ST BARBARA BUILDS ON GWALIA CONNECTIONS

Murray Engineering Electrical Manager Craig Shales and Electrical Projects Manager Peter Dunsmore

St Barbara has recently completed significant upgrades at its Gwalia mine, installing what has been described as the longest vertical high-voltage electrical cable in the Southern Hemisphere.

Opening in 1896, Gwalia continued to operate for 67 years before shutting down in 1963, having produced 2.5 Moz of gold.

The Lalor Brothers reopened the mine two decades later in 1983 as an open pit operation before pursuing higher grades at depth through the new Hoover Decline. In 2002, the mine was placed in care and maintenance for a second time.

St Barbara saw the inherent value left in the prolific producer, and by 2008 reopened the mine and poured first gold – for the third time. But as one would expect, running one of Australia's oldest gold mines cannot continue without the need to both reassess reserves and improve underground operations.

New developments were needed to ensure Gwalia could continue as a reliable cornerstone asset.

Commissioned for the specialised work required to supply greater electricity to the bottom of the hoover decline was Murray Engineering.

The Pinjarra-based business services surface mining operations, underground mining, oil and gas, refineries, ports, defence and agricultural contracts.

The project had been in the pipeline for a couple of years, when Murray Engineering Electrical Manager Craig Shales started weighing up the pros and cons of the project.

Mr Shales said there were two options available: run the electrical cable down the decline or drill a vertical borehole from surface to meet the location.

“We’ve done a few vertical cable installs throughout the Goldfields and a couple over east, but (Gwalia) was the biggest, the heaviest, the longest and the most difficult,” he said.

“We had an 85 tonne winch and everything else was purpose built, including skids and sheave wheels and lifting equipment.”

Despite both methods costing roughly the same, shutting Gwalia down for the decline route was not an option.

St Barbara also valued a separate feeder in case of mechanical damage to a decline cable.

Working in between mining cycles would have taken at least six months to install the cable; and the extra electricity was needed urgently.

Murray Engineering completed the job in just eight days using the borehole method, saving St Barbara at least $500,000 with specialist methods enabling the use of a smaller diameter bore hole than would typically be the case.

The total electrical cable weighed a whopping 19,557 kg, running through a borehole of 160mm from the surface all the way down to 1372m.

Supplying a huge 4mW of power, the new cable is now up and running.

News Feature by Jasmine Bamford
Kalgoorlie Miner, May 2015