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GOLD FIELDS LIMITED Mineral Resources and Mineral Reserves Supplement to the Integrated Annual Report 2022

Creating enduring value beyond mining

CREATING ENDURING VALUE BEYOND MINING

ABOUT OUR COVER

Mining the Brecha Principal ore body at Salares Norte, Chile.

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Gold Fields is a globally diversified gold producer with nine operating mines in Australia, South Africa, Ghana (including the Asanko joint venture (JV)), Peru, and one project in Chile.

- The Group had a total attributable annual production of 2.40Moz gold and 110Mlbs copper in 2022
- Attributable Proved and Probable Mineral Reserves of 46.1Moz gold, 398.4Mlbs copper and 42.2Moz silver
- Attributable Measured and Indicated Mineral Resources in excess of Mineral Reserves of 31.1Moz gold, 299.6Mlbs copper and 2.5Moz silver
- Attributable Inferred Mineral Resources in excess of Mineral Reserves of 11.2Moz gold, 1.1Mlbs copper and 0.5Moz silver

The Group's shares are listed on the Johannesburg Stock Exchange (JSE), with its American Depositary Shares (ADS) trading on the New York Stock Exchange (NYSE).

This Mineral Resources and Mineral Reserves (MRMR) Supplement should be read in conjunction with the Gold Fields 2022 Integrated Annual Report (IAR) on Form 20F. This Supplement is formatted to comply primarily with the South African Code for the Reporting of Exploration Results, Mineral Resources and Mineral Reserves, 2016 edition (SAMREC Code) and there may be some variations from the Securities and Exchange Commission (SEC) filings formatted for that purpose.

SK-1300 Technical Report Summary (TRS) filings were first lodged in 2022 for the 2021 Resources and Reserves and filed as exhibits to Gold Fields' annual report on Form 20-F. TRSs will only be updated where material changes occur. This year, SK-1300 TRSs have only been updated for Tarkwa and Cerro Corona as they have had impairments applied. For other operations, changes in Resources and Reserves are due to normal depletions and routine extensional and infill drilling and are detailed in the Supplement and on the Form 20F. No Mineral Resources are reported for Far Southeast (FSE) this year as its carrying value has been written down.

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This year, in this Supplement, tabulated Mineral Resources are presented primarily as attributable and in excess of (exclusive of) Mineral Reserves (EMR) unless otherwise stated. Inferred Mineral Resources are reported as a separate line item in all the tabulations.

This format is different from previous versions of the MRMR Supplement which reported "Managed" Mineral Resources and Mineral Reserves and included Inferred Mineral Resources in totals. Resources were previously reported both as inclusive and exclusive of Mineral Reserves. The change has been adopted to ensure consistency across reporting jurisdictions, particularly with SK-1300 TRSs.

Tabulated Mineral Reserves are likewise reported as attributable only. Graphs and figures such as year-on-year waterfalls, sensitivities and grade-tonnage curves are also presented on attributable basis. Investors are referred to the table on page 2 which shows the attributable percentages for each operation.

Refer to pages 154 -159 of this Supplement for abbreviations and the glossary of terms, respectively.

An Annexure to this Supplement is included on the Gold Fields website to provide additional information on the regional geology for each of Gold Fields' four operating regions. It summarises a brief history for each asset.

This additional information should be referenced in conjunction with this Supplement and aims to streamline the effective review of the Company information provided.

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SEND US YOUR FEEDBACK

To ensure that we report on issues that matter to our stakeholders, please provide any feedback and questions to investors@goldfields.com, sustainability@goldfields.com or visit www.goldfields.com to download the feedback form.

Introduction and Group overview Aim of this report

This report contains Gold Fields' Mineral Resources and Mineral Reserves Statement (the Supplement) as at 31 December 2022. It provides key technical information to supplement the information summarised in the IAR and is available on the Company's website. In addition to providing information required by the international reporting codes, this Supplement highlights key developments and issues viewed as material to the reporting of Mineral Resources and Mineral Reserves per asset. Gold Fields' commitment to materiality, transparency and competency in its public reporting remains paramount, and continues to be endorsed by the Group's internal and external audit assurance protocols.

This Supplement comprises several sections that should be read in their totality for a full understanding of the Group's Mineral Resource and Mineral Reserve reporting process, protocols, historical performance, key developments, material issues and strategic context.

STRATEGIC CONTEXT

The custodianship and management of the Company's fundamental asset base, the Mineral Resources and Mineral Reserves, are central to delivering on its purpose, vision, strategic goals and key performance targets. Gold Fields' purpose is creating enduring value beyond mining and its new vision is to be the preferred gold mining company, delivering sustainable, superior value. Nine strategic initiatives drive the Company's performance and are integrated across the business and wired into the Group's strategy and business development.

Gold Fields' strategic initiatives are:

- 1. Design and develop the Gold Fields culture
- 2. Refine the operating model
- 3. Leadership and talent development
- 4. Asset optimisation
- 5. Capital allocation discipline and efficiency
- 6. Prioritising modernisation and innovation opportunities
- 7. Decarbonisation plan and execution
- Merger and acquisition opportunities and expanding the portfolio
- 9. Targeted industry and analyst stakeholder engagement plan

Collaborative delivery on many of these initiatives is inherently linked to the Group's Mineral Resources and Mineral Reserves. The Group-wide modernisation implementation plan relies on people and innovation to enhance safety, exploration, resource development, projects, production and cost metrics through a staged process of integration, digitalisation, automation and optimisation. A procedural approach to integrating environmental, social and governance (ESG) criteria with the technical and economic aspects of mineral reporting, including the assessment of modifying factors and reasonable prospects for eventual economic extraction (RPEEE), is entrenched to underpin the execution of the life-of-mine (LOM) plans. The Group has a consistent multi-year investment in brownfields exploration, resource development, studies and focused capital allocation to drive organic growth. This shows a strong track record of replacing production depletion, growing Mineral Reserves and adding mine life as well as growing the value and quality of its portfolio of assets.

The Mineral Reserves reported in this Supplement demonstrate that the Group's asset portfolio is currently in a strong position to produce 2.25Moz – 2.3Moz of attributable gold-equivalents in 2023, of which close to 1.9Moz is from outside the South African base, and ramping-up to 2.7Moz – 2.8Moz thereafter by 2025 with the addition of production from Salares Norte. Further production and cost guidance is provided in the Gold Fields Q4 Results Booklet published on 23 February 2023 and available at https://www.goldfields.com/reports/q4-2023/pdf/booklet.pdf.

Over time, Gold Fields has had a strong track record of replacing Mineral Reserves depleted through production. However, year-on-year changes may show both gains and losses in Mineral Resources and Mineral Reserves at individual assets. Overall attributable Mineral Reserves have decreased by 1.2Moz of gold between 2021 and 2022. This should however be seen in the context of reduction in Mineral Reserves at South Deep and the long LOM there. Reductions at South Deep will not impact production within the next 74 years. Discovery, Mineral Resource development and Mineral Reserve growth have approved multi-year funding and work commitments and are not a smooth annualised process. Nevertheless, Gold Fields remains committed to defining extensions to known ore bodies and exploring for new deposits, thereby replacing depleted Mineral Reserves.

There is potential to reclaim some of the current Mineral Reserve reductions by improving productivity and unit costs by increasing annual production (volume ramp-ups) and delivering a broad spectrum of expansion studies currently under way. Furthermore, the inflationary environment associated with post-pandemic recovery, notably in the mining sector, has had a negative impact on costs. This is being directly addressed by the Group's strategic focus aiming to secure sustained free cash-flow (FCF) and All-in costs (AIC)/oz margins which, in turn, will anchor the robustness of our ore bodies in support of realistic and executable LOM plans. During 2022, cost inflation was offset by higher realised gold prices throughout the year. Mineral Resources and Mineral Reserves price decks have increased from 2021 but have been applied primarily to financial evaluations for Gold Fields Australia and Gold Fields Ghana. The increased price deck has not yet been applied to the full mine planning and optimisation processes at these mines. However, for South Deep and the South American operations, the Resources and Reserves have been able to take full advantage of the increased price deck.

This year's Mineral Resource and Mineral Reserve estimates continue to reflect the Company's strategy in action, specifically the consistent funding of brownfields and near-mine exploration, reinvestment in the sustainability and growth of the operations, embedded business improvement and modernisation programmes, advancement of value-accretive projects, and mergers and acquisitions. The quality of the Gold Fields portfolio is shown in its ability to consistently underpin delivery on operational plans. This is the result of a rigorous annual planning process that enforces a strong link between strategic, business, operational and LOM planning.

Aim of this report continued

HEADLINE NUMBERS – GROUP OVERVIEW AS AT DECEMBER 2022

This annual statement of Mineral Resource and Mineral Reserve estimates was prepared in accordance with the SAMREC Code and section 12 of the JSE Listings Requirements. This statement is also intended to be compliant with NYSE requirements. The annual review considered long-term metal prices, foreign exchange and cost assumptions, and mining and metallurgy performance to inform cut-off grades (COGs), modifying factors and physical mining parameters. The Covid-19 pandemic continued to impact operations to varying degrees, as have global inflationary pressures and political instability, but for the 2022 reporting cycle on the whole, the Group managed these disruptions extremely well and its operating regions completed the requisite drilling, resource modelling, technical studies and LOM planning as scheduled.

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Headline numbers – Attributable Mineral Reserve

		Attributable Mineral Reserves
	Au Mineral Reserves	47.4Moz
December 2021	Cu Mineral Reserves	474MIb
	Ag Mineral Reserves	39Moz
4.2 month	Au production depletion from Mineral Reserves	2.6Moz
12-month doplotion	Cu production depletion from Mineral Reserves	110MIb
depietion	Ag production depletion from Mineral Reserves	OMoz
	Au Mineral Reserves	46.1Moz
December 2022	Cu Mineral Reserves	398MIb
	Ag Mineral Reserves	42.2Moz

Headline numbers – Attributable Exclusive Mineral Resource

		Attributable Exclusive Mineral Resource
	Au Mineral Resources Measured and Indicated	32.2Moz
	Au Mineral Resources Inferred	11.9Moz
December 2021	Cu Mineral Resources Measured and Indicated	264MIb
December 2021	Cu Mineral Resources Inferred	2MIb
	Ag Mineral Resources Measured and Indicated	7.1Moz
	Ag Mineral Resources Inferred	0.9Moz
	Au Mineral Resources Measured and Indicated	31.1Moz
	Au Mineral Resources Inferred	11.2Moz
December 2022	Cu Mineral Resources Measured and Indicated	300MIb
December 2022	Cu Mineral Resources Inferred	1Mlb
	Ag Mineral Resources Measured and Indicated	2.5Moz
	Ag Mineral Resources Inferred	0.5Moz

* Au: gold, Cu: copper and Ag: silver

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Damang and Tarkwa have 10% ownership by Government of Ghana as free carry. As such, Mineral Resources and Mineral Reserves are at 90% attributable but all
costs and expenditures are at 100%

costs and expenditures are at 100% • Group total figures for 2021 exclude FSE (2021: 7.9Moz Au and 3,986Mlbs Cu) and the Asanko JV

• Group total figures for 2022 exclude FSE and the Asanko JV, and are net of annual production depletion

Metal price assumptions are shown in the table on page 7

Mineral Resources are reported in situ, before the application of modifying factors and exclusive of those Mineral Resources modified to produce Mineral Reserves
 Mineral Reserves are reported as delivered to the run-of-mine (ROM) pad (before processing)

Mineral Resource and Mineral Reserve attributable to Gold Fields

Operation	Dec-22 (%)	Dec-21 (%)
Gruyere JV gold mine	50	50
Granny Smith gold mine	100	100
St lves gold mine	100	100
Agnew gold mine	100	100
South Deep gold mine	90.439	90.495
Damang gold mine	90	90
Tarkwa gold mine	90	90
Salares Norte gold-silver mine	100	100
Cerro Corona gold-copper mine	99.53	99.53
Asanko JV gold mine	45	45

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GFI – Attributable Mineral Reserves Reconciliation Gold (Moz)







St lves exploration drilling on Lake Lefrov

Group highlights*

Attributable exclusive gold Mineral Resources decreased by **2Moz or -4**% net of depletion

- Exclusive Mineral Resource (EMR) decreased by 3.3Moz (-27%) in the Australia region primarily due to removal of pillars at Granny Smith: -2.3Moz (-39%). There is potential to recover some of these pillars in the future. Gruyere: -0.2Moz (-11%) primarily due to increased costs, St Ives: +0.1Moz (2%) due to discovery, Agnew: -0.9Moz (-37%) primarily due to increases in Mine Shape Optimiser (MSO) dimensions and increases in cut-off grades
- South Deep gained 2Moz (8%) due to loss of Reserves
 subsequently converted to EMR
- Damang EMR is essentially unchanged
- Tarkwa EMR has decreased by 0.4Moz (-13%) largely due to increased costs and COGs
- Asanko JV is excluded from post-2020 EMR figures
- At Salares Norte EMR decreased by 0.4Moz Au (-63%) due largely to costs but off a low base. Near-mine and district exploration continues to assess potential additional ore sources to enhance the current LOM
- At Cerro Corona EMR increased by 0.1Moz (18%) due to acquisition of adjacent landholdings allowing an increased Resource pit footprint
- FSE is excluded from Mineral Resources in 2022 (-100%) due to write-downs in carrying value

Company strategy has delivered

- The successfully executed strategy over the past nine years has resulted in strong cash generation despite significant investment in the portfolio
- Value creation from cornerstone assets especially South Deep, Tarkwa and the Australian portfolio, with over 10-year LOM and very competitive AIC
- Two new mines were built Gruyere in Australia and the Damang reinvestment project (DRP) in Ghana
- Construction of the Salares Norte gold-silver project in Chile, although delayed, is now scheduled to be operational in Q4 2024 with an average annual production forecast at circa 350koz gold-equivalent for the first 10 years
- South Deep continues to embed improvements and production ramp-up is forecast to increase by 20% to 30% from 2021 production levels over the next four years (2025) to >12 tonnes of gold
- ESG 2030 targets and estimated cost provisions are incorporated into the LOM plans, including tailings management, decarbonisation, water stewardship, and safety, health, wellbeing and the environment
- All figures are for 2022, post annual depletion and attributable; Percentages in brackets show year-on-year movement

Attributable gold Mineral Reserves decreased by **1.2Moz or -3%** net of depletion

- Australia achieved Reserve replacement (1%) and was carried by St Ives and Agnew
- Gruyere Reserves decreased by 0.2Moz (-9%) due to depletion and cost increases
- Granny Smith decreased by 0.1Moz (-4%) due to only partial replacement of depletions
- St lves increased Reserves by 0.3Moz (12%) due to resource conversion at the Invincible Underground Complex and Hamlet North Underground
- Agnew posted a 0.1Moz (8%) increase due to extensional drilling and improved classification. This is the largest Mineral Reserve position at Agnew since 2012
- South Deep decreased by 0.4Moz (-2%) largely due to depletion and increased costs
- Damang decreased by 0.3Moz (-47%) due to depletion and costs but with the percentage change off a low base
- Tarkwa decreased by 0.4Moz (-7%) due to costs and depletion
- Asanko is excluded from post-2020 Reserves as per 2021
- Salares Norte has only minimal changes (costs) as delays in commissioning have delayed gold processing but not changed the production schedule
- Cerro Corona has decreased by 0.2Moz (-21%) due largely to depletion with some negative effect from costs
- Technical studies under way at Granny Smith, St Ives, Agnew, Tarkwa, Damang and Salares Norte to assess life-extension opportunities

Portfolio management

- Configured and funded to deliver on our vision of being the preferred gold mining company delivering sustainable, superior value with focus on reducing Group AIC, capital discipline, increasing FCF per ounce and extending asset life
- US\$1,069m in capital expenditure (capex) in 2022, including US\$286m in non-sustaining, growth capex during 2022 on Salares Norte and US\$81m in Australia. Investors are referred to the Q4 results for more detailed financial results
- Consistent and significant investment in brownfields (on-lease) exploration of US\$104m including US\$59m in Australia for 2022 continued to unlock the tenement potential at St Ives, Granny Smith and Agnew. Goldfields will continue to commit exploration expenditure in Australia to maximise the potential of the operations
- Extensional and near-mine exploration at Damang and Tarkwa is ongoing to assess opportunities for further pit expansions or new mining fronts
- Although merger and acquisition activity (the Yamana Gold deal) did not progress in 2022, Gold Fields will continue to evaluate opportunities to grow its portfolio through acquisitions or partnerships

Attributable Mineral Reserve change per region (Moz)



Attributable Mineral Resource (EMR) change per region: Measured and Indicated (Moz)



The charts above depict the Group's comparative 2022 versus 2021 attributable gold Mineral Resources and Mineral Reserves ounces split by region and growth projects. The project Mineral Resources only reflect the FSE asset. Mineral Resources (excluding FSE) comprise 20% Australia, 60% South Deep, 14% West Africa and 6% Americas. Mineral Reserves comprise 15% Australia, 63% South Deep, 13% West Africa and 9% Americas.

ASSESSMENT AND REPORTING CRITERIA

For Gold Fields, the assessment and reporting criteria outlined in the SAMREC Code are used to assess Mineral Resources and Mineral Reserves, estimation parameters, modifying factors and other relevant data and these are then captured in an industry standard database management system (RCubed®). Mineral Resource and Mineral Reserve estimates presented in this Supplement are sourced from this database. Similarly, tabulations, materially similar to those presented in the Supplement, are sourced from the database for disclosure in the Form 20F lodged on EDGAR, the report depository for the NYSE. Operations also prepare Competent Person's Reports (CPR) or prefeasibility study (PFS) documents for each operating asset and material growth

project. These are held for internal Gold Fields use and updated for material changes. TRSs prepared under SK-1300 are also prepared for all material operations, filed as exhibits to Gold Fields' annual report on Form 20-F and updated for material changes.

The CPR principally comprises a technoeconomic review of the Mineral Resources and Mineral Reserves, together with a full appraisal of the Mineral Resource estimation models, mining method and equipment, mine design and scheduling, processing assets, security of water/ power, operating and capital costs, and the status of permitting/licensing to support the LOM plan. Each item under Table 1 of the SAMREC Code has been considered using the "if not, why not" principle, and any material year-on-year variance per asset is explained in this

Group highlights continued

document. This Supplement is, in effect, a short-form summary of all the individual CPRs completed for the portfolio of assets and kept on record.

TRSs have been lodged on the NYSE reporting platform EDGAR for all material Gold Fields properties and are consistent with and substantially similar to this Supplement. These are also substantially similar to the SAMREC assessment and reporting criteria and the Technical Reports are substantively similar to CPRs. Following an internal review of the materiality of operations to Gold Fields during 2022, TRS documents for Agnew and Damang will no longer be updated on EDGAR. Mineral Resources and Mineral Reserves for these operations are however still reported as tabulations in this Supplement and in the Gold Fields Form 20F submission to the NYSE. Other TRSs for operations material to Gold Fields will only be updated if there has been a material change. Only Tarkwa and Cerro Corona will be updated in 2022 as decreases in their valuation have triggered impairments.

Metal prices and exchange rates

The table on the following page summarises the metal price deck approved by Gold Fields for the December 2022 Mineral Resources and Mineral Reserves estimates under SAMREC and SK-1300. There is no longer a requirement to use metal prices aligned to three-year trailing prices (Industry Guide 7) for reporting to the SEC (NYSE) under SK-1300. Notwithstanding this, the gold prices below are less than the three-year trailing price averages.

A review of metal prices for planning purposes is undertaken annually in Q2 to monitor any significant changes in price trends or exchange rates that would warrant recalibrating the price deck before the strategic planning process transitions into the business planning and subsequent LOM planning cycles. Selection of the metal price deck has taken account of the prevailing economic, commodity price and exchange rate trends, together with market consensus forecasts, in addition to consideration of Gold Fields' strategy and expectations for the operations. This year, in response to high levels of mining inflation, Gold Fields made a late revision to its metal price forecasts in Q4 raising the Reserve gold price to US\$1,400/oz and the Resource gold price to US\$1,600/ oz. This revision was applied primarily to economic models and has yet not been carried through to all aspects of mine planning where pit and stope optimisations still rely on metal prices unchanged from 2021 for Gold Fields Australia and Gold Fields Ghana.

The Group's strategy is to:

- Mitigate annual volatility by holding planning metal prices as long as warranted to support stability in mine planning
- Maintain appropriate margins on spot and long-term price forecasts to support the Group's balanced scorecard metrics and strategy
- Protect against accelerating mining sector inflation
- Confirm a separate gold price annually in Q3 to be used specifically for the operational plan (two-year budget) revenue streams and cash-flows

The Covid-19 pandemic and geopolitical tensions continued to fuel safe-haven demand for gold and drove prices to their highest levels in several years in early 2022 but have since moderated. However, retaining the good discipline adopted in recent years, we maintained the use of a gold price that supports the Group's strategy and key scorecard performance metrics. In addition, the mining industry inflation trend has accelerated and is anticipated to continue. Incorporating adequate head room through selection of a Mineral Reserve gold price significantly below current spot prices assists in ensuring cash generation when prices are trading periodically lower and protects the viability of the LOM plans under price volatility. Mineral Resources and Mineral Reserves underpin long-term strategic decisions. Short-term planning and operational decisions take into consideration current economic parameters and prevailing conditions.

Sensitivity analysis of the gold price for project financial evaluation provides flexibility/range analysis for all regional studies and site growth opportunities for investment purposes.

The Mineral Resource gold price premium to the Mineral Reserve price is circa 15% and the differential is in general alignment with our peer group and industry standard practice. The Mineral Resource price premium is to provide information on each operation's potential at higher gold prices, and to indicate possible future site infrastructure and mining footprint requirements.

Gold Fields metal price deck

		Decembe	er 2022	December 2021	
Commodity*	Unit	Mineral Reserves	Mineral Resources	Mineral Reserves	Mineral Resources
	US\$/oz	1,400	1,600	1,300	1,500
Au	A\$/oz	2,000	2,300	1,750	2,000
	R/kg	720,000	800,000	650,000	750,000
Cu	US\$/lb	3.40	3.60	2.80	3.20
Ag	US\$/oz	17.50	20.00	17.50	20.00

* Au: gold, Cu: copper and Ag: silver

The following exchange rates were used for planning purposes:

Items		December 2022	December 2021
	R/US\$	16.00	15.55
Exchange rate	A\$/US\$	1.43	1.35

Risks to the metal price assumptions used include, but are not limited to, adverse legislation or poor policies implemented by governments in operating regions, slow global growth, exchange rate volatility, international policies and global health threats such as the Covid-19 pandemic.

Quality assurance and quality control

In accordance with the international reporting codes, a comprehensive quality assurance and quality control (QA/QC) protocol is in place at all Gold Fields operations and projects. It draws on industry-leading practice for data

acquisition and analysis and uses accredited laboratories, which are regularly reviewed internally and externally. Analytical QA/QC is maintained and monitored through routine International Organization for Standardization (ISO) certification where appropriate, internal audits, submission of blanks, certified reference material and duplicates, and umpire laboratory checks. External and independent analytical laboratory audits are conducted when appropriate to provide additional assurance.



Visible gold in drill core, St Ives

Group highlights* continued

IMPORTANT NOTICES AND CONSIDERATIONS

The following list of notices is consolidated as a reference for the important elements considered and embodied in the Mineral Resources and Mineral Reserves estimates:

- 1. This Supplement should be read in conjunction with the Gold Fields 2022 IAR, Form 20F/SK-1303 and SK-1300 filings, which provide additional information regarding the operations and their financial performance
- The Group's Mineral Resources and Mineral Reserves estimates were subjected to internal review and scrutiny by the relevant regional technical and financial disciplines, and peer reviewed for technical assurance and compliance in reporting by Corporate Technical Services (CTS), Corporate Sustainable Development and Corporate Finance teams
- 3. All Mineral Resources and Mineral Reserves figures reported are managed by Gold Fields unless otherwise stated (Gruyere and Asanko JVs) but are reported as attributable to Gold Fields
- Mineral Resources are reported exclusive of Mineral Reserves and may include stability pillars when appropriate
- Mineral Resources tonnages and grades are estimated and reported in situ over a minimum mining width and may include mineralisation below the selected COG to achieve practically minable shapes
- Mineral Resources categories are assigned with consideration of geological complexity, grade variance, drill hole intersection spacing and proximity of mining development
- 7. Mineral Resources are estimates dependent on interpretation of limited information about the location, shape, continuity of the occurrence and available sampling results. As understanding of the ore body improves and resolution of the methods and modifying factors that determine its extraction criteria increases, the estimates may also change and the Mineral Resources and Mineral Reserves may be modified accordingly. There is no guarantee that all of the Mineral Resources will subsequently be shown to be economic and converted to Mineral Reserves; however, all Mineral Resources have been subject to a preliminary economic assessment that indicates that there is a reasonable prospect of economic extraction at the Mineral Resources commodity prices
- 8. A Mineral Reserve is the portion of the Mineral Resource that, as technical and economic studies have demonstrated, can justify extraction at the time of disclosure (to a minimum of a PFS level). Estimates of tonnages and grades quoted as Mineral Reserves include allowances for mining losses and dilution and all other mining factors (modifying factors). They are consequently reported as net tonnes and grades delivered to the mill
- The Mineral Resources and Mineral Reserves are estimated at a point in time and can be affected by changes in the gold price, US Dollar currency exchange rates permitting legislation

US Dollar currency exchange rates, permitting, legislation, costs and operating parameters

10. Open-pit Mineral Resources are confined to optimised pit shells defined by the price, costs and relevant modifying factors used for their estimates. These pit shells are used to constrain the mineralisation to that which is economically extractable under assumed economic conditions and may be different in places to fully designed pits used in Mineral Reserves. Open-pit Mineral Reserves are reported within practical pit designs that achieve target financial metrics and incorporate geotechnically stable slope designs, ramps and other features that may lead to the exclusion of some Mineral Resources or inclusion of mineralised material outside of the optimised Mineral Resource shells of sufficient confidence to be classified as Mineral Reserve but not reported as Mineral Resource

- 11. Underground Mineral Resources are typically confined using mineable shape optimiser (MSO) software, which assists with generating optimised stope designs to maximise the volume of recovered ore within the given ore body and design constraints, including minimum mining widths and mining COG. Some below COG material may be included in this process
- 12. All regions and operations have documented the assumptions, inputs and modifying factors that underpin the LOM plans, which are supported by mine designs and annualised schedules. These assumptions are recorded in the RCubed[®] database
- Although not all permits have been finalised, there is no reason to expect that these will not be granted based on existing processes, protocols and experience. However, the duration of final approval may impact the production schedules
- 14. Caution should be exercised when interpreting the grade tonnage curves provided within this report. The ability to selectively mine the deposits may be precluded by the deposit geometry, mining method and the need for practical development of the ore body
- 15. Operations are entitled to mine all declared material within their respective mineral rights and/or mining rights, and all necessary statutory mining authorisations and permits are in place or have reasonable expectation of being granted
- All references to tonnes (t) are metric units, all references to ounces (oz) are troy ounces and references to pounds (lb) are standard imperial pounds
- The 31 December 2022 Mineral Resources and Mineral Reserves estimates are net of 2022 production depletion to end November 2022 with projected production depletion for December 2022
- 18. Locations on maps are indicative only
- All metals (gold, silver and copper) are reported individually for Mineral Resources and Mineral Reserves and not as metal equivalents. Metal equivalents are only reported for production and production guidances representing metal or concentrate sold
- 20. The limited metal from Inferred Mineral Resources considered in the LOM plans is not converted to Mineral Reserves and is omitted from all economic studies
- 21. Rounding of figures in this report may result in minor computational discrepancies. These are not considered material
- 22. The Gold Fields Mineral Resources and Mineral Reserves reporting for fiscal 2022 (December 2022 annual reporting) complies with the SAMREC and SEC SK-1300 modernisation rules for technical disclosure
- 23. Gold Fields uses K2fly RCubed® proprietary software in combination with SharePoint to ensure accuracy, governance and auditability in the reporting of Mineral Reserves and Mineral Resources

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Headline Mineral Resources and Mineral Reserves Statement

GOLD FIELDS MINERAL RESOURCES AND MINERAL RESERVES ESTIMATES

OPERATIONAL SUMMARY

Mineral Reserves headline numbers

		De	December 2022			cember 2021	
	Category	Tonnes (Mt)	Grade (g/t)	Au (Moz)	Tonnes (Mt)	Grade (g/t)	Au (Moz)
Au	Proved and Probable	512.1	2.80	46.1	543.3	2.72	47.4
		Tonnes	Grade	Cu	Tonnes	Grade	
	Category	(Mt)	(% Cu)	(MIb)	(Mt)	(% Cu)	(MIb)
Cu	Proved and Probable	49.9	0.36	398.0	58	0.37	474.0
	Category	Tonnes (Mt)	Grade (g/t)	Au (Moz)	Tonnes (Mt)	Grade (g/t)	Au (Moz)
Ag	Proved and Probable	18.4	71.4	42.2	20.8	58.4	39.0

* Au: gold, Cu: copper and Ag: silver

		Attributable Mineral Reserves						
		Dec	December 2022			December 2021		
Au	Category	Tonnes (Mt)	Grade (g/t)	Au (koz)	Tonnes (Mt)	Grade (g/t)	Au (koz)	
Australia region								
Gruyere	Proved and Probable	49.4	1.27	2,023	54.5	1.27	2,226	
Granny Smith	Proved and Probable	11.8	5.64	2,135	12.6	5.47	2,216	
St Ives	Proved and Probable	24.6	3.43	2,713	20.1	3.74	2,412	
Agnew	Proved and Probable	5.3	6.46	1,095	5.1	6.13	1,013	
Total Australia region	Proved and Probable	91.1	2.72	7,965	92.4	2.65	7,867	
South Africa region								
South Deep ¹	Proved and Probable	178.8	4.99	28,679	182.4	4.97	29,129	
Total South Africa region	Proved and Probable	178.8	4.99	28,679	182.4	4.97	29,129	
West Africa region								
Damang	Proved and Probable	10.3	0.92	307	15.5	1.15	573	
Tarkwa – open pits	Proved and Probable	100.0	1.22	3,906	110.9	1.20	4,272	
Tarkwa – stockpiles	Proved and Probable	63.7	0.46	949	63.3	0.47	952	
Tarkwa – total	Proved and Probable	163.7	0.92	4,856	174.2	0.93	5,224	
Asanko ²	Proved and Probable							
Total West Africa region	Proved and Probable	174.0	0.92	5,162	189.8	0.95	5,797	
Americas region								
Salares Norte	Proved and Probable	18.4	5.85	3,454	20.8	5.19	3,467	
Cerro Corona	Proved and Probable	49.9	0.54	872	58.0	0.59	1,103	
Total Americas region	Proved and Probable	68.3	1.97	4,327	78.8	1.80	4,570	
Gold Fields operations								
– total Au	Proved and Probable	512.1	2.80	46,133	543.3	2.72	47,363	

Headline Mineral Resources and Mineral Reserves Statement continued

		Attributable Mineral Reserves					
		Dec	December 2022			cember 2021	
Americas Ag		Tonnes (Mt)	Grade (g/t)	Ag (koz)	Tonnes (Mt)	Grade (g/t)	Ag (koz)
Salares Norte	Proved and Probable	18.4	71.4	42,164	20.8	58.4	38,990
Total Americas region – silverProved and Probable		18.4	71.4	42,164	20.8	58.4	38,990

Americas Cu		Tonnes (Mt)	Grade (% Cu)	Cu (Mlb)	Tonnes (Mt)	Grade (% Cu)	Cu (Mlb)
Cerro Corona	Proved and Probable	49.9	0.36	398	58.0	0.37	474
Total Americas region –							
copper	Proved and Probable	49.9	0.36	398	58.0	0.37	474

* Au: gold, Cu: copper and Ag: silver

¹ Reserves grade is inclusive of all development tonnes, which cannot be separated from the ore flow. However, capital waste is excluded as there is potential to separate it in future

² Asanko 50% Gold Fields JV share – 45% attributable to Gold Fields Mineral Resources and Mineral Reserves managed by Galiano Gold (the operator) not reported in 2020 and 2021 figures and reported in 2019 figures only (see West Africa section for explanation). Furthermore Gold Fields has determined that Asanko is not material to its business or financial condition.

The methodology applied and protocols for EMR estimation are provided in the Group Guidance for Exclusive Mineral Resource Reporting. Mineral Resources EMR represent the Mineral Resources remaining after application of modifying factors to generate the Mineral Reserve. While some of the EMR may be converted to Mineral Reserves through additional drilling or other means, it should not be expected that all of the EMR can be converted to Mineral Reserves.

OPERATIONAL SUMMARY

Attributable Mineral Resources operational summary EMR

		December 2022			December 2021		
	Category	Tonnes (Mt)	Grade (g/t)	Au (Moz)	Tonnes (Mt)	Grade (g/t)	Au (Moz)
Au	M&ID*	327.9	2.97	31.1	345.2	2.91	32.2
	IF**	75.0	4.69	11.2	85.5	4.41	11.9
	Category	Tonnes (Mt)	Grade (% Cu)	Cu (Mlb)	Tonnes (Mt)	Grade (% Cu)	Cu (MIb)
Cu	M&ID	40.5	0.34	300	37.5	0.32	264
	IF	0.1	0.33	1	0.3	0.30	2
	Category	Tonnes (Mt)	Grade (g/t)	Au (Moz)	Tonnes (Mt)	Grade (g/t)	Au (Moz)
Ag	M&ID	2.8	27.2	2.5	8.0	27.7	7.1
	IF	0.9	17.5	0.5	2.6	10.9	0.9

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		Dec	ember 2022		Dec	cember 2021	
Au Australia region	Category	Tonnes (Mt)	Grade (g/t)	Au (koz)	Tonnes (Mt)	Grade (g/t)	Au (koz)
Gruyere	M&ID	13.2	1.38	586	13.9	1.36	611
Gruyere	IF	14.5	1.49	696	17.9	1.45	832
Granny Smith	M&ID	13.2	4.62	1,964	24.8	5.09	4,059
Granny Smith	IF	9.1	5.46	1,590	11.0	4.96	1,757
St lves	M&ID	10.3	2.91	964	10.6	3.21	1,092
St lves	IF	11.3	3.94	1,432	9.8	3.97	1,252
Agnew	M&ID	5.4	5.02	878	8.2	4.69	1,236
Agnew	IF	4.0	4.66	602	7.6	4.53	1,112
Total Australia region	M&ID	42.2	3.24	4,392	57.5	3.78	6,998
Total Australia region	IF	38.9	3.46	4,320	46.3	3.33	4,953
South Africa region							
South Deep	M&ID	137.6	4.57	20,220	129.2	4.37	18,167
South Deep	IF	20.4	9.10	5,971	20.4	9.10	5,975
Total South Africa region	M&ID	137.6	4.57	20,220	129.2	4.37	18,167
Total South Africa region	IF	20.4	9.10	5,971	20.4	9.10	5,975
West Africa region							
Damang	M&ID	43.4	2.08	2,895	44.1	2.07	2,926
Damang	IF	9.2	1.86	549	8.9	1.90	545
Tarkwa – open pits	M&ID	61.3	1.37	2,692	68.9	1.38	3,053
Tarkwa – open pits	IF	5.4	1.46	255	6.9	1.45	322
Tarkwa – stockpiles	M&ID	0.1	0.35	1	0.1	0.35	1
Tarkwa – stockpiles	IF						
Tarkwa – total	M&ID	61.4	1.36	2,693	68.9	1.38	3,054
Tarkwa – total	IF	5.4	1.46	255	6.9	1.45	322
Asanko ¹							
Total West Africa region	M&ID	104.8	1.66	5,588	113.0	1.65	5,980
Total West Africa region	IF	14.6	1.71	804	15.8	1.70	867
Americas region							
Salares Norte – Chile	M&ID	2.8	2.11	192	8.0	2.09	537
Salares Norte – Chile	IF	0.9	1.91	58	2.6	1.67	142
Cerro Corona – Peru	M&ID	40.5	0.51	660	37.5	0.46	557
Cerro Corona – Peru	IF	0.1	0.38	2	0.3	0.37	4
Total Americas region	M&ID	43.3	0.61	852	45.5	0.75	1,094
Total Americas region	IF	1.1	1.71	60	2.9	1.54	146
Gold Fields operations – total Au	M&ID	327.9	2.97	31,053	345.2	2.91	32,239
Gold Fields operations – total Au	IF	75.0	4.69	11,154	85.5	4.41	11,941

Headline Mineral Resources and Mineral Reserves Statement continued

		December 2022 December 2021					
Americas region Ag	Category	Tonnes (Mt)	Grade (g/t)	Ag (koz)	Tonnes (Mt)	Grade (g/t)	Ag (koz)
Salares Norte (Ag) only	M&ID	2.8	27.2	2,472	8.0	27.7	7,130
Salares Norte (Ag) only	IF	0.9	17.5	531	2.6	10.9	928
Americas region Cu	Category	Tonnes (Mt)	Grade (% Cu)	Cu (Mlb)	Tonnes (Mt)	Grade (% Cu)	Cu (Mlb)
Cerro Corona (Cu) only	M&ID	40.5	0.34	300	37.5	0.32	264
Cerro Corona (Cu) only	IF	0.1	0.33	1	0.3	0.30	2

* Measured and Indicated (M&ID)

** Inferred (IF)

*** Au: gold, Cu: copper and Ag: silver

Asanko 50% Gold Fields JV share – 45% attributable to Gold Fields Mineral Resources and Mineral Reserves managed by Galiano Gold (the operator) not reported in 2022, 2021 or 2020 figures and reported in 2019 figures only (see West Africa section for explanation). Furthermore Gold Fields has determined that Asanko is not material to its business or financial condition.



Australia's first battery powered truck

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The year-on-year changes for attributable gold Mineral Resources and Mineral Reserves are shown in the charts below.

Attributable Mineral Reserves



Attributable Mineral Resources (EMR) Measured and Indicated only



Global presence



Brownfields (on-lease) exploration

The Group's strategy of focusing on brownfields (on-lease or near-mine) exploration to extend mine life continued during the year. The approach that brownfields exploration and discovery offer the best route to low-cost, low-risk Mineral Resources and Mineral Reserves growth in well understood environments remains key. The exploration is configured to deliver a balanced project pipeline that includes identifying early-stage targets with project lead times of typically four to five years combined with progressing more advanced projects that can potentially deliver new mining opportunities within the next two to three years.

In 2022 a greenfields exploration programme was approved by Gold Fields. This programme will focus on exploration strategy and target generation along with a JV earn-in approach in 2023. This is aligned with strategic initiative 8, expanding our portfolio.

2022 EXPLORATION FOCUS

Summarised Group exploration spend indicates that US\$107.0m was spent in 2022 (2021: US\$104.4m), with the bulk of the Group's brownfields exploration activity taking place in the Australia (52%), West Africa (15%) and South America (32%) regions where the mines have strong growth and/or discovery potential.

AUSTRALIA REGION

The region's strategic focus is on Mineral Resources and Mineral Reserves replacement for each operation on an annual basis to maintain and support extension of the LOM profiles. This is achieved by collecting and interpreting foundational datasets and systematically testing the highest probability targets. Foundational datasets include all broadspaced drilling for geochemistry and geology, high-resolution geophysical surveys, plus detailed interpretation of all datasets. The collection of foundational

datasets is largely completed, and systematic ranking and testing of developed targets continues. As the underground mines become deeper, extensional exploration is constrained by the availability of drill drives and other mine development. However, historically strong continuity for major ore shoots suggests good down-dip prospectivity beyond current Mineral Resources. The St lves Invincible underground camp continues to expand with key ore shoots at Invincible North, Invincible Deeps and Invincible South all remaining open at depth. At Agnew, the Waroonga underground camp and Redeemer also continue to grow with multiple ore zones open at depth to be tested as drill drive infrastructure is developed.

SOUTH AFRICA REGION

Exploration and Resource drilling are aimed at increasing ore body knowledge of the Upper Elsburg, which includes geological, geotechnical and resource block model resolution in support of increased accuracy for detailed mine planning, mine design and scheduling.

The approach employs a staged sequence of activities based on Resource definition drilling, which includes long-inclined boreholes (LIB) ahead of the advancing destress cuts, grade control (GC) drilling and fit-for-purpose geological, geotechnical and cover drilling. The objective of the broader-spaced Resource definition drilling is to improve geological confidence ahead of the mining corridors for optimum corridor infrastructure design and cut positioning. The closer-spaced GC drilling aims to optimise stope design for maximum mining extraction.

The total drilling output for 2022 (LIB and GC) was 16,197m, an 8% increase from 2021. The continuous improvement in drilling productivity over several years culminated in the mine being well positioned in terms of the required

close-spaced data support for optimal short to medium-term mine planning over a rolling two-year period. LIB drilling targeting the South of Wrench (SoW) area commenced in 2021 with three boreholes confirming the Wrench Fault position and, on completion of phase 1 of the LIB drilling, the stoping width geological structures and geophysical parameters will be confirmed while grade estimation will be enhanced from drill hole sampling.

WEST AFRICA REGION

Exploration activities remain focused on brownfields exploration on the lease, with 91% of funds allocated to Mineral Resources infill and extensional drilling on known ore bodies at Damang. Exploration focused on the mini cutback (MCB) at Damang main pit as well as in Juno, Tamang and Nyame corridor south of the main pit.

At Tarkwa the main areas of focus were Ulap South and Kobada North.

The Asanko JV focused on infill drilling at Esaase, Nkran, Abore and Miradani North, aiming to replace anticipated 2022 and 2023 production depletion. Mineral Resource infill drilling was undertaken at the Abore, Nkran and Esaase open pits to increase confidence in the Mineral Resource estimation models. Medium-term infill drilling was completed at the Miradani North and Midras South prospects to progress the project pipeline of next-stage Mineral Resources and enhance the LOM plan. Long-term generative exploration drilling was completed on Nkran Underground (phases 1 and 2), assessing the continuation of mineralisation to a depth of 800m below the 2021 Asanko US\$1,600/oz Mineral Resource constraining shell. Generative exploration drilling also tested strike extension potential on the Greater Midras and Miradani mineralisation trends

AMERICAS REGION

Cerro Corona drilled 3,570m in 2022 to provide geotechnical and geological data. However, not all of the results were available for incorporation into updated models by the data cutoff. The remaining data will be incorporated in 2023 models.

At Salares Norte, exploration drilling was focused on the Filo Valle target (south-west extension of Agua Amarga deposit), to identify and extend the current resource. A total of 10,309m of diamond drilling was completed. On a district scale, at the Horizonte Project (formerly known as Pircas), 3,117m of additional drilling was completed at the Cruz Sur and Trinchera targets. 3,447m of exploration diamond drilling was also completed at the Ladera Project under an option agreement with Chilean private owners. A decision as to whether to continue drilling this project is pending.

The actual exploration expenditure for the Group in 2022 and 2021 is shown in the table below.

	Decemb	oer 2022	Decemb	er 2021
Region	Metres	Cost (US\$m)	Metres	Cost (US\$m)
Australia ¹	289,209	56.1	280,219	59.4
South Africa	1,195	0.5	3,117	0.6
West Africa ²	106,076	16.1	70,338	13.4
Americas	23,103	34.4	31,853	31.1
Total	419,583	107.0	385,577	104.4

Notes:

Costs in US Dollar (2022 foreign exchange: US\$/R16.37; US\$/A\$1.43) on a 100% basis

Expenditure includes non-drilling items (e.g. geophysics)

¹ The year-on-year metres drilled are relatively consistent as focus continues with diamond drill targeting the extensions to known ore bodies

² The increase in exploration cost in West Africa is due to increases in drilling metres at Damang and Asanko



Tarkwa Processing plant

Brownfields (on-lease) exploration continued

2023 EXPLORATION OUTLOOK

The 2023 brownfields exploration and resource development programmes continued to support the Group's organic growth strategy with an approved budget of US\$92.7m (2022: US\$118.8m) not including Asanko. The emphasis remains on replacing production depletion, growing Mineral Reserves and adding mine life with ounces capable of sustaining and improving the AIC/oz. The key 2023 focus areas for each of the regions are summarised below.

