

week, decomposition is rapidly affected and a very considerable proportion of the gold is liberated on treatment and is rapidly absorbed by quicksilver.

In grinding, I have found it advisable to add very little water for some time, so that the quicksilver may permeate the very thick mud in minute globules which however are not in the form of floured mercury and to assist the process, I usually add a little salt, caustic soda and cyanide, and after grinding for three or four hours a stream of water is turned on and carries off the slime to a percussion table, when pyrites not sufficiently ground is retained. The quicksilver remains in the grinding pan, which after the water is syphoned off, is ready for a fresh charge of concentrates say 5 or 10 cwt.

My object in dwelling on the concentrator and grinding process for treatment, lies in the fact that both can be carried out on most of the mines in the Province at low cost and are fairly effective, but should practical bulk treatment prove the sulphurets to have that value, I believe they have, it will then be time for the manager to look about for a more effective and modern process.

I am indebted to my partner Mr Lucius J. Boyd for the plans accompanying this paper and which illustrate some of the questions dealt with.