

But, through the abominable perversity of things in general, after working away for some time, the result does not seem to come out as it should, and disheartened shareholders say that there is no gold and shut down the mine and mill.

There are many explanations why it has been a failure. Some of them may be :

(1) The dead work of opening the mine, putting up a mill and management may have used up all the money and they are unable to cope with the first difficulty which presents itself.

(2) The vein may have narrowed or pay-shoots be few and far between, therefore mining has come much higher than the price estimated.

(3) No milling test had previously been made and the run of the ore comes far short of the hand samples assayed, a very common cause of disaster.

(4) The free milling portion of the vein is only superficial, and it becomes refractory a very short distance below the surface, therefore the pulp will require to be concentrated and the gold extracted by smelting or chlorination, which will considerably increase the cost of production. This would have been discovered by first doing development work, and having some test runs made of the ore from different places.

(5) Among a number of other causes of failure to get expected results, such as overbuilding, extravagance, ignorance, dishonesty, etc., I shall merely add that the manner of crushing may not be suitable to the ore, and that, on one hand, the gold may be slimed and not caught, or the size of the screen and height of discharge may allow the ore to be delivered before the values have been liberated. Both of these latter contingencies are carefully checked by the procedure adopted at the stamp mill at the School of Mining at Kingston, and valuable suggestions can be given in this connection when a test run is made of the ore in the mining laboratory.

Although it is universally conceded that there is no test like a milling test for a gold ore, yet sometimes it is either impossible or not necessary. An assay of a mere hand specimen is, if not actually useless for practical purposes, to be accepted only with the greatest caution, and should merely serve as a basis for further investigation. A large quantity of a gold ore should always be taken, not less than half a ton; then it