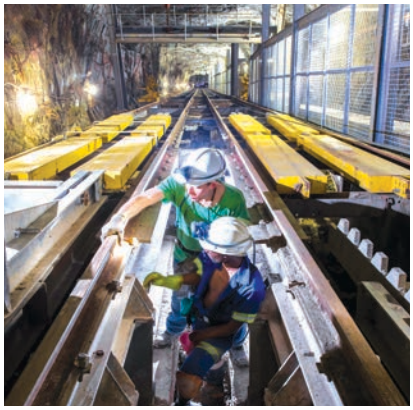
HARMONY™

MINERAL **RESOURCES** AND MINERAL **RESERVES 2015**



Harmony, a gold mining and exploration company with more than six decades of experience, has operations in South Africa – one of the world's best known gold mining regions – and in Papua New Guinea – one of the world's premier new gold regions. In FY15, Harmony was the third largest gold producer in South Africa and the twelfth largest in the world. At Harmony, we understand the impact that our company has on the lives of the people we employ, the communities that surround our mines and the environment, as well as the economic contribution that we make to the countries in which we operate.

OUR 2015 REPORTS

Our suite of reports for the financial year 2015 (FY15) records our activities and the progress we have made for the year running from 1 July 2014 to 30 June 2015. This suite of reports includes:

- Integrated Annual Report 2015, our primary report
- Financial Report 2015
- Mineral Resources and Mineral Reserves 2015
- Report to Shareholders 2015

These reports are available as pdfs at **www.har.co.za**, our reporting website and may also be accessed via our corporate website, **www.harmony.co.za**, where you will also be able to access more detailed information on the environmental, socio-economic and governance aspects of our business.

The QR code link will take you to information suitable to view on your mobile device. Download an application for your phone, take a picture of the code and the relevant page will open in your browser window.

REFERENCE

A full glossary of terms and acronyms is available on page 80.

Throughout this report, "$" or "dollar" refers to US dollar, unless otherwise stated.

"K" refers to kina, the currency of Papua New Guinea.

"Moz" refers to million ounces.

All production volumes are in metric tonnes (t) unless specifically stated as imperial tons.

HARMONY™

www.harmony.co.za

OUR VALUES

Our values are at the core of all we do – they underpin all our actions and are built into the design of our business.

WE MEASURE OURSELVES AGAINST THESE IN EVERYTHING WE DO AND ASK FOR.

SAFETY

No matter the circumstances, safety is our main priority

ACCOUNTABLE

We are all accountable for delivering on our commitments

ACHIEVEMENT

Achievement is core to our success

CONNECTED

We are all connected as one team

HONESTY

We uphold honesty in all our business dealings and communicate openly with stakeholders

KEY HIGHLIGHTS

REVENUE
R15.4bn
(FY14: R15.7bn)

SAFETY IMPROVED
FIFR: 0.11
(FY14: 0.26 per million hours worked)

SOLID BALANCE SHEET
FUNDING OUR OWN CAPITAL

MAJOR COPPER-GOLD PROJECT: GOLPU
IN FEASIBILITY STAGE

ACCOMMODATION
EACH EMPLOYEE IN HOSTEL HAS OWN ROOM

CONTENTS

INTRODUCTION

COMPLIANCE AND SUMMARY

As at 30 June 2015

Harmony's statement of mineral resources and mineral reserves as at 30 June 2015 is produced in accordance with the South African Code for the Reporting of Mineral Resources and Mineral Reserves (SAMREC) and the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC).

It should be noted that the mineral resources are reported inclusive of the mineral reserves.

Harmony uses certain terms in the summary such as 'measured', 'indicated' and 'inferred' resources, which the United States' Securities and Exchange Commission guidelines strictly prohibit US-registered companies from including in their filings with the United States' Securities and Exchange Commission. United States investors are urged to consider the disclosure in this regard in our Form 20-F which is available on our website at www.harmony.co.za/investors/reporting/20f.

HARMONY – TOTAL

The company's attributable gold equivalent mineral resources are declared as 110.3Moz as at 30 June 2015, an 18% decrease year on year from the 133.8Moz declared on 30 June 2014. The total gold contained in the mineral resources at the South African operations represented 63.5% of the company total, with the PNG operations representing 36.5% of Harmony's total gold and gold equivalent mineral resources as at 30 June 2015.

As at 30 June 2015, Harmony's attributable gold and gold equivalent mineral reserves amounted to 42.6Moz of gold, a 14% decrease from the 49.5Moz declared at 30 June 2014. The gold reserve ounces in South Africa represent 51.9% while the PNG gold and gold equivalent ounces represent 48.1% of Harmony's total mineral reserves as at 30 June 2015.

SOUTH AFRICAN UNDERGROUND OPERATIONS

The company's mineral resources at the South African underground operations as at 30 June 2015 are 60.6Moz (217.2Mt at 8.68g/t). A decrease of 27% year on year from the 83.3Moz declared as at 30 June 2014. This decrease is due to depletion by mining during the year, the exclusion of Freddies No 9 shaft and downscaling at Masimong.

The company's mineral reserves at the South African underground operations as at 30 June 2015 are 15.0Moz (80.3Mt at 5.82g/t), a decrease of 25% year on year from the 19.9Moz declared as at 30 June 2014. The decrease is due to depletion by mining during the year, placing of Target No 3 on care and maintenance and changes to the life-of-mine profile at various operations.

SOUTH AFRICAN SURFACE OPERATIONS INCLUDING KALGOLD

The company's mineral resources at the South African surface operations as at 30 June 2015 are 9.5Moz (1 082.3Mt at 0.27g/t). A decrease of 1% year on year from the 9.6Moz declared as at 30 June 2014. This decrease is due to depletion by mining and exclusion of surface sources at Joel.

The company's mineral reserves at the South African surface operations as at 30 June 2015 are 7.1Moz (835.9Mt at 0.26g/t), a decrease of 12% year on year from the 8.0Moz declared at 30 June 2014. The decrease is due to depletion by mining and exclusion of surface sources at Joel.

ASSUMPTIONS

In converting the mineral resources to mineral reserves, the following commodity prices and exchange rates were applied:

- A gold price of US$1 230/oz
- An exchange rate of R/US$11.38
- The above parameters resulted in a rand gold price of R450 000/kg for the South African assets
- The Hidden Valley mine and Golpu project in the Morobe Mining Joint Venture used commodity prices of US$1 250/oz Au, US$20/oz Ag, US$10/lb Mo and US$3.10/lb Cu at an exchange rate of US$0.85 per A$
- Gold equivalent ounces are calculated assuming US$1 400/oz Au, US$3.10/lb Cu and US$23.00/oz Ag, and assuming a 100% recovery for all metals. These are the same assumptions as those used in the 2012 prefeasibility study for the calculation of gold equivalent ounces

COMPLIANCE AND SUMMARY continued

PAPUA NEW GUINEA (PNG) OPERATIONS

The company's mineral resources at the PNG operations as at 30 June 2015 are 40.2Moz, a decrease of 2% year on year from the 40.9Moz declared as at 30 June 2014. This decrease is due to depletion by mining during the year, and changes to the open pit spatial constraint at Hidden Valley.

The company's mineral reserves at the PNG operations as at 30 June 2015 are 20.5Moz, a decrease of 5% year on year from the 21.5Moz declared as at 30 June 2014. The decrease is due to depletion by mining during the year, and changes to the life of mine profile at the Hidden Valley operation. The reserves that we declared for Golpu are based on the prefeasibility study completed in 2012. During December 2014 Harmony released an updated prefeasibility study with respect to the Golpu project. Please refer to our website (www.harmony.co.za/our-business/exploration/golpuupdated-pre-feasibility-results) for details. There will be an update to the reserves of Golpu once the feasibility study for stage 1 and the prefeasibility study for stage 2 have been completed. The studies are expected to be completed by December 2015.

AUDITING

Harmony's South African mineral resources and mineral reserves have been comprehensively audited by a team of internal competent persons that functions independently of the operating units. The internal audit team verifies compliance with the Harmony code of resource blocking, valuation, resource classification, cut-off calculations, development of life-of-mine plans and SAMREC compliant statements from each operation and project which supports Harmony's annual mineral resources and mineral reserves declaration.

This audit process is specifically designed to comply with the requirements of internationally recognised procedures and standards such as:

- The South African Code for Reporting Mineral Resources and Mineral Reserves – SAMREC
- Industry Guide 7 of the United States' SEC
- Sarbanes-Oxley requirements
- The Australian Code for Reporting of Exploration Results, Mineral Resources and Mineral Reserves – JORC – which complies with SAMREC

Harmony's South African mineral resources and reserves were reviewed by SRK Consulting Engineers and Scientists for compliance with SAMREC. The mineral resources and reserves of the Papua New Guinea assets were reviewed by AMC Consultants Pty Ltd for compliance with the standards set out in JORC.

COMPETENT PERSON'S DECLARATION

In South Africa, Harmony employs an ore reserve manager at each of its operations who takes responsibility for the compilation and reporting of mineral resources and mineral reserves at their operations. In Papua New Guinea, competent persons are appointed for the mineral resources and mineral reserves for specific projects and operations.

The mineral resources and mineral reserves in this report are based on information compiled by the following competent persons:

Resources and reserves of South Africa:

Jaco Boshoff, BSc (Hons), MSc, MBA, Pr. Sci. Nat, MSAIMM, MGSSA, who has 20 years' relevant experience and is registered with the South African Council for Natural Scientific Professions (SACNASP) and a member of the South African Institute of Mining and Metallurgy (SAIMM).

Mr Boshoff is Harmony's Lead Competent Person.

Jaco Boshoff
23 October 2015

Physical address:
Randfontein Office park
Corner of Main Reef Road and Ward Avenue
Randfontein
South Africa

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Randfontein
1760
South Africa

Resources and reserves of Papua New Guinea:

Gregory Job, BSc, MSc, who has 27 years' relevant experience and is a member of the Australian Institute of Mining and Metallurgy (AusIMM).

Greg Job
23 October 2015

Physical address:
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189 Coronation Drive
Milton, Queensland 4064
Australia

Postal address:
PO Box 1562
Milton, Queensland
4064
Australia

Both these competent persons, who are full-time employees of Harmony Gold Mining Company Limited, consent to the inclusion in the report of the matters based on the information in the form and context in which it appears.

Administrative information for professional organisations

AusIMM – The Australasian Institute of Mining and Metallurgy
PO Box 660, Carlton South, Vic 3053, Australia
Telephone: +61 3 9658 6100; Facsimile: +61 3 9662 3662
http://www.ausimm.com.au/

SACNASP – The legislated regulatory body for natural science practitioners in South Africa
Private Bag X540, Silverton, 0127, Gauteng Province, South Africa
Telephone: +27 (12) 841-1075; Facsimile: +27 (86) 206 0427
http://www.sacnasp.org.za/

SAIMM – The Southern African Institute of Mining and Metallurgy
P.O. Box 61127, Marshalltown, 2107, Gauteng Province, South Africa
Telephone: +27 (011) 834-1273/7; Facsimile: +27 (011) 838-5923/8156
http://www.saimm.co.za/

ENVIRONMENTAL MANAGEMENT AND FUNDING

Harmony's environmental strategy aims to optimise our environmental performance by managing our environmental impacts, focusing on effective risk controls, reducing environmental liabilities, ensuring responsible stewardship of our products within our scope of influence, complying with environmental legislation and regulations. For further information regarding Harmony's approach to sustainability and environmental performance refer to the Integrated Annual Report 2015, which is available at https://www.harmony.co.za/investors/reporting/annual-reports.

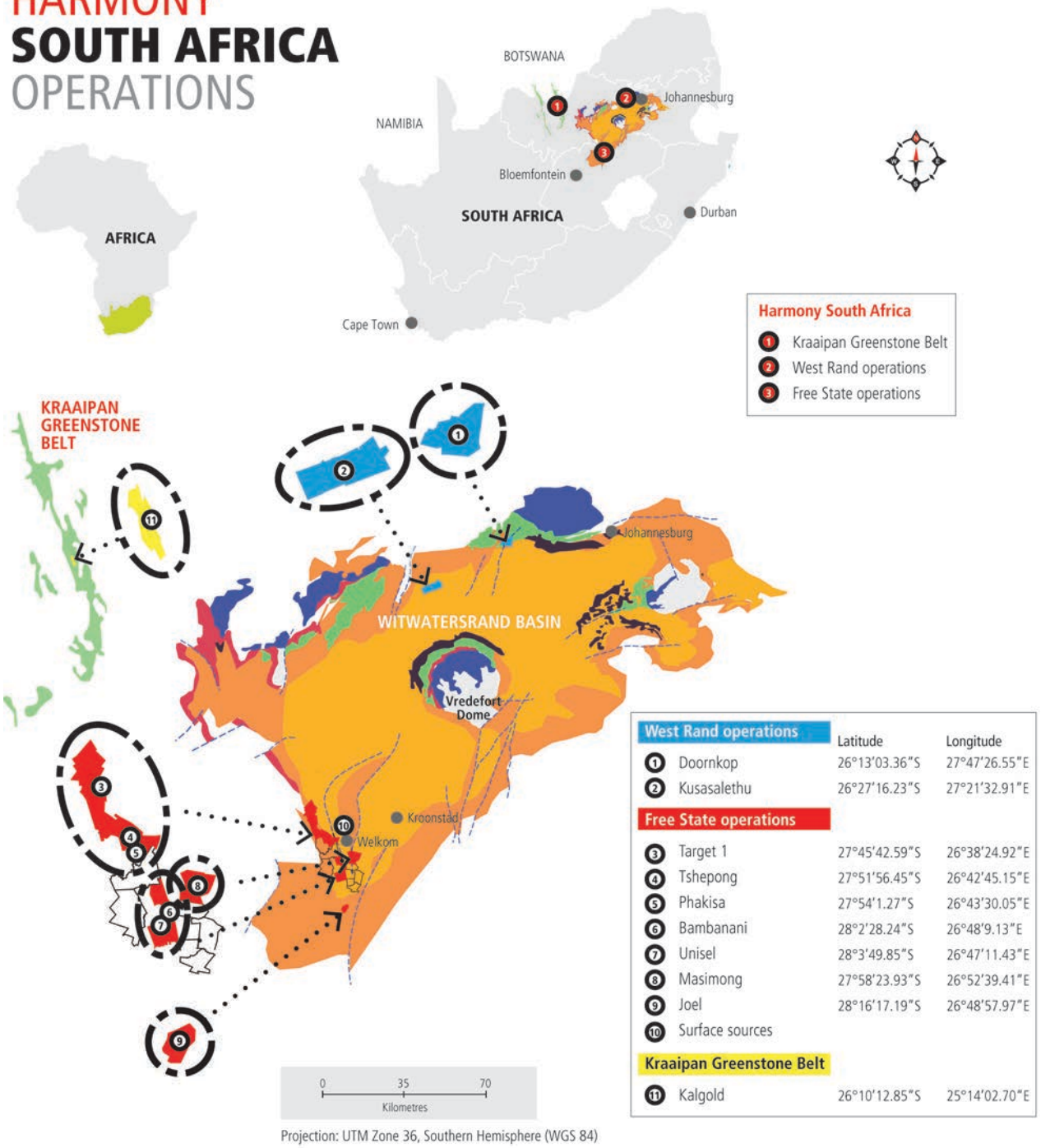
Details relating to the provision for environmental rehabilitation and funding can be found in note 24 in Harmony's audited annual financial statements which are available in a separate report, the Financial Report 2015, which is also available online at www.har.co.za/14/HAR-FR15.pdf.

LEGAL ENTITLEMENT TO MINERALS REPORTED

The Harmony South Africa operations operate under new order mining rights in terms of the Minerals and Petroleum Resources Development of Act (MPRDA) of 2002 (Act No. 28, of 2002). In Papua New Guinea, Harmony operates under the Independent State of Papua New Guinea Mining Act 1992. All required operating permits have been obtained, and are in good standing. The legal tenure of each operation and project has been verified to the satisfaction of the accountable competent person.

LOCATION OF OPERATIONS

HARMONY SOUTH AFRICA OPERATIONS



Harmony South Africa

1. Kraaipan Greenstone Belt
2. West Rand operations
3. Free State operations

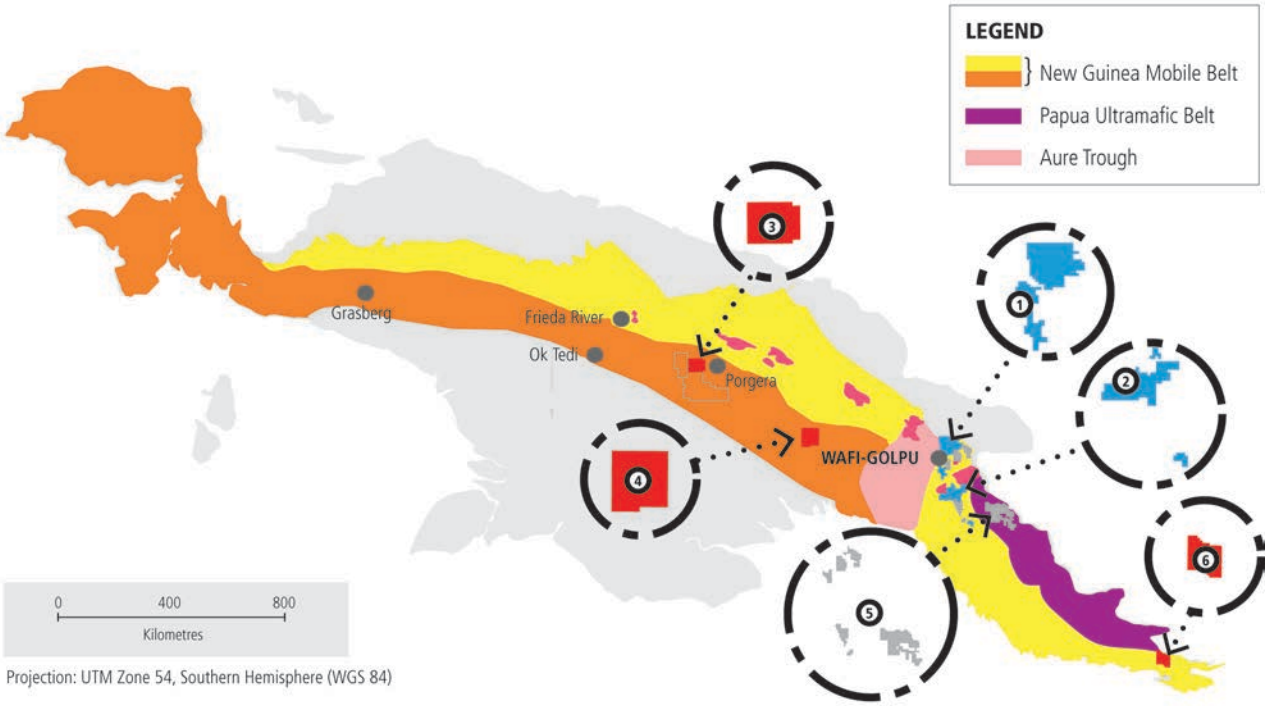
		Latitude	Longitude
West Rand operations			
1	Doornkop	26°13'03.36"S	27°47'26.55"E
2	Kusasalethu	26°27'16.23"S	27°21'32.91"E
Free State operations			
3	Target 1	27°45'42.59"S	26°38'24.92"E
4	Tshepong	27°51'56.45"S	26°42'45.15"E
5	Phakisa	27°54'1.27"S	26°43'30.05"E
6	Bambanani	28°2'28.24"S	26°48'9.13"E
7	Unisel	28°3'49.85"S	26°47'11.43"E
8	Masimong	27°58'23.93"S	26°52'39.41"E
9	Joel	28°16'17.19"S	26°48'57.97"E
10	Surface sources		
Kraaipan Greenstone Belt			
11	Kalgold	26°10'12.85"S	25°14'02.70"E

Projection: UTM Zone 36, Southern Hemisphere (WGS 84)

HARMONY
PAPUA NEW GUINEA
OPERATIONS

MMJV		Latitude	Longitude
1	Wafi	146°27'09.57"	6°51'49.68"
	Golpu	146°27'59.43"	6°51'35.23"
2	Hidden Valley	146°40'0.09"	7°27'55.00"

Harmony exploration projects				Relinquished tenure	
3	Kili Teki	142° 42' 08"E	5° 23' 12"S	5	MMJV
4	Poru	144° 17' 00"E	6° 22' 00"S	6	HGEL



Projection: UTM Zone 54, Southern Hemisphere (WGS 84)

EXPLORATION AND PROJECTS

Harmony has advanced a number of gold and copper-gold prospects which are at various stages of exploration and evaluation across Harmony's lease areas in Papua New Guinea. These include the Kili Teke prospect.

In FY15, we spent R385million (US$34 million) (FY14: R460 million, US$45 million) on exploration, both brownfields and greenfields. Of this, 98% was spent in Papua New Guinea.

Key principles underpinning the FY15 programme were:

- Reduced overall exploration spend
- Advance the high grade Golpu porphyry copper-gold deposit to feasibility study phase considering early underground access for advanced exploration activity
- Turnover and rationalisation of the tenement package to keep focus on the most prospective targets

In line with our core operating capability in the region, Harmony closely monitors the environment for new opportunities that would enhance the project portfolio. With the sustained low commodity prices, tenure over highly prospective target areas in Papua New Guinea is becoming available.

KEY GEOLOGICAL FEATURES

Papua New Guinea:

The central belt of rocks that makes up the highland spine of Papua New Guinea formed as a result of subduction related interaction between the Pacific plate (in the north), converging with the Australian plate (in the south). Deposits typical of subduction related arc settings include:

- Epithermal gold deposits which form at shallow depths, relatively close to the earth's surface, examples of which include Hidden Valley, Hamata, Kerimenge, Wau and Wafi;
- Porphyry copper-gold systems which form at deeper levels in the crust associated with the emplacement of intrusive stocks and dykes. Porphyry systems are one of the largest sources of copper ore in the world, and can also contain significant amounts of gold, molybdenum and silver as by-products. Golpu is a high grade porphyry copper-gold system.

Harmony has advanced a number of gold and copper-gold prospects which are at various stages of exploration and evaluation across Harmony's lease areas in Papua New Guinea. These include the Kili Teke prospect.

South Africa:

All of our underground mines are in the Witwatersrand Supergroup. Most of these can be found in the south-western corner of the Witwatersrand Basin or Free State goldfields, and comprise sedimentary rocks that extend laterally for hundreds of kilometres into the West Rand goldfields and East Rand Basin. The Kraaipan Greenstone Belt can be found further north-west where we have an open pit operation.

HIGHLIGHTS OF THE YEAR

Advancement of the Golpu project

- Completed an updated prefeasibility study for a stage 1 development targeting the higher value portion of the ore body
- Completed a concept study for a second stage mine development (stage 2) to optimise resource extraction
- Commenced feasibility studies for the stage 1 mine development as well as engineering and environmental studies to permit early commencement of underground access to the ore body
- Refer to page 65 of this report for detailed information on the Golpu project

Exciting drilling results from the Kili Teke prospect

- Discovery of highly significant copper-gold mineralisation at the Kili Teke prospect in the Hela province in PNG

EXPLORATION AND PROJECTS
PAPUA NEW GUINEA

We started actively exploring in Papua New Guinea in 2003. Currently we have a project portfolio in both established mineral provinces and emerging gold and copper districts covering an area of 2 268km^2 (FY14: 3 182km^2) which include both 100% and 50% owned areas.

PAPUA NEW GUINEA

The Morobe Mining Joint Ventures or Harmony/Newcrest tenement package is a strategic holding. During FY15, we spent R127 million (US$11 million) compared to (FY14: R83 million (US$8 million)) on exploration in the area, of which Harmony's share was 50% of the total.

- **Hidden Valley operation**

  A seamless regional geology interpretation completed and integrated with all available geochemical and geophysical data. The compilation provides the framework for ranking targets. EL1193 was surrendered after prospectivity was downgraded.
- **Golpu area**

  Feasibility for stage 1 commenced while the prefeasibility study for stage 2 has also started. Scheduled completion for these studies is by the end of the calendar year 2015, with information release to the market early in 2016.
- **Greenfields – 100% Harmony owned**

  Harmony's exploration success continues in Papua New Guinea with the mineralisation found this year at the Kili Teke prospect. Harmony (100%) tenement holding reduced 9% to 1 023km^2 (FY14: 1 125.5km^2).

MOROBE EXPLORATION JOINT VENTURE (HARMONY 50%)

Grassroots exploration activities on the Morobe Exploration JV tenements was scaled back significantly during FY15, with the bulk of Harmony's exploration investment at Morobe directed to advancing the Golpu Project. A major review of the region was initiated to take stock of the geological data sets and to assess the prospectivity. Compliance exploration to meet tenement work and expenditure commitments as approved by the Mineral Resource Authority continued in conjunction with the review.

During FY15, we spent R12.2 million (US$1.1 million) compared to (FY14: R42 million (US$4 million)) on exploration in the area. This represents Harmony's share which is 50% of the total work programme expenditure. Major changes and work programmes on the Morobe Exploration JV tenements include:

- Near 40% reduction in greenfields tenement holding with relinquishment of peripheral greenfield target areas on EL1629, EL1985, and EL1193. The Morobe JV tenement package currently stands at 1 245km^2 (FY14: 2 057km^2)
- Initial drill testing at the 11 Peg prospect with anomalous Au intercepts
- Seamless integrated prospectivity review integrating all geology, geophysical and geochemical data available

A budget of R7.6 million (US$0.7 million) has been proposed for generative work to develop and assess quality targets with the potential to provide resource optionality and leverage infrastructure associated with operations at Hidden Valley or the Golpu Project.

WAFI-TRANSFER (GREENFIELDS)

Work on the Wafi structural corridor during FY15 comprised consolidation and re-interpretation of the Wafi-Golpu camp fact geology, together with mapping data collected from along the transfer structure. The new seamless geological maps were integrated into the region wide prospectivity review, and a number of ranked targets are earmarked for follow-up in FY16 (refer below). A number of tenements were surrendered including EL1985 and EL1629.

HIDDEN VALLEY DISTRICT (BROWNFIELDS)

Exploration in the Hidden Valley district during FY15 included initial drill testing of the 11 Peg prospect located approximately 8km northeast of Hidden Valley, and a number surface soil sampling programmes that included extension of the surface geochemical coverage immediately south of the Hidden Valley ML on EL677, and further infill work in the Wau area. Results from the drilling were disappointing but outlined briefly below. Surface geochemical results were integrated into the regional prospectivity review and a number of geochemical targets have been prioritised for follow-up work in FY16.

11 Peg prospect (EL497): Initial drill testing of the 11 Peg prospect comprised three holes for 288.2m. The drilling targeted the core of the epithermal alteration system, associated with the north-northwest/south-southeast aligned structures. The target was also supported by surface rock chip sampling with several +10g/t rock chip samples reflecting supergene enrichment.

EXPLORATION AND PROJECTS
PAPUA NEW GUINEA continued

Although no ore grade intercepts were obtained, a number of sporadic intercepts of anomalous gold-silver mineralisation were obtained. Drilling largely intersected oxidised and altered metasediment and dacitic porphyries with anomalous intercepts generally associated with porphyry units and structural zones in the drill core.

At this stage no further work is recommended until more information comes to hand from follow-up work planned for several nearby epithermal gold targets (namely Upper Namie and Anomaly 3).