AUSTRALIA

Gruyere JV

 Extensional and infill drilling of the Golden Highway trend deposits to determine the full extent and continuity of mineralisation between the currently defined Mineral Resource shells

Granny Smith

- Continue in-mine resource optimisation drilling at Wallaby
- · Further extensional and infill drilling of Zone 135 to define ore body extent as support for future mine design
- Extensional and infill drilling of Zone 150 to define Wallaby ore body extent at depth for future mine design and prefeasibility study (PFS)
- Follow-up of regional targets drilled in 2022

St lves

- Continued collection of foundational data and drilling on the land areas of the Lefroy JV and undersampled areas of the 100%-owned tenements
- Further extensional and Resource definition drilling within the Invincible complex to support future mine design and growth
 Continued drilling and validation of several near-mine extensions around the Hamlet and Neptune mining areas and regional
- priority exploration targets
- Drill testing of deeper potentially underground targets in the Central Corridor of the St lves lease package

Agnew

- Systematic drill testing of key stratigraphic underground positions from Waroonga to Redeemer Zone 2 South
- Mineral Resources and Mineral Reserves extension of the Kath Lower and Fitzroy Bengal Hastings (FBH) ore bodies
- Continued extensional drilling on the Sheba South and Spitfire projects as well as New Holland
- Extensional and infill drilling of the Maria deposits to support future mine design and PFS
- Initial concept drilling and validation of a number of brownfields targets

SOUTH AFRICA

South Deep

- Continued enhancement of the grade control (GC) drilling programme to achieve adequate grid coverage ahead of the
 advancing destress cut
- Reprocessing of three-dimensional (3D) seismic data and updating structural and geodomain models for the whole lease to enhance geological and resource model confidence
- Continue with SoW phase 1 LIB drilling to further enhance geological and grade estimate confidence
- SoW phase 2 LIB drilling to commence in 2025 to ground truth the 3D seismic model and provide additional grade data



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Agnew: Leaf gold from New Holland



South Deep: Diamond drill rig conducting mine definition drilling

WEST AFRICA

Damang

 Most of the drilling in support of the Damang extension project (Damang Mini-cut, Juno and Nyame) was completed in 2022 and Mineral Resource model updates are scheduled for Q1 2023. Infill drilling and resource model update will occur at Tamang, immediately south of Juno, in Q1 2023

Tarkwa

- With most of the open pit potential palaeoplacer mineralisation accounted for, exploration focus shifts in 2023 to assessment of
 early-stage, shear-hosted hydrothermal targets within 10km of the Tarkwa plant
- Ground geophysics-induced polarisation (IP)/resistivity and a review of the geochemical database is planned in the Fanti, Samahu and Kottraverchy North areas, to the north of Tarkwa, and in the Greater Kobada area to the south of Tarkwa

Asanko

- Galiano Gold's near mine exploration plan for Asanko in 2023 focuses on nearmine depth extension drilling to test continuity of higher-grade mineralisation below Miradani North, Akwasiso and Nkran
- At Nkran, the first phase of drilling to test the continuity of high-grade mineralisation 800m below the US\$1,600/oz Mineral
- Resources pit shell was completed in 2022 and the next phase, focusing on strike extensions to phase 1, is planned for 2023
 In 2023, generative exploration has been allocated about a third of the budget for two targets that are within a 5km radius of the Obotan plan



AMERICAS

Salares Norte

- Continue extensional and exploratory drilling over priority targets in Salares Norte (Domo target) and Piedra
- Target preparation within Gold Fields' tenements and assessment of new opportunities to scope future drilling campaigns

Cerro Corona

 The focus for 2023 will be to continue the evaluation and interpretation of the mineralisation continuity at depth in East Zone, to maximise Mineral Resources and Mineral Reserves. We also consider drilling additional metres to ensure our geotechnical confidence in final walls



Salares Norte: Exploration drill rig at Fernando Sur

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Greenfields exploration

For a number of years Gold Fields has not had a dedicated greenfields exploration programme. As part of our nine major strategic initiatives, a placeholder budget for greenfields exploration has been approved for 2023 with potential for further approvals dependent on exploration success.

Greenfields exploration is a key lever to grow the value and quality of the Gold Fields portfolio. The objective is to reinvigorate the greenfields development pipeline with highquality early-stage to advanced drilling projects over the next five years following a phased approach. Under phase 1, the search for earlier-stage opportunities will be expanded within regions where Gold Fields currently operates. Gold Fields' current operational footprint is located in some of the world's most prolific mineral districts that have yielded significant mineral discoveries over the last decade. Starting within current operational regions also means exploring for deposits that fit Gold Fields' strengths, including brownfields, processing and mining capabilities. This may include internally generated exploration projects for self-exploration, as well as opportunistic partnering strategies (100% acquisitions, JV earn-in arrangements and equity placements in targeted emerging junior exploration companies). The appropriate approach will be dictated by circumstances on a case-by-case basis. However, careful technical and commercial rigour considering optimal target locations, deposit types, geological prospectivity and, ultimately, value add and strategic fit to the global Gold Fields portfolio will be at the core of any screening and motivation.

While an important part of the Gold Fields growth strategy, none of the greenfields exploration partnerships are currently considered material to Gold Fields' valuation. A high-level summary is presented here. References to JV partner's and adjacent properties Mineral Resources and Mineral Reserves are all public domain estimates available on their companies web sites. Investors are encouraged to monitor partner websites for further detail.

In May 2022, Gold Fields followed its participation rights under a further Chakana Copper Corporation capital raising of C\$5.1m by investing C\$895,500 (approximately US\$780,000 at the time). Chakana continues to advance exploration of high-grade copper-gold-silver breccia pipes at the Soledad project in the Ancash province of Peru. In January 2022 Chakana announced a maiden Inferred Resource of 191,000oz of gold, 11.7Moz of silver and 130Mlb of copper in seven tourmaline breccia pipes. Permitting on the southern block at Soledad is continuing, which will allow drilling on priority targets including the multi-kilometre scale soil anomaly that is enriched in gold-molybdenum-tin.

In September 2022, Gold Fields bolstered its Chilean portfolio with a CAD\$15m (US\$10m) strategic placement in Torq Resources for a 15.05% interest in Torq's issued and outstanding shares (undiluted). This deal included the creation of an advisory technical committee of which Gold Fields will be a member to advise on the exploration strategy at target projects. The proceeds will be used to advance Torq's flagship Santa Cecilia gold-copper project, which is located next to Newmont-Barrick's Norte Albierto feasibility stage porphyry Cu-Au project in the premier Maricunga Belt. Norte Albierto collectively hosts Proved and Probable Mineral Reserves of 23.2Moz Au and 5.8B lb Cu, and Measured and Indicated Resources of 26.6Moz Au and 6.7B lb Cu. Target validation at Santa Cecilia is continuing with initial drill testing expected to start early in 2023. Funding will also be directed to the Torq's Margarita iron ore-copper-gold (IOCG) project located in Chile's coastal Cordillera Belt. Following the initial discovery hole in May 2022 of 90m of 0.94% copper and 0.84g/t gold, a second phase of drilling at Margarita Falle 13 has now delineated a mineralised footprint over 800m along strike. Target definition work including geological mapping and IP geophysics is ongoing with a third phase of drilling expected in 2023.

Gold Fields further expanded its Chilean portfolio by securing a 14.8% position in Tesoro Gold Limited through a strategic placement and underwriting arrangement for US\$3.7m. Tesoro holds an 85% interest in the prospective El Zorro gold project located within the Coastal Cordillera of Chile. Exploration activities to date have focussed on Resource definition drilling at the Ternera prospect, which includes a current Resource base of 30.5Mt at 1.1g/t Au for 1.1Moz at 0.3g/t Au cut-off. Early indications suggest Ternera is an

intrusion-related gold system, which is an unusual style of mineralisation in Chile. Initial testwork indicates exceptionally positive metallurgy with 45% by gravity and 94.5% carbon in leach (CIL) recovery at 150µm. The El Zorro project is close to infrastructure and lies at relatively low elevations between 600m and 1,000m above sea level. Tesoro has consolidated more than 500km² of underexplored land along strike of confirmed mineralisation at Ternera. Regional mapping and surface sampling by Tesoro has delineated multiple regional targets within a mineralised footprint spanning 10km x 3km. As part of the Gold Fields-Tesoro agreement, 80% of funds raised will be directed to testing these regional targets outside of the Ternera Resource.

Greenfields exploration activities in Western Australia commenced with a 10% strategic placement in Hamelin Gold in late 2021. Hamelin Gold holds 100% interest in the West Tanami Gold Project, which includes a >2,400km² underexplored land package along strike of Newmont's 14Moz Callie gold operation in the Northern Territory. 2022 exploration activities included regional airborne magnetic and radiometric surveys, orientation geochemical surveys and 8,300m of drilling into seven priority targets. Initial drill results confirm mineralisation with significant gold intercepts reported at Hutch's Find, Camel and Fremlins prospects. The 2022 exploration programme provides important new geological understanding for the belt, which will guide follow up drill testing in 2023 and the generation of new targets undercover.

In 2023, the Gold Fields Group will continue greenfields target generation and screening of third-party opportunities in Australia, West Africa and South America. We will also assess potential opportunities located in new prospective jurisdictions where we want to operate. The greenfields project portfolio will be carefully managed by the Gold Fields Group based on stringent technical reviews, project ranking and capital allocation.



The annual mine planning cycle

STRATEGIC PLANNING

The strategic planning process is designed to provide a mechanism for mines and projects to assess planning options at varying levels of technical, operational and financial risk, with reference to the Company's strategic goals. The latter incorporates the core themes of (1) leveraging people, innovation and modernisation to maximise potential from the current assets, (2) allocating capital spend to where it can provide the best return, (3) building on ESG commitments and driving resilience to climate change (water, emissions and energy) and (4) growing the value and quality of the portfolio of assets to position Gold Fields to deliver sustainable and superior value to stakeholders.

Strategic key performance indicators and the capital ranking index (LOM AIC versus LOM capex) for each asset are pivotal around quality, life, licence to operate, cash generation and scale, based on either annual metal produced or cash-flow. The strategic planning process allows Gold Fields to develop an understanding of the medium and long-term growth and investment opportunities within the portfolio, beyond the definition of the existing LOM Mineral Reserves, and enables the business to direct resources and management's attention to implement studies and projects aligned with meeting the Group's strategic objectives.



Optionality is assessed against strategic scenarios that profile (1) low metal price, (2) sustaining the business, (3) upside potential and (4) blue-sky opportunities. This also provides essential guidance for operating strategies, required investment, and risk and reward management. By necessity, strategic plans include an assessment of factored Inferred Mineral Resources and a view on property upside and endowment blue-sky potential, in addition to the Proved and Probable Mineral Reserves that define LOM plans.

In 2022, all operational sites presented internal growth options as part of Gold Fields' strategic planning process. This process allows Gold Fields' management to rank projects and allocate capital to those projects consistent with the Gold Fields strategic goals and provide guidance as to which projects have the capacity to grow the value and quality of the portfolio.

The strategic planning process is an important precursor to the business planning process but includes mineralisation and mining models that do not classify as Resources or Reserves.

Business planning

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Each year, the business plan represents a refinement of the selected strategic plan option for each mine. This process allows each site to develop a 24-month detailed operational plan that defines each year's budget. This is done in the context of the long-term potential of the asset and allows the business to deploy essential resources to maximise the use of capital across the Group portfolio. The business plan includes factored Inferred Mineral Resources that provide important information on realistic potential Mineral Resource to Mineral Reserve conversion trends in the medium to long term.

Business plans are largely aligned with but do not constitute Resources or Reserves.

Life-of-mine planning

In accordance with the international reporting codes, the Mineral Resources and Mineral Reserves that define the LOM plan and cash-flow model for each asset are restricted to Proved and Probable Reserves. Importantly, the LOM plan and resultant Mineral Reserves demonstrate a strong linkage to the strategic and business plans that profile the Company's medium to longer-term approach to realising full site potential and delivering value and quality from the portfolio.

Operational planning

The operational plan is the 24-month budget plan and aligns closely with the first two years of both the business and LOM plans but may include contributions from Inferred Mineral Resources and commodity prices aligned more to spot prices than to long-term Reserve prices. The operational plan may also include some production from marginal ore sources, stockpiles and minor pits and stopes that are short lived and have not yet reached PFS level and hence cannot be included in Mineral Reserves. Such sources form only a very minor contribution to recovered metal and are not material to budgets or project valuations. Year one of the operational plan details the key safety, health, production, ESG and financial metrics and deliverables that constitute the annual budget for each operating asset.

Resources and Reserves

Resources and Reserves are prepared in accordance with SAMREC and SEC regulations. Consequently, they represent a realistic and achievable long-term plan under a defined set of parameters (cost, price, classification) but are not necessarily directly correlated to the preceding Gold Fields plans.

Key criteria embedded in the Gold Fields plans

The table on p19 provides an important summary of the core principles and considerations entrenched in all the Company's LOM plans. Various key criteria applicable to the Mineral Resources and Mineral Reserves estimates are consolidated here to avoid repetition throughout this Supplement. Accordingly, this table should be read and referenced in conjunction with all the assets reported on in this report for the Australia, South Africa, West Africa and Americas regions.

KEY PRINCIPLES AND CRITERIA ENTRENCHED IN THE LIFE-OF-MINE PLANS

Mineral Resources

- · Mineral Resources are tested by applying realistic modifying factors and ESG criteria to confirm RPEEE
- Mineral Resources are quoted at an approximate in situ economic COG, with tonnages and grades based on the latest available Mineral Resource block models, and include estimates of any material below the COG required to be mined to extract the complete pay portion of the Mineral Resources
- Open-pit Mineral Resources comprise the material above the nominated COG, within a diluted optimised pit shell, constrained to minimum mining width shape. The shells do not constitute design pit shells and may thus include material outside the designed Mineral Reserve pits or exclude mineralised material that falls within the design pit that qualifies as Mineral Reserve due to geotechnical constraints, ramps, sumps and other design features
- Underground Mineral Resources comprise the material above the nominated COG, constrained to a practical mining shape and a minimum mining width

Mine planning and Mineral Reserves

- All Mineral Reserves are based on appropriately detailed and engineered LOM plans, and are supported by relevant studies completed to a minimum PFS level or appropriate LOM plan
- All design and scheduling is completed by experienced engineers using appropriate mine planning software, incorporating relevant modifying factors, the use of COGs and results from other techno-economic investigations
- Mining rates, fleet productivities, operational and plant capacities and constraints are accounted for in the plan and are typically based on historical performance trends
- All geotechnical protocols and constraints are accounted for in the plan, including provision for suitable mining geometries, mining losses in pillars, mining recovery and dilution
- · Provision of sufficient water, energy, waste storage and tailings storage capacity to support the LOM requirements
- Mineral Reserves are quoted in terms of run-of-mine (ROM) grades and tonnages as delivered to the metallurgical processing facility and are therefore fully diluted

Modernisation

- The Group-wide modernisation (I&T) strategy is incorporated into the LOM plans, underpinned by five-year implementation programmes to support the Company's strategy. The modernisation framework is aimed at enhancing safety, health, environment, business efficiencies and cost metrics through a staged process of modernisation, integration and optimisation and finally electrification and automation
- The modernisation (I&T) strategy is designed to align with and enable Gold Fields' key strategic pillar of asset optimisation

Tailings management

- All Gold Fields managed operations have tailings management plans in place that promote risk minimisation to operators and stakeholders over the lifecycle of each tailings storage facility (TSF)
- All Gold Fields managed TSFs are operated and managed in accordance with the Gold Fields Group TSF management guidelines
- Gold Fields is in the process of converting its TSF management guidelines to a standard. The existing TSF management guidelines
 provide voluntary guidance whereas the new standard will be mandatory. The standard works in conjunction with other Gold Fields
 standards and guidelines, and incorporates the requirements of the Global Industry Standard on Tailings Management (GISTM) and
 the lessons learned from a variety of TSF-related incidents over the past few years. The standard was also benchmarked against the
 guidelines and standards developed by our industry peers
- All Gold Fields active TSFs are subject to an independent external audit every three years. Furthermore, a comprehensive third-party
 review covering operational, legal aspects and sustainable development is carried out at the TSFs in three-yearly intervals. The next
 round of audits is due in Q1 2023. This review is also used to check the operation's ongoing compliance with the Group TSF
 management guidelines and applicable design guidelines. Facilities that have an extreme consequence rating are required to have
 this third-party operational review on an annual basis
- Gold Fields and other International Council on Mining and Metals (ICMM) members have committed that all TSFs with "Extreme" or "Very High" consequence category ratings will conform with the GISTM by 5 August 2023. All other TSFs the Group operates that are not in a state of safe closure will be in conformance with the GISTM by 5 August 2025. Soon after the launch of the GISTM, the Group commenced a detailed site-specific gap analysis of each TSF against the new standard to identify gaps and confirm its conformance roadmap. This work is complete and the Group is in the process of closing all gaps identified
- Internal self-assessments against the ICMM Conformance Protocols for Gold Fields' two priority sites are planned for 2022 and H1 2023 in order to gauge progress made. In addition, external verification is being considered for Q1 2023 before the ICMM conformance deadlines. The appointment of Accountable Executives and Responsible Tailings Facility Engineers in accordance with the GISTM has been completed

The annual mine planning cycle continued

Integrated mine closure planning

• Gold Fields' integrated mine closure planning processes ensure that its mine closure plans are regularly updated in line with good practice and the Group's requirements for its operations. The Group's mine closure plans comply with in-country legal requirements and are approved by the regulator

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- Integrated mine closure guidance plans and cost estimate process provide appropriate cost parameters for operational and LOM planning as well as end-of-life mine closure commitments and provisions
- · Integrated mine closure processes include the implementation of progressive rehabilitation plans for operations

Energy and climate change

- On 1 December 2021, Gold Fields announced (among others) the following Group targets to be achieved by 2030: 50% absolute and 30% net emissions reductions from 2016 baseline (scope 1 and 2) and net zero emissions by 2050
- All operations are developing and implementing strategies and plans to meet these targets, led by a Group Executive Steering Committee. Security of energy and water supply at competitive costs are important considerations as are the development and implementation of plans to adapt to climate change

Water Stewardship

- Good progress has been made on the Group 2020 2025 Water Stewardship Strategy. All regions have implemented their Excoapproved three-year (2020 – 2022) water management plans. The strategy comprises:
- Security of supply: The focus is to understand and secure water resources for the LOM, embed water planning into operational management, enable informed management decisions and update water security risk profiles to support sourcing of water over the life of operations. All operations have developed LOM water security plans and actions. These have been included in business plans
- Water efficiency: It is necessary to continually reduce demand for freshwater and optimise the use of water resources due to potential water supply shortfalls and competition from communities
- Catchment management: It is critical that Gold Fields manages external water risks to the business and to our stakeholders in the catchment. The focus is on collaborating with stakeholders to address common challenges and identify opportunities. Good progress has been made by all regions in assessing and managing impacts on stakeholders in the catchment
- The Group set two targets for 2022, building towards delivery of the 2030 targets announced in December 2021:
- Recycle/reuse 75% of Group water use: 2022 water recycled/reused was 75% (2030 target: 80%)
- 37% reduction in freshwater use from the 2018 baseline (from 14.5GL to 9.2GL): 2022 freshwater withdrawal was 8.5GL, a reduction of 41% from the 2018 baseline (2030 target: 45%)

Social and regulatory licence to operate

- The implementation of sustainable development policies, including proactive stakeholder engagement strategies, continues to be key in reporting sustainable Mineral Reserves
- Responsible environmental stewardship in the context of certified environmental management systems remains central to the Group's
 regulatory and social licences to operate
- Tenure over land, value creation for communities, mining, prospecting and environmental permits are in good standing. Our stakeholder value creation focus includes creating benefits for host communities through the proportion of our workforce drawn from host communities, the goods and services we procure from these communities and socio-economic development including legacy programmes

Financial models

- LOM plans are net present value (NPV) positive and inclusive of end-of-mine closure cost estimates and lease agreements, with FCF margins broadly aligned to the Company strategy
- · Discount rates are reviewed annually and approved by the Company and external auditor
- Core operating cost drivers are typically based on recent performance trends with due consideration for the nature of future production, e.g. mining method, distance, depth, haulage and processing etc., as well as business improvement initiatives
- Capital scheduling is incorporated in the cash-flow modelling to ensure appropriately funded and sustainable operations over the LOM
- · Power and utility cost escalation and fuel prices have been factored into all financial models
- · Estimated rehabilitation and mine closure costs and obligations have been included in the financial models
- All LOM financial models are based on existing tax laws as at 31 December 2022
- Gold Fields endorses a well-embedded risk and control matrix configured to provide an annual assessment of the effectiveness of the Company's internal controls. This relates to the LOM planning process and Mineral Resource and Mineral Reserve estimation and reporting. The internal controls cover the reasonableness of parameters, assumptions and interpretations applied and the provision of the necessary skills and expertise required. The process is aligned to the Sarbanes-Oxley Act and the SEC's SK-1300 rule for mineral reporting

Corporate governance

REPORTING CODE AND CODE OF PRACTICE

The Group's December 2022 Mineral Resources and Mineral Reserves estimates are in accordance with the requirements of the SAMREC Code (2016), the South African Code for the Reporting of Mineral Asset Valuation (2016 SAMVAL Code), SK-1300 regulations for reporting on the NYSE issued by the United States (US) SEC, the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code) and NI 43-101 for reporting on the TSX. These codes cover public reporting and information that is prepared for investors, or potential investors and their advisers, as well as other interested parties. Gold Fields is only required to comply with SAMREC and SEC guidelines; however, JV parties are required to report under JORC and NI 43-101. Consequently, Gold Fields has chosen to report as far as possible in a manner that is compliant with all four codes. There may be some minor differences in formatting and wording of documents designed specifically for individual codes. These differences are not material. This MRMR Supplement is formatted primarily for publication in accordance with JSE regulations (SAMREC).

Reporting is also in accordance with section 12 of the JSE Listings Requirements as the JSE is Gold Fields' primary listing



Consideration of mining, metallurgical, processing, infrastructural, economic, marketing, legal, environmental, social and governmental factors (the 'modifying' factors)

but takes cognisance of other relevant international codes where applicable. The definitions contained in the SAMREC Code are either identical to, or not materially different from, international codes. The format of this report has been designed so that this document (the Supplement), 20F and TRSs are substantially similar and compatible.

The relationships between Mineral Resources and Mineral Reserves are depicted in the SAMREC classification diagram. Technical, financial and reporting procedures are designed to be compliant with the Sarbanes-Oxley Act framework and risk and control matrix, as adopted by Gold Fields for Mineral Resources and Mineral Reserves estimation, auditing and reporting.

This Supplement is to be read in conjunction with the Gold Fields 2022 IAR, 20F/SK-1303 and SK-1300 filings. The US SEC permits mining companies, in their filings with the commission, to disclose only those Mineral Reserves that a company can economically and legally extract or produce. In accordance with the SEC guidelines, companies are to report Mineral Resources as attributable and exclusive of Mineral Reserves (EMR) in their Form 20-F (registrants summary) submissions and Technical Report Summaries (individual operation summary). This Supplement also follows this guideline.

COMPETENT/QUALIFIED PERSONS

The annual Mineral Resources and Mineral Reserves estimates reported in this Supplement to the IAR and all explanatory notes have been compiled under the supervision of Dr Julian Verbeek (Mineral Resources), a full-time employee of Gold Fields and a Fellow of the Australian Institute of Mining and Metallurgy (AusIMM), and Mr Jason Sander (Mineral Reserves), a full-time employee of Gold Fields and a Fellow of the AusIMM.

Dr Verbeek has sufficient experience, which is relevant to the styles of mineralisation and types of deposits under consideration and to the activity he is undertaking to qualify as a Competent Person (CP)/Qualified Person (QP), as defined in the international reporting codes. Mr Sander has sufficient experience, which is relevant to the styles of mineralisation and types of deposits under consideration and to the activity he is undertaking to qualify as a CP/QP, as defined in the international reporting codes. Dr Verbeek and Mr Sander consent to the inclusion of the material in this Supplement in the form and context in which it appears. The terms CP and QP are equivalent and can be read interchangeably.

Lead CPs designated in terms of the international codes take responsibility for the reporting of Gold Fields' Mineral Resources and Mineral Reserves within each region and at every mine site and are the respective regional and operation-based geologists, resource estimators, geotechnical engineers, mine planning engineers, processing engineers, technical managers, as well as relevant project managers and financial managers listed in the supplementary information section of this Supplement (pages 150 – 152).

Corporate governance continued

The CPs have sufficient experience relative to the type and style of mineral deposit under consideration and are full-time employees of Gold Fields. Corporate governance of the overall regulatory compliance of these figures has been overseen and consolidated by Gold Fields Group CP, Dr Verbeek, who is a member of the Corporate Technical Services (CTS) team under the leadership of Mr Daniel Hillier, Acting Chief Technical Officer, who provides technical assurance and coverage for the full Mineral Resources and Mineral Reserves estimation value chain listed in the CP table below.

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Corporate governance of the overall compliance of these estimates and responsibility for the generation of the consolidated statement has been overseen by the respective corporate CPs and discipline experts listed below:

Competent Person ⁶	Title	Qualifications	Years of experience
Dr Julian Verbeek ^{2, 5} AusIMM 207994	Vice President (VP): Geology CTS	PhD, FAusIMM	35
Jason Sander²,⁵ AusIMM 111818	VP Mining CTS	BEng, FAusIMM	27
Dr Winfred Assibey-Bonsu ^{1,3} 400112/00	Group Geostatistician and Evaluator	BSc (Mining), PhD (Engineering), EDP (Wits Business School), FSAIMM (700632)	36
Andrew Engelbrecht ² AusIMM 224997	Group Geologist	BSc, MAusIMM	23
Andre Badenhorst ² AusIMM 309882	Group Technical and Reporting Manager	NHD (Mine Survey), MAusIMM	42
Peter Andrews ² AusIMM 302255	VP: Geotechnical	BSc (Hons) (Geology and Geophysics), MEngSci (Geomechanics), MAusIMM	26
Daniel Hillier ² AusIMM 227106	VP: Metallurgy and Acting Chief Technical Officer	BEng (Chemical), FAusIMM CP (Metallurgy)	32
Johan Boshoff ² AusIMM 1007564	Group Head of Tailings	MEng (Geotechnical), FIEAust CPEng 4072554, RPEQ 21023, FAusIMM	27
Pieter Coetzee ⁴	VP and Head of Finance: Operations	BCom (Internal Auditing, Mining Taxation)	28

¹ Registered South African Council for Natural Scientific Professions member

² Registered AusIMM members

³ Registered Southern African Institute of Mining and Metallurgy member

⁴ Not registered with SAMREC-recognised professional organisation but is a contributor to this report as a subject matter expert

⁵ Dr Verbeek assumes responsibility for the Company's Mineral Resources and Mr Sander for the Mineral Reserves estimation process, and are satisfied that the CPs in all regions have fulfilled their responsibilities

Dr J Verbeek, Mr J Sander Gold Fields Group CPs

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Australian Institute of Mining and Metallurgy

Ground Floor

204 Lygon Street, Carlton South, Victoria 3053, Australia PO Box 660, Carlton, Victoria 3053, Australia Telephone: +61 (03) 965-86100

Auditing and risk

This December 2022 Supplement aims to report on information considered as important for disclosure on Mineral Resources and Mineral Reserves, and reflects a level of detail required for completeness, transparency and materiality in reporting. Gold Fields' Mineral Resources and Mineral Reserves estimates are reviewed on an ongoing basis by an internal CP team administered by CTS, and cyclically by external and independent experts.

Gold Fields has provided internal review of all material projects in 2022 and follows an embedded process of third-party reviews to provide expert independent assurance regarding the Mineral Resources and Mineral Reserves estimates and compliance with the appropriate reporting codes.

In line with Gold Fields' policy that each operation or material project will be reviewed by an independent third party on average no less than once every three years, or when triggered by a material new Mineral Resource and/or Mineral Reserve declaration, the following operations were subject to external review during 2022:

- Salares Norte: Snowden Optiro
- Cerro Corona: Snowden Optiro

Certificates of compliance have been received from all companies that conducted the external reviews, which state that the Mineral Resources and Mineral Reserves have been reported in accordance with the SAMREC Code, and there are no material issues identified in the estimation processes and LOM plans. Importantly, third-party audits are also configured to assist with continuous improvement regarding leading practice in Mineral Resources and Mineral Reserves estimation and reporting. The SAMREC code is substantially similar to other international reporting codes.

External auditor's certificates of compliance



Datamine Brasil Soluções em Tecnologia Ltda Avenida Barão Homem de Melo 4391 - 11 andar MG, 30494-275, BRAZIL RUT: 96.783.640-0 Datamine Brasil Soluções em Tecnologia Ltda Avenida Barão Homem de Melo 4391 - 11 andar MG, 30494-275, BRAZIL RUT: 96.783.640-0

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Australia Region

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Salient points

Attributable mineral reserves

8.0Moz gold Proved and probable

Attributable mineral resources (EMR)

4.4Moz gold Measured and indicated

4.3Moz gold

Australia region Regional overview

The Australia region operates a portfolio of predominantly low-cost, relatively long-life mines and has a strong pipeline of projects configured to drive Reserve replacement and life extension. The Gruyere JV, Granny Smith, St Ives and Agnew gold mines are located in Western Australia. The region's summary Mineral Resource and Mineral Reserve estimates have been presented in the Group highlights section.



Gold Road utilised both diamond drilling and reverse circulation (RC) drilling programmes during 2022 at Golden Highway. The focus of exploration in 2022 was testing for near-surface oxide potential along the Golden Highway trend, in particular along strike of existing resources. The programme was expanded in December due to positive results, to test extension to previously unidentified footwall mineralisation intercepted at Attila.

Granny Smith achieved its highest annual production since 2016, with resource conversion drilling focused on Zone 135 to drive reserve replacement. Exploration continued on Zone 150. Increased costs and removal of pillars from the Resource resulted in a net decrease of 2.3Moz attributable to Gold Fields.

The St Ives Mineral Resource and Mineral Reserve base increased by 2% and 12%, respectively. Mineral Resources increased due to extensions discovered at the Invincible and Hamlet North Underground complexes, partly offset by Reserve conversion and cost increases. Mineral Reserves increased due to resource conversion at the Invincible and Hamlet North Underground complexes. St Ives continues to transition to a predominantly underground operation.

At Agnew, resource conversion drilling continued to return positive results from Kath Lower at the Waroonga mine, assisting Agnew to maintain greater than 1Moz of Mineral Reserve for the last three years.

The region's strong exploration capability and technical competitive strengths continue to support ongoing discovery and project development which continue to reinforce the anticipated trends for ongoing LOM extensions at these Western Australian orogenic-style operations. However, replacement of Mineral Resources and Reserves occurs on a multi-year cycle and full replacement of all depleted Mineral Reserves should not be expected every year for every operation.



Australia region mine locations

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EXPLORATION DRILLING AND EXPENDITURE

On-lease exploration metres drilled and expenditure for the year ended 31 December 2022 are summarised below (exclusive of GC drilling).

	Dece	ember 2022 December 2021				
Exploration drilling ²	Metres drilled	A\$m	US\$m	Metres drilled	A\$m	US\$m
Operations						
Gruyere (100% of metres and 50% of costs)	20,949	2.9	2.0	12,425	2.4	1.8
Granny Smith	71,720	18.4	12.7	72,947	17.0	12.7
St lves	98,256	35.4	24.5	114,330	35.2	26.4
Agnew	98,284	24.2	16.8	80,517	24.5	18.4
Total ¹	289,209	80.9	56.1	280,219	79.0	59.4

Average 2022 exchange rate: A\$1 = US\$0.6927 (average 2021 exchange rate: A\$1 = US\$0.7511) Drilling unit costs are affected by the length, type (DD, RC, air core or sonic), ground conditions, rig and site availability, drill layouts as well as whether drilling is from surface or underground 2



Gruyere gold mine

GRUYERE GOLD MINE – 50% ATTRIBUTABLE TO GOLD FIELDS

Gold Fields' 50% ownership in the Gruyere mine is held by Gruyere Mining Company Proprietary Limited, a wholly owned Australian subsidiary of Gold Fields. In 2022, Gruyere mined a combination of oxide, transitional and fresh rock, the latter becoming a major portion of the processing plant feed, and completed production with 315koz of gold produced. The attributable Gruyere JV Reserve decreased year-on-year by 0.2Moz (-9%), predominantly due to annual production depletion with an additional impact from cost increases.

The attributable EMR Mineral Resource and attributable Mineral Reserve base remains robust at 1.3Moz and 2.0Moz respectively, supporting a low-cost operation with an 11-year LOM. Resources and Reserves for the Gruyere gold mine are predominantly from the Gruyere open pit with smaller contributions from satellite open pits, collectively known as the Golden Highway.

The focus for 2022 remained on optimising process plant throughput, mining fleet utilisation and efficiency in extracting ore with minimal dilution and ore loss in parallel with increasing mining capacity to deliver against the operational and LOM plans.

ASSET FUNDAMENTA	LS
General location	The Gruyere deposit, centred at latitude 27°59'S and longitude 123°50'E, in the Yamarna Terrane of the eastern Yilgarn, Western Australia, is located 200km east of Laverton and 1,000km north-east of Perth.
Brief history and regional geology	The Annexure to this Supplement provides a brief summary of Gruyere's history and regional geology.
	Gruyere is an Archaean orogenic gold deposit. Mineralisation is hosted in the Gruyere monzonite porphyry. Gold is associated with varying intensity albite-sericite-chlorite-biotite-calcite alteration of the host rock.
	The Gruyere deposit is located on a flexure point in the regional-scale Dorothy Hills Greenstone Belt and Shear Zone. Orogenic gold mineralisation is hosted in the steep easterly dipping Gruyere porphyry, a medium-grained quartz monzonite porphyry that has intruded the country rocks. The host Gruyere porphyry averages 90m in horizontal width through the deposit with a maximum width of 190m in the centre of the deposit and tapering to around $5m - 10m$ width at the northern and southern extremities. The entire Gruyere porphyry is variably altered and gold grade is related to variations in style and intensity of alteration, structure, veining and sulphide species.
	Yam14 is located 8km south of the Gruyere deposit and on a flexure of the Dorothy Hills Shear Zone. Mineralisation at Yam14 is shear related and hosted in an intermediate sedimentary package at the contact with a rhyolitic tuff. Elevated gold grades are associated with shearing, increased quartz veining and albite- chlorite-pyrite-arsenopyrite alteration.
	Gold mineralisation in the Golden Highway trend (Attila, Alaric, Montagne, Argos and Orleans projects) comprises steeply dipping shear hosted gold in volcaniclastic sequences, with gold associated with zones of albite \pm sericite \pm chlorite \pm pyrite mineralisation.
Climate	The climate is semi-arid and temperatures vary from an average minimum of 4°C in June to an average maximum of 36°C in January. The average annual rainfall is 220mm. No extreme climate conditions are experienced that materially affect mining operations.
Licence status and holdings	The Gruyere JV has ownership of 12 granted mining leases, three granted exploration licences, 52 granted miscellaneous licences and five granted prospecting licences covering an area of 142,092ha.
Operational infrastructure	The Gruyere JV Mineral Reserve comprises five open pits plus ore stockpiles. The Mineral Resource includes seven open pits and one underground deposit. The operation has a processing plant with a TSF and is supported by a power station with gas pipeline and power distribution lines. Borefields and water supply infrastructure, centralised administrative offices, engineering workshops, accommodation village, airstrip and road networks are all developed. Construction of a 12MW solar farm was completed in early 2022.
Mining method	The Gruyere mine utilises mining contractors to mine the open pit using conventional drill, blast, load and haul activities. The Gruyere pit mined oxide and fresh rock material in 2022, allowing validation and optimisation of the geotechnical parameters. The pit is designed to be mined in stages over the LOM. Material was mined from stages 1, 2 and 3 during 2022. The new LOM expands the pit from stages 3 to 7.
	During 2022, mining consisted of predominantly fresh rock material mined, which was harder and more abrasive material.
	Crusher feed to the processing plant is provided by a combination of direct tip material from the mine and rock sourced from the ROM and long-term stockpiles.

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Mineral processing and TSFs	All ore mined is processed in the Gruyere plant, which consists of primary crushing, semi-autogenous grind (SAG)/ball milling, gravity and carbon in leach (CIL) circuits. The processing plant was designed to 7.5Mtpa but subsequent work shows this can be increased to 9.5Mtpa for 2023 and then increased to 10Mtpa by 2024. The TSF perimeter embankment is constructed in a downstream manner (in stages) to enclose a surface area of 2020a at states 1.4 (tasta) and 224b at states 2.4 (tasta).
	rating and a remaining LOM storage capacity of ~78Mt. Studies are in progress to extend the existing TSF to increase capacity by 29Mt – 34Mt.
LOM: Proved and Probable Reserve	The LOM includes a 4.04Moz Mineral Reserve (2.02Moz attributable to Gold Fields), supporting average annual gold production of ~350koz, of which 50% is attributable to Gold Fields over an 11-year LOM.
Sustainable development	Gruyere achieved International Cyanide Management Code certification in 2020. Gruyere also achieved ISO 45001 certification for its health and safety management system and ISO 14001 for its environmental management systems during 2020. All environmental and safety ISO accreditation was retained in 2022.
	During 2022, construction and seeding of Gruyere's first rehabilitation trial areas to test closure prescriptions in the revised mine closure plan were undertaken. Water extraction from Yeo borefield continued at levels significantly below forecast for 2022 due to increased water recycling. Reduced abstraction increases the security of the borefield and aligns with Gold Fields' environmental targets.
	Commissioning and operations of the12MW solar facility were completed at Gruyere in 2022. A PFS of additional renewable energy prospects was also begun in an aim to plan the path forward to 30% emissions reduction by 2030.
	The mine is continuing on its reconciliation journey through the implementation of its Innovate Reconciliation Action Plan (RAP), which was launched in Q1 2022. The RAP focuses on developing respectful relationships and creating meaningful opportunities with Aboriginal and Torres Strait Islander peoples.
	Gruyere assists in numerous social development activities in partnership with the host communities.
	Gruyere complies with all legislation. A detailed revision of the Gruyere mine closure plan was completed in 2022 under the Mine Expansion Feasibility Study (FS) Project with submission to the regulatory authorities in early 2023.

ASSET FUNDAMENTALS continued

Gruyere gold mine continued

KEY DEVELOPMENTS AND MATERIAL ISSUES

- The attributable Gruyere JV Mineral Reserve decreased year-on-year by 0.2Moz or -9%. The attributable Gruyere JV Mineral Resource excluding Mineral Reserves decreased year-on-year by 0.2Moz or -11%. This decrease was predominantly due to production depletion and inflationary cost increases
- In 2022 Gruyere processed 8.86Mt and produced 315koz of gold
- GC drilling in 2022 continued to delineate in excess of 12 months of Measured Resources ahead of the mining front to support detailed mine planning
- The Resource and Reserve models performed well with a full-year Mine Call Factor (MCF) of 100%
- A new geological and block model has been created for the Golden Highway pits after the 2022 drilling completed by Gold Road. Optimisations are currently being run for Atilla, Montagne, Argos, Orleans and Alaric which will feed into the FS of Golden Highway in 2023
- The planned average production of ~350koz per annum (100%) is underpinned by ongoing business improvement initiatives, including a "mine to mill" blasting optimisation study as well as a mill throughput optimisation study
- The original design capacity of the Gruyere circuit on 100% fresh ores was 7.5Mtpa. An exercise to debottleneck the plant resulted in the implementation of changes that should increase throughput capacity to circa 9.2Mtpa. A decision was made to work towards a future optimised stretched throughput target of 10Mtpa by ~2024

 Golden Highway exploration and related studies will continue to assess ore supply flexibility for future years from smaller open pits on the JV tenements during 2022

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- Initiation of an FS in 2022 focused on Gruyere pit optimisation and expansion
- Risks to the execution of the LOM plan include:
 Achievement of steady state target mill throughput with a planned increase in mill utilisation and reliability. This is supported by project study work, including geometallurgical assessments relating to harder and more abrasive fresh ore types dominating the mill feed blend and assessment of geophysical techniques to assist with profiling the geometry of internal mafic dykes
- Delivery on mining recovery, ore dilution and reconciliation metrics. These were closely monitored in 2022, and GC drilling protocols and mining practices further enhanced as warranted
- Modifying factors are monitored and calibrated to enhance future Resource and Reserve declarations as more empirical operating data is generated



Gruyere gold mine open pit

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AUSTRALIA REGION

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OPERATING STATISTICS

	Units	Dec 2022	Dec 2021
Mining 100%			
Total mined	kt	37,133	39,406
– Waste mined (opex)	kt	9,423	2,495
– Waste mined (capex)	kt	17,793	26,608
– Ore mined	kt	9,917	10,303
Mined grade	g/t	1.2	1.0
Strip ratio (tonnes)	waste:ore	2.7:1	2.8:1
Processing 100%			
Tonnes treated	kt	8,865	8,439
Head grade	g/t	1.2	1.0
Yield	g/t	1.1	0.9
Plant recovery	%	91.6	90.5
Total Au production	koz	315	247
Total Au production	kg	9,787	7,668
Financials: Gold Fields share (50%)			
Average Au price received	US\$/oz	1,800	1,804
Average Au price received	A\$/oz	2,598	2,401
Exchange rate (annual average)	A\$/US\$	1.45	1.33
Cost of sales before amortisation and depreciation 50% share	A\$m	145	108
Cost of sales before amortisation and depreciation 50% share	A\$/oz	923	878
Capex Gold Fields 50% share	A\$m	48	58
Capex Gold Fields 50% share	A\$/oz	303	472
AIC	A\$/oz	1,431	1,541
AIC	US\$/oz	991	1,158

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Gruyere gold mine continued

EXPLORATION AND RESOURCE DEFINITION DRILLING

2022 exploration expenditures are presented in the Australia regional overview section.

A GC drilling programme was completed in the Gruyere stage 2 and stage 3 pits during Q2 2022. For a total of 11,022m, 162 holes were completed. The programme was designed to achieve 25m x 25m spacing for areas of the stage 2 and stage 3 pits. The programme utilised scheduled drill floor availability in stage 2 to target areas of the hangingwall and footwall that were data poor. Drilling in the stage 3 pit utilised a drill floor, infilling three sections in the north, hangingwall and footwall areas which could not be effectively delineated from the previous GC drilling. There was also focus in stage 3 to delineate the horizontal mineralised structure on the eastern side of the porphyry unit.

Gold Road utilised both diamond drilling and RC drilling programmes during 2022 at Golden Highway. The focus of exploration in 2022 was testing for near-surface oxide potential along the Golden Highway trend, in particular along strike of existing resources. The programme was expanded in December due to positive results, to test extension to previously unidentified footwall mineralisation intercepted at Attila. A total of 16,315m of RC drilling and 4,634m of diamond drilling was completed in 2022.

Golden Highway is again the 2023 exploration focus to define and refine the extent of the Resource and Reserve footprints with the aim of maximising LOM flexibility through additional ore sources outside of the Gruyere pit.

PROJECT AND STUDY PIPELINE

Projects include further technical studies and data collection to confirm pit optimisation and expansion options. Various debottlenecking studies will also be conducted in 2022 to enhance overall operating efficiencies such as the mine optimisation and expansion FS. Commenced in 2021 and continuing in 2022, the mine's technical team started mill throughput and mill utilisation optimisation studies, targeting an overall increased processing rate of (nominally) 10Mtpa by "2024. Work continues to look into utilising and implementing a third mining fleet for the start of 2023 to achieve a total "56Mt mined per annum.

An exploration deep drilling programme beneath the Gruyere resource pit shell was completed during 2021 and suggests that the orebody extends below currently defined Resources. Grades and tonnages are not yet defined at a Mineral Resource level. While JV partner Gold Road Resources has declared an underground Resource as an alternative development scenario to extracting deeper Resources below the current open pit, Gold Fields does not consider that underground options meet investment criteria at this stage.

MINERAL RESOURCES AND MINERAL RESERVES ATTRIBUTABLE

The Mineral Resources and Mineral Reserves for the Gruyere deposit were updated by Gold Fields for 31 December 2022. Geology and resource estimation models were updated to reflect the latest available data sets where appropriate. The Resource and Reserve for the ancillary Golden Highway deposits (Alaric, Montagne, Argos and Attila) and Orleans were updated by Gold Fields Australia in 2021. The Mineral Resources for Central Bore and Yam14 had no change.

Attributable Mineral Reserve classification

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The Gold Fields 50% share, as held by Gruyere Mining Company, is reported below.

