

Strategic Ore Planning - Using metallurgical performance data to drive mine planning for operational optimisation

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Au processing, geometallurgy, mineralogy, mine planning, optimisation, forecasting

ABSTRACT

The objective of strategic ore planning is to ensure that mining operations can be planned with a view to ensuring optimal metallurgical performance. This integrated approach requires inputs from all site departments and a coordinated approach to interpretation of the data generated.

At many operations mill feed material comes from a number of different mining zones and can be blended or batch treated through ore processing operations. Different ore types may have unique processing requirements that need individual optimisation both physically and chemically. When blending is necessary the optimal mix of ores must be found to maximise overall processing performance.

This paper looks at how this optimisation can be practically achieved through integrated use of geological, mineralogical and metallurgical properties in conjunction with mine planning for LOM forecasting and strategic flowsheet optimisation.

Examples will be presented from two Au operations, each with uniquely challenging mining and metallurgical issues. In the first case, soft oxide ores are required to be blended with hard sulphide ores through a single processing route. The second case involves a site with 5 hard rock mines sending material to 2 very differently configured processing facilities.

Analysis methods used will be discussed and the strategies developed for each site to enable processing of problematic ores will be presented. The implications to mining operations and LOM forecasting will also be discussed.