

Mr BATE

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

1975 RESEARCH VESSEL PROGRAMME

REPORT: RV CORELLA: CRUISE 2

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

STAFF

- P G W Jones
- A R Folkard
- T C Doddington
- S R Jones
- R A Nicholson (Institute of Geological Sciences)

DURATION

Left Lowestoft 1033 h, 16 January

Arrived Lowestoft 0805 h, 27 January

All times are Greenwich Mean Time.

LOCALITY

Southern North Sea

AIMS

1. To survey the distribution of selected dissolved trace metals and nutrient salts in the water of the southern North Sea.
2. To survey the distribution of dissolved trace metals and nutrient salts over tidal cycles at selected localities in the estuaries of the Humber and Thames.
3. To intercalibrate sampling techniques for dissolved trace metals with the Texel laboratory of the Netherlands Institute for Sea Research.
4. To sample for the analysis of suspended particulate trace metals at selected stations during 1 and 2 above.
5. To sample surface sediments for the analysis of trace metals in the estuaries of the Humber and Thames.

NARRATIVE

After departing from Lowestoft, CORELLA proceeded southwards and commenced the survey grid in the Straits of Dover at 2035 h, 16 January. Between 1540 h 17 January and 1330 h, 19 January surface water samples were collected at hourly intervals over 13 hour tidal cycles whilst the vessel was at anchor in the Thames Estuary off Gravesend, off Southend and at the Oaze Deep. Surface sediment samples were collected by dredge off Southend. After departure from the Thames Estuary the survey of the southern North Sea continued. During the morning of 20 January the weather commenced to deteriorate with SW gales. The survey was worked northwards along the Dutch coast and CORELLA docked at Den Helder at 1640 h the same day.

On 21 January Dr Duinker and Mr Nolting of the Netherlands Institute for Sea Research joined the vessel which sailed at 0800 h. An intercalibration of metal sampling techniques was carried out to the west of Texel in poor weather

On 22 January CORELLA remained at Den Helder with SW winds of force 9. There was no improvement in the weather on the following day when the vessel departed from Den Helder at 0930 h and anchored in the Texel Stroom. The wind did not moderate until the early evening of 24 January when the vessel departed from its anchorage at 1640 h. The survey was recommenced to the west of the Brown Ridges at 2343 h on the same day. The following morning gales were renewed from the south, CORELLA, therefore, proceeded to Corton Roads and anchored at 1405 h with winds veering to the west and increasing to force 9-10.

By the morning of 26 January winds had moderated. The vessel departed at 0700 h and proceeded to the north of the Thames Estuary where the survey commenced at 1010 h and continued until 1910 h. CORELLA then returned to Lowestoft, docking at 0805 h, 27 January.

RESULTS

Time lost owing to bad weather prevented any survey of the Humber Estuary and the north western portion of the southern North Sea. The sections worked are indicated on the attached chart.

Surface water samples for dissolved nutrient salt and trace metal analysis were collected by plastic bucket. Near bottom water samples were taken at selected localities by means of a Niskin bottle but this part of the programme was curtailed owing to periods of marginal working conditions. Samples for the analyses of particulate trace metals in surface water were collected at most stations.

Ten surface samples for trace metal analysis collected during the joint exercise with the Netherlands Institute of Sea Research were used to compare the filtration apparatus of the Lowestoft Laboratory with that of the Texel Laboratory.

All trace metal water samples were deep frozen for analysis of cadmium, copper, nickel and zinc ashore at Lowestoft. Surface sediment samples collected over a tidal cycle off Southend and at selected stations in the northern part of the Thames Estuary were deep frozen for analysis ashore by the Institute of Geological Sciences.

Dissolved phosphate, nitrate, nitrite and silicate were analysed at sea by means of the Technicon auto analyser. A preliminary examination of the results indicate that in coastal waters phosphate was lower than at a similar time last year, whereas nitrate levels were somewhat higher.

A surface phytoplankton sample was collected off Lowestoft for Dr Dodge of Birkbeck College, London University.