	Tonnes (kt)	Grades (g/t Au)	Au (koz)	Cut-off grades (g/t Au)	Metallurgical recovery (%)
Open-pit (OP) Mineral Reserves					
OP Proved Mineral Reserves	6,793	1.2	264	0.55	91.2
OP Probable Mineral Reserves	39,474	1.3	1,686	0.55 – 0.69	85.1 – 92.0
OP total Mineral Reserves	46,267	1.3	1,950	0.55 – 0.69	85.1 – 92.0
Stockpile (SP) Mineral Reserves					
SP Proved Mineral Reserves	3,124	0.7	72	0.30	89.2
SP Probable Mineral Reserves					
SP total Mineral Reserves	3,124	0.7	72	0.30	89.2
Total Mineral Reserves					
Total Proved Mineral Reserves	9,917	1.1	337		
Total Probable Mineral Reserves	39,474	1.3	1,686		
Total Gruyere Mineral Reserves 2022	49,392	1.3	2,023		
Total Gruyere Mineral Reserves 2021	54,548	1.3	2,226		
Year-on-year difference (%)	(9)	0	(9)		

Attributable Mineral Reserves classification per mining area

Deposit/Area		Tonnes (kt)	Grades (g/t Au)	Au (koz)	Cut-off grades (g/t Au)	Metallurgical recovery (%)
	Open-pit (OP) Mineral Reserves					
Gruyere	Proved	6,793	1.21	264	0.55	91.2
	Probable	35,995	1.33	1,542	0.55	91.6
	Proved and Probable	42,788	1.31	1,806	0.55	91.2 – 91.6
Alaric	Proved					
	Probable	210	1.37	9	0.68	85.1
	Proved and Probable	210	1.37	9	0.68	85.1
Argos	Proved					
	Probable	239	1.16	9	0.64	87.1
	Proved and Probable	239	1.16	9	0.64	87.1
Attila	Proved					
	Probable	2,064	1.33	88	0.69	92.0
	Proved and Probable	2,064	1.33	88	0.69	92.0
Montagne	Proved					
	Probable	966	1.23	38	0.59	91.6
	Proved and Probable	966	1.23	38	0.59	91.6
Total OP	Proved	6,793	1.21	264		
	Probable	39,474	1.33	1,686		
	Proved and Probable	46,267	1.31	1,950		
Total SP	Stockpile (SP) Mineral Reserves					
	Proved	3,124	0.72	72	0.30	89.2
	Probable					
	Proved and Probable	3,124	0.72	72	0.30	89.2
Grand total	Total Mineral Reserves					
	Proved	9,917	1.06	337		
	Probable	39,474	1.33	1,686		
	Proved and Probable	49,392	1.27	2,023		

Gruyere gold mine continued

Attributable Mineral Resources classification (EMR)

The Gold Fields 50% share, as held by Gruyere Mining Company Proprietary Limited, is reported below.

	Tonnes (kt)	Grades (g/t Au)	Au (koz)	Cut-off grades (g/t Au)	Metallurgical recovery (%)
Open-pit (OP) Mineral Resources					
OP Measured Mineral Resources	46	1.0	1	0.48	91.2
OP Indicated Mineral Resources	13,197	1.4	584	0.40 - 0.61	85.1 – 92.0
OP Measured and Indicated Mineral Resources	13,243	1.4	586	0.40 – 0.61	85.1 – 92.0
OP Inferred Mineral Resources	14,368	1.4	646	0.40 – 0.61	85.1 – 92.0
Underground (UG) Mineral Resources					
UG Measured Mineral Resources					
UG Indicated Mineral Resources					
UG Measured and Indicated Mineral Resources					
UG Inferred Mineral Resources	121	13.0	51	3.5	
Total Gruyere Mineral Resources					
Total Measured Mineral Resources 2022	46	1.0	1		
Total Indicated Mineral Resources 2022	13,197	1.4	584		
Total Measured and Indicated Mineral Resources 2022	13.243	1.4	586		
Total Inferred Mineral Resources 2022	14,489	1.5	696		
Total Measured and Indicated Mineral Resources 2021	13,932	1.4	611		
Total Inferred Mineral Resources 2021	17,851	1.4	832		
Total Measured and Indicated year-on-year difference (%)	(5)	1	(4)		
Total Inferred year-on-year difference (%)	(19)	3	(16)		
AUSTRALIA REGION

Attributable Mineral Resource classification per mining area (EMR)

Deposit/Area		Tonnes (kt)	Grades (g/t Au)	Au (koz)	Cut-off grades (g/t Au)	Metallurgical recovery (%)
Gruyere	Underground (UG) Mineral Reso	ources				
Central Bore	Measured					
	Indicated					
	Measured and Indicated					
	Inferred	121	13.05	51	3.5	
Total UG	Measured					
	Indicated					
	Measured and Indicated					
	Inferred	121	13.05	51	3.5	
	Open-pit (OP) Mineral Resource	es				
Gruyere	Measured	46	0.99	1	0.48	91.2
	Indicated	11,108	1.37	489	0.48	91.6
	Measured and Indicated	11,154	1.37	491	0.48	91.2 – 91.6
	Inferred	11,690	1.42	534	0.48	91.6
Yam 14	Measured					
	Indicated	109	1.40	5	0.40	91.2
	Measured and Indicated	109	1.40	5	0.40	91.2
	Inferred	442	1.24	18	0.40	91.2
Alaric	Measured					
	Indicated	458	1.79	26	0.60	85.1
	Measured and Indicated	458	1.79	26	0.60	85.1
	Inferred	260	1.35	11	0.60	85.1
Montagne	Measured					
	Indicated	539	1.17	20	0.59	91.6
	Measured and Indicated	539	1.17	20	0.59	91.6
	Inferred	122	1.25	5	0.59	91.6
Argos	Measured					
	Indicated	524	1.23	21	0.56	87.1
	Measured and Indicated	524	1.23	21	0.56	87.1
	Inferred	1,189	1.16	44	0.56	87.1
Orleans	Measured					
	Indicated					
	Measured and Indicated					
	Inferred	587	1.50	28	0.50	87.1

Gruyere gold mine continued

Deposit/Area		Tonnes (kt)	Grades (g/t Au)	Au/ (koz)	Cut-off grades (g/t Au)	Metallurgical recovery (%)
Attila	Measured					
	Indicated	459	1.55	23	0.61	92.0
	Measured and Indicated	459	1.55	23	0.61	92.0
	Inferred	78	2.27	6	0.61	92.0
Total OP	Measured	46	0.99	1		
	Indicated	13,197	1.38	584		
	Measured and Indicated	13,243	1.38	586		
	Inferred	14,368	1.40	646		
Grand total	Total Mineral Resources					
	Measured	46	0.99	1		
	Indicated	13,197	1.38	584		
	Measured and Indicated	13,243	1.38	586		
	Inferred	14,489	1.49	696		

Notes:

• All Mineral Resources are completed in accordance with the SAMREC Code (2016)

All figures are rounded to reflect appropriate levels of confidence. Apparent differences may occur due to rounding

• Mineral Resources are EMR

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• Figures are reported on an attributable basis unless otherwise specified

The open pit Mineral Resources are reported at various COGs (0.4g/t Au – 0.6g/t Au) and are constrained in A\$2,300/oz optimised pit shells derived from mining, processing and geotechnical parameters that could be realistically applied to these deposits during future economic extraction. No allowance for an open-pit ramp was included in the geotechnical parameters used to generate the constraining whittle shells

• The underground Mineral Resource, Central Bore, is reported in economically optimised shapes, applying a gold price of A\$2,300/oz, against a COG of 3.5g/t Au and minimum mining width of 1.5m

Although not all planning and optimisation work has been completed at updated 2022 metal prices due to the late changes in pricing assumptions, the shells and mining shapes remain valid at the 2022 prices

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Modifying factors

		Dec	Dec
	Units	2022	2021
Mineral Resource parameters			
Mineral Resource Au price	US\$/oz	1,600	1,500
Mineral Resource Au price	A\$/oz	2,300	2,000
Cut-off for open pit	g/t	0.40 - 0.60	0.40 - 0.70
Mineral Reserve parameters			
Mineral Reserve Au price	US\$/oz	1,400	1,300
Mineral Reserve Au price	A\$/oz	2,000	1,750
Cut-off for mill feed open pit	g/t	0.5 – 0.7	0.45 – 0.7
Strip ratio (waste:ore)	ratio	4.2:1	4.0:1
MCF	%	100	100
Dilution open pit	%	4 – 31	4 – 31
Mining recovery	%	89 – 99	89 – 98
Plant recovery ¹	%	81 – 92	81 – 95
Processing capacity (100%)	Mtpa	9.6	10

An annualised recovery range is stated; forecast recoveries are calculated using recovery models derived from historical metallurgical test work that depends on ore type (oxide, transitional and fresh)

Grade tonnage curve – open pit

The grade tonnage curve for the surface attributable Mineral Reserve is presented in the opposite graph. Stockpiles are excluded from the grade tonnage curves.



MINERAL RESOURCES CLASSIFICATION (EMR)

Gold Fields has historically reported Mineral Resources inclusive of Mineral Reserves (IMR). This year, Mineral Resources are being reported only as exclusive of Mineral Reserves (EMR) and attributable to Gold Fields to provide consistency and comparison with SEC reporting mandates and formats in the 20F and TRS submissions. Mineral Resources EMR represent the Mineral Resources remaining after the Mineral Reserve has been generated. There is no guarantee that EMR will be converted to Mineral Reserves through additional drilling and future increases in metal price assumptions.

MINERAL RESOURCE AND MINERAL RESERVE RECONCILIATION YEAR-ON-YEAR

Factors that affected Mineral Resources reconciliation year-on-year (attributable EMR)

Gruyere – all depletion within 2022 Reserve

Increased costs resulting in increased COGs (-161koz)

Factors that affected Mineral Reserves reconciliation year-on-year (attributable)

Gruyere mining depletion (-187koz)

Decrease in Reserve primarily due to depletion

Increased costs resulting in increased COGs (-26koz)

Gruyere gold mine continued

Attributable Mineral Reserve Reconciliation







Mineral Reserve sensitivity

To illustrate the impact of fluctuations in gold price and exchange rates on the current declaration, Gruyere generated sensitivities for Mineral Reserves. The graph above indicates the Attributable Mineral Reserve sensitivity at -15%, -10%, -5%, base, +5%, +10% and +15% to the base US\$1,400/oz (A\$2,000/oz) Reserve gold price.

These sensitivities (other than for the base case) are not supported by detailed plans and depletion schedules. They should only be considered on an indicative basis, specifically as such sensitivities assume 100% selectivity, without any operating cost increases.



Gruyere gold mine processing plant



Granny Smith gold mine

In 2022, Granny Smith produced 288koz of gold. The Exclusive Mineral Resource and Mineral Reserve net of depletion decreased by -39% and -4% respectively, driven mostly by the removal of barrier pillars from EMR and cost escalation. Mineral Resource conversion drilling continued to return positive results predominantly from infill drilling from the Zone 135 main lode and high-grade vertical lodes at the Wallaby deposit. Resource conversion drilling continued in Zone 150 resulting in a Mineral Resource addition of 307koz. The 2023 exploration programme will continue to focus on Resource and Reserve growth at Wallaby through extensions both laterally and at depth. Further drilling will include the Zone 135 lateral and vertical lodes to close-out open areas and define the full ore body footprint. There will be a continuation of Mineral Resource and Reserve conversion drilling in Zone 150. The aim is to complete 50mx50m drilling on >70% of the Zone 150 main lode for a PFS in 2023. Follow-up bedrock testing of high-quality surface exploration targets with high potential in both size and grade anomalism and refined geological interpretation will continue.

ASSET FUNDAMENTALS				
General location	Granny Smith is situated in the Yilgarn Craton at an elevation of 400m above mean sea level (amsl) and located at latitude 28°51'09"S and longitude 122°18'35"E, ~400km north-east of the town of Kalgoorlie in the Eastern Goldfields of Western Australia in the Laverton district.			
Brief history and	The Annexure to this Supplement provides a summary of Granny Smith's history and regional geology.			
regional geology	The Granny Smith region is dominated by the Mount Margaret Dome in the north-west and the Kirgella Dome in the south-east. These domes are flanked to the east and west by north-west to north striking shear zones with the central zone between the two domes dominated by north to north-north-east striking sigmoidal shear zones. These distinctly different strikes developed early in the tectonic evolution and resulted in favourable architecture for late-stage orogenic gold mineralisation at Wallaby and Granny Smith.			
	Orogenic greenstone gold deposits are hosted in different styles of lodes. The lodes comprise vein stock works localised by a northerly trending shear at the margin of a granodiorite. The Wallaby lodes are flat-lying alteration zones hosted in magnetite amphibole altered conglomerates. Mineralised zones show moderate to long-range geological continuity and short-range grade continuity.			
Climate	The climate is semi-arid and temperatures vary from an average minimum of 4°C in June to an average maximum of 36°C in January. The average annual rainfall is 220mm. No extreme climate conditions are experienced that materially affect mining operations.			
Licence status and holdings	Granny Smith is owned by GSM Mining Company Proprietary Limited, a wholly owned subsidiary of Gold Fields. This entity was established on 1 October 2013, following Gold Fields' acquisition of the asset from Barrick Corporation. Granny Smith controls exploration and mineral rights over 85,968ha, including miscellaneous and non-managed tenements (80 tenements), and has security of tenure for all current exploration and mining leases that contribute to future Mineral Reserves.			
Operational infrastructure	Granny Smith has one underground mine contributing to the Mineral Reserves and Mineral Resources. The Mineral Reserves do not include any open pits but one open pit contributes to the Mineral Resources. The mine has one ore stockpile in the LOM plan. Granny Smith has centralised administrative offices and engineering workshops.			
Mining method	Wallaby underground is accessed via a decline, and mining methods include room and pillar, bulk stopes and long-hole open stoping. The Zone 135 bulk stopes reflect the deepest mining in the LOM plan at Wallaby at ~1,450m below surface. Ground support, pillars and paste fill are designed to manage seismic activity. Operations utilise owner mining. Road haulage carts ore to the processing plant from the decline portal.			
Mineral processing and TSFs	Ore is processed at the milling/leach/carbon in pulp (CIP) processing plant under campaign milling conditions located 15km north-east of the Wallaby underground mine. Granny Smith operates a single TSF complex that comprises three compartments, known as cells 1, 2 and 3. Construction on a fourth cell (cell 4) was commenced in early 2022 next to cell 3 to provide additional tailings capacity for the rest of the LOM.			
	Cell 1 has a High B ANCOLD consequence rating and was raised to its final permitted crest elevation of 448m relative level (mRL) in late 2016. It has a remaining LOM storage capacity of ~0.80Mt and is currently active.			
	Cell 2 was raised to its final permitted crest elevation of 448.5mRL in 2012. This cell has a High B ANCOLD consequence rating, is filled to capacity and is harvested for paste fill.			
	Cell 3 has a High B ANCOLD consequence rating and is currently being raised to an elevation of 434mRL (final permitted elevation of 437mRL). The cell 3F lift will be completed by March 2022 and will provide 1.97Mt capacity.			
LOM: Proved and Probable Reserves	Extensional and brownfields exploration continues and is expected to sustain an extended LOM beyond current Proved and Probable Reserves. It is estimated that the current Mineral Reserves are sufficient for an 10-year LOM to 2032.			
Sustainable development	Granny Smith retained its ISO 14001, 45001 and 27001 certifications. International Cyanide Management Code recertification occurred in 2022. The mine complies with all legislation. As with all Gold Fields' operations in Australia, Granny Smith has an RAP working group to align with the overall Gold Fields RAP, which is designed to develop respectful relationships and create meaningful opportunities with Aboriginal and Torres Strait Islander peoples.			

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KEY DEVELOPMENTS AND MATERIAL ISSUES

- Mining of a second haulage decline from surface down to Zone 120 was completed in 2022 to improve haulage efficiency
- The changes in production sequencing required to deal with the seismicity in the lower parts of the mine were successfully implemented in 2020 and have been sustained throughout 2022, as well as the continuation of bulk stope mining in conjunction with integrated paste fill in Zone 120
- Several projects are pursuing opportunities to improve efficiencies and address cost pressures due to increased depth of mining and associated increases in haulage distance, travel time, ventilation, water supply and ground control requirements
- These include:
- Paste fill now integrated into the stope production cycle for the lower levels of Wallaby underground
- Completion of an on-site bore field for processing and mine water supply
- Business improvement and modernisation projects centred around haulage and production efficiencies
- Additional options to continue to dispose of waste underground through backfilling old stopes
- Continuing the implementation of the digital infrastructure and integrated operations platform
- Exploration drilling continues to expand the Reserve footprint of the Zone 135 flat and vertical lodes
- The Resource development strategy continues to focus on identifying the potential of the Wallaby system down to Zone 150, including geotechnical and seismic modelling and metallurgical response testing. Geotechnical studies indicate Resource and Reserve development below Zone 150 may be challenging

- The Resource Optimisation Project (ROP) continues to define previously overlooked extensions and economic remnants in the upper zones of Wallaby to extract supplementary ore
- Strategic brownfields DD of high-quality bedrock targets from previously gathered foundational data relating to regolith, anomalism, geology and multi-element dispersion is ongoing with all air core drilling now completed at the Granny Smith deposit area
- Risks to the execution of the LOM plan include the following:
 - Mining flexibility reducing with depth in conjunction with the introduction of paste fill in the mine's deeper areas and an increase in the size of geotechnical regional stability pillars to mitigate seismic activity
 - Assessment of more efficient operating strategies with more productive ways of working to ensure the life extension projects at Zone 135 can be delivered safely and within the required financial margin continues as a priority
 - The Geotechnical Review Board (GRB) continues to review and provide recommendations on geotechnical design and extraction sequencing for reducing the impact of seismicity
 - Deeper level mining is associated with increasing costs but is expected to be offset through the impact of a broad range of business improvement projects, including dual decline access and modernisation, automation and debottlenecking studies to leverage mining and cost efficiencies to maintain the AIC/oz margin



Granny Smith gold mine continued

Operating statistics

		Dec 2022	Dec 2021
Underground mining			
Total mined	kt	2,330	2,622
– Waste mined (opex)	kt	40	101
– Waste mined (capex)	kt	689	864
– Ore mined	kt	1,601	1,657
Mined grade	g/t	6.0	5.7
Processing			
Tonnes treated (campaign milling)	kt	1,583	1,662
Head grade	g/t	6.0	5.7
Yield	g/t	5.7	5.2
Plant recovery	%	93.6	92.9
Total Au production	koz	288	279
Total Au production	kg	8,955	8,684
Financials			
Average Au price received	US\$/oz	1,793	1,800
Average Au price received	A\$/oz	2,588	2,396
Exchange rate (annual average)	US\$/A\$	0.69	0.75
Cost of sales before amortisation and depreciation	A\$m	293.1	257.6
Cost of sales before amortisation and depreciation	A\$/oz	1,018	923
Capex	A\$m	141.1	133.7
Capex	A\$/oz	490	479
AIC	A\$/oz	1,691	1,545
AIC	US\$/oz	1,171	1,161

EXPLORATION AND RESOURCE DEFINITION DRILLING

2021/2022 exploration expenditures are presented in the Australia regional section.

In 2022, exploration focused on:

- Drilling for potential Resource growth in Zone 150 at Wallaby
- Continued Resource and Reserve growth at Wallaby through extensions to lodes laterally and at depth, focusing on Zone 135
- Drilling at the Granny Smith Complex to define new extensions for Resource growth
- Refining geological interpretations from first pass air core drill
 data over tenements with previously restricted access
- Continued bedrock testing of high-quality surface exploration targets generated by anomalies

In 2023, exploration will be directed at:

- Ongoing drilling to test for potential Resource growth in Zone 150 at Wallaby
- Additional Resource and Reserve growth at Wallaby by profiling potential extensions to lodes laterally and at depth, focusing on Zone 135
- Follow up on high-quality bedrock results

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PROJECT AND STUDY PIPELINE

A broad range of projects is scheduled, from strategic option analysis, desktop and scoping studies to PFS and FS, aimed at supporting and enhancing the LOM plan.

The 2022 major projects include:

- PFS for the Granny Smith Complex
- Commencing a scoping study on Zone 150 at Wallaby

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MINERAL RESOURCES AND MINERAL RESERVES ATTRIBUTABLE Attributable Mineral Reserves classification

	Tonnes	Grades	Au	Cut-off grades	Metallurgical recovery
	(kt)	(g/t Au)	(koz)	(g/t Au)	(%)
Underground (UG) Mineral Reserves					
UG Proved Mineral Reserves	1,803	5.6	326	3.2 – 3.8	91.1 – 94.1
UG Probable Mineral Reserves	9,938	5.6	1,803	3.2 – 3.8	91.1 – 94.1
UG total Mineral Reserves	11,741	5.6	2,129	3.2 – 3.8	91.1 – 94.1
Stockpile (SP) Mineral Reserves					
SP Proved Mineral Reserves	30	6.3	6		
SP Probable Mineral Reserves					
SP total Mineral Reserves	30	6.3	6		
Total Mineral Reserves					
Total Proved Mineral Reserves	1,833	5.6	332		
Total Probable Mineral Reserves	9,938	5.6	1,803		
Total Granny Smith					
Mineral Reserves 2022	11,771	5.6	2,135		
Total Granny Smith Mineral Reserves 2021	12,601	5.5	2,216		
Year-on-year difference (%)	(7)	3	(4)		



Granny Smith gold mine continued

Attributable Mineral Reserves classification per mining area

		Tonnes	Grades	Au	Cut-off grades	Metallurgical recoverv
Deposit/Area		(kt)	(g/t Au)	(koz)	(g/t Au)	(%)
Granny Smith	Underground (UG) Minera	al Reserves				
Zone 90	Proved	86	6.11	17	3.3	94.1
	Probable	78	3.82	10	3.3	92.6
	Proved and Probable	164	5.02	26	3.3	92.6 – 94.1
Zone 100	Proved	461	5.04	75	3.4	93.5
	Probable	1,195	5.83	224	3.4	94.0
	Proved and Probable	1,656	5.61	299	3.4	93.5 – 94.0
Zone 110 – 120	Proved	1,189	5.85	224	3.6	94.0
	Probable	2,148	5.86	404	3.6	94.0
	Proved and Probable	3,337	5.85	628	3.6	94.0
Zone 135	Proved					
	Probable	6,106	5.58	1,096	3.8	91.0
	Proved and Probable	6,106	5.58	1,096	3.8	91.0
Zone 250 – 60	Proved	17	4.71	3	3.2	93.3
	Probable	305	5.13	50	3.2	93.3
	Proved and Probable	322	5.11	53	3.2	93.6
Zone 70	Proved	24	4.20	3	3.2	92.9
	Probable	6	4.22	1	3.2	92.9
	Proved and Probable	31	4.20	4	3.2	92.9
Zone 80	Proved	26	5.52	5	3.2	93.8
	Probable	100	5.57	18	3.2	93.9
	Proved and Probable	125	5.56	22	3.2	93.9
Total UG	Proved	1,803	5.62	326		
	Probable	9,936	5.64	1,803		
	Proved and Probable	11,741	5.64	2,129		
Total SP	Stockpile (SP) Mineral Res	serves				
	Proved	30	6.33	6		
	Probable					
	Proved and Probable	30	6.33	6		
Grand total	Total Mineral Reserves					
	Proved	1,833	5.63	332		
	Probable	9,938	5.64	1,803		
	Proved and Probable	11,771	5.64	2,135		

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Attributable Mineral Resources classification (EMR)

	Tonnes	Grades	Au	Cut-off grades	Metallurgical recovery
	(kt)	(g/t Au)	(koz)	(g/t Au)	(%)
Underground (UG) Mineral Resources					
UG Measured Mineral Resources	2,467	4.9	385	2.5 – 3.7	92.1 – 93.9
UG Indicated Mineral Resources	10,746	4.6	1,578	2.5 – 3.7	84.3 – 93.6
UG Measured and Indicated					
Mineral Resources	13,213	4.6	1,964	2.5 – 3.7	84.3 – 93.9
UG Inferred Mineral Resources	8,853	5.5	1,576	2.5 – 3.7	84.3 - 93.6
Open-pit (OP) Mineral Resources					
OP Measured Mineral Resources					
OP Indicated Mineral Resources					
OP Measured and Indicated Mineral Resources					
OP Inferred Mineral Resources	203	2.1	14	0.83	85.0
Total Granny Smith Mineral Resources					
Total Measured Mineral Resources 2022	2,467	4.9	385		
Total Indicated Mineral Resources 2022	10,746	4.6	1,578		
Total Measured and Indicated	42.242	4.6	1.064		
	13,213	4.0	1,904		
Total Inferred Mineral Resources 2022	9,055	5.5	1,590		
Total Measured and Indicated Mineral Resources 2021	24,792	5.1	4,059		
Total Inferred Mineral Resources 2021	11,020	5.0	1,757		
Total Measured and Indicated year-on-year difference (%)	(47)	(9)	(52)		
Total Inferred year-on-year difference (%)	(18)	10	(10)		

Granny Smith gold mine continued

Attributable Mineral Resources classification per mining area (EMR)

						Metallurgical
Deposit/Area		Tonnes (kt)	Grades (g/t Au)	Au ((koz)	Cut-off grades (g/t Au)	recovery (%)
Granny Smith	Underground (UG) Mineral I	Resources	(9,000)	()	(3, 6, 10,)	(10)
Granny Smith	Measured					
·	Indicated	2,790	3.79	340	2.5	84.3
	Measured and Indicated	2,790	3.79	340	2.5	84.3
	Inferred	1,585	3.62	184	2.5	84.3
Zone 80	Measured	539	5.54	96	2.8	93.8
	Indicated	486	4.29	67	2.8	93.0
	Measured and Indicated	1,025	4.95	163	2.8	93.0 – 93.8
	Inferred	165	3.92	21	2.8	92.7
Zone 90	Measured	380	5.37	66	2.9	93.7
	Indicated	750	4.62	112	2.9	93.3
	Measured and Indicated	1,130	4.87	177	2.9	93.3 – 93.7
	Inferred	564	4.11	75	2.9	92.9
Zone 100	Measured	893	5.01	144	3.0	93.5
	Indicated	2,302	4.53	336	3.0	93.2
	Measured and Indicated	3,195	4.67	479	3.0	93.2 – 93.5
	Inferred	296	4.13	39	3.0	92.9
Zones 110 – 120	D Measured	368	3.33	39	3.2	92.1
	Indicated	1,214	5.15	201	3.2	93.6
	Measured and Indicated	1,581	4.73	240	3.2	92.1 – 93.6
	Inferred	254	5.17	42	3.2	93.6
Zone 135	Measured	1	15.66	0.5	3.3	92.1
	Indicated	2,343	5.27	397	3.3	91.0
	Measured and Indicated	2,344	5.27	397	3.3	91.0 – 92.1
	Inferred	2,185	4.80	337	3.3	90.9
Zone 150	Measured					
	Indicated					
	Measured and Indicated					
	Inferred	3,134	7.65	771	3.7	90.7
Zone 250 – 60	Measured	30	5.64	5	2.8	93.9
	Indicated	603	4.75	92	2.8	93.3
	Measured and Indicated	633	4.80	98	2.8	93.3 – 93.9
	Inferred	633	5.05	103	2.8	93.5
Zone 70	Measured	256	4.23	35	2.8	93.0
	Indicated	258	4.10	34	2.8	92.8
	Measured and Indicated	514	4.17	69	2.8	92.8 – 93
	Inferred	36	3.48	4	2.8	92.2
Total UG	Measured	2,467	4.86	385		
	Indicated	10,746	4.57	1,578		
	Measured and Indicated	13,213	4.62	1,964		
	Inferred	8,853	5.54	1,576		
	Open-pit (OP) Mineral Reso	urces				
Hillside	Measured					
	Indicated					
	Measured and Indicated					
	Inferred	203	2.09	14	0.83	85.0

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		Tonnes/ (kt)	Grades/ (g/t Au)	Au/ (koz)	Cut-off grades (g/t Au)	Metallurgical recovery (%)
Total OP	Measured					
	Indicated					
	Measured and Indicated					
	Inferred	203	2.09	14	0.83	85.0
Grand total	Total Mineral Resources					
	Measured	2,467	4.90	385		
	Indicated	10,746	4.60	1,578		
	Measured and Indicated	13,213	4.60	1,964		
	Inferred	9,055	5.50	1,590		

Modifying factors

	l Inite	Dec 2022	Dec
Mineral Resources parameters	Offics	2022	2021
Mineral Resources Au price	US\$/oz	1,600	1,500
Exchange rate	A\$/US\$	1.43	1.33
Mineral Resources Au price	A\$/oz	2,300	2,000
Cut-off for open pit	g/t	0.83	0.66
Cut-off for underground	g/t	2.5 – 3.7	2.1 – 3.0
Mineral Reserves parameters			
Mineral Reserves Au price	US\$/oz	1,400	1,300
Exchange rate	A\$/US\$	1.43	1.35
Mineral Reserves Au price	A\$/oz	2,000	1,750
Cut-off for underground	g/t	3.2 – 4.0	2.6 – 3.5
Mining recovery factor (underground)	%	90 – 92	90 - 92
MCF	%	100	100
Dilution underground	%	11 – 20	11 – 20
Plant recovery ¹	%	92	92
Processing capacity (campaign milling)	Mtpa	3.5	3.5

¹ Average recovery stated. Forecast recoveries are calculated using derived and regularly updated recovery models that also depend on ore source

Grade tonnage curves

The grade tonnage curves for underground attributable Mineral Reserves are presented in the opposite graph. Stockpiles are excluded from the grade tonnage curves.

Grade-tonnage curve – Underground



Granny Smith gold mine continued

MINERAL RESOURCES CLASSIFICATION (EMR)

Gold Fields has historically reported Mineral Resources inclusive of Mineral Reserves (IMR). This year Mineral Resources are being reported only as exclusive of Mineral Reserves (EMR) and attributable to Gold Fields to provide consistency and comparison with SEC reporting mandates and formats in the 20F and TRS submissions. Mineral Resources EMR represent the Mineral Resources remaining after the Mineral Reserve has been generated. There is no guarantee that EMR will be converted to Mineral Reserves through additional drilling and future increases in metal price assumptions.

MINERAL RESOURCES AND MINERAL RESERVES RECONCILIATION YEAR-ON-YEAR

Factors that affected Mineral Resources reconciliation year-on-year (attributable EMR)

Mining depletion (-82koz)¹

Higher costs resulting in increased COGs (-668koz)

Resource decrease due to the exclusion of barrier and rib pillars (1,707koz) where extraction potential will only be known at the end of mine

Discovery dominated by Wallaby Zone 135 and Zone 150 underground projects (+383koz)

Factors that affected Mineral Reserves reconciliation year-on-year (attributable)

>

Mining depletion (-305koz)

Increased costs resulting in increased COGs (-53koz)

Reserve growth from zones 120 and 135 following conversion of Inferred Resources (+162koz)

Additions from zones 90, 110 and 120 due to design updates and optimisation (+68koz)

Mining depletion of EMR Resources can occur through mining of Resources not in Reserve (NIR) either as dilution, opportunistic, or defined by GC drilling during the year

Attributable Mineral Reserve Reconciliation



Attributable Mineral Reserve sensitivity



Mineral Reserves sensitivity

To illustrate the impact of fluctuations in gold price and exchange rates on the current declaration, Granny Smith generated sensitivities for Mineral Reserves. The graph above indicates the Attributable Mineral Reserves sensitivity at -15%, -10%, -5%, base, +5%, +10% and +15% to the base US\$1,400/oz (A\$2,000/oz) Reserve gold price.

These sensitivities (other than for the base case) are not supported by detailed plans and depletion schedules. They should only be considered on an indicative basis, specifically as such sensitivities assume 100% selectivity, without any operating cost increases.

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St lves gold mine

In 2022, St Ives produced 377koz of gold. A notable highlight was the extension of mine life at Hamlet from 2023 to 2026 and the continued expansion of the Invincible Complex. The mine continues to transition to a predominantly underground operation with the majority of production from the Invincible Complex and the Hamlet North underground mines. The Mineral Reserve net of depletion increased by 12% and Mineral Resource by 2%. Reserve and Resource additions were driven by significant exploration discovery at the Invincible and Hamlet Complex together with an increase in Peserve

significant exploration discovery at the Invincible and Hamlet Complex together with an increase in Reserve and Resource gold price assumptions. Underground Mineral Reserve increased by 233koz net of depletion at the Invincible Complex.

The main underground LOM sources are Invincible, Invincible South and Hamlet North, and all three areas continue to deliver on their original FS plans. Invincible South continued to expand its mining footprint and together with Hamlet North accounted for the majority of Mineral Reserve growth in 2022. The underground Invincible Complex will form the backbone of the operation over the next 10 years. Incremental additions were achieved at Invincible, Hamlet North and Neptune.

Brownfields exploration across the expansive tenement package continued with focus on the Lefroy Exploration Limited (LEX) JV and around the Central Corridor of the St Ives property, including Neptune and Hamlet. Maintaining momentum on extensional and brownfields exploration and related technical studies will be key to replacing and growing Mineral Reserves, centred on the Invincible Complex where ore body extensions, particularly in the footwall of Invincible South, continue to provide further upside.

	NTALS
General location	The St Ives mining operations extend from 5km – 25km south-south-west of Kambalda in Western Australia, ~630km east of Perth at latitude 31°12'S and longitude 121°40'E. The nearest major settlement is Kalgoorlie, situated 80km to the north, with well-established power grids, access roads and supporting infrastructure.
Brief history and	The Annexure to this Supplement provides a brief summary of St Ives' history and regional geology.
regional geology	St lves is in the Kambalda geological domain, a subset of the Norseman-Wiluna Belt. The Kambalda domain is bound by the north-north-west trending Boulder-Lefroy fault (BLF) and Zuleika shear. The region underwent four compressional events predated by early extension and was metamorphosed to upper greenschist or lower amphibolite facies.
	The main structural feature of the St lves area is the gently south-plunging Kambalda anticline, which extends 35km from the south end of the Kambalda dome to the Junction mine. The majority of known gold deposits are proximal to the trace of the anticlinal axis. A major second-order structure, known as the Playa shear, splays off the BLF shear zone and can be traced through the St lves field for more than 10km.
	 There are several styles of gold mineralisation at St lves. Individual deposits may contain more than one of the following styles: Lode mineralisation: Archaean lode mineralisation typically consisting of 0.5m – 20m-wide mesothermal vein complexes that may also have hydraulic breccias and/or mylonites. Mineralisation is typically discontinuous with short-range predictability Supergene mineralisation: Broad zones of flat-lying gold mineralisation in weathered Archaean and overlying tertiary sediments Palaeoplacer mineralisation: Placer deposits hosted by palaeochannels in the unconsolidated tertiary sediments that overlie the Archaean basement
Climate	St lves is in an area of arid bush land. While occasional storm activity may cause minor delays to open-pit mining operations, the climatic conditions do not materially impact the site's normal operations.
Licence status and holdings	St lves controls 364 prospecting, exploration, mining and miscellaneous tenements over 255,310ha (inclusive of 49 non-managed leases totalling 6,747ha) and 10 JV tenements totalling 25,168ha, where St lves is currently earning an interest.
Operational infrastructure	St Ives has four underground mine areas and seven open pits contributing to the Mineral Reserve. There are seven underground mines and 16 open pits contributing to the Mineral Resource. Current ore stockpiles contribute 4.6% of the Mineral Reserve at the reporting date. There is a centralised administrative office and engineering workshop complex.
Mining method	St lves operated two underground mines and one open pit in 2022.
	The underground mines are accessed via a decline. Mining contractors (Invincible and Hamlet) and owner operator fleet (Hamlet) deploy long-hole stoping and paste/rock fill. Current underground mines are relatively shallow and configured to mitigate geotechnical seismic risk through mine design, scheduling and defined ground support regimes.
	Open pits are mined using conventional drill and blast with truck and shovel. Surface mining operations are conducted using an owner-operator mining fleet.
	Ore from both open pit and underground operations is transported with road trains from individual mining operations to the central St Ives processing ROM pad.

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ASSET FUNDAMENTALS continued St lves operates a 4.7Mtpa processing plant that consists of primary crushing, SAG/ball milling, gravity and leach/CIP circuits. Mineral processing and TSFs TSF 1 has a Low ANCOLD consequence rating, was decommissioned and is being used for tailings reclamation for underground paste backfill material, using excavators, loaders and trucks. TSF 2 has a Low ANCOLD consequence rating, was filled to the final design height and decommissioned. TSF 3 has a Low ANCOLD consequence rating and was decommissioned in 2016. TSF 4 is a paddock-type facility with a current maximum embankment height of ~14.5m. The facility is inactive and has a High C ANCOLD consequence rating. The North Orchin in-pit TSF has a Low ANCOLD consequence rating, reached its storage capacity and was decommissioned in The current active Leviathan in-pit TSF (with a Low ANCOLD consequence rating) has enough capacity to store the remaining LOM volumes LOM: Proved and Extensional and brownfields exploration continues and will likely increase the LOM given the current Inferred Resources and exploration pipeline. It is estimated that the existing Mineral Reserves will be depleted in 2030 (eight years) **Probable Reserves** The mine maintained ISO 45001 certification for its occupational health and safety management system and ISO 14001 **Sustainable** certification for its environmental management system. St lves is also certified as fully compliant with the International Cyanide development Management Code. The mine complies with all legislation. St lves continued implementing the Reconciliation Action Plan (RAP) and works closely with traditional owners to identify and manage Aboriginal cultural heritage sites. In accordance with the three-year cycle, in 2020, St lves completed a detailed review of its mine closure plan and this was

KEY DEVELOPMENTS AND MATERIAL ISSUES

 Invincible underground operations with full production now established. Production from the Invincible Complex now exceeds 2Mtpa

approved by the regulator in 2021.

- Highly prospective targets continue to be explored along strike of Invincible South in the Greater Invincible area with drilling extending mineralisation 600m further to the south. Drilling at Hamlet North has converted the down-dip Resources into Reserves extending mine life until 2026 with significant resource extensions identified down dip of the 2022 Reserve
- Drilling will continue to test for further down-dip extensions of the Hamlet North mineralisation converting Resource to Reserve and exploration of early stage targets close to the Hamlet North infrastructure
- Open-pit production continued at Neptune with mining continuing in stage 7 and ore mining commencing in Q2 2022
- Exploration drilling during 2022 focused on the APN palaeochannel Mineral Resource. Open-pit mining is challenged by increasing mining costs and the current inflationary environment, which limits the potential for Mineral Reserves. In response, a review of the open-pit mining strategy will continue in 2023 to better position St lves to leverage FCF off the existing surface mineral endowment opportunities
- The site-wide underground paste strategy was implemented in 2021, with the majority of the ore mined underground filled with paste to increase the overall recovery of all the ore bodies. A paste plant was established at Invincible South in 2022 and Invincible Deep will be included in the paste reticulation system once mining commences there in 2023

- Emphasis has been on the continued expansion of the The LOM mining mix has been transitioning from open pit to underground operations over the last few years but discovering new, sizeable open-pit opportunities will continue to be prioritised to rebalance the overall mix.
 Open-pit targets are being explored at the LEX JV, eastern and western basins
- All currently planned LOM Reserves are located within the approved disturbance area of the One Mining Proposal that was submitted to the Department of Mines, Industry Regulation and Safety in Q3 2019 with approval granted in January 2021. This approval significantly reduces the number of regulatory commitments to state government

Risks to the execution of the LOM plan include:

- Maintaining regional stability as average mining depths increase. This is supported by the systematic introduction of paste fill to stoping operations coupled with geotechnical modelling and the use of seismic monitoring networks
- Security of water for the LOM. This is being addressed through advanced studies aimed at proving up a new water borefield and work will continue to increase the use of return water from TSFs and rationalisation of the use of freshwater
- New-generation mining opportunities have a lead time of three or more years from initial discovery to production, so maintaining momentum on exploration, discovery and Resource conversion remain key to St Ives' Mineral Reserve replacement and LOM extension strategy

St lves gold mine continued

OPERATING STATISTICS

		Dec 2022	Dec 2021
Total mined	kt	15,452	10,775
– Waste mined (opex)	kt	3,263	2,390
– Waste mined (capex)	kt	9,148	5,045
– Ore mined	kt	3,042	3,339
Mined grade	g/t	3.5	3.8
Open-pit mining			
Open pit mined	kt	12,901	7,998
– Waste mined	kt	11,612	6,583
– Ore mined	kt	1,289	1,414
Mined grade	g/t	1.4	2.2
Strip ratio (waste/tonne ore)	ratio	9.0:1	4.7:1
Underground mining			
Underground mined	kt	2,552	2,777
– Waste mined	kt	798	852
– Ore mined	kt	1,753	1,925
Mined grade	g/t	5.1	4.9
Processing			
Tonnes treated	kt	3,857	4,088
Head grade	g/t	3.2	3.2
Yield	g/t	3.0	3.0
Plant recovery	%	94.2	94.6
Total Au production	koz	377	393
Total Au production	kg	11,716	12,224
Financials			
Average Au price received	US\$/oz	1,797	1,803
Average Au price received	A\$/oz	2,595	2,401
Exchange rate (annual average)	US\$/A\$	0.69	0.75
Cost of sales before amortisation and depreciation	A\$m	387	364
Cost of sales before amortisation and depreciation	A\$/oz	1,027	927
Capex	A\$m	146	138
Capex	A\$/oz	386	350
AIC	A\$/oz	1,594	1,385
AIC	US\$/oz	1,104	1,040

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EXPLORATION AND RESOURCE DEFINITION DRILLING

2021/2022 exploration expenditures are presented in the Australia regional section.

In June 2018, St Ives entered into a farm-in agreement with Hogans Resources Proprietary Limited and Lefroy Exploration (LEX JV), where St Ives may earn up to 70% equity in the LEX JV tenements through exploration expenditure. This agreement allows St Ives to earn exploration and mineral rights over an additional 25,168ha with the first phase of the earn-in completed in 2021. Phase 2 of the earn-in has seen exploration focusing on land exploration on the JV tenements with the bulk of the work being completed including heritage and full field air core drilling. This programme is scheduled to be completed in H1 2023.

The site exploration team is supported by Gold Fields geophysics, regional and corporate technical teams. Exploration activities use a combination of auger, air core and RC drilling, supported by geochemistry and geophysics to generate an integrated prospectivity model to prioritise and direct future investment. In 2022, extensional exploration targeted additions to the Invincible and Hamlet complexes. Growth in underground Mineral Reserves at Invincible was targeted with surface drilling at Invincible South, converting significant extensional veins in the footwall of the main Invincible South to Reserve. In 2023, drilling at Invincible will focus on down-plunge extensions to the footwall extension vein mineralisation amenable to underground bulk mining methods and follow up of high-grade mudstone hosted mineralisation results received in 2022. Hamlet North received a significant extension of mine life until 2026 through positive results received during the 2022 upgrading of the existing Resource. Extensional drilling is planned to continue at Hamlet in 2023 again targeting down-dip extensions for conversion to Mineral Reserve, supporting advanced mining studies and LOM extension.

In addition, brownfields exploration continued to focus on the LEX JV, and the Eastern Basin areas in 2022, targeting large open-pit deposits while Central Corridor exploration will be geared to finding new underground mining targets. Notable activities completed in 2022 included drill testing in the Central Corridor around the Neptune-Revenge Complex, which delivered some positive results that will be followed up in 2023, in addition to testing new targets in this highly prospective corridor.



The Invincible Complex is located on an extensive mineralisation trend. The Invincible area includes the active underground mining areas of Fenton, Drake and Invincible South. Exploration drilling is being conducted across a range of stages from Resource and Reserve definition to near-mine exploration targeting

PROJECT AND STUDY PIPELINE

A feasibility study for the Invincible Deeps project was completed in 2022 and investment approval has been granted by the Gold Fields Investment Committee. The study pipeline for 2023 will focus on the approval of the Swiftsure and Thunderer open pits. Underground studies will focus on the approval of the Invincible South bulk mining and material handling.

