

Review of mineral resources and ore reserves

Review

Tables 1 and 2 (pages 35 and 36) summarise the mineral resources and ore reserves attributed to Kumba Iron Ore's current mining operations and growth projects. The mineral resources are reported inclusive of the ore reserves and are reflected as 100 percent owned irrespective of the organisation's attributable ownership, the details of which are included in the respective tables.

Competent persons have estimated the mineral resources and ore reserves reported. Kumba Iron Ore's competent persons take responsibility for estimating mineral resources and/or ore reserves on an operational basis. They all have sufficient relevant experience in the style of mineralisation, type of deposit and mining method as well as in the activity for which they have taken responsibility as a 'competent person', as defined by the SAMREC Code of 2000.

The mineral resource and ore reserve estimates have been signed off by the relevant competent persons, who consent to the inclusion of the information in this report in the form and context in which it appears. A list of the competent persons responsible for Kumba Iron Ore's mineral resources and ore reserves is available from the company secretary on written request.

Kumba Iron Ore's operations are regularly audited on an ongoing internal basis and on a three to four year rotational external basis to ensure that internationally acceptable estimating processes are followed. All Kumba Iron Ore operations and projects were externally audited in late 2005 as part of the Kumba Resources Limited unbundling process.

The estimates reported here have been reviewed and are endorsed by V Lickfold, the person within Kumba Iron Ore designated to take corporate responsibility for mineral resources and ore reserves. Kumba Iron Ore's CEO, EJ Myburgh, also endorses the estimates presented in the report.



V Lickfold (Pr Sci Nat 400099/94)
Manager, Geosciences



EJ Myburgh
CEO, Kumba Iron Ore

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Commentary

In South Africa, the *Minerals and Petroleum Resources Development Act, No 28 of 2002 (MPRDA)* was implemented on 1 May 2004, and effectively transferred custodianship of the previously privately held mineral rights to the State. Mining companies were given up to five years to apply for prospecting permit conversions and five years to apply for mining licence conversions for existing operations.

A prospecting right is a new order right that is valid for up to five years initially, with the possibility of a further three year extension obtainable either by the conversion of existing old order prospecting permits or through new applications. A mining right is a new order right valid for up to thirty years, obtained either by the conversion of an old order mining licence, or as a new order right pursuant to the exercising of the exclusive right of the holder of a new order prospecting right, or as a new mining right application.

Kumba Iron Ore achieved the required 26 percent BEE participation in accordance with the MPRDA when the unbundling was finalised in November 2006. In preparing Kumba Iron Ore's mineral resource and ore reserve estimates, the following reporting principles have been adopted in respect of prospecting and mining rights:

- Where applications for new order mining rights have been submitted – either as conversions (Sishen Mine and Thabazimbi Mine) or as a new application (Sishen South Mine) – and are still being processed by the relevant regulatory authorities, the relevant mineral resources and ore reserves have been reported; and
- Where new-order prospecting rights have been granted (Zandrivierspoort), the relevant mineral resources have been reported.

Sishen Iron Ore Company submitted a new mining application for the Sishen South project in 2005. It must be noted that a new order prospecting right application, submitted before the new order mining right application, was refused by the Department of Minerals and Energy (DME) for two farms within the Sishen South group of farms. The DME, however, accepted the new mining right application for the whole area, including the two farms for which the new order prospecting right applications were refused. Attorneys acting for Sishen Iron Ore Company have informed the DME in writing that Kumba Iron Ore withheld an appeal against the refusal of the new order prospecting rights for the two farms as a gesture of goodwill pending the granting of the new order mining right for the Sishen South Project as a whole.

