

creek the strata is contorted, but at two miles from the mouth it lies nearly flat; in fact, this prevails in the middle of the valley, but towards the edge the strata is tilted up by the upheaval of igneous rock.

A six-inch seam of coal was discovered at the town of Alberni in digging in a well, and another small seam has been uncovered by a creek higher up the valley. Whether workable seams of coal exist could be inferred from a careful comparison with the strata on the east coast and by boring, the most likely areas being the basin of Roger Creek and north of the Kitsuxis Ridge. Here the strata is less disturbed than at other points.

There is evidence that a glacier traversed the valley from north to south, gouging its own way down the Alberni Canal and melting at last where it met the warm waters in Barkley Sound, there depositing a moraine. This is seen by the shallow depth of the Sound (40 fathoms), compared with the depths in the canal (100 to 150 fathoms).

GEOLOGY OF GREAT CENTRAL LAKE REGION.

The eastern end of Great Central Lake is entirely bounded by basaltic rocks. Thunder Mountain, on the north side of the lake, is one of these, and rises boldly to a height of 3,200 feet above the lake. The top has rather a stratified appearance and portions of the rock might be taken for conglomerate; but this is only due to the peculiar manner of cooling. The rock would have been a diabase had it cooled under suitable conditions; it is now best classed as a basalt.* The same general rock continues down to the lake shores till Clark Point is reached. Here granitic rocks are first seen and continue pretty much the same on both sides of the lake.** On a

*No. 4,580.—*Rock composing Thunder Mountain, Great Central Lake.*—A brown fine-grained rock, having an uneven fracture and showing stains of iron oxide. In the thin section the rock shows a porphyritic structure. The phenocrysts are soda-lime feldspar and pyroxene in a base of devitrified glass. The feldspar crystals extinguish symmetrically on the albite twinning plane at an angle of 32 to 35 degrees, thus indicating the composition of rather basic labradorite. The pyroxene is light coloured, non-pleochroic and belongs to the diopside or augite varieties of this mineral species. In several cases the pyroxene encloses lath-shaped crystals of plagioclase, showing the latter to have been the earlier minerals crystallised and that the rock would have been a diabase had it cooled under suitable conditions. It is now best classed as a basalt.

**No. 4,578.—*Country Rock from Clark's Point, Great Central Lake.* This is a coarse-grained light coloured rock. The principal mineral constituents are feldspar, hornblende, biotite and quartz, with a little epidote. The feldspar consists of both orthoclase and plagioclase, the latter being nearly equal in amount to the former. The hornblende is green in colour, somewhat pleochroic, with the common absorption scheme. The biotite is not in large