eggs for Dr Purdom but due to the bad weather at the end of the cruise it was not possible to sample the favoured area of the Flamborough Off Ground during daylight hours as had been intended. A small quantity of fish eggs collected in the Bayman's Hole area was brought back to Lowestoft, however, and post-cruise examination showed that a sufficient number had been obtained and that they were in good condition on arrival.

6. From the results of the noise trials carried out on this cruise Mr Hood has assessed the relative importance of flow noise, propeller noise and sea noise at 30kHZ and has obtained relationships between each of these parameters and ships' speed and/or engine revolutions for different directions of sea. He also measured the 10kHZ noise field round the ship.

Other results:-

7. A large water-sample was collected from Station G for Mr Folkard.

8. Woodhead sea-bed drifters were released at each of the anchored stations.

J W Ramster
25 March 1975

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DISTRIBUTION
Basic List plus

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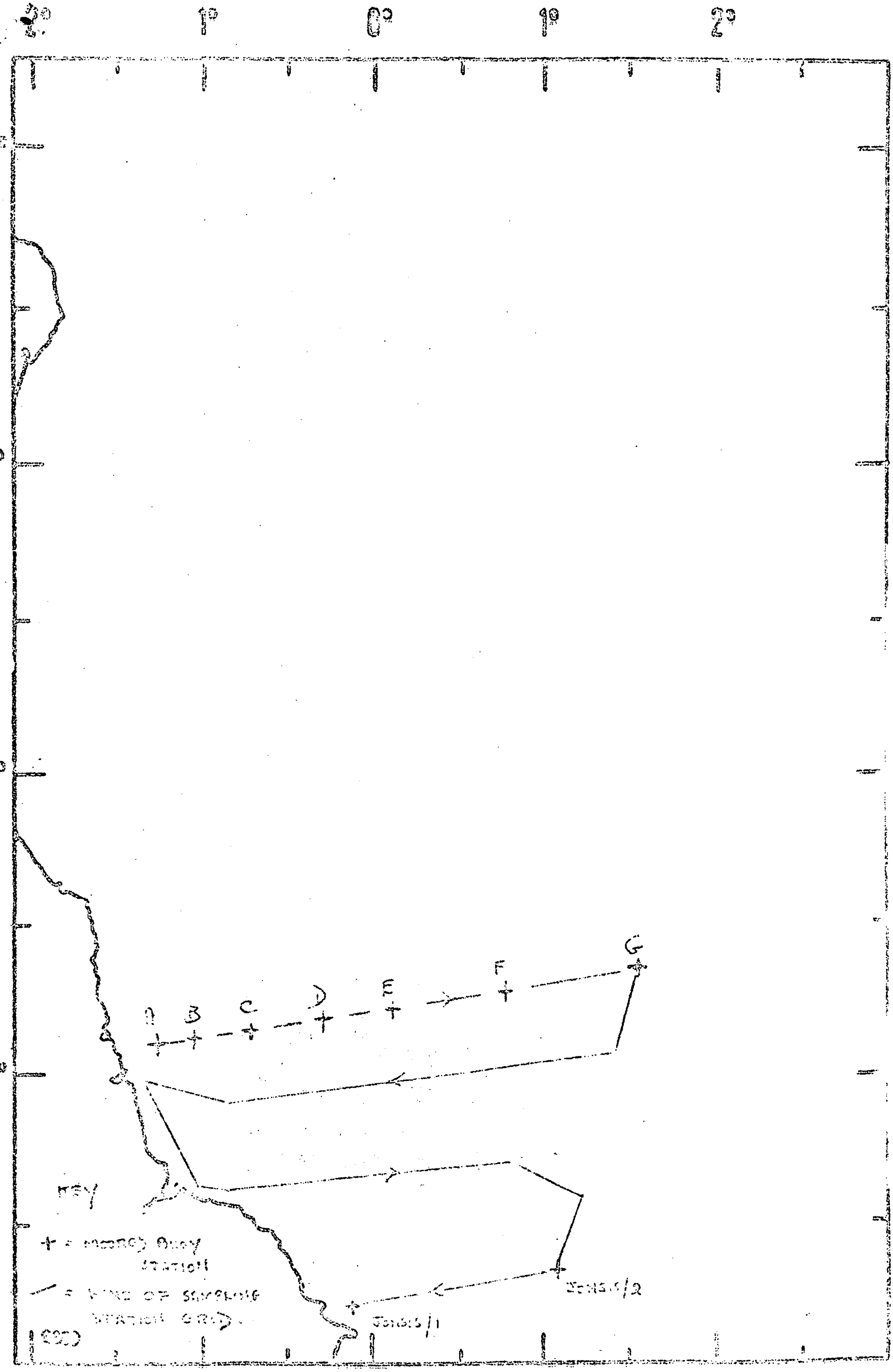
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