St lves gold mine continued

MINERAL RESOURCES AND MINERAL RESERVES ATTRIBUTABLE

Attributable Mineral Reserves classification

	Tonnes (kt)	Grades (g/t Au)	Au (koz)	Cut-off grades (g/t Au)	Metallurgical recovery (%)
Underground (UG) Mineral Reserves					
UG Proved Mineral Reserves	1,844	4.9	292	2.4 – 3.6	96.0
UG Probable Mineral Reserves	16,559	3.9	2,053	2.4 – 3.6	93.1 – 96.0
UG total Mineral Reserves	18,403	4.0	2,345	2.4 – 3.6	93.1 – 96.0
Open-pit (OP) Mineral Reserves					
OP Proved Mineral Reserves	1,075	2.5	86	0.30 - 0.40	96.0
OP Probable Mineral Reserves	2,118	2.3	156	0.35 – 0.45	86.6 - 96.0
OP total Mineral Reserves	3,193	2.4	242	0.30 - 0.45	86.6 – 96.0
Stockpile (SP) Mineral Reserves					
SP Proved Mineral Reserves	3,029	1.3	126	0.39 – 0.40	88.6
SP Probable Mineral Reserves					
SP total Mineral Reserves	3,029	1.3	126	0.39 – 0.40	88.6
Total Mineral Reserves					
Total Proved Mineral Reserves	5,949	2.6	504		
Total Probable Mineral Reserves	18,677	3.7	2,209		
Total St Ives Mineral Reserves 2022	24,626	3.4	2,713		
Total St Ives Mineral Reserves 2021	20,081	3.7	2,412		
Year-on-year difference (%)	23	(8)	12		

Attributable Mineral Reserves classification per mining area

		Tonnes	Grades	Au	Cut-off grades	Metallurgical recovery
Deposit/Area		(kt)	(g/t Au)	(koz)	(g/t Au)	(%)
St Ives	Underground (UG) Mineral R	eserves				
Hamlet North	Proved	105	6.65	23	3.6	96.0
	Probable	757	7.07	172	3.6	96.0
	Proved and Probable	863	7.02	195	3.6	96.0
Invincible						
underground	Proved	1,002	4.14	134	2.4	94.2
	Probable	1,047	3.42	115	2.4	93.6
	Proved and Probable	2,049	3.78	249	2.4	93.6 – 94.2
Invincible Deeps	Proved					
	Probable	3,918	4.23	532	2.6	95.8
	Proved and Probable	3,918	4.23	532	2.6	95.8
Invincible South	Proved	737	5.74	136	2.4	94.2
	Probable	10,836	3.54	1,233	2.4	93.1
	Proved and Probable	11,573	3.68	1,369	2.4	93.1 – 94.2
Total UG	Proved	1,844	4.93	292		
	Probable	16,559	3.86	2,053		
	Proved and Probable	18,403	3.96	2,345		

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Deposit/Area		Tonnes (kt)	Grades (g/t Au)	Au (koz)	Cut-off grades (g/t Au)	Metallurgical recovery (%)
	Open-pit (OP) Mineral Reserve	es				
Clifton	Proved					
	Probable	191	2.05	13	0.35	91.8
	Proved and Probable	191	2.05	13	0.35	91.8
Justice	Proved					
	Probable	441	2.56	36	0.35	93.2
	Proved and Probable	441	2.56	36	0.35	93.2
Neptune	Proved	793	1.99	51	0.30	88.2
	Probable	92	1.49	4	0.45	86.6
	Proved and Probable	885	1.94	55	0.30 – 0.45	86.6 – 88.2
Pistol Club	Proved					
	Probable	661	2.57	55	0.40	96.0
	Proved and Probable	661	2.57	55	0.40	96.0
Swiftsure	Proved	272	3.91	34	0.40	96.0
	Probable	4	1.94	0.2	0.40	93.6
	Proved and Probable	276	3.89	34	0.40	93.6 – 96.0
Thunderer	Proved	10	2.22	1	0.40	90.1
	Probable	236	1.99	15	0.40	89.5
	Proved and Probable	246	2.00	16	0.40	89.5 – 90.1
Trinidad	Proved					
	Probable	493	2.09	33	0.40	94.0
	Proved and Probable	493	2.09	33	0.40	94.0
Total OP	Proved	1,075	2.48	86		
	Probable	2,118	2.3	156		
	Proved and Probable	3,193	2.36	242		
Total SP	Surface stockpile (SP) Mineral	Reserves				
	Proved	3,029	1.29	126		
	Probable					
	Proved and Probable	3,029	1.29	126		
Grand total	Total Mineral Reserves					
	Proved	5,949	2.63	504		
	Probable	18,677	3.68	2,209		
	Proved and Probable	24,626	3.43	2,713		

St Ives gold mine continued

Attributable Mineral Resources classification (EMR)

	Tonnes (kt)	Grades (g/t Au)	Au (koz)	Cut-off grades (g/t Au)	Metallurgical recovery (%)
Underground (UG) Mineral Resources					
UG Measured Mineral Resources	253	4.3	35	1.9 – 4.4	95.0
UG Indicated Mineral Resources	3,986	3.6	459	1.9 – 4.4	84.9 - 96.0
UG Measured and Indicated Mineral Resources	4,238	3.6	493	1.9 – 4.4	84.9 – 96.0
UG Inferred Mineral Resources	9,550	4.0	1,277	1.9 – 4.4	84.9 - 96.0
Open-pit Mineral Resources					
OP Measured Mineral Resources	641	2.9	59	0.75 – 1.07	89.2 – 95.7
OP Indicated Mineral Resources	5,433	2.4	412	0.91 – 1.17	88.8 – 96.0
OP Measured and Indicated Mineral Resources	6,073	2.4	471	0.75 – 1.17	88.8 – 96.0
OP Inferred Mineral Resources	1,753	2.7	155	0.75 – 1.08	87.8 – 96.0
Total St Ives Mineral Resources					
Total Measured Mineral Resources 2022	893	3.3	93		
Total Indicated Mineral Resources 2022	9,418	2.9	871		
Total Measured and Indicated Mineral Resources 2022	10,312	2.9	964		
Total Inferred Mineral Resources 2022	11,303	3.9	1,432		
Total Measured and Indicated Mineral Resources 2021	10,594	3.2	1,092		
Total Inferred Mineral Resources 2021	9,796	4.0	1,252		
Total Measured and Indicated year-on-year difference (%)	(3)	(9)	(12)		
Total Inferred year-on-year difference (%)	15	(1)	14		

Attributable Mineral Resources classification per mining area (EMR)

Deposit/Area		Tonnes (kt)	Grades (g/t Au)	Au (koz)	Cut-off grades (g/t Au)	Metallurgical recovery (%)
St lves	Underground (UG) Mineral R	esources				
Argo	Measured	136	4.82	21	3.6	95.0
	Indicated	473	4.70	72	3.6	95.0
	Measured and Indicated	610	4.73	93	3.6	95.0
	Inferred	170	3.80	21	3.6	94.4
Hamlet North	Measured					
	Indicated	47	8.44	13	4.4	96.0
	Measured and Indicated	47	8.44	13	4.4	96.0
	Inferred	572	11.01	203	4.4	96.0
Invincible underground	Measured					
	Indicated	162	2.92	15	2.9	93.1
	Measured and Indicated	162	2.92	15	2.9	93.1
	Inferred	220	3.47	25	2.9	93.7

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		Tonnes	Grades	Au	Cut-off grades	Metallurgical recovery
Deposit/Area		(kt)	(g/t Au)	(koz)	(g/t Au)	(%)
Invincible Deeps	Measured					
	Indicated	859	2.76	76	3.1	94.0
	Measured and Indicated	859	2.76	76	3.1	94.0
	Inferred	900	4.18	121	3.1	95.8
Invincible South	Measured					
	Indicated	946	3.68	112	3.2	93.2
	Measured and Indicated	946	3.68	112	3.2	93.2
	Inferred	7,055	3.68	836	3.2	93.2
North Orchin	Measured					
	Indicated	436	4.66	65	2.4	94.0
	Measured and Indicated	436	4.66	65	2.4	94.0
	Inferred	380	3.90	48	2.4	94.0
Sirius	Measured	116	3.62	14	1.9	85.2
	Indicated	1,062	3.10	106	1.9	84.9
	Measured and Indicated	1,178	3.15	119	1.9	85.2 – 84.9
	Inferred	253	3.04	25	1.9	84.9
Total UG	Measured	253	4.27	35		
	Indicated	3,986	3.58	459		
	Measured and Indicated	4,238	3.62	493		
	Inferred	9,550	4.16	1,277		
	Open-pit (OP) Mineral Resou	irces				
APN	Measured					
	Indicated	444	6.14	88	1.06	95.4
	Measured and Indicated	444	6.14	88	1.06	95.4
	Inferred	235	1.99	15	0.92	91.6
Bondi	Measured					
	Indicated					
	Measured and Indicated					
	Inferred	166	3.51	19	1.07 – 1.08	94.0
Incredible	Measured					
	Indicated	884	1.30	37	0.75 – 1.08	90.2
	Measured and Indicated	884	1.30	37	0.75 – 1.08	90.2
	Inferred	19	2.80	2	0.75	94.2
Justice	Measured			_		
	Indicated	204	1.48	10	0.78 – 0.94	92.0
	Measured and Indicated	204	1.48	10	0.78 – 0.94	92.0
	Inferred	153	3.27	16	0.78	93.5

St lves gold mine continued

Attributable Mineral Resources classification per mining area (EMR) continued

		_			Cut-off	Metallurgical
Deposit/Area		Tonnes (kt)	Grades (g/t Au)	Au (koz)	grades (q/t Au)	recovery (%)
Neptune	Measured	23	1.78	1	0.82	89.2
	Indicated	911	1.95	57	1.17	88.8
	Measured and Indicated	935	1.95	58	0.82 – 1.17	88.8 – 89.2
	Inferred	37	2.19	3	0.82	88.5
Pistol Club	Measured					
	Indicated	100	3.15	10	0.84 – 0.97	96.0
	Measured and Indicated	100	3.15	10	0.84 – 0.97	96.0
	Inferred	43	1.81	3	0.84	96.0
Santa Ana	Measured					
	Indicated	1,192	2.21	85	0.86 – 1.05	92.1
	Measured and Indicated	1,192	2.21	85	0.86 – 1.05	92.1
	Inferred	77	2.01	5	0.86	91.6
Swiftsure	Measured	9	3.28	1	0.81	95.7
	Indicated	1	1.87	0.1	0.99	93.4
	Measured and Indicated	10	3.11	1	0.81 – 0.99	93.4 – 95.7
	Inferred					
Trinidad	Measured					
	Indicated	139	2.45	11	0.81-0.99	94.5
	Measured and Indicated	139	2.45	11	0.81 – 0.99	94.5
	Inferred	30	2.12	2	0.81 – 0.99	94.0
Yorick	Measured					
	Indicated					
	Measured and Indicated					
	Inferred	412	3.45	46	0.89 - 1.08	94.0
Clifton	Measured					
	Indicated					
	Measured and Indicated					
	Inferred	1	1.36	0.1	0.78	91.5
ldough – East	Measured					
	Indicated	210	1.68	11	0.80 – 0.97	92.8
	Measured and Indicated	210	1.68	11	0.80 – 0.97	92.8
	Inferred	3	1.29	0.1	0.80	91.1
ldough – West	Measured	40	1.67	2	0.80	92.8
	Indicated	224	2.04	15	0.97	93.9
	Measured and Indicated	265	1.99	17	0.80 – 0.97	92.8 – 93.9
	Inferred	22	2.01	1	0.97	93.8

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Deposit/Area		Tonnes (kt)	Grades (g/t Au)	Au (koz)	Cut-off grades (g/t Au)	Metallurgical recovery (%)
Intrepide	Measured					
	Indicated					
	Measured and Indicated					
	Inferred	298	2.55	24	0.85 – 1.03	92.8
Invincible	Measured	558	2.99	54	0.79	95.1
	Indicated	55	3.34	6	0.96	95.3
	Measured and Indicated	612	3.02	59	0.79 – 0.96	95.1 – 95.3
	Inferred	150	1.73	8	0.96	93.9
Invincible South FW	Measured					
	Indicated	921	2.33	69	0.75 – 0.91	91.9
	Measured and Indicated	921	2.33	69	0.75 – 0.91	91.9
	Inferred	36	1.83	2	0.75	91.2
Junction	Measured					
	Indicated	122	3.04	12	0.94 - 1.08	93.5
	Measured and Indicated	122	3.04	12	0.94 – 1.08	93.5
	Inferred	65	4.05	8	0.94	94.4
Thunderer	Measured	10	2.33	1	0.86	90.4
	Indicated	26	2.51	2	1.05	90.7
	Measured and Indicated	36	2.46	3	0.86 – 1.05	90.4
	Inferred	6	1.57	0.3	1.05	87.8
Total OP	Open-pit Mineral Resources	(OP)				
	Measured	641	2.85	59		
	Indicated	5,433	2.36	412		
	Measured and Indicated	6,073	2.41	471		
	Inferred	1,753	2.74	155		
Grand total	Total Mineral Resources					
	Measured	893	3.25	93		
	Indicated	9,418	2.88	871		
	Measured and Indicated	10,312	2.91	964		
	Inferred	11,303	3.94	1,432		

St lves gold mine continued

Modifying factors

		Dec	
	Units	2022	2021
Mineral Resources parameters			
Mineral Resources Au price	US\$/oz	1,600	1,500
Mineral Resources Au price	A\$/oz	2,300	2,000
Cut-off for oxide ore	g/t	0.79 – 1.17	0.79 – 1.05
Cut-off for fresh ore	g/t	0.75 – 4.4	0.71 – 3.8
Cut-off for mill feed	g/t	0.75 – 4.4	0.71 – 1.05
Cut-off for open pit	g/t	0.75 – 1.17	0.71 – 1.05
Cut-off for underground	g/t	1.9 – 4.4	1.9 – 3.8
Mineral Reserves parameters			
Mineral Reserves Au price	US\$/oz	1,400	1,300
Mineral Reserves Au price	A\$/oz	2,000	1,750
Cut-off for oxide ore	g/t	0.35 – 0.45	0.35 – 0.40
Cut-off for fresh ore	g/t	0.30 – 3.6	0.35 – 3.5
Cut-off for mill feed underground	g/t	2.4 – 3.6	2.5 – 3.5
Cut-off for mill feed open pit	g/t	0.30 - 0.45	0.35 – 0.40
Mining recovery factor (underground)	%	90 – 93	90 – 93
Mining recovery factor (open pit)	%	91 – 100	91 - 100
Strip ratio (waste:ore)	ratio	9.0:1	4.7:1
MCF	%	100	100
Dilution open pit	%	25 – 52	5 – 52
Dilution underground	%	20 – 25	5 – 57
Plant recovery ¹	%	88 – 96	65 – 96
Processing capacity	Mtpa	4.7	4.7

¹ The range in recoveries is stated; forecast recoveries are calculated using derived and regularly updated recovery models that depend on ore source and type

Grade tonnage curves

Grade tonnage curves for surface and underground attributable Mineral Reserves are presented below. Stockpiles are excluded from the grade tonnage curves.

Grade-tonnage curve - Open pit



Grade-tonnage curve – Underground



MINERAL RESOURCES CLASSIFICATION (EMR)

Gold Fields has historically reported Mineral Resources inclusive of Mineral Reserves (IMR). This year Mineral Resources are being reported only as exclusive of Mineral Reserves (EMR) and attributable to Gold Fields to provide consistency and comparison with SEC reporting mandates and formats in the 20F and TRS submissions. Mineral Resources EMR represent the Mineral Resources remaining after the Mineral Reserve has been generated. There is no guarantee that EMR will be converted to Mineral Reserves through additional drilling and future increases in metal price assumptions.

MINERAL RESOURCES AND MINERAL RESERVES RECONCILIATION YEAR-ON-YEAR

Factors that affected Mineral Resources reconciliation year-on-year (attributable EMR)

St Ives – no EMR depletion. All 2022 depletion is from within 2021 Reserve

Higher mining cost assumptions for underground projects (-265koz), gold price (+71koz) and exclusions (-155koz)

Discovery dominated by Invincible South, Hamlet North and Invincible underground projects (+401koz)

Attributable Mineral Reserve Reconciliation



Factors that affected Mineral Reserves reconciliation year-on-year (attributable)

Mining depletion (-386koz)

Reduction in cost assumptions primarily at Invincible South due to mining method (+201koz)

Discovery dominated by Invincible South and Hamlet North underground projects (+465koz)



Mineral Reserves sensitivity

To illustrate the impact of fluctuations in gold price and exchange rates on the current declaration, St Ives generated sensitivities for Mineral Reserves. The graph above indicates the Attributable Mineral Reserves sensitivity at -15%, -10%, -5%, base, +5%, +10% and +15% to the base US\$1,400/oz (A\$2,000/oz) Reserve gold price.

Mineral Reserve sensitivity cases (excluding the base case) are not supported by detailed studies and are therefore estimated with a lower level of confidence than the base case.



St lves: Invincible Pit and access to the Invincible Underground Comple.

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St lves gold mine continued



Agnew gold mine

Expansion of the mine camp, construction of a new crusher, ore body extensional drilling and regional exploration success at the consolidated Waroonga and New Holland One Mine Complex have all contributed to realising the Greater Agnew Project.



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Campaign drilling targeting Kath Lower and FBH contributed to an increase in Reserves and LOM extension at Agnew in 2022. However, Mineral Resources at Kath and FBH ore bodies decreased because of higher COGs and increased MSO dimensions.

Drilling has also been focused where existing Mineral Resources remain open at depth at Redeemer Zone 2 North and Barren Lands underground projects. Additional brownfields exploration drilling across the extensive tenement package continues to advance a number of projects, ensuring a robust project pipeline.

ASSET FUNDAMEN	NTALS
General location	Agnew is situated at latitude 27°55'S and longitude 120°42'E in the Norseman-Wiluna Greenstone Belt. It is located 23km west of Leinster in Western Australia, 375km north of Kalgoorlie and ~870km northeast of Perth. Well-established power, access roads and supporting infrastructure are in place.
Brief history and regional geology	The Annexure to this Supplement provides a summary of Agnew's history and regional geology. Agnew is situated in the northern portion of the Norseman-Wiluna Greenstone Belt of the Yilgarn Craton, Western Australia. Locally, the belt comprises a sequence of mafic to ultramafic volcanics and associated interflow sediments, which were folded to form the Lawlers anticline.
	The mafic and ultramafic volcanics of the Lawlers anticline are unconformably overlain by a sequence of clastic sediments comprising the Scotty Creek formation. The sedimentary rocks were metamorphosed to lower greenschist facies, comprising conglomerates and very fine to very coarse-grained pebbly sandstones and siltstones.
	The Agnew deposits are broadly hosted by the intersections between various structures and the relative stratigraphy. Gold mineralisation largely occurs in quartz veins in the sedimentary units of the Scotty Creek formation.
	Orogenic greenstone gold deposits (hydrothermal) are hosted in several different styles of lodes. Although all Agnew deposits broadly occur at the intersections between structures and stratigraphy, there are subtle differences in alteration and mineralisation that are controlled in part by the local host rock chemistry. Mineralisation zones are discontinuous with short range predictability.
Climate	The climate is semi-arid and temperatures vary from an average minimum of 4°C in June to an average maximum of 36°C in January. No extreme climate conditions are experienced that materially affect mining operations.
Licence status and holdings	The Agnew Gold Mining Company Proprietary Limited (AGMC), ACN 098-385-883, was incorporated in Australia in 2001 as the legal entity holding and conducting mining activity on the Agnew mineral leases. Gold Fields holds 100% of the issued shares of AGMC through its 100% holding in the issued shares of Orogen Holding (BVI) Limited. Agnew controls exploration and mineral rights over 71,944ha (total of granted, inclusive of miscellaneous and non-managed tenements) and has security of tenure for all current exploration and mining leases that contribute to Mineral Reserves.
Operational infrastructure	Agnew operates two underground mines, namely Waroonga and New Holland, now amalgamated into the Agnew One Mine Complex. At Waroonga, ore is sourced from the Waroonga North, Kath, Fitzroy Bengal Hastings (FBH), Main and Kim lodes, accessed via declines. New Holland mining occurs in four primary areas: Sheba South, Sheba, Cinderella and Himitsu. These areas are accessed via declines. There are also centralised administrative offices, engineering workshops at Waroonga and New Holland, and one active CIP processing plant (1.3Mtpa capacity). The plant capacity was increased to 1.35Mtpa at the end of 2022. A hybrid renewable power plant was commissioned in 2019/2020 including solar, wind turbine, gas generator, battery power storage
Mining method	and diesel back-up power solutions. The primary mining method at Waroonga is long-hole sublevel stoping with paste fill. The New Holland mining method depends on the geometry of the ore structure with the primary method being long-hole open stoping. Open pits are mined using conventional drill and blast with truck and shovel. Surface mining operations are conducted using an owner-operator mining fleet.
Mineral processing and TSFs	The Agnew processing plant consists of a tertiary crushing circuit, followed by a two-stage ball milling circuit with gravity and a conventional leach/CIP gold recovery circuit (1.3Mtpa capacity). The plant capacity was increased to 1.35Mtpa at the end of 2022.
	Agnew's TSFs 1 and 2, and an adjoined above-ground paddock storage facility, are decommissioned. TSF 3 is an in-pit facility at the Redeemer pit, operational since it was commissioned in 2004. TSF 3 has been irregularly topped up since commissioning TSF 4. TSF 4 is an in-pit facility located at the Songvang pit and has a remaining LOM storage capacity of ~6.5Mt. All the Lawlers TSFs are closed and rehabilitated.
LOM: Proved and Probable Mineral Reserves	It is estimated that the current Mineral Reserves will be depleted in 2027 (5.5 years). However, extensional and brownfields exploration continues, which has potential to extend the LOM given the modelled endowment potential and underexplored sections of the tenements. Historical exploration success rates suggest that definition of extensions to current "ore shoots" has a high probability.
Sustainable development	Agnew was recertified to ISO 45001 and ISO 14001 during 2022. The mine was recertified to comply with the International Cyanide Management Code in November 2022. During the year, Agnew also maintained ISO 27001 certification.
	The mine implemented an RAP working group to facilitate the implementation of the Gold Fields RAP. The RAP was designed to develop respectful relationships and create meaningful opportunities with Aboriginal and Torres Strait Islander peoples. Gold Fields continues to work closely with the Tjiwarl people and other traditional owners to build strong, trust-based relationships, and explore opportunities for shared value initiatives.
	Agnew undertook a comprehensive review of its mine closure plan that was submitted to the regulator in 2020.

Agnew gold mine continued

KEY DEVELOPMENTS AND MATERIAL ISSUES

- Reserve replacement and net growth during 2022 with notable exploration success at:
 - Kath Lower and FBH
- Barren Lands and Redeemer Complex
- Mining of Barren Lands open pit has commenced
- LOM infrastructure investments to secure a sustainable future:
- Upgrades to underground infrastructure and ventilation in existing mines
 - Construction of a new crusher
 - Expansion of camp accommodation and facilities
 Regulatory approvals received to increase storage
 - capacity of the existing Songvang TSF
- LOM extension remains a key focus area for Agnew in 2022, including:
- Extensional and Resource definition drilling at Kath Lower, FBH, Main, Kim South, Sheba South, Barren Lands and Maria
- Further early-stage exploration continues across the broader tenement package on prioritised prospects
 - The transition of Waroonga and New Holland to a consolidated mining complex, the One Mine Project, was completed in 2021 and is anticipated to drive future mining efficiencies
 - Advancement of narrow vein stoping method to reduce dilution while maintaining gold recovery, focused on Sheba, has returned very good results. This approach will be used at other narrow vein lodes at Waroonga where applicable

 FS has been completed for Barren Lands and Redeemer Zone 2 North underground to support the 2022 Mineral Reserve estimates

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- The Greater Agnew Project (GAP), staged over the next three to four years, will provide an integrated view of the mine's full site potential and cost base aimed at extending LOM and sustaining the operation at current metal production levels beyond 2027
- Risks to the execution of the LOM plan include the following:
 - If the GAP is not implemented at Agnew over the scheduled project timeline, the achievement of the AIC/ oz target could be challenging
 - Agnew is development intensive and a key enabler is the advancement of drill drives at Waroonga North Lower, Kath Lower and Sheba South to provide drill platforms for GC and extensional drilling
 - Project start-up costs for some new mining fronts challenge economics at Reserve price assumptions
 - Potentially challenging geotechnical ground conditions at depth at Kim, FBH, Kath and Sheba are being managed using geotechnical modelling and closure monitoring programmes



Agnew gold mine wind turbine

AUSTRALIA REGION

OPERATING STATISTICS

		Dec 2022	Dec 2021
Open-pit mining			
Open pit mined	kt	628	
– Waste mined	kt	625	
– Ore mined	kt	3	
Mined grade	g/t	0.61	
Underground mining			
Total mined	kt	1,931	1,941
– Waste mined (opex)	kt	249	236
– Waste mined (capex)	kt	576	657
– Ore mined	kt	1,105	1,048
Mined grade	g/t	6.9	6.6
Processing			
Tonnes treated	kt	1,198	1,254
Head grade	g/t	6.6	5.8
Yield	g/t	6.2	5.5
Plant recovery	%	95	95
Total Au production	koz	239	223
Total Au production	kg	7,441	6,936
Financials			
Average Au price received	US\$/oz	1,793	1,804
Average Au price received	A\$/oz	2,588	2,402
Exchange rate (annual average)	US\$/A\$	0.69	0.75
Cost of sales before amortisation and depreciation	A\$m	266	230
Cost of sales before amortisation and depreciation	A\$/oz	1,112	1,030
Сарех	A\$m	123	117
Сарех	A\$/oz	513	526
AIC	A\$/oz	1,875	1,741
AIC	US\$/oz	1,298	1,308

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Agnew gold mine continued

EXPLORATION AND RESOURCE DEFINITION DRILLING

2022/2023 exploration expenditures are presented in the Australia regional section

Exploration in 2022 focused on extensions and infill at the Waroonga and New Holland mineralised systems, which have been included in the December 2022 Resource and Reserve update.

The Waroonga programmes included further extensional drilling of the significant Kath Lower lode, which remains open down plunge. Infill drilling was also carried out on the FBH and Main lodes. Drilling in these areas ensured mining depletion of Mineral Reserves was replaced. Step-out and infill drilling programmes will be completed in 2023 in the Waroonga North, Kath Lower, Main, FBH and Kim South areas.

New Holland extensional and exploration drilling was conducted at Sheba and Hidden Secret. The Sheba South programme resulted in the discovery of the Simba lode. Further drilling at Sheba South and Sheba North is planned for 2023.

Drilling also continued at the Redeemer underground complex, with resource infill drilling completed below the Barren Lands open pit and exploration drilling down plunge of the Redeemer Zone 2 North and South lodes.

Infill drilling was carried out at Maria to a 50m spacing and a resource model is planned for early 2023. Surface exploration in

2021 targeted known high-priority targets, which all returned anomalous gold results. The drill programme was a combination of campaigns designed to test down-plunge extensions of some targets, define extents of other known significant intercepts or test new targets and horizons for mineralisation. Exploration drilling of 160m spaced holes from south of Waroonga continuing south to the Redeemer Complex intersected mineralisation down plunge of Everton, Barren Lands and Redeemer Zone 2 North. Additional projects included wide spaced air core drilling at Mount White and discovery programmes on targets generated from data collected during previous exploration programmes from the past three to five years, including Brilliant and Jaq.

PROJECT AND STUDY PIPELINE

A broad range of projects are scheduled, ranging from strategic option analysis, desktop and scoping studies to PFS and FS, all designed to underpin the LOM plan and life extension. The 2022 projects include the strategic assessment and initial work for the GAP project and PFS studies for Redeemer Zone 2, Barren Lands underground, Redeemer North underground and Hidden Secret/Glasgow Lass open pit. Several mining and infrastructure projects will be evaluated, including a PFS for potential bulk mining and further processing plant upgrades. The timing of the various projects is calibrated to support Agnew's strategic and LOM plans, and consequently considers project lead times, required funding and study resources as well as the Company's capital investment process.

MINERAL RESOURCES AND MINERAL RESERVES ATTRIBUTABLE

Attributable Mineral Reserves classification

	Tonnes (kt)	Grades (g/t Au)	Au (koz)	Cut-off grades (g/t Au)	Metallurgical recovery (%)
Underground (UG) Mineral Reserves					
UG Proved Mineral Reserves					
UG Probable Mineral Reserves	5,039	6.6	1,070	3.4 – 5.2	80.0 - 96.0
UG total Mineral Reserves	5,039	6.6	1,070	3.4 – 5.2	80.0 – 96.0
Open-pit (OP) Mineral Reserves					
OP Proved Mineral Reserves					
OP Probable Mineral Reserves	218	3.0	21	1.01 – 1.02	96.0
OP total Mineral Reserves	218	3.0	21	1.01 – 1.02	96.0
Stockpile (SP) Mineral Reserves					
SP Proved Mineral Reserves	15	8.2	4		
SP Probable Mineral Reserves					
SP total Mineral Reserves	15	8.2	4		
Total Mineral Reserves					
Total Proved Mineral Reserves	15	8.2	4		
Total Probable Mineral Reserves	5,257	6.5	1,091		
Total Agnew Mineral Reserves 2022	5,272	6.5	1,095		
Total Agnew Mineral Reserves 2021	5,138	6.1	1,013		
Year-on-year difference (%)	3	5	8		

Attributable Mineral Reserves classification per mining area

		Toppos	Gradas	A.,	Cut-off	Metallurgical
Deposit/Area		(kt)	(g/t Au)	(koz)	(g/t Au)	(%)
Waroonga	Underground (UG) Minera	al Reserves				
Kim	Proved					
	Probable	38	9.53	12	5.2	95.1
	Proved and Probable	38	9.53	12	5.2	95.1
Main	Proved					
	Probable	188	5.66	34	4.9	88.1
	Proved and Probable	188	5.66	34	4.9	88.1
FBH	Proved					
	Probable	516	4.73	78	4.3	89.1
	Proved and Probable	516	4.73	78	4.3	89.1
Rajah	Proved					
	Probable	44	4.88	7	4.9	80.0
	Proved and Probable	44	4.88	7	4.9	80.0
Waroonga North	Proved					
	Probable	242	5.14	40	4.8	94.0
	Proved and Probable	242	5.14	40	4.8	94.0
Kath	Proved					
	Probable	2,155	8.32	576	4.3	94.0
	Proved and Probable	2,155	8.32	576	4.3	94.0
Redeemer						
Redeemer Zone 2 North	Proved					
	Probable	975	4.55	143	3.8	90.6
	Proved and Probable	975	4.55	143	3.8	90.6
Barren Lands	Proved					
	Probable	460	7.25	107	3.9	94.2
	Proved and Probable	460	7.25	107	3.9	94.2
New Holland						
Lower Genesis	Proved					
	Probable	11	3.85	1	3.5	96.0
	Proved and Probable	11	3.85	1	3.5	96.0
Sheba	Proved					
	Probable	382	5.45	67	3.4	96.0
	Proved and Probable	382	5.45	67	3.4	96.0
Upper NH	Proved	0		0	0.0	0.0
	Probable	28	4.29	4	3.9	96.0
	Proved and Probable	28	4.29	4	3.9	96.0
Total UG	Proved					
	Probable	5,039	6.60	1,070		
	Proved and Probable	5,039	6.60	1,070		

Agnew gold mine continued

Deposit/Area		Tonnes (kt)	Grades (g/t Au)	Au (koz)	Cut-off grades (g/t Au)	Metallurgical recovery (%)
Total OP	Open-pit (OP) Mineral Rese	erves				
	Proved					
	Probable	218	3.01	21	1.01 – 1.02	96.0
	Proved and Probable	218	3.01	21	1.01 – 1.02	96.0
Total SP	Stockpile (SP) Mineral Rese	erves				
	Proved	15	8.15	4		
	Probable					
	Proved and Probable	15	8.15	4		
Grand total	Total Mineral Reserves					
	Proved	15	8.15	4		
	Probable	5,257	6.45	1,091		
	Proved and Probable	5,272	6.46	1,095		

Attributable Mineral Reserves classification per mining area continued

The current LOM plan reflects mining at the Waroonga, New Holland and Redeemer complexes, along with the previously declared open pits supported by mining at Barren Lands

Attributable Mineral Resources classification (EMR)

	Tonnes	Grades	Au	Cut-off grades	Metallurgical recovery
Deposit/Area	(kt)	(g/t Au)	(koz)	(g/t Au)	(%)
Underground (UG) Mineral Resources					
UG Measured Mineral Resources	100	5.6	18	4.5	95.0
UG Indicated Mineral Resources	4,405	5.4	758	2.8 – 4.5	81.0 – 98.0
UG Measured and Indicated Mineral Resources	4,505	5.4	776	2.8 – 4.5	81.0 – 98.0
UG Inferred Mineral Resources	3,529	4.8	539	2.8 – 4.5	81.0 – 98.0
Open-pit (OP) Mineral Resources					
OP Measured Mineral Resources					
OP Indicated Mineral Resources	936	3.4	102	0.88 – 1.04	90.0 – 98.0
OP Measured and Indicated Mineral Resources	936	3.4	102	0.88 – 1.04	90.0 – 98.0
OP Inferred Mineral Resources	487	4.0	63	0.88 - 1.04	90.0 - 98.0
Total Agnew Mineral Resources					
Total Measured Mineral Resources 2022	100	5.6	18		
Total Indicated Mineral Resources 2022	5,342	5.0	860		
Total Measured and Indicated Mineral					
Resources 2022	5,442	5.0	878		
Total Inferred Mineral Resources 2022	4,016	4.7	602		
Total Measured and Indicated Mineral Resources 2021	8,200	4.7	1,236		
Total Inferred Mineral Resources 2021	7,639	4.5	1,112		
Total Measured and Indicated year-on-year difference (%)	(34)	7	(29)		
Total Inferred year-on-year difference (%)	(47)	3	(46)		

Attributable Mineral Resources classification per source area (EMR)

Tonnes Grades Au grades recovery Waroonga Underground (UG) Mineral Resources (Y) (Y) (Y) Kim Measured 100 5.60 18 4.5 95.0 Indicated 97 5.86 18 4.5 95.0 Indicated 107 5.73 36 4.5 95.0 Main Measured 29 7.60 7 4.6 88.0 Main Measured 450 5.97 86 4.4 88.0 Main Measured 450 5.97 86 4.4 88.0 Measured 10 5.37 4.87 84 3.8 99.0 Inferred 132 4.487 84 3.8 99.0 Inferred 12 7.64 14 4.3 95.0 Measured 101 223 4.44 33 3.7 93.0 Measured and Indicated 53 4.44 33 <th></th> <th></th> <th></th> <th></th> <th></th> <th>Cut-off</th> <th>Metallurgical</th>						Cut-off	Metallurgical
DepartmentCityOpt Paul(co2)(prod)(co2)(prod)(pr	D 11/0		Tonnes	Grades	Au	grades	recovery
WaroongaUnderground (UG) Mineral ResourcesKimMeasured1005.60184.595.0Indicated975.86184.595.0MainMeasured and Indicated1975.73364.488.0MainMeasured4505.97864.488.0MainMeasured4505.97864.488.0Inferred936.43194.488.0FBHMeasured and Indicated5374.87843.889.0Inferred125.47843.889.0Macaured and Indicated5377.64144.395.0Macaured and Indicated577.64144.395.0Macaured and Indicated577.64144.395.0Macaured and Indicated577.64144.395.0Macaured and Indicated577.64144.395.0Indicated137.293.33.793.0RajahMeasured and Indicated2334.44333.793.0Inferred2334.44333.793.093.0Inferred2334.44333.793.093.0Measured and Indicated3744.33523.291.0Inferred3744.33523.291.0Inferred3744.33523.291.0M	Deposit/Area		(Kt)	(g/t Au)	(koz)	(g/t Au)	(%)
KimMeasured1005.60184.595.0Measured and indicated1975.73364.595.0MainMeasured297.617864.488.0Measured4505.97864.488.0Measured4505.97864.488.0Measured4505.97864.488.0FBHMeasured5374.87843.889.0Mered1125.14193.890.0Waroonga NorthMeasured577.64144.395.0Measured and Indicated577.64144.395.0Measured and Indicated577.64144.395.0Measured and Indicated577.64144.395.0Measured and Indicated577.64144.395.0Measured137.2933.793.0Maine2334.44333.793.0Measured2334.44333.793.0Measured135.4184.481.0Measured165.71183.291.0Measured163744.33523.291.0Measured256.200.14.482.0Redeemer Zone 2 NorthMeasured254.7153.291.0Measured and Indicated35 <td< td=""><td>Waroonga</td><td>Underground (UG) Mineral I</td><td>Resources</td><td></td><td></td><td></td><td></td></td<>	Waroonga	Underground (UG) Mineral I	Resources				
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Inferred 262 4.11 35 3.2 91.0 Redeemer Zone 2 South Measured 91.0 Indicated 35 4.71 5 3.2 91.0 Indicated 35 4.71 5 3.2 91.0 Measured and Indicated 35 4.71 5 3.2 91.0 Redeemer North Measured 35 4.71 5 3.2 91.0 Indicated and Indicated 35 4.71 5 3.2 92.0 93.0 93.0 93.0 93.0 93.0 94.0 91.0		Measured and Indicated	374	4.33	52	3.2	91.0
Redeemer Zone 2 South Measured Measured		Inferred	262	4.11	35	3.2	91.0
Indicated 35 4.71 5 3.2 91.0 Measured and Indicated 35 4.71 5 3.2 91.0 Inferred 258 5.10 42 3.2 92.0 Redeemer North Measured 1,016 5.77 189 3.3 94.0 Indicated and Indicated 1,016 5.77 189 3.3 94.0 Measured and Indicated 1,016 5.77 189 3.3 94.0 Inferred 255 5.35 44 3.3 94.0 Barren Lands Measured 1,016 5.77 189 3.3 94.0 Inferred 255 5.35 44 3.3 94.0 Barren Lands Measured 24 4.66 4 3.4 93.0 Indicated and Indicated 24 4.66 4 3.4 93.0 Inferred 47 9.28 14 3.4 95.0 Claudius Measured 47 9.28 14 3.4 95.0	Redeemer Zone 2 South	Measured					
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Inferred 258 5.10 42 3.2 92.0 Redeemer North Measured 1,016 5.77 189 3.3 94.0 Indicated and Indicated 1,016 5.77 189 3.3 94.0 Measured and Indicated 1,016 5.77 189 3.3 94.0 Barren Lands Measured 1,016 5.77 189 3.3 94.0 Barren Lands Measured 1,016 5.77 189 3.3 94.0 Barren Lands Measured 1,016 5.77 189 3.3 94.0 Claudius Measured 24 4.66 4 3.4 93.0 Inferred 24 4.66 4 3.4 93.0 Inferred 47 9.28 14 3.4 95.0 Claudius Measured 47 9.28 14 3.4 95.0		Measured and Indicated	35	4.71	5	3.2	91.0
Redeemer North Measured 1,016 5,77 189 3,3 94,0 Indicated and Indicated 1,016 5,77 189 3,3 94,0 Measured and Indicated 1,016 5,77 189 3,3 94,0 Inferred 255 5,35 44 3,3 94,0 Barren Lands Measured 24 4,66 4 3,4 93,0 Indicated and Indicated 24 4,66 4 3,4 93,0 Inferred 24 4,66 4 3,4 93,0 Inferred 47 9,28 14 3,4 95,0 Claudius Measured Measu		Inferred	258	5 10	42	3.2	92.0
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Inferred 255 5.35 44 3.3 94.0 Barren Lands Measured 24 4.66 4 3.4 93.0 Measured and Indicated 24 4.66 4 3.4 93.0 Inferred 47 9.28 14 3.4 95.0 Claudius Measured 47 9.28 14 3.4 95.0		Measured and Indicated	1,016	5.77	189	3.3	94.0
Barren Lands Measured 24 4.66 4 3.4 93.0 Measured and Indicated 24 4.66 4 3.4 93.0 Inferred 47 9.28 14 3.4 93.0 Claudius Measured 47 9.28 14 3.4 95.0		Inferred	255	5 35	44	33	94.0
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Measured and Indicated 24 4.66 4 3.4 93.0 Inferred 47 9.28 14 3.4 95.0 Claudius Measured		Indicated	24	4 66	4	34	93.0
Inferred 47 9.28 14 3.4 95.0 Claudius Measured 47 9.28 14 3.4 95.0		Measured and Indicated	24	4 66	4	3.⊤ 2.⊈	93.0
Claudius Measured		Inferred	4 7	9.28	14	3.4	95.0
includicu	Claudius	Measured	.,	0.20		J. r	00.0
Indicated 302 592 58 3.2 94.0		Indicated	302	5 92	52	20	94 0
Measured and Indicated 302 5.92 58 3.2 94.0		Measured and Indicated	302	5 92	50	3.2	94 O
Inferred 330 4.90 52 3.2 94.0		Inferred	330	4.90	52	32	94.0

Agnew gold mine continued

Attributable Mineral Resources classification per source area (EMR) continued

Denosit/Area		Tonnes	Grades	Au (koz)	Cut-off grades (g/t Au)	Metallurgical recovery
New Holland		(Kt)	(g/t Au)	(KO2)	(g/t Au)	(70)
Lower Genesis	Measured					
Lower Ochesis	Indicated	83	4 56	12	3.0	96.0
	Measured and Indicated	83	4 56	12	3.0	96.0
	Inferred	202	4 4 3	29	3.0	96.0
Sheba	Measured	202	1.15	23	0.0	50.0
	Indicated	575	5 89	109	3.0	96.0
	Measured and Indicated	575	5.89	109	3.0	96.0
	Inferred	818	4.31	113	3.0	96.0
Upper New Holland	Measured					
	Indicated	383	4.90	60	3.4	96.0
	Measured and Indicated	383	4.90	60	3.4	96.0
	Inferred	465	4.23	63	3.4	96.0
200 Series	Measured					
	Indicated					
	Measured and Indicated					
	Inferred	205	5.12	34	3.4	96.0
Cinderella	Measured					
	Indicated	10	7.22	2	3.4	96.0
	Measured and Indicated	10	7.22	2	3.4	96.0
	Inferred	30	4.92	5	3.4	96.0
Himitsu	Measured					
	Indicated	24	3.10	2	2.9	96.0
	Measured and Indicated	24	3.10	2	2.9	96.0
	Inferred	16	3.27	2	2.9	96.0
Hidden Secret	Measured					
	Indicated	135	3.98	17	2.8	96.0
	Measured and Indicated	135	3.98	17	2.8	96.0
	Inferred	135	4.51	20	2.8	96.0
Attributable Mineral Resources classification per source area (EMR) continued

		Tonnes	Grades	Δ	Cut-off	Metallurgical
Deposit/Area		(kt)	(g/t Au)	(koz)	(g/t Au)	(%)
Other						
Miranda (Maria)	Measured					
	Indicated	21	4.88	3	3.2	98.0
	Measured and Indicated	21	4.88	3	3.2	98.0
	Inferred	9	5.55	2	3.2	98.0
Total UG	Measured	100	5.60	18		
	Indicated	4,405	5.35	758		
	Measured and Indicated	4,505	5.36	776		
	Inferred	3,529	4.75	539		
Redeemer	Open-pit (OP) Mineral Reso	urces				
Redeemer Zone 2						
North Pit	Measured					
	Indicated	34	3.80	4	0.95	96.0
	Measured and Indicated	34	3.80	4	0.95	96.0
	Inferred					
Redeemer Zone 2						
South Pit	Measured					
	Indicated	48	3.60	6	0.95	96.0
	Measured and Indicated	48	3.60	6	0.95	96.0
450.0	Inferred					
450 South	Measured	. –				
	Indicated	15	2.70	1	0.88	96.0
	Measured and Indicated	15	2.70	1	0.88	96.0
	Inferred	13	3.00	1	0.88	96.0
Claudius OP	Measured	105	2.00	47	4.0.4	00.0
	Indicated	185	2.90	17	1.04	90.0
	Measured and Indicated	185	2.90	17	1.04	90.0
New Hellend	Interred	2	2.80	0.2	1.04	90.0
	Maaaa					
Cinderella	Measured	10	c 70	2	0.00	00.0
	Indicated	13	6.70	3	0.89	96.0
		13	6.70	3	0.89	96.0
Hiddon Coarat	Measured	16	7.90	4	0.89	96.0
muden secret	Indicated	101	2 40	50	0.00	06.0
	Measured and Indicated	491 101	3.40	55	0.90	96.0
		47	3.40	33 17	0.90	96.0
	IIIEIIEU	001	5.50	17	0.90	90.0

Agnew gold mine continued

		Tonnes	Grades	Au	Cut-off grades	Metallurgical recovery
Deposit/Area		(kt)	(g/t Au)	(koz)	(g/t Au)	(%)
Dobra Serica	Measured					
	Indicated					
	Measured and Indicated					
	Inferred	58	3.60	7	0.89	96.0
Other						
Leviathan North	Measured					
	Indicated	108	3.30	11	0.99	96.0
	Measured and Indicated	108	3.30	11	0.99	96.0
Maria	Measured					
	Indicated	42	5.10	7	0.92	98.0
	Measured and Indicated	42	5.10	7	0.92	98.0
	Inferred	20	1.20	1	0.92	98.0
Cams	Measured					
	Indicated					
	Measured and Indicated					
	Inferred	222	4.60	33	1.01	96.0
Total OP	Measured					
	Indicated	936	3.40	102		
	Measured and Indicated	936	3.40	102		
	Inferred	487	4.00	63		
Grand total	Total Mineral Resources					
	Measured	100	5.60	18		
	Indicated	5,342	5.00	860		
	Measured and Indicated	5,442	5.00	878		
	Inferred	4,016	4.70	602		

Attributable Mineral Resources classification per source area (EMR) continued

Modifying factors

	Linite	Dec 2022	Dec 2021
Mineral Resources parameters	Offics	2022	2021
Mineral Resources Au price	US\$/oz	1,600	1,500
Exchange rate	A\$/US\$	1.43	1.33
Mineral Resources Au price	A\$/oz	2,300	2,000
Cut-off for underground	g/t	2.8 – 4.5	2.2 - 4.1
Cut-off for open pit	g/t	0.88 – 1.04	0.76 – 0.93
Mineral Reserves parameters			
Mineral Reserves Au price	US\$/oz	1,400	1,300
Exchange rate	A\$/US\$	1.43	1.35
Mineral Reserves Au price	A\$/oz	2,000	1,750
Cut-off for fresh ore	g/t	3.3 – 5.2	2.6 - 4.6
Cut-off for oxide	g/t	0.88 – 1.04	0.85 - 1.04
Mining recovery factor (underground)	%	85 – 95	70 – 93
Mining recovery factor (open pit)	%	89 – 94	72 – 88
MCF	%	100	100
Dilution (underground)	%	22 – 32	13 – 30
Dilution (open pit)	%	8 – 24	11 – 55
Plant recovery ¹	%	93.3	93.4
Processing capacity	Mtpa	1.35	1.35

¹ Average recovery stated; forecast recoveries are calculated using derived and applied recovery models that also depend on ore source

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Grade tonnage curves

The grade tonnage curves for underground attributable Mineral Reserves are presented below. Stockpiles are excluded from the grade tonnage curves.

