

THE MINERAL PRODUCTION OF CANADA.

The Geological Survey has issued a preliminary statement of the mineral production of this country for 1904, which shows that the aggregate value of these products for the year aggregated over \$60,000,000. This figure is about \$2,300,000 lower than the production of last year, and \$6,000,000 lower than in 1901. In explanation of this fact, the compiler of the report, Elfric D. Ingall, M.E., says:

"In comparing this record with that of previous years, it must be borne in mind that complete figures are never available at this time of the year, so that in a number of items the data are necessarily partly estimated. Allowing for this, there nevertheless remains a falling off of about \$2,250,000 in the grand total. This does not necessarily indicate a general slackening in the permanent mineral industries of the country, but rather a gradual return to natural conditions after a few years of abnormal inflation due to the rapid exploitation of the richer and easily accessible portions of the Yukon placers. To this cause can be attributed nearly \$2,000,000 of the decrease shown."

Gold now shares with coal (including coke) first place in the list of minerals produced in this country. Each of these products forms over 27 per cent. of the total mineral production of Canada, and together they constitute more than half the mineral values produced. After these two items follow building material, copper, nickel, silver, lead, cement, asbestos, petroleum and pig iron in the order named. Comparing this with a similar list for 1903, we find that lead has moved up from tenth place to seventh, cement has been forced thus to take eighth place, and petroleum has gone down from eighth place to tenth.

The situation by individual metals is tersely reviewed in the report, from which we quote the following:

Gold.—Practically every province in Canada shows a falling off in gold production, in 1904, as compared with 1903. Nova Scotia, which ordinarily has an output of about half a million dollars, shows a decrease of nearly half its production. Several reasons are given for this, among which may be mentioned: (1) the extreme drought during the past season, (2) the closing down, owing to financial difficulties, of a number of the best producing mines, and (3) the cessation of production at the Richardson mine owing to the destruction of the shaft and workings by an extensive crush.

In Ontario, although a considerable amount of prospecting and development work has been done, most of the mines that were formerly important producers, were not operated during the year.

In British Columbia, an increased output from placer mines is indicated, while a smaller production was obtained from the lode mines. The ore shipments from Rossland and vicinity, the chief gold-producing district, were less than in 1903 by about 20,000 tons.

The Yukon output for the year, \$10,337,000, is based on the receipts of Canadian Yukon gold at the United States mint at San Francisco and other receiving offices.

Silver.—The bounty granted by the Dominion Government on the production of lead ores, seems to have stimulated the operations of the silver-lead mines. The St. Eugene mine, in East Kootenay, was re-opened and its production probably accounts for the greater part of the increase.

Silver .999 fine is now turned out at the refinery of the Canadian Smelting Works, at Trail, B.C., as is also gold, .994 fine. Refined silver has been shipped to New York, San Francisco and to China.

The average price per ounce of fine silver in New York during the year was 57.221 cents, as compared with 53.45 cents in 1903.

Lead.—Although over twice as much lead was produced in 1904 as in 1903, the output is still far from its former maximum viz., 31,584 tons in 1900. The production in 1904 was about 19,000 tons as compared with 9,070 in 1903.

An electrolytic lead refinery is now in operation at the Canadian Smelting Works, Trail, B.C., producing pig lead, lead pipe, sheet lead, etc.

Copper.—The copper contained in ore, matte, etc., shipped from Canadian mines in 1904 was about 21,485 tons, as compared with 21,342 tons in 1903.

In Ontario there was a falling off of over a thousand tons, which was more than made up by the increased production from

the Boundary District and the Coast District of British Columbia. From Sudbury district, Ontario, 10,154 tons of matte were shipped, containing 2,455 tons of copper (see further under nickel.) In British Columbia, shipments from the Boundary District were approximately 818,000 tons in 1904, and from Rossland 342,000 tons, as compared with 697,284 tons from the Boundary District and 360,786 tons from Rossland in 1903.

The average price per pound of electrolytic copper in New York in 1904 was 12.823 cents, as compared with 13.235 cents in 1903.

Cobalt, Etc.—The discovery of certain cobalt, nickel, arsenic and silver ores, which was made public in November, 1903, promises to add in the near future, largely to the production of these metals. The deposits were found during the building of the Temiskaming and Northern Ontario Railway, the road-bed running almost over the top of the first of the outcrops discovered. The ores are contained in a series of almost vertical veins varying in width from eight inches up to six feet although the wider portions always contain more or less rocky matter. The veins intersect the conglomerate and slate usually classified as Huronian. All of the deposits thus far discovered possess certain features in common. The minerals represented are chiefly smaltite, nicolite, and native silver, with smaller quantities of erythrite dyscrasite, chloanthite and tetrahedrite. In some the native silver is very abundant and a sample which was fairly representative of one of the smaller veins showed an assay value of \$5,237.60 per ton. Analysis of the ore from one of the veins composed mainly of smaltite showed from 16 to 19 per cent. of cobalt, 4 to 7 per cent. of nickel, 60 to 66 per cent. of arsenic, and 3 to 7 per cent. of sulphur. The ores are thus so rich, that comparatively small veins could be worked at a handsome profit.

Although no returns have yet been received at this office, it is stated that several carloads of ore have been shipped from this district, which realized very high values.

Nickel.—The following were the results of operations on the nickel-copper deposits of Ontario in 1903:

| | Tons. |
|--|-------------|
| Ore mined | 203,388 |
| Ore smelted | 118,470 |
| Matte produced | 8,924 |
| Matte shipped | 10,154 |
| Copper contents of matte shipped | 2,455 |
| Nickel contents in matte | 5,274 |
| Value of matte shipped | \$2,193,198 |

According to customs returns, exports of nickel in matte, etc., were as follows:

| | Lbs. |
|------------------------|------------|
| To Great Britain | 2,028,908 |
| United States | 9,204,961 |
| Total | 11,233,869 |

The price of refined nickel in New York remained steady throughout the year at from 40 to 47 cents per pound.

Zinc.—About 533 tons of zinc ore worth \$3,700 were shipped during the year from the Long Lake zinc mine in the County of Frontenac, Ont. No returns have been received of zinc production in British Columbia.

Iron.—Exports of iron ore were 168,828 tons valued at \$401,738. In addition to the ore exported, about 180,932 tons of ore worth about \$498,687, were mined in Canada and charged to Canadian blast furnaces.

Besides the above Canadian ore, 454,671 tons of imported ore valued at \$922,594 were used in Canadian furnaces. The total amount of pig iron manufactured from both Canadian and imported ores was 303,454 tons, of which 21,583 tons were made with charcoal as fuel and 281,871 tons with coke. The quantity of charcoal used was 3,477,470 bushels and of coke 387,392 tons.

The pig iron was made by three firms in Nova Scotia, two in Quebec and four in Ontario.

Coal and Coke.—With the exception of a small decrease in shipments, coal production in Nova Scotia in 1904 shows but little change. A smaller amount of coke was made owing to the smaller production of pig iron by the Dominion Iron and Steel