

# KIBALI GOLD MINE

## OVERVIEW

OUNCES PRODUCED

**642 720**  
oz

PROFIT FROM MINING ACTIVITY<sup>1</sup>

**358.2**  
\$Million



The Kibali gold mine is located in the northeast of the Democratic Republic of Congo (DRC), approximately 560 kilometres north east of the capital of the Orientale province, Kisangani, 150 kilometres west of the Ugandan border town of Arua and 1 800 kilometres from the Kenyan port of Mombasa. The Kibali gold mine is owned by Kibali Goldmines SA (Kibali) which is a joint venture company between Randgold (45%), AngloGold Ashanti (45%) and Société Minière de Kilo-Moto SA (SOKIMO) (10%). The mine was developed and is operated by Randgold.



## TOTAL CASH COSTS<sup>1</sup>

**604**  
\$/oz

## TOTAL RESERVES

**11**  
Moz

### KIBALI KEY RESULTS

12 months ended 31 December	2015	2014
<b>Mining</b>		
Tonnes mined (000)	31 170	30 470
Ore tonnes mined (000)	6 862	5 632
<b>Milling</b>		
Tonnes processed (000)	6 833	5 568
Head grade milled (g/t)	3.5	3.7
Recovery (%)	83.8	79.3
Ounces produced	642 720	526 627
Ounces sold	643 976	516 902
Average price received (\$/oz)	1 160	1 258
Cash operating costs <sup>1</sup> (\$/oz)	557	528
Total cash costs <sup>1</sup> (\$/oz)	604	573
Profit from mining activity <sup>1</sup> (\$000)	358 184	354 220
<b>ATTRIBUTABLE (45%)</b>		
Gold sales <sup>1</sup> (\$000)	336 272	292 627
Ounces produced	289 224	236 982
Ounces sold	289 789	232 606
Gold on hand at period end <sup>2</sup> (\$000)	4 006	5 248
Profit from mining activity <sup>1</sup> (\$000)	161 183	159 399

Randgold owns 45% of Kibali with the DRC State and joint venture partner owning 10% and 45% respectively. The group equity accounts for its 45% joint venture holding in Kibali.

<sup>1</sup> Refer to explanation of non-GAAP measures provided on page F-34 of this annual report.

<sup>2</sup> Gold on hand represents gold in doré at the mine multiplied by the prevailing spot gold price at the end of the period.

### ACHIEVED IN 2015

- Produced 642 720oz, 7% above target, at a total cash cost of \$604/oz
- Maintained underground decline development on schedule
- Completed shaft sinking ahead of schedule and started with equipping
- Commenced mining from the Mengu Hill open pit
- Commenced preparation for mining of Pakaka open pit
- Underground ore production ramped up on schedule to 100 000t/month by year end
- Backfill plant commissioned on schedule and operating above design specification
- Continued improvement in mill throughput reaching design specification
- Malaria incident rate reduced by 46% year on year
- Recommended for ISO 14001 environmental management system certification
- \$2 million direct contribution to community development with \$1 million on local economic development projects
- More than \$1 billion spent with Congolese suppliers and contractors project to date

### TARGETED FOR 2016

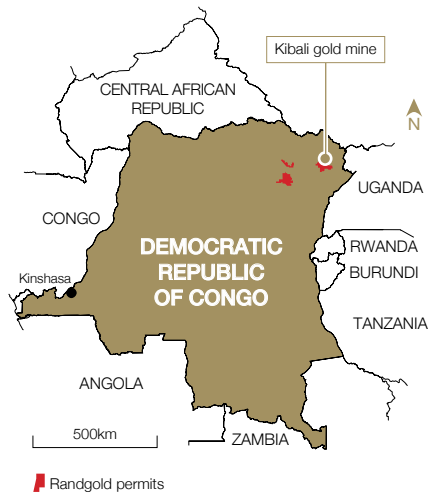
- Produce 610 000oz of gold
- Maintain decline development schedule on target
- Maintain shaft equipping and off shaft development on schedule
- Continue to ramp up underground ore production
- Commence mining at Pakaka open pit
- Commission Ambarau hydropower station
- Advance construction of Azambi hydropower station
- Obtain ISO 45001 health and safety certification
- Maintain ISO14001 certification
- Reduce LTIFR
- Commence macro agribusiness project



