

## **Successful Incorporation Of Geological Controls Into Reserve Evaluation And Grade Control – Examples From Recent And Giant Copper Mines**

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The unprecedented mining boom in Chile during the last decade has witnessed the development of many giant copper mines. The presence of leachable ore has been fundamental in ensuring the economic and technical feasibility of these new projects. This presentation examines how geostatistical techniques have been incorporated into the estimation and grade control practices for leachable ore at three new large-size mines in Chile: Radomiro Tomic, Collahuasi and El Abra. Success factors for implementation have been: (1) geostatistics makes maximum use of available geological information as well as sampling information, (2) close collaboration exists between geologists, mining engineers, metallurgists and geostatisticians, and (3) geostatistical methods integrate computer-assisted design tools to model orebodies that possess a complex geometry. The degree of success in integrating geological controls and geostatistical tools is illustrated by the reserve-mine-process plant reconciliation results at each of these three mines.