

railway, when a railway cutting was made through the small hill on which the Murray mine was afterwards located. During the first few years the deposits were exploited for their copper content alone; not until 1886 was the presence of nickel determined and the true value of the ores made known. The nickel-copper ores of the Sudbury area are the source of nearly all the copper produced in Ontario. The International Nickel Co., Ltd., has a smelting plant at Copper Cliff and a nickel refinery at Port Colborne. The principal mining properties are the Creighton and the Frood. The smelter of the former Mond Nickel Co. is at Coniston, and the copper-nickel matte is exported to the refinery at Swansea, Wales. The principal mines are the Garson, Levack and Frood Extension. These two companies have amalgamated as the International Nickel Co. of Canada and an extensive programme of enlarged mining and metallurgical facilities is being carried out, including a new copper refinery in the Sudbury district. Interest in the operations in the Sudbury area has increased owing to developments in connection with the Frood ore bodies, where large masses of immensely rich ore are being opened up.

British Columbia.—The production of copper in the province during 1928 amounted to 102,283,210 lb., which was 50 p.c. of the total Canadian production for the year. This total included the blister copper produced at Anyox by the Granby Consolidated Mining, Smelting and Power Co., Ltd., the blister copper and copper in copper sulphate made by the Consolidated Mining and Smelting Co., Ltd., at Trail, and the copper estimated as recoverable from the ores and concentrates exported. The principal copper-producing mines in British Columbia are the Britannia mine on Howe Sound, which ships its concentrates to Tacoma, the Hidden Creek mine on Portland canal, and the Allenby Copper Corporation, the last two mentioned being owned and operated by the Granby Consolidated. The Hidden Creek ores are smelted at the Anyox smelter and the Allenby concentrates are shipped to the Trail smelter.

Manitoba.—Much development has been carried on in the Flin Flon district of Manitoba in the last ten years, and large bodies of ore have been proven on the Flin Flon property of the Hudson Bay Mining and Smelting Co., and the Sherritt-Gordon property. About 135 miles of branch line from the Hudson Bay railway provides these properties with transportation facilities. A smelter is being built at Flin Flon, while a large hydraulic development on the Churchill river will provide the necessary power. During the 4 years 1917-1920, with the high prices prevailing for copper, ores containing 9,866,328 lb. of copper were exported by the Mandy mine.

Quebec.—Until 1894, when Ontario took the lead, Quebec was the chief copper-producing province of Canada, the principal mines being the Eustis and Huntingdon properties in the Eastern Townships. These mines produced ores from which both copper and sulphur were recovered. There is still a small annual production from this field. However, recent discoveries in the Rouyn camp of northwestern Quebec have brought a greatly increased production of copper in 1928. These deposits lie in an easterly extension of the formations found in the Kirkland Lake area of Ontario. The first discoveries in the district were located as gold prospects; the existence of large bodies of copper and zinc ores was subsequently proved and the production of copper exceeds in value that of gold. A branch line from the Canadian National railway was completed into the camp during 1926, and subsequently a branch of the Timiskaming and Northern Ontario railway was also