


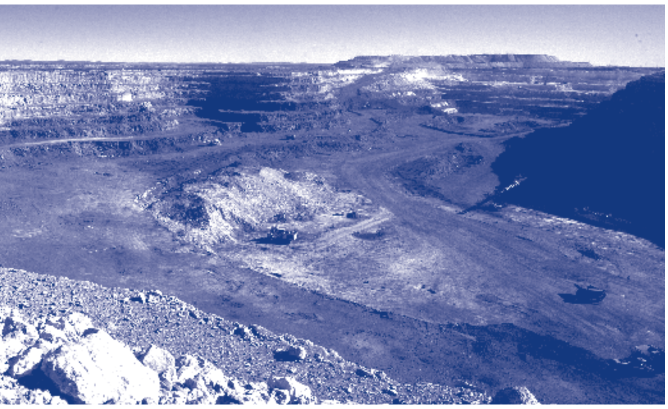

ORE RESERVES AND MINERAL RESOURCES REPORT 2015

DRIVING CHANGE, DEFINING OUR FUTURE

AngloAmerican

KUMBA IRON ORE LIMITED

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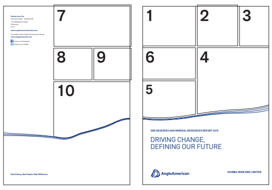

Front cover images

1. Operators, Taneil Steenkamp and Zenia Esau doing a pre-shift safety check and completing the necessary documentation at Kolomela mine.

2. A general view of the stacker-reclaimer and ore stockpile at the Saldanha iron ore multi-purpose terminal.

3. Mining operations in the Kapstevel pit at Kolomela mine.

4. Contractors, Joseph Ditsele, George Appiah and Herbert Tause at the Thabazimbi water reticulation system doing repairs. Kumba commissioned a team of contractors to repair the main reservoir, supply pipes and chlorination systems to supply the town with a reliable and safe supply of water.

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6. The view of the main Leeuwfontein pit at Kolomela mine. The pit will reach a final depth of 600 metres.

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7. Load and haul truck operations at Kolomela mine. The mine produced 12.1Mt of direct-shipping ore for the export market in 2015.

8. Godfrey Modise, a mine overseer inspecting drill holes in the Sishen mine pit.

9. The view of the main Leeuwfontein pit at Kolomela mine. The pit will reach a final depth of 600 metres.

10. A general view of the stacker-reclaimer and ore stockpile at the Saldanha iron ore multi-purpose terminal.

NAVIGATING OUR 2015 REPORTS

Ore Reserves and Mineral Resources report (ORMR)

Reported in accordance with the South African Code for the Reporting of Exploration Results, Mineral Resources and Mineral Reserves (SAMREC 2007; July 2009 amended).

Integrated report (IR)

A succinct review of our strategy and business model, operating context, governance and operational performance, targeted primarily at current and prospective investors.

Sustainability report (SR)

Reviews our approach to managing our significant economic, social and environmental impacts, and to addressing those sustainability issues of interest to a broad range of stakeholders.

Annual financial statements (AFS)

Detailed analysis of our financial results, with audited financial statements and remuneration report, prepared in accordance with the IFRS.

Online (WEB)

Each of these reports, with additional updated information, is available on our website: www.angloamericankumba.com

For more information, visit **http://www.angloamericankumba.com/**

INTRODUCTION AND SCOPE

It is expected that the 2016 Kumba Iron Ore Limited (Kumba) Ore Reserves and Mineral Resources may decrease materially from those stated in 2015. On 8 December 2015, Kumba issued an operational update via SENS announcement and media release which advised that due to deteriorating iron ore prices, Sishen would be reconfigured to allow for a more affordable pit shell. This would allow for a more flexible approach, and lower capital costs over the life of mine (LoM). Waste movement is expected to be substantially below previous guidance of ~230Mt at ~135Mt and production is expected to be substantially reduced from previous guidance of 36Mt for 2016 to ~27Mt. In addition, the continued softening of the iron ore market is expected to have a material impact on the 2016 Ore Reserves (~150Mt reduction) and Mineral Resources.

Kumba's 2015 Reserve and Resource Statement is reported in accordance with 'The South African Code for the Reporting of Exploration Results, Mineral Resources and Mineral Reserves (SAMREC Code – 2007 edition; July 2009 amended version)', incorporated in the Company's business processes via a Reserve and Resource Reporting policy (website: http://www.angloamericankumba.com/sustainability/approach-and-policies.aspx), to ensure that Kumba meets the necessary Johannesburg Stock Exchange listing requirements.

The figures quoted in this document, reported on a 100% basis irrespective of attributable shareholding that is separately indicated in this report per site, serves as an indication of Kumba's Ore Reserve and Mineral Resource status at 31 December 2015, and compares it with the Ore Reserves and Mineral Resources as estimated and reported in 2014. It is not an inventory of all mineral occurrences identified, but is a reasonable and realistic estimate of those, which under assumed and justifiable technical, environmental, legal and economic conditions, may be economically extractable at current (Ore Reserves) and eventually in the future (Mineral Resources). The term 'Ore Reserves' in the context of this report has the same meaning as 'Mineral Reserves', as defined by the SAMREC Code. In the case of Kumba, the term 'Ore Reserves' is preferred because it emphasises the difference between these and Mineral Resources.

This report is a condensed version of the full 2015 in-house *Kumba Iron Ore Resource and Reserve Statement and Audit Committee Report*, derived from detailed site Reserve and Resource Statements; the latter structured to address all aspects listed in the Checklist and Guideline of Reporting and Assessment Criteria Table of the SAMREC Code.

The declaration of Ore Reserves in this document is derived from Indicated and Measured Mineral Resources only i.e. those modified or converted into Proved or Probable Ore Reserves i.e. run-of-mine (RoM), which in turn have been scheduled for processing.

Mineral Resources are declared in addition to Ore Reserves.

Commodity prices[1] and exchange rates used to estimate the economic viability of Ore Reserves and reasonable and realistic prospects for eventual economic extraction (RRPEEE) of Mineral Resources, are based on Anglo American's (Kumba's major shareholder) March 2015 long-term forecast for iron ore, adjusted to what is referred to as 'effective market prices – free-on-rail' for each Kumba site.

The costs are based on current site-specific budget figures. Both long-term prices and costs are used to derive an optimal pit shell, which after being engineered into a pit design, defines a specific Kumba site's Ore Reserves, as well as a resource shell that spatially envelops that portion of the iron ore considered to have RRPEEE.

The economic parameters as discussed, in combination with cut-off grades (which consider existing beneficiation capabilities to meet product quality specifications), are applied to the site-specific three-dimensional geological models[2] to define that portion of the iron ore which is currently (Ore Reserves) and eventually economically extractable (Mineral Resources).

The 2015 fiscal year was characterised by a continued decline in the global iron ore price, fluctuating between the US$40 and US$50 range in Q4, due to an oversupply of the raw material as well as lower demand from major iron ore markets such as China. This exerted pressure on Kumba's profit margin. In mitigation, the Company has embarked on a cost savings drive, which resulted in a 40% reduction in the Company's corporate office headcount as well as an announcement of the closure of the Company's Thabazimbi mining operation in 2016.

Apart from a substantial decrease in Thabazimbi mine's Ore Reserves and Mineral Resources from 2014 to 2015, due to the closure of the operation in 2016, the remainder of the Company's operational (Sishen mine and Kolomela mine) Ore Reserves and Mineral Resources as declared in 2015 have not been adversely affected by the lower iron ore price in the near term.

It must however be emphasised that the 2015 Ore Reserves and Mineral Resources have been declared using the March 2015 long-term forward-looking iron ore price (US$75.00/tonne – Platts 62% CFR China Long Term Price) provided by Anglo American plc (AA plc).

[1] In 2015 the Anglo American Commodity Research Department changed the Long Term Price base from FOB Australia to CFR China.

[2] Geological models are three-dimensional spatial unitised models that define the iron ore bodies in relation to the host rock and waste in terms of volume and associated *in-situ* grades and relative densities.

INTRODUCTION AND SCOPE continued

During 2014, Kumba completed a strategic redesign and LoM plan update of all three of its operations. This design caters for the extraction of Ore Reserves in terms of a combination of individual pushbacks, which individually differ in terms of profitability but overall match the requirements in terms of profitability as guided by the long-term economic parameters provided by Anglo American plc. This affords the operations the flexibility to identify and switch to lower stripping pushbacks in order to minimise the impact of the current low iron ore price.

Furthermore a complete roll-out of the Operating Model is envisaged for Sishen mine in 2016 to align the total value chain in terms of sustainable throughput.

The RRPEEE qualification of the Zandrivierspoort project Mineral Resources as quoted in this report will also be reviewed in 2016.

Ore Reserve estimates for the mining operations were updated within three months before the end of the 2015 financial year, while Mineral Resource estimates, reported in addition to Ore Reserves, were estimated according to the latest available geological models. Typically, these are updated 10 months before the end of the year of reporting.

Kumba's 2015 Ore Reserve and Mineral Resource estimates as portrayed in this report, start with a broad overview and are followed by a more detailed description of the Ore Reserves and Mineral Resources of the relevant Kumba sites (operations and projects).

These operations and projects **(Figure 1)** are:

- Kolomela mine in the Northern Cape province near the town of Postmasburg (28°23'30.05" S and 22°58'46.88" E);
- Sishen mine in the Northern Cape near the town of Kathu, which accounts for the bulk of Kumba's production (27°44'02.29" S and 23°00'39.95" E);
- Thabazimbi mine in Limpopo province near the town of Thabazimbi (24°35'51.43" S and 27°24'19.77" E); and
- the Zandrivierspoort project, approximately 25km northeast of Polokwane in Limpopo province (23°40'17.65" S and 29°35'41.08" E).

The coordinates listed above are WGS84 latitude/longitude references.

Figure 1: Geographic locations of Kumba operations and projects for which Ore Reserves and Mineral Resources have been declared

LEGEND

Reserves and Resources

1. Zandrivierspoort project
2. Thabazimbi mine
3. Sishen mine
4. Kolomela mine

ATTRIBUTABLE REPORTING

For this report, all Ore Reserve, Saleable Product and Mineral Resource (in addition to Ore Reserves) tonnage and associated average Fe-grade estimates, whether Kumba's attributable economic interest in the specific mineral asset is less than 100% or not, are reported as 100% in **Table 5, Table 6 and Table 7** respectively; with the percentage economic interest attributable to Kumba Iron Ore indicated separately in the relevant tables. The overall economic interest attributable to Sishen Iron Ore Company (SIOC), Kumba Iron Ore (KIO) and Anglo American plc is also summarised in **Table 1**.

Table 1: Kumba Iron Ore and Anglo American plc attributable economic interest percentages for mineral assets held by Sishen Iron Ore Company

	% owned by SIOC		% owned by Kumba Iron Ore		% owned by Other		% owned by AAplc via KIO[1]	
Mine asset	**2015**	2014	**2015**	2014	**2015**	2014	**2015**	2014
Kolomela mine	**100.0**	100.0	**73.9**	73.9	**26.1**	26.1	**51.5**	51.5
Sishen mine[2]	**100.0**	100.0	**73.9**	73.9	**26.1**	26.1	**51.5**	51.5
Thabazimbi mine	**100.0**	100.0	**73.9**	73.9	**26.1**	26.1	**51.5**	51.5
Zandrivierspoort project[3]	**50.0**	50.0	**37.0**	37.0	**63.0**	63.0	**25.8**	25.8

[1] The holding company Sishen Iron Ore Company (SIOC) is 73.9% owned by Kumba Iron Ore, and in turn Kumba Iron Ore is 69.7% owned by Anglo American (as at 31 December 2015).

[2] SIOC received notice from the DMR that the Director General of the DMR consented to the amendment of SIOC's existing mining right in respect of the Sishen mine by inclusion of the residual 21.4% undivided share of the mining right for the Sishen mine, subject to certain conditions (which are described by the DMR as "proposals").

SIOC believes that the Mineral and Petroleum Resources Development Act (MPRDA) does not provide for the imposition of such conditions as contained in the consent letter. Section 96 of the MPRDA allows for an internal appeal to the Minister of Mineral Resources. SIOC therefore submitted an internal appeal to the Minister, setting out the basis of its objections to the proposals, as required by the MPRDA SIOC has not yet received a response to its appeal.

In the interim, SIOC continues to engage with the DMR in relation to the proposal conditions in order to achieve a mutually acceptable solution.

[3] Zandrivierspoort is a 50:50 Joint Venture between ArcelorMittal SA and SIOC in a company called Polokwane Iron Ore Company.

Image

A view of a drum reclaimer at the stockyard in Sishen mine.

COMPETENCE

All Competent Persons involved in the 2015 Ore Reserve and Mineral Resource estimation have been duly appointed and made aware of their responsibility to undertake unbiased Ore Reserve and/or Mineral Resource estimation at Company, operational or project level. They 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, to qualify as a 'Competent Person', as defined by the 2007 SAMREC Code (July 2009 amended version).

The Ore Reserve and Mineral Resource 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.

Table 2: Corporate responsibility

Republic of South Africa – Kumba Iron Ore

Business unit	Field	Name	Title	Employed by	Professional organisation	Registration number	Years relevant experience
Kumba Iron Ore	Mineral Resources	Jean Britz	Principal Mineral Resources	Sishen Iron Ore Company (Pty) Ltd	SACNASP Professional Natural Scientist	400423/04	11
Kumba Iron Ore	Ore Reserves	Theunis Otto	Head Mining Engineering	Sishen Iron Ore Company (Pty) Ltd	ECSA Professional Engineer	990072	11

Table 3: Mining operation responsibility

Republic of South Africa – Kumba Iron Ore operations

Operations	Field	Name	Title	Employed by	Professional organisation	Registration number	Years relevant experience
Kolomela mine	Mineral Resources	Hannes Viljoen	Senior Exploration Geologist	Sishen Iron Ore Company (Pty) Ltd	SACNASP Professional Natural Scientist	400245/10	8
	Ore Reserves	Neil Rossouw	Manager Mine Planning	Sishen Iron Ore Company (Pty) Ltd	ECSA Professional Engineer	20080143	5
Sishen mine	Mineral Resources	Johan J Pretorius	Chief Resource Geologist	Sishen Iron Ore Company (Pty) Ltd	SACNASP Professional Natural Scientist	400100/2000	21
	Ore Reserves	Jaco F van Graan	Principal Mining Engineer	SRK Consulting (SA)	ECSA Professional Engineer	20100342	11
Thabazimbi mine	Mineral Resources	Venter J Combrink	Senior Resource Geologist	Sishen Iron Ore Company (Pty) Ltd	SACNASP Professional Natural Scientist	400053/08	16
	Ore Reserves	Jaco F van Graan	Principal Mining Engineer	SRK Consulting (SA)	ECSA Professional Engineer	20100342	11

Table 4: Project responsibility

Republic of South Africa – Kumba Iron Ore projects

Projects	Field	Name	Title	Employed by	Professional organisation	Registration number	Years relevant experience
Zandrivierspoort project	Mineral Resources	Stuart J Mac Gregor	Principal Exploration	Sishen Iron Ore Company (Pty) Ltd	SACNASP Professional Natural Scientist	400029/09	9
Zandrivierspoort project	No Ore Reserve declared in 2015						

All Competent Persons informing the 2015 Kumba Iron Ore Reserve and Resource report assumed responsibility by means of signing a Competent Person appointment letter, kept by the Company's Principal - Mineral Resources and Geometallurgy, at Kumba's Centurion Gate Office in Pretoria, South Africa. These appointment letters contain address information as well as proof of professional affiliation as required by the SAMREC Code.

GOVERNANCE

Applicable codes and policies are uniformly applied throughout Anglo American plc via a governance document i.e. the Anglo American plc group technical standard (AA_GTS_22), which holistically governs Resource and Reserve reporting for all the Anglo American plc business units, of which Kumba Iron Ore forms part.

Kumba internalised the SAMREC Code and its policy and the relevant Anglo American plc group standards by deriving a reporting procedure (Kumba Iron Ore Mineral Resource and Ore Reserve Reporting Procedure) applicable to iron ore as a commodity and the opencast mining thereof, that stipulates adherence to the former. The procedure is revised annually, with refinements proposed by an official Resource and Reserve Reporting Work Group, with changes annually communicated to the Executive Management of Kumba.

The Kumba Reserve and Resource Reporting governance framework is summarised in **Figure 2**.

Figure 2: Kumba Mineral Resource and Ore Reserve reporting governance framework

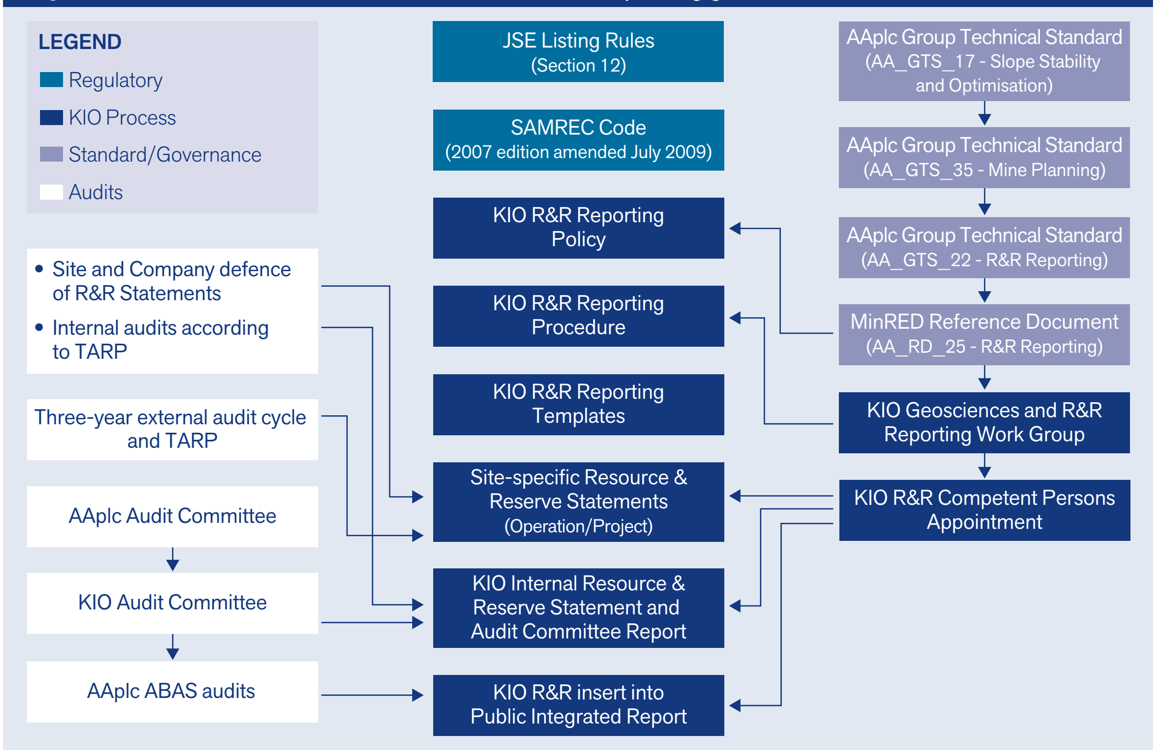


Image
Aart van den Brink, General manager Theo Kleinhans, DMS Plant manager, and Bongani Buthelezi, Plant manager, all members of the Kolomela leadership team, in a management meeting.

RISK LIABILITY AND ASSURANCE

Kumba provides assurance for the quoted Reserve and Resource estimates through a rolling external audit schedule, mandatory independent internal reviews such as those required to pass feasibility stage gates, as well as independent internal reviews triggered by material (>10%) year-on-year Reserve and Resource changes. Apart from validating adherence to the SAMREC Code as far as reporting practices and actual reported figures are concerned, the scope of each external audit also includes an evaluation of the:

- Mineral Resource estimation processes (borehole database, wireframes, block models, classification, reporting); and
- Ore Reserve estimation and LoM planning processes (mining block modelling, pit optimisation, pit design, scheduling, geotechnical input and assessments and hydrogeological input).

Site visits by the external auditors are compulsory. At current Xstract Mining Consultants (Australia), a Calibre Group company, has been appointed to independently review Mineral Resources and Ore Reserves.

As per the Kumba Resources and Reserves audit schedule, no independent third party reviews were conducted in 2015. External reviews are scheduled for Kolomela in 2017 and Sishen in 2018.

Image
Sishen mine is a highly mechanised open-pit mine with processing facilities.

SECURITY OF TENURE

Save for one exception, all Ore Reserves and Mineral Resources (in addition to Ore Reserves) quoted in this document for the Kumba mining operations are contained within notarially executed new order mining and prospecting rights, the latter located immediately adjacent to the mining rights. These rights are held by SIOC, in which Kumba holds a 73.9% share with BEE partnership being divided between Exxaro (20.0%), the Sishen Iron Ore Community Development Trust (3.0%) and the Sishen Iron Ore Company Employee Share Participation Scheme (3.1%).

