prospecting work on these properties. This is a step in the right direction and it is to be hoped that other companies will undertake such work and that all will give freely such information as is likely to be of assistance to the others.

If the information which the underground workings at Cobalt have disclosed is carefully collected and studied it is not unlikely that the existence of undiscovered ore will be indicated. Enough is known already to give courage to those who are undertaking exploration.

Until much more prospecting has been done at Cobalt we will be unwilling to admit that the possibilities of the area have received the attention they merit. It has been too readily assumed that all the ore is near the surface.

ONTARIO'S NICKEL-COPPER PRODUCTION

Ontario's production of nickel, in the form of matte, in 1915 was 34,039 tons, valued at $17,019,500. The present rate of production indicates a production of 40,000 tons in 1916. The value of this nickel as it leaves the smelter at Copper Cliff is estimated at $20,000,000. Its value when refined should be about $30,000,000.

During 1916 the nickel mines at Sudbury will also produce 22,000 tons copper. The value of this copper as it leaves the Copper Cliff smelter is estimated at $8,000,000. Its value when refined should be about $12,000,000.

The total value of the nickel-copper matte shipped from the Sudbury district during 1916 will be, at present production and prices, about $28,000,000. The value of the refined product will be about $42,000,000. Against the cost of refining and selling the producers will therefore have an item of $14,000,000.

Over two-thirds of the nickel and copper produced from Ontario ores is mined and smelted in Ontario by the Canadian Copper Co. and then shipped to New Jersey for refining. The present profits of the International Nickel Company are so large that the delay in the establishment of that refinery in Canada can scarcely be attributed to lack of funds.

It is the announced intention of the International Nickel Company to establish in Canada a refinery of sufficient capacity to supply the needs of the Empire. It is to be hoped that the delay means that investigation has proven the desirability of refining all the matte in Canada.

Good results are being obtained in development work north of The Pas. The Canadian Government Railway now under construction in Northern Manitoba, seems destined to play an important part in the development of Canada's mineral resources.

PRE-CAMBRIAN ORE DEPOSITS

The important discoveries north of The Pas should result in directing much attention to the Pre-Cambrian rocks in Northwestern Canada.

Ontario's chief metalliferous deposits are in Pre-Cambrian rocks,—Cobalt silver, Porcupine gold and Sudbury nickel-copper ores occurring in these old formations. The Michigan copper deposits and the great iron deposits of the Lake Superior states occur in the Pre-Cambrian. It has been confidently expected therefore that the unexplored broad expanse of Pre-Cambrian in Canada would prove to be the source of great wealth. The discovery of great deposits of sulphide ore on the Manitoba-Saskatchewan boundary strengthens that opinion and indicates that exploration of the hinterland will continue to result in the discovery of ores, the extension of the mining industry and the development and settlement of parts of the Dominion now uninhabited.

In Ontario, prospecting is resulting in many promising discoveries being made. The area proven to contain gold in considerable quantity has been greatly widened during the past year. The wonderful ore developed at the Croesus mine in Munro township would cause a great sensation, but for the splendid developments at Porcupine mines. The enormous orebodies developed at the Hollinger and Dome and the more recent discoveries at the McIntyre have placed Porcupine far in the lead among Canada's gold camps. While overshadowed by Porcupine, Kirkland Lake, Munro and Boston Creek areas are proving up well, and prospectors are reporting many discoveries in various parts of what is proving to be a very large gold bearing district.

At Flinflon lake, on the Manitoba-Saskatchewan boundary, in an area of Pre-Cambrian rocks, there is being explored by diamond drilling an enormous deposit of sulphide ore. The size and content of this mass has still to be determined; but enough has been learned to make the owners satisfied that they have a very valuable deposit. The Pre-Cambrian areas in the vicinity are naturally receiving close scrutiny. They warrant attention.

A map of the Boston Creek gold area, prepared by Mr. A. G. Burrows, of the geological staff of the Ontario Bureau of Mines, is nearly ready for distribution. The Bureau is to be congratulated on its success in meeting the needs of prospectors. The Deputy Minister of Mines and the Provincial Geologist lost no time in investigating the first discoveries at Cobalt and, in keeping with the reputation then gained, their Department has greatly assisted in the opening up of new districts ever since.