

Exploration Projects

Exploration Potential

Sishen Iron Ore together with Kumba Iron Ore has seven iron ore exploration projects in various development stages.

Growth

Kumba Iron Ore has developed an exciting project pipeline of new opportunities and intends to grow its total production capacity to more than 70 Mtpa by 2015, which will be more than double its current capacity. The group will exploit the full potential of the substantial Northern Cape iron ore resources under its control, and it has access to other opportunities in West Africa.

Kumba Iron Ore is dependent on the expansion of the Sishen-Saldanha export channel as well as off-take agreements from domestic steel producers to realise some of the South African opportunities. It is, therefore, engaged in an active programme of securing cooperation and participation from the parties involved.

Sishen Expansion Project

In February 2005, the board of Kumba Resources approved an amount of R3 605 million for the development of the SEP1 with a rated production capacity of 10 Mtpa. The Kumba Resources board approved a further R1 495 million to expand the production capacity of the SEP1 by an additional 3 Mtpa to a total of 13 Mtpa.

The SEP1 project utilises jig technology to extract additional saleable product from 21 Mtpa of feedstock – about 8 Mt that was previously regarded as waste and 13 Mt of which will be new ROM material. The final product will have an average iron content of 64 percent compared with the 66 percent iron content of the current Sishen product, and will be marketed to a range of existing and new clients.

The construction phase of the project is nearing completion and production is scheduled to begin in the second half of 2007 with full ramp-up to nameplate capacity by early 2009.

Export Logistics Expansion Project

Kumba Iron Ore and Transnet concluded an agreement to expand the Sishen-Saldanha export channel in February 2005, increasing the group's contractual iron ore rail allocation on the channel to 35 Mtpa. This capacity will be reached in 2009 and overall development is aligned with the expansion of Kumba Iron Ore's production capacity at Sishen Mine.

Transnet has embarked on a further study to increase the channel's capacity from 47 Mtpa to 67 Mtpa. Kumba Iron Ore intends finalising its studies on the Sishen South Project and further expansions at Sishen Mine to coincide with the completion of the Transnet study by mid-2007. This will place Kumba



Iron Ore is in a position to commit to further expansion of its contractual rail allocation on the Sishen-Saldanha export channel.

Sishen South Project

This project involves the development of a greenfield open-cast operation on a group of iron ore bodies situated some 80 km south of Sishen Mine, and immediately to the west of the current mining operations of Assmang's Beeshoek Iron Ore mine.

Due to export logistics constraints, a phased approach for developing the mine was envisaged, but the first phase development of 3 Mtpa did not meet Kumba Iron Ore's requirements in respect of capital investment and railway logistics. A feasibility study for the development of a 9 Mtpa operation is currently in progress and will be completed by mid-2007. A range of products similar to the Sishen Expansion Project will be produced. An investment decision is expected during 2007. The decision depends on the outcome of Transnet's feasibility study for the essential logistics expansions. A study is also under way on further expansion of the Sishen South Mine that will include the installation of a beneficiation plant.

Under certain circumstances, Mittal may have the right to participate in and appropriately fund future SIOC iron ore expansion projects or new projects in South Africa. Kumba Iron Ore has previously indicated that there was a difference in interpretation with regards to the terms of this agreement with Mittal. Regrettably these differences could not be resolved amicably and the parties have now decided to resort to arbitration.

Phoenix Project

The objective of the Phoenix Project is to extend Thabazimbi Mine's current LOM from four to thirty years. Thabazimbi Mine has a captive supply agreement with Mittal and currently produces some 2,4 Mtpa of lump and fine ore for Mittal.

The extended LOM will be achieved by exploiting the medium grade in situ banded ironstone formation, which, when combined with highgrade hematite, provides an economically viable iron ore feed. Based on test work and technology similar to the Sishen Expansion Project, a flow sheet has been developed to produce the required tonnages and qualities of lump and fine ore products. The project is currently in the feasibility phase, which will be completed in the second quarter of 2007. Kumba Iron Ore has embarked on a rigorous value engineering exercise as part of the feasibility study to review and reduce capital and operating cost estimates for the project.

Mittal has given notice that it does not wish to participate in the project, but has requested that Kumba Iron Ore complete the feasibility study. In light of this decision alternative uses for the iron ore are currently under investigation by the company.

Falémé Project

Miferso, a Senegalese state-controlled company, owns the exploration rights to the Falémé iron ore resources located in the southeastern corner of Senegal. Kumba Iron Ore (through Kumba International



B.V.) and Miferso concluded an agreement in July 2004 for, amongst other things, the exploration of the resources with a view to creating and operating an export-orientated iron ore mine at Falémé.

Kumba Iron Ore exercised its option to acquire a 80 percent interest in the project in November 2005. Following receipt of notice of such exercise, the government of Senegal and Miferso informed Kumba Iron Ore that they disputed the validity of such right and that the Government of Senegal had concluded an agreement with Mittal Steel for the development of the Falémé project.

Sishen Expansion Project II

Further utilisation of the medium and low grade resources at Sishen is currently being examined in a business case study due for completion in June 2007. The study focuses specifically on the development of an optimised Whittle pit shell for Sishen Mine incorporating the use of lower grade resources, and the definition of an optimised product strategy for marketing these products as well as the existing range of products produced at the mine.

The study considers additional production capacity of between 10 and 20 Mtpa and a final decision on production capacity will depend on the eventual expansion potential of the Sishen-Saldanha export channel, domestic growth in demand and the results of the export marketing study.

The project will use technology similar to that developed for the SEP1 and production from this facility could start by 2011.

Zandrivierspoort Project

The former Kumba Resources acquired a 50 percent interest in the PIC in the 1980s and has conducted extensive exploration and technical studies to develop the project. This company owns the surface rights for the Zandrivierspoort iron ore project, 30 km north of Polokwane. Phelps Dodge sold its 50 percent interest in PIC to Mittal Steel in December 2004. Since then, the parties have developed a framework for a pre-feasibility study, commenced with exploration activities in 2005 and are progressing to the evaluation of alternative processing and final product options in 2007. The parties intend to commit to a detailed bankable feasibility study in 2008, if interim studies prove a robust and viable business case.