

or estuaries may be only a few fathoms, yet along all the continental shores facing the great ocean basins the average depth of the mud-line may be taken at 100 fathoms.

It is then with deposits formed chiefly of the fine detrital matters beyond the 100-fathom line, which are termed deep-sea terrigenous deposits, that we have especially to deal in this place. They are laid down on what may be called the continental slope, or that area of the earth's surface extending from the 100-fathom line down to the depressed level of the ocean basins at an average depth of two and a half miles. At their lower limit they pass gradually into the pelagic deposits without any sharp line of demarcation, and at their upper limit they are continuous with the shallow-water deposits of the continental shelf.

The terrigenous deposits as a whole are estimated to cover an area of 28,662,500 square miles of the ocean's floor, as follows:—

Terrigenous deep-sea deposits (laid down on the continental slope beyond 100 fathoms),	18,600,000 sq. m.
„ shallow-water „ (laid down on the continental shelf within 100 fathoms),	10,000,000 „
„ littoral „ (laid down between tide marks),	62,500 „

BLUE MUD.

This name has been adopted for the deposits most frequently met with in the deeper waters surrounding continental land, and in all enclosed or partially enclosed seas more or less cut off from free communication with the open ocean. The materials of which the Blue Muds are principally composed are derived from the disintegration of continental land, and are very complex in character. When collected this deposit is blue or slate coloured, with an upper red or brown coloured layer, which had been in immediate contact with the water. The blue colour is due to organic matter and sulphide of iron in a fine state of division, and these muds have, as a rule, when taken from the sounding tube or dredge, a smell of sulphuretted hydrogen. The red or brown colour of the thin watery upper layer is evidently due to the presence of ferric oxide or ferric hydrate, but as the deposit accumulates this oxide is transformed into sulphide and ferrous oxide in the presence of organic matter in the underlying layers. When dried the deposit becomes grey or brown, owing to the oxidation of the sulphide of iron. Sometimes the samples are homogeneous, at other times the aspect is heterogeneous, owing to the presence of large fragments of rocks and shells and small fragments of calcareous organisms. When wet the deposit may be plastic, and behave like a true clay, but as a rule these muds may be described rather as earthy than as clayey. They may contain from only a trace to 35 per cent. of carbonate of lime.