Grade-tonnage curve – underground



MINERAL RESOURCES CLASSIFICATION (EMR)

Gold Fields has historically reported Mineral Resources inclusive of Mineral Reserves (IMR). This year Mineral Resources are being reported only as exclusive of Mineral Reserves (EMR) and attributable to Gold Fields to provide consistency and comparison with SEC reporting mandates and formats in the 20F and TRS submissions. Mineral Resources EMR represent the Mineral Resources remaining after the Mineral Reserve has been generated. There is no guarantee that EMR will be converted to Mineral Reserves through additional drilling and future increases in metal price assumptions.

MINERAL RESOURCES AND MINERAL RESERVES RECONCILIATION YEAR-ON-YEAR

Factors that affected Mineral Resources reconciliation year-on-year (attributable EMR)	Factors that affected Mineral Reserves reconciliation year-on-year (attributable)				
Mining depletion (-93koz) ¹	Mining depletion (-254koz)				
Reduction due to COG increases (-368koz)	Discovery at Kath, FBH and Sheba (+278koz)				
Infill and extensional drilling resulted in additions at Kath Lower and FBH (+13koz)	Infill drilling and conversion of Inferred Resources at Kath and FBH (+127koz)				
Reduction due to increases in mineable shape optimiser (MSO) dimensions and sterilisation around the Reserve (-420koz)	Increased costs resulting in increased COGs (-47koz)				

¹ Mining depletion of EMR Resources can occur through mining of Resources not in Reserve (NIR) either as dilution, opportunistic, or defined by GC drilling during the year



Attributable Mineral Reserve Sensitivity



Mineral Reserves sensitivity

To illustrate the impact of fluctuations in gold price and exchange rates on the current declaration, Agnew generated sensitivities for Mineral Reserves. The following graph indicates the Attributable Mineral Reserves sensitivity at -15%, -10%, -5%, base, +5%, +10% and +15% to the base US\$1400/oz (A\$2,000/oz) Reserve gold price.

These sensitivities (other than for the base case) are not supported by detailed plans and depletion schedules. They should only be considered on an indicative basis, specifically as such sensitivities assume 100% selectivity, without any operating cost increases.

Agnew gold mine continued



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The Redeemer Complex comprises the Redeemer Zone 2 North and Redeemer Zone 2 South ore bodies adjacent to previously operated Redeemer mine workings

Agnew gold mine continued



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Far Southeast – 40% attributable to Gold Fields

The Far Southeast (FSE) project is a gold and copper deposit in the Philippines with Inferred Mineral Resources of 19.8Moz gold and 9,921Mlb copper declared in 2021 (100%).



Gold Fields is currently not pursuing development options for the project. Although it still constitutes a potential asset, this year the value of the 2021 Mineral Resource has been written down to zero in the Gold Fields valuation. Consequently there is currently no reasonable prospect of economic extraction and no Mineral Resource is reported for 2022. Gold Fields continues to investigate options to realise value from the project.



FSE project area, Northern Luzon, Philippines

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ASSET FUNDAMENTALS General location The FSE project is located in the well-known mining district of Mankayan in the Cordillera region of Northern Luzon, ~250km north of Manila. Licence status and holdings The project is held by Far Southeast Gold Resources Inc (FSGRI), a JV between Lepanto Consolidated Mining Company (LCMC) and Gold Fields. To date, Gold Fields has acquired 40% of FSGRI for US\$230m and has the option to acquire a further 20% for US\$110m, incurring initial development costs totalling US\$165m.

KEY DEVELOPMENTS AND MATERIAL ISSUES

- There were no material developments relating to the FSE project in the Philippines during 2022. The project is held by FSGRI in which Gold Fields has a 40% interest with an option to increase its stake to 60%. It is adjacent to an existing mining operation with established infrastructure. LCMC of the Philippines holds the remaining 60% interest and manages the existing mining operation.
- Since early 2022, Gold Fields has sought to sell its 40% stake in Far Southeast Gold Resources, which manages the Far Southeast (FSE) project in the Philippines. Lepanto Consolidated Mining Company (Lepanto) in the Philippines holds the remaining 60% interest, as well as the mining rights and manages the existing mining operation adjacent to FSE. The carrying value we attribute to FSE has been written down from US\$114m at the end of 2021 to zero.
- In 2015, Lepanto, the owner of the underlying mineral rights including the FSE property, was unable to renew its 25-yearly mining licence when the Philippine government ruled Free Prior and Informed Consent (FPIC) was required for the renewal. This requirement was overturned during independent arbitration and, in 2018, by the country's Court of Appeals. In 2019, the government appealed this ruling in the Supreme Court. In December 2022, the Supreme Court ruled that FPIC was required. Lepanto and Far Southeast Gold Resources filed a motion for reconsideration of the decision in January 2023.
- Gold Fields' monthly holding costs in FSE are approximately US\$0.16m, related mainly to employees and administrative costs, managing existing drill core, environmental monitoring, community relations work and activities to support the permitting process.

South Africa Region

Salient points

Attributable mineral reserves

28.7Moz gold Proved and probable

Attributable mineral reserves (EMR)

20.2Moz gold Measured and indicated

6.0Moz gold



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South Africa region South Deep gold mine

The South Africa region consists of one operation and a corporate office.

South Deep is a flagship Gold Fields asset positioned to unlock significant value. The mine achieved most key performance measures for FY2022 with production outputs in line with the mine production ramp-up plan towards 12t gold output annually from 2024 (100%).

Gold production increased by 12% to 10,200kg (328koz) in 2022 from 9,102kg (293koz) in 2021. Ore mined increased by 2% to 1,571kt while waste mined increased by 3% to 195kt in 2022. Total development increased by 13% to 11,594m in 2022 from 10,282m in 2021. These improvements are largely driven by improved operational efficiencies and additional fleet deployed in line with the production ramp up plan.

Productivity improvement programmes that were introduced in 2019 are sustainably delivering results and further enhancements will ensure sustained delivery. Some of the enhancements include the introduction of an operating model that will enable the business to operate at the right level, build process capability and ensure process stability. This will improve planning, execution, work management and further enhance performance.



OPERATION

South Deep

ASSET FUNDAM	IENTALS
General location	South Deep gold mine is situated in the magisterial districts of Westonaria and Vanderbijlpark (Gauteng province), some 45km south-west of Johannesburg at latitude 26°25'S and longitude 27°40'E. It is accessed via the N12 provincial road between Johannesburg and Potchefstroom.
Brief history and regional geology	The Annexure to this Supplement provides a brief history of South Deep and a summary of the regional geology. Locally, the reef horizons exploited in the South Deep LOM comprise the Upper Elsburg formation conglomerates. In the western half of the mining right area, the Ventersdorp Contact Reef (VCR) occurs as a single reef horizon that overlies footwall lithologies of the Turffontein subgroup. The Upper Elsburg reefs, subcropping below the VCR in a north-north-east trend, comprise multiple stacked reef horizons forming an easterly divergent clastic wedge. This wedge attains a thickness of approximately 120m to 130m in the vicinity of the eastern boundary of the mining right area. The Upper Elsburg reefs constitute 100% of the South Deep Mineral Reserve ounces. The VCR is excluded from Reserves and contributes only to Mineral Resources.
Climate	The regional climate is classified as Cwb (warm temperature, winter dry and warm summer) under the Köppen-Geiger climate classification.
Licence status and holdings	South Deep converted its mining right (old order) to new order mining rights in July 2010, as required by the Mineral and Petroleum Resources Development Act No 28 of 2002 (MPRDA) (as amended). The new order mining rights were granted for the mining area totalling 4,268ha for a period of 30 years with the option to renew.
Mining operational infrastructure	The workings are accessed from the surface through two shaft systems, the Twin Shaft Complex (main and ventilation shafts), of which the main shaft comprises a single drop to 110A level, a depth of 2,998m, the vent shaft to 110 level at a depth of 2,947m and the South Shaft Complex, which is a subvertical system (three operating shafts) to 95 level at a depth of 2,786m. The mine is divided into three main areas:
	 Current mine (CM), Characterised by selective mining methods scattered over a large area originally exploited by means of Conventional tabular mining. CM is accessed from three active levels (90, 93 and 95) from the South Shaft and Twin Shaft complexes. The North of Wrench (NOW), directly south and down dip of CM, comprises six mining corridors separated by regional pillars that extend southwards to the Wrench Fault. A bulk massive mining method is applied, resulting in a higher Resources to Reserves conversion ratio. The South of Wrench (SOW) area is split into two, SOW east and SOW west, situated south and down dip of NOW. This area will be mined in the same manner as NOW and effectively represent a "new mine" extension to the LOM footprint.
Mining method	South Deep is an underground bulk mechanised mine using a mix of full-time employees and contractors. Reserves are accessed through access development, destress and shadow development cuts to manage rock stress and seismic activity. A few selective mining methods, including drifts and benches, are employed but long-hole stoping with backfill is the primary bulk mining method. Given the unique mining method, there is a continuous extraction sequence and mine layout optimisation.
Mineral processing and TSFs	The South Deep processing plant consists of a conventional SAG/ball milling circuit, a gravity gold recovery circuit and a conventional CIL/ CIP circuit. Final product from the gravity and CIP circuits is smelted into doré bars for refining at Rand Refinery. For tailings retreatment, the South Deep plant also includes a tailings retreatment section that consists of a thickener followed by a dedicated CIL circuit. South Deep has one active TSF, the Doornpoort TSF, and four dormant TSFs, known as TSFs 1, 2, 3 and 4. TSF 2 is undergoing remining using hydraulic mining methods. The top portion of TSF 1 has also been remined to date. TSFs 1 and 2 were commissioned in 1968 and operated as upstream raised paddock dams. These TSFs cover a combined footprint area of 69ha and have a maximum height of 47m. TSFs 3 and 4 were commissioned in 1982 and are also upstream raised paddock dams. These TSFs cover a combined footprint area of 100ha and have a maximum height of 41m. Deposition on these TSFs ceased in 2011.
	The Doornpoort TSF was commissioned in April 2011 and three upstream wall raises have been constructed. The Doornpoort TSF incorporates a gravity decant system with drainage structures beneath the tailings. This facility has a remaining LOM storage capacity of ~149Mt (phase 2).
Mineralisation characteristics	 Mineralisation is hosted by conglomerates (reefs). Laterally continuous with long-range predictability. Clear patterns of predictable mineralisation governed by sedimentary characteristics. Ore body definition and resource modelling programmes are ongoing for the current mining areas (CM, NOW and SOW).
LOM: Proved and Probable Reserves	It is estimated that the current Mineral Reserves will be depleted in 2096 (74 years).
Sustainable development	South Deep's commitment to continued improvement in health, safety and environmental management is underpinned by its ISO 14001: and ISO 45000 certifications and its certification to the International Cyanide Management Code, which was renewed in 2022. South Deep annually reports its level of compliance in respect of its Social and Labour Plan (SLP) and Broad-Based Socio-economic Empowerment Charter for the Mining and Minerals Industry (Mining Charter) commitments. The 2018 – 2022 SLP was approved in 2019 and implementation started immediately after approval. Implementation of the SLP and Mining Charter requirements continues although Covid-19 negatively impacted some projects. The 2023 – 2027 SLP will be submitted for approval in 2023.
	A new Mining Charter was published by the Department of Mineral Resources and Energy in mid-2018 with implementation guidelines issued in December 2018. The Minerals Council South Africa placed some aspects of the new Mining Charter under judicial review. The Minerals Council won a court case recognising the "once empowered, always empowered" principle, which would guarantee the legislated black economic empowerment (BEE) ownership levels for South Deep until its licence renewal in 2040.
	Three months prior to the lapse of the mining right, South Deep has to apply for the renewal of the mining right. South Deep then has to adhere to the amended requirements as per the Mining Charter.
	South Deep carries the risk of potential short-term and long-term acid mine drainage (AMD). However, studies have indicated that, subject to the implementation of targeted mitigation measures and no regional hydrogeological changes, AMD generation will be mitigated and/or contained, resulting in no residual environmental risk. South Deep continues to implement AMD precautions, which have been included in the 2022 closure plan and cost estimates.
	There is inherent uncertainty in the outcome of the re-watering of the adjacent Cooke 4 (Ezulwini) property and other possible hydrogeological influences over which South Deep does not have control. As such, the post-closure water liability continues to be reported as a contingent liability. Water quality monitoring programmes are ongoing.

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RESOURCE DEFINITION/MINE DEFINITION DRILLING AND EXPENDITURE

The Mineral Resource base is predominantly classified as Measured and Indicated with ~10% in the Inferred category. Re-processing of the existing 2004 3D seismic data was completed in 2021 with modelling and re-interpretation conducted in 2022. Updated structural models will be integrated with results from long-incline borehole (LIB) drilling focused on the SOW Mineral Resource to further enhance ore body confidence. The mine's drilling strategy is designed to provide an appropriate Resource confidence level to support and de-risk the short, medium and long-term mine design, plans and schedules. To achieve this, four drilling programmes are employed, namely:

- LIB drilling attains a 300m grid up to 1,000m ahead of the destress mining echelon. This drilling provides additional data for structural definition, stratigraphic modelling, facies determination and assaying for grade estimation used in LOM planning
- Resource definition drilling provides information for medium-term planning and mine design refinement, it is based on a 60m – 120m grid, up to 300m ahead of the advancing faces. The drilling is conducted from footwall infrastructure and executed ahead of the advancing destress cut echelon
- Infill GC drilling (also referred to as mine definition) is the final phase of drilling and data acquisition prior to detailed stope design and extraction. Underground channel sampling is not undertaken because of safety, access, logistical constraints and spatial data control due to the massive nature of the ore body. The drilling programme provides the infill sampling to the existing Resource definition drill grid to achieve an approximate 30m x 30m coverage to support long-hole stoping. The data generated is used for local scale facies determination, structural definition, stratigraphic modelling, assaying for resource estimation and detailed stope design
- **Cover** drilling is conducted by means of a series of low inclined cover holes (-30°) within the destress cut to enhance detail on geological structure, water and gas intersections. Up to four holes are drilled per mine corridor, up to a depth of 150m ahead of the advancing cut, and facilitate a series of in-hole geophysical surveys for increased geological confidence and for geotechnical modelling and domaining purposes

On-lease metres drilled and expenditure for the 12-month period ended 31 December 2022 are summarised below.

	December 2022			December 2021		
Resource and mine definition drilling	Metres drilled	Rm	US\$m	Metres drilled	Rm	US\$m
Operations						
GC drilling	15,002	41.88	2.58	11,908	27.55	1.86
LIB drilling ¹	1,195	7.47	0.46	3,117	8.13	0.55
Total	16,197	49.35	3.03	15,025	35.68	2.41

¹ Only LIB drilling is classed as exploration drilling



South Deep showing Twin Shaft complete and Vent Shaft



The total drilling output for 2022 shows notable improvements compared to 2021. LIB drilling performance was lower than 2021 due to methane gas and water intersections leading to intermittent stoppages. Improved grout plugs and grout drill bits are being tested to reduce delays associated with these intersections. LIB drilling targeting the SOW area commenced in 2021 and continued in 2022 with the aim to conclude phase 1 drilling in 2024. Two boreholes intersected the Wrench Fault, thus confirming its spatial position. Upon completion of phase 1 LIB drilling, the key SOW geological structures and geophysical parameters will be confirmed while grade estimation will be enhanced from drill hole sampling.



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KEY DEVELOPMENTS AND MATERIAL ISSUES

2022 highlights

- South Deep continues to manage and mitigate the impacts of the Covid-19 pandemic in line with the mine's Management Response Plan. As of 31 December 2022, we have conducted 40,583 Covid-19 tests with a total of 2,837 (7% of those tested) having tested positive. To date, 85.6% of the workforce is fully vaccinated, 93.4% have received their first vaccine and 23.2% have received a booster vaccine
- Fatality-free year and exceeded safety engagements target
 with improved reporting of high-potential incidents
- In 2022, the mine continued positive progress in most performance metrics relative to 2021, including production quality and efficiency. Development and destress metres per rig per month increased 4% year-on-year
- Seismicity remains a challenging aspect of mining at depth, but the modifications of our dynamic support systems have shown improved rock mass containment after seismic events leading to reduced severity
- Completed construction and commissioned the 50MW solar photovoltaic (PV) power generation plant
- ISO 14001 surveillance audit was conducted and South Deep retained the ISO 14001 certificate, while ISO45001 pre-certification was conducted with no major findings
- The mine's modernisation programme continues to leverage value in safety and productivity. Progress has been made towards collision avoidance system level 9 implementation

Seismicity and execution

- South Deep is a deep bulk mechanised mine exploiting the shallow dipping Elsburg clastic wedge, rendering it unique in its pioneering mining method. Mining methods have evolved through various stages based on learnings, endeavouring to continuously improve safety, productivity, costs and Mineral Resource to Mineral Reserve conversion
- Due to its depth, seismicity remains a challenge and a key consideration in mine design, scheduling and execution. Controls and critical controls are designed to manage this risk. Recent enhancements including face support,

Mine plan execution

While marked improvements in key production metrics have been achieved over the past four years, achievement of planned steady state production requires achievement of the planned efficiency improvements and the associated production cycle times. Execution of the strategy to sustainably turn around South Deep and unlock long-term value is progressing well. All five of the key tenets of the productivity intervention (Shape the Culture, Build Capacity, Manage the Work, Improve the Work and Sustain the Improvement) have been rolled out. The Maintenance Improvement Programme, aligned and integrated with the Siyaphambili Productivity Intervention, continues to show encouraging results, particularly with the reliability of the drill rigs.

Six key strategic improvement themes remain pivotal to South Deep's success:

- 1. Purposeful Visible Felt Leadership
- 2. Reinvigorating our leadership system
- 3. Improving face time
- 4. Improving the effectiveness of face time
- 5. Enabling logistics
- 6. Innovation and technology

pre-conditioning, improved pillar design, layout protocols and extraction sequencing are all proving to be effective. Further support enhancements have been implanted and are showing improved containment of rock mass

- Specialist third-party reviews are conducted regularly by the Geotech Review Board (GRB). The most recent review found the mine's seismic management practices to be appropriate, while ongoing monitoring and assessment were deemed suitable to drive continuous improvement. The next review is scheduled to take place by the end of Q1 2023
- South Deep's ramp-up plan is based on increased stope availability from destressed areas, together with incremental improvements in equipment productivities. In 2022, the mine continued its improvement trajectory achieving the required productivity rates while good progress was made to develop the infrastructure for the new destress cuts

Mine planning and scheduling

- Enhanced detailed modelling that profiles realistic mining sequences and equipment productivities is incorporated into the development, destress and stoping activities to produce a fully integrated production schedule encompassing all key activities and their interdependencies
- Modifying factors are deemed appropriate given incremental improvements in mining and processing recoveries improvements
- Mining dilution and loss factors applied to Mineral Reserves are calibrated in line with actual performance trends annually and are in line with the applicable reporting codes and guidelines
- Commissioning of underground capital infrastructure will
 enable increased efficiencies and output
- Significant operational improvements are planned due to independent ventilation districts, in-cut ore flow and improved fleet maintenance facilities

These strategic improvement themes have been enhanced to include objective key results focusing on safety leadership, unlocking our people's potential, ESG measurable value, optimised delivery, business modernisation and low-cost producer. The Siyaphambili Productivity Intervention (Siyaphambili 2.0) was fully rolled out in 2022, with most aspects being fully achieved. These include work identification and validation, maintenance planning, integrated scheduling, tactical resourcing, schedule realisation and stability management.

Ore mined increased by 2% to 1,571kt in 2022 from 1,536kt in 2021. NOW increased its contribution year-on-year from 71% to 81%, while CM reduced its contribution from 29% to 19% as part of the focus to transition away from CM to higher productivity NOW. Gold production increased by 12% to 10,200kg (328koz) in 2022 from 9,102kg (293koz) in 2021. The increased gold production was due to improved efficiencies resulting in increased volumes mined and processed as well as improved MCF and plant recovery factor.

Total development increased by 13% to 11,594m in 2022 from 10,282m in 2021 as a result of improved operational efficiencies and additional drill rig in line with the ramp-up plan, which is in line with the production plan. Waste mined increased by 3% to 195kt in 2022 from 201kt in 2021 as some cuts began mining reef in line with the business plan.

Secondary support decreased by 16% due to fewer backlog and rehabilitation support requirements while backfill decreased by 8% in 2022 as backlog reduced compared to 2021 and some stopes were not available for backfilling.

Surface re-mining remained similar at 1,227kt. Total yield increased by 10% to 3.42g/t in 2022 from 3.11g/t in 2021 largely driven by the increase in MCF and plant recovery factor.

Power supply

Reliable and cost-effective electrical power supply in South Africa remains a significant risk. The national power supply grid remains constrained, which often leads to load curtailment. Since the mine is not shaft or mill constrained, spare capacity exists in these large power-consuming activities, offering the mine flexibility during load curtailment. To mitigate power supply risk and in line with our decarbonisation commitments, South Deep constructed and commissioned a 50MW solar plant. The current emergency diesel generator station is adequate to weather stage 4 load curtailment sessions that do not extend over 14 days. The solar plant covers over 20% of energy consumption for South Deep, reducing carbon footprint and reliance on Eskom. Further work to explore expansion of the solar farm and additional clean energy such as wind power are ongoing.

Risks to the execution of the LOM plan include:

- Safety remains a core value for South Deep and a safety management system (certified ISO 45001) is embedded to prevent material unwanted events that could result in injuries and loss of life
- Seismicity and related geotechnical implications given the unique mining method remain a challenge coupled with great depth. Controls are in place, supplemented by access to globally leading expert knowledge derived from the Geotechnical Review Board (GRB), to manage related risk while recent enhancements in mining layout and revised support systems are showing significant improvements with fewer and less severe events
- Failure to achieve the planned incremental efficiency improvements could put the planned production ramp-up and steady state gold output at risk. Productivity intervention and business improvement themes, together with the implementation of the modernisation strategy, are in place to underpin ramp-up and LOM steady state of 12t Au per annum
- Unidentified complex geological structures intersected may result in short-term underachievement in gold production, which may also necessitate change in stope designs. This risk is accounted for by applying geological and geotechnical loss factors where appropriate. Furthermore, resource and mine definition drilling are in place, designed to mitigate this risk
- The SOW area is being reviewed as part of a mining optimisation study that includes assessment of optimal mine layout and access infrastructure, mining method and sequencing. This work commenced in 2022 and will be completed by the end of Q1 in 2023. Access development toward SOW will commence in Q4 of 2033
- Failure along the Ezulwini (Cooke 4) boundary pillar or plugs would result in the flooding of the South Deep operation with significant safety and commercial impacts. See below for more information

Cooke 4 mine partial closure and regional dewatering

The neighbouring Sibanye-Stillwater (Ezulwini Proprietary Limited, a subsidiary of Sibanye-Stillwater) has discontinued underground mining operations at Ezulwini (Cooke 4) and is in the process of discontinuing underground mining operations at Cooke 1, 2 and 3 shafts. As part of its closure plans, Sibanye-Stillwater will allow these operations to rewater (flood). Rewatering may result in the initiation of fluid-induced seismicity which may in turn increase the risk of failure along the boundary pillar or the hydrological plugs between Ezulwini and South Deep. The Department of Mineral Resources and Energy refused the environmental authorisation for partial closure and cessation of de-watering at Ezulwini, compelling Sibanye-Stillwater to continue de-watering. This matter is still subject to legal processes, and the appeal on the outcome of the hearing in December 2020 was heard on 24 November 2022. The judgment on the appeal matter is still outstanding, and we expect the judgment to be handed down during Q1 2023. Until then the status quo remains and Sibanye-Stillwater is compelled to continue pumping and treating extraneous water from the underground workings until the Minister issues a closure certificate in terms of section 43 of the MPRDA. South Deep continues to actively participate in the legal and regulatory process as well as technical studies with respect to the impact of rewatering.

South Deep has implemented controls to monitor water levels and flows, including live camera and water level monitoring in the control room as well as an emergency preparation and response plan. Access ways to the plugs are maintained for inspection of the dry side of the plugs on 50 and 58 levels.

Historically, Gold Fields' post-closure water liabilities at South Deep were considered a contingent liability due to the lack of information at that time. Pursuant to studies undertaken by an independent firm from 2015, which prepared a report compiling post-closure water management studies, the mine has sufficient information to enable it to reliably remove this estimation of the post-closure water liability. Due to the inherent uncertainty on the outcome of the cessation of de-watering of Cooke 4 (Ezulwini) over which South Deep does not have control, together with the application made by Rand Uranium (a subsidiary of Sibanye-Stillwater) for the closure of Cooke 1, 2 and 3 shafts, which would result in the rewatering of these shafts, along with other possible hydrogeological influences unrelated to South Deep in the future, the post-closure water liability continues to be a contingent liability.

SOUTH DEEP: SCHEMATIC 3D CROSS-SECTION SHOWING STRATIGRAPHY AND PRIMARY MINE INFRASTRUCTURE Stratigraphy of the South Deep Mine South Shaft **Mining Right** Boundary **Twin Shafts** Malmani Dolomite Sub Shafts PRETORIA GROUP CENTRAL RAND BLACK REEF 95 Level Upper Upper Elsburg Sub-Crop Elsburg Clastic Wedge The diagram above is a 3D isometric view of the stratigraphy of South Deep including the primary mine infrastructure. The stratigraphic package hosts the economically significant Upper Elsburg and VCR conglomerate units. The Upper Elsburg (red) forms a clastic wedge that attains a thickness of 120m in the east and truncates against the VCR (blue) to the west. SA-SDM-P00079AA-J00064

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OPERATING STATISTICS

		Dec 2022	Dec 2021
Development			
Total development	m	11,594	10,282
– Waste development	m	3,234	3,192
– Reef development	m	8,360	7,090
Underground mining (including) development			
Total destress mined	m²	45,453	44,398
Total mined	kt	1,828	1,740
– Waste mined	kt	195	201
– Ore mined	kt	1,632	1,540
Mined grade (ore only)	g/t	6.2	6.3
Mined grade (ore and waste)	g/t	5.6	5.6
Au broken	kg	10,178	9,744
Processing			
TSF mining	kt	1,227	1,233
TSF value	g/t	0.14	0.11
Waste treated	kt	186	154
Underground ore treated	kt	1,571	1,536
Total tonnes treated	kt	2,985	2,922
Underground ore yield	g/t	5.7	5.8
Head grade (combined) ¹	g/t	3.7	3.3
Yield (combined)	g/t	3.4	3.1
Plant recovery (underground)	%	94.7	94.7
Plant recovery (surface)	%	43	43
Total Au production	kg	10,200	9,102
Au sold	koz	328	293
Financials			
Au price received	US\$/oz	1,793	1,790
Au price received	R/kg	943,581	851,102
Exchange rate (annual average)	R:US\$	16	15
Cost of sales before amortisation and depreciation	Rm	5,138	4,510
Cost of sales before amortisation and depreciation	R/kg	503,757	495,498
Сарех	Rm	1,943	1,320
Сарех	R/kg	190,512	145,023
Сарех	US\$/oz	362	305
AIC	R/kg	713,624	655,826
AIC	US\$/oz	1.356	1.379

¹ Includes TSF re-treatment and underground waste development Rounding of figures presented in this report may result in minor computational discrepancies. Where this occurs, it is not deemed significant

PROJECT AND STUDY PIPELINE

Two geological and resource estimation projects were completed in 2022. These studies were conducted in order to enhance ore body definition, which would in turn improve mine plan resolution and optimisation in the NOW and SOW areas. The 3D seismic data reprocessing and Upper Elsburg regional and local sedimentology review projects were completed. The outcomes will be incorporated in the latest geological and Mineral Resource estimation updates which, in turn, will inform the Mineral Reserves in 2023.

In addition, a broad range of other projects was executed in 2022. The successful commissioning of the Rhino drill rig while improving the support standard for dynamic environment (yielding perimeter mesh) was implemented in all the mining corridors. The former project will increase slotting compliance and reduce drilling requirements while the latter will reduce support intensity and improve development cycle times. The Doornpoort TSF upgrade (phase 2) is progressing as scheduled and is expected to be completed on schedule.

Alternative mining methods with potential to deliver safety, mining efficiency and cost improvements are continuously explored. Where warranted, trial mining programmes are embarked upon and where the trials produce positive results these are implemented with further optimisation. Additional projects enabling improved delivery include:

 The central main crusher when commissioned will contribute to the conversion from a rail-bound to trucking and conveyor ore handling system

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- 105L CV06 conveyor and east conveyor extension, once completed and linked to the silo system, will provide both hoisting flexibility and contribute to the conversion from a rail-bound to trucking and conveyor ore handling system
- The 105L 4W bulk air cooler is required to cool the NOW mining areas. It is being excavated on this level and will contribute towards the overall cooling strategy of the mine
- The LOM plan requires production ramp-up of a significant stoping footprint from the SOW area from circa 2045 initially, which will predominantly come from SOW west. By circa 2063, ore will be sourced almost exclusively from the SOW area. The SOW ramp-up is needed to maintain the steady state production profile of 12t of gold per annum as production from NOW tails off. Access development will commence in 2023 and destressing will start in 2026. A mining optimisation study was conducted in 2022 with scheduled completion by Q1 2023. The aim of this study is to assess less capital-intensive access development options towards the SOW area, and to confirm the optimal mining method, extraction sequencing and seismic mitigation strategy



South Deep underground

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MINERAL RESOURCES AND MINERAL RESERVES

All Mineral Resources and Mineral Reserves are reported as 90.439%, which is the portion attributable to Gold Fields.

Attributable Mineral Reserves classification

	Tonnes (kt)	Grades (g/t Au)	Au (koz)	Cut-off grades (g/t Au)	Metallurgical recovery (%)
Underground (UG) Mineral Resources					
UG Proved Mineral Reserves	12,808	5.5	2,250	4.0 - 4.4	96.5
UG Probable Mineral Reserves	165,974	5.0	26,429	4.0 - 4.4	96.5
UG total Mineral Reserves	178,782	5.0	28,679	4.0 – 4.4	96.5
Total Mineral Reserves					
Total Proved Mineral Reserves	12,808	5.5	2,250		
Total Probable Mineral Reserves	165,974	5.0	26,429		
Total South Deep Mineral Reserves 2022	178,782	5.0	28,679		
Total South Deep Mineral Reserves 2021	182,381	5.0	29,129		
Year-on-year difference (%)	(2.0)	0.0	(2.0)		

Attributable Mineral Reserves classification per mining area

Deposit/Area		Tonnes (kt)	Grades (g/t Au)	Au (koz)	Cut-off grades (g/t Au)	Metallurgical recovery (%)
South Deep	Underground (UG) Mineral Rese	erves				
СМ	Proved	3,944	5.29	670	4.0	96.5
	Probable	817	4.43	116	4.0	96.5
	Proved and Probable	4,761	5.14	787	4.0	96.5
NOW	Proved	8,865	5.54	1,580	4.0	96.5
	Probable	31,462	5.51	5,577	4.0	96.5
	Proved and Probable	40,326	5.52	7,157	4.0	96.5
SOW East	Proved					
	Probable	49,436	4.69	7,454	4.4	96.5
	Proved and Probable	49,436	4.69	7,454	4.4	96.5
SOW West	Proved					
	Probable	84,259	4.90	13,282	4.4	96.5
	Proved and Probable	84,259	4.90	13,282	4.4	96.5
Grand total	Total Mineral Reserves					
UG	Proved	12,808	5.46	2,250		
	Probable	165,974	4.95	26,429		
	Proved and Probable	178,782	4.99	28,679		

Mineral Reserves at South Deep are reported at mill head grade inclusive of ore and in-section (in-design stoping horizon waste from ramps and accesses) development tonnes, which cannot be separated in the ore flow. The capital footwall development waste is excluded due to future separation potential in the ore flow NOW. If included in the ore flow for the LOM, the impact on the Mineral Reserves grade would be a reduction of $^{\circ}0.2g/t$ with the related volume increase

Attributable Mineral Resources classification (EMR)

	Tonnes (kt)	Grades (g/t Au)	Au (koz)	Cut-off grades (g/t Au)	Metallurgical recovery (%)
Underground (UG) Mineral Resources					
UG Measured Mineral Resources	15,002	6.5	3,123	6.0	96.5
UG Indicated Mineral Resources	78,971	6.6	16,779	3.4 - 6.0	96.5
UG Measured and Indicated Mineral Resources	93,973	6.6	19,902	6.0	96.5
UG Inferred Mineral Resources	20,406	9.1	5,971	6.0	96.5
Surface Mineral Resources (TSF)					
Tailings Measured Mineral Resources	43,640	0.2	318	0.1	47.0
Tailings Indicated Mineral Resources					
Tailings Measured and Indicated Mineral Resources	43,640	0.2	318	0.1	47.0
Total South Deep Mineral Resources					
Total Measured Mineral Resources 2022	58,643	1.8	3,441		
Total Indicated Mineral Resources 2022	78,971	6.6	16,779		
Total Measured and Indicated Mineral Resources 2022	137,613	4.6	20,220		
Total Inferred Mineral Resources 2022	20,406	9.1	5,971		
Total Measured and Indicated Mineral Resources 2021	129,226	4.4	18,167		
Total Inferred Mineral Resources 2021	20,419	9.1	5,975		
Total Measured and Indicated year-on-year difference (%)	6	5	11		
Total Inferred year-on-year difference (%)	0	0	0		

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Deposit/Area		Tonnes (kt)	Grades (g/t Au)	Au (koz)	Cut-off grades (g/t Au)	Metallurgical recovery (%)
South Deep	Underground (UG) Mineral	Resources				
СМ	Measured	11,064	5.72	2,035	3.4	96.5
	Indicated	6,665	5.65	1,210	3.4	96.5
	Measured and Indicated	17,729	5.69	3,245	3.4	96.5
	Inferred					
NOW	Measured	3,227	6.64	689	3.4	96.5
	Indicated	17,516	7.27	4,095	3.4	96.5
	Measured and Indicated	20,743	7.17	4,783	3.4	96.5
	Inferred					
SOW East	Measured					
	Indicated	19,098	5.92	3,632	3.8	96.5
	Measured and Indicated	19,098	5.92	3,632	3.8	96.5
	Inferred	2,070	5.59	372	3.8	96.5
SOW West	Measured					
	Indicated	31,391	6.28	6,334	3.8	96.5
	Measured and Indicated	31,391	6.28	6,334	3.8	96.5
	Inferred	9,199	7.61	2,251	3.8	96.5
VCR	Measured	712	17.45	399	6.0	96.5
	Indicated	4,301	10.91	1,508	6.0	96.5
	Measured and Indicated	5,012	11.84	1,908	6.0	96.5
	Inferred	9,138	11.40	3,348	6.0	96.5
Total UG	Measured	15,002	6.48	3,123		
	Indicated	78,971	6.61	16,779		
	Measured and Indicated	93,973	6.59	19,902		
	Inferred	20,406	9.10	5,971		
	Surface stockpile (SP) Mine	ral Resources				
Surface TSF	Measured	43,640	0.23	318	0.06	47.0
	Indicated					
	Measured and Indicated	43,640	0.23	318	0.06	47.0
Grand total	Total Mineral Resources					
	Measured	58,643	1.83	3,441		
	Indicated	78,971	6.61	16,779		
	Measured and Indicated	137,613	4.57	20,220		
	Inferred	20,406	9.10	5,971		

Attributable Mineral Resources classification per mining area (EMR)

Mineral Resources are reported to a minimum mining width with a generic minimum Mineral Resources block dimension of 5m x 5m x 5m, which reflects the excavation types and mining methods employed in the LOM plan. This provides a practical block model geometry and grade tonnage curve better aligned to the current mining method

The Mineral Resources for CM, NOW and SOW all accommodate the latest mine design shapes (inclusive of the in-design material) and include the additional tonnes at a lower average grade that will be sourced from these areas

Modifying factors

Regional pillars are excluded from the Mineral Resources and adjustments are made for geological losses.

	Units	Dec 2022	Dec 2021
Mineral Resources parameters	01110		2021
Mineral Resources Au price	US\$/oz	1,600	1,500
Mineral Resources Au price	R/kg	800,000	750,000
COG ¹	g/t	3.4 – 6.0	3.0 - 6.0
Mineral Reserves parameters			
Mineral Reserves Au price	US\$/oz	1,400	1,300
Mineral Reserves Au price	R/kg	720,000	650,000
COG (NOW – SOW)	g/t	4.0 - 4.4	3.8 – 4.2
MCF	%	100	100
Dilution underground	%	11	12
Losses underground	%	13	13
Mining recovery	%	87	87
Plant recovery	%	96.5	96.5
Processing capacity	Mtpa	4.0	4.0

¹ Elsburg reefs only, VCR COG used is 6.0g/t

Grade tonnage curves

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The grade tonnage curves for the first 20 years of underground attributable Mineral Reserves are presented opposite (CM, NOW and portions of SOW).

Grade-tonnage curve – Underground (south for the second s

The broad-based black economic empowerment transaction concluded in December 2010 grants an empowerment consortium ~10% of South Deep's total Mineral Reserves. Based on the annually updated sliding scale for the vesting of the economic benefit attached to the 10% and in line with the current LOM profile, the Mineral Resources and Mineral Reserves portion currently attributable to Gold Fields is 90.439%. South Deep Mineral Reserves are fully derived from the Measured and Indicated Resources and supported by annualised LOM design and scheduling based on selected mining targets within the Mineral Resource volume.

MINERAL RESOURCES CLASSIFICATION (EMR)

Gold Fields has historically reported Mineral Resources inclusive of Mineral Reserves (IMR). This year Mineral Resources are being reported only as exclusive of Mineral Reserves (EMR) and attributable to Gold Fields to provide consistency and comparison with SEC reporting mandates and formats in the 20F and TRS submissions. Mineral Resources EMR represent the Mineral Resources remaining after the Mineral Reserve has been generated. There is no guarantee that EMR will be converted to Mineral Reserves through additional drilling and future increases in metal price assumptions.

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MINERAL RESOURCES AND MINERAL RESERVES RECONCILIATION YEAR-ON-YEAR

Factors that affected Mineral Resources reconciliation year-on-year (attributable EMR)

Mine design modification and Mineral Resources estimation led to a 13% increase which equates to 2,409koz

Pillar design remodification and optimisation led to a further 2% increase, which equates to 296koz

The amount of Mineral Resource that is unminable due to geotechnical and operational constraints increased by 4%, translating to -641koz

Year-on-year difference in attributable percentage resulted in a reduction of 0.1%, which equates to 11 koz

Attributable Mineral Reserve Reconciliation





Waterfall graphs represent underground material only. Minor variances in the numbers are due to rounding effects and changes in the application of year on year attributable percentages.

Mineral Reserves sensitivity

To illustrate the impact of fluctuations in the gold price and exchange rates on the current declaration, South Deep generated sensitivities for Mineral Reserves. The graph indicates the Attributable Mineral Reserves sensitivity at -15%, -10%, -5%, base, +5%, +10% and +15% to the base R720,000/kg (US\$1,400/oz) Reserve gold price.

These sensitivities (other than for the base case) are not supported by detailed plans and depletion schedules. They should only be considered on an indicative basis, specifically as such sensitivities assume 100% selectivity without any operating cost increases.

Factors that affected Mineral Reserves reconciliation year-on-year (attributable)

Production depletion (-292koz) without TSF material in Mineral Reserve

Gold price increased to US\$1,400 (R720,000/kg) from US\$1,300 (R650,000/kg) leading to an increase of 1,992koz Cost increases offset the increased gold price resulting in a reduction of 1,942koz

Mineral Resource to Mineral Reserve conversion (change in resource model and subsequent design changes) had a Mineral Reserve net reduction of -138koz

The VCR and TSF Mineral Resources remain excluded from the Mineral Reserves, and mining beyond 2096 is excluded from the Reserve and comprises -53koz

Attributable Mineral Reserve sensitivity





SOUTH AFRICA REGION

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West Africa Region

Salient points

Attributable mineral reserves

5.2Moz gold Proved and probable

Attributable mineral resources (EMR)

5.6Moz gold Measured and indicated

0.8Moz gold Inferred





WEST AFRICA REGION

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West Africa region Regional overview

The West Africa Region comprises Tarkwa, Damang and Asanko JV gold mines located in Ghana.

Tarkwa continues to be a long-life surface mining operation and a core asset with robust Mineral Reserves supporting a 13-year LOM.

The Damang Reinvestment Project (DRP) is in its latter years of operation with current Mineral Reserves scheduled for depletion in 2025. Consequently, drilling programmes and studies are progressing at both Tarkwa and Damang to assess opportunities to extend the LOM plans for both mines. The region's summary Mineral Resource and Mineral Reserve estimates have been presented in the Group highlights section.

Gold Fields has determined that Asanko is not material to its business or financial condition and therefore has excluded Mineral Resources and Mineral Reserves estimates for the Asanko JV (see below).

In Q2 2022, our Asanko JV partner, Galiano Gold, informed us that they had engaged a third-party consultant to complete their Mineral Resource, Reserve and LOM process for 2022 and that an updated Mineral Resources and Mineral Reserves estimate would be released in Q1 2023. This estimate was expected to incorporate information from new exploration and infill drilling, updated geological models, updated modifying factors and a recalibrated cost base. Galiano Gold's LOM planning work and the Mineral Resources and Mineral Reserves update missed the Gold Fields reporting deadline. As such, Gold Fields is unable to provide relevant estimates and an updated LOM plan for Asanko as at 31 December 2022. As a result, Gold Fields has excluded Mineral **Reserves and Mineral Resources** estimates for Asanko at this time. The Group does not believe the Asanko JV-attributable Mineral Resources and Mineral Reserves are material to Gold Fields as a whole. We will assess the work once it has been completed by Galiano Gold to determine whether an updated Mineral Resources and Mineral Reserves statement can be reported at the end of 2023 in accordance with Gold Fields' normal reporting cycle.



Mine location map, Ghana

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Regional overview continued

EXPLORATION DRILLING AND EXPENDITURE

Exploration at Damang during 2022 focused on extensional and infill drilling of the Damang mini cutback (MCB) volume, the Juno Mineral Resource pit shell and the Tamang-Nyame corridor for future mine design and prefeasibility studies (PFSs). Continuing on the success of the previous two years, Tarkwa's 2022 exploration programme remained focused on the on-lease potential. Drilling delineated new palaeoplacer extensions and upgraded known resource areas at Ulap South and extensions to the hydrothermal ore body at Kobada North. At Asanko, the focus was on infill drilling at Esaase, Miradani North, Nkran, Abore, Midras South and its south-west and south-east extensions. A ground IP geophysical survey was initiated to assess targets for the generative Mineral Resource pipeline.

