

Optimization of Gold Mining Parameters by Cyanidation

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Abstract : Gold, the quintessential noble metal, is one of the most popular metals today, given its ever-increasing cost in the international market. The Amesmessa gold deposit is one of the gold-producing deposits. The first step in our job is to analyze the ore (considered rich ore). Mineralogical and chemical analysis has shown that the general constitution of the ore is quartz in addition to other phases such as Al₂O₃, Fe₂O₃, CaO, dolomite. The second step consists of all the leaching tests carried out in rolling bottles. These tests were carried out on 14 samples to determine the maximum recovery rate and the optimum consumption of reagent (NaCN and CaO). Tests carried out on a pulp density at 50% solid, 500 ppm cyanide concentration and particle size less than 0.6 mm at alkaline pH gave a recovery rate of 94.37%.

Keywords : cyanide, DRX, FX, gold, leaching, rate of recovery, SAA

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