

This deposit is one of the purest *Globigerina* oozes obtained during the cruise, and is almost wholly composed of the dead shells of surface organisms. The carbonate of lime present is estimated to be made up as follows:—

Pelagic Foraminifera, . . . . .	65.00	per cent.
Pelagic Mollusca, . . . . .	2.00	„
Coccoliths and Rhabdoliths, . . . . .	15.00	„
Fragments of Echinids, Ostracodes, Polyzoa, otoliths, teeth, valves of <i>Lepas</i> , fragments of bottom-living Mollusca and bottom-living Foraminifera,	8.38	„
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	90.38	per cent.

The bottom-living Foraminifera do not appear to make up more than 1 per cent. of this deposit. The great majority of the finest portions are made up of Coccoliths, Rhabdoliths, primordial chambers and very young specimens of pelagic Foraminifera.

On comparing this deposit with one nearer the Equator it is noticed that the majority of the shells of pelagic Foraminifera are much smaller and thinner shelled in the former than in the latter, the younger specimens are much more numerous, and the predominating species are also different. The same remarks hold good for the specimens taken on the surface.

More than two litres of this ooze were dissolved in hydrochloric acid, and in this way a relatively large quantity of the residue was obtained. The magnetic particles were in the first place extracted by means of a magnet; the larger mineral particles and siliceous organisms were afterwards separated by decantation. The mineral particles and siliceous organisms thus obtained formed but a small portion of the residue, the greater part of which consisted of what are denominated "fine washings" (see Pl. N, fig. 5).

These fine washings are deep brown or maroon in colour, greasy, and do not contain particles sensible to the touch. The material is but slightly plastic, when dried it becomes yellowish brown, forming lumps which break easily and absorb water quickly without breaking up; the streak is lustrous. It reddens with heat, and melts easily before the blow-pipe into shining beads, which are black and magnetic. These globules examined by the microscope appear as a brownish glass, filled with gas cavities. Some of these characters apply to what is usually called a clay, but some of the properties, especially the pyrognostic properties, show that it is not a pure clay, but a mixture of different materials. An examination of the wet preparations of these fine washings with a power of 450 diameters shows that they are composed of an amorphous matter, fragments of minerals and rocks, the remains of siliceous organisms, and of colouring substances.

The amorphous matter, which may be considered as properly the argillaceous matter, presents characters essentially vague. It appears as a colloid substance without definite contours, generally colourless, perfectly isotropic, and forms a mass which agglutinates and connects the other particles of the washings. As these physical characters are