KIBALI GOLD PLANT



KIBALI UNDERGROUND DEVELOPMENT



MINERAL RESOURCES AND ORE RESERVES

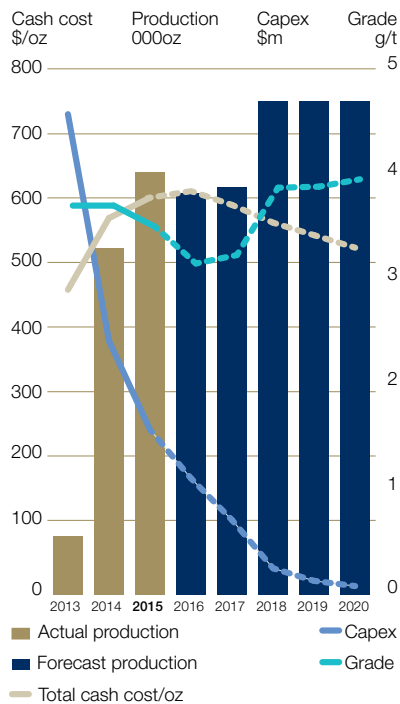
The KCD, Mengu Hill, Gorumbwa, Megi and Pakaka resource models were updated during the year following additional data, principally from grade control drilling. Total mineral resources decreased this year due to mining depletion and model changes from the additional drilling which identified a thinning and splitting of the 5103 and 5110 lodes. Mineral resource gains were identified at KCD, Gorumbwa and Pakaka.

Depletion of ore reserves was partially offset by small gains at Gorumbwa, Pakaka and the KCD underground. Drilling continues to focus on grade control drilling of the deposits in the immediate mine plan of KCD underground, Pakaka and Mengu Hill.

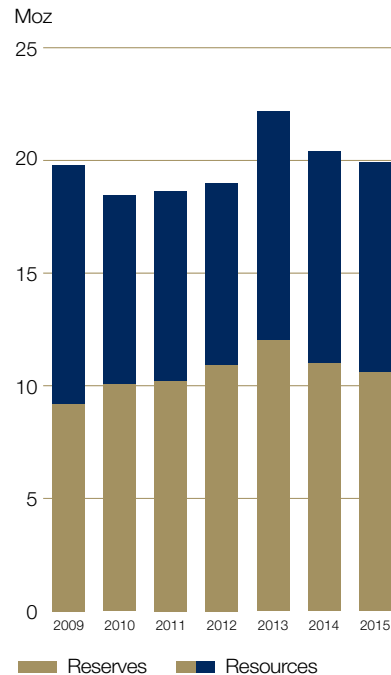


KIBALI OPEN PIT MINING

## KIBALI PRODUCTION AND FIVE YEAR FORECAST



## KIBALI TOTAL MINERAL RESOURCES AND ORE RESERVES<sup>1</sup>



<sup>1</sup> Refer to the notes to the annual resources and reserves declaration on page 95 of this annual report.

## KIBALI MINERAL RESOURCES AND ORE RESERVES

at 31 December		Category	Tonnes (Mt)		Grade (g/t)		Gold (Moz)		Attributable gold <sup>3</sup> (Moz)	
			2015	2014	2015	2014	2015	2014	2015	2014
<b>MINERAL RESOURCES<sup>1</sup></b>										
■	Stockpiles	Measured	3.8	3.8	1.7	1.4	0.2	0.2	0.1	0.1
■	Open pits	Measured	6.5	4.4	2.4	2.4	0.5	0.3	0.2	0.1
		Indicated	56	63	2.1	2.1	3.8	4.3	1.7	1.9
		Inferred	18	21	1.8	1.8	1.0	1.2	0.5	0.6
■	Underground	Indicated	68	68	5.2	5.4	11	12	5.1	5.2
		Inferred	29	32	3.0	3.1	2.8	3.2	1.3	1.4
<b>TOTAL MINERAL RESOURCES</b>		Measured and indicated	134	139	3.7	3.7	16	16	7.2	7.4
		Inferred	47	53	2.5	2.6	3.9	4.4	1.7	2.0
<b>ORE RESERVES<sup>2</sup></b>										
■	Stockpiles	Proved	3.8	3.8	1.7	1.4	0.2	0.2	0.1	0.08
■	Open pits	Proved	0.2	1.6	3.7	2.6	0.03	0.1	0.01	0.06
		Probable	30	33	2.2	2.4	2.2	2.5	1.0	1.1
■	Underground	Probable	45	44	5.6	5.7	8.2	8.2	3.7	3.7
<b>TOTAL ORE RESERVES</b>		Proved and probable	80	83	4.1	4.1	11	11	4.8	4.9

