

World's Production.—The world's production of lead in 1922 was about 1,149,268 short tons. The principal producers were the United States with 40·9 p.c., Mexico 11·6 p.c., Australia 10·3 p.c. and Spain with 9·3 p.c. Canada produced about 4·0 p.c. of the total.

5.—Nickel.

With the exception of the nickel in the ores shipped from the Cobalt district and from the Alexo mine in the Porcupine area, the Canadian production of nickel is derived entirely from the well known nickel-copper deposits of the Sudbury district, Ontario. From 830,477 lbs. in 1889, the production increased continually in trend to 92·5 million lbs. in 1918, constituting a record. In 1921 nearly 19·2 million lbs. were produced as compared with 17·6 million lbs. in 1922 and 27·1 million lbs. during the first six months of 1923.

Sudbury.—The nickel-bearing rocks of the Sudbury district, with a width of about two and one-half miles, form a wide ellipse thirty-six miles long and thirteen miles broad. The ores consist mainly of a mixture of pyrrhotite and chalcopyrite intimately associated with more or less country rock. The nickel occurs in the pyrrhotite as pentlandite and varies somewhat in amount. The ore deposits are of three main types—marginal deposits, offset deposits and vein-like deposits, of which the marginal have proved the most productive. The Creighton mine, which may be called the greatest nickel mine in the world, is an example of a marginal deposit. The Copper Cliff mine is an example of an offset deposit, while the Vermilion mine is probably the best example of a vein-like deposit, probably formed by hot circulating waters. The ore mined in the district varies considerably in richness, the average metal content being about 2 to 3 p.c. of nickel, 1½ to 2 p.c. of copper and 45 p.c. of iron. Cobalt, gold, silver, platinum and palladium are nearly always present in very small quantities. The matte produced by the International Nickel Company averages about 54 to 56 p.c. of nickel and about 24 p.c. of copper, while that of the Mond Nickel Company contains about 41 p.c. each of nickel and of copper.

World's Production.—The world's production of nickel, exclusive of electrolytic nickel, in 1920 was about 30,018 long tons of which output 91 p.c. was of Canadian origin and about 7 p.c. was derived from the oxidized ores of New Caledonia. The proved deposits of nickel ore in Canada are estimated to contain two million tons of nickel and there are at present large reserves undeveloped.

22.—Quantity and Value of Nickel Produced in Canada during the calendar years 1889-1922.

Years.	Quantity.	Value.	Years.	Quantity.	Value.	Years.	Quantity.	Value.
	Lb.	\$		Lb.	\$		Lb.	\$
1889.....	830,477	498,286	1900	7,080,227	3,327,707	1911	34,098,744	10,229,623
1890.....	1,435,742	933,232	1901	9,189,047	4,594,523	1912	44,841,542	13,452,463
1891.....	4,035,347	2,421,208	1902	10,693,410	5,025,903	1913	49,676,772	14,903,032
1892.....	2,413,717	1,399,956	1903	12,505,510	5,002,204	1914	45,517,937	13,655,381
1893.....	3,982,982	2,071,151	1904	10,547,883	4,219,153	1915	68,308,657	20,492,597
1894.....	4,907,430	1,870,958	1905	18,876,315	7,550,526	1916	82,958,564	29,035,498
1895.....	3,888,525	1,360,984	1906	21,490,955	8,948,834	1917	82,330,280	33,732,112
1896.....	3,397,113	1,188,990	1907	21,189,793	9,535,407	1918	92,507,293	37,002,917
1897.....	3,997,647	1,399,176	1908	19,143,111	8,231,538	1919	44,544,883	17,817,953
1898.....	5,517,690	1,820,838	1909	26,282,991	9,461,877	1920	61,335,706	24,534,282
1899.....	5,744,000	2,067,840	1910	37,271,033	11,181,310	1921	19,293,060	6,752,571
						1922	17,597,123	6,158,993