

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

1977 RESEARCH VESSEL PROGRAMME

REPORT: RV CORELLA: CRUISE 7

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

STAFF

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DURATION

Left Lowestoft 1200h 9 May
Arrived Lowestoft 0915h 21 May
All times are Greenwich Mean Time

LOCALITY

Irish Sea and Central North Sea

AIMS

1. To recover the array of current meter rigs laid by CORELLA in March.
2. To work a standard hydrographic station and sample for Caesium 134 and 137 at each current meter station of the MAFF/IOS Bidston grid.
3. To test the suitability of the Miniscanner for use as an aid to the location of current meter rigs.
4. To moor two current meter rigs in the area between Smiths Knoll and the Silver Pit for Dr Greer Walker.

NARRATIVE

After staff had been instructed in the use of the Miniscanner off Lowestoft, CORELLA made a fair passage to the Irish Sea. Surface samples for Caesium determination were taken off Dover and then at 80 mile intervals through the English Channel and at 30 mile intervals between Land's End and Anglesey. Work began on station 7 of the joint IOS/MAFF grid at 0530h 12 May. Here a standard hydrographic station was worked, surface and bottom samples taken for Caesium analysis, and the current meter rig lifted. This procedure was repeated at Stations 21, 27, 28, 30, 25, 32, 22, 23, 5, and 14, which were recovered in that order over the next 60 hours, CORELLA steaming clockwise around the grid. Any unoccupied current meter stations encountered enroute were sampled for temperature, salinity and Caesium. All the rigs were found to be in position, except Stations 30 and 25. Station 30 had to be recovered by grapnel (the buoy having been found drifting near Maryport by an inshore fisherman), and at Station 25, where it was known that the sub surface buoy and the top meter had previously been landed by a trawler, no trace could be found of the bottom meter and the acoustic release. With these two

exceptions all the rigs were recovered intact, and Aim 1 was completed by 1710h 14 May. The meters on Stations 5 and 14 had acoustic tags fitted, and these were used for Miniscanner trials before they were lifted.

CORELLA docked at Fleetwood at 0955h 15 May, landed 8 current meter rigs, took on fresh water, and sailed at 1055h 16 May. Surface and bottom Caesium samples were taken and Nansen bottle casts made on the remaining stations of the grid, and Aim 2 was completed by 0530h, 17 May. Some extra stations were then worked for surface and bottom Caesium samples on the west side of the Isle of Man and in the North Channel, and at 2340h 17 May, CORELLA left for the Silver Pit area of the North Sea by the northern route.

Surface Caesium samples were taken at 30 mile intervals on the passage, and Station C was reached at 1912h 20 May. The rig was deployed by 1950h, and that on Station B by 2400h, 20 May. With all aims completed, CORELLA steamed to Lowestoft, docking there at 0915h, 21 May.

RESULTS

1. All 11 current meter rigs moored by CORELLA in March was recovered. Damage by interference was observed on only one station, No 25, where the entire meter tow had been torn away from the ground rope, and Plessey meter 270 and acoustic release 290 were lost. Of the 14 meters recovered, 9 were working on recovery and had full tapes, 2 had seized encoders, 1 had leaked, 1 had a flat battery, and 1 had an intermittent fault. All these will give partial records.
2. Standard hydrographic stations were worked and surface and bottom samples taken for determination of Caesium 139 and 137 at each station of the MAFF/IOS Bidston grid. The surface thermograph was running continuously throughout the cruise.
3. The acoustic tags on the current meter A frames on Stations 5 and 14 were easily located using the Miniscanner in simulations of actual search operations. Accurate ranges and bearings at distances up to 300m from the rig were obtained, but it was possible for the inexperienced operators to mistake large objects on the seabed for the tags, and as the present Miniscanner has no vertical scan, it was not able to show if the rig had collapsed.
4. Current meter rigs were moored in positions $54^{\circ}04'N$, $02^{\circ}10'E$, and $53^{\circ}27'N$, $02^{\circ}44'E$, for Dr Greer Walker, on 20 May 1977.

G C Baxter
30 May 1977

SEEN IN DRAFT: J E M Balfour- Master
E T Bridge - Fishing Skipper

INITIALLED: AJL

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