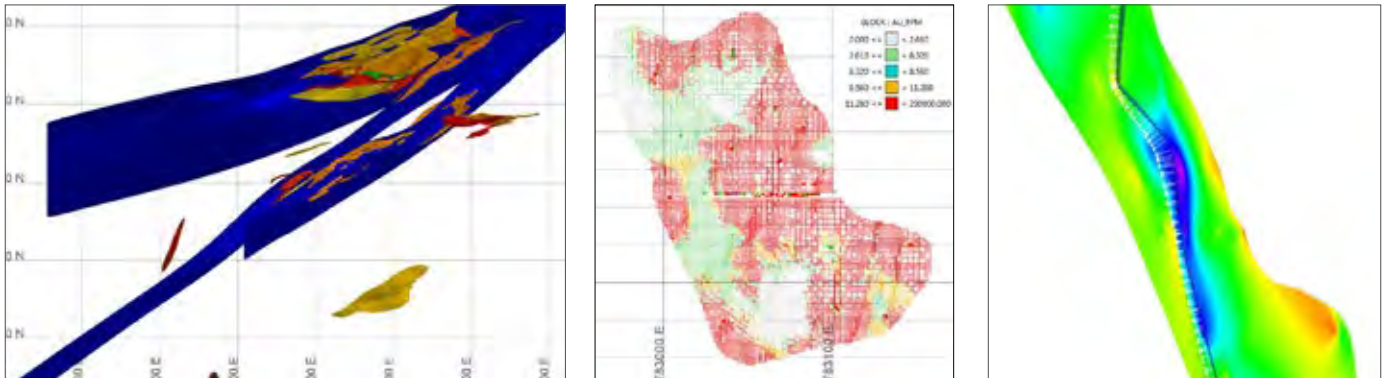


# Streamlined solutions for Buenaventura

Buenaventura uses Maptek™ Vulcan™ to streamline a range of modelling and mine planning applications across their operations in Peru.



The latest Vulcan tools help Buenaventura to model and visualise the underground orebody for assessing mining potential and plans.

Buenaventura is Peru's largest publicly trading precious metals company and a major holder of mining rights in Peru. The company is engaged in the exploration, mining, processing and development of gold, silver and other metals via wholly owned mines, as well as joint exploration projects.

Buenaventura deploys some 30 Vulcan licences across exploration, survey, geology and engineering departments for geological modelling, underground mine design and stope optimisation.

Buenaventura commenced operations at Orcopampa in 1960. The Chipmo mine is located in the Chilcaymarca and Orcopampa districts in Arequipa, 3800 metres above sea level. Exploration of the Nazareno vein began in 1998 and the mine-deepening project commenced in 2004.

The Chipmo silver and gold deposit contains high, intermediate and low sulphidation. Structural control associated with mineralisation is found in 2 fault systems, N210/85 and N60/80.

Mineralisation is emplaced in volcanic rocks of the Sarpane Complex. Hydrothermal alteration is associated with the mineralisation.

Maptek™ Vulcan™ was used to set up and validate the analytical database. Channel samples representing 84% of the population were analysed with an average sample width of 0.59m. Drillhole samples represented 16% of the population, with an average sample length of 0.36m.

Histograms were produced in Vulcan, showing an average vein width of 1.8m for Prometida and 2.14m for Nazareno. Compositing width is 1.5m, with a 3m x 1.5m x 3m block size.

Buenaventura applies Vulcan variography tools to improve understanding of geological data.

The new interface introduced in Vulcan 10 streamlines the workflow when performing variography studies. Users can easily create and test multiple alternatives and compare these models side by side. Downhole and principal vein values can be plotted, visualised and analysed.

## Resource estimate

The resulting resource estimate allows a better understanding of the mining potential and greater confidence for planning how to mine the ore.

The block model information allows users to ascertain the magnitude of error and quantify the quality of the estimate. This helps in calculation of minimum distances in diamond drilling and channel sampling.

The Vulcan block model has allowed Buenaventura to standardise procedures. These are easily auditable and are recognised by regulatory codes for defining resources and reserves, such as JORC and NI 43-101.

*Thanks to Octavia Vargas Machuca Bueno Modelling Geologist, Buenaventura*

