AngloAmerican

KUMBA IRON ORE LIMITED

This report summarises the latest Ore Reserve (and Saleable Product) and Mineral Resource estimate updates of Kumba Iron Ore Limited as at 31 December 2023, reconciled against the corresponding 2022 estimates. Appointed Lead Competent Persons have aimed to consolidate the estimates in a transparent and material manner in this report, after reviewing the detailed site-specific 2023 estimation processes and subsequent Reserve and Resource Statements compiled for Kolomela and Sishen. The site-specific Reserve and Resource Statements conform to the South African Code for the Reporting of Exploration Results, Mineral Resources and Mineral Reserves (SAMREC Code-2016 Edition) as well as section 12.13 of the Johannesburg Stock Exchange Listings Requirements.

2023 Ore Reserve (and Saleable Product) and Mineral Resource Report

(Remaining after 31 December 2023)

Kumba's approach

We are the custodians of our precious resources

We provide a raw material that is essential for economic development and modern life. As a responsible miner we are the custodians of this precious resource. It is vital that we work together with our stakeholders to unlock the long-term value that this resource represents to our shareholders and for the communities where we operate. We understand that attractive returns are sustainable only if we also deliver value to society.

We recognise that our people are at the heart of our business and they make it possible for us to supply our products to our clients all around the world.

Our vision

To create enduring value by sustainably supplying quality iron ore materials.

Refreshed strategy

Our Tswelelopele strategy came to an end in 2022 and Kumba announced a refreshed three-pillar strategy in 2023 to build on our Tswelelopele strategy (see pie chart).

Our value proposition

The quality of our assets positions us well to serve our diverse client base. Together with our strong capabilities and financial discipline, we plan to continue unlocking further potential and delivering sustainable returns.

We are a resilient business, and despite the challenges in our operating environment and volatile markets, our strategy of value over volume is clearly working.

Our commitment to improving people's lives extends beyond our mines. By creating R71.1 billion of enduring value for all our stakeholders, including R10.8 billion of taxes and mineral royalty, we are providing much-needed support to the South African economy. At a regional level, we procured R6.6 billion of goods and services locally, with a focus on women and youth-owned businesses. We are committed to creating an enabling environment in which our local host communities can develop and thrive. We are targeting the facilitation of five jobs off-site for every on-site job by 2030.

Contents

Kumba Iron Ore (KIO), a business unit of Anglo American plc, is a single commodity iron ore company listed on the Johannesburg Stock Exchange (JSE) in the Republic of South Africa (market cap – US$10.7 billion at 31 December 2023), that competes in the global market through the delivery of premium iron ore products.

Ore Reserve (and Saleable Product) and Mineral Resource (ORMR) report

Reported in accordance with the South African Code for the Reporting of Exploration Results, Mineral Resources and Mineral Reserves (SAMREC Code – 2016 Edition) as required by section 12.13 of the JSE Listing Requirements.

The updated Ore Reserve and Mineral Resource estimates and associated ancillary information contained in the ORMR report are based on input from site-specific Resource and Reserve (R&R) Statements, which are compiled before year end to allow for peer review by Kumba and Anglo American before estimates are published. Information such as annual production, etc. (which is forecasted) may therefore differ from those quoted in the Kumba Integrated report, the latter compiled after calendar year end and reflecting actual figures. Adjustments to Mineral Resource, Ore Reserve and Saleable Product estimates are made in the following year to correct any differences between actual and forecasted estimates used in the previous reporting period. (Financial materiality)

Kumba values any feedback regarding the competency, materiality and transparency with which its Ore Reserves (and Saleable Product) and Mineral Resources have been presented in this report.

Feedback: (jean.britz@angloamerican.com)

For more information see www.angloamericankumba.com

An abridged version of the 2023 ORMR report is chaptered within the 2023 Kumba Integrated report.

(https://www.angloamericankumba.com/investors/annual-reporting/reports-archive/2023)

Our integrated reporting suite comprises the following reports in addition to the ORMR report:

Integrated report (IR)*

Targeted primarily at current and prospective investors, lenders and other creditors, a succinct review of our strategy and business model, operating context, governance and operational performance and our response to managing the material risks and opportunities that could reasonably be expected to affect Kumba's prospects. (Financial materiality)

Sustainability report*

Reviews our approach to managing our significant environmental , social and governance (ESG) impacts, and addressing those sustainability issues of interest to a broad range of stakeholders. (Double materiality)

Climate change report*

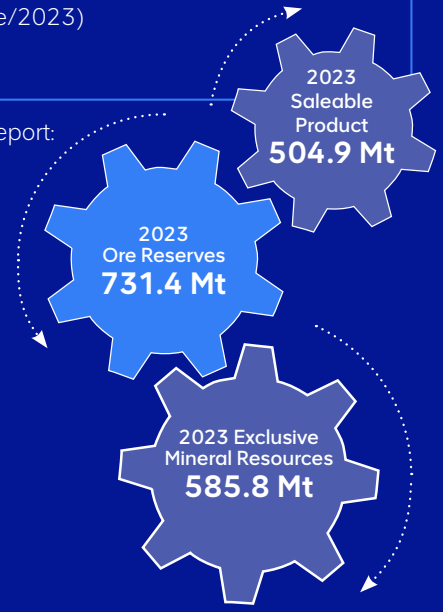
Provides a balanced and appropriate presentation of our climate-related impacts, risks and opportunities and our response to managing these risks and mitigating our climate change impacts. (Double materiality)

Annual financial statements

Detailed analysis of our financial results, with audited financial statements prepared in accordance with International Financial Reporting Standards (IFRS). (Financial materiality)

Cover image:

Liebherr 996 pre-shift inspection. Left to right: Daleen Boiler (Acting Mine Overseer) and Gerald Mokgwawabane (Operations Controller).



The reporting process for all our reports has been guided by the principles and requirements contained in IFRS, the Value Reporting Foundation's Integrated Reporting Framework, the GRI Standards, the JSE's Sustainability Disclosure Guidance (issued in June 2022), the King IV report on Corporate Governance for South Africa. 2016 (King IV™**), the JSE Listings Requirements, and the Companies Act No 71 of 2008, as amended (Companies Act).

* Each of these reports, with additional updated information, will be available on our website from 12 April 2024.

Introduction

Kumba's business is structured around its two open-pit mines, Kolomela and Sishen, in the Northern Cape province of the Republic of South Africa, where it mines and beneficiates iron ore for the global iron ore market in a safe and sustainable manner, adding value to its investors, while developing its workforce and creating opportunities for its host communities.

Kolomela is predominantly a direct shipping ore (DSO) operation with a crushing and screening plant treating high-grade (Fe ≥ 61%) run-of-mine, and a small-scale ultra-high dense media separation (UHDMS) facility treating medium-grade (50% ≤ Fe < 61%) run-of-mine.

Sishen beneficiates its run-of-mine through large-scale beneficiation facilities, utilising dense media separation (DMS) and Jigging technologies (with a portion of the Jig plant discard being treated via two small-scale ultra-high DMS modules).

A range of high-grade Lump and Fine iron ore products are produced at the operations and railed to the Saldanha harbour on the west coast of South Africa from where it is shipped to fulfil Client off-take. The products are globally marketed as three Kumba blend products:

- Premium Lump: 65.1% Fe
- Standard Lump: 64.0% Fe
- Standard Fines: 63.1% Fe

Both the Kolomela and Sishen are conventional drill and blast and truck and shovel open-pit operations with ex-pit ore at Kolomela hauled to designated finger stockpiles from which a run-of-mine blend is delivered, while at Sishen the run-of-mine originates directly from the pit as well as from designated buffer stockpiles. The Kolomela finger stockpiling is necessary to produce the correct run-of-mine blend for the predominantly DSO operation, while at Sishen the run-of-mine buffer stockpiling facilitates plant feed consistency through partial blending with ex-pit ore.

Kolomela mine product stock yard

Kumba's ability to generate value is dependent on access to financial capital, its skilled employees, quality internal and external relationships and natural mineral endowment, supported by the right company culture as well as access to necessary outbound infrastructure .

This report focuses on the *in situ* iron ore Mineral Resources and derived modified Ore Reserves for which Kumba has obtained the right to mine, and beneficiate to Saleable Product. Consistent Saleable Product delivery over time can only be achieved through disciplined mining and diligent planning.

This report is the outcome of Kumba's long-term planning cycle, a process of defining the Mineral Resources via exploration and subsequent spatial modelling, designing safe and economical pit layouts and compiling production schedules to extract the iron ore considering available mining infrastructure and converting it into Saleable Product considering available beneficiation and logistical infrastructure.

Iron ore train being loaded at Sishen.

Introduction cont.

Kumba's exploration programme focused on on-mine exploration in 2023 with the dual aim of improving confidence in the spatial definition of its Mineral Resources inside and outside current life-of-asset plans (LoAPs) and generating geometallurgical information to spatially characterise the beneficiation potential of its Mineral Resources and Ore Reserves.

Exploration outside mining right areas has focused on near mine opportunities which are either fully owned by Kumba or access is secured through joint venture arrangements.

It is Kumba's ambition to realise the full potential of its endowment and contribute to the global "green steel" drive increasing its contribution of premium production by converting its existing DMS plant at Sishen to a UHDMS plant. The project is currently under review to determine the optimal timing and sequencing.

If approved, this project will enable the plant to operate at higher (and variable) beneficiation densities of up to 4.4 g/cc versus the current technology that is limited to 3.6 g/cc. These changes enable the processing of ~112.9 Mt additional run-of-mine in the UHDMS plant, delivering higher volumes of premium grade products, thereby increasing Sishen's premium portfolio from 20% to 50%, which further strengthens Kumba's position in the market as a supplier of high-quality niche products that drive the transition to green steel and the decarbonisation of the steel value chain.

Blast drill rigs are remotely operated at Kolomela mine, placing the operator well away from the drill rig in the mining control room. Pictured here in the control room are operators Lehlogonolo Mosimangwe and Herman Wagener.

The statement

Kumba Iron Ore Limited is a JSE-listed minerals company that focuses its business (iron ore exploration, mining, beneficiation) in the Northern Cape province of the Republic of South Africa. It proudly operates two open-pit mines, namely Kolomela and Sishen. Both operations have established infrastructure, which is applied to convert *in situ* haematite mineralisation into saleable iron ore product, of which a portion earns the Company a premium in the global iron ore market. Current production output is mostly railed across a rail line linking the mining operations with the commodity export harbour facility at Saldanha Bay on the west coast of South Africa, from where it is shipped to the various global client destinations.

Reporting framework

The online 2023 Kumba Ore Reserve (and Saleable Product) and Mineral Resource (ORMR) report is derived from a comprehensive amount of information compiled in the form of site-specific R&R Statements. It is structured to address all aspects listed in the Checklist of reporting and Assessment Criteria Table of the SAMREC Code (2016 Edition).

The Kumba ORMR report aims to meet the JSE Listings Requirements as per section 12.13 for minerals companies, referencing reporting requirements as set out in The South African Code for the Reporting of Exploration Results, Mineral Resources and Mineral Reserves (SAMREC Code – 2016 Edition).

SAMREC
THE SOUTH AFRICAN CODE FOR THE REPORTING OF EXPLORATION RESULTS, MINERAL RESOURCES AND MINERAL RESERVES

Adherence is governed in the Company's business processes via a Mineral Resource and Ore Reserve reporting policy **(https://www.angloamericankumba.com/~/media/Files/A/Anglo-American-Group/Kumba/sustainability/approach-and-policies/kumba-mineral-resource-and-ore-reserve-reporting-policy.pdf).**

The policy is supported by a detailed reporting requirements document as well as reporting guidelines and associated reporting templates, which channel the reporting requirements down to a site-specific level to ensure that Kumba meets the relevant JSE Listings Requirements.

The extent of the content in this report demonstrates Kumba's commitment to the material, transparent and competent reporting of its Ore Reserves and Mineral Resources.

Reporting basis

The Ore Reserve (and Saleable Product) and exclusive Mineral Resource estimates are stated on a 100% basis, irrespective of attributable shareholding. Kumba's attributable ownership in operations and projects is, however, stipulated per site in the Ore Reserve (and Saleable Product) and Mineral Resource tables as listed in this statement.

The Ore Reserves and exclusive Mineral Resources are not an inventory of all mineral occurrences identified, but an estimate of those, which under assumed and justifiable technical, environmental, legal and social conditions may be economically extractable at current - Ore Reserves, and has reasonable prospects for eventual economic extraction (RPEEE) - 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.

Effective date

This report states Kumba's Ore Reserves (and Saleable Product) and Mineral Resources as remaining at 31 December 2023 and compares it with the R&R figures published for 2022.

Ore Reserve (mineable under foreseen long-term economic conditions)

A long-term iron ore price forecast (based on the Platts 62% index), adjusted with Kumba-specific forecasts of Lump and Fe premiums, deleterious element penalties where applicable, is measured against costs representing the total value chain, to form the basis of Ore Reserves presented in this document. These are applied to site-specific mining block models to derive a set of pit shells for each site during the annual pit optimisation process. An optimal pit shell, meeting business expectations, is chosen for each site and converted into a pit layout, which spatially envelopes the current economically mineable Ore Reserves.

The statement cont.

Ore Reserve (mineable under foreseen long-term economic conditions) cont.

The Ore Reserves are derived from the *in situ* Measured and Indicated portion of the Mineral Resource occurring within the approved pit layouts, modified into run-of-mine, to account for site-specific mining efficiencies and other design, technical (at least pre-feasibility approved studies), environmental, legal and social aspects. The resultant Proved and Probable Ore Reserves are further modified into Saleable Product, considering site-specific beneficiation capacity and efficiencies, concerning specific ore types planned for beneficiation.

Because of the method used to derive Ore Reserve and Saleable Product figures, they are not precise, and should be considered as estimates and not calculations.

Site-specific cut-off grades (fixed for Kolomela and value based for Sishen) are assigned in run-of-mine schedules to achieve a sustainable delivery of Saleable Product with the aim to deliver products that comply with Client product specifications.

Mineral Resource (RPEEE defined)

Mineral Resources are declared exclusive of (in addition to) Ore Reserves.

Apart from fixed Fe cut-off grades, which consider the current or at least concept study approved beneficiation processes. Kumba spatially distinguishes Mineral Resources from other mineral occurrences by applying a resource shell. This is derived during the annual pit optimisation process conducted on the latest site-specific 3D mining block models, considering selective mining unit (SMU) sizes (dilution and mining loss). The site-specific resource shells are derived at higher revenue factors than those shells used to derive pit layouts which spatially constrain Ore Reserves, with the provision that the iron ore price corresponding with the resource shell must have been achieved historically in the global iron ore market. The resource shell is then subsequently applied to the geological block models, defining the classified ore occurring inside the resource shell (and outside the pit layout) as the resultant exclusive Mineral Resource portion considered to have RPEEE.

This process, therefore, considers site-specific beneficiation, mining practices as well as realistic pricing and cost.

Mineral Resources, by way of the methods they are derived, in essence converting spatially separated data points into large-scale continuous volumetric information, are not precise and should be considered as estimates and not calculations.

The confidence in the Mineral Resource estimates is expressed in terms of classes, i.e. Measured, Indicated and Inferred, with Measured Mineral Resource estimates having the highest and Inferred Mineral Resources the lowest confidence.

Inferred Mineral Resources inside pit layouts considered in LoAPs are separately indicated in the exclusive Mineral Resource Statement, with the extrapolated Inferred portion thereof quoted in the footnotes of the exclusive Mineral Resource Statement.

Borehole core - taken from tectonised shale unit or mylonite/proto-mylonite

Security of tenure

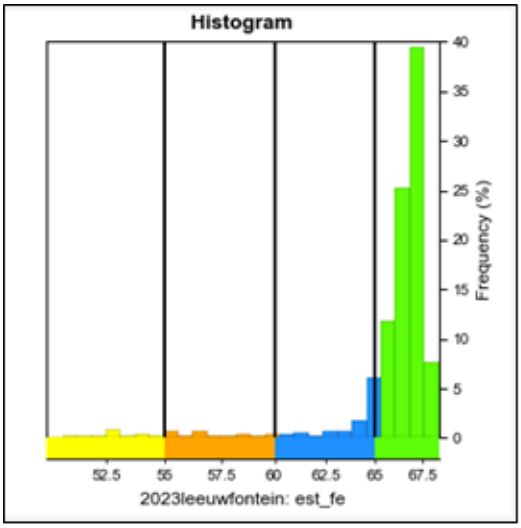
All of the Ore Reserves and Mineral Resources as stated occur within mining rights granted by the South African Department of Mineral Resources and Energy (DMRE), which have been notarially executed and registered at the Mining Titles Office of the DMRE by Sishen Iron Ore Company Proprietary Limited (75.4% owned by Kumba Iron Ore Limited) and have not expired at the time of reporting. In the case of the Ore Reserves, the associated reserve life does not exceed the expiry date of the applicable right.

The statement cont.

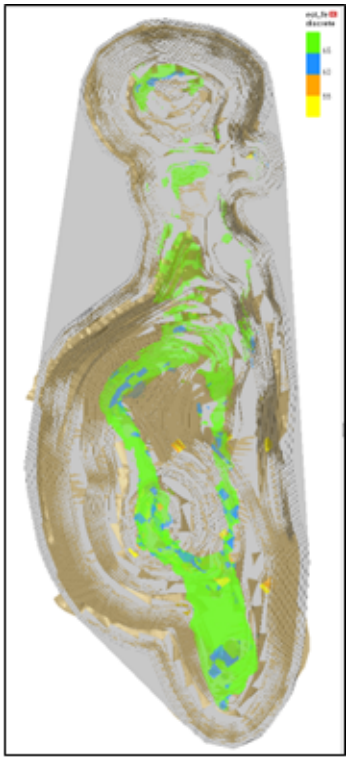
Reserve and Resource figures are not exact

The Kumba R&R figures are derived from spatial interpretation and subsequent estimation processes, informed by technical and economical forward looking assumptions, which may not materialise as expected.

By their nature, the R&R figures quoted in this report are therefore inherently subject to some level of risk and uncertainty, and may be influenced by unforeseen future events that could cause actual figures to differ from estimated figures.



Show	Min		Colour		Max	Data
☑	inf	<		<	55.0	2.59%
☑	55.0	≤		≤	60.0	2.88%
☑	60.0	<		≤	65.0	8.43%
☑	65.0	<		<	inf	86.10%



% Fe ordinary kriged estimates for high-grade ore body in Leeuwfontein pit at Kolomela

Salient features

Key takeaways for 2023

Refreshed strategy

Kumba concluded its Ore Reserve replenishment drive in support of the Company's Tswelelopele strategy in 2022 with a cumulative gain of 332.3 Mt (before depletion), against a target of 200 Mt set at the end of 2017.

In 2023 the company strategy was updated to align with a more conservative view of the capability of the dominant value chain constraint; the Iron Ore Export Channel (IOEC). The strategy looks to ensure that the business is sustainable through the commodity cycles at more realistic rail/port assumptions by focusing on reducing controllable costs, preserving margins and prioritising **value over volume**.

To align with refreshed business expectations, the revenue factor applied to derive the Sishen pit layouts and therefore Ore Reserves was reduced from 1.0 (2022) to 0.8 (2023). Similarly, the resource shell revenue factor has been reduced from 1.6 in 2022 to 1.3 in 2023. The LoAP of Kolomela was not updated in 2023 and as a result the Ore Reserves and Mineral Resources are reported by way of depleting the 2022 LoAP and 2022 geological models with 2023 forecasted production.

Value over volume

Kumba's haematite iron ore product, although smaller in volume than that of the big global iron ore miners, is well-known for its high grades as well as physical properties associated with specifically the premium and standard Lump ore.

Kumba's high quality products attracted a Lump premium of US$7/wmt and an Fe premium of US$3/wmt in 2023. The product premium of US$5/wmt combining the marketing premium and timing effects that reflect the benefit of provisionally priced sales volumes and our high-grade iron ore content averaging 63.7% and Lump ratio of 66%, delivered a total price uplift of US$15/wmt on the Platts 62 FOB export price of US$102/wmt.

What is often overlooked, is that this niche price is achieved while maximising resource utilisation, with the *in situ* haematite Mineral Resource cut-off grade at Sishen of 40% Fe, lower than most of the rest of the global iron ore producers.

Reserve and Resource movements from 2022 to 2023

Ore Reserves decreased over the reserve life by 4% (-28.0Mt) and **Saleable Product** by 5% (-27.3 Mt) year-on-year, primarily as a result of production at both operations and a reallocation of Ore Reserves to Mineral Resources at Sishen due to a smaller pit layout from the 0.8 revenue factor pit (vs 1.0 in 2022).

Mineral Resources (in addition to Ore Reserves) increased by 19.5 Mt from 2022 to 2023, mainly because of the reallocation of the Sishen Ore Reserves (mostly low-grade ore) to Mineral Resources.

The 2023 1.3 revenue factor resource shell at Sishen is similar to the 1.6 revenue factor resource shell applied in 2022, due to the fact that its extent is primarily driven by ore body geometry and grade, and less so by changes in economic parameters.

Risks

The following Ore Reserve (and Saleable Product) risks should be noted:

Logistical (external risk)

The logistical value chain (rail and port) is the dominant constraint in Kumba's value chain. Transnet's performance in terms of contracted volumes has further deteriorated in 2023. The rail performance may have an impact on the sustainability and profitability of the business and therefore the viability of the Ore Reserve.

Mitigation: As part of the business plan process Kumba has moderated its outlook on logistics capacity to ~36Mtpa (vs contract of 44Mtpa).

Financial (internal and external risk)

Kumba has seen an increase in operational costs as a result of inflation as well as structural cost increases, all of which cannot be diluted by increasing production due to the constraint on logistics.

Mitigation: As a result of these cost pressures, Kumba implemented a structural reconfiguration of its operations aimed at reducing the breakeven cost by:

- *re-sequencing mining pushbacks;*
- *delaying high strip ratio pits;*
- *reducing costs and improving efficiencies, and*
- designing the appropriate organisational structure

Salient features cont.

Key takeaways for 2023 cont.

Risks cont.

Infrastructure Project (internal risk)

At Sishen, the UHDMS project involves the conversion of the existing Sishen DMS plant to a UHDMS plant. During Q4 of 2022, significant engineering complexity emerged relating to the design and construction of an operational UHDMS plant and the project was halted for an in-depth review.

Mitigation: Kumba conducted a full review of the project in 2023 and re-submitted the feasibility study case in December 2023. The project is being internally reviewed to determine the optimal sequencing of the project.

Other

Assurance

An external due diligence audit (including a one-week site visit) of the Sishen 2023 low-grade Mineral Resource estimation was conducted during the year. This audit was requested by Kumba Geosciences considering the geological loss recorded with the mining of low-grade ore. The external due diligence concluded that that the low-grade ore in the banded iron formation (BIF) is overestimated due to historical selective sampling of exploration cored boreholes, and due to over-estimation of low-grade ore at depth below borehole intersections.

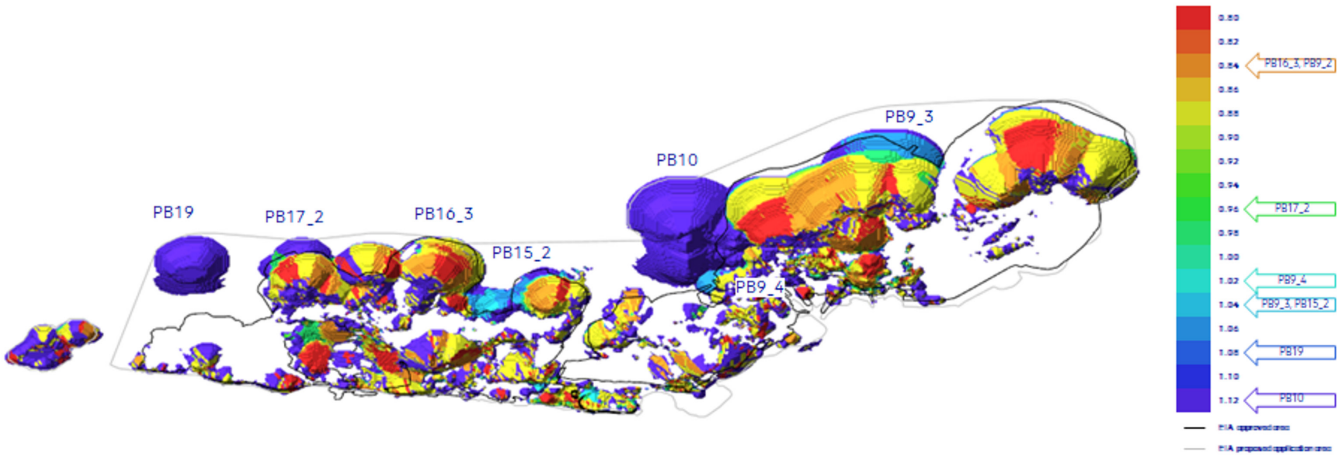
The risk associated with these low-grade ore losses has been known since 2020 and is adequately mitigated through the application of the applicable Reserve modifying factors. The Reserve modifying factor was verified during the external audit and the declared reserves therefore reflect the actual low-grade recovery

Mine Planning

Kumba Mining Engineering has developed a value-based approach to mining block modelling to allow pit optimisation to determine what portion of the Measured and Indicated

Mineral Resources is economically mineable and can be converted to Ore Reserves and subsequent Saleable Product.

This involves the replacement of the 40% Fe Ore Reserve cut-off grade with a value based cut-off approach whereby the economic mineability of each SMU in the mining block model is determined by comparing the cost of mining and beneficiating the SMU ore and the selling of the SMU product, against the income generated by the SMU product type, based on the long-term price (considering grade penalties) and exchange rate. This development will also be rolled out to Kolomela in future.



Output from Sishen 2023 pit optimisation

High-level overview of Kumba's Saleable Product, Ore Reserves and Mineral Resources

Foundation on which our business is based and continuously developed

Saleable Product

Kumba processes or beneficiates its run-of-mine at its mining operations through crushing and screening, and various dense media separation processes as well as jigging to produce on-site Premium Lump, standard Lump, Premium Fines (Sishen only) and standard Fines iron ore products for Client off-take.

Remaining Saleable Product is estimated by applying fundamental (Sishen) and empirically (Kolomela) derived beneficiation (yield and product grade) algorithms to the scheduled Ore Reserves (run-of-mine tonnage and grade estimates). The fundamental beneficiation algorithms are derived from geometallurgical densimetric test work performed on borehole core in the case of Sishen, while the empirical beneficiation algorithms are derived from historical production (actual run-of-mine versus actual product) tonnage and grade figures as measured for Kolomela. The beneficiation algorithms consider the various site-specific run-of-mine ore types, site-specific beneficiation capacities and site-specific beneficiation efficiencies.

It is important to note that the remaining 2023 Saleable Product estimates assume the following:

- Approval of a project to convert the Sishen DMS plant into an UHDMS plant (33.6 Mt product scheduled from 2027 may be at risk if the feasibility study is not approved).
- The Kolomela LoAP was not updated in 2023 and this statement is therefore based on the 2022 LoAP, adjusted for 2023 annual depletion. The Kolomela LoAP will be updated in 2024.

The Saleable Product tonnages are summarised in **Figure 1** per site and per confidence class.

Saleable Product summary

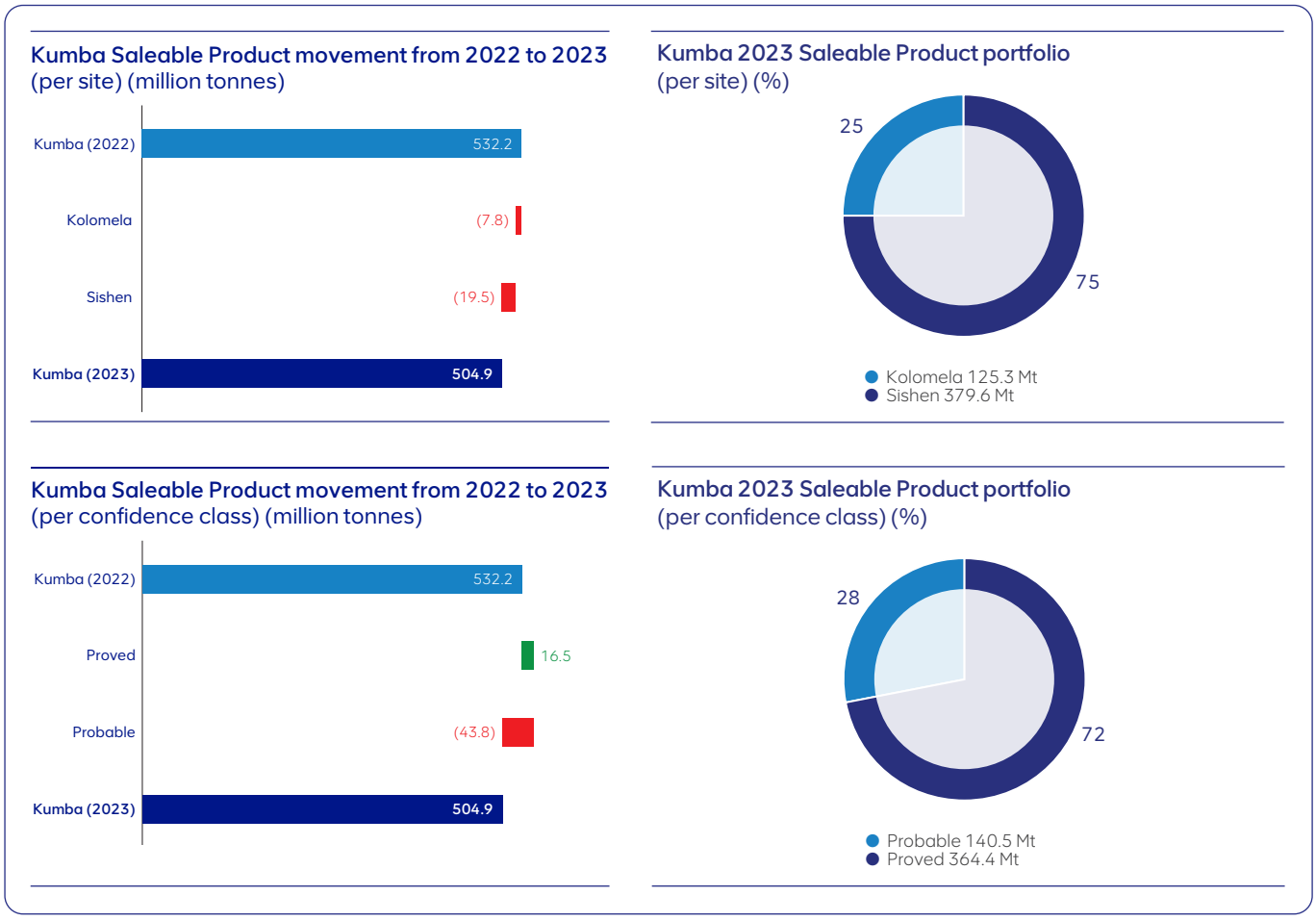


Figure 1: Kumba 2023 (versus 2022) Saleable Product summary

High-level overview of Kumba's Saleable Product, Ore Reserves and Mineral Resources cont.

Saleable Product cont.

Saleable Product summary cont.

The Saleable Product figures are not reported in addition to the Ore Reserve figures, i.e. the Ore Reserve figures are inclusive of the Saleable Product.

As of 31 December 2023, Kumba plans to produce an estimated 504.9 Mt of Saleable Product (excluding estimated modified beneficiated Inferred Mineral Resources) at an estimated average beneficiated grade of 63.9% Fe from its two mining operations over its remaining reserve life:

- **Kolomela: 125.3 Mt @ average 63.5% Fe**
- **Sishen: 379.6 Mt @ average 64.1% Fe**

The Kolomela products are co-located with the Sishen products at the Saldanha export harbour and are marketed as the following Saleable Products under the Kumba brand:

- Premium Lump: 65.1% Fe
- Standard Lump: 64.0% Fe
- Standard Fines: 63.1% Fe

Year-on-year movement

A 5% overall decrease of 27.3 Mt is noted for the Kumba Saleable Product compared to 2022. The average Fe content of the Saleable Product increased from 63.5% in 2022 to 63.9% in 2023.

1 Kolomela

Kolomela: 6% (-7.8 Mt) year-on-year decrease

Primarily attributed to the 2023 production (-10.9 Mt) as forecasted at the time of reporting, partially offset by other minor positive movements. The 2023 Kolomela Saleable Product estimate was derived by depleting the 2022 LoAP of Kolomela. The Kolomela LoAP will be updated in 2024.

(The total movement balance is detailed in footnotes of **Figure 9**)

2 Sishen

Sishen: 5% (-19.5 Mt) year-on-year decrease

Primarily as a result of a change in criteria applied during pit optimisation whereby the revenue factor applied to derive the pit layouts was reduced from 1.0 (2022) to 0.8 (2023), resulting in an overall decrease of 42.2 Mt, combined with a 23.8 Mt decrease as a result of the forecasted production for 2023. The reduction was partially offset by a 37.1 Mt increase in Saleable Product based on a new value-based approach to mining block modelling.

(The total movement balance is detailed in footnotes of **Figure 9**)

Kumba Saleable Product profile

The Kumba combined (Sishen and Kolomela) planned Saleable Product profile (including estimated modified beneficiated Inferred ore) is indicated in **Figure 2**.

The 2023 Sishen LoAP has been optimised with updated pushback designs and the feeding of C grade from 2027 onwards, resulting in a reduction of 11.5 Mt Saleable Product over the first three years of the schedule to align with the moderated rail assumptions.

High-level overview of Kumba's Saleable Product, Ore Reserves and Mineral Resources cont.

Saleable Product cont.

Kumba Saleable Product profile cont.

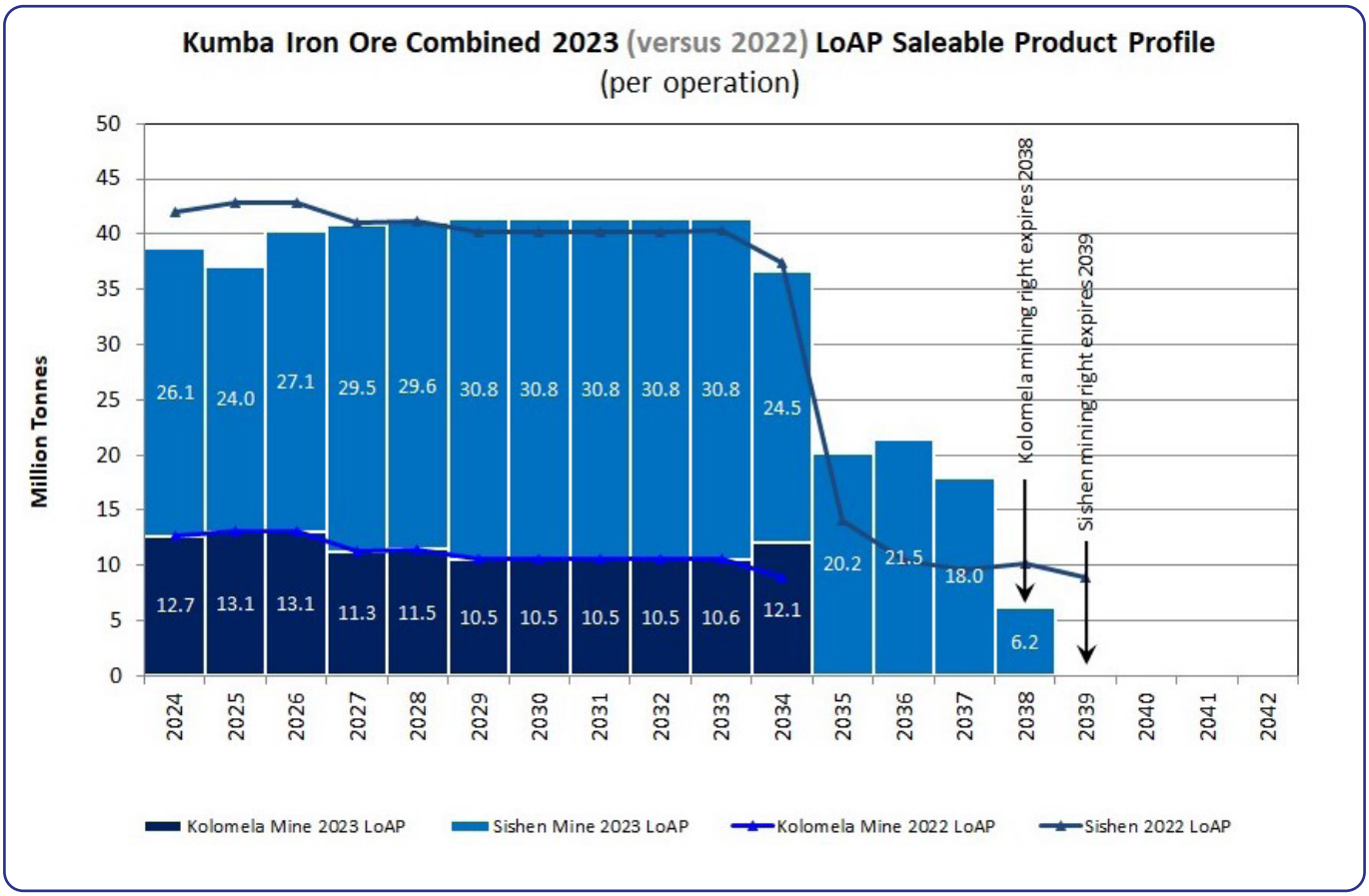


Figure 2: Kumba combined Saleable Product profile (including estimated modified beneficiated Inferred Mineral Resources)

High-level overview of Kumba's Saleable Product, Ore Reserves and Mineral Resources cont.

Ore Reserves

Kumba's Ore Reserves are the economically mineable and beneficiable portion of its modified (for practical, safe and achievable extraction) Measured and Indicated Mineral Resources, making use of existing and foreseen (at least approved pre-feasibility study level) infrastructure and technology. It includes diluting materials and allowances for losses, which occurs when the material is mined, and is defined as economically extractable as per Kumba's Q1 2023 (Q1 2022 for Kolomela) view of economic parameters in terms of long-term pricing and exchange rate, with cost assumptions based on 2023 (2022 for Kolomela) budget information.

Important to note that the remaining Ore Reserve estimates assume the following:

- Approval of a project to convert the Sishen DMS plant into a UHDMS plant (112.9 Mt run-of-mine as scheduled from 2027 onwards may be at risk if the feasibility study is not approved).
- The Kolomela LoAP was not updated in 2023 and the reserves are reported based on the 2022 LoAP with allowance for 2023 depletion. The Kolomela LoAP will be updated in 2024.

The Ore Reserve tonnages are summarised in **Figure 3** per site and per confidence class.

Ore Reserve summary

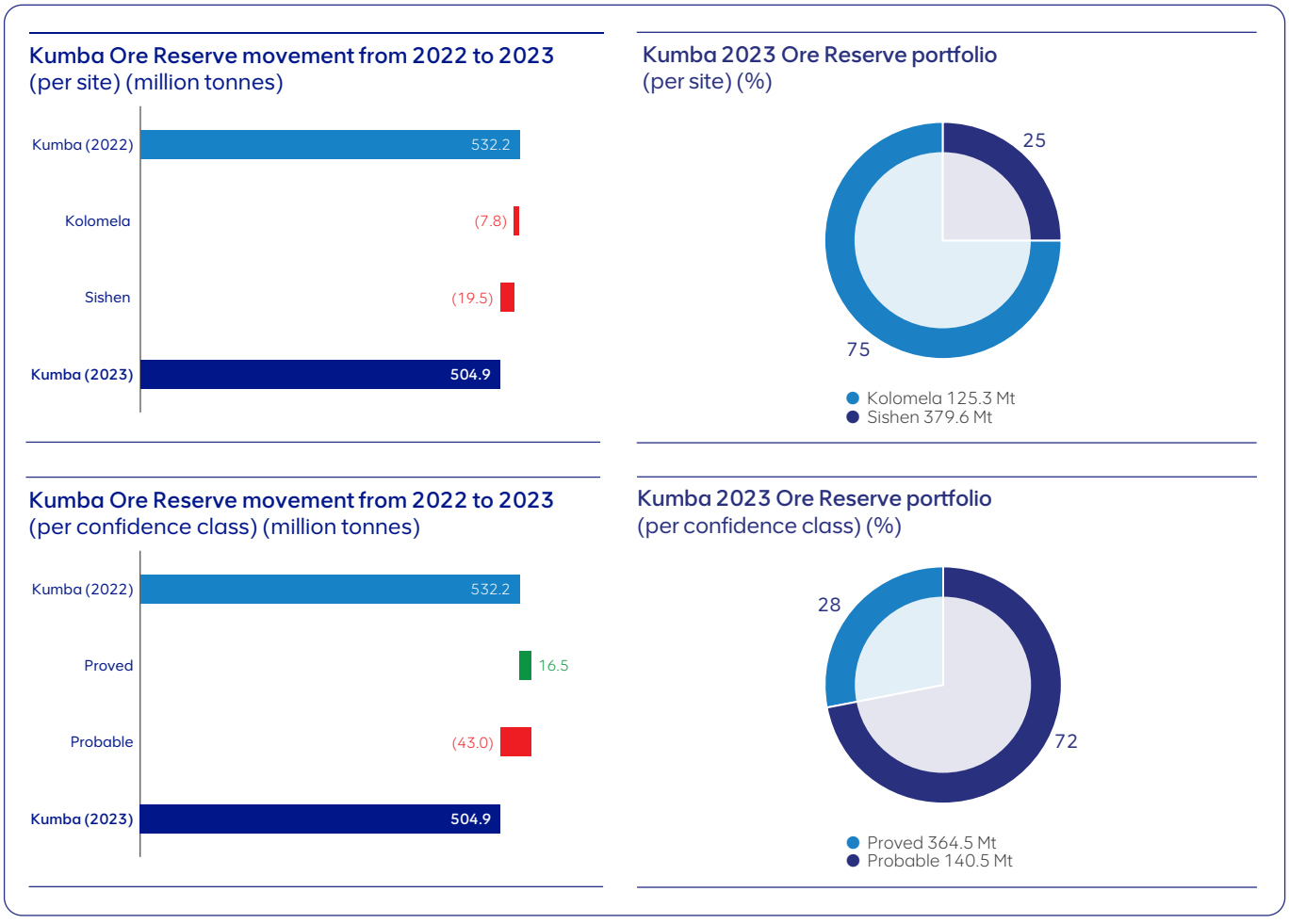


Figure 3: Kumba 2023 (versus 2022) Ore Reserve summary

High-level overview of Kumba's Saleable Product, Ore Reserves and Mineral Resources cont.