	December 2022			December 2021	
Exploration drilling	Metres drilled	US\$m	Metres drilled	US\$m	
Operations					
Damang ¹	36,857	6.4	10,461	3.6	
Tarkwa ²	3,989	3.0	9,801	3.0	
Asanko (100% physicals, 50% costs)	65,230	6.7	50,126	6.8	
Total West Africa operations	106,076	16.1	70,388	13.4	

Exclusive of GC drilling

¹ Damang's increase in exploration drilling from 2021 to 2022 is due to extensional and infill drilling on the MCB, Damang main pit and Juno Resource shell to achieve a minimum 40m x 40m and 20m x 40m drill spacing respectively in support of the Damang PFS and the Tamang-Nyame corridor hydrothermal oxide outcrop mineralisation potential

(IP/resistivity)

³ Asanko's increase in drilling is primarily due to infill drilling to upgrade confidence in several open-pit resources

Damang gold mine

Damang is approaching the end of the successfully implemented Damang Reinvestment Project (DRP) which commenced in 2017. Mining operations are planned to end in 2023 after the depletion of the Huni pit, while processing of stockpiles is planned to continue until 2025.



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LOM extension scoping studies aimed at identifying possible value-adding opportunities for the mine were approved to advance to a prefeasibility level of study during 2022. The PFS is assessing the viability of a further pushback at the east wall of the main Damang pit and Juno Pit immediately to the south to exploit the remainder of the ore body. Work is also under way in the area south of the Juno pit to assess the potential of the Nyame and Tamang deposits to improve the value of the LOM plan.

ASSET FUNDAMENTALS	
General location	Damang is in south-west Ghana, approximately 300km by road west of Accra, the capital, at latitude 5°11'N and longitude 1°57'W. The Damang concession lies to the north of and is contiguous with the Tarkwa concession, which is located near the town of Tarkwa. The area is served by access roads with established infrastructure, and a main asphalt road connects the mine to the port of Takoradi, some 90km to the south-east.
Brief history and regional geology	The Annexure to this Supplement provides a brief history of Damang and a summary of the regional geology.
	The Damang ore body is hosted by a north-east plunging antiform developed within Tarkwaian Group sediments, which reflect an important mineralised stratigraphic component of the gold-bearing Ashanti belt in south-west Ghana. The main Damang pit is located near the closure of the antiform, and all other known palaeoplacer mineralisation is located along the east and west limbs of the Damang anticline. The hydrothermal fresh ore is associated with predominantly east-dipping thrust faults and a combination of steep shear and subhorizontal extensional quartz vein arrays. Damang now exploits hydrothermal style mineralisation but historically also produced from palaeoplacer deposits.
Climate	With a tropical climate characterised by two distinct rainy seasons from approximately March to July and September to November, average annual rainfall in the area exceeds 2,200mm. Although there may be minor disruptions to operations during the wet season, there are no long-term constraints on production due to the climate as allowances are made in the mining schedule for periods of heavy rain and fog.
Licence status and holdings	The Damang concession covers 24,265ha. All necessary statutory mining authorisations and permits are in place for the Damang and Lima South mining lease. Abosso Goldfields Limited (AGL) holds a mining lease in respect of the Damang mine dated 19 April 1995, as amended by an agreement dated 4 April 1996. This lease expires in 2025 but is renewable under its terms and the provisions of the Minerals and Mining Law by agreement between AGL and the Ghanaian government. The licence renewal application submitted to the Minerals Commission of Ghana (MINCOM) for the extension of the Lima South mining lease was approved by the Minister of Lands and Natural Resources in November 2018.
	The application for the relinquishment of the southern portion of the Damang mining lease in the AGL underground and AGL tailings areas was submitted to MINCOM for approval during 2020. The area to be relinquished includes the overlap area between the Damang mining lease and one of the Tarkwa mining lease areas. While approval for the relinquishment of the area was granted in principle, this is still pending final approval from the Minister. The area has been considered for inclusion into a government-backed community mining project. Once the process has been finalised and Damang has ceded its rights over that area, the overlap will cease to exist.
Operational infrastructure	Damang has one open pit constituting the Mineral Reserves, seven open pits comprising the Mineral Resources, one ore stockpile, a centralised administrative office, engineering workshops and residence villages.
Mining method	Mining operations are carried out by contractor miners using open-pit, conventional drill and blast with truck and shovel methods. Since December 2022, mining is focused on the Huni pit. Gold mineralisation is mined to a selective COG and segregated into grade ranges to balance ore production and processing capacities. The pit walls are monitored by radar to mitigate geotechnical challenges, with additional controls implemented to ensure safe operations. There were no changes in the wall angles in the past year.

Damang gold mine continued

ASSET FUNDAMENTALS continued

Mineral processing and TSF	The processing plant treats predominantly fresh ore, comprising a three-stage crushing circuit, SAG/ball mill with a pebble crushing circuit, a gravity recovery circuit and a CIL gold recovery circuit. The plant has been optimised to process 4.6Mtpa. Deposition of tailings is currently occurring on the Far East TSF (FETSF), which was commissioned in January 2018. In addition, the second stage of the downstream embankment lift, which commenced in November 2019, has been completed. Construction commenced on the third stage raise in Q4 2021 and was completed in Q3 2022. This increased the embankment crest elevation from 985mRL to 990mRL. Construction of the downstream waste rock shell in preparation for the stage four wall has commenced.
	The East TSF (ETSF) was constructed as a combined TSF and waste dump using compacted earth fill and fresh waste rock for the embankment construction. Closure deposition of tailings into the ETSF commenced in early 2017 until January 2018 when deposition ceased.
	The FETSF is located south of the existing ETSF abutting the ETSF's south embankment. The FETSF has been designed and constructed with a compacted clay liner across the facility basin and upstream slopes. The facility is planned to be built in five stages and has a remaining LOM storage capacity of approximately 18Mt. The ANCOLD consequence classification for FETSF is High C. The South TSF (STSF), also with earth fill embankments, has been closed and is fully rehabilitated. The ETSF and STSF have an ANCOLD consequence classification of High B and Significant, respectively.
LOM: Proved and Probable Mineral Reserves	It is estimated that current Mineral Reserves will support a three-year LOM to 2025.
Sustainable development	Damang obtained certification for ISO 45001 and ISO 50001 in 2020 and for ISO 14001 in 2021. The mine was recertified to the International Cyanide Management Code in 2021.
	All water use permits for Damang are up to date. The mining and explosives permits were received from MINCOM. Damang submitted the Environmental Management Plan (EMP) (2020 – 2023) to the Environmental Protection Agency (EPA) and awaits the environmental certificate.

KEY DEVELOPMENTS AND MATERIAL ISSUES/PROJECTS

- Damang maintained operational performance with high levels of compliance to plan in 2022
 - Mining in the Damang main pit was completed in 2022 and the Huni pit mining is scheduled to be completed in 2023
 - The processing plant is planned to continue treating lower-grade stockpiles through to the end of the LOM in 2025. The Mineral Reserves are constrained by the ETSF, which is adjacent to the eastern edge of the Damang main pit. The Mineral Resources are not constrained by the ETSF, resulting in 2.02Moz of Mineral Resource gold not converting to Mineral Reserves. This is in addition to the 0.61Moz of Inferred Mineral Resource. Under these constraints, the current LOM extends for another three years. This has triggered a detailed mine closure programme in preparation for 2025 should current life extension studies not meet investment criteria
- The Damang MCB study, which involves an incremental pit cutback on the east wall of the Damang main pit, has the potential to extend Damang's life beyond the current LOM. The study progressed from scoping studies to a PFS in 2022. The MCB study entails the removal of the ETSF to facilitate the execution of a pit cutback and the conversion of Mineral Resources to Mineral Reserves. Other opportunities being considered as part of the study are the Juno, Tamang and Nyame deposits to the south of the Damang main pit

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- TSF failure studies, the extent of inundation zones and reclassification of all TSFs have been confirmed in support of the GISTM compliance roadmap.
- Risks to the execution of the LOM plan include the following:
 - The performance and sustainability of the mining contractor continues to be closely monitored to ensure delivery of the mining schedule according to plan
 - Potential ore loss and dilution are managed on an ongoing basis with tight controls and monitoring of blasting to minimise blast movement
 - MCF and mill recovery of historic stockpiles are being monitored to help derive estimates for planning purposes
 - Pit wall radar monitoring, depressurisation hole drilling, presplitting and trim blasting will be continued to ensure stable pit walls
 - Geological confidence is supported by the deeper, advanced GC drilling programme and in-pit mapping, which have delivered enhanced Resource block models that take into consideration current model reconciliation trends

WEST AFRICA REGION

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OPERATING STATISTICS

		Dec 2022	Dec 2021
Open-pit mining			
Total mined	kt	21,308	24,023
– Waste mined (opex*)	kt	7,807	14,769
– Waste mined (capex*)	kt	7,628	983
– Ore mined	kt	5,872	8,271
Mined grade	g/t	1.5	1.5
Strip ratio (tonnes)	waste:ore	2.6:1	1.9:1
Processing			
Tonnes treated	kt	4,784	4,720
Head grade	g/t	1.6	1.8
Yield	g/t	1.5	1.7
Plant recovery	%	92	93
Total Au production	koz	230	254
Total Au production	kg	7,154	7,913
Financials			
Au price received	US\$/oz	1,811	1,798
Cost of sales before amortisation and depreciation	US\$m	152	150
Cost of sales before amortisation and depreciation	US\$/oz	662	590
Сарех	US\$m	60	23
Сарех	US\$/oz	261	92
AIC	US\$/oz	1,083	852

* Opex: operating expenditure, capex: capital expenditure

Damang gold mine continued

EXPLORATION AND RESOURCE DEFINITION DRILLING

The 2022 exploration expenditure is presented in the regional West Africa overview section.

Exploration at Damang during 2022 focused on the following areas:

- The Damang MCB resource infill drilling (phase 2)
- Juno phase 1A resource infill drilling
- Tamang extensional drilling
- Nyame Low and High Cases extensional drilling
- Rex resource infill drilling

A total of US\$0.98m was spent during 2022 to complete a 40m x 40m resource infill drilling programme as part of the Damang MCB studies. 12 DD holes were drilled for a total of 3,517m. The drilling programme covered the southern portion of the MCB project area within the MCB US\$1,300/oz design shell, which prior to the current programme had a drilling density of greater than 40m x 40m centres. Lithological and mineralisation modelling have been completed and resource evaluation is in progress.

The Juno phase 1A resource infill programme targeted 40m x 20m drill spacing within the Juno US\$1,500/oz economic shell. A total of US\$2.59m was spent to complete 12,677m of combined DD and RC drilling. The project covered the most prospective portion of the Juno resource area and will assist in assessing the economic viability of the Juno project before committing additional resources. Lithological and mineralisation modelling have been completed and resource evaluation is about to commence.

The Tamang resource is the southern strike extension of the Juno ore body. An initial phase of drilling was completed to close the drill spacing in the area to $40m \times 20m$. A total of US\$0.87m was spent on 4,625m of combined DD and RC drilling at Tamang. A follow-up phase of drilling (phase 2) is scheduled for 2023 to infill the area to $20m \times 20m$ spacing. This will provide sufficient data to generate a reasonable resource model and if near-surface economic mineralisation is proven up this will assist in de-risking the MCB project.

Extensional drilling at Nyame targeted extensions of hydrothermal mineralisation that outcrops, hosted by Banket Footwall quartzites, and has been completed. A total of US\$1.26m was spent to complete 12,521m of RC at a spacing of 20m x 20m. The drill holes intersected moderate quartz veining with sulphide mineralisation halos in the Banket Footwall quartzites, confirming projections in the interpretation.

An additional US\$0.46m was spent on a 10-hole scout DD drilling programme of 2,267m to test the down-plunge extensions of the Nyame ore body. The boreholes intersected sparse quartz veining and weak sulphide mineralisation.

Six holes (totalling 1,250m DD) of a larger programme, were drilled to test the western projection of high-grade ore shoots in the Rex Pit 3 (World Bank) area, prior to rolling out the full scale 20m x 20m resource infill programme. While assay results confirmed the westward projection of the mineralisation, the intensity of mineralisation was lower than anticipated and based on these initial results a decision was made to suspend any further drilling. The Mineral Resource model will be revised in Q1 2023.

- Any additional exploration planned for 2023 will focus on areas that would potentially add value to the MCB PFS
- A budget of approximately US\$1.43m has been approved for the above-mentioned exploration activities

The strategy for exploration activities over the period will include:

- Focusing on Resource conversion and extensional drilling to feed into the PFS. The main push will be to close up the drill spacing as required in Tamang to approximately 20m x 20m. This aims to enhance the geological understanding and improve the resolution of the geological/resource models to mitigate geological/resource model risk
- Review the pipeline of near-mine targets with potential to extend the Damang LOM

Additionally, known palaeoplacer ore bodies along the Tomento-Chida corridor that are potential sources of oxide ore will be taken through a resource range analysis (RRA) study in 2023 to understand their structural complexities and assess their economic viability. The eventual goal is to upgrade them to an Indicated Mineral Resource level of confidence.

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MINERAL RESOURCES AND MINERAL RESERVES

All Mineral Resources and Mineral Reserves reported are 90% attributable to Gold Fields.

Attributable Mineral Reserves classification

				Cut-off	Metallurgical
	Tonnes (kt)	Grades (g/t Au)	Au (koz)	grades (g/t Au)	recovery (%)
Open-pit (OP) Mineral Reserves	(100)	(9,0,10,1	(102)	(9, 1 - 14)	
	220	1.0	10	0.07	04 5
OP Proved Milleral Reserves	329	1.2	12	0.67	91.5
OP Probable Mineral Reserves	1,758	1.3	75	0.67	91.5
OP total Mineral Reserves	2,087	1.3	87	0.67	91.5
Stockpile (SP) Mineral Reserves					
SP Proved Mineral Reserves	8,241	0.8	219	0.67	91.5
SP Probable Mineral Reserves					
SP total Mineral Reserves	8,241	0.8	219	0.67	91.5
Total Mineral Reserves					
Total Proved Mineral Reserves	8,569	0.8	232		
Total Probable Mineral Reserves	1,758	1.3	75		
Total Damang Mineral Reserves 2022	10,328	0.9	307		
Total Damang Mineral Reserves 2021	15,530	1.1	573		
Year-on-year difference (%)	(33)	(20)	(47)		

Attributable Mineral Reserves classification per mining area

Deposit/Area		Tonnes (kt)	Grades (g/t Au)	Au (koz)	Cut-off grades (g/t Au)	Metallurgical recovery (%)
Damang	Open-pit (OP) Mineral Reserves					
Huni	Proved	329	1.18	12	0.67	91.5
	Probable	1,758	1.32	75	0.67	91.5
	Proved and Probable	2,087	1.30	87	0.67	91.5
Total OP	Proved	329	1.18	12		
	Probable	1,758	1.32	75		
	Proved and Probable	2,087	1.30	87		
Total SP	Stockpile (SP) Mineral Reserves					
	Proved	8,241	0.83	219	0.67	91.5
	Probable					
	Proved and Probable	8,241	0.83	219	0.67	91.5
Grand total	Total Mineral Reserves					
	Proved	8,569	0.84	232		
	Probable	1,758	1.32	75		
	Proved and Probable	10,328	0.92	307		

Damang gold mine continued

Attributable Mineral Resources classification (EMR)

	Tonnes (kt)	Grades (g/t Au)	Au (koz)	Cut-off grades (g/t Au)	Metallurgical recovery (%)
Open-pit (OP) Mineral Resources					
OP Measured Mineral Resources	3,697	1.7	207	0.65 – 0.85	88.3 – 96.2
OP Indicated Mineral Resources	39,684	2.1	2,688	0.61 – 0.85	90.4 - 97.0
OP Measured and Indicated Mineral Resources	43,381	2.1	2,895	0.61 – 0.85	88.3 – 97.0
OP Inferred Mineral Resources	8,050	2.0	527	0.61 - 0.85	91.0 - 96.01
Stockpile (SP) Mineral Resources					
SP Measured Mineral Resources	2	0.6	0.4	0.68	89.8
SP Indicated Mineral Resources					
SP Measured and Indicated Mineral Resources	2	0.6	0.4	0.68	89.8
SP Inferred Mineral Resources	1,151	0.6	22	0.60	89.7
Total Damang Mineral Resources					
Total Measured Mineral Resources 2022	3,699	1.7	207		
Total Indicated Mineral Resources 2022	39,684	2.1	2,688		
Total Measured and Indicated Mineral Resources 2022	43,383	2.1	2,895		
Total Inferred Mineral Resources 2022	9,201	1.9	549		
Total Measured and Indicated Mineral Resources 2021	44,056	2.1	2,926		
Total Inferred Mineral Resources 2021	8,922	1.9	545		
Total Measured and Indicated year-on-year difference (%)	(2)	0	(1)		
Total Inferred year-on-year difference (%)	3	(2)	1		



Damang: Far East Tailings Storage Facility (FETSF,
Attributable Mineral Resources classification per mining area (EMR)

					Cut-off	Metallurgical
Densella		Tonnes	Grades	Au	grades	recovery
Deposit/Area		(Kt)	(g/t Au)	(KOZ)	(g/t Au)	(%)
Damang	Open-pit (OP) Mineral Resources		1.00	F 4	0.00	
Damang	Measured	838	1.89	51	0.66	91.8
	Indicated	29,299	2.15	2,027	0.66	92.7
	Measured and Indicated	30,137	2.14	2,078	0.66	91.8 – 92.7
	Inferred	6,350	2.12	433	0.66	92.6
Huni	Measured	11	0.88	0.3	0.65	88.3
	Indicated	386	1.50	19	0.65	90.4
	Measured and Indicated	397	1.48	19	0.65	88.3 – 90.4
	Inferred	335	1.66	18	0.65	91.0
Juno	Measured	1,920	1.83	113	0.85	91.6
	Indicated	5,359	2.26	389	0.85	93.0
	Measured and Indicated	7,279	2.14	502	0.85	91.6 – 93.0
	Inferred	11	2.48	1	0.85	93.8
Amoanda	Measured	197	1.81	11	0.72	96.2
	Indicated	1,336	2.47	106	0.72	97.0
	Measured and Indicated	1,533	2.38	117	0.72	96.2 – 97.0
	Inferred	80	1.50	4	0.72	95.2
Rex	Measured	731	1.33	31	0.84	94.6
	Indicated	1,964	1.59	100	0.84	95.5
	Measured and Indicated	2,695	1.52	132	0.84	94.6 – 95.5
	Inferred	1,263	1.76	72	0.84	96.1
Kwesi Lima Gap	Measured					
	Indicated	448	1.08	16	0.61	93.7
	Measured and Indicated	448	1.08	16	0.61	93.7
	Inferred	12	1.31	0.5	0.61	94.5
Lima South	Measured					
	Indicated	892	1.12	32	0.63	93.9
	Measured and Indicated	892	1.12	32	0.63	93.9
	Inferred					
Total OP	Measured	3,697	1.74	207		
	Indicated	39,684	2.11	2,688		
	Measured and Indicated	43,381	2.08	2,895		
	Inferred	8,050	2.04	527		
Total SP	Stockpile (SP) Mineral Resources					
	Measured	2	0.59	0.04	0.68	89.8
	Indicated					
	Measured and Indicated	2	0.59	0.04	0.68	89.8
	Inferred	1,151	0.58	22	0.60	89.7
Grand total	Total Mineral Resources					
	Measured	3,699	1.74	207		
	Indicated	39.684	2 1 1	2 688		
	Measured and Indicated	43.383	2.08	2,895		
	Inferred	9 201	1.86	-,333 549		
		0,201	1.00	010		

Damang gold mine continued

Modifying factors

		Dec	Dec
Mineral Deseurase peremeters	Units	2022	2021
Mineral Resources parameters			
Mineral Resources Au price	US\$/oz	1,600	1,500
Cut-off for fresh ore	g/t	0.61 – 0.86	0.61 – 0.86
Cut-off for oxide ore	g/t	0.52 – 0.66	0.52 – 0.66
Mineral Reserves parameters			
Mineral Reserves Au price	US\$/oz	1,400	1,300
Cut-off for fresh ore	g/t	0.67 – 0.75	0.67 – 0.75
Cut-off for oxide ore	g/t	0.56 – 0.64	0.57 – 0.65
Strip ratio	waste:ore	2.21:1	2.15:1
Dilution (hydrothermal)	%	17 – 25	17 – 25
Dilution (palaeoplacer) ¹	cm	50	50
Mining recovery factor	%	95	95
MCF	%	94	95
Plant recovery	%	92	92
Processing capacity	Mtpa	4.6	4.6

50cm skin dilution translates to different percentages for the respective reef widths

Grade tonnage curves

The grade tonnage curves for the surface attributable Mineral Reserves are presented opposite. Stockpiles are excluded from the grade tonnage curves.





MINERAL RESOURCES CLASSIFICATION (EMR)

Gold Fields has historically reported Mineral Resources inclusive of Mineral Reserves (IMR). This year Mineral Resources are being reported only as exclusive of Mineral Reserves (EMR) and attributable to Gold Fields to provide consistency and comparison with SEC reporting mandates and formats in the 20F and TRS submissions. Mineral Resources exclusive of Mineral Reserves (EMR) represent the Mineral Resources remaining after the Mineral Reserve has been generated. There is no guarantee that EMR will be converted to Mineral Reserves through additional drilling and future increases in metal price assumptions.

MINERAL RESOURCES AND MINERAL RESERVES RECONCILIATION YEAR-ON-YEAR

Factors that affected Mineral Resources reconciliation year-on-year (attributable EMR)

Mined depletions (-2koz)¹

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Resource model update, new geological data geology and block model updates grade changes (-32koz)

Increase in stockpiles year-on-year (+6koz)

Factors that affected Mineral Reserves reconciliation year-on-year (attributable)

Mined depletions (-226koz) Model update (-27koz)

Model reconciliation and MCF (-14koz)

¹ Mining depletion of EMR Resources can occur through mining of Resources not in Reserve (NIR) either as dilution, opportunistic, or defined by GC drilling during the year





Mineral Reserves sensitivity

To illustrate the impact of fluctuations in gold price on the current declaration, Damang has generated sensitivities for Mineral Reserves. The graph above indicates the Attributable Mineral Reserves sensitivity at -15%, -10%, -5%, base, +5%, +10% and +15% on the base Mineral Reserve gold price of US\$1,400/oz.

These sensitivities (other than for the base case) are not supported by detailed plans or depletion schedules. They should only be considered on an indicative basis, specifically as such sensitivities assume optimal selectivity without any operating cost increases.



Damang pit excavator and truck in operation

Damang gold mine continued



Tarkwa gold mine

Tarkwa is a cornerstone asset and world-class open-pit mine supporting a 13-year LOM based on current Mineral Reserves. The Tarkwa ore bodies continue to deliver new ounces as drilling drives Mineral Resource to Mineral Reserve conversion at Akontansi and Teberebie. Drilling undertaken at Pepe has profiled the potential to convert significant additional ounces. The 2022 drilling campaign and pit design reoptimisation replaced circa 25% of Mineral Reserve depletion.



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Palaeoplacer exploration and resource infill drilling will be maintained in 2023 with more conversion to Mineral Reserves envisaged proximal to the Underlap South, as well as the Teberebie down-dip extension from existing pits. A PFS to assess the full upside potential of the Tarkwa asset is progressing well. The PFS seeks to integrate a range of opportunities into possible upside LOM cases that will provide both additional flexibility and life extension. If successful, this may require the relocation of infrastructure to enable potential new mining fronts to be established in currently constrained areas at Akontansi.

ASSET FUNDAM	
General location	Tarkwa is located in south-west Ghana, approximately 300km by road west of Accra, the capital, at latitude 5°19'37"N and longitude 2°01'1.7"W. The Tarkwa gold mine is located 4km west of the town of Tarkwa with good access roads and established infrastructure. The mine is served by a main asphalt road connecting to the port of Takoradi some 60km to the south on the Atlantic coast.
Brief history	The Annexure to this Supplement provides a brief history of Tarkwa and a summary of the regional geology.
and regional geology	At Tarkwa, production is mainly from tabular, auriferous conglomerates broadly analogous to those mined in the Witwatersrand Basin of South Africa. Ore is mined from four main open pits, namely Pepe-Mantraim, Teberebie, Akontansi and Kottraverchy. Tarkwa will finish mining the only hydrothermal style mineralisation currently being exploited from the Kobada open pit during 2023.
	The local ore body geology is dominated by the Banket series, which can be further subdivided into a footwall and hangingwall barren quartzite, separated by a sequence of mineralised conglomerates and pebbly quartzites.
	The stratigraphy of the individual quartzite units is well established, with auriferous reefs interbedded with barren immature quartzites. The units thicken to the west and current sedimentological parameters indicate a flow from the east and north-east. Structurally, the Tarkwaian belt has been subject to moderate folding and at least five episodes of deformation are recognised.
	The major lithological units that characterise the Kobada pit area are immature pebbly sandstones, poorly sorted conglomerate, fine-grained sandstones, a highly altered feldspathic sandstone unit and a micro-diorite, which hosts the gold mineralisation.
Climate	With a tropical climate characterised by two distinct rainy seasons from approximately March to July and September to November, average annual rainfall near the site is 2,245mm. Although there may be minor disruptions to operations during the wet season, there are no long-term constraints on production due to the climate as allowances are made in the mining schedule for periods of heavy rain and fog.
Licence status and holdings	The Tarkwa mine operates under mining leases covering a total area of ~19,866ha. Five mining leases, dated 18 April 1997, cover the Tarkwa property, while two mining leases, dated 2 February 1988 and 18 June 1992 respectively, cover the Teberebie property. The mining leases for the Tarkwa concession expire in 2027 and the Teberebie property mining leases in 2036. A new Cadastral system was implemented by the Minerals Commission of Ghana (MINCOM) under which Tarkwa has a total area of 946 blocks (19,866ha). This excluded the overlap area between Tarkwa and Damang. All necessary statutory mining authorisations and permits are in place for the Tarkwa mining lease.
Operational infrastructure	Four large open pits currently exploit the stacked narrow auriferous conglomerates. Tarkwa has an ore stockpile and "spent ore" on the south heap leach (SHL) pad included in Mineral Resources and Mineral Reserves. Tarkwa has a centralised administrative office, engineering workshops and residence villages.
Mining method	Mining operations are carried out by contractor miners using open-pit, conventional drill and blast with truck and shovel methods. Mining occurs from several pits, which haul to the processing facility. Blast restrictions are applied to the Teberebie Cut 4 pit only. Slope stability has been supported by effective wall monitoring and blasting practices.
Mineral processing and TSFs	Ore is processed through a conventional gold recovery plant, consisting of two gyratory crushers with one gyratory crusher followed by an additional two-stage crushing circuit, both feeding a SAG/ball mill circuit, thickeners and twin CIL circuits. Gold is recovered from a gravity recovery circuit and the CIL carbon elution circuit pregnant solution by electrowinning and smelting in an induction furnace. The current plant capacity is 14Mtpa.
	LOM tailings deposition requirements are met in the short term by wall raise sequences on TSFs 1, 2 and 5. In the longer term, LOM tailings deposition requirements will be catered for by additional raises at TSFs 1, 2 and 5. LOM TSF requirements are reviewed and updated annually by the Engineer of Record. TSF 3 is decommissioned and is in the process of being closed. The ANCOLD consequence classifications for TSFs 1, 2, 3 and 5 are High C, Extreme, High A and High C, respectively.
LOM: Proved and Probable Mineral Reserves	The current LOM is based on in-pit mining activities continuing until 2032. The SHL material is then fully treated through the ClL plant until 2035. It is estimated that the current Mineral Reserves will be depleted in 2035 (13 years). Potential life extensions to the open pits will require additional exploration and the completion of relevant PFSs and FSs.
Sustainable development	Tarkwa was certified to ISO 45001 (safety and occupational health management system) and to ISO 50001 (energy management system) in 2020. In addition, it retained its ISO 14001 certification (environmental management system) in 2021 after a successful recertification audit. Tarkwa's most recent recertification to the International Cyanide Management Code was in June 2022.
	Tarkwa submitted an updated EMP (2022 – 2024) to the EPA in 2021 for consideration and approval. The invoice for the permit fee has been paid, hence the mine is not in breach. Tarkwa has a valid water permit in place.

Tarkwa gold mine continued

KEY DEVELOPMENTS AND MATERIAL ISSUES

- Maintenance of the waste strip to expose the ore body for mining at the core Teberebie and Akontansi pits was a significant achievement in 2022
- 2022 saw a focus on drilling to support Mineral Resource to Mineral Reserve conversion at Ulap South. Additional focus was given to reoptimisation and pit design. This underpinned the 25% Mineral Reserves replacement net of depletion, this year
- Emphasis on mining contractor performance and sustainability will continue in 2023 to drive productivity improvements, cost control and compliance to plan
- A study to assess the full asset potential at Tarkwa is progressing. The study is exploring options for controlling and improving cost impacts on the operation by focusing on a combination of mining methods and equipment size
- The 2023 exploration campaign will continue to target extensions to existing palaeoplacer ore bodies and also assess hydrothermal potential in the lease area to the north of Tarkwa using ground geophysical investigation methods
- OPERATING STATISTICS

 Confirmation of TSF failure studies will be completed in Q1 2023 to determine the extent of inundation zones and to reclassify all TSFs in support of the GISTM compliance roadmap

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- Risks to the execution of the LOM plan include the following:
 - Managing the mining contractor's performance to maintain delivery on planned productivity and cost metrics
 - Maintenance of pit wall stability will require ongoing geotechnical monitoring in the Akontansi and Teberebie pit areas
 - Higher strip ratios for down-dip ore body pit extensions and longer hauls from pits to existing waste dumps are emerging challenges, which will require ongoing monitoring to maintain planned delivery and cost metrics

	Units	Dec 2022	Dec 2021
Open-pit mining			
Total mined	kt	87,631	91,681
– Waste mined (opex)	kt	30,163	26,848
– Waste mined (capex)	kt	43,421	53,077
– Ore mined	kt	14,046	11,756
Mined grade	g/t	1.2	1.4
Strip ratio (tonnes) wast	e:ore	5.2:1	6.8:1
Processing			
CIL			
Tonnes treated	kt	14,016	13,877
Head grade	g/t	1.2	1.2
Yield	g/t	1.2	1.2
Plant recovery	%	97.1	97.1
Total Au production	koz	532	522
Total Au production	kg	16,534	16,226
Financials			
Average Au price received US	6\$/oz	1,803	1,796
Cost of sales before amortisation and depreciation	JS\$m	371	310.2
Cost of sales before amortisation and depreciation US	S\$/oz	699	595
Capex	JS\$m	229	209
Capex	6\$/oz	431	401
AIC	S\$/oz	1,248	1,155

EXPLORATION AND RESOURCE DEFINITION DRILLING

The bulk of the Tarkwa open-pit palaeoplacer Mineral Resource has been drilled and classified into the Measured and Indicated categories under prevailing costs and a gold price of US\$1,600/ oz.

In 2022, an approved amount of US\$3.0m was spent to drill a total of 4 km in two target areas and to conduct ground geophysical survey work over two targets. A significant portion of the budget was used to test for possible northern extensions to the Kobada ore body in the Kobada North target area. A Resource definition drilling programme was also successfully

completed over Ulap South. Phase 2 of the resource range analysis (RRA) programme was conducted to reassess target potential in the exploration portfolio. The outcome of this programme will support target ranking and prioritisation as well as contributing information that will be incorporated into the Tarkwa LOM study.

In 2023, the team plans to use the approved budget of US\$3.0m (Table 5) to complete 11.4km of drilling in three target areas. Early-stage prospective exploration targets will be tested in search of structurally controlled hydrothermal ore bodies.

Exploration in the vicinity of the Underlap-Pepe anticline area is continuing with further Resource definition and infill drilling.



Tarkwa gold mine continued

PROJECT AND STUDY PIPELINE

In Q3 2021, Gold Fields initiated a scoping study to evaluate LOM expansion opportunities at Tarkwa. The study is investigating the potential to reduce unit mining costs by increasing equipment size and considering alternative mining methods. The ultimate objective of the scoping study is to expand the economic pit's footprint and increase Mineral Reserves and life at Tarkwa. The study is focused on the following key elements:

- Mining: Evaluation of pit expansion potential with reduced unit mining costs
- Tailings: Storage alternatives, logistics and costs to enable
 additional ore processing

 Infrastructure: Identification of mining and processing infrastructure potentially impacted by Akontansi pit expansions and estimation of relocation/replacement costs

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• Communities: Identification of communities potentially impacted by pit or tailings expansions and assessment of best possible relocation options and costs

The scoping study was completed in Q1 2022. The phase 1 PFS commenced and is expected to be completed by Q1 2023. Phase 2 of the PFS is expected to be completed by mid-2023. This could support a potential increase to the mine's Reserve position at that time.

MINERAL RESOURCES AND MINERAL RESERVES

All Mineral Resources and Mineral Reserves reported are reported as 90% attributable to Gold Fields.

Stockpile tonnage and grade estimates, based on accumulations of estimated tonnage and grades trucked throughout the history of the mine, are considered reasonably accurate, while the MCF of 97% as applied during mine planning has been shown by experience to be realistically achievable when reclaiming stockpiles.

Attributable Mineral Reserves classification

				Cut-off	Metallurgical
	Tonnes (kt)	Grades (g/t Au)	Au (koz)	grades (g/t Au)	recovery (%)
Open-pit (OP) Mineral Reserves					
OP Proved Mineral Reserves	33,601	1.3	1,357	0.40 - 0.50	89.5 – 97.2
OP Probable Mineral Reserves	66,374	1.2	2,549	0.40 - 0.50	89.5 – 97.2
OP total Mineral Reserves	99,975	1.2	3,906	0.40 - 0.50	89.5 – 97.2
Stockpile (SP) Mineral Reserves					
SP Proved Mineral Reserves	9,726	0.8	255	0.42	97.2
SP Probable Mineral Reserves	53,964	0.4	694	0.32	90.0
SP total Mineral Reserves	63,690	0.5	949	0.32 - 0.42	90 – 97.2
Total Mineral Reserves					
Total Proved Mineral Reserves	43,327	1.2	1,612		
Total Probable Mineral Reserves	120,339	0.8	3,243		
Total Tarkwa Mineral Reserves 2022	163,666	0.9	4,856		
Total Tarkwa Mineral Reserves 2021	174,246	0.9	5,224		
Year-on-year difference (%)	(6)	(1)	(7)		

 Image: Construction

Attributable Mineral Reserves classification per mining area

		-	Quality		Cut-off	Metallurgical
Deposit/Area		ionnes (kt)	(g/t Au)	Au (koz)	grades (g/t Au)	recovery (%)
Tarkwa	Open-pit (OP) Mineral Rese	rves				
Akontansi	Proved	18,544	1.28	764	0.40	97.2
	Probable	44,042	1.25	1,765	0.40	97.2
	Proved and Probable	62,586	1.26	2,529	0.40	97.2
Kottraverchy	Proved	4,317	1.42	197	0.40	97.2
	Probable					
	Proved and Probable	4,317	1.42	197	0.40	97.2
Pepe/Mantraim	Proved	5,741	1.07	198	0.41	97.2
	Probable	12,806	0.94	389	0.41	97.2
	Proved and Probable	18,547	0.99	587	0.41	97.2
Teberebie	Proved	4,901	1.21	191	0.41	97.2
	Probable	9,437	1.28	388	0.41	97.2
	Proved and Probable	14,338	1.26	579	0.41	97.2
Kobada	Proved	98	2.22	7	0.50	89.5
	Probable	89	2.42	7	0.50	89.5
	Proved and Probable	187	2.31	14	0.50	89.5
Total OP	Proved	33,601	1.26	1,357		
	Probable	66,374	1.19	2,549		
	Proved and Probable	99,975	1.22	3,906		
Total SP	Surface stockpile (SP) Mine	ral Reserves				
	Proved	9,726	0.82	255	0.42	97.2
	Probable	53,964	0.40	694	0.42	90.0
	Proved and Probable	63,690	0.46	949	0.32 – 0.42	90 – 97.2
Grand total	Total Mineral Reserves					
	Proved	43,327	1.16	1,612		
	Probable	120,339	0.84	3,243		
	Proved and Probable	163,666	0.92	4,856		

Tarkwa gold mine continued

Attributable Mineral Resources classification (EMR)

	Tonnes (kt)	Grades (g/t Au)	Au (koz)	Cut-off grades (g/t Au)	Metallurgical recovery (%)
Open-pit (OP) Mineral Resources					
OP Measured Mineral Resources	9,535	1.5	453	0.34 - 0.43	89.5 – 97.0
OP Indicated Mineral Resources	51,763	1.3	2,240	0.34 - 0.43	89.5 – 97.0
OP Measured and Indicated Mineral Resources	61,298	1.4	2,692	0.34 – 0.43	89.5 – 97.0
OP Inferred Mineral Resources	5,425	1.5	255	0.34 – 0.43	89.5 – 97.0
Stockpile (SP) Mineral Resources					
SP Measured Mineral Resources	80	0.3	1	0.34	90.0
SP Indicated Mineral Resources					
SP Measured and Indicated Mineral Resources	80	0.3	1	0.34	90.0
SP Inferred Mineral Resources					
Total Tarkwa Mineral Resources					
Total Measured Mineral Resources 2022	9,615	1.5	453		
Total Indicated Mineral Resources 2022	51,763	1.3	2,240		
Total Measured and Indicated Mineral Resources 2022	61,378	1.4	2,693		
Total Inferred Mineral Resources 2022	5,425	1.5	255		
Total Measured and Indicated Mineral Resources 2021	68,932	1.4	3,054		
Total Inferred Mineral Resources 2021	6,904	1.5	322		
Total Measured and Indicated year-on-year difference (%)	(11)	(1)	(12)		
Total Inferred year-on-year difference (%)	(21)	1	(21)		

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Attributable Mineral Resources classification per mining area (EMR)

		Tourse	Cuedee	A	Cut-off	Metallurgical
Deposit/Area		ionnes (kt)	(g/t Au)	Au (koz)	grades (g/t Au)	recovery (%)
Tarkwa	Open-pit (OP) Mineral Resou	urces				
Akontansi	Measured	2,829	1.18	108	0.34	97.0
	Indicated	36,737	1.36	1,601	0.34	97.0
	Measured and Indicated	39,566	1.34	1,708	0.34	97.0
	Inferred	719	1.31	30	0.34	97.0
Kottraverchy	Measured	5,302	1.69	289	0.34	97.0
	Indicated	70	1.06	2	0.34	97.0
	Measured and Indicated	5,371	1.68	291	0.34	97.0
	Inferred					
Pepe/Mantraim	Measured	1,083	1.24	43	0.35	97.0
	Indicated	7,519	1.15	279	0.35	97.0
	Measured and Indicated	8,602	1.16	322	0.35	97.0
	Inferred	1,759	1.38	78	0.35	97.0
Teberebie	Measured	318	1.28	13	0.35	97.0
	Indicated	7,153	1.47	339	0.35	97.0
	Measured and Indicated	7,471	1.47	352	0.35	97.0
	Inferred	2,895	1.55	144	0.35	97.0
Kobada	Measured	4	1.08	0.1	0.43	89.5
	Indicated	284	2.07	19	0.43	89.5
	Measured and Indicated	288	2.06	19	0.43	89.5
	Inferred	52	1.42	2	0.43	89.5
Total OP	Measured	9,535	1.48	453		
	Indicated	51,763	1.35	2,240		
	Measured and Indicated	61,298	1.37	2,692		
	Inferred	5,425	1.46	255		
Total SP	Stockpile (SP) Mineral Reso	urces				
	Measured	80	0.35	1	0.34	90.0
	Indicated					
	Measured and Indicated	80	0.35	1	0.34	90.0
	Inferred					
Grand total	Total Mineral Resources					
	Measured	9,615	1.47	453		
	Indicated	51,763	1.35	2,240		
	Measured and Indicated	61,378	1.36	2,693		
	Inferred	5,425	1.46	255		

Tarkwa gold mine continued

Modifying factors

		Dec 2022	Dec 2021
Mineral Resources parameters			
Mineral Resources Au price	US\$/oz	1,600	1,500
Cut-off for mill feed	g/t	0.34	0.33
Mineral Reserves parameters			
Mineral Reserves Au price	US\$/oz	1,400	1,300
Cut-off for mill feed	g/t	0.40	0.39
Mining recovery factor (open pit)	%	100	100
Strip ratio (waste:ore)	ratio	5.8:1	5.5:1
MCF	%	97	97
Dilution open pit ¹	cm	30/20	30/20
Plant recovery	%	96.2	96.3
Plant capacity	Mtpa	14	14

¹ Refers to 30cm hangingwall and 20cm footwall dilution skins respectively

Grade tonnage curves

The grade tonnage curves for the surface attributable Mineral Reserves are presented opposite. Stockpiles are excluded from the grade tonnage curves.



MINERAL RESOURCES CLASSIFICATION (EMR)

Gold Fields has historically reported Mineral Resources inclusive of Mineral Reserves (IMR). This year Mineral Resources are being reported only as exclusive of Mineral Reserves (EMR) and attributable to Gold Fields to provide consistency and comparison with SEC reporting mandates and formats in the 20F and TRS submissions. Mineral Resources EMR represent the Mineral Resources remaining after the Mineral Reserve has been generated. There is no guarantee that EMR will be converted to Mineral Reserves through additional drilling and future increases in metal price assumptions.

MINERAL RESOURCES AND MINERAL RESERVES RECONCILIATION YEAR-ON-YEAR

Factors that affected Mineral Resources reconciliation year-on-year (attributable EMR)

No depletion by mining (-0koz)

Mining cost increase (-144koz)

Mineral Resource model updates (-112koz)

Addition from Underlap South (55koz)

Conversion from EMR to Mineral Reserve (-227koz)

Factors that affected Mineral Reserves reconciliation year-on-year (attributable)

Depletion by mining (-488koz)

Change in COG (-6koz)

Mineral Resources model updates (+61koz)

Conversion of EMR to Mineral Reserve via mine design optimisation (+186koz)







Mineral Reserves sensitivity

The attributable Mineral Reserves sensitivity has been derived from the application of the relevant COGs to individual grade tonnage curves of the optimised pit shells for the open pits.

To illustrate the impact of fluctuations in gold price on the current declaration, Tarkwa has generated sensitivities for Mineral Reserves using -15%, -10%, -5%, base, +5%, +10% and +15% on a base Mineral Reserve gold price of US\$1,400/oz.

These sensitivities are illustrated above and other than for the base case, they are not supported by detailed mine plans and depletion schedules. They should only be considered indicative, specifically as such sensitivities assume optimal selectivity without any operating cost increases.



Tarkwa gold mine continued



Asanko JV gold mine – 45% attributable to Gold Fields

The Asanko gold mine is a multi-deposit complex, with the Esaase and Nkran ore bodies being the most significant. Active mining since July 2020 has been limited to the Esaase and Akwasiso open pits. In May 2022 mining was suspended at Esaase when fresh ore became the dominant in-situ ore source, and it was necessary to resolve recovery challenges before committing to the next open-pit cutback. In July 2022 the mining at Akwasiso was completed. Since August 2022 Asanko has been treating stockpiles from its Obatan and Esaase ROM pads.

The mine is managed and operated by Galiano Gold and holds a significant land package over 70km in strike length from Esaase in the north to the Fromenda targets approximately 20km south of the Nkran pit on the highly prospective and under explored Asankrangwa Belt in Ghana.

Similar to the 2020 and 2021 reporting cycles, Galiano Gold is still to complete substantive LOM technical and economic work to support the Mineral Resources and Mineral Reserves estimates. Furthermore Gold Fields has determined that Asanko is not material to its business or financial condition. As a result, Gold Fields is not in a position to provide an Asanko JV Mineral Resources and Mineral Reserves estimate as at 31 December 2022. The delayed work is required to underpin a comprehensive revision to 2019's reported Mineral Resources and Mineral Reserves estimates, which were supported by the 2019 PFS. In 2021, Gold Fields commissioned independent reviews of the resource models underpinning the current mine plans and considered that there was considerable residual uncertainty inherent in portions of the models. Mineral Resources and Mineral Reserves estimates will not be restated by Gold Fields until this residual uncertainty has been addressed. Galiano has commissioned a third party to complete a PFS supporting its LOM plan and Mineral Resources and Reserves declaration. This study is scheduled for completion in late Q1 2023, missing Gold Fields' reporting deadlines.

