

Sudbury District, Ontario

THE fact that the Sudbury district produces eighty-five per cent. or more of the nickel of the world is well known. The Sudbury nickel industry is now in a more permanent condition than ever before, new markets for the product having been found in the manufacture of commodities used whether the world is at peace or at war, while formerly the main uses of nickel were in relation to war requirements.

Nickel production in 1925 totalled 36,885 tons, valued at \$25,082,086 (see chart), but computed on the new method of taking the value of the exported matte at 18c. per lb. and the refined nickel at the average selling price f.o.b. Canada, which basis will be used in the future, the production is approximately \$16,000,000. Sudbury camp produces 85% of the world's nickel.

The two companies now operating are the International Nickel, operating smelters at Copper Cliff, 2,200 tons daily capacity, and a refinery at Port Colborne, Ontario, and the Mond Nickel Company, with smelters at Coniston, 1,400 tons daily capacity, exporting the matte to Wales for refining.

We do not know what these private companies have paid in dividends; how much money has been invested, and what part of the plant was paid for out of earnings. It is quite probable that dividends have exceeded \$100,000,000 and there are at least 250,000,000 tons of ore in sight and indicated by drilling.

The Mond Nickel Company, owned and controlled by private British capital, has, under efficient management, been very successful.

The International Nickel Company have earned dividends on their common stock. The output now is in excess of that of pre-war period. Plant extensions to the value of \$10,000,000 are now under way at the two Frood mines, owned respectively by the International and the Mond Nickel Companies.

The geology of the Sudbury nickel field has been written and re-written, but of real interest to mining men are the new zinc ore discoveries which are occurring along a line of secondary intrusive faulting, the axis of which is parallel to the east and west direction of the formation of the nickel belt, as shown on accompanying map. These deposits of zinc ore, in which platinum and other metals may be found, may yet be explored, all along this secondary intrusive faulting,

and has become a pronounced development in the nickel area. See "Lead and Zinc in Eastern Canada."

In 1925 the precious metals of platinum, palladium, and others in these Sudbury ores had a value of \$1,675,706. The Worthington Section is worthy of some attention for zinc.

At Sellwood, where there is a large deposit of magnetite (in excess of 100,000,000 tons) averaging about 35% iron, beneficiation has been successfully accomplished. The crude ore (35%) is crushed and ground to pass a two hundred mesh sieve, passed over magnetic concentrators of the Grondal type, producing a concentrate averaging about 69% iron and under 0.012% phosphorus. The concentrates are then agglomerated by either briquetting or sintering, resulting in a product which is now recognized by many operators as having a value considerably in excess to the natural ores both from the physical and chemical standpoint. (See "Magnetites.")

Here and there further north native silver occurs, although yet in small quantity, in the vicinity of Rosie Creek and Welcome Lake, where considerable excitement prevailed at the same period as the Gowganda rush but at that time the section lacked adequate transportation facilities. The silver formations exist here and certainly are not fully explored through to East Shining Tree where native silver finds are distinctly encouraging.

Sudbury district has gold possibilities, particularly that section lying north and east of Capreol on the Canadian National Railways. The Wanapitie Lake section is promising and, if development funds in sufficient quantity are available, it is not too optimistic to believe that it might be an economic gold producing district. Were such promising properties as the Crystal mined under modern mining and milling methods, with cheap electric power such as is now available, instead of an obsolete ten stamp mill with a heavy loss in extraction, it is reasonable to expect that there would be an entirely different tale to tell. This is especially so when we consider that one of the trans-continental lines of the Canadian National Railways now passes Wanapitie Lake and good motor roads from Sudbury already reach within a few miles of the property. There is an area running from Sellwood, thirty miles south of the "height of land" easterly to Emerald Lake which also has gold possibilities, but like other sections mining depends