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# High Temperature in Caustic Pretreatment of Gold Locked in the Residue after Filtration from Gold Cyanidation Leaching

**Authors :** K. L. Kabemba, R. F. Sandenberg

**Abstract :** The usual way to desorb gold is by elution with a hot concentrated alkaline solution of sodium cyanide. The high temperature is necessary because the dielectric constant of water decreases with increasing temperature hence the electrostatic forces between charcoal and the gold cyanide complex decreases. High alkalinity and a high concentration of cyanide are necessary for gold desorption because both OH- and CN- ions are preferentially adsorbed. The rate of elution increases with increasing anion concentration but decreases with increasing cation concentration that means the rate of elution passes through a maximum as the concentration of the eluting salt (NaCN, for example) is increased. The anion that gives the best results, the cyanide ion, decomposes fairly rapidly at elevated temperatures (40% in 6 hours, 90% in 24 hours at 95°C).

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