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FISHERIES LABORATORY, LOWESTOFT, SUFFOLK, ENGLAND

1976 RESEARCH VESSEL PROGRAMME

REPORT: RV CLIONE: CRUISE 4

STAFF

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DURATION

Left Lowestoft 0654 h 12 March

Arrived Lowestoft 1007 h 18 March

All times are Greenwich Mean Time

LOCALITY

North Sea

AIMS

1. To investigate the nature of the sea bed in the vicinity of the Humber and Tees disposal grounds using high resolution side scan sonar equipment (9.4.5)

2. To collect samples of bed sediments from these areas, where necessary using a modified Day grab (9.4.5)

3. To collect surface water suspended sediment samples in the Tees and Humber areas. (9.4.5)

NARRATIVE

The scientific staff having boarded on 11 March, CLIONE sailed from Lowestoft at 0654 h 12 March. Surveying (using a ORE 100 kHz dual channel side scan sonar with an EPC 4600 graphic recorder) commenced off the Humber at 1550 h but was interrupted by bad weather at 2040h when excessive pitching caused repeated shear pin fracture on the towed vehicle. After sheltering in the Humber estuary on 13 March, surveying was recommenced at 0830 h 14 March and continued until 0910 h 15 March when CLIONE steamed to Grimsby to put a sick crew member ashore. Surveying recommenced once more at 1350 h 15 March but was terminated after further repeated shear pin fracture, again caused by CLIONE pitching in the heavy swell.

Rather than proceed northwards to the Tees ground where worsening weather conditions were forecast, CLIONE steamed south to another area of interest, viz the Rough Towers disposal ground off Harwich. Surveying

was commenced at 1245 h 16 March in improved weather conditions but were delayed between 1524 h and 1752 h when a sick scientist (Mrs Anne Hall) was put ashore at Harwich (1640 h 16 March). After completing the survey at 1700 h 17 March, 18 grab stations were worked in the area until 2100 h 17 March. CLIONE steamed to Lowestoft on 18 March, berthing at 1007 h.

RESULTS

The two areas surveyed (Aims 1 & 2) contained a full spectrum of bottom sediment types, allowing an assessment to be made of the varying performance of the side scan technique on gravelly, sandy and muddy substrates. Initial impressions are very encouraging but a full appraisal of the data is not yet complete.

The Humber area exhibited little variation in sediment patterns, the greater part being a largely featureless gravel plain. This tract passed southwards into an undulating topography, probably of morainic origin. A field of sandwaves was encountered along the south east margin of the area, inshore of the Protector Overfalls. Various other isolated sand transport features occurred throughout the area but no zones of likely accumulation of fine material were identified.

In the Rough Towers area, a wide range of bottom reflector patterns were recorded. 18 grab samples were collected for 'ground truth'. There was a consistent relationship between recorded side scan patterns and sediment types, allowing the accurate plotting of spatial variations in the latter. Detailed work up of the Rough Towers data has yet to be completed.

The modified Day grab (fitted with stub bucket axles) worked well, and enabled improved subsampling from the deepest part of the sediment sampling.

Hourly samples of suspended sediments (Aim 3) were taken from surface and bottom waters while at anchor in the Humber estuary on 12-14 March. In addition a large suspended sediment sample was taken for metals analysis. Regular surface water samples were also taken while surveying off the Humber.

M S Rolfe
26 March 1976

SEEN IN DRAFT JRF
GFL

INITIALLED AJL

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