

spent considerable time in exploiting the gold-veins in that district. The rocks are somewhat similar to those at Bag bay, and consist of Huronian strata and eruptive rocks. The principal eruptive is an altered granite or protogine, in which chlorite takes the place of mica. I noticed in several of the quartz-veins here the same greenish siliceous veinstone (mikadoite) as that in the Bag bay veins; and it is also auriferous in many places.

It seems probable that the granitic rocks of these two localities were erupted from the same or analogous magmas at about the same geological time. At both places they are intersected by similar dikes of felsite and diorite. Out of many auriferous lodes here, I will refer only to one, the well-known Hammond Reef. This is a remarkable gold-bearing belt. It is 100 to 500 feet in width, and traverses the country for miles, separating into branches that diverge at considerable angles. The gold-bearing portions are largely mikadoite, with branches of quartz. It seems to have been formed under similar conditions to those of the Bag bay veins. Here there appears to be a series of nearly parallel fractures, close to each other. The mechanical forces that were in action were not equal to reducing the whole to a sufficiently crushed condition to be effectively acted upon by the heated solutions. Hence the unreduced portions appear as enclosed barren cores within the reef. According to the hypothesis explained above, the reefs or lodes should improve in depth.

PECULIARITIES OF THE ARCHÆAN.

As I have endeavored to point out, these Archæan metalliferous deposits are different from the general metalliferous formations of the world, and it appears to me that the gold-bearing fissure-veins are marked examples characteristic of the former.

Considering the early age of the Archæan rocks in the history of the globe, the crust at that time must have been thinner and weaker, the heat greater, the gaseous elements more powerful, and the shrinkage of the crust more rapid and intense, than in later times. Therefore, it might be expected to find the rock-formations greatly fractured, and the sides of the rents ground and laminated to a greater extent than in veins of later date. Although there may be veins of the open-spaced