

3.—Copper.

The copper-mining industry has developed at a very rapid rate. A production of 3,505,000 lb. in 1886 had doubled six years later. In 1913, the output had increased over twenty-one fold, amounting to over 76,977,000 lb. The extraordinary demand for war requirements resulted in a maximum production from 1916 to 1918, when the average output was 115,048,931 lb. The production during the calendar year 1923 was 86,881,537 lb., of which 44,729,386 lb. were produced during the first half of the year. The comparative figure for the first half of 1924 was 52,103,161 lb., indicating a satisfactory recovery after the post-war depression.

Ontario.—The Sudbury deposits were first noted in 1856, but did not attract attention until 1883-4, during the period of the construction of the Canadian Pacific 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 contents 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 ores contain from 1 to 2.5 p.c. of copper, the recovery averaging a little over 1.5 p.c. The International Nickel Company, Ltd., has a smelting plant at Copper Cliff and a refinery at Port Colborne. The mining properties include the Creighton, the Crean Hill and the No. 2 mine at Copper Cliff. The smelter of the Mond Nickel Company is at Coniston, and the copper-nickel matte is exported to their refinery at Swansea, Wales.

British Columbia.—The production of copper in the province during 1923 amounted to 55,224,737 lb., the Skeena, Trail creek and Vancouver (mainland) mining divisions being the chief producers. The Hidden Creek or Anyox mine, south of the Portland canal, owned by the Granby Company, is probably the largest copper mine in the province. The claims are situated on a hill some 920 feet in height. There are two principal ore bodies, one from 100 to 250 feet wide and traced for some 1,500 feet, the other being about 400 feet wide and about 700 feet long. The Anyox plant, situated on Observatory inlet, and blown in during March, 1914, is a large pyritic smelter. The Le Roi-Centre Star group, forming part of the property of the Consolidated Mining and Smelting Co., is situated on the southern slope of Red mountain at Rossland. In the Vancouver mining division the chief producer is the Britannia mine, situated on the east side of Howe sound on the Pacific coast. The ores occur in a mineralized zone which is at least 4 miles long and which, towards its centre, has a variable width of from 300 to 600 feet.

Manitoba.—Much development has been carried on in the Flin Flon district of Manitoba in the last eight years. The Mining Corporation of Canada, after securing a controlling interest in the Flin Flon group, has carried on extensive development work by sinking and cross-cutting, verifying the results of previous diamond-drilling and proving large tonnages of ore to be in place. A branch extension of the Hudson Bay railway and the construction of smelter works are required for the economic treatment of the copper ores of the district.

World's Production of Copper.—The world's production of copper was estimated at 994,336 short tons in 1922 as compared with 596,090 tons in the preceding year. Preliminary estimates indicate that a considerable recovery was effected in 1923, the production being given as 1,433,102 tons. Canada had an output of 43,441 tons in 1923, producing about 3 p.c. of the world's estimated total.