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## CHARTER CRUISE REPORT

*Bergen Surveyor*

Ref H38

15-23 February 1991

### Personnel

S J Hall	SSO (in charge)
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M R Robertson	HSO
C W Shand	HSO
P J Copland	HSO
K Clements	Seaway Technology Technician
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### Objective

To examine and sample benthic communities in a part of the North Sea where ship wrecks provide habitats which are protected from disturbance by fishing trawls. A comparison will be made with immediately adjacent unprotected areas to determine whether fishing disturbance has any detectable long term effects on community structure.

### Narrative

The ship sailed at 1430 on 15 February from Grangemouth and arrived off St Monance at 1900 for equipment testing. Sidescan sonar, SPRINT ROV and box corer were deployed and operated successfully and at 1940 the ship proceeded to Turbot Bank (Fig. 1). We arrived on site at 0830 but could not commence sidescan survey owing to difficulties relating DECCA co-ordinates to the charted positions of the first wreck. The sidescan survey finally commenced at 1200 in a 1nm x 1nm box around the latitude and longitude position marked on the chart and in further 1nm x 1nm boxes working outward from this position. The survey was interrupted for three hours during the night to repair a cable fault and replace a towfish plug but continued until 1200 on the 17th when it was decided to search at the charted position of a second wreck.

Wreck two was detected at 1700 on the 17th and three passes with the side-scan sonar enabled a position fix. A subsequent search with the ship's echosounder located the wreck and efforts were then made to deploy a buoy at the marked position. Unfortunately, however, the accuracy of DECCA position fixes deteriorated dramatically and contact with the buoy was lost. The search was then abandoned until daylight.

At 0730 on the 18th we resumed the search with the echosounder at the buoy position but the DECCA system was still very erratic and the buoy position did not match the logged wreck location. A grid search of both the marked position and the buoyed position was then undertaken, but we were unable to relocate the wreck. Owing to a complete lack of confidence in the DECCA position fixes we had obtained the previous night, the sidescan survey was resumed. After continuous grid searching the wreck was finally relocated at 0615 on the 19th and an HPR transponder buoy deployed at 0620. Proper HPR position fixes were obtained for the wreck at 1000 but efforts to pinpoint the location with the echosounder were hampered by bad weather. At 0200 on the 20th we recommenced wreck search and deployed a second transponder buoy at 0400 to improve position fixes in marginal weather. A final fix on the wreck was obtained at 0630 and we stayed on station over the wreck until daylight. At 0800 the SPRINT ROV was deployed and we located the wreck at 0830. ROV pictures showed a number of caught nets and suitable position fixes were taken within 5m of the wreck as the start points for transects running out into the fished ground (Fig. 2). The first samples were taken with a box corer but recovery proved to be hazardous, so further samples were taken by Day Grab. The first transect of 40 samples was completed at 2100 and co-ordinates for a second transect were then entered into the navigation system. The second transect was started at 2200 but work was abandoned at 0100 due to bad weather. Work restarted at 0715 and three transects of 40 samples each were completed before sampling had to be abandoned at 2230 due to deteriorating weather conditions (Fig. 2). Unsuccessful efforts were made to pick up one of the transponders and we then returned to the wreck site to map the wreck using the echosounder. All efforts were finally abandoned at 2400 due to bad weather which persisted throughout the night. On the morning of the 22nd the weather deteriorated further and the first transponder buoy was picked up. Attempts to find the second buoy were unsuccessful, but it was eventually recovered with a grapple hook at 1500. In view of the poor weather and the continuing bad forecast we left the wreck site for Aberdeen at 1530.

## Results

No data from this work are yet available owing to the time required to sort samples.

S J Hall

20 March 1991