Ore Reserves cont.

Ore Reserve summary cont.

As of 31 December 2023, Kumba, from a 100% ownership reporting perspective, plans to mine an estimated haematite Ore Reserve of 731.4 Mt at an estimated average unbeneficiated or feed grade of 55.6% Fe from its two mining operations:

- **Kolomela: 132.8 Mt @ 62.6% Fe against a 50.0% Fe cut-off grade**
- **Sishen: 598.6 Mt @ 54.0% Fe against value-based cut-off**

Year-on-year movement

A 4% net decrease of 28.0 Mt is noted for the overall Kumba Ore Reserves compared to 2022. The average Fe content of the Ore Reserves (scheduled run-of-mine) decreased from 55.7% in 2022 to 55.6% in 2022.

1 Kolomela

Kolomela: 6% (-8.2 Mt) year-on-year decrease

Primarily attributed to the 2023 forecasted depletion (-11.6 Mt) of Ore Reserves (excluding modified Inferred Mineral Resource run-of-mine), partially offset by other minor positive movements. The 2023 Kolomela Ore Reserve estimate was derived by depleting the 2022 LoAP of Kolomela, as the LoAP will only be updated in 2024.

(The total movement balance is detailed in footnotes of **Figure 10**)

2 Sishen

Sishen: 3% (-19.8 Mt) year-on-year decrease

Primarily as a result of a change in criteria applied during pit optimisation whereby the revenue factor used to derive the pit layout was reduced from 1.0 (2022) to 0.8 (2023), resulting in a 54.9 Mt Ore Reserve being reallocated to Mineral Resources, combined with a 30.9 Mt decrease as a result of the forecasted depletion for 2023. The decrease was partially offset by a 50.2 Mt increase in Ore Reserves based on a new value-based approach* to mining block modelling.

(The total movement balance is detailed in footnotes of **Figure 10**)

Kumba run-of-mine profile

The Kumba combined (Sishen and Kolomela) planned run-of-mine profile (including estimated modified Inferred Mineral Resources) is indicated in **Figure 4**. The reserve life has decreased from a combined 17 years in 2022 to 15 years in 2023.

The 2023 Sishen LoAP has been optimised with updated pushback designs and the feeding of C grade from 2027 onwards, resulting in a reduction of 14.5 Mt Ore Reserves over the first three years of the schedule to align with the lower rail assumptions.

* Sishen has introduced a value-based approach to mining block modelling to allow pit optimisation to determine what portion of the Measured and Indicated Mineral Resources is economically mineable and can be converted to Ore Reserves and subsequent Saleable Product, This involves the replacement of the 40% Fe Ore Reserve cut-off grade with a value based cut-off approach whereby the economic mineability of each SMU in the mining block model is determined by comparing the cost of mining and beneficiating the SMU ore and the selling of the SMU product against the income generated by the SMU product type, based on the long-term price (considering grade penalties) and exchange rate. The product estimated for each SMU ore block is derived from cut-offs applied to Saleable Product grade and yield parameters assigned to each block via beneficiation algorithms.

High-level overview of Kumba's Saleable Product, Ore Reserves and Mineral Resources cont.

Ore Reserves cont.

Kumba run-of-mine profile cont.

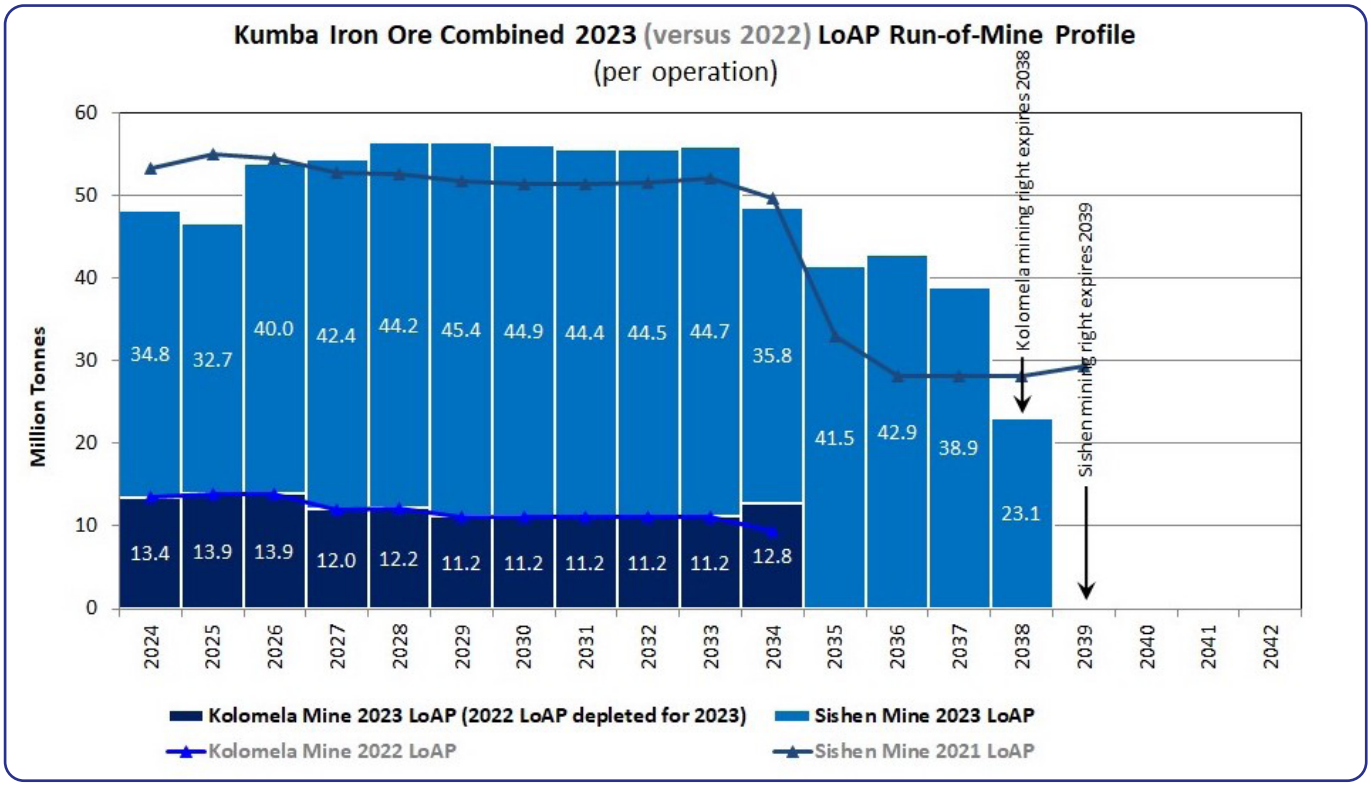


Figure 4: Kumba combined run-of-mine profile (including estimated modified Inferred Mineral Resources)

High-level overview of Kumba's Saleable Product, Ore Reserves and Mineral Resources cont.

Exclusive Mineral Resources

Kumba's exclusive Mineral Resources consists of:

- the *in situ* iron ore, of which the form, grade and quantity are spatially defined by three-dimensional geological models, constrained within revenue factor 1.6 resource shells for Kolomela and revenue factor 1.3 resource shells for Sishen, excluding the Measured and Indicated Mineral Resources occurring inside pit layouts which have been converted to Ore Reserves
- long-term stockpiled iron ore, which is not currently utilised in LoAPs but is considered to have reasonable prospects for eventual economic extraction

It is important to note that the remaining exclusive Mineral Resource estimates assume the following:

- Approval of a project to convert the Sishen DMS plant into a UHDMS plant (154.9 Mt low-grade exclusive Mineral Resources may be at risk if the feasibility study is not approved).
- The 2023 Kolomela Mineral Resource is based on the 2022 geological models informing the 2022 LoAP adjusted for forecasted annual depletion, to align with the decision to only update the LoAP in 2024.

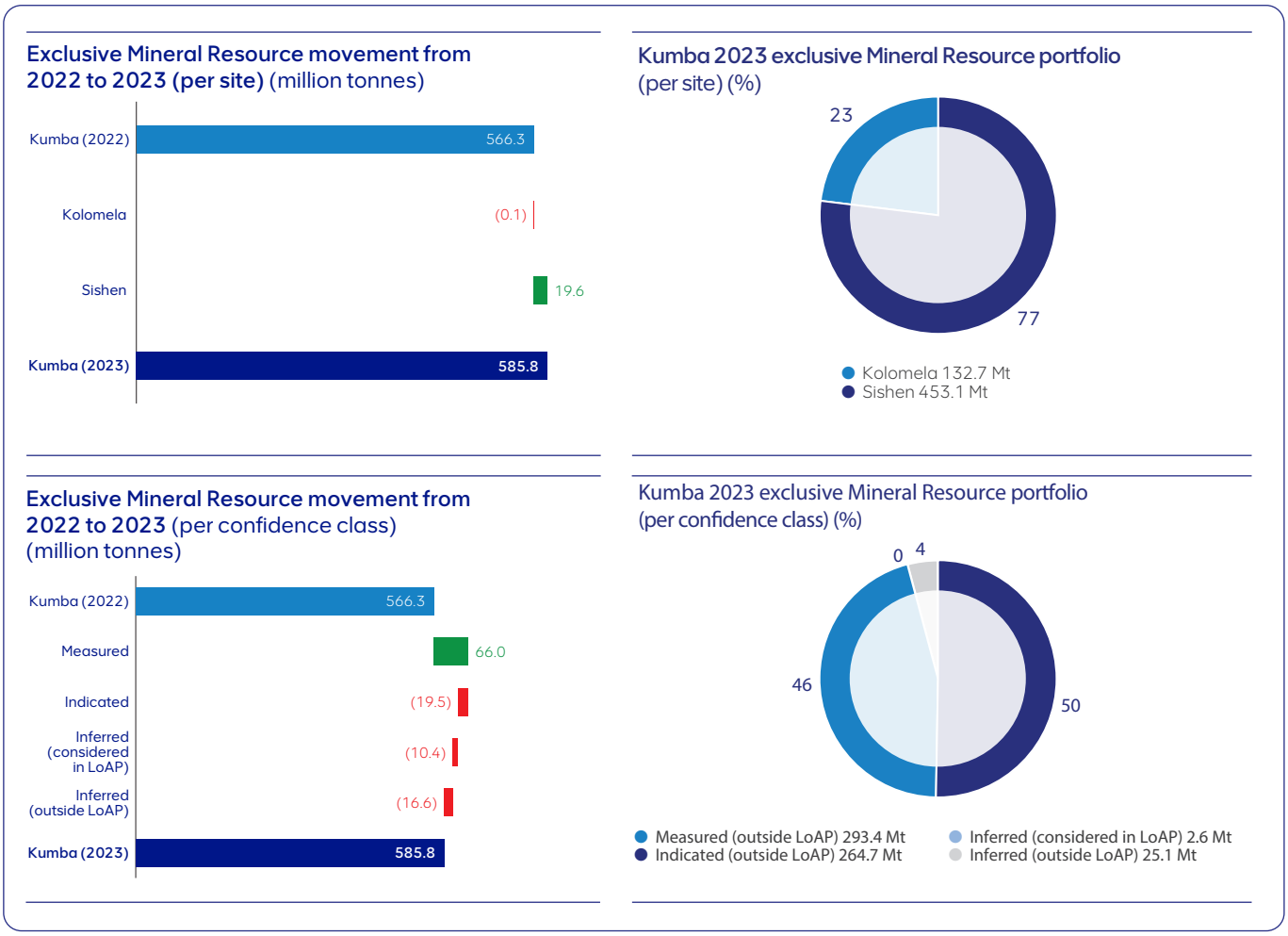


Figure 5: Kumba 2023 (versus 2022) exclusive Mineral Resource summary

The Mineral Resources reported are not an inventory of all mineral occurrences identified, but an estimate of those, which under assumed and justifiable technical, environmental, legal and social conditions have RPEEE as per Kumba's current understanding of its value chain and market conditions. The location, quantity, grade, continuity and other geological characteristics of the Mineral Resources are known, interpreted and spatially estimated from specific geological evidence and knowledge, the primary input consists of borehole sample assay results.

Mineral Resources are reported exclusively, i.e. in addition to Ore Reserves. The exclusive Mineral Resource tonnages are summarised per site and per confidence class in **Figure 5**.

High-level overview of Kumba's Saleable Product, Ore Reserves and Mineral Resources cont.

Exclusive Mineral Resources cont.

As at 31 December 2023, Kumba's remaining exclusive (in addition to Ore Reserves) Mineral Resource base is estimated at 585.8 Mt at an estimated average *in situ* grade of 57.5% Fe:

- **Kolomela:** 132.7 Mt @ average 63.8% Fe (against a 50.0% Fe cut-off grade)
- **Sishen:** 453.1 Mt @ average 55.7% Fe (against a 40.0% Fe cut-off grade*)

Year-on-year movement

A net increase of 19.5 Mt is noted for the overall Kumba exclusive Mineral Resource compared to 2022.

The average *in situ* Fe of the exclusive Mineral Resources has decreased from 58.6% in 2022 to 57.5% in 2023, primarily as a result of an increase in the low-grade (40 ≤ *in situ* Fe < 48%) portion, with most Ore Reserves reallocated to Mineral Resources as a result of the decrease in the size of the Sishen pit layout being low-grade ore (ferruginised BIF located at depth in the Sishen stratigraphy).

1

Kolomela

Kolomela: minor 0.1 Mt year-on-year decrease

The exclusive Mineral Resources remained flat year-on-year with an insignificant net decrease recorded compared to 2022, as a result of the decision taken to deplete the 2022 LoAP for 2023 as the LoAP will only be updated in 2024. The minor 0.1 Mt decrease represents the forecasted depletion of Inferred Mineral Resources for 2023.

(The total movement balance is detailed in footnotes of **Figure 11**)

2

Sishen

Sishen: 5% (+19.6 Mt) year-on-year net increase

The 5% (+19.6 Mt) year-on-year net increase can primarily be attributed to of a reallocation of Ore Reserves to Mineral Resources because of the decrease in the pit layout size, resulting in a 52.6 Mt increase in Mineral Resources (primarily low-grade ore). The resource shell changes as a result of the reduction in the revenue factor from 1.6 (2022) to 1.3 (2023) were minimal.

The increase was partially offset by a decrease of 26.4 Mt based on the 2023 geological model update, considering additional borehole data. Other minor year-on-year movements contributed to the net year-on-year increase.

(The total movement balance is detailed in footnotes of **Figure 11**)

Purpose

This statement describes the foundation for Kumba's long-term business as per the Company's current expectations and planning.

It is the objective of this statement to declare the Kumba Ore Reserves (and Saleable Product) and exclusive Mineral Resources as remaining at 31 December 2023 and compare it with the 31 December 2022 published figures. In addition, it aims to provide all relevant detail in support of the declarations to explain how the Ore Reserve and Mineral Resource estimates were derived and what aspects thereto may be material for investment decisions.

It must be noted that the Mineral Resource and Ore Reserve figures presented in this report are estimates, and although it has been derived to the best possible knowledge of the Competent Persons (CPs), it is inherently subject to some level of uncertainty and inaccuracy, based on forward looking assumptions, and subject to known associated risks as well as risks related to unforeseen events. The respective CPs, however, take full responsibility for the Mineral Resource and Ore Reserve declarations.

This report is the collective view of the Ore Reserve and Mineral Resource CPs and strives to deliver a transparent and material view of the Kumba Ore Reserves and Mineral Resources to inform all relevant stakeholders.

Haul and load operations in the Kapstevel South Pit at Kolomela mine.

Location

Kumba operates the Kolomela and Sishen open-pit mines out of the Northern Cape province of the Republic of South Africa.

All the Kumba sites for which Ore Reserves and/or Mineral Resources were declared in 2023 are located within the Republic of South Africa **(Figure 6)**. As is the case with all mineral companies, the location of operations and exploration projects is dictated by geology; in Kumba's case the iron mining operations (Kolomela and Sishen) are located in the Northern Cape province.

Figure 6: Geographical locations of Kumba operations and projects for which Ore Reserves and Mineral Resources have been declared

The WGS84 latitude/longitude geographical co-ordinate map references of the Kumba entities for which Ore Reserves and/or Mineral Resources have been declared in 2023 are listed below.

1

Kolomela

Kolomela in the Northern Cape province near the town of Postmasburg

(28°23'30.05" S and 22°58'46.88" E)

2

Sishen

Sishen in the Northern Cape province 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)

Premium Lump, standard Lump and standard Fines iron products are railed from the Kolomela and Sishen operations to the Saldanha Bay port at the west coast (located in Saldanha Bay in the Western Cape province), with both the rail and the port owned and operated by Transnet, a state-owned entity. The iron ore products are exported from the port to markets in the Asia-Pacific region, Europe and the Middle East as well as North Africa.

Kumba Iron Ore's corporate office is based in the Anglo American corporate facilities in Johannesburg (144 Oxford Road, Rosebank, Melrose, Johannesburg, 2196, Republic of South Africa).

Attributable ownership

Kumba has access to its Ore Reserves and Mineral Resources through Sishen Iron Ore Company Proprietary Limited (SIOC), in which it has 75.37% attributable ownership.

Kumba Iron Ore (KIO), a business unit of the Anglo American plc (AA plc) group as the major shareholder, has access to its iron ore Reserves and Resources through SIOC, the entity to which the mining and prospecting rights have been granted. The relevant Kumba ownership structure is illustrated in **Figure 7**.

Figure 7: Kumba ownership structure (at 31 December 2023)

For this statement, all Ore Reserve (and Saleable Product) and Mineral Resource estimates, whether Kumba's attributable ownership in the specific mineral asset is less than 100% or not, are reported as 100%, with the percentages attributable to Kumba indicated in the relevant tables. The overall proportion attributable to SIOC, Kumba and AA plc is summarised in **Table 1**.

The effective shareholding of Kumba and SIOC has remained unchanged from 2022.

Table 1: SIOC, KIO and AA plc mineral asset ownership (31 December 2023)

	% owned by SIOC		% owned by Other via SIOC		% owned by Exxaro via SIOC		% owned by Kumba Iron Ore via SIOC		% owned by AA plc via KIO[1]	
Mineral asset	**2023**	2022	**2023**	2022	**2023**	2022	**2023**	2022	**2023**	2022
Kolomela	**100**	100	**4.2**	4.2	**20.4**	20.4	**75.4**	75.4	**52.5**	52.5
Sishen	**100**	100	**4.2**	4.2	**20.4**	20.4	**75.4**	75.4	**52.5**	52.5

[1] The holding company, SIOC, is 75.4% owned by KIO; and KIO is 69.7% owned by AA plc (as of 31 December 2023).

Security of tenure

Kumba's right to mine

All Ore Reserves (and Saleable Product) and Mineral Resources (in addition to Ore Reserves) quoted in this document are held under notarially executed and registered mining rights granted to SIOC in terms of the Mineral and Petroleum Resources Development Act No 28 of 2002 (MPRDA) by the DMRE of the South African government. Kumba holds a 75.4% share in SIOC (at the time of reporting).

Status of mining rights

SIOC is the holder of mining rights for both its operations and the rights are of sufficient duration to enable the complete execution of the LoAPs from which the Ore Reserves and Saleable Product have been derived. In terms of the MPRDA, SIOC also has the exclusive right to extend the period of these mining rights if so required.

The status of the mining rights as of 31 December 2023 is as follows:

Kolomela was granted a mining right for iron ore on 18 September 2008 for a 30-year mining period. Ancillary security of tenure information is summarised in **Table 2**.

Table 2: Kolomela security of tenure status summary

Authorisation type	Number. of authorisations	Expiry date	Comments
Mining right	1 (NC30/5/1/1/2/069MR)	17 September 2038	Mining right and three deeds of amendments registered at the Mineral and Petroleum Titles Office: Pretoria.
Mining work programme	1	End of reserve life	Mining work programme section 102 amendment application to align with 2022 LoAP submitted to the DMRE on 13/10/2022 – not yet granted by the DMRE.
Social and labour plan	1	2024	Approved by the DMRE on 19 November 2021 for the period 2020 to 2024.
Environmental authorisation	27	End of reserve life	Enables execution of 2022 LoAP
Waste management licensing	3	End of reserve life	Enables execution of 2022 LoAP
Water use licensing	1	End of reserve life	Enables execution of 2022 LoAP
Closure provision		Immediate closure	R1,946 million liability - provided for via Kumba Rehabilitation Trust Fund (R169 million) and bank guarantees (R1,527 million) with R250 million shortfall to be furnished through additional bank guarantees - 16% more than 2022.
Royalties		2023	Royalties – R662 million for 2023 (15% more than 2022)

Security of tenure cont.

Status of mining rights cont.

Sishen was granted a mining right for iron ore and quartzite on 11 November 2009 for a 30-year mining period. Ancillary security of tenure information is summarised in **Table 3**.

Table 3: Sishen security of tenure status summary

Authorisation type	Number of authorisations	Expiry date	Comments
Mining right	1 (NC30/5/1/2/2/259 MR)	10 November 2039	Mining right and three deeds of amendments registered at the Mineral and Petroleum Titles Office: Pretoria.
Mining work programme	1	End of reserve life	A section 102 amendment application for an updated Sishen mining work programme to accommodate pit design changes and earlier scheduling of low-grade ore as Ore Reserves was submitted to the DMRE on 21 December 2022 (SAMRAD* online application submitted 14 July 2023) – not yet granted by the DMRE.
Social and labour plan	1	2026	The social and labour plan (SLP 3) for the period 2022 to 2026 was approved by the DMRE on 20 April 2023.
Environmental authorisation	47	End of reserve life	One (1) application submitted - not yet granted by relevant government authority.
Waste management licensing	9	End of reserve life	Enables execution of 2023 LoAP
Water use licensing	6	End of reserve life	One (1) application submitted in 2021 – not yet granted.
Closure provision		Immediate closure	R5,448 million liability (R3,595 million through bank guarantees and R708 million provided for through Kumba Rehabilitation Trust Fund, with shortfall of R1,145 million to be furnished through additional bank guarantees - 30% more than 2022.
Royalties		2023	R1,802 million for 2023 - 93% more than 2022

* South African Mineral Resources Administration System (SAMRAD)

Outstanding Environmental Authorisations pertaining to mining rights

The following applications considering future planned mining activities are pending approval by the relevant governmental authorities:

Kolomela

- None. The integrated water use license amendment applied for in 2022 was granted on 8 November 2023.

Sishen

- Application for hydroponic water use licence - this does not affect mining activities directly and is part of a sustainable development project outside the Sishen mining right area.

Competing rights

Applications by third parties for prospecting rights and mining rights:

- on land within SIOC's mining right areas where the Company has current mining activities taking place and/or future activities planned
- on land, of which SIOC is the surface rights owner and which falls within SIOC's land management strategy and/or land earmarked for biodiversity offset areas are being managed through the lodgement of internal remedies in terms of the MPRDA, i.e. objections and appeals. Through Anglo American's group Legal function, a litigation approach is being followed in relation to applications where adjudication has not been within a reasonable timeframe

There has been a marked increase in the competing right applications compared to 2022.

Security of tenure cont.

Status of prospecting rights

Kumba has declared no Mineral Resources or Ore Reserves on prospecting rights.

SIOC has submitted a closure application for the Zandrivierspoort prospecting right, as was acknowledged by the Regional Manager of the DMRE office in Limpopo on 22 November 2021. The right expired on 21 March 2020. The closure certificate has not been issued yet.

Environmental, social and governance (ESG) reporting

Kumba, in collaboration with its parent company Anglo American, is evaluating the reporting requirements of the newly introduced South African guideline for the reporting of environmental, social and governance parameters (SAMESG Guideline). It must be noted that the SAMESG Guideline has not been incorporated into the JSE Listings Requirements as stipulated for minerals companies.

In 2023, Kumba will again provide comprehensive feedback in this regard using its annual Sustainability report following the GRI's Sustainability Reporting Standards (core compliance) and Mining Sector Supplement and a Climate Change report based on the recommendations of the Task Force on Climate-related Financial Disclosures. The reporting is also aligned with the AA1000 stakeholder engagement standard, the sustainable development principles and reporting framework of the International Council on Mining and Metals, and the principles of the United Nations Global Performance Compact.

For maintaining a healthy environment, we have set out these ambitions for Kumba to be achieved by 2030 (please refer to the Sustainability and Climate Change reports in the Kumba suite of reports for 2023):

- 30% reduction target in net greenhouse gas emissions (against 2016 baselines)
- 40% reduction target in fresh-water withdrawal. As a water positive operation, increasing our water efficiency (recycling and reuse rate) will enable increased diversion of freshwater to our host communities and third parties within the catchment where we operate
- Conservation of biodiversity by ensuring a net-positive impact on biodiversity across both sites

To maintain a positive impact on our communities, Kumba has set out the following ambitions to be achieved by 2030:

- Contribute to achieving good health and wellbeing within our host communities by supporting programmes and projects that contribute positively to good health outcomes
- Support schools within our host communities to perform within the top 20% of state schools nationally
- Support shared prosperity in our host communities by facilitating five jobs off-site for every job on-site
- Maintain and improve the safety and health and wellbeing of all our employees

In terms of governance and ethical leadership, Kumba has set out the following structures, led by the Kumba Board, to hold Kumba management accountable to the ambitions set out for 2030:

- Social Ethics and Transformation Committee (Setco)
- Safety, Health and Sustainable Development (SHSD) Committee

To realise these ambitions, site plans with detailed pathways have been developed for each operation. Some notable planned actions are as follows:

- The construction of a 67 MW solar PV plant at Sishen as well as an 11 MW renewable solution (wheeled solar or wind) facility at Kolomela.
- The launch of the first of a chartered fleet of 10 liquefied natural gas (LNG) dual-fuelled Capesize+ vessels, with the Ubuntu Harmony vessel, which loaded its first cargo of Kumba iron ore product at the Saldanha harbour at the west coast of South Africa in January 2023. It is estimated that these vessels will realise a 35% reduction in CO_2 emissions compared to ships fuelled by conventional marine oil fuel. The use of LNG will also lead to a significant reduction of nitrogen oxides and particulate matter from vessel exhausts, while new technology also eliminates the release of unburnt methane.

LNG dual-fuelled Capesize+ vessel, the Ubuntu Harmony

- The initiation of a project to license one of Sishen's pits (G35 mining area) as a mixed-use water storage facility. This project will enable Sishen to reduce fresh-water withdrawals and repurpose our surface water for consumptive user requirements within our operations, such as dust suppression.

Other projects currently under investigation are:

- the wheeled renewable electricity project, where the Anglo group is investigating procuring renewable (off-site wind and solar PV and storage) electricity from the Regional Renewable Energy Ecosystem initiative
- replacing fossil-fuel usage with green fuels where feasible - Anglo's green mobility project is aiming to roll out haul trucks fuelled by green hydrogen at its open pit operations

Competence

Kumba considers its relevant technical specialists as competent to declare Ore Reserves and Mineral Resources, in accordance with the SAMREC Code (2016 Edition), to provide the decision-maker with a transparent and material insight into the Company's Ore Reserve and Mineral Resource status at a given point in time.

The Ore Reserve and Mineral Resource estimates were prepared under the direct supervision of CPs as defined in the SAMREC Code (2016 Edition). All Mineral Resource CPs have sufficient relevant experience in the estimation, assessment and evaluation of the style of mineralisation and type of iron ore Mineral Resources, and all Ore Reserve CPs have sufficient relevant experience in the estimation, assessment and evaluation of the economic extraction of iron Ore Reserves through open-pit mining methods.

All the CPs consent to the inclusion in this report of the information in the form and context in which it appears.

All CPs (**Table 4** and **Table 5**) informing the 2023 Kumba Ore Reserve (and Saleable Product) and Mineral Resource report assumed responsibility by signing a Competent Person appointment letter, kept by the Company's Principal – Resource Geology, at Anglo American's Rosebank office in Johannesburg, South Africa. These letters contain the full name, address, professional qualifications, and relevant experience of the CPs.

Table 4: Corporate responsibility – Lead Competent Persons – Kumba corporate office

Business unit	Field	Name	Title	Employed by	Professional organisation	Registration number	Years of relevant experience
Kumba Iron Ore	Mineral Resources	Jean Britz	Principal Mineral Resources	Sishen Iron Ore Company Proprietary Limited	SACNASP** Professional Natural Scientist	400423/04	19
	Ore Reserves*	Theunis Otto	Head Mining Engineering	Sishen Iron Ore Company Proprietary Limited	ECSA*** Professional Engineer	990072	19

* The term "Ore Reserves" in the context of this report has the same meaning as "Mineral Reserves", as defined by the SAMREC Code. The term "Ore Reserves" is preferred because it emphasises the difference between these and Mineral Resources.
** SACNASP – South African Council for Natural Scientific Professions (**https://www.sacnasp.org.za/** - Address: Management Enterprise Building,
1 Mark Shuttleworth Street, Innovation Hub, Pretoria).
***ECSA – Engineering Council of South Africa (**https://www.ecsa.co.za/default.aspx** - Address: Lake Office Park, 1st Floor, Waterview Corner Building, 2 Ernest Oppenheimer Avenue, Bruma, Johannesburg, 9301).

Competence cont.

Table 5: Mining operation responsibility – Kumba operations

Operations	Field	Name	Title	Employed by	Professional organisation	Registration number	Years of relevant experience
Kolomela	Mineral Resources	Venter Combrink	Specialist Modelling Resource Geologist	Sishen Iron Ore Company Proprietary Limited	SACNASP Professional Natural Scientist	400053/08	20
	Ore Reserves	Derek Esterhuysen	Principal Mining Engineer	Sishen Iron Ore Company Proprietary Limited	ECSA Professional Engineer	20040033	15
Sishen	Mineral Resources	Nomawezo Mbele	Senior Geologist, Operational Support	Sishen Iron Ore Company Proprietary Limited	SACNASP Professional Natural Scientist	400160/13	8
	Ore Reserves	Derek Esterhuysen	Principal Mining Engineer	Sishen Iron Ore Company Proprietary Limited	ECSA Professional Engineer	20040033	15

The Lead CPs for Ore Reserves and Mineral Resources as appointed in 2023 can without any qualifications state the following:

- The Ore Reserve and Mineral Resource figures presented in this report are considered to be a true reflection of the Ore Reserve and Mineral Resource estimates as at 31 December 2023 for Kumba, and that public reporting is based on site-specific R&R Statements that have been carried out in accordance with the minimum standards and guidelines of the SAMREC Code (2016 Edition) as verified and to the best of the knowledge of the CPs.
- The Ore Reserve and Mineral Resource figures quoted in this report have been reviewed by a panel of peers, including technical specialists from Anglo American.
- The Lead CPs have not been unduly influenced by Kumba or any person commissioning the Ore Reserve (and Saleable Product) and Mineral Resource report and are of the opinion that all critical assumptions are documented, and adequate disclosure is made of all material aspects that the informed reader may require to make a reasonable and balanced judgement of the Ore Reserve and Mineral Resource figures.
- The Lead CPs have sufficient experience relevant to the style and type of mineral deposit under consideration and to the activity which is being undertaken to qualify as a Competent Person as defined in the SAMREC Code (2016 Edition).
- The Lead CPs consent to the inclusion of the public R&R information (as defined in the Kumba R&R policy and reporting procedure documents) in the form and context in which it appears in this statement in the KIO integrated report as well as in the AA plc R&R report and R&R summary section of the AA plc annual report.

Kumba appreciates any feedback regarding the competency, materiality and transparency with which its Ore Reserves and Mineral Resources have been presented in this report.

Feedback: (jean.britz@angloamerican.com)

Governance

Kumba, through AA plc, applies a rigorous scheduled governance programme to ensure representative Ore Reserve (and Saleable Product) and Mineral Resource reporting.

Applicable resource and reserve reporting codes are applied throughout Anglo American via a group policy for the reporting of Mineral Reserves and Mineral Resources, which holistically governs Resource and Reserve reporting for all the AA plc business units, of which Kumba forms part. The policy is supported by a comprehensive requirements document [AA_RD_22_25 – Version 14 (2023)] which sets out the minimum requirements for Resource and Reserve reporting throughout the Anglo group to ensure a uniform approach to reporting and adherence to the latest applicable national reporting codes, which in the case of Kumba is the SAMREC Code (2016 Edition). The requirements document is revised annually prior to resource and reserve reporting, with refinements approved by the AA plc R&R Reporting Committee. Kumba, being a JSE-listed entity, has its own Mineral Resource and Ore Reserve and Mineral reporting policy.

The Kumba R&R reporting governance framework is summarised in **Figure 8**.

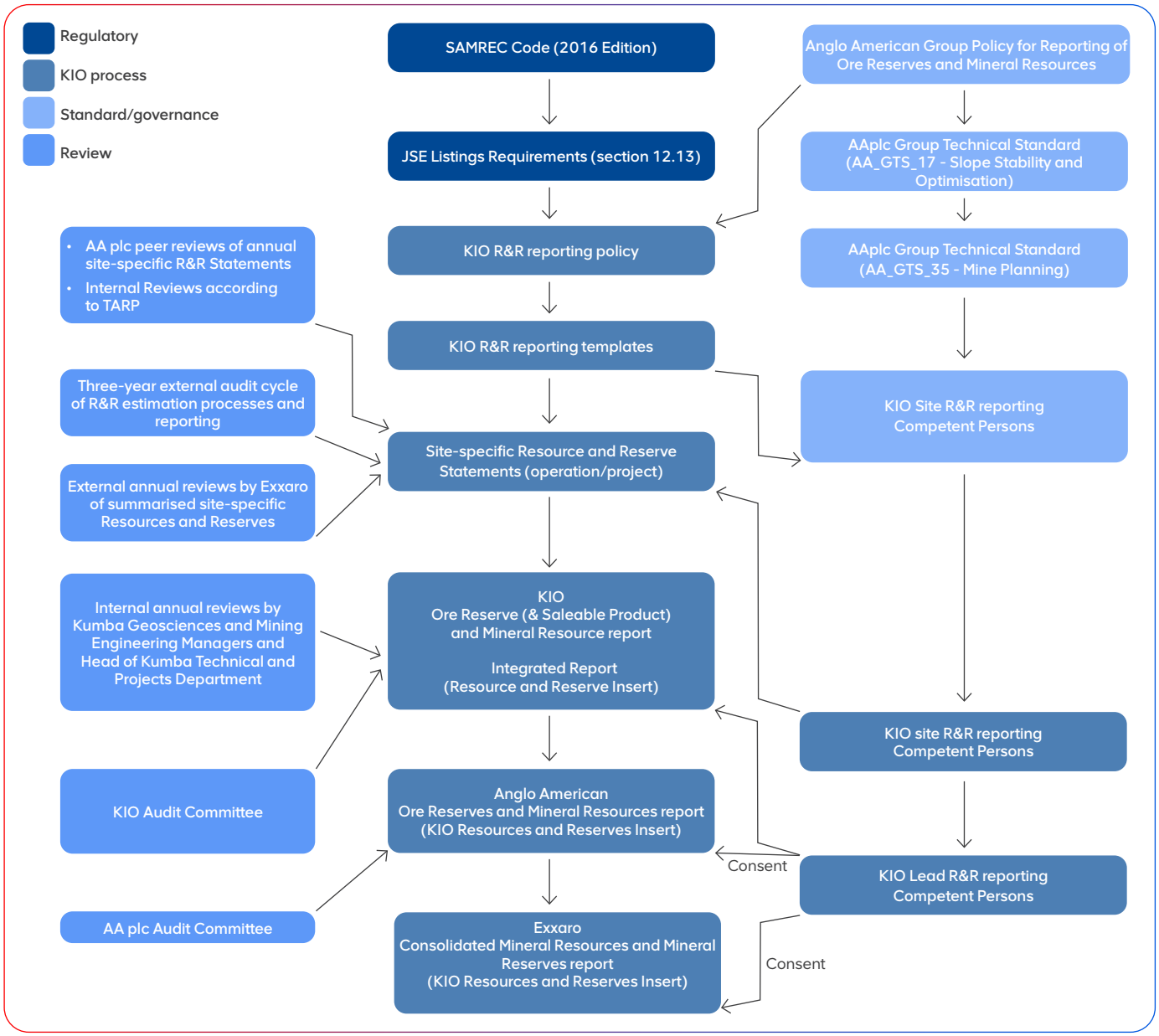


Figure 8: Kumba R&R reporting governance framework

Ore Reserves (and Saleable Product estimation)

Kumba's drive to accurately plan and extract the maximum value from its mineral endowment through safe, responsible and cost-effective production which meets Client requirements.

Reserve estimation

Reserve estimation process

Process step	Explanation	Software
Mining block modelling	The *in situ* Mineral Resource tonnages and grades as estimated and classified within 3D geological block models are initially modified by converting the geological block models into mining block models, considering selective mining unit sizes. With the up-blocking of the geological block model to a mining block model resolution, planned modifying factors such as dilution and mining losses are realised while other factors such as geological losses and mining recovery efficiencies, determined via value chain reconciliation of actual geological accuracies and extraction efficiencies, are applied to convert *in situ* ore to a run-of-mine ore equivalent. Sishen has introduced a value-based approach to mining block modelling to allow pit optimisation to determine what portion of the Measured and Indicated Mineral Resources is economically mineable and can be converted to Ore Reserves and subsequent Saleable Product, This involves the replacement of the 40% Fe Ore Reserve cut-off grade with a value based cut-off approach whereby the economic mineability of each SMU in the mining block model is determined by its valuation, comparing the cost of mining and beneficiating the SMU run-of-mine and the selling of the SMU products against the income generated by the SMU products, based on the long-term price (considering grade penalties) and exchange rate. The products estimated for each SMU block is derived from cut-offs applied to Saleable Product grade and yield parameters assigned to each block via beneficiation algorithms.	GEOVIA Surpac™ and Deswik™
Pit optimisation	The resultant mining block model is constrained via pit optimisation, using various fiscal parameters and geotechnical slope inputs, to spatially distinguish between ore which is currently (revenue factor 1 pit shell for Kolomela and revenue factor 0.8 pit shell for Sishen) and eventually economically extractable (revenue factor 1.6 pit shell for Kolomela and revenue factor 1.3 pit shell for Sishen). The fiscal parameters used for pit optimisation are explained in a separate section.	GEOVIA Whittle 4X™
Pit design	The optimal pit shell is engineered or designed into a safe practical pit layout, considering geotechnical slope stability parameters, equipment aligned haul road and ramp as well as bench definitions. The pit layout envelopes the current economically extractable ore volume, and forms the basis for the LoAP scheduling and resultant Ore Reserve and Saleable Product estimates.	Trimble Open Pit Design™, GEOVIA Surpac™ and Deswik™
Life-of-asset (LoA) scheduling	Strategic scenarios are tested with the aim of maximising total project value (NPV) by simultaneously exploiting synergies between operating strategies. Value-based principles are applied to optimise value, given a dominant constraint. Once an optimum scenario has been identified, it is used as guidance for the detailed scheduling in the next step of the process. The mining blocks as constrained by the pit layout are then scheduled using guidance from the optimum scenario as well as various equipment utilisation, mining activity effectiveness, cut-off grade and blending and stockpile philosophy inputs. The modified ore is scheduled to the various beneficiation plants and/or stockpile destinations, as well as from stockpiles to honour annual Saleable Product targets and Client off-take specifications, while the waste is scheduled to the various waste destinations. This is an iterative process as sequencing of mining activities must be such that consistent output is achieved over time.	COMET Strategy™ RPM Open Pit Metals Solution™
Infrastructure match	The infrastructure required to achieve the LoA schedule is then compared with existing infrastructure and associated lifespans and if adjustments are required in terms of equipment purchases or stoppages or changes in terms of waste dumping, etc. it is indicated as such to timeously plan the subsequent infrastructure to match the LoA schedule. The placing of any additional permanent infrastructure is usually done outside the optimistic shell extents.	
Valuation	The best-fit plan is valuated through the assignment of value chain costs (including ESG costs) and long-term pricing and other fiscal parameters. This valuation is conducted including and excluding modified Inferred run-of-mine to indicate the risk associated with the modified Inferred run-of-mine included in the LoAP.	
Reporting	The Proved and Probable Ore Reserves (as modified from the *in situ* Measured and Indicated Mineral Resources occurring inside the pit layout), excluding the modified Inferred run-of-mine, are then reported as Ore Reserves, and include all the planned Proved and Probable run-of-mine scheduled over the total LoA period. The Proved and Probable product, derived from applying relevant yield modifications to the Proved and Probable Ore Reserves, are quoted as the Saleable Product and include all the planned Proved and Probable Saleable Product derived over the total LoA period.	

