

4. SURVEY METHODS AND PROCEDURES (Cont'd)

4.5 Analogue Systems (Cont'd)

4.5.2 Side-scan Sonar

An EG&G side-scan sonar was used to map changes in seabed lithology and search for any anomalous objects on the seafloor. The fish was towed off the stern of the vessel, on either 180 or 200 m. of cable, which placed the fish 15-25 m. above the seabed. The recorder was set to a sweep speed giving 200 m. slant range per channel.

The side-scan sonar utilised an acoustic beam which is very narrow in the horizontal plane yet sufficiently broad in the vertical plane to impinge on targets ranging from directly under the fish out to 500 m. abeam. The two channels are fired simultaneously and then each receives echoes from the seafloor sediments to port or starboard. These acoustic signals are converted to voltages and fed up the tow cable to the wet paper recorder which uses dual helix electrodes sweeping out from the centre of the recording drum. The signal voltages cause a current to flow from the helix, through the recording paper to another electrode, and marks are created on the paper in proportion to the strength of the seabed echoes. The helix on the right receives signals from the starboard side of the towfish, while the helix on the left prints those from the port side. The results from successive firings of the fish are printed close together on the recording paper, thereby building up a graphic representation of the seafloor nature as the vessel proceeds.