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A Novel Technique for Silver Extraction from Silver Sulphide Ore

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Abstract: A novel technique for silver extraction from Ag_2S is described. The method utilizes thiosulphate as complexing reagent and the redox reaction between SO_2 added as Na_2SO_3 powder and H_2S gas evolved. The parameters of the reaction such as pH, the reaction temperature, the complex equilibrium of Ag^+ ion with thiosulphate and the solubility of Ag_2S were investigated. Silver ions, obtained by this means are collected in high purity (99%) by applying appropriate electrolysis conditions. The interference from other metallic impurities, namely copper, gold, iron and zinc, is eliminated by choosing an appropriate electrolysis potential.

Key Words: Silver recovery, silver extraction, thiosulphate leaching

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