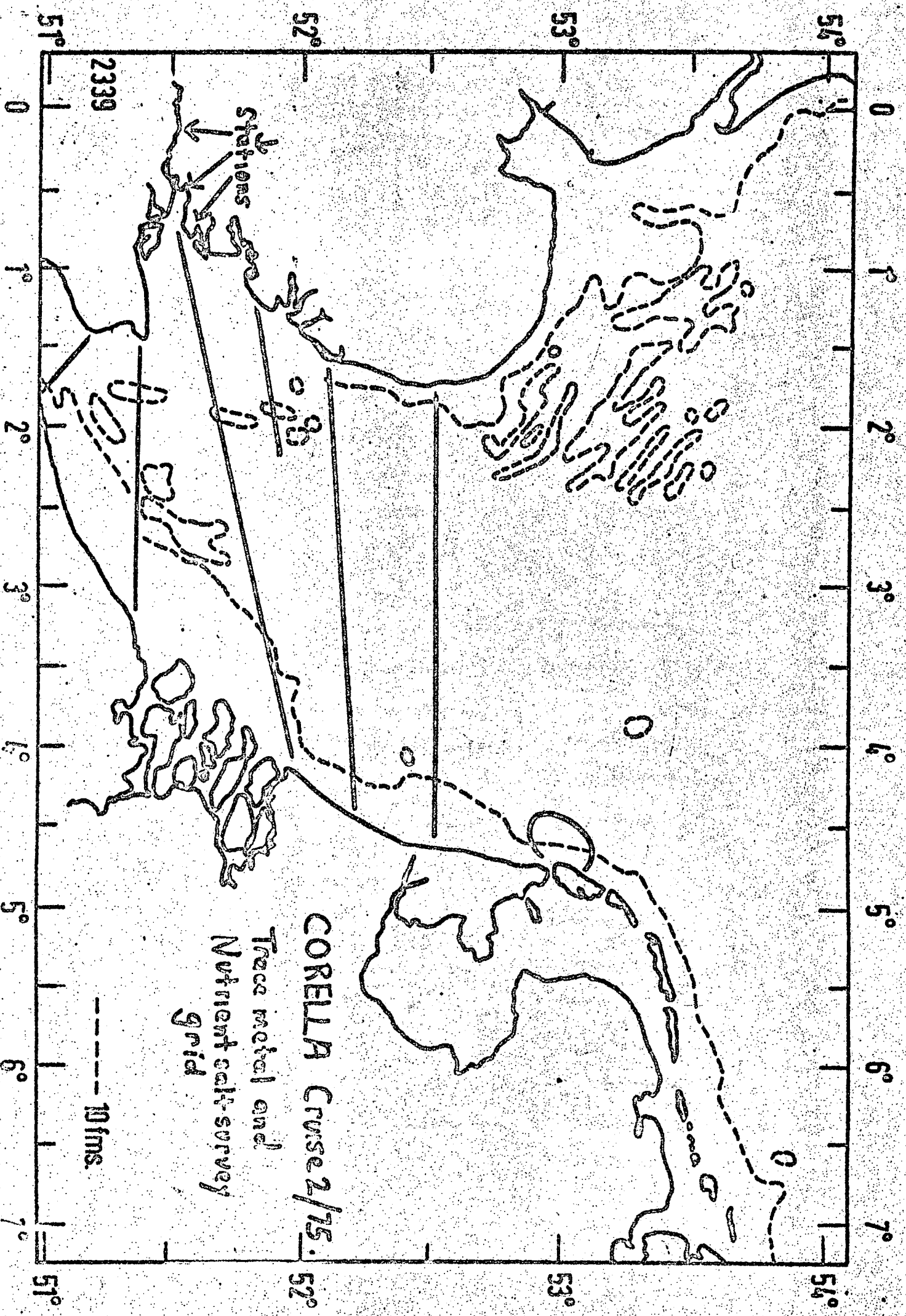
P G W Jones
10 February 1975

SEEN IN DRAFT: JEWB, ETB

INITIALED: AJL

DISTRIBUTION:

Basic list	T C Doddington
P G W Jones	S R Jones
A R Folkard	R A Nicholson (Institute of Geological Sciences)



CORELLA Cruise 2/75.

Trace metal and
Nutrient salt survey
grid

----- 10 fms.

Stations

2339