<sup>1</sup> Open pit mineral resources are the insitu mineral resources falling within the \$1 500/oz pit shell reported at a cut-off of 0.5g/t. Underground mineral resources are those insitu mineral resources at the KCD deposit that fall below the 5 685 metre RL elevation, reported at a cut-off of 1.5g/t. Mineral resources were generated by Mr Ernest Doh an officer of the company and competent person and Mr Mamadou Ly an officer of the company; under the supervision of Mr Jonathan Kleynhans an officer of the company and competent persons.

<sup>2</sup> Open pit ore reserves are reported at a gold price of \$1 000/oz and an average cut-off of 0.88g/t and include dilution and ore loss factors. Open pit ore reserves were calculated by Mr Nicholas Coomson, an officer of the company and a competent person. Underground ore reserves are reported at a gold price of \$1 000/oz and a cut-off of 2.5g/t and include dilution and ore loss factors. Underground ore reserves were calculated by Mr Tim Peters, an external consultant and a competent person.

<sup>3</sup> Attributable gold (Moz) refers to the quantity attributable to Randgold based on its 45% interest in the Kibali gold mine. Mineral resource and ore reserves are quoted as per JORC 2012 guidelines and thus reported to the second significant digit. Refer to the notes to the annual resources and reserves declaration on page 95 of this annual report.

## OPERATIONS

The Kibali mine is being developed in two phases. Phase 1, which includes the KCD open pit operation and processing plant, the mine infrastructure (including a 36 unit high speed thermal power station) and the first of three hydropower stations, was completed in December 2014. Phase 2 comprises the underground mine development, including the vertical shaft which is scheduled for commissioning in 2017, and two additional hydropower stations which are planned for commissioning in 2016 and 2018, along with further satellite pits. The mine is expected to produce an average of 600koz of gold per annum over the first 12 years of its life, which currently extends to 2031.

Open pit mining started in July 2012 and commissioning of the oxide circuit began in Q3 2013. Kibali poured its first gold in September 2013, ahead of plan, and started commercial production in Q4 2013. Commissioning of the sulphide circuit started at the end of Q1 2014 and production has steadily ramped up since then, with the mine now processing around 600 000t/month.

In 2015, Kibali produced 642 720oz of gold at a total cash cost of \$604/oz. Gold sales amounted to \$742.3 million (100% basis) resulting in a profit from mining activity (before interest, tax and depreciation) of \$358.2 million.

The capital estimate for the project (phase 1 and 2) remains in line with previous estimates at \$1.83 billion, excluding mining reproduction expenses.

In 2015, capital expenditure totalled \$251.2 million, which related principally to the Ambarau hydropower station, underground decline and shaft development, CTSF Phase 2, backfill plant and other surface infrastructure.

During the year, Kibali repaid a portion of its shareholder loans made available to it by the Kibali Joint Venture (KJV, the effective owner of the 90% interest in Kibali) to fund the development of the mine which allowed the KJV to pay \$70 million in dividends to its shareholders (Randgold and AngloGold Ashanti).

## MINING AND PRODUCTION

### Open pit mining

A total volume of 12.4 million BCMs was mined from the open pits, exceeding the plan, and ore tonnes mined of 6.1Mt were in line with plan.

Mining of the first open pit satellite deposit, Mofu, was completed during the year and mining started at the second, Mengu Hill. The KCD main pit and the push back 2 north were mined out during the year, with the push back 2 south scheduled for completion in Q1 2016. Push back 3 (Durba Hill) is planned for later in the mine life during 2025. Bush clearing and dewatering has started in preparation for mining of the Pakaka pit which is scheduled to begin in Q1 2016.

