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#### Editor

#### REGINALD E. HORE

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## MINING COPPER ORE IN ONTARIO

There are in Ontario many copper deposits. The most notable ones are the nickel-copper deposits of the Sudbury district, from which there will be taken during 1916 ore containing about 22,000 tons copper, in addition to 40,000 tons nickel. Aside from the nickel-copper mines, however, very little copper has been produced recently in Ontario.

Encouraged by the high price of copper some enterprising gentlemen have during the past year been giving their attention to the possibilities of the country between Sudbury and Sault Ste. Marie. From one property a considerable quantity of good ore has been shipped and development work is meeting with encouraging results. Several other properties along the north shore of Lake Huron are said to be worthy of development.

The development of the copper mining industry in Ontario is retarded by the fact that there is no sale for the ore here. The nickel-copper companies have, of course, their own large smelters and refineries; but those who engage in copper mining on a small scale must necessarily ship their ore to smelters in the United States. The high cost of marketing the product is discouraging and permits of only fairly high grade ore being shipped.

There are few mines that produce enough ore to warrant the erection of a smelter and refinery. From the small mine ore is commonly shipped to a smelter which treats ore from many mines. The producer of copper ore in Ontario is therefore in somewhat the position of the farmer who depends on his neighbor for the threshing of his wheat. Fortunately for the farmer threshing machines are numerous and can be readily brought to his fields. The miner soons learns that smelters are few and far away and that freight and smelter charges are very large items.

It is obvious that the establishment of a copper smelter and refinery in Ontario would lead to the more vigorous development of small copper deposits. It is obvious also that the copper ore now being shipped is not sufficient to support a smelter. There is not, moreover, sufficient information to indicate that enough deposits to keep a smelter busy would be developed if the plant were erected.

There is no doubt that a close investigation of the possibilities of Ontario copper deposits would be helpful. The area north of Lake Huron seems particularly worthy of attention. The high price of copper and the possibility of utilizing the oil flotation process of concentration are features which make the problem of unusual interest just now.