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to the Laboratory

FRV "MARA"

Cruise 2/79

Report

3-20 April 1979

Objectives

1. To observe a new 200 HP semi pelagic trawl using underwater TV with divers.
2. To study the engineering performance of the new trawl.
3. To compare the visual and instrumented results obtained with the results of tests on a 1/10th scale version of the trawl.

Narrative

3-9 April. Due to Lab, industrial action on Monday 2nd April the trials staff could not travel to Buckie to load MARA until the afternoon of Tuesday 3rd April. The gear was loaded and set up ready for Wednesday morning. From the Wednesday to the following Monday (except for the weekend when staff returned to Aberdeen) MARA trawled daily in Spey Bay and the new semi pelagic trawl was observed by divers using underwater TV.

9-20 April. The divers left MARA to join GOLDSEEKER on the evening of Monday 9th and the instrumentation staff joined MARA the same evening. Thereafter until Friday 20th April MARA trawled daily in either the Spey Bay, Shads, South Deep or Bellings areas of the Moray Firth. Each haul was fully instrumented.

Results

Observation of the new semi pelagic trawl indicated that no design alterations were necessary. The net shape was as expected when both the large mesh (300mm) and small mesh (160mm) belly versions of the net were observed. There was a good comparison with the 1/10th scale model. The net towed well with a lightweight bobbin rig and the new codend design alleviated construction of the extension/codend join. The video tapes, net measurements and still photographs are being further analysed in the Laboratory and a demonstration tape will be made up.

Comprehensive instrument readings were obtained for warp lengths from 50 to 225 fathoms both on and off the bottom with various rigs. The net could be manoeuvred easily over a range of depths by changing speed and its engineering performance compares well with a typical 200 HP conventional bottom trawl when fished in its bottom mode eg -

	<u>Speed(kts)</u>	<u>Gear Drag (Tons)</u>	<u>Net Drag (Tons)</u>	<u>Headline Height (Feet)</u>	<u>Warp Aft (Fms)</u>
Semi Pelagic	2.7	1.1	0.9	32	75
Commercial Net (EM)	2.7	1.37	1.05	15	75

The instrument readings are being further analysed in the Laboratory.

J H B ROBERTSON
12 JUNE 1979

Seen in Draft James A Calder
Relief OIC