Ore Reserves (and Saleable Product estimation) cont.

Reserve estimation cont.

Reserve estimation process cont.

Commodity pricing and costing process

Kumba prefers not to disclose its forward looking iron ore price and therefore provides a breakdown of how it is derived. The long-term price, as obtained from the Anglo American Commodities Research Department, is adjusted by Kumba to convert it from a market figure to a site-specific figure used to define current and eventual economic extractability:

- The first adjustments made are price adjustments from the cost and freight (CFR) 62% Fine Iron Ore China price (Real, LT US$/tonne) to the CFR Kumba product price in China (Real, LT US$/tonne). These adjustments are Premiums for higher Fe content and Lump products, penalties for gangue adjustments and any adjustment due to Kumba price realisations achieved in the market. This represents the CFR Kumba product price in China (Real, LT US$/tonne).
- The second adjustment is the sea freight adjustment (including estimated port and demurrage costs) and is done to reflect the long-term Kumba product price at Saldanha (Kumba's export harbour) in US$/tonne free-on-board (FOB) terms.
- Once the 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 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.

Budgeted costs used in pit optimisation consist of three main components:

- Mining cost (expressed as Rand/tonne mined)
- Processing cost (expressed as Rand/tonne processed, and is made up of plant and services costs),
- Selling cost (expressed as Rand/tonne product, and consists only of royalties - calculated as 4% of the selling price)

Mining cost is calculated and updated during the annual budget process and is driven by mining activity. The cost is calculated for each site and is made up of petroleum products, blasting material, drilling equipment, other consumables, energy cost, general expenses, maintenance cost and outside services. It is zero based and is escalated using USA CPI factors / RSA CPI factors into nominal terms.

For the pit optimisation, the nominal mining cost for the five-year budget period is converted back to real terms and a weighted average is calculated for the five-year period. In the same manner, mining stay-in-business cost is calculated and added to the mining operational expenditure.

Processing cost combines the site's various plant costs (and includes fixed and variable but excludes stay-in-business costs) in nominal terms over the five-year budget period into a weighted average real Rand/tonne feed for the five-year period using the approved USA CPI factors / RSA CPI factors. The services cost (on-mine services) is also a weighted average real cost Rand/tonne feed and is added to the plant cost to arrive at the processing cost that is used in the pit optimisation.

Selling cost is purely royalty cost and is calculated by applying 4% to the long-term real FOR Rand/tonne price. Site-specific long-term pricing and a long-term exchange rate as well as budget costs (representing the total mining value chain), as were used to inform the five-year business plans, were used as input to spatially define:

- A 0.8 revenue factor pit shell from which the 2023 Sishen pit layout was derived (compared to a 1.0 revenue factor pit shell in 2022) to spatially constrain the Ore Reserves.
- A 1.3 revenue factor resource shell (compared to a 1.6 revenue factor resource shell in 2022) for Sishen to spatially constrain the Mineral Resources.

Kolomela's pit layouts and resource shells remained unchanged from 2022, derived from 1.0 revenue factor and 1.6 revenue factor respectively, and will be updated in 2022.

It must be noted that costs have increased from 2022 to 2023 at both operations, with mining and processing unit costs escalating primarily as a result of:

- lower product sales (rail constraints with the Transnet performance measured at 82% of the contracted rail volume),
- demonstrated operational equipment efficiencies not meeting planned efficiencies

The long-term price and exchange rate also increased from 2022 to 2023.

Ore Reserves (and Saleable Product estimation) cont.

Reserve estimation cont.

Reserve estimation process cont.

Application of modifying factors

The first step of modification involves the up-blocking of the geological block model into a mining block model to achieve a mining block model resolution that matches the SMU X, Y and Z dimensions. An SMU represents the smallest economical but practical mineable unit as derived through optimisation studies considering site-specific ore geometry and mining equipment loading and hauling capacities. During the up-blocking, some waste material is included in SMU-sized ore blocks, which is calculated as **dilution** if the SMU ore block is scheduled as run-of-mine, and similarly some ore material is included in SMU-sized waste blocks, which in turn is calculated as a **mining loss** if the SMU waste block is scheduled to a waste dump destination.

An SMU block is classified as waste or ore based on certain **cut-off parameters**:

- At Kolomela, a fixed 50% Fe cut-off grade is applied to the mining block model to distinguish between ore and waste.
- At Sishen, the 40% cut-off grade formerly applied to the mining block model has been replaced with a value-based planning approach, whereby value is assigned to each selective mining unit in the mining block model. This is done by converting the Ore Reserve tonnage and grade estimates in the SMU to Saleable Product tonnages and grades via yield and beneficiation algorithms that have been derived from densimetric geometallurgical test data and converted into beneficiation algorithms, the latter also considering plant efficiencies. Cost of mining and beneficiating and selling the estimated Ore Reserves in an SMU can then be discounted from the price obtained for selling the Saleable Product estimated for the SMU (catering for contaminant grade penalties if applicable).

Subsequently, the resource-to-reserve conversion process must consider geological accuracy and mining efficiencies. This is done by applying a **long-term planning modifying factor**, which is a combination of site-specific geological loss/gain factors as well as mining recovery efficiencies as determined by the value chain reconciliation process, comparing actual (demonstrated) with planned performance.

- **Geological gains/losses** are determined by the Kumba value chain reconciliation process, whereby the resource model is compared to the Unmodified Ore Control Model, which is informed by additional ore control borehole and pit mapping information for areas that have been mined.
- **Mining recovery efficiency** is also determined by the Kumba value chain reconciliation process, whereby the reserve model is compared to the ex-pit tonnages as officially surveyed for areas that have been mined.
- Furthermore, where applicable, **a design recovery efficiency factor** is also applied for areas where it is evident that the pit design has not been achieved with actual mining, to consider sterilisation of ore at depth as a result of the former.

This process converts *in situ* Mineral Resources into run-of-mine. Only Measured and Indicated Mineral Resources inside pit layouts are converted to Proved and Probable Ore Reserves. Inferred Mineral Resources are not converted to Ore Reserves and Inferred Mineral Resources inside the pit layout, considered as run-of-mine by the LoAP after modification, are separately reported in an unmodified state as exclusive Mineral Resources (**Table 8**).

2023 Saleable Product

Estimation summary

Saleable Product has been derived through the application of the following:

- Beneficiation (yield and associated product grade) algorithms to the Proved and Probable portions (per ore type) of the scheduled run-of-mine at Sishen. The beneficiation algorithms have been derived from geometallurgical (densimetric) borehole data and adjusted or scaled up to represent plant beneficiation using measured plant beneficiation efficiencies at Sishen.
- Empirically estimated yield and Saleable Product grade performances (per ore type) to the Proved and Probable portions of the scheduled run-of-mine at Kolomela.

Apart from beneficiation, run-of-mine blending is one of the main levers used during scheduling to ensure that the resultant iron ore product is suitable for off-take in current market conditions.

It is important to note that the remaining 2023 Saleable Product estimates assume the following:

- Approval of project to convert the Sishen DMS plant into a UHDMS plant (33.6 Mt product scheduled from 2027 onwards may be at risk if feasibility study is not approved).
- The 2023 Kolomela Saleable Product estimate was derived by depleting the 2022 LoAP of Kolomela. The Kolomela LoAP will be updated in 2024.

Ore Reserves (and Saleable Product estimation) cont.

2023 Saleable Product cont.

Saleable Product: 2023 (versus 2022) summary

The 2023 Kolomela and Sishen LoAPs, considering current contract and Client supply agreement conditions, deliver a total estimated Saleable Product of 504.9 Mt, at an average 63.9% Fe over the reserve life years for the two mining operations (**Table 6**).

Table 6: Kumba's Saleable Product for 2023 (referenced against 2022)

Operation/ Project	Operation status	Mining method	Ore type	% owned by KIO	Saleable Product category	Yield %		Saleable Product			
								2023		2022	
						2023	2022	**Tonnage (Mt)**	**Average Grade (% Fe)**	Tonnage (Mt)	Average Grade (% Fe)
Mining operations											
Kolomela[1]											
Saleable Product from pit	Steady- state	Open-pit	Haematite	75.4	Proved	94.3	94.3	83.0	65.0	92.3	64.8
					Probable			20.9	64.2	20.5	64.3
					Sub-total			**103.9**	**64.8**	**112.9**	**64.7**
Saleable Product from run-of-mine buffer stockpiles					Proved			0.0	0.0	0.0	0.0
					Probable			21.4	56.9	20.2	62.1
					Sub-total			**21.4**	**56.9**	**20.2**	**62.1**
Total Saleable Product					Proved			83.0	65.0	92.3	64.8
					Probable			42.3	60.5	40.7	63.2
					Total			**125.3**	**63.5**	**133.1**	**64.3**
Sishen[2]											
Saleable Product from pit	Steady- state	Open-pit	Haematite	75.4	Proved	63.4	64.5	281.5	65.0	255.5	64.7
					Probable			61.3	61.7	107.2	59.8
					Sub-total			**342.8**	**64.4**	**362.8**	**63.3**
Saleable Product from run-of-mine buffer stockpiles					Proved			0.0	0.0	0.0	0.0
					Probable			36.8	61.1	36.3	63.0
					Sub-total			**36.8**	**61.1**	**36.3**	**63.0**
Total Saleable Product					Proved			281.5	65.0	255.5	64.7
					Probable			98.1	61.5	143.6	60.6
					Total			**379.6**	**64.1**	**399.1**	**63.2**
Company											
Kumba Iron Ore											
Grand total Saleable Product				75.4	Proved	69.0	70.1	364.4	65.0	347.9	64.7
					Probable			140.5	61.2	184.3	61.2
					Grand total			**504.9**	**63.9**	**532.2**	**63.5**

Footnotes to Saleable Product (Table 6)

- The tonnages are quoted in dry metric tonnes and million tonnes is abbreviated as Mt.
- Rounding of figures may cause computational discrepancies.
- Saleable Product figures are reported at 100% irrespective of percentage attributable ownership to Kumba.
- Yield is calculated as: Saleable Product tonnes (**Table 6**) / Ore Reserves tonnes (**Table 7**) x 100.

Ore Reserves (and Saleable Product estimation) cont.

2023 Saleable Product cont.

Year-on-year Saleable Product reconciliation

The year-on-year movement in the estimated Saleable Product is reconciled in **Figure 9**.

Kumba Iron Ore - Total Saleable Product Movement: 2022 to 2023
(million tonnes)

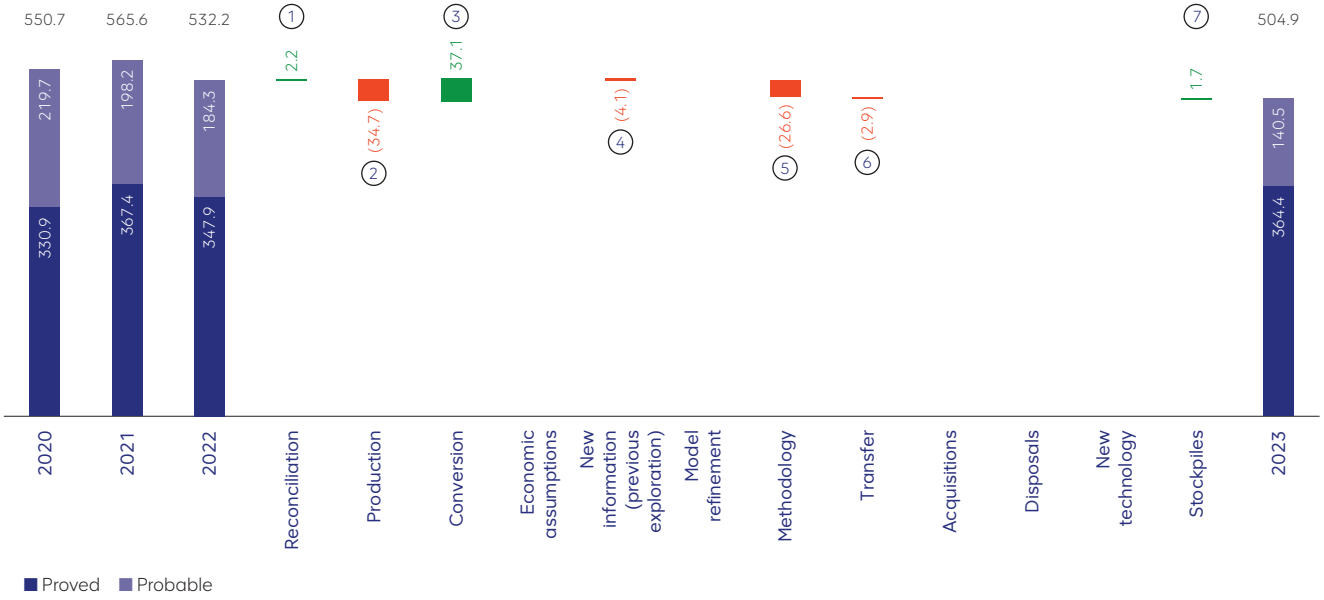


Figure 9: Kumba Saleable Product movement from 2022 to 2023

Footnotes to Saleable Product movement (Figure 9)

Please note that Kolomela's year-on-year Saleable Product movements are based on the depletion (Saleable product produced in 2023) of the 2022 Kolomela LoAP.

1. Actual production as recorded by the value chain reconciliation was 0.2 Mt less than the forecasted 2022 production portion for Kolomela as reported last year and 0.3 Mt less than the forecasted 2022 production portion for Sishen as reported last year. In addition, a correction was made for an error in former reconciliations between actual and forecasted production at Kolomela, resulting in a further 1.7 Mt increase in Saleable Product at Kolomela.
2. The 7+5 forecasted production (7 months actual production as measured by the value chain reconciliation process and 5 months forecasted production as indicated by the August medium-term plan) for 2023 amounts to 11.0 Mt for Kolomela and 25.9 Mt for Sishen (excluding the production of modified Inferred Saleable Product).
3. Sishen's new value-based approach to mining block modelling and pit optimisation has resulted in an increase in Saleable Product of 37.1 Mt.
4. Decrease in Indicated and Measured Mineral Resources inside the pit layout at Sishen as a result of the annual geological model update, considering the latest available and validated exploration and ore control borehole data for solids modelling and exploration borehole information for *in situ* grade estimation, resulted in a 4.1 Mt decrease in Saleable Product.
5. Various methodology change-related moves, resulting in a 26.6 Mt decrease in Saleable Product, were recorded for Sishen in 2023:
   - The revenue factor used to derive the Sishen pit was reduced from 1.0 in 2022 to 0.8 in 2023. This resulted in a smaller pit layout with an associated 35.5 Mt decrease in Saleable Product.
   - An error (identified during internal peer review) was detected in the 2023 Sishen geological confidence classification resulting in a 9.1 Mt increase in Saleable Product. This error will be corrected in the 2024 geological model update.
   - The beneficiation algorithms of Sishen were updated in 2023, considering the latest available densimetric geometallurgical test results, resulting in a 0.2 Mt decrease in Saleable Product.
6. Transfer of 2.9 Mt *in situ* low-grade ore from the pit to run-of-mine buffer stockpiles at Sishen - low-grade ore is stockpiled and was not yet utilised as run-of-mine in 2023.
7. Estimated increase in remaining Saleable Product (1.2 Mt at Kolomela and 0.5 Mt at Sishen) as a result of forecasted (7+5) annual increase in run-of-mine buffer stockpile levels.

Ore Reserves (and Saleable Product estimation) cont.

2023 Saleable Product cont.

Summary of Saleable Product movement per site

Kolomela's Saleable Product decreased by 7.8 Mt (-6%) from 2022 to 2023, primarily attributable to the 2023 production (-10.9 Mt) as forecasted at the time of reporting. The 2023 Kolomela Saleable Product estimate was derived by depleting the 2022 LoAP of Kolomela, as the LoAP will only be updated in 2024.

For Kolomela, an 11-year remaining reserve life, at an average 11.5 Mtpa (12.3 Mtpa for first five years and 10.8 Mtpa for remaining six years) scheduled Saleable Product (including modified beneficiated Inferred Mineral Resources) output has been quoted in 2023.

The year-on-year 0.9% absolute decrease in the average Fe at a 50% Fe cut-off is the result of an adjustment made to the average grades of the Probable Ore Reserves on the Kolomela run-of-mine buffer stockpiles based on value chain reconciliation results.

The 2023 Kolomela LoAP (2022 LoAP depleted for 2023) delivers an average:

- 21% Premium Lump to 36% Standard Lump to 43% Standard Fines Saleable Product ratio from 2024 to 2028, and
- 57% Standard Lump to 43% Standard Fines Saleable Product ratio from 2029 to 2034.

It must be noted that from 2029 onwards the Kolomela LoAP does not deliver Saleable Product that meets current Client specifications in terms of Fe and K_2O.

Sishen's Saleable Product decreased by 19.5 Mt (-5%) from 2022 to 2023, primarily as a result of a change in criteria applied during pit optimisation whereby the revenue factor used to derive the pit layout was reduced from 1.0 (2022) to 0.8 (2023) resulting in an overall decrease of 42.2 Mt, combined with a 23.8 Mt decrease as a result of the forecasted production for 2023. The reduction was partially offset by a 37.1 Mt increase in Saleable Product based on a new value-based approach to mining block modelling.

The year-on-year -1.1% absolute decrease in average yield is the result of a change in the DMS versus Jig (and UHDMS) plant feed ratio from 73 : 27 in 2022 to 64 : 36 in 2023 to account for the planned conversion of the DMS to a UHDMS plant. This resulted in the feeding of C-grade earlier in the LoAP compared to 2022 and increased product grade as more Premium Lump product was scheduled in the 2023 LoAP compared to the 2022 LoAP.

For Sishen, a 15-year remaining reserve life, at an average 25.3 Mtpa (25.7 Mtpa for first three years, 30.4 Mtpa from 2027 to 2033 and 18.1 Mtpa from 2034 to 2038) scheduled Saleable Product (including modified beneficiated Inferred Mineral Resources) output has been quoted in 2023.

The year-on-year 0.9% absolute increase in the average Fe is the result of the smaller pit layout, with most of the Ore Reserves at depth consisting of low-grade ore, which has been reallocated to Mineral Resources.

The 2023 Sishen LoAP delivers an average:

- 27% Premium Lump to 43% Standard Lump to 30% Standard Fines Saleable Product from 2024 to 2026.
- 39% Premium Lump to 29% Standard Lump to 17% Premium Fines to 15% Standard Fines from 2027 to 2034
- 67% Standard Lump to 33% Standard Fines Saleable Product from 2035 to 2038.

It must be noted that for certain periods the Sishen LoAP does not deliver product contaminant grades that conform to Client specifications, especially for K_2O. This has been considered by applying penalties during the value-based mining block modelling and subsequent pit optimisation.

The Sishen products are co-stockpiled with the Kolomela products at the Saldanha export port to deliver the following Saleable Products for the market:

- Premium Lump: ≥65.1% Fe
- Standard Lump: ≥64.0% Fe
- Standard Fines: ≥63.1% Fe

Ore Reserves (and Saleable Product estimation) cont.

2023 Ore Reserves

The Kolomela and Sishen LoAPs, considering the latest approved technical and business inputs, estimate the Ore Reserves (Proved and Probable portion of scheduled run-of-mine) at 731.4 Mt at an average 55.6% Fe over the mine life years for the two mining operations (**Table 7**).

Important to note that the remaining Ore Reserve estimates assume:

- Approval of project to convert Sishen dense media separation plant into an ultra-high dense media separation plant (112.9 Mt run-of-mine as scheduled from 2027 onwards at risk if feasibility study is not approved).
- The Kolomela LoAP was not updated in 2023 and the Ore Reserves are reported based on the 2022 LoAP with allowance for 2023 depletion. The Kolomela LoAP will be updated in 2024.

Ore Reserve: 2023 (versus 2022) summary

Table 7: Kumba's Ore Reserves for 2023 (referenced against 2022)

Operation	Operation status	Mining method	Ore type	% owned by KIO	Reserve category	Ore Reserves 2023 Tonnage (Mt)	2023 Average Grade (% Fe)	2023 Grade Cut-off * (% Fe)	2023 Reserve life** (Years)	2022 Tonnage (Mt)	2022 Average Grade (% Fe)	2022 Grade Cut-off * (% Fe)	2022 Reserve life** (Years)
Kolomela[1]													
Ore Reserves from pit	Steady- state	Open-pit	Haematite	75.4	Proved	87.9	64.2	50.0	11	97.9	63.8	50.0	12
					Probable	22.2	63.3			21.8	63.5		
					Sub-total	**110.1**	**64.0**			**119.6**	**63.7**		
Ore Reserves from run-of-mine buffer stockpiles					Proved	0.0	0.0			0.0	0.0		
					Probable	22.7	56.0			21.4	61.1		
					Sub-total	**22.7**	**56.0**			**21.4**	**61.1**		
Total Ore Reserves					Proved	87.9	64.2			97.9	63.8		
					Probable	44.9	59.6			43.2	62.3		
					Total	**132.8**	**62.6**			**141.1**	**63.3**		
Sishen[2]													
Ore Reserves from pit	Steady- state	Open-pit	Haematite	75.4	Proved	402.2	57.2	Value based#	15	364.9	57.6	40.0	17
					Probable	119.2	48.5			192.8	47.7		
					Sub-total	**521.4**	**55.2**			**557.7**	**54.2**		
Ore Reserves from run-of-mine buffer stockpiles					Proved	0.0	0.0			0.0	0.0		
					Probable	77.2	46.3			60.7	52.3		
					Sub-total	**77.2**	**46.3**			**60.7**	**52.3**		
Total Ore Reserves					Proved	402.2	57.2			364.9	57.6		
					Probable	196.5	47.6			253.5	48.8		
					Total	**598.6**	**54.0**			**618.4**	**54.0**		
Kumba Iron Ore													
Grand total Ore Reserves				75.4	Proved	490.1	58.5			462.8	58.9		
					Probable	241.3	49.8			296.7	50.8		
					Grand total	**731.4**	**55.6**			**759.4**	**55.7**		

Ore Reserves (and Saleable Product estimation) cont.

2023 Ore Reserves cont.

Footnotes to the Ore Reserves (Table 7)

- 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 KIO.

* The cut-off grade assigned to Ore Reserves is variable and is dependent on the beneficiability and/or blending capacity of the modified ore scheduled as run-of-mine, which is iteratively determined during LoAP scheduling to achieve a grade target that is set to meet the Client product specifications. The % Fe cut-off illustrated is therefore the lowest of a range of variable cut-offs for the various mining areas.

** Reserve life represents the period in years in the approved LoAP for the scheduled extraction of Proved and Probable Ore 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. The reserve life also does not exceed the security of tenure expiry date.

Sishen has introduced a value-based approach to mining block modelling to allow pit optimisation to determine what portion of the Measured and Indicated Mineral Resources is economically mineable and can be converted to Ore Reserves and subsequent Saleable Product, This involves the replacement of the 40% Fe Ore Reserve cut-off grade with a value based cut-off approach whereby the economic mineability of each SMU in the mining block model is determined by comparing the cost of mining and beneficiating the SMU ore and the selling of the SMU product against the income generated by the SMU product type, based on the long-term price (considering grade penalties) and exchange rate.

Year-on-year Ore Reserve reconciliation

The year-on-year change in the estimated Ore Reserves is reconciled in **Figure 10**.

Kumba Iron Ore – Total Ore Reserve movement: 2022 to 2023
(million tonnes)

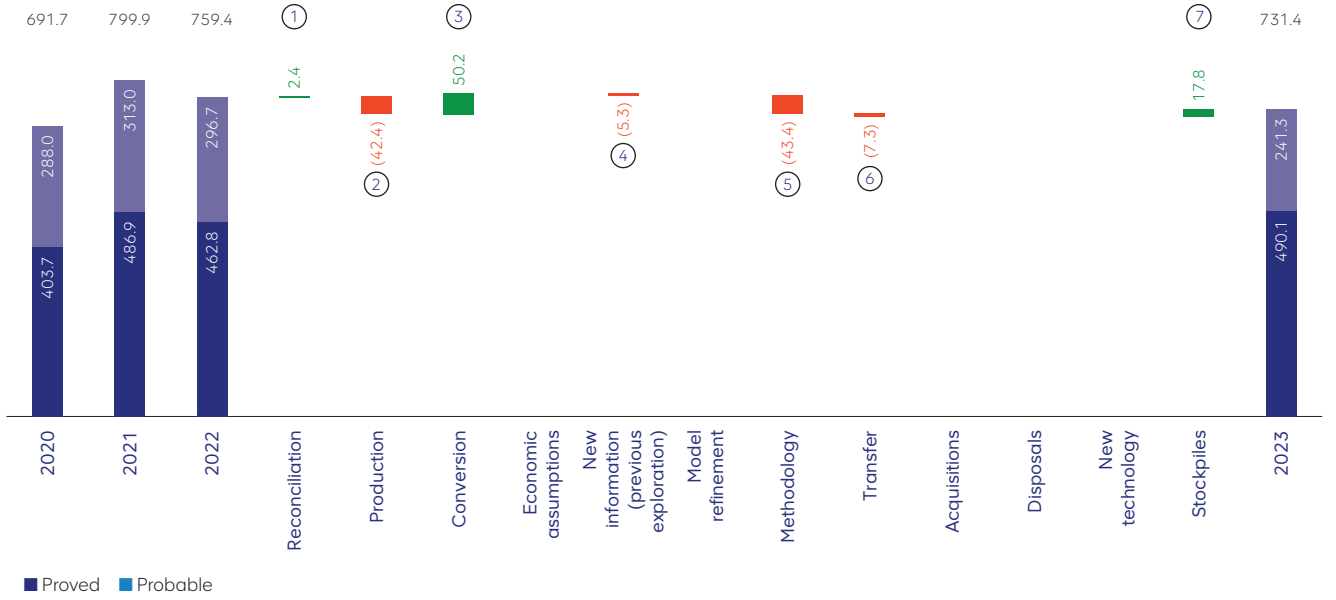


Figure 10: Kumba Ore Reserve movement from 2022 to 2023

Ore Reserves (and Saleable Product estimation) cont.

Year-on-year Ore Reserve reconciliation cont.

Footnotes to Ore Reserve movements (Figure 10)

Please note that Kolomela's year-on-year Ore Reserve movements are based on a depletion of the 2022 Ore Reserve estimates as per the 2022 LoAP with the forecasted 2023 run-of-mine.

1. Actual depletion as recorded by the value chain reconciliation was 0.2 Mt less than the forecasted 2022 depletion portion for Kolomela as reported last year and 0.4 Mt less than the forecasted 2022 depletion portion for Sishen as reported last year. In addition, a correction was made for an error in former reconciliations between actual and forecasted production at Kolomela, resulting in a further 1.8 Mt increase in Ore Reserves at Kolomela.
2. The 7+5 forecasted run-of-mine production (7 months actual depletion as measured by the value chain reconciliation process and 5 months forecasted depletion as indicated by the August medium-term plan) for 2023 amounts to 11.6 Mt for Kolomela and 30.9 Mt for Sishen (excluding the depletion of modified Inferred Mineral Resources)
3. Sishen has introduced a value-based approach to mining block modelling to allow pit optimisation to determine what portion of the Measured and Indicated Mineral Resources is economically mineable and can be converted to Ore Reserves and subsequent Saleable Product, This involves the replacement of the 40% Fe Ore Reserve cut-off grade with a value based cut-off approach whereby the economic mineability of each SMU in the mining block model is determined by its valuation, comparing the cost of mining and beneficiating the SMU ore and the selling of the SMU product against the income generated by the SMU product type, based on the long-term price (considering grade penalties) and exchange rate. This resulted in a 50.2 Mt year-on-year increase in Ore Reserves.
4. Decrease in Indicated and Measured Mineral Resources inside the pit layout at Sishen as a result of the annual geological model update, considering the latest available and validated exploration and ore control borehole data for solids modelling and exploration borehole information for *in situ* grade estimation, resulted in a 5.3 Mt decrease in Ore Reserves.
5. Various methodology change-related moves, resulting in a 43.4 Mt decrease in Ore Reserves, were recorded for Sishen in 2023:
   - The revenue factor used to derive the Sishen pit was reduced from 1.0 (2022) to 0.8 (2023). This resulted in a smaller pit layout with 54.9 Mt Ore Reserves reallocated to exclusive Mineral Resources.
   - The Sishen geological confidence classification methodology was not adhered to in 2023 (error identified during internal review of the geological model update), resulting in an 11.8 Mt increase in Ore Reserves (11.3 Mt more Measured and Indicated Mineral Resources became available inside pit layout). This error will be corrected in the 2024 geological model update.
   - The beneficiation algorithms of Sishen were updated in 2023, considering the latest available densimetric geometallurgical test results, resulting in a 0.3 Mt decrease in Ore Reserves.
6. Transfer of 7.3 Mt *in situ* low-grade ore from the pit to run-of-mine buffer stockpiles at Sishen low-grade ore is stockpiled and not yet utilised as run-of-mine in anticipation of the approval of the conversion of the DMS plant to a UHDMS plant at Sishen.
7. Forecasted (7 actual + 5 forecasted) 17.8 Mt growth in run-of-mine buffer stockpile levels from 2022 to 2023 comprising 1.3 Mt Probable Ore Reserve growth at Kolomela and 16.5 Mt (including low-grade ore) Probable Ore Reserve growth at Sishen. The run-of-mine buffer stockpile Ore Reserves are classified as Probable due to the fact that weighted average grades are derived for each stockpile, i.e. the variance in grades within each stockpile is not modelled.

Ore Reserves (and Saleable Product estimation) cont.

Summary of Ore Reserve movement per site

Kolomela's Ore Reserves decreased by 8.2 Mt (-6%) from 2022 to 2023, primarily attributable to the 2023 forecasted depletion (-11.6 Mt) of Ore Reserves (excluding modified Inferred Mineral Resource run-of-mine), partially offset by other minor positive movements. The 2023 Kolomela Ore Reserve estimate was derived by depleting the 2022 LoAP of Kolomela, and the LoAP will be updated in 2024.

The year-on-year 0.7% absolute decrease in the average Fe at a 50% Fe cut-off is the result of an adjustment made to the average grades of the Probable Ore Reserves on the Kolomela run-of-mine buffer stockpiles based on value chain reconciliation results.

The overall waste stripping ratio remained unchanged from 2022 at 4.4 : 1.

In the case of the Kolomela mining operation, the Ore Reserve reference point is the primary crusher feeders where the planned run-of-mine is delivered to either the crushing and screening plant (where DSO is produced), or the small-scale DMS plant, which beneficiates medium-grade run-of-mine.

To define the risk of having low-confidence modified Inferred Mineral Resources in the 2023 LoAP (2022 LoAP depleted for 2023), Kolomela evaluated a long-term asset plan scheduling scenario excluding the modified Inferred Mineral Resources. The plan remained economically viable, although at a 1.4% lower NPV (at an 8% real discount rate). It is important to note that the 2023 LoAP does contain periods of negative cash flow, hence the margin income protection mine planning work which is still in progress (not finalised at the time of reporting).

The Kolomela reserve life is 11 years.

Sishen's Ore Reserves decreased by 19.8 Mt (-3%) from 2022 to 2023, primarily as a result of a change in criteria applied during pit optimisation whereby the revenue factor used to derive the pit layout was reduced from 1.0 (2022) to 0.8 (2023), resulting in a 54.9 Mt Ore Reserves being reallocated to Mineral Resources, combined with a 30.9 Mt decrease as a result of the forecasted depletion for 2023. The decrease was partially offset by a 50.2 Mt increase in Ore Reserves based on a new value-based approach to pit.

The Proved portion of the low-grade Ore Reserves has been downgraded to Probable Ore Reserves because the Sishen DMS to UHDMS plant conversion project has not yet been approved.

The overall waste stripping ratio remained unchanged from 2022 at 3.3 : 1.

In the case of the Sishen mining operation, the Ore Reserve reference point is the primary crusher feeders where the planned run-of-mine is delivered to either the DMS plant or the Jig (plus small-scale UHDMS) plant.

To define the risk of having low-confidence modified Inferred Mineral Resources in the 2023 LoAP, Sishen valuated a long-term asset plan scheduling scenario excluding the modified Inferred Mineral Resources.

The plan remained economically viable, although at an 1% lower NPV (at an 8% real discount). As indicated in footnote 5 of **Figure 10**, an error in the geological confidence classification, that could not be spatially corrected at the time of reporting, but could be quantified, resulted in an apparent 11.8 Mt increase in Proved and Probable Ore Reserves (previously classified as Inferred Mineral Resources). Correcting for this error, the valuation of the 2023 Sishen LoAP would have resulted in a 2% lower NPV.

The Sishen reserve life is 15 years.

Exclusive Mineral Resources

The ore in addition to Ore Reserves, with Kumba's strategic focus to improve resource utilisation, advancing in-house project studies and technology development.

Exploration

Kumba Iron Ore conducted on-mine exploration in 2023 (61% of forecasted 2023 exploration expenditure) to refine the characterisation of existing Mineral Resources associated with actively mined pits as well as to improve the geological confidence of satellite deposit Mineral Resources within mining right areas not associated with actively mined pits. The focus of the on-mine exploration has also shifted to cater for more large-diameter core drilling to generate spatial geometallurgical information to better inform the conversion of Ore Reserves to Saleable Product in the future.

Near-mine exploration for 2023 continued in areas in the Northern Cape province outside the SIOC mining right areas, in association with third-party prospecting right holders, for areas that have been identified as potential iron ore mineralisation targets via the Kumba regional geological model of the iron ore belt. Through exploration drilling and analyses and geometallurgical test work, Kumba has advanced one such opportunity (small deposit located south of Sishen) to a confidence level where the JV partner could submit a mining right application, which is currently under consideration by the DMRE.

Exploration expenditure

Exploration drilling activities realised 48,201 drill meters in 2023. The associated total exploration spent amounted to R259.4 million (**Table 8**). The 2023 exploration expenditure comprises 0.3% of Kumba's 2023 revenue.

Table 8: Summary of 2023 versus 2022 Kumba exploration expenditure (7+5 forecast)

	Total exploration spend x million		Drilling spend x million		Number of holes drilled		Metres drilled		Average drilling cost per metre	
	2023	2022	**2023**	2022	**2023**	2022	**2023**	2022	**2023**	2022
Mining right areas	**R158.1**	R232.4	**R122.9**	R178.6	**132**	263	**30,699**	45,562	**R 4,001.94**	R 3,919.02
Third-party prospecting right areas	**R101.3**	R65.5	**R92.2**	R58.8	**75**	47	**17,502**	12,633	**R 5,265.58**	R 4,652.01
Total	**R259.4**	R297.9	**R215.0**	R237.3	**207**	310	**48,201**	58,194	**R 4,460.78**	R 4,078.13

The exploration expenditure as set out in the table above is the combined costs associated with the various types of core, reverse circulation and percussion drilling that were conducted in 2023.

Sampling and assaying

All primary geological samples taken from drilled core (and in some instances percussion drilled chips) via normal exploration drilling at all the relevant Kumba sites in 2023 were prepared and assayed by the Chemistry Laboratory (Company registration number: 1921/0067130/06) of the Technical Solutions Division of AA plc (TS of AA plc).

All samples taken from drilled core of dedicated geometallurgical boreholes were prepared and tested for an array of metallurgical and other physical property measurements by the Metallurgical Laboratory of the TS of AA plc, with subsequent assaying of these samples conducted by the AA plc Chemistry Laboratory.

Exclusive Mineral Resources cont.

Sampling and assaying cont.

The TS 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 until 30 April 2026) for the preparation and assaying of iron ore samples, applying methods that comply with the requirements of Kumba.

As per the 7+5 forecast, Kumba Geosciences submitted 13,121 exploration borehole samples in 2023 to the TS Chemistry Laboratory to be prepared and analysed. In addition, 1,320 large-diameter borehole samples were submitted to the TS Metallurgical Laboratory to be prepared and tested. A total of 14,441 primary samples were submitted to the TS Chemistry and TS Metallurgical Laboratories. The Chemistry Laboratory prepared 15,946 samples (including a backlog of samples from 2022) and assayed 14,870 samples for the year. Differences between submitted versus prepared and assayed samples are primarily because of a backlog of samples carried over from 2022 as well as additional QC samples (5% coarse and 5% pulp duplicates with 5% blind matrix-matched certified reference materials counting as a primary sample) as required by the Kumba Geosciences quality assurance and quality control (QA/QC) protocol.

All the primary exploration samples were prepared, assayed and tested in the Republic of South Africa except for a total of 5% pulp replicate QC samples generated by the TS Chemistry Laboratory, which were analysed by the Bureau Veritas Laboratory in Perth, Australia, an ISO and National (Australian) Association of Testing Authorities accredited laboratory for iron ores and a member of the ISO MN-002-02 Chemical Analysis Committee, as part of the Kumba Geosciences Department's required external independent QA/QC validation. The TS Metallurgical Laboratory prepared 1,200 samples in 2023. The samples were then composited based on lithology and chemistry to obtain minimum masses as required by certain geometallurgical tests.

Geometallurgical test work conducted involved:

- 520 bulk density Archimedes tests
- 91 geotechnical hardness tests
- 128 comminution-related tests
- 235 densimetric tests
- 220 mineralogy tests and
- 116 refinement (Lump ore value-in-use) tests

The 2023 (7 actual + 5 forecast) spend on sample preparation and assaying at the AA plc TS Chemistry Laboratory amounted to R23.1 million (10% of total exploration expenditure). The 2023 (7 actual + 5 forecast) spend on sample preparation and metallurgical testing at the AA plc TS Metallurgical Laboratory amounted to R29.7 million (13% of total exploration expenditure).

Kumba ensures sample representativity by means of applying a stringent QA/QC protocol [KIO Exploration Drilling Guideline and associated QC Protocol for *Drilling, Sampling, Sub-sampling and Assaying* (Version 10)] that governs all stages of sampling, sub-sampling and assaying, including blind validation of the sample preparation and assaying of laboratories. The results of this validation are summarised in the annual Kumba QA/QC, report which is compiled and made available in-house at the end of October of each year in support of the annual Kumba Iron Ore Limited Ore Reserve (and Saleable Product) and Mineral Resource report.
In addition, the Anglo American Technical Solutions Chemistry and Metallurgical Laboratories also apply their own internal QA/QC protocols and provide feedback to Kumba in the form of detailed quarterly reports. Kumba's Geosciences Department does not add much value to round-robin results as it does not consider sampling preparation errors and the laboratories participating are aware of the fact that they are monitored and take special care in analysing round-robin samples. Previous blind monitoring has shown that accredited laboratories fail Kumba Geosciences' certified reference material control limit criteria with large margins.

Kumba Geosciences is often asked what its geometallurgical refinement test work entails. Kumba's refinement tests are conducted to try and pre-determine the behaviour of the Lump iron ore in the blast furnace process and are typically conducted on samples taken from product beds, i.e. after beneficiation. In the case of Kolomela, geometallurgical borehole samples of *in situ* high-grade ore, that are not beneficiated and utilised as DSO, can be submitted for refinement testing. In the case of Sishen, the fractions of sink-float fractions at a ≥3.6 cut density can be combined per sample and only if samples in the same lithological ore unit in the same borehole with similar *in situ* Fe grades can be combined for refinement testing.

Refinement tests include:

- tumbler strength testing
- low-temperature Reduction-Disintegration by static method, ISO 4696-1 and -2
- reducibility testing
- decrepitation testing
- fines fraction analyses

Exclusive Mineral Resources cont.