MOROBE REGIONAL PROSPECTIVITY ASSESSMENT

Exploration during the second half of FY15 focused on development of an integrated structural, geological, geochemical and geophysical assessment of the MMJV project region. Elements of the study have been completed by specialist consultants in order to characterise diagnostic geophysical (radiometric, magnetics, IP and EM) and geochemical signatures associated with the Hidden Valley and Wafi/Golpu deposits; but also to provide a fresh approach to assessment of the prospectivity potential of the tenement regions.

A number of new, and potentially significant geophysical, geochemical and geological targets in and around Hidden Valley, Hamata and Wafi/Golpu have been outlined which require field assessment and verification (see figure below).

MEJV exploration targets by size potential and district

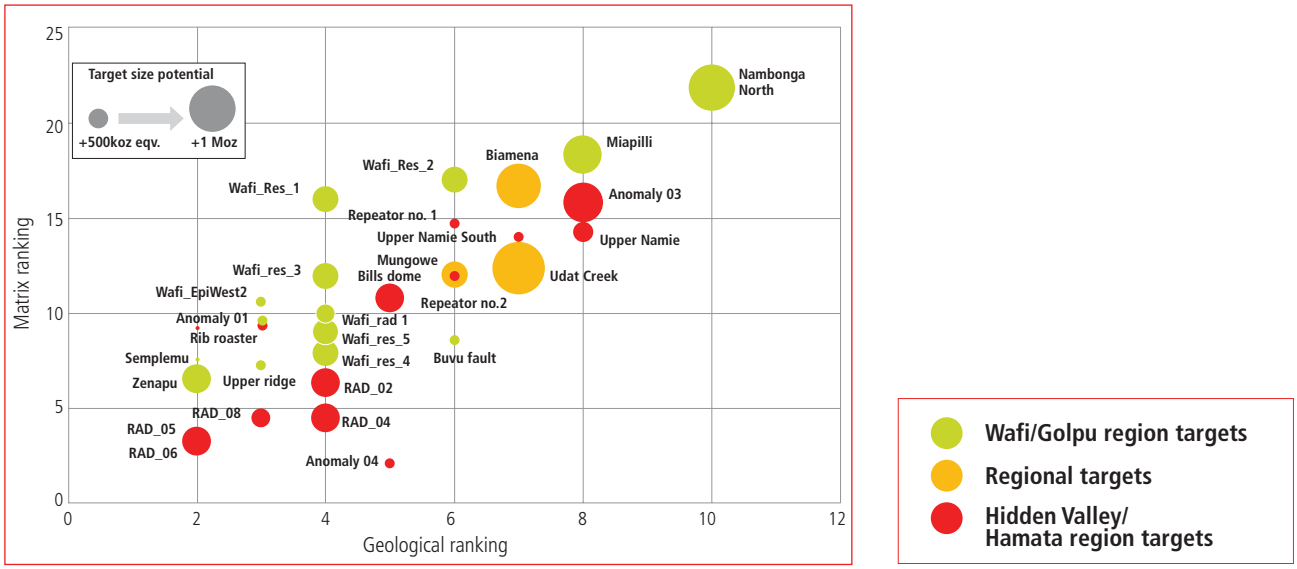


Figure displays exploration targets by region: In the Wafi Golpu district generative work in FY16 will focus on advancing the Nambonga North and Miapilli porphyry targets, with verification of a number of resistivity geophysical targets. In the Hidden Valley district a number of highly prospective targets have been prioritised for further work including Anomaly 3 (south of Edie Creek), and Upper Namie and Bills Dome at Wau.

HARMONY EXPLORATION (100% OWNED)

A total of R87.0 million (US$7.5 million) was spent on exploration outside of the Morobe JV on Harmony-owned projects in FY15. This work was almost exclusively focused at developing and drill testing the Kili Teke prospect targets.

Turnover and rationalisation of Harmony's 100% owned greenfields tenement portfolio continued and has resulted in a slightly reduced tenement holding comprising 1 023km^2; a 9% reduction in the size of the tenement portfolio year on year. Key changes include:

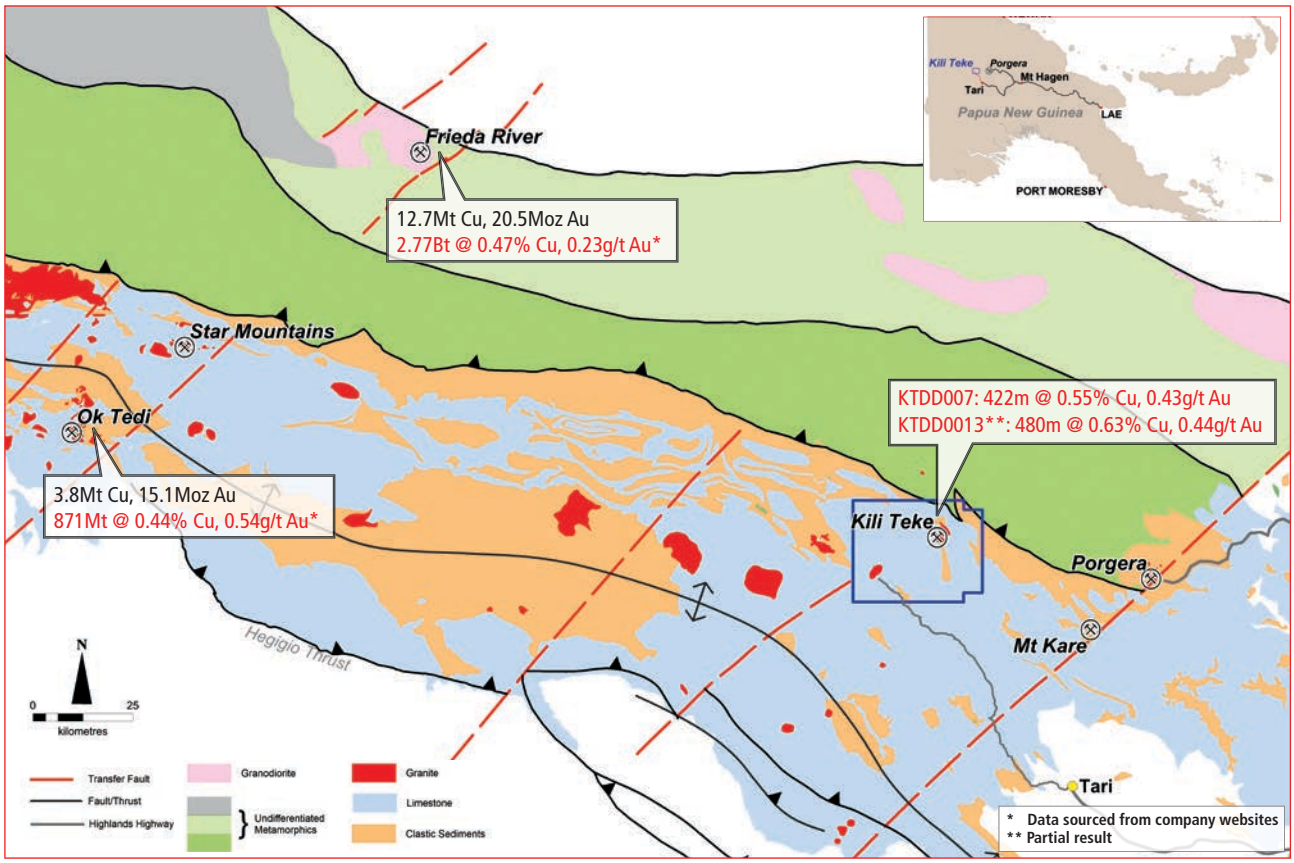
- **Kili Teke Project located in the Hela Province of the Southern Highlands:** Exploration continued with first pass drilling successfully outlining significant intervals of high tenor porphyry style copper-gold mineralisation. Drilling continues.
- **Poru Project in the Lalabu-Pangia district of the Southern Highlands:** Application EL2386 was lodged June 3 to secure priority to the Poru prospect. The tenement application comprises 513.2km^2. Poru prospect was highlighted in Harmony's prospectivity review as a priority target for large bulk tonnage gold-silver epithermal mineralisation. Potential for concealed porphyry copper-gold mineralisation also exists at depth.
- **Magavara Project in the Milne Bay Province:** EL2316 Magavara was surrendered based on recommendations following a detailed review of historical exploration results.

Full details of the FY15 work programme are outlined below. A budget of R86 million has been earmarked for exploration on Harmony's 100% projects, predominantly as infill and extension drilling to progress the Kili Teke mineralisation to an inferred resource.

KILI TEKE PROSPECT (EL2310)

The Kili Teke prospect lies approximately 40km west-northwest of Porgera located in the same host stratigraphy as the Ok Tedi and Grasberg copper-gold deposits (refer figure below).

Regional geological setting showing EL2310 and the Kili Teke prospect locations

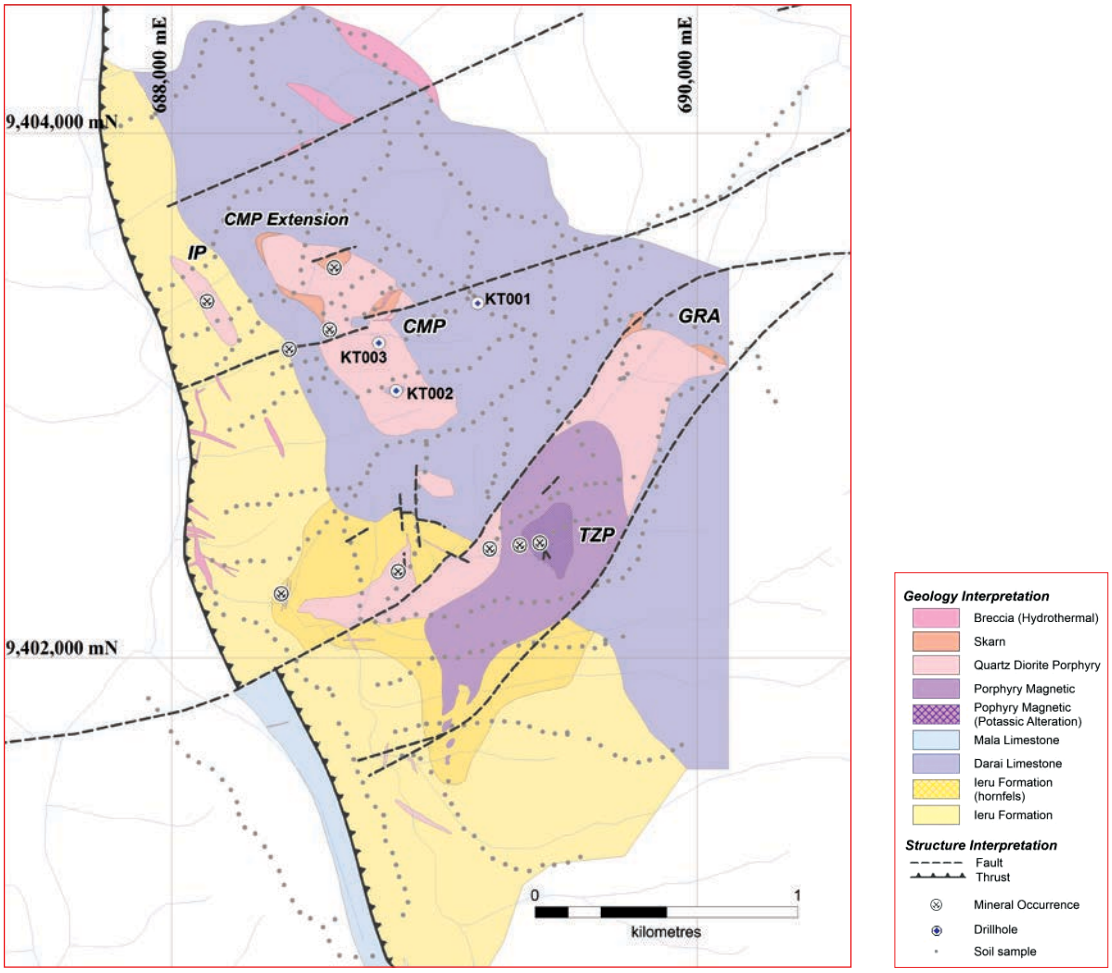


The area was first outlined by the then Conzinc Riotinto of Australia after regional drainage sampling in 1987 returned float samples from the Logaiyu River assaying up to 7.5g/t Au. Subsequent work by various explorers culminated in a three-hole drill programme in which one hole, KT003 returned an intercept of 134m @ 0.28% Cu and 0.37g/t Au. The copper-gold ratio of the intercept highlights the potential for a gold rich copper porphyry system (e.g. Golpu), and together with the regional setting and host stratigraphy, formed the basis for Harmony's tenement application over the area.

Work completed during the year has included detailed mapping and surface sampling (over 1 300 samples), and a helicopter-borne detailed magnetic-radiometric survey (480 line kilometres). Preliminary social mapping over the prospect area and surrounds and baseline environmental monitoring were undertaken in conjunction with the surface mapping programme. Results confirmed a potentially large copper-gold porphyry style hydrothermal alteration system with a coincident kilometer scale surface copper-gold geochemical anomaly. Within the broader anomaly footprint, four high grade copper-gold drill targets were defined including the Central Mineralised Porphyry (CMP), the Transfer Zone Porphyry (TZP), the Leru Porphyry (IP), and the Gold Ridge anomaly (GRA – refer to the figure on page 12).

EXPLORATION AND PROJECTS
PAPUA NEW GUINEA continued

Figure below: Geological interpretation of the Kili Teke prospect showing surface soil sample locations and historic drill collars. Aldridge Minerals completed three holes at the prospect of which two holes successfully reached target depth. Reported intercepts were highly anomalous and included KT003: 134m @ 0.28% Cu and 0.37g/t Au from 35m, and KT002: 137m at 0.11g/t Au and 2.8g/t Ag. Harmony's ground work in the form of detailed mapping and surface sampling has shown that the mineralised system is very large and the best parts of the anomaly including significant extensive zones of high grade breccia and skarn mineralisation have not been tested.



Drilling at Kili Teke commenced November 28 and comprised 10 holes of 5 191m for the year. Results have been extremely encouraging with broad mineralised intervals of copper-gold mineralisation intersected at the Central Mineralised Porphyry (CMP) target. Highlights from the drilling include:

KTDD007: 422m @ 0.55% Cu, 0.43g/t Au, from 131m
Including: 202m @ 0.74% Cu, 0.57g/t Au, from 137m
KTDD012: 448m @ 0.37% Cu, 0.27g/t Au from 94m
Including: 162m @ 0.43% Cu, 0.36g/t Au from 150m
Including: 104m @ 0.51% Cu, 0.3g/t Au from 420m
KTDD013: 480m @ 0.63% Cu, 0.44g/t Au from 90m (partial result)
Including: 186m @ 1.02% Cu, 0.72g/t Au from 252m

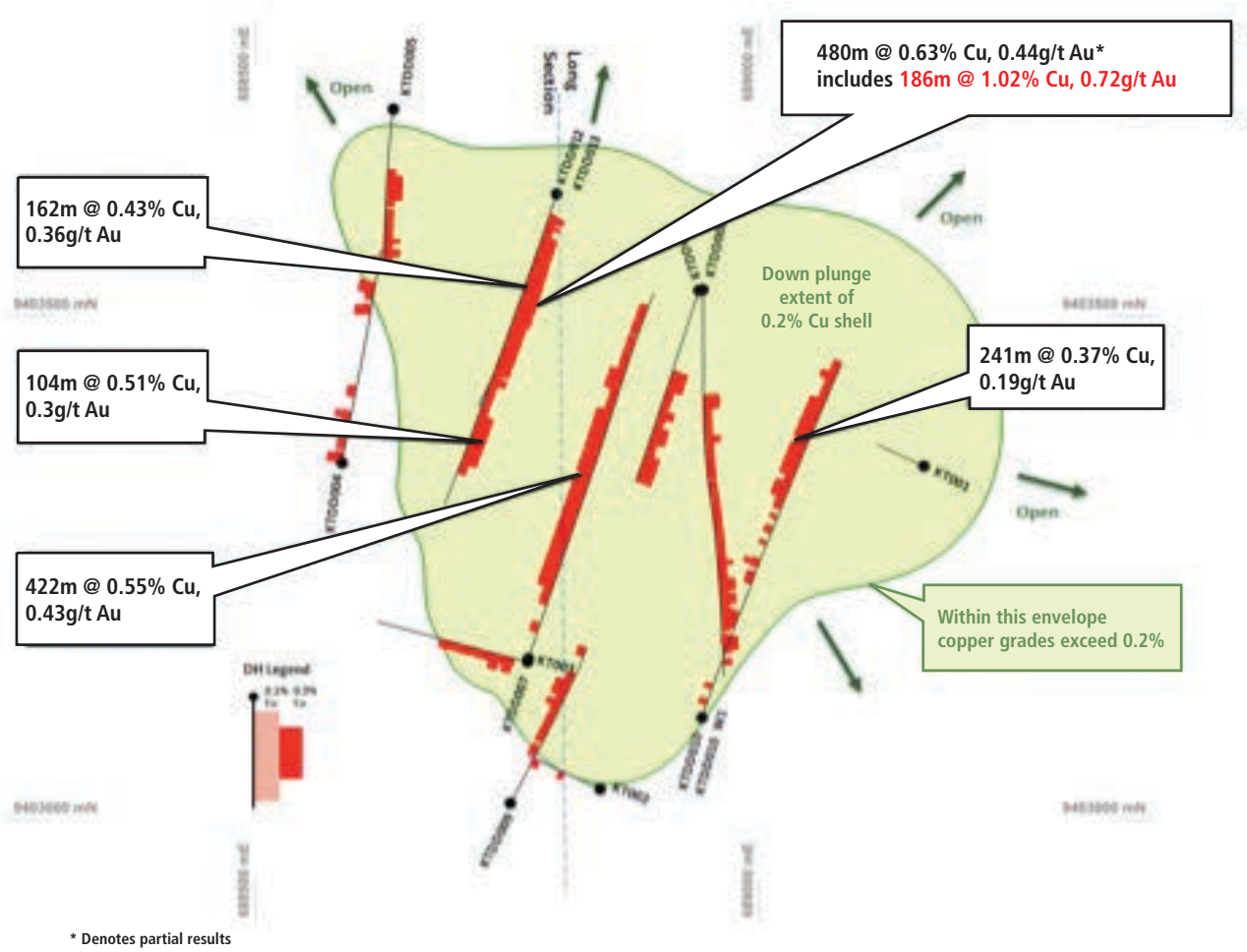
Drilling at the project is still in the early stages and an understanding of the geometry and strike of the mineralisation continues to evolve as additional drilling is completed. The drillhole intersections are reported as down hole widths, they may not be representative of the true width and may be oblique to the orientation of the mineralisation. The drill hole locations and their orientation relative to the currently understood mineralised envelope are outlined in the figure below. Full results for the drilling including supporting SAMREC and JORC annexures can be obtained from www.harmony.co.za.

The high-grade intercept in KTDD013 (186m @ 1.02% Cu, 0.72g/t Au from 252m) correlates with several intervals of intense quartz vein stockwork with disseminated and veinlet chalcopyrite and bornite, developed within potassic altered hornblende diorite.

Mineralisation extends to surface and currently (using a 0.2% copper envelope) results have outlined a zone over 600m of strike, in excess of 200m wide, and extending 700m below surface. The mineralised zone remains open through the grid along strike and open at depth.

Drilling remains in progress. A number of infill and extension holes have been planned with the objective of advancing the project to an inferred resource declaration in FY16.

Plan view of the central mineralised porphyry target at Kili Teke, showing drill hole locations, selected results, and footprint of the 0.2% copper envelope defined to date



* Denotes partial results

EXPLORATION AND PROJECTS
PAPUA NEW GUINEA continued

Drill core from KTDD013: 260.3m, Quartz vein stockwork with chalcopyrite developed in pervasive biotite (potassic) altered diorite porphyry

Coretech YDH3 heliportable drill rig in progress on KTDD011, Kili Teke Prospect

PORU PROJECT (ELA2386)

ELA2386 "Poru" was lodged 3 June and comprises 513.2km^2. Poru prospect is located in the Lalibu-Pangia district of Southern Highlands Province (approximately 60km south of Mt Hagen), and was highlighted in Harmony's prospectivity review as a priority target for large bulk tonnage Au - Ag epithermal mineralisation. Potential for concealed porphyry copper-gold mineralisation also exists at depth.

The prospect was originally identified by the Kennecott-Niugini Mining JV in the late 1980's during their search for Lihir-type caldera-hosted epithermal gold deposits associated Quaternary stratovolcanos in the PNG Highlands. Following the identification of a significant gold anomalous drainage, multiple exploration programmes culminating in diamond drilling (three holes for 745.3m) were undertaken from 1990-1993. Drill holes intersected highly anomalous intervals of lithologically and structurally controlled alteration and mineralisation. Best intervals included: 46.7m @ 1.22g/t Au (PU02: 261.0m to EOH), 28m @ 241g/t Ag (PU01: 61m to 89.0m), and 26m @ 99g/t Ag (PU01: 100m to 126m).

Kennecott relinquished the tenement in 1993 as they withdrew from PNG and subsequently no further exploration programmes of significance have been completed at the prospect.

MAGAVARA PROJECT (ELA2316)

The Magavara Project tenement area was located in the Milne Bay province, 100km west of Alotau. Compilation and review of historical exploration results during the year downgraded the prospectivity of the target. Size potential appeared limited based on the narrow discontinuous zones of mineralisation in the historic results. The tenement was relinquished in June 2015.

EXPLORATION AND PROJECTS
SOUTH AFRICA

PROJECTS

Joel North: Infrastructural development on 129 level was completed and the declines have continued to 137 level. Equipping of the conveyor decline has started. FY16 plans include the start of lateral development on 137 level and completion of the equipping of the conveyor decline.

Central plant tailings reclamation: Reclaim material from FSS5 tailings facility and process it in central plant at 300 000tpm. Central plant operation will be similar to the highly profitable Phoenix operation, which has been in operation since 2007.

The feasibility study was completed and the project obtained technical approval. Funding options are being investigated. Implementation of the project will start as soon as funding has been allocated.

UNDERGROUND EXPLORATION

A total of 83 468m was drilled across Harmony's underground operations in South Africa.

Using a method known as continuous coring, underground exploration drilling is done as per required intervals from existing underground excavations (haulages and cross cuts). This drilling is done to determine the elevation and grade of the targeted reef horizon as well as the geological features in the immediate surrounding lithology. It assists in structural geological interpretation and evaluation of specific areas as well as in the compilation of regional structural geological and evaluation models. Mine geologist and planners use this information to determine the mines development strategy and eventually the mines economic viability.

White Rivers Exploration – Beisa Project Joint Venture

The main objective of this exploration joint venture is to explore and develop potential gold resources at White Rivers' Exploration (Pty) Ltd (White River) Beisa Project and abutting exploration areas within Harmony's adjacent Target Complex.

Under the terms of the agreement, White Rivers and Harmony (through Loraine Gold Mines Limited and Avgold Limited) will have an initial and fixed 65% and 35% interest respectively in the exploration joint venture, with White Rivers funding and managing exploration activities to prefeasibility study level.

The initial exploration activities, which comprise of collation of historical data, interpretation and verification of data, and geological modelling are in progress. Good progress is being made and an initial resource is expected to be declared during FY16. Scoping and prefeasibility study to commence.

Joel mine

MINERAL RESOURCES AND MINERAL RESERVES

MINERAL RESOURCES AND MINERAL RESERVES

RESOURCE AND RESERVE RECONCILIATION

MINERAL RESOURCES

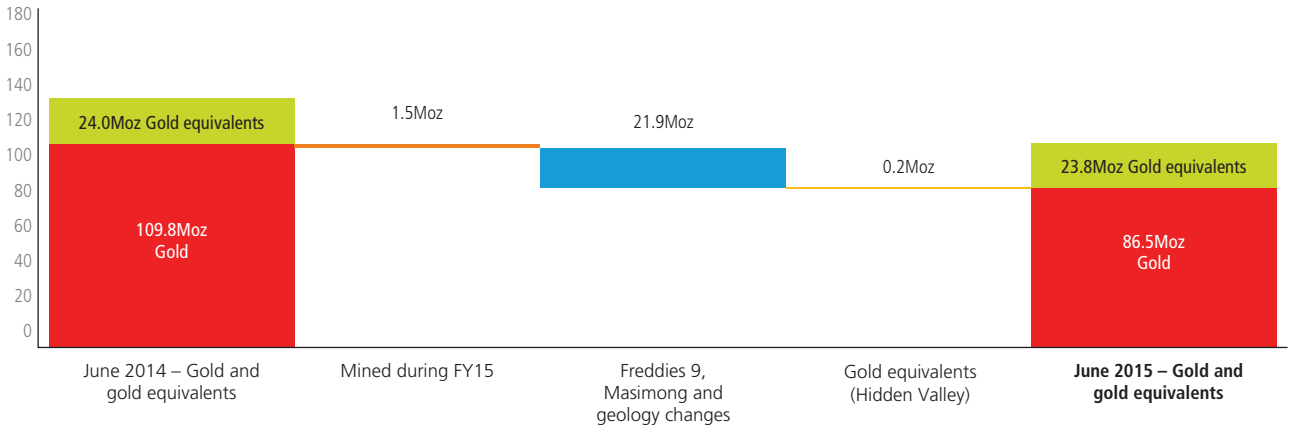
As at 30 June 2015, attributable gold equivalent mineral resources were 110.3Moz, down from 133.8Moz in June 2014. The following table and graph show the year-on-year reconciliation of the mineral resources.

