

Cracow cracks the payload code

Cracow looked to Maptek MineSuite™ to improve its Average Truck Payload. Cracow is a high-grade, low-tonnage underground gold mine located 500 km northwest of Brisbane in central Queensland.



BACKGROUND

In 2002, joint venture participants approved development of the Cracow underground mine, including refurbishment and upgrading of the existing treatment plant.

Mine development commenced in December 2003 with first gold production in November 2004.

Cracow is a steeply dipping, narrow vein, epithermal gold and silver deposit. The deposit can be accessed via a decline from the surface. The orebodies are 5 metres wide on average and the ore is extracted via sublevel open bench stoping.

Stopes are extracted to a strike length of approximately 25 metres before being backfilled with waste rock.

The mine runs 3 loaders (2 underground and 1 on stockpile) and 4 Toro 50 tonne trucks. Ore is trammed using tele-remote controlled loaders from the stope into an adjacent stockpiled area. Trucks are then loaded from the stockpile.

After a competitive evaluation process, Cracow decided to implement Maptek MineSuite™ for Underground Fleet Monitoring.

The predominant business issue that needed to be addressed was to take the current average payload of the trucks from 43 tonnes to an average payload of 45 tonnes. Achieving this would give Cracow a return on investment within 12 months.

Maptek was able to address the critical issue of raising the current average truck payload from 43 tonnes to 45 tonnes.

The MineSuite system will provide:

- **Real Time Display of Truck Payload**
during loading, both on the truck being loaded and on the loader, allowing the operator to load trucks consistently to an appropriate level.
- **A Proximity Awareness System**
to notify truck and loader operators of close proximity of any mobile equipment. The aim is to achieve zero collisions between mobile vehicles.
- **Automated Production Recording**
The goal is to achieve 95% of loads at the desired tonnage. When a truck arrives at a loader, a 'load' will be recorded by the MineSuite system; during loading the tonnage will be stored and displayed. The truck then leaves the loader and travels to the weighbridge on the surface, where the operator enters the weighbridge value



MineSuite report displays actual weight of the load vs the target



CAT R2900 loader

DELIVERABLES

Implementation began in the third quarter of 2008.

Phase II will see the introduction of delay monitoring and further reporting facilities.

Maptek aims to deliver Cracow a return on investment within 12 months.

on the screen. The truck then travels to the dumping location. The system will record a 'dump' when it receives a signal from the truck dump switch. The following production data will be captured for each truck trip:

- Payload system tonnes
- Weighbridge tonnes
- Time stamp of dump signal
- Time stamp of start load
- Truck ID
- Loader ID

- **Report Generation Capabilities**

Two reports are required, one with a 'truck focus' and one with a 'loader focus'. Importantly, filtering of obviously incorrect payloads allows reporting of representative averages.

- The **Truck focus report** will be similar to the loader focus report, but will show one histogram for each truck and an accumulated histogram for all trucks. The solution will be implemented over a Motorola MOTOMESH Solo™ Single Radio Meshed Network WLAN. This will ensure that all trucks and loaders can communicate with each other at all times.



View into Mine Portal at Cracow

MineSuite is the only system to provide this capability. The network solution was especially important for meeting the zero collision target through the Proximity Awareness System.