



**GOLD FIELDS**

## MEDIA RELEASE

### South Deep Rebase Plan

**Johannesburg, 16 February 2017:** Gold Fields Limited (Gold Fields) (JSE, NYSE: GFI) is pleased to announce the results of the South Deep Rebase Plan. The mine entered a critical stage of its evolution at the beginning of 2015 when Gold Fields made the decision to take a step back and fix the base at the mine before determining the new long-term steady state profile.

As part of this process, we removed the previous production and cost targets to afford the new South Deep management team the time to get the basics right and determine the way forward. However, in the absence of long-term production targets, we stated that it was our goal to get the mine to cash breakeven by the end of 2016, a goal that we are pleased to have achieved. For FY 2016, South Deep generated net cash flow of US\$12m. Even after stripping out the benefit of the rand hedge, the mine achieved cash breakeven for the year.

In addition, we undertook to provide a new ramp-up plan for the mine, which we are pleased to announce today. The mine is expected to ramp-up to steady state production of c.500koz over the next 5 years at AIC below US\$900/oz (in 2017 money terms).

The new management team undertook a thorough diagnostic during 2015, which resulted in 68 business improvement projects being identified to create a long-life, sustainable mechanised mine. To-date, 29 projects have been completed, with 27 expected to be closed out in 2017 and the remaining 12 expected to be completed in 2018.

South Deep has faced a number of challenges over the years which can best be summarised into four broad categories: People and skills; Fleet and maintenance; Underground working conditions; and Mining method. Whilst we have made good progress on all categories over the past two years, continued improvement is required and anticipated during the ramp-up to steady state:

- **People and skills:** The first priority was to establish an experienced management team with extensive exposure to mechanised and deep level mining. This objective was successfully achieved with most of the new management team now in place for 18 months or more and with a low turnover rate. A further 168 critical skill positions requiring experienced and skilled staff were identified at the start of 2015. Most of these positions were filled by the end of 2016 with only a limited number

Gold Fields Limited  
Reg. 1968/004880/06  
150 Helen Road,  
Sandown, Sandton,  
2196

Postnet Suite 252  
Private Bag X30500  
Houghton, 2041  
South Africa

Tel +27 11 562 9700  
Fax +27 11 562 9838  
www.goldfields.com

#### Investor Enquiries

Avishkar Nagaser  
Tel +27 11 562 9775  
Mobile +27 82 312 8692  
email Avishkar.Nagaser@  
goldfields.com

Thomas Mengel  
Tel +27 11 562 9849  
Mobile +27 72 493 5170  
email Thomas.Mengel@  
goldfields.com

#### Media Enquiries

Sven Lunsche  
Tel +27 11 562 9763  
Mobile +27 83 260 9279  
email Sven.Lunsche@  
goldfields.com

of specialist skill positions yet to be filled. In addition to acquiring the necessary skills at the senior and middle management level, the development of mechanised mining skills was highlighted as a specific and critical requirement for the future success of the mine. As such, a mechanised mining skills development programme focusing on supervisors, artisans and operators was implemented and sound progress recorded.

- **Fleet and maintenance:** South Deep instituted a number of key strategies to upgrade the condition of mechanised equipment fleet and effectiveness of its maintenance practices. As part of the fleet renewal strategy, 58 category 1 units have been commissioned over the past 2 years. The total category 1 fleet currently stands at 111. An expansive and fully equipped underground workshop spanning a total footprint of 200 metres x 200 metres was commissioned on 93 level to provide the working conditions necessary for maintenance personnel to perform their tasks more effectively. Maintenance skills development programmes were introduced to upskill our engineering personnel. In addition, outsourced OEM maintenance contracts were concluded with key suppliers (Sandvik and AARD) to effect immediate improvements as our own skills improve over time.
- **Underground working conditions:** The new management team identified poor underground working conditions as a key impediment to turning South Deep into a successful mechanised mine. A number of business improvement projects were initiated to remediate this deficiency and focused on various elements of the underground infrastructure, including roadways, water management, backfill and ventilation.
- **Mining method:** As an ultra-deep bulk mine, geotechnical considerations and mine design are critical elements in the overall successful extraction of the orebody. To this end several improvements in the overall design and mining layouts have been implemented during the past two years.
  - **Regional Pillars:** The overall stiffness of the regional support design was improved by reducing the corridor span between regional pillars from 240 metres to 180 metres and by increasing the dimensions of crush pillars in the destress cuts from 10 metres x 6 metres to 8 metres x 20 metres. Regional pillar width has remained at 60 metres. The design improvements resulted in lower excavation convergence rates and an increase in overall rockmass stability.
  - **High Profile Destress:** Over the past two years South Deep converted from a low profile (2.2 metre) destress mining method to a high profile (5.5 metre) layout. This has eliminated an inefficient and cumbersome multi-step mining process, which included footwall or hangwall ripping to open excavations for longhole stopeing equipment, and enabled mechanised roofbolt installation. In a significant step for the mine, low profile was completely phased out in mid-2016. Going forward, all destress development will employ the high profile method.

