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IN CONFIDENCE - NOT TO BE QUOTED WITHOUT PRIOR REFERENCE TO THE LABORATORY

FRV GOLDSEEKER

CRUISE 13/81

13GR81

REPORT:

9-20 November, 1981

OBJECTIVES:

- (1) To study the dilution and dispersion of the liquid component of BACO waste using Rhodamine B dye as a tracer.
- (2) To collect samples of sediment and benthos on the BACO dumping ground using a grab and Agassiz trawl.

NARRATIVE:

"Goldseeker" left Buckie on 9 November with the intention of laying a grid of marker buoys on the BACO Dumping Ground. Unfortunately bad weather prevented this work and she proceeded directly to Invergordon. Bad weather confined "Goldseeker" to port on the following day and, with the exception of Wednesday when "Goldseeker" was able to lay the grid of marker buoys, she was confined to Invergordon for the remaining part of the working week. On returning to Invergordon on Monday, 16 November, following a weekend in Buckie, "Goldseeker" encountered much better weather and sea conditions which enabled her to proceed to the BACO Dumping Ground on Tuesday to begin the dye investigation. At the dumping ground she rendezvoused with BACO ship "Kindeace" which immediately began to discharge her cargo of waste to which Rhodamine B dye had been added several hours earlier. On completion of the discharge "Kindeace" left the area and "Goldseeker" commenced the water sampling programmes.

Shortly before the start of second period of water sampling, and approximately one hour after commencement of the dye study "Goldseeker" developed a problem in the engine room which unfortunately necessitated a return to Invergordon and resulted in the abandonment of the scientific programme. "Goldseeker" returned to Buckie on 19 November and she was unloaded on the following day.

RESULTS:

During the discharge of the waste on the dumping ground several surface water samples were taken to assess the presence, and the extent of initial dilution, of the waste. On completion of the discharge the area exhibiting waste in the surface waters was delineated and recorded using the Decca plotter. Samples of water from 1m, 5m and 10m were then collected from a grid of 6 stations which were located around the initial discharge pt. As was mentioned above the sampling period was limited owing to engine room problems in "Goldseeker".

The analyses of these samples suggests that most of the liquid component of the waste is initially removed from the upper 10m of the water column presumably by being transported downwards. The remaining fraction is quickly diluted to produce concentrations of liquid component of the waste in sea water of <0.01%. A more detailed report of the results of this somewhat abbreviated dye programme will be presented elsewhere.

G. TOPPING
14 December 1981

Seen in draft: W.B. Reid, O.I.C., FRV "Goldseeker"