

closing of the Helen iron mine before the shipping season was over.

The blast furnaces of the province turned out 87,004 tons, or 25,683 tons of pig iron less in 1903 than in 1902. Of the iron ore smelted into pig iron, 32 per cent. came from Ontario mines and 68 per cent. was imported from the United States.

The yield of gold was \$188,036, or a decrease of \$41,792.

The production of copper (in ore and matte), was valued at \$716,726, which was greater in 1902 by 471 tons, the increase in value being \$36,643. The chief source of copper remains the nickel-copper mines of Sudbury, but the purely copper ores of the Massey Station mine are now being smelted, and ore is also being raised at the Superior and Tip-top mines.

The output of nickel was larger last year than ever before, exceeding that for 1902 by 1,053 tons in quantity and \$288,107 in value. The production of 6,998 tons of nickel, valued at \$2,499,068, constitutes a record, and undoubtedly confers upon the Sudbury district the distinction of being the chief source of the world's supply of this metal. As usual, the Canadian Copper Company was the principal producer. The reduction works of this company are at present being extensively overhauled and remodelled, with the view of producing high-grade matte by the Bessemer process. Other concerns contributing to the total were the Mond Nickel Company and the Lake Superior Power Company.

Lead reappears in the tables for the first time in many years, a small furnace having gone into experimental operation near Bannockburn, in Hastings County, about the close of the year, and producing \$1,500 worth. Some molybdenite was also raised in the same county.

The substances comprised in the non-metallic list show in some cases considerable fluctuations from the level of 1902, but the footing-up renders apparent an increase on the whole of about 7 per cent.

Carbide of calcium gained 1,105 tons in quantity and \$54,580 in value, the output for 1903 being 2,507 tons valued at \$144,000. This shows the growing popularity of lighting by acetylene gas, notwithstanding some mishaps which resulted from its use during the year.

There was a small gain in corundum, which is of abundant occurrence in Hastings and Renfrew counties. The output was 849 tons, worth \$84,900, of grain corundum, and 270 tons of cobbled worth \$2,700. Two companies are now producing the crushed and sized article, with prospects of a third. The pioneer concern, the Canada Corundum Company, is erecting and equipping a new plant of much greater capacity than its old one.

Feldspar was in good demand, and the shipments for 1903 were in excess of those for 1902 by 6,520 tons in weight and \$7,171 in value. It is all exported to the United States, where it is used in the manufacture of pottery, and for glazing tiles, baths, enamelled ware, etc.

There were raised 7,469 tons pyrites, principally in Hastings County, or 3,098 more than in 1902, and the aggregate production was greater in value by \$6,700. The output is sent to United States markets, principally Buffalo and Cleveland, for the manufacture of sulphuric acid.

The yield of mica, as returned to the Bureau, was 948 tons worth \$102,205, or almost exactly the same as in 1902. The production of this article is now confined, more largely than formerly, to companies working on an extensive scale; and since the introduction of micanite, in which the smaller sizes are utilized, the demand is not so much for size as for quality.

The value of natural gas produced last year was valued at \$196,535, very little less than in 1902. Much the larger proportion now comes from the Welland field, that in Essex County being practically abandoned. A pool at Dunnville, in Haldimand, is being exploited, and gas is also now being taken from the White Medina formation at Brantford.

Petroleum, of which the Lambton County oil fields remain the chief source, is steadily declining in point of yield. Compared with 1902, the production of crude for 1903 was 1,545,254 imperial gallons less, while compared with 1893 it

was 17,414,662 gallons less. In ten years, therefore, the quantity of crude product has fallen off over 50 per cent. The higher prices which prevailed last year, however, prevented the value falling with the production; indeed, there was a marked increase, taking as a basis petroleum products and crude petroleum used for gas and fuel, amounting to \$155,620. It is a legitimate subject of enquiry whether there are not yet undiscovered reservoirs of both petroleum and gas in this province. The supply of the former has, heretofore, been taken wholly from the limestones of the Corniferous formation, in which it is found at a depth of about 470 feet from the surface. Borings have been made to the Trenton, but without much success; recently, however, oil has been found in considerable quantity in the southwest corner of Kent County at a depth of 1,290 or 1,300 feet, in what is believed to be the Guelph formation, and more recently still at Brantford, oil has been struck in the White Medina, between 500 and 600 feet below the surface.

Salt continues to be raised in about the same quantity from year to year from the widespread beds lying east of Lakes Huron and St. Clair. In 1903 the output was 58,272 tons, worth \$388,097, somewhat less in quantity and greater in value than in 1902.

In building and construction materials, lime and stone both show a decrease in value, the former of \$175,000 and the latter of \$97,000. These losses are largely offset by an increase in the value of brick amounting to \$175,000, the result of active building operations in many centres. There was a further expansion in the quantity and value of cement manufactured in 1903, as compared with the previous year. Natural rock cement increased in quantity by 12,249 barrels and in value by \$18,524, while Portland cement showed gains respectively of 172,361 barrels and \$266,578. The development of the Portland cement industry in Ontario since its commencement in 1901 has been remarkable. In that year 2,033 barrels were made worth \$5,082; in 1894 the output was 30,580 barrels valued at \$61,060; in 1897 it was 96,825 barrels worth \$170,302; in 1900, 306,726 barrels worth \$598,021, and in 1903, 695,260 barrels valued at \$1,182,799. Few industries can show a record equal in rapidity and steadiness of growth. The cheapness of cement and the multifarious uses to which it is now being put, ousting as it is to a greater or less extent, lime, brick, stone and wood, have led to an enormous demand. This in turn has called into being an industry fast attaining high rank in value of output and amount of invested capital. There were nine producing plants in 1903, five others were approaching completion and will probably place their product on the market during the present year, and one or more companies are in process of organization. The market in Canada is, however, not unlimited in extent, and imported cement, mainly from the United States, is competing severely with the native article at the present time. It would be a pity to overdo the cement business, and there are not wanting signs that the point to which expansion can for the time being profitably or safely go, has been reached, if not passed.

The only other substance which calls for special mention is peat fuel, of which some 1,100 tons were manufactured by two separate plants last year. The product has given satisfaction, and a larger production may be expected. It is to be hoped that ere long peat fuel from Ontario bogs will largely replace anthracite, imported from Pennsylvania, in the kitchen ranges of the province—a use for which it is eminently fitted.

The ton used is the statutory ton of 2,000 lbs. Values have been computed at the selling price at point of production.

INVENTION OF THE TELEPHONE.

The summer of 1904 will mark the thirtieth anniversary of the invention of the telephone. The Brantford Board of Trade has been in communication with Prof. Graham Bell, the inventor, and in a letter he states the following facts:

"Now it so happens that the telephone was invented in Brantford during my visit to my father and my mother