Subsection 5.—Nickel.

With the exception of the nickel in the ores shipped from the Cobalt district, the Canadian production of nickel is derived entirely from the well-known nickel-copper deposits of the Sudbury district, Ontario. A brief description of the history and development of the nickel-copper mining industry will be found under copper in Subsection 3 of this section. From 830,477 lb. in 1889 the production of nickel increased continually to a war-time peak of 92,507,293 lb. in 1918. After a slump to 19,293,060 lb. and 17,597,123 lb. in 1921 and 1922 respectively there was an increase to 73,857,114 lb. in 1925. In 1928 production at 96,755,578 lb. exceeded that of the war year 1918, while 1929 established a record at 110,275,912 lb. Preliminary figures for production in 1931 are 65,666,320 lb.

In recent years the producing companies have instituted extensive researches to discover and encourage new peace-time uses for the metal. The success attending their efforts in that direction accounted very largely for the marked increase in production during the past few years. The automobile industry, electrical machinery, cooking utensils, new submarine cables and various nickel alloys all helped to absorb this increased production.

Sudbury.—The nickel-bearing rocks of the Sudbury district, with a width of about two and one-half miles, form a wide ellipse 36 miles long and 13 miles broad. The ores consist mainly of a mixture of pyrrhotite and chalcopyrite associated with norite, a basic intrusive rock. The nickel occurs in the pyrrhotite as pentlandite and varies somewhat in amount. The ore mined in the district varies considerably in richness, the average metal content being about 2 to 4 p.c. of nickel, 1 to 3 p.c. of copper and 45 p.c. iron, although portions of the new Frood deposit are much richer than this, especially in copper. Cobalt, gold, silver, platinum and palladium are nearly always present in very small quantities.

World Production.—The world production of nickel was about 59,360 short tons in 1930, of which output 87·4 p.c.[1] was Canadian in origin, while the remainder was derived from New Caledonia, India and Norway. The proved deposits of nickel ore in Canada are estimated to be sufficient to provide for the world's requirements for many years, while there are still large reserves undeveloped.

[1] These figures, taken from the Imperial Institute's Statistical Summary, include some nickel produced in the U.S. as a by-product from the electrolytic refining of Canadian copper; such nickel is not included in Table 16.

16.—Quantities and Values[1] of Nickel Produced in Canada during the calendar years 1901-31.

NOTE.—For figures for the years 1889-1900, see 1929 Year Book, p. 368.

Year.	Quantity.	Value.	Year.	Quantity.	Value.	Year.	Quantity.	Value.
	lb.	$		lb.	$		lb.	$
1901	9,189,047	4,594,523	1911	34,098,744	10,229,623	1921	19,293,060	6,752,571
1902	10,693,410	5,025,903	1912	44,841,542	13,452,463	1922	17,597,123	6,158,993
1903	12,505,510	5,002,204	1913	49,676,772	14,903,032	1923	62,453,843	18,332,077
1904	10,547,883	4,219,153	1914	45,517,937	13,655,381	1924	69,536,350	12,126,739
1905	18,876,316	7,550,526	1915	68,308,657	20,492,597	1925	73,857,114	15,946,672
1906	21,490,955	8,948,834	1916	82,958,564	29,035,498	1926	65,714,294	14,374,163
1907	21,189,793	9,535,407	1917	82,330,280	33,732,112	1927	66,798,717	15,262,171
1908	19,143,111	8,231,538	1918	92,507,293	37,002,917	1928	96,755,578	22,318,907
1909	26,282,991	9,461,877	1919	44,544,883	17,817,953	1929	110,275,912	27,115,461
1910	37,271,033	11,181,310	1920	61,335,706	24,534,282	1930	103,769,857	24,455,133
						1931[2]	65,666,32	15,267,453

[1] A change in the method of computing the value of nickel produced accounts for the drop in value after 1923. [2] Preliminary figures.