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Despite in-fill drilling and subsequent geological model updates resulting in a net decrease in the mineral resources reported for Sishen Mine, an increase in the ore reserves was realised by the effective use of a new optimising programme, which saw the blending of an additional 139 Mt of previously (2005) unblendable material. This, in effect, increases the utilisation of the available resources from 83 percent in 2005 to 92 percent in 2006. The latter resulted in an overall increase in the proved ore reserves of 87 Mt, despite the decrease associated with measured mineral resources and 31 Mt of mining depletion. The decrease in the probable ore reserves can be directly linked to the decrease in indicated mineral resources. Of the 50 Mt decrease in saleable product, 28,5 Mt is ascribed to the reduction of ROM ore reserves as a result of geological model updates. The remaining 21,5 Mt is due to a slight drop in plant yield, which in turn is the result of the exclusion of selective mining tonnes previously included in the ore reserve estimates. Note that 17 Mt of inferred mineral resources fall within the final pit layout; these are not included in the ore reserve figure reported. The additional underground mineral resources at Sishen Mine increased by 140 Mt (30%) because the conglomeratic ore was not reported in 2005.

Thabazimbi Mine's mineral resources were mostly depleted as a result of mining 3 Mt during 2006. This was partially offset by gains as a result of updated geological models. Most of the decrease in the ore reserves is the result of annual mining production (3 Mt), although blending difficulties (0,4 Mt), updated geological models (0,1 Mt) and reclassification of mineral resources into the inferred category (0,9 Mt) accounted for the remaining decrease.

The increase in the mineral resources of Sishen South from 2005 to 2006 is the result of model updates brought about by the addition of new exploration information as well as a revision of the geostatistical parameters used for estimating. Note, however, that part of the increase is due to the prescribed depth limits having been relaxed for mineral resource estimates for the Leeuwfontein deposit based on new layouts. New pit layout designs explain the marginal decrease in the ore reserves reported for the Sishen South Project. The increase in proved ore reserves is directly linked to the updated geological models and increases in measured mineral resources, whereas the increase in indicated mineral resources accompanied by decreased probable ore reserves is the result of the depth limit change mentioned above.

The Sishen South Project feasibility study for a 9 Mtpa open-pit operation will benefit from the updated geological models and improved mineral resource and ore reserve estimates and should be completed in the first quarter of 2007.

Following the granting of the new order prospecting rights for the Zandriverspoort Project, work will commence early in 2007 on baseline environmental studies and additional tests to refine the modifying factors related to beneficiation.

Once security of tenure has been satisfactorily resolved, the third exploration season will commence in Senegal with the drilling of a number of boreholes in the central Falémé region. The current exploration focus at Falémé is to improve the resource classification of, and better delineate, the magnetite-rich iron ore deposits.

Table 1: Mineral resources

Commodity	Operation	% attributable to Kumba Iron Ore	Resource category	2006		2005		% change
				Tonnes (Mt)	Grade (% Fe)	Tonnes (Mt)	Grade (% Fe)	
Iron ore	Sishen Mine ¹ – DMS + jig plant	58,2	Measured	1 397,6	57,0	1 477,3	57,4	(5)
			Indicated	421,7	56,2	479,7	56,5	(12)
			Inferred	23,8	57,1	28,6	55,9	(17)
			Subtotal	1 843,1	56,8	1 985,6	57,2	(7)
Iron ore	Sishen Mine ¹ – additional resources (underground)	58,2	Measured	114,8	64,6	93,9	64,9	22
			Indicated	266,4	64,3	222,6	64,7	20
			Inferred	227,7	64,1	152,8	64,5	49
			Subtotal	608,9	64,3	469,3	64,7	30
			Total	2 452,0		2 454,9		
Iron ore	Thabazimbi Mine ^{2*} – within current pit layouts	74,0	Measured	8,5	62,1	10,9	62,1	(23)
			Indicated	2,9	61,4	3,9	61,6	(27)
			Inferred	4,2	61,8	3,0	61,7	38
			Subtotal	15,6	61,9	17,8	61,9	13
Iron ore	Thabazimbi Mine ^{2*} – additional resources	74,0	Measured	12,4	62,2	12,4	62,1	–
			Indicated	14,1	61,8	14,3	61,3	(1)
			Inferred	16,9	60,6	16,8	60,0	1
			Subtotal	43,4	61,4	43,5	61,0	–
			Total	59,0		61,3		
Iron ore	Sishen South ³ – advanced project	74,0	Measured	156,3	65,4	140	65,4	11
			Indicated	149,6	64,8	108	64,4	39
			Inferred	66,7	62,9	42	62,0	58
			Total	372,6	64,7	290	64,5	28
Iron ore	Zandrivierspoort – project	37,0	Measured	–	–	–	–	–
			Indicated	447,0	34,9	447	34,9	–
			Inferred	–	–	–	–	–
			Total	447,0	34,9	447	34,9	–

The tonnages are quoted in metric tonnes and million tonnes is abbreviated as Mt.