The one exception involves the undivided 21.4% share of the mining rights at the Sishen mine, which was previously held by ArcelorMittal South Africa Limited (AMSA):

- In December 2013, the Constitutional Court issued a judgment, in terms of which the Constitutional Court clarified that SIOC, when it lodged its application for conversion of its old order right, converted only the right it held at that time (being a 78.6% undivided share in the Sishen mining right). The Constitutional Court further held that AMSA retained the right to lodge its old order right (21.4% undivided share) for conversion before midnight on 30 April 2009, but failed to do so. As a consequence of such failure by AMSA, the residual 21.4% undivided right remained available for allocation by the DMR. The Constitutional Court ruled further that, based on the provisions of the MPRDA, only SIOC can apply for, and be granted, the residual 21.4% undivided share of the Sishen mining right. The grant of the mining right may be made subject to such conditions considered by the Minister of Mineral Resources to be appropriate, provided that the proposed conditions are permissible under the MPRDA.
- Based on that ruling, SIOC had a reasonable expectation for the grant of the 21.4% mining right and therefore declares 100% of the Sishen Ore Reserves and Mineral Resources in terms of the provisions of the SAMREC Code. SIOC derives 100% of the economic benefit of the material extracted from the Sishen mine, and is not required to account to any other entity for the value thus derived. SIOC is mining lawfully in accordance with its approved Mine Works Programme.
- SIOC had previously applied for this 21.4%, and continues to account for 100% of what is mined from the reserves at Sishen mine. SIOC had however, in compliance with the Constitutional Court order, submitted a further application to be granted this residual right. As a further consequence of the Constitutional Court finding, the High Court's ruling setting aside the prospecting right granted by the DMR to ICT also stands.
- In October 2015, SIOC received notice from the DMR that the Director General of the DMR consented to the amendment of SIOC's existing mining right in respect of the Sishen mine by the inclusion of the residual 21.4% undivided share of the mining right for the Sishen mine, subject to certain conditions (which are described by the DMR as "proposals").
- The grant of the consent, with conditions, entitles Kumba to continue declaring 100% of the Sishen Ore Reserves and Mineral Resources in terms of the provisions of the SAMREC Code.

SIOC believes that the Mineral and Petroleum Resources Development Act (MPRDA) does not provide for the imposition of such conditions as contained in the consent letter.

Section 96 of the MPRDA allows for an internal appeal to the Minister of Mineral Resources. SIOC therefore submitted an internal appeal to the Minister, setting out the basis of its objections to the proposals, as required by the MPRDA. SIOC has not yet received a response to its appeal.

In the interim, SIOC continues to engage with the DMR in relation to the proposed conditions in order to achieve a mutually acceptable solution.

STATUS OF MINING RIGHTS

SIOC has executed new order mining rights for all operations of sufficient duration to enable the complete execution of the 2015 LoM plans from which the Ore Reserves and Saleable Product have been derived. The status of the new order mining rights is listed below:

- SIOC was granted a mining right for iron ore on 18 September 2008 for its Kolomela mine for a 30-year mining period. The right is scheduled for amendment via a section 102 application in 2016 to cater for the increase in production levels as per the 2015 LoM plan.
- SIOC was granted a mining right for iron ore and quartzite on 11 November 2009 for its Sishen mine for a 30-year mining period. The right was extended in 2014, following a section 102 application to incorporate the old Transnet railway properties transecting the mining area from north to south, granted by the DMR on 28 February 2014.
- SIOC was granted a mining right for iron ore on 5 October 2009 for its Thabazimbi mine (Kwaggashoek portion) for a 30-year period, while the Thabazimbi mine (Donkerpoort portion) was granted on 21 October 2009, also for a 30-year period.

SECURITY OF TENURE continued

STATUS OF PROSPECTING RIGHTS

SIOC has declared Mineral Resources on three prospecting rights:

- The Dingleton prospecting right area and Sishen Farm prospecting right located immediately adjacent to the Sishen mining right area and which comprise 0.4% and 0.9% respectively of KIO's and Sishen mine's exclusive Mineral Resource, and
- The Zandrivierspoort exploration project, which comprises 40% of Kumba's total exclusive Mineral Resource.

Sishen Iron Ore Company has submitted a renewal application for the Dingleton prospecting right in 2011 and is awaiting the grant of the right by the DMR.

The DMR has granted SIOC the renewal of the Sishen Farm prospecting right in 2014. Exploration could however not commence due to an existing section 93 notice that was issued by the DMR for not achieving drilling targets as communicated in the prospecting work programme, prior to the grant of the renewal application. Kumba has appealed this section 93 notice through a section 96 application in 2011, and is still awaiting a ruling.

The prospecting right for Zandrivierspoort (50:50 joint venture with ArcelorMittal) expired on 17 November 2011. SIOC has applied for renewal on 16 August 2011 and is awaiting a decision by the DMR regarding the granting of the renewal application.

Image
Sishen mine's fleet of mega-size haul trucks ensures the efficient hauling of waste and ore.

SUMMARY OF 2015 RESERVE AND RESOURCE ESTIMATES

ORE RESERVES

The grades and tonnages estimated and classified from the geological block models are initially discounted by converting the geological block models into mining block models, considering aspects such as smallest mining unit and open-pit bench definitions. From the mining block model, modifying factors such as dilution and mining losses are realised while other factors such as geological losses, design and mining recovery efficiencies, determined via reconciliation, are applied.

The resultant mining block model is then constrained via pit optimisation to spatially distinguish between ore material which is currently and eventually economically extractable. The long-term price used as input into the pit optimisation process is obtained from the Commodities Research Division at Anglo American during March of each year (after appropriate approval processes). It represents the long-term outlook of the iron ore price stated in real terms. The long-term price is adjusted to convert it from a market figure to a site-specific figure used to define current and eventual economic extractability:

- The first adjustment made to the price is the sea freight adjustment and is done to reflect the long-term price at Saldanha (Kumba's export harbour) in US$/tonne Free-On-Board (FOB) terms at a 62% Fe grade.
- Higher Fe content, as well as lump ore, gains a premium in the market. This is the second adjustment, considering site-specific planned lump-fine ratios and average Fe contents i.e. prices are derived for the lump and fine products from each of the processing streams (for example the dense media separation and jig processing streams at Sishen mine or direct shipping ore at Kolomela mine). Thereafter price averaging is applied based on a mass weighted average calculation.
- Once the average product prices are calculated in US$/tonne FOB terms, the long-term real exchange rate is applied to convert the price to a Rand/tonne FOB Saldanha base.
- To calculate the Rand/tonne Free-On-Rail (FOR) price for the products, the long-term rail cost is subtracted for each of the sites. The rail cost includes related logistics and marketing costs.
- As a final adjustment, contractual obligations are considered. This completes the long-term adjustment process.

The site-specific long-term price and costs (representing the mining value chain as used for budgeting purposes) are then used to derive an optimal and resource pit shell.

This optimal pit is engineered or designed into a safe practical pit layout, considering geotechnical slope stability parameters, that envelops the current economically extractable ore volume, and forms the basis for the LoM scheduling and resultant Ore Reserve and Saleable Product estimates.

The SAMREC Code approach is adopted for Ore Reserve classification, whereby Measured Mineral Resources occurring within the optimised pit are converted to either Proved or Probable Ore Reserves and Indicated Mineral Resources are converted to Probable Ore Reserves. The Competent Person may reclassify the Ore Reserves and even re-allocate Ore Reserves back to Mineral Resources should certain mining-related, legal, environmental, governmental and social aspects warrant it.

The RoM plant feed derived from such a schedule represents the Ore Reserves. The product derived via the application of metallurgical factors (in the form of beneficiation algorithms defining the relationship between yield and product qualities with the mining block model grades) in the mining model and subsequent scheduling represents what is referred to as 'Saleable Product'.

Inferred Mineral Resources occurring within the LoM plan are reported as 'Mineral Resources considered for LoM plan' and not as Ore Reserves and have not been adjusted to consider modifying factors.

Image
Tebogo Hartebees, a plant operator and Jaco Bruwer, a process engineer at Sishen mine discussing the status of the stockpiles at the mine.

SUMMARY OF 2015 RESERVE AND RESOURCE ESTIMATES continued

As of 31 December 2015, Kumba, from a 100% ownership reporting perspective, had access to an estimated Haematite Ore Reserve of 0.9 billion tonnes at an average unbeneficiated or feed grade of 60.0% Fe from its three mining operations:

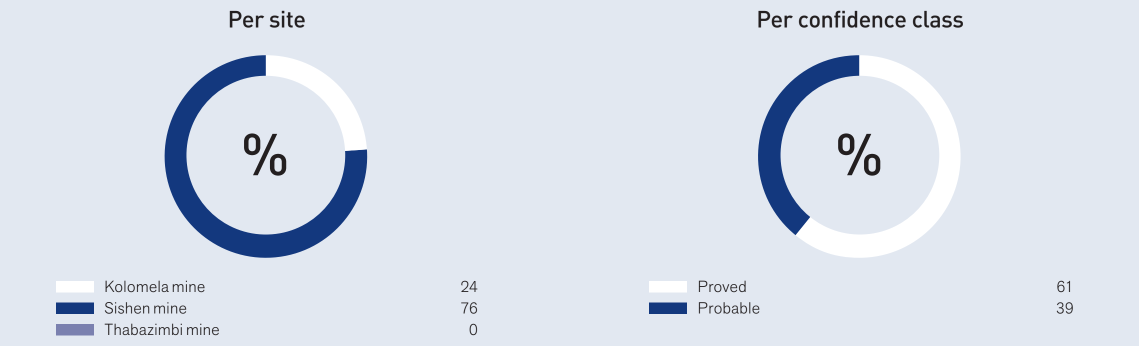
1 Kolomela	(212.3Mt @ 64.3% Fe);
2. Sishen	(672.7Mt @ 58.7% Fe), and
3. Thabazimbi	(0.7Mt @ 58.7% Fe)

A 3% net decrease of 28.7Mt is noted for the total 2015 Kumba Ore Reserve compared to 2014.

Overall:

- The Kolomela mine Ore Reserves increased by 13% (+24.3Mt) from 2014, primarily as a result of the conversion of a portion of the Kapstevel South Mineral Resources to 55.0Mt Probable Ore Reserves.
- The Kolomela mine life however remains at 21 years as the increase in Ore Reserves is offset by:
  - the planned ramp-up in annual production from 11.4Mt in 2015 to 13.0Mt from 2017 onwards;
  - a redesign of the pit layouts to accommodate the March 2015 long-term price and Rand/US$ exchange rate forecast by Anglo American plc and a refinement of the geological ore domains based on active on-mine exploration targeting Inferred and Indicated Mineral Resources (-19.4Mt); as well as
  - annual production excluding Inferred Mineral Resources (-13.3Mt).
- The Sishen mine Ore Reserve decreased by 6% (-44.0Mt) year-on-year due to the following primary contributing factors:
  - Annual production of 35.1Mt (excluding Inferred Mineral Resources but including 7.1Mt Ore Reserves depleted from RoM buffer stockpiles);
  - A 30.6Mt decrease in the lower grade (jig plant feed) Ore Reserves based on an update of the geological model to incorporate new resampled borehole information generated in the banded iron formation (BIF) and Shale volumes that were historically sparsely and selectively sampled (the additional borehole sample assay data confirmed the % Fe distribution of the BIF and Shale volumes to be slightly lower than previously estimated); and
  - Offset by a gain in terms of converting Mineral Resources to Ore Reserves whereby the 2015 LoM plan was able to utilise 21.7Mt more Mineral Resources in the Ore Reserve blend to the beneficiation plants.
- The Thabazimbi mine Ore Reserve decreased substantially by 93% from 9.7Mt in 2014 to 0.7Mt in 2015, with the closure of the operation at the end of Q2 2016 resulting in Ore Reserves re-allocated to Mineral Resources and Mineral Inventory.

Figure 3: 2015 Ore Reserve portfolio – Reported as 100% (per site)



SUMMARY OF 2015 RESERVE AND RESOURCE ESTIMATES continued

An estimated (report input finalised before official end of fiscal year) 47.6Mt depletion of the Ore Reserves is attributable to annual production from the three operations during 2015, including a net 4.6Mt production from RoM buffer stockpiles (RoM buffer stockpile levels decreased at Sishen mine and increased at Kolomela and Thabazimbi mines year-on-year). This figure excludes an additional 10.9Mt Inferred Mineral Resource, depleted in 2015 as RoM.

The decrease in the Proved to Probable Ore Reserve ratio from 70:30 in 2014 to 61:39 in 2015 is primarily the result of:

- a more conservative approach followed during Mineral Resource to Ore Reserve conversion at Sishen and Kolomela mine. Where Measured geological ore units were combined with Indicated and/or Inferred geological units during up-blocking in the mining block model to derive practical mineable units, the lowest classification was assigned to the up-blocked unit used in the 2015 LoM plan schedule; and
- the inclusion of a portion of the Kapstevel South orebody in the Kolomela 2015 LoM plan where all Measured and Indicated Mineral Resources were scheduled as Probable Ore Reserves.

KIO replenished its Ore Reserves by 6% in 2015 with the conversion of a portion of the Kapstevel South Mineral Resource (an iron orebody located south of the Kapstevel pit layout) into Probable Ore Reserves at its Kolomela mine.

Table 5 gives a full account of the 2015 Kumba Ore Reserves.

Figure 4: 2015 Ore Reserves reconciled against 2014 (per site and per confidence class)

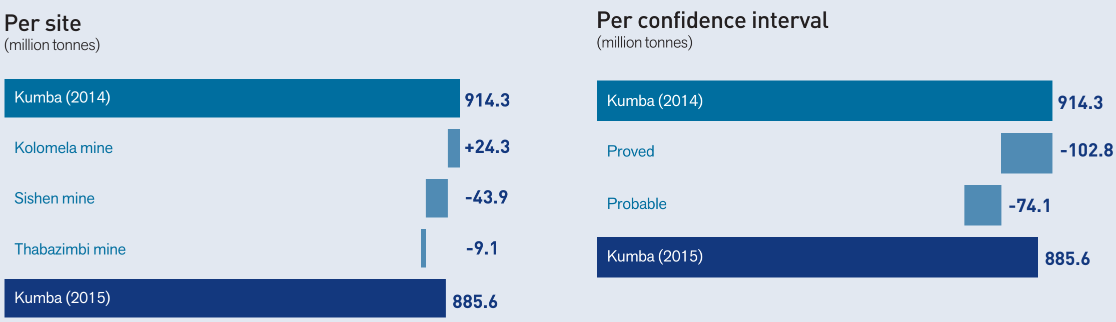


Image
Stockpiles of iron ore ready to be shipped from the port of Saldanha.

SUMMARY OF 2015 RESERVE AND RESOURCE ESTIMATES continued

Table 5: Kumba's Ore Reserve statement for 2015 (referenced against 2014)

			2015				2014			
			Ore Reserves							
Operation/Project	% owned by KIO	Reserve category	Tonnage (Mt)	Grade (% Fe) Average	Grade (% Fe) Cut-off	Reserve Life** Years	Tonnage (Mt)	Grade (% Fe) Average	Grade (% Fe) Cut-off	Reserve Life Years
Mining operations										
Kolomela mine[1]	73.9	Proved	75.4	65.1			83.3	64.6		
		Probable	136.8	63.9			104.7	64.3		
		Sub-total	212.3	64.3	50	21	188.0	64.4	42	21
Sishen mine[2]	73.9	Proved	462.3	59.4			556.8	59.4		
		Probable	210.4	57.2			159.8	56.2		
		Sub-total	672.7	58.7	40	15	716.6	58.7	40	16
Thabazimbi mine[3]	73.9	Proved	0.0	0.0			0.4	61.9		
		Probable	0.7	58.7			9.3	60.3		
		Sub-total	0.7	58.7	54	1	9.7	60.4	54	9
Kumba Iron Ore		Proved	537.7	60.2			640.6	60.1		
mining operations		Probable	347.9	59.8			273.8	59.4		
		Total	885.6	60.0			**914.3**	**59.9**		
Company										
Kumba Iron Ore		Proved	537.7	60.2			640.6	60.1		
Total Ore Reserves		Probable	347.9	59.8			273.8	59.4		
		Total	885.6	60.0			**914.3**	**59.9**		

- The tonnages are quoted in dry metric tonnes and million tonnes is abbreviated as Mt.
- Rounding of figures may cause computational discrepancies.
- Ore Reserve figures are reported at 100% irrespective of percentage attributable ownership to Kumba Iron Ore.

* The cut-off grade used for Ore Reserves is variable and is dependent on the beneficiability and/or blending capacity of the diluted ore scheduled as RoM, which is iteratively determined during LoM plan scheduling to achieve a scheduling grade target that is set to meet the client specifications. The % Fe cut-off illustrated is therefore the lowest of a range of variable cut-offs for the various mining areas. It includes dilution material and can therefore, in certain cases, be less than the Mineral Resource cut-off grade.

** Reserve Life represents the period in years in the approved 2015 LoM plan for scheduled extraction of Proved and Probable Reserves. The Reserve Life is limited to the period during which the Ore Reserves can be economically exploited. Where the scheduled Ore Reserves fall below 25% of the average annual production rate the period beyond this is excluded from the Reserve Life, implying for example that a year where the RoM of an operation is made up of 26% Proved and Probable Ore Reserves and 74% Inferred Mineral Resources counts as a Reserve Life year.

- For Kolomela mine a 21-year remaining Reserve Life, at an average 13Mtpa Saleable Product output (11.4Mtpa in 2014 LoM plan), has been quoted in 2015, which includes 20% Inferred Mineral Resources compared to 19% in 2014. The Reserve Life remained unchanged from 2014 due to the conversion of a portion of the Kapstevel South Mineral Resources to Ore Reserves, now included in the 2015 LoM plan.

  Kolomela mine is in the process of compiling a section 102 mining right amendment application to accommodate the higher annual output and inclusion of Kapstevel South Ore Reserve in the LoM plan (to be submitted to the DMR early 2016).

  To define the material risk of having >10% Inferred Mineral Resources considered for the LoM plan, Kolomela mine valuated a long-term mine plan scheduling scenario excluding Inferred Mineral Resources which remained economically viable, although at a 16% lower NPV.
- A 15-year Reserve Life has been quoted for Sishen mine in 2015; which includes 7% Inferred Mineral Resources compared to a 16-year Reserve Life in 2014, including 4% Inferred Mineral Resources. The 2015 LoM plan delivers an average 36.5Mt annual Saleable Product output level, not achieved for the first two years (ramp-up), and last two years (ramp-down) of the Reserve Life. The decrease in Reserve Life can be attributed to the 2015 annual depletion.
- For Thabazimbi mine a one-year Reserve Life has been quoted in 2015, including no Inferred Mineral Resources (the 1.0Mt annual Saleable Product output level is not maintained for the last year of the Reserve Life). The eight-year decrease in the Reserve Life (compared to 2014) is the result of Kumba Iron Ore announcing the closure of the Thabazimbi operation in 2016 (after 85 years of continued operation). Approval for closure was ratified by the SIOC board following in-depth investigations which indicated that the operation was uneconomical.

SUMMARY OF 2015 RESERVE AND RESOURCE ESTIMATES continued

Footnotes to Table 5 explaining annual Ore Reserve differences:

1 Kolomela mine's Ore Reserves increased materially by 24.3Mt (+13%) from 2014 to 2015.

This increase can primarily be assigned to the conversion of a portion of the Kapstevel South Mineral Resources to 54.9Mt Probable Ore Reserves; the increase negated by a refinement of the geological ore domains based on active on-mine exploration targeting Inferred and Indicated Mineral Resources (-19.4Mt), as well as annual production excluding Inferred Mineral Resources (-13.3Mt).

The 2015 ex-pit production also resulted in a 2.1Mt increase in the RoM buffer stockpile levels.

2 Sishen mine's Ore Reserves decreased significantly by 44.0Mt (-6%) year-on-year.

Apart from the annual RoM production, estimated to be 35.1Mt of Ore Reserves (including 7.1Mt from RoM buffer stockpiles), other major movements include:

- a 30,6Mt decrease in the lower grade (jig plant feed) Ore Reserves based on an update of the geological model whereby additional borehole information targeting the ferruginised Banded Iron Formation and ferruginised Shale ores has shown the % Fe distribution thereof to shift towards slightly lower ranges than previously estimated;
- a 3.8Mt re-allocation of Ore Reserves to Mineral Resources; and
- a gain in terms of Mineral Resources being converted to Ore Reserves whereby the 2015 LoM plan was able to utilise 25.5Mt more Mineral Resources in the Ore Reserve blend to the beneficiation plants.

On 8 December 2015, Kumba Iron Ore issued an operational update via SENS announcement and media release which advised that due to deteriorating iron ore prices, Sishen would be reconfigured to allow for a more affordable pit shell. This would enable a more flexible approach, reduce execution risk and lower capital costs over the LoM. The mine will target FOB unit costs of US$30/tonne and a breakeven price of US$40/tonne CFR for 2016. Waste movement is expected to be substantially below previous guidance of ~230Mt at ~135Mt and production is expected to be substantially reduced from previous guidance of 36Mt for 2016 to ~26Mt. In addition, the continued softening of the iron ore market is expected to impact the 2016 long-term price forecast which may have a material impact on the 2016 Ore Reserves and Mineral Resources.

