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Original Research Article

A simple method for the recovery of selenium from copper anode slime sample using alkaline roasting process

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ABSTRACT

The recovery of selenium from Iranian sar-cheshmeh copper anode slime has been investigated. Copper anode slimes are containing varying precious metals, such as: gold, silver, selenium and tellurium. They are being extracted as a by-product in the production process. Arsenic and antimony that present in anode slimes dissolved in 0.4 M KOH. Then, the alkaline roasting of anode slimes in the presence of Na_2CO_3 solubilized selenium. Various parameters such as time and temperature of alkaline roasting were studied. The results indicated that the optimum condition for the temperature and time of roasting found to be T=600°C and time= 8 h respectively, and that optimum recovery of selenium was 98%.

Keywords: Selenium, Recovery, Sar-cheshmeh, Copper anode slimes, Alkaline roasting.