

occurs intermingled with the pyrite and also forming comparatively large masses usually specked with chalcopyrite.

Chalcopyrite in grains, small aggregates of grains, and in thin layers usually accompanies the iron sulphides where the replacement is complete or nearly so, and also occurs in small quantities scattered through portions of the schistose areas. The proportion present, while variable, is always small and in certain areas seems to be absent altogether. The chalcopyrite is associated so intimately with the iron sulphides that there is little doubt that both are the products of the same period of deposition.

Bornite was found at one point, but only as a surface alteration mineral, and it does not occur so far as known as a primary mineral of the deposit.

Among the non-metallic minerals, quartz is the most prominent. A wide siliceous zone crosses and bounds portions of the mineralized area, and the large sulphide areas are all more or less siliceous. Calcite occurs occasionally but is not prominent. Portions of the area included in the mineralized zone on the accompanying map consist of greenish micaceous schists often highly siliceous. These carry significant quantities of sulphides in some places and are nearly barren in others.

ORES.—The iron sulphides in the Hidden Creek mine carry very low values in the precious metals. Out of a number of samples assayed in the laboratory of the Mines Department one showed 0.02 ounce gold to the ton, one 1.65 ounce silver, and the rest only traces. The commercial value of the deposit must, therefore, depend mainly on the copper content. Chalcopyrite usually accompanies the iron sulphides, but in variable amounts. Some areas are nearly barren, while others contain sufficient quantities to constitute a low grade copper ore, that is ore carrying up to 3 per cent copper and over limited areas an even higher percentage.

The most important body of commercial ore so far outlined in the boring operations of the Company, occurs southeast of the siliceous zone previously described as bordering the shorter arm of the deposit on the northwest and continuing along the larger arm. The siliceous zone is fringed by a band of ore usually from 20 to 25 feet in width and already traced for a distance of nearly 1,400 feet. A vertical bore-hole from the main tunnel apparently proves it to a depth of 514 feet below that level and it extends to the surface above, a variable distance, depending on the contours of the country, but probably averaging about 200 feet. The huge tonnage expected from this ore body will undoubtedly be greatly supplemented from other portions of the mineralized area. Workable ores are known to occur at a number of points, but the definition of their extent and quality awaits further exploration.