SUMMARY

Extraction of copper powder from used electrolytes and ore leaching solutions by using cementation method. / Grygorenko Dmytro Kiev: NTUU «KPI», ChTD, gr. ChE-81

Explanatory note: 95 pages, 46 figs, 6 tables , 28 references.

Research object : copper-containg ore, and electrolytes are made on the basis of this ore, waste copper plating electrolytes.

Subject of research: a set of physical, mechanical, chemical and electrochemical processes of ore processing to produce intermediate and final products of high quality.

The goal of the study is developing a design drum cementing, selecting the optimal mode of the process of cementation of copper from spent electrolyte and waste water in the drum cementing.

Methods: gravimetric measurement, polarization curves, optical microscopy.

The paper studied the process of cementation of copper from spent electrolyte solutions and leach solutions oxide copper ores.

Determine the rate of exchange of contact at the initial time by a gravimetric method. The rate of carburization obeys a logarithmic law and the maximum speed characteristic for contact exchange solution 0,1 M $CuSO_4$ + 0,1 M H_2SO_4. A study of the electrochemical characteristics of $CuSO_4$ + H_2SO_4 at different concentrations and their ratios (0.01 to 1M) by polarization curves.

On the basis of the revealed laws proposed continuous method of extracting copper ions from acid sulfate solutions and created laboratory setup for it.

Key words: CEMENTATION, COPPER, VALUABLE COMPONENT, POLARIZATION CURVES, CONTACT EXCHANGE, CONSTANLY EXTRACTING METALS