

Enumeration of *Acidithiobacillus ferrooxidans* adhered to agglomerated ores in bioleaching processes

Escobar, Blanca

Godoy, Inés

In bioleaching processes, bacteria adhered to agglomerated ores are frequently determined in the washing solution after treating the mineral with different techniques like sonification or chemical treatment with SDS, Tween 20, Tritón X-100, or only basal medium to release the adhered cells. In this work we compare the efficiency of these techniques, not only by determination of the number of released cells, but also by establishing their viability. The results indicate that, in spite of the high number of bacteria that can be released from an agglomerated ore, when detergent solutions are used, bacteria are heavily damaged and lose their ferrous-iron oxidation activity. On the other hand, when hand stirring with basal medium is used to release bacteria, a method that does not produce damage to the cells, only a percentage of the total population of active ferrous-iron-oxidizing adhered bacteria is released; therefore, the enumeration or determination of bacteria in the washing solution