3 Overall the Thabazimbi Ore Reserves decreased substantially by 9.0Mt (-93%).

The SIOC board has for some considerable time deliberated on possible strategies to exit the Thabazimbi mine and engaged with its major shareholder, Kumba Iron Ore Limited, in these aspects. In 2015 the board resolved, after discussions with the operation's client ArcelorMittal South Africa and the Department of Mineral Resources, to close the mine, ramping down activities commencing in July 2015 with production ceasing in Q2 2016. All Saleable Product in 2016 is scheduled to be beneficiated from existing RoM buffer stockpiles.

Thabazimbi mine is in the process of compiling a closure application to be submitted to the DMR.

A total of 1.7Mt of Ore Reserves were mined (depleted) as RoM in 2015.

Image

Civil engineers, Francois Hattingh and Mary Ngogtjane demonstrating a training module that was developed for the inspection of metal walkway systems to identify the hazards in the Sishen mine plant.

SALEABLE PRODUCT

The Saleable Product estimates are derived by applying site-specific metallurgical yield algorithms (defining the relationship between run-of-mine and product tonnages) to the Ore Reserves. The yield (and associated product grade) algorithms have been derived through metallurgical test work, the latter also considering efficiency differences between laboratory scale and pilot scale test work versus real-scale plant performances.

The 2015 LoMPs, considering current contract and client supply agreement conditions, deliver a total Saleable Product of 708.4Mt with an average 64.8% Fe over the Reserve Life years for the three mining operations **(Table 6)**.

Table 6: Kumba's Saleable Product for 2015 (referenced against 2014)

					Saleable Product 2015		Saleable Product 2014	
Operation/Project	% owned by KIO	Saleable Product category	**2015 Metallurgical yield (%)**	2014 Metallurgical yield (%)	**Tonnage (Mt)**	**Grade (% Fe) Average**	Tonnage (Mt)	Grade (% Fe) Average
Mining operations								
Kolomela mine	73.9	Proved	**99.8**	99.8	**75.3**	**65.1**	83.1	64.6
		Probable	**99.8**	99.8	**136.6**	**63.9**	104.5	64.3
		Sub-total	**99.8**	99.8	**211.8**	**64.3**	187.6	64.4
Sishen mine	73.9	Proved	**78.0**	76.7	**360.4**	**65.2**	427.0	65.7
		Probable	**64.5**	67.7	**135.6**	**64.7**	108.3	64.3
		Sub-total	**73.7**	74.7	**496.0**	**65.1**	535.2	65.4
Thabazimbi mine	73.9	Proved	**0.0**	75.6	**0.0**	**0.0**	0.3	62.5
		Probable	**78.6**	75.6	**0.5**	**63.4**	7.0	62.9
		Sub-total	**78.6**	75.6	**0.5**	**63.4**	7.3	62.8
Kumba Iron Ore mining operations		Proved	**81.0**	79.7	**435.7**	**65.2**	510.4	65.5
		Probable	**78.4**	80.3	**272.7**	**64.3**	219.7	64.2
		Total	**80.0**	**79.9**	**708.4**	**64.8**	**730.2**	**65.1**
Company								
Kumba Iron Ore		Proved	**81.0**	79.7	**435.7**	**65.2**	510.4	65.5
Total Saleable Product		Probable	**78.4**	80.3	**272.7**	**64.3**	219.7	64.2
		Total	**80.0**	**79.9**	**708.4**	**64.8**	**730.2**	**65.1**

MINERAL RESOURCES

Kumba only derives Mineral Resource estimates from geological models that spatially (three-dimensionally) define the iron ore deposits i.e. if an ore body is not spatially modelled no Mineral Resources are declared for that ore body. The initial step involves the compilation of tectono-stratigraphic solids models that domain the various iron ore types of each deposit as it is hosted within surrounding non-mineralised material i.e. in relation to the non-economic or waste materials. In the case of Kumba Iron Ore it is mainly the geological logging of borehole samples that is used to conduct geological (stratigraphical) interpretations, in combination with structural mapping to derive final tectono-stratigraphic domain boundaries.

Within the solids model, the ore body is divided into different zones or domains that reflect areas of common grade, metallurgical characteristics where available, or other relevant characteristics so that appropriate interpolation functions can be applied to distinct ore domains within the deposit.

The validated borehole sample assay data intersecting the three-dimensionally defined domains are then composited, validated to verify correct assignment and to identify possible outliers, and used to interpolate critical *in-situ* grades (Fe, SiO_2, Al_2O_3, K_2O and P as a minimum) and other parameters, including as a minimum requirement relative density, using a number of techniques e.g. various types of Kriging for ore domains (dependent on sample support and sample density etc.) and Inverse Distance Squared for waste domains into pre-defined blocks. The models containing this blocked information are referred to as geological block models.

Where sample data is sparse, a global estimate is used i.e. arithmetic mean of the grade data available in the domain. The interpolation method applied relies on geostatistical analyses of the ore domain grades to determine their site-specific relationship in space per domain.

The blocks making up the geological block model that intersects the solids model, are specifically sized and designed through quantitative Kriging neighbourhood analysis to manage the volume-variance effect and accommodate the smallest selective mining unit. These blocks, referred to as parent cells, are sub-blocked into smaller cells to honour, as closely as practically possible, domain boundaries.

The interpolated grades and tonnages assigned to the blocks within the geological block models are then used to estimate the grades and tonnages of the iron ore under consideration.

The Mineral Resource portion of the iron ore is spatially constrained by an optimistic pit shell or resource shell, to make a clear distinction between Mineral Resources and remaining mineral occurrences, the latter considered not to be eventually economically extractable.

Estimated Mineral Resource tonnages and grades are reconciled at each mining operation by comparing the estimates with tonnages and grades captured in grade control/production geology models which are compiled using infill drilling and/or blast hole sampling data.

In agreement with the SAMREC Code, Mineral Resources are classified according to the degree of confidence in the estimates (tonnes and grades), where this confidence is established as a function of several geological and grade continuity measurements. Kumba's Geosciences Department compiled a guideline for geological confidence classification, and where applicable, Mineral Resource classification which promotes a scorecard approach. This guideline is the preferred approach to Mineral Resource classification within the Company but not a standard as the Company acknowledges the autonomy of its Competent Persons (CP) and Technical Specialists in defining Mineral Resource confidence levels. The guideline recommends parameters deemed critical for grade and geological continuity of the ore body.

These parameters are then quantified and spatially estimated, i.e. each parameter is captured in every parent cell of the geological block model that intersects ore. The CP is then expected to weight each parameter in terms of its importance (as per the CP's experience and understanding of the deposit under investigation) in relation to the ore deposit grade or geological estimate. The weighting is applied to determine a normalised 'Grade Confidence Index' and a 'Geometry Confidence Index'.

These two indices are then again weighted and combined into a 'Geological Classification Index (GCI)'. The last step required from the CP is to assign cut-offs on the normalised GCI index figures contained in each parent cell in the geological block model to distinguish between Measured, Indicated and Inferred Mineral Resources.

Inferred Mineral Resources are further subdivided into interpolated and extrapolated Inferred Mineral Resources as required by the SAMREC Code.

MINERAL RESOURCES continued

From a 100% attributable reporting perspective, Kumba has a remaining exclusive (in addition to Ore Reserves) Mineral Resource base estimated at 1.2 billion tonnes, of which 729.2Mt, at an average *in-situ* grade of 60.9% Fe can be assigned to the Kumba mining operations and associated on-lease projects. The Zandrivierspoort (prospecting right) magnetite deposit contributes 476.1Mt @ 34.5% Fe to the Kumba Resource base. The detail of the respective ore bodies is listed below and is depicted in **Figure 5**.

Haematite ore bodies:

- Operation: Kolomela (188.3Mt @ 62.8% Fe), year-on-year decrease of 26%
- Operation: Sishen (532.5Mt @ 60.2% Fe), year-on-year decrease of 6%
- Operation: Thabazimbi (8.4Mt @ 62.1% Fe), year-on-year decrease of 51%

Magnetite ore bodies:

- Project: Zandrivierspoort (476.1Mt @ 34.5% Fe and 40.8% Magnetite), remained unchanged from 2014

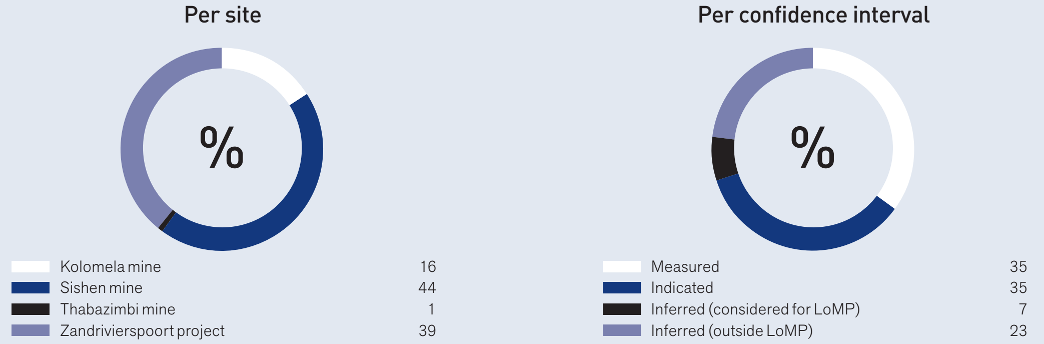
The year-on-year decrease in the total exclusive Mineral Resource base of 104.7Mt (-8%) can mainly be attributed to:

- a substantial 26% (-64.6Mt) decrease in the Kolomela Mineral Resource, primarily as a result of the conversion of a portion of the Kapstevel South Mineral Resource (58.5Mt Measured plus Indicated) into Ore Reserves, with geological ore domain model refinements based on additional on-mine exploration targeting the Inferred and Indicated Mineral Resources comprising most of the remainder of the year-on-year decrease. All the geological models (Leeuwfontein, Klipbankfontein and Kapstevel North/ Welgevonden South) included in the 2015 Kolomela LoM plan were updated in 2015;
- a 6% (-31.3Mt) decrease in the Mineral Resources at Sishen mine, with geological model refinements conducted in 2015 and depletion of Inferred Mineral Resources as RoM the main contributing factors, and
- a substantial 51% (8.8Mt) decrease in the Thabazimbi mine Mineral Resource, whereby 49% of the Mineral Resources were re-allocated to Mineral Inventory as a result of the decision to close the operation. Kumba will review the Resource and Reserve Statement of Thabazimbi mine immediately after closure in 2016.

No further exploration has been conducted at the Zandrivierspoort Magnetite project in the Limpopo province in 2015.

Figure 6 summarises the year-on-year Mineral Resource movement per site and per Mineral Resource class.

Figure 5: 2015 Mineral Resource portfolio – shown as 100% (per site and per Mineral Resource class)



MINERAL RESOURCES continued

The changes in the Mineral Resource confidence class tonnages are not due to a change in the geological confidence classification methodology but are a direct result of the conversion of a portion of the Kapstevel South Mineral Resources to Ore Reserves at Kolomela mine as well as:

- refinements of the geological interpretations (ore domain boundaries) informing the geological models of Kolomela mine, based on additional exploration borehole information; and
- updates made to the Sishen mine jig ore grade interpretations based on additional borehole information, informing jig ore areas that were previously sparsely sampled.

The changes are therefore mainly attributable to Kumba's continued focus to improve the geological confidence of its on-lease and near-mine Mineral Resources.

It must be categorically stated that Kumba's 2015 Mineral Resources are not an inventory of all mineral occurrences drilled or sampled regardless of cut-off grade, likely dimensions, location, depth or continuity. Instead they are a realistic record of those which under assumed and justifiable technical, legal and economic conditions, show reasonable and realistic prospects for eventual economic extraction.

Kumba's Mineral Resources for 2015 are detailed in **Table 7**.

Figure 6: 2015 Mineral Resource reconciled against 2014 (per site and per Mineral Resource class)

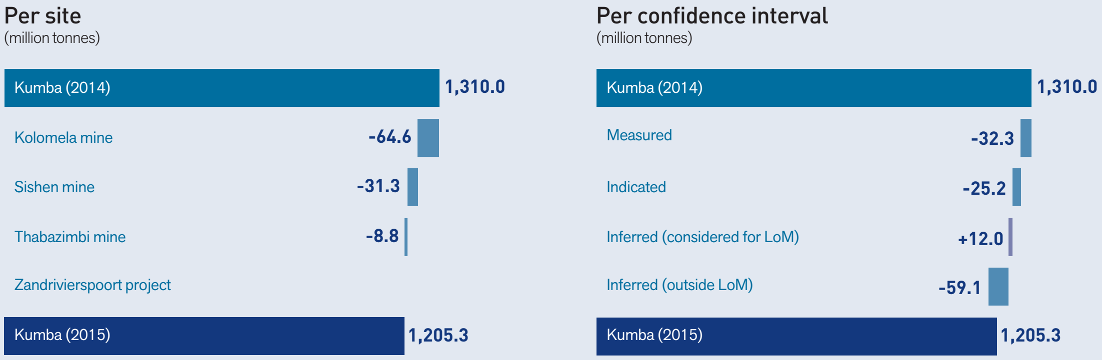


Image
Sishen mine's haul trucks are parked in a safe area at the end of each day ready for the night shift.

MINERAL RESOURCES continued

Table 7: Kumba's Mineral Resource (in addition to Ore Reserves) statement for 2015 (referenced against 2014)

Operation/Project	Ore type	% owned by KIO	Resource category	2015 Tonnage (Mt)	2015 Average % Fe	2015 Average % Fe_3O_4*	2015 % Fe Cut-off**	2014 Tonnage (Mt)	2014 Grade Average	2014 Grade (% Fe)	2014 Cut-off
Mining operations											
Kolomela mine[1]	Haematite	73.9	Measured	**32.9**	**61.9**			21.9	64.9		
• Mineral Resources in addition to Ore Reserves			Indicated	**57.2**	**61.5**			81.2	64.1		
			Measured & Indicated	**90.2**	**61.6**			103.1	64.2		
			Inferred (considered for LoMP)	**51.5**	**64.8**		**50**	44.1	64.5		50
			Inferred (outside LoMP)	**46.6**	**62.6**			105.7	64.2		
			Sub-total	**188.3**	**62.8**			**252.9**	**64.3**		
Sishen mine[2]	Haematite	73.9	Measured	**281.2**	**63.3**			324.5	61.8		
• Mineral Resources in addition to Ore Reserves			Indicated	**144.4**	**56.4**			142.6	56.9		
			Measured & Indicated	**425.6**	**61.0**			467.1	60.3		
			Inferred (considered for LoMP)	**35.0**	**56.9**		**40**	28.9	52.5		40
			Inferred (outside LoMP)	**72.0**	**57.0**			67.8	57.2		
			Sub-total	**532.5**	**60.2**			**563.8**	**59.5**		
Thabazimbi mine[3]	Haematite	73.9	Measured	**0.2**	**63.0**	Not applicable		0.3	64.0	Not applicable	
• Mineral Resources in addition to Ore Reserves			Indicated	**7.7**	**62.3**			10.8	62.1		
			Measured & Indicated	**8.0**	**62.3**		**55.0**	11.1	62.1		55.0
			Inferred (considered for LoMP)	**0.0**	**0.0**			1.4	59.5		
			Inferred (outside LoMP)	**0.4**	**58.9**			4.6	62.9		
			Sub-total	**8.4**	**62.1**			**17.1**	**62.1**		
Kumba Iron Ore – mining operations			Measured	**314.4**	**63.2**			346.7	62.0		
• Total Mineral Resources in addition to Ore Reserves			Indicated	**209.4**	**58.0**			234.6	59.6		
			Measured & Indicated	**523.8**	**61.1**			581.3	61.1		
			Inferred (considered for LoMP)	**86.4**	**61.6**			74.5	59.8		
			Inferred (outside LoMP)	**119.0**	**59.2**			178.1	61.5		
			Sub-total	**729.2**	**60.9**			**833.8**	**61.0**		
Projects											
Zandrivierspoort[4]	Magnetite and Haematite	37.0	Measured	**107.0**	**34.7**	**41.5**		107.0	34.7	41.5	
• Mineral Resources in addition to Ore Reserves			Indicated	**206.4**	**34.4**	**42.5**		206.4	34.4	42.5	
			Measured & Indicated	**313.4**	**34.5**	**42.2**	**21.7**	313.4	34.5	42.2	21.7
			Inferred (considered for LoMP)	**0.0**	**0.0**	**0.0**		0.0	0.0	0.0	
			Inferred (outside LoMP)	**162.7**	**34.5**	**38.1**		162.7	34.5	38.1	
			Total	**476.1**	**34.5**	**40.8**		**476.1**	**34.5**	**40.8**	
Kumba Iron Ore – projects			Measured	**107.0**	**34.7**	**41.5**		107.0	34.7	41.5	
• Total Mineral Resources in addition to Ore Reserves			Indicated	**206.4**	**34.4**	**42.5**		206.4	34.4	42.5	
			Measured & Indicated	**313.4**	**34.5**	**42.2**	**21.7**	313.4	34.5	42.2	21.7
			Inferred (considered for LoMP)	**0.0**	**0.0**	**0.0**		0.0	0.0	0.0	
			Inferred (outside LoMP)	**162.7**	**34.5**	**38.1**		162.7	34.5	38.1	
			Grand total	**476.1**	**34.5**	**40.8**		**476.1**	**34.5**	**40.8**	

MINERAL RESOURCES continued

Table 7: Kumba's Mineral Resource (in addition to Ore Reserves) statement for 2015 (referenced against 2014) continued

Operation/Project	Ore type	% owned by KIO	Resource category	2015 Tonnage (Mt)	2015 Average % Fe	2015 Average % Fe_3O_4*	2015 % Fe Cut-off**	2014 Tonnage (Mt)	2014 Grade Average	2014 Grade (% Fe)	2014 Cut-off
Company											
Kumba Iron Ore			Measured	**421.4**	**56.0**	Not applicable		453.7	55.6		
• Grand total Mineral Resources in addition to Ore Reserves			Indicated	**415.8**	**46.3**			441.0	47.8		
			Measured & Indicated	**837.2**	**51.1**			894.7	51.7		
			Inferred (considered for LoMP)	**86.4**	**61.6**			74.5	59.8		
			Inferred (outside LoMP)	**281.7**	**44.9**			340.8	48.6		
			Grand total	**1,205.3**	**50.4**			**1,310.0**	**51.4**		

- The tonnages are quoted in dry metric tonnes and million tonnes is abbreviated as Mt.
- Rounding of figures may cause computational discrepancies.
- Mineral Resource figures are reported at 100% irrespective of percentage attributable Kumba ownership.
- The term Inferred Mineral Resource (outside LoMP) refers to that portion of the Mineral Resources not utilised in the LoMP of the specific mining operation or project.
- The term Inferred Mineral Resource (considered for LoMP) refers to that portion of the Mineral Resources utilised in the LoMP of the specific mining operation; reported without having any modifying factors applied – therefore the term 'considered for LoMP' instead of 'inside LoMP'.
- Due to the uncertainty that may be attached to some Inferred Mineral Resources, it cannot be assumed that all or part of an Inferred Mineral Resource will necessarily be upgraded to an Indicated or Measured Resource after continued exploration.

* Fe_3O_4 – Magnetite

** The cut-off grade quoted for all the Kumba sites except the Zandrivierspoort project is a fixed chemical cut-off grade. In the case of Zandrivierspoort, the 21.7% Fe cut-off grade is a minimum value, with the cut-off grade being spatially dynamic. A minimum yield of 34.3% is required to define eventual economic extractability. This yield has been empirically derived considering the total *in-situ* % Fe as well as the *in-situ* Magnetite:Haematite ratio and a breakeven cost.

Footnotes to Table 7 explaining year-on-year Mineral Resource differences:

[1] Kolomela mine quotes a substantial 64.6Mt (-26%) decrease in exclusive Mineral Resources from 2014 to 2015.
This is primarily the result of:
- 57.5Mt of the Kapstevel South Mineral Resource being converted to Ore Reserves;
- a 26.5Mt decrease in Mineral Resources based on a refinement of the geological ore domaining as derived from additional borehole information, considering the fact that the former geological models showed a geological loss when reconciled against the short-term grade control models; and
- the depletion of 1.2Mt of Inferred Mineral Resources in 2015 as well as 0.4Mt more Inferred Mineral Resources mined in Q4 2014 than estimated during the time of reporting in 2014.

The decrease in Mineral Resources was offset by a change in the size of the pit layouts resulting in a 5.8Mt increase in Mineral Resources being re-allocated from ore declared as Ore Reserves in 2014, occurring outside the pit layouts in 2015. Furthermore the Ore Reserve Fe cut-off grade was increased from 42% in 2014 to 50% in 2015 resulting in 15.2Mt less Mineral Resources being converted to Ore Reserves in 2015 compared to 2014.

Of the 46.6Mt Inferred Mineral Resources (outside the LoMP), 4.9Mt is extrapolated.

There is a marked improvement in the Measured plus Indicated to Inferred Mineral Resource confidence classification ratio from 41:59 in 2014 to 48:52 in 2015 as part of the ongoing effort of on-mine exploration targeting Inferred Mineral Resources.

[2] The Sishen mine exclusive Mineral Resources showed a 6% decrease of 31.3Mt from 2014.

