PLATINUM

Source and associated minerals.

distributed throughout the vein matter; in some parts of the vein it may be present in commercial quantities, while in others it is absent. It has not been determined in what form the metal occurs, bnt it is probably held by the sulphides.

The district is one of considerable geological complexity. It has been the scene of numerous igneous intrusions extending from probably Palaeozoic to Tertiary times, and it has witnessed more than one mountain-building epoch.

Consequently the older rocks are much disturbed, sheared, fractured and altered. The oldest rocks are limestones, argillites and greenstones, of which the latter are the most extensive. A great part of the district is however composed of later intrusions. The limestones are sometimes pure, sometimes dolomitic. When comparatively unaltered they are dark and carbonaceous but are usually metamorphosed to a white marble. The argillites are often altered to schists and hornfels. These rocks have been intruded by the greenstone, probably an augite porphyrite, though it is usually much sheared and altered.

All the above rocks are cut by a coarse gray grano-diorite which sends dykes and apophyses into the older rocks. The greenstone on the "mother lode" is also cut by a basic gabbroidal rock which has some affinities to the non-basic monzonites. To the north is a large area of a still more recent hornblende granite, from which dykes are sent off into the older rocks. To the east is a large area of syenite of Pulaskite (alkali-syenite) and monzonite habit. This rock is of Tertiary age. Numerous dykes of syenite porphyry, some of them no doubt from the alkali-syenite cut all the older rock.

The veins occur in the more disturbed districts where the porphyry dykes are most numerous. On the 'Contact' properties several quartz veins occur, but a little to the south are veins of zinc blende with a little galena.

Mr. Brock gives his reasons for making the suggestions as to the probable occurrence of platinum in British Columbia, published in the summary report of the Geological Survey for 1901 as follows:—

'The special reasons for suspecting its occurrence in West Kootenay and the Boundary Creek districts were the presence there of basic intrusive rocks, often altered to serpentine, rocks in which platinum has been most frequently found when in place and the rocks which are the source of the Similkameen platinum, and the fact that the chalcopyrite-pyrrhotite ore-bodies of these districts bear a very marked resemblance to the platinum-bearing copper-nickel deposits of Sudbury,