

present telurides of gold have not been observed in the Porcupine district.

No considerable development of gossan formation is present. The primary zone with milky quartz and undecomposed sulphide reaches almost to the surface. This is due to the fact that the glaciers have removed the oxidation and cementation zone—probably originally present—and that since the glacial period a sufficient time has not elapsed for the formation of extensive secondary zones. Only at the very surface may the decomposition of the sulphides and ankerite be observed. In this rusty mass the gold values are higher. This slight evidence of secondary enrichment is rarely marked at a depth greater than two to three metres.

From this point of view the exposures at the Jupiter mine are very instructive. Here the milky quartz containing scales of sericite and tourmaline needles is well banded with light and dark bands. It is well exposed from the surface to about fourteen metres below the ground water level, and is of a fairly uniform character. The gold, which is finely divided, may be seen without the aid of a lense, occurs in the native form and is scattered through the fresh quartz in such a manner that, notwithstanding the high values, one may not regard it as the product of secondary enrichment. Similar observations were made at the Hollinger mine which, at present, is the deepest in the district. Its shaft has attained a depth of about 60 metres, while its drilling operations have probably not exceeded 170 metres measured from the surface. It is just possible that this primary gold value may diminish with depth, as has been found to be the case in many mines in Western Australia. Inasmuch as the primary zone extends right to the surface the valuation of these ore bodies is considerably simplified.

It is very hazardous to value and purchase gold properties on the basis of surface observations, as is frequently done in the Porcupine district. It should not be forgotten that even in primary ore bodies bonanzas may occur representing portions of the vein primarily enriched. These bonanzas must be considered along with large amounts of poor ore to be encountered in following the vein either horizontally or vertically. In order to be able to determine whether we are deal-