

ing with isolated portions of rich ore accidentally occurring near the surface and of larger or small extent, as much of the vein as possible should be uncovered. Diamond drilling should be undertaken and test pits sunk to the depth of at least 20 to 30 metres.

These explorations should be along the vein as well as across it, and at short intervals.

Such explorations are strongly recommended also on account of the constant variation in the size of the vein.

The distribution of the ore seems to be most uniform when the ore body occurs in strongly disturbed and fissured country rock. This is particularly true in the case of the schistose quartz porphyry. Under such circumstances the rising ore-carrying solutions could penetrate everywhere freely and consequently found numerous points of contact with the country rock. A belt of quartz porphyry of this kind, now largely altered to sericite schist occurs in the vicinity of Pearl Lake (Fig. 4). The quartz porphyry crops out through the glacial formations in the vicinity of Miller Lake and extends eastward on both sides of Pearl Lake to the properties of the Plenaum and of the Bewick-Moreing syndicates, where, however, unaltered porphyry and greenstone may be observed in place. The metamorphosed porphyries are bounded to the north and to the south by old greenstones. It is a remarkable fact that the veins in the acid porphyry carry considerably higher value in gold than do the veins in the basic greenstones. This may be most readily seen on the northern contact where a vein exposed in the porphyry carried rich ore, but where it intersects the greenstone formations it becomes almost valueless. Here in the metamorphosed quartz porphyries around Pearl Lake the gold ores occur in such richness and in such quantity as is rarely seen in primary deposits in such a small area. Those veins which are not parallel to the schistosity, but which intersect it by a sharp angle, are to be regarded as the chief carriers of rich ore. The influence of the country rock on the gold-bearing values of the veins is more marked at Pearl Lake than anywhere else in the Porcupine district. On certain other properties, however, such as the Dome, the Dome Extension, the Mc-