

Case Study – A1 Gold Mine, Australia

Background

The A1 Gold Mine, located 120 km east north east of Melbourne, Victoria, historically produced some 450,000 ounces of gold prior to shutting in 1992 due to low gold price and bushfire damage to the plant. Heron Resources Limited acquired a 24 month option to purchase the mine in August 2009 to undertake an evaluation program including driving a decline to the 14 Level, 18,000 metres.

The aim of the project was to provide a quality underground communications system, via leaky feeder cable, comprising a two channel Head End and a limited 24 hour battery backup supply. The solution also included a surface coverage component and a number of digital radios. A VHF MotoTRBO system was chosen to enable personnel/vehicle fleet to communicate in and around the development mine. The system was designed, built and commissioned by Minecom.

Challenges

Minecom, normally specializing in large mines with long term projects, had to take into account that the A1 Mine was a smaller project with a short term view. The system would need to be simple, affordable and completed in a short timeframe.

With no previous communications system and a very hilly terrain the signal coverage was also going to be a challenge.

Minecom Solutions

Minecom's solution included a 24 Volt VHF Operational System with surface coverage equipment. The Communications Rack housed in a 19 inch rack cabinet with 2 Radio Channels and Digital Radio Repeaters, Emergency Channel Override, and Backup Battery capable of operating for a minimum of 24 hours. The system uses 2-way Digital mobile and portable radio.

With a side mounted dipole antenna the digital radio signal exceeded expectations. The signal was clear to surface areas not expected to receive coverage and was clearly obtained at the car park on the other side of the mountain. The A1 Mine was satisfied with the excellent coverage, system clarity and performance.

Minecom delivered a system that is simple to use, affordable and completed on time. With adequate training, the system may be easily changed and/or extended as tunnels and declines grow or customer needs change.