During 2022 Asanko operated on a temporary six-month plan while a longer-term plan was being developed for review. A long term LOM plan has still not been agreed by JV partners and Asanko is currently only processing stockpiles. Investors are encouraged to monitor ongoing disclosures by Galiano Gold concerning the Asanko JV. However, at this stage, any Mineral Resource and Mineral Reserve disclosure should not be considered endorsed by Gold Fields and it is cautioned that they are based on different modifying factors, namely discount rates and gold price assumptions, to what Gold Fields has used in this disclosure. Gold Fields will provide a market update once the work has been completed by Galiano Gold, and after Gold Fields' own internal technical and financial review and endorsement.

Asanko JV gold mine – 45% attributable to Gold Fields continued

ASSET FUNDAM	ENTALS
General location	The Asanko concessions are located in the Amansie West and Amansie South districts of the Ashanti region of Ghana, about 280km north-west of the capital, Accra, and about 80km south-west of the regional capital of Kumasi. There are daily flights from Accra to Kumasi and there is an airstrip located at the Obotan operation, which is used by Asanko to transport employees and service providers to and from Accra.
Brief history and regional geology	The Annexure to this Supplement provides a brief history of Asanko and a summary of the geology. Although each gold occurrence on the property has its own local mineralisation style, geological and geophysical studies have profiled a similar mine scale setting for all the deposits discovered to date. There is an underlying structural relationship between reactivated west-north-west basement structures and the dominant north-east to south-west shears that have juxtaposed the sandstone, siltstone and lesser shale metasedimentary packages, coupled with north-south structures that may control flexures in the steeply dipping sediments. All deposits have intrusive tonalitic-porphyritic granite dykes. Episodic gold mineralisation has occurred at least twice during distinct deformational events. Gold occurs largely as free particles. It is deposited in economic concentrations predominantly around zones of rheological contrast between sandstone (porous) and siltstone facies (non-porous) that are subvertical shear zones as well as in late, shallow-dipping conjugate quartz vein arrays that transgress rheologically contrasting metasedimentary units and the later granite intrusives.
Climate	Asanko experiences a tropical climate characterised by two distinct rainy seasons from March to July and September to November. Average annual rainfall in the area is 1,596mm. Although there may be minor disruptions to operations during the wet season, there are no operating or long-term constraints to production due to the climate.
Licence status and holdings	Asanko holds seven valid mining leases as well as prospecting and reconnaissance licences, which collectively make up Asanko and span 30km strike length of the Asankrangwa gold belt. The mining lease concessions cover an area of approximately 21,214ha. The Esaase, Abore, Abirem, Datano, Jeni River, Miradani and Adubea mining leases contain all the Mineral Resources defined to date. All other concessions held by Asanko Gold in the area reflect exploration potential and cover 26,386ha. The approximate total landholding for Asanko is 47,600ha.
Operational infrastructure	With cessation of mining at Esaase in May 2022 and in-situ Mineral Reserve depletion at Akwasiso in July 2022, since August 2022 Asanko has been treating stockpiles until prefeasibility work supporting a viable LOM plan has been completed. The Nkran Cut 2 pit Mineral Reserve ore was depleted in June 2020 with approximately 68koz gold deferred to Cut 3 because of the pit wall failure in Q3 2019. Ore is hauled from Esaase via the 27km haul road to the Obotan plant. Asanko operates with several stockpiles at Esaase and at the Obotan plant area. Asanko has a centralised administrative office, engineering workshops and residence village.
Mining method	The mining method for active Asanko ore bodies will, as previously, utilise contract miners in the conventional open-pit truck and shovel operations. Vegetation, topsoil and overburden are stripped and stockpiled for future reclamation use. The ore and waste rock are mined with 6m benches, drilled, blasted and loaded into rigid framed haul trucks (94t) with hydraulic excavators (17m ³). The primary mining fleet of trucks and excavators is supported by standard open-pit drilling and auxiliary equipment. GC drilling ahead of mining is standard practice and utilises the reverse circulation method with a face sampling bit. Mining operations occur around the clock on two 12-hour shifts. A pre-split wall control method has been implemented along all the pit walls in the fresh zones to ensure the stability of the pit walls.
Mineral processing and TSFs	The Asanko processing plant, located at Obotan adjacent to the Nkran deposit, was commissioned during Q1 2016 and is currently operating at a throughput of circa 5.9Mtpa, achieving metal recoveries of 68% – 94%, depending on the proportion of fresh Esaase ore fed. The plant consists of primary crushing, a SAG/ball milling circuit and a gravity recovery circuit, followed by a conventional CIL circuit. Plant tailings are deposited into a single TSF fully lined with a high-density polyethylene liner and raised downstream. The TSF is raised periodically and designed to contain the Mineral Reserve LOM ore volume. The facility's safety classification has been carried out following the requirements of the Minerals and Mining (Licensing) Regulations 2012 (LI 2182) and ANCOLD. Based on the LI 2182 classification criteria, the TSF has a Class A hazard classification. Under ANCOLD, and based on the dam breach assessment conducted in 2019, the existing facility's consequence category rating is High B.
LOM: Proved and Probable Mineral Reserves	Mineral Resources and Mineral Reserves will be updated on completion of core technical and economic work conducted by Galiano Gold and post review and endorsement by Gold Fields.
Sustainable development	Asanko was certified to the International Cyanide Management Code in 2021. Asanko has fully implemented its Fihankra safety system, which is based on Occupational Health and Safety Assessment Series 18001. Asanko is audited annually by MINCOM on its safety, environmental and operational activities. The purpose of the audit is to determine the level of operational safety standards and environmental compliance. The mine also undergoes the annual environmental audit conducted by the Ghana Chamber of Mines using the EPA's Akoben criteria.

KEY DEVELOPMENTS AND MATERIAL ISSUES

- Refer to p107 in the Gold Fields 2021 MRMR Supplement for last year's key developments and material issues providing important context to this year's mineral reporting status
- The JV is a 50:50 partnership, covering 90% of the Mineral Resources and Mineral Reserves attributable to the JV, with the remaining 10% held by the Ghanaian government as a free-carried interest. Galiano Gold manages and operates the site
- The 2019 PFS that underpinned the reported maiden December 2019 Mineral Resources and Mineral Reserves estimates is undergoing revision by Galiano Gold, including technical and cost optimisation studies. As no updates were available from Galiano Gold in line with Gold Fields' 2022 end-of-year reporting cycle, the Mineral Resources and Mineral Reserves have been excluded from this Gold Fields statement. Mineral Resources and Mineral Reserves are anticipated to be reviewed by Gold Fields on completion of the work by the JV partner and, if available, will be reported as a market update or in line with Gold Fields' 2023 reporting cycle
- Confirmation of TSF failure studies, the extent of inundation zones and reclassification of all TSFs in support of the GISTM compliance roadmap are works in progress
- Risks to the execution of the plan include the following:

 Observed geological complexity in the Asanko ore bodies has contributed to poor model reconciliation, which has emphasised the need for the resource models to be underpinned by robust geological modelling and for the GC and Resource infill drilling programmes to be configured to provide adequate drill density. Asanko has largely addressed these concerns for the key LOM deposits and at the time of reporting the respective models were being updated for inclusion in the PFS supporting the Mineral Resources and Reserves

- Reconciliation of Resource and GC models with mine production were monitored to optimise dilution and ore loss and recommendations have been provided for implementation when mining resumes
- Any extended use of the haul road from Esaase to the plant, involving increased use or higher transported volumes, will require community, safety and environmental risk assessment along with mitigation and management measures
- Lack of alternative sources of ore and flexibility if there are challenges with executing the LOM plan, which is pivotal to the timing of the Esaase and Nkran pit cutbacks and commencement of other satellite pits
- Geotechnical stability of the potential Nkran Cut 3 and the Esaase pit will be closely monitored and proactive remedial action taken if required
- Pockets of waste rock have the potential for elevated levels of arsenic. To minimise the leaching of arsenic from the waste rock dumps, the material has been identified prior to mining and selectively handled in a manner that allows covering by low-arsenic waste material and/or typical oxide waste
- At Esaase, potential lower than predicted gold recoveries due to "preg-robbing" from transition and/or fresh mineralised zones containing elevated concentrations of naturally occurring organic carbon together with some refractory gold associated with gangue rock and sulphides. This will be addressed as part of the aforementioned technical studies
- Galiano has temporarily suspended active mining to allow for the development of a new mine plan. In the interim, stockpiles are being treated until mining resumes

OPERATING STATISTICS

	Units	Dec 2022	Dec 2021
Open-pit mining (100%)			
Total mined	kt	8,600	43,655
– Waste mined (opex)	kt	6,706	35,356
– Waste mined (capex)	kt	0	2,038
– Ore mined	kt	1,894	6,261
Mined grade	g/t	1.55	1.28
Strip ratio (tonnes)	waste:ore	3.5:1	6.0:1
Processing (100%)			
Tonnes treated	kt	5,829	5,933
Head grade	g/t	1.14	1.19
Yield	g/t	0.91	1.1
Plant recovery	%	80	93
Total Au production	koz	170	210
Total Au production	kg	5,298	6,539
Financials – Gold Fields share (45%)			
Au price received	US\$/oz	1,770	1,770
Cost of sales before amortisation and depreciation	US\$m	82	110
Cost of sales before amortisation and depreciation	US\$/oz	1,072	1,167
Сарех	US\$m	8	21
Сарех	US\$/oz	100	217
AIC	US\$/oz	1,435	1,559

Asanko JV gold mine – 45% attributable to Gold Fields continued

EXPLORATION AND RESOURCE DEFINITION DRILLING

Exploration in 2022 totalled 61km of drilling and focused on the following targets:

- Esaase: Completion of 11,580m of near-term infill drilling aimed at improving confidence in the 2022 Mineral Reserve estimation and completion of 2,220m of metallurgical test work holes to address recovery issues. Because of access constraints, only 75% of the planned 14,840m infill drilling was completed with the remainder planned for completion after mining has resumed and collar access established
- Nkran Cut 3: Completion of 8,120m infill drilling to increase confidence within the ore body in the proposed Cut 3 volume below the depleted open pit. Results confirmed the expected ore potential
- Miradani North: Completion of 4,140m shallow angle infill drilling, to convert near-surface inferred Mineral Resources to indicated for inclusion in the Reserve
- Midras South extensions: Medium-term drilling totalling 17,380m was completed, including the Takorase and West trends and results show potential for relatively small, circa 50koz deposits that can be included as gap fillers in future LOM plans
- Nkran Deep directional drilling: Completion of 7,160m drilling to confirm longer-term underground Mineral Resource potential to a depth of about 800m below the Nkran Cut 2 pit. Results show mineralisation to depths of about 650m at

grades that may be amenable to underground mining. Additional drilling is required to understand grade continuity and tonnage potential

- Abore: Completion of 16,190m infill drilling with the objective of increasing confidence in the current Mineral Resource. The expected mineralisation was confirmed and remains open at depth
- Additionally, 2,360m was drilled to test new exploration targets at Miradani Central (south of Miradani North) and southern extensions to Nkran

The proposed exploration budget for 2023, including general and administrative and licence costs of US\$4.2m, is US\$15.2m, leaving U\$11m for direct exploration. In 2023 the focus shifts to generating the longer-term Mineral Resource pipeline, to provide more flexibility for future LOM plans, and about one-third of the budget is dedicated to this purpose. The focus in H1 2023 will therefore be on priority targets near the Obotan plant (Target 3, Gyagyatreso and Kaniago West) and on Gyetwi-Jeni River near the Esaase ROM pad.

Regarding near-mine exploration, the southern extensions to Nkran are the primary focus, given the medium-term synergy with Nkran Cut 3. The longer-term focus is on underground potential from the Nkran and Akwasiso deeps.

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WEST AFRICA REGION

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Asanko JV gold mine – 45% attributable to Gold Fields continued





Americas Region

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Salient points

Attributable mineral reserves 4.3Moz gold 398MIb copper and

42.2Moz silver Proved and probable

Attributable mineral resources (EMR)

0.9Moz gold 300Mlb copper and

2.5Moz silver Measured and indicated

0.1Moz gold 1MIb copper and

0.5Moz silver

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Americas region

Regional overview

Gold Fields operates two mines in the Americas region, Salares Norte in Chile (under construction with ore stockpiling, 100% ownership) and Cerro Corona in Peru (in production, 99.53% ownership). Salares Norte is positioned to unlock significant value to the Group and first gold is scheduled for the end of Q4. The region's summary Mineral Resource and Mineral Reserve estimates have been presented in the Group highlights section.



Location of Gold Fields operations in South America

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EXPLORATION DRILLING AND EXPENDITURE Total exploration drilled metres and costs for the Americas region are shown in the table below.

	December 2022		December 2	December 2021	
Exploration drilling	Metres drilled	US\$m	Metres drilled	US\$m	
Operations					
Salares Norte	19,353	31.9	23,848	27.7	
Cerro Corona	3,750	2.5	8,005	3.4	
Total Americas operations	23,103	34.4	31,853	31.1	



Salares Norte project

Salares Norte is a high-grade, epithermal gold-silver, open-pit deposit situated in the High Andes of northern Chile. During April 2020, Gold Fields' Board formally approved development of the Salares Norte project on the back of a positive FS and the approval of the environmental impact assessment (EIA) by the Chilean authorities. Salares Norte will have a significant impact on the future production profile of Gold Fields by accelerating growth in production and reducing AIC for the Group.

The construction of the project is behind schedule, primarily due to Covid-19 and weather-related impacts, with first gold production now expected during Q4 2023. Pre-stripping is however complete and ore mining and stockpiling has commenced. Once operational, average annual production is forecast to be ~350koz gold-equivalent for the first 10 years.

PROJECT:

Salares Norte – Chile

Gold Fields completed a feasibility study (FS) in 2018, based on developing Salares Norte as an open-pit mine with crushing, milling, leaching and metal extraction using Merrill-Crowe and carbon in pulp (CIP) circuits at an average 2Mtpa plant throughput. The project modifying factors were updated during 2022, based on new information, including cost inflation, mining contract cost, power cost and metal prices. Key features from the analysis include:

- Mineral Reserves: 3.5Moz gold and 42.2Moz silver
- 10-year LOM excluding Inferred Resource material
- Project payback period of three years from commencement of operations
- All-in sustaining cost (AISC) over the LOM of US\$744/oz
 gold-equivalent

Gold Mineral Reserve grade of circa 5.8g/t in an open-pit operation with a planned AISC of circa US\$600/oz during the first five years at steady state makes Salares Norte one of the highest-quality gold projects in construction. The open-pit development is in progress, and 34Mt of waste rock was removed during 2021. The 50.6Mt pre-strip was completed in August 2022. Construction of the 2Mtpa processing facility and associated infrastructure is advancing and was 87% complete at 31 December 2022.

Step-out drilling near the Salares Norte pit is testing for potential extensions, focusing on the south-west extension of the Agua Amarga deposit, and district exploration continues to drill test targets aimed at discovering and defining additional ore sources to supplement or extend mine life.



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ASSET FUNDAMENTALS	
General location	The Salares Norte project is located in the Atacama region of northern Chile. The nearest town is Diego de Almagro, ~190km west of the project. The project is at latitude 26°0'42"S and longitude 68°53'35"W, with elevations between 4,200m amsl – 4,900m amsl.
Brief history and regional	The Annexure to this Supplement provides a summary of Salares Norte's history and regional geology.
geology	The Salares Norte project is located in the northern part of the Maricunga Belt, an area with a predominance of Cenozoic volcanic rocks, comprising eroded strato-volcanos, volcanic domes and pyroclastic rocks. Mineralisation is contained in a high-sulphidation epithermal system, hosted mainly by a breccia complex along the contact of two volcanic domes of andesitic and dacitic composition.
	Mineral Resources and Mineral Reserves have been delineated by drilling in two separate deposits, Brecha Principal and Agua Amarga, which are located ~500m apart. Most of the mineralisation known to date is oxidised. The sulphide mineralisation contains mainly pyrite, is generally lower grade and lower volume, and has lower processing recovery than the oxide material.
Climate	The mine is situated at high altitude, around 4,500m amsl. While inclement weather may occur at these elevations, management plans were established to mitigate any negative impact on mining operations.
Licence status and holdings	Minera Gold Fields Salares Norte SpA (MGFSN), in which Gold Fields indirectly holds a 100% interest, owns the project. MGFSN holds 22,800ha of exploitation concessions (mining rights), with definitive title granted, including 1,800ha covering the project area. MGFSN holds 69,700ha of additional exploration and an option agreement with JX Nippon Mining and Metals Exploration Chile Ltd, covering 2,200ha (300ha of mining concessions and 1,900ha of exploration concessions) to the north-west of Salares Norte and another with 2,500ha (900ha of mining concessions and 1,600ha of exploration concessions) with Chilean private owners 40km south-east of Salares Norte. The combined landholding covers 97,200ha.
Operational infrastructure	Infrastructure consists of mine and plant facilities, warehouse, camp, offices, on-site power station, fuel station, a potable water plant and water treatment plant. Water is supplied from a well field 12km from the project. Power will be sourced from an on-site 26MW hybrid microgrid.The hybrid system consists of a 16MW diesel power station and a 7MW solar photovoltaic (PV) plant. The PV plant will be constructed during the first year of operation and commissioned towards the end of the projected process plant ramp-up.
Mining method	Mining is performed by a contractor using open-pit mining methods. Mining will occur in six phases over nine years, including two years of pre-stripping starting in Brecha Principal and finishing in Agua Amarga. Ultimately, the two pits will merge into a single pit due to the backslope design. Waste will be placed in either the south or north waste storage facility (WSF). All ore will be hauled to either the ROM pad or one of the grade-bin stockpiles south of the pits.
Mineral processing and TSFs	The process plant, designed to process 2Mtpa, will be located south-east of the main pit at ~4,500m amsl. Ore will be crushed, milled and thickened with thickener underflow pumped to cyanide leaching. Slurry from the leaching stage will feed a counter-current washing and solid liquid separation process through a two-stage counter-current decantation (CCD) circuit. Metals in the solution will be recovered by zinc precipitation in the Merrill-Crowe process. Soluble gold and silver remaining in the tailings slurry obtained from the underflow of the second CCD stage will be scavenged by a CIP circuit.
	The dry stack TSF, located above the south mine WSF, has a total design capacity of 24Mt. Filtered tailings will be transported by trucks to the TSF, spread and allowed to dry to near their specific moisture content before being compacted.
LOM: Proved and Probable Mineral Reserves	Based on the FS, mining operations will run for nine years with processing of the Mineral Reserves over 10 years. District exploration to identify other deposits in the area with the potential to extend or enhance the LOM plan is ongoing.
Sustainable development	The environmental impact study was approved by Chilean authorities in 2019. The EIA details potential environmental and social impacts for construction, operation and closure of the mine, together with the corresponding mitigation actions and voluntary commitments to address them.
	The EIA highlighted the alteration and loss of habitat of the short-tailed chinchilla, which is a critically endangered species in Chile. To mitigate such impact, a plan was developed and approved by the EIA authorities. The plan involves establishing a compensation and conservation area outside the mining area, declaring no-go zones and relocating a small fraction of the chinchilla population that lives in future mining zones to a new location. All the water permits are in place and valid for the LOM. The mine continues to explore for water reserves outside the basin where the mine is located. Cerro Corona was pre-operationally certified to the International Cyanide Management Code in 2022.

Salares Norte project continued

KEY DEVELOPMENTS AND MATERIAL ISSUES

- Plant construction delays experienced due to the Covid-19 pandemic and production now scheduled to commence during Q4 2023
- Total estimated capex at US\$962m (in 2022 terms) of which US\$753m has been spent to date
- The 50.6Mt pre-strip of Brecha Principal completed during August 2022
- 5,786m of RC GC drilling performed during Q4 2022
- First ore stockpiled during November 2022
- Plant and infrastructure construction 87% complete with major equipment installed, including the crusher, conveyors, grinding mills, thickeners, tailings filters and electrical rooms
- Construction of the heavy mining equipment workshop, main fuel station and freshwater supply pipeline completed
- Installation of the TSF geomembrane 60% complete (phase 1 required for commissioning)
- Detailed engineering of the 7MW PV plant in progress and a permit application to be filed during 2023
- The 2022 Mineral Resource model was updated with information from 57 drill holes. 97% of the Mineral Resource is classified in the Indicated Resource category. Year-onyear Mineral Resource changes in tonnes (down circa 24%), grade (up circa 22%) and metal (down circa 7%) are due to updated modifying factors resulting from revisions to the gold price, cost pressure due to inflation and pit shell selection

Risks to the execution of the project and LOM plan include the following:

- Several mitigating strategies have been implemented to deal with the effects of the Covid-19 pandemic; however, if conditions worsen, it could result in further schedule delays and increased cost
- Construction contractor delays, productivity and quality issues could affect cost and schedule
- The site water balance and hydrogeological model indicates minor fluctuations of the Salar Grande water table over the life of the operation with negligible anticipated impact to fauna and flora. This will be closely monitored. Groundwater exploration outside the Salar Grande Basin is planned to reduce any longer-term water risk for the Salares Norte project
- The mineralised material from the mine contains mercury. Some of this will be leached and recovered in the process plant as elemental mercury. This mercury will be managed within the regulatory framework and will be handled considering industry best practice, which is conversion to a stable form (cinnabar) prior to permanent retirement in an underground storage facility in Germany

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- The environmental permit requires the protection, relocation and habitat conservation of the endangered short-tailed chinchilla encountered in certain areas on the property. The permit allows for relocation with mortality rate. The formal chinchilla rescue and relocation plan commenced during October 2020 with the capture and relocation of four chinchillas in compliance with the requirements of the environmental permit for the project. Two of the four chinchillas did not survive the relocation while two relocated successfully and remain healthy. Due to the loss of two chinchillas, the environmental regulator (SMA) issued a suspension notice of the rescue and relocation plan. In December 2021, the SMA began sanction proceedings against the Salares Norte project due to infringements in the process of relocating chinchillas. The sanction proceedings relate to administrative and technical opportunities for improvement in the relocation of chinchillas residing in the project area. A compliance programme was submitted to the SMA in response to sanction proceedings. SMA submitted comments on the compliance programme, which were duly addressed by Gold Fields. Salares Norte is currently awaiting a decision from the SMA which could provide further comments or approve the compliance programme. However, a change to the head of the SMA has delayed the pronouncement more than expected. To date, no further rescue and relocation of chinchillas has been undertaken
- The current suspension of the relocation programme and sanctioning process does not place the commissioning date of the project at risk, nor does it put at risk the plant feed sourced from Brecha Principal. Successful relocation of some remaining chinchillas is however required for the development of Agua Amarga as an open pit and for securing the LOM waste capacity
- Any design changes deemed necessary will require an evaluation of the impact on the programme due to the modification of environmental and operating permits
- The Chinchilla relocation is planned to resume once the regulator approves the new measures

AMERICAS REGION

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Salares Norte project continued

The key project development milestones for the new mine are shown below:

Milestone	Date
Detailed engineering for plant and infrastructure commenced	April 2018
Definitive feasibility study (DFS) completed	December 2018
Maiden Reserves declaration	December 2018
EIA approval	December 2019
Construction approval obtained from Gold Fields' Board	February 2020
Commencement of mine pioneering and plant construction	September 2020
Detailed engineering completed	February 2021
Pre-strip completed	August 2022
Planned first gold production	Q4 2023

OPERATING STATISTICS

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		Dec	
	Units	2022	2021
Open-pit mining			
Total mined	kt	34,705	22,885
– Waste mined	kt	34,405	22,885
– Sulphide tonnes mined	kt	300	
Au mined grade	g/t	7.2	
Ag mined grade	g/t	4.7	
Financials			
Сарех	US\$/oz	296	375

EXPLORATION AND RESOURCE DEFINITION DRILLING

In 2022, the district exploration programme completed 18,835m of DD focused on Salares Norte near-mine target, Filo Valle (south-west extension of Agua Amarga deposit), as well as limited drilling in Horizonte project (formerly known as Pircas) Cruz Sur and Trinchera targets and exploration drilling over Ladera project (option agreement). Summarised drilled metres and associated expenditure are shown below and includes 518m of groundwater exploration.

	Decemb	er 2022	Decemb	December 2021	
	Metres	Cost (US\$m)	Metres	Cost (US\$m)	
Salares Norte and Chile regional	19,353	31.9	23,848	27.7	

AMERICAS REGION

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Salares Norte project continued

MINERAL RESOURCES AND MINERAL RESERVES

Attributable Mineral Reserves classification

	Tonnes (kt)	Grade (g/t Au)	Au (koz)	Grade (g/t Ag)	Ag (koz)	Cut-off grades (US\$/t NSR)	Au	Metallurgical recovery (%) Ag
Open-pit (OP) Mineral Res	serves							
OP Proved Mineral Reserves								
OP Probable Mineral Reserves	18,081	5.8	3,385	72.5	42,119	69.97 – 74.31	91.0 – 93.8	58.5 – 69.3
Total Proved and Probable OP Reserves	18,081	5.8	3,385	72.5	42,119	69.97 – 74.31	91.0 – 93.8	58.5 – 69.3
Stockpile (SP) Mineral Res	serves							
SP Proved Mineral Reserves								
SP Probable Mineral Reserves	300	7.2	69	4.7	46	71.0	94.6	62.8
Total Proved and Probable SP Reserves	300	7.2	69	4.7	46	71.0	94.6	62.8
Total Mineral Reserves								
Total Proved Mineral Reserves								
Total Probable Mineral Reserves	18,381	5.8	3,454	71.3	42,164	69.97 – 74.31	91.0 – 94.6	58.5 – 69.3
Total Salares Norte Mineral Reserves 2022	18,381	5.8	3,454	71.3	42,164	69.97 – 74.31	91.0 – 94.6	58.5 – 69.3
Total Salares Norte Mineral Reserves 2021	20,763	5.2	3,467	58.4	38,990			
Year-on-year difference (%)	(12)	13	0	22	8			

Attributable Mineral Reserves by deposit

Deposit/Area		Tonnes (kt)	Grades (g/t Au)	Au (koz)	Grades (g/t Ag)	Ag (koz)	NSR cut-off (US\$/t NSR)	Metallurgica Au	l recovery (%) Ag
Salares Norte	Open-pit (OP) Mineral	Reserves							
Brecha Principal	Proved								
	Probable	12,441	6.30	2,520	92.3	36,929	74.31	93.8	69.3
	Proved and Probable	12,441	6.30	2,520	92.3	36,929	74.31	93.8	69.3
Agua Amarga	Proved								
	Probable	5,640	4.77	866	28.6	5,190	69.97	91.0	58.5
	Proved and Probable	5,640	4.77	866	28.6	5,190	69.97	91.0	58.5
Total OP	Proved								
	Probable	18,081	5.82	3,385	72.5	42,119	70.0 – 74.3	91.0 – 93.8	58.5 – 69.3
	Proved and Probable	18,081	5.82	3,385	72.5	42,119	70.0 – 74.3	91.0 – 93.8	58.5 – 69.3
Total SP	Stockpile (SP) Mineral	Reserves							
	Proved								
	Probable	300	7.19	69	4.7	46	71.00	94.6	62.8
	Proved and Probable	300	7.19	69	4.7	46	71.00	94.6	62.8
Grand	Proved								
total	Probable	18,381	5.85	3,454	71.3	42,164			
	Proved and Probable	18,381	5.85	3,454	71.3	42,164			

Mineral Reserves are reported according to the SAMREC Code •

Confidence classification assumes annual production-scale estimation and open-pit mining

Mineral Reserves are classified as Probable and are based on Indicated Mineral Resources. The CP has reasonable confidence in the Reserves, but future drilling may • materially change the Reserve evaluation

Attributable metal to Gold Fields is 100% .

Commodity prices used for reporting are US\$1,400/oz gold and US\$17.50/oz silver .

Mineral Reserves reflect updates to the 2019 DFS, based on the current project status and detailed engineering. Mineral Reserves are based on a production schedule which was constrained by a designed open pit. Modifying factors including mining, processing and administrative costs. Process recovery and sustaining capital costs are at a PFS level

Mineral Reserves are reported using ROM tonnes and grades as delivered to the plant and are therefore fully diluted
A variable revenue cut-off was applied in the estimation of Mineral Reserves because the process recoveries and cost are dependent on the head grade. This resulted in an average revenue COG of US\$72.93/t processed based on 1% royalty, average process recoveries of 93.1% for gold and 68.0% for silver, refining costs of US\$3.09/oz for gold and US\$1.36/oz for silver, average stockpile rehandle, tailings handling and incremental mining costs of US\$4.44/t processed, average process costs of US\$41.15/t processed, sustaining capital of US\$1.49/t processed and administrative costs, allocated to processing, of US\$25.84/t processed. Average mine operating costs were US\$2.87/t mined

Figures are rounded to reflect confidence. Some figures may not sum or average exactly due to rounding. The CP deems these small errors to be immaterial

Salares Norte project continued

Attributable Mineral Resources classification (EMR)

	Tonnes (kt)	Grades (g/t Au)	Au (koz)	Grades (g/t Ag)	Ag (koz)	NSR cut-off (US\$/t NSR)	Metallurgical Au	recovery (%) Ag
Mineral Resources								
Measured Mineral Resources								
Indicated Mineral Resources	2,830	2.1	192	27.2	2,472	57.1 – 62.3	87.1 – 90.7	58.9 – 62.6
Measured and Indicated Mineral Resources	2,830	2.1	192	27.2	2,472	57.1 - 62.3	87.1 – 90.7	58.9 - 62.6
Inferred Mineral Resources	946	1.9	58	17.5	531	55.1 – 65.5	89.9 - 91.0	17.1 – 67.2
Total Salares Norte Mineral Resources								
Total Measured Mineral Resources 2022								
Total Indicated Mineral Resources 2022	2,830	2.1	192	27.2	2,472	57.1 – 62.3	87.1 – 90.7	58.9 – 62.6
Total Measured and Indicated Mineral Resources 2022	2,830	2.1	192	27.2	2,472	57.1 - 62.3	87.1 – 90.7	58.9 – 62.6
Total Inferred Mineral Resources 2022	946	1.9	58	17.5	531	55.1 – 65.5	89.9 – 91.0	17.1 – 67.2
Total Measured and Indicated Mineral Resources 2021	8,009	2.1	537	27.7	7,130			
Total Inferred Mineral Resources 2021	2,649	1.7	142	10.9	928			
Measured and Indicated year-on-year difference (%)	(65)	1	(64)	(2)	(65)			
Inferred year-on-year difference (%)	(64)	14	(59)	60	(43)			

Attributable Mineral Resources classification per mining area (EMR)

Deposit/Area		Tonnes (kt)	Grades (g/t Au)	Au (koz)	Grades (g/t Ag)	Ag (koz)	NSR cut-off (US\$/t NSR)	Metallurgical r Au	ecovery (%) Ag
Salares Norte	Open-pit (OP) N	Mineral Re	esources						
Brecha Principal	Measured								
	Indicated	1,247	1.89	76	29.7	1,192	57.1	87.1	62.6
	Measured and Indicated	1,247	1.89	76	29.7	1,192	57.1	87.1	62.6
	Inferred	888	1.94	55	18.5	529	65.5	89.9	67.5
Agua Amarga	Measured								
	Indicated	1,584	2.28	116	25.1	1,280	62.3	90.7	58.9
	Measured and Indicated	1,584	2.28	116	25.1	1,280	62.3	90.7	58.9
	Inferred	59	1.54	3	1.4	3	55.1	91.0	17.1
Total OP	Measured								
	Indicated	2,830	2.11	192	27.2	2,472			
	Measured and Indicated	2,830	2.11	192	27.2	2,472			
	Inferred	946	1.91	58	17.5	531			

Mineral Resources are exclusive of Mineral Reserves. Rounding of figures may result in minor computational discrepancies Quoted at an appropriate in-situ COG and confined to revenue factor 1 pits. The COG varies by deposit, costs, depletion schedule and ore type. Mining dilution and expected mining recovery are included in the generation of the shell used to constrain the Resource but not in the Mineral Resource statement since that is on an in-situ basis. The average COG NSR value applied to the Mineral Resources is US\$61.21/t

Metallurgical recovery factors have not been applied to the Mineral Resource estimates. The approximate metallurgical recovery factor is gold 89.4% and silver 61.9%. The metallurgical recovery is the ratio, expressed as a percentage, of the mass of the specific mineral product recovered from ore treated at the process plant to its total specific mineral content before treatment. Salares Norte mining operations vary according to the mix of the source material (e.g., oxide, transitional, fresh and ore type blend)

The metal prices used for the 2022 Mineral Resources are based on a gold price of US\$1,600/oz and a silver price of U\$20/oz. The gold price used for Mineral Resources is approximately 15% higher than the selected Mineral Reserve price

Mineral Resources consider estimates of all costs, the impact of modifying factors, processing recovery and environmental, social and governance (ESG) criteria to demonstrate RPEEE

The Mineral Resources are estimated at a point in time and can be affected by changes in the gold price, US Dollar currency exchange rates, permitting, legislation, costs and operating parameters

Salares Norte is 100% attributable to Gold Fields and is entitled to mine all declared material located within the property's mineral leases and all necessary statutory mining authorisations and permits are in place or have reasonable expectation of being granted

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Modifying factors

		Dec	Dec
	Units	2022	2021
Mineral Resources parameters			
Mineral Resources Au price	US\$/oz	1,600	1,500
Mineral Resources Ag price	US\$/oz	20.0	20.0
NSR ¹ for mill feed	US\$/t	69.97 – 74.31	47.48
Mineral Reserves parameters			
Mineral Reserves Au price	US\$/oz	1,400	1,300
Mineral Reserves Ag price	US\$/oz	17.5	17.5
NSR for mill feed	US\$/t	72.93	47.69
Strip ratio (waste:ore)	ratio	14.2:1	14.9:1
Dilution open pit	%	2.3	3.1
MCF	%	100	100
Mining recovery factor (open pit)	%	100	100
Plant recovery (Au) ²	%	91 – 94.6	92.7
Plant recovery (Ag) ²	%	58.5 – 69.3	67.6
Processing capacity	Mtpa	2.0	2.0

NSR is defined as the return from sales of concentrates, expressed in US\$/t. NSR = (Au price – Au selling cost) x Au grade x Au recovery + (Ag price – Ag selling cost) x Ag grade x Ag recovery. A variable NSR is applied to the LOM plan to optimise the NPV and FCF Average recovery provided. Forecast recoveries are calculated using derived and applied recovery models

Grade tonnage curves

The gold and silver grade tonnage curves for the surface attributable Mineral Reserves are opposite. Stockpiles are excluded from the grade tonnage curves.

Grade-tonnage curve - open pit



MINERAL RESOURCES CLASSIFICATION (EMR)

Gold Fields has historically reported Mineral Resources inclusive of Mineral Reserves (IMR). This year Mineral Resources are being reported only as exclusive of Mineral Reserves (EMR) and attributable to Gold Fields to provide consistency and comparison with SEC reporting mandates and formats in the 20F and TRS submissions. Mineral Resources EMR represent the Mineral Resources remaining after the Mineral Reserve has been generated. There is no guarantee that EMR will be converted to Mineral Reserves through additional drilling and future increases in metal price assumptions.

Salares Norte project continued

MINERAL RESOURCES AND MINERAL RESERVES RECONCILIATION YEAR-ON-YEAR

Factors that affected Mineral Resources reconciliation year-on-year (attributable EMR)

Mineral Resource models were updated to include 57 additional drill holes.

Year-on-year EMR changes in tonnes (down circa 64%), grade (up circa 4%) and gold (down circa 63%) are due to conversion to Reserves, updated modifying factors resulting from revisions to the gold price, cost drivers and the pit shell selection.

Attributable Mineral Reserve Reconciliation

Gold (koz)



Mineral Reserves sensitivity

To illustrate the impact of fluctuations in gold price and exchange rates on the current declaration, Salares Norte generated sensitivities regarding Mineral Reserves. The following graph indicates the Attributable Mineral Reserves sensitivity at -15%, -10%, -5%, base +5%, +10% and +15% base – US\$1,400/oz gold and US\$17.50/oz silver Mineral Reserve price.

These sensitivities (other than for the base case) are not supported by detailed plans and depletion schedules. They should only be considered on an indicative basis, as such sensitivities assume 100% selectivity without any operating cost increases.

Factors that affected Mineral Reserves reconciliation year-on-year (attributable)

Nominal year-on-year changes in tonnes (down circa 11.5%), gold grade (up circa 12.7%), gold ounces (down circa 0.4%) are due to updated modifying factors resulting from revisions to the gold price, mining, processing and administrative cost drivers.

Nominal year-on-year changes in silver grade (22.2%) and silver ounces (up circa 8.1%) are due to resource modelling, updated modifying factors resulting from revisions to the gold price, mining, processing and administrative cost drivers.

Attributable Mineral Reserve Reconciliation



Attributable Mineral Reserve sensitivity

Gold and silver (Moz)



Cerro Corona mine

Cerro Corona is a porphyry hosted gold-copper deposit in Peru. In 2022, despite the impacts of Covid-19, heavy rainfall, identification of non-competent limestone in the west wall and ground settlement in the east wall, the total material movement commitment from the 2022 plan was achieved. As a result, Cerro Corona remains in a good position to achieve its metal production profile and ensure ore delivery until 2030, focused on balancing ore production and increasing waste stripping to recover the deficit created in 2020. The LOM plan is based on accelerated mining and stockpiling the low-grade ore to be processed with in-pit tailings disposal from 2025 to 2030.

Cerro Corona's life extension to 2030 is based on accelerated mining, enabled by the provision of waste storage capacity and extensive stockpile management so that from 2025 onwards, when the stockpile balance peaks, the LOM plan is based on ore processed from stockpiles with in-pit tailings disposal.

A study to assess the viability of further life extensions was initiated in 2021 and continued in 2022, focusing on a potential east wall pit cutback and further assessment of TSF and waste storage facility (WSF) capacities. These ongoing studies necessitated additional geotechnical drilling and pit wall mapping to define the morphology of low-competency limestones.

The Mineral Resource at Cerro Corona is defined by approximately 120km of exploration and Resource

definition drilling. In 2022 a diamond drilling campaign was completed focusing on obtaining geological and geotechnical data. Due to timing constraints, only some information from the 2022 campaign and the results from the second stage of the 2021 campaign were included in the geological and geotechnical model updates that underpin the 2022 Resource and Reserve declaration. The remaining drilling will be incorporated into resource models in 2023.

The 2022 drilling has provided additional geotechnical information to confirm design parameters. In addition, geology drilling in 2022 and the result of the second stage of the 2021 drilling have confirmed the limit of the skarnstyle mineralisation at depth but have not yet resulted in additional Resources and Reserves.



Cerro Corona processing plant

Cerro Corona mine continued

ASSET FUNDAMENTALS	
General location	The Cerro Corona deposit is located at longitude 78°37'W and latitude 6°45'S, at elevations ranging from ~3,600m – 4,000m above mean sea level (amsl) in the Andes mountains cordillera. It is located 1.5km west-north-west of the Hualgayoc village, ~80km north of the departmental capital of Cajamarca and ~600km north-north-west of Lima, Peru's capital.
Brief history and regional	The Annexure to this Supplement provides a summary of Cerro Corona's history and regional geology.
geology	The Cerro Corona copper-gold deposit is hosted by a diorite to quartz-diorite, dated at mid-Miocene age (14.4Ma \pm 0.1Ma) intruded into limestone country rocks. The intrusive is primarily emplaced along subvertical faults. Limestone alteration varies from siliceous in the south of the deposit to marbling in the west. The ore body is typical of porphyry-style mineralisation comprising stock works of quartz-pyrite-marcasite-chalcopyrite \pm bornite \pm hematite \pm magnetite veining, hosted by intensely altered intrusive rocks of diorite and dacitic composition.
Climate	There are no extreme climate conditions that could materially affect mining operations.
Licence status and holdings	The total property area owned by Cerro Corona covers 6,265ha, comprising 4,804ha mining concessions, with the surface rights covering 1,291ha. Gold Fields La Cima owns Cerro Corona and holds 99.53% of the economic interest.
Operational infrastructure	Cerro Corona mine operates one open pit and one copper-gold flotation plant. The mining administration and maintenance facilities are located at the mine.
Mining method	Contract mining is deployed in the open pit, applying conventional drill, blast, load and haul methods. Accelerated mining, based on nine separate pit stages, exceeds processing rates, allowing generated tailings to be placed back in the pit. Ore is stockpiled during the accelerated mining phase at Cerro Corona and is typically managed at net smelter return (NSR) cut-off values of between US\$16.986/t and US\$35/t.
Mineral processing and TSFs	The processing plant consists of a conventional primary crushing, semi-autogenous grind (SAG)/ball milling and flotation circuit to generate a copper-gold concentrate. The final concentrate is thickened and filtered before being stockpiled for road transport (380km) to the Salaverry port for shipment to copper smelters in Japan and Germany. The thickened rougher flotation tails and the cleaner scavenger flotation tails are transferred individually to the TSF.
	TSF embankments are constructed in a downstream/centreline manner and located downstream from the process plant over the Las Gordas and Las Águilas gorges. The embankments (Las Gordas, Las Águilas and La Hierba) are being constructed progressively with borrow materials from limestone quarries. The embankments contain a clay core constructed from pit material (oxide material). The TSF has a remaining LOM storage capacity of ~26.4Mt up to 3,803m relative level (mRL).
LOM: Proved and Probable Mineral Reserves	Based on the latest 2020 FS defining the LOM, current Mineral Reserves will be depleted in 2030 (eight years) with the plan based on processing stockpiles only from 2025, together with in-pit tailings disposal.
Sustainable development	Cerro Corona maintained ISO 14001, ISO 45001 and ISO 50001 certifications. In 2019, Cerro Corona's eighth environmental impact assessment (EIA) update was approved. In 2020, Gold Fields began the process for the ninth EIA update. The ninth EIA, once approved, will extend the LOM from 2026 to 2030. Compliance with the ninth EIA is required before March 2026 when the first tailings material will be deposited into the pit. It is supported by a comprehensive permit application process to the regulator, which has been scheduled. The sixth update of the mine closure plan was approved in July 2021. Cerro Corona's response plan to the modified Peruvian environmental quality standards was approved in September 2021 and must be implemented within three years.
	Provision of water is secured for the LOM with appropriate water licences in place. Permits for the plant's concentrator optimisation were obtained in the second quarter.
	Cerro Corona is supplied with hydro power from the Cerro del Águila plant operated by Kallpa Generación, which has now been formally certified as 100% renewable energy. Potential for acid mine drainage (AMD) exists at Cerro Corona. While technical studies progress to address potential long-term AMD, Cerro Corona retains its current contingent liability.

