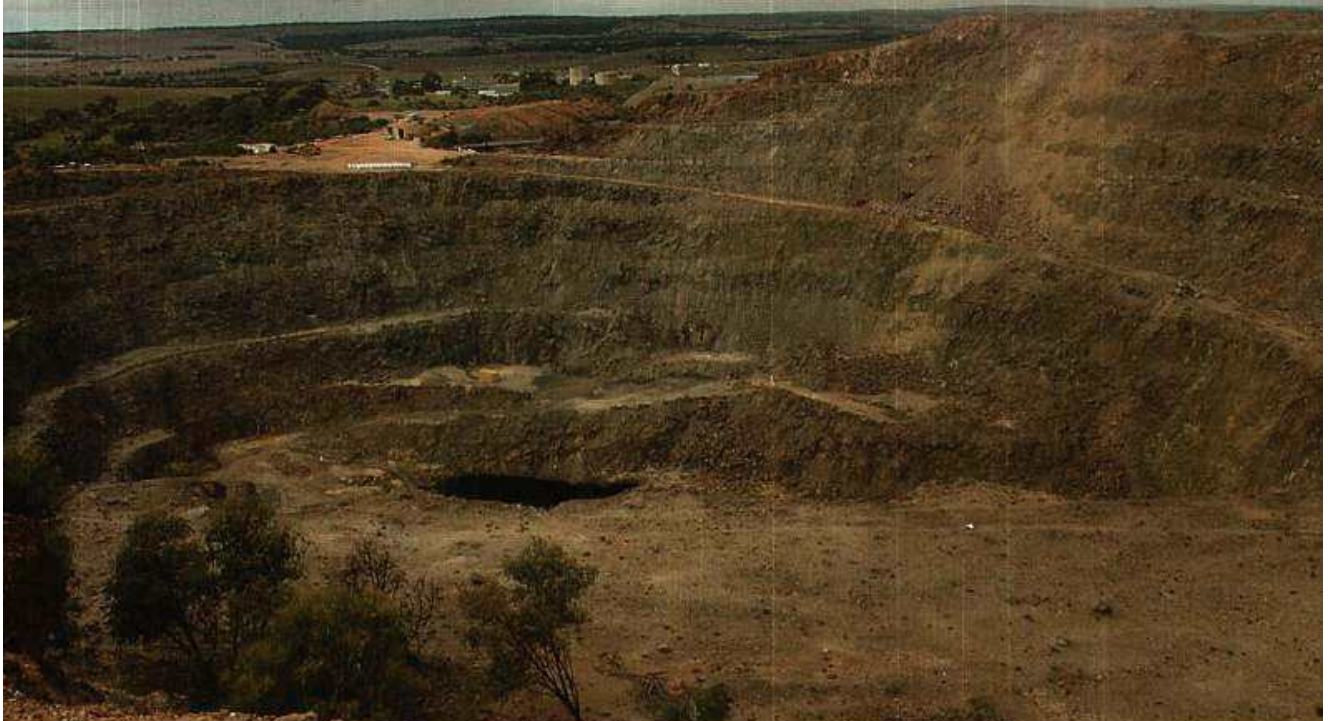




SAREIC REVIEW

Hillgrove takes can-do attitude to Kanmantoo



The 120m deep open pit at Hillgrove Resources's Kanmantoo copper project. Hillgrove will push it out in all directions as well as deepening it to 270m

It may not have the scale of Olympic Dam or the sense of new frontier associated with Prominent Hill but by the end of 2011 Hillgrove Resources Ltd's Kanmantoo project will have one startling similarity to the two: it will be a South Australian producing copper mine.

Copper has always been at the heart of the State's mining industry. When the red metal was first discovered around the towns of first Kapunda and then Burra in the 1840s it proved a godsend for a fledgling colony that was struggling to survive.

However, like the rest of the industry in SA, copper's performance has been intermittent since, with the industry's success largely waxing and waning on the relative strength of the spot price.

Kanmantoo itself has history dating back to those early days but the last time the project saw commercial production was in the 1970s following the discovery of the main Kanmantoo deposit by Kanmantoo Mines Ltd, a JV between Broken Hill North Ltd, Broken Hill South Ltd and EZ Industries Ltd.

From 1970-76 some 4mt @ 0.9% copper was mined from an open pit, producing 39,000t of copper metal. The JV also estab-

lished underground access with a decline developed from the side of the pit, however falling copper prices, industrial disputes and escalating costs meant no underground production was ever recorded.

Hillgrove entered the project in 2003 and quickly went to work increasing the 8mt resource. Incremental increases followed and by November 2008 Kanmantoo had been transformed into a 32.2mt @ 0.9% copper and 0.2 g/t gold project.

By that stage Hillgrove had already given the green light for production following a positive DFS in 2007. Mining was set to start in early 2010 however as the GFC emerged and project finance dried up, Hillgrove, like so many companies who were eyeing development in that period, was forced to reassess its plans.

It emerged battered but far from broken towards the end of 2009 and three years on from the GFC the project is now heading towards production. Speaking at SAREIC, general manager - Kanmantoo Cam Schubert said the project would finally be South Australia's next copper mine.

