عنوان مقاله:

Increasing final concentrate grade of the Sarcheshmaeh Copper Complex floatation circuit by flowsheet modification

محل انتشار:

مجله بین المللی معدن و مهندسی زمین, دوره 55, شماره 2 (سال: 1400)

تعداد صفحات اصل مقاله: 4

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خلاصه مقاله:

The Sarcheshmeh copper complex flotation circuit of plant No.۱ consists of two identical north and south sections where each includes four rougher (each bank consists of ۱۴ cells), two cleaners (each bank consists of ۸ cells), two recleaners (each bank consists of ۲ cells), and two scavenger banks (each bank consists of ۱۰ cells). The reduction of feed grade along with a change in the mineralogical composition is the main reason of current lower concentrate grade (۲۴%) compared with the design concentrate grade (۳۲%). Because of a lower feed grade, the amount of rougher concentrate has decreased which in turn has significantly reduced the feed rate to the cleaner, recleaner, and scavenger banks. This has increased the mean residence time of the material in the cleaner section resulting in a lower final concentrate grade. A laboratory study showed that the final concentrate grade can be increased by ۲-۴% if one cleaner stage is added to the flotation circuit. In this research, based on the laboratory results, one cleaning stage was added to the current flotation circuit. In order to make this modification instrumentally possible in the plant, the final concentrate was gravity transported to the Mo-Cu thickeners. This released two pumps and associated tanks which made the addition of one cleaning stage practicable. Finally, a part of the cleaner and scavenger cells was used as the third cleaning stage. This decreased the residence time in the cleaner and scavenger banks. After implementation of one cleaning stage in the south section of the plant, the performance of the circuit compared with the identical north section. It was found that at the same recovery, the concentrate grade of the south section increased by ۲.۵%. The promising results led to the implementation of adding one cleaning stage in all sections of the

.flotation circuit

کلمات کلیدی:
Flotation, Third cleaning, Gravity transport, Residence Time