

## PART B

### STAFF

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### DURATION

Left Lowestoft 1330 h 1 September

Arrived Lowestoft 0725 h 7 September

All times are Greenwich Mean Time

### LOCALITY

Central North Sea and off Suffolk coast.

### AIMS

1. To service the permanent moored current meter stations JONSIS 1 and 2, and North East 1, 2, 3 and 4.
2. To test the Lensref radar reflector.
3. To determine the quality of acoustically transmitted measurements of depth from Plessey meters.
4. To moor 2 guard buoys near to the current meter rig already laid by I.O.S. Wormley, for testing of the acoustic link to the Data Buoy 1 (D.B.1).
5. To record near bottom shear over a 13 hour period at neap tide on the Southwold dredging grounds for Dr Arnold (FSM 1).

### NARRATIVE

RV CLIONE proceeded directly to station NE 3, arriving there at 1845 h, 1 September. The current meter rig was found to be in good order, and was lifted, serviced, and replaced by 2010 h, when the ship headed for Station JONSIS 1. However, the passage was interrupted by a N.W. gale which forced RV CLIONE into shelter in Bridlington Bay, where the acoustic transmission equipment was set up and checked, and the cable replaced in the Shear Velocity Current Meter (S.V.C.M.) tetrapod. JONSIS 1 was finally reached at 1200 h, 3 September when the marker buoy was found to be missing. The pellet was visible, however, and the meters quickly and easily recovered using the MAFF acoustic release. A new rig was laid by 1330 h, and the ship then moved on to Station NE 1, which was serviced by 2140 h, followed by NE 2 at 0800 h, 4 September, JONSIS 2 at 1545 h, and NE 4 at 2130 h. Some acoustic trials were done in the meter laid at NE 4; these were completed by 2230, and the ship steamed to the D.B.1 site, where the deployment of moored guard buoys to the east and west of the current meter rig was completed by 0900 h, 5 September. A current meter rig was then laid some 6 miles south of the D.B.1 so that range trials of a Lensref radar reflector mounted on a standard toroidal buoy, and tests of the quality of data recorded from acoustic transmissions from a Plessey meter could be carried out. These were completed by 1600 h, after which the rig was recovered and CLIONE went to anchor on the Southwold

dredging grounds, where near bottom current shear velocities were recorded over a 13 hour period, starting at 0400 h, 6 September. CLIONE then returned to Lowestoft, and after a delay caused by the breakdown of the harbour bridge, docked at 0725 h, 7 September.

#### RESULTS

1. The current meter rigs on Stations JONSIS 1, JONSIS 2, NE 1, 2, 3 and 4 were lifted, serviced and replaced in good order. 10 Plessey meters were recovered, of which 8 had apparently worked correctly. The remainder contained only partial records failure being caused by leakage in one case, and a seized encoder in the other.
2. For testing, the Lensref radar reflector was mounted on a standard toroid in the place where the flashing light is usually fitted. With the sea sufficiently rough that a normal buoy could not be detected at all on the radar, the Lensref gave a signal that could be detected by an experienced operator at 3 miles, and which could not be missed by the most casual observer at any range up to 2 miles.
3. Acoustic transmissions of data from Plessey meters moored on standard rigs were received and accurately recorded using a modified version of the shipboard part of the acoustic release system in conjunction with a Sanbourne recorder.
4. Guard buoys were moored on either side of the current meter rig of D.B.1, one to the west, with D.B.1 bearing  $136^{\circ}$ , 310 m., and one to the east with DB1 bearing  $197^{\circ}$ , 370 m.
5. A 13 hour long shear velocity current meter station was worked on the dredging ground off Southwold for Dr Arnold.

G C Baxter

8 September 1976

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