

(5) *Brown Sand.*

To four samples of sediment dredged in 30 feet near the west coast of Urquhart bay we give the name of Brown Sand. One of the samples has the following composition:—

Minerals (69 per cent.), angular, mean diameter 0·2 mm., mostly made up of quartz, coloured reddish by a coating of iron oxide. Decomposed mica, hornblende, and plagioclase are also represented. The sand contains a few small fragments of rocks, 1 to 3 millimetres in diameter.

Fine washings (31 per cent.), composed of vegetable matter (4·4 per cent.) and fine mineral particles (26·6 per cent.). There is no clayey matter.

<i>Chemical Composition.</i>						
Total silica	.	.	...	...	...	77·62
Ferric oxide	...	.	..	..	...	3·60
Alumina	.	...	.	..	...	5·20
Lime	..	..	...	..	..	5·88
Magnesia	..	..	...	..	...	2·20
Loss on ignition	...	...	...	...	...	4·40
						98·90
						98·90

The alumina, lime, and magnesia are most likely due to the mica and hornblende, whilst the defect of 1·10 per cent. might represent the alkalis.

Conclusion.

Loch Ness includes two deep basins separated by a barrier formed by the delta of the Foyers river. The muds from the south-western or Invermoriston basin contain a large amount of vegetable or peaty matter, brought down the lake probably by the rivers Tarff and Oich, with mineral particles coming from the disintegration of the rocks, transported by the streams. Small concretions of peroxide of iron and dioxide of manganese were dredged at one station. The muds often gave the characteristic reaction of manganese. On the slopes the muds are sandy, and of a red-brown colour, due to the presence of oxide of iron.

The muds from the north-eastern or Urquhart basin contain far less vegetable matter than those from the south-western basin, which may be due to the Foyers barrier retaining the vegetable matter in the upper basin. In the north-eastern basin the vegetable matter increases with the depth, which is contrary to what is observed in the south-western basin. Off Urquhart bay the contour-lines approach each other very closely, and the vegetable matter brought down the lake by the river Enrick is carried towards the deeper part of the basin. Great differences are observed in the muds from the slopes on the two sides of the loch. On the north-western slope we find especially a red