The 2015 geological model update, that incorporated additional exploration drill hole information targeting the lower-grade ferruginised Banded Iron Formation and ferruginised Shale jig ores, resulted in a year-on-year 16.1Mt decrease in the jig Mineral Resources.

The remaining 15.2Mt decrease is the combined effect of 9.7Mt of Inferred Mineral Resource being depleted in 2015 as part of RoM and a 9.0Mt improvement in Mineral Resource to Ore Reserve conversion methodology (in terms of the blending procedure followed in the LoM Schedule) offset by a 3.5Mt increase in Mineral Resources (re-allocation of Ore Reserves sterilised at depth).

Of the 72.0Mt Inferred Mineral Resources (outside the LoM Plan), 9.0Mt is extrapolated.

On 8 December 2015, Kumba issued an operational update via a SENS announcement and media release which advised that due to deteriorating iron ore prices, Sishen would be reconfigured to allow for a more affordable pit shell. This would enable a more flexible approach, reduce execution risk and lower capital costs over the LoM. The mine will target FOB unit costs of US$30/tonne and a breakeven price of US$40/tonne CFR for 2016. Waste movement is expected to be materially below previous guidance of ~230Mt at ~135Mt and production is expected to be reduced from previous guidance of 36Mt for 2016 to ~26Mt. In addition, the continued softening of the iron ore market is expected to have a material impact on the 2016 Ore Reserves (~150Mt reduction) and Mineral Resources.

[3] Thabazimbi mine's total exclusive Mineral Resources showed a substantial 51% decrease of 8.8Mt.

Apart from a 0.1Mt depletion of Inferred Mineral Resources as RoM in 2015, the substantial decrease in Mineral Resources is the result of the announcement by Kumba in 2015 of the closure[#] of the operation in Q2 2016. This prompted a re-evaluation of the Mineral Resource portfolio, whereby 8.6Mt were re-allocated to Mineral Inventory i.e. considered to not have reasonable and realistic prospects for eventual economic extractability.

In total 8.4Mt were retained as Mineral Resources i.e. those Mineral Resources occurring inside pit layouts (declared as Ore Reserves in 2014 minus 2015 depletion). KIO corporate office will again review the Thabazimbi Mineral Resource Statement after closure in 2016. The decision to report Mineral Resources, pending the closure of the mine is based on the fact that those Mineral Resources remaining inside the pit layouts (Kumba interim, Donkerpoort Neck, and Buffelshoek West), which were previously referenced as Ore Reserves, are considered to comply with the criteria of having reasonable and realistic prospects for eventual economic extractability. The NPV calculation conducted in 2015 to test for RRPEEE applied the Ore Reserve economic parameters to the unmodified Mineral Resources occurring within pit layouts as were applicable in 2014. The NPV calculation included an annual stay-in-business capital amount of R50 million and the result was positive. This report is made under the premise that the infrastructure remains in place i.e. as in its current state. The same NPV calculation applied to Ore Reserves i.e. modified Mineral Resources, was negative and therefore no Ore Reserves occurring within pit layouts could be declared for Thabazimbi mine in 2015.

Of the 0.4Mt Inferred Mineral Resources (outside the LoMP), none is extrapolated.

[4] The Zandrivierspoort project Mineral Resources remained unchanged from 2014.

[#] Thabazimbi mine (1931 to 2015) was instrumental in establishing the iron and steel industry in South Africa. In a sense it can be considered as the birth operation to what is currently known as Kumba Iron Ore and ArcelorMittal South Africa.

The Competent Person signing the 2015 Kumba Mineral Resource report had the opportunity to work at Thabazimbi mine in the early part of his career and would like to acknowledge that Thabazimbi mine contributed to honing his skills as a mining geologist.

"Thabazimbi mine equipped me with an understanding to not only consider profitability, but also sustainability, when signing off as Competent Person on Mineral Resources, i.e. Mother Nature should be shared by everyone."

ANCILLARY RESERVE AND RESOURCE INFORMATION BY OPERATION/PROJECT

All the production-related figures quoted in this section are estimated (9 + 3) as the site Resource and Reserve Statements from which this summary Resource and Reserve report was derived for Kumba were compiled in October 2015.

KOLOMELA MINE

Geological outline

The mining right (area) is located in the Northern Cape province near Postmasburg **(Figure 7)** and is situated on the southern tip of the narrow north-south trending belt of iron-bearing lithologies of the Griqualand West Supergroup hosting the Sishen deposit towards the north.

Iron ore at Kolomela mine is associated with the chemical and clastic sediments of the Proterozoic Griqualand West Supergroup. These sediments define the western margin of the Kaapvaal Craton in the Northern Cape province.

The stratigraphy has been deformed by thrusting from the west and has undergone extensive karstification. The thrusting has produced a series of open, north-south plunging anticlines, synclines and grabens and karstification has been responsible for the development of deep sinkholes.

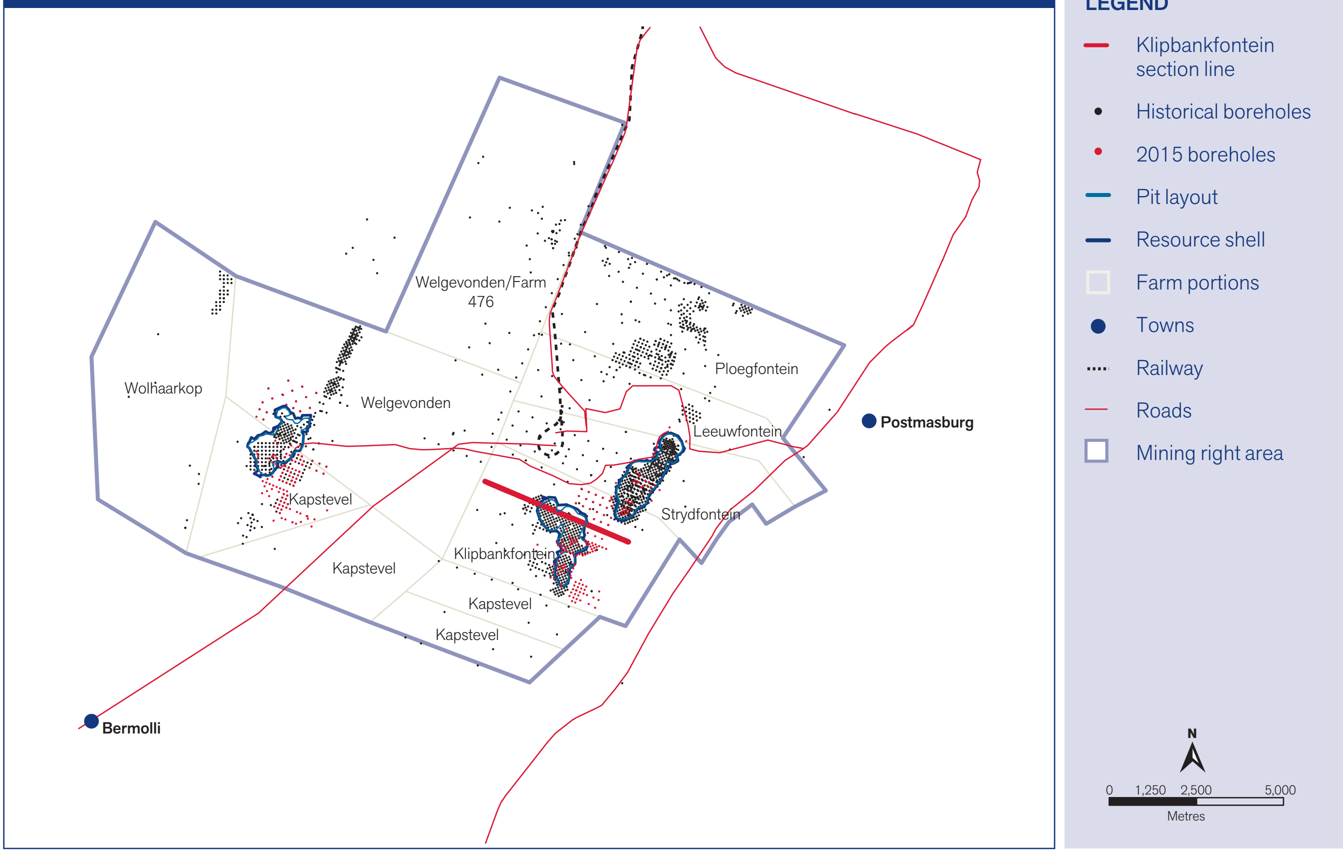
The iron ore at Kolomela has been preserved from erosion within these geological structures. These structures are therefore important exploration targets.

The Griqualand West Supergroup lithologies were deposited on a basement of Achaean granite gneisses and greenstones, and/or lavas of the Ventersdorp Supergroup. In the Sishen – Postmasburg region, the oldest rocks of the Griqualand West Supergroup form a carbonate platform sequence (dolomites with minor limestone, chert and shale) known as the Campbell Rand Subgroup.

The upper part of the Griqualand West Supergroup comprises a banded iron formation unit, the Asbestos Hills Subgroup, which has been conformably deposited on the carbonates. In places, the upper portion of the banded iron formation has been supergene-enriched to Fe ≥ 60%. The iron ore/banded iron formation zone is referred to as the Kuruman Formation. The ores found within this formation comprise the bulk of the higher-grade iron ores in the region.

An altered mafic intrusive sill (originally of gabbroic composition) usually separates the iron ore deposits from the underlying host iron formation. It is believed to have intruded the Griqualand West Supergroup in late Proterozoic times.

Figure 7: Kolomela mining right area near the town of Postmasburg in the Northern Cape province



ANCILLARY RESERVE AND RESOURCE INFORMATION BY OPERATION/PROJECT

continued

A thick sequence of younger clastic sediments (shales, quartzites and conglomerates) belonging to the Gamagara Subgroup unconformably overlies the banded iron formations. Some of the conglomerates comprise predominantly haematite and are of lower-grade ore quality.

The unconformity separating the iron formations from the overlying clastic sediments represents a period of folding, uplift and erosion. During this time, dissolution and karstification took place in the upper dolomitic units. This resulted in the formation of residual solution breccias, referred to as the Manganese Marker or Wolhaarkop Breccia, between the dolomites and overlying banded iron formations. In places, deep sinkholes developed in the dolomites, into which the overlying iron formation and iron ore deposits collapsed.

Diamictite of the Makganyene Formation and lava of the Ongeluk Formation have been thrusted over the Gamagara sediments in the Kolomela region. These are preserved only within larger synclinal structures.

A considerable portion of the upper parts of the stratigraphy were eroded and re-deposited as tillite during Dwyka glaciation. The entire folded sequence was then eroded during Tertiary times. A thick blanket of calcrete, dolocrete, clays and pebble layers (Kalahari Group) was deposited unconformably over the older lithologies.

Evidence of karst formation after the development of the calcretes of the Edin and Boudin Formation can be seen in the current Leeuwfontein pit.

Structurally, Kolomela mine lies on the western margin of the Kaapvaal Craton, and has been affected by Kheis Orogeny. The deformation intensity increases from east to west and the area is dominated by regional-scale synforms and antiforms – the so-called Welgevonden Basin and Wolhaarkop antiform.

The area west of the Wolhaarkop antiform (including the western limb of the antiform) is characterised by tight overturned fold structures that verge towards the east. The overturned limbs of the fold structures are locally disrupted, which has produced thrusts with limited displacement. East of the antiform (Kolomela area), the folds are upright, tight to open structures that have variable inter-limb angles. All of the fold structures west of the antiform are the product of east-west crustal contraction during the Kheis Orogeny, which produced eastward-directed thrusting.

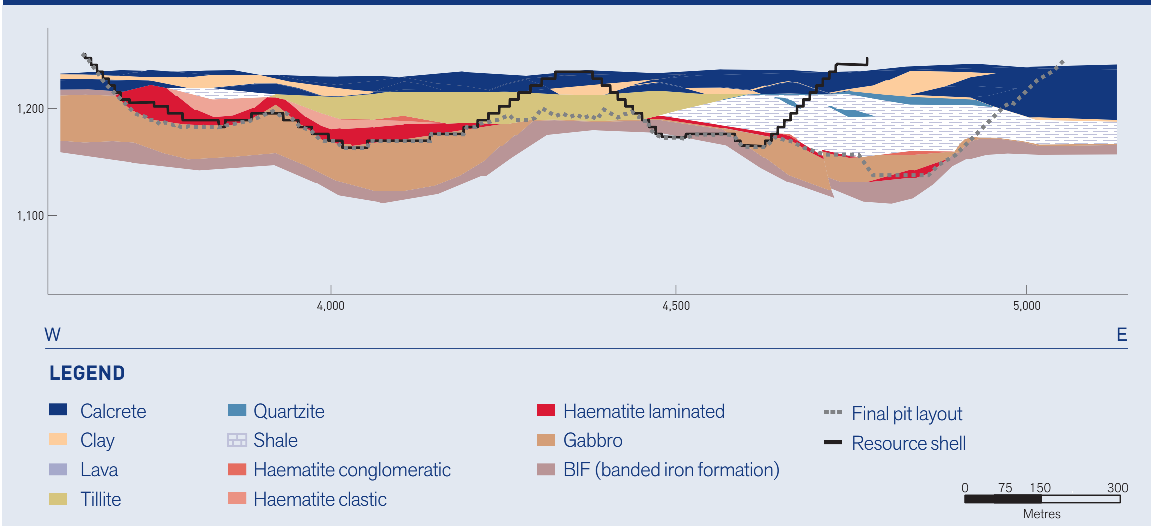
Thrust faults that were intersected in drill core in the Welgevonden north area caused duplication of the stratigraphy. The high degree of associated deformation is clearly illustrated in drill core from the Welgevonden area and duplication or elimination of iron ore may occur.

The Wolhaarkop area is structurally more intensely deformed than the Kapstevel and the Welgevonden areas. The folds are tight to isoclinal, over-folded with an eastwards vergence. With subsequent deformation the fold structures became disrupted, resulting in thrust structures with eastwards directed movement. The high-strain zones (thrusts) are locally characterised by a high degree of ferruginisation of extensively brecciated BIF. In some places, the ore is preserved as narrow, tightly folded lenses within the high-strain zones.

Four distinct iron ore types have been described at the Kolomela deposit, with the bulk of the ores having their equivalents at Sishen mine. Their chemical properties do, however, differ slightly. The Kolomela deposit comprises high-quality, clastic-textured (29%), laminated (53%), collapse breccia (10%) and conglomeratic (8%) ores.

Figure 8 represents a vertical profile intersecting the three-dimensional geological model of the Klipbankfontein iron ore deposit (red line in **Figure 7**), demonstrating Kumba's interpretation of the relationship between the ore body and host rock as well as waste material.

Figure 8: East-west (viewed in southerly direction) profile depicting the local geology through the Klipbankfontein mining area



ANCILLARY RESERVE AND RESOURCE INFORMATION BY OPERATION/PROJECT

continued

Operational outline

Kolomela mine has been designed as a direct shipping ore operation, where conventional open-pit drilling and blasting; shovel-and-truck loading and hauling mining processes are applied to mine the group of ore bodies from different pits.

A combination of RoM buffer and product stockpile blending on site, as well as further blending with the product from Sishen mine, are used to ensure that the final product adheres to the required client grade specifications. Product size is controlled via a crushing and screening plant receiving feed from all buffer RoM finger stockpiles and pit RoM material.

From 2017 onwards, the mine is scheduled to produce 13.0Mt of Saleable Product annually **(Figure 9)**.

The first five years of the Kolomela 2015 LoM plan include 13% Inferred Mineral Resources (mainly originating from the Leeuwfontein mining area), while the full LoM plan includes 20% modified Inferred Mineral Resources.

The annual Saleable Product output has been increased from 11.4Mtpa to 13.0Mtpa, i.e. optimising the output between Sishen mine and Kolomela mine. The 13.0Mtpa Saleable Product output is maintained for 19 of the 21 years.

The net present value (NPV @ 8% Real) of the LoM scenario excluding Inferred Mineral Resources is 16% less than the LoM scenario including the 20% Inferred Mineral Resources.

The iron ore is transported to the Saldanha export harbour via the Orex iron ore export line. Kolomela mine produces lump and fine ore, with the physical properties of the lump ore of such a high standard that it meets niche demand.

The total tonnes extracted in 2015 from three pits (Leeuwfontein, Kapstevel and Klipbankfontein) at Kolomela mine decreased by 35% from 89.4Mt (in 2014) to an estimated 58.5Mt in 2015. The 2015 mining performance (as estimated at the time of reporting) comprises 44.1Mt of waste and 14.4Mt of ex-pit ore. As indicated, the decrease in the waste mining is the result of mining pushbacks that are closer aligned with the current economic climate, i.e. waste stripping is being deferred.

In total, an estimated 12.0Mt of Saleable Product will be produced on site from the RoM delivered to the crushing and screening plant, with the excess ex-pit ore being retained on RoM buffer stockpiles, which increased in tonnage by 2.2Mt from 2014 to 2015. With the inclusion of stockpiled product, 12.0Mt is expected to be sold via Saldanha Harbour.

The operational aspects are summarised in **Table 8**.

Table 8: Kolomela mine operational outline summary

Key details	
Ownership (AA plc)	51.5%
Ownership (KIO)	73.9%
Commodity	Iron ore
Country	Republic of South Africa
Mining method	Open pit – Conventional
Reserve Life* in years	21 years
Saleable Product design capacity	13.0Mtpa
Estimated 2015 RoM production	12.2Mt (14.4Mt Ex-pit)
Estimated 2015 Saleable Product	12.0Mt
Estimated 2015 waste production	44.1Mt
Overall planned stripping ratio	1: 3.9
Estimated product sold in 2015	12.0Mt
Product types	Lump and Fine

* Reserve Life includes all consecutive years in the LoM plan where the Proved and Probable Ore Reserves make up >25% of the year's RoM.

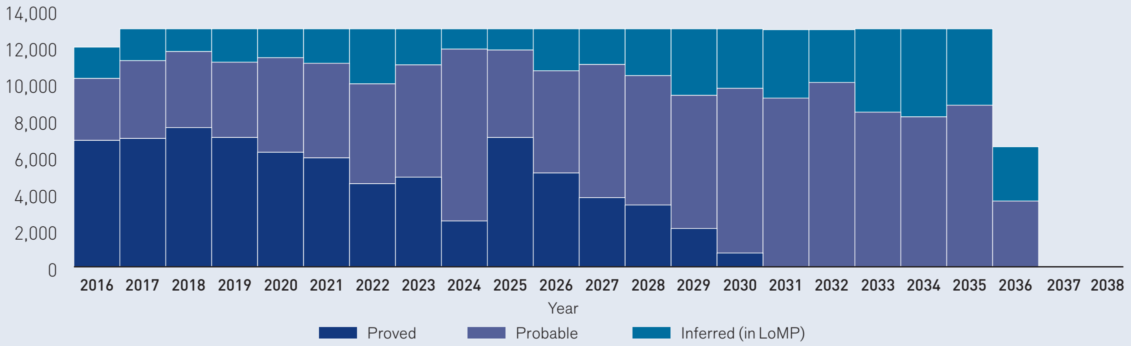
Ore Reserve estimation parameters

The Kolomela mine Ore Reserve estimation parameters and attributes are summarised in **Table 9**.

Mineral Resource estimation parameters

The Kolomela mine Mineral Resource estimation parameters and attributes are summarised in **Table 10**.

Figure 9: Kolomela mine's 2015 LoM schedule Saleable Product profile (including modified Inferred Mineral Resources) (tonnes (kt))



ANCILLARY RESERVE AND RESOURCE INFORMATION BY OPERATION/PROJECT

continued

Table 9: Kolomela mine's 2015 vs. 2014 Ore Reserve estimation parameters

	2015	2014
Method		
Approach	Ore Reserves are those derived from Measured and Indicated Mineral Resources only (through application of modifying factors) and do not include Inferred Mineral Resources. In the case of Kumba Iron Ore all Ore Reserves are constrained by practical pit layouts, mining engineered from pit shells that define 'current economically mineable'.	
	The geological block model(s) is converted into a mining block model considering a site-specific practical mineable smallest mining unit. Furthermore protocols ensure that Kumba Iron Ore's operations/projects consider expected long-term revenues versus the operating and production costs associated with mining and beneficiation as well as legislative, environmental and social costs, in determining whether or not a Mineral Resource could be economically extracted and converted to an Ore Reserve. This is performed by applying a Lerch-Grosmann algorithm to the mining model to derive an optimised pit shell. This optimised pit shell is then iteratively converted to a practical layout by applying geotechnical slope stability parameters and haul road and ramp designs, legal restrictions etc., with safety being one of the most considered parameters. Once a practical pit layout has been established the material within the pit is scheduled over time to achieve client specifications and thus a LoM schedule is produced.	
	The average % Fe grade and metric tonnage estimates of Saleable Product are also reported to demonstrate that beneficiation losses have been taken into account.	
Tonnage	*In-situ* dry metric tonnes	*In-situ* dry metric tonnes
Fe grade	Ore Reserve % Fe grades reported represent the weighted average grade of the 'plant feed' or RoM material and take into account all applicable modifying factors. For scheduling purposes the locally diluted grade estimates are used.	
Cut-off grade	50% (includes dilution material)	42% (includes dilution material)
Ore type	Haematite ore	Haematite ore

Image
A view of the Saldanha iron ore multi-purpose terminal.

