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

1974 RESEARCH VESSEL PROGRAMME

REPORT: RV CLIONE 8b

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

STAFF

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DURATION

17-21 June

LOCALITY

Southern Bight

AIMS

1. Measurements on a prototype recording system for the ARL Scanner.
2. Transducer measurements and calibration.

NARRATIVE

The changeover from 8(a) to 8(b) was completed in time for the ship to sail at 1900 h 17 June. Work started immediately with a survey of sand ridges in the Lowestoft Yarmouth Roads. At 2230 Mr Aldridge arrived on board from a small boat. A course was set for the Southwold area where measurements of the acoustic power output of the scanner transducer were started early on 18 June. The rubber boat was used to carry the hydrophones and amplifiers. This work continued until 1700 h when a survey was started off Corton using the prototype recorder with the object of finding the optimum combination of signal integration factor and line scan density. A transponding acoustic tag with a regular change of coded signal was interrogated by the scanner and its signals displayed on the recorder.

Until midday on 19 June the ship was anchored off Corton whilst measurements and adjustments were made on the new signal processing system for the scanner. Later the ship moved off slowly in a southerly direction surveying the seabed by using the scanner recorder in sidescan mode. By early morning of 20 June CLIONE was near the East Goodwin light vessel in thick fog. The fog showed no sign of lifting and the aim of recording the sandridgesat the Sandettie area had to be abandoned. Radio reports indicated clear conditions in the outer Thames area so the ship headed for the Barrow Deep. After a recorder survey as far as Kings Channel, transducer measurements were resumed. These were completed by 2000h when a course was set for Lowestoft. A recorder survey was continued until CLIONE arrived off Corton on 21 June where some more sandwares observations were made before docking at 1100 h.

RESULTS

AIM 1 The prototype recorder worked well after some initial adjustment to the signal levels. An integration time of 4 microseconds with a line scan density of 150 per 2.5 cm gave the best results. Wrecks, trailer dredger tracks and sand waves were clearly recorded. Sand wave patterns seen on the recorder were not always visible on the cathode ray displays.

AIM 2 Source level measurements at ranges up to 235m. showed that conversion from electrical to acoustic energy was linear except for the highest levels. The transmitter beam pattern looked satisfactory although this was difficult to measure at sea.

R B Mitson
3.7.1974

SEEN IN DRAFT J R F (Master)
G J L (Skipper)

INITIALLED A P

DISTRIBUTION
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