

which tonnage includes the low-grade quartz mined for use as flux." On another page the statement is made that the tonnage of ore mined and smelted was about 784,000 tons, averaging 2.12 per cent. copper, the gold and silver amounting to approximately \$240,000. The tonnage of low-grade quartz ore mined was about 37,000 tons, or a total of 812,000 tons." Again, it is stated on one page that the Belmont-Surf Inlet Mines Company shipped to the Tacoma smeltery 722 tons of table and flotation products, and on another page after stating that production is 25 to 30 tons of concentrates in 24 hours it is added that "the company will have shipped in 1917 about 1,700 tons, and expects to have a steady output of between 800 and 900 tons a month." In the general report it is printed that the district output was 821,819 tons and that the Granby Company treated "approximately 784,000 tons of ore, and in addition 38,000 tons of quartz flux and 53,000 tons of limestone flux."

Aside from these minor blemishes, though, the report is a most creditable one, and appears to measure more up to the stated requirements of the "Mineral Survey and Development Act" than any of the others also included in the general report.

Northeastern District.

The production of ore, in the Northeastern District, as shown in the official records, during the last three years was as follows: In 1915, 17,545 tons; in 1916, 17,752 tons; in 1917, 4,159 tons. The recorded value of the mineral production was: For 1915, \$885,502; for 1916, \$778,157; for 1917, \$529,897; total for three years, \$2,193,556. Of this total, \$2,178,300 was for metalliferous minerals. The decrease in value for 1917 was 32 per cent. as compared with 1916 and 40 per cent. with 1915.

In the report of the Resident Engineer it is stated that: "The mineral production of the Northeastern District for 1917 was a little less than in the year 1916. The principal reason for the decrease in value of output was, first, a smaller production of placer gold in all parts of the district, and, secondly, to the fact that the two principal lode mines—the Rocher Deboule and Silver Standard—were only shipping during one-half of the year. Both these mines are in shape, however, to make a good production in 1918. There were, however, a greater number of small shippers in 1917 than in any previous year, which is an encouraging sign for the future." The individual shippers of more than 100 tons of ore were as follows: Rocher Deboule, 2,889 tons of copper ore; Silver Standard, 671 tons of silver-lead-zinc ore; Santa Maria, 239 tons of copper-silver ore, and the M. & K., 123 tons of silver-lead-copper ore. Eight other properties together shipped 237 tons of ore containing silver, copper, and lead. The quantities and value of the minerals were: From Omineca division: Placer gold, 600 oz., \$12,000; lode gold, 931 oz., \$19,244; silver, 82,311 oz., \$63,668; lead, 271,885 lbs., \$21,506; copper, 852,373 lbs., \$231,675; zinc, 364,097 lbs., \$27,548, and miscellaneous materials, \$1,500; total, \$377,141. From Cariboo division: Placer gold, 6,750 oz., \$135,000, and miscellaneous materials, \$2,756; total, \$137,756. From Quesnel division: Placer gold, 750 oz., \$15,000. Total value for the whole of the Northeastern District, \$529,897. A little more than 75 per cent. of the lode-mineral production of the district came from the neighborhood of Hazelton, and the remainder from the Skeena River and Telkwa sub-districts.

In fairness to the Resident Engineer it should be pointed out that in having to report on a district containing nearly 100,000 square miles of territory in which last year there were only four mines that shipped more than 100 tons of ore each, and only one with an output of more than 1,000 tons, and in which there has been a steadily diminishing production of placer gold in the last two years, his field for comment of value is not of the best. Under

the circumstances, perhaps it would have been better for him to have placed more emphasis on the few points of general interest and condensed his report accordingly.

The list of the more important published official reports on the geology and mineralogy of the district is of value. Brief particulars of several miscellaneous minerals—scheelite in Cariboo division, and molybdenite and peridots in Quesnel division—are noteworthy. Information concerning many more or less developed mining properties, few of which, though, have yet reached the productive stage, will be handy for reference and so will be welcomed by many interested in the district. On the whole, however, the mining industry of the newer parts of the district has not yet made sufficient progress for this report to possess nearly so much value to the general public as one on a rapidly progressive mining district would do.

The Central District.

As regards mineral production, this is the least important district in the province, for the total value of its output in 1917 was only \$874,613, or less than two and one-half per cent. of the total for the province for the year, and less than two per cent. of that of the three-year period, 1915-1917. This would not seem, though, to be a sufficient reason for the quite inadequate report of the Resident Engineer, the text of which fills not quite eleven pages, and makes little or no reference to the more important mining operations carried on the district, nor to minerals that might well have had attention. This is to be regretted, for the mineral potentialities of the district are consequently not even fairly presented, when under the handicap of such limited production it might have been expected that the most would have been made of the opportunity to prepare a reasonably fair and full account of them.

Having in view the official statement that "Resident Engineers are expected annually to make a comprehensive report covering all matters relating to mining, mine development, and prospecting that have occurred within the year in their respective districts," it is evident that this requirement was in some comparatively important respects lost sight of by the local official.

The Southern District.

The Resident Engineer of the Southern District may be said to have erred just as much in the matter of brevity as did his co-officials of the Northeastern and Western Districts in the opposite direction. The disproportion already pointed out is markedly noticeable when it is taken into account that only ten pages of text are devoted to the Southern District with a metalliferous production of a total value of \$15,681,912 for three years, 1915-1917, which was nearly twenty per cent. of the grand total for the province for that period, while the Northeastern District has five times as much space notwithstanding that its three-years' output was less than three per cent.

One of the reasons that the report of this District does not measure up to what might have been expected is that there seems to be lacking a recognition of relative value of available information. The particulars given of the Similkameen District, for example, seem to indicate this. A small silver property, which shipped in 1917 about 320 tons of ore is given twenty-nine lines, while the Hedley Gold Mining Co.'s operations, which included the mining and milling of 71,207 tons of ore, are disposed of in five lines, and those of the Canada Copper Corporation, which is stated in the report to have expended on its big property on Copper Mountain about \$1,250,000, are dealt with in twenty-two lines.

Notwithstanding its shortcomings, the report on this District is a useful though short summary, and will be read with interest.

The Eastern District.

The Eastern District is the most important metalli-