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In Confidence - not to be cited without prior reference to the Laboratory

FRV "Goldseeker"
Cruise 5/86

PB

Report

19 March - 7 April 1986

Personnel

Part 1 19-28 March Part 2 29 March - 7 April

R Priestley SSO (in charge 22-28 March) C W Glass SO (in charge 29 March - 1 April)
C W Shand SO (in charge 19-21 March) C S Wardle SPSO (in charge 2-7 April)
P J Barkel PTO IV C D Hall HSO

Objectives

Part 1

- 1 Sea trials of the newly purchased underwater colour television system.
- 2 A commercially available altitude/depth meter will be mounted on the RCB and its usefulness assessed.
- 3 An unmodified echo sounder with the transducer mounted on the vehicle will give final trials.

Part 2

Measurement of bioluminescence and light levels using instrumentation on loan from IMER.

Narrative and results

Part 1

The vessel was loaded at Mairton and proceeded through the Caledonian Canal to Corpach, the opportunity being taken whilst on passage to assemble the underwater vehicle. Mr R Priestley arrived on the 21 March, to find the vessel fully prepared to go to sea the following morning.

Gale force winds persisted throughout part 1 of the cruise but only on one day, Sunday 23, was "Goldseeker" confined to harbour. This day however was used by scientific staff and visitors to view the Remotely Controlled Vehicle and the methods used to deploy and drive it.

Because of the gales and prevailing heavy rainfall, consequent peaty runoff from the mountains gave very poor underwater visibility.

- 1 The colour television and display system were impressive; in shallow waters or when artificial light may be used the coloured image will permit easier and more accurate species identification.
- 2 The altitude/depth meter could not be made to display the height of the vehicle above the seabed. However the depth indication was accurate suggesting that further investigation of that problem will be worthwhile.
- 3 The echo sounder as used by us failed to give any useful data and should now be considered unsuitable for use with the remote vehicle.

Part 2

During the half landing (28 March) the PCB was equipped with the IMER instrumentation for measurement of light and bioluminescence. The vehicle was shot on 29 March in Loch Linnhe and the trials with the IMER equipment proved initially successful, indicating the potential of the system. For the remainder of the cruise, however, Marine Laboratory light measuring instrumentation was used. This conventional equipment (measuring light level, % transmissibility, and bioluminescence) was used in the Loch Linnhe area from 29-31 March before moving south to Crinan on 1 April. "Goldseeker" then proceeded through the Crinan Canal and spent the remainder of the trip working out of Tarbert. Sampling was carried out in Loch Fyne, Kilbrannan Sound, Loch Striven, and to the east and south of Arran, finishing in Troon on the evening of 6 April.

In total 28 tows were made in 12 different areas providing information on light transmission through differing water types and allowing identification of differential layering of bioluminescence in the water.

We wish to thank British Waterways and its employees for the help and facilities provided during the cruise.

R Priestley
C W Glass
27 May 1986

As seen in draft: ~~LA Hair~~