### Significant improvements in 2016

The initiatives that were implemented over the past two years started to yield results during 2016, which was a milestone year for South Deep. Apart from the 47% increase in gold production to 9.0t (290koz) there was a continuous improvement in the lead indicators (which we have been providing the market with for the past two years):

- Development increased by 47% to 6,933 metres in 2016 from 4,701 metres in 2015. New mine development increased by 9% YoY to 811 metres.
- Given the change to the high profile method in the middle of 2015, destress mining was little changed YoY at 32,333 square metres (FY2015: 31,499 square metres). The high profile method

accounted for 69% of total destress mining in 2016 compared to 5% in 2015. All destress mining on the mine now uses the high profile method.

- Longhole stoping volumes increased by 74% to 745kt in FY2016 (FY2015: 429kt). There was a notable improvement in longhole stoping rig productivity during FY2016, which increased by 28% YoY to 9,805t/rig.
- Secondary support installation increased by 32% YoY in FY2016 to 8,694 metres.
- Backfill placed was 10% higher YoY at 373 cubic metres

#### Five-year outlook to steady state

It is anticipated that South Deep will reach steady state production in 2021/2022. During this six year period, tonnes mined will ramp up at a fairly consistent rate from the current 160 ktpm run rate to 230 ktpm when at steady state. A big driver of the volume growth to steady state is the increased contribution from longhole stoping.

The table below illustrates the key production, cost and capital metrics associated with the ramp-up plan. Importantly the ramp-up does not assume significant productivity improvements over five years, but those which have been achieved in 2016.

Description	Unit	2017	2018	2019	2020	2021	2022
Tonnes milled	kt	1 960	2 685	2 550	2 518	2 691	2 815
Recovered grade	g/t	5.3	5.3	5.3	5.4	5.7	5.5
Production	kg	9 800	11 136	12 224	13 698	15 385	15 454
	koz	315	358	393	440	495	497
Sustaining capex	Rm	1 004	1 135	1 370	1 237	1 289	1 066
Growth capex	Rm	287	424	582	353	274	253
AIC*	R/kg	585 129	567 910	551 004	469 273	417 647	402 273
AIC*	US\$/oz	1 277	1 239	1 194	1 014	905	872

\*In 2017 money terms

The production ramp-up over the next six years occurs in the North of Wrench mining area, which is a lower extension to the current mining operations and contains reserves of 10.7Moz. North of Wrench expands into six corridors with independent operating and ventilation systems. As such, ventilation and refrigeration are important factors to achieve the planned production build-up. Consequently, a substantial increase in refrigeration and upgrading of ventilation infrastructure and equipment is required in order to meet the ramp-up profile. Most of the additional requirements occur over the next three years.

Total growth capital of R2,280m will be spent over the next six years, peaking at R582m in 2019. The bulk of this capital is required for underground infrastructure (R1,044m) and follow-on development (R724m), with the remainder budgeted for electricity (R104m), verticle development (R88m), fleet (R66m) and drilling (R58m). Most of these items were part of original project capital that was deferred in 2013 (R1.2bn in 2009 money terms).

Importantly, most of the operating expenditure is now in the cost base, with the majority of the key skills and fleet now in place. As the mine ramps up to steady state, we expect to see operational gearing given the fixed cost nature of the mine. As a result, we expect steady state AIC below US\$900/oz.

ends

## **Enquiries**

### **Investors**

Avishkar Nagaser

Tel: +27 11 562-9775

Mobile: +27 82 312 8692

Email : [Avishkar.Nagaser@goldfields.com](mailto:Avishkar.Nagaser@goldfields.com)

Thomas Mengel

Tel: +27 11 562 9849

Mobile: +27 72 493 5170

Email: [Thomas.Mengel@goldfields.com](mailto:Thomas.Mengel@goldfields.com)

### **Media**

Sven Lunsche

Tel: +27 11 562-9763

Mobile: +27 83 260 9279

Email : [Sven.Lunsche@goldfields.com](mailto:Sven.Lunsche@goldfields.com)

### **Notes to editors**

#### **About Gold Fields**

Gold Fields Limited is an unhedged, globally diversified producer of gold with eight operating mines in Australia, Ghana, Peru and South Africa with attributable annual gold production of approximately 2.0 million ounces. It has attributable Mineral Reserves of around 46 million ounces and Mineral Resources of around 102 million ounces. Attributable copper Mineral Reserves total 532 million pounds and Mineral Resources 5,912 million pounds. Gold Fields has a primary listing on the JSE Limited, with secondary listings on the New York Stock Exchange (NYSE) and the Swiss Exchange (SWX).

**Sponsor:** J.P. Morgan Equities South Africa (Pty) Ltd