THE RISKS IN FUNDAMENTALS OF RECOVERABLE RESOURCE MODELS

Bruna Novillo J.[1], Bassan J.[2], Rossi M.[3]

(1) Senior Geologist, PatagoniaGeosciences Consultants. Tomas Garzón 6669. C.P.: 5147. Córdoba, Argentina.
jbruna_geo@hotmail.com / *http://patagoniageosciences.com/*
(2) Senior Geologist, PatagoniaGeosciences Consultants. Ingeniero Jacobacci, C.P.: 8418, C.C.: 119, Río Negro, Argentina.
bassanjo2005@yahoo.com / *http://patagoniageosciences.com/*
(3) Principal Geostatistician, GeoSystems International, Boca Ratón, Florida, EEUU.
mrossi@geosysint.com

ABSTRACT

Sample and geological models are the basis of recoverable resources models. Both are the pillars of mineral resources and reserves estimation. The resource model is best estimated if the estimation methods make good use of sound geologic models.

The drill hole samples and their quality control/quality assurance are the most important part of a resource model. They are pillar one in a resource model. The second pillar is good geological interpretations and the resulting three-dimensional models. These models are partly subjective and conditioned by the quality of logging and geologists' experience.

The recoverable resource model's risks can be analyzed considering intrinsic variables, essential variables that have a direct impact on the quality of model; they are technical in nature, and are managed and applied in the development of a resource model; and extrinsic variables, which are not part of the essential nature of a recoverable resource model; they are introduced from outside the process by external factors.

The drilling campaigns completed during different stages of exploration result in risks associated with intrinsic variables. In quantitative evaluations, the knowledge, understanding, interpretation, and management of the model's fundamentals is critical, given that they directly affect its accuracy and predictive quality. The mitigation of related risks allows for the creation of opportunities, generating value and reducing the project's uncertainty.

The extrinsic variables are more difficult to estimate and control. They also result in unavoidable risks. Often, extrinsic variables are not technical and limit the worth and value of exploration campaigns. One common example is the introduction of shortcuts in multiple area of the process. These shortcuts are commonly imposed by an overzealous focus on cost-cutting, without considering quality, project value, or resulting opportunity costs. As the saying goes, "penny wise – dollar foolish". These issues are discussed using a Cu-Au-Mo porphyry deposit as example.