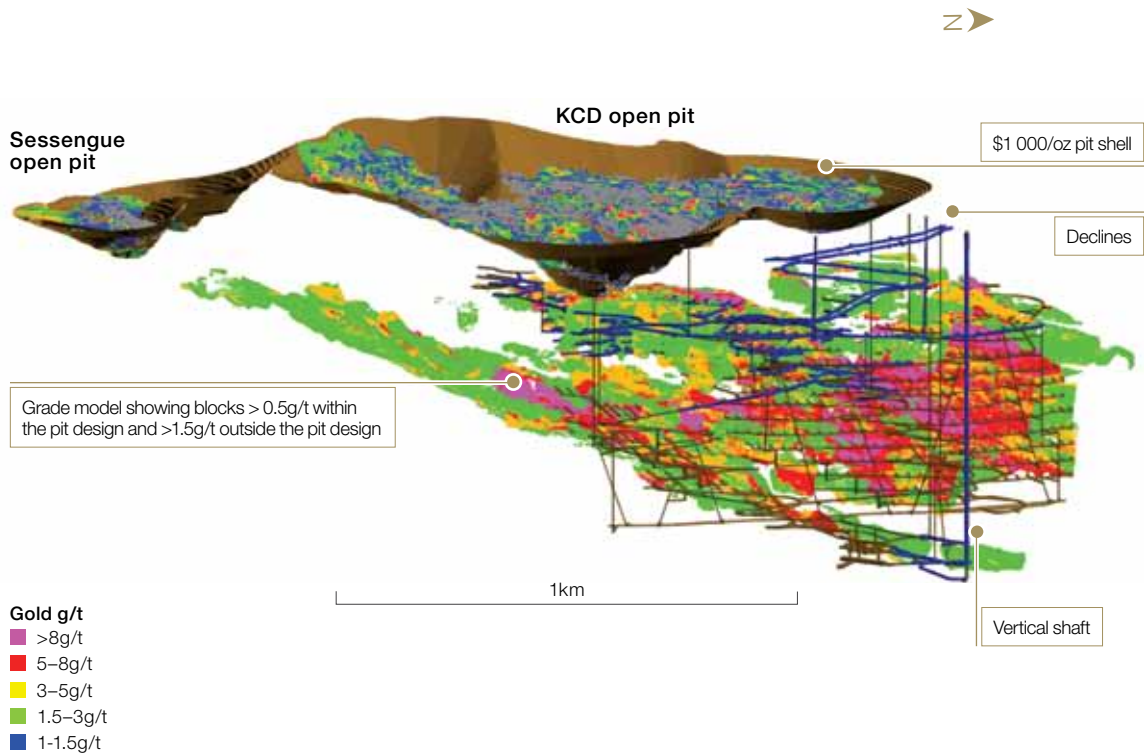
### Underground mining

During 2015, 804kt of ore was mined from underground of which stoping contributed 72%

