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

1972 RESEARCH VESSEL PROGRAMME

REPORT: R V CLIONE: CRUISE 12

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

STAFF

Part 1. R B Mitson
J Rous
T J Storeton West
B Riches
M Holley
G Richardson (Sandwich Student)

Part 2. F R Harden Jones
A R Margetts
C C Hemmings (Aberdeen)
M G Pawson
W L Huggins
J Rous

DURATION

Part 1. Left Lowestoft 1300 h, 28 September.

Anchored Felixstowe 0930 h, 2 October.

Part 2. Left Felixstowe 1020 h, 2 October.

Arrived Lowestoft 1000 h, 9 October.

All times are GMT.

LOCALITY

Southern and Middle North Sea.

AIMS

Part 1:

1. Test the ARL Scanner.

2. Measure the performance of a signal processing system.

3. Test a new signal recorder.

Part 2:

1. Survey the Sandettie sand ridges.

2. Determine the feasibility of studying the action of a Danish seine with the ARL Scanner.

3. Obtain live plaice for the autumn CLIONE/CORELLA ARL Scanner programme.

NARRATIVE

CLIONE left Lowestoft at 1300 h, 28 September and arrived at Harwich at 2030 h. During the passage Messrs Griffiths and Clarke worked on the new signal recorder interface to the scanner: they left the ship on its arrival at Harwich. The ship left Harwich at 0600 h the next day to anchor near the CORK LV. Measurements and adjustments were carried out on the equipment until 0630 h, 30 September when CLIONE went to the area of the SUNK LV and surveyed a number of wrecks for test purposes. At 1212 h she returned to anchor near the CORK LV where work started on Aim 2. A heavy swell hampered this work and CLIONE moved up to the Quarantine anchorage off Felixstowe at 0930 h, 1 October where work continued. Messrs Mitson, Storeton West, Riches, Holley and Richardson left the ship at 1000 h, 2 October, and Harden Jones, Margetts, Hemmings, Pawson and Huggins joined for Part 2 of the cruise.

CLIONE left Felixstowe at 1020 h and steamed south towards Sandettie to complete Aim 1. On passage CLIONE carried out a Scanner survey of the Unit of Coastal Sedimentology's dredged trench in the Long Sand Head area. The Sandettie ridge survey was completed by 1000 h, 3 October and CLIONE returned north to tackle Aim 2, having used the Scanner to survey the wreck of the Liberian ship GEMINAR (sunk 1 October 1972). CLIONE reached the Cleaver Bank area late on the afternoon of 4 October and steamed to the Middle Rough (via the Hospital Ground and the Eastermost Shoal) and on the morning of 5 October made contact with the seiner MORENA (GY 1358). After observing the seine with the sector scanner CLIONE steamed west searching for other seiners and finally entered the Tees at 1940 h, 6 October. The dome was removed. Mr Margetts and Dr Hemmings left the ship next morning and CLIONE sailed at 0730 h and steamed to an area a few miles NE of the North West Rough to catch the plaice needed for the autumn Scanner programme. Two hauls were completed that night and four more the following morning. CLIONE then left the grounds and steamed back to Lowestoft to reach port at 0900 h, 9 October.

RESULTS

Part 1:

Aim 1. This was completed fairly quickly as very little adjustment was found to be necessary. The performance of the scanner was very good under all test conditions which were applied.

Aim 2. The signal processing system constitutes a basic sector scanning sonar of solid state design. Separate tests were carried out on each stage of the modulation system under real scanning conditions. Good results were obtained despite some tuning difficulties with the first stage units. The second and third stage combinations worked very well.

Aim 3. This was abandoned because of the unsatisfactory tests carried out en route to Harwich.

Part 2:

Aim 1. The sandettie sand ridges have been surveyed before (December 1970, CLIONE 15a; April 1972, CLIONE 5). The main ridges located in 1970 were identified and more evidence was obtained of changes in the position and form of the bottom features.

Aim 2. The seine net ropes were detected in midwater but not on the bottom at a depth of 72 m. The results suggested that further seine net trials should be carried out with the DAFS vessel MARA in depths not greater than 30 m and that it would help to develop a synthetic core, or warp, of high reflectivity.

Aim 3. 50 large plaice suitable for the Scanner work were brought back in good condition to Lowestoft.

OTHER ACTIVITIES

1. Wreck of the GEMINAR: this dangerous wreck was being surveyed by the Trinity House vessel READY and the salvage boat TOPMAST 18. This was the first "new" wreck (only 2 days old) we had examined with the ARL scanner and in 15 minutes we had determined the bearing of vessel, established that it was lying on its keel, observed that the 2 pairs of derricks and the booms were intact, and estimated the depth of their highest points below the surface.

2. UCS dredged trench at Long Sand Head: this trench had been previously surveyed in April 1972 (CLIONE 5) and this examination was made as we were passing close to the area. Video tapes, 16 mm film and polaroids should be available and will be passed to Dr Cloet in due course.

RELIABILITY OF EQUIPMENT

This was the first sector scanner cruise since May (CLIONE 6) and there were no serious faults. A standard target (20 cm trawl float) 3 m above the bottom was detected out to a range of at least 150 m in a depth of 54 m. At this depth a trawl float 1 m above the bottom was clearly resolved at a range of 110–120 m.

The dome cover was intact when removed at Tees. This cover (RN2 canvas) has now lasted 1664 n miles and is in very good condition.

F R Harden Jones

10 October 1972

SEEN IN DRAFT: J E M Balfour (Master

A H Button (Fishing Skipper)

INITIALLED: AJL

DISTRIBUTION

Basic list

Staff on cruise