Gold and gold equivalent mineral resources reconciliation

	Tonnes	Moz
June 2014 – gold and gold equivalents	4 160	133.8
Reductions		
Mined during FY15	(45)	(1.5)
Freddies 9, Masimong and geology changes	(680)	(21.9)
Gold equivalents	(5)	(0.2)
June 2015 – gold and gold equivalents	**3 430**	**110.3**

Mineral resources reconciliation (Moz)

FY14 vs FY15



Masimong underground

RESOURCE AND RESERVE RECONCILIATION continued

Mineral resources comparison – FY14 vs FY15

Operations

Gold	FY14 Gold oz (mil)	FY15 Gold oz (mil)	Depletion Gold oz (mil)	Net of depletion variance Gold oz (mil)	Net of depletion % variance	Comments
SA underground						
Free State						
Bambanani	0.981	0.632	0.096	-0.254	-25.8%	Decrease due to undercutting based on rock engineering recommendations
Joel	3.325	3.105	0.092	-0.128	-3.9%	
Masimong 5	14.003	3.727	0.138	-10.138	-72.4%	Restructuring of the mine reduced the life-of-mine
Phakisa	14.991	14.267	0.138	-0.586	-3.9%	
Target 1	4.768	5.599	0.124	0.956	20.0%	Increase due to the inclusion of a portion of Block 12
Target 2	0.088	0.000	0.000	-0.088	-100.0%	Removed from resources
Target 3	5.156	3.119	0.019	-2.018	-39.1%	Work in progress on steep stopes, reef overlaps and minor reefs
Freddies 9	9.735	0.000	0.000	-9.735	-100.0%	Removed from resources
Tshepong	10.441	9.666	0.207	-0.568	-5.4%	
Unisel	4.199	4.171	0.080	0.052	1.2%	
Total Free State underground	**67.687**	**44.286**	**0.895**	**-22.506**	**-33.3%**	
West Rand						
Doornkop South Reef	6.680	7.407	0.107	0.833	12.5%	Increase as a result of increased geological confidence
Doornkop Main Reef	0.054	0.025	0.000	-0.029	-53.8%	Increase in resource cut-off
Total	6.735	7.432	0.107	0.804	11.9%	
Kusasalethu	8.890	8.890	0.150	0.150	1.7%	
Total West Rand	15.625	16.322	0.257	0.954	6.1%	
Total SA underground	**83.312**	**60.608**	**1.152**	**-21.552**	**-25.9%**	
SA surface						
Kraaipan Greenstone Belt						
Kalgold	**0.995**	**1.164**	**0.047**	**0.216**	**21.7%**	Increases due to merger of A-Zone and Watertank pits
Free State surface						
Free State (Phoenix)	0.873	0.792	0.061	-0.020	-2.3%	
Free State (St Helena)	2.227	2.230	0.000	0.003	0.2%	
Free State (other)						
Waste rock dumps	0.473	0.387	0.077	-0.008	-1.8%	
Slimes dams	4.803	4.680	0.000	-0.123	-2.6%	
Total Free State surface	**8.375**	**8.090**	**0.138**	**-0.147**	**-1.8%**	
Total Kalgold Tailings dam	**0.191**	**0.200**	**0.000**	**0.009**	**4.7%**	
Total SA surface (including Kalgold)	**9.562**	**9.454**	**0.185**	**0.078**	**2.9%**	
Total SA (including underground, surface, Kalgold)	**92.873**	**70.062**	**1.337**	**-21.475**	**-23.1%**	

Operations

Gold	FY14 Gold oz (mil)	FY15 Gold oz (mil)	Depletion Gold oz (mil)	Net of depletion variance Gold oz (mil)	Net of depletion % variance	Comments
SA underground						
Free State						
Papua New Guinea						
Hidden Valley/Kaveroi	2.507	2.044	0.113	-0.350	-14.0%	Variance due to change to open pit spatial constraint
Hamata	0.154	0.122	0.000	-0.032	-20.9%	Variance due to change to open pit spatial constraint
Wafi	3.621	3.621	0.000	0.000	0.0%	
Golpu	10.103	10.103	0.000	0.000	0.0%	
Nambonga	0.505	0.505	0.000	0.000	0.1%	
Total Papua New Guinea	**16.890**	**16.396**	**0.113**	**-0.381**	**-2.3%**	
Grand total	**109.763**	**86.458**	**1.450**	**-21.856**	**-19.9%**	
Silver – equivalent gold ounces						
Hidden Valley	0.850	0.696	0.000	-0.155	-18.2%	
Copper – equivalent gold ounces						
Golpu	22.937	22.937	0.000	0.000	0.0%	
Nambonga	0.204	0.204	0.000	0.000	0.0%	
Total copper	**23.141**	**23.141**	**0.000**	**0.000**	**0.0%**	
Total PNG equivalent gold ounces	**23.991**	**23.837**	**0.000**	**-0.155**	**-0.6%**	
Total PNG including equivalent gold ounces	**40.881**	**40.232**	**0.113**	**-0.536**	**-1.3%**	
Grand total (excluding equivalents)	**109.763**	**86.458**	**1.450**	**-21.856**	**-19.9%**	
Grand total (including equivalents)	**133.754**	**110.294**	**1.450**	**-22.010**	**-16.5%**	

MINERAL RESERVES

As at 30 June 2015, Harmony's attributable gold equivalent mineral reserves were 42.6Moz, down from 49.5Moz. The year-on-year mineral reserves reconciliation is shown below.

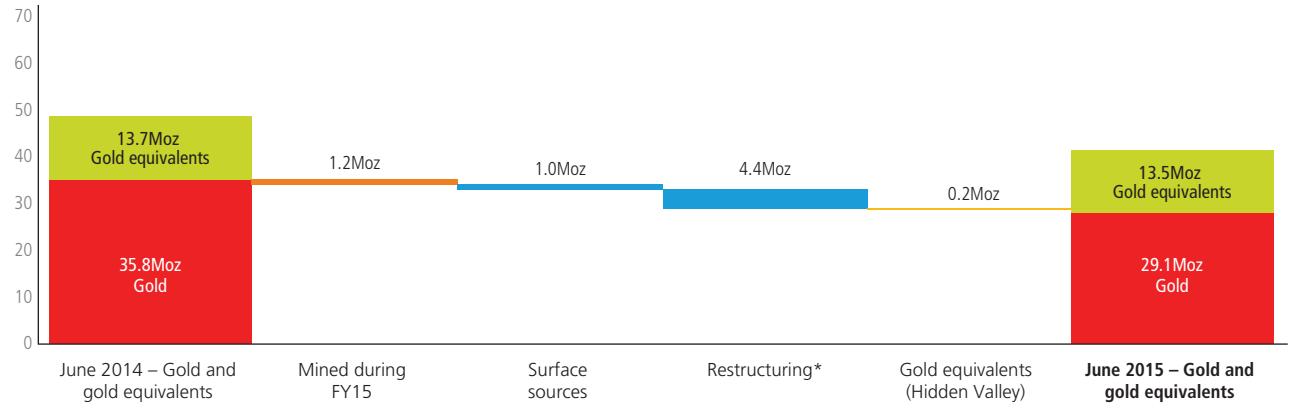
Gold and gold equivalent mineral reserves reconciliation

	Tonnes	Moz
June 2014 – gold and gold equivalents	1 538	49.5
Reductions		
Mined during FY15	(38)	(1.2)
Surface sources	(31)	(1.0)
Restructuring (Hidden Valley, Kusasalethu, Doornkop, Masimong and closure of Target 3)	(137)	(4.4)
Gold equivalents	(7)	(0.2)
June 2015 – gold and gold equivalents	**1 325**	**42.6**

RESOURCE AND RESERVE RECONCILIATION continued

Mineral reserves reconciliation (Moz)

FY14 vs FY15



** Restructuring of Hidden Valley, Kusasalethu, Masimong, Doornkop and the closure of Target 3.*

Mineral reserves comparison – FY14 vs FY15

Operations

Gold	FY14 Gold oz (mil)	FY15 Gold oz (mil)	Depletion Gold oz (mil)	Net of depletion variance Gold oz (mil)	Net of depletion % variance	Comments
SA underground						
Free State						
Bambanani	0.647	0.565	0.097	0.015	2.4%	Increase in valuation
Joel	1.225	0.968	0.076	-0.181	-14.8%	Decrease in valuation
Masimong 5	0.947	0.235	0.082	-0.630	-66.5%	Re-structuring of the mine
Phakisa	1.694	1.792	0.104	0.203	12.0%	Inclusion of blocks below 75 level
Target 1	1.680	1.187	0.128	-0.365	-21.7%	Geological changes and rock engineering recommendations
Target 3	1.155	0.000	0.016	-1.139	-98.6%	Mine on care and maintenance
Tshepong	4.095	3.768	0.143	-0.184	-4.5%	Exclusion of non mineable pillars
Unisel	0.307	0.380	0.057	0.129	42.1%	Converted inferred resources to probable reserves due to exploration
Total Free State underground	**11.750**	**8.895**	**0.704**	**-2.151**	**-18.3%**	
West Rand						
Doornkop South Reef	1.319	0.847	0.088	-0.384	-29.1%	Change to life-of-mine profile
Kusasalethu	6.833	5.274	0.136	-1.422	-20.8%	Re-structuring of the mine
Total West Rand	8.152	6.121	0.225	-1.806	-22.2%	
Total SA underground	**19.902**	**15.016**	**0.929**	**-3.957**	**-19.9%**	
SA surface						
Kraaipan Greenstone Belt						
Kalgold	**0.544**	**0.574**	**0.047**	**0.077**	**14.2%**	Run-of-mine stockpile now included
Free State surface						
Free State (Phoenix)	0.873	0.792	0.061	-0.020	-2.3%	
Free State (St Helena)	2.227	1.507	0.000	-0.720	-32.3%	Removal of Joel dump

Operations

Gold	FY14 Gold oz (mil)	FY15 Gold oz (mil)	Depletion Gold oz (mil)	Net of depletion variance Gold oz (mil)	Net of depletion % variance	Comments
Free State (other)						
Waste rock dumps	0.065	0.065	0.000	0.000	-0.8%	
Slimes dams	4.333	4.123	0.000	-0.210	-4.8%	
Sub-total (other)	**4.398**	**4.188**	**0.000**	**-0.210**	**-4.8%**	
Total Free State	**7.498**	**6.488**	**0.061**	**-0.949**	**-12.7%**	
Total SA surface (including Kalgold)	**8.042**	**7.062**	**0.108**	**-0.872**	**-10.8%**	
Total SA	**27.944**	**22.078**	**1.037**	**-4.829**	**-17.3%**	
Papua New Guinea						
Hidden Valley/Kaveroi	1.470	0.743	0.105	-0.622	-42.3%	Change to life-of-mine profile
Hamata	0.118	0.085	0.000	-0.033	-27.9%	Change to life-of-mine profile
Golpu	6.194	6.194	0.000	0.000	0.0%	
Total Papua New Guinea	**7.782**	**7.022**	**0.105**	**-0.654**	**-8.4%**	
Grand total	**35.726**	**29.100**	**1.142**	**-5.483**	**-15.3%**	
Silver – equivalent gold ounces						
Hidden Valley	0.467	0.232	0.000	-0.235	-50.3%	Change to life-of-mine profile
Copper – equivalent gold ounces						
Golpu	13.265	13.265	0.000	0.000	0.0%	
Total copper	**13.265**	**13.265**	**0.000**	**0.000**	**0.0%**	
Total PNG equivalent gold ounces	**13.731**	**13.497**	**0.000**	**-0.235**	**-1.4%**	
Total PNG including equivalent gold ounces	**21.513**	**20.519**	**0.105**	**-0.889**	**-4.1%**	
Grand total (excluding equivalents)	**35.726**	**29.100**	**1.142**	**-5.483**	**-15.3%**	
Grand total (including equivalents)	**49.457**	**42.597**	**1.142**	**-5.718**	**-11.6%**	

RELATIONSHIP BETWEEN HARMONY'S
MINERAL RESOURCES AND MINERAL RESERVES

SOUTH AFRICA UNDERGROUND

Increasing level of geoscientific knowledge and confidence

Mineral resources (total)

Tonnes Mt	g/t	Gold 000kg	Gold 000oz
217.2	8.68	1 885	60 608

Reported as in situ mineralisation estimates

Mineral reserves (total)

Tonnes Mt	g/t	Gold 000kg	Gold 000oz
80.3	5.82	467	15 016

Reported as mineable production estimates

Inferred

Tonnes Mt	g/t	Gold 000kg	Gold 000oz
69.1	8.06	557	17 905

Indicated

Tonnes Mt	g/t	Gold 000kg	Gold 000oz
76.5	8.45	647	20 792

Probable

Tonnes Mt	g/t	Gold 000kg	Gold 000oz
37.7	5.65	213	6 845

Measured

Tonnes Mt	g/t	Gold 000kg	Gold 000oz
71.6	9.52	681	21 911

Proved

Tonnes Mt	g/t	Gold 000kg	Gold 000oz
42.5	5.97	254	8 171

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

SOUTH AFRICA SURFACE (INCLUDING KALGOLD)

Increasing level of geoscientific knowledge and confidence

Mineral resources (total)

Tonnes Mt	g/t	Gold 000kg	Gold 000oz
1 082.3	0.27	294	9 454

Reported as in situ mineralisation estimates

Mineral reserves (total)

Tonnes Mt	g/t	Gold 000kg	Gold 000oz
835.9	0.26	220	7 062

Reported as mineable production estimates

Inferred

Tonnes Mt	g/t	Gold 000kg	Gold 000oz
72.0	0.42	30	968

Indicated

Tonnes Mt	g/t	Gold 000kg	Gold 000oz
652.2	0.24	160	5 136

Probable

Tonnes Mt	g/t	Gold 000kg	Gold 000oz
567.6	0.25	142	4 581

Measured

Tonnes Mt	g/t	Gold 000kg	Gold 000oz
358.0	0.29	104	3 350

Proved

Tonnes Mt	g/t	Gold 000kg	Gold 000oz
268.3	0.29	77	2 481

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

SOUTH AFRICA TOTAL

Increasing level of geoscientific knowledge and confidence

Mineral resources (total)

Tonnes Mt	Gold 000kg	Gold 000oz
1299.5	2 179	70 062

Reported as in situ mineralisation estimates

Inferred

Tonnes Mt	Gold 000kg	Gold 000oz
141.1	587	18 873

Indicated

Tonnes Mt	Gold 000kg	Gold 000oz
728.7	806	25 928

Measured

Tonnes Mt	Gold 000kg	Gold 000oz
429.6	786	25 261

Mineral reserves (total)

Tonnes Mt	Gold 000kg	Gold 000oz
916.2	687	22 078

Reported as mineable production estimates

Probable

Tonnes Mt	Gold 000kg	Gold 000oz
605.4	355	11 425

Proved

Tonnes Mt	Gold 000kg	Gold 000oz
310.8	331	10 652

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

PAPUA NEW GUINEA – ATTRIBUTABLE GOLD

Increasing level of geoscientific knowledge and confidence

Mineral resources (total)

Tonnes Mt	g/t	Gold 000kg	Gold 000oz
667.7	0.76	510	16 396

Reported as in situ mineralisation estimates

Inferred

Tonnes Mt	g/t	Gold 000kg	Gold 000oz
141.1	0.60	84	2 701

Indicated

Tonnes Mt	g/t	Gold 000kg	Gold 000oz
525.0	0.81	424	13 639

Measured

Tonnes Mt	g/t	Gold 000kg	Gold 000oz
1.6	1.11	2	56

Mineral reserves (total)

Tonnes Mt	g/t	Gold 000kg	Gold 000oz
239.6	0.91	218	7 022

Reported as mineable production estimates

Probable

Tonnes Mt	g/t	Gold 000kg	Gold 000oz
238.1	0.91	217	6 967

Proved

Tonnes Mt	g/t	Gold 000kg	Gold 000oz
1.6	1.11	2	56

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

RELATIONSHIP BETWEEN HARMONY'S MINERAL RESOURCES AND MINERAL RESERVES continued

TOTAL ATTRIBUTABLE GOLD – HARMONY UNDERGROUND AND SURFACE

Increasing level of geoscientific knowledge and confidence

Mineral resources (total)

Tonnes Mt	Gold 000kg	Gold 000oz
1 967.2	2 689	86 458

Reported as in situ mineralisation estimates

Inferred

Tonnes Mt	Gold 000kg	Gold 000oz
282.3	671	21 574

Indicated

Tonnes Mt	Gold 000kg	Gold 000oz
1 253.7	1 231	39 567

Measured

Tonnes Mt	Gold 000kg	Gold 000oz
431.2	787	25 316

Mineral reserves (total)

Tonnes Mt	Gold 000kg	Gold 000oz
1 155.8	905	29 100

Reported as mineable production estimates

Probable

Tonnes Mt	Gold 000kg	Gold 000oz
843.4	572	18 392

Proved

Tonnes Mt	Gold 000kg	Gold 000oz
312.4	333	10 708

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

TOTAL ATTRIBUTABLE GOLD AND GOLD EQUIVALENTS – HARMONY UNDERGROUND AND SURFACE

Increasing level of geoscientific knowledge and confidence

Mineral resources (total)

Tonnes Mt	Gold 000kg	Gold 000oz
1 967.2	3 431	110 294

Reported as in situ mineralisation estimates

Inferred

Tonnes Mt	Gold 000kg	Gold 000oz
282.3	784	25 215

Indicated

Tonnes Mt	Gold 000kg	Gold 000oz
1 253.7	1 858	59 747

Measured

Tonnes Mt	Gold 000kg	Gold 000oz
431.2	788	25 332

Mineral reserves (total)

Tonnes Mt	Gold 000kg	Gold 000oz
1 155.8	1 325	42 597

Reported as mineable production estimates

Probable

Tonnes Mt	Gold 000kg	Gold 000oz
843.4	991	31 874

Proved

Tonnes Mt	Gold 000kg	Gold 000oz
312.4	334	10 722

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

MINERAL RESOURCES
STATEMENT (IMPERIAL)

Operations	Measured resources			Indicated resources			Inferred resources			Total mineral resources		
	Tons (Mt)	Grade (oz/t)	Gold (000oz)	Tons (Mt)	Grade (oz/t)	Gold (000oz)	Tons (Mt)	Grade (oz/t)	Gold (000oz)	Tons (Mt)	Grade (oz/t)	Gold (000oz)
SOUTH AFRICA UNDERGROUND												
Free State												
Gold												
Bambanani	1.4	0.452	632	–	–	–	–	–	–	1.4	0.452	632
Joel	4.9	0.237	1 157	7.7	0.221	1 706	1.2	0.205	242	13.8	0.225	3 105
Masimong	6.4	0.247	1 579	3.0	0.222	668	5.7	0.261	1 480	15.1	0.247	3 727
Phakisa	9.3	0.300	2 786	12.8	0.338	4 337	26.6	0.269	7 143	48.7	0.293	14 267
Target 1	10.0	0.217	2 158	12.3	0.220	2 700	4.6	0.162	742	26.8	0.209	5 599
Target 3	7.7	0.265	2 057	5.1	0.207	1 063	–	–	–	12.9	0.242	3 119
Tshepong	19.7	0.336	6 623	4.9	0.271	1 331	6.8	0.251	1 712	31.4	0.307	9 666
Unisel	8.2	0.200	1 637	6.9	0.203	1 400	4.5	0.251	1 135	19.6	0.213	4 171
Total Free State underground	**67.5**	**0.276**	**18 629**	**52.8**	**0.250**	**13 204**	**49.4**	**0.252**	**12453**	**169.7**	**0.261**	**44 286**
West Rand												
Doornkop												
Doornkop South Reef	3.3	0.212	705	7.9	0.221	1 736	25.0	0.199	4 966	36.1	0.205	7 407
Doornkop Main Reef	0.1	0.157	14	0.1	0.161	8	0.0	0.155	3	0.2	0.158	25
Total	**3.4**	**0.211**	**719**	**7.9**	**0.220**	**1 745**	**25.0**	**0.199**	**4 969**	**36.3**	**0.205**	**7 432**
Kusasalethu	8.0	0.322	2 563	23.6	0.247	5 843	1.8	0.264	483	33.4	0.266	8 890
Total West Rand	**11.4**	**0.289**	**3 282**	**31.6**	**0.240**	**7 588**	**26.8**	**0.203**	**5 452**	**69.7**	**0.234**	**16 322**
Total South Africa underground	**78.9**	**0.278**	**21 911**	**84.3**	**0.247**	**20 792**	**76.2**	**0.235**	**17 905**	**239.4**	**0.253**	**60 608**
SOUTH AFRICA SURFACE												
Kraaipan Greenstone Belt												
Kalgold	14.1	0.023	328	17.1	0.028	486	10.2	0.035	351	41.3	0.028	1 164
Kalgold tailings dam	–	–	–	–	–	–	26.0	0.008	200	26.0	0.008	200
Total Kalgold	**14.1**		**328**	**17.1**		**486**	**36.2**		**551**	**67.3**		**1 364**
Free State – surface												
Free State (Phoenix)	95.4	0.008	792	–	–	–	–	–	–	95.4	0.008	792
Free State (St Helena)	285.1	0.008	2 230	–	–	–	–	–	–	285.1	0.008	2 230
Free State (other):												
– Waste rock dumps	–		–	4.3	0.015	65	26.2	0.012	323	30.5	0.013	387
– Slimes dams	–		–	697.5	0.007	4 585	17.0	0.006	94	714.5	0.007	4 680
– Sub-total	–		–	701.9	0.007	4 650	43.2	0.010	417	745.1	0.007	5 067
Total Free State	**380.6**	**0.008**	**3 023**	**701.9**	**0.007**	**4 650**	**43.2**	**0.010**	**417**	**1 125.7**	**0.007**	**8 090**
Total South Africa surface (including Kalgold)	**394.7**	**0.008**	**3 350**	**718.9**	**0.007**	**5 136**	**79.4**	**0.012**	**968**	**1 193.0**	**0.008**	**9 454**
Total SA	**473.6**		**25 261**	**803.2**		**25 928**	**155.6**		**18 873**	**1432.8**		**70 062**
PAPUA NEW GUINEA [1]												
Hidden Valley	1.5	0.032	50	42.4	0.046	1 948	1.2	0.039	46	45.2	0.045	2 044
Hamata	0.2	0.032	6	1.8	0.063	111	0.1	0.053	5	2.0	0.060	122
Wafi	–	–	–	62.5	0.050	3 146	12.5	0.038	475	75.0	0.048	3 621
Golpu	–	–	–	472.0	0.018	8 434	119.9	0.014	1 669	591.9	0.017	10 103
Nambonga	–	–	–	–	–	–	21.9	0.023	505	21.9	0.023	505
Total Papua New Guinea	**1.7**	**0.032**	**56**	**578.7**	**0.024**	**13 639**	**155.6**	**0.017**	**2 701**	**736.0**	**0.022**	**16 396**
Grand total	**475.3**		**25 316**	**1 382.0**		**39 567**	**311.2**		**21 574**	**2 168.4**		**86 458**

MINERAL RESOURCES STATEMENT (IMPERIAL) continued

Operations	Measured resources		Indicated resources		Inferred resources		Total mineral resources	
	Tons (Mt)	Au eq (000oz)	Tons (Mt)	Au eq (000oz)	Tons (Mt)	Au eq (000oz)	Tons (Mt)	Au eq (000oz)
GOLD EQUIVALENTS [1, 2]								
Silver								
Hidden Valley	1.5	16	42.4	659	1.2	21	45.2	696
Total	**1.5**	**16**	**42.4**	**659**	**1.2**	**21**	**45.2**	**696**
Copper								
Golpu	–	–	472.0	19 521	119.9	3 416	591.9	22 937
Nambonga	–	–			21.9	204	21.9	204
Total	**–**	**–**	**472.0**	**19 521**	**141.8**	**3 620**	**613.8**	**23 141**
Total silver and copper as gold equivalents	**1.5**	**16**	**514.4**	**20 180**	**143.0**	**3 641**	**659.0**	**23 837**
Total Papua New Guinea including gold equivalents	**1.7**	**72**	**578.7**	**33 819**	**155.6**	**6 342**	**736.0**	**40 232**
Total Harmony including equivalents	**475.3**	**25 332**	**1 382.0**	**59 747**	**311.2**	**25 215**	**2 168.4**	**110 294**

Other metals

	Tons (Mt)	Grade (oz/t)	Ag (000oz)	Tons (Mt)	Grade (oz/t)	Ag (000oz)	Tons (Mt)	Grade (oz/t)	Ag (000oz)	Tons (Mt)	Grade (oz/t)	Ag (000oz)
PAPUA NEW GUINEA [1]												
Silver												
Hidden Valley	1.5	0.59	917	42.4	0.87	36 880	1.2	0.97	1162	45.2	0.86	38 959
Golpu	–	–	–	472.0	0.03	15 664	119.9	0.03	3 090	591.9	0.03	18 754
Nambonga	–	–	–	–	–	–	21.9	0.08	1 836	21.9	0.08	1 836
Total	**1.5**	**0.59**	**917**	**514.4**	**0.10**	**52 544**	**143.0**	**0.04**	**6 088**	**659.0**	**0.09**	**59 549**

	Tons (Mt)	Grade (%)	Cu (Mlb)	Tons (Mt)	Grade (%)	Cu (Mlb)	Tons (Mt)	Grade (%)	Cu (Mlb)	Tons (Mt)	Grade (%)	Cu (Mlb)
Copper												
Golpu	–	–	–	472.0	0.847	8 809	119.9	0.584	1 544	591.9	0.793	10 353
Nambonga	–	–	–	–	–	–	21.9	0.191	92	21.9	0.191	92
Total	**–**	**–**	**–**	**472.0**	**0.847**	**8 809**	**141.8**	**0.523**	**1 636**	**613.8**	**0.772**	**10 445**

	Tons (Mt)	Grade (lb/t)	Mo (Mlb)	Tons (Mt)	Grade (lb/t)	Mo (Mlb)	Tons (Mt)	Grade (lb/t)	Mo (Mlb)	Tons (Mt)	Grade (lb/t)	Mo (Mlb)
Molybdenum												
Golpu	–	–	–	472.0	0.197	93	119.9	0.152	18	591.9	0.188	111

	Tons (Mt)	Grade (lb/t)	U_3O_8 (Mlb)	Tons (Mt)	Grade (lb/t)	U_3O_8 (Mlb)	Tons (Mt)	Grade (lb/t)	U_3O_8 (Mlb)	Tons (Mt)	Grade (lb/t)	U_3O_8 (Mlb)
SOUTH AFRICA												
Uranium												
Free State underground												
Masimong	–	–	–	6.6	0.552	4	10.0	0.468	5	17	0.501	8
Tshepong	6.7	0.398	3	14.1	0.455	6	11.5	0.236	3	32	0.365	12
Phakisa	9.3	0.364	3	12.8	0.366	5	26.6	0.161	4	49	0.254	12
Total	**16.0**	**0.378**	**6**	**33.5**	**0.440**	**15**	**48.1**	**0.243**	**12**	**98**	**0.333**	**33**
Total South Africa underground	**16.0**	**0.378**	**6**	**33.5**	**0.440**	**15**	**48.1**	**0.243**	**12**	**98**	**0.333**	**33**
Free State surface	**–**	**–**	**–**	**191.9**	**0.199**	**38**	**–**	**–**	**–**	**191.9**	**0.199**	**38**
Grand total	**16.0**	**0.378**	**6**	**225.5**	**0.235**	**53**	**48.1**	**0.243**	**12**	**289.6**	**0.244**	**71**

[1] *Total attributable.*

[2] *Gold equivalent ounces are calculated assuming a US$1 400/oz Au, US$3.10/lb Cu and US$23.00/oz Ag with 100% recovery for all metals.*

Rounding of numbers may result in slight computational discrepancies.

Note: 1 ton = 907kg = 2 000 lbs.
1 troy ounce = 31.10348 grams.