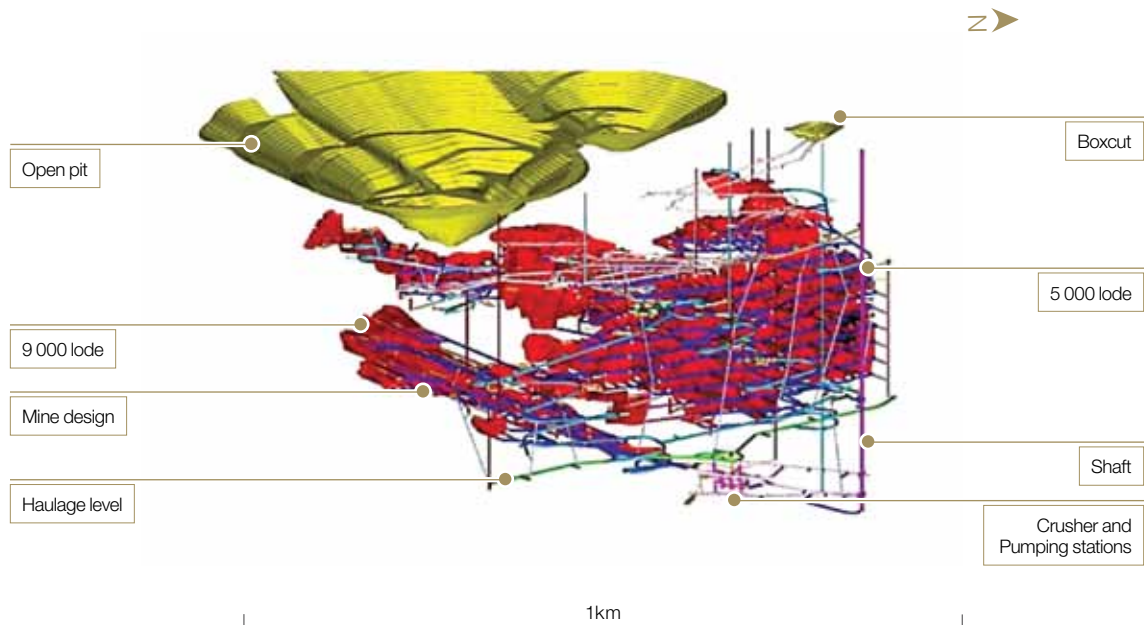


TRUCK  
UNLOADS ORE  
INTO CRUSHER  
AT KIBALI

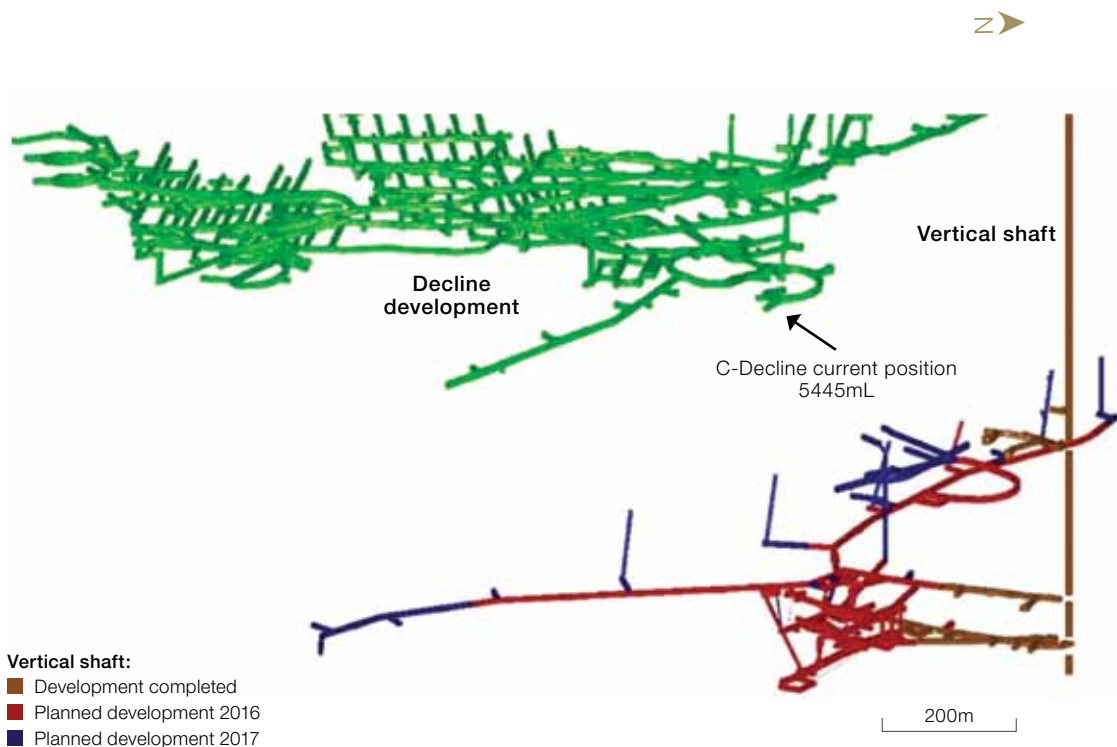
KIBALI – KCD OREBODY WITH UNDERGROUND DESIGN



A FULLY INTEGRATED MINE DESIGN



KIBALI SHAFT DEVELOPMENT PROGRESS



With the 'owner's team' in charge, Kibali achieved a sinking rate for the vertical shaft 50% higher than the industry norm, reaching the bottom at 751 metres three months ahead of schedule.

with the remaining coming from development ore. As forecast, production increased through the year, culminating in 296kt in Q4.

Stoping is expected to continue to ramp up during 2016, with underground production scheduled to produce 1.3Mt of ore for the year.

PROCESSING, PLANT AND ENGINEERING

Processing

The processing plant continued to make steady progress, with 6 833kt treated during 2015, 23% up on the prior year. The feed comprised both oxide and sulphide material at an average grade of 3.5g/t. The average recovery for the year was 83.8%, an improvement from the 79.3% average in 2014. Optimisation of the processing facility is expected to increase this to around 85% during 2016.

