

DETERMINING THE OPTIMAL CONDITIONS OF THE INDUSTRIAL WASTE TREATMENT USING FACTORIAL EXPERIMENTAL DESIGN

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Abstract

The aim of this study was to perform a laboratory investigation to assess the feasibility of extraction of copper from the copper flotation waste. This industrial waste material, generated as the byproduct of pyrometallurgical copper production, always contains a significant amount of Cu together with trace amounts of other toxic elements such as Fe, Sn, Sb, As, and Pb. It is usually being disposed at the tailing ponds in the vicinity of the copper smelter plant. The tailing ponds usually have large uncovered horizontal areas which are exposed to weathering. The release of heavy metals into the water and soil is usually resulting in a number of environmental problems. On the other hand, amount of copper in this raw material is high enough to be economically utilized using adequate leaching methods. In this study, the leaching characteristics of copper flotation waste from the Bor Copper Mine, Serbia have been investigated for potential copper extraction.

Key words: Copper flotation waste, MLRA, mathematical modeling

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