MINERAL RESOURCES
STATEMENT (METRIC)

Operations	Measured resources			Indicated resources			Inferred resources			Total mineral resources		
	Tonnes (Mt)	Grade (g/t)	Gold (000kg)	Tonnes (Mt)	Grade (g/t)	Gold (000kg)	Tonnes (Mt)	Grade (g/t)	Gold (000kg)	Tonnes (Mt)	Grade (g/t)	Gold (000kg)
SOUTH AFRICA UNDERGROUND												
Free State												
Gold												
Bambanani	1.3	15.50	20	–	–	–	–	–	–	1.3	15.50	20
Joel	4.4	8.12	36	7.0	7.59	53	1.1	7.03	8	12.5	7.73	97
Masimong	5.8	8.46	49	2.7	7.63	21	5.1	8.96	46	13.7	8.48	116
Phakisa	8.4	10.30	87	11.6	11.60	135	24.1	9.21	222	44.2	10.05	444
Target 1	9.0	7.42	67	11.1	7.54	84	4.2	5.55	23	24.3	7.16	174
Target 3	7.0	8.10	64	4.7	7.10	33	–	–	–	11.7	8.31	97
Tshepong	17.9	11.53	206	4.5	9.28	41	6.2	8.60	53	28.5	10.54	301
Unisel	7.4	6.87	51	6.3	6.95	44	4.1	8.59	35	17.8	7.29	130
Total Free State underground	**61.3**	**9.46**	**579**	**47.9**	**8.58**	**411**	**44.8**	**8.65**	**387**	**153.9**	**8.95**	**1 377**
West Rand												
Doornkop South Reef	3.0	7.28	22	7.1	7.56	54	22.6	6.82	154	32.8	7.03	230
Doornkop Main Reef	0.1	5.38	0	0.0	5.51	0	0.0	5.32	0	0.1	5.41	1
Total	**3.1**	**7.23**	**22**	**7.2**	**7.55**	**54**	**22.7**	**6.82**	**155**	**32.9**	**7.02**	**231**
Kusasalethu	7.2	11.04	80	21.4	8.47	182	1.7	9.05	15	30.3	9.12	277
Total West Rand	**10.3**	**9.90**	**102**	**28.6**	**8.24**	**236**	**24.3**	**6.97**	**170**	**63.3**	**8.02**	**508**
Total South Africa underground	**71.6**	**9.52**	**681**	**76.5**	**8.45**	**647**	**69.1**	**8.06**	**557**	**217.2**	**8.68**	**1 885**
SOUTH AFRICA SURFACE												
Kraaipan Greenstone Belt												
Kalgold open pit	12.8	0.80	10	15.5	0.98	15	9.2	1.18	11	37.5	0.97	36
Kalgold tailings dam	–	–	–	–	–	–	23.6	0.26	6	23.6	0.26	6
Total Kalgold	**12.8**		**10**	**15.5**		**15**	**32.8**		**17**	**61.1**		**42**
Free State – surface												
Free State (Phoenix)	86.6	0.28	25	–	–	–	–	–	–	86.6	0.28	25
Free State (St Helena)	258.7	0.27	69	–	–	–	–	–	–	258.7	0.27	69
Free State (other):												
– Waste rock dumps	–	–	–	3.9	0.51	2	23.8	0.42	10	27.7	0.43	12
– Slimes dams	–	–	–	632.8	0.23	143	15.5	0.19	3	648.2	0.22	146
– Sub-total	–	–	–	636.7	0.23	145	39.2	0.33	13	675.9	0.23	158
Total Free State	**345.2**	**0.27**	**94**	**636.7**	**0.23**	**145**	**39.2**	**0.33**	**13**	**1 021.2**	**0.25**	**252**
Total South Africa surface (including Kalgold)	**358.0**	**0.29**	**104**	**652.2**	**0.24**	**160**	**72.0**	**0.42**	**30**	**1 082.3**	**0.27**	**294**
Total SA	**429.6**		**786**	**728.7**		**806**	**141.1**		**587**	**1 299.5**		**2 179**
PAPUA NEW GUINEA [1]												
Hidden Valley	1.4	1.11	2	38.5	1.57	61	1.1	1.33	1	41.0	1.55	64
Hamata	0.2	1.09	0.2	1.6	2.16	3	0.1	1.82	0.2	1.8	2.05	4
Wafi	–	–	–	56.7	1.72	98	11.3	1.30	15	68.1	1.65	113
Golpu	–	–	–	428.2	0.61	262	108.7	0.48	52	536.9	0.59	314
Nambonga	–	–	–	–	–	–	19.9	0.79	16	19.9	0.79	16
Total Papua New Guinea	**1.6**	**1.11**	**2**	**525.0**	**0.81**	**424**	**141.1**	**0.60**	**84**	**667.7**	**0.76**	**510**
Grand total	**431.2**		**787**	**1 253.7**		**1 231**	**282.3**		**671**	**1 967.2**		**2 689**

MINERAL RESOURCES STATEMENT (METRIC) continued

Operations	Measured resources		Indicated resources		Inferred resources		Total mineral resources	
	Tonnes (Mt)	Au eq (000kg)	Tonnes (Mt)	Au eq (000kg)	Tonnes (Mt)	Au eq (000kg)	Tonnes (Mt)	Au eq (000kg)
GOLD EQUIVALENTS [1, 2]								
Silver								
Hidden Valley	1.4	0.5	38.5	20	1.1	1	41.0	22
Total	**1.4**	**0.5**	**38.5**	**20**	**1.1**	**1**	**41.0**	**22**
Copper								
Golpu	–	–	428.2	607	108.7	106	536.9	713
Nambonga	–	–	–	–	19.9	6	19.9	6
Total	**–**	**–**	**428.2**	**607**	**128.6**	**113**	**556.8**	**720**
Total silver and copper as gold equivalents	**1.4**	**0**	**466.7**	**628**	**129.7**	**113**	**597.8**	**741**
Total Papua New Guinea including gold equivalents	**1.6**	**2**	**525.0**	**1 052**	**141.1**	**197**	**667.7**	**1 251**
Total Harmony including equivalents	**431.2**	**788**	**1 253.7**	**1 858**	**282.3**	**784**	**1 967.2**	**3 431**

Other metals

	Tonnes (Mt)	Grade (g/t)	Ag (000kg)	Tonnes (Mt)	Grade (g/t)	Ag (000kg)	Tonnes (Mt)	Grade (g/t)	Ag (000kg)	Tonnes (Mt)	Grade (g/t)	Ag (000kg)
PAPUA NEW GUINEA [1]												
Silver												
Hidden Valley	1.4	20.40	29	38.5	29.80	1 147	1.1	33.34	36	41.0	29.57	1 212
Golpu	–	–	–	428.2	1.14	487	108.7	0.88	96	536.9	1.09	583
Nambonga	–	–	–	–	–	–	19.9	2.87	57	19.9	2.87	57
Total	**1.4**	**20.40**	**29**	**466.7**	**3.50**	**1 634**	**129.7**	**1.46**	**189**	**597.8**	**3.10**	**1 852**

	Tonnes (Mt)	Grade (%)	Cu (000t)	Tonnes (Mt)	Grade (%)	Cu (000t)	Tonnes (Mt)	Grade (%)	Cu (000t)	Tonnes (Mt)	Grade (%)	Cu (000t)
Copper												
Golpu	–	–	–	428.2	0.93	3 996	108.7	0.64	700	536.9	0.87	4 696
Nambonga	–	–	–	–	–	–	19.9	0.21	42	19.9	0.21	42
Total	**–**	**–**	**–**	**428.2**	**0.93**	**3 996**	**128.6**	**0.58**	**742**	**556.8**	**0.85**	**4 738**

	Tonnes (Mt)	Grade (ppm)	Mo (000t)	Tonnes (Mt)	Grade (ppm)	Mo (000t)	Tonnes (Mt)	Grade (ppm)	Mo (000t)	Tonnes (Mt)	Grade (ppm)	Mo (000t)
Molybdenum												
Golpu	–	–	–	428.2	98	42	108.7	76	8	536.9	94	50

	Tonnes (Mt)	Grade (kg/t)	U_3O_8 (Mkg)	Tonnes (Mt)	Grade (kg/t)	U_3O_8 (Mkg)	Tonnes (Mt)	Grade (kg/t)	U_3O_8 (Mkg)	Tonnes (Mt)	Grade (kg/t)	U_3O_8 (Mkg)
SOUTH AFRICA												
Uranium												
Free State underground												
Masimong	–	–	–	6.0	0.28	2	9.1	0.23	2	15.1	0.25	4
Tshepong	6.1	0.20	1	12.8	0.23	3	10.4	0.12	1	29.3	0.18	5
Phakisa	8.4	0.18	2	11.6	0.18	2	24.1	0.08	2	44.2	0.13	6
Total	**14.5**	**0.19**	**3**	**30.4**	**0.22**	**7**	**43.6**	**0.12**	**5**	**88.6**	**0.17**	**15**
Total South Africa underground	**14.5**	**0.19**	**3**	**30.4**	**0.22**	**7**	**43.6**	**0.12**	**5**	**88.6**	**0.17**	**15**
Free State surface	**–**	**–**	**–**	**174.1**	**0.10**	**17**	**–**	**–**	**–**	**174.1**	**0.10**	**17**
Grand total	**14.5**	**0.19**	**3**	**204.6**	**0.12**	**24**	**43.6**	**0.12**	**5**	**262.7**	**0.12**	**32**

[1] *Total attributable.*

[2] *Gold equivalent ounces are calculated assuming a US$1 400/oz Au, US$3.10/lb Cu and US$23.00/oz Ag with 100% recovery for all metals.*

Rounding of numbers may result in slight computational discrepancies.

Note: 1 tonne = 1 000 kg = 2 204 lbs.
1 troy ounce = 31.10348 grams.

MINERAL RESERVES
STATEMENT (IMPERIAL)

Operations	Proved reserves			Probable reserves			Total mineral reserves		
	Tons (Mt)	Grade (oz/t)	Gold (000oz)	Tons (Mt)	Grade (oz/t)	Gold (000oz)	Tons (Mt)	Grade (oz/t)	Gold (000oz)
SOUTH AFRICA UNDERGROUND									
Free State									
Gold									
Bambanani	1.7	0.331	565	–	–	–	1.7	0.331	565
Joel	2.2	0.155	347	4.1	0.152	621	6.3	0.153	968
Masimong	1.9	0.113	212	0.2	0.107	23	2.1	0.112	235
Phakisa	6.7	0.193	1 294	2.3	0.218	499	9.0	0.199	1 792
Target 1	3.5	0.159	562	4.2	0.150	625	7.7	0.154	1 187
Tshepong	20.2	0.163	3 294	3.6	0.131	474	23.8	0.158	3 768
Unisel	2.0	0.133	268	0.9	0.126	111	2.9	0.131	380
Total Free State underground	**38.3**	**0.171**	**6 542**	**15.2**	**0.154**	**2 352**	**53.6**	**0.166**	**8 895**
West Rand									
Doornkop South Reef	1.4	0.146	211	4.2	0.152	636	5.6	0.151	847
Kusasalethu	7.1	0.199	1 419	22.2	0.174	3 856	29.3	0.180	5 274
Total West Rand	**8.6**	**0.190**	**1 629**	**26.3**	**0.171**	**4 492**	**34.9**	**0.175**	**6 121**
Total South Africa underground	**46.9**	**0.174**	**8 171**	**41.6**	**0.165**	**6 845**	**88.5**	**0.170**	**15 016**
SOUTH AFRICA SURFACE									
Kraaipan Greenstone Belt									
Kalgold	6.4	0.028	182	11.7	0.033	393	18.2	0.032	574
Free State – surface									
Free State (Phoenix)	95.4	0.008	792	–	–	–	95.4	0.008	792
Free State (St Helena)	193.9	0.008	1 507	–	–	–	193.9	0.008	1 507
Free State (other):									
– Waste rock dumps	–	–	–	4.3	0.015	65	4.3	0.015	65
– Slimes dams	–	–	–	609.6	0.007	4 123	609.6	0.007	4 123
– Sub-total	–	–	–	614.0	0.007	4 188	614.0	0.007	4 186
Total Free State	**289.3**	**0.008**	**2 300**	**614.0**	**0.007**	**4 188**	**903.3**	**0.007**	**6 488**
Total South Africa surface (including Kalgold)	**295.7**	**0.008**	**2 481**	**625.7**	**0.007**	**4 581**	**921.5**	**0.008**	**7 062**
Total SA	**342.6**		**10 652**	**667.3**		**11 425**	**1 009.9**		**22 078**
PAPUA NEW GUINEA [1]									
Hidden Valley	1.5	0.032	50	13.3	0.052	693	14.8	0.050	743
Hamata	0.2	0.032	6	1.2	0.069	80	1.3	0.064	85
Golpu	–	–	–	248.0	0.025	6 194	248.0	0.025	6 194
Total Papua New Guinea	**1.7**	**0.032**	**56**	**262.4**	**0.027**	**6 967**	**264.2**	**0.027**	**7 022**
Grand total	**344.3**		**10 708**	**929.7**		**18 392**	**1 274.1**		**29 100**

[1] *Total attributable*

[2] *Gold equivalent ounces are calculated assuming a US$1 400/oz Au, US$3.10/lb Cu and US$23.00/oz Ag with 100% recovery for all metals.*

Metal figures are fully inclusive of all mining dilutions and gold losses, and are reported as mill delivered tonnes and head grades. Metallurgical recovery factors have not been applied to the reserve figures.

Rounding of numbers may result in slight computational discrepancies.

Note: 1 ton = 907kg = 2 000 lbs.
1 troy ounce = 31.10348 grams.

MINERAL RESERVES STATEMENT (IMPERIAL) continued

Operations	Proved reserves		Probable reserves		Total mineral reserves	
	Tons (Mt)	Au eq (000oz)	Tons (Mt)	Au eq (000oz)	Tons (Mt)	Au eq (000oz)
GOLD EQUIVALENTS [1, 2]						
Silver						
Hidden Valley	1.5	15	13.3	218	14.8	232
Total	**1.5**	**15**	**13.3**	**218**	**14.8**	**232**
Copper						
Golpu	–	–	248.0	13 265	248.0	13 265
Total	**–**	**–**	**248.0**	**13 265**	**248.0**	**13 265**
Total silver and copper as gold equivalents	**1.5**	**15**	**261.3**	**13 482**	**262.8**	**13 497**
Total Papua New Guinea including gold equivalents	**1.7**	**70**	**262.4**	**20 449**	**264.2**	**20 519**
Total Harmony including equivalents	**344.3**	**10 722**	**929.7**	**31 874**	**1 274.1**	**42 597**

Other metals

	Tons (Mt)	Grade (oz/t)	Ag (000oz)	Tons (Mt)	Grade (oz/t)	Ag (000oz)	Tons (Mt)	Grade (oz/t)	Ag (000oz)
PAPUA NEW GUINEA [1]									
Silver									
Hidden Valley	1.5	0.595	917	13.3	1.024	13 582	14.8	0.980	14 499
Golpu	–	–	–	248.0	0.040	9 864	248.0	0.040	9 864
Total	**1.5**	**0.595**	**917**	**261.3**	**0.090**	**23 446**	**262.8**	**0.093**	**24 363**

	Tons (Mt)	Grade (%)	Cu (Mlb)	Tons (Mt)	Grade (%)	Cu (Mlb)	Tons (Mt)	Grade (%)	Cu (Mlb)
Copper									
Golpu	–	–	–	248.0	1.096	5 992	248.0	1.096	5 992
Total									

	Tons (Mt)	Grade lb/ton	Mo (Mlb)	Tons (Mt)	Grade lb/ton	Mo (Mlb)	Tons (Mt)	Grade lb/ton	Mo (Mlb)
Molybdenum									
Golpu	–	–	–	248.0	0.162	40	248.0	0.162	40

[1] *Total attributable.*

[2] *Gold equivalent ounces are calculated assuming a US$1 400/oz Au, US$3.10/lb Cu and US$23.00/oz Ag with 100% recovery for all metals.*

Metal figures are fully inclusive of all mining dilutions and gold losses, and are reported as mill delivered tonnes and head grades. Metallurgical recovery factors have not been applied to the reserve figures.

Rounding of numbers may result in slight computational discrepancies.

Note: 1 ton = 907kg = 2 000 lbs.
1 troy ounce = 31.10348 grams.

MINERAL RESERVES
STATEMENT (METRIC)

Operations	Proved reserves			Probable reserves			Total mineral reserves		
	Tonnes (Mt)	Grade (g/t)	Gold (000kg)	Tonnes (Mt)	Grade (g/t)	Gold (000kg)	Tonnes (Mt)	Grade (g/t)	Gold (000kg)
SOUTH AFRICA UNDERGROUND									
Free State									
Gold									
Bambanani	1.6	11.33	18	–	–	–	1.6	11.33	18
Joel	2.0	5.32	11	3.7	5.20	19	5.7	5.24	30
Masimong	1.7	3.87	7	0.2	3.66	1	1.9	3.85	7
Phakisa	6.1	6.61	40	2.1	7.49	16	8.2	6.83	56
Target 1	3.2	5.45	17	3.8	5.16	19	7.0	5.29	37
Tshepong	18.4	5.58	102	3.3	4.50	15	21.6	5.42	117
Unisel	1.8	4.55	8	0.8	4.33	3	2.6	4.48	12
Total Free State underground	**34.8**	**5.85**	**203**	**13.8**	**5.29**	**73**	**48.6**	**5.69**	**277**
West Rand									
Doornkop									
Doornkop South Reef	1.3	5.00	7	3.8	5.22	20	5.1	5.16	26
Kusasalethu	6.5	6.83	44	20.1	5.97	120	26.6	6.18	164
Total West Rand	**7.8**	**6.52**	**51**	**23.9**	**5.85**	**140**	**31.7**	**6.01**	**190**
Total South Africa underground	**42.5**	**5.97**	**254**	**37.7**	**5.65**	**213**	**80.3**	**5.82**	**467**
SOUTH AFRICA SURFACE									
Kraaipan Greenstone Belt									
Kalgold	5.8	0.97	6	10.6	1.15	12	16.5	1.08	18
Free State – surface									
Free State (Phoenix)	86.6	0.28	25	–	–	–	86.6	0.28	25
Free State (St Helena)	175.9	0.27	47	–	–	–	175.9	0.27	47
Free State (other):									
– Waste rock dumps	–	–	–	3.9	0.51	2	3.9	0.51	2
– Slimes dams	–	–	–	553.1	0.23	128	553.1	0.23	128
– Sub-total	–	–	–	557.0	0.23	130	557.0	0.23	130
Total Free State	**262.5**	**0.27**	**72**	**557.0**	**0.23**	**130**	**819.4**	**0.25**	**202**
Total South Africa surface (including Kalgold)	**268.3**	**0.29**	**77**	**567.6**	**0.25**	**142**	**835.9**	**0.26**	**220**
Total SA	**310.8**		**331**	**605.4**		**355**	**916.2**		**687**
PAPUA NEW GUINEA [1]									
Hidden Valley	1.4	1.11	2	12.0	1.79	22	13.4	1.72	23
Hamata	0.2	1.09	0.2	1.0	2.36	2	1.2	2.19	3
Golpu	–	–	–	225.0	0.86	193	225.0	0.86	193
Total Papua New Guinea	**1.6**	**1.11**	**2**	**238.1**	**0.91**	**217**	**239.6**	**0.91**	**218**
Grand total	**312.4**		**333**	**843.4**		**572**	**1 155.8**		**905**

[1] *Total attributable.*

[2] *Gold equivalent ounces are calculated assuming a US$1 400/oz Au, US$3.10/lb Cu and US$23.00/oz Ag with 100% recovery for all metals.*

Metal figures are fully inclusive of all mining dilutions and gold losses, and are reported as mill delivered tonnes and head grades. Metallurgical recovery factors have not been applied to the reserve figures.

Rounding of numbers may result in slight computational discrepancies.
Note: 1 tonne = 1 000 kg = 2 204 lbs.
1 troy ounce = 31.10348 grams.

MINERAL RESERVES STATEMENT (METRIC) continued

Operations	Proved reserves		Probable reserves		Total mineral reserves	
	Tonnes (Mt)	Au eq (000kg)	Tonnes (Mt)	Au eq (000kg)	Tonnes (Mt)	Au eq (000kg)
GOLD EQUIVALENTS [1, 2]						
Silver						
Hidden Valley	1.4	0.5	12.0	7	13.4	7
Total	**1.4**	**0.5**	**12.0**	**7**	**13.4**	**7**
Copper						
Golpu	–	–	225.0	413	225.0	413
Total	**–**	**–**	**225.0**	**413**	**225.0**	**413**
Total silver and copper as gold equivalents	**1.4**	**0.5**	**237.0**	**419**	**238.4**	**420**
Total Papua New Guinea including gold equivalents	**1.6**	**2**	**238.1**	**636**	**239.6**	**638**
Total Harmony including equivalents	**312.4**	**334**	**843.4**	**991**	**1 155.8**	**1 325**

Other metals

	Tonnes (Mt)	Grade (g/t)	Ag (000kg)	Tonnes (Mt)	Grade (g/t)	Ag (000kg)	Tonnes (Mt)	Grade (g/t)	Ag (000kg)
PAPUA NEW GUINEA [1]									
Silver									
Hidden Valley	1.4	20.40	29	12.0	35.12	422	13.4	33.59	451
Golpu	–	–	–	225.0	1.36	307	225.0	1.36	307
Total	**1.4**	**20.40**	**29**	**237.0**	**3.08**	**729**	**238.4**	**3.18**	**758**

	Tonnes (Mt)	Grade (%)	Cu (000t)	Tonnes (Mt)	Grade (%)	Cu (000t)	Tonnes (Mt)	Grade (%)	Cu (000t)
Copper									
Golpu	–	–	–	225.0	1.21	2 718	225.0	1.21	2 718
Total									

	Tonnes (Mt)	Grade ppm	Mo (000t)	Tonnes (Mt)	Grade ppm	Mo (000t)	Tonnes (Mt)	Grade ppm	Mo (000t)
Molybdenum									
Golpu	–	–	–	225.0	81	18	225.0	81	18

[1] *Total attributable.*

[2] *Gold equivalent ounces are calculated assuming a US$1 400/oz Au, US$3.10/lb Cu and US$23.00/oz Ag with 100% recovery for all metals.*

Metal figures are fully inclusive of all mining dilutions and gold losses, and are reported as mill delivered tonnes and head grades. Metallurgical recovery factors have not been applied to the reserve figures.

Rounding of numbers may result in slight computational discrepancies.

Note: 1 tonne = 1 000 kg = 2 204 lbs.
1 troy ounce = 31.10348 grams.

RESOURCES AND RESERVES BY OPERATION

RESOURCES AND RESERVES BY OPERATIONS

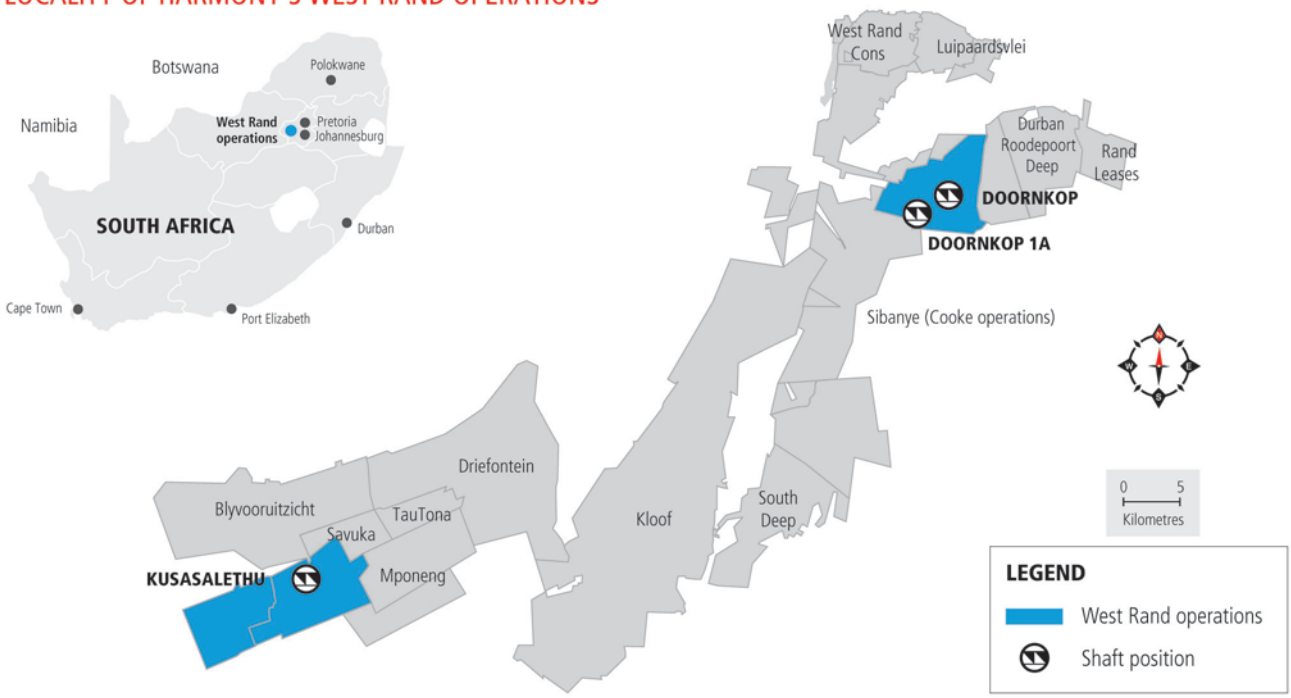
RESOURCES AND RESERVES BY OPERATION

SOUTH AFRICA

SOUTH AFRICA – WEST RAND

Harmony's West Rand operations are Doornkop and Kusasalethu, which together have mineral resources of 16.3Moz and mineral reserves of 6.1Moz as at 30 June 2015.

LOCALITY OF HARMONY'S WEST RAND OPERATIONS



West Rand operations	Latitude	Longitude
Doornkop	26°13'03.36"S	27°47'26.55"E
Kusasalethu	26°27'16.23"S	27°21'32.91"E

DOORNKOP

Location

The Doornkop shaft complex is located south of Krugersdorp, 30km west of Johannesburg, on the northern rim of the Witwatersrand Basin, in the province of Gauteng. The property lies between Cooke 1 shaft, belonging to Sibanye Gold Limited, and Durban Roodepoort Deep Mines.

Nature of the operation

Doornkop is a single-shaft operation which exploits the South Reef some 2 000m below surface. The South Reef is a narrow reef, exploited by means of conventional stoping. The ore mined at Doornkop is processed at Doornkop's carbon-in-pulp plant, situated directly next to Doornkop shaft. Mining of the Kimberley Reef was suspended during FY14 so as to focus on the build-up of mining of the South Reef and to prevent losses resulting from the lower gold price. Mining of the Kimberley Reef may be resumed should economic circumstances improve sufficiently.

Regional geology

The structure of the West Rand goldfield is dominated by the Witpoortjie and Panvlakte Horst blocks, which are superimposed over broad-folding associated with the south-east plunging West Rand syncline.

The Doornkop shaft lease area is bounded by and lies to the south-east of the major north-easterly striking Roodepoort fault, which dips to the south and constitutes the southern edge of the Witpoortjie Horst block or gap. This Horst block comprises the stratigraphically older sediments of the West Rand Group, the overlying Central Rand Group sediments having been removed by erosion. A number of other faults, forming part of and lying south-east of the Roodepoort fault, including the Saxon fault, also constitute conspicuous structural breaks. A second major fault, the Doornkop fault, which trends in an east-west direction, occurs toward the southern portion of the lease area. This fault dips to the south and has an up throw to the north.

Nearly the entire upper Witwatersrand section is present in the lease area and therefore all the major zones are present, though due to the distance of the area from the primary source of gold, the number of economic bands and their payability is limited. Eight of the well-known reefs are present in the area, but only the South Reef is considered viable at this stage.

The South Reef is between 7.5m and 60m above the Main Reef horizon. The hanging wall to the South Reef consists of siliceous quartzites with non-persistent bands of 'blue-shot' grit and thin argillite partings. The footwall to the South Reef is a light coloured and fairly siliceous quartzite. Secondary conglomerate bands and stringers in the hanging wall and footwall of the South Reef may contain sporadic gold values. The general strike of the reef is east-west, with a flat dip from 5 to 15 degrees. Due to the limited geological information, one of the biggest risks for the operation is the intersection of any geological structures that may have a significant change in the reef elevations which can result in some of the resources ending up below infrastructure rendering it inaccessible from current levels with a potential to negatively affect the declared reserves. To curb this risk, Doornkop has embarked on extensive exploration drilling from underground platforms.

