

UPDATE ON CYANIDE FREE LEACHING OF GOLD ORES USING GLYCINE LEACHING TECHNOLOGY

By

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ABSTRACT

Mining and Process Solutions (MPS) is developing the Glycine Leaching Technology (GLT) for the recovery of base and precious metals. While the focus has been developing GlyCat™ through testwork and piloting programs they are also progressing the less developed GlyLeach™ process. Testwork has been previously presented and published including validation by Outotec.

GlyLeach™ is an alkaline leaching process that can complex gold, much like cyanidation, whose real advantage is its ESG benefit of being a non dangerous good and harmless to humans and the environment. Downstream recovery process is unchanged and can use existing known processes such as conventional activated carbon or zinc cementation (Merrill-Crowe process) to recover the gold and silver from solution. Cyanide-free based glycine leaching includes heated glycine at high pH, glycine in the presence of oxidants (e.g. permanganate, peroxide or ferricyanide) and glycine-thiourea in an acid medium. High gold extraction >90% can be achieved from leaching different gold recourses using different cyanide-free glycine based leaching systems.

This paper updates the progress of the GlyLeach™ process for the recovery of gold where it's our hope to pilot within 2023 to demonstrate a viable process to treat gold containing ores using cyanide-free processes where conventional cyanidation has been banned.

Key words: Glycine Leaching Technology, GlyLeach™, Gold, Precious metals, Base metals, cyanide-free