

roasted ore being obtained in regular work and with a very slight loss of mercury. There is no flouring of the mercury, and the gold is bright and very readily amalgamated.

Some of the roasted ore was treated by chlorination under pressure (Mears's process), and practically nearly the full fire-assay was obtained. Even including the loss in flue-dust in roasting in the revolving hearth, an ore which assayed less than \$14 per ton *yielded, net in the bullion, 91 per cent. of the fire-assay*; so that it is thought that by care in roasting, from 93 to 95 per cent. of the gold in the concentrates can be regularly obtained. That the loss in concentrating will be very small, can be understood when it is considered that the concentration will not be made close. It is proposed to crush the ore in rock-breakers to from $\frac{1}{2}$ to 1 inch size, screen in revolving screens which will size into say $\frac{1}{4}$ to $\frac{1}{2}$ inch and $\frac{1}{2}$ to 1 inch, which would then be jigged, the richer ore going to rolls, and thence directly, to the roasting furnace without concentration, and the poorer going to other rolls, where it is crushed, and then jigged. It is thought that from $\frac{1}{2}$ to $\frac{2}{3}$ of the sulphurets, and consequently of the gold, will be obtained in the coarse jigging, and will suffer no loss in concentration.

The practical working of these ores I hope to give in another paper at some future time, when the works now building shall have given results on a large scale. The works for the Canada Consolidated Gold Mining Company are intended to treat from 100 tons to 125 tons a day.

Without going into the cost of mining and milling these ores, a subject which I hope to give, with large practical results, at a later day, I may say that a number of experts, taking from the books the figures of cost of such work as has already been done at the mines, have estimated at from \$3 to \$3.50 per ton of ore, as it comes from the mines, the entire cost of mining and milling. This cost is made up about as follows:

Mining, per ton of ore as mined,	\$1 75
Concentrating,	50
Roasting,	20 = 60 cents per ton concentrates.
Chlorinating,	50 = \$2 per ton roasted concentrates.
Contingencies,	55
	\$3.50 per ton.

Labor is paid \$1 to \$1.25 per day; wood, \$1.25 per cord;