Doornkop

Gold – Mineral resources

	Measured resources				Indicated resources				Inferred resources				Total mineral resources			
	Tonnes (Mt)	Gold (g/t)	Gold (000kg)	Gold (000oz)	Tonnes (Mt)	Gold (g/t)	Gold (000kg)	Gold (000oz)	Tonnes (Mt)	Gold (g/t)	Gold (000kg)	Gold (000oz)	Tonnes (Mt)	Gold (g/t)	Gold (000kg)	Gold (000oz)
South Reef	3.0	7.28	22	705	7.1	7.56	54	1 736	22.6	6.82	154	4 966	32.8	7.03	230	7 407
Main Reef	0.1	5.38	0.4	14	0.05	5.51	0.3	8	0.02	5.32	0.1	3	0.1	5.41	1	25
Grand total	**3.1**	**7.23**	**22**	**719**	**7.2**	**7.55**	**54**	**1 745**	**22.7**	**6.82**	**155**	**4 969**	**32.9**	**7.02**	**231**	**7 432**

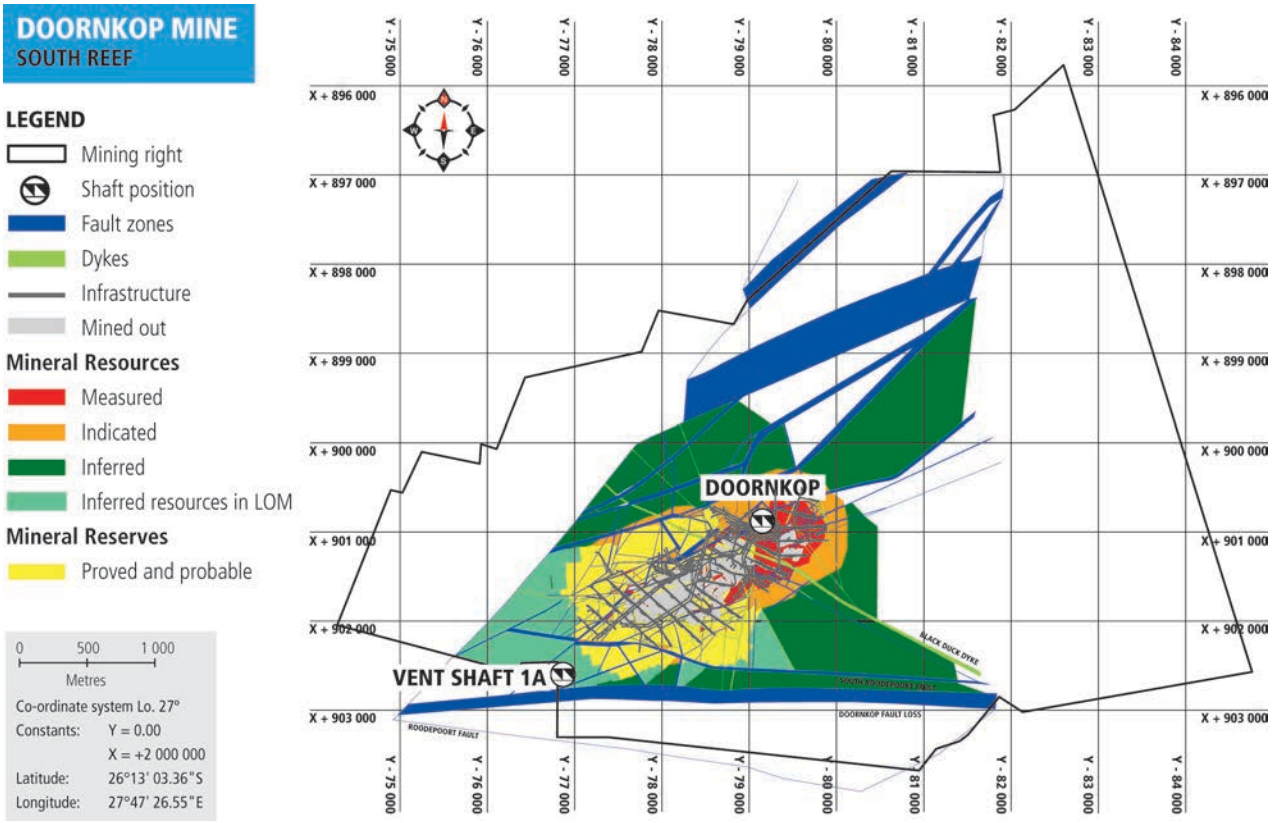
Modifying factors

	MCF (%)	SW (cm)	MW (cm)	PRF (%)
South Reef	82	121	153	96

Gold – Mineral reserves

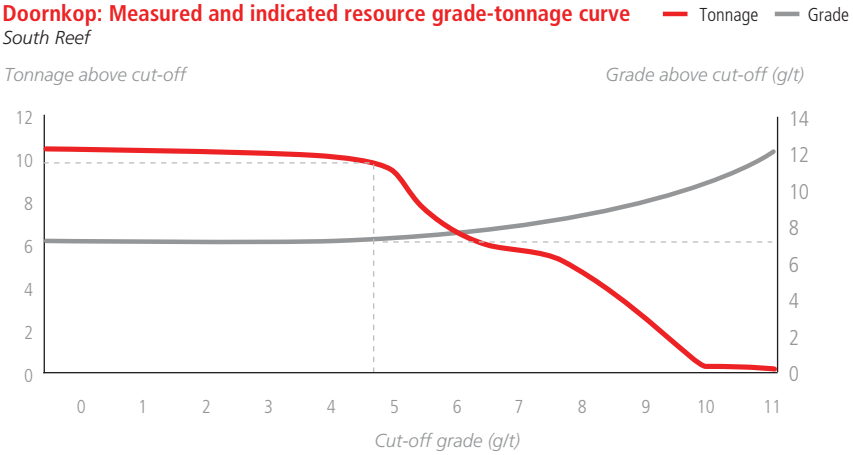
	Proved reserves				Probable reserves				Total mineral reserves			
	Tonnes (Mt)	Gold (g/t)	Gold (000kg)	Gold (000oz)	Tonnes (Mt)	Gold (g/t)	Gold (000kg)	Gold (000oz)	Tonnes (Mt)	Gold (g/t)	Gold (000kg)	Gold (000oz)
South Reef	1.3	5.00	7	211	3.8	5.22	20	636	5.1	5.16	26	847

SOUTH AFRICA – WEST RAND continued



Doornkop: Measured and indicated resource grade-tonnage curve

South Reef



KUSASALETHU

Location

Kusasalethu is situated on the West Wits Line and is nestled between the Savuka and Mponeng mines to the east and the dormant Deelkraal to the west. Kusasalethu is situated 14km south of Carletonville and 90km southwest of Johannesburg.

Nature of the operation

The 10m-diameter rock/ventilation shaft was sunk to 2 195m and the man/material shaft to 2 127m. By June 1984, a 10m-diameter sub-vertical rock/service shaft was completed to a depth of 3 048m and a 7m-diameter sub-vertical ventilation shaft to a depth of 3 048m. Both of these shafts were deepened as part of the deepening project to extract the higher-grade pay-chute towards the west of the mine. In December 2014, a decision was taken to stop the Old mine portion of Kusasalethu and to restructure the mine. Subsequently mining above 98 level has ceased.

Kusasalethu employs the sequential-grid method of mining, which is in essence an upside-down Christmas tree configuration. This method is used to direct seismic stresses away from current working areas into virgin rock areas.

Regional geology

Kusasalethu is situated in the West Wits Basin and mines the Ventersdorp Contact Reef (VCR) as its main ore body. The VCR rests uncomformably on the quartzites of the Witwatersrand (WWR) Supergroup.

These WWR quartzites belong to the Mondeor Formation in the western part of the lease area and the Elsburgs Quartzite Formation in the eastern part of the lease area. The unconformity angle becomes more perceptible towards the east. The average dip of the VCR is 25 degrees to the south-east and the VCR has an average strike of N72 degrees east.

The VCR is generally a clast-supported conglomerate of small sub-angular to sub-rounded milky and smoky (60:40 respectively) quartz pebbles. The matrix is dark grey and medium-grained and comprises mostly quartzite, separating the two units as internal quartzites. It is mineralised by some pyrrhotite, chalcopyrite and, in rare instances, by some carbon flyspecks. Sometimes there are changes to the reef appearance in the form of thickness and, to some degree, elimination. These changes are brought about by either erosion (lava erosion channels – lava appearing at different elevations, with resultant undulations of the reef), or flat faulting (as evidenced by the presence of mylonite at the top contact of the reef).

The VCR facies model at Kusasalethu is based on the Paleotopographic or Slope and Terrace model. Nine facies types have been recognised at Kusasalethu, eight sedimentological and one structural. Four of the facies are thick, high-grade, geologically distinct reef terraces separated from one another by thin low-grade slope reef. The sand-filled channel is a thick low-grade facies. Sandy Terrace Complex (TC2) is found on the same elevation as Terrace Complex, but is essentially a pebbly quartzite with no grade. The Mondeor conglomerates have been identified sub-cropping against the VCR in stopes in certain areas and have been delineated as a separate facies in these areas.

The Elsburgs conglomerates are found on the western side of Kusasalethu, forming the footwall to the VCR. The Elsburgs are part of the Turffontein Supergroup. It is a predominantly polymictic matrix supported conglomerate of well-packed and moderately sorted, sub-rounded smoky (80%), black/grey (15%) quartz pebbles, chert (3%) and some elongated shale pebbles (2%). The matrix is pale yellow to light green and medium-grained, also, pyritic in places.

The VCR is overlain by the Ventersdorp Lava. The lava belongs to the Ventersdorp Supergroup. It is light to mid-grey in colour and fine crystalline, seldom containing phenocrysts. In places it is amygdaloidal with quartz and pyrite mineralisation. Flow structures are also present at the base of the lava. It breaks into very angular fragments due to weak jointing and the flow banding – it would appear to be andesitic in composition.

Geological discontinuities observed at Kusasalethu include faults, dykes and sills. Sills may occur in the footwall in many areas adjacent to certain dykes. Flat bedding plane faulting also occurs and results in reef duplication, elimination and brecciation. Faults and dykes are classified according to their relative geologic ages, and are as follows: Pre-VCR structures, Ventersdorp structures, Platberg structures, Bushveld structures and Pilanesberg structures.

SOUTH AFRICA – WEST RAND continued

Kusasalethu mines in blocky ground created by structures in the form of dykes and faults. The dykes are fairly basic in composition and they tend to strike north-north-east and south-south-west with a general dip of 75 degrees. The faults, however, have a strike mostly of east-south-east and west-north-west with a few exceptions. Generally, faults here are normal faults with the accompanied loss of ground with varying throws, from a throw of mere centimetres to a massive 60m throw (Kittims and De Twem Fault).

Kusasalethu

Gold – Mineral resources

	Measured resources				Indicated resources				Inferred resources				Total mineral resources			
	Tonnes (Mt)	Gold (g/t)	Gold (000kg)	Gold (000oz)	Tonnes (Mt)	Gold (g/t)	Gold (000kg)	Gold (000oz)	Tonnes (Mt)	Gold (g/t)	Gold (000kg)	Gold (000oz)	Tonnes (Mt)	Gold (g/t)	Gold (000kg)	Gold (000oz)
Ventersdorp Contact Reef	7.2	11.04	80	2 563	21.4	8.47	182	5 843	1.7	9.05	15	483	30.3	9.12	277	8 890

Modifying factors

	MCF (%)	SW (cm)	MW (cm)	PRF (%)
Ventersdorp Contact Reef	85	130	154	96

Gold – Mineral reserves

	Proved reserves				Probable reserves				Total mineral reserves			
	Tonnes (Mt)	Gold (g/t)	Gold (000kg)	Gold (000oz)	Tonnes (Mt)	Gold (g/t)	Gold (000kg)	Gold (000oz)	Tonnes (Mt)	Gold (g/t)	Gold (000kg)	Gold (000oz)
Ventersdorp Contact Reef	6.5	6.83	44	1 419	20.1	5.97	120	3 856	26.6	6.18	164	5 274

Kusasalethu mine.

KUSASALETHU MINE
VENTERSDORP CONTACT REEF

LEGEND

- Mining right
- Shaft position
- Intermine boundary
- Fault zones
- Dykes
- Abandoned pillars
- Infrastructure
- Mined out

Mineral Resources

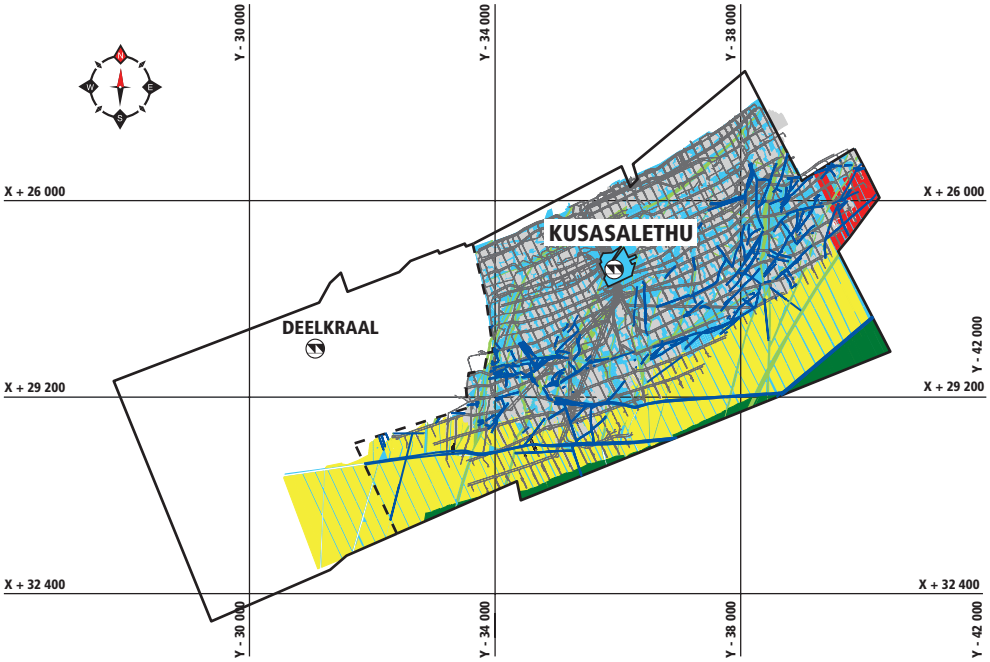
- Measured
- Indicated
- Inferred

Mineral Reserves

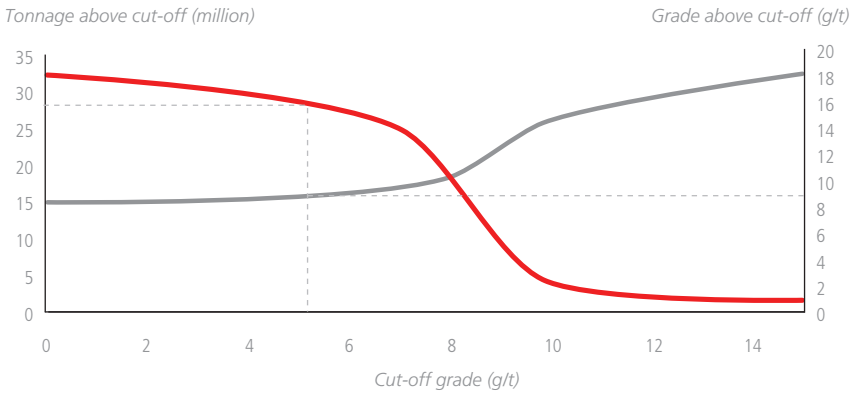
- Proved and probable

0 500 1 000
Metres

Co-ordinate system Lo. 27°
Constants: Y = -0.00
X = +2 900 000
Latitude: 26°13' 03.36"S
Longitude: 27°47' 26.55"E



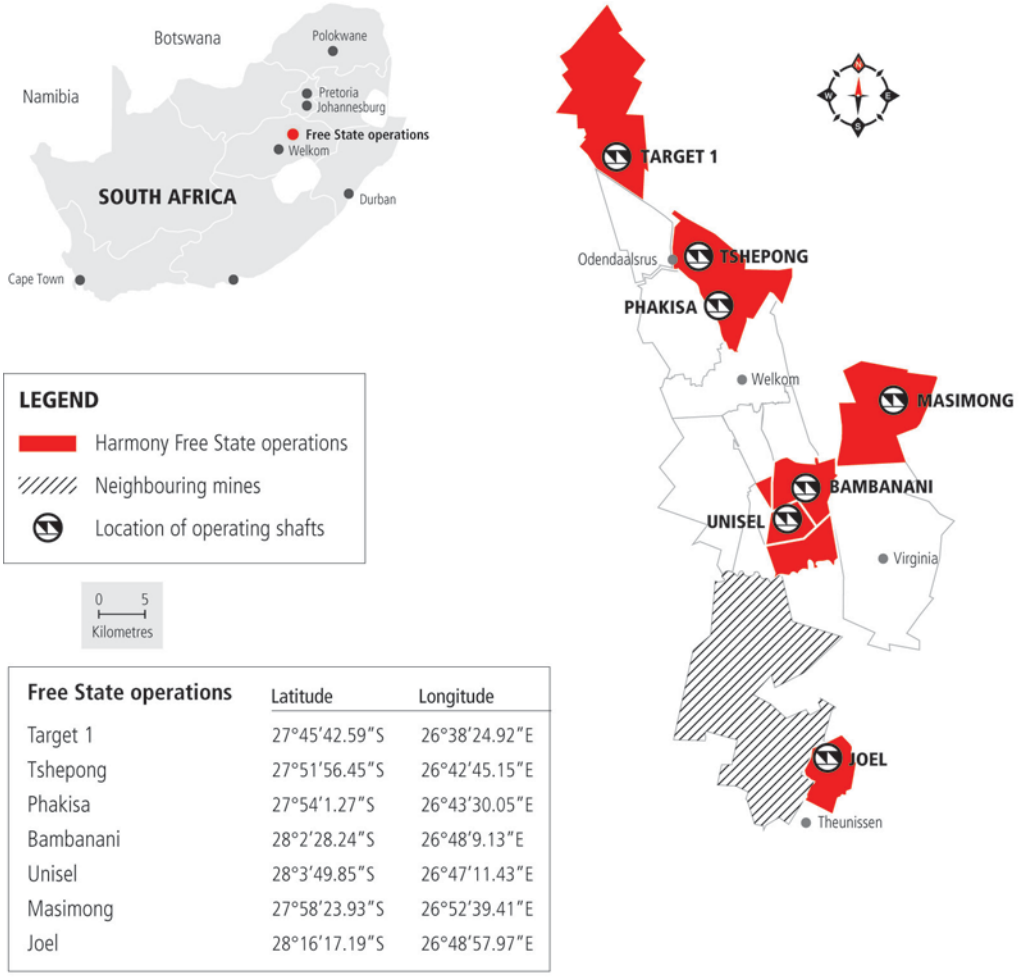
Kusasalethu: Measured and indicated resource grade-tonnage curve — Tonnage — Grade
Ventersdorp Contact Reef



SOUTH AFRICA – FREE STATE OPERATIONS

Harmony's Free State operations comprise seven underground mines. Together they have mineral resources of 46.5Moz and mineral reserves of 8.9Moz as at 30 June 2015.

LOCALITY OF HARMONY'S FREE STATE OPERATIONS



Free State operations	Latitude	Longitude
Target 1	27°45'42.59"S	26°38'24.92"E
Tshepong	27°51'56.45"S	26°42'45.15"E
Phakisa	27°54'1.27"S	26°43'30.05"E
Bambanani	28°2'28.24"S	26°48'9.13"E
Unisel	28°3'49.85"S	26°47'11.43"E
Masimong	27°58'23.93"S	26°52'39.41"E
Joel	28°16'17.19"S	26°48'57.97"E

FREE STATE OPERATIONS

Location

Harmony's Free State operations comprise seven underground mines – including the mechanised Target 1 mine. These mines are located on the south-western corner of the Witwatersrand Basin, between the towns of Allanridge, Welkom, Theunissen and Virginia.

Joel mine is the most southerly of the gold mines mined within the Harmony stable and is situated some 40km south of Welkom, 30km southeast of Virginia and 20km north of Theunissen. The mine has a common boundary with the Sibanye gold mine (Beatrix Mine) to the west of the mine property.

Unisel mine is situated to the North of Joel between the City of Welkom and town of Virginia. It is bound to the north by Brand 5 shaft and West shaft and to the east by Bambanani.

Bambanani mine is located 10km south-east of Welkom. The East shaft is bound to the west by Bambanani West shaft and to the north by President Steyn No.2 shaft.

Masimong mine is located on the north eastern side of the De Bron Fault approximately 12km east from the city of Welkom and 10km north from the town of Virginia. It is bounded to the south by Masimong 4 shaft and Saaiplaas 3 shaft.

Phakisa mine is located north west of Masimong 5 shaft between the town of Odendaalsrus and the city of Welkom some 13km north of the City of Welkom. It is bound to the south by Eland shaft, to the west by Nyala shaft and to the north by Tshepong shaft.

Tshepong mine is located to the north of Phakisa between the town of Odendaalsrus and the township of Kutloanong some 20km north of Welkom. It is bound to the north by the dormant Jeanette mine, to the south and east by the Phakisa mine, and to the south-west by Nyala shaft.

Target 1 mine is the most northerly of Harmony's mines in the Free State and is situated some 30km north of the town of Welkom.

Nature of the operations

Joel mines at moderate depths of ±1 300m below surface. The primary economical reef horizon at Joel is the narrow tabular Beatrix Reef deposit which is accessed through conventional grid development. The reef dips northwards at an average angle of 14 degrees with an inherited concept of using winzes rather than raises to generate ore reserves. Extraction is done conventionally.

Unisel is a mine in a mature phase of operation, mining at intermediate depths ranging from 1 100m to 2 100m below surface. Conventional mining is scattered over all levels and takes place from 2km to 4km from the shaft. Mining takes place mainly on the Leader and Basal Reefs with a lesser amount on the Middle Reef, normally limited to less than 5% of mining. This distribution of mining is not expected to change over the life of mine. Pillar and fault block mining will become more important and constitute a greater percentage of mining as ore reserves are depleted. Limited blocks of ground below infrastructure will be accessed and mined from winzes.

Mining at **Bambanani** is limited to the extraction of the shaft pillar (Basal Reef only) at depths between 1911 and 2197m below surface. This is done by means of mini longwalls (subdivided on local geological structures and geotechnical conditions) established on the northern side of the shaft pillar (by means of wide raises), and mining advances in a southerly direction in a pre-determined sequence. Some mining is also done in the centre of the shaft pillar. Panels will be mined on undercut or open depending on geological conditions and rock engineering recommendations. More panels are mined on undercut, leaving a reef beam of approximately 80cm underneath the shale.

Masimong mines at moderate depths between 1 650m to 2 010m below surface. The reef horizon is accessed by means of conventional grid development. The economical reef horizons extracted are the Basal Reef and the B Reef. Basal Reef accounts for approximately 85% of the on reef production profile, and is mined on open and undercut operations, depending on whether the reef is overlain by shale. B Reef mining comprises the other 15% of the on reef production profile. It is located approximately 120m stratigraphically above the Basal Reef, thus necessitating separate infrastructure (i.e. footwall development) from the Basal. The presence of the upper shale marker approximately 20m thick below the B Reef strains the development rates of the B Reef, requiring drop raising to be done to effect holing on all box holes, also all on-reef development needs to be done by means of wide raising. The marginality of the ore body and the current economic situation has significantly reduced the reserves on the mine giving a life expectancy of 2-3 years. The amount of pillar mining will increase as development of new areas has been curtailed.

Phakisa mine's primary economical reef horizon is the Basal Reef. The reef horizon is accessed by means of conventional grid development and is extracted as an open mining operation to the south of the 69 raise line, but undercut mining commenced as the mining operation continues to the north. Phakisa is still in the process of building up to full production. It is envisaged that at the current rate of development, Phakisa will reach full production within the next three years. Pillar crews are also planned as the life of mine progresses to ensure depletion of the pillar reserves within the life-of-mine time frame.

SOUTH AFRICA – FREE STATE OPERATIONS continued

Tshepong mines at moderate depths of between 1 600m and 2 200m below surface. The reef horizon is accessed via conventional grid development. The shafts primary economical reef horizon is the Basal Reef that is extracted as an undercut mining operation leaving a quartzite beam in the hanging wall to ensure the stability of the overlaying shale. Minor amounts of B Reef that does not exceed 5% of the on-reef area mined per annum are extracted as an open stoping mining operation. The B Reef is approximately 140m stratigraphically above the Basal Reef, thus necessitating separate infrastructure (i.e. footwall development) from the Basal. The presence of khaki shale approximately 6m thick above the Basal Reef strains the footwall development rates of the B Reef, requiring the installation of ring sets for the first 25m of development. The mine has significant reserves to maintain a long-term life, however, extraction of ore from pillars will become more important as the life of mine progresses, but volumetrically is not significant.

Regional geology

Harmony's Free State operations are located on the south-western corner of the Witwatersrand Basin, between the towns of Allanridge, Welkom, Theunissen and Virginia. The basin, situated on the Kaapvaal Craton, has been filled by a 6km thick succession of sedimentary rocks, which extends laterally for hundreds of kilometres.

The Free State goldfield is divided into two sections, cut by the north-south striking De Bron fault. This major structure has a downward vertical displacement to the west of about 1 500m in the region of Bambanani, as well as a dextral shift of 4km. This lateral shift can allow a reconstruction of the ore bodies of Unisel to the west of the De Bron and Masimong to the east. A number of other major faults (Stuirmanspan, Dagbreek, Arrarat and Eureka) lie parallel to the De Bron fault.

To the west of the De Bron fault, current operating mines are Target, Tshepong, Phakisa, Unisel, Bambanani and Joel. Dips of the reef are mostly towards the east, averaging 30 degrees but become steeper approaching the De Bron fault. To the east of the fault lies Masimong mine. These reefs mostly dip towards the west at 20 degrees, although Masimong is structurally complex and dips of up to 40 degrees have been measured. Between these two blocks lie the uplifted Horst block of West Rand Group sediments with no reef preserved.

Tshepong underground

The western margin area is bound by synclines and reverse thrust faults and is structurally complex. Towards the south and east, reefs sub-crop against overlying strata, eventually cutting out against the Karoo to the east of the lease area.

Most of the mineral resource tends to be concentrated in reef bands located on one or two distinct unconformities. A minority of the mineral resource is located on other unconformities. Mining that has taken place is mostly deep-level underground mining, exploiting the narrow, generally shallow dipping tabular reefs.

The Basal Reef is the most common reef horizon and is mined at all shafts except Target 1 and Joel. It varies from a single pebble lag to channels of more than 2m thick. It is commonly overlain by shale, which thickens northwards. Tshepong has resorted to undercutting in its mining panels to reduce the effect of shale dilution.

The second major reef is the Leader Reef, 15m to 20m above the Basal Reef. This is mined at Unisel to the south. Further north, it becomes poorly developed with erratic grades. The reef consists of multiple conglomerate units, separated by thin quartzitic zones, often totaling up to 4m thick. A selected mining cut on the most economic horizon is often undertaken.

The B Reef is a highly channelised ore body located 140m stratigraphically above the Basal Reef. Because of its erratic nature, it has only been mined at Masimong, Tshepong, Target 2 and Target 3 shafts. Within the channels, grades are excellent, but this reduces to almost nothing outside the channels. Consequently, these shafts have undertaken extensive exploration to locate these pay channels.

