

عنوان مقاله:

A Probe into The Germanium and Zinc Dissolution Behaviour Through Washing Process of Zinc Plant Residue

محل انتشار:

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خلاصه مقاله:

recycling the zinc plant residues containing valuable metals such as germanium besides zinc is a vital process economically and enviornmentally. The washing is a primary step in this process,carried out to remove zinc content. In this study an attempt is made to probe the effect of acidconcentration, leaching duration time and temperature on dissolution behaviour of zinc and germanium through washing procedure. XRF and atomic absorption spectrometry (AAS) wereapplied to analyze the chemical composition of zinc residue. Also, inductively coupled plasmaspectrophotometry (ICP) was utilized to detect the germanium content. Results show that acid concentrartion play an important role in both zinc and germanium dissolution, where increment of acid concentration enhances the zinc recovery, and germanium recovery faces a peak valuethrough escalation of acid concentration. Moreover, the increment of temperature is accompanied by increase in zinc and germanium dissolution efficiency. In addition, it is seen that zinc dissolution can be improved by escalating the leaching duration time , whereas the germanium .dissolution is not affected by leaching time duration as well as zinc recovery

کلمات کلیدی:

Washing process, Zinc plant residue, Zinc recovery, germanium recovery, Acid concentration

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