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PROCESSING COMPLEX AND REFRACTORY GOLD ORES

By

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ABSTRACT

Many of the world's newer gold ore deposits are more complex and refractory in comparison to the free milling ore bodies the industry has been processing for much of its history. Complex ores have higher reagent consumptions, and require more intricate processing circuits and potentially alternative lixiviants to cyanide for economic processing. Refractory ores have similar challenges but also require an additional stage (ultrafine grinding or sulfide oxidation) to achieve sastisfactory recoveries. Combining these factors with decreasing head grades sees growining challenges in converting these types of resources into reserves.

This presentation defines complex and refractory gold ore mineralogy and reviews historical and novel processing options for gold ores. Topics including ore sorting, alternative lixiviants, refractory ore treatment options will be covered, including a discussion on the state of development for application of novel technologies.

Keywords: mineralogy, ore characterisation, gold, copper, refractory gold ore, complex gold ore, novel processing