The A Reef is also a highly channelised reef, located some 40m above the B Reef, within an extensive channel that lies along the western margin from Nyala to Lorraine. It consists of multiple conglomerate bands of up to 4m thick and a selected mining cut is usually required to optimise the ore body.

Joel mine, 30km south of Welkom, is the only Harmony Free State operation to mine the Beatrix Reef. This reef varies from a single-pebble lag to a multiple conglomerate, often showing mixing of the reef with some of the overlying lower-grade VS5 (mixed pebble conglomerate) material. None of the other reefs are present this far south, having sub-cropped against the Beatrix Reef.

The Target operation is at the northern extent of the Free State goldfields, some 20km north of Welkom. The reefs currently exploited are the Elsburg-Dreyerskuil conglomerates, which form a wedge-shaped stacked package, comprising 35 separate reef horizons, often separated by quartzite beds. The Elsburg Reefs are truncated by an unconformity surface at the base of the overlying Dreyerskuil member. Below the sub-crop, the Elsburg dips steeply to the east, with dips becoming progressively shallower down dip. Close to the sub-outcrop, the thickness of the intervening quartzites reduces, resulting in the Elsburg Reefs coalescing to form composite reef packages that are exploited by massive mining techniques at Target mine. The Dreyerskuil also consists of stacked reefs dipping shallowly to the east. These reefs tend to be less numerous, but more laterally extensive than the underlying Elsburg Reefs.

TARGET 1

Location

This report describes the area surrounding and the resource generation process for Target 1 (including the former Loraine property), the most northerly operation in the Free State (Welkom) goldfield. The area extends from the southern boundary of the mine lease area northwards to the position of the Siberia fault (see below). The resources quoted cover the area from the southern boundary of the mine lease area northwards to the Blast dyke.

Nature of operation

The Target ore body is located some 5km to the north of the original Lorraine No 1 shaft and is accessed via a 6km long 12 degree decline developed from the 203 Level of the No 1 shaft vertical shaft system.

Initially the decline was developed to provide a drilling platform for the exploration and evaluation of the ore body, but was later used as the main access for all services, logistics, personnel and the extraction of ore.

The ore body is composed of some 60 or more individual conglomerates located in the Uitkyk (Elsburg – EAs) and van der Heeversrust (Dreyerskuil – DKs), members of the upper Eldorado (Elsburgs) Formation. These reefs lend themselves to massive mining techniques where composited conglomerate units can be mined as one stope. These stopes are long-hole drilled and blasted and tonnages are cleaned and transported by trackless machinery, some of this being remotely operated. Massive mining is particularly relevant where the reefs become condensed and steeper in the western portion of the ore body. Massive mining contributes to 80% of total tons stoped.

SOUTH AFRICA – FREE STATE OPERATIONS continued

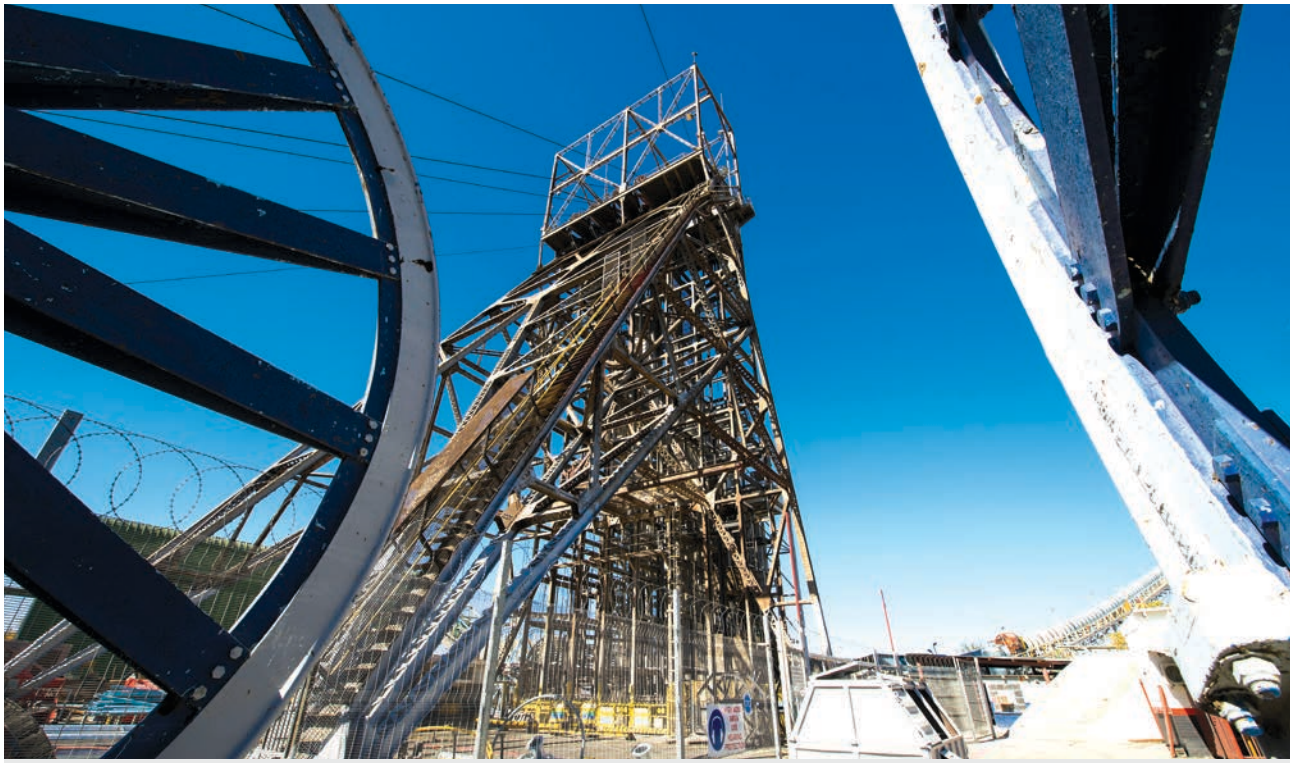
Massive stopes have to be mined in a sequence, broadly from down-dip to up-dip. Previously mined stopes are backfilled for support, environmental and safety concerns.

Conventional narrow reef scattered mining makes up the remaining 16% of stope tons where individual reefs are extracted in places where massive mining is inappropriate or uneconomic. In addition to mining for gold, some stopes are planned to be mined on the stratigraphically highest gold-bearing units to provide over-stoping for the future massive stopes.

Regional geology

The gold deposits of the Witwatersrand lie in an arcuate form, along the northern and western edges of a kidney-shaped basin. The Welkom goldfield, which lies in the southernmost part of this Witwatersrand Basin, has produced 25% of all the gold mined from the Witwatersrand Basin, which in turn has accounted for 66% of all the gold ever mined in the world. It would seem that the western limit of the Welkom goldfield is an edge feature of a mountainous hinterland, through which sediment was debouched into the Witwatersrand depository. A thrust fault system has resulted in the post-depositional folding of the strata into a synclinal shape. This "border feature" is the western limit of the graben structure, some 10km wide, which contains the majority of the Welkom gold mines. The eastern limit of this graben is the well-defined De Bron fault. The Target gold prospect is a northward continuation of the Welkom Goldfield.

The full potential of the Basal Reef, which produced 85% of the gold from this area has yet to be established in the Target area, because the initial drilling focused on the shallower Elsburg and Kimberley Reefs due to time constraints. The reefs in the Aandenk (Kimberley) Formation include the B Reef at the base, the Big Pebble Reef and the A Reef. The Eldorado (Elsburg) Formation is developed as a sequence of oligomictic auriferous conglomerates referred to as the EA Reefs and which have been mined extensively at Loraine Gold Mine. The EA Reefs are overlain by a remnant of the diamictite facies of the south, termed the Boulder Beds at Loraine. The reefs and associated quartzites represent alluvial sediment influx from a source area to the west. The distribution of gold mineralisation is clearly related to the sedimentology and this primary sedimentological control of gold distribution is understood. However research has shown that some remobilisation of gold has taken place over small distances. This is not extensive enough to mask the sedimentary controls.



Target 1

Mining methods

The stoping methods can be grouped into long-hole stoping methods, development and narrow reef mining techniques. In order that more clarity be attained, the methods are broken down into seven stoping methods that detailed below:

Long-hole stoping methods:	
Massive open	Narrow-reef
Wide open	
Development methods:	
Drift and fill	Cut and fill
Drift and pillar	Narrow-reef

Massive open stoping

The massive open stope philosophy is based on mining a large volume of ore at a low working cost. The proximity of the reefs in the sub outcrop area allow for a combination of the reefs to be mined using this method. The specifics of the method in the following description pertain directly to the main fan massive open stopes as in the first three years this is the critical area of operation. The same principles and methodology is applied to areas where similar geology allows the mining of a massive stope.

Wide open stoping

The main area of focus for the wide open stopes is the main fan block where two such stoping areas will be mined. The stoping method describes the extraction process for these two stopes, but the method can be applied to any block of similar dimensions i.e. reef widths in excess of 10m and a dip in excess of 200m. The mining method has been designed to utilise the benefits of long-hole stoping methods and backfill.

Narrow-reef mining

The schedule reflects that 8% of the initial monthly tonnage is to be mined from the Dreyerskuil (DK1A) Reefs by means of the conventional narrow-reef mining method. The mining method is essential, as it must provide a de-stressed environment for the bulk of the mechanised stoping, and there is no practical and safe alternative to this method. The rate of overstoping must liberate sufficient destressed reserves to enable the planned 68 000tpm production rate to be achieved.

Target 1 and 3

Gold – Mineral resources

	Measured resources				Indicated resources				Inferred resources				Total mineral resources			
	Tonnes (Mt)	(g/t)	Gold (000kg)	Gold (000oz)	Tonnes (Mt)	(g/t)	Gold (000kg)	Gold (000oz)	Tonnes (Mt)	(g/t)	Gold (000kg)	Gold (000oz)	Tonnes (Mt)	(g/t)	Gold (000kg)	Gold (000oz)
Target 1	9.0	7.42	67	2 158	11.1	7.54	84	2 700	4.2	5.55	23	742	24.3	7.16	174	5 599
Target 3	7.0	9.10	64	2 057	4.7	7.10	33	1 063	–	–	–	–	11.7	8.31	97	3 119
Grand total	**16.1**	**8.16**	**131**	**4 214**	**15.8**	**7.41**	**117**	**3 763**	**4.2**	**5.55**	**23**	**742**	**36.0**	**7.53**	**271**	**8 719**

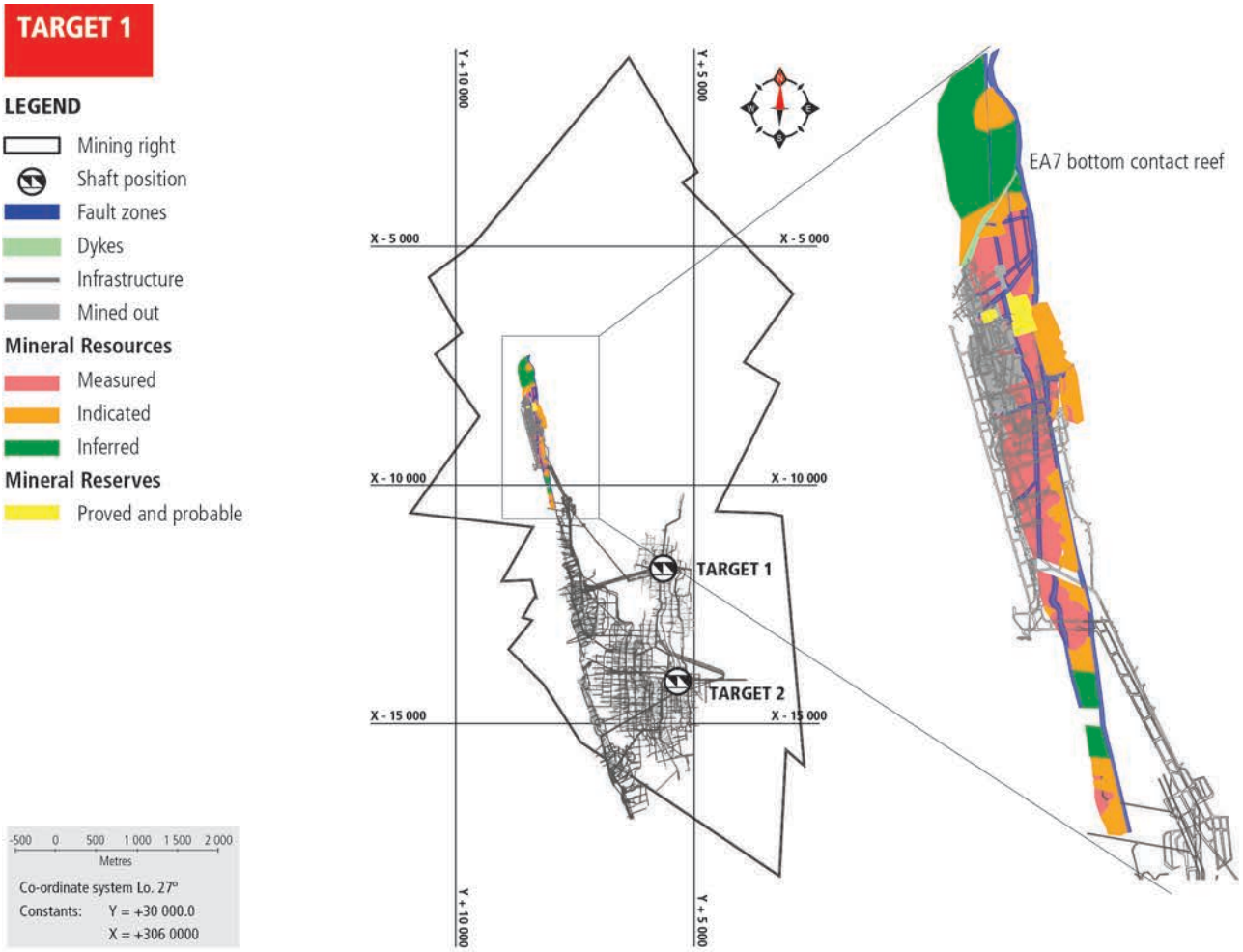
Modifying factors

	MCF (%)	SW (cm)	MW (cm)	PRF (%)
Target 1 (massives)	99	–	–	97

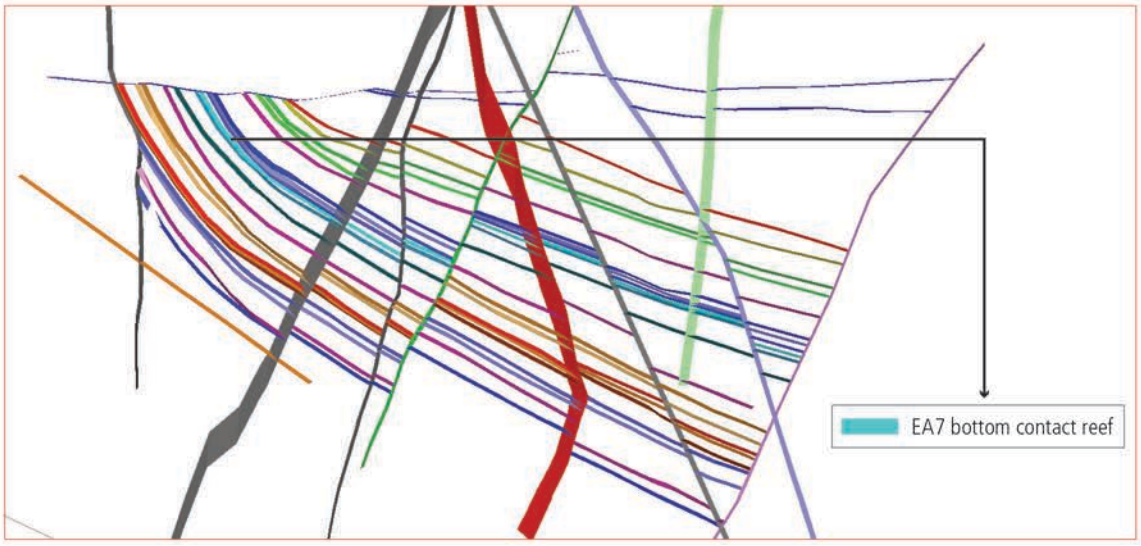
Gold – Mineral reserves

	Proved reserves				Probable reserves				Total mineral reserves			
	Tonnes (Mt)	(g/t)	Gold (000kg)	Gold (000oz)	Tonnes (Mt)	(g/t)	Gold (000kg)	Gold (000oz)	Tonnes (Mt)	(g/t)	Gold (000kg)	Gold (000oz)
Target 1	3.2	5.45	17	562	3.8	5.16	19	625	7.0	5.29	37	1 187

SOUTH AFRICA – FREE STATE OPERATIONS continued



Section view of Elsburg reefs to indicate the relation of the EA7 bottom contact reef in accordance with the other reefs



Tshepong

Gold – Mineral resources

	Measured resources				Indicated resources				Inferred resources				Total mineral resources			
	Tonnes (Mt)	(g/t)	Gold (000kg)	Gold (000oz)	Tonnes (Mt)	(g/t)	Gold (000kg)	Gold (000oz)	Tonnes (Mt)	(g/t)	Gold (000kg)	Gold (000oz)	Tonnes (Mt)	(g/t)	Gold (000kg)	Gold (000oz)
Tshepong	17.9	11.53	206	6 623	4.5	9.28	41	1 331	6.2	8.60	53	1 712	28.5	10.54	301	9 666

Modifying factors

	MCF (%)	SW (cm)	MW (cm)	PRF (%)
Tshepong	71	105	131	96

Gold – Mineral reserves

	Proved reserves				Probable reserves				Total mineral reserves			
	Tonnes (Mt)	(g/t)	Gold (000kg)	Gold (000oz)	Tonnes (Mt)	(g/t)	Gold (000kg)	Gold (000oz)	Tonnes (Mt)	(g/t)	Gold (000kg)	Gold (000oz)
Tshepong	18.4	5.58	102	3 294	3.3	4.50	15	474	21.6	5.42	117	3 768

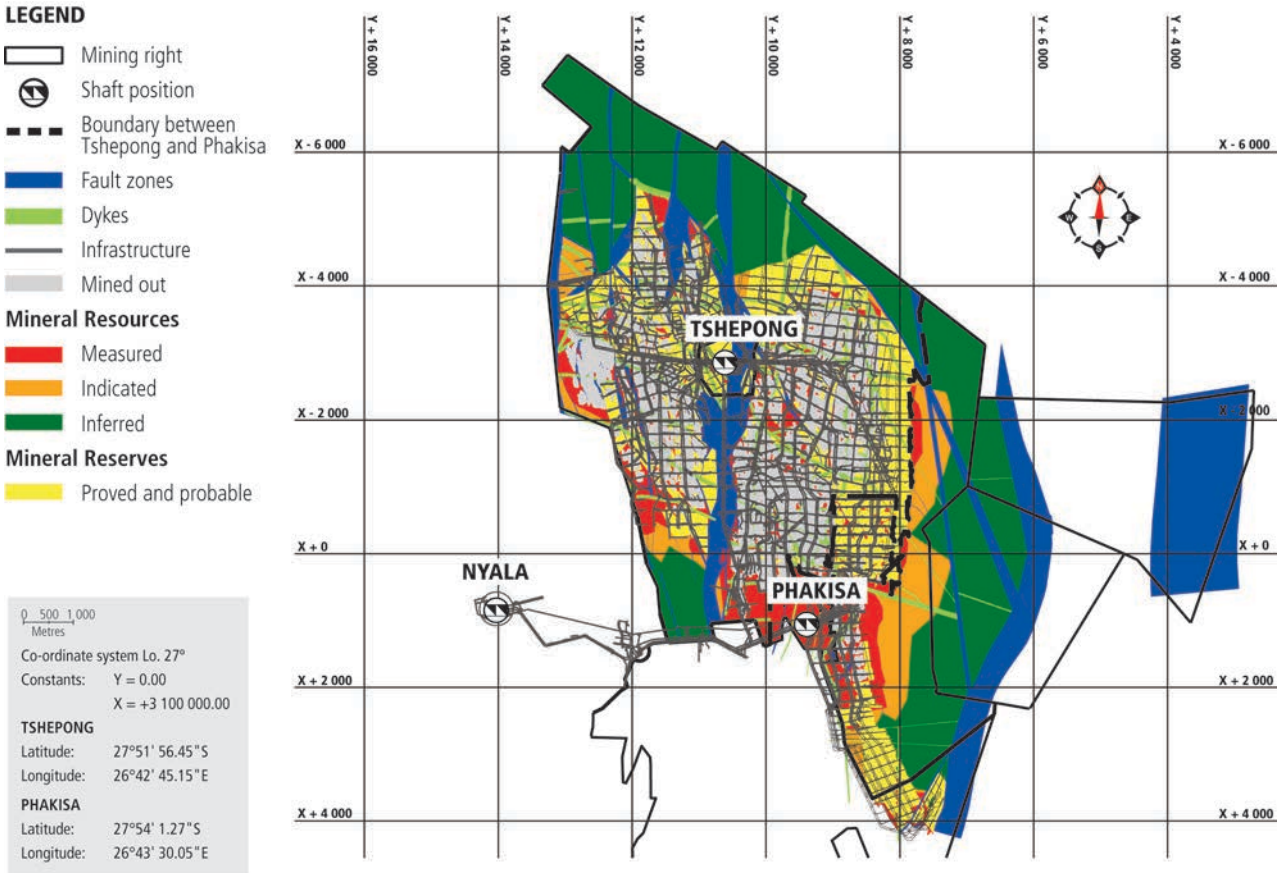
Uranium – Mineral resources

	Measured resources				Indicated resources				Inferred resources				Total mineral reserves			
	Tonnes (Mt)	(kg/t)	U_3O_8 (Mkg)	U_3O_8 (Mlb)	Tonnes (Mt)	(kg/t)	U_3O_8 (Mkg)	U_3O_8 (Mlb)	Tonnes (Mt)	(kg/t)	U_3O_8 (Mkg)	U_3O_8 (Mlb)	Tonnes (Mt)	(kg/t)	U_3O_8 (Mkg)	U_3O_8 (Mlb)
Tshepong	6.1	0.20	1 213	3	12.8	0.23	2 909	6	10.4	0.12	1 229	3	29.3	0.18	5 350	12

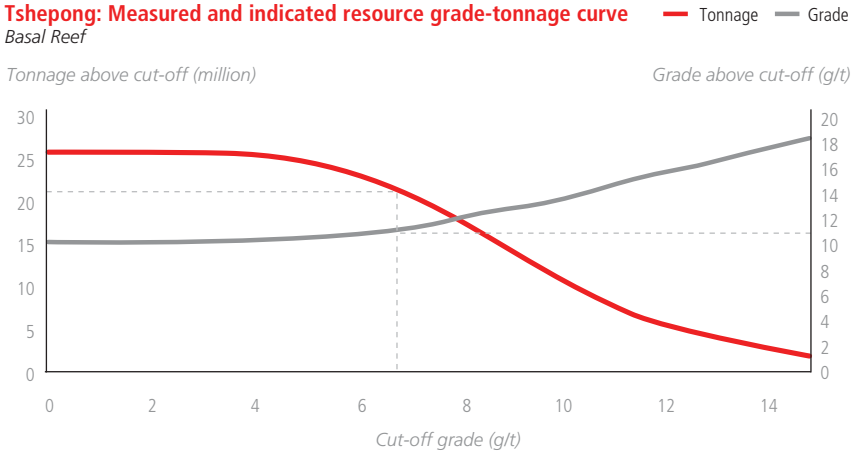
Tshepong underground

SOUTH AFRICA – FREE STATE OPERATIONS continued

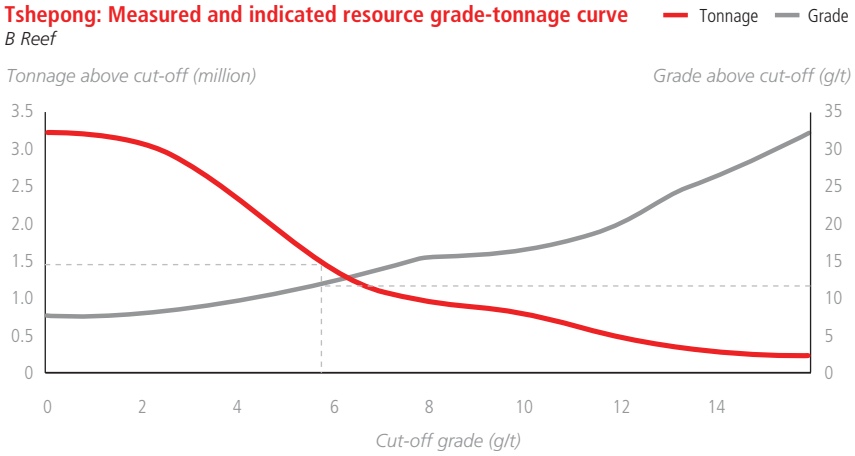
TSHEPONG AND PHAKISA MINES
BASAL REEF



Tshepong: Measured and indicated resource grade-tonnage curve
Basal Reef



Tshepong: Measured and indicated resource grade-tonnage curve
B Reef



Phakisa

Gold – Mineral resources

	Measured resources				Indicated resources				Inferred resources				Total mineral resources			
	Tonnes (Mt)	Gold (g/t)	Gold (000kg)	Gold (000oz)	Tonnes (Mt)	Gold (g/t)	Gold (000kg)	Gold (000oz)	Tonnes (Mt)	Gold (g/t)	Gold (000kg)	Gold (000oz)	Tonnes (Mt)	Gold (g/t)	Gold (000kg)	Gold (000oz)
Phakisa	8.4	10.30	87	2 786	11.6	11.60	135	4 337	24.1	9.21	222	7 143	44.2	10.05	444	14 267

Modifying factors

	MCF (%)	SW (cm)	MW (cm)	PRF (%)
Phakisa	80	122	145	96

Gold – Mineral reserves

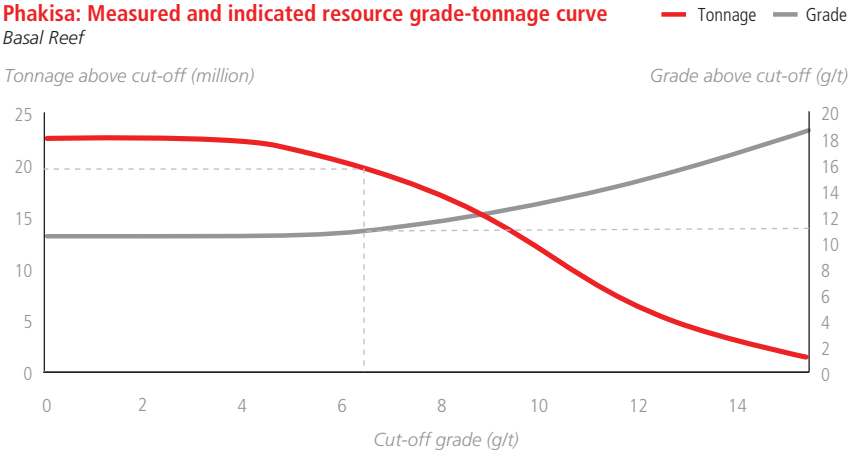
	Proved reserves				Probable reserves				Total mineral reserves			
	Tonnes (Mt)	Gold (g/t)	Gold (000kg)	Gold (000oz)	Tonnes (Mt)	Gold (g/t)	Gold (000kg)	Gold (000oz)	Tonnes (Mt)	Gold (g/t)	Gold (000kg)	Gold (000oz)
Phakisa	6.1	6.61	40	1 294	2.1	7.49	16	499	8.2	6.83	56	1 792

