

Provisional: not to be quoted without reference to the Author

R.V. CLIONE

Report for Cruise 4b/1967

Staff:

Duration:

- D. S. Woodhead
- E. Reynolds
- A. K. Steele
- M. R. Vince
- I. Huggins
- J. Prime

8th-15th June, 1967

Aims:

1. To mark approximately 2,500 plaice.
2. To obtain benthos samples.
3. To make a pilot scale radiological survey of the Irish Sea prior to a major survey later in the year.
4. Trials of gamma-spectrometry equipment to monitor in situ Wind scale area sea bed and sea water.

Narrative:

The ship left Fleetwood in good weather at midday on 8th June and proceeded to the fishing area two miles south of the Windscale effluent outfall. The opportunity of testing the gamma-spectrometry equipment was taken while hove to near the Selker buoy awaiting confirmation of the cessation of gunnery activity to seaward from the Drigg range. Fishing commenced in the early evening and two hauls were made; the first produced few fish for marking due to failure of the cod-end, but the second yielded 435 fish for marking.

Three hauls were made on the 9th and yielded a total of 1,280 plaice for marking. Samples of other fish species and benthos for activity analysis were also obtained from these hauls. In between hauls two stations were made with the gamma-spectrometry probe, and at each station a seabed sample was taken for reference purposes. The ship anchored two miles off Seascale for the night of 9/10th June and the marked fish were released. While at anchor the gamma-spectrometry probe was used to monitor possible time-variations in the sea-water activity at five fathoms. (Approximately mid-water).

Two hauls were made on the 10th June and yielded the remainder of the fish necessary for the completion of the marking programme. These fish were released half a mile to the seaward of the Windscale outfall. The ship anchored at this position to obtain the benthos samples.

On the morning of 11th June a series of gamma-spectrometry probe stations were made on a line running northwards from the pipeline outfall to the South Workington buoy. In the afternoon a series of nine hauls were made in the Solway Firth with the Tin Tow Net to obtain a bulk plankton sample for activity analysis.

Late in the evening of the 11th June a start was made on the radiological survey, and the work continued throughout 12th June. The survey consisted of the collection of water and seabed samples at eight stations between Windscale and Holyhead, and Holyhead and Dublin.

The good weather experienced throughout the cruise allowed sufficient time for three additional gamma-spectrometry probe stations to be made on 12th June, close to the pipeline from the C.E.G.B. nuclear power station at Wylfa, Anglesey, and one on 14th June, near to the pipeline outfall from A.E.E. Winfrith, Dorset.

Results:

A combination of good weather and efficiency on the part of the master and the crew allowed the completion of all aspects of the cruise programme.

The preliminary results available from the gamma-spectrometry probe indicate that it is a promising method for the in situ monitoring of gamma emitting fission nuclides at the site.

D. S. Woodhead

22/6/67

Draft seen by A.P.

T.A.S.

Initialled: A.J.L.

Distribution:

Dr. Cole
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Captain Aldiss
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Mr. Gulland
Mr. Bolster
Mr. Burd
Mr. Cattley
Mr. Corlett
Mr. Garrod
Dr. Harden Jones
Mr. Ilos
Dr. Jamieson
Mr. Margetts
Mr. Trout
Mr. Holden
Dr. Purdom
Mr. Bridger
Mr. Mitson
Mr. Tungate
Mr. Williams
Mr. Wood
Mr. Adams
Mr. Mills
Mr. Kay
Miss Conolly
General Lab.
Lab. Registry
Library (2)
Mr. Whiting
N.I.C. Next Cruise

Mr. Simpson
Dr. Reynolds
Chief Inspector
All District Inspectors
Fisheries Registry
Captain Sutton
CLIONE file (Captain Sutton)
Mr. Postill
Skipper Larner
Mr. Buchanan Wollaston
Mr. W. Baird, D.A.F.S.
Director, Dublin
Mr. Glover
Hydrographic Department
Dr. Lucas
Director, N.I.O.
Dr. Peachey
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White Fish Authority
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