

V.—*Note on the Belmont Gold Veins of Peterborough County, Ontario.*

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The crystalline rocks of the more western portion of North Hastings in Ontario are traversed, it has long been known, by a series of gold-bearing quartzose veins in which the gold is intimately associated with arsenical pyrites; but the occurrence of workable auriferous veins in the adjacent eastern portion of the county of Peterborough does not appear to have been hitherto described in any publication. A brief reference to these deposits in our 'Transactions' may not be considered therefore out of place.

These two series of auriferous deposits, although occurring only a few miles apart, offer some marked points of difference, evidently indicating distinct systems of formation. At the same time they show in the peculiar character of their gold certain points of affinity.

The veins of North Hastings occur chiefly in the townships of Marmora and Madoc, and especially in the district immediately west of the granitic or syenitic range known as the Huckleberry Hills. They run in a course not far removed from north and south, and consist of several roughly parallel veins in which auriferous mispickel is disseminated, in some places very thickly, through a quartz gangue. They are commonly regarded as "bedded veins," running parallel with the stratification or foliation of the country rock; but this, as I have found in the case of the gold-bearing veins of Belmont, is probably not absolutely correct, although appearing to be so as a general rule. These veins dip westerly with the inclosing rock at an average inclination (in Marmora) of between 40 and 60 degrees. The country rock, which consists of ordinary gneissoid strata, belongs either to the higher portion of the Laurentian or to the succeeding Huronian series—the veins being probably of the latter age. About half way between the Huckleberry Hills and the village of Marmora the crystalline beds are overlaid by practically horizontal strata of Black River or Trenton limestone. Eight or ten miles northwest of these veins, or about four miles west of the village of Marmora, the crystalline strata again occupy the surface, but their strike is here for the greater part roughly east and west. They are traversed by quite a number of quartz veins running mostly in the same general direction. These differ essentially from the Marmora veins by the total absence of arsenical minerals in their gangue. The gold is carried essentially by ordinary pyrites; but a small amount of copper pyrites, and in places some specks of galena are occasionally seen. Mispickel, the real ore of the Marmora veins, appears in this district to be completely absent.

Although these auriferous veins are indicated over a considerable area, they have only been worked as yet in the township of Belmont, lot 20, con. 1, where the "Crawford or Belmont gold mine" is situated. On this lot the ground presents several ridges or high