

I.—METALS AND THEIR ORES.

Iron Ore.

Of the various ores which come under division I. we may perhaps first consider those of iron, both on account of their great economic importance and their widespread distribution; and, of these, the most prominent are the magnetites, hematites and limonites or bog iron ore.

Early history
of iron mining.

The history of iron mining in the province extends back for many years, but presumably the earliest operations of any importance were those in connection with the limonite or bog iron ore deposits in the district of Three Rivers. These were described as far back as the latter part of the seventeenth century, and in 1737 a blast furnace was erected, and smelting operations undertaken, which have been carried on more or less continuously to the present time. In the Ottawa district the iron deposits were first opened in 1854, near Hull, while those of R. Haycock's location were not mined till nearly twenty years later. The lack of deposits of coal has interfered very largely with the successful smelting of the iron ores, more especially of the magnetites and hematites, and other causes have seriously influenced the practicability of shipping these ores to the American market in the raw state.

Magnetic ores.

The magnetic ores of iron are found at many points, not only among the rocks of the Laurentian system in the vicinity of the Ottawa River and along the north side of the St. Lawrence, but in beds and veins, often of large size, in connection with the metamorphic series of the eastern townships of Quebec. There is, however, at times a marked difference in the character of the ores from the two series of rocks, though this difference is not constant. Thus the ores of the Laurentian, near Ottawa, are remarkably pure and rich, containing a large percentage of metallic iron, while those found along the lower St. Lawrence, below Quebec, often contain a very considerable percentage of titanate acid, and the ore passes into a true ilmenite.

Magnetites of
Hull.

In the publications of the Geological Survey of Canada, the first reference to the presence of magnetic iron ore is found in the report for 1845-46, where the great ore bed near Hull is described. A brief notice of this deposit, however, appeared in a paper read by Lieut. Baddeley, R.E., before the Literary and Historical Society of Quebec, in 1830, in which it is said "to form a vein or bed from ten to twelve inches thick, and appears to traverse the mountain in a south-west course, having a vertical position as regards the walls of the vein. On the opposite side of the mountain, at the distance of upward of a mile, and in the direction of the vein, ore was again in great abundance." The presence of plumbago in the ore was also pointed out; the associated rocks being stated to be friable white marble.