

From the table on previous page it will be seen that in the thirteen lochs over 3800 soundings were taken, and that the aggregate area of water-surface is about 17 square miles, so that the average number of soundings per square mile is 225. The aggregate volume of water contained in the lochs is estimated at 36,543 millions of cubic feet. The area drained by these lochs is about 228 square miles, or about 13 times the area of the lochs.

*Deposits.*—As a general rule, the materials forming the deposits in these fresh-water lochs become finer grained the further from the shore and the deeper the water. Off the mouths of rivers and burns there is frequently a considerable accumulation of gravel and fine sand, extending for some distance into the lake and occasionally reaching rather deep water. Large stones, gravel, and sand are usually found all round the shores within the limits of wave-action. The height and length of the waves, and the depth to which wave-action extends, depend on the size and depth of the loch.

The central parts of the lochs are occupied by a fine impalpable mud, which is found in its most characteristic form in the greater depths far from shore; it is usually of a light or dark brown colour, and sometimes there are indications of different-coloured layers. The usual mineral species are quartz, felspars, black and white mica, amphibole, pyroxene, magnetite, garnets, &c. Chemical analysis showed that these fine muds contained no appreciable calcareous matter, but traces of sulphuretted hydrogen were always present. The loss on ignition after drying at 90° C., due to organic matter and combined water, varied from 13 to 26 per cent. Diatoms were observed in nearly all the samples, and vegetable fibre was usually present in greater or less abundance.

The samples from the deepest part of Loch Katrine were brownish, fine-grained homogeneous muds, with glittering mica-flakes, consisting principally (50 to 70 per cent.) of angular mineral particles exceeding 0·05 mm. in diameter, the mean diameter being about 0·15 mm., with clayey and vegetable matter, and many minute mineral particles less than 0·05 mm. in diameter. A few diatoms were observed, and one sample, after drying at 90° C., gave 19·91 per cent. loss on ignition.

The mud from the deepest part of Loch Achray was of a grey-brown colour, containing much vegetable and clayey matter, the mineral particles exceeding 0·05 mm. in diameter making up probably 30 or 40 per cent. of the whole deposit. Some fine diatoms were observed, and the loss on ignition, after drying at 90° C., amounted to 12·84 per cent.

The mud from a depth of 102 feet in Loch Vennachar was yellowish-brown in colour, containing about 20 per cent. of mineral particles with a mean diameter of 0·1 mm., but principally made up of amorphous clayey matter with vegetable matter, and many minute mineral particles less than 0·05 mm. in diameter. There were a few