Mineral Resource estimation

Kumba applies a uniform Mineral Resource estimation process at all its sites as explained below:

Process step	Explanation	Software
Data assembly and quality	The data generated by exploration, primarily drilling, must be representative of the volume of material being sampled. Samples are generated through quasi-regular sampling (drilling) grids and are validated by means of a stringent quality control programme which blindly monitors sample location, primary sampling, sample preparation and sample assaying. Because some of the historically drilled samples used for estimation do not have QA/QC metadata, Kumba introduced a sample representivity indexing method, which is considered during spatial geological confidence classification.	acQuire™
	Validated exploration data is used to compile spatially referenced 3D tectonostratigraphic models based on the geologists' understanding and interpretation of the regional and local geology and ore genesis.	
Solids modelling	The solids model geometrically domains the various iron ore types in relation to the waste lithologies within primary structural domains. Because of the pervasive nature of the iron ore mineralisation in the Northern Cape province of South Africa, Kumba has to compile full 3D solids models and ferruginisation is often of such a nature that lower-grade ore domains are distinguished from waste and higher-grade ore applying soft boundaries or Fe cut-off grades.	Seequent Leapfrog Geo™ and GEOVIA Surpac™
	Each domain's bounding surface in effect provides an efficient volume description of the tectonostratigraphic unit.	
Exploratory data analysis	The validated borehole grade data intersecting the various solids model domains is statistically analysed through univariate and multivariate statistical methods to understand its distributions and relations and to identify outliers.	JMP™
	Thereafter, the data is composited to achieve constant sample support and again statistically analysed per domain, and sub-domaining based on grade is conducted if different populations within a single solids domain can be spatially distinguished.	
Geological block modelling	Iron ore is a typical multivariate grade commodity and Kumba geostatistically models composited sample density and the following composited sample grade parameters of the ore domains as a minimum, i.e. Fe, SiO_2, Al2O_3, K_2O and P to establish its spatial variability. Generally, co-variograms are modelled for correlated variables (Fe, SiO_2 and density) and conventional variograms for the other variables. These calculations are done using unfolded data. The variograms are interpreted to consider spatial anisotropy. Waste lithologies, by virtue of having a poorer sample coverage are usually characterised by default grades and densities, statistically derived from the sample data.	Isatis™
	The optimal parent block size is determined using Quantitative Kriging Neighbourhood Analysis.	
	A Quantitative Kriging Neighbourhood Analysis is used to determine the best search plan (number of samples and ranges) by optimising the Krige variance and slope-of-regression while minimising negative weights in the Krige matrix.	
	Ordinary Kriging or Ordinary Co-Kriging are conducted to estimate the attributes where the data density is sufficient. Generally Ordinary Co-Kriging is used to estimate the correlated variables although Ordinary Kriging may be used if necessary. In areas with sparse sampling, Simple Kriging is applied or default values (global estimates) are assigned. The block grades are informed during three rounds of interpolation. In the first-round block grades are estimated using the optimal Kriging neighbourhood. This represents the best possible estimates. Blocks not estimated in the first pass are then kriged using an enlarged (*2) neighbourhood. These estimates thus use sample beyond the range of the variogram and are extrapolated and of a lower quality. Any blocks still not informed receive the global mean grade. This process is repeated for each variable.	Isatis™ GEOVIA Surpac™ DataMine Studio™
Confidence classification	All mineralised domains in the geological block models are informed by some sort of applicable spatial Kriging estimate for the grades. The geological block model population is conducted using three Kriging runs, the first run based on search parameters derived from the ranges as defined by modelled variograms, the second run informed by doubling the search parameter ranges with all blocks informed during this run classified as Inferred, with all remaining blocks not populated after the second run being assigned relevant default values and classified as Inferred (extrapolated). The blocks populated in the first Kriging run are classified using a scorecard approach, whereby certain key site-specific parameters as identified by the CP are indexed and used to measure geometry and grade continuity. Each block within the geological block model is populated with these indices. The individual grade indices and geometry indices are then weighted as per the CP's understanding of its impact. The weights are applied to derive a combined grade index as well as a combined geometry index, which in turn is weighted, as per the CP's understanding of the deposit to derive a final single geological confidence index. The final confidence index is then classed against index boundaries as derived by the CP to distinguish between Measured, Indicated and Inferred Mineral Resources. The CP also has the authority to override areas of indexed classification and downgrade it.	Isatis™ Geovia Surpac™, DataMine Studio™
Resource reporting	Inclusive Mineral Resources are determined as that portion of the ore in the 3D geological block model which has *in situ* grades above the Fe cut-off grade (derived from beneficiation potential), that are located within the 1.6 revenue factor resource shell (as derived through pit optimisation). Only that portion of the inclusive Mineral Resources which are not converted to Ore Reserves (everything inside the resource shell above the specified cut-off grades, excluding the Measured and Indicated Mineral Resources inside the pit layout converted to Ore Reserves), are reported as exclusive Mineral Resources.	

Exclusive Mineral Resources cont.

Reasonable prospects for eventual economic extraction (RPEEE)

Kumba's 2023 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 and economic conditions, may be economically extractable in future.

The following cut-off grades are applied to define Mineral Resources:

- 50% *in situ* Fe at Kolomela
- 40% *in situ* Fe at Sishen

The change from fixed cut-off grade to a value-based cut-off grade in the Ore Reserve environment at Sishen will require a similar adjustment in the Mineral Resource estimation methodology. For Sishen, where the value-based approach has been implemented for Ore Reserve estimation in 2023, the geological model will be adjusted in 2024 to capture the product potential of the Mineral Resources to eliminate the apparent increase in dilution and decrease in mining loss as recorded in 2023 because of a fixed versus value-based cut-off.

Apart from cut-off grades, which consider the current or at least concept-approved beneficiation processes, Kumba spatially distinguishes Mineral Resources from other mineralised occurrences by applying a resource shell:

- 1.3 x revenue factor shell for Sishen (changed from 1.6 x revenue factor resource shell in 2022)
- 1.6 x revenue factor resource shell for Kolomela (the LoAP was not updated in 2023)

The resource shells are derived during the pit optimisation process conducted on the latest site-specific 3D mining block models, considering SMU and mining bench configurations, etc. The resource shell is then subsequently applied to the geological block models, defining the classified ore occurring inside the resource shell as the resultant inclusive Mineral Resource portion considered to have RPEEE.

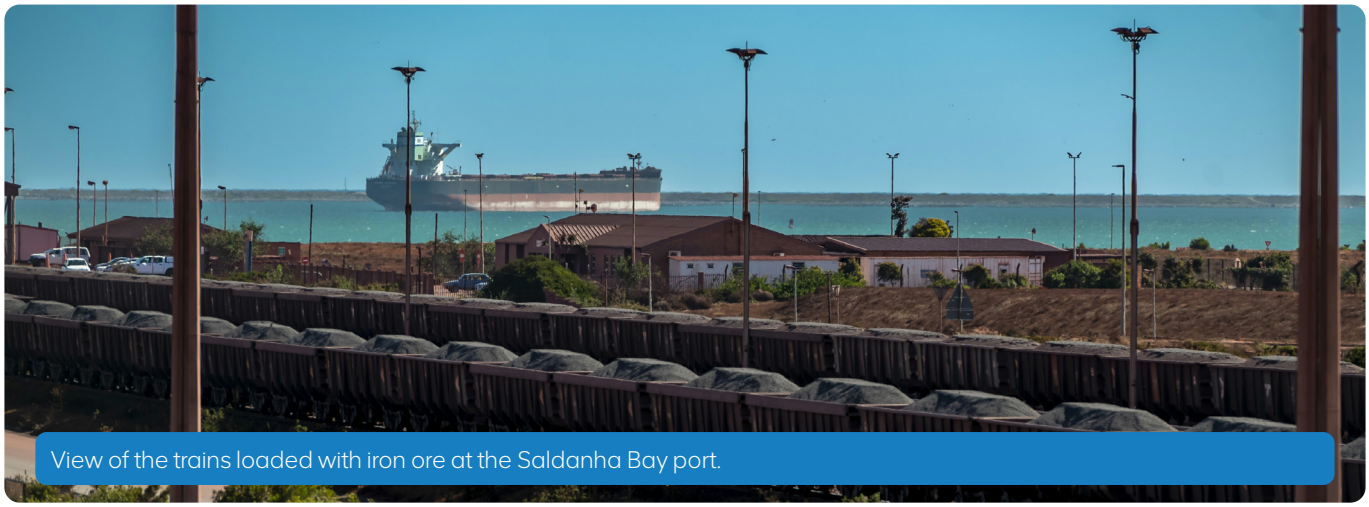
A further condition is that the iron ore price corresponding with a 1.3 or 1.6 revenue factor pit shell must have been achieved historically in the global iron ore market.

Kumba is of the opinion that the approach as set out above considers site-specific beneficiation and mining practices as well as realistic pricing and cost and is a justifiable method to spatially define the RPEEE portion of the mineral endowment..

By implication, all-inclusive Mineral Resources are 3D modelled with an associated geological confidence classification, which spatially defines the confidence in the Mineral Resource tonnage and grade estimates.

For Mineral Resource reporting purposes, Kumba, under the direction of the Anglo American group, prefers to report Mineral Resources exclusive of Ore Reserves. In other words, all the Measured and Indicated inclusive Mineral Resources occurring inside a pit layout (converted to Ore Reserves) are not reported as part of the exclusive Mineral Resources.

Similarly, all Inferred Mineral Resources occurring inside a pit layout are declared as part of the exclusive Mineral Resource portfolio as "Inferred (considered in LoAP)".



View of the trains loaded with iron ore at the Saldanha Bay port.

Exclusive Mineral Resources cont.

2023 exclusive Mineral Resources

Mineral Resource: 2023 (versus 2022) summary

The Kumba Mineral Resources (in addition to Ore Reserves) for 2023 (referenced against 2022) are detailed in **Table 9**.

Table 9: Kumba's exclusive Mineral Resources for 2023 (referenced against 2022)

Operation	Ore type	% owned by KIO	Resource category	2023 Tonnage (Mt)	2023 Average % Fe	2023 Cut-off** % Fe	2022 Tonnage (Mt)	2022 Average % Fe	2022 Cut-off** % Fe
Kolomela[1]									
In situ Mineral Resources (in addition to Ore Reserves)			Measured (outside LoAP)	52.1	65.1		52.1	65.1	
			Indicated (outside LoAP)	62.1	63.1		62.1	63.1	
			Measured and Indicated (outside LoAP)	**114.2**	**64.0**		**114.2**	**64.0**	
			Inferred (considered in LoAP)	1.2	64.7		1.2	64.7	
			Inferred (outside LoAP)	17.3	62.5		17.4	62.5	
			Total Inferred	**18.5**	**62.6**		**18.6**	**62.6**	
			Sub-total	**132.7**	**63.8**		**132.8**	**63.8**	
Long-term stockpiled Mineral Resources (in addition to Ore Reserves)	Haematite	75.4	Measured (outside LoAP)	0.0	0.0		0.0	0.0	
			Indicated (outside LoAP)	0.0	0.0		0.0	0.0	
			Measured and Indicated (outside LoAP)	**0.0**	**0.0**		**0.0**	**0.0**	
			Inferred (considered in LoAP)	0.0	0.0	**50.0**	0.0	0.0	50.0
			Inferred (outside LoAP)	0.0	0.0		0.0	0.0	
			Total Inferred	**0.0**	**0.0**		**0.0**	**0.0**	
			Sub-total	**0.0**	**0.0**		**0.0**	**0.0**	
Total Mineral Resources (in addition to Ore Reserves)			Measured (outside LoAP)	52.1	65.1		52.1	65.1	
			Indicated (outside LoAP)	62.1	63.1		62.1	63.1	
			Measured and Indicated (outside LoAP)	**114.2**	**64.0**		114.2	64.0	
			Inferred (considered in LoAP)	1.2	64.7		1.2	64.7	
			Inferred (outside LoAP)	17.3	62.5		17.4	62.5	
			Total Inferred	**18.5**	**62.6**		18.6	62.6	
			Sub-total	**132.7**	**63.8**		132.8	63.8	

Exclusive Mineral Resources cont.

Mineral Resource: 2023 (versus 2022) summary cont.

Table 9: Kumba's exclusive Mineral Resources for 2023 (referenced against 2022) cont.

Operation	Ore type	% owned by KIO	Resource category	2023 Tonnage (Mt)	2023 Average % Fe	2023 Cut-off** % Fe	2022 Tonnage (Mt)	2022 Average % Fe	2022 Cut-off** % Fe
Sishen[2]									
In situ Mineral Resources (in addition to Ore Reserves)			Measured (outside LoAP)	241.3	56.5		175.3	59.4	
			Indicated (outside LoAP)	194.9	55.1		222.2	55.4	
			Measured and Indicated (outside LoAP)	**436.2**	**55.9**		**397.4**	**57.2**	
			Inferred (considered in LoAP)	1.4	59.5		11.7	50.6	
			Inferred (outside LoAP)	7.8	47.8		24.4	56.7	
			Total Inferred	**9.1**	**49.6**		**36.1**	**54.7**	
			Sub-total	**445.3**	**55.8**		**433.5**	**57.0**	
Long-term stockpiled Mineral Resources (in addition to Ore Reserves)	Haematite	75.4	Measured (outside LoAP)	0.0	0.0	40.0	0.0	0.0	40.0
			Indicated (outside LoAP)	7.8	53.4		0.0	0.0	
			Measured and Indicated (outside LoAP)	**7.8**	**53.4**		**0.0**	**0.0**	
			Inferred (considered in LoAP)	0.0	0.0		0.0	0.0	
			Inferred (outside LoAP)	0.0	0.0		0.0	0.0	
			Total Inferred	**0.0**	**0.0**		**0.0**	**0.0**	
			Sub-total	**7.8**	**53.4**		**0.0**	**0.0**	
Total Mineral Resources (in addition to Ore Reserves)			Measured (outside LoAP)	241.3	56.5		175.3	59.4	
			Indicated (outside LoAP)	202.7	55.0		222.2	55.4	
			Measured and Indicated (outside LoAP)	**444.0**	**55.8**		**397.4**	**57.2**	
			Inferred (considered in LoAP)	1.4	59.5		11.7	50.6	
			Inferred (outside LoAP)	7.8	47.8		24.4	56.7	
			Total Inferred	**9.1**	**49.6**		**36.1**	**54.7**	
			Sub-total	**453.1**	**55.7**		**433.5**	**57.0**	
Kumba Iron Ore									
Grand total Mineral Resources (in addition to Ore Reserves)		75.4	Measured (outside LoAP)	293.4	58.0		227.4	60.7	
			Indicated (outside LoAP)	264.7	56.9		284.2	57.1	
			Measured and Indicated (outside LoAP)	**558.1**	**57.5**		**511.6**	**58.7**	
			Inferred (considered in LoAP)	2.6	61.9		12.9	51.9	
			Inferred (outside LoAP)	25.1	58.0		41.8	59.1	
			Total Inferred	**27.7**	**58.4**		**54.7**	**57.4**	
			Total	**585.8**	**57.5**		**566.3**	**58.6**	

Footnotes to the exclusive Mineral Resources (Table 9)

- 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 KIO ownership.
- The term Inferred Mineral Resource (outside LoAP) refers to that portion of the Inferred Mineral Resources not utilised in the LoAP.
- The term Inferred Mineral Resource (considered for LoAP) refers to that portion of the Inferred Mineral Resources utilised in the LoAP; reported without having any modifying factors applied – therefore the term "considered for LoAP" instead of "inside LoAP".
- While it would be reasonable to expect that the majority of Inferred Mineral Resources would upgrade in confidence to Indicated Mineral Resources with continued exploration, due to the uncertainty of Inferred Mineral Resources, it should not be assumed that such upgrading will always occur on a one-to-one basis.

** The cut-off grade quoted for each of the Kumba sites is a fixed *in situ* Fe percentage.

Exclusive Mineral Resources cont.

Year-on-year Mineral Resource reconciliation

The year-on-year movement in the estimated exclusive Mineral Resources is reconciled in **Figure 11**.

Kumba Iron Ore – year-on-year Mineral Resource movement (in addition to Ore Reserves): 2022 to 2023
(million tonnes)

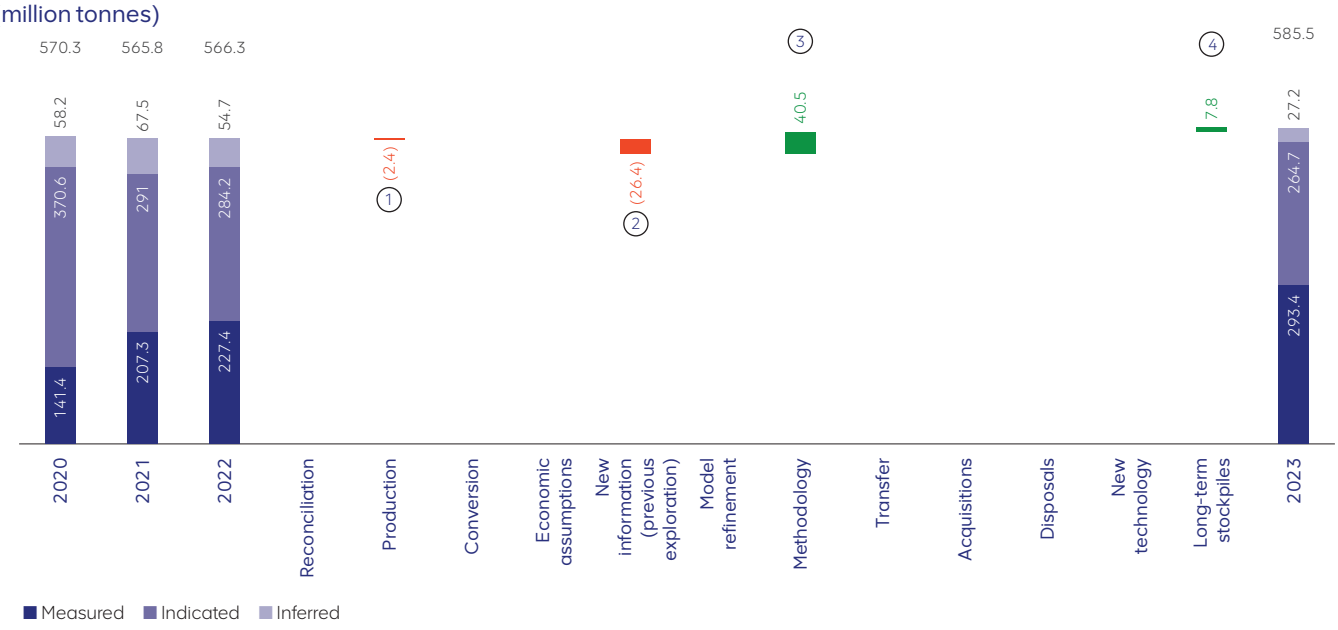


Figure 11: Kumba Mineral Resource movement from 2022 to 2023

Footnotes to the Mineral Resource movements (Figure 11)

Please note that Kolomela's year-on-year exclusive Mineral Resource movements were insignificant for 2023 as the exclusive Mineral Resource estimates were not based on updated geological models, but instead were derived by way of depletion (Inferred Mineral Resources mined in 2023) of the 2022 exclusive Mineral Resource estimates.

1. The 7+5 forecasted depletion (7 months actual depletion as measured by the value chain reconciliation process and 5 months forecasted depletion as indicated by the August medium-term plan) for 2023 of exclusive Inferred Mineral Resources amounts to 2.4 Mt for Sishen, with depletion of Inferred Mineral Resources Kolomela insignificant for 2023.
2. Decrease in exclusive Mineral Resources at Sishen as a result of the annual geological model update, considering the latest available and validated exploration and ore control borehole data for solids modelling and exploration borehole information for *in situ* grade estimation.
3. Various methodology change-related moves, resulting in a 40.5 Mt increase in exclusive Mineral Resources were recorded for Sishen in 2023:
   - The revenue factor used to derive the Sishen pit was reduced from 1.0 in 2022 to 0.8 in 2023, concomitantly the Mineral Resource revenue factor was reduced from 1.6 to 1.3, which resulted in a reallocation of 52.6Mt of Ore Reserves to exclusive Mineral Resources.
   - The Sishen geological confidence classification methodology was not adhered to in 2023 (error identified during internal review of the geological model update), resulting in 11.3 Mt decrease in exclusive Inferred Mineral Resources (upgraded to Indicated and Measured Mineral Resources and converted to Ore Reserves). This error will be corrected in the 2024 geological model update.
   - The beneficiation algorithms of Sishen were updated in 2023, considering the latest available densimetric geometallurgical test results, resulting in a 0.8 Mt decrease in exclusive Mineral Resources.
4. 7.8 Mt of ore located on run-of-mine buffer stockpiles was not utilised in the 2023 Sishen LoAP, and has been reclassified as exclusive Indicated Mineral Resources on long-term stockpiles, with the assumption that this material has reasonable prospects for eventual economic extraction.

Exclusive Mineral Resources cont.

Summary of exclusive Mineral Resource movement per site

Kolomela quotes a 0.1 Mt (0%) insignificant decrease in exclusive Mineral Resources from 2022 to 2023, as a result of the decision taken to deplete the 2022 LoAP for 2023 as the mine plan will only be updated in 2024. The minor 0.1Mt decrease represents the forecasted depletion of Inferred Mineral Resources for 2023.

Of the remaining 17.3 Mt Inferred Mineral Resources (outside the LoAP), 8.3 Mt is extrapolated. None of the Inferred Mineral Resources considered in the 2023 LoAP are extrapolated.

The Sishen exclusive Mineral Resources showed a 5% year-on-year increase of 19.6 Mt, which can primarily be attributed to a reallocation of Ore Reserves to Mineral Resources because of a decrease in the pit layout size, resulting in a 52.6 Mt increase in Mineral Resources (primarily low-grade ore). The changes recorded in the resource shell being derived from a 1.3 revenue factor instead of a 1.6 revenue factor was minimal. The increase was partially offset by a decrease of 26.4 Mt based on the 2023 geological model update, considering additional borehole data.

The average Fe decreased by 1.1% (absolute) year-on year, as a result of the reallocation of Ore Reserves (mostly low-grade) to Mineral Resources due to a decrease in the size of the pit layout.

Of the 7.8 Mt Inferred Mineral Resources (outside the LoAP), 0.9 Mt is extrapolated. None of the Inferred Mineral Resources considered in the 2023 LoAP are extrapolated.

As indicated in footnote 3 of **Figure 11**, an error in the geological confidence classification, that could not be spatially corrected at the time of reporting, but could be quantified, resulted in an apparent 11.3 Mt decrease in Inferred Mineral Resources (considered for LoAP). This error will be corrected in 2024.

Main stockpile at the plant at Kolomela mine, crushed DSO ore is stored here before being screened and blended.

Assurance

Kumba follows a structured internal and external review programme to not only verify Ore Reserve (and Saleable Product) as well as Mineral Resource reporting, but also the estimation thereof.

The Anglo American and KIO Audit Committees require all reporting entities (operations, projects and exploration) to undergo a continuous and comprehensive program of external audits and internal reviews aimed at providing confidence and assurance in respect of all components contributing to the Ore Reserve and Mineral Resource estimation processes and the public reporting of those estimates.

As all of the Kumba R&R estimation and reporting was conducted by SIOC-employed technical specialists and CPs, Kumba recognises the importance of independent external audits of its R&R estimation and reporting processes and associated output to provide assurance regarding its published R&R estimates. Since the inception of Kumba, its executive management has sustained a governance cost centre that sponsors or allows for the contracting of a reputable independent external mining consultancy firm, to be changed every four years.

Kumba requires that each operation/project, for which Ore Reserves and/or Mineral Resources are declared, undergoes an external independent due diligence audit once every three years. The scope of work encompasses a due diligence (sign-off) audit of about six to eight weeks and must include a one-week site visit by the auditors. The audit should not only produce findings but also opportunities.

Internal reviews/validations

Mineral Resources

The borehole data informing geological models is validated to determine assay representivity using an extensive QA/QC programme monitoring and reporting on primary sampling (including sample location), sample preparation and sample assay accuracy and precision. In addition, borehole database validations are conducted to ensure relational information is correct.

The fact that the Kumba borehole databases contain historical information (generated prior to 2010) that were not QA/QC validated, is addressed by determining a Sample Representivity Index for each sample, by means of a scorecard approach, weighting-indexed parameters such as type of drilling, material recovery, QC parameters of sample preparations and QC parameters of sample assaying. The resulting Sample Representivity Index is spatially applied and considered during geological confidence classification.

Geological solids models (visual step-through, gaps and overlaps and adherence to borehole lithological contacts) are peer reviewed and geological block models (exploratory data analysis, variography and search parameters as well as spatial grade estimations) are peer reviewed and spatially reconciled against the previous geological block models.

For geological models informing areas being mined, the geological model is reconciled against an unmodified ore control model (informed by additional ore control borehole data generated after the geological model compilation) as part of the operations' value chain reconciliation processes, and this comparison is used to quantify geological losses and gains.

Mineral Resource reporting is peer reviewed internally by Kumba but also undergoes an independent internal peer review by technical specialists of Anglo American's corporate office in November each year. Technical heads and specialists of Exxaro Resources also reviewed a summarised version of the 2023 Kumba Mineral Resources.

The centralisation of the resource modelling function at Kumba corporate office in 2022 has provided excellent results in terms geological modelling standardisation and adherence to internal governance.

Internal Mineral Resource findings

Kolomela

1. Bias between Exploration and Ore Control borehole sample assays not considered during grade estimation can manifest in the form of resultant estimated run-of-mine Fe grades being overestimated and contaminant grades being underestimated.

   Mitigation: Kumba will assess the bias and implement grade estimation procedures (assuming cored exploration borehole sample assay data as more accurate than reverse circulation ore control borehole data) in future (2024 and 2025) geological block model updates to address the bias.

Assurance cont.

Internal reviews/validations cont.

Internal Mineral Resource findings cont.

Sishen

1. The Sishen value chain reconciliation process identified geological gains for the high-grade ore. An investigation revealed that the high-grade ore gains are due to the occurrence of high-grade ore lenses within the BIF beneath the main high-grade orebody, not intersected by exploration boreholes. The Sishen value chain reconciliation has registered geological gains in this material of 13% from January to August. 2023. This is ongoing from 2022.

   Mitigation: Kumba has allowed for the addition of ore control borehole data after the official data cut-off date to be included in the 2023 explicit solids model update (informing the 2024 resource model) and in addition to a very thorough peer review, have obtained the Sishen Production Geology Section Manager's guidance to focus on areas where additional high-grade ore lenses have been identified through recent ore control drilling.

   In addition, Kumba is in the process of compiling a baseline implicit solids model, with the assistance of Anglo, to replace the explicit solids model from 2025 onwards to allow for rapid solids model updates and a more frequent incorporation of borehole data to reduce lead times from nine months to three months, the latter allowing for more accurate medium-term mine planning.

Ore Reserves

Geological block models are converted into mining block models and comparisons are performed to understand the dilution and mining loss components during up-blocking to SMU resolution. Other modifying factors such as geological gains/losses and mining recovery efficiencies are referenced against three-year averaged value chain reconciliation results and assigned to the mining block model by means of a single long-term planning modifying factor as derived per material type.

Subsequent pit optimisation is conducted using approved long-term economic assumptions and approved geotechnical input parameters to derive pit and resource shells. The latter is peer reviewed whereafter pit and pushback layouts are designed and again validated in terms of practical versus. economical execution and most importantly pit safety in terms of slope stability considering geohydrological and geotechnical aspects.

A LoAP schedule exercise is then conducted to consider various scenarios required by the business. Such scheduling is informed by the Ore Reserves and Inferred Mineral Resources located inside the pit layout as well as run-of-mine buffer stockpile material, and honours thresholds on Saleable Product qualities, run-of-mine buffer stockpile levels, exposed ore and mining and beneficiation infrastructure capacities as approved by a Kumba Planning Steering Committee. The chosen LoAP scenario, of which the first five years are aligned with the business plan, is peer reviewed by the internal technical specialists and signed off by all relevant stakeholders up to executive level in the Company.

Ore Reserve (and Saleable Product) reporting is peer reviewed internally by Kumba, but also undergoes an independent internal peer review by technical specialists of Anglo American's corporate office in November each year.

Kumba's 2022 Ore Reserve and Mineral Resource estimates were peer reviewed for the first time in December 2022 by SIOC's second largest shareholder, i.e. Exxaro Resources Limited. Exxaro Resources opted not to peer review the Kumba Ore Reserves (and Saleable Product) in 2023.

Internal Ore Reserve findings

Kolomela

None.

Sishen

The Sishen value chain reconciliation process identified mining losses for the low-grade ore in 2023.

Mitigation: A study will be conducted to investigate the discrepancy in dilution gains when converting long-term geological model (unmodified) to long-term mining model (selective mining units) versus mining losses when converting the short-term unmodified ore control model to the short-term modified ore control model (blast block demarcations).

Assurance cont.

External audits

Cube Consulting (Australia) audit of 2023 Sishen low-grade Mineral Resource estimates

Due to the detailed scope (in-depth analysis on estimation and reporting) required by Kumba in terms of the external auditing of its Ore Reserves and Mineral Resources, the audit results are mostly in retrospect, but the mitigation actions on findings are applied to current and forthcoming Reserve and Resource estimates.

An external due diligence audit of the Sishen 2023 low-grade mineral resource was completed in 2023. The audit was requested by Kumba Geoscience department as a result of geological losses experienced in the low grade ore.

The review highlighted that the BIF resource is over estimated as a result of historical selective sampling and over estimation of the low grade ore at depth below the borehole intersection

Mitigation:

1. *Losses have been known since 2020 and adequately mitigated through the application of an appropriate mining recovery modifying factor in the business plan and life-of-asset plan. The modifying factor adequately addresses the losses identified in the external audit.*
2. *900 Boreholes, within the pit shell have been prioritised for re-logging, sampling and hyperspectral scanning.*
3. *Kumba's geology department will re-estimate the low grade ore contained within the BIF, considering the findings of the audit including reverse circulation ore control drilling in addition to exploration drilling data.*

Attestation

For the attestation process, where the Kumba Executive sign off on the effectiveness of controls as per Johannesburg Stock Exchange requirements, it is confirmed that:

- the ORMR, set out on pages 2 to 98, fairly present in all material respects the latest Ore Reserve (and Saleable Product) and Mineral Resource estimates in a transparent and material matter to conform to the SAMREC Code (2016 Edition), as well as section 12.13 of the JSE Listings Requirements
- no facts have been omitted or untrue statements made that would make the ORMR false or misleading
- estimation and reporting controls have been put in place to ensure that material information relating to Kumba have been provided to effectively prepare the ORMR
- the internal financial controls are adequate and effective and can be relied upon in compiling the ORMR

Where we are not satisfied, we have disclosed to the Audit Committee and the auditors the deficiencies in design and operational effectiveness of the internal financial controls and any fraud that involves directors, and have taken the necessary remedial action.

The key Resource and Reserve reporting controls were validated and attested to be effective, adequate and fully executed for 2023 by the Kumba Chief Executive and Chief Financial Officer on 19 February 2024.

Risk

What prominent risks have been identified that can result in the Ore Reserves and Mineral Resources not realising as estimated?

Apart from the Mineral Resource and Ore Reserve estimation confidence classifications, Kumba, on an annual basis, asks its CPs to update existing, and identify new risks, and rank them according to the standard Anglo American risk matrix **(Figure 12)** pertaining to the Resources and Reserves they are signing off. All risks, notwithstanding their risk level, are recorded and registered with pre- and post-mitigation risk rankings. Risk update sessions involve scheduled meetings where all relevant competent persons and technical specialists are involved.

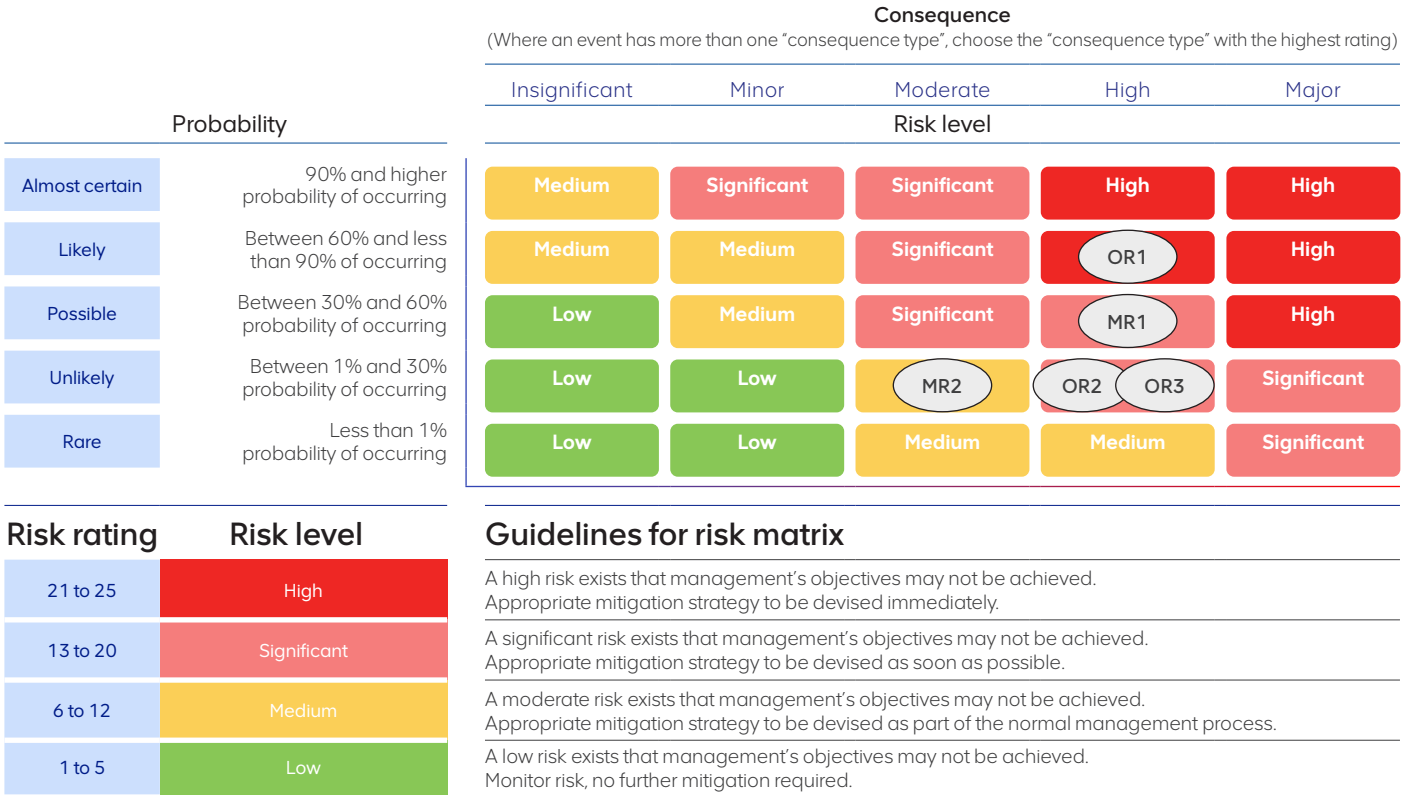


Figure 12: Anglo American risk matrix

These risks are then rolled up to a business level by the Lead CPs to consider their potential impact on the total Kumba business. Risks with a high or significant post-mitigation risk level, or with a lower than significant post-mitigation risk level but with uncertainty associated with the mitigation action at the stage of reporting, are summarised in the following section (with risk plots indicated in **Figure 12**.

Risk cont.

Ore Reserve (and Saleable Product) risks

The 2023 Ore Reserve (and Saleable Product) estimates are subject to the following risks:

Logistical (OR1)

(external risk - high post-mitigation risk rank due to uncertainty associated with future contract negotiations)

The logistical value chain (rail and port) is the dominant constraint in the Kumba value chain. Transnet's performance in terms of contracted volumes has deteriorated further in 2023. The rail performance may have an impact of the sustainability and profitability of the business and therefore the viability of the Ore Reserve.

Mitigation: As part of the business plan process, Kumba has moderated its outlook on the available logistical capacity to ~36Mtpa (vs contracted 44 Mtpa).

Financial (OR2)

(internal and external risks - significant post-mitigation risk rank based on uncertainty associated with economic assumptions)

Kumba has seen an increase in operational costs as a result of inflation and structural cost increases, all of which cannot be diluted by increasing production due to the constraint on logistics.

Mitigation: As a result of these cost pressures, Kumba implemented a structural reconfiguration of its operations aimed at reducing the breakeven cost by:

- re-sequencing mining pushbacks;
- delaying high strip ratio pits;
- reducing costs and improving efficiencies, and
- designing the appropriate organisational structure.

Infrastructure project (OR3)

(internal risk - significant post-mitigation risk rank based on uncertainty associated with capital availability)

At Sishen, the UHDMS project involves the conversion of the existing DMS plant to a UHDMS plant. During Q4 of 2022, significant engineering complexity emerged relating to the design and construction of an operational UHDMS plant, and the project was halted for an in-depth review.

Mitigation: Kumba conducted a full review of the project in 2023 and resubmitted the feasibility study case in December 2023. The project is being internally reviewed to determine the optimal sequencing of the project.

Operator assist programme at Sishen mine, Operator Eugene Stellenberg climbing up the Komatsu truck.

Risk cont.

Exclusive Mineral Resource risks

The 2023 exclusive Mineral Resource estimates are subject to the following risks:

On-mine Ploegfontein exploration project at Kolomela (MR1)

(internal risk - significant post-mitigation risk rank due to uncertainty associated with product qualities)

The Ploegfontein deposit located within the Kolomela mining right area is earmarked as the next deposit to be considered for conversion to Ore Reserves to restore the annual production output of Kolomela from 2027 onwards when the high-grade Leeuwfontein, Klipbankfontein and Kapstevel North pits' Ore Reserves have been depleted. Although there might be sufficient tonnages to supplement the run-of-mine, the associated *in situ* contaminant grades are considered challenging considering existing Client product specifications, specifically concerning *in situ* K_2O and *in situ* P content.

Mitigation: Geometallurgical borehole drilling and subsequent testing have been prioritised to gain a spatial understanding of the beneficiability of the Ploegfontein deposit to inform a decision on product type, product blending and marketability. A technical study has been conducted in 2023. The Anglo Investment Assurance review has however recommended that the project be placed on hold pending resolution of the reconfiguration of the Kumba business to ensure Kumba's sustainability and future optionality in a logistics constrained environment.

Production drilling technician Titus Kgomongwe measures the depth of drilled blast holes prior to being filled with explosives.

Sishen long-term geological model (MR2)

(internal risk - medium post-mitigation risk)

The Sishen value chain reconciliation process identified geological losses (overestimation) of low (C)-grade ore in the long-term geological model primarily as a result of over-estimation of the BIF *in situ* Fe grade.

An external due diligence audit of the Sishen 2023 low-grade mineral resource was completed in 2023. The audit was requested by Kumba Geoscience department as a result of geological losses experienced in the low-grade ore.

The review highlighted that the BIF resource is over estimated as a result of historical selective sampling and over estimation of the low-grade ore at depth below the borehole intersection.

Mitigation:

1. *Losses have been known since 2020 and adequately mitigated through the application of an appropriate mining recovery modifying factor in the business plan and life of asset plan. The modifying factor adequately addresses the losses identified in the external audit.*
2. *900 Boreholes, within the pit shell have been prioritised for re-logging, sampling and hyperspectral scanning.*
3. *Kumba's geology department will re-estimate the low-grade ore contained within the BIF, considering the findings of the audit including reverse circulation ore control drilling in addition to exploration drilling data.*

Ancillary Reserve and Resource information per operation

The ancillary Reserve and Resource information is provided to conform to the SAMREC Code requirement of materiality.

Unless otherwise stated, all the production-related figures quoted in this section are forecasted (7 actual + 5 planned) as the compilation of the site-specific R&R Statements, from which the public R&R Statement was derived for Kumba, commenced on 1 October 2023. This early reporting date prior to year end is necessitated by the time required for the independent internal review process within the Anglo American group, which requires Resource and Reserve estimates to be interrogated by peers, competent in the fields of resource and reserve estimation and reporting, before being published.

Kolomela

Location

Kolomela is located 12km southwest of the town of Postmasburg (**Figure 13**) in the Tsantsabane Local Municipality within the boundaries of the ZF Mgcawu District of the Northern Cape province in the Republic of South Africa.