ANCILLARY RESERVE AND RESOURCE INFORMATION BY OPERATION/PROJECT
continued

Table 9: Kolomela mine's 2015 vs. 2014 Ore Reserve estimation parameters continued

	2015	2014
Estimation		
Mining block model		
Smallest mining unit	Leeuwfontein 10mX x 10mY x10mZ; Klipbankfontein 10mX x 10mY x 5.0mZ and Kapstevel North 10mX x 10mY x 5.0mZ Kapstevel South 10mX x 10mY x 5.0mZ These SMUs were re-packed into larger scheduling units of 80mX x 80mY x 10mZ.	Leeuwfontein 10mX x 10mY x10mZ; Klipbankfontein 10mX x 10mY x 5.0mZ and Kapstevel 10mX x 10mY x 5.0mZ These SMUs were re-packed into larger scheduling units of 80mX x 80mY x 10mZ.
Mining block model name	2015_lf_10_10_10_v1.mdl, ksn_022015c_v3.mdl, kf_10x10x5_v1.mdl, kss_2015_10_10_5.mdl	lf_smu_10x10x10.mdl, ks_smu_10x10x5.mdl, kf_smu_10x10x5.mdl
Topography and pit progression assigned	End August 2015	End September 2014
Modifying factors		
• Dilution	1.2%	4.1%
• Mining loss	6.3% (End of life remaining stockpile)	6.7% (End of life remaining stockpile)
• Metallurgical recovery	99.8%	99.8%
Practical mining parameters		
Bench height	10m	10m
Ramp gradient	8% to 10.0% (1 in 8 to 1 in 10)	8% to 10.0% (1 in 8 to 1 in 10)
Road width	35m	35m
Minimum mining width	80m (hydraulic shovel and truck mining)	80m (hydraulic shovel and truck mining)
Geohydrology	Groundwater level maintained 20m below pit floor	Groundwater level maintained 20m below pit floor
Pit slopes	Designed according to a defendable risk matrix, guided by an appropriate factor of safety of 1.3 and a probability of failure of 10%	Designed according to a defendable risk matrix, guided by an appropriate factor of safety of 1.3 and a probability of failure of 10%
Pit optimisation		
Software	*Whittle 4X*	*Whittle 4X*
Method	Lerch-Grosmann (marginal cost cut-off analysis)	Lerch-Grosmann (marginal cost cut-off analysis)
Life of mine scheduling		
Software	*OPMS*	*OPMS*
Method	Product tonnage and grade target driven	Product tonnage and grade target driven
Stripping strategy	Deferred waste stripping strategy	Deferred waste stripping strategy
Reserve Life years	21	21
Stripping ratio (including Inferred Mineral Resources)	1.0:3.9	1.0:3.9
Schedule ID	2015 LoM including KSS	11.4 LoM OPMS
Reserve model date	19 November 2015	27 November 2015
Ore Reserve classification		
Method	The Mineral Resource classification is carried into the Ore Reserve classification, i.e. Measured Mineral Resources are converted to Proved Ore Reserves and Indicated Mineral Resources are converted to Probable Ore Reserves. Inferred Mineral Resources are not converted to Ore Reserves and where Inferred Mineral Resources are quoted, including those marked as "considered for LoM" no modifying factors have been applied. No downgrading was conducted.	The Mineral Resource classification is carried into the Ore Reserve classification, i.e. Measured Mineral Resources are converted to Proved Ore Reserves and Indicated Mineral Resources are converted to Probable Ore Reserves. Inferred Mineral Resources are not converted to Ore Reserves and where Inferred Mineral Resources are quoted, including those marked as "considered for LoM" no modifying factors have been applied. No downgrading was conducted.

ANCILLARY RESERVE AND RESOURCE INFORMATION BY OPERATION/PROJECT

continued

Table 10: Kolomela mine's 2015 vs. 2014 Mineral Resource estimation parameters

	2015	2014
Security of tenure		
Number of applicable rights	1 mining right	1 mining right
Right status	Registered	Registered
Right expiry date(s)	17 September 2038	17 September 2038
Method		
Approach	Spatially classified in terms of geoscientific knowledge and confidence, occurring within an eventual economically extractable defined envelope (2 x revenue factor optimistic pit shell), in other words not all mineral occurrences are declared as Mineral Resources (Kumba Iron Ore also has Deposit and Mineral Inventory registers). Mineral Resources are declared within (never outside) executed tenement boundaries. In-house protocols require that Competent Persons distinguish between Mineral Resources occurring in prospecting right areas and those occurring in mining right areas. Inclusive Mineral Resource reporting is done in-house to be used in verification of annual Mineral Resource movement declarations.	
Tonnage	*In-situ* dry metric tonnes	*In-situ* dry metric tonnes
Fe grade	Weighted average above cut-off grade	Weighted average above cut-off grade
	Tonnage-weighted mean of the interpolated *in-situ* Mineral Resource grades contained within geological block models, where the tonnage is calculated as the result of Mineral Resource volumes multiplied by their spatially associated dry relative densities	Tonnage-weighted mean of the interpolated *in-situ* Mineral Resource grades contained within geological block models, where the tonnage is calculated as the result of Mineral Resource volumes multiplied by their spatially associated dry relative densities
Cut-off grade	50% Fe	50% Fe
Ore type	Haematite ore	Haematite ore
Data		
Data input	Core and percussion borehole lithological and chemical analyses	
Relative density measure	Picnometer analyses on pulp samples	Picnometer analyses on pulp samples
QA/QC protocol	KIO QC Protocol for Exploration Drilling Sampling and Sub sampling (version 4)	
Primary laboratory	Anglo American Research Division of Anglo Operations Limited Chemistry Laboratory (Co. reg no: 1921/006730/07)	Anglo American Research Division of Anglo Operations Limited Chemistry Laboratory (Co. reg no: 1921/006730/07)
Accreditation	Accredited under International Standard ISO/IEC 17025:2005 by the South African National Accreditation System (SANAS) under the Facility Accreditation Number T0051 (valid from 01 May 2011 to 30 April 2016)	Accredited under International Standard ISO/IEC 17025:2005 by the South African National Accreditation System (SANAS) under the Facility Accreditation Number T0051 (valid from 01 May 2011 to 30 April 2016)
Borehole database software	*acQuire*	*acQuire*
Borehole database update cut-off date	30 April 2014	31 May 2013
Database validation conducted	Yes	Yes
Segmentation conducted	Yes. To allow for simplification of logged lithologies for spatial correlation purposes	

ANCILLARY RESERVE AND RESOURCE INFORMATION BY OPERATION/PROJECT

continued

Table 10: Kolomela mine's 2015 vs. 2014 Mineral Resource estimation parameters continued

	2015	2014
Estimation		
Solids modelling		
Solids modelling software	*Surpac*	*Surpac*
Method	Two-dimensional sections interpreted on borehole lines are electronically captured	Two-dimensional sections interpreted on borehole lines are electronically captured
	Digital wireframe modelling (manual triangulation) for ore segments and some waste (usually within and in hanging wall and footwall of ore zones) segments as from 2D sections	Digital wireframe modelling (manual triangulation) for ore segments and some waste (usually within and in hanging wall and footwall of ore zones) segments as from 2D sections
	Digital terrain models for other waste segments	Digital terrain models for other waste segments
Domaining	Yes, by segment code and structural controls	Yes, by segment code and structural controls
Topography and pit progression assigned	Yes, topography and pit progression are assigned	Yes, topography and pit progression are assigned
Validation conducted	Yes (visually for gaps and overlaps as well as honouring of borehole contacts)	Yes (visually for gaps and overlaps as well as honouring of borehole contacts)
Statistical and geostatistical evaluation		
Compositing and method	Compositing is done in Datamine. The data was composited into 1m intervals per lithology and grades of composites were determined by a length weighted average.	Compositing is done in Datamine. The data was composited into 1m intervals per lithology and grades of composites were determined by a length weighted average.
Grade parameters evaluated	% Fe, % SiO_2, % Al_2O_3, % K_2O, % S and % P as well as Relative density	% Fe, % SiO_2, % Al_2O_3, % K_2O, %S and % P as well as Relative density
Variography updated in current year	Leeuwfontein, Kapstevel North and South, Klipbankfontein updated	Leeuwfontein updated
Search parameters updated in current year	Leeuwfontein, Kapstevel North and South, Klipbankfontein updated	Kapstevel South updated
Estimation methodology		
Ore segments	Ordinary Kriging	Ordinary Kriging
Waste segments	Global estimate	Global estimate
Geological block modelling		
Model type	Centroid model	Centroid model
Parent cell size	40m(X) x 40m(Y) x 10m(Z) (Kriging neighbourhood analyses)	40m(X) x 40m(Y) x 10m(Z) (Kriging neighbourhood analyses)
Cell population method		
• Tonnage	Available per segment code contained in cell (Cell increment x RD)	Available per segment code contained in cell (Cell increment x RD)
• Grade	Tonnage weighted average per cell considering all segment grades contained in cell	Tonnage weighted average per cell considering all segment grades contained in cell
Geological block model ID	kf_022015j.mdl, ksn_022015c.mdl, kss_022015b.mdl, lf_022015c.mdl, pf042013e.mdl, hk042013c.mdl, whk_042013.mdl, wvcn_wgs131009_2.mdl	kf_062011h.mdl, ksn_062012h.mdl, kss042014f.mdl, pf042013e.mdl, hk042013c.mdl, whk_042013.mdl, wvcn_wgs131009_2.mdl, lf042014g.mdl
Update completion date	28 February 2015	30 April 2014

ANCILLARY RESERVE AND RESOURCE INFORMATION BY OPERATION/PROJECT
continued

Table 10: Kolomela mine's 2015 vs. 2014 Ore Reserve estimation parameters continued

	2015	2014
Estimation continued		
Mineral Resource classification		
Method summary	Scorecard/CP Over-ride	Scorecard/CP Over-ride
Classification	According to the 2015 Kumba Iron Ore Geological Confidence Classification Guideline (quantitative scorecard approach) with Competent Person judgement applied to: • identify critical factors to be used to evaluate grade and geological continuity; • assign weights to establish importance of each parameter; and • determine boundaries of calculated grade and geological continuity indices to distinguish between Measured, Indicated and Inferred Mineral Resources.	According to the 2010 Kumba Iron Ore Mineral Resource Classification Guideline (quantitative scorecard approach) with Competent Person judgement applied to: • identify critical factors to be used to evaluate grade and geological continuity; • assign weights to establish importance of each parameter; and • determine boundaries of calculated grade and geological continuity indices to distinguish between Measured, Indicated and Inferred Mineral Resources.

Image
A general view of the Leeuwfontein pit at Kolomela mine.

ANCILLARY RESERVE AND RESOURCE INFORMATION BY OPERATION/PROJECT

continued

SISHEN MINE

Geological outline

The bulk of Kumba's 2015 production was generated by Sishen mine, located in the Northern Cape province near the town of Kathu in the Republic of South Africa. The Sishen mining right area is depicted in **Figure 10**.

The majority of the Sishen Mineral Resource comprises high-grade, laminated and massive ores belonging to the Asbestos Hills Subgroup. These ores are truncated by an erosion surface upon which lower-grade conglomeratic ores and sedimentary rocks of the Gamagara Subgroup have been deposited.

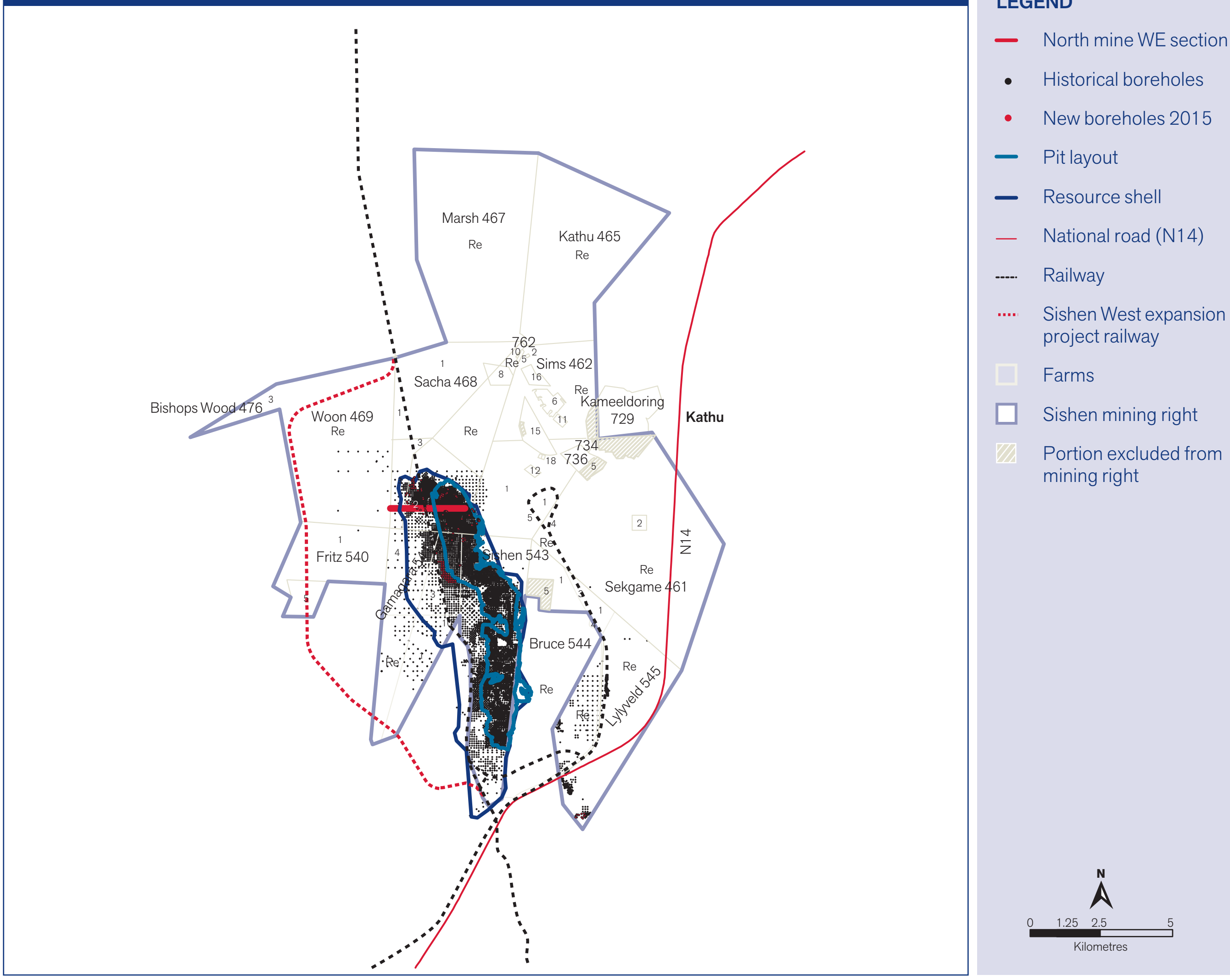
The ore bodies are folded. Dips vary according to local structures, but at Sishen, a regional dip of 11° in a westerly direction prevails.

Continuous, alternating basin and dome structures occur at Sishen mine. The interference folds are further modified by normal faulting and low-angle thrusts. Ore bodies are best preserved in basinal and pseudo-graben type structures. The anticlinal structures normally comprise barren footwall lithologies.

Highly deformed, isolated ore bodies occur close to the Maremane anticline. The ore tends to be less deformed and more continuous, the further it is situated from the anticline. Hanging-wall lithologies also thicken down plunge.

The carbonates of the Campbell Rand Subgroup are separated from the overlying BIF of the Asbestos Hills Subgroup by a siliceous, residual breccia. This breccia is known locally as the Wolhaarkop Breccia (Beukes, 1978) and is developed on an irregular, karst surface.

Figure 10: Sishen mining right area near the town of Kathu in the Northern Cape province



ANCILLARY RESERVE AND RESOURCE INFORMATION BY OPERATION/PROJECT

continued

The BIFs of the Asbestos Hills Subgroup are characteristically fractured and brecciated, especially near the contact with the Wolhaarkop Breccia. Both upper and lower contacts are erosion surfaces and together with the lack of easily identifiable marker horizons, make correlation of individual beds virtually impossible.

A highly altered, slickensided, intrusive sill is commonly found separating the BIF from the overlying laminated ore. At Sishen mine it is generally less than 2m thick. The sill is invariably folded into the basinal geometry and only rarely crosscuts (intrudes) the ore bodies.

At the Sishen deposit, the upper parts of the Asbestos Hills Subgroup have been ferruginised to ore grade. These stratiform, laminated and massive ores constitute the bulk of the resource. The laminated and massive ores are commonly folded and faulted into basinal and pseudo-graben structures.

Deep palaeo-sinkholes, filled with brecciated ore and Gamagara sedimentary rocks, are found on the southern parts of the Sishen properties. The sinkholes are restricted to antiformal structures close to the Maremane Dome on the southern portions of the mine. They are an important mechanism for preserving collapse breccia ore.

They are unconformably overlain by a thick package of sedimentary rocks (conglomerates, shales, flagstone and quartzite) termed the Gamagara Subgroup (S.A.C.S., 1995). Many researchers including Beukes and Smit (1987) and Moore (pers. comm.) have correlated this unit with the Mapedi Formation, which constitutes the lowermost unit of the Olifantshoek Supergroup. The Olifantshoek Supergroup is the oldest recognised red-bed sequence in the region. It is some 400Ma younger than the Transvaal Supergroup.

Conglomerates of ore-grade with well-rounded clasts and fine-grained, well-sorted, gritty ores are common at Sishen mine. Partly ferruginised Shales, interbedded with ore conglomerates and thick flagstones, are also a feature of the Gamagara Subgroup.

Along the western margin of Sishen mine, diamictite of the Makganyene Formation and lavas of the Ongeluk Formation have been thrust over the sedimentary rocks of the Gamagara Subgroup. The diamictite and lava have been eroded by later events. Tillite of the Dwyka Group and pebble beds, clay and calcrete of the Kalahari Group have been deposited on these erosional unconformities.

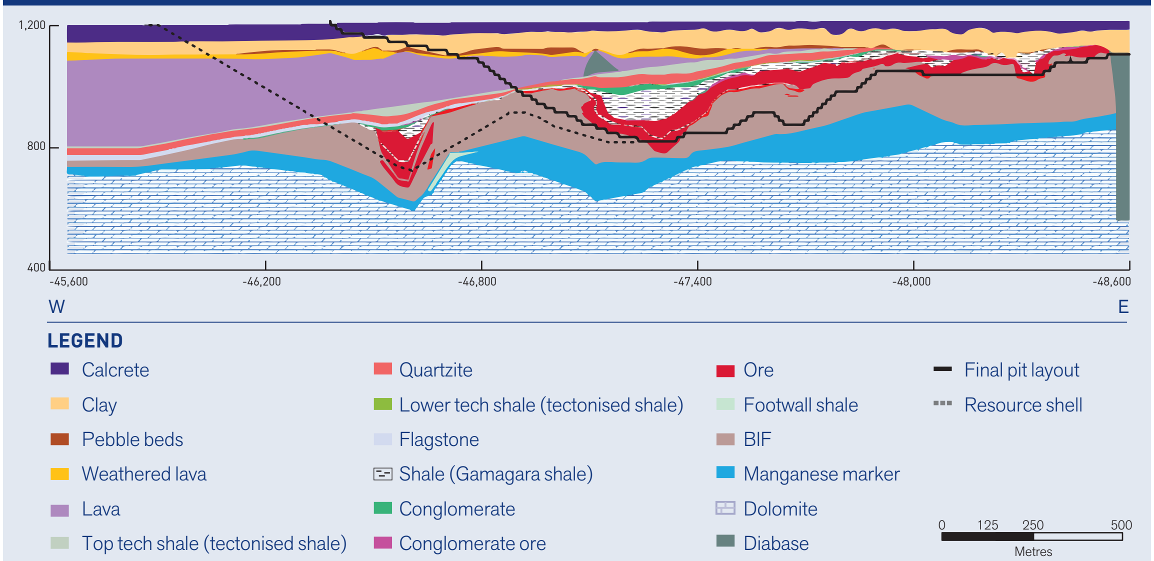
A few thin, diabase dykes with north-south and northeast-southwest orientations, have intruded the stratigraphic sequence. They form impervious barriers and compartmentalise the groundwater.

A buried glacial valley, filled with Dwyka tillite and mudstones, has been identified with reconnaissance drilling. The valley is located between the mine and Kathu. It has a north-south orientation that changes to northwest-southeast between Dibeng and the mine. The valley does not fall within the planned open pit.

The Kalahari Group comprises boulder beds, clays, calcrete, dolocrete and windblown sands and is developed to a maximum thickness of 60m. The clay beds at Sishen can attain a thickness of up to 30m on the northern parts of the deposit. The Kalahari beds of calcrete, limestone and clay and Quaternary sand and detritus, blanket more than 90% of the Sishen mining area. Only scattered outcrops of iron ore, quartzite and banded iron ore formation are found on the south-eastern parts of the Kumba properties.

Figure 11 represents a vertical profile intersecting the three-dimensional geological model of the North mine area (red line in **Figure 10**), demonstrating Kumba's interpretation of the relationship between the ore bodies and waste material or local geology of the North mine area at Sishen mine.