Uranium – Mineral resources

	Measured resources				Indicated resources				Inferred resources				Total mineral resources			
	Tonnes (Mt)	U_3O_8 (kg/t)	U_3O_8 (Mkg)	U_3O_8 (Mlb)	Tonnes (Mt)	U_3O_8 (kg/t)	U_3O_8 (Mkg)	U_3O_8 (Mlb)	Tonnes (Mt)	U_3O_8 (kg/t)	U_3O_8 (Mkg)	U_3O_8 (Mlb)	Tonnes (Mt)	U_3O_8 (kg/t)	U_3O_8 (Mkg)	U_3O_8 (Mlb)
Phakisa	8.4	0.18	1 531	3	11.6	0.18	2 130	5	24.1	0.08	1 945	4	44.2	0.13	5 605	12

SOUTH AFRICA – FREE STATE OPERATIONS continued

Phakisa: Measured and indicated resource grade-tonnage curve
Basal Reef



Bambanani

Gold – Mineral resources

	Measured resources				Indicated resources				Inferred resources				Total mineral resources			
	Tonnes (Mt)	Gold (g/t)	Gold (000kg)	Gold (000oz)	Tonnes (Mt)	Gold (g/t)	Gold (000kg)	Gold (000oz)	Tonnes (Mt)	Gold (g/t)	Gold (000kg)	Gold (000oz)	Tonnes (Mt)	Gold (g/t)	Gold (000kg)	Gold (000oz)
Bambanani	1.3	15.50	20	632	–	–	–	–	–	–	–	–	1.3	15.50	20	632

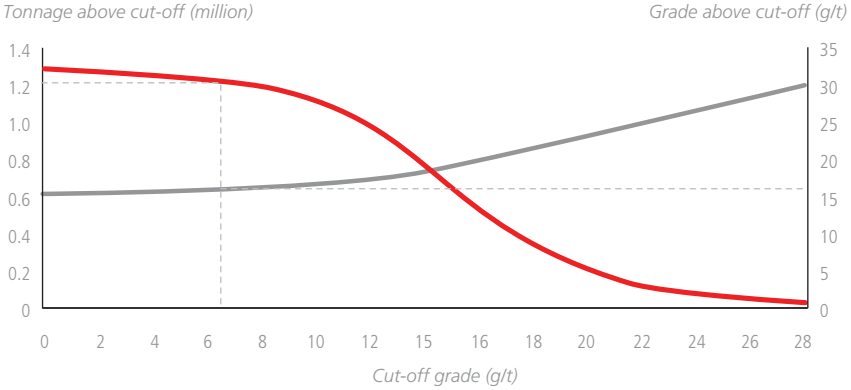
Modifying factors

	MCF (%)	SW (cm)	MW (cm)	PRF (%)
Bambanani	96	183	226	96

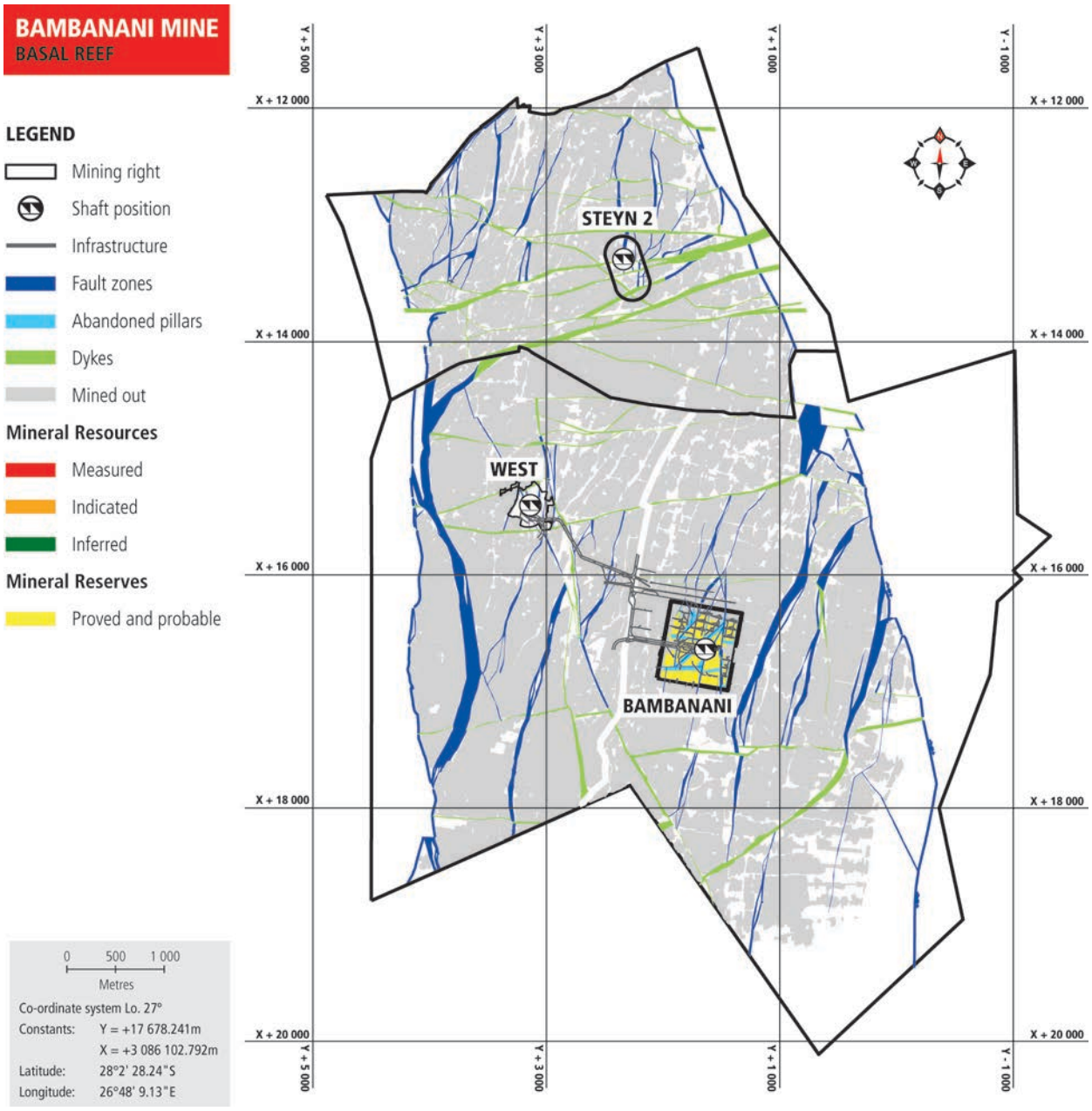
Gold – Mineral reserves

	Proved reserves				Probable reserves				Total mineral reserves			
	Tonnes (Mt)	Gold (g/t)	Gold (000kg)	Gold (000oz)	Tonnes (Mt)	Gold (g/t)	Gold (000kg)	Gold (000oz)	Tonnes (Mt)	Gold (g/t)	Gold (000kg)	Gold (000oz)
Bambanani	1.6	11.33	18	565	–	–	–	–	1.6	11.33	18	565

Bambanani: Measured and indicated resource grade-tonnage curve
Basal Reef



BAMBANANI MINE
BASAL REEF



SOUTH AFRICA – FREE STATE OPERATIONS continued

Unisel

Gold – Mineral resources

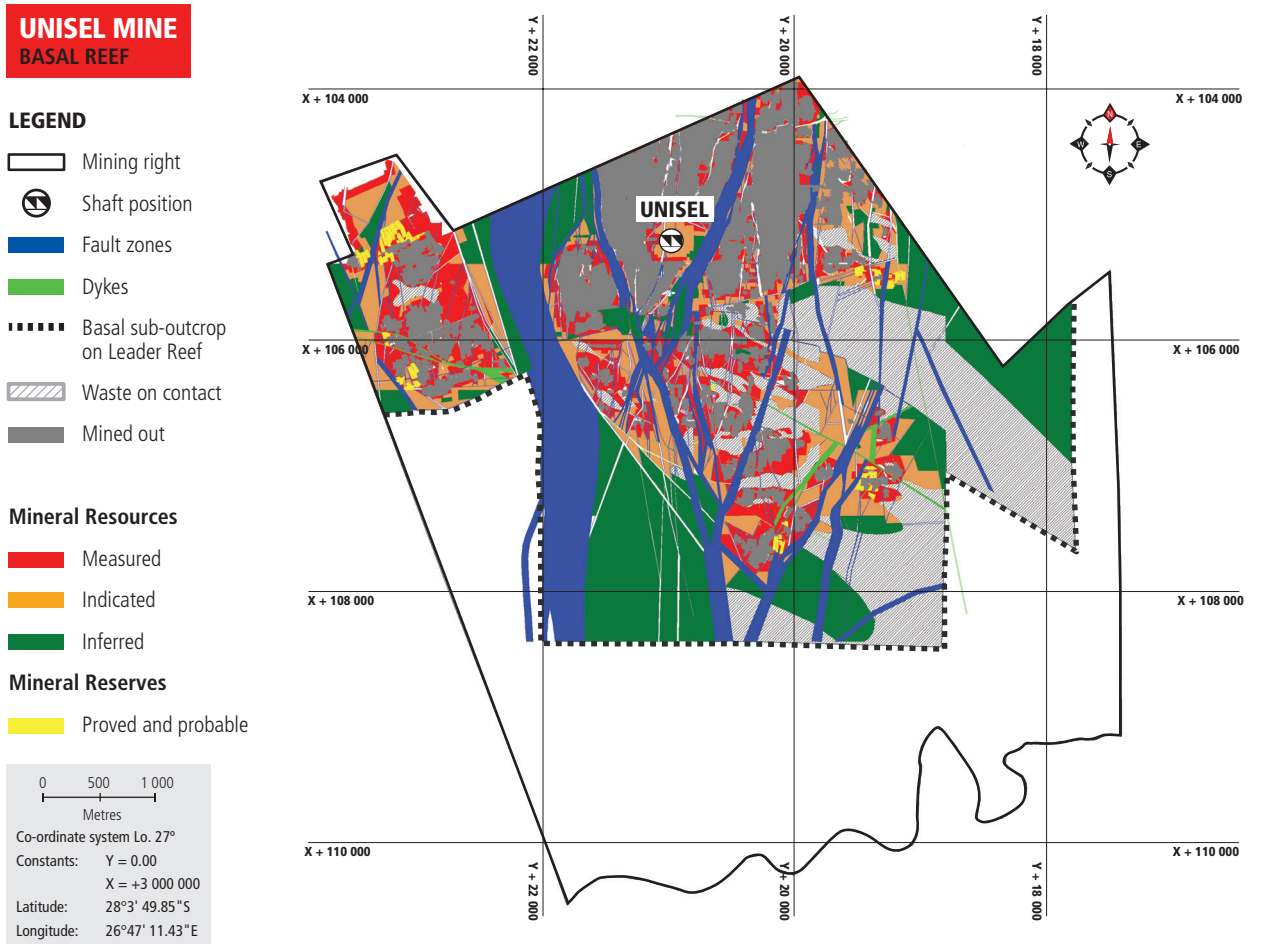
	Measured resources				Indicated resources				Inferred resources				Total mineral resources			
	Tonnes (Mt)	Gold (g/t)	Gold (000kg)	Gold (000oz)	Tonnes (Mt)	Gold (g/t)	Gold (000kg)	Gold (000oz)	Tonnes (Mt)	Gold (g/t)	Gold (000kg)	Gold (000oz)	Tonnes (Mt)	Gold (g/t)	Gold (000kg)	Gold (000oz)
Unisel	7.4	6.87	51	1 637	6.3	6.95	44	1 400	4.1	8.59	35	1 135	17.8	7.29	130	4 171

Modifying factors

	MCF (%)	SW (cm)	MW (cm)	PRF (%)
Unisel	75	190	209	96

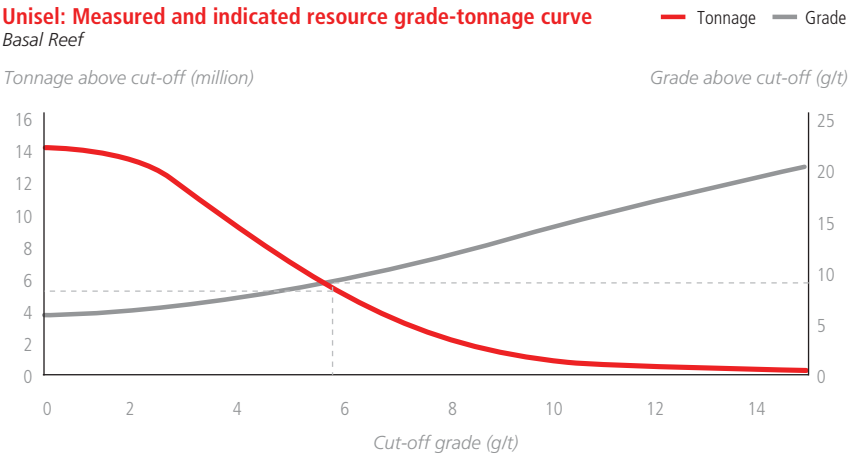
Gold – Mineral reserves

	Proved reserves				Probable reserves				Total mineral reserves			
	Tonnes (Mt)	Gold (g/t)	Gold (000kg)	Gold (000oz)	Tonnes (Mt)	Gold (g/t)	Gold (000kg)	Gold (000oz)	Tonnes (Mt)	Gold (g/t)	Gold (000kg)	Gold (000oz)
Unisel	1.8	4.55	8	268	0.8	4.33	3	111	2.6	4.48	12	380



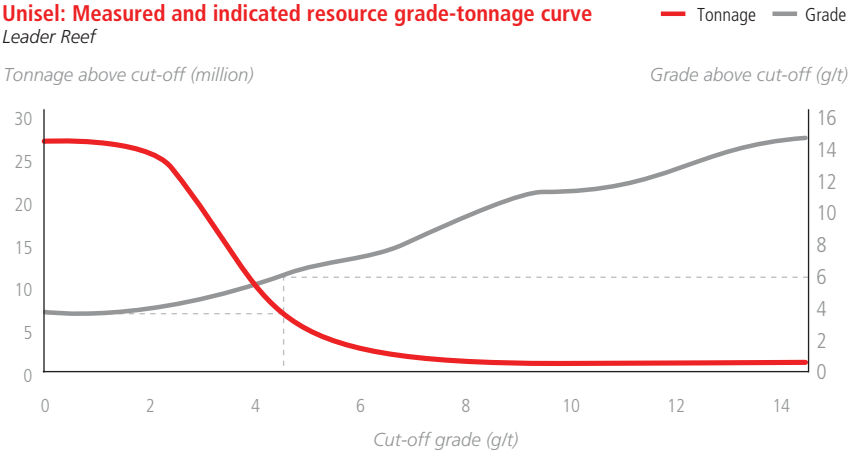
Unisel: Measured and indicated resource grade-tonnage curve

Basal Reef



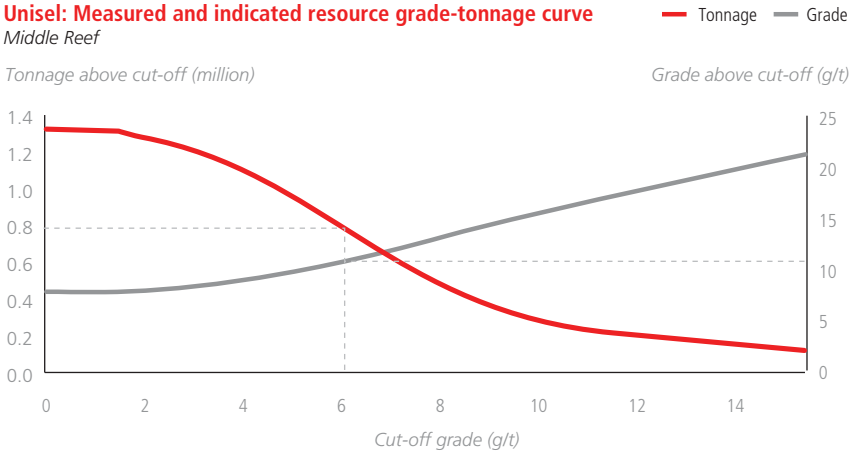
Unisel: Measured and indicated resource grade-tonnage curve

Leader Reef



Unisel: Measured and indicated resource grade-tonnage curve

Middle Reef



SOUTH AFRICA – FREE STATE OPERATIONS continued

Masimong

Gold – Mineral resources

	Measured resources				Indicated resources				Inferred resources				Total mineral resources			
	Tonnes (Mt)	Gold (g/t)	Gold (000kg)	Gold (000oz)	Tonnes (Mt)	Gold (g/t)	Gold (000kg)	Gold (000oz)	Tonnes (Mt)	Gold (g/t)	Gold (000kg)	Gold (000oz)	Tonnes (Mt)	Gold (g/t)	Gold (000kg)	Gold (000oz)
Masimong	5.8	8.46	49	1 579	2.7	7.63	21	668	5.1	8.96	46	1 480	13.7	8.48	116	3 727

Modifying factors

	MCF (%)	SW (cm)	MW (cm)	PRF (%)
Masimong	63	140	160	96

Gold – Mineral reserves

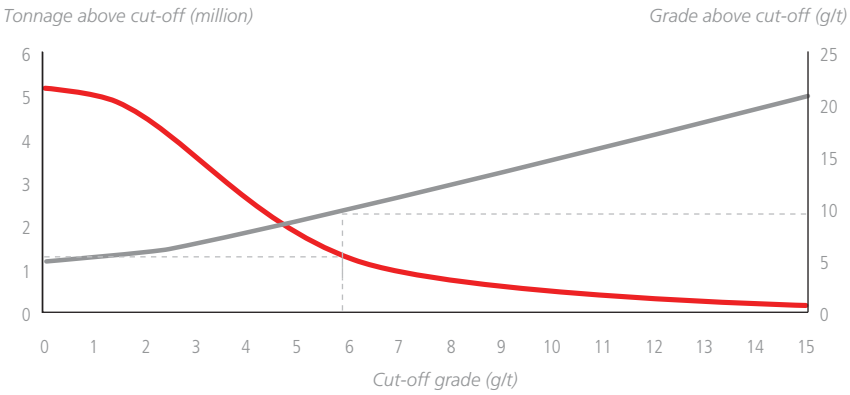
	Proved reserves				Probable reserves				Total mineral reserves			
	Tonnes (Mt)	Gold (g/t)	Gold (000kg)	Gold (000oz)	Tonnes (Mt)	Gold (g/t)	Gold (000kg)	Gold (000oz)	Tonnes (Mt)	Gold (g/t)	Gold (000kg)	Gold (000oz)
Masimong	1.7	3.87	7	212	0.2	3.66	1	23	1.9	3.85	7	235

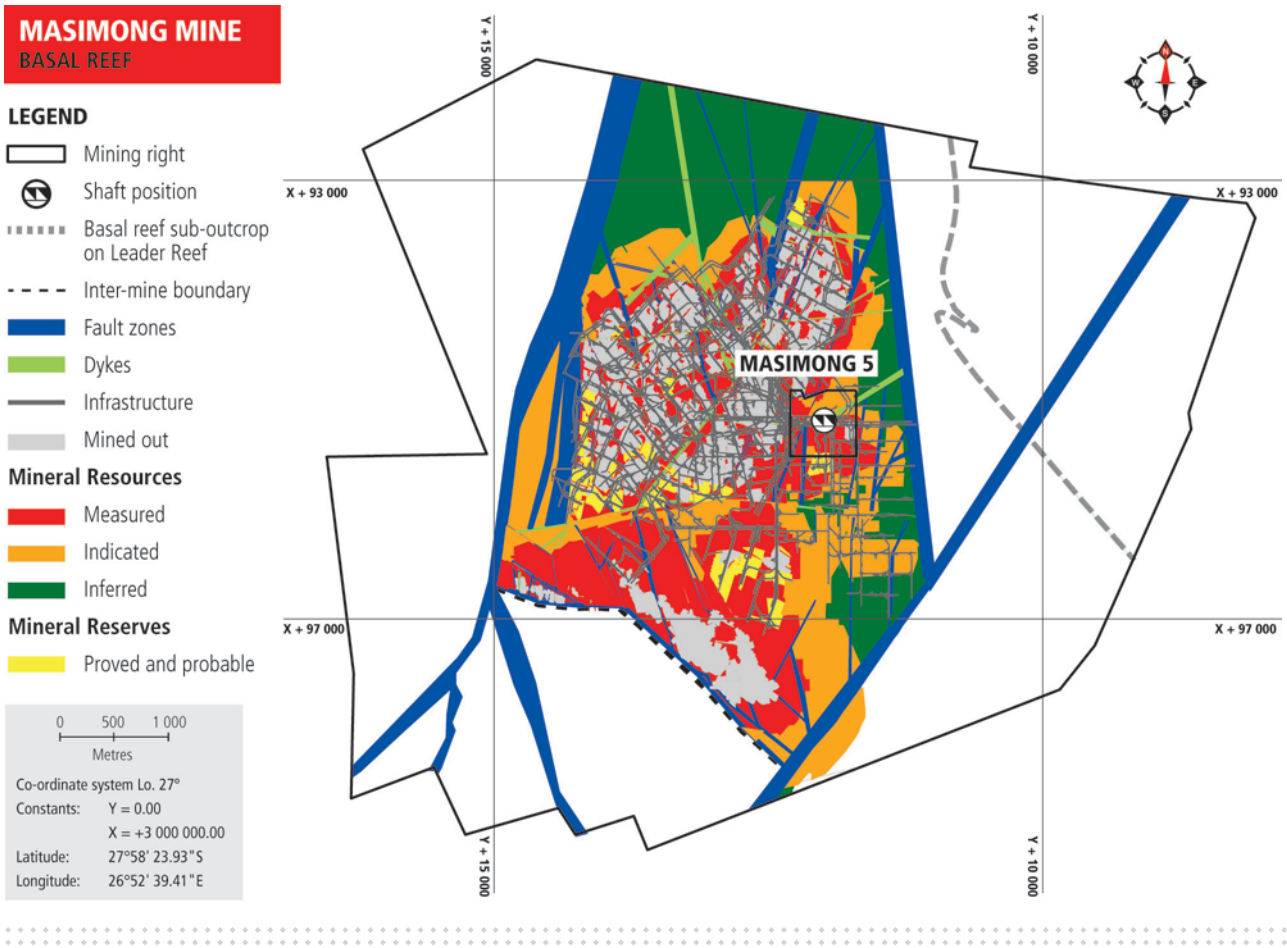
Uranium – Mineral resources

	Measured resources				Indicated resources				Inferred resources				Total mineral resources			
	Tonnes (Mt)	U_3O_8 (kg/t)	U_3O_8 (Mkg)	U_3O_8 (Mlb)	Tonnes (Mt)	U_3O_8 (kg/t)	U_3O_8 (Mkg)	U_3O_8 (Mlb)	Tonnes (Mt)	U_3O_8 (kg/t)	U_3O_8 (Mkg)	U_3O_8 (Mlb)	Tonnes (Mt)	U_3O_8 (kg/t)	U_3O_8 (Mkg)	U_3O_8 (Mlb)
Masimong	–	–	–	–	6.0	0.28	1 656	4	9.1	0.23	2 132	5	15.1	0.25	3 788	8

Masimong: Measured and indicated resource grade-tonnage curve — Tonnage — Grade

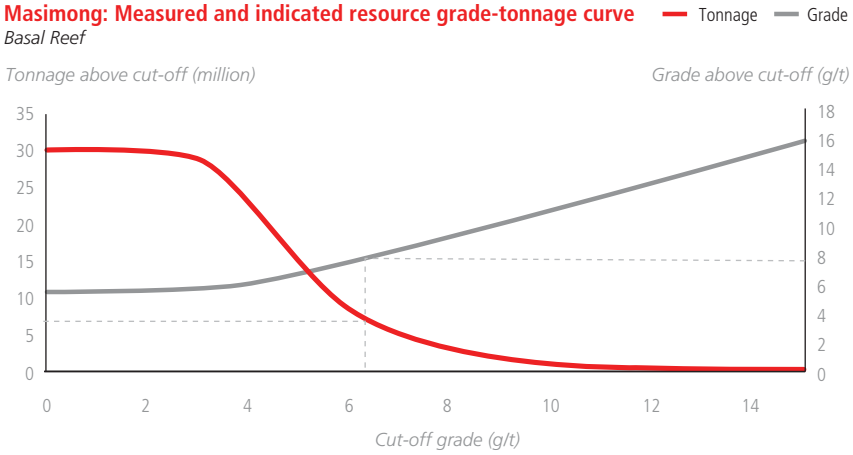
B Reef





Masimong: Measured and indicated resource grade-tonnage curve

Basal Reef



SOUTH AFRICA – FREE STATE OPERATIONS continued

Joel

Gold – Mineral resources

	Measured resources				Indicated resources				Inferred resources				Total mineral resources			
	Tonnes (Mt)	Gold (g/t)	Gold (000kg)	Gold (000oz)	Tonnes (Mt)	Gold (g/t)	Gold (000kg)	Gold (000oz)	Tonnes (Mt)	Gold (g/t)	Gold (000kg)	Gold (000oz)	Tonnes (Mt)	Gold (g/t)	Gold (000kg)	Gold (000oz)
Joel	4.4	8.12	36	1 157	7.0	7.59	53	1 706	1.1	7.03	8	242	12.5	7.73	97	3 105