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KEY DEVELOPMENTS AND MATERIAL ISSUES

- The Covid-19 pandemic and heavy rainfall in 2021 reduced total mining volumes, and certain projects were delayed or deferred. As a result, the following adjustments to the near-term plan are being implemented:
 - Resequencing of the pit schedule primarily due to restricted access in early 2021 to the ore from the phase 4 area under the east wall where stability was impacted by heavy rainfall and balancing the availability of ore mining fronts with the catchup required on waste movement
 - Increasing mining fleet capacity and deploying additional resources to the site to accelerate waste movement and mining of pit phases 8 and 9 over the next two years
 - WSF construction at Arpon and Ana, deferred from 2020, was completed in 2021 as planned
 - Capital projects were accelerated to be aligned with the 2030 PFS LOM plan
 - Excessive water as a result of the early rainfall season was mitigated with an extensive pit dewatering and surface water management plan in conjunction with ongoing pit wall depressurisation
 - Redesign activities on the east wall were implemented during 2021 and were completed in 2022
- From 2025 onwards, when the stockpile balance peaks and mining is stopped, the LOM plan will be based on ore processed from stockpiles only with in-pit tailings disposal
- There is an ongoing review of combined TSF and WSF capacities to seek opportunities to leverage additional Mineral Resources conversion
- The gravimetric circuit phase 1 and crusher replacement were completed in 2021
- The sale of the oxide gold stocks was completed in 2021
- Confirmation of the TSF failure study, the extent of potential inundation zones and reclassification of the TSF to support the GISTM compliance roadmap were completed
- Gold Fields has identified incidences of acid mine drainage (AMD) generation and the risk of potential short-term and long-term AMD issues at Cerro Corona. Numerous studies have been unable to generate a reliable estimate of the total potential closure cost related to this issue. Gold Fields continues to investigate technical solutions to better inform appropriate mitigation strategies for AMD management and to work towards a reasonable cost estimate. Water quality monitoring programmes continued at Cerro Corona and further studies were carried out in 2022. Cerro Corona retains its current contingent liability

- Risks to executing the LOM plan include the following: – Cerro Corona's life extension to 2030, first reported in
- December 2018 supported by a PFS and then reenforced in 2019 by an FS, remains viable supported by the near-term recovery plan
- As part of the near-term recovery plan, peak vertical rates of advance in the pit and peak mass movement volumes are mined in 2022. To enable this level of performance, the mine sequencing and equipment selection for the accelerated mining programme have been optimised and supported by having the flexibility to process stockpiles at different rates if required. Similar volumes have already been moved in 2021
- Compliance with the ninth EIA is required before March 2026 when the first tailings material will be deposited into the pit, and is supported by a comprehensive permit application process to the regulator scheduled for Q2 2023 (expected to be approved by Q2 2024)
- Anticipated higher concentrations of arsenic in certain sections of the pit's south-east wall was mined in 2022, with the copper concentrate's arsenic content managed through mill feed and stockpile blending to minimise the potentially negative financial impact on concentrate sales
- During the phase 1 infill drilling campaign in 2021, a non-competent limestone in the west wall was confirmed, belonging to the lower Yumagual and Pariatambo formations, and highlighted the need for a geotechnical model update for certain parts of the pit west wall. Phase 2 drilling for additional geotechnical information was initiated during 2021 to inform the final west wall redesign parameters. Model updates were completed in 2022 along with a redesigned pit
- Potentially negative impacts on plant performance while processing stockpiled lower-grade ores, which have been in storage for several years, due to ageing
- Potential for slope angles to change should unanticipated geotechnical conditions occur
- The potential for changes in the geometallurgical characteristics of the ore body and increasing hardness as the pit mines deeper represent a possible longer-term risk. This is being addressed through mapping the spatial distribution and assessment of classified lithological units and evaluating relative processing throughput rates as tonnes per hour (tph) at different proportions of argillic, silicified and potassium alteration for incorporation into the planning. In addition, asset optimisation projects such as the primary crusher replacement from 2021 2022 and pebble crusher optimisation are ongoing

Cerro Corona mine continued



EXPLORATION AND RESOURCE DEFINITION DRILLING

In 2022 a DD campaign was completed with a focus on obtaining geology and geotechnical data. Due to timing constraints, only some information from the 2022 campaign and the results from the second stage of the 2021 campaign were included in geological and geotechnical model updates that informed the 2022 Resource and Reserve declaration. The remaining drilling will be incorporated into resource models in 2023.

Drilled metres and costs for exploration are provided in the table below.

	Dec	2022	Dec	2021
	Metres	Cost (US\$m)	Metres	Cost (US\$m)
Cerro Corona	3,750	2.5	8,005	3.4

PROJECT AND STUDY PIPELINE

Several capital and LOM projects are scheduled to enhance the prevailing LOM plan and include the 2032 additional life extension study, the water treatment plant project and the mine closure plan. Additional LOM-enabling initiatives include continued depressurisation of the pit's east wall, starting the Arpon WSF in 2021 and completing the increased fleet capacity change from 45t to 55t trucks in 2021.

The opportunity to convert more Mineral Resources to Mineral Reserves at Cerro Corona remains a strategic focus. Innovative solutions for the prevailing constraints on TSF and WSF real estate, such as upside on the hydrogeological containment and stability of any expanded in-pit tailings solution, continue to be

assessed and could facilitate more Mineral Resource conversion and life extension. Ongoing technical studies to evaluate the potential Mineral Reserve pit east wall cutback will require some additional land acquisition.

Much of the drilling plan scheduled for 2023 was brought forward and drilled in 2021 and 2022 due to the need for more geotechnical information to evaluate final pit wall designs. A limited drilling programmed is planned for 2023 to satisfy any remaining data requirements.

AMERICAS REGION

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OPERATING STATISTICS

		Dec 2022	Dec 2021
Open-pit mining			
Total mined	kt	29,357	28,301
– Waste mined	kt	15,556	19,342
– Sulphide tonnes mined	kt	13,801	8,959
Strip ratio (waste:ore tonnes)	ratio	1.1:1	2.2:1
Au mined grade	g/t	0.67	0.76
Cu mined grade	%	0.38	0.42
Processing			
Sulphide tonnes treated	kt	6,721	6,817
Au head grade	g/t	0.88	0.83
Cu head grade	%	0.47	0.46
Produced			
Concentrate produced	kt	138.0	133.8
Au produced	koz	129	113
Cu produced	kt	27	26
Au equivalent oz sold	koz	261	248
Plant recovery factor (Au)	%	71	65
Plant recovery factor (Cu)	%	89	87
Financials			
Average Au price received	US\$/oz	1,802	1,783
Average Cu price received	US\$/lb	4.00	3.9
Cost of sales before amortisation and depreciation	US\$m	175	176
Cost of sales before amortisation and depreciation	US\$/oz	673	707
Capex	US\$m	46.0	55.8
Capex	US\$/oz	177	225
AIC ¹	US\$/oz	444	230

¹ AIC is calculated according to the World Gold Council standard with copper revenue treated as a by-product

MINERAL RESOURCES AND MINERAL RESERVES

Attributable Mineral Reserves classification

	Tonnes	Grade	Au	Grade	Cu	Cut-off grades	Metallurg	ical recoverv
	(kt)	Au (g/t)	(koz)	Cu (%)	(Mlb)	(US\$/t NSR)	Au (%)	Cu (%)
Open-pit (OP) Mineral Reserves	5							
OP Proved Mineral Reserves	34,705	0.56	623	0.37	284	16.38	75.8	88.8
OP Probable Mineral Reserves	2,006	0.47	30	0.33	14	16.38	76.0	88.3
OP total Mineral Reserves	36,711	0.55	653	0.37	298	16.38	75.8 – 76.0	88.3 - 88.8
Stockpile (SP) Mineral Reserves								
SP Proved Mineral Reserves	13,185	0.52	219	0.34	100	16.38	75.9	88.5
SP Probable Mineral Reserves								
SP total Mineral Reserves	13,185	0.52	219	0.34	100	16.38	75.9	88.5
Total Mineral Reserves								
Total Proved Mineral Reserves	47,890	0.55	842	0.36	384			
Total Probable Mineral Reserves	2,006	0.47	30	0.33	14			
Total Cerro Corona Mineral Reserves 2022	49,896	0.54	872	0.36	398			
Total Cerro Corona Mineral Reserves 2021	58,020	0.59	1,103	0.37	474			
Year-on-year difference (%)	(14)	(8)	(21)	(2)	(16)			

Cerro Corona mine continued

Attributable Mineral Resources classification (EMR)

						Cut-off		
	Tonnes (kt)	Grade Au (g/t)	Au (koz)	Grade Cu (%)	Cu (Mlb)	(US\$/t NSR)	Metallurgi Au (%)	cal recovery Cu (%)
Open-pit (OP) Mineral Resources								
OP Measured Mineral Resources	33,250	0.51	547	0.34	249	16.38	75.9	88.5
OP Indicated Mineral Resources	7,265	0.48	113	0.31	50	16.38	76.1	88.2
OP Measured and Indicated Mineral Resources	40,515	0.51	660	0.34	300	16.38	75.9 – 76.1	88.2 - 88.5
OP Inferred Mineral Resources	145	0.38	2	0.33	1	16.38	76.0	88.4
Total Cerro Corona Mineral Resour	ces							
Total Measured Mineral Resources 2022	33,250	0.51	547	0.34	249			
Total Indicated Mineral Resources 2022	7,265	0.48	113	0.31	50			
Total Measured and Indicated Mineral Resources 2022	40,515	0.51	660	0.34	300			
Total Inferred Mineral Resources 2022	145	0.38	2	0.30	1			
Total Measured and Indicated Mineral Resources 2021	37,454	0.46	557	0.32	264			
Total Inferred Mineral Resources 2021	300	0.37	4	0.30	2			
Total Measured and Indicated year-on-year difference (%)	8	10	19	5	13			
Total Inferred year-on-year difference (%)	(52)	1	(51)	12	(46)			

Modifying factors

		Dec 2022	Dec 2021
Mineral Resources parameters			
Mineral Resources Au price	US\$/oz	1,600	1,500
Mineral Resources Cu price	US\$/lb	3.6	3.2
NSR for mill feed ¹	US\$/t	16.38	14.99
Au cut-off for oxide ore	g/t	0.4	0.4
Mineral Reserves parameters			
Mineral Reserves Au price	US\$/oz	1,400	1,300
Mineral Reserves Cu price ²	US\$/lb	3.4	2.8
NSR for mill feed ¹	US\$/t	30	28
Strip ratio (waste:ore)	ratio	0.5:1	2.2:1
Dilution open pit	%	0	0
MCF	%	100	100
Mining recovery factor (open pit)	%	98	98
NSR	US\$/t	16.38	14.99
Plant recovery (Au) – hypogene ^{1, 3}	%	67	68
Plant recovery (Cu) – hypogene ^{1, 3}	%	86	87
Processing capacity	Mtpa	6.7	6.7

¹ NSR is the return from sales of concentrates, expressed in US\$/t. NSR = (Au price – Au selling cost) x Au grade x Au recovery + (Cu price – Cu selling cost) x Cu grade x Cu recovery. Since 2014, a variable NSR was applied to the LOM plan to optimise the NPV and FCF

² For revenue estimation, a Cu price of US\$2.8/lb is applied

³ Average recovery provided. Forecast recoveries are calculated using derived and regularly updated recovery models

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Grade tonnage curve

The gold and copper grade tonnage curves for the surface attributable Mineral Reserves are opposite. Stockpiles are excluded from the grade tonnage curves.





MINERAL RESOURCES CLASSIFICATION (EMR)

Gold Fields has historically reported Mineral Resources inclusive of Mineral Reserves (IMR). This year Mineral Resources are being reported only as exclusive of Mineral Reserves (EMR) and attributable to Gold Fields to provide consistency and comparison with SEC reporting mandates and formats in the 20F and TRS submissions. Mineral Resources EMR represent the Mineral Resources remaining after the Mineral Reserve has been generated. There is no guarantee that EMR will be converted to Mineral Reserves through additional drilling and future increases in metal price assumptions.

Mineral Resources and Mineral Reserves reconciliation year-on-year

Factors that affected Mineral Resources reconciliation year-on-year (attributable EMR)	Factors that affected Mineral Reserves reconciliation year-on-year (attributable)
Mining depletion (-6.6koz gold and -3.4Mlb copper) ¹	Mining depletion (-290koz gold and -110Mlb copper)
Geological and resource model updates (+9.2koz gold and +5.9Mlb copper)	Inclusions/exclusions (mainly from updated pit design +27Koz gold and +30Mlb copper)
	Stock balance (+73.1koz gold and +51Mlb copper)

¹ Mining depletion of EMR Resources can occur through mining of Resources not in Reserve (NIR) either as dilution, opportunistic, or defined by GC drilling during the year

Attributable Mineral Reserve Reconciliation

Gold (koz)



Mineral Reserves sensitivity (gold – koz, copper – Mlb)

The Mineral Reserves are constrained predominantly by the TSF and WSF capacities. Therefore, they are reasonably insensitive to changes in the metal price. Sensitivities are not based on detailed rerun depletion schedules and should be considered on a relative and indicative basis only.

Attributable Mineral Reserve Reconciliation

Copper (Mlb)



Attributable Mineral Reserve sensitivity

Gold (koz); Copper (Mlb)



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Cerro Corona mine continued



Supplementary information

South Deep: Rhino mobile raise bore rig

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Regional and Operational Competent Persons

Internal technical reviews have been conducted by the CPs as listed, who are full-time employees of Gold Fields unless otherwise stated and work for the respective operation or region. Corporate technical oversight, assurance and compliance are provided by the Group Technical Services team (see p22).

AUSTRALIA REGION

R Tully: Principal Geologist: Resources and Reserves BSc (Hons), MAusIMM (No 992513), MAIG (No 2716)

Industry experience:

20 years' relevant mining industry experience across mining, exploration and resource evaluation and is responsible for the overall accuracy, standard and compliance of Mineral Resource estimation and reporting from a regional perspective.

F Phillips: Manager Mine Engineering

BEng (Hons) (Mining), MAusIMM (No 1125384)

Industry experience:

25 years' relevant experience in the mining industry and is responsible for the overall accuracy, standard and compliance of mine planning, schedules and Mineral Reserve estimation, LOM compilation and financial evaluation from a regional perspective.

R Radford: Regional Metallurgist

BSc (Chemistry and Extractive Metallurgy) (Murdoch University WA), MAusIMM (No 211859)

Industry experience:

24 years' relevant experience and is responsible for the completion and validation of the metallurgical comminution and extractive test work programmes, gold metal reconciliation and processing plant LOM financial estimation from a regional perspective.

N Morriss: Mine Planning (LOM) Superintendent

BEng (Hons) (Mining Engineering), BCom (Hons) (Finance), MAusIMM (No 208320)

Industry experience:

19 years' relevant experience in mining and is responsible for the overall accuracy, standard and compliance of mine planning, schedules and Mineral Reserve estimation, LOM compilation and financial evaluation.

D Santibanez: Unit Manager Long-Term Planning

BEng (Hons) (Mining Engineering), MAusIMM (No 330288)

Industry experience:

15 years' relevant experience in mining and is responsible for the overall accuracy, standard and compliance of mine planning, schedules and Mineral Reserve estimation, LOM compilation and financial evaluation.

M Tassone: Manager: Geology – Gruyere JV BSc (Geology), MAusIMM (No 3000317)

Industry experience:

27 years' relevant experience, is the lead CP and is responsible for the overall accuracy, standard and compliance of this declaration.

L Grimbeek: Manager: Geology – Granny Smith

BSc Hons (Geology), PrSciNat (No 400086/92), MAusIMM (No 325556)

Industry experience:

36 years' relevant experience, is the lead CP and is responsible for the overall accuracy, standard and compliance of this declaration.

M Fitzgerald: Manager: Geology – St Ives

BSc, MSc, PgDip (Mining Engineering), MAusIMM (No 220122)

Industry experience:

18 years' relevant experience and is responsible for the overall accuracy, standard and compliance of this declaration. He is also responsible for all surface exploration and Mineral Resource development drilling with oversight of exploration geology models.

S Zutah: Resource Geology Superintendent – St Ives

MEconGeol, GradCert (Geostatistics), MAusIMM (No 304948)

Industry experience:

21 years' relevant gold Resource experience and is responsible for Mineral Resource estimation and reporting.

E Hayde (Murphy): Manager: Geology – Agnew

BSc (Hons), MAusIMM (No 314713)

Industry experience:

14 years' relevant experience and is responsible for the overall accuracy, standard and compliance of this declaration.

S Gotley: Resource Geology Superintendent – Agnew

BSc Hons (Geology), GradCert (Geostatistics), MAusIMM (No 211515), AIG (No 2780)

Industry experience:

28 years' relevant experience and is responsible for Mineral Resource estimation and reporting.

AUSTRALIA - FSE

A Trueman: Lead CP (FSE) and Chief Resource Geologist

BSc (Hons) (Geology), PGeo, APEGBC (No 149753), MAusIMM (No 110730)

Industry experience:

Geology and Resource estimation experience spanning 30 years and is responsible for the overall accuracy, standard and compliance of this declaration.

SOUTH AFRICA - SOUTH DEEP

S Dludla: Manager: Manager Technical Services

MEng (Mining Engineering), Dip (Mining Engineering), BSc (Hons) (Geology), BSc (Hons) (Industrial Technology and Management), SACNASP (No 400282/07)

Industry experience:

16 years' experience in the mining industry covering the broad mining value chain, is the lead CP and is responsible for the overall accuracy, standard and compliance of this declaration.

D Mathebula: Head of Mine Planning

BSc (Mining Engineering, Hons), SAIIM (702485)

Industry experience:

19 years' experience in the mining industry and is responsible for mine planning and Reserve CP at South Deep.

R Pillaye: Chief Geologist

BSc (Hons) (Geology), SACNASP (No 400247/08)

Industry experience:

30 years' experience in the mining industry and is responsible for production geology at South Deep.

Y Naidoo: Chief Resource Geologist

MSc (Mining Engineering), BSc (Hons) (Geology), SACNASP (No 118933)

Industry experience:

11 years' experience in the mining industry and is responsible for resource geology and estimation at South Deep.

WEST AFRICA REGION

S Robins: Vice President Technical Services

BSc (Hons) (Geology), MScEng (Mineral Resource Evaluation), MBA, FAusIMM (No 222533)

Industry experience:

26 years' relevant experience and is responsible for the overall conduct and standard of technical work for the purposes of estimating and reporting Resources and Reserves for the West Africa region.

J Nyan: Regional Strategic Mine Planning Manager

MSc. (Mining Engineering); PGDip. (Business Administration); FAusIMM CP (No 305323); FWAIMM (No 0203); MGhIE (No 15273)

Industry experience:

23 years' relevant experience and is jointly responsible for the overall correctness, standard and compliance of the LOM planning, scheduling, Reserves statement and economic assurance for the West Africa region.

C Dzomeku: Regional Metallurgy Lead and JV Manager

BSc (Chemical Engineering), MSc (Minerals Engineering), MCSM, EMBA, Ghana Institution of Engineers (No 02318M)

Industry experience:

33 years' relevant experience and is responsible for processing parameters and metallurgy for the West Africa region.

GHANA – DAMANG

K Appau: Unit Manager – Strategic Mine Planning

MSc. (Mining Engineering), MAusIMM CP (No 316308), MWAIMM (No 1898), Ghana Institution of Engineers (No 12576)

Industry experience:

15 years' relevant experience and is responsible for the overall accuracy of mine planning, optimisation, scheduling and Mineral Reserve estimation.

SK Seshie: Geology Manager – Damang

MSc (Mineral Exploration), BSc (Hons) (Geological Engineering), MAusIMM (No 3003387), FWAIMM (No 0938)

Industry experience:

16 years' relevant experience and is jointly responsible as the CP for the overall correctness, standard and compliance of the mine resource models, Resources statement and CPR.

T Kwesi Abakah: Unit Manager – Geostatistics and Resource Modelling – Damang

BSc (Hons) (Geological Engineering), MAusIMM (No 316516) Industry experience:

15 years' relevant experience and is responsible for the compilation of the resource declaration.

GHANA – TARKWA

G Avane: Geology Manager – Tarkwa

MSc (Hons) (Geological Engineering), MAusIMM (No 309400)

Industry experience:

Over 27 years' relevant experience and is the lead CP responsible for Mineral Resource management for Tarkwa and the overall correctness, standard and compliance of this declaration.

M Aboagye: Unit Manager – Resource Evaluation – Tarkwa

BSc (Hons) (Geological Engineering), MSc (Mineral Engineering), MAusIMM (No 322689)

Industry experience:

18 years' experience in the mining industry and is responsible for sampling, geology, exploration and resource estimation for Tarkwa.

Regional and Operational Competent Persons

continued

AMERICAS REGION

Salares Norte

A Trueman: Chief Resource Geologist – Americas region

BSc Geology (Hons), PGeo, APEGBC (No 149753), MAusIMM (No 110730)

Industry experience:

29 years' experience in mining, exploration and Resource evaluation on worldwide projects and is responsible for Mineral Resource estimation and reporting.

R Lizana: Head of Operations

Mining Engineering (Universidad de Santiago de Chile), MBA (Universidad Adolfo Ibañez), MAusIMM (No 229645)

Industry experience:

18 years' experience relevant to the style of mineralisation and type of deposit described in this report, and to the activity Mineral Reserve Lead CP for which she accepts responsibility.

Y Delgado Quinteros: Mine Manager – Minera Salares Norte SpA

BSc (Eng), Mining Civil Engineer, MAusIMM (No 304325), registered in the Competent Person Public Registry for Resources and Reserves of Chile in the discipline of mining (No 0267)

Industry experience:

20 years' experience in mining operations and mine planning including four years at Salares Norte as Mine Manager.

Cerro Corona

P Gómez: Vice President Technical

Geological Engineering (Universidad Nacional San Antonio Abad del Cusco), MBA (Adolfo Ibañez Business School CIP) (No 130253), MAusIMM (330373), Dip (Geometallurgy) (Pontificia Universidad Católica del Perú), Cert (Applied Geostatistics) (University of Alberta)

Industry experience:

Over 23 years' relevant experience and is responsible for the overall accuracy, standard and compliance of this declaration.

J Torres: Technical Services Manager

Mining Engineering (Universidad Nacional de Ingeniería), MBA (Universidad Católica Boliviana), MAusIMM (3053967)

Industry experience:

22 years' relevant experience, with five months at Cerro Corona, and is responsible for the overall accuracy, standard and compliance of this declaration.

J Mejía: Resources Geologist Supervisor

Geological Engineering (Universidad Nacional de Ingeniería), CIP (No 132718), MAusIMM (CP) (No 317107), MAIG (No 7452), MBA (Universidad del Pacífico) (degree in progress), Dip (Geostatistics Applied to the Calculation of Mining Resources) (Universidad de Antofagasta), Cert (Applied Geostatistics) (University of Alberta)

Industry experience:

17 years' relevant experience and is responsible for Mineral Resource estimation at Cerro Corona.

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Conversion table

Metric	Imperial
1 centimetre	0.3937 inches
1 metre	3.28084 feet
1 kilometre	0.6213711922 miles
1 gram	0.0321507466 troy ounces
1 gram/tonne	0.0292 ounce/tonne
1 kilogram	2.204622622 pounds
1 tonne	1.1023113109 short tonnes
1 hectare	2.4710538147 acres

Imperial	Metric
1 inch	2.54 centimetres
1 foot	0.3047972654 metres
1 mile	1.609344 kilometres
1 troy ounce	31.1034768 grams
1 ounce/tonne	34.286 grams/tonne
1 pound	0.45359237 kilograms
1 short tonne	0.90718474 tonnes
1 acre	0.4046856422 hectares

Abbreviations

3D	three dimensional
Ag	silver
AGL	Abosso Goldfields Limited
AGMC	Agnew Gold Mining Company Proprietary Limited
AIC	All-in cost
AISC	All-in sustaining cost
AMD	acid mine drainage
amsl	above mean sea level – and may be used for heights specified in any units
A\$	Australian Dollar
A\$/oz	Australian Dollar per ounce
Au	gold
AusIMM	Australian Institute of Mining and Metallurgy
BEE	black economic empowerment
BLF	Boulder-Lefroy fault
CAD	Canadian Dollar
сарех	capital expenditure
CCD	counter-current decantation
CIL	carbon in leach
CIP	carbon in pulp
СМ	Current Mine
cm	centimetres
cm.g/t	centimetre grams per ton
Со	cobalt
СР	Competent Person (SAMREC) interchangable with Qualified Person (SK-1300)
CPR	Competent Person's Report
Cu	copper
COG	cut-off grade
СТЅ	Corporate Technical Services
DD	diamond drill
DFS	definitive feasibility study
DRP	Damang Reinvestment Plan
EIA	environmental impact assessment
EMP	Environmental Management Plan
EMR	Exclusive Mineral Resource
EPA	Environmental Protection Agency
ETSF	East ISF
FBH	Fitzroy Bengal Hastings
FCF	tree cash-flow
FEISF	Far East ISF
F5	Teasibility study
FSGRI	
y a/t	grams por top
g/t	
GAP	Greater Agnew Project
GC	arade control
GEA	Gold Eielde Australia
GEG	
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GFL	Gold Fields Limited
GISTM	Global Industry Standard on Tailings Management
GRB	Geotechnical Review Board
ha	hectare
ICMM	International Council on Mining and Metals
IMR	Inclusive Mineral Resource
IOCG	iron ore-copper-gold
IP	induced polarisation
I&T	innovation and technology
JORC	Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves
JSE	Johannesburg Stock Exchange
kg	kilogram
kg/t	kilograms per ton
km	kilometre
ktpa	thousand tonnes per annum
koz	thousand ounces
LEX	Lefroy Exploration Limited
LCMC	Lepanto Consolidated Mining Company
LIB	long-incline borehole
LOM	life-of-mine
m	metre
m ²	square metre
m³/s	cubic metres per second
Ма	million years
МСВ	mini cutback
MCF	Mine Call Factor
Mining Charter	Broad-Based Socio-economic Empowerment Charter for the Mining and Minerals Industry
Mining Charter MGFSN	Broad-Based Socio-economic Empowerment Charter for the Mining and Minerals Industry Minera Gold Fields Salares Norte SpA
Mining Charter MGFSN MINCOM	Broad-Based Socio-economic Empowerment Charter for the Mining and Minerals Industry Minera Gold Fields Salares Norte SpA Minerals Commission of Ghana
Mining Charter MGFSN MINCOM MIb	Broad-Based Socio-economic Empowerment Charter for the Mining and Minerals Industry Minera Gold Fields Salares Norte SpA Minerals Commission of Ghana million pounds
Mining Charter MGFSN MINCOM MIb Mo	Broad-Based Socio-economic Empowerment Charter for the Mining and Minerals Industry Minera Gold Fields Salares Norte SpA Minerals Commission of Ghana million pounds molybdenum
Mining Charter MGFSN MINCOM MID Mo Moz	Broad-Based Socio-economic Empowerment Charter for the Mining and Minerals Industry Minera Gold Fields Salares Norte SpA Minerals Commission of Ghana million pounds molybdenum million ounces
Mining Charter MGFSN MINCOM MID Mo Moz MPRDA	Broad-Based Socio-economic Empowerment Charter for the Mining and Minerals Industry Mineral Gold Fields Salares Norte SpA Minerals Commission of Ghana million pounds molybdenum million ounces Mineral and Petroleum Resources Development Act No 28 of 2002 (as amended)
Mining Charter MGFSN MINCOM MID MO MO MO MOZ MPRDA mRL	Broad-Based Socio-economic Empowerment Charter for the Mining and Minerals Industry Minera Gold Fields Salares Norte SpA Minerals Commission of Ghana million pounds molybdenum million ounces Mineral and Petroleum Resources Development Act No 28 of 2002 (as amended) metres relative level
Mining Charter MGFSN MINCOM MID Mo Moz MPRDA mRL MSO	Broad-Based Socio-economic Empowerment Charter for the Mining and Minerals Industry Minera Gold Fields Salares Norte SpA Minerals Commission of Ghana million pounds molybdenum million ounces Mineral and Petroleum Resources Development Act No 28 of 2002 (as amended) metres relative level mineable shape optimiser
Mining Charter MGFSN MINCOM MIb Mo Moz MPRDA mRL MSO Mt	Broad-Based Socio-economic Empowerment Charter for the Mining and Minerals Industry Mineral Gold Fields Salares Norte SpA Minerals Commission of Ghana million pounds molybdenum million ounces Mineral and Petroleum Resources Development Act No 28 of 2002 (as amended) metres relative level mineable shape optimiser million tonnes
Mining Charter MGFSN MINCOM MID Mo Moz Moz MPRDA mRL MSO Mt Mtpa	Broad-Based Socio-economic Empowerment Charter for the Mining and Minerals Industry Mineral Gold Fields Salares Norte SpA Minerals Commission of Ghana million pounds molybdenum million ounces Mineral and Petroleum Resources Development Act No 28 of 2002 (as amended) metres relative level mineable shape optimiser million tonnes million tonnes per annum
Mining Charter MGFSN MINCOM MID Mo Moz Moz MPRDA mRL MSO Mt Mtpa MW	Broad-Based Socio-economic Empowerment Charter for the Mining and Minerals Industry Minera Gold Fields Salares Norte SpA Minerals Commission of Ghana million pounds molybdenum million ounces Mineral and Petroleum Resources Development Act No 28 of 2002 (as amended) metres relative level mineable shape optimiser million tonnes million tonnes per annum megawatt
Mining Charter MGFSN MINCOM MID Mo Moz MPRDA mRL MSO Mt Mtpa MW NIR	Broad-Based Socio-economic Empowerment Charter for the Mining and Minerals Industry Minera Gold Fields Salares Norte SpA Minerals Commission of Ghana million pounds molybdenum million ounces Mineral and Petroleum Resources Development Act No 28 of 2002 (as amended) metres relative level mineable shape optimiser million tonnes million tonnes per annum megawatt not in Reserve
Mining Charter MGFSN MINCOM MID Mo Mo Mo MO MPRDA MRL MSO Mt Mt Mtpa Mt NIR NIR NOW	Broad-Based Socio-economic Empowerment Charter for the Mining and Minerals Industry Minera Gold Fields Salares Norte SpA Minerals Commission of Ghana million pounds molybdenum million ounces Mineral and Petroleum Resources Development Act No 28 of 2002 (as amended) metres relative level mineable shape optimiser million tonnes million tonnes per annum megawatt not in Reserve North of Wrench area, South Deep
Mining Charter MGFSN MINCOM MID Mo Moz Moz MPRDA mRL MSO Mt Mtpa Mtpa NIR NIR NOW NIR	Broad-Based Socio-economic Empowerment Charter for the Mining and Minerals Industry Minera Gold Fields Salares Norte SpA Minerals Commission of Ghana million pounds molybdenum million ounces Mineral and Petroleum Resources Development Act No 28 of 2002 (as amended) metres relative level mineable shape optimiser million tonnes million tonnes per annum megawatt not in Reserve North of Wrench area, South Deep net present value
Mining Charter MGFSN MINCOM MID Mo Mo Mo MPRDA mRL MSO Mt MSO Mt MU NIR NIR NIR NOW NIR NOW NIR NOW	Broad-Based Socio-economic Empowerment Charter for the Mining and Minerals Industry Minera Gold Fields Salares Norte SpA Minerals Commission of Ghana million pounds molybdenum million ounces Mineral and Petroleum Resources Development Act No 28 of 2002 (as amended) metres relative level mineable shape optimiser million tonnes million tonnes per annum megawatt not in Reserve North of Wrench area, South Deep net present value net smelter return
Mining Charter MGFSN MINCOM MID Mo Mo Mo Mo MPRDA MRL MSO Mt MSO Mt Mtpa MW NIR NOW NIR NOW NIR NOW NIR OP	Broad-Based Socio-economic Empowerment Charter for the Mining and Minerals Industry Minera Gold Fields Salares Norte SpA Minerals Commission of Ghana million pounds molybdenum million ounces Mineral and Petroleum Resources Development Act No 28 of 2002 (as amended) metres relative level mineable shape optimiser million tonnes million tonnes per annum megawatt not in Reserve North of Wrench area, South Deep net smelter return open pit
Mining Charter MGFSN MINCOM MID Mo Mo Mo MPRDA mRL MSO Mt MSO Mt MSO Mt NIR NOW NIR NOW NIR NOW NIR OP OP	Broad-Based Socio-economic Empowerment Charter for the Mining and Minerals Industry Mineral Gold Fields Salares Norte SpA Minerals Commission of Ghana million pounds molybdenum million ounces Mineral and Petroleum Resources Development Act No 28 of 2002 (as amended) metres relative level mineable shape optimiser million tonnes per annum megawatt not in Reserve North of Wrench area, South Deep net smelter return open pit open pit open pit
Mining Charter MGFSN MINCOM MID Mo Mo Mo MPRDA MRL MPRDA MRL MSO Mt MSO Mt NIR NOW NIR NOW NIR NOW NIR NOW NIR NOW OP OP opex oz	Broad-Based Socio-economic Empowerment Charter for the Mining and Minerals Industry Mineral Gold Fields Salares Norte SpA Minerals Commission of Ghana million pounds molybdenum million ounces Mineral and Petroleum Resources Development Act No 28 of 2002 (as amended) metres relative level mineable shape optimiser million tonnes million tonnes per annum megawatt not in Reserve North of Wrench area, South Deep net smelter return open pit open zetting expenditure open zetting expenditure
Mining Charter MGFSN MINCOM MID Mo Moz Moz MPRDA mRL MSO Mt MSO Mt NIR NIR NOW NIR NOW NIR NOW NIR OP OP opex oz PFS	Broad-Based Socio-economic Empowerment Charter for the Mining and Minerals Industry Mineral Gold Fields Salares Norte SpA Minerals Commission of Ghana million pounds molybdenum million ounces Mineral and Petroleum Resources Development Act No 28 of 2002 (as amended) metres relative level mineable shape optimiser million tonnes million tonnes per annum megawatt not in Reserve North of Wrench area, South Deep net present value net smelter return open pit operating expenditure ounces (troy) prefeasibility study

Abbreviations continued

QA/QC	quality assurance and quality control
QP	Qualified Person (SK-1300) interchangeable with CP (SAMREC)
RAP	Reconciliation Action Plan
RC	reverse circulation
ROM	run-of-mine (with reference to grade or tonnes)
ROP	Resource Optimisation Project
RPEEE	reasonable prospects for eventual economic extraction
RRA	resource range analysis
SAG	semi-autogenous grind
SAMREC Code	South African Code for the Reporting of Exploration Results, Mineral Resources and Mineral Reserves, 2016 edition (SAMREC Code)
SAMVAL	South African Mineral Asset Valuation Committee
SEC	United States Securities and Exchange Commission
SHL	south heap leach
SLP	Social and Labour Plan
SOW	South of Wrench area, South Deep
SP	stockpile
STSF	South TSF
t	metric tonnes
tpd	tonnes per day
tph	tonnes per hour
tpm	tonnes per month
TSF	tailings storage facility
VCR	Ventersdorp Contact Reef
UG	underground
US\$	United States Dollar
US\$/oz	United States Dollar per ounce
WSF	waste storage facility
N	circa, about or approximately

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Glossary of terms

	Definition
Auger drill	An auger drilled hole uses a rotating screw blade acting as a screw conveyor to remove the drilled material out of the hole.
Block width	The average width at which it is estimated a block of ore will be mined.
Clastic	Pertaining to a rock or sediment composed principally of broken fragments that are derived from pre-existing rocks or minerals by the processes of weathering and erosion, and have been transported some distance from their place of origin.
Cut-off grade (COG)	The lowest grade of mineralised rock which determines whether it is economic to recover its gold content by further concentration.
Diamond drilling	Diamond drilling uses a diamond-impregnated drill bit to drill through the rock and recovers a solid core for examination on the surface.
Dilution	Low or zero-grade (waste) material that is mined during the course of mining operations and thereby forms part of the Mineral Reserve.
Destress	By mining a 2m slice through the package in an optimal position to ensure a destressed window of 50m to 60m above or below the associated stope.
Feasibility study (FS)	 Is a comprehensive technical and economic study of the selected development option for a mineral project, which includes detailed assessments of all applicable modifying factors, as defined by this section, together with any other relevant operational factors and detailed financial analysis that are necessary to demonstrate, at the time of reporting, that extraction is economically viable. The results of the study may serve as the basis for a final decision by a proponent or financial institution to proceed with, or finance, the development of the project. 1. An FS is more comprehensive, and with a higher degree of accuracy, than a preliminary feasibility study (or PFS). It must contain mining, infrastructure, and process designs completed with sufficient rigour to serve as the basis for an investment decision or to support project financing. 2. The confidence level in the results of an FS is higher than the confidence level in the results of a preliminary feasibility study (or PFS). Terms such as full, final, comprehensive, bankable, or definitive FS are equivalent to an FS.
Gold equivalent ounces	A quantity of metal (such as copper) converted to an amount of gold in ounces, based on accepted gold and other metal prices, i.e. the accepted total value of the metal based on its weight and value thereof divided by the accepted value of one troy ounce of gold.
Indicated Mineral Resource	An Indicated Mineral Resource is that part of a Mineral Resource for which quantity, grade or quality, densities, shape and physical characteristics are estimated with sufficient confidence to allow the application of modifying factors in sufficient detail to support mine planning and evaluation of the economic viability of the deposit. Geological evidence is derived from adequately detailed and reliable exploration, sampling and testing and is sufficient to assume geological and grade or quality continuity between points of observation.
Inferred Mineral Resource	An Inferred Mineral Resource is that part of a Mineral Resource for which quantity and grade or quality are estimated on the basis of limited geological evidence and sampling. Geological evidence is sufficient to imply but not verify geological and grade or quality continuity. An Inferred Resource has a lower level of confidence than that applying to an Indicated Mineral Resource and must not be converted to a Mineral Reserve.
Intracratonic basin	Refers to a basin on top of a craton, which is part of the earth's crust, that has attained stability and has been little deformed for a prolonged period.
Kriging efficiency	Provides a measure of the reliability of kriged block evaluations.
Lacustrine	Produced by or formed within a lake or lake environment.
Life-of-mine (LOM)	Number of years that an operation is planning to mine and treat Proved and Probable Reserves based on the current mining plan. Year one of this plan is referred to as the Operational Plan.
Littoral	Pertaining to the zone between the highest and lowest levels of spring tides known as the fore-beach.

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Glossary of terms continued

Measured Mineral Resource	A Measured Mineral Resource is that part of a Mineral Resource for which quantity, grade or quality, densities, shape and physical characteristics are estimated with confidence sufficient to allow the application of modifying factors to support detailed mine planning and final evaluation of the economic viability of the deposit. Geological evidence is derived from detailed and reliable exploration, sampling and testing and is sufficient to confirm geological and grade or quality continuity between points of observation. A Measured Mineral Resource has a higher level of confidence than that applying to either an Indicated Mineral Resource or an Inferred Mineral Resource. It may be converted to a Proved Mineral Reserve or to a Probable Mineral Reserve.
Mine Call Factor (MCF)	The ratio expressed as a percentage that the specific product accounted for in "recovery plus residue" bears to the corresponding product "called for" by the mine's measuring and evaluation methods.
Mineral Reserve	A Mineral Reserve is the economically mineable part of a Measured and/or Indicated Mineral Resource. It includes diluting materials and allowances for losses, which may occur when the material is mined or extracted, and is defined by studies at prefeasibility or feasibility level as appropriate that include application of modifying factors. Such studies demonstrate that, at the time of reporting, extraction could reasonably be justified. The reference point at which Mineral Reserves are defined, usually the point where the ore is delivered to the processing plant, must be stated. It is important that in all situations where the reference point is different, such as for a saleable product, a clarifying statement is included to ensure that the reader is fully informed as to what is being reported.
Mineral Resource	A Mineral Resource is a concentration or occurrence of solid material of economic interest in or on the earth's crust in such form, grade or quality and quantity that there are RPEEE. The location, quantity, grade, continuity and other geological characteristics of a Mineral Resource are known, estimated or interpreted from specific geological evidence and knowledge, including sampling.
Inclusive (IMR) and Exclusive (EMR) Mineral Resources	The methodology applied and protocols for EMR estimation are provided in the Group Guidance for Exclusive Mineral Resource Reporting. It is the second time that Gold Fields is reporting Mineral Resources exclusive of Mineral Reserves (EMR) in the IAR and Supplement for all operations. The change to include EMR figures in the Supplement is to provide consistency and comparison with SEC reporting mandates and formats. Mineral Resources inclusive of Mineral Reserves (IMR) represent the Mineral Resource which is modified to generate the Mineral Reserve. Mineral Resources EMR represent the Mineral Resources remaining after application of modifiers to generate the Mineral Reserve. Both IMR and EMR are underpinned by the same input parameters. There should be no expectation that IMR minus Mineral Reserve is numerically equal to EMR due to differences in the way that modifying factors (e.g. metal prices, COGs, ore losses, dilution, mining pillars, etc.) are applied to Reserves and Resources. While some of the EMR may be converted to Mineral Reserves through additional drilling or other means, it should not be expected that all of the EMR can be converted to Mineral Reserves.
Net smelter return (NSR)	The return from sales of concentrates expressed in US\$/tonne, i.e.: NSR = (Au price – Au selling costs) x Au grade x Au recovery + (Cu price – Cu selling price) x Cu grade x Cu recovery.
Operational Plan	Year one of the LOM plan.
Pay limit	The value at which it is estimated that ore can be mined at break-even.
Peneplain	A low, nearly featureless, gently undulating land surface of considerable area, which has been produced by the processes of long continued subaerial erosion.
Plant recovery	The ratio, expressed as a percentage, of the mass of the specific mineral product actually recovered from ore treated at the plant to its total specific mineral content before treatment.
Prefeasibility study (PFS)	 Is a comprehensive study of a range of options for the technical and economic viability of a mineral project that has advanced to a stage where a Qualified Person has determined (in the case of underground mining) a preferred mining method, or (in the case of surface mining) a pit configuration, and in all cases has determined an effective method of mineral processing and an effective plan to sell the product. 1. A PFS includes a financial analysis based on reasonable assumptions, based on appropriate testing, about the modifying factors and the evaluation of any other relevant factors that are sufficient for a Qualified Person to determine if all or part of the Indicated Mineral Resources and Measured Mineral Resources may be converted to Mineral Reserves at the time of reporting. The financial analysis must have the level of detail necessary to demonstrate, at the time of reporting, that extraction is economically viable. 2. A PFS is less comprehensive and results in a lower confidence level than an FS. A PFS is more comprehensive and results in a higher confidence level than an initial assessment.

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Probable Mineral Reserve	A Probable Mineral Reserve is the economically mineable part of an Indicated, and in some circumstances Measured, Mineral Resource. The confidence in the modifying factors applying to a Probable Mineral Reserve is lower than that applying to a Proved Mineral Reserve.
Proved Mineral Reserve	A Proved Mineral Reserve is the economically mineable part of a Measured Mineral Resource. A Proved Mineral Reserve implies a high degree of confidence in the modifying factors.
Regolith	A layer of loose unconsolidated rock that lies above a layer of bedrock.
SK-1300	The SEC updated disclosure rules to replace outgoing Industry Guide 7. This will be mandatory for the 31 December 2021 reporting.
Strategic plan (SP)	The SP for each asset is guided by the strategic planning framework that selects the preferred strategy for each asset based on alignment with the Group strategic metrics (AIC/oz, NPV, FCF % margin, gold and life) and consideration for capital allocation, innovation and technology, and opportunity and risk. The SP provides the framework for the subsequent business and LOM planning phases undertaken annually.
Tonnage discrepancy	Difference between the tonnage hoisted as ore and that accounted for by the plant measuring methods. Discrepancy is referred to as a shortfall when the calculated tonnage is less than the tonnage accounted for by the plant or an excess when the opposite occurs.
Tonne(s)	Metric ton (tonnes) = 1,000 kilograms.
Uraninite	A strongly radioactive, brownish-black mineral, UO ₂ , forming the chief ore of uranium (U_3O_8) and containing variable amounts of radium, lead, thorium and other elements as impurities.
Witwatersrand Basin	A sedimentary basin in South Africa that contains close to a 6,000m thick sequence of principally argillaceous and arenaceous sediments with inter-bedded conglomerates.

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FORWARD-LOOKING STATEMENTS

This Supplement to the Gold Fields IAR contains forward-looking statements within the meaning of section 27A of the U.S. Securities Act of 1933 (the Securities Act) and section 21E of the U.S. Securities Exchange Act of 1934 (the Exchange Act) with respect to Gold Fields' financial condition, results of operations, business strategies, operating efficiencies, competitive position, growth opportunities for existing services, plans and objectives of management, markets for stock and other matters. Such forward-looking statements can be identified by the use of forward-looking terminology, including the terms "believes", "estimates", "plans", "anticipates", "aims", "continues", "expects", "hopes", "may", "will", "would" or "could" or, in each case, their negative or other various or comparable terminology.

These forward-looking statements, including, among others, those relating to the future business prospects, revenues and income of Gold Fields, wherever they may occur in this Supplementary, are necessarily estimates reflecting the best judgement of the senior management of Gold Fields and involve a number of risks and uncertainties that could cause actual results to differ materially from those suggested by the forward-looking statements. As a consequence, these forward-looking statements should be considered in light of various important factors, including those set forth in this Supplementary. Gold Fields undertakes no obligation to update publicly or release any revisions to these forward-looking statements to reflect events or circumstances after the date of this report or to reflect the occurrence of unanticipated events.

Refer to the full forward-looking statements on www.goldfields.com

SUPPLEMENTARY INFORMATION

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Administration and corporate information

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Gold Fields Limited

Incorporated in the Republic of South Africa Registration number 1968/004880/06 Share code: GFI Issuer code: GOGOF ISIN: ZAE 000018123

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email: shareholderenquiries@linkgroup.co.uk

Listings

JSE/NYSE/GFI

Directors:

YGH Suleman (Chairperson), M Preece** (Interim Chief Executive Officer), PA Schmidt** (Chief Financial Officer), A Andani[#], PJ Bacchus*, MC Bitar[@], TP Goodlace, JE McGill[^], SP Reid[^], PG Sibiya

^Australian * British @ Chilean # Ghanaian ** Executive Director

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