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

1984 RESEARCH VESSEL PROGRAMME

REPORT: CHARTER OF RV PRINCE MADOG (UCNW, MENAI)

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

STAFF:

D J SWIFT

Diving Team:

K H BRANDER

B H HOLFORD

M A VINCE

T H WIDDOP

DURATION: 16-20 July

LOCALITY: Irish Sea (Cumbrian coast)

AIMS:

To study bioturbation off the Cumbrian coast at Sellafield. This work to involve

1. Photographic and TV observation of selected areas.
2. Quantitative surveys of burrow systems using a resin cast technique.
3. Sampling of selected species of benthic animals.

NARRATIVE:

All times GMT.

PRINCE MADOG sailed from Menai Bridge at 0915 on 16 July and arrived at the first station off St Bee's Head at 1800 where the underwater TV system was tested. A 32 station transect running parallel to the coast, through the centre of the offshore mud patch, was worked. Six inshore stations were also examined. A total of 10 dives were made by the diving team to obtain burrow casts, to photograph the sea bed and to attempt to collect samples of the tubiculous polychaete Chaetopterus variopedatus.

PRINCE MADOG sailed from the Cumbrian coast at 1830 on the 19 July and docked at Menai Bridge at 0900 on the 20th.

RESULTS:

1. After a number of faults with the TV system, a record of the topography of the sea bed from off St Bee's Head, parallel with the coast, to off Walney Island, was successfully completed.

2. The modified resin casting technique is a great improvement on the technique used last year. Loading the resin with barium sulphate powder (mean density  $4.5\text{g.cm}^{-3}$ ) increased both the penetrating power and the colour contrast without apparently affecting the 'pour-ability'. Two series of burrow casts were attempted at station C1 (approximately in the centre of the mud patch) giving a number of different burrow type profiles.

3. Biological survey work was less successful. Attempts to obtain complete Chaetopterus plus tubes failed. The animals were relatively plentiful and easily seen by the divers. However, because of the inherent fragility of the tubes (and the animals for that matter) and the difficulty in trying to dig the tubes out of the very cohesive mud, no complete specimens were obtained. Close up photographs of a number of burrow entrances were taken.

D J Swift  
30 August 1984

INITIALLED: DJG

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