Figure 11: West-east profile depicting the local geology through the Sishen North mine area



ANCILLARY RESERVE AND RESOURCE INFORMATION BY OPERATION/PROJECT

continued

Operational outline

All mining at Sishen is done by opencast method. The current mining process entails topsoil removal and stockpiling, followed by drilling and then blasting of waste lithologies and ore. Overburden is backfilled in the pit or hauled to waste rock dumps on the edge of the pit. The iron ore is loaded according to blend (grade) requirements and transported to the beneficiation plants, where it is crushed, screened and beneficiated. Each size fraction is separated and beneficiated using a ferrosilicon medium or jigging process before being stockpiled on the product beds. Plant slimes are pumped to evaporation dams and the plant discard material is stacked on a separate waste dump.

Seven iron ore products (conforming to different chemical and physical specifications) are produced. The ores are reclaimed from the product beds and loaded into trains, to be transported to local steel mills and Saldanha Bay for export to international markets.

The 2015 Sishen LoM plan schedule (including Inferred Mineral Resources) was derived to sustain an average 36.5Mt annual Saleable Product level **(Figure 12)**. A two-year ramp-up in the beginning of the LoM plan and two-year ramp-down at the end of the LoM plan does not achieve the average 36.5Mt annual Saleable Product output. The Sishen 2015 LoM plan contains 7% modified Inferred Mineral Resources.

The 15-year Reserve Life (production ending 2030) is more than adequately catered for by the Sishen mining right which extends until 2039.

The total tonnes extracted from the pit at Sishen mine increased by 15% from 229.8Mt in 2014 to 265.1Mt, of which waste mined in 2015 is 227.1Mt, as estimated at the time of reporting. The increase in waste mining activities is undertaken to mitigate the decrease in flexible access to ore due to the ever increasing depth at which mining intersects the ore body.

Total production at Sishen mine has decreased by 12% from 35.5Mt in 2014 to an estimated 31.2Mt total Saleable Product in 2015, beneficiated from an annual RoM of 45.3Mt (including 9.7Mt Inferred Mineral Resources as well as 7.1Mt RoM from stockpiles) with a resulting estimated overall (dense media separation (DMS) and jig plant) average annual yield of 68.9%, 5.8% (absolute) less than the average 74.7% yield as indicated in the 2014 LoM plan. The main reason for this was a deviation from the mine plan where significantly more low-grade (banded iron formation) ore was fed to the jig plant from buffer RoM stockpiles than planned.

Production through the DMS plant did not meet the 2015 target of 24.2Mt and is estimated to deliver 20.2Mt. The jig plant throughput is below the target of 11.5Mt with 2015 production totalling 10.8Mt. The forecasted sales for 2015 are 31.2Mt.

The operational aspects are summarised in **Table 11**.

Table 11: Sishen mine operational outline summary

Key details	
Ownership (AA plc)	51.5%
Ownership (KIO)	73.9%
Commodity	Iron ore
Country	Republic of South Africa
Mining method	Open pit – Conventional
Reserve Life* in years	15 years
Saleable Product design capacity	41.4Mtpa
Estimated 2015 RoM production	45.3Mt
Estimated 2015 Saleable Product	31.2Mt
Estimated 2015 waste production	227.1Mt
Overall planned stripping ratio	1:4.0
Estimated product sold in 2015	31.2Mt
Product types	7 lump and fine product types

* Reserve Life includes all consecutive years in the LoM plan where the Proved and Probable Ore Reserves make up >25% of the year's RoM.

Ore Reserve estimation parameters

The Sishen mine Ore Reserve estimation parameters and attributes are summarised in **Table 12**.

Mineral Resource estimation parameters

The Sishen mine Mineral Resource estimation parameters and attributes are summarised in **Table 13**.

ANCILLARY RESERVE AND RESOURCE INFORMATION BY OPERATION/PROJECT

continued

Figure 12: Sishen mine's 2015 LoM schedule Saleable Product profile (including modified Inferred Mineral Resources) (tonnes (kt))

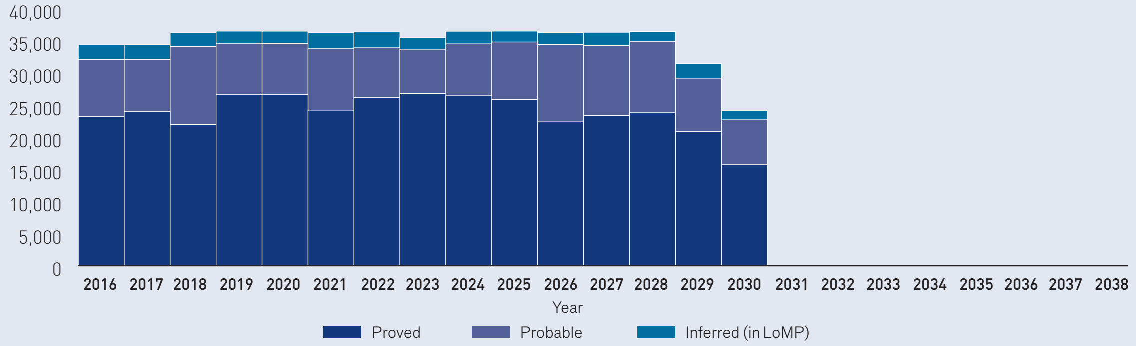


Image
A general view of mining operations at Sishen mine.

ANCILLARY RESERVE AND RESOURCE INFORMATION BY OPERATION/PROJECT

continued

Table 12: Sishen mine's 2015 vs. 2014 Ore Reserve estimation parameters

	2015	2014
Method		
Approach	Ore Reserves are those derived from Measured and Indicated Mineral Resources only (through application of modifying factors) and do not include Inferred Mineral Resources. In the case of Kumba Iron Ore all Ore Reserves are constrained by practical pit layouts, mining engineered from pit shells that define 'current economically mineable'.	
	The geological block model(s) is converted into a mining block model considering a site-specific practical mineable smallest mining unit. Furthermore protocols ensure that Kumba Iron Ore's operations/projects consider expected long-term revenues versus the operating and production costs associated with mining and beneficiation as well as legislative, environmental and social costs, in determining whether or not a Mineral Resource could be economically extracted and converted to an Ore Reserve. This is performed by applying a Lerch-Grosmann algorithm to the mining model to derive an optimised pit shell. This optimised pit shell is then iteratively converted to a practical layout by applying geotechnical slope stability parameters and haul road and ramp designs, legal restrictions etc., with safety being one of the most considered parameters. Once a practical pit layout has been established the material within the pit is scheduled over time to achieve client specifications and thus a LoM schedule is produced.	
	The average % Fe grade and metric tonnage estimates of 'Saleable Product' are also reported to demonstrate that beneficiation losses have been taken into account.	
Reported percentage	100	100
Tonnage	*In-situ* dry metric tonnes	*In-situ* dry metric tonnes
Fe grade	Ore Reserve % Fe grades reported represent the weighted average grade of the 'plant feed' or RoM material and take into account all applicable modifying factors. For scheduling purposes the locally diluted grade estimates are used.	
Cut-off grade	40% Fe	40% Fe
Ore type	Haematite ore	Haematite ore

Image

A view of the blast drill rigs drilling blast holes in the Western Sishen pit in preparation for blasting.

ANCILLARY RESERVE AND RESOURCE INFORMATION BY OPERATION/PROJECT
continued

Table 12: Sishen mine's 2015 vs. 2014 Ore Reserve estimation parameters continued

	2015	2014
Estimation		
Mining block model		
Smallest mining unit	10m(X) x 10m(Y) x 12.5m(Z)	10m(X) x 10m(Y) x 12.5m(Z)
Mining block model name	No separate mining block model created	No separate mining block model created
Topography and pit progression assigned	1 October 2015 topography assigned	Yes
Modifying factors		
• Dilution	10%	7%
• Mining loss	-3.2%	-4%
• Metallurgical recovery	73.0%	74.7%
Practical mining parameters		
Bench height	12.5m	12.5m
Ramp gradient	8% (1 in 12.5)	8% (1 in 12.5)
Road width	30m to 56m	30m to 56m
Minimum mining width	80m (Rope shovel and truck mining)	80m (Rope shovel and truck mining)
Geohydrology	Groundwater level maintained 12.5m below pit floor	Groundwater level maintained 12.5m below pit floor
Pit slopes	Designed according to a defendable risk matrix, guided by an appropriate factor of safety of 1.3 and a probability of failure of 10%	Designed according to a defendable risk matrix, guided by an appropriate factor of safety of 1.3 and a probability of failure of 10%
Pit optimisation		
Software	*Whittle 4X*	*Whittle 4X*
Method	Lerch-Grosmann (primary LoM maximation, secondary NPV maximation)	Lerch-Grosmann (primary LoM maximation, secondary NPV maximation)
Life of mine scheduling		
Software	*OPMS*	*XPAC*
Method	Product tonnage and grade target driven	Product tonnage and grade target driven
Stripping strategy	A stripping strategy that follows a constant annual tonnage target, and which remains between the minimum and maximum stripping limits, was chosen for the LoM scheduling.	A stripping strategy that follows a constant annual tonnage target, and which remains between the minimum and maximum stripping limits, was chosen for the LoM scheduling.
Reserve Life years	15	16
Stripping ratio (including Inferred Mineral Resources)	1:4.0	1:3.9
Schedule ID	Sishen_OPMS_2015_LOM_2av4.opm	Sishen_LOM_2014_v6.0.xpk
Reserve model date	16 October 2015	19 November 2014
Ore Reserve classification		
Method	Measured Mineral Resources are converted to Proved Ore Reserves and Indicated Mineral Resources to Probable Ore Reserves as a set standard. Inferred Mineral Resources occurring in the LoM plan are not reported as Ore Reserves. The Ore Reserves that are at risk due to legal, social, environmental and technical factors were downgraded to Probable.	Measured Mineral Resources are converted to Proved Ore Reserves and Indicated Mineral Resources to Probable Ore Reserves as a set standard. Inferred Mineral Resources occurring in the LoM plan are not reported as Ore Reserves. The Ore Reserves that are at risk due to legal, social, environmental and technical factors were downgraded to Probable.

ANCILLARY RESERVE AND RESOURCE INFORMATION BY OPERATION/PROJECT

continued

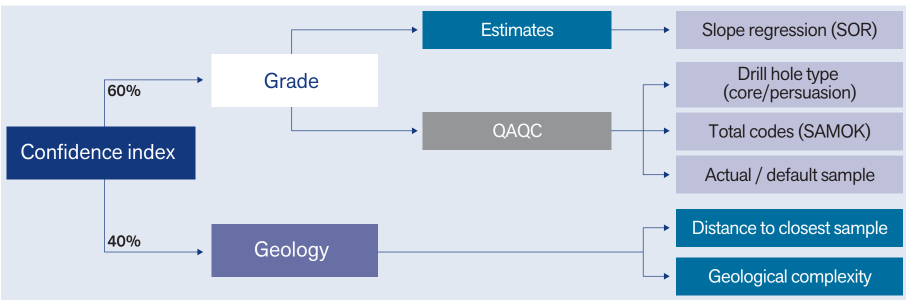
Table 13: Sishen mine's 2015 vs. 2014 Mineral Resource estimation parameters

	2015	2014
Security of tenure		
Number of applicable rights	1 mining right	1 mining right
Right status	Granted, not yet registered	Granted, not yet registered
Right expiry date(s)	10 November 2039	10 November 2039
Method		
Approach	Spatially classified in terms of geoscientific knowledge and confidence, occurring within an eventual economically extractable defined envelope (2 x revenue factor optimistic pit shell), in other words not all mineral occurrences are declared as Mineral Resources (Kumba Iron Ore also has Deposit and Mineral Inventory registers) . Mineral Resources are declared within (never outside) executed tenement boundaries. In-house protocols require that Competent Persons distinguish between Mineral Resources occurring in prospecting right areas and those occurring in mining right areas. Inclusive Mineral Resource reporting is done in-house to be used in verification of annual Mineral Resource movement declarations.	
Tonnage	*In-situ* dry metric tonnes	*In-situ* dry metric tonnes
Fe grade	Weighted average above cut-off grade	Weighted average above cut-off grade
	Tonnage-weighted mean of the interpolated *in-situ* Mineral Resource grades contained within geological block models, where the tonnage is calculated as the result of Mineral Resource volumes multiplied by their spatially associated dry relative densities	Tonnage-weighted mean of the interpolated *in-situ* Mineral Resource grades contained within geological block models, where the tonnage is calculated as the result of Mineral Resource volumes multiplied by their spatially associated dry relative densities
Cut-off grade	40% Fe	40% Fe
Ore type	Haematite ore	Haematite ore
Data		
Drilling and sampling		
Input data	Core and percussion borehole lithological and chemical analyses	
Relative density measure		Picnometer analyses on pulp samples
QA/QC protocol	KIO QC Protocol for Exploration Drilling Sampling and Sub sampling (version 4)	
Primary laboratory	Anglo American Research Division of Anglo Operations Limited Chemistry Laboratory (Co. reg no: 1921/006730/07)	Anglo American Research Division of Anglo Operations Limited Chemistry Laboratory (Co. reg no: 1921/006730/07)
Accreditation	Accredited under International Standard ISO/IEC 17025:2005 by the South African National Accreditation System (SANAS) under the Facility Accreditation Number T0051 (valid from 01 May 2011 to 30 April 2016)	Accredited under International Standard ISO/IEC 17025:2005 by the South African National Accreditation System (SANAS) under the Facility Accreditation Number T0051 (valid from 01 May 2011 to 30 April 2016)
Borehole database software	*acQuire*	*acQuire*
Borehole database update cut-off date	30 September 2014	31 October 2013
Database validation conducted	QAQC(Pass/Fail) and site-specific validation protocol	QAQC(Pass/Fail) and site-specific validation protocol
Segmentation conducted	Yes. To allow for simplification of logged lithologies for spatial correlation purposes and to simplify the assay composite extractions	

ANCILLARY RESERVE AND RESOURCE INFORMATION BY OPERATION/PROJECT

continued

Table 13: Sishen mine's 2015 vs. 2014 Mineral Resource estimation parameters continued

	2015	2014
Estimation		
Solids modelling		
Solids modelling software	*Surpac/Isatis*	*Surpac/Isatis*
Method	Digital wireframe modelling for ore segments and some waste segments (waste in contact with ore zones)	Digital wireframe modelling for ore segments and some waste segments (waste in contact with ore zones)
	Digital terrain models for other waste segments	Digital terrain models for other waste segments
Domaining	Yes. Structural/geological features e.g. Diabase dykes, major faults, Areas with steep dipping (> 35 degrees) geology, Correlation between variables (e.g. Fe vs. K_2O). Core versus percussion domaining has also been incorporated to differentiate between different sample populations.	
Topography and pit progression assigned	Yes	Yes
Validation conducted	Yes. Standard validation tools (open sides, self intersecting triangle, etc.), Snap to 3D points, No automatic triangle creation, Visual	
Statistical and geostatistical evaluation		
Compositing and method	Yes, 3m composites (length and density weighted)	Yes, 3m composites
Grade parameters evaluated	% Fe, % SiO_2, % Al_2O_3, % K_2O and % P as well as Relative density	% Fe, % SiO_2, % Al_2O_3, % K_2O and % P as well as Relative density
Variography updated in current year	Yes	Yes
Search parameters updated in current year	Yes	Yes
Estimation methodology		
Ore segments	Ordinary Kriging + Co-kriging	Ordinary Kriging + Co-kriging
Waste segments	Inverse distance	Inverse distance
Geological block modelling		
Model type	Centroid model	Centroid model
Parent cell size	20m(X) x 20m(Y) x 12.5m(Z) Kriging neighbourhood analyses	20m(X) x 20m(Y) x 12.5m(Z) Kriging neighbourhood analyses
Cell population method		
Tonnage	Cell segment volume x Relative density (RD)	
Grade	Tonnage weighted average per cell considering all segment grades contained in cell	
Updated geological block model ID	nn1 (a to c).mdl, nn2 (a to c).mdl, nn3 (a to c).mdl, nn4 (a to c).mdl, mm1 (a to c).mdl, ss1 (a to c).mdl, ss2 (a to c).mdl, ss3 (a to c).mdl, lvd_a.mdl, lvd_b.mdl, lvd_c.mdl	nn1 (a to c).mdl, nn2 (a to c).mdl, nn3 (a to c).mdl, nn4 (a to c).mdl, mm1 (a to c).mdl, ss1 (a to c).mdl, ss2 (a to c).mdl, ss3 (a to c).mdl, lvd_a.mdl, lvd_b.mdl, lvd_c.mdl
Update completion date	01 March 2015	30 April 2014
Mineral Resource classification		
Method summary	Scorecard/CP Over-ride	Scorecard/CP Over-ride
Classification		

ANCILLARY RESERVE AND RESOURCE INFORMATION BY OPERATION/PROJECT

continued

THABAZIMBI MINE

Geological outline

Thabazimbi mine is located in the Limpopo province close to the town of Thabazimbi. The Thabazimbi mining right area is shown in **Figure 13**.

Ore genesis is of a chemical nature, where secondary Haematite replaced chert within the BIF. Later stages of ferruginisation followed to produce high-grade laminated to brecciated iron ore. The occurrence of iron ore is structurally controlled, with faults serving firstly as conduits for iron-rich fluids and later as mechanisms for displacing (and/or duplicating) ore zones.

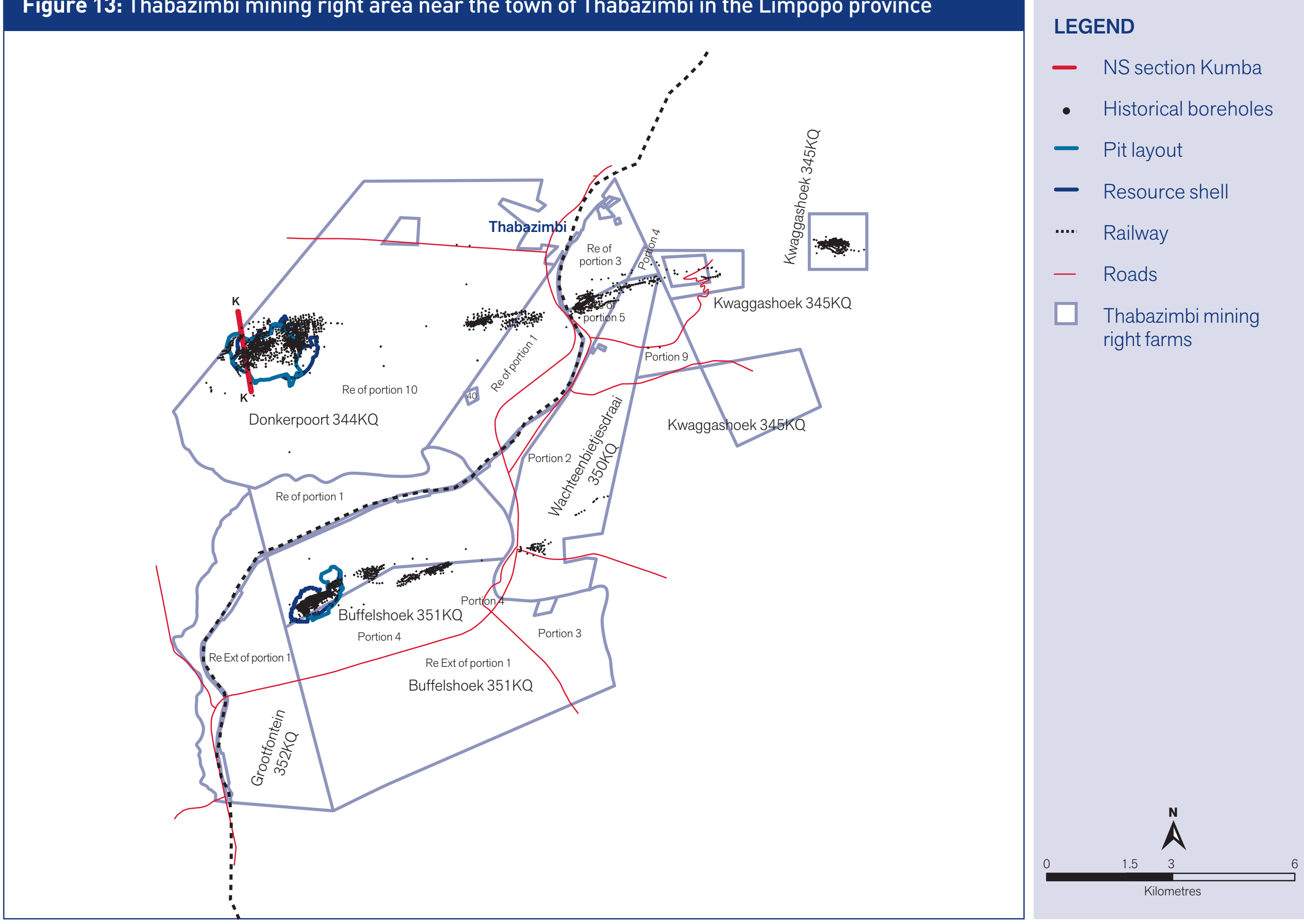
Local collapse structures within the underlying dolomites produced brecciated zones within the BIF, which were then filled by iron-rich fluids. A regional network of diabase sills and dykes served as trapping mechanisms for mineralising fluids in the lower section of the BIF, which resulted in an enriched lower section and a less-enriched upper section of the Penge Formation.

