The total amount of ore proved by exploration and development on the Atikokan range is fairly large. The amount of intermixed rock found in many parts of the deposits, however, is sufficient to adversely affect the amount that could be mined economically. Much of the ore, also, is so high in sulphur as to make its profitable utilization by present metallurgical methods doubtful. It is difficult, therefore, to make any definite estimate of the amount of ore *commercially* available.

With the exception of the Atikokan range, nearly all the magnetite occurrences known in northern and western Ontario are outcrops of banded iron formation. Speaking generally, this consists of chert, jasper or other closely related siliceous material interbanded with magnetite and hematite, and, to a smaller extent, with iron carbonates and pyrite. In some cases it may be a lean siliceous magnetite, showing banding only obscurely, and carrying up to between 40 and 50 per cent of iron—though as a rule the iron content is considerably less than this. Or it may consist of narrow bands of magnetite, or hematite, or a mixture of both, alternating in distinct layers with chert and jasper. The total length of the known beds in the Province must reach into the hundreds of miles. It is seldom that the iron content will average up to 35 per cent over any considerable area.

The occurrences on Hunter's island and in the Gunflint-Whitefish lakes area, like those at Loon lake and Sutton Mill lakes, are found in Animikie rocks. The rest are all believed to occur in rocks of Keewatin age.

The similarity to iron-bearing formations found on the Minnesota iron ranges has caused great expectations to be entertained of the possibilities of that found in Ontario, and it is this commercially non-available lean iron formation, rather than ore, that has provided the basis for the reports, sometimes seen in print, of hundreds of millions of tons of ore of the United States Lake Superior type still lying undeveloped in Ontario. Even under the most favourable conditions only a small fraction of the iron in these formations is likely to be in ore of commercial grade. In Ontario, much money has been spent in exploring them, but so far, only at the Helen and Josephine mines in the Michipicoten district, have secondary concentrations of the iron to high grade ore bodies of commercial size been found associated with them.

Among the more extensive and better explored of the iron formation areas are: Hunter's island; Bending lake; the Mattawin iron range; the Gunflint-Whitefish lakes area; Loon lake area; Lake Savant; the Onaman iron ranges; the Nipigon iron ranges; the Michipic ten iron ranges; Goulais river; Woman river; Groundhog river; Burwash lake; Shining Tree lake area; Wanapitei lake area; Lake Timagami; and the Moose Mountain district.

At the Moose Mountain mine, much time and money has been spent in an unsuccessful attempt to produce a high grade commercial product from