PORCUPINE GOLD DEPOSITS

(Written for the Canadian Mining Journal by Reginald E. Hore, Houghton, Mich.)

The gold at Porcupine occurs chiefly in pyritic quartz. In lesser amounts it is found in the country rocks.

The quartz in most cases is white in colour, with reddish-brown patches of iron oxides. Less commonly, but including some spectacular veins, the colour is greyish-blue.

The gold is, in part, coarse and readily visible to the naked eye. In most of the quartz, however, it is very fine. The greater part, 50 to 65 per cent. is readily won on crushing. A smaller percentage is more intimately allied with sulphides and will probably be treated by cyanidation.

The country rock is usually either pyritic grey schist or rusty-weathering mixed carbonates. Less often it is a conglomerate.

Quartz Ferrodolomite Lode—Foster Claims. Quartz Veinlets In Ferrodolomite.

The schistose country rocks are for the most part altered volcanics, and are of various types. Many are sericitic and all are impregnated with carbonates. Small cubes of pyrite are usually abundant. Copper pyrite occurs; but in very subordinate quantity.

The carbonate rocks are grey to yellowish-grey, crystalline and massive. They are iron—calcium—magnesium carbonates, such as are common in the iron formations of Ontario and the Lake Superior states. Such rocks range in composition from siderite through ankerite to dolomite, and on the iron ranges are called ferrodolomite. The percentage of iron in the Porcupine rocks, as in most Keewatin carbonates, is less than in normal ankerite.

The conglomerate is composed of light-coloured pebbles of various types set in a fine grey coloured matrix. An arrangement of the pebbles with their longer dimensions parallel, gives a decided schistose appearance.

Form of the Deposits.

The deposits vary greatly in shape. Some appear at the surface to be well defined single fissure fillings or veins. In some cases there is a series of fissure fillings running nearly parallel and enclosing large and small masses of rock. These are conveniently referred to as vein systems. In another type numerous quartz veins run through ferrodolomite beds. We may designate these as ferrodolomite lodes. There are also large quartz masses of irregular and unknown form, which cannot be well designated as veins or lodes. They appear to be lenticular rather than tabular in shape. From the nature of outcropping surfaces, they have been called "domes." Until their true character is known, it seems best to refer to them as quartz masses.

These four types may be illustrated by description of four claims in Tisdale Township. For a single quartz vein we may take one on the Connell property. A system of quartz veins is exposed at the Timmins mine. The most striking example of quartz ferrodolomite lode is the Foster. A remarkably large quartz mass or "dome" is that at the Dome mine. None of these deposits has been thoroughly explored, and observations on their nature must therefore be confined almost entirely to superficial characters. The Dome is being tested by drifts and cross-cuts at the 60-foot level, and by diamond drilling to a few hundred feet. One of the veins at the Timmins is being drifted on at the 100-foot level. The Foster lode and the Connell vein have each