

work, even in this camp. The output of the camp was about \$530,000, an increase of 20 per cent over the preceding year, a most encouraging showing, especially as the dredge, from which so much was expected, failed mechanically to handle the dirt. The two hydraulic companies which started up last summer made very creditable productions and promise to do better in 1905.

In the Dease lake district the output this year was only about one-third of what it was the previous year, as the most important property in the camp did not produce this past season, being engaged exclusively in installing a new and larger plant.

In the Cariboo district the placer output was almost exactly the same as last year, the Barkerville camp being just the same, while a deficit in the Omineca section was about balanced by an increased production in the Quesnel Forks section, where the Consolidated Cariboo Co., although only having water to sluice 88 days, produced \$90,000 of gold.

In the Fraser river section, placer mining is chiefly carried on on the river bars at extreme low water. The results this year have been very disappointing, as the usual very low water did not occur, since the winter's snow starting to go very early went gradually, with no extremes of high or low water, so these bars could not be worked to the usual extent.

*Hydraulic Gold Mining.*—The company operating in this manner on the largest scale is the Consolidated Cariboo, which, as already noted, produced \$1,000 a day while able to work with a head of water. It has been amply illustrated that the water supply is the measure of the output, and that to increase the latter must be done by first increasing the former. This, the company has decided to do, and will, this coming year, expend a large amount for further ditches and water. There have been operated in Atlin two very successful small hydraulic enterprises, and near Barkerville about the same number, which have paid very well this past season.

*Dredging for Gold.*—Dredging for gold has not, as yet, been a commercial success, despite all attempts to solve this problem. The difficulties are mechanical, but, therefore, none the less difficult to surmount. Many of the propositions which have been started have had ground sufficiently rich to pay very handsomely, if the conditions were right—that is, freedom from boulders or hard clay cement, a dredgible bedrock, and the gold not in too fine a state of division. The dredge in Atlin attempted to handle dirt that proved too tough for it, and from reports it would appear that the Lillooet dredge was too weakly constructed to stand the work, and the constant stoppages for repairs interfered with what promised to be a very successful run.

*Steam Shovels.*—As yet the only attempt made in this province to work a placer gold property with a steam shovel was in Fort Steele mining division, and described in the Report for 1903. The conditions there were scarcely favourable and the shovel was not equipped with an auxiliary elevator to take the gravel from the shovel to the sluice, which appears to be a

requisite. This was to have been provided for this shovel but is not yet in place, and the machine has not been worked this past season.

Preparations have been made for the placing of one, or more, steam shovels on ground in the Atlin district this coming summer, notably by the British America Dredging Co., on its leases at Tar flat; and the Northern Mines, Ltd., (of Vancouver), on ground recently acquired on Spruce creek. In both these cases the character of the ground and its gold contents have been thoroughly and satisfactorily tested by individual workers, although the top burden was so deep as to prevent any profit being made from this class of work, but the ground appears admirably suited for working by mechanical means.

*Gold from Lode Mining.*—The greater part of the gold obtained from lode mining in British Columbia is found in connection with other metals and only separated or collected by smelting, probably not 5 per cent of the product being obtained from stamp mills. The lode gold product for 1904 was \$4,589,608, and was \$223,008 less than in 1903, due to the diminished output of the Rossland and Nelson districts. In the former district the tonnage of ore mined is about 5 per cent less and the gold contents about 8 per cent less than last year. In the Nelson mining division there has been less ore mined and the values per ton were, on the average, lower. In the Boundary district the tonnage of ore mined has increased about 30 per cent, and the gross gold contents is this year about 10 per cent greater than it was the previous year. In the Coast district the tonnage of gold-bearing ore has been 20 per cent less than the previous year, yet, for all that, the gold contents show an increase of about 8 per cent.

#### SILVER AND LEAD.

It has been customary in these reports to consider silver and lead together, since in this province about 80 per cent of the silver produced is obtained from silver-lead ores, the remaining 20 per cent being chiefly found associated with copper.

The total silver production for the past year was 3,222,481 oz., valued at \$1,719,516. About 50 per cent of this production came from the Slocan district and about 25 per cent from Fort Steele district, the two chief lead-producing centres, while the other 25 per cent was produced in all the other parts of the province. This output is 226,277 oz. greater than was made in 1903—an increase of about 7 per cent—and is chiefly attributable to the re-opening of the St. Eugene mine, in East Kootenay, the resumption of work in this mine being the direct result of the bounty on lead mined, offered by the Dominion government, without which assistance the St. Eugene cannot be profitably operated. In the Fort Steele mining division there were mined in 1903 less than 1,000 tons of ore, while in 1904 there were mined 76,895 tons, from which was recovered about two-thirds of the lead output of the province.

The total lead output was 36,646,244 lb. of lead, of which 21,071,236 lb. was produced in East Kootenay.