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

1974 RESEARCH VESSEL PROGRAMME

REPORT: RV CIROLANA: CRUISE 8(a)

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

STAFF

J W Talbot  
D J Ellett (to 11 October)  
G C Baxter ) (from 11 October)  
N D Pearson )  
J A Bedwell  
J W Read  
K J Medler  
J A Henderson

DURATION

Left Grimsby 1820 h 3 October

Arrived Plymouth 0900 h 23 October

All times are Greenwich Mean Time

LOCALITY

South Cornish and Devon coasts, Western Channel

AIMS

1. To make a hydrographic survey of Mounts Bay and Eddystone Bay
2. To make an echo sounder survey of Eddystone Bay
3. To make tests of the acoustic release system

NARRATIVE

3-4 October: Steaming to Western Channel. Mr Salmon of Stone Manganese Marine Limited on board to observe performance of bow thruster.

5 October: On preparing to lay a current meter station one of the hydraulic pipes on the foredeck winch burst. Meanwhile Mr Salmon, having made his observations of the bow thruster, was put ashore by pilot boat at Brixham. Two moored current meter rigs were then laid off Start Point working from the ship's stern.

6 October: The foredeck winch having been repaired by the Chief Engineer 4 rigs were laid using the normal method. These rigs were 2 each in Eddystone Bay and off the Lizard. The last of these rigs was laid in poor weather conditions and the ship then anchored in shelter off Penzance.

- 7 October: The last 2 current meter rigs were laid in Mounts Bay and with strong to gale north westerly winds the ship then returned to anchor off Penzance.
- 8-10 October: A hydrographic survey was worked in improving weather off the Devon and Cornish coasts. It was found impossible to carry out the second objective of the cruise, which was to have been done at this time, because the Marconi Fishgraph was unserviceable.
- 11 October: Docked at Falmouth; Mr Ellett left the ship and Messrs Baxter and Pearson joined. Various items of equipment, which had come by road from Lowestoft, were taken aboard the ship.
- 12 October: Left Falmouth in perfect weather, setting course for the area of la Chapelle Bank, where the acoustic trials were to be carried out.
- 13-14 October: Made trials of the acoustic release system in 460 m of water at about  $47^{\circ}50'N$   $08^{\circ}W$ .
- 15 October: Completed trials of the acoustic release in deep water, having tested 9 units. Set course for the Devon coast.
- 16 October: Passed more than 100 trawlers, thought to be Russian and Polish, working 25 miles south of the Lizard. Checked all current meter buoys and changed the lights on 2 that had failed. Stopped overnight by the buoy off Dodman Point, whose light was also not working.
- 17 October: Changed the light on one current meter buoy and then made measurements on 2 acoustic releases in shallow water working a few miles off Dodman Point.
- 18 October: Released a parachute drogue midway between moored current meter stations E and F, off Dodman Point. Followed this drogue for 9 hours but then recovered it in a full gale with stronger wind forecast.
- 19 October: Recovered current meter stations A and B in Mounts Bay.
- 20 October: Worked a line of hydrographic stations south of St. Austell Bay and then lifted current meter stations C and D, off the Lizard. The weather at this time was poor with the wind force 8-9 from the northwest.
- 21 October: Recovered the last 4 current meter rigs. Two of these had been shifted from their original positions and there was some damage done to 2 current meters.

## RESULTS

1. The hydrographic survey of Mounts Bay and Eddystone Bay was completed as planned. All moored current meters were recovered with the moored rigs, although there was relatively minor damage to a small number of the meters.
2. The echo sounder survey of Eddystone Bay was not made because of malfunction of the Marconi Fishgraph.
3. Nine acoustic releases were laid in deep water (460 m) in the Bay of Biscay and a further 2 in shallow water in Eddystone Bay.

The hydrographic survey which covered Mounts Bay and Eddystone Bay and extended to over 20 miles offshore showed only small variation of temperature. One line of stations at the centre of the area was reworked at the end of the cruise to provide a comparison with the earlier measurements. No significant change of temperature was evident.

The acoustic release system gave reasonable results in all of the 11 tests but in 2 cases the guillotines were faulty and would not fire. The indications were that the detection range is generally in excess of 3.5 miles although in some cases unexplained bursts of noise reduced this considerably. Such effects were usually temporary but there was also a variation in performance between one unit and another. The interrogation and firing ranges were generally up to about 2 miles. Tests of directional accuracy of the detection system in shallow (68 m) water gave, for 10 measurements out of 11, an error of  $12^{\circ}$  or less and for 7 out of 11 an error of  $6^{\circ}$  or less. The eleventh measurement was attempted during a period of high noise, probably due to a ship passing close to the moored unit, and gave a misleading result.

J W Talbot  
5 November 1974

SEEN IN DRAFT: J W Balfour  
W J Saxby

INITIALLED: A J L

DISTRIBUTION: Basic List  
J W Talbot  
D J Ellett  
G C Baxter  
N D Pearson  
J A Bedwell  
J W Read  
K J Medler  
J A Henderson