

Rössing Uranium's light in the gloom

By Hugh Leggatt

Like Bingham Canyon and Argyle Diamonds, Rössing Uranium has carved itself a place among the most iconic mines in the world. Developed over more than 30 years, the vast open pit at 345m deep and 3.5km long could swallow the Eiffel Tower.

This giant excavation in the baking Namib desert on Africa's south west coast is made all the more remarkable by having been dug in some of the hardest rocks on Earth. Since 1976, more than one billion tonnes of ore has been recovered, to produce more than 800 million pounds of uranium oxide for the nuclear power stations of the world.

But it has not been all glory. Scale and tenacity apart, Rössing was for decades on the back foot due to weak prices for its product. Shaving costs and making do became part of the operating culture. At the turn of the millennium, with uranium fetching under US\$10 per pound, Rio Tinto said the mine would close in 2007. Nearly ten years on, having celebrated its 30th anniversary, Rössing has come into its own as a shining light in the gloom of the commodities recession.

Nuclear power is coming back into fashion as a low carbon emitting source of electricity. Demand for the fuel remains strong, driven by rapid growth in nuclear power generation across Asia, and especially in China and India.

In an update to local stakeholders and employees at the end of 2008, Rössing's managing director Mike Leech said promising market conditions and an upsurge in the price of uranium compared to most other commodities gives cause for optimism.

"2008 was one of the most successful years for the company. With total production of nine million pounds of uranium oxide we far exceeded our production target for the first time in 20 years and have a good order book to help us to continue to deliver strong revenue."

While Rössing's outlook is positive, it will continue to engage in initiatives to preserve cash flow, particularly in 2009-2010. "There will be reviews in the way we conduct our business, and we will position ourselves to capture any upside in market and economic conditions."

Rössing's renaissance started in 2005 with a sharp rise in uranium prices. A

feasibility study into expanding production was undertaken, followed by a commitment to invest US\$112m in incremental and sustaining capital to extend the mine life to 2020. Exploration for more uranium deposits in the area of the mine in 2006 and 2007 has given confidence the mine could operate until 2020 and, depending on prices, perhaps beyond.

Rössing will be a big contributor to plans by Rio Tinto to double its total uranium production in the next five years. The open pit is being extended to mine additional ore.

At the same time, processing capacity is to be lifted to 17 million tonnes per annum from 16 Mt/a by 2013. In a new development, Rössing commissioned a heap leach test project in 2008, to try out a low cost method of extracting uranium oxide from broken ore.

Heap leaching extracts the valuable mineral from the ore without the expense and energy required to crush the rock to extract the valuable fraction. The gravel sized ore is bathed in dilute sulphuric acid which dissolves the minerals which are then recovered from solution in the processing plant. If successful, heap leaching could add three million pounds of uranium oxide to existing conventional tank leach capacity.

The expansion project team is also testing the feasibility of an ore sorting pilot plant that aims to make separation of waste rock from uranium bearing ore more efficient by using radiation scanning techniques.

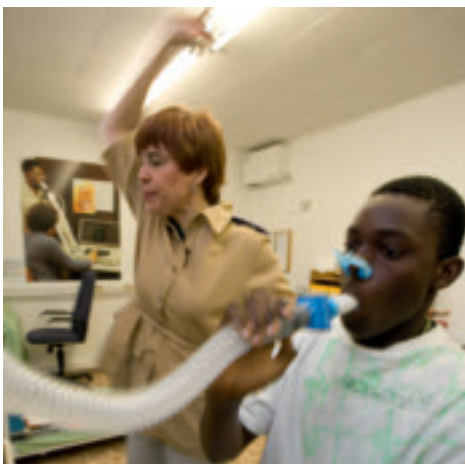
Looking to capture future sources of ore, Rio Tinto has acquired an ownership interest in Extract Resources, a company that owns the nearby Rössing South deposit that is estimated to comprise 102 million tonnes of mineralised rock containing 103 million pounds of uranium. Rössing will work with Rio Tinto and Extract Resources to determine the benefits that might arise from a joint venture for development of Rössing South.

So while most of the global commodity business is pulling back and awaiting the first signs of a credible recovery, Rössing is expanding. It is a classic illustration of the benefits to Rio Tinto of having a portfolio containing "counter cyclical" businesses.





Above, preparing one of the new Komatsu haul trucks for operations. Strengthening market conditions provided the impetus for the purchase of seven new trucks for the expansion of mining. Left, Antoinette Hoeses, a new employee, learning the basics in a simulator used for training drivers of the mammoth machines.



Above, environmental specialist Aina Kadhila Amoomo samples air quality at the crushing plant to ensure that levels of dust pollution are within acceptable limits.

Above left, technicians pumping sulphuric acid out of a rail car. The acid is used in the leaching process to extract uranium oxide from the ore.

Left, nurse Anne-Marie Jordaan takes new employee Lukas Kerermens through a lung function test as part of a routine medical screening before he begins work at the mine. Employees undergo annual health check-ups.



Above, a pupil at the comprehensive Maths and Science Learning Centre in Arandis, the town serving the mine. The centre was set up by the Rössing Foundation to develop competency among pupils who may become future employees. Right, smiling quartet going to the show. Vegetables are cultivated by community members under the guidance of the Rössing Foundation, and this hydroponically grown crop was entered for the National Youth Expo in Windhoek, capital of Namibia.





Above, harvesting oyster mushrooms that are grown indoors under specially controlled conditions. The produce is sold to local shops, forming part of a local initiative to promote skills development within the community. Right, on the ball. The Rössing soccer team, in green, in action against Anglo-American's Scorpion Zinc in the annual Chamber of Mines inter-mine coastal sports competition. The day, which also includes volleyball, darts and tug of war, is celebrated by mine employees and their families as a great social event.