Rounding of figures may cause computational discrepancies.

Figures reported at 100 percent irrespective of percentage attributable to Kumba Iron Ore.

Note that ALL operations and projects were audited in 2005 as part of Project Pangolin.

¹ The decrease in Sishen Mine's DMS and jig plant mineral resources is the result of model updates, mining depletion, and stockpile growth. The additional underground mineral resources increased by 140 Mt (30 percent) because the conglomeratic ore was not reported in 2005.

² Mining depletion accounts for 79 percent (3,3 Mt) of the decrease in in-pit mineral resources at Thabazimbi Mine. The additional mineral resources decreased by 0,2 Mt due to solids model reinterpretation.

³ The 28 percent increase in mineral resources for Sishen South is mainly the result of solids and block model updates, although a small proportion is because layout depth limits have not been applied as they have been previously. See text for legal comment.

* Externally audited in 2005.

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Table 2: Ore reserves

Commodity	Operation	% attributable to Kumba Iron Ore	Reserve category	2006					2005			% change from 2005 to 2006
				ROM (Mt)	Grade (% Fe)	Saleable product (Mt)	ROM (Mt)	Grade (% Fe)	Saleable product (Mt)			
Iron ore	Sishen Mine ^{4*} – DMS + jig plant	58,2	Proved	813,3	58,1	567 @ 65,8% Fe	727,0	59,3	600 @ 65,7% Fe	12		
			Probable	240,5	57,2	226 @ 63,9% Fe	294,2	58,1	243 @ 64,0% Fe	(18)		
			Total	1 053,8	57,9	793 @ 65,3% Fe	1 021,2	59,0	843 @ 65,2% Fe	3		
	Thabazimbi Mine ^{5*}	74,0	Proved	7,3	61,6	6 @ 64,5% Fe	10,3	61,2	9 @ 64,1% Fe	(29)		
			Probable	2,4	60,9	2 @ 63,9% Fe	3,8	60,2	3 @ 63,6% Fe	(38)		
			Total	9,6	61,4	8 @ 64,3% Fe	14,1	60,9	13 @ 63,9% Fe	(32)		
Iron ore	Sishen South ⁶	74,0	Proved	134,1	65,4	n/a	100,5	64,8	n/a	33		
			Probable	31,5	64,2	n/a	66,4	63,3	n/a	(53)		
			Total	165,6	65,2	n/a	166,9	64,2	n/a	(1)		

Rounding of figures may cause computational discrepancies.

Figures reported at 100 percent irrespective of percentage attributable to Kumba Iron Ore.

Note that ALL operations and projects were audited in 2005 as part of Project Pangolin.

⁴ The increase in proved ore reserve tonnes is the result of a new optimising programme that allowed for the blending of previously stockpiled material. The decrease in saleable product tonnes is mainly due to the reduction of ROM reserves as a result of geological re-interpretation as well as a slight drop in plant yield brought about by the exclusion of selective mining tonnes due to changes in mine planning criteria. 17 Mt inferred mineral resource tonnes fall within the final pit layout; these are not included in the ore reserve figure.

⁵ Mining depletion (3 Mt), reclassification (1,2 Mt) and model updates (0,2 Mt) account for the decrease in the ore reserves at Thabazimbi Mine. 4,2 Mt of inferred mineral resources within the final pit shells are not included in the ore reserve figures reported.

⁶ The increase in proved ore reserves is directly linked to the re-interpretation and model updates for measured mineral resources, whereas the increase in indicated mineral resources but decrease in probable ore reserves is because the depth limit has not yet been applied to the mineral resource figures. See text for legal comment.

* Externally audited in 2005.