

As there is no clayey matter in this sediment, and as the microscopical investigation did not reveal the presence of many aluminous minerals, the high percentage of alumina, *v.e.* 15.12 per cent., is to be explained by the fact that the ferruginous grains are not made up of pure iron oxide, but of a mixture of this oxide with clay.

Although manganese was not estimated in the above quantitative analysis, it was found to be rather abundant in another sample.

### (3) Peaty Mud

This type of mud occupies a large area of the floor of the loch in the south-west end of the Invermoriston deep basin.

In order to show the differences in composition due to increase of depth, two descriptions will be given here.

#### *First Sample—Depth 300 feet.*

*Minerals* (35 per cent.), angular, mean diameter 0.2 mm. . orthoclase and acid plagioclase, greenish chlorite in large flakes, quartz, hornblende, and ferruginous matter.

*Fine washings* (65 per cent.), composed of vegetable matter (37.10 per cent.), and mineral particles (27.90 per cent.) belonging to the above-mentioned species.

#### *Chemical Composition.*

Total silica	. . . . .	47.88
Ferric oxide	. . . . .	5.58
Alumina	... . . . .	7.02
Lime	... ..	1.08
Magnesia	.. . . .	0.59
Loss on ignition	. . . . .	37.10
		<hr/>
		99.25
		<hr/> <hr/>

#### *Second Sample—Depth 445 feet.*

*Minerals* (10 per cent.), angular, mean diameter 0.12 mm. . orthoclase and acid plagioclase, quartz, chlorite, hornblende, and ferruginous matter.

*Fine washings* (90 per cent.), composed of vegetable matter (25 per cent.) and fine mineral particles (65 per cent.) of the same species as those mentioned under the heading minerals, but chlorite and decomposed felspar are relatively more abundant.

#### *Chemical Composition.*

Total silica	. . . . .	46.03
Ferric oxide	. . . . .	10.41
Alumina	.. . . .	7.61
Lime	... ..	9.64
Magnesia	.. . . .	1.60
Loss on ignition	... ..	24.65
		<hr/>
		99.94
		<hr/> <hr/>