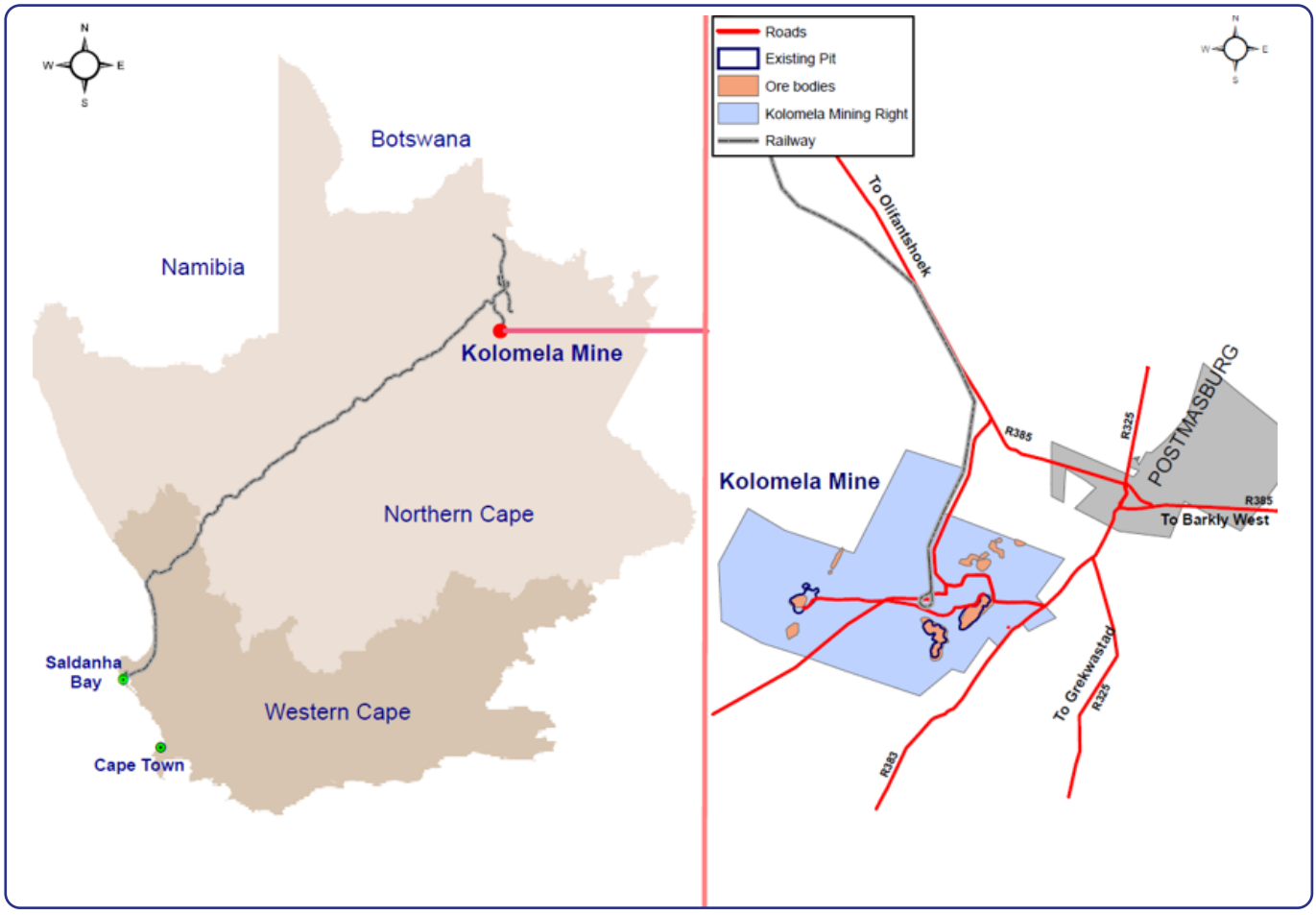


Figure 13: Location and logistics chain of Kolomela

Ancillary Reserve and Resource information per operation cont.

Kolomela cont.

Geological outline

Regional geology

Kolomela is located towards the southern end of the "iron ore belt" in the Northern Cape province of South Africa (**Figure 14**).

The Transvaal Supergroup (Eriksson et al, 1993; 1995), or Griqualand West Supergroup as it is referred to where it occurs in the Northern Cape, is host to all of the iron ore occurrences in the region. The Supergroup was deposited in fault-controlled basins on a basement of Archaean granite gneisses and greenstones and/or lavas of the Ventersdorp Supergroup (Beukes, 1983). In the Kathu-Postmasburg region, the oldest rocks of the approximately 8km thick Griqualand West Supergroup (Beukes, 1980) are the ~1.6 km thick carbonate platform sediments (dolomites with minor limestone, chert and shale) of the Campbell Rand Subgroup of the Ghaap group (Beukes, 1983; Altermann and Wotherspoon, 1995; Beukes, 1986).

Conformably overlying the carbonates is the BIF unit, the Asbestos Hills Subgroup (Beukes, 1980), which is considered to be a Superior-type BIF, that can be up to 500 m thick. Locally, the upper portion of the BIF (Kuruman Iron Formation) has been enriched to ore grade, i.e. Fe > 60%, and the ores found within this unit comprise the bulk of the high-grade iron ores in the region. The Kuruman Iron Formation is conformably overlain by the Griquatown Iron Formation. The two iron formations differ in that the Griquatown Iron Formation, comprising mainly allochemical sediments, was deposited in a shallow-water, storm-dominated epeiric sea (Beukes, 1984), whereas the Kuruman Iron Formation, comprising orthochemical iron formations, was developed in the basin (Beukes, 1980). However, in the Meramane Dome area, the Griquatown Iron Formation has been almost entirely removed by erosion along an unconformity separating the BIFs from the overlying clastic sediments of the Gamagara Formation.

During uplift and erosion, solution and karstification of the upper dolomitic units of the lower Ghaap group occurred and a 10 to 20 m thick, residual solution breccia, referred to as the "Manganese Marker", "Wolhaarkop Breccia" (van Wyk, 1980; van Schalkwyk and Beukes, 1986) or Wolhaarkop Formation, developed between the basal dolomites and overlying BIF. Locally, deep sinkholes developed in the dolomites, into which the overlying iron formation collapsed (Beukes, 1983).

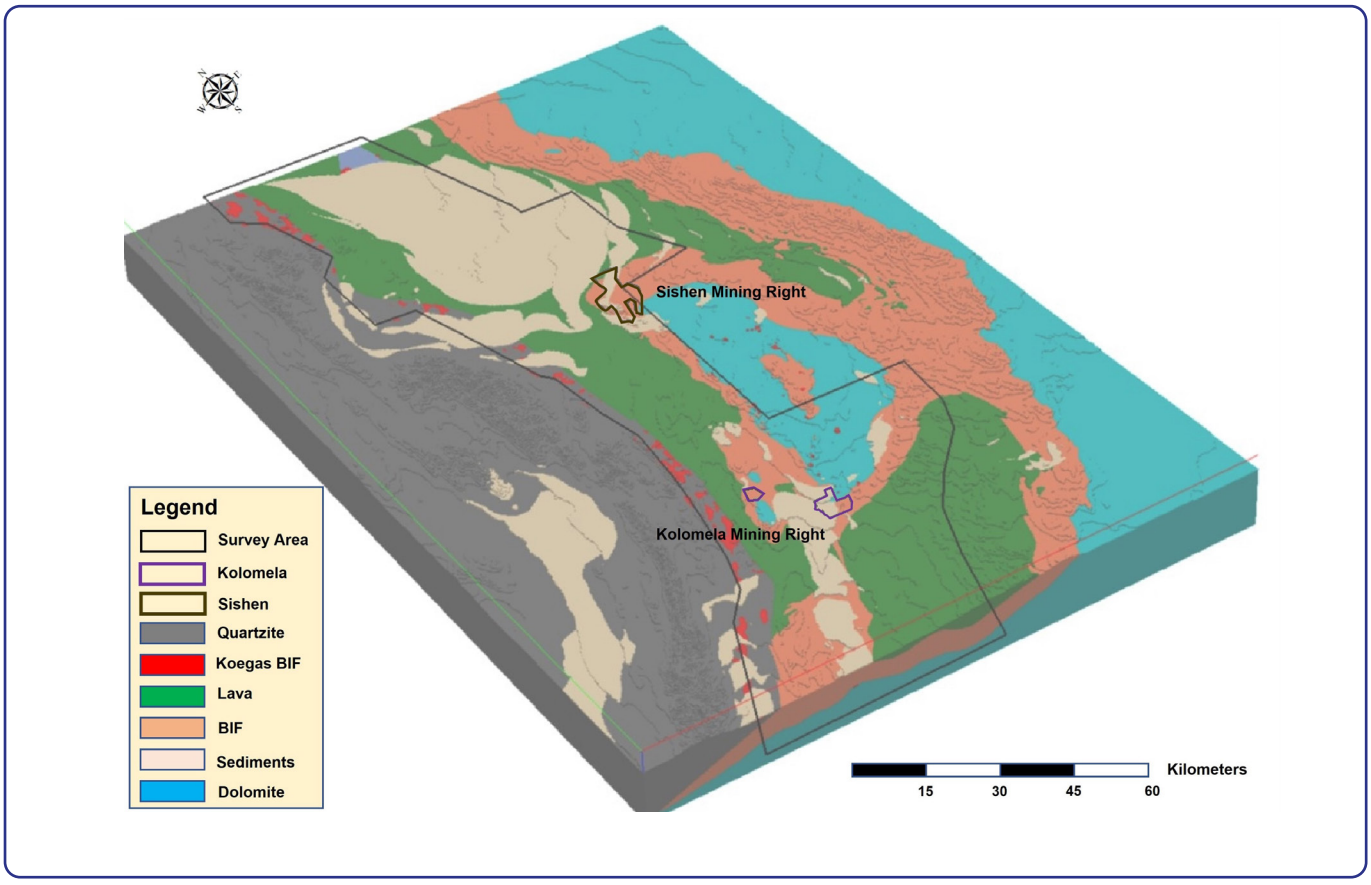


Figure 14: Kolomela's location in the Northern Cape province "iron ore belt" of South Africa

Ancillary Reserve and Resource information per operation cont.

Kolomela cont.

Geological outline cont.

Regional geology cont.

A thick sequence of younger clastic sediments (shales, quartzites and conglomerates) of the Gamagara Formation, unconformably overly the Ghaap group rocks and some of the conglomerates, comprised almost entirely of haematite, constitute lower-grade iron ore. The Gamagara Formation, interpreted as the base of the Palaeoproterozoic (~2.1-1.83 Ga) Olifantshoek Supergroup is overlain by the Palaeoproterozoic (~2.35-2.1 Ga) Postmasburg group along an interpreted thrust contact in the area (van Schalkwyk and Beukes, 1986; Friese and Alchin, 2007). The thrust fault has been folded during subsequent deformation.

An altered gabbroic sill in the Kolomela area typically separates the iron ore from the underlying host BIF, or is intrusive in the BIF at Kolomela (Carney and Mienie, 2002). It is interpreted to have intruded into the Griqualand West Supergroup in late Proterozoic times (Friese and Alchin, 2007). The localised unit is prominent in the Leeuwfontein and Klipbankfontein ore bodies but absent in other areas.

Diamictite of the Makganyene Formation (de Villiers and Visser, 1977) and lava of the Ongeluk Formation (Postmasburg group) have been thrust over the Gamagara Formation sediments in the vicinity of Postmasburg, which are now preserved only within the larger synclinal basins (Schütte, 1992).

Makganyene diamictites comprise massive to poorly bedded diamictite, pebbly sandstone and siltstone, shale and mudstone up 100 m thick, which are interpreted as piedmont glacial and glaciofluvial assemblages (Beukes, 1983; Visser 1971). A second facies within the Makganyene contains mainly stacked cycles of graded bedded diamictite-greywacke-siderite bandlutite, which have been interpreted as glaciomarine deposits (Beukes, 1983). The Ongeluk lavas (600 m thick; Schütte, 1992) were extruded under water in a marginal basin within the continental setting of the Kaapvaal Craton (Schütte, 1992), and comprise essentially tholeiitic basaltic andesites.

The lavas have been dated at 2,240 ± 57 Ma (Walraven et al, 1982), 2,239 ±90 Ma (Armstrong, 1987) and 2,222 ±13 Ma (Cornell et al, 1996).

A considerable portion of the upper parts of the stratigraphy was eroded during Dwyka glaciation and redeposited as tillite (Visser, 1971) during the Cretaceous era. The entire, folded sequence was later truncated by Tertiary erosion and a thick blanket of calcrete, dolocrete, clays and pebble layers of the Kalahari group were deposited unconformably over older lithologies.

Stratigraphy

Iron ore at Kolomela is associated with the chemical and clastic sediments of the Proterozoic Transvaal 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 Kolomela local stratigraphy is illustrated in **Figure 15**.

Ancillary Reserve and Resource information per operation cont.

Kolomela cont.

Geological outline cont.

Stratigraphy cont.

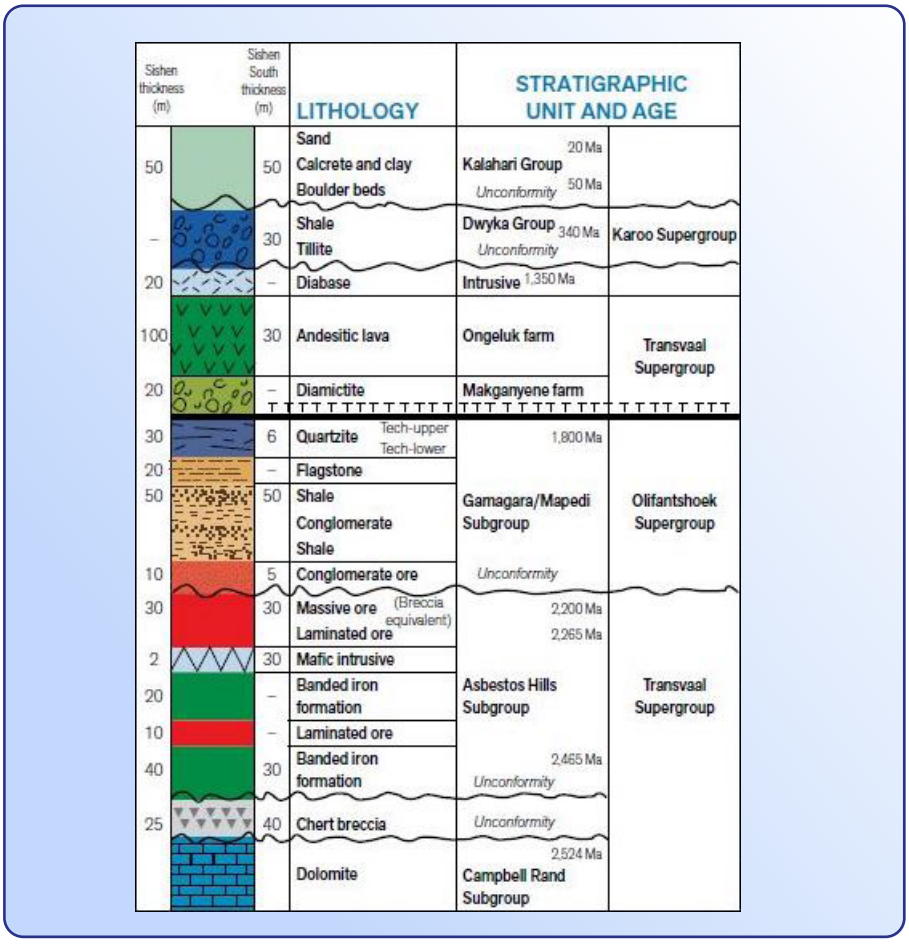


Figure 15: Simplified stratigraphic column depicting the Kolomela local geology

The Transvaal Supergroup lithologies were deposited on a basement of Archaean granite gneisses and greenstones, and/or lavas of the Ventersdorp Supergroup. In the Sishen-Postmasburg region, the oldest rocks of the Transvaal Supergroup form a carbonate platform sequence (dolomites with minor limestone, chert and shale) known as the Campbell Rand Subgroup. The upper part of the Transvaal Supergroup comprises a BIF unit, the Asbestos Hills Subgroup, which has been conformably deposited on the carbonates. In places, the upper portion of the BIF has been supergene-enriched to Fe ≥ 60%. The iron ore/BIF 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.

Iron ore at Kolomela 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 have 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.

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.

Ancillary Reserve and Resource information per operation cont.

Kolomela cont.

Geological outline cont.

Stratigraphy cont.

A thick sequence of younger clastic sediments (shales, quartzites and conglomerates) belonging to the Gamagara Subgroup unconformably overlies the BIFs. 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 represent 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 BIFs. 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 redeposited as tillite during Permo-Carboniferous 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.

Tectonic setting

Structurally, Kolomela 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 have 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.

Local geology

Four distinct high-grade iron ore types have been described at Kolomela in the various separate iron ore deposits:

- High-grade (Fe-rich) laminated ore, which constitutes the main ore type and comprises alternating micro bands of high-lustre haematite with equally thin, porous bands of lower-lustre haematite and specularite. The primary lamination of the precursor BIF is still preserved, suggesting supergene enrichment (*in situ* replacement) of silica by iron.
- High-grade (Fe-rich) clastic-textured ore, comprising alternating haematite and specularite layers, thicker than those of the laminated ore and characterised by distorted, wavy bedding occurs as lenses and massive units.
- High-grade (Fe-rich) collapse breccia-type ore, comprising angular fragments of laminated and clastic-textured ore in chaotic arrangement. The fragments are cemented by fine-grained specularite and haematite. The brecciation is probably as a result of karstification of the underlying dolomites, i.e. the collapse breccia ore is the product of sudden, brittle collapse of laminated and clastic-textured ores into underlying solution cavities and is preserved in deep sinkhole structures.
- High-grade (Fe-rich) conglomeratic ore, comprising poorly sorted, rounded to sub-rounded haematite pebbles and clasts in a ferruginised matrix representing, which usually occurs very localised and is considered to represent ferruginised Gamagara conglomerates.
- In addition, material defined in the geological models with an *in situ* 50% ≤ Fe < 61%, comprising ferruginised BIF, shale, conglomerates and collapse breccia material, is termed medium-grade ore.

The proportion of high-grade ore to medium-grade ore for the inclusive Mineral Resources as of 31 December 2023 is 87 to 13.

Ancillary Reserve and Resource information per operation cont.

Kolomela cont.

Geological outline cont.

Local geology cont.

The high- and medium-grade Mineral Resources have been converted to Ore Reserves for four (Leeuwfontein, Kapstevel North (and satellite extension) and Kapstevel South) of the eight deposits identified within the Kolomela mining right area in the 2023 LoAP. For the remaining deposits, i.e. Ploegfontein and the smaller Wolhaarkop and Welgevonden North and Central deposits, only Mineral Resources have been declared, while no Mineral Resources have been declared for the Heuningkranz deposit (**Figure 16**).

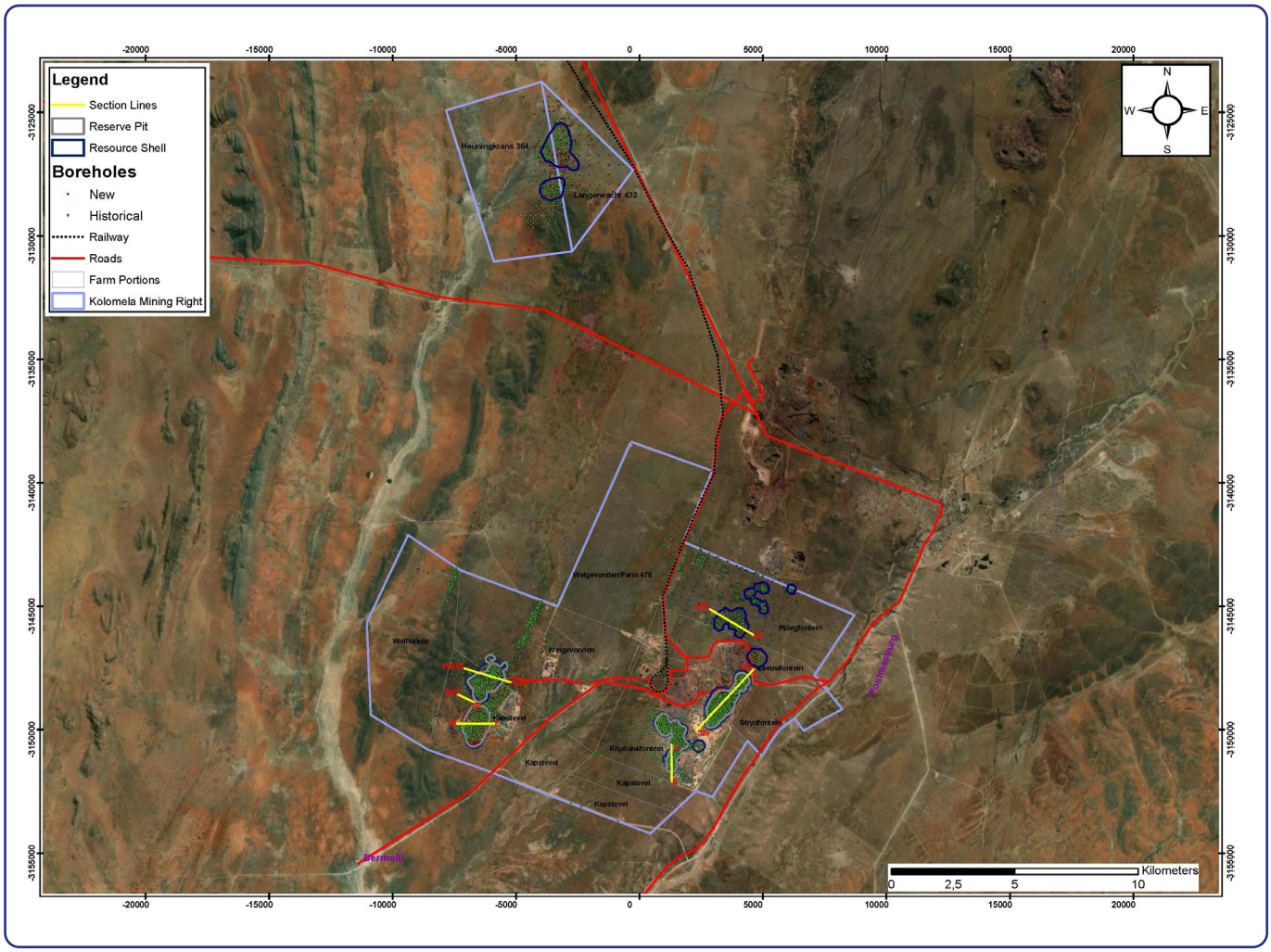


Figure 16: Kolomela mining right area

Geological interpretations have been derived from validated borehole data comprising 9,986* boreholes (3,598 exploration and 6,388 grade control boreholes). Although new data has been added and the Kolomela geological models have been updated in 2023, the business decision taken to report the 2023 Mineral Resources by way of depleting the 2022 geological models (mine planning to derive final outcome of margin protection business expectation still in progress for Kolomela), means that no new borehole data is reported for Kolomela for 2023.

* The number of Kolomela boreholes reported in 2022 ORMR was incorrect and represented the previous geological model instead of the 2022 geological model.

Ancillary Reserve and Resource information per operation cont.

Kolomela cont.

Geological outline cont.

Local geology cont.

The geometry of the different ore bodies is depicted via cross-sections taken through the 3D solids models of the various ore bodies:

- Cross-section CD (**Figure 17**) as referenced in plan (**Figure 16**) (southwest to northeast cross-section through the Leeuwfontein ore body)
- Cross-section EF (**Figure 18**) as referenced in plan (**Figure 16**) (northwest to southeast cross-section through the Klipbankfontein ore body)
- Cross-section KL (**Figure 19**) as referenced in plan (**Figure 16**) (west-northwest to east-southeast cross-section through the Kapstevel North ore body - pit topography indicated by yellow line)
- Cross-section GH (**Figure 20**) as referenced in plan (**Figure 16**) (west to east cross-section through the Kapstevel South ore body)
- Cross-section IJ (**Figure 21**) as referenced in plan (**Figure 16**) (west-northwest to east-southeast cross-section through the Kapstevel Satellite ore body)
- Cross-section AB (**Figure 22**) as referenced in plan (**Figure 16**) (northwest to southeast cross-section through the Ploegfontein ore body)

The vertical scale has been exaggerated in all the cross-sections, for illustration purposes, resulting in ore body dip angles appearing steeper than actual.

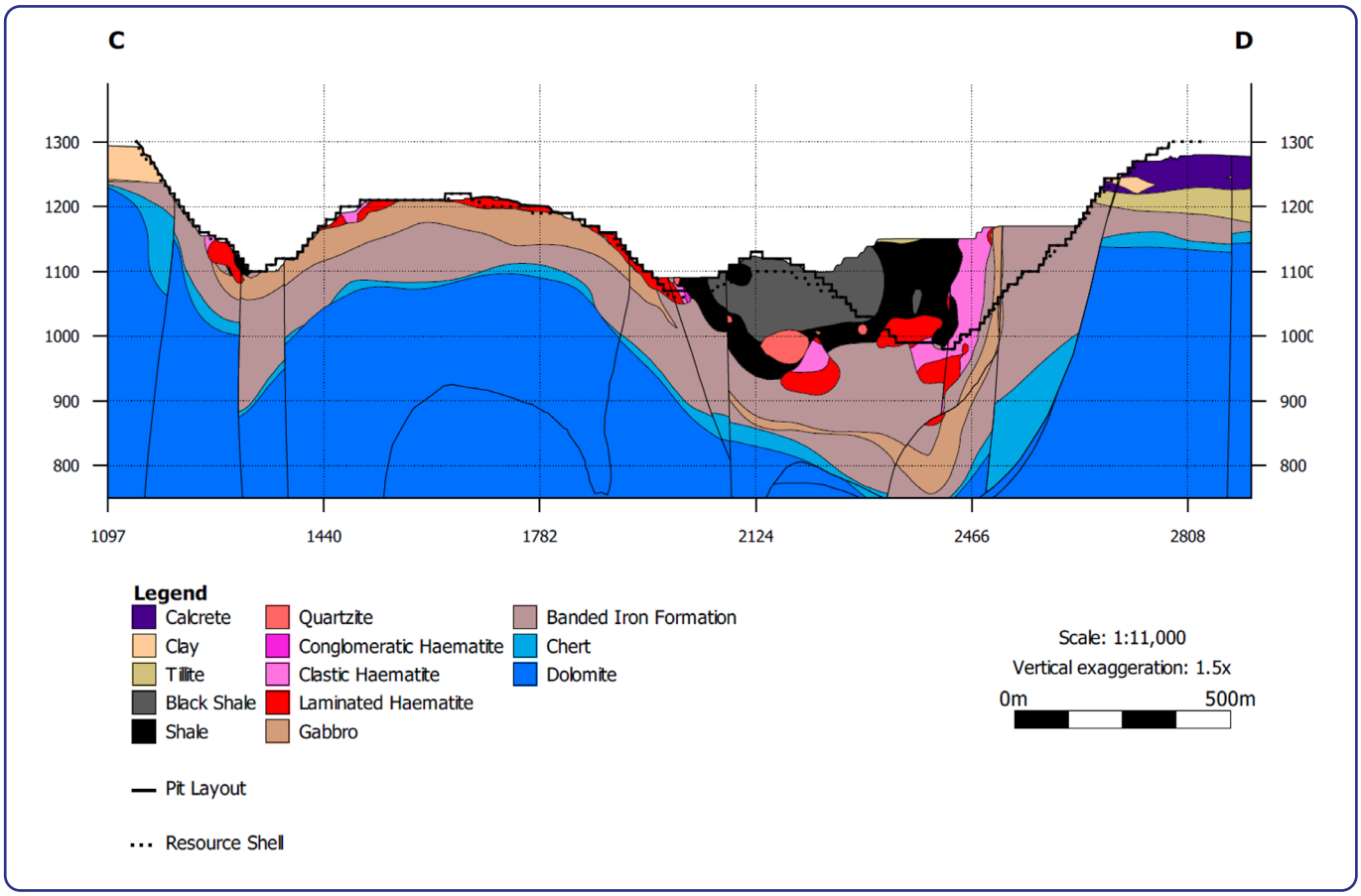


Figure 17: SW-NE cross-section (line CD in **Figure 16**) through the Leeuwfontein deposit

Ancillary Reserve and Resource information per operation cont.

Kolomela cont.

Geological outline cont.

Local geology cont.

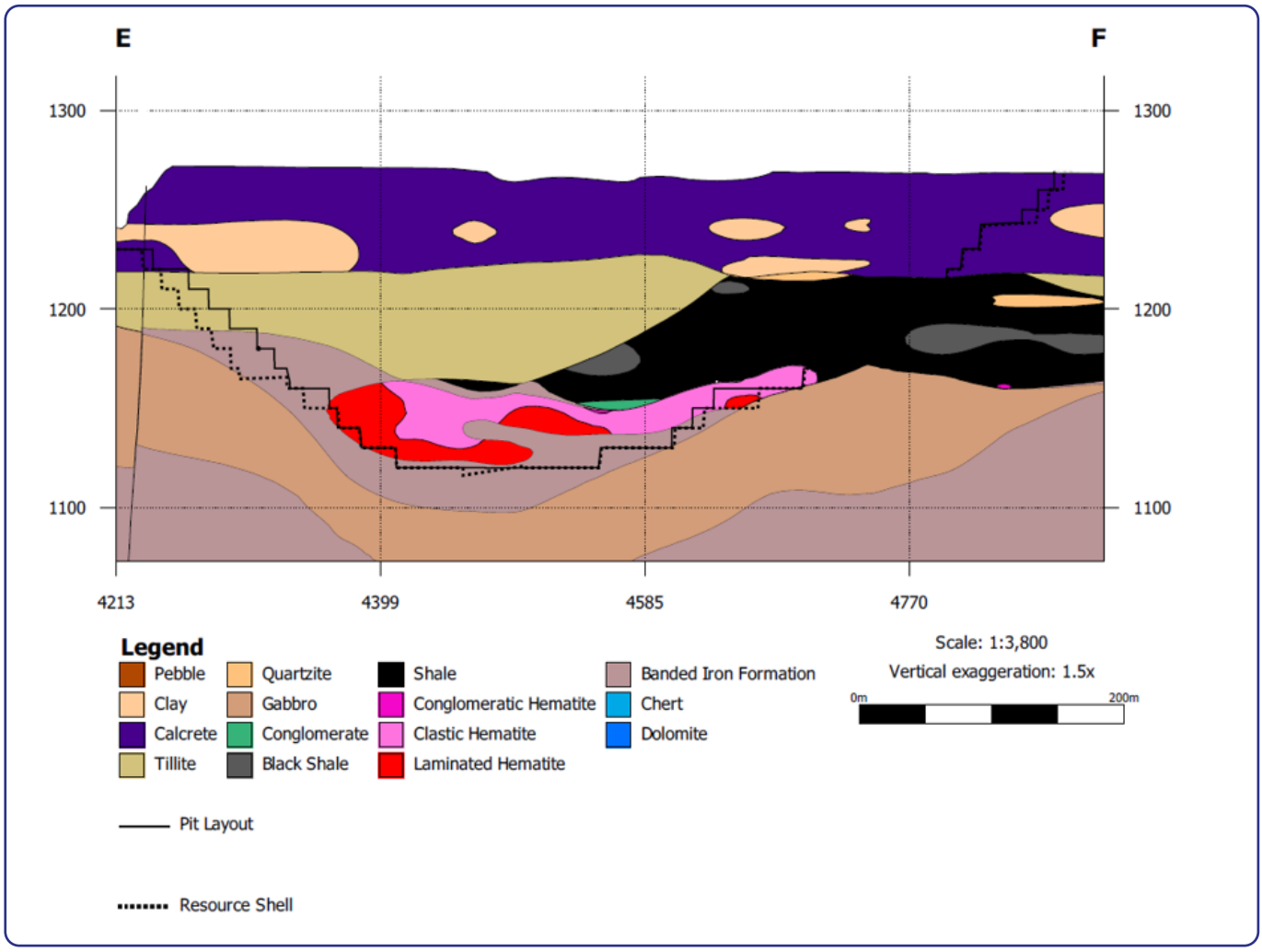


Figure 18: NW-SE cross-section (line EF in **Figure 16**) through unmined portion of Klipbankfontein deposit (mining in this pit has been halted pending the outcome of the income margin protection mine planning work)

Ancillary Reserve and Resource information per operation cont.

Kolomela cont.

Geological outline cont.

Local geology cont.

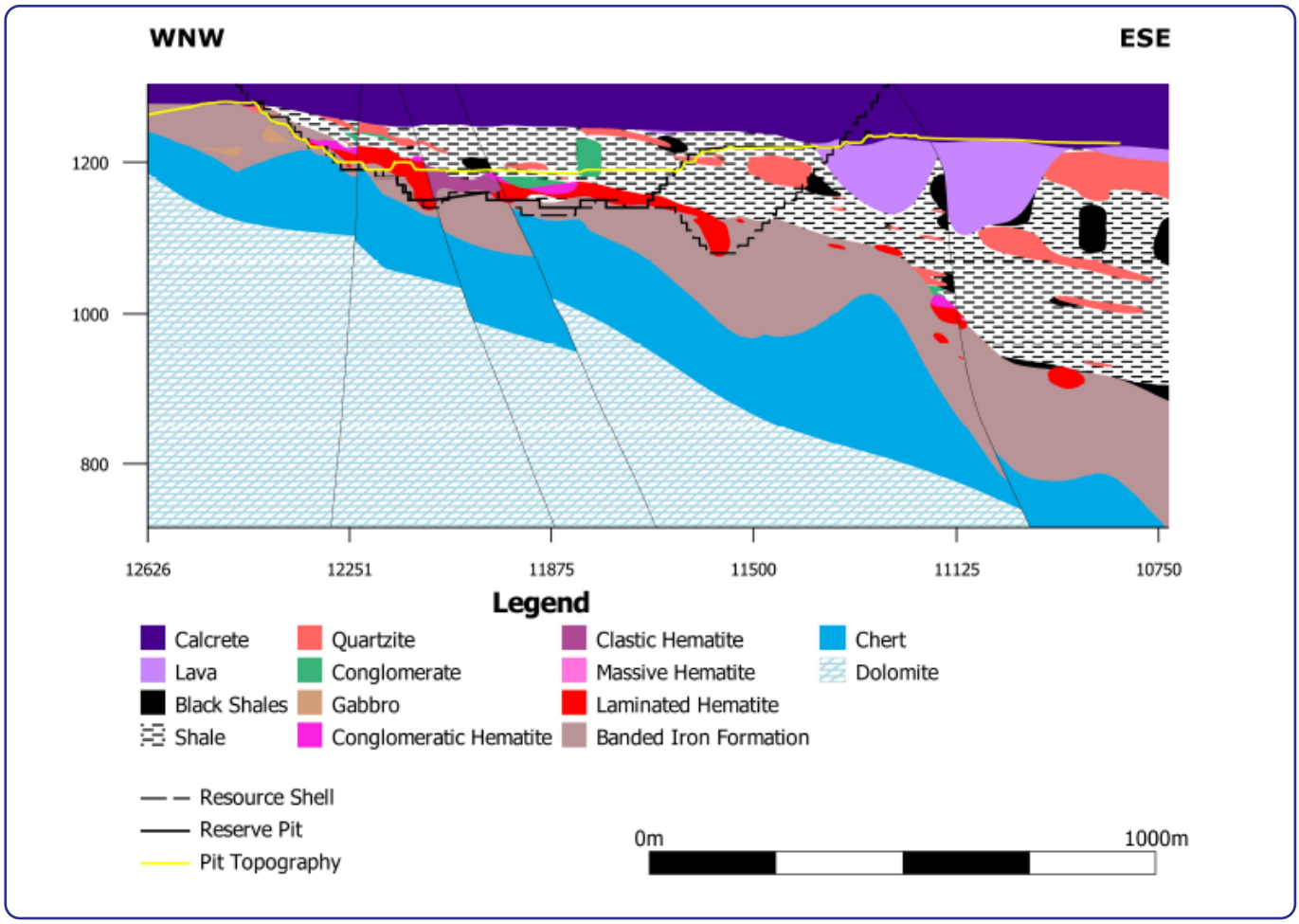


Figure 19: WNW-ESE cross-section (line KL in **Figure 16**) through the Kapstevel North deposit (yellow line represents the pit topography)

Ancillary Reserve and Resource information per operation cont.

Kolomela cont.

Geological outline cont.

Local geology cont.

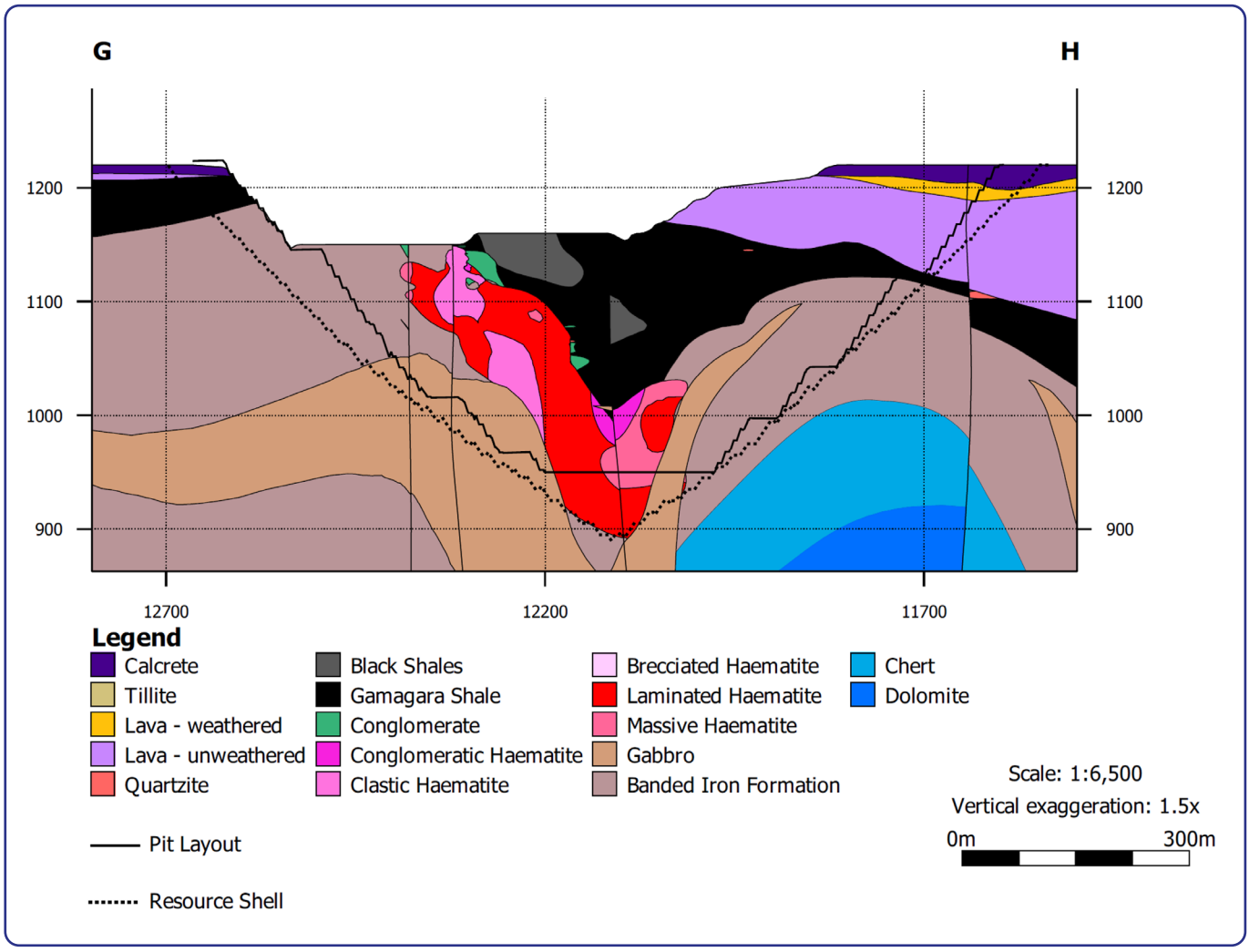


Figure 20: W-E cross-section (line GH in **Figure 16**) through the Kapstevel South deposit

Ancillary Reserve and Resource information per operation cont.

Kolomela cont.

Geological outline cont.

Local geology cont.

