D27

BOTTOM SEDIMENTS OF THE CONTINENTAL SHELF FROM COLOMBO TO HAMBANTOTA

N G Ranatunge, W S Wickremaratne, N P Wijeyananda and M J Sarathchandra

National Aquatic Resources Agency, Colombo 15

Sedimentology and the mineralogy of Bottom Sediments were studied during the first 'Samudra Maru' cruise in December 1985 at seventeen locations on the continental shelf from Colombo to Hambantota. Samples were collected using a grab sampler and a gravity corer.

The superficial sediments at these selected locations were dominantly coarse to fine sandy material and consisted of Terrigenous and Biogenous fractions. Small quantities of organic matter were present and the textural parameters show that the bottom sediments are mostly well, moderately well to moderately sorted and the plot of mean grain size versus skewness indicate that the majority of these sediments are near symmetrical. Authigenic components such as glauconite are rare.

Except for the predominently terrigenous surface sediments (50-80%) on the continental shelf off Bambalapitiya, Hikkaduwa, Galle, Weligama and Kalamitiya, all other stations are covered with biogenous surface sediments (85-95%). The only two surface samples collected from the continental slope at Akurala and Balapitiya are predominantly terrigenous (78-82%).

The X-ray diffraction pattern of the pellets and infillings of glauconite-like material in foraminifera shells found off Dondra indicate the presence of strong Aragonite - High Mg - Calcite peaks and weak interstratified glauconite-smectite peaks. The terrigenous fraction of the sediments is predominenty composed of the mineral Quartz, Feldspar, and the Heavy minerals (usually 2-8% of the sediments) concentrated in sandy silts and is composed of mainly ilmenite, garnet and zircon. The Biogenous fraction of the sediments mainly consist of a mixture of finely fragmented shell material with various types of recent fauna. Studies of the trace element chemistry indicates that sediments from the Southeastern shelf region are transported towards the North by the littoral current which is in the same direction.