"We are looking to get the project devel-

oped on time and on budget," Schubert said. "Mining started late last year and construction of the plant is now 40% complete."

The capital cost for Kanmantoo was placed at \$130 million in the original DFS but in August 2009 Hillgrove struck a deal with the Lennard Shelf JV (Xstrata plc and Teck Resources Ltd) to acquire the Pillara processing plant, reducing capex requirements by \$20 million.

"When the company came out of the GFC we were looking for ways of reducing the capex," Schubert told **Paydirt** on a recent site visit to Kanmantoo. "The DFS had assumed a newly built plant but when the option over Pillara came up our interest was sparked. It was just the perfect fit, the right size and the right flowsheet, which was important because the Lennard Shelf JV didn't want to sell off bits and pieces. The deal had to be for the entire plant, including its dismantling."

Pillara had been the processing centre for the Lennard Shelf zinc-lead operation 300km south of Broome in Western Australia. At 2.7 mtpa the plant's capacity was slightly in excess of Hillgrove's planned 2 mtpa throughput rate at Kanmantoo but Schubert said the plant's design meant it was readily adaptable.



"At Lennard Shelf it ran a double zinc and lead circuit. The zinc circuit accounted for 80% of its capacity, with the lead taking up the remainder. While we will construct both circuits we will initially only commission the zinc circuit and can then look at extending capacity through lead circuit later."

Hillgrove began the dismantling process in June 2010 and by October 293 trucks had delivered the entire plant and equipment to South Australia. Schubert said despite some minor issues, the company had been delighted with its acquisition.

"There have been some areas that have needed more attention but overall it is in very good condition."

When **Paydirt** visited site in early May, construction was in full swing ahead of a September completion date. The framework for the majority of the plant was complete with major work concentrating on flotation tanks and the tailings facility.

Being just 55km from Adelaide and in the middle of the picturesque Adelaide Hills region, Hillgrove has been required to act diligently when addressing community and environmental concerns. Schubert explained that despite being located in a populous area, the company had managed to endear itself with the local community.

"We had some big wins early on that have set us in good stead. There were obvious concerns about trucks going through the town (of Kanmantoo) so we have built a private access road to bypass the community. Water is also a consideration in these parts and we struck an agreement with the Mt Barker council to take its treated waste water."

The project is also in the Murray-Darling catchment and as such Hillgrove has adhered to sensitivities over its tailings management, installing double lining on the dam.

Mining at the new incarnation of Kanmantoo will differ only slightly from the original model.

"How things were done in the 1970s was very similar to what we are proposing for both the mining and processing today. Our main pit will be centred on the historical pit which is currently 120m deep. The plan is to push this out and go as deep as 270m initially. However, there will also be a series of satellite pits along strike from the main open pit."

In addition the company is treating oxide stockpiles left over from previous operations. The oxide ore is left on a heap leach pad from which Hillgrove is producing 15t of copper cement a week. There is also a further 750,000t of oxide material.

"We haven't made a decision on what to do with that material yet. We may build a separate circuit or another heap leach, that is yet to be decided."

That along-strike potential is one of Hillgrove's greatest assets at Kanmantoo. The project has been drilled to 700m and while a move to underground operations is still on the cards, Schubert said it was along strike that Hillgrove was now looking to add to the resource base.

"There has not been a lot done on the exploration front since 2008 as focus was on taking



Hillgrove acquired the Pillara base metals processing facility from the Lennard Shelf JV (Xstrata/Teck Resources) in August 2009



Construction of the concentrator area at Kanmantoo. The project is expected to produce 21,000 tpa copper, 9,000 ozpa gold and 177,000 ozpa silver from the beginning of 2012



Mining first started at Kanmantoo in the 1840s. There are still some relics of past incarnations, including the remains of a 19th-century smelter



General manager – Kanmantoo Cam Schubert has overseen the construction process

resources through to feasibility but now construction is under way the company is about to embark on an exploration programme. We undertook a strategic exploration review in January and as an outcome have employed a new exploration manager to lead the next phase of work. The strategy is to expand the resource in order to increase the throughput of the plant. We have a budget of \$1.5 million for the remainder of 2011. It will be dedicated to near-mine exploration with eight key targets already on the mining licence.”

He said exploration would be two-stage.



Mining contractor Exact Mining is currently hauling clay up to the tailings facility

“The first stage will see 5,000m of drilling to upgrade inferred resources and we will then target some of those prospects outside of the current resource with a further 2,500m. It is relatively easy exploration. The deposit is still open at depth and along strike and it is a matter of following the mineralisation along the ridge line.”

Any additional tonnages delineated will be exploited through an expanded production plant.

“We will initially process at 2.4 mtpa but will ramp up to 2.7 mtpa through operational ef-

ficiencies. There are opportunities to increase that to 3.5 mtpa which we will do if we define the resources.”

It is a simple plan and in keeping with Hillgrove’s overall strategy at Kanmantoo. While elsewhere in South Australia the resources industry is finding an enthusiasm missing for a generation with talk of new “world-class” minerals provinces abounding, Hillgrove appears intent on sweating an asset that is proven, easily exploited and readily accessible.

– Dominic Piper



General construction at Kanmantoo is expected to be completed by September with production starting in November