

GRANITIC ROCKS.

Outcrops of granitic rocks occur along the Fraser north of Lillooet and in the mountains east of it, the areas being usually narrow and elongated in the direction of the general strike of the rocks. Granitic rocks were seen on Timothy mountain (Figure 2, locality 18) and are said to occur in extensive areas between Hixon creek and Ahbau lake northeast of Quesnel. Ferrier¹ described two specimens of granitic rocks from the west side of Fountain. They are said by Dawson to cut Cretaceous strata and by Ferrier are classed as hornblende granite and biotite hornblende granite. Two miles north of Lillooet the writer found similar granitic rock within the Cretaceous area crossed by the railway. Because of the preponderance of plagioclase feldspar the rock is called quartz diorite. It consists of iron ore, hornblende, biotite, plagioclase, quartz, and some orthoclase. A hornblende of granitic texture and composed nearly entirely of brown hornblende occurs nearby. The relation of these granitic rocks to the surrounding Cretaceous was not determined. Occurrences of minerals carrying low values in gold have been found in older rocks near these granitic intrusions.

A quartz diorite mass which occupies an area of at least several square miles forms the mass of Timothy mountain (Figure 13). It is probably part of a fairly large batholith. Ores of molybdenite and minerals carrying values in gold, silver, and copper lie in this mass. The rock is grey, even-grained, and granitoid and under the microscope was found to consist of magnetite, apatite, green hornblende, labradorite, quartz, and orthoclase. One specimen from the ridge south of the claims contained from 10 to 20 per cent of hornblende and magnetite, 60 per cent of labradorite, 20 per cent of quartz, and a small amount of orthoclase. In places the plagioclase is andesine, but labradorite is more common. Feldspar resembling orthoclase in an outcrop near the basalt occurrence on top of the mountain is probably an orthoclase approaching albite in composition. The combination of labradorite and quartz with orthoclase resembles batholithic quartz diorites described from the Boundary district, many miles to the south, and believed to be older than the Cretaceous.²

A large mass of granodiorite occurs at the copper claims of Chas. Foyle east of Cuisson lake and northeast of Soda creek (Figure 1, localities 12 and 13). It consists of orthoclase, plagioclase, and quartz, the plagioclase being acidic. The mass of granite that is said to lie east of Hixon creek and west of Ahbau lake was not seen. Minor intrusions of crystalline igneous rocks in the form of dykes or small stocks were observed. There is for example an augite-syenite of medium to fine grain at the junction of Government and Hixon creeks (Figure 1, locality 4). This is made up of magnetite, augite, biotite, orthoclase, plagioclase, and a little quartz. On Government creek too, below the camp of Dougald Cameron 4 miles above the last locality, a dyke of hornblende diorite intrudes into phyllites and other schists. It consists essentially of hornblende and plagioclase feldspar of intermediate composition, is much altered to epidote, chlorite, calcite, etc., and contains a great deal of secondary pyrrhotite and pyrite, scattered through it.

¹Dawson, G. M., Op. cit., p. 396B.

²Geol. Surv., Can., Mem. 79, p. 42.