Successful sublevel shrinkage at Mt Wright The Smart Marker solution, which has been used by Resolute Mining at the
Mt Wright underground gold project in Queensland, has had a positive impact on operations.
Senior Mining Engineer Stuart Long says the Smart Marker System by Elexon Mining is a window into sublevel shrinkage, which is very similar to sublevel caving,
at its operations at Mt Wright; and in this regard the technology has been very beneficial. Resolute has been using the Smart Marker System since July, 2011.
The Smart Marker System is a blast resistant, long-life radio frequency identification (RFID) device, which has the ability to measure ore flow electronically,
in particular in sub-level and block caving operations.
"It is the world's first system for automated measuring of ore recovery and flow in cave mining, giving mines the information required to improve ore recovery, mining
efficiency and tackle safety issues," Elexon Product Manager Simon Steffen says.
The reader automatically detects, logs and time-stamps the Smart Markers as the devices are extracted with the ore on the production level.
"Your mining production will not be interrupted by the Smart Marker detection," Steffen says.
Ore recovery is then analysed to show mining performance, while identifying areas
for improvement.
"Every mine is different, which is why it is important to update and improve mining
practices to suit the geotechnical conditions of a project, and the team at Resolute has been very innovative and proactive with the mining techniques they have been using," Steffen says.
A challenge faced with the sublevel shrinkage method at Mt Wright is that you can't
see what is going on underground.
"The Smart Marker System has enabled us to make improvements to our drill and blast activities, which has resulted in better ore recovery," Long says.
"The Smart Markers also enabled us to identify where we were not utilising drilling
and explosives appropriately and to make improvements to get the best possible result in terms of ore extraction," he says.
To assist with the evaluation of the overdraw stage, the Smart Marker data, which has been collated since 2011, is being used to validate the cave modelling software.
"The use of the cave modelling software in conjunction with the Smart Marker data can provide a better insight into mine and assist with the extraction of the

remaining ore," Long explains.

"The team at Elexon have also been great to work with and have been able to make

further improvements for us when it was suggested."

The Mt Wright operations is part of the Ravenswood gold mine, which is located approximately 95km south-west of Townsville and 65km east of Charters Towers in

north-east Queensland.

Successful Sublevel shrinkage at Mt Wright

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