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TO THE LABORATORY

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CRUISE REPORT

FRS 'SCOTIA'

27 MARCH-16 APRIL 1970

NARRATIVE

On 27-28 March 'Scotia' was engaged in recovery of a current meter mooring 10 miles north-east of Aberdeen which had been moved by a fishing boat. All the equipment was successfully picked up by trawling for the gear. On 29 March a new mooring was laid in the standard position and 'Scotia' made a passage to the Clyde. A current meter mooring was laid in Irvine Bay on 1 May and was left in position until 10 May when it was recovered. From 1 to 4 April parachute drogues were tracked within an area 5 miles offshore from Irvine Bay. During this period the thermosalinograph and the Technicon analyser were run continuously to give distributions of temperature, salinity and nitrate in near surface waters. Samples of water and plankton were taken for heavy metal analysis and measurements of C^{14} uptake were carried out.

On 4 April Dr Steele left the ship and from the 5th to 10th 'Scotia' carried out further drogue tracking in Kilbrennan Sound and to the east of Arran. Hydrographic stations and plankton hauls were made in these areas as well as in the vicinity of Irvine Bay.

On 11 April Mr Payne left the ship, and Mr McIntyre and Mr B Williams (an observer from ICI Ltd) joined. Bottom sampling by grab was carried out in Irvine Bay for faunistic and chemical analyses.

The scientific staff left the ship at Ardrossan on 13 April. 'Scotia' proceeded to Aberdeen and unloaded gear on 16 April.

RESULTS

During the whole of the cruise a strong north-west wind was blowing. The current pattern set up by this wind showed a narrow but strong southerly flow close to the Ayrshire coast but a northerly flow offshore from this. Off Arran and in Kilbrennan Sound there was also a southerly flow.

The Technicon could detect the nitrate in the industrial effluent in Irvine Bay but the picture was complicated by high nitrates from the River Garnock at the south end of the bay.

Results of the other chemical analyses are not yet available. There is some prospect of distinguishing the nitrate sources by their indicated salinity.

Near the effluent outfall the deposit was of very muddy sand with much organic detritus mainly of terrigenous origin, and the fauna consisted mainly of echinoderms (Amphiura and Echinocardium). In the direction of the Garnock the deposit became less muddy, and a rich Pectenaria (polychaete) community was present at the intermediate stations, giving place to a much sparser fauna in the fine sand off the river.

J H Steele
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11 May 1970