

## The Effect of Temperature, Contact Time and Agitation Speed During Pre-Treatment on Elution of Gold

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**Abstract :** The effect of temperature, contact time and agitation during pre-treatment was investigated on the elution of gold from granular activated carbon at fixed caustic-cyanide concentration and elution conditions. It was shown that there are interactions between parameters during pre-treatment. At 80°C, recovery is independent of the contact time while the maximum recovery is obtained in the absence of agitation (0rpm). Increase in agitation speed from 0 rev/min to 1200 rev/min showed a decrease in recovery of approximately 20 percent at 80°C. Recovery with increased time from 15 minutes to 45 minutes is only pronounced at 25°C with approximately 4 percent increase at all agitation speeds. The results from elution recovery are aimed to give insight into the mechanisms of pre-treatment under the combinations of the chosen parameters.

**Keywords :** gold, temperature, contact time, agitation speed, recovery

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