Generally speaking, the deposits dip southwards at an angle of approximately 45°. At depth the Haematite-rich rocks grade into Calcite-Haematite and Talc-Haematite rocks. The mineralisation extends for 12km along strike; however, sterile gaps of BIF occur in between the deposits.

The occurrence of sterile zones between deposits is associated with faulting, where the ore zones wedge out laterally and vary in thickness from 10m to 25m. The intensity of ferruginisation is usually associated with the intensity of brecciation of the BIF due to the underlying karst topography of the dolomites, i.e. the more severe the brecciation the higher the ferruginisation.

Figure 14 represents a vertical profile intersecting the three-dimensional geological model of the Kumba deposit **(Figure 13)**, demonstrating the Company's interpretation of the relationship between the ore bodies and waste material or local geology of the Kumba deposit at Thabazimbi mine.

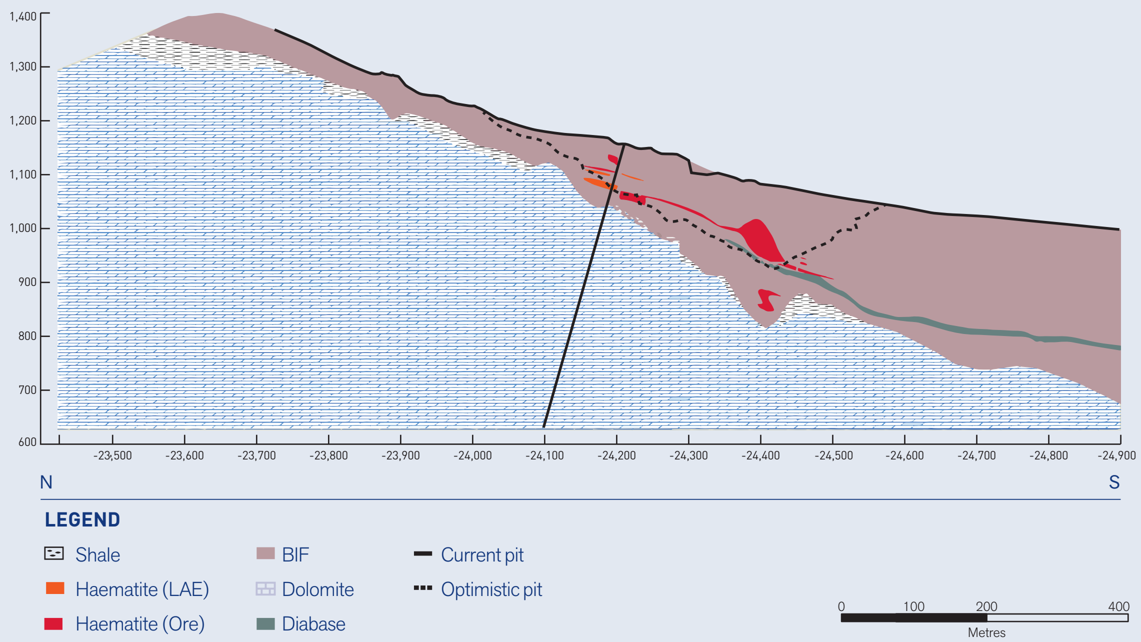
Figure 13: Thabazimbi mining right area near the town of Thabazimbi in the Limpopo province



ANCILLARY RESERVE AND RESOURCE INFORMATION BY OPERATION/PROJECT

continued

Figure 14: North-south (looking in easterly direction) profile depicting the local geology through the Kumba mining area



Operational outline

Thabazimbi mine was responsible for 3% of KIO's 2015 Saleable Product produced, all destined for the domestic market.

Thabazimbi mine produced primarily high-grade (>60% Fe) Haematite iron ore, by means of open-pit mining. On 16 July 2015 the closure of Thabazimbi mine was announced. Open-pit mining was stopped on 30 September 2015 and only existing stockpiled RoM material will be fed to the beneficiation plant until 30 April 2016. Thabazimbi mine expects to produce 0.5Mt of Saleable Product in 2016.

Annual beneficiated production for 2015 is estimated at 1.4Mt, which equates to an average 119kt product per month. The mine is currently operating at a ramp-down, having reached a mature stage after mining in excess of 80 years, with a remaining foreseen Reserve Life of one year. It is foreseen that production levels will be maintained at the 130kt per month level for 2016.

Thabazimbi mine in its later years extracted iron ore via conventional opencast mining methods of drilling and blasting followed by loading and hauling via a truck and shovel fleet. Mining in 2015 was conducted in three pits that are geographically separated from one another. At the time of reporting, annual waste production for 2015 was forecasted at 8.9Mt. In total 1.5Mt iron ore was extracted from the pits (including Inferred Mineral Resources) and 1.8Mt was delivered as RoM to the beneficiation plant, while 0.3Mt RoM came from buffer stockpiles. The RoM material is beneficiated through a DMS plant.

Where pits were far removed from the plant, ore was trucked to crushers located closer to the pits. The crushed material was then transported via conveyor belt to a stockpile that fed the plant. After beneficiation the Saleable Product is stockpiled on product beds, which in turn is reclaimed and transported by rail to the relevant AMSA steel works. The mine expects to sell an estimated 1.4Mt iron ore in 2015.

The operational aspects are summarised in **Table 14**.

Table 14: Thabazimbi mine operational outline summary

Key details	
Ownership (AA plc)	51.5%
Ownership (KIO)	73.9%
Commodity	Iron ore
Country	Republic of South Africa
Mining method	No mining – benefication of run-of-mine stockpiles
Reserve Life* in years	1 year
Saleable Product design capacity	2.4Mt
Estimated 2015 RoM production	1.8Mt
Estimated 2015 Saleable Product	1.4Mt
Estimated 2015 waste production	8.9Mt
Overall planned stripping ratio	0:0
Estimated product sold in 2015	1.4Mt
Product types	Lump and fine

* Reserve Life includes all consecutive years in the LoM plan where the Proved and Probable Ore Reserves make up >25% of the year's RoM.

ANCILLARY RESERVE AND RESOURCE INFORMATION BY OPERATION/PROJECT

continued

Ore Reserve estimation parameters
The Thabazimbi mine Ore Reserve estimation parameters and attributes are summarised in **Table 15**.

Mineral Resource estimation parameters
The Thabazimbi mine Mineral Resource estimation parameters and attributes are summarised in **Table 16**.

Table 15: Thabazimbi mine's 2015 vs. 2014 Ore Reserve estimation parameters

	2015	2014
Method		
Approach	Ore Reserves are derived from existing RoM buffer stockpiles with tonnage and grade information obtained from the Thabazimbi Survey Department. This is converted to Saleable Product by simulation in Microsoft Excel based on historic feed vs product outcomes per mining area where the stockpile originated.	Ore Reserves are those derived from Measured and Indicated Mineral Resources only (through application of modifying factors) and do not include Inferred Mineral Resources. In the case of Kumba Iron Ore all Ore Reserves are constrained by practical pit layouts, mining engineered from pit shells that define 'current economically mineable'.
		The geological block model(s) is converted into a mining block model considering a site-specific practical mineable smallest mining unit. Furthermore protocols ensure that Kumba Iron Ore's operations/projects consider expected long-term revenues versus the operating and production costs associated with mining and beneficiation as well as legislative, environmental and social costs, in determining whether or not a Mineral Resource could be economically extracted and converted to an Ore Reserve. This is performed by applying a Lerch-Grosmann algorithm to the mining model to derive an optimised pit shell. This optimised pit shell is then iteratively converted to a practical layout by applying geotechnical slope stability parameters and haul road and ramp designs, legal restrictions etc., with safety being one of the most considered parameters. Once a practical pit layout has been established the material within the pit is scheduled over time to achieve client specifications and thus a LoM schedule is produced.
	The average % Fe grade and metric tonnage estimates of Saleable Product are also reported to demonstrate that beneficiation losses have been taken into account.	
Tonnage	Unconsolidated stockpile dry metric tonnes	*In-situ* dry metric tonnes
Fe grade	Ore Reserve % Fe grades reported represent the weighted average of the individual RoM buffer stockpile Fe grades.	
Cut-off grade	54.3% Fe	Variable (includes dilution). Depending on blending capacity of material at specific point in time BHW = 56.2% Fe, BJW = 54.6% Fe, KMB = 57.6% Fe, DPN = 54.3% Fe.
Ore type	Haematite ore	Haematite ore

ANCILLARY RESERVE AND RESOURCE INFORMATION BY OPERATION/PROJECT

continued

Table 15: Thabazimbi mine's 2015 vs. 2014 Ore Reserve estimation parameters continued

	2015	2014
Estimation		
Mining block model		
Smallest mining unit	Mine only existing stockpiles	All mining areas 5mX x 5mY x 5mZ
Mining block model name	Mine only existing stockpiles	bhwmin0413, bjwmin0413, dnwmin0713v2, kmbmin0413
Topography and pit progression assigned	Mine only existing stockpiles	Yes, bhwfc1213, bjwfc1213, dpnfc1213, kmbfc1213
Modifying factors		
• Dilution	Mine only existing stockpiles	7.6%
• Mining loss	Mine only existing stockpiles.	-13.5%
• Metallurgical recovery	78.6%	75.6%
Practical mining parameters		
Bench height	Mine only existing stockpiles	BHW = 10m, BJW = 10m, KMB = 15m
Ramp gradient	Mine only existing stockpiles	1:12 (8.3% or 4.76°) on old layouts and 1:10 (10% or 5.71°) on new layouts and last 4 benches on old layouts DPN layout 1:8 (12.5% or 7.125°)
Road width	Mine only existing stockpiles	Measured in Truck width (T). Single lane Straights 2 T, Turns 2.5 T. Double lane straights 3 T, Turns 3.5 T
Minimum mining width	Mine only existing stockpiles	Dependent on Truck width and Loader swing radius. ((2 x Truck width) + Loader swing radius + safety berm)
Geohydrology	Mine only existing stockpiles	Groundwater level maintained 10m below pit floor
Pit slopes	Mine only existing stockpiles	Designed according to industry accepted and defensible risk guidelines utilising a probabilistic design methodology.
Pit optimisation		
Software	Not applicable	*Whittle 4X*
Method	Not applicable	Lerch-Grosmann (LoM maximation, secondary cost control)
Life of mine scheduling		
Software	*EXCEL*	*XPAC*
Method	Product tonnage and grade target driven	Product tonnage and grade target driven
Stripping strategy	Not applicable	A stripping strategy that is the result of the minimum constant waste extraction to expose adequate quantities of ore for the processing plant and stockpiles for blending.
Reserve Life years	1	8
Stripping ratio (including Inferred Mineral Resources)	Mine only existing stockpiles	1:8.4
Schedule ID	ForecastOkt2015-Jun2016(22Sep2015 permaand(ValueAdd)v4	LTP13-R4-11
Reserve model date	Not applicable	30 June 2013
Ore Reserve classification		
Method	All material on the RoM buffer stockpiles has been classified as Probable Ore Reserves due to the fact that the associated average grades are global estimates.	The Mineral Resource classification is carried into the Ore Reserve classification, i.e. Measured Mineral Resources are converted to Proved Ore Reserves and Indicated Mineral Resources are converted to Probable Ore Reserves. Inferred Mineral Resources are not converted to Ore Reserves and where Inferred Mineral Resources are quoted, including those marked as "considered for LoM" no modifying factors have been applied.

ANCILLARY RESERVE AND RESOURCE INFORMATION BY OPERATION/PROJECT

continued

Table 16: Thabazimbi mine's 2015 vs. 2014 Mineral Resource estimation parameters

	2015	2014
Security of tenure		
Number of applicable rights	2	2
Right status	Registered	Registered
Right expiry date(s)	2039/10/20 and 2039/10/04	2039/10/20 and 2039/10/04
Method		
Approach	Mineral Resources (in addition to Ore Reserves)	
	Spatially classified in terms of geoscientific knowledge and confidence, occurring within an eventual economically extractable defined envelope (2 x revenue factor optimistic pit shell), in other words not all mineral occurrences are declared as Mineral Resources (Kumba Iron Ore also has Deposit and Mineral Inventory registers. Mineral Resources are declared within (never outside) executed tenement boundaries. In-house protocols require that Competent Persons distinguish between Mineral Resources occurring in prospecting right areas and those occurring in mining right areas. Inclusive Mineral Resource reporting is done in-house to be used in verification of annual Mineral Resource movement declarations.	
Tonnage	*In-situ* dry metric tonnes	*In-situ* dry metric tonnes
Fe grade	Weighted average above cut-off grade	Weighted average above cut-off grade
	(Tonnage-weighted mean of the interpolated *in-situ* Mineral Resource grades contained within geological block models, where the tonnage is calculated as the result of Mineral Resource volumes multiplied by their spatially associated dry relative densities)	(Tonnage-weighted mean of the interpolated *in-situ* Mineral Resource grades contained within geological block models, where the tonnage is calculated as the result of Mineral Resource volumes multiplied by their spatially associated dry relative densities)
Cut-off grade	55% Fe	55% Fe
Ore type	Haematite ore	Haematite ore
Estimation		
Drilling and sampling		
Input data	Core and percussion borehole lithological and chemical analyses	
Relative density measurement	Pycnometer analyses on pulp samples	Pycnometer analyses on pulp samples
QA/QC protocol	KIO QC Protocol for Exploration Drilling Sampling and Sub sampling (version 4)	
Borehole database software	*acQuire*	*acQuire*
Borehole database update cut-off date	31 October 2013	31 October 2013
Database validation conducted	Monthly on collars/logsheets/chemistry received and monthly reporting on samples received	Monthly on collars/logsheets/chemistry received and monthly reporting on samples received
Segmentation conducted	Yes. To allow for simplification of logged lithologies for spatial correlation purposes and to simplify the assay composite extractions	
Solids modelling		
Solids modelling software	*Datamine Studio 3*	*Datamine Studio 3*
Method	Two-dimensional sections interpreted on borehole lines are electronically captured after peer reviewed and signed off from hard copy sections.	Two-dimensional sections interpreted on borehole lines are electronically captured after peer reviewed and signed off from hard copy sections.
	Digital wireframe modelling (manual triangulation) for ore segments and some waste (usually within and in hangingwall and footwall of ore zones) segments as from 2D sections	
	Digital terrain models for alluvium waste type	
Domaining	Per segment that are lithologically constrained	Per segment that are lithologically constrained
Topography and pit progression assigned	Yes	Yes
Validation conducted	Peer reviews between Production Geologists. KMB, BHW and DPN peer reviewed by Corporate Office Geoscience.	Peer reviews between Production Geologists. KMB, BHW and DPN peer reviewed by Corporate Office Geoscience.

ANCILLARY RESERVE AND RESOURCE INFORMATION BY OPERATION/PROJECT
continued

Table 16: Thabazimbi mine's 2015 vs. 2014 Mineral Resource estimation parameters continued

	2015	2014
Estimation continued		
Statistical and geostatistical evaluation		
Compositing and method	Yes, 1m sample composites	Yes, 1m sample composites
Grade parameters evaluated	% Fe, % SiO_2, % Al_2O_3, % K_2O and % P as well as Relative density	% Fe, % SiO_2, % Al_2O_3, % K_2O and % P as well as Relative density
Variography updated	No	Yes. KMB,BHW and BJW updated
Search parameters updated	No	Yes. KMB,BHW and BJW updated
Estimation methodology		
Ore segments	Ordinary Kriging	Ordinary Kriging
Waste segments	Inverse distance	Inverse distance
Geological block modelling		
Model type	Centroid model	Centroid model
Parent cell size	5m(X) x 5m(Y) x 5m(Z) (Bobbejaanwater/ Buffelshoek East/Donkerpoort Neck), 10m(X) x10m(Y) x10m(Z) (Kwaggashoek East,Buffelshoek West, Kumba)	5m(X) x 5m(Y) x 5m(Z) (Bobbejaanwater/ Buffelshoek East/Donkerpoort Neck), 10m(X) x10m(Y) x10m(Z) (Kwaggashoek East,Buffelshoek West, Kumba)
Cell population method		
• Tonnage	Cell increment x RD	
• Grade	Tonnage weighted average considering all cell increments	
Updated geological block model ID	bhwrs1212clfv3, dp1clf0913v2, kmbrs1212clfv4, bjwrs1212clfv4, ph1402m_dep	bhwrs1212clfv3, dp1clf0913v2, kmbrs1212clfv4, bjwrs1212clfv4, ph1402m_dep
Update completion date	31 January 2014	31 January 2014
Mineral Resource classification		
Method summary	Scorecard/CP Over-ride	Scorecard/CP Over-ride
Method description	Compliant according to Kumba Iron Ore Mineral Resource Classification Guideline version 3 of January 2012 (quantative scorecard approach) with Competent Person judgement applied to: • identify critical factors to evaluate grade and geological continuity; and • assign weights to establish importance of each parameter – calibrate boundaries to distinguish between Measured, Indicated and Inferred.	Compliant according to Kumba Iron Ore Mineral Resource Classification Guideline version 3 of January 2012 (quantative scorecard approach) with Competent Person judgement applied to: • identify critical factors to evaluate grade and geological continuity; and • assign weights to establish importance of each parameter – calibrate boundaries to distinguish between Measured, Indicated and Inferred.

ANCILLARY RESERVE AND RESOURCE INFORMATION BY OPERATION/PROJECT

continued

ZANDRIVIERSPOORT PROJECT

Geological outline

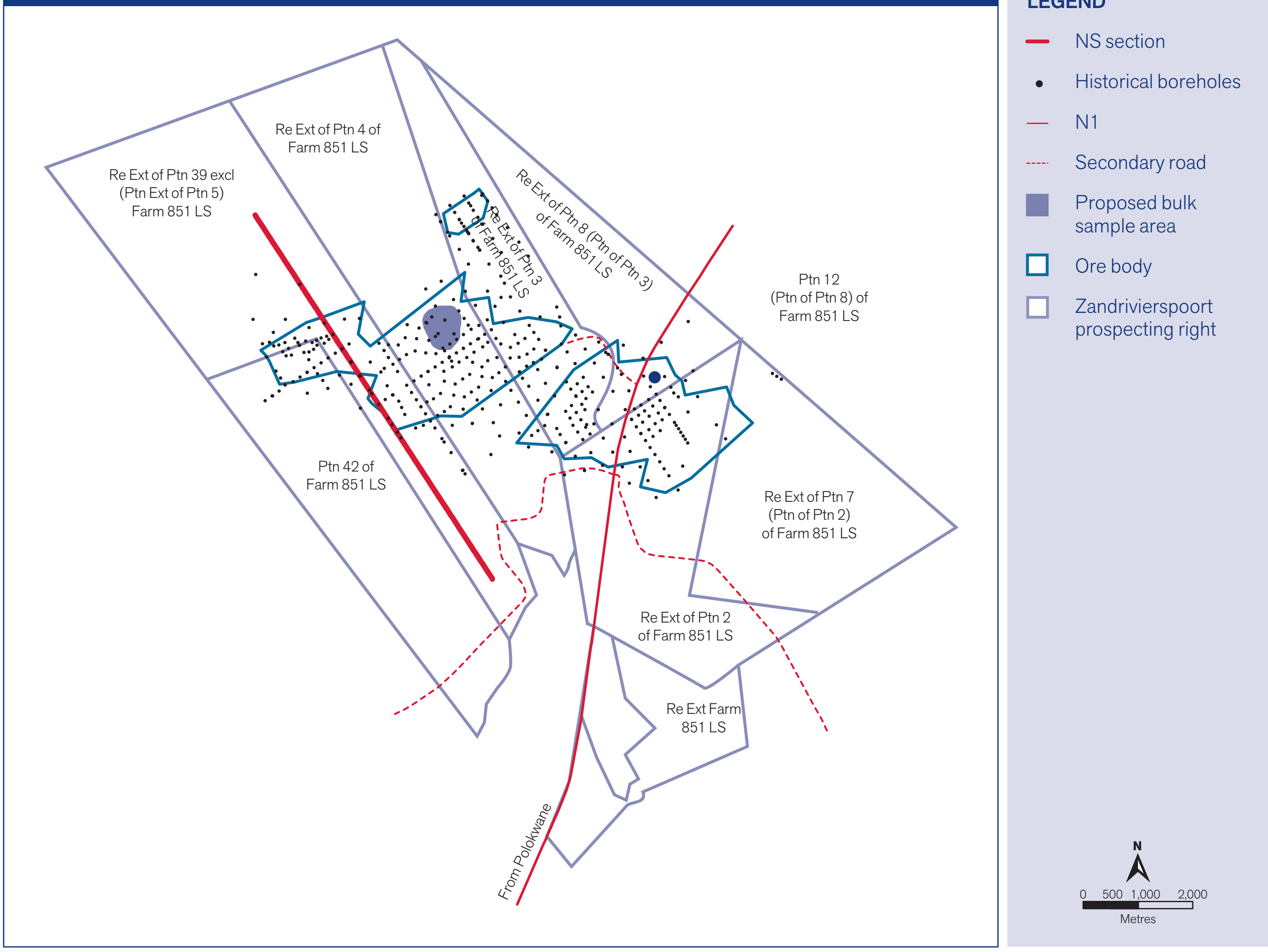
The Zandrivierspoort prospecting right (area) is located approximately 25km northeast of Polokwane on the farm Zandrivierspoort 851 LS, in the Limpopo province of the Republic of South Africa **(Figure 15)**.

