



Transforming geology processes

A strong relationship between Aeris Resources and Maptek™ has been key to a successful software rollout, establishing new geology workflows and procedures.

Aeris Resources is a mid-tier base and precious metals producer. Its copper dominant portfolio comprises four operating assets, a long-life development project and highly prospective exploration activities across Australia.

Mining at Cracow Gold Operation, 500 km northwest of Brisbane, Queensland, is by underground narrow vein methods. While there are several historical open pit mines on site, there is no active open pit mining. Future production may be from a combination of underground and open pit mining.

Maptek™ Technical Services Consultant Geologist Andrew Sanggaran has been helping to establish robust geology processes and procedures to allow better planning for future mining.

'Standardisation of software and processes across the business was seen as a priority to drive efficiency and innovation,' said Brad Cox, General Manager Geology for Aeris.

The transition to Maptek™ Vulcan and Vulcan GeologyCore was triggered by existing software being no longer supported and included all aspects of mine geology and exploration CAD workflows:

- > Drillhole design and safety checks, tracking of downhole surveys to ensure desired targets are intersected
- > Capturing underground development mapping and sampling data
- > Geological interpretation, visualisation of the logging and assay data to create ore domains
- > Grade control and resource block models used for strategic planning and ore extraction

Cracow has recently moved towards mining lower gold grades and remnant mining areas. This highlights the importance of getting the geology models right.

As the geology becomes increasingly complicated, additional drilling and detailed interpretation are required.

Cracow has 16 discrete ore shoots, each with multiple splays, making for 120 individual splays! Managing and maintaining the data is critical to providing timely, accurate models for detailed mine scheduling.

The changeover to Maptek software was not as straight-forward as expected, with challenges finding adequate time for training and mastering the new functionality within the busy mining environment. Aeris also experienced high staff turnover and changes in mining practices.

Aeris Geology Superintendent Paul Napier acknowledged the significant commitment from everyone involved in the project.

'Initial planning and implementation were disrupted by unforeseen technical issues and simultaneous changes to people and processes.'



(L-R) Paul Napier, Andrew Sanggaran and Brad Cox

'When migrating the interpretation points they no longer matched the drillhole intercept depths due to variance in the drillhole de-survey algorithm. Writing the intersections to the database and then exporting with Vulcan de-survey applied solved the manual point migration process,' Napier added.

'Unfamiliarity with the new software led to initial reluctance from site geologists, requiring additional engagement to capture the key issues and resolve each challenge.'

'Maptek provides great service, and we appreciated the task-related training specific to our needs. When the project was stalling, we set up weekly meetings to address the remaining obstacles and drive the final implementation,' Napier said.

Geological block models are now updated in Vulcan, representing various mine provinces, engaging with geological interpretation, statistical parameters and variograms, and model validation. The Vulcan drillhole design tool has improved management of the medium-term drilling schedule and integration with Aeris mine planning software. While all required workflows are now fully established, Aeris continues to work with Maptek to identify and implement ongoing improvements.

Aeris site geologists are becoming confident in the software and are looking to start using the more advanced tools in Vulcan GeologyCore as well as digital mapping.

*Thanks to
Aeris Resources*