

LABORATORY RESEARCH ON ACID LEACHING OF Cu, Zn AND In FROM JAROSITE WASTE

Dragana Božić, Vesna Conić, Suzana Dragulović,
Ljiljana Avramović, Radojka Jonović, Mile Bugarin

Mining and Metallurgy Institute Bor, Zelene bulevar 35, 19210 Bor, Serbia

The paper presents the results of treatment of technogenic raw materials by the leaching process in order to valorize economically valuable metals Cu, Zn and In and minimize the negative impact of leached residue on the environment. First, the sample was homogenized, and then granulometric, XRD and chemical analysis of the jarosite sample was done. The leaching agents used in experiments were HCl, HNO₃, NaCl and H₂SO₄. Investigations have shown that the most acceptable method for the treatment of jarosite is leaching of jarosite using sulfuric acid, where the best leaching of Cu, Zn and In was obtained, namely 93.76%, 91.64 and 97.59%, respectively.

Keywords: hydrometallurgy, leaching, jarosite, copper, zinc, indium.

LABORATORIJSKA ISTRAŽIVANJA LUŽENJA Cu, Zn i In IZ OTPADNOG TALOGA JAROZITA

Dragana Božić, Vesna Conić, Suzana Dragulović,
Ljiljana Avramović, Radojka Jonović, Mile Bugarin

Institut za rudarstvo i metalurgiju Bor, Zelene bulevar 35, 19210 Bor, Srbija

U radu su prikazani rezultati tretmana tehnogene sirovine, otpadnog taloga jarozita postupkom luženja radi valorizacije ekonomski vrednih metala Cu, Zn i In i minimiziranja negativnog uticaja lužnog ostatka na zivotnu sredinu. Najpre je uzorak homogenizovan, a zatim je uradjena granulometrijska, XRD i hemijska analiza uzorka jarozita. Primenjeni agensi za proces luženja bili su HCl, HNO₃, NaCl i H₂SO₄. Istraživanja su pokazala da je najprihvatljiviji postupak tretmana jarozita luženje jarozita sumpornom kiselinom, pri čemu su dobijena najbolja izluženja Cu, Zn i In i to 93,76%, 91,64 i 97,59% respektivno.

Ključne reči: hidrometalurgija, luženje, jarozit, bakar, cink, indijum.