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R.V. TELLINA

Report for Cruise 4/1968

Staff

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Duration

16 February-1 March

Aims

1. The investigation of water movement and diffusion in the region immediately offshore from Lowestoft using releases of the dye Rhodamine B.
2. Comparison of results obtained using dye with those using the Pooh-Bah Automatic Float.
3. The taking of current meter readings and salinity samples to supplement the dye diffusion results.
4. An attempt at similar work off Sizewell.

Narrative

During the morning flood tide of 16 February a salinity grid was worked off Lowestoft harbour. In the afternoon comparison experiments were made between the Pooh-Bah Float and a simpler type of float which had been used before in similar experiments. Current measurements were made on 19 and 20 February, on the latter occasion a full tidal cycle being worked in the Channel between the Claremont Pier and the harbour entrance.

On 21 February preparations were made for a Rhodamine release early the following morning but this had to be postponed because of an increasing north-east wind. Unfavourable weather persisted until 26 February when a small release of Rhodamine B was made at high water from a position 3500 ft northeast from Lowestoft Ness. A similar but larger release was made the next day. Both releases were surveyed for some hours, the second survey being broken off after 7 hours as dusk approached. On the morning of 28 February, TELLINA first checked that no significant Rhodamine concentrations were present and then worked a salinity grid off Yarmouth until low water. This was done because the Rhodamine surveys had indicated that ebb water from the Yare pushes ebb water coming from the south towards the Scroby sandbank.

The last two Rhodamine releases were made on flood tides from the same release position. The second of those, at low water on 1 March, was surveyed for 7 hours.

During the Rhodamine experiments the wind direction was approximately northeast throughout, its strength varying up to about Force 5. There was insufficient time to carry out similar work off Sizewell.

Results

Many of the results obtained demand detailed analysis but the Rhodamine experiments suggest that a continuous discharge of pollutant from a position 3500 ft from Lowestoft Ness will produce a fairly narrow tongue of pullutant which, at its furthest points, will reach to approximately Yarmouth and Southwold. In all cases dye free water was indicated inshore from the tongue of dye. The movement of the dye patch was approximately along the 5 fathom line except, as mentioned above, off Yarmouth.

On those occasions when the Pooh-Bah was used at the same time as dye, a fair agreement was obtained between the motion of dye and float. However, the float was not easy to see from a distance and was not used with all dye releases in order to avoid losing it.

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7.3.68.

Seen in draft: WB

Initialled: AJL

Distribution:- Basic list plus the following:-

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