Plant enhancements in 2015 included the construction and commissioning of an additional kiln, providing greater carbon regeneration capacity and facilitating improved carbon management, as well as a de-sliming cyclone circuit, planned to relieve the pressure on ultra-fine grind throughput and allow for an increase in sulphide concentrate handling. The second phase of the lined tailings facility (CTSF) was also completed, providing additional storage capacity for CIL tailings.

### Engineering and power supply

With a continued focus on planned maintenance, plant availability again increased throughout the year, reaching 94% in December.

At the end of 2014, the Nzoro hydropower station was supplying 16.8MW of power with a 55/45% split between hydropower and thermal power. Further optimisation of the hydropower and synchronisation of power produced from Nzoro II with the diesel power plant via a power management system (PMS), resulted in Nzoro II running at its full 22MW capacity and a 70/30% split between hydropower and thermal power by the fourth quarter. This is the maximum hydropower proportion anticipated with the current capacity but with the completion of Ambarau expected in Q2 2016 and Azambi in mid-2018, the hydropower share of the blend should continue to increase.

The commissioning of Nzoro II reduced the cost of power from \$0.46/kWh to \$0.21/kWh. With the increase in the contribution of hydropower in 2015, assisted by lower diesel prices, power cost dropped to \$0.12/kWh by December, with an average cost for the year of \$0.15kWh.

### CONSTRUCTION AND UNDERGROUND MINE DEVELOPMENT

The backfill plant was completed and commissioned during the year in line with plan and is operating above design capacity (190m<sup>3</sup>/h). Six stopes have been backfilled and the first secondary stope blasted without any delay in the schedule.

Construction of Ambarau, the second 11MW hydropower station was negatively impacted when the earth coffer dam wall failed during high river flows in November 2015. This resulted in the power house flooding as well as damage to the carpi membrane on the wall. The additional repair and rehabilitation work has delayed the completion and commissioning of the station, with first power now expected in Q2 2016. As the previously planned commissioning was scheduled for the start of the dry season, the potential power available until March/April would have been significantly lower and thus the impact of the delay on the hydro/thermal blend is not significant and, as mentioned above, has been offset to an extent by the lower fuel price.

### DECLINE DEVELOPMENT

The mining team consistently achieved decline and underground development targets during 2015 and at a better advance rate than planned in the feasibility. An average of 300m/month per jumbo was reached in development with the decline contractor continuing at the 900m/month reached towards the end of the previous year.

To date, a total of 22.7km has been developed including 10.6km in 2015.

### VERTICAL SHAFT SYSTEM

Led by Randgold's team, the main contractor completed the shaft sinking in the second quarter of the year, ahead of schedule, reaching the shaft bottom of 751m in July 2015. Lateral development for the production and crusher levels also progressed ahead of target. Equipping of the shaft and headgear change-over also progressed ahead of the programme, with the planned re-opening of the shaft to continue off-shaft development scheduled for Q1 2016.

### KIBALI VERTICAL SHAFT RESULTS

12 months ended 31 December	2015	2014
Vertical metres	45	525
Off shaft development	735	531

### KIBALI UNDERGROUND DECLINE RESULTS

12 months ended 31 December	2015	2014
Ore tonnes mined	803 879	90 839
Development metres	10 599	8 142

### EXPLORATION

Exploration focused on confirming controls on mineralisation to update geological models and defining potential exploration upside. Phased drilling to validate models and test upside is planned for 2016. Extensive data compilation and relogging programmes at KCD and satellite deposits formed the base for superpit conceptual models and optimisation studies which are expected to be concluded early 2016.

Activities on seven priority targets developed from the analysis of mineralisation and distribution of existing work along the KZ trend elevated the prospectivity of two targets.

Trench results at Tete Bakangwe identified three NE plunging mineralised lenses in BIF and metaconglomerate with down dip potential. Results include 13m @ 15.06g/t.

At Sessenge, SW trenches highlighted four higher grade NE plunging mineralised lenses in BIF and metaconglomerate with down dip potential. Results include 28m @ 3.18g/t (9008 lode) and 40.5m @ 3.76g/t (9003 lode).

A detailed summary of the exploration work completed during 2015 can be found in the exploration section of this annual report.

