

## RED MUD.

Along the Brazilian coast of South America the terrigenous deposits off shore are different from the deposits found in similar positions along other continents, in that they are all of a red-brown or brick-red colour, in place of blue or green coloured, as is usually the case. The red colour of the deposits appears to be produced by the large quantity of ochreous matter carried into the ocean by the Amazon, Orinoco, and other South American rivers, and distributed by oceanic currents along these coasts. Although organic matters are probably as abundant in these as in the deposits along other coasts, still they do not seem to be sufficient to reduce the whole of the peroxide of iron to the state of protoxide, nor does sulphide of iron accumulate here as in the case of the Blue Muds, in both of which respects these Red Muds resemble the Red Clays of the abysmal regions. It is a remarkable fact that we do not find in these red deposits a trace of the green coloured glauconitic casts of Foraminifera and other calcareous organisms, nor any of the glauconite grains which usually accompany these casts in other terrigenous deposits. There are a few spicules of siliceous Sponges, but frustules of Diatoms and the remains of Radiolarians are exceedingly rare, or wholly absent. As regards the calcareous organisms, and mineral particles other than glauconite, they do not appear to differ from those present in the Blue or Green Muds.

Of these Red Muds 10 samples are described in the Tables of Chapter II. These are from depths varying from 120 to 1200 fathoms, the average depth being 623 fathoms.

3	are from less than	500	fathoms.
5	„ between	500 and 1000	„
2	„ over	1000	„

In colour they are all red-brown. The carbonate of lime in these samples ranges from 5.75 to 60.79 per cent., the average being 32.28 per cent. The amount of carbonate of lime in the different samples is more in relation to the nearness or distance from the mouths of rivers than to the depth from which the samples were taken. The carbonate of lime derived from the shells of pelagic Foraminifera ranges from 3 to 30 per cent., the average being 13.44 per cent.; that derived from bottom-living Foraminifera ranges from 1 to 8 per cent., and averages 3.33 per cent.; that from other organisms ranges from 1.75 to 40.75 per cent., the average being 15.51 per cent.

The residue is in all cases reddish brown or yellow; it ranges from 39.21 to 94.25 per cent. of the whole deposit, the average being 67.72 per cent. Siliceous organisms are relatively very rare, and in no case are they estimated to make up more than 1 per cent. of the whole deposit; they consist almost exclusively of Sponge spicules and a few arenaceous Foraminifera. With some doubtful exceptions, Diatoms were not observed during the examination of these deposits.