

Some of these beds of ore exhibit a surface thickness of a few inches only, although, where several narrow bands outcrop within a short distance of each other, they will probably be found to run together at lower depths, and so form a workable deposit. But many of the beds shew a thickness of several feet, and large blocks of ore, weighing four or five tons, have been taken out of these. The beds at present opened, moreover, appear to widen rapidly on descending. This has been shewn especially in the case of a bed opened at the foot of the ridge referred to above, on its south-eastern slope. At its outcrop at this place, the bed in question was under two feet in thickness; but the width increased considerably at the depth of a few feet, and at the present depth of the opening, the bed, allowing for slope, exceeds twelve feet in width, and is still increasing. Upwards of a thousand tons of ore, all of the same uniformly good quality, have already been taken out of a comparatively small excavation at this spot. It is evident, therefore, without regard to other portions of the property, that a very large amount of easily accessible ore must be present in this iron ridge, alone.

3. *Nature and Composition of the Ore.*—The ore of this location consists essentially of hematite or specular iron ore; but it contains a small amount of magnetic oxide and traces of graphite, by which in most samples the normal red streak is rendered greyish-black and lustrous. It presents a dark steel-grey colour, and in many places a strongly-marked cleavable structure with the well-known cross striæ on the cleavage faces. Here and there, indeed, it occurs in large well-defined crystals, mostly combinations of the ordinary hematite rhombohedron (with broadly developed basal planes) and other hemi-hexagonal forms. The specific gravity of the average ore may be assumed to equal 5.0. Two pieces, free from visible rock-matter, gave me respectively 5.181 and 5.116. As a rule, the ore is practically non-magnetic; but in places it exerts a feeble action on a delicately suspended needle, and shews slight polarity. This general want of magnetism, coupled with its dark streak and tabular crystallization, might lead to the inference that it contained titanitic acid in considerable amount. I have made, however, a careful analysis of a crystal of this kind, and of two other samples of the ore taken personally from different parts of the location, and although I have found titanitic acid in each, the highest amount scarcely exceeds 3 per cent. The ore has also been analysed by Dr. Harrington, of the Geological Survey of Canada, who states expressly that he detected no titanium in it; and likewise by Dr. Wuth, of Pittsburg, who found in it only 0.87 per cent of titanitic acid; by Mr. Blodget Britten, who obtained from it 3.84 per cent.; and, quite recently, by Mr. Wendell (at the works of Griswold & Co.), who obtained 3.41 per cent. This general freedom from titanitic acid is corroborated by the high specific gravity of the ore, and by the comparatively easy solution of the ore in hydrochloric acid. It need scarcely be observed, that an amount of titanitic acid averaging no more than 2 or 3 per cent. does not in any way affect the practical value of the mineral.