

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

Dr. Balle
Miss Gull

1972 RESEARCH VESSEL PROGRAMME

REPORT: RV CORELLA: CRUISE 4

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

STAFF

P G W Jones	
A R Folkard	
S R Jones) 18-25 February
C Lewandowski	
R Nicholson) Institute of Geological Sciences
T Smith) 25 February-3 March

DURATION

Left Lowestoft 1100 h 18 February

Arrived Lowestoft 1945 h 29 February

All times are Greenwich Mean Time

LOCALITY

Southern North Sea and North West coast of England

AIMS

1. To survey the distribution of certain trace metals (zinc, copper, manganese, nickel lead and cadmium) contained in suspended particulate material and dissolved in water.
2. To sample the sea bed off the east coast for trace metals in surface sediments.
3. To measure the ultra violet absorption of filtered sea water as an index of its soluble organic content.

NARRATIVE

After leaving Lowestoft CORELLA proceeded northwards with the intention of starting the trace metal survey off the River Tees. Force 7 north east winds were experienced with a forecast of gales. The vessel therefore sheltered in the river Humber for the night, anchoring at 2150 h. During the morning of 19 February the pump system for collecting near bottom water samples was tested whilst the ship was at anchor. By this time winds were moderating and the vessel departed at 1130 h for the survey area. Trace metal sampling commenced at 2030 h off the River Tees. The survey then continued uneventfully and the Straits of Dover section was completed at 0830 h 23 February.

Owing to fog, CORELLA then proceeded to Dover and anchored until visibility had improved the next morning. The afternoon of the 24 February was spent measuring the ultra violet absorption of filtered water from the Barrow Deep and Black Deep of the Thames estuary, concentrating on the sewerage dumping ground in the latter area. The final trace metal section between the Brown

Ridges and Great Yarmouth was worked between 0200 h and 0900 h 25 February. The vessel then lay at anchor off Gorleston until 1430 h. Messrs S Jones and Lewandowski departed by the Gorleston pilot together with an engineer requiring dental treatment. The engineer returned with Messrs Nicholson and Smith by the pilot boat at 1400 h. The sediment survey was started in the Inner Silver Pit at 2200 h 25 February and completed at 1435 h 29 February, 4 n miles south of Smiths Knoll. CORELLA docked at Lowestoft at 1945 h the same day.

RESULTS

1. Surface water samples were taken for trace metal analyses at 44 stations between the river Tees and the Straits of Dover. On 16 of the above stations near bottom water was also collected. All samples were returned to the laboratory for analysis. Surface temperature was recorded by a thermistor and salinity samples were collected on the above stations.
2. The ultra violet absorption of filtered water from each trace metal station was measured. The highest values were recorded on coastal stations, indicating relatively high levels of dissolved organic material compared with offshore regions. The ultra violet absorption of the water on the sewerage dumping ground in the Barrow Deep was also higher than in adjacent areas.
3. Surface sediment samples, to be analysed for trace metals by the Institute of Geological Sciences, were collected by a cone dredge at 124 stations. Samples were taken on the 10 fathom line off the coast between the Kentish Knock and Berwick Bay. In addition, 5 samples were collected between the Pier Heads at the entrance to the River Tyne. Between Spurn Head and Berwick Bay samples were taken 3 n miles east of the 20 fathom line. Between the Norfolk Banks and the Kentish Knock, samples were collected on the 20 fathom line. Dredging was also carried out in the Inner Silver, Sole and Coal pits. Most dredging stations were spaced 5 n miles apart, but the sampling interval was increased to 1-2 n miles in the vicinity of some estuaries. One cone dredge was lost on station 124 after coming fast on rough ground.

P G W Jones
8.3.72

SEEN IN DRAFT: James E Balfour (Master)

C N Snowling (Fishing Skipper)

INITIALLED: AJL

DISTRIBUTION

Basic List
P G W Jones
A R Folkard
S R Jones
C Lewandowski
R Nicholson
T Smith