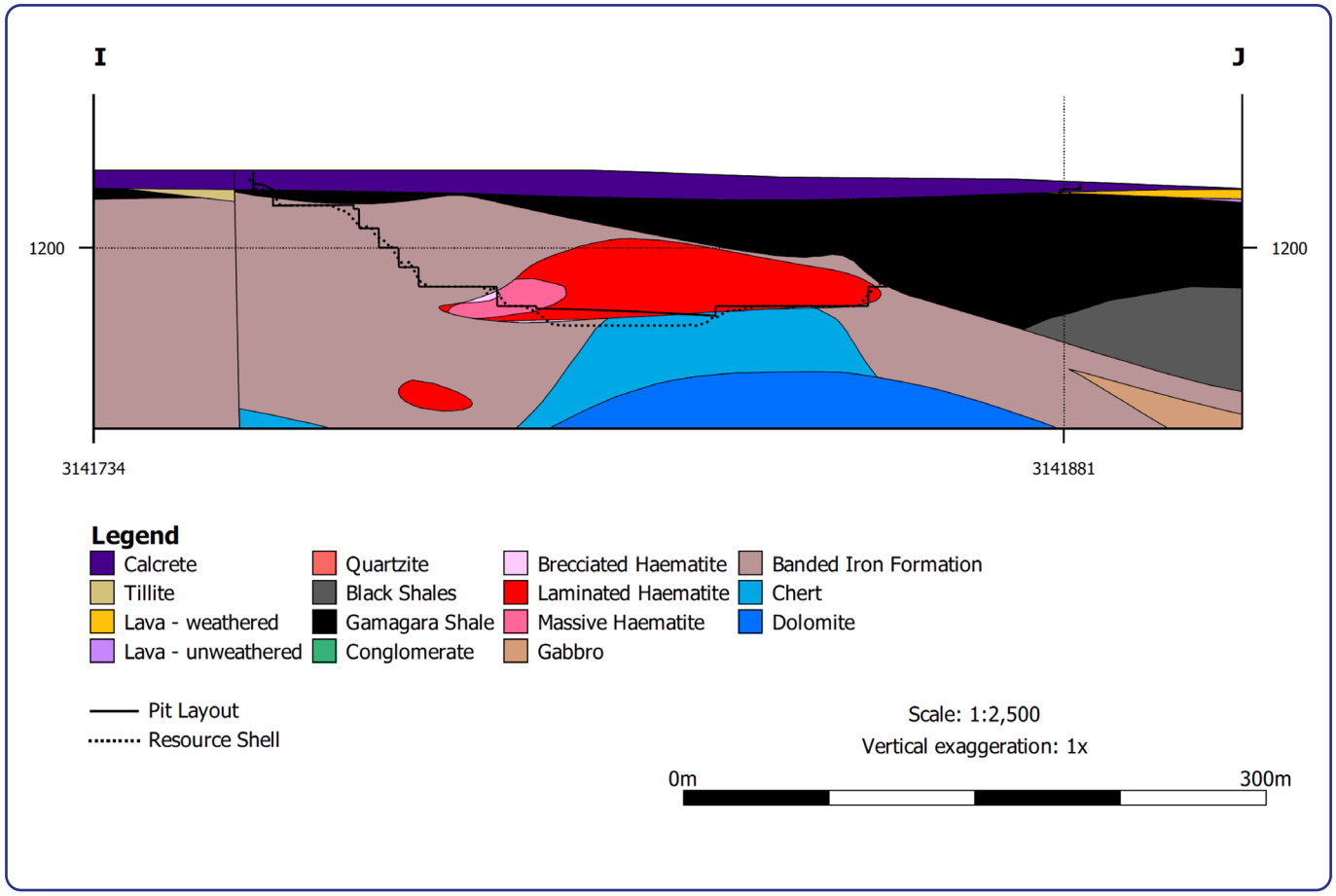


Figure 21: WNW-ESE cross-section (line IJ in **Figure 16**) through the Kapstevel Satellite deposit

Ancillary Reserve and Resource information per operation cont.

Kolomela cont.

Geological outline cont.

Local geology cont.

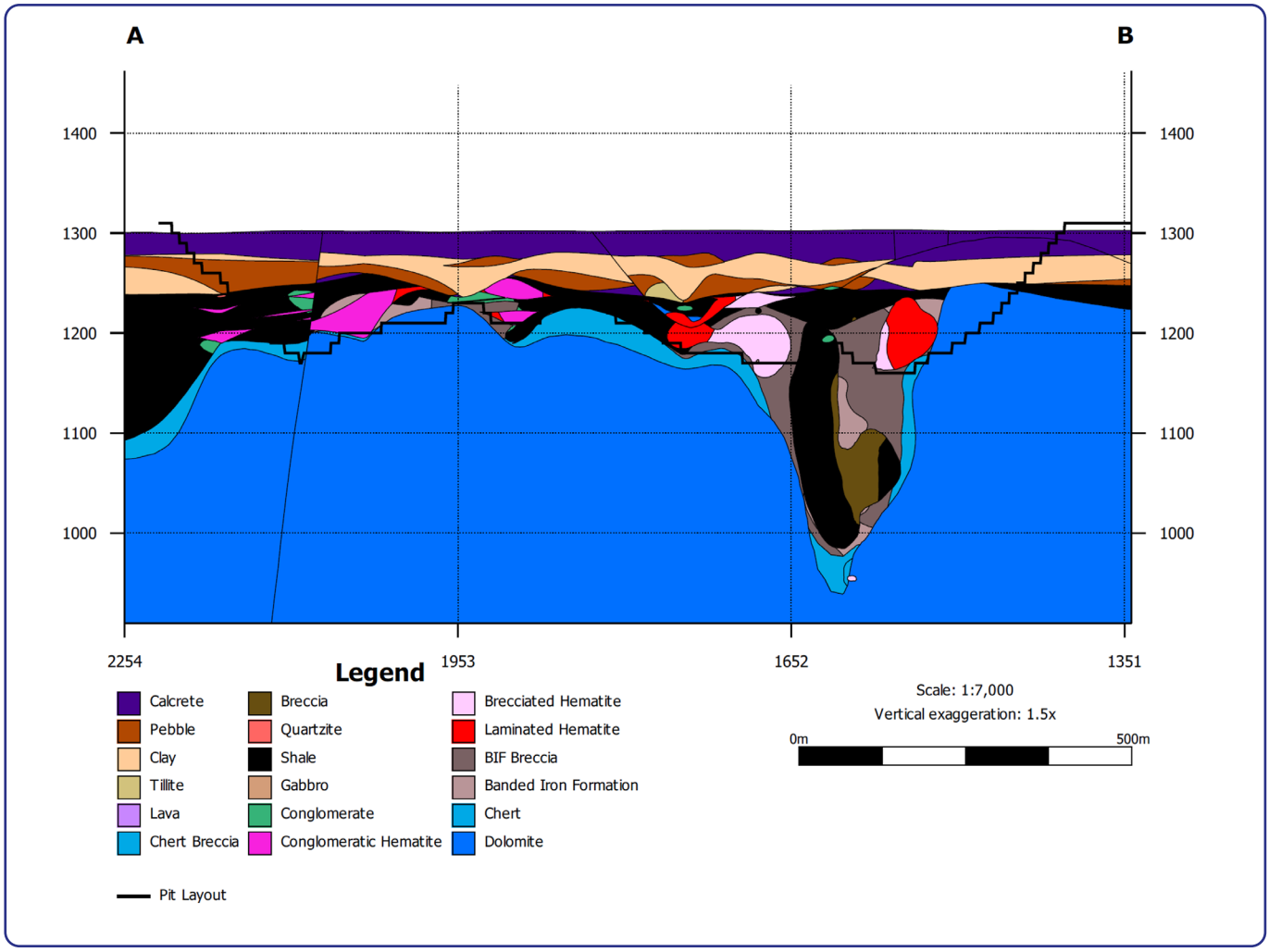


Figure 22: NW-SE cross-section (line AB in **Figure 16**) through the Ploegfontein deposit

Ancillary Reserve and Resource information per operation cont.

Kolomela cont.

Operational outline

Kolomela has originally been designed as a direct shipping ore operation, where conventional open-pit drilling and blasting, shovel loading and truck-hauling mining processes are applied to generate plant feed. A modular small-scale DMS plant was commissioned in 2016 and is scheduled to contribute 14% of the total Saleable Product as per the 2023 LoAP through the treatment of medium-grade ore material. The combined run-of-mine capacity of the processing facilities is 15.0 Mtpa.

In 2023, ore was loaded and hauled from the Leeuwfontein and Kapstevel North pits. The 2023 LoAP also plans mining of the Kapstevel South ore body (waste stripping commenced in 2020) and the remaining Ore Reserves in the Klipbankfontein ore body (mining activities in Klipbankfontein have been temporarily halted in 2023 pending the outcome of the income margin protection mine planning work currently in progress, in line with Kumba's business expectations).

The iron ore is loaded according to blend (grade) requirements and transported to designated run-of-mine finger stockpiles dependent on the Ore Control Model estimated Fe and contaminant grades of the load. The primary crushing and screening DSO plant is fed from the finger stockpiles in blend ratios ensuring that the Lump and Fine product is suitable for client uptake (considering subsequent blending with Sishen product at the Saldanha harbour stock yard).

The 2023 LoAP schedule iron ore product type breakdown is:

- 21% Premium Lump to 36% Standard Lump to 43% Standard Fines from 2024 to 2028, and
- 57% Standard Lump to 43% Standard Fines from 2029 to 2034.

Product is railed to the Saldanha export harbour via the Transnet (state-owned enterprise) Sishen-Saldanha iron ore export line. The product is marketed to SIOC's current overseas client base as part of the SIOC marketing strategy and is blended with Sishen's product. .

Kolomela's key operational parameters are summarised in **Table 10**. The noticeable difference in the actual versus forecasted production figures for 2023 is the result of a scale down in production to accommodate for the logistical constraint.

Table 10: Kolomela operational outline summary

Key details	2023 **7+5 forecast** (actual)	2022 **8.4 forecast** (actual)
% Ownership (AA plc)	**52.5**	**52.5**
% Ownership (KIO)	**75.4**	**75.4**
Commodity	**Iron Ore**	**Iron Ore**
Country	**Republic of South Africa**	**Republic of South Africa**
Mining method(s)	**Open pit - Conventional**	**Open pit - Conventional**
Beneficiation method(s)	**DSO (crushing and screening) and small-scale DMS**	**DSO (crushing and screening) and small-scale DMS**
Reserve life* (years)	**11**	**12**
Estimated Saleable Product Lump : Fine ratio	**57 : 43**	**57 : 43**
Saleable Product design capacity (Mtpa)	**15**	**15**
Forecasted[$] and (actual) run-of-mine production (Mt dry), including modified Inferred Mineral Resources	**11.7** (10.9 actual) **(including 0.1 Mt modified Inferred Mineral Resources)**	**11.7 (11.5 actual)** **(including 0.2 Mt modified Inferred Mineral Resources)**
Forecasted[$] and (actual) Saleable Product (Mt dry), including modified beneficiated Inferred Mineral Resources	**11.1** (10.3 actual) **(including 0.1 Mt modified beneficiated Inferred Mineral Resources)**	**11.2 (10.7 actual)** **(including 0.2 Mt modified beneficiated Inferred Mineral Resources)**
Forecasted[$] and (actual) waste production (Mt dry)	**52.5** (53.0 actual)	**54.9 (47.5 actual)**
Forecasted[$] and (actual) railed product (Mt dry)	**10.0** (10.2 actual)	**11.5 (10.3 actual)**
Overall planned stripping ratio (LoAP)	**4.4 : 1**	**4.4 : 1**
Product types	**Premium Lump, standard Lump and standard Fines**	**Premium Lump, standard Lump and standard Fines**
Mining right expiry date	**17 September 2038**	**17 September 2038**

* Reserve life represents the period in years in the approved LoAP for scheduled processing of Proved and Probable Ore Reserves, where the Proved and Probable Ore Reserves makes up >25% of the year's run-of-mine. Should the scheduled LoAP years exceed the mining right expiry date, the reserve life is calculated to exclude the years post the expiry date.

[$] The forecasted figures align with the year-on-year Reserve and Resource movement figures as the site Reserve and Resource Statements are reported before year end to allow for sufficient internal (Kumba) and independent internal (Anglo) peer reviews of the Resources and Reserves.

Ancillary Reserve and Resource information per operation cont.

Kolomela cont.

Operational outline cont.

For 2023

The total tonnes extracted from three pits (Leeuwfontein, Kapstevel North and Kapstevel South) at Kolomela increased by 10% from 59.1 Mt (11.5 Mt ex-pit ore and 47.5 Mt ex-pit waste) in 2022 to 64.8 Mt (11.8 Mt ex-pit ore and 53.0 Mt ex-pit waste) in 2023. A total of 10.9 Mt (10.8 Mt Ore Reserves and 0.1 Mt modified Inferred Mineral Resources) was delivered to the DSO and UHDMS plants as run-of-mine with a year-on-year run-of-mine buffer stockpile growth of 0.9 Mt.

The estimated annual ex-pit waste to ex-pit ore ratio increased from 4.0 : 1 in 2022 to 4.5: 1 in 2023 (the overall stripping ratio as per the 2023 Kolomela LoAP is 4.4 : 1).

In total, 10.3 Mt of Saleable Product (including 0.1 Mt modified beneficiated Inferred Mineral Resources) was produced on-site from the run-of-mine delivered to the crushing and screening and UHDMS plants in 2023 at an average annual yield of 94.5%, compared to 10.7 Mt in 2022. In total, 10.2 Mt of the 10.3 Mt product was railed in 2023.

Production history

Kolomela's production history of Saleable Product is summarised in **Figure 23**.

Kolomela production history (million tonnes)

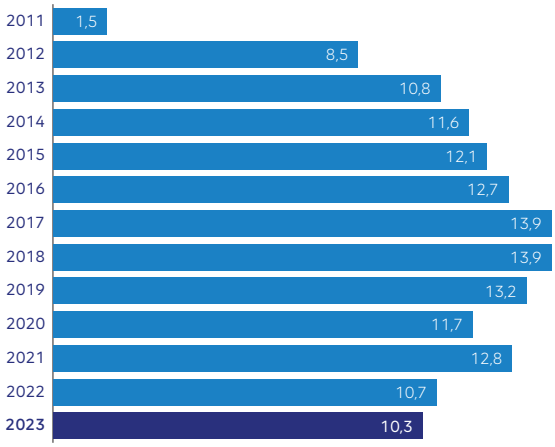


Figure 23: Kolomela production history (*actual 2023 product is 10.3 Mt)

Life-of-asset plan Saleable Product profile

The 2023 LoAP Saleable Product profile is depicted in **Figure 24**. It is a depleted (for 2023) version of the 2022 LoAP, with tonnages not mined as scheduled in 2023 added to the last year of the profile.

Kolomela mine – 2023 LoAP Saleable Product schedule (tonnes kt)

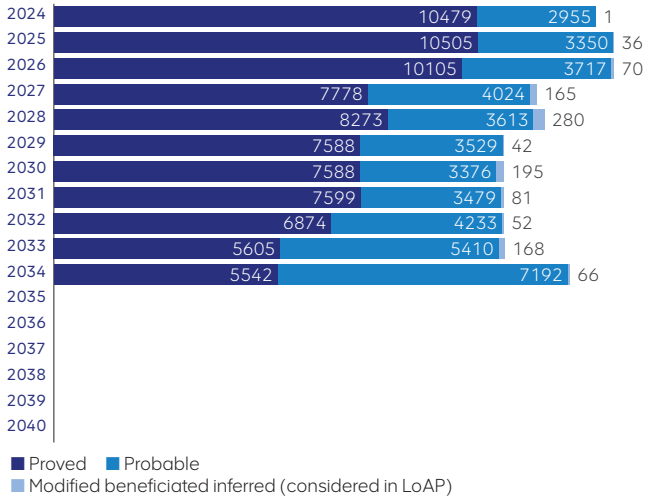


Figure 24: Kolomela's 2023 LoAP Saleable Product profile (including modified beneficiated Inferred Mineral Resources)

Ancillary Reserve and Resource information per operation cont.

Kolomela cont.

Ore Reserve ancillary information

The Kolomela Ore Reserve ancillary information is summarised in **Table 11A** (background information) and **Table 11B** (Leeuwfontein Ore Reserve estimation parameters – as an example).

Table 11A: Kolomela's 2023 versus 2022 Ore Reserve background information

Kolomela	2023	2022
Location		
Country	Republic of South Africa	
Province	Northern Cape	
Ownership		
Sishen Iron Ore Company Proprietary Limited	100%	100%
Kumba Iron Ore Limited	75.4%	75.4%
AA plc	52.5%	52.5%
Operational status		
Operation status	Steady-state	Steady-state
Mining method	Open cast (conventional drilling and blasting and truck and shovel operation)	Open-pit (conventional drilling and blasting and truck and shovel operation)
Beneficiation method	DSO (crushing and screening of high grade run-of-mine) as well as DMS plant for medium-grade run-of-mine	DSO (crushing and screening of high grade run-of-mine) as well as DMS plant for medium-grade run-of-mine
Average annual Saleable Product in LoAP (Mtpa)	11.5**	11.2
Average annual supply to domestic market in LoAP (Mtpa)	0	0
Average annual supply to export market in LoAP (Mtpa)	11.5***	11.2
Number of products	Three product types (Premium Lump, standard Lump and standard Fines)	Three product types (Premium Lump, standard Lump and standard Fines)
Governance		
Code	THE SAMREC CODE – 2016 EDITION	
Kumba policy	https://www.angloamericankumba.com/~/media/Files/A/Anglo-American-Group/Kumba/sustainability/approach-and-policies/kumba-mineral-resource-and-ore-reserve-reporting-policy.pdf	
AA plc requirements document	AA_RD_22-25 - Version 14 [2023] - (Exploration Results, Mineral Resources and Ore Reserves reporting requirements document)	AA_RD_22-25 - Version 13 [2022] - (Exploration Results, Mineral Resources and Ore Reserves reporting requirements document)
KIO reporting protocols	KIO Reserve classification guideline (Version 1)	
KIO reporting template	Ore Reserve (and Saleable Product) reporting template (2023)	Ore Reserve (and Saleable Product) reporting template (2022)

** Increase in planned average annual Saleable Product output a result of Kolomela not achieving its annual Saleable Product output targets the last two years, primarily as a result of the Transnet rail and port constraint.
*** The planned average annual supply to the export market is at risk because of the Transnet rail volumes not achieving planned volumes as contracted.

Ancillary Reserve and Resource information per operation cont.

Kolomela cont.

Ore Reserve ancillary information cont.

Table 11A: Kolomela's 2023 versus 2022 Ore Reserve background information cont.

Kolomela	2023	2022
Reporting 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 KIO, all Ore Reserves are spatially constrained by practical pit layouts, mining engineered from pit shells that spatially define "current economically mineable". The three-dimensional geological block model(s) is converted into a three-dimensional mining block model considering a site-specific practical mineable selective mining unit. Furthermore, protocols ensure that KIO's operations 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 Lerchs-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 an LoAP 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.	
Scheduled run-of-mine metric tonnes (dry/wet)	Dry	
Tonnage calculation	Tonnages are calculated from the LoAP schedule, originating from the mining block models, and are modified tonnages considering geological losses, the effect of dilution, mining losses, mining recovery efficiencies and design recovery efficiencies to derive the run-of-mine tonnages delivered to the crushing and screening and DMS plants.	
Fe grade	Ore Reserve % Fe grades reported represent the weighted average grade of the "plant feed" or run-of-mine material and take into account all applicable modifying factors.	
Cut-off grade (Fe)	50% (includes diluting material)	50% (includes diluting material)
Ore type	Haematite ore	Haematite ore
Optimised pit shell revenue factor	1.0	1.0
LoAP scheduling		
Software	OPMS	OPMS
Method	Product tonnage and grade target driven to achieve required Client product specifications	Product tonnage and grade target driven to achieve required Client product specifications
Stripping strategy	Deferred waste stripping strategy	Deferred waste stripping strategy
Reserve life years	11	12
LoAP run-of-mine tonnes (including modified Inferred) (expressed in million tonnes)	134.0	142.2
Overall average stripping ratio (including Inferred Mineral Resources)	4.4 : 1	4.4 : 1
Production data cut-off date (date where after short-term plan instead of actual figures are used to estimate the annual run-of-mine and Saleable Product production for the mine until 31 December of year of reporting)	31 July 2023	30 August 2022
Topography and pit progression assigned	31 December 2023 (planned pit boundary as per August 2023 medium-term plan)	31 December 2022
Reserve schedule ID (Schedule file name + extension)	LTP Schedule_Sc10_20102022v4	LTP Schedule_Sc10_20102022v4
Reserve schedule completion date	20 October 2022 (depleted for 2023)	20 October 2022

Ancillary Reserve and Resource information per operation cont.

Kolomela cont.

Ore Reserve ancillary information cont.

Table 11B: Kolomela's 2023 versus 2022 Leeuwfontein Ore Reserves estimation parameters
(similar tables exist for the, Klipbankfontein, Kapstevel North and Kapstevel South mining areas)

Leeuwfontein	**2023**	2022
Estimation		
Mining block model name	LF_smu101010LOAPv3	LF_smu101010LOAPv3
Smallest mining unit	10m(X) x 10m(Y) x 10m(Z)	10m(X) x 10m(Y) x 10m(Z)
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)
Modification		
Modifying factors		
Geological loss (%)	0	0
Dilution (%)	7*	5
Mining loss (%)	-2*	-5
Mining recovery efficiency (%)	91	95
Design recovery efficiency (%)	100	100
Ore unutilised in 2021 LoAP (%)	0	-5
Yield (%)	94.3	94.3
Estimator		
Reserve estimator	Sthembile Nkambule	Sthembile Nkambule
Reserve estimator status	Internal Specialist	Internal Specialist
Estimator employer	Sishen Iron Ore Company Proprietary Limited	Sishen Iron Ore Company Proprietary Limited

* Changes to dilution and mining loss modifying factors result of depletion only.

Ancillary Reserve and Resource information per operation cont.

Kolomela cont.

Ore Reserve ancillary information cont.

Geotechnical considerations (Leeuwfontein example)

The geotechnical global stability analysis of the Leeuwfontein pit layout (which considered prescribed lithological rock mass derived pit slope angle input) indicated that the design of the pit meets the design criteria for factor of safety ≥1.3 **(Figure 25)**.

Leeuwfontein pit layout stability analysis

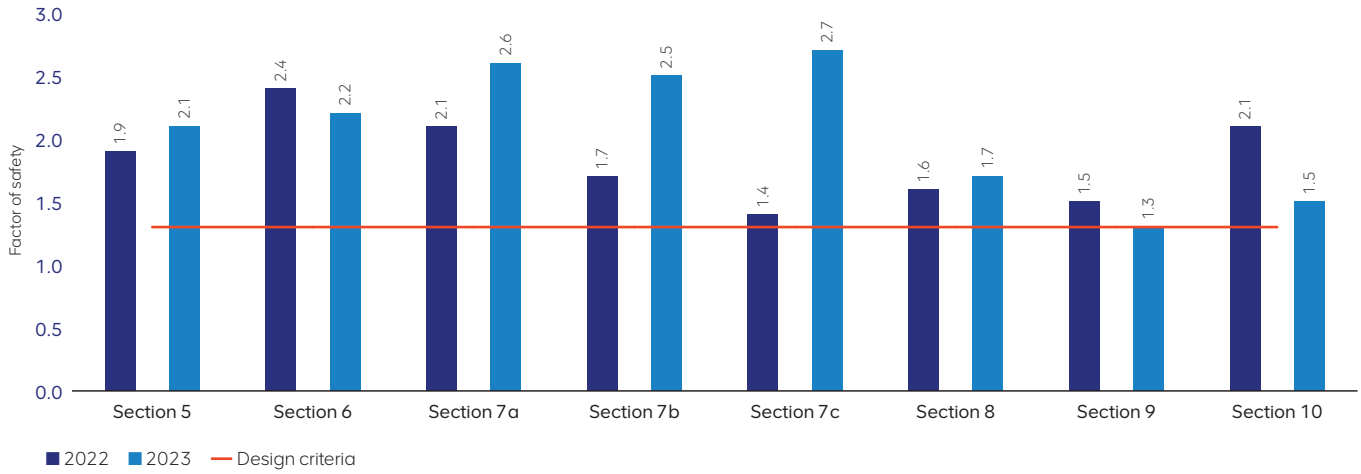


Figure 25: Leeuwfontein pit layout stability analysis

Leeuwfontein pit groundwater abstraction and monitoring

The Leeuwfontein and Klipbankfontein pits are hydrologically connected, and abstraction is mainly in Leeuwfontein to dewater both pits. **Figure 26** depicts the production and monitoring boreholes.

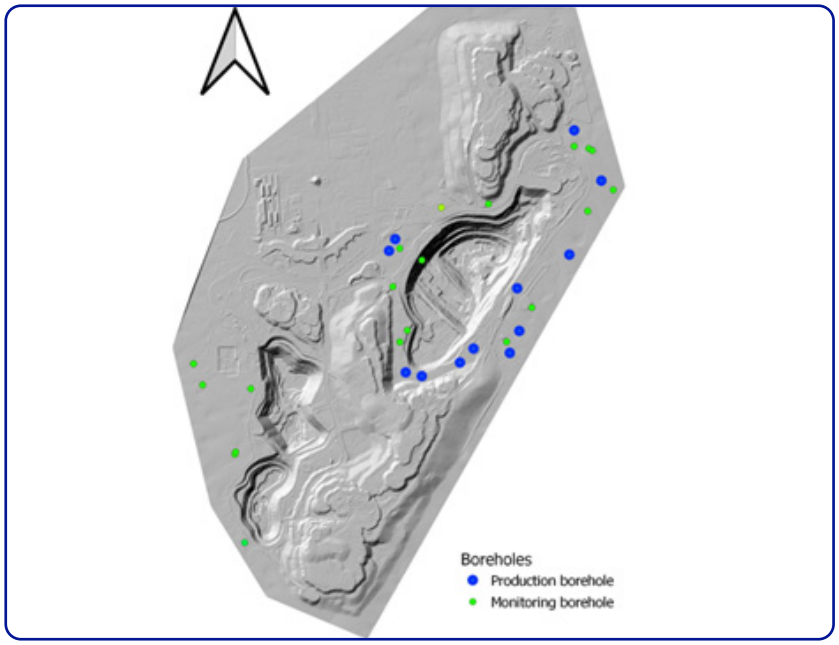


Figure 26: Leeuwfontein and Klipbankfontein pits' groundwater production and monitoring boreholes

Ancillary Reserve and Resource information per operation cont.

Kolomela cont.

Mineral Resource ancillary information

The Kolomela Mineral Resource ancillary information is summarised in **Table 12A** (background information) and **Table 12B** (Leeuwfontein Mineral Resource estimation parameters – as an example).

Table 12A: Kolomela's 2023 versus 2022 Mineral Resource background information

Kolomela	2023	2022
Location		
Country	Republic of South Africa	Republic of South Africa
Province	Northern Cape	Northern Cape
Ownership (%)		
Sishen Iron Ore Company Proprietary Limited	100%	100%
Kumba Iron Ore Limited	75.4%	75.4%
Anglo American plc	52.5%	52.5%
Security of tenure		
Number of applicable mining rights	1	1
Mining right status	Registered (deeds of amendments registered)	Registered (deeds of amendments registered)
Mining right expiry date(s)	17 September 2038	17 September 2038
Exploration status		
Exploration type	Geological confidence (on-mine)	Geological confidence (on-mine)
Exploration phase	In execution	In execution
Ore type	Haematite ore	Haematite ore
Governance		
Code	THE SAMREC CODE – 2016 EDITION	
Kumba policy	https://www.angloamericankumba.com/~/media/Files/A/Anglo-American-Group/Kumba/sustainability/approach-and-policies/kumba-mineral-resource-and-ore-reserve-reporting-policy.pdf	
AA plc requirements document	AA_RD_22-25 - Version 14 [2023] - (Exploration Results, Mineral Resources and Ore Reserves reporting requirements document)	AA_RD_22-25 - Version 13 [2022] - (Exploration Results, Mineral Resources and Ore Reserves reporting requirements document)
KIO reporting protocols	KIO Geological Confidence Classification Guideline (Version 5)	KIO Geological Confidence Classification Guideline (Version 5)
KIO reporting template	Mineral Resource (and additional Mineralisation) reporting template (2023)	Mineral Resource (and additional Mineralisation) reporting template (2022)
Reporting method		
Approach	Mineral Resources are reported exclusive of Ore Reserves and not factoring in attributable ownership and only if: (1) spatially modelled; (2) spatially classified; (3) spatially constrained in terms of reasonable and realistic prospects for eventual economic extraction (occurring within an RPEEE-defined envelope, in other words not all mineral occurrences are declared as Mineral Resources); (4) declared within (never outside) notarially executed tenement boundaries	
In situ metric tonnes (dry/wet)	Dry	Dry
Tonnage calculation	Tonnages are added from cells in geological block model of which the centroids intersect the relevant geological ore domains in the solids models which occur inside the resource shell. The volume of each ore cell is multiplied with the estimated relative density of the same cell	Tonnages are added from cells in geological block model of which the centroids intersect the relevant geological ore domains in the solids models which occur inside the resource shell. The volume of each ore cell is multiplied with the estimated relative density of the same cell
Fe grade	Weighted average above cut-off grade	Weighted average above cut-off grade
Fe calculation	Tonnage-weighted mean of the estimated *in situ* Mineral Resource Fe grades contained within geological block models, constrained by the relevant Resource geological ore domains and RPEEE resource shell	Tonnage-weighted mean of the estimated *in situ* Mineral Resource Fe grades contained within geological block models, constrained by the relevant Resource geological ore domains and RPEEE resource shell
RPEEE		
Cut-off grade	50% Fe	50% Fe
Resource shell revenue factor	1.6	1.6

Ancillary Reserve and Resource information per operation cont.

Kolomela cont.

Mineral Resource ancillary information cont.

Table 12B: Kolomela's 2023 versus 2022 Leeuwfontein Mineral Resources estimation parameters – as an example

(similar tables exist for the Klipbankfontein, Kapstevel North, Kapstevel South, Ploegfontein, Welgevonden North and Central and Wolhaarkop ore bodies but are not stated in this report)

Leeuwfontein geological model	2023	2022
Input data		
Borehole type	Exploration core and percussion as well as Ore Control reverse circulation borehole lithological logs and associated chemical analyses	
Relative density measurement	Minidense (pre-2010) and Picnometer analyses on pulp sub-samples (2010 to present)	
KIO QA/QC protocol	KIO QC Protocol for exploration drilling sampling and sub sampling (version 10)	KIO QC Protocol for exploration drilling sampling and sub sampling (version 10)
Primary laboratory	Anglo American Research Division of Anglo Operations Limited Chemistry Laboratory (Company registration number: 1921/006730/07)	Anglo American Research Division of Anglo Operations Limited Chemistry Laboratory (Company registration number: 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 until 30 April 2026)	Accredited under International Standard ISO/IEC 17025:2005 by the SANAS under the Facility Accreditation Number T0051 (valid until 30 April 2026)
Borehole database software	acQuire	acQuire
Borehole database update cut-off date	31 March 2021	31 March 2021
Database validation conducted	Yes	Yes
Segmentation conducted	Yes. To allow for simplification of logged lithologies for spatial interpretation and modelling purposes	
Statistical and geostatistical evaluation		
Data compositing interval	2 m	2 m
Data compositing method	Length-weighted fixed interval downhole compositing per lithological domain. Threshold of 1.0m applied – if residual composite length is ≤ 1.0m, merge with composite above, if ≥ 1.0m residual forms separate composite*	Length-weighted average per lithology
Grade parameters evaluated	% Fe, % SiO_2, % Al_2O_3, % K_2O, % P and % Mn and % S as well as relative density	% Fe, % SiO_2, % Al_2O_3, % K_2O, % P, % Mn and % S as well as relative density
Variography updated in current year	No	No
Search parameters updated in current year	No	No
Solids modelling		
Solids modelling software	Leapfrog	Leapfrog
Input	Previous 3D implicit solids, borehole data and structural in-pit mapping	Previous 3D implicit solids, borehole data and structural in-pit mapping
Method	Implicit solids modelling for all domains	Implicit solids modelling for all domains
Domaining	Yes, by lithology and structural controls	Yes, by lithology and structural controls
Topography and pit progression assigned	31 December 2023 (planned pit boundary)	31 December 2022 (planned pit boundary)
Validation conducted	Yes (for gaps and overlaps by software queries as well as honouring of borehole contacts) and by standard software validation tools	

Ancillary Reserve and Resource information per operation cont.

Kolomela cont.

Mineral Resource ancillary information cont.

Table 12B: Kolomela's 2023 versus 2022 Leeuwfontein Mineral Resources estimation parameters – as an example cont.

(similar tables exist for the Klipbankfontein, Kapstevel North, Kapstevel South, Ploegfontein, Welgevonden North and Central and Wolhaarkop ore bodies but are not stated in this report)

Leeuwfontein geological model	**2023**	2022
Grade estimation methodology		
Ore segments	High-grade ore: Ordinary Kriging Medium-grade ore: Ordinary Kriging and Simple Kriging (sparse data areas)*	Ordinary (Co-) Kriging
Waste segments	Simple Kriging (sparse data areas) and default values (assigned to areas without data)*	Simple (Co-) Kriging
Geological block modelling		
Block modelling software	Datamine	Datamine
Model type	Centroid Model	Centroid Model
Parent cell size	40m(X) x 40m(Y) x 10m(Z)	40m(X) x 40m(Y) x 10m(Z)
Minimum sub-block cell size	5m(X) x 5m(Y) x 5m(Z)	5m(X) x 5m(Y) x 5m(Z)
Cell population method		
Tonnage	Volume of lithology intersected by cell centroid and constrained by cell limits, multiplied with relative density estimate of the same lithology at same unique cell centroid position in space.	Volume of lithology intersected by cell centroid and constrained by cell limits, multiplied with relative density estimate of the same lithology at same unique cell centroid position in space.
Grade	Estimate of grade at unique cell centroid position in space applicable to total volume or tonnage constrained by the cell within a specific solids model lithological domain.*	Estimate of grade at unique cell centroid position in space applicable to total volume or tonnage constrained by the cell.
Updated geological block model ID (file name + extension)	lf022022_v1.dm	lf022022_v1.dm
Update completion date	28 February 2022	28 February 2022
Geological confidence classification		
Method summary	Scorecard applied to parent blocks in geological block model populated during first Kriging run, with blocks populated during second Kriging run classified as Inferred and remaining blocks not populated during first and second Kriging runs (populated with default values) classified as extrapolated Inferred.*	Scorecard / CP Over-ride

* Internal independent Anglo peer review of 2023 required better description during reporting.

Ancillary Reserve and Resource information per operation cont.

Kolomela cont.

Mineral Resource ancillary information cont.

Table 12B: Kolomela's 2023 versus 2022 Leeuwfontein Mineral Resources estimation parameters – as an example cont.

(similar tables exist for the Klipbankfontein, Kapstevel North, Kapstevel South, Ploegfontein, Welgevonden North and Central and Wolhaarkop ore bodies but are not stated in this report)

Leeuwfontein geological model	2023	2022
Geological confidence classification		
• Scorecard method summary	According to the *KIO Geological Confidence Classification Guideline (Version 5)*, with each cell in the 3D geological block model populated with: • Grade continuity parameters: - Fe estimate slope-of-regression (SOR) that has been indexed according to fixed SOR intervals - Sample representivity index value per borehole sample that is spatially estimated using) using the variography and search neighbourhood of the critical grade parameter, i.e. % Fe • Geometry continuity parameters: - Distance to closest borehole sample (indexed according to fixed intervals); - Variability in orebody thickness determined by intersecting orebody with close-spaced dummy boreholes (indexed according to fixed intervals) - Variability in orebody dip determined by intersecting orebody with close-spaced dummy boreholes (indexed according to fixed intervals)*	According to the 2010 KIO Mineral Resource Classification Guideline (quantitative scorecard approach) with CP judgement applied to: • identify critical factors to be used to evaluate grade and geological continuity. The critical factors increased from 10 to 12 factors in 2013 mainly in the Estimation Confidence Index. The weightings were updated for the Resource Confidence Index for Leeuwfontein, Klipbankfontein, Kapstevel North, Kapstevel South • assign weights to establish importance of each parameter • determine boundaries of calculated grade and geological continuity indices to distinguish between Measured, Indicated and Inferred Mineral Resources
• Grade continuity parameters weighting	Fe estimate SOR (50%); Sample representivity index (50%)	Fe estimate SOR (50%); Sample representivity index (50%)
• Geometry continuity parameters weighting	Distance to closest sample (33.3%), variability in ore body dimension (33.3%) and variability in ore body dip (33.3%)	Distance to closest sample (33.3%), variability in ore body dimension (33.3%) and variability in ore body dip (33.3%)
Geological confidence weighting		
• Grade continuity weighting (%)	40	40
• Geometry continuity weighting (%)	60	60
Confidence thresholds		
• Measured	≥5.5	≥5.5
• Indicated	4.5 to <5.5	4.5 to <5.5
• Inferred	<4.5	<4.5
CP over-ride		
• Measured to Indicated (Mt)	None	None
• Indicated to Inferred (Mt)	None	None
Estimator		
Resource estimator	P Letsie	P Letsie
Resource estimator status	Internal Technical Specialist	Internal Technical Specialist
Estimator employer	Sishen Iron Ore Company Proprietary Limited	Sishen Iron Ore Company Proprietary Limited

* Internal independent Anglo peer review of 2023 required better description during reporting.

Ancillary Reserve and Resource information per operation cont.

Kolomela cont.

Mineral Resource ancillary information cont.

Leeuwfontein high-grade ore *in situ* Fe grade

The *in situ* Fe (iron) estimates of the Leeuwfontein high-grade ore inside the pit layout is depicted in **Figure 27**.

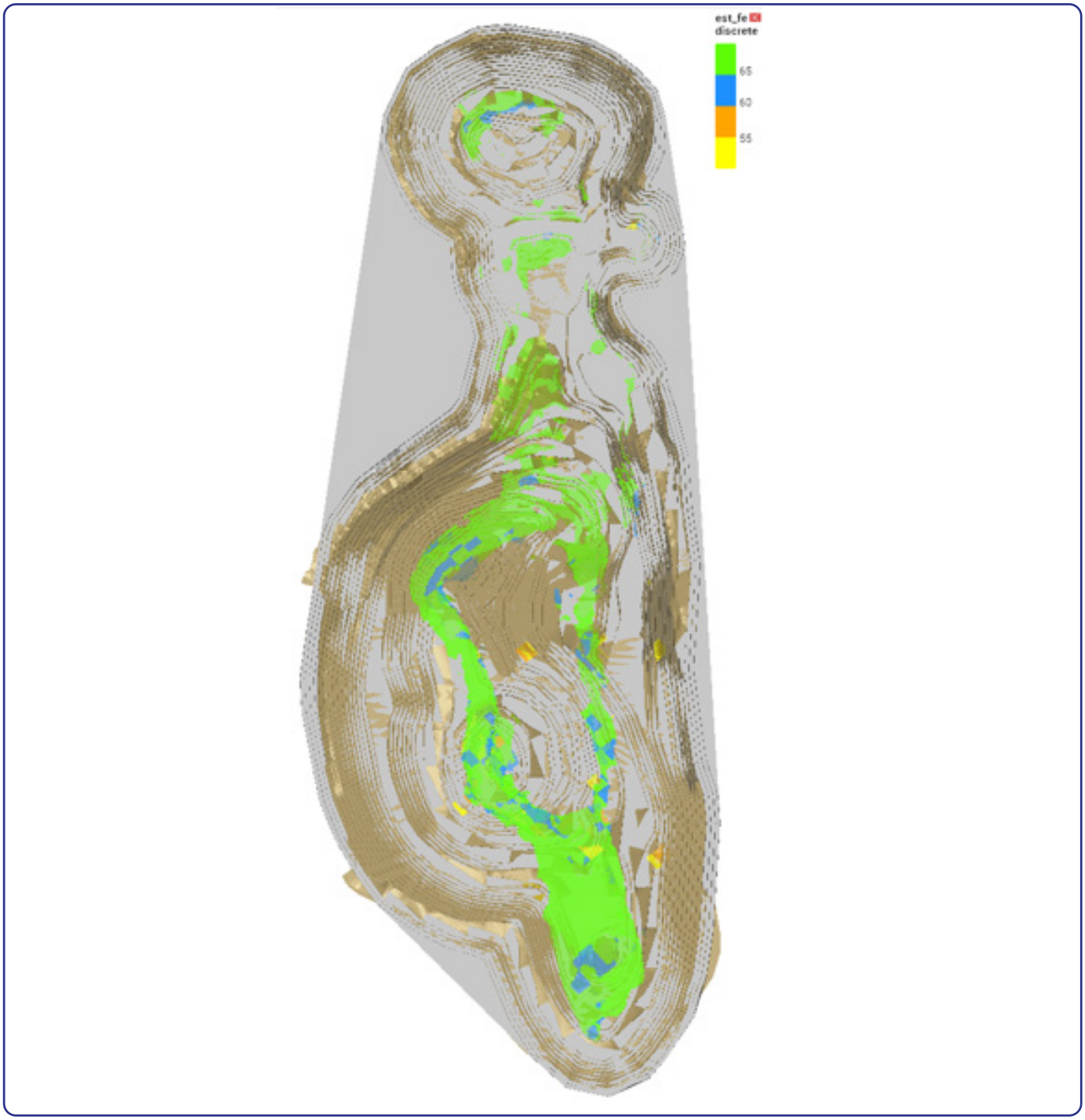


Figure 27: View of Leeuwfontein deposit high-grade ore *in situ* Fe estimates inside the pit layout

Ancillary Reserve and Resource information per operation cont.

Sishen

Location

The bulk of KIO's annual production is generated by Sishen, located in the Northern Cape province near the town of Kathu in South Africa **(Figure 28)**. Sishen has been in operation since 1953 and is one of the largest single open-pit iron ore mines in the world.

