

GEOPHYSICAL, SEDIMENTOLOGICAL STUDIES AROUND THE GREAT
BASSES RIDGE - SOUTH EAST COAST OF SRI LANKAN P Wijeyananda, W S Wickramaratne, M J Sarathchandra
National Aquatic Resources Agency, Colombo 15

The Bathymetry and geophysics of the Great Basses Ridge were studied during the first 'Samudra Maru' cruise in December 1985, using a shallow water echo sounder and a sparker-ray seismic system. The ridge was found to be bounded on either side by the 30m contour and made up of three ridges. Seismic studies showed that there were four horizons between the sea floor and the basement, with the thickness varying up to 20m. A strong reflection of the seismic waves was found at the bottom of the first sequence which was about 5m below the sea bottom and this sequence was interpreted to consist predominantly of coarse sandy shells.

Sedimentological and mineralogical studies were carried out on the ten surface grab samples collected during the cruise. The surface samples on the Basses Ridge indicated that the area was covered mainly with coarse sandy shells. The plot of mean grain size versus standard deviation showed that the surface samples comprised of coarse to medium, moderately to poorly sorted type sediments. Small quantities of organic matter was present, and the samples mainly consisted of carbonate and terrigenous fractions. A small amount of heavy minerals in the terrigenous fraction included the minerals ilmenite and garnet (5 - 10%). Distinct areas were identified with these different types of sediments.