### HEALTH AND SAFETY

Kibali had 5 LTIs during the year, as in 2014. However, due to the lower workforce numbers as the capital teams demobilised, the LTIFR deteriorated slightly from 0.51 in 2014 to 0.56 in 2015. The TIFR decreased from 10.60 in 2014 to 6.11 per million hours worked in 2015. There were no fatalities at Kibali during the year.

A concerted effort was made during the year to address the high levels of malaria, with a commendable 46% reduction in the malaria incidence rate.

576 VCT cases were conducted during the year, with a HIV positivity rate of 7.29% compared to 11.26 % the previous year.

### ENVIRONMENT

Environmental awareness and control improved at Kibali during the year as the mine settled into stable operations, resulting in no major environmental incidents being recorded. An increased focus on water management improved processing water recycling and the water quality guidelines were not exceeded at any time during the year.



The biodiversity action plan was enhanced in 2015 with extensive surveys of the aquatic habitats to identify biodiversity hotspots and develop an appropriate management measure for these sites. Camera trapping has also been implemented to monitor movement of the larger animal species occurring within the fence. Kibali again contributed over \$250 000 to the African Parks Network as part of the continued biodiversity offset strategy and agreement to help combat poaching in the Garamba National Park. This included the funding for collaring of the threatened Kordofan sub-species of giraffe found in the park as well as financial support for pilots to enable aerial counts and patrols.

Kibali was recommended for ISO 14001 certification during the year under review.

Further details are provided in the sustainability section of this annual report.

## HUMAN RESOURCES AND INDUSTRIAL RELATIONS

Although the majority of construction labourers were demobilised during 2014, there was further downsizing of the workforce in 2015 with the number of employees, including contractors, totalling 4 161 by year end. The employee ratios are in line with Randgold's policy of recruitment prioritisation, sourcing primarily from local villages, then regional, followed by national and lastly looking for candidates outside the country. 87% of Kibali employees are Congolese nationals and the intention is to continue localising the work force during 2016.

Key appointments to the underground mining team were made during 2015 in line with the increase in underground production.

Constructive labour relations were maintained directly with employees and with the union, without any industrial action taking place during the year. Agreement was reached on the excellence bonus and employee mine closure fund during the year.

## COMMUNITY

In 2015, there was an improvement in the mine and community relationship on the back of more structured, inclusive and informed engagements. The year ended with all grievances resolved except for a few related to field compensation following the change in the plan to mine a satellite pit. These have subsequently been estimated and agreed with the community.

A small relocation action programme, comprising 10 households and limited agricultural fields, was undertaken for the Ambarau hydro project. This was completed during 2015 without issue.

Kibali's contribution to Congolese suppliers and contractors has exceeded \$1 billion for the project to date, with more than 80% of this going to provincial vendors (Province Orientale, which includes the new Haut Uélé province).

Kibali's direct community development support during 2015 was in excess of \$2 million. With the focus now moving to sustainable projects, \$1 million of this was allocated to local economic development (LED). This included the establishment of a soap factory in Durba, funding of a mini supermarket, the first local TV station, the establishment of Kokiza women micro-finance and agri-business micro-finance fund as well as agricultural projects. In addition, the mine funded the development of a community centre, including sports facilities and an information service.

There is still a focus on establishing large scale agriculture in the region, with an 82ha maize crop cultivated during 2015 to trial different varieties and test market opportunities. The results of the trial will be used to develop a prospectus for the commercial maize project planned in 2016. For the palm oil project, the bankable feasibility study was completed and the Bilanga Palm Oil Company was incorporated and registered. The project is now awaiting final government approval of the investment framework. Following this approval it is intended to secure the initial investments and, on closure, include Congolese interests and commence with planting as well as developing the processing plants and refinery.



The new Roman Catholic church built in the model village of Kokiza.



KIBALI CLINIC

EMPOWERING  
SELF-  
SUFFICIENCY  
IN THE  
COMMUNITY



STIMULATING  
THE LOCAL  
ECONOMY



KIBALI MANPOWER

at 31 December	2015			2014		
	Expats	Nationals	Total	Expats	Nationals	Total
Employees	96	609	705	95	606	701
Contractors	448	3 008	3 456	651	3 392	4 043
<b>TOTAL</b>	<b>544</b>	<b>3 617</b>	<b>4 161</b>	<b>746</b>	<b>3 998</b>	<b>4 744</b>

KIBALI SAFETY (LTIFR)