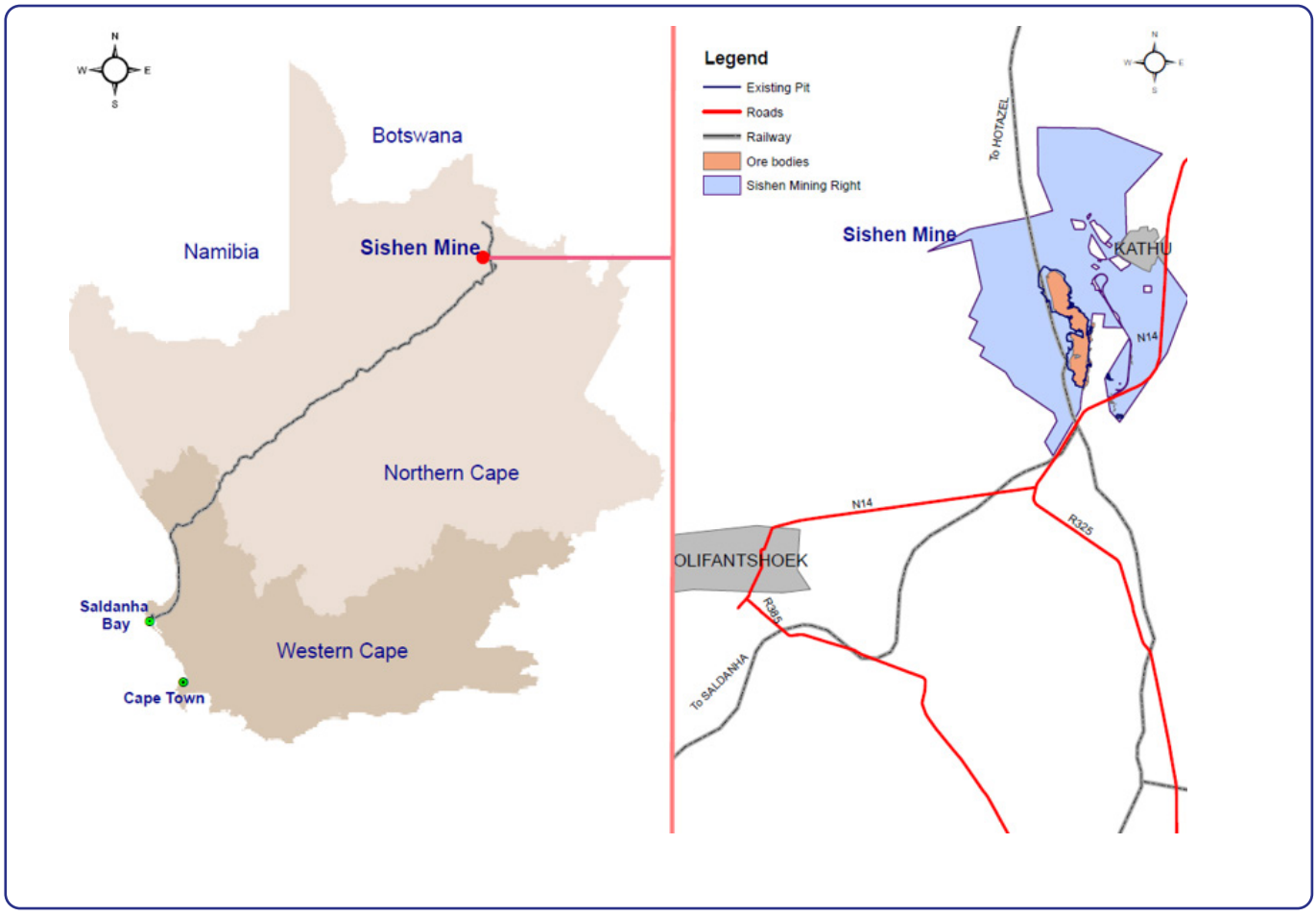


Figure 28: Location and logistics chain of Sishen

Geological outline

Regional geology

Falls within the same regional geological environment (towards northern end of Northern Cape province "iron ore belt") as Kolomela – please see Kolomela "Regional geology" section (pages 51 to 52).

Stratigraphy

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 and is developed on an irregular, karst surface.

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 it is generally less than 2 m thick. The sill is invariably folded into the basinal geometry and only rarely cross-cuts (intrudes) the ore bodies.

Ancillary Reserve and Resource information per operation cont.

Sishen cont.

Geological outline cont.

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, flagstones 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 400 Ma younger than the Transvaal Supergroup.

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

Along the western margin of Sishen, 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. The Kalahari group is developed to a maximum thickness of 60 m.

The clay beds at Sishen can attain a thickness of up to 30 m 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.

A generalised version of the Sishen stratigraphy is depicted in **Figure 29**.

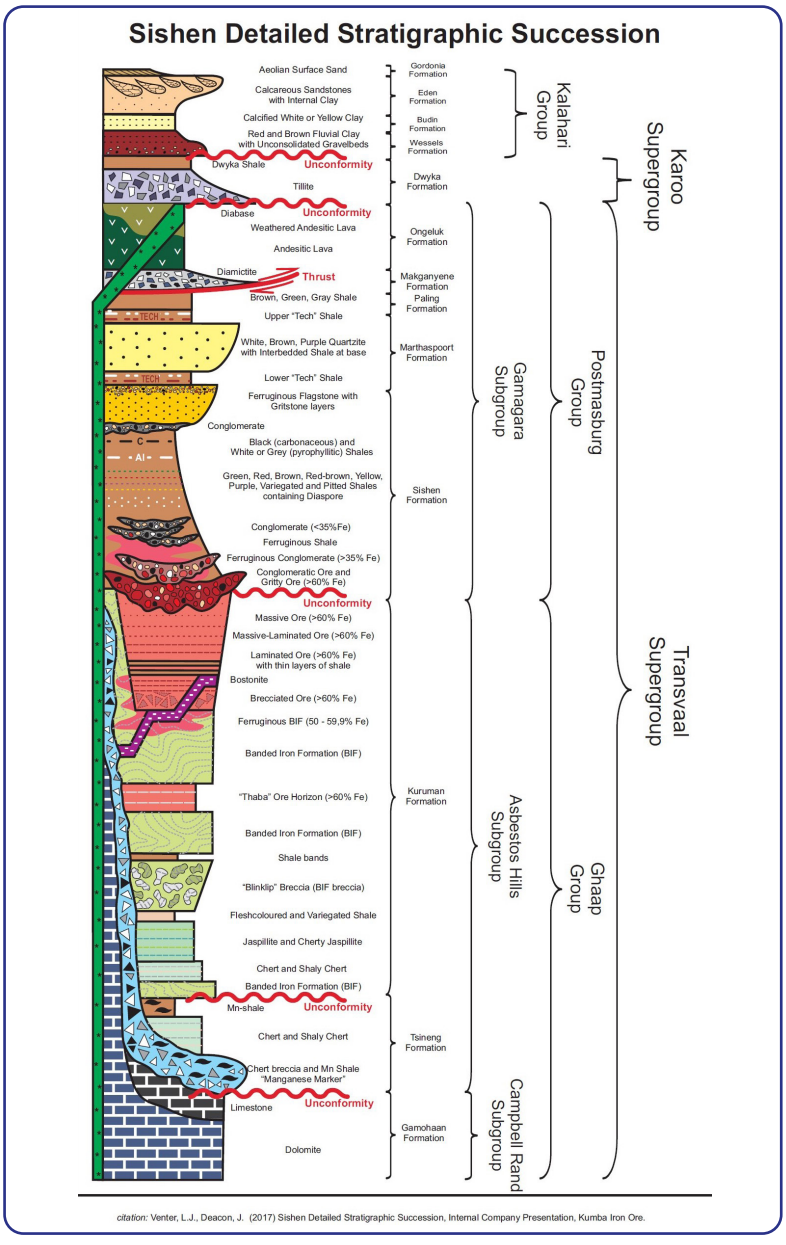


Figure 29: Simplified stratigraphic column depicting the Sishen local geology

Ancillary Reserve and Resource information per operation cont.

Sishen cont.

Geological outline cont.

Tectonic setting

Structural studies by Stowe (1986), Altermann and Hälbich (1991) and Hälbich et al (1993) concluded that the lower Transvaal Supergroup exhibits at least three major phases of compressional tectonism at the western edge of the Kaapvaal Craton. The overall number of events may be significantly higher; for example, Altermann and Hälbich (1991) suggested that there were seven events.

The development of this part of the Kaapvaal Craton is summarised below, in chronological order and using current azimuths, from Stowe (1986), Altermann and Hälbich (1991), Hälbich et al (1993), Friese (2007a, b) and Friese and Alchin (2007):

- ~2.78-2.64 Ga: Ventersdorp rift basin development. Northeast-southwest trending faults, which formed graben boundaries, developed due to basin initiation and subsidence
- ~2.64-2.6 Ga: Extrusion and deposition of the volcano sedimentary Vryburg Formation and Ventersdorp lavas
- ~2.60-2.52 Ga: Development of a carbonate platform during widespread marine transgression; consequent conformable deposition of the Schmidtsdrif and Campbell Rand Subgroup dolomites
- ~2.52-2.46 Ga: Off-craton/oceanic rifting to the west, accompanied by hydrothermal deposition of manganiferous chert of the Wolhaarkop Formation. This was followed by deposition of the Asbestos Hill Subgroup (BIF/Kuruman Formation)
- ~2.46-2.35 Ga: Incipient break-up and rifting, along a set of north-south trending, west dipping normal faults in the Kaapvaal Craton during a "second extensional stage" (Friese and Alchin, 2007). According to Dalstra and Rosière (2008), "E1" or their first extensional event occurred immediately before the "Kalahari Orogeny"
- ~2.35-2.25 Ga: The first phase of folding (F1) resulted from the E-verging "Kalahari Orogeny". Altermann and Hälbich (1991) cite the >2.24 Ga or pre-Makganyene development of the Uitkomst cataclasite as part of this event, which they attribute to a bedding-parallel thrust. F1 folds were predominantly north-south trending; therefore, the main axis of the Maremane Dome is effectively a 2.35-2.25 Ga F1 anticline or an F2-tightened F1 anticline. Pre-existing, predominantly rift-related normal faults were inverted and underwent a component of strike-slip reactivation, concomitant with this eastward tectonic vergence; their adjacent, uplifted blocks were eroded. An additional feature of this event appears to be the formation of conjugate northeast and southeast trending strike-slip faults which are radially distributed around the eastern curve of the Maremane Dome
- This orogeny also caused uplift and erosion of underlying units, including the Ghaap group, to form the Postmasburg unconformity, which is pivotal in regional ore development and/or preservation. The deposition of the Makganyene Formation of the Lower Postmasburg group, which has a minimum age of 2.22 Ga, probably resulted from this event;
- ~2.24-1.83 Ga: Reactivation of faults related to both the north-south trending passive margin rift and the Ventersdorp Rift, causing deposition of the fault-controlled or fault-bounded volcano sedimentary/volcanoclastic Upper Postmasburg group. Ongeluk lavas signify the peak of mafic lava extrusion at c. ~2.22 Ga, via feeder dykes that exploited reactivated NNE to NE trending faults (Friese and Alchin, 2007. Dalstra and Rosière (2008) correctly inferred that dykes locally recrystallised ores. Within this interval, deposition of clastic sediments in the form of conglomerate, "grit", quartzite and shale of the lower Olifantshoek Supergroup took place at ~2.05-1.93 Ga, thereby forming and terminating the deposition of the Gamagara/Mapedi Formation, which formed within a shallow-water rift environment (Beukes, 1983). The second extensional event or "E2" of Dalstra and Rosière (2008) occurred during or shortly after this period, as reactivated normal faults displaced or offset the lower Olifantshoek group, although such structures tend to pre-date the Kheis Orogeny (see below). Apparently overlapping in age with this extensional event is the formation of south-verging folds and thrusts, which, according to Altermann and Hälbich (1991), are the oldest post-Matsap event at 2.07-1.88 Ga
- ~1.83-1.73 Ga: The Kheis Orogeny or tectono-metamorphic event, like the Kalahari Orogeny, showed eastward tectonic vergence that was accompanied by thrusting and folding (Stowe, 1986; Beukes and Smit, 1987; Altermann and Hälbich, 1991; Hälbich et al (1993)). The Kheis Orogeny is more precisely dated at ~1,780 Ma, using a 39Ar-40Ar metamorphic age derived from the Groblershoek Schist Formation of the Olifantshoek Supergroup (Schlegel, 1988). Rift structures of the Postmasburg group and Olifantshoek Supergroup depositional settings were reactivated while F2 folding and thin-skinned thrusting occurred along major unconformities and lithological contacts. In some areas, F1 folds were tightened co-axially during F2 folding. In the Sishen area, thrusting was concentrated at the shale-dominated, tectonised margins of a quartzite member within the upper Olifantshoek group; these horizons are termed "tectonised shale" in drill core, although this sequence appears to be very poorly developed at the Heuningkranz prospect. Friese (2007a, b) and Friese and Alchin (2007) have termed these and other low-angle thrusts "principal décollements"

Ancillary Reserve and Resource information per operation cont.

Sishen cont.

Geological outline cont.

Tectonic setting cont.

- ~1.15-1.0 Ga: The north-northeast directed Lomanian (Namaqua-Natal) Orogeny caused deformation along the southern margin of the Kaapvaal Craton. The effects of this were manifold: reactivation and buckling of north-south trending normal and inverted normal faults, reactivation of the 2.35-2.24 Ga northeast and southeast trending conjugate strike-slip faults, usually with upthrow to the southeast and southwest, respectively, the development of east-northeast trending F3 folds, which may have contributed to broad F2/F3 fold interference patterns (q.v. Mortimer, 1994, 1995). This may also have contributed to the geometry of the Maremane Dome, which is effectively a large-scale "Ramsay style" interference fold with a radial set of fractures/faults, in which conjugate relationships may still be observed. The Dimoten and Ongeluk-Witwater Synclines, wherein the Postmasburg group is preserved, are situated towards the eastern foreland of the Maremane Dome

It has been suggested that the interference or intersection of F2 synclines and F3 synclines have resulted in deep, steep-sided, circular or ovoid depressions in which ore (and BIF) is notably thicker (q.v. Mortimer, 1994; 1995). This must be weighed against other models which suggest that areas of very thick, deep ore occupy palaeo-sinkholes, i.e. occur within palaeokarst topography within the Campbell Rand Subgroup (Beukes et al (2002).

A third model is that of Dalstra and Rosière (2008), which advocates a close association between structures and mineralisation and/or between structures and the preservation of mineralisation. Due to the complex structural and stratigraphic evolution of the area, it is entirely possible that there is a component of all three mechanisms present in a given deposit, albeit substantially complicated by variable preservation.

Subsequent tectonism, including the break up of Gondwana and Pan-African reworking, had only a minor effect on the modelled volume. Regionally, Bushveld-age gabbroic rocks intruded into the Ghaap and Postmasburg groups within a clearly defined northeast trending graben, essentially accommodated by the reactivation of Ventersdorp faults (Friese and Alchin, 2007).

Local geology

A total of 154 additional exploration core and percussion boreholes (solids models and grade estimation) and 3,833 additional Ore Control reverse circulation boreholes were applied in the update of the 2023 Sishen geological model.

Additional boreholes drilled are illustrated in **Figure 30**. The significant amount of borehole data added is the result of the 2022 Mineral Resource reporting based on depletion, i.e. the 2021 geological models (geological model updates were not considered in 2022), which in effect means that additional borehole data generated and validated since the previous data cut-off of 29 January 2020 (informing 2021 geological models) were added. The total amount of boreholes used as input for the 2023 Sishen geological model is:

- 13,928 exploration (core and percussion), and
- 18,424 ore control reverse circulation

Sishen is situated on the northern extremity of the Maremane anticline. At this location, the lithologies strike north-south and plunge from the centre of the anticline in a northerly direction. The bulk of the resource comprises high-grade, laminated and massive ores belonging to the Asbestos Hills Subgroup.

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

Ancillary Reserve and Resource information per operation cont.

Sishen cont.

Geological outline cont.

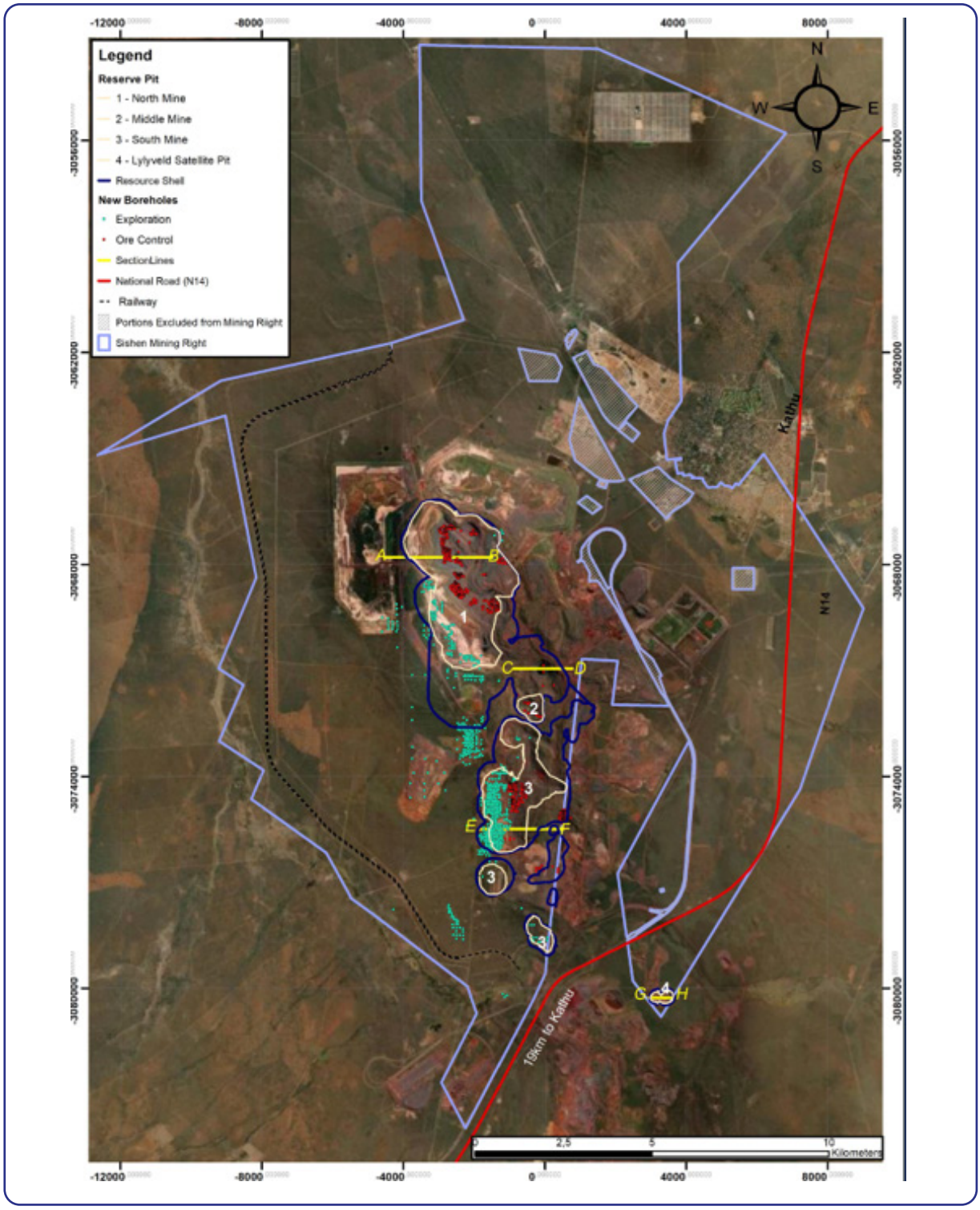


Figure 30: Sishen mining right area

Ancillary Reserve and Resource information per operation cont.

Sishen cont.

Geological outline cont.

Local geology cont.

The geometry of the lithologies are depicted via cross-sections as referenced in **Figure 30.** Cross-sections were derived from the 2023 Sishen three-dimensional geological block models:

- **Figure 31** is a west to east cross-section (line AB in **Figure 30**) through the Sishen North mine area
- **Figure 32** is a west to east cross-section (line CD in **Figure 30**) through the Sishen Middle mine area
- **Figure 33** is a west to east cross-section (line EF in **Figure 30**) through the Sishen South mine area
- **Figure 34** is a west to east cross-section (line GH in **Figure 30**) through the Lylyveld satellite mine area

The vertical scale of the cross-sections has been exaggerated, for illustrative purposes, resulting in ore body dip angles appearing steeper than actual.

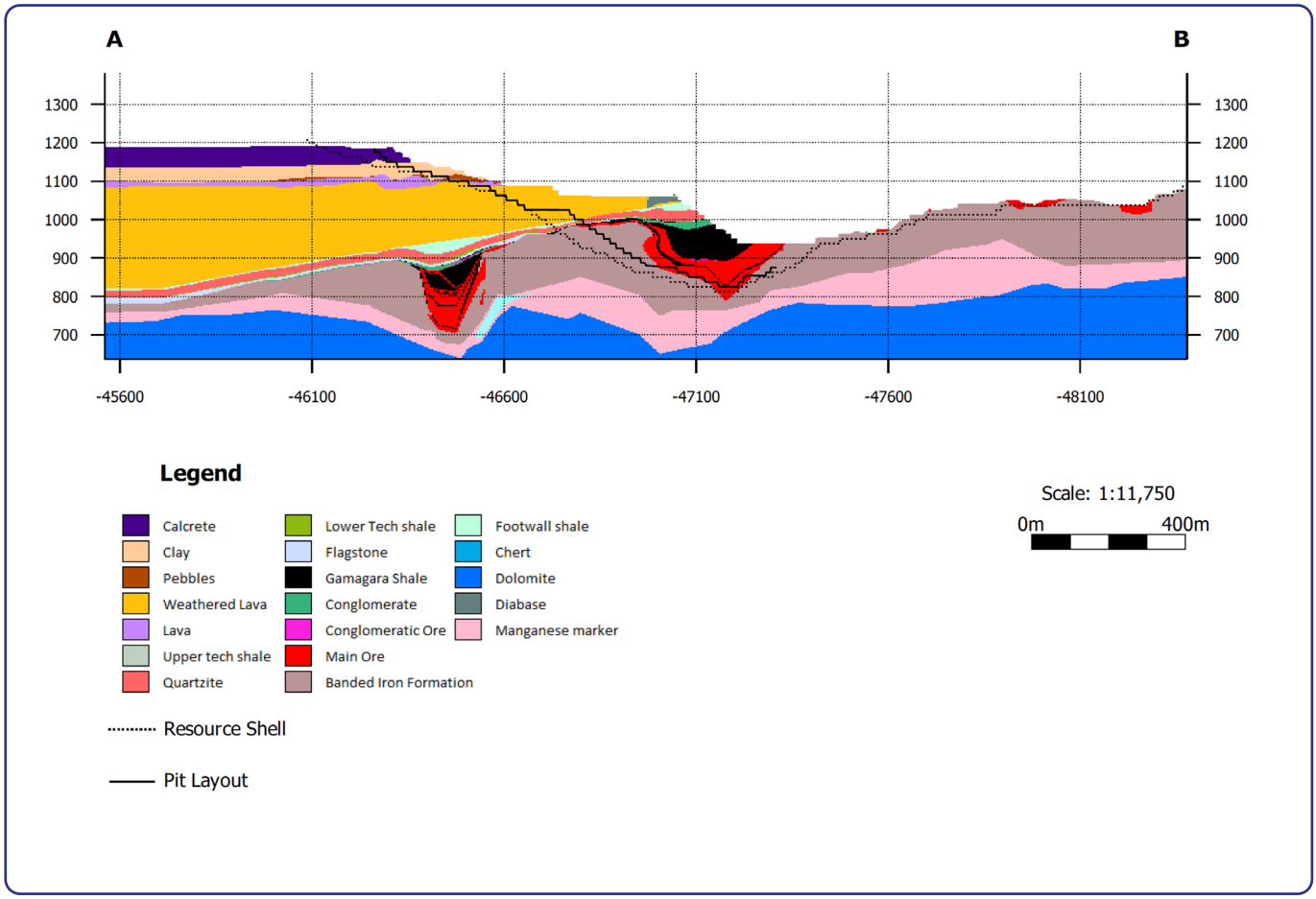


Figure 31: West-east cross-section (line AB in Figure 27) depicting the local geology of the Sishen North mine area

Ancillary Reserve and Resource information per operation cont.

Sishen cont.

Geological outline cont.

Local geology cont.

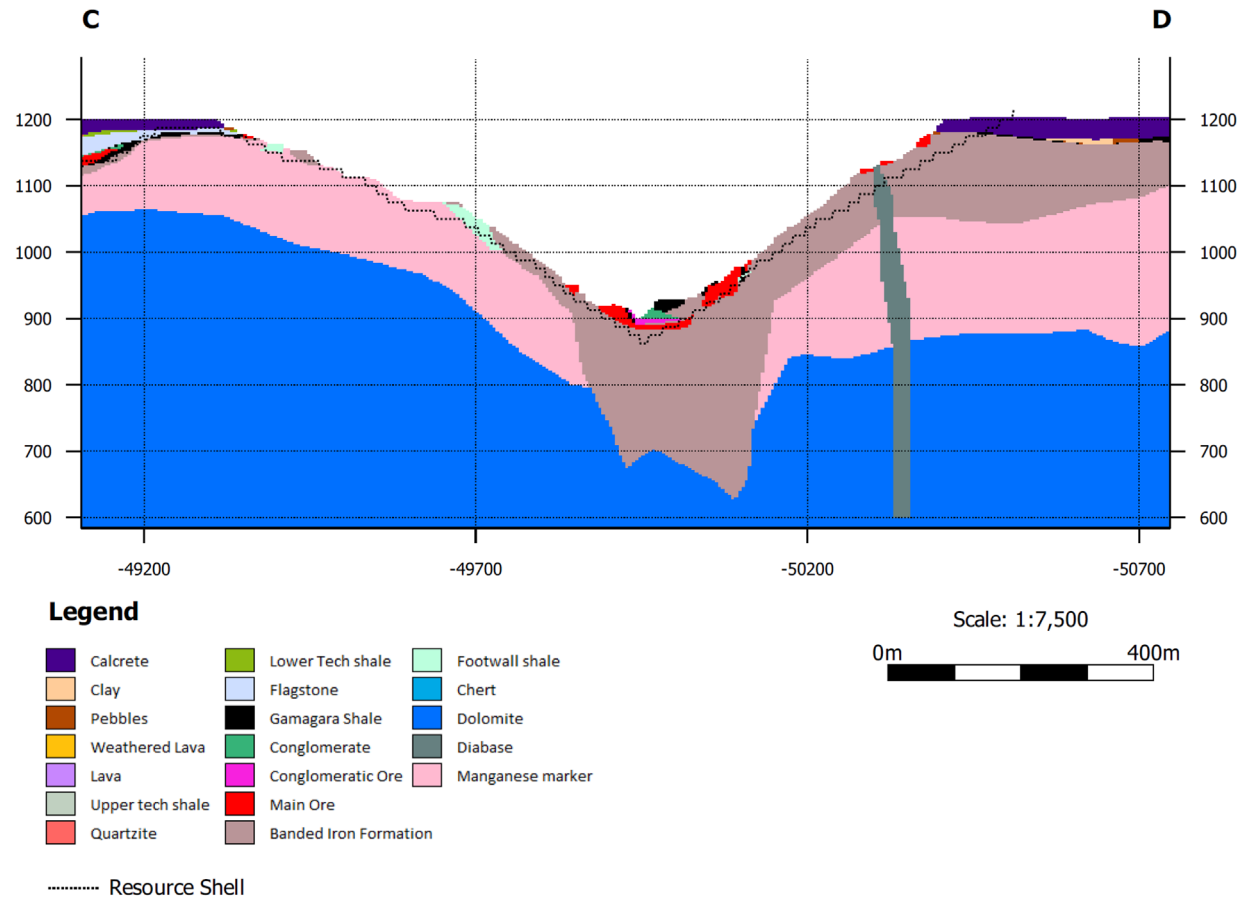


Figure 32: West-east cross-section (line CD in Figure 27) depicting the local geology of the Sishen Middle mine area

Ancillary Reserve and Resource information per operation cont.

Sishen cont.

Geological outline cont.

Local geology cont.

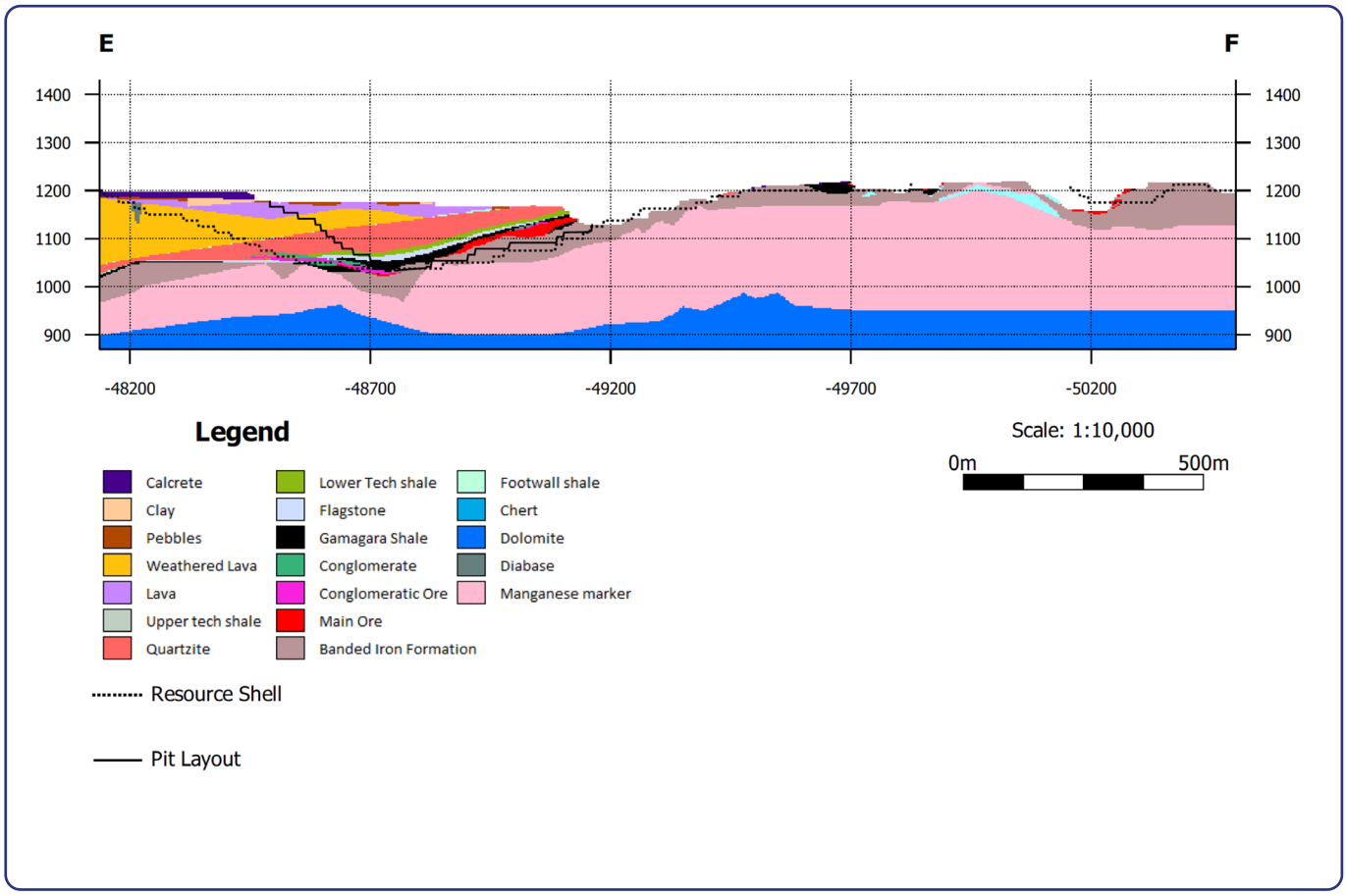


Figure 33: West-east cross-section (line EF in Figure 27) depicting the local geology of the Sishen south mine area

Ancillary Reserve and Resource information per operation cont.

Sishen cont.

Geological outline cont.

Local geology cont.

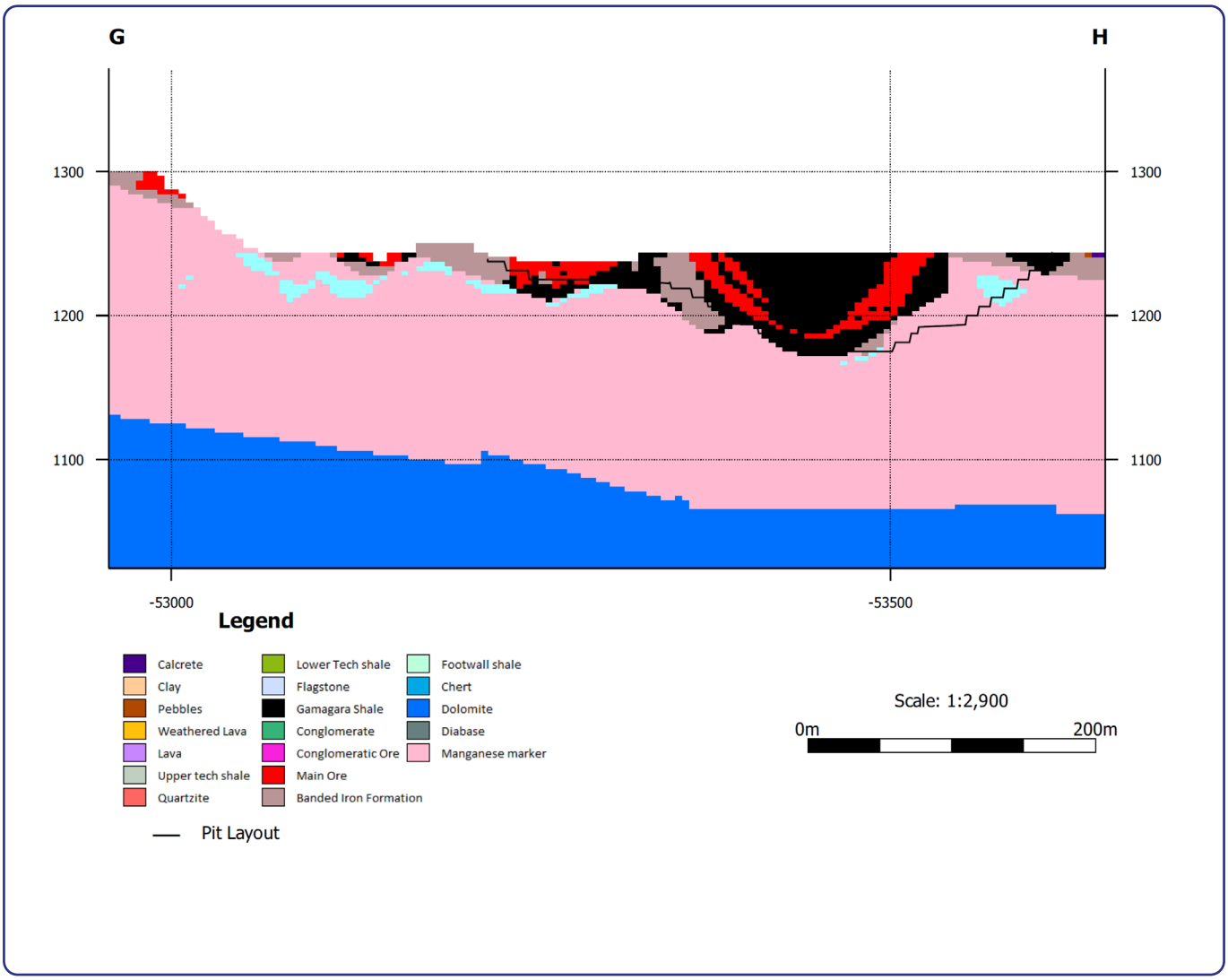


Figure 34: West-east cross-section (line GH in Figure 27) depicting the local geology of the Sishen Lylyveld satellite mining area

Ancillary Reserve and Resource information per operation cont.

Sishen cont.

Operational outline

Sishen is a conventional open-pit operation, processing run-of-mine through two primary processing facilities:

- A DMS plant
- A Jig plant that includes a modular UHDMS facility, treating a portion of the Jig plant discard stream

The combined run-of-mine capacity of the processing facilities is 49.7 Mtpa (28.1 Mtpa for the DMS plant and 21.6 Mtpa for the Jig plant).

The 2023 LoAP assumes that the DMS beneficiation capability is going to be improved in the future, with the conversion of the DMS plant into a UHDMS facility, to cater for the beneficiation of low-grade run-of-mine as well as the generation of more Premium grade product. Low-grade ore extracted from the pit is stockpiled in anticipation of the UHDMS facility.

The mining process entails topsoil removal and stockpiling for later use during the waste dump rehabilitation process, followed by drilling and blasting of waste and ore. The waste material is in-pit dumped where such areas are available or hauled to waste rock dumps. The iron ore is loaded according to blend (grade) requirements and hauled to designated run-of-mine buffer stockpiles or the beneficiation plants, where it is crushed, screened and beneficiated. Plant slimes are not beneficiated and are pumped to evaporation dams while the DMS and Jig (and UHDMS) discard material is stacked on a plant discard dump.

Four iron ore products (derived from up to seven interim products produced on-site conforming to different chemical and physical specifications) are produced at Sishen. The product is reclaimed from product beds and loaded into trains, to be transported either to local steel mills (domestic market) and Saldanha Bay (for export market), from where it is shipped together with Kolomela product and sold to international Clients under three KIO-branded products referred to as Premium Lump ore, Standard Lump ore and Standard Fines ore.

Kumba has an agreement with ArcelorMittal to supply it domestically with a maximum of 6.25 Mtpa of Saleable Product. Recent off-take has however not matched the maximum contract levels and most of the Sishen production is exported via the Saldanha Bay port to various international steel markets.

Ancillary Reserve and Resource information per operation cont.

Sishen cont.

Operational outline cont.

Sishen's key operational parameters are summarised in **Table 13**.

Table 13: Sishen operational outline summary

Key details	2023 8+4 forecast (actual)	2022 9+3 forecast (actual)
% Ownership (AA plc)	**52.5**	**52.5**
% Ownership (KIO)	**75.4**	**75.4**
Commodity	**Iron Ore**	**Iron Ore**
Country	**Republic of South Africa**	**Republic of South Africa**
Mining method(s)	**Open pit - Conventional**	**Open pit - Conventional**
Beneficiation method(s)	**Dense Media Separation and Jigging**	**Dense Media Separation and Jigging**
Reserve life* (years)	**15**	**17**
Estimated Saleable Product Lump : Fine ratio	**70 : 30**	**70 : 30**
Saleable Product design capacity (Mt)	**49.7**	**49.7**
Forecasted[$] and (actual) run-of-mine production (Mt dry) *including modified Inferred Mineral Resources*	**33.4** (33.8 actual) **(including 2.5 Mt modified Mineral Resources)**	**35.8** (35.4 actual) **(0.4 Mt run-of-mine mined outside the pit layout and resource shell and 0.4 Mt modified Inferred Mineral Resources)**
Forecasted[$] and (actual) Saleable Product (Mt dry) *including modified beneficiated Inferred Mineral Resources*	**25.7** (25.4 actual) **(including 1.9 Mt produced from Mineral Resources)**	**26.5** (27.0 actual) **(0.3 Mt produced from Mineral Resources extracted outside the pit layout and 0.3 Mt modified beneficiated Inferred Mineral Resources)**
Forecasted[$] and (actual) waste production (Mt dry)	**159.0** (163.8 actual)	**152.7** (156.8 actual)
Forecasted[$] and (actual) railed product (Mt dry)	**25.9** (26.1 actual)	**26.9** (25.6 actual)
Overall LoAP planned stripping ratio	**3.3 : 1**	**3.3:1**
Product types	**In total, four Lump and three Fines product types of varying grade are produced on-site but sold as three products under the Kumba branding together with Kolomela product as Kumba Premium Lump, Kumba standard Lump and Kumba standard Fines**	**In total, four Lump and three Fines product types of varying grade are produced on-site but sold as three products under the Kumba branding together with Kolomela product as Kumba Premium Lump, Kumba standard Lump and Kumba standard Fines**
Mining right expiry date	**10 November 2039**	**10 November 2039**

* Reserve life represents the period in years in the approved LoAP for scheduled processing of Proved and Probable Reserves, where the Proved and Probable Ore Reserves makes up >25% of the year's run-of-mine. Should the LoAP exceed the mining right expiry date, the Reserve life is just quoted until the expiry date.

[$] The forecasted figures align with the year-on-year Reserve and Resource movement figures as per site Reserve and Resource Statements, which are finalised before year end to allow for sufficient internal (Kumba) and independent internal (Anglo) peer reviews before final Reserve and Resource figures are published.

Ancillary Reserve and Resource information per operation cont.

Sishen cont.

Operational outline cont.

