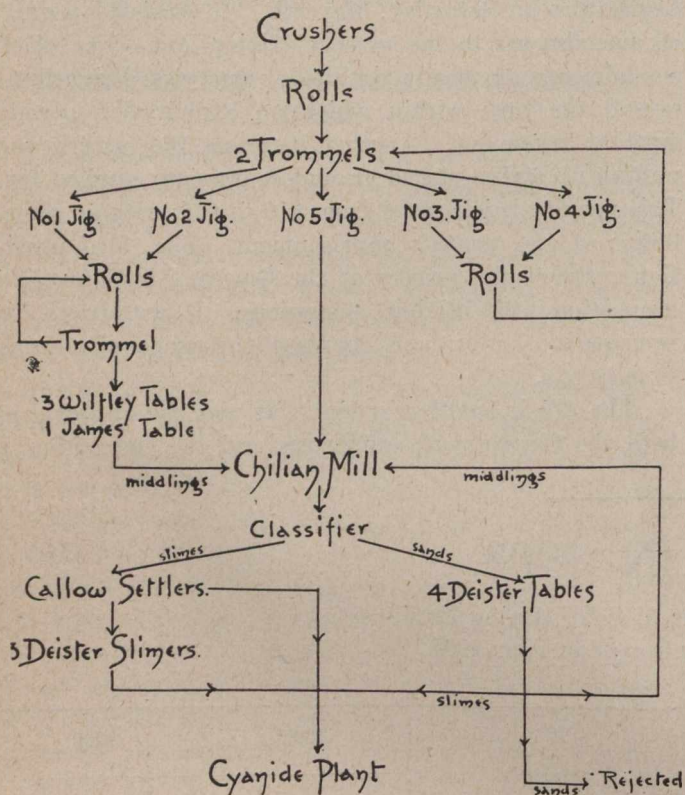


Flow Sheet, Buffalo Concentrator.



the far east, China and India, at times, offering silver while they are usually consistently heavy buyers.

The production of silver in the United States is made in connection with that of lead, copper and other metals. Silver is thus a by-product, and as such its production is not likely to be affected materially by the low price of silver. In Mexico it costs 40 cents per ounce to produce refined silver, so that at the present price the margin of profit is very small. This accounts for the closing down of some of the Mexican mines lately.

In Cobalt the cost of production in the principal mines is under 20 cents per ounce. This is one of the reasons why Cobalt's output has continued to rise even in the face of a falling market.

Cobalt.

Cobalt is seldom seen in the metallic state as it is marketed exclusively in the form of oxide. Throughout 1907 the oxide sold for \$2.50 per pound. In March of 1908 a violent rate war caused the price to be cut at frequent intervals until on April 1st it was \$1.45 per pound, a reduction of \$1.05 in a few weeks.

The world's annual consumption of cobalt is about 300 tons. On account of the restricted market and the large production in the Cobalt district, the marketing of Cobalt ores for the cobalt contents has been difficult. The Anglo-French Nickel Co., of Swansea, Wales, came in to the market for a carload of ore from time to time as the demand warranted it.

In the early part of 1908 this company paid the following prices for cobalt:—

- 8 to 10 per cent. cobalt, 35c per pound, Cobalt.
- 10 to 12 per cent. cobalt, 40c per pound, Cobalt.
- 12.1 to 14 per cent. cobalt, 45c per pound, Cobalt.
- 14.1 to 16 per cent. cobalt, 50c per pound, Cobalt.
- 16 per cent. or over, cobalt, 55c per pound, Cobalt.

After April the prices offered were 10 cents per pound lower than above, and at the end of the year they were out of the market entirely. There is every likelihood that the next price offered will be still lower.

The Canadian Copper Co. and the Deloro Mining and Reduction Company each pays for cobalt in ore when it goes 6 per cent. or over, providing that the nickel contents are lower than the cobalt contents.

Arsenic.

For a time one smelting company did pay a small amount for arsenic, but this has been cut out of the latest schedule, so that no arsenic is now paid for though several smelting companies save, refine and market as a by-product in the form of white arsenic.

Nickel.

Up to the present nickel contents of ores from Cobalt have been considered more of a detriment than otherwise.

Smelting.

The following smelting companies have received and treated ore from Cobalt during 1908.

1. Anglo-French Nickel Company, Swansea, Wales.
2. American Smelting & Refining Co., Perth Amboy, N.J., Denver, Col.

Flow Sheet, Cobalt Central Concentrator.