Zandrivierspoort is a Magnetite deposit in the Palaeo-proterozoic Rhenosterkoppies Greenstone Belt or Rhenosterkoppies Fragment, which occurs to the northwest of the main, northeast-trending Pietersburg Greenstone Belt.

The magnetite banded iron formation (MBIF) occurs as a fine to medium grained rock in the Rhenosterkoppies Fragment. It is well banded with alternating layers of magnetite and quartz. The MBIF outcrops as two potential ore bodies on the flanks of a shallow syncline separated by a secondary anticline in the central part of the deposit. The eastern ore body forms Duiwekop and the western ore body the Rhenosterkoppies. The banded iron formation units are underlain by largely continuous garniferous schist, which in turn is enclosed in a regional, partially retrogressed, amphibolite volume.

The MBIF has been exposed to at least three deformational events producing recumbent isoclinal folding. These deformational events are the most important factors controlling the ore formation as they served to duplicate the relatively thin banded iron formation units. These thin units are preserved in the surrounding topography and rarely exceed thicknesses in excess of 10 metres.

Figure 15: Zandrivierspoort prospecting right area north of Polokwane in the Limpopo province



ANCILLARY RESERVE AND RESOURCE INFORMATION BY OPERATION/PROJECT

continued

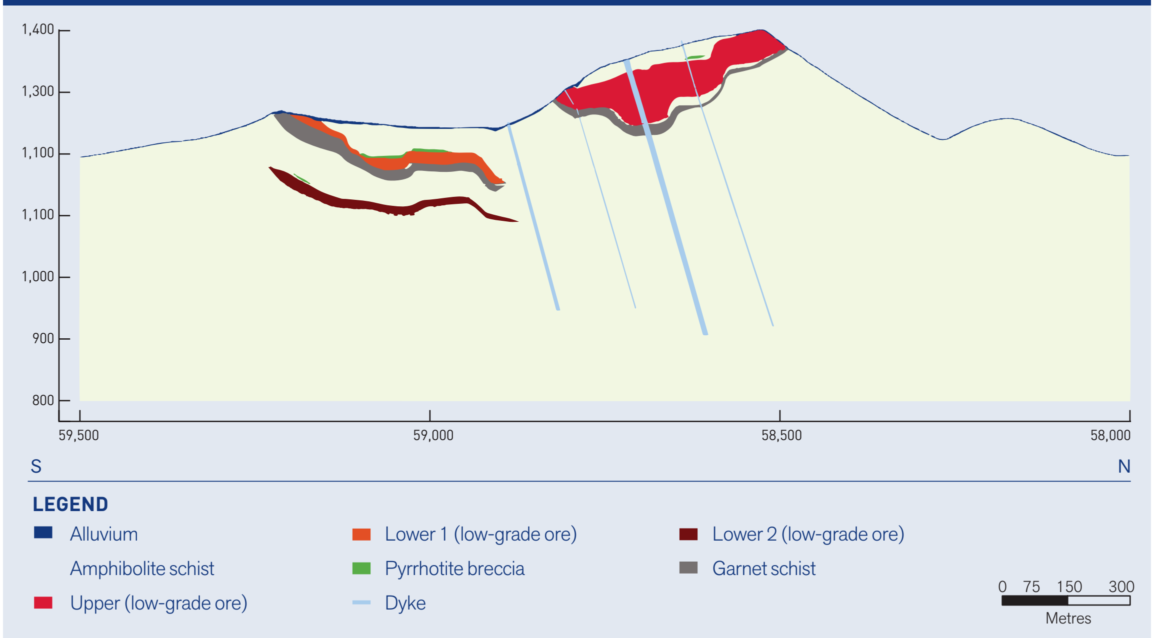
Figure 16 represents a vertical profile intersecting the three-dimensional geological model of the Zandrivierspoort deposit (brown line in **Figure 15**), demonstrating the Company's interpretation of the relationship between the ore bodies and waste material or local geology of the Zandrivierspoort deposit, as well as its associated geological confidence classification.

No prospecting activities were undertaken at the Zandrivierspoort project in 2015 and Kumba will review the Mineral Resource status in terms of RRPEEE in 2016.

Mineral Resource estimation parameters

The Zandrivierspoort project Mineral Resource estimation parameters and attributes are summarised in **Table 17**.

Figure 16: Southeast-northwest profile depicting the local geology through the Zandrivierspoort magnetite deposit



ANCILLARY RESERVE AND RESOURCE INFORMATION BY OPERATION/PROJECT

continued

Table 17: Zandrivierspoort project's 2015 vs. 2014 Mineral Resource estimation parameters

	2015	2014
Security of tenure		
Number of applicable rights	1 prospecting right	1 prospecting right
Right status	Renewal application (submitted August 2011) pending	Renewal application (submitted August 2011) pending
Right expiry date(s)	Original five-year prospecting right period expired 11 November 2011	Original five-year prospecting right period expired 11 November 2011
Method		
Approach	Mineral Resources (in addition to Ore Reserves)	
	Spatially classified in terms of geoscientific knowledge and confidence, occurring within an eventual economically extractable defined envelope (2 x revenue factor optimistic pit shell), in other words not all mineral occurrences are declared as Mineral Resources (Kumba Iron Ore also has Deposit and Mineral Inventory registers). Mineral Resources are declared within (never outside) executed tenement boundaries. In-house protocols require that Competent Persons distinguish between Mineral Resources occurring in prospecting right areas and those occurring in mining right areas. Inclusive Mineral Resource reporting is done in-house to be used in verification of annual Mineral Resource movement declarations.	
Tonnage	*In-situ* dry metric tonnes	*In-situ* dry metric tonnes
Fe grade	Weighted average of Kriged estimates above cut-off grade within ore body domain	Weighted average of Kriged estimates above cut-off grade within ore body domain
	Tonnage-weighted mean of the interpolated *in-situ* Mineral Resource grades contained within geological block models, where the tonnage is calculated as the result of Mineral Resource volumes multiplied by their spatially associated dry relative densities	Tonnage-weighted mean of the interpolated *in-situ* Mineral Resource grades contained within geological block models, where the tonnage is calculated as the result of Mineral Resource volumes multiplied by their spatially associated dry relative densities
Cut-off grade	21.7% Fe cut-off grade based on an applied recovery algorithm that requires a minimum yield of 34.25% to realise eventual economic extraction potential	21.7% Fe cut-off grade based on an applied recovery algorithm that requires a minimum yield of 34.25% to realise eventual economic extraction potential
Ore type	Primary Magnetite and secondary Haematite ore	Primary Magnetite and secondary Haematite ore

ANCILLARY RESERVE AND RESOURCE INFORMATION BY OPERATION/PROJECT

continued

Table 17: Zandrivierspoort project's 2015 vs. 2014 Mineral Resource estimation parameters continued

	2015	2014
Estimation		
Drilling and sampling		
Input data	Core and percussion borehole lithological and chemical analyses	Core and percussion borehole lithological and chemical analyses
Relative density measurement	Picnometer analyses on pulp samples	Picnometer analyses on pulp samples
QA/QC protocol	KIO QC Protocol for Exploration Drilling Sampling and Sub sampling (version 4)	KIO QC Protocol for Exploration Drilling Sampling and Sub sampling (version 4)
Borehole database software	*acQuire*	*acQuire*
Borehole database update cut-off date	30 April 2013	30 April 2013
Database validation conducted	Validation completed according to KIO Protocol	Validation completed according to KIO Protocol
Segmentation conducted	Segmentation is done in *acQuire* per borehole and transferred to *Surpac*. Two-dimensional geological sections are then prepared and interpreted using Primary Lithology and Secondary Mineralogy as labels and the borehole segmentation is displayed as coloured hole traces. The rock-type domaining is then done using all this data in combination.	Segmentation is done in *acQuire* per borehole and transferred to *Surpac*. Two-dimensional geological sections are then prepared and interpreted using Primary Lithology and Secondary Mineralogy as labels and the borehole segmentation is displayed as coloured hole traces. The rock-type domaining is then done using all this data in combination.
Solids modelling		
Wireframe modelling software	*Surpac*	*Surpac*
Method	Two-dimensional sections interpreted on borehole profiles are electronically captured	Two-dimensional sections interpreted on borehole profiles are electronically captured
	Digital wireframe modelling (manual triangulation) for ore segments and some waste (usually within and in hangingwall and footwall of ore zones) segments as from 2D sections.	Digital wireframe modelling (manual triangulation) for ore segments and some waste (usually within and in hangingwall and footwall of ore zones) segments as from 2D sections.
	Digital terrain models for alluvium waste type	Digital terrain models for alluvium waste type
Domaining	Domaining conducted in 3D per interpreted 2D segments, whereby segments smaller than 3m in thickness are not separately domained.	Domaining conducted in 3D per interpreted 2D segments, whereby segments smaller than 3m in thickness are not separately domained.
Topography and pit progression assigned	Yes, the topographic DTM was updated with newly obtained high resolution aerial surveyed data.	Yes, the topographic DTM was updated with newly obtained high resolution aerial surveyed data.
Validation conducted	Yes (visual peer review for gaps and overlaps and honouring of borehole contacts)	Yes (visual peer review for gaps and overlaps and honouring of borehole contacts)
Statistical and geostatistical evaluation		
Compositing and method	Data composited into 1m intervals per lithology and grades of composites were determined by a length weighted average.	Data composited into 1m intervals per lithology and grades of composites were determined by a length weighted average.
Grade parameters evaluated	% Fe, % SiO_2, % Al_2O_3, % K_2O, % P, %S, % Fe_2O_3, % Fe_3O_4, Relative density and Satmagan values for % Fe_2O_3, % Fe_3O_4	% Fe, % SiO_2, % Al_2O_3, % K_2O, % P, % S, % Fe_2O_3, % Fe_3O_4, Relative density and Satmagan values for % Fe_2O_3, % Fe_3O_4
Variography updated	No	No
Search parameters updated	No	No

ANCILLARY RESERVE AND RESOURCE INFORMATION BY OPERATION/PROJECT

continued

Table 17: Zandrivierspoort project's 2015 vs. 2014 Mineral Resource estimation parameters continued

	2015	2014
Estimation continued		
Estimation methodology		
Ore segments	Ordinary Kriging with dynamic anisostropy	Ordinary Kriging with dynamic anisostropy
Waste segments	Global estimate	Global estimate
Geological block modelling		
Model type	Centroid model	Centroid model
Parent cell size	80m(X) x 80m(Y) x 10m(Z)	80m(X) x 80m(Y) x 10m(Z)
Cell population method		
• Tonnage	The volume of the block multiplied by the percentage volume adjustment factor gives the volume inside the ore body (in a general case). An RD for each attribute in the block was Kriged, so simply enter the percentage calculation as the volume adjustment factor, and a block model report (and other functions) is generated.	The volume of the block multiplied by the percentage volume adjustment factor gives the volume inside the ore body (in a general case). An RD for each attribute in the block was Kriged, so simply enter the percentage calculation as the volume adjustment factor, and a block model report (and other functions) is generated.
• Grade	Tonnage weighted average considering all cell increments	Tonnage weighted average considering all cell increments
Updated geological block model ID	ZRP_11_2013.fbm	ZRP_11_2013.fbm
Update completion date	01 November 2013	01 November 2013
Mineral Resource classification		
Method summary	Scorecard/CP Over-ride	Scorecard/CP Over-ride
Classification	According to the 2013 Kumba Iron Ore Mineral Resource Classification Guideline version 3 (quantitative scorecard approach) with Competent Person judgement applied to: • identify critical factors to be used to evaluate grade and geological continuity; • assign weights to establish importance of each parameter, and • determine boundaries of calculated grade and geological continuity indices to distinguish between Measured, Indicated and Inferred Mineral Resources.	According to the 2013 Kumba Iron Ore Mineral Resource Classification Guideline version 3 (quantitative scorecard approach) with Competent Person judgement applied to: • identify critical factors to be used to evaluate grade and geological continuity; • assign weights to establish importance of each parameter, and • determine boundaries of calculated grade and geological continuity indices to distinguish between Measured, Indicated and Inferred Mineral Resources.

EXPLORATION

EXPLORATION EXPENDITURE

Exploration conducted on and near mine in 2015 to respectively refine existing and target possible new future Mineral Resources, reduced by 45% in terms of drilling metres gained year-on-year. The preferred drilling method is core drilling. The all-inclusive cost associated with exploration conducted on behalf of KIO in 2015 is summarised in **Table 18**.

The 2015 (10 actual +2 forecasted) exploration expenditure comprises 1.0% of Kumba's 2015 (10 actual +2 forecasted) revenue.

A continued focus on exploration on and near mine resulted in the following outcomes in 2015:

- A marked improvement in the Kolomela mine Measured plus Indicated to Inferred Mineral Resource confidence classification ratio from 41:59 in 2014 to 48:52 in 2015 as part of the ongoing effort of on-mine exploration targeting Inferred Mineral Resources. This focus will remain in 2016 and the medium term.
- Furthermore a deposit of an estimated 22Mt to 28Mt of high-grade ore at depth and down-dip of the existing Kapstevel North orebody has been intersected with drilling.
- The intensive exploration campaign on the Heuningkranz project, a prospecting right north of Kolomela mine, continued in 2015. Pending the outcomes of the February 2016 geological model update the project may progress into the concept study phase. Only once the concept study stage gate review by Anglo American has been passed, will KIO consider declaring Mineral Resources for the Heuningkranz project

Sample preparation and assaying

Excluding the Thabazimbi on-lease borehole samples (prepared by on-site laboratory at Thabazimbi mine to facilitate metallurgical test work), all primary geological samples taken from material retrieved via exploration drilling (excluding most production geology and grade control related drilling) in 2015 to be used for Mineral Resource estimation were prepared by the Chemistry Laboratory (Co. Reg Nr: 1921/0067130/06) of the Anglo American Research (AR) Division of Anglo Operations Limited.

Kumba submitted 35,586 exploration (including 168 production geology infill drilling samples at Thabazimbi mine) borehole samples in 2015 (excluding production and grade control borehole samples deemed not suitable for Mineral Resource estimation) to be used for current and future Mineral Resource estimations.

Of the samples submitted, the Anglo Research Laboratory prepared and assayed 56,549 samples (including a 20,123 sample backlog from 2014 and excluding the 5% field, coarse and pulp duplicates, 5% replicates as well as 5% matrix-matched certified reference material results also generated as a standard requirement). All of the exploration samples were prepared and assayed in the Republic of South Africa by the Anglo Research Chemistry Laboratory and the UltraTrace Laboratory in Perth only analysed the pulp replicate QC samples as part of the KIO Geosciences Department QA/QC programme.

The 2015 spend on sample preparation and assaying amounted to R43.5 million (12% of total exploration expenditure).

The AR Chemistry Laboratory is accredited in accordance with the recognised International Standard ISO/IEC 17025:2005 by the South African National Accreditation System (SANAS) under the Facility Accreditation Number T0051 (valid from 22 July 2011 to 30 April 2016) for the preparation and assaying of iron ore samples, applying methods that comply with the requirements of Kumba.

UltraTrace is ISO and National (Australian) Association of Testing Authorities (NATA) accredited for iron ores and a member of the ISO MN-002-02 Chemical Analysis Committee.

Kumba ensures sample representivity by means of applying a stringent QA/QC protocol (KIO Qc Protocol for exploration drilling, sampling and sub-sampling (Version 6)) that governs all stages of sampling, sub-sampling and assaying, including blind validation of the sample preparation and assaying of laboratories. Historical sampling and sample preparation practices (pre-2010) did not meet the current QA/QC criteria applied by Kumba's Geosciences Department. A distinction is made between QA/QC compliant and non-compliant data when grade estimates are made and considered during the geological confidence classification process.

Table 18: Summary of 2015 exploration expenses

	Total exploration spend (10+2) Rand million		Drilling spend (10+2) Rand million		Number of holes drilled Rand million		Metres drilled (10+2) Rand million		Average cost per metre Rand million	
	2015	2014	**2015**	2014	**2015**	2014	**2015**	2014	**2015**	2014
Mining rights areas	**240.2**	473.8	**170.6**	305.2	**319**	431	**62,723**	128,305	**2,720.04**	2,378.84
Prospecting rights areas	**137.8**	203.5	**92.0**	131.8	**157**	183	**35,667**	50,028	**2,579.57**	2,633.91
Total	**378.0**	677.3	**262.6**	437.0	**476**	614	**98,390**	178,334	**2,649.80**	2,506.38

ENDORSEMENT

The persons at Kumba who are designated to take 'corporate responsibility' for Mineral Resources and Ore Reserves are Jean Britz and Theunis Otto. They have reviewed the Mineral Resource and Ore Reserve estimates reported for 2015 and consent to the inclusion of these estimates in the form and context in which they appear in this report.

Jean Britz is a professional natural scientist, registered (400423/04) with the South African Council for Natural Scientific Professions. He has a BSc (Hons) in Geology and an MEng in Mining and has 23 years of experience as a mining and exploration geologist in coal and iron ore, of which 11 are specific to iron ore Mineral Resource estimation and evaluation.

Theunis Otto is a mining engineer registered (990072) with the Engineering Council of South Africa. He has an MSc in Mining Engineering and has 20 years of experience as a mining engineer in production management and technical roles in coal and iron ore mining, of which 11 are specific to iron ore Mineral Reserve estimation and evaluation.

Jean Britz

Principal, Mineral Resources and Geometallurgy – Kumba Iron Ore Geosciences

Theunis Otto

Head, Kumba Iron Ore Mining Engineering

Kumba Iron Ore's Chief executive and board member, Norman Mbazima, endorses the Mineral Resource and Ore Reserve estimates presented in this document, and acknowledges that the Kumba Iron Ore Policy which governs Mineral Resource and Ore Reserve reporting has been adhered to.

Norman Mbazima

Chief executive, Kumba Iron Ore

Kumba Iron Ore
Centurion Gate – Building 2B
124 Akkerboom Road
Centurion
0157

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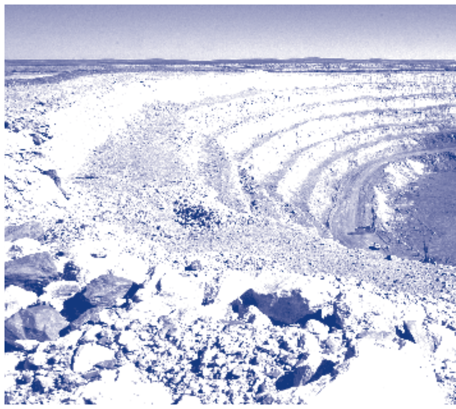

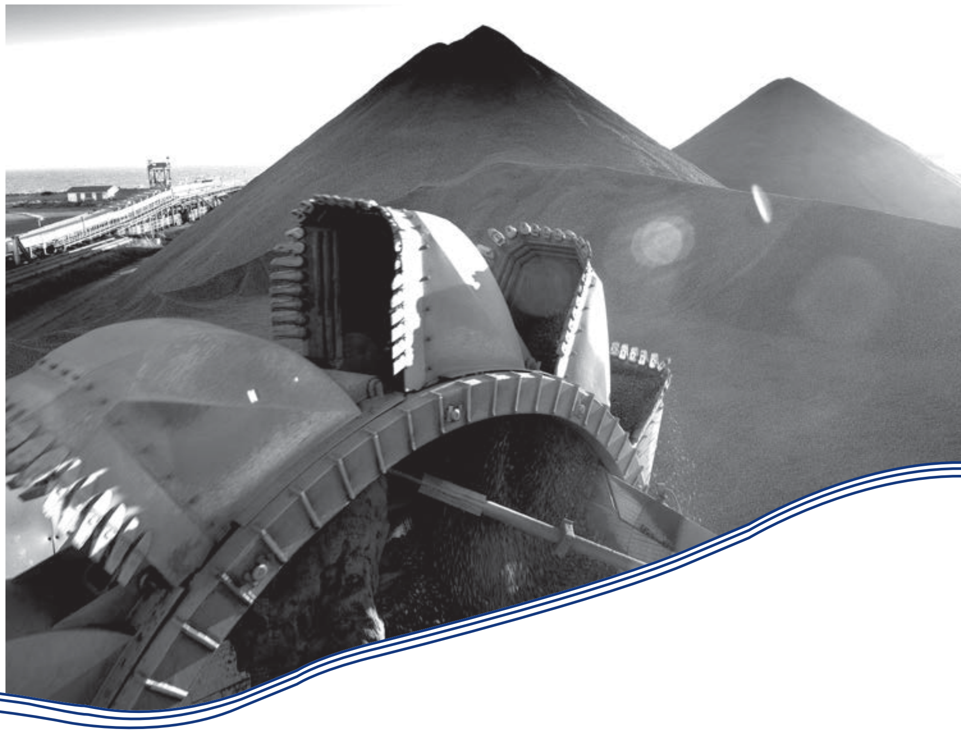

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