

the property it is pure hematite. The occurrence is in a large body of quartzite approximately 500 feet in width running longitudinally with the mountain, and along the eastern side co-extensive with the quartzite is a green stone dyke of gabbro-diorite. The property consists at the present time of fifty claims, each 1,500 ft. sq., upon which the ore has been located, an area which embraces practically the whole of the summit of the mountain. The property has been held for some years as a copper proposition, and probably from \$10,000 to \$12,000 expended in prospecting for that mineral. In the spring of 1901, however, the iron ore seems to have attracted attention, and for the first time the holders began to realize that it might possess an economic value. It came under my control last May, and from then until the 30th November I expended about \$30,000 in prospecting and proving the property, the result being that the capitalists whom I represented have purchased twenty claims, and hold an option on the remainder. Our season's work has proved that the ore is of the highest quality, that there is sufficient to constitute an important property, and that the surrounding conditions are favourable to development. There still remains to prove the actual extent of the ore as development work would not justify a calculation of tonnage at present, but as I shall show, everything points to an enormous deposit. Owing to the large area to be prospected, much of the work consists of mere surface examinations and prospecting, it being important in the first instance to establish the area over which the iron extended. We soon discovered a 6 ft. vein upon the Keepsake claim near the north end of the property, and on putting the diamond drill to work found the iron continuous and good at a depth of 60 ft. On cross-cutting this vein we found that, in addition to the 6 ft. of solid iron, there was an admixture of iron and quartzite running in alternate bands for a distance of nearly 100 ft. In some cases the quartzite and the ore were mixed, in others there were clean bands of ore. Meanwhile another vein 6 ft. wide had been located upon the Maple Leaf claim, a little distance north; upon this claim a shaft was sunk 50 ft., and the iron at the bottom of the shaft continued of the same thickness and yielded the same assay as upon the surface, viz., 67.2 per cent. of metallic iron. About this time a vein was located upon the "American Flag" claim still farther north, and as it showed up nearly 20 ft. in thickness, it was decided to put a trial shaft upon this. The shaft went down 30 ft. and was then stopped in consequence of water, but the thickness and quality remain the same. Meanwhile the same vein was traced south to the O-Ray claim, upon which a shaft was sunk 50 ft. Here the vein was 18 ft. thick and of uniform quality. In none of these veins was there the slightest admixture of quartzite or other impurity, the whole of the material taken out being put on to the dump for shipment. An average assay of the ore on the American Flag gave: metallic iron, 67.4; silica, 1.7; sulphur, .16; phosphorous, .03; and upon the O-Ray, metallic iron, 64.7. In addition to these veins, one vein 15 ft. wide was located at the end of the season 500 feet east of the American Flag claim and traced for several hundred feet north and south; also another claim upon the Golden Cap to the west, the latter being 8 ft. thick, but upon neither of these veins was any work done beyond uncovering. It will thus be seen that in all there are five veins located up to

date, aggregating 63 ft. in thickness, and that actual exploration has proven these to a depth of 50 ft. *in situ*. The dip of the veins may be taken as 75 per cent. Beyond the actual exploratory work done, there are other evidences upon which the extent of the iron may be fairly considered. In the gulches which are found upon the mountain side the same veins have been uncovered at a difference in elevation of 120 ft., and they maintain their uniformity at those points. The diorite dyke referred to is continuous throughout the whole length of the mountain, and can be traced across the level ground and through a railway cutting on the Crow's Nest line. Having regard therefore to the character of the deposit, to the persistency of the green stone dyke alongside which the iron occurs, to the formation of the mountain, and to the fact that the measures are found regular at the base as well as at the summit, there is no reason why the iron deposits should not also continue to that depth, but whether this be so or not, sufficient has already been done to show that there is an enormous deposit of iron of the highest quality quite sufficient to justify great expectations for the future of the property. I need hardly say that work will be continued during the coming season until a thorough proof is made.

With reference to the quality, this is so surprising that I have some diffidence in placing the figures before you, but still they speak for themselves, and are the result of assays made by five or six independent authorities, including McGill University, Mr. Milton Hersey of Montreal, and Mr. Robert Hunt of Chicago; they have also been verified by practical tests made at the works of the Dominion Iron and Steel Co., and as they are the results of bulk assays and not selected samples you will, I am sure, agree with me that the ore is one of the purest and highest grade base metal ores to be found anywhere. More than 100 assays were made; of these 60 were taken from the veins, and taking those only into account, excluding float, we got an average of 60 per cent. of metallic iron, 5 per cent. silica, .10 sulphur, and .03 phosphorous. A comparison of these figures with those yielded by the celebrated Lake Superior ores, and with the Newfoundland ores, shows that the Kitchen ore is decidedly superior, being higher in metallic iron and lower in sulphur and phosphorous. An average assay of Lake Superior ores gives: metallic iron, 60; sulphur, .010; phosphorous, .06; and of Newfoundland: metallic iron, 55; sulphur, .012; phosphorous, .060.

Naturally the question of interest in connection with this matter is the future of the property and its value to British Columbia. Of this it may safely be said that sufficient iron has already been discovered to determine the existence of a first class fluxing proposition, and even for this purpose the property will in the future be valuable. But unless all my expectations are baseless, we have here a property which when thoroughly proved will be shown to contain such an extensive body of hematite ore of the highest quality, that it will be possible, whenever the Province is ripe, to establish a large iron and steel making industry in the West, which will compare not unfavourably with that of the East. All the local conditions for cheap manufacture are favourable. The ore can be mined and shipped for \$2 a ton. There is abundant limestone in the neighbourhood upon