For 2023

In total, 202.9 Mt (163.8 Mt ex-pit waste, 35.2 Mt ex-pit high- and medium-grade ore and 3.9 Mt* ex-pit low-grade ore mined to run-of-mine buffer stockpiles) was mined in 2023, which is 3% more compared to the 196.2 Mt (156.8 Mt ex-pit waste including low-grade ore and 39.4 Mt ex-pit high- and medium grade ore) mined in 2022. The ex-pit waste (including low-grade ore) to ex-pit high- and medium-grade ore ratio has increased from 3.6 : 1 in 2022 to 4.2 : 1 in 2023 (the overall stripping ratio in the 2023 LoAP is 3.3:1).

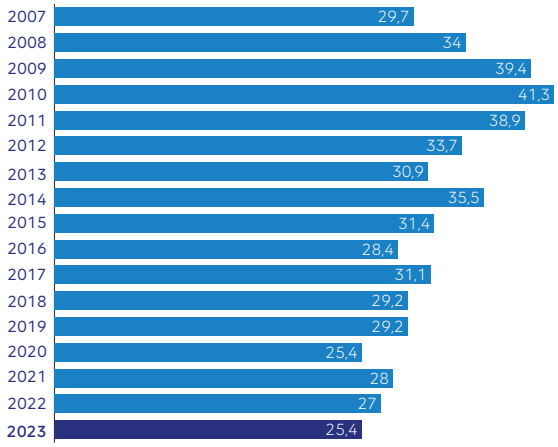
In total, 33.8 Mt high- and medium-grade ore was delivered as run-of-mine to the plants in 2023. The run-of-mine buffer stockpile levels increased by 9.5 Mt**. The 5.6 Mt high- and medium-grade run-of-mine buffer stockpile growth is the result of a business decision to cut back on beneficiated production because of the Transnet rail constraint..

The resulting 2023 product generated on site was 25.4 Mt at an average annual yield of 75.1 %. The railed product for 2023 amounted to 26.1 Mt.

Production history

The historical production (actual depletion of Saleable Product tonnes) of Sishen is summarised in **Figure 35**.

Sishen mine production history
(million tonnes)



Life-of-asset plan Saleable Product profile

The Sishen 2023 LoAP (2021 LoAP depleted for 2022) Saleable Product profile is depicted in **Figure 36**.

Sishen mine's 2023 LoAP Saleable Product profile (including modified beneficiated inferred Mineral Resources
(tonnes kt)

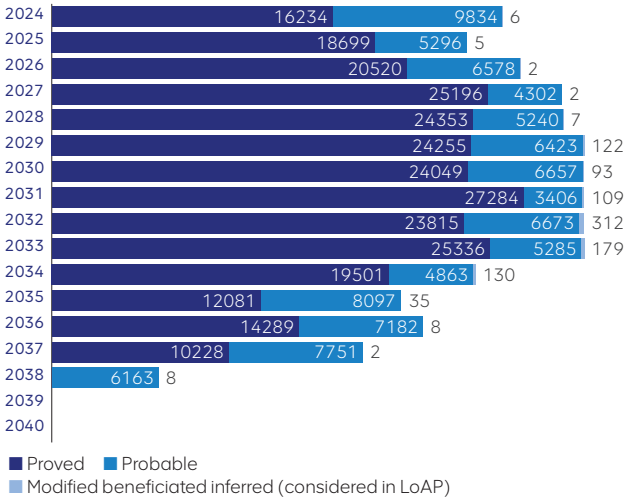


Figure 36: Sishen's 2023 LoAP Saleable Product profile (including modified beneficiated Inferred Mineral Resources)

The 2023 Sishen LoAP has been optimised with updated pushback designs and the feeding of low-grade from 2027 onwards, resulting in a reduction of 11.5 Mt Saleable Product over the first three years of the schedule, to align with the moderated rail assumptions.

Figure 35: Sishen production history

* The 3.9 Mt ex-pit low-grade ore mined in 2023 has not been utilised as run-of-mine but has been hauled to run-of-mine buffer stockpiles (in preparation for anticipated conversion of DMS to UHDMS plant).
** The forecasted run-of-mine buffer stockpile growth for 2023 at the time of reporting was 16.5 Mt. This error will be corrected in 2024.

Ancillary Reserve and Resource information per operation cont.

Sishen cont.

Ore Reserve ancillary information

The Sishen Ore Reserve ancillary information is summarised in **Table 14A** (background information) and **Table 14B** (main pit Ore Reserve estimation parameters – as an example).

Table 14A: Sishen's 2023 versus 2022 Ore Reserve background information

Sishen	**2023**	2022
Location		
Country	Republic of South Africa	
Province	Northern Cape	
Ownership		
Sishen Iron Ore Company Proprietary Limited	100%	100%
Kumba Iron Ore Limited	75.4%	75.4%
AA plc	52.5%	52.5%
Operational status		
Operation status	Steady-state	Steady-state
Mining method	Open-pit (conventional drilling and blasting and truck-and-shovel operation)	Open pit (conventional drilling and blasting and truck-and-shovel operation)
Beneficiation method	DMS and Jig beneficiation and modular UHDMS associated with the JIG discard	DMS and Jig beneficiation and modular UHDMS associated with the JIG discard
Average annual Saleable Product in LoAP (Mtpa)	25.4	23.9
Average annual supply to domestic market in LoAP (Mtpa)	0	0.5
Average annual supply to export market in LoAP (Mtpa)	25.4	23.4
Number of products	Three final Saleable Products from Saldanha: Premium Lump, standard Lump, and standard Fines, but with more intermediate products produced at Sishen	Three final Saleable Products from Saldanha: Premium Lump, standard Lump and standard Fines, but with more intermediate products produced at Sishen
Governance		
Code	THE SAMREC CODE – 2016 EDITION	
Kumba policy	https://www.angloamericankumba.com/~/media/Files/A/Anglo-American-Group/Kumba/sustainability/approach-and-policies/kumba-mineral-resource-and-ore-reserve-reporting-policy.pdf	
AA plc requirements document	AA_RD_22-25 - Version 14 [2023] - (Exploration results, Mineral Resources and Ore Reserves reporting requirements document)	AA_RD_22-25 - Version 12 [2021] - (Exploration results, Mineral Resources and Ore Reserves reporting requirements document)
KIO reporting protocols	KIO Reserve classification guideline (Version 1)	
KIO reporting template	Ore Reserve (and Saleable Product) reporting template (2023)	Ore Reserve (and Saleable Product) reporting template (2022)

Ancillary Reserve and Resource information per operation cont.

Sishen cont.

Ore Reserve ancillary information cont.

Table 14A: Sishen's 2023 versus 2022 Ore Reserve background information cont.

Sishen	2023	2022
Reporting 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 KIO, all Ore Reserves are spatially 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 selective mining unit. Furthermore, protocols ensure that KIO'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 Lerchs-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 an LoAP 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.	
Scheduled run-of-mine metric tonnes (dry/wet)	Dry	Dry
Tonnage calculation	Tonnages are calculated from the LoAP schedule, originating from the mining block models, and are modified tonnages considering geological losses, the effect of dilution, mining losses, mining recovery efficiencies and design recovery efficiencies to derive the run-of-mine tonnages delivered to the DMS (and planned UHDMS - conversion of DMS to UHDMS plant) and Jig+UHDMS beneficiation plants.	
Fe grade	Ore Reserve % Fe grades reported, represent the weighted average grade of the "plant feed" or run-of-mine material and take into account all applicable modifying factors.	
Cut-off grade (Fe)	Value based*	40%
Ore type	Haematite ore	Haematite ore
Optimised pit shell revenue factor	0.8	1.0
LoAP scheduling		
Software	OPMS	OPMS
Method	Product tonnage and grade target driven to achieve required client product specifications	Product tonnage and grade target driven to achieve required client product specifications
Stripping strategy	A stripping strategy that follows a constant annual tonnage target, which remains between the minimum and maximum stripping limits, were chosen for the LoA scheduling. A deferred waste stripping strategy was applied to save costs in the medium term.	A stripping strategy that follows a constant annual tonnage target, which remains between the minimum and maximum stripping limits, were chosen for the LoA scheduling. A deferred waste stripping strategy was applied to save costs in the medium term.
Reserve life years	15	17

Ancillary Reserve and Resource information per operation cont.

Sishen cont.

Ore Reserve ancillary inform

Table 14A: Sishen's 2023 versus 2022 Ore Reserve background information cont.

Sishen	2023	2022
LoAP scheduling		
LoAP run-of-mine tonnes (including modified Inferred) (expressed in million tonnes)	600.0	629.4
Overall average stripping ratio (including Inferred Mineral Resources)	3.3 : 1	3.3 : 1
Production data cut-off date (date whereafter short-term plan instead of actual figures are used to estimate the annual run-of-mine and Saleable Product production for the mine until 31 December of year of reporting)	31 July 2023	30 August 2022
Topography and pit progression assigned	31 December 2023 planned pit boundary	31 December 2021
Reserve schedule ID	2023_Sishen_LoM_Report_Final_Case1_Reserve	2021_Sishen_LOM_Scenario3_Koketso_s3.5 (Preliminary_Reserves)
Reserve schedule completion date	30 October 2023	30 October 2021

Table 14B: Sishen's 2023 versus 2022 main pit Ore Reserves estimation parameters
(a similar table is available for the Lylyveld satellite pit mining area)

Main Pit	2023	2022
Estimation		
Mining block model name	north2023_reserve_model_lumpfine.dm; south2023_reserve_model_lumpfine.dm	north2021_smu_new_v2.dm; south2021_smu_new_v2
Smallest mining unit	20 m(X) x 20 m(Y) x 12.5 m(Z)	20 m(X) x 20 m(Y) x 12.5 m(Z)
Practical mining parameters		
Bench height	12.5 m	12.5 m
Ramp gradient	10% (1 in 10)	8% (1 in 12.5)
Road width	30 m to 56 m	30 m to 56 m
Minimum mining width	80 m (rope shovel and truck mining)	80 m (rope shovel and truck mining)
Geohydrology	Groundwater level maintained 12.5 m below pit floor	Groundwater level maintained 12.5 m 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%

Ancillary Reserve and Resource information per operation cont.

Sishen cont.

Ore Reserve ancillary information cont.

Table 14B: Sishen's 2023 versus 2022 main pit Ore Reserves estimation parameters cont.
(a similar table is available for the Lylyveld satellite pit mining area)

Main Pit	**2023**	2022
Pit optimisation		
Software	Whittle 4X	Whittle 4X
Method	Lerchs-Grosmann (primary LoA maximisation, secondary NPV maximisation)	Lerchs-Grosmann (primary LoA maximisation, secondary NPV maximisation)
Modifying factors		
Geological loss (%)	0	-1
Dilution (%)	23*	16
Mining loss (%)	-2*	-10
Mining recovery efficiency (%)	89	92
Design recovery efficiency (%)	99	99
Ore Reserves reallocated to Mineral Resources (%)	0	0
Yield (%)	65.8	64.5
Estimator		
Reserve estimator	Izak Moolman	Izak Moolman
Reserve estimator status	Internal Technical Specialist	Internal Technical Specialist
Estimator employer	Sishen Iron Ore Company Proprietary Limited / Anglo American Proprietary Limited	Sishen Iron Ore Company Proprietary Limited / Anglo American Proprietary Limited

* Sishen has introduced a value-based approach to mining block modelling to allow pit optimisation to determine what portion of the Measured and Indicated Mineral Resources is economically mineable and can be converted to Ore Reserves and subsequent Saleable Product. This involves the replacement of the 40% Fe Ore Reserve cut-off grade with a value-based cut-off approach whereby the economic mineability of each SMU in the mining block model is determined by its valuation, comparing the cost of mining and beneficiating the SMU ore and the selling of the SMU product against the income generated by the SMU product type, based on the long-term price (considering grade penalties) and exchange rate. The 2023 Mineral Resources were however derived using a fixed 40% Fe cut-off grade, resulting in an apparent increase in dilution and increase in mining loss. The geological model will be adjusted in 2024 to capture the product potential of the Mineral Resources to eliminate the apparent increase in dilution and decrease in mining loss as recorded in 2023 because of a fixed versus value-based cut-off.

Ancillary Reserve and Resource information per operation cont.

Sishen cont.

Ore Reserve ancillary information cont.

Geotechnical considerations (main pit example)

The geotechnical global stability analysis of the Sishen main pit layout (which considered prescribed lithological rock mass derived pit slope angle input) indicated that the design of the pit meets the design criteria for factor of safety ≥1.3 (**Figure 37**).

Sishen main pits factor of safety analysis

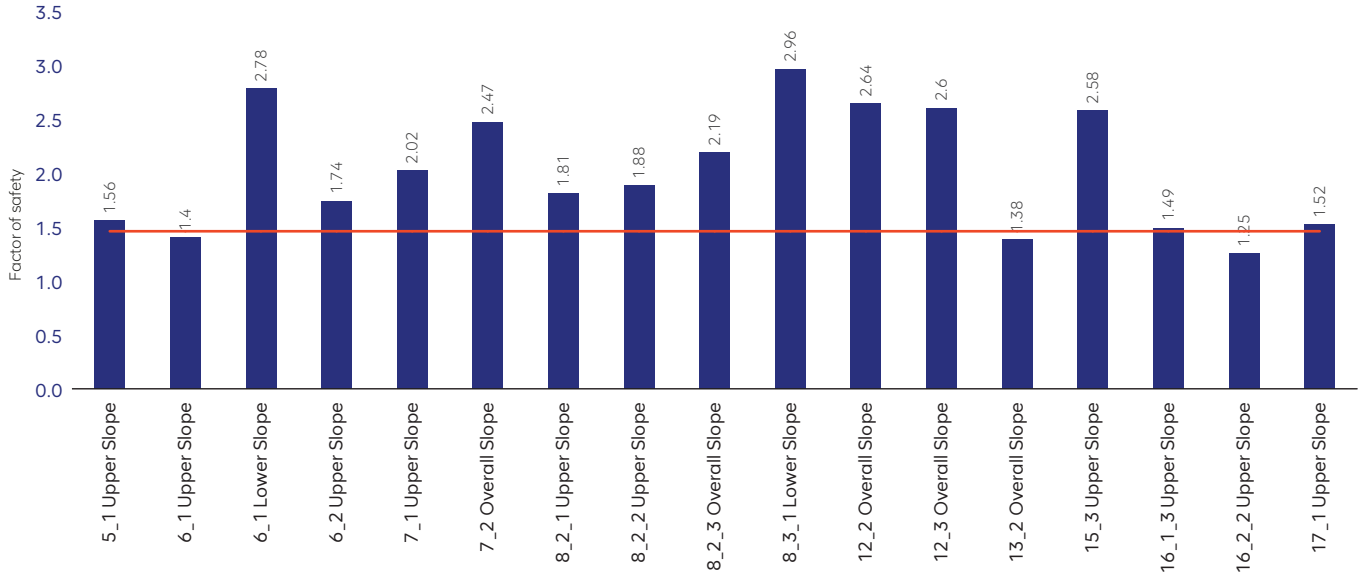


Figure 37: Sishen main pit layout stability analysis

Ancillary Reserve and Resource information per operation cont.

Sishen cont.

Ore Reserve ancillary information cont.

Sishen main pit groundwater abstraction

The Sishen main pit dewatering network is depicted in **Figure 38**.

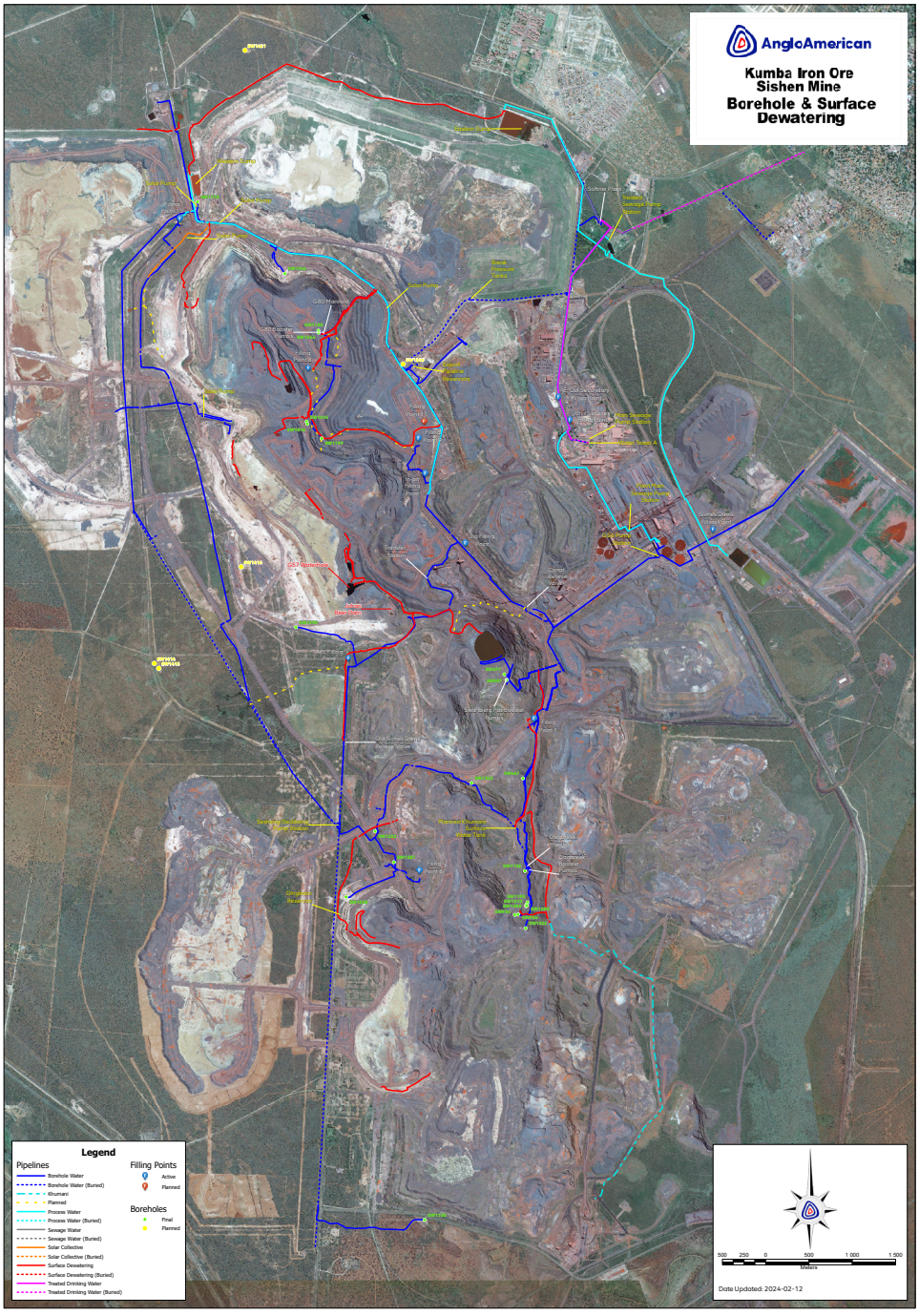


Figure 38: Sishen main pit groundwater abstraction network

Ancillary Reserve and Resource information per operation cont.

Sishen cont.

Mineral Resource ancillary information

The Sishen Resource ancillary information is summarised in **Table 15A** (background information) and **Table 15B** [NN1(a to c) geological models' Mineral Resource estimation parameters – as an example].

Table 15A: Sishen's 2023 versus 2022 Mineral Resource background information

Sishen	**2023**	2022
Location		
Country	Republic of South Africa	
Province	Northern Cape	
Ownership (%)		
Sishen Iron Ore Company Proprietary Limited	100	100
Kumba Iron Ore Limited	75.4	75.4
Anglo American plc	52.5	52.5
Security of tenure		
Number of applicable mining rights	1	1
Mining right status	Registered (amendments registered)	Registered (amendments executed)
Mining right expiry date(s)	10 November 2039	10 November 2039
Exploration status		
Exploration type	Geological confidence (on-mine)	Geological confidence (on-mine)
Exploration phase	In execution	In execution
Ore type	Haematite ore	Haematite ore
Governance		
Code	THE SAMREC CODE – 2016 EDITION	
Kumba policy	https://www.angloamericankumba.com/~/media/Files/A/Anglo-American-Group/Kumba/sustainability/approach-and-policies/kumba-mineral-resource-and-ore-reserve-reporting-policy.pdf	
AA plc requirements document	AA_RD_22-25 - Version 14 [2023] - (Exploration results, Mineral Resources and Ore Reserves reporting requirements document)	AA_RD_22-25 - Version 13 [2022] - (Exploration results, Mineral Resources and Ore Reserves reporting requirements document)
KIO reporting protocols	KIO Geological Confidence Classification Guideline (Version 5)	KIO Resource Classification Guideline (Version 4)
KIO reporting template	Mineral Resource (and Additional Mineralisation) reporting template (2023)	Mineral Resource (and Additional Mineralisation) reporting template (2022)

Ancillary Reserve and Resource information per operation cont.

Sishen cont.

Mineral Resource ancillary information cont.

Table 15A: Sishen's 2023 versus 2022 Mineral Resource background information cont.

Sishen	2023	2022
Reporting method		
Approach	Mineral Resources are reported exclusive of Ore Reserves and not factoring in attributable ownership and only if: (1) spatially modelled; (2) spatially classified; (3) spatially constrained in terms of reasonable and realistic prospects for eventual economic extraction (occurring within an RPEEE-defined envelope, in other words not all mineral occurrences are declared as Mineral Resources); and (4) declared within (never outside) executed tenement boundaries.	
In situ metric tonnes (dry/wet)	Dry	Dry
Tonnage calculation	Tonnages are added from cells in geological block model, of which the centroids intersect the relevant geological ore domains in the solids models which occur inside the resource shell. The volume of each ore cell is multiplied with the estimated relative density of the same cell	Tonnages are added from cells in geological block model, of which the centroids intersect the relevant geological ore domains in the solids models which occur inside the resource shell. The volume of each ore cell is multiplied with the estimated relative density of the same cell
Fe grade	Weighted average above cut-off grade	Weighted average above cut-off grade
Fe calculation	Tonnage-weighted mean of the estimated *in situ* Mineral Resource Fe grades contained within geological block models, constrained by the relevant Resource geological ore domains and RPEEE resource shell	Tonnage-weighted mean of the estimated *in situ* Mineral Resource Fe grades contained within geological block models, constrained by the relevant Resource geological ore domains and RPEEE resource shell
RPEEE		
Cut-off grade	40% Fe	40% Fe
Resource shell revenue factor	1.3	1.6

Ancillary Reserve and Resource information per operation cont.

Sishen cont.

Mineral Resource ancillary information cont.

Table 15B: Sishen's 2023 versus 2022 NN1 (A to C) geological models Mineral Resources estimation parameters – as an example cont.

(similar tables exist for the NN2 (A to C), NN3 (A to C), NN4 (A to C), MM1 (A to C), SS1 (A to C), SS2 (A to C), SS3 (A to C), LVD (A to C) and DNV (A to C) geological models but are not stated in this report)

NN1 (A to C) geological models	**2023**	2022
Estimation		
Input data		
Borehole type	Core and percussion borehole lithological logs and associated chemical analyses	
Relative density measurement	Minidense (pre-2010) and Picnometer analyses on pulp sub-samples (2010 to present)	
KIO QA/QC protocol	KIO QC Protocol for exploration drilling sampling and sub-sampling (version 10)	KIO QC Protocol for exploration drilling sampling and sub-sampling (version 9)
Primary laboratory	Technical Solutions Division of Anglo Operations Limited Chemistry Laboratory (Company registration number: 1921/006730/07)	Technical Solutions Division of Anglo Operations Limited Chemistry Laboratory (Company registration number: 1921/006730/07)
Accreditation	Accredited under International Standard ISO/IEC 17025:2005 by the SANAS under the Facility Accreditation Number T0051 (valid until 30 April 2026)	Accredited under International Standard ISO/IEC 17025:2005 by the SANAS under the Facility Accreditation Number T0051 (valid until 30 April 2026)
Borehole database software	acQuire	acQuire
Borehole database update cut-off date	31 March 2022	29 January 2020
Database validation conducted	Yes	Yes
Segmentation conducted	Yes. To allow for simplification of logged lithologies for spatial correlation purposes	
Statistical and geostatistical evaluation		
Data compositing interval	3m	3m
Data compositing method	Length-weighted fixed interval downhole compositing per lithological domain. Threshold of 0.5m applied – if residual composite length is ≤ 0.5m, include with composite above, if ≥ 0.5m residual forms separate composite.*	Length multiplied with density used to weight per lithology
Grade parameters evaluated	% Fe, % SiO_2, % Al_2O_3, % K_2O, % P, % Mn and % S as well as relative density	% Fe, % SiO_2, % Al_2O_3, % K_2O, % P, % Mn and % S as well as relative density
Variography updated in current year	Yes	No
Search parameters updated in current year	Yes	No

* Internal independent Anglo peer review of 2023 required better description during reporting.

Ancillary Reserve and Resource information per operation cont.

Sishen cont.

Mineral Resource ancillary information cont.

Table 15B: Sishen's 2023 versus 2022 NN1 (A to C) geological models Mineral Resources estimation parameters – as an example cont.

(similar tables exist for the NN2 (A to C), NN3 (A to C), NN4 (A to C), MM1 (A to C), SS1 (A to C), SS2 (A to C), SS3 (A to C), LVD (A to C) and DNV (A to C) geological models but are not stated in this report)

NN1 (A to C) geological models	**2023**	2022
Estimation		
Solids modelling		
Solids modelling software	GEOVIA Surpac	GEOVIA Surpac
Input	Updated solids models	Updated solids models
Method	Digital wireframe modelling for ore segments and some waste segments (waste in contact with ore zones) Digital terrain models for other waste segments	Digital wireframe modelling for ore segments and some waste segments (waste in contact with ore zones) Digital terrain models for other waste segments
Domaining	Primary lithological domains are subdomained based on structural discontinuities, and distinguishable variation in grade, i.e. K2O as well as where volumes have been informed predominantly by core or percussion borehole data, i.e. different data populations.	Primary lithological domains are subdomained based on structural discontinuities, and distinguishable variation in grade, i.e. K2O as well as where volumes have been informed predominantly by core or percussion borehole data, i.e. different data populations.
Topography and pit progression assigned	31 December 2023 (planned boundary)	31 December 2022 (planned boundary)
Validation conducted	Yes (for gaps and overlaps by software queries as well as honouring of borehole contacts) and by standard software validation tools (open sides, self-intersecting triangles)	Yes (for gaps and overlaps by software queries as well as honouring of borehole contacts) and by standard software validation tools (open sides, self-intersecting triangles)

Ancillary Reserve and Resource information per operation cont.

Sishen cont.

Mineral Resource ancillary information cont.

Table 15B: Sishen's 2023 versus 2022 NN1 (A to C) geological models Mineral Resources estimation parameters – as an example cont.

(similar tables exist for the NN2 (A to C), NN3 (A to C), NN4 (A to C), MM1 (A to C), SS1 (A to C), SS2 (A to C), SS3 (A to C), LVD (A to C) and DNV (A to C) geological models but are not stated in this report)

NN1 (A to C) geological models	**2023**	2022
Grade estimation methodology		
Ore segments	High-grade ore: Ordinary Kriging Medium- and Ordinary Kriging and Low-grade ore: Simple Kriging (sparse data areas)*	Ordinary (Co-) Kriging
Waste segments	Simple Kriging (sparse data areas) and default values (assigned to areas without data)*	Global estimate
Geological block modelling		
Block modelling software	Isatis/Surpac	Isatis/Surpac
Model type	Centroid model	Centroid model
Parent cell size	20 m(X) x 20 m(Y) x 12.5 m(Z)	20 m(X) x 20 m(Y) x 12.5 m(Z)
Minimum sub-block cell size	5 m(X) x 5 m(Y) x 3.125 m(Z)	5 m(X) x 5 m(Y) x 3.125 m(Z)
Cell population method		
Tonnage	Volume of lithology intersected by cell centroid and constrained by cell limits, multiplied with relative density estimate of the same lithology at same unique cell centroid position in space	Volume of lithology intersected by cell centroid and constrained by cell limits, multiplied with relative density estimate of the same lithology at same unique cell centroid position in space
Grade	Estimate of grade at unique cell centroid position in space applicable to total volume or tonnage constrained by the cell	Estimate of grade at unique cell centroid position in space applicable to total volume or tonnage constrained by the cell
Updated geological block model ID (file name + extension)	nn1 (a to c).mdl	nn1 (a to c).mdl
Update completion date	28 February 2023	28 February 2021
Geological confidence classification		
Method summary	Scorecard applied to parent blocks in geological block model populated during first Kriging run, with blocks populated during second Kriging run classified as Inferred and remaining blocks not populated during first and second Kriging runs (populated with default values) classified as extrapolated Inferred.**	Scorecard/CP over-ride

* Internal independent Anglo peer review of 2023 required better description during reporting.
** An error was detected with the 2023 geological confidence classification with the cells populated during second Kriging run not classified as Inferred as per the Guideline but incorrectly classified using the scorecard approach. This error will be corrected in 2024.

Ancillary Reserve and Resource information per operation cont.

Sishen cont.

Mineral Resource ancillary information cont.

Table 15B: Sishen's 2023 versus 2022 NN1 (A to C) geological models Mineral Resources estimation parameters – as an example cont.

(similar tables exist for the NN2 (A to C), NN3 (A to C), NN4 (A to C), MM1 (A to C), SS1 (A to C), SS2 (A to C), SS3 (A to C), LVD (A to C) and DNV (A to C) geological models but are not stated in this report)

NN1 (A to C) geological models	**2023**	2022
Geological confidence classification		
• Scorecard method summary	According to the KIO Geological Confidence Classification Guideline (Version 5), with each cell in the 3D geological block model populated with: • Grade continuity parameters: – Fe estimate SOR that has been indexed according to fixed SOR intervals, – Sample Representivity Index that is spatially estimated using the sample type, i.e. 1 is assigned to a cell if the Fe grade estimation in the block is informed by core samples only and a value of 0 if it is informed by percussion samples only, and ranges between one and zero dependent on the ratio of samples informing the block and their distances from the block using an inverse distance interpolation based on the Fe search neighbourhood – Borehole sample total oxides percentage is indexed, i.e 1 if inside high precision tolerance limits and 0 if inside lower precision tolerance limits. The index value is then estimated using an inverse distance squared interpolation method – Geometry continuity parameter: • Distance to closest logged borehole sample (indexed according to fixed intervals)*	Not reported
– Grade continuity parameter weighting	Fe estimate SOR (33.3%); Sample Representivity Index (33.3%); Total Oxide (33.3%)	Fe estimate SOR (33.3%); Sample Representivity Index (33.3%); Actual versus Default Assays (33.3%)
– Geometry continuity parameter weighting	Distance to closest logged sample (100%)	Distance to Closest Sample (50%); Geological Complex areas (50%)
• Geological confidence weighting		
– Grade weighting (%)	60	60
– Geometry weighting (%)	40	40

** An error was detected with the 2023 geological confidence classification with the cells populated during second Kriging run not classified as Inferred as per the Guideline but incorrectly classified using the scorecard approach. This error will be corrected in 2024.

Ancillary Reserve and Resource information per operation cont.

Sishen cont.

Mineral Resource ancillary information cont.

Table 15B: Sishen's 2023 versus 2022 NN1 (A to C) geological models Mineral Resources estimation parameters – as an example cont.

(similar tables exist for the NN2 (A to C), NN3 (A to C), NN4 (A to C), MM1 (A to C), SS1 (A to C), SS2 (A to C), SS3 (A to C), LVD (A to C) and DNV (A to C) geological models but are not stated in this report)

NN1 (A to C) geological models	**2023**	2022
Geological confidence thresholds		
– Measured	≥7	≥7
– Indicated	5 to <7	5 to <7
– Inferred	1 to <5	1 to <5
CP over-ride		
– Measured to Indicated (Mt)	34 (geological complex areas as identified by CP)	40.5
– Indicated to Inferred (Mt)	None	None
Estimator		
Resource estimator	Fanie Nel, Tshele Sekoere, Obed Nkuna, Jacques Deacon	Fanie Nel, Tshele Sekoere, Obed Nkuna, Jacques Deacon
Resource estimator status	Internal technical specialists	Internal technical specialists
Estimator employer	Sishen Iron Ore Company Proprietary Limited	Sishen Iron Ore Company Proprietary Limited

Ancillary Reserve and Resource information per operation cont.

Sishen cont.

Mineral Resource ancillary information cont.

Sishen main pit high-, medium- and low-grade ore *in situ* P grade

The *in situ* P (phosphorous) estimates of the Sishen high-, medium- and low-grade ore inside the pit layout is depicted in **Figure 39**.

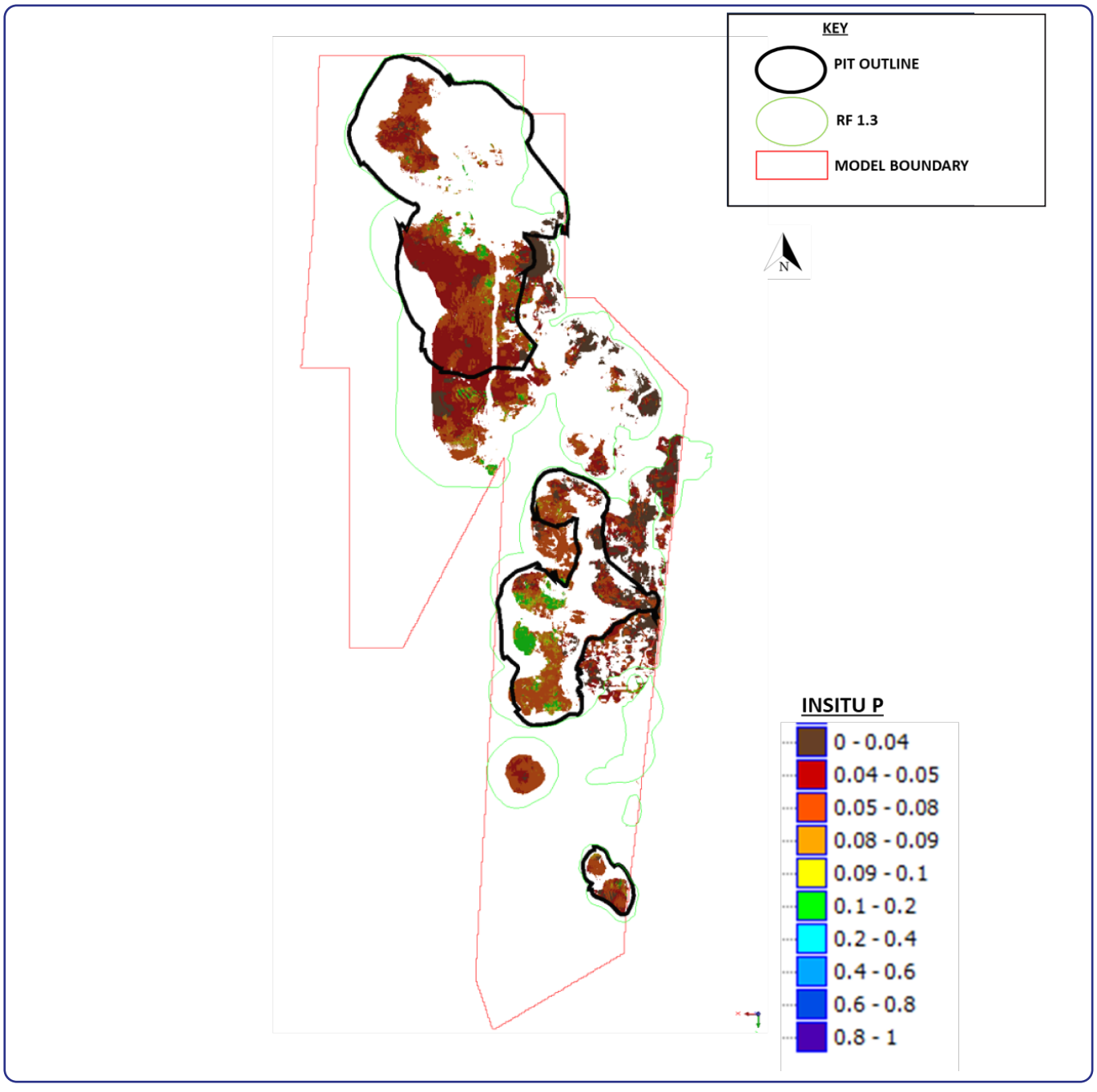


Figure 39: View of Sishen main pit high-grade ore *in situ* P estimates inside the pit layout

Endorsement

The persons who accept overall responsibility (Lead CPs) and accountability (Chief Executive) for the declaration of the 2023 Kumba Ore Reserve and Mineral Resource estimates.

The person designated by the Kumba executive as Lead Competent Person to take responsibility on behalf of Kumba for Mineral Resources is Jean Britz. Mr Britz has extensively reviewed the Mineral Resource estimates reported for 2023 and considers these to be compliant with the SAMREC Code (the relevant portions of Table 1 of the Code) and the JSE Listings Requirements (section 12.3), and consents to the inclusion of these estimates in the form and context in which they appear *in the Kumba Iron Ore Limited Ore Reserve (and Saleable Product) and Mineral Resource report 2023*.

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 31 years of experience as a mining and exploration geologist in coal and iron ore, of which 19 are specific to iron ore Mineral Resource estimation and evaluation.

Jean Britz is a full-time employee of Sishen Iron Ore Company Proprietary Limited, serving as the Principal, Resource Geology - Kumba Iron Ore Geosciences.

Jean Britz
Principal, Mineral Resources and Geometallurgy – Kumba Iron Ore Geosciences

The person designated by the Kumba executive as Lead Competent Person to take responsibility on behalf of Kumba for Ore Reserves is Dr Theunis Otto. Dr Otto has extensively reviewed the Ore Reserve estimates reported for 2023 and considers these to be compliant with the SAMREC Code (the relevant portions of Table 1 of the Code) and the JSE Listings Requirements (section 12.13), and consents to the inclusion of these estimates in the form and context in which they appear in the *Kumba Iron Ore Limited Ore Reserve (and Saleable Product) and Mineral Resource report 2023*.

Dr Theunis Otto is an ECSA-registered Mining Engineer (990072), has a PhD in Mining Engineering and has 28 years of experience as a mining engineer in production management and technical roles in coal and iron ore mining, of which 19 years are specific to iron ore Mineral Reserve estimation and evaluation.

Dr Theunis Otto is a full-time employee of Sishen Iron Ore Company Proprietary Limited, serving as the Manager: Mining Engineering.

Theunis Otto
Manager, Kumba Iron Ore Mining

Kumba's Head of the Technical and Projects department, serving as an Executive Committee member for the Company, Mr Glen Mc Gavigan, endorses the Mineral Resource and Ore Reserve estimates presented in this report, and acknowledges that the Kumba Iron Ore policy, which governs Mineral Resource and Ore Reserve reporting has been adhered to.

Glen Mc Gavigan
Head - Technical and Projects, Kumba Iron Ore

Glossary of terms and acronyms

AA plc	Anglo American plc
Al_2O_3	Aluminium dioxide
BIF	Banded iron formation
CFR	Cost and freight
CP	Competent Person
CPI	Consumer price index
DD	Diamond core drilling
DMRE	Department of Mineral Resources and Energy
DMS	Dense media separation
DSO	Direct shipping ore
ECSA	Engineering Council of South Africa
ESG	Environmental, social and governance'
Fe	Iron
FOB	Free-on-board
Ga	Giga-annum
IFRS	International Financial Reporting Standards
JSE	Johannesburg Stock Exchange
JV	Joint venture
K_2O	Potassium oxide
KIO	Kumba Iron Ore
Kumba	Kumba Iron Ore
LNG	Liquefied natural gas
LoA	Life-of-asset
LoAP	Life-of-asset plan (replacing the term life-of-mine plan as used in 2021)
LT	Long term
Mn	Manganese
MPRDA	Mineral and Petroleum Resources Development Act No 28 of 2002
MRE	Mining recovery efficiency
Mt	Million tonnes
Mtpa	Million tonnes per annum
NPV	Net present value
ORMR	Ore Reserve (and Saleable Product) and Mineral Resource
P	Phosphorus
QA/QC	Quality assurance and quality control
R&R	Resource and Reserve
RF	Revenue factor
RPEEE	Reasonable prospects for eventual economic extraction
S	Sulfur
SACNASP	South African Council for Natural Scientific Professions
SAMESG Guideline	South African guideline for the reporting of environmental, social and governance parameters
SAMREC Code	The South African Code for the Reporting of Exploration Results, Mineral Resources and Mineral Reserves – 2016 Edition
SANAS	South African National Accreditation System
SiO_2	Silicon dioxide
SIOC	Sishen Iron Ore Company Proprietary Limited
SMU	Selective mining unit
SOR	Slope-of-regression
TARP	Triggered action response plan
TS of AA plc	Technical Solutions Division of AA plc
UHDMS	Ultra-high dense media separation

Kumba Iron Ore
144 Oxford Road
Rosebank, Melrose
2196

www.angloamericankumba.com

Find us on Facebook

Follow us on Twitter

A member of the Anglo American plc group
www.angloamerican.com