

Kumba: low grade waste boost

Kumba Iron Ore is on the verge of advancing a year-long final study of technology that will unlock valuable ore from millions of tonnes of low-grade waste it generates every year, giving it options that could extend the life of its flagship Sishen mine.



Kumba's Sishen mine. Photo: Anglo American Kumba

The technology, which was refined by Exxaro Resources, the 20% partner in the Sishen Iron Ore Company, entails using a specially created form of minuscule globules of ferro-silicon that enables Kumba to upgrade ore with a 40% to 48% iron content to the sought-after 64%-65% iron content that Kumba sells.

Low-grade ore has been stockpiled - estimated at hundreds of millions of tonnes - waiting for a technical solution that can unlock the iron economically.

This already-mined material is not the focus of the technology, rather the low-grade material coming from daily mining operations, said Glen McGavigan, executive head of technical projects. There is a 200-million tonne resource of this lowgrade ore. "We are integrating this project in the Sishen life of mine and we are expecting it to be positive," McGavigan said.

"The life of mine is the most pertinent issue for us."

The extension of the 13-year life of Sishen is a priority within Kumba, which has an intensive exploration programme at its

two mines in the Northern Cape and is planning to use the technology called ultra-high dense media separation (UHDMS) to prolong its stay at its operations, McGavigan said in an interview on Tuesday.

Kumba needs approvals from its own board and 70% shareholder Anglo American to advance the prefeasibility study into a full-blown definitive feasibility study, a period of work that should take a year.

The project will deliver ore from early 2022.

Kumba has two modular UHDMS plants in operation at Sishen and its Kolomela mines and is building a third at Sishen.

The three plants will generate 1.5-million tonnes of saleable ore a year. The new UHDMS project will take three years at an undisclosed level of capital expenditure and entails converting the existing Sishen dense-media separation plant. This will increase capacity to 32-million tonnes a year from 26-million tonnes, with the extra 6-million tonnes coming from the low-grade material. It will generate an extra 2-million tonnes of saleable ore a year.

Kumba is exploring the Northern Cape, using modern exploration techniques to spot hard-to-identify targets below the layer of iron-infused surface material.

The four big mines in the Northern Cape were all easily found because the ore stuck out of the ground, McGavigan said.

"We believe there is a lot of potential based on what we know and the regional work we've done," he said. "In the Northern Cape there wasn't any reason to really look for more deposits. There were four longlife mines. There was constraint on the rail. The long lives aren't there anymore and we have to do things differently," he said.

Kumba has a number of exploration tenements and he was coy about whether anything of substance had been found in the R700m spent on exploration over the past five years. Kumba has not applied for any new prospecting rights.

Source: *Business Day*

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