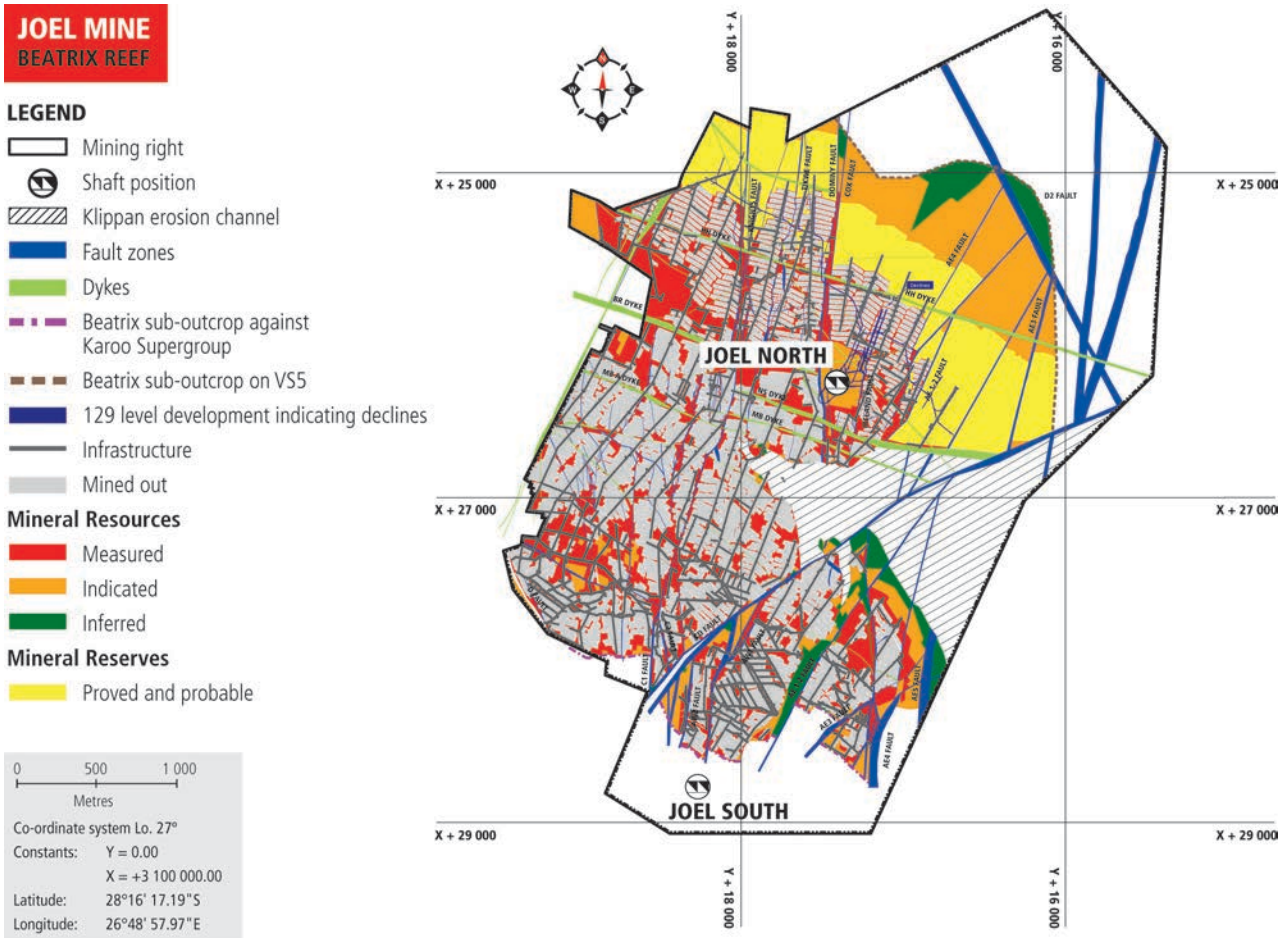
Modifying factors

	MCF (%)	SW (cm)	MW (cm)	PRF (%)
Joel	84	157	193	96

Gold – Mineral reserves

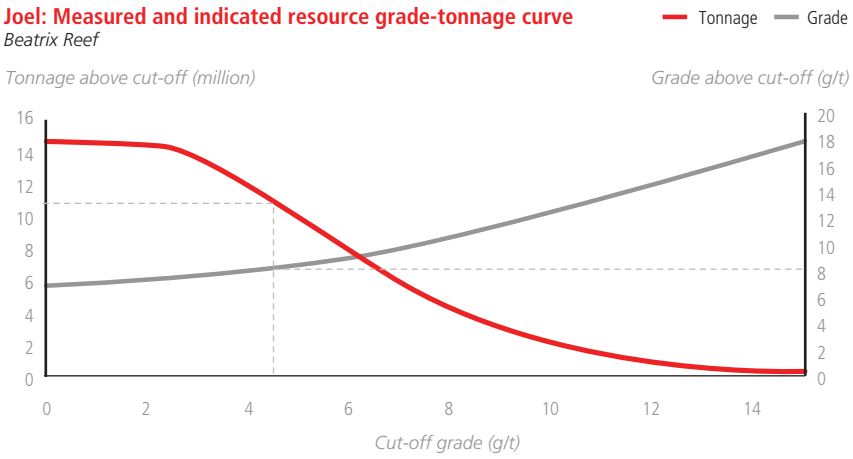
	Proved reserves				Probable reserves				Total mineral reserves			
	Tonnes (Mt)	Gold (g/t)	Gold (000kg)	Gold (000oz)	Tonnes (Mt)	Gold (g/t)	Gold (000kg)	Gold (000oz)	Tonnes (Mt)	Gold (g/t)	Gold (000kg)	Gold (000oz)
Joel	2.0	5.32	11	347	3.7	5.20	19	621	5.7	5.24	30	968

Joel underground



Joel: Measured and indicated resource grade-tonnage curve

Beatrix Reef



SOUTH AFRICA – FREE STATE OPERATIONS continued

Surface sources

Gold – Mineral resources

	Measured resources				Indicated resources				Inferred resources				Total mineral resources			
	Tonnes (Mt)	(g/t)	Gold (000kg)	Gold (000oz)	Tonnes (Mt)	(g/t)	Gold (000kg)	Gold (000oz)	Tonnes (Mt)	(g/t)	Gold (000kg)	Gold (000oz)	Tonnes (Mt)	(g/t)	Gold (000kg)	Gold (000oz)
Free State (Phoenix)	86.6	0.28	25	792	–	–	–	–	–	–	–	–	86.6	0.28	25	792
Free State (St Helena)	258.7	0.27	69	2 230	–	–	–	–	–	–	–	–	258.7	0.27	69	2 230
Free State (other): Waste rock dumps	–	–	–	–	3.9	0.51	2	65	23.8	0.42	10	323	27.7	0.43	12	387
Slimes dams	–	–	–	–	632.8	0.23	143	4 585	15.5	0.19	3	94	648.2	0.22	146	4 680
Grand total	**345.2**	**0.27**	**94**	**3 023**	**636.7**	**0.23**	**145**	**4 650**	**39.3**	**0.33**	**13**	**417**	**1 021.2**	**0.25**	**252**	**8 090**

Modifying factors

	MCF (%)	PRF (%)
Free State (Phoenix)	100	45
Free State (St Helena)	100	45
Free State (other)	100	52

Gold – Mineral reserves

	Proved reserves				Probable reserves				Total mineral reserves			
	Tonnes (Mt)	(g/t)	Gold (000kg)	Gold (000oz)	Tonnes (Mt)	(g/t)	Gold (000kg)	Gold (000oz)	Tonnes (Mt)	(g/t)	Gold (000kg)	Gold (000oz)
Free State (Phoenix)	86.6	0.28	25	792	–	–	–	–	86.6	0.28	25	792
Free State (St Helena)	175.9	0.27	47	1 507	–	–	–	–	175.9	0.27	47	1 507
Free State (other): Waste rock dumps	–	–	–	–	3.9	0.51	2	65	3.9	0.51	2	65
Slimes dams	–	–	–	–	553.1	0.23	128	4 123	553.1	0.23	128	4 123
Grand total	**262.5**	**0.27**	**72**	**2 300**	**557.0**	**0.23**	**130**	**4 188**	**819.4**	**0.25**	**202**	**6 488**

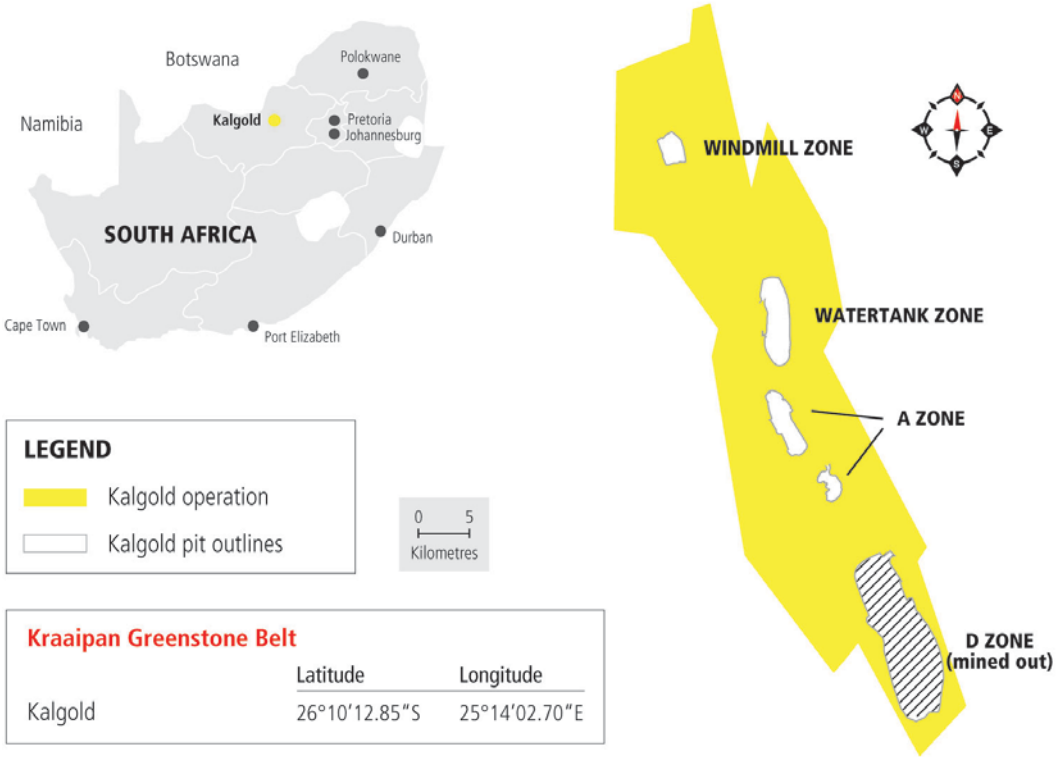
Uranium – Mineral resources

	Measured resources				Indicated resources				Inferred resources				Total mineral resources			
	Tonnes (Mt)	(U_3O_8 (kg/t)	U_3O_8 (Mkg)	U_3O_8 (Mlb)	Tonnes (Mt)	(U_3O_8 (kg/t)	U_3O_8 (Mkg)	U_3O_8 (Mlb)	Tonnes (Mt)	(U_3O_8 (kg/t)	U_3O_8 (Mkg)	U_3O_8 (Mlb)	Tonnes (Mt)	(U_3O_8 (kg/t)	U_3O_8 (Mkg)	U_3O_8 (Mlb)
Total	–	–	–	–	174.1	0.10	17 303	38	–	–	–	–	174.1	0.10	17 303	38
Grand total	**–**	**–**	**–**	**–**	**174.1**	**0.10**	**17 303**	**38**	**–**	**–**	**–**	**–**	**174.1**	**0.10**	**17 303**	**38**

SOUTH AFRICA – KALGOLD

Harmony has one open pit mining operation in South Africa, Kalgold, which is situated on the Kraaipan Greenstone Belt.

LOCATION OF KALGOLD SURFACE OPERATION



Kraaipan Greenstone Belt	Latitude	Longitude
Kalgold	26°10'12.85"S	25°14'02.70"E

KRAAIPAN GREENSTONE BELT – KALGOLD

Location

Kalgold mine is located 55km southwest of Mafikeng between Mareetsane and Stella along the Mafikeng-Vryburg road (R49) in the North West Province of South Africa.

Several lode gold deposits exist within the Kalgold mineral lease area. The ore bodies are typical banded iron formation-hosted greenstone gold deposits. These ore bodies include the A-Zone, A-Zone West, Watertank and Windmill. These ore bodies and mining methods are unique amongst Harmony's South African operations hence sampling methods, cut-off calculations, ore resource estimation and reporting are carried out and presented differently to the other operations.

Nature of operation

A total of 71 843m of exploration and evaluation drilling has been undertaken to date within the Mineral Lease area and on surrounding properties. The D-Zone and A-Zone have been proven and several prospective zones that warrant further investigation were identified.

The A-Zone occurs to the north of the D-Zone at a similar stratigraphic position. It is a composite deposit consisting of a number of mineralised cherty, banded iron formation (BIF) units that are inter-bedded with schist and shale. The A-Zone has an overall strike of 850m and comprises individual zones of mineralisation which are steeply dipping and have strike lengths from 20m to 500m. Reef widths range between 15m to 70m. A total of 232 reverse circulation percussion boreholes representing a combined depth of 12 700m have been drilled into the A-Zone. Six diamond boreholes (1 310m) were also drilled.

SOUTH AFRICA – KALGOLD continued

The A-Zone West is situated in the footwall of the A-Zone ore body. The ore bodies are separated by a chloritic schist unit that pinches out to the north. A-Zone West has an overall strike of 750m and width of 20m thinning to 5m in the north. A total of 172 reverse circulation boreholes were drilled along section lines spaced 25m apart. A total of 6 450m were drilled.

The Watertank is a long, narrow deposit hosted by cherty banded iron formation which has a similar stratigraphic position to the D-Zone and the A-Zone. The host rock banded-iron formation is steeply dipping and has a strike length of 950m and an average width of 45m. The mineralised D-Zone within this unit ranges between 2m and 12m in width. A total of 168 boreholes representing 10 969m of drilling have been completed on section lines spaced at 25m to 50m intervals.

The Windmill deposit is the smallest of the Goldridge ore bodies, but contains generally higher gold grades. It is positioned stratigraphically below the other three deposits and is hoisted by a magnetite-rich banded iron formation unit which is inter-bedded with schist. The host rock banded formation has a strike length of 950m and thins to the north and south with a maximum width of 25m in the centre. Mineralisation within this unit occurs over a length of 800m with widths ranging from 2m to 17m. This deposit is structurally complex with displacements by faulting and dips varying from 75 to 90 degrees east. A total 8 800m of drilling has been completed along lines spaced 50m apart.

Regional geological setting

The Kraaipan Greenstone Belt forms part of the Kaapvaal Craton. It is overlain by late Archaean Ventersdorp lavas and tertiary sediments.

The Kraaipan Group consists of three formations, which are Khunwana, Ferndale and Gold Ridge Formations. The Gold Ridge Formation is the oldest and contains BIF, which is the host rock of gold mined in the Kalahari Goldridge deposits.

The Kalgold operation is located within the geological terrain of the Archaean Kraaipan Greenstone Belt. This greenstone environment is exposed in discontinuous outcrops of steeply dipping rocks, which define three narrow, sub-parallel belts that strike approximately north-south. The Goldridge deposits occur within the central belt, which comprises banded iron formations (BIF), magnetite quartzite, chert, greywacke, shale and schist. The greenstones are surrounded by intrusive granites and gneisses. These rocks have a complex history of deformation, which includes folding, faulting and shearing.

Younger cover rocks include isolated patches of lavas of the Ventersdorp Supergroup with much of the area blanketed by Aeolian Kalahari sands. Sparse outcrops of quartz porphyry belonging to the Makwasie Formation occur in the region. Several large dykes with a predominant east-west trend have intruded the region.

The geology of the lease area and its immediate vicinity is characterised by ferruginous chemical and clastic sediments inter-bedded with meta-lavas and non-ferruginous meta-sedimentary rocks. Outcrops in the area are sparse and generally restricted to the ferruginous rock types, which are more resistant to erosion. Magnetite quartzite and clastic sediments form a low ridge to the west of the lease area. Eastwards of this unit the iron-rich rocks are generally comprised of chemical sediments represented by magnetite-rich BIF, cherty BIF and banded chert. These units are interbedded with mafic schist, greywacke and sparse black shale.

The geology of the D-Zone is used as a benchmark at Kalgold. The new pits are well established at the A-Zone and Watertank areas and the blast hole database is now significant. The geology consists of mafic schist, which forms the immediate footwall, a BIF horizon as the main ore body and a succession of clastic sediments consisting of shale, greywacke and volcanic conglomerates as the hanging wall.

Gold mineralisation is hosted by steeply dipping BIF that are interbedded with schist, shale and greywacke. BIF consists of rhythmically banded chemical sediments comprising alternating light and dark laminae, which vary from 10mm to 50mm in thickness.

The BIF are oxidised to a depth of about 40m below surface. Near surface the material is red and porous, composed of quartz, hematite and goethite with minor magnetite. At depth the unaltered BIF consists of quartz, siderite, pyrite, pyrrhotite and magnetite with minor chlorite, calcite and stilpnomelane. In general gold mineralisation has an erratic and localised distribution. Individual gold grains are on average less than 10µm in diameter and occur in clusters. Gold is generally associated with goethite in the weathered rocks and with pyrite and pyrrhotite in the fresh material.

Geological process

Geological model

Geological modelling has been completed using Datamine™ software. Drill holes and blastholes have been surveyed and utilised to construct a series of west-east sections from north to south through the various pit areas. The A-Zone and Water Tank areas have been modelled as a single contiguous area as the geology and data is continuous and contiguous.

A wireframe geological model has been constructed by linking individual sections to form a continuous wireframe model. The construction of the sections includes outlines for the mineralised zones and waste zones. The definition of the mineralised zones is based primarily on the lithological contacts between the BIF and waste material (volcanic/sedimentary schists).

The geological model is constructed in the form of a wire frame from exploration borehole intersections, blasthole information and geological mapping within the pit and updated regularly as new information becomes available.

Aggregate resource

The waste rock that is stripped to expose the ore is a possible resource for the aggregate market. The waste rock mainly consists out of low pressure meta-sediments (shales) and smaller quantities of sedimentary rocks with grain sizes that vary from silt stone to conglomerate. The resource of the combined waste rock dumps is 80.2Mt and an additional 82.2Mt of waste rock is planned to be mined in the life-of-mine plan. Test work done on the waste rock indicates that it might be suitable for the manufacturing of road building material and cement. The waste rock dumps are situated close to the gold processing plant with access to basic utilities.

Kalgold

Gold – Mineral resources

	Measured resources				Indicated resources				Inferred resources				Total mineral resources			
	Tonnes (Mt)	(g/t)	Gold (000kg)	Gold (000oz)	Tonnes (Mt)	(g/t)	Gold (000kg)	Gold (000oz)	Tonnes (Mt)	(g/t)	Gold (000kg)	Gold (000oz)	Tonnes (Mt)	(g/t)	Gold (000kg)	Gold (000oz)
Kalgold open pit	12.8	0.80	10	328	15.5	0.98	15	486	9.2	1.18	11	351	37.5	0.97	36	1 164
Kalgold tailings dam	–	–	–		–	–	–	–	23.6	0.26	6	200	23.6	0.26	6	200
Total Kalgold	**12.8**		**10**	**328**	**15.5**		**15**	**486**	**32.8**		**17**	**551**	**61.1**		**42**	**1 364**

Modifying factors

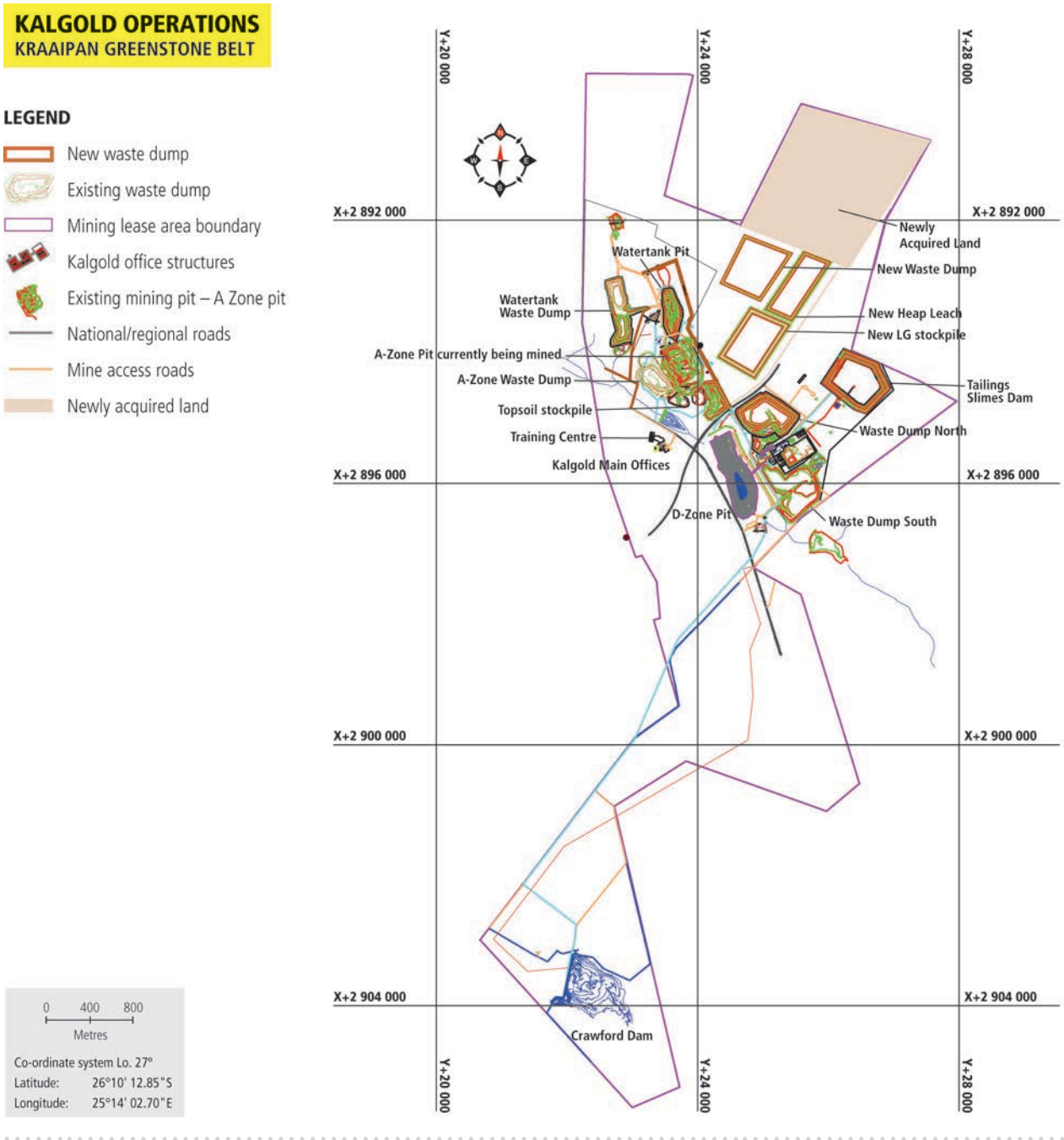
	MCF (%)	Dilution (%)	PRF (%)
Kalgold open pit	100	3.5	85

Gold – Mineral reserves

	Proved reserves				Probable reserves				Total mineral reserves			
	Tonnes (Mt)	(g/t)	Gold (000kg)	Gold (000oz)	Tonnes (Mt)	(g/t)	Gold (000kg)	Gold (000oz)	Tonnes (Mt)	(g/t)	Gold (000kg)	Gold (000oz)
Kalgold open pit	5.8	0.97	6	182	10.6	1.15	12	393	16.5	1.08	18	574

SOUTH AFRICA – KALGOLD continued

KALGOLD OPERATIONS
KRAAIPAN GREENSTONE BELT



RESOURCES AND RESERVES BY OPERATION
PAPUA NEW GUINEA

In Papua New Guinea, Harmony holds a 50% interest in the Morobe Mining Joint Ventures which includes Hidden Valley, Wafi, Golpu and Nambonga. Separately, Harmony also has 100% interest in extensive exploration tenements.

The Morobe Mining Joint Ventures (50% Harmony) operations fall within the New Guinea Mobile Belt of Papua New Guinea which is one of the world's pre-eminent geological terrains for porphyry copper-gold and epithermal gold mineralisation. The belt is host to several world-class deposits and continues to grow in endowment with recent discoveries and resource expansions at Wafi-Golpu, Frieda River and Yandera.

Harmony, through the MMJV, owns 50% of the Hidden Valley Mine, the Golpu Project and conducts exploration in the Morobe Province. Harmony also explores in areas outside of the Morobe Province on a 100%-owned basis. There are no mineral resources in the 100% Harmony-owned tenements.

HIDDEN VALLEY OPERATIONS

Location

The Hidden Valley Gold Mine is located at latitude 7°22"S and longitude 146°39"E, approximately 15km south-southeast of the township of Wau and approximately 90km south-southwest from Lae, the capital of Morobe Province in Papua New Guinea. The closest major towns to the project are Wau and Bulolo. Lae is the nearest maritime port in the region, and is connected to Bulolo by a tarred two-lane main road. The operation is a 50:50 joint venture between Harmony Gold Mining Company (through Morobe Consolidated Goldfields (MCG)) and Newcrest Mining Limited (through Newcrest Papua New Guinea 1 Limited).

Nature of operations

The Hidden Valley mine consists of the Hidden Valley-Kaveroi (HVK) and Hamata open pits located approximately 6km apart, and an ore processing facility in steep, heavily forested, mountainous terrain. Both pits employ conventional truck/excavator mining techniques with nested incremental cutbacks.

The mine is an open pit gold-silver operation, and comprises two operating open pits, the Hidden Valley pit (HVK) and the Hamata pit and one ore-processing plant. Production from the processing plant began in May 2010, with annual nameplate processing capacity of 4.2Mtpa.

The HVK pit is the larger pit supplying the majority of the ore and is located 6km from the processing plant. The mine employs conventional open pit mining techniques with back-hoe excavators and rigid dump trucks as the primary load and haul equipment. Front-end loaders are used for crusher feed and stockpile reclaim. A number of articulated smaller dump trucks are used for construction, and to a lesser extent mining in Hamata. Mining bench configuration consists of 18m inter-berm heights, mined as 3m x 6m benches of 2m x 3m flitches.

In terms of operational design, waste is to be disposed of in engineered valley fill waste dumps, with toes keyed in using competent non-acid producing rock.

Crushed ore is conveyed from the Hidden Valley pit via a 4.5km long overland pipe conveyor. Ore from the Hamata pit is trucked to the Hamata crushing station, located next to the ore processing plant.

The Hidden Valley process plant was designed to nominally treat 4.2Mtpa of gold-bearing ore through a conventional semi-autogenous grinding (SAG) mill, gravity, float, Merrill Crowe (for silver) and carbon-in-leach (for gold) circuit. Gold doré bars are produced on site and shipped to a refinery. The tailings are disposed of in a terrestrial tailings storage facility (TSF) located to the south-west of the process plant. Construction of the TSF dam-wall is on-going and largely constitutes placement of suitable material for each zone of the TSF and sourced from mining in the Hamata pit. The processing inventory in this ore reserve estimate is constrained by the capacity of the TSF. Any mine expansion over the existing reserve will require an expansion of the existing TSF or construction of an additional facility.

The Hidden Valley mine operates in accordance with a Memorandum of Agreement (MoA) with local landowners and government, which sets out a preference for employment of landowners and local residents ahead of those from other provinces and offshore employees when qualifications are equivalent.

PAPUA NEW GUINEA continued

Regional geology

The deposit is a structurally controlled vein-stockwork gold-silver deposit located in the Morobe Granodiorite of the Wau Graben. Gold-silver mineralisation is contained in carbonate-adularia-quartz-sulphide vein-stockworks and in a few instances in hydrothermal breccias. Discrete zones of intense stockwork fracture and mineralised veining comprise individual lodes. At the Hidden Valley deposit gold and silver are related to steeply dipping (Kaveroi Creek Zone) and flat-lying (Hidden Valley Zone) sheeted vein swarms associated with an underlying shallow thrust.

Both the Hidden Valley and the Hamata models have been estimated using a localised multiple indicator Kriged (LMIK) method constrained within broad three-dimensional wireframe domains based on gold and silver grade, alteration and structure. This method accommodates the large panels required for a robust estimate using a long-standing well-known estimation method, but also allows the estimation of localised SMU sized blocks for mine planning purposes. Checks against historical production indicate that both these models are robust.

Mineral resources and mineral reserves detailed in the following tables represent Harmony Newcrest Joint Venture 100% portion.

HIDDEN VALLEY AND HAMATA

Gold – Mineral resources

	Measured resources				Indicated resources				Inferred resources				Total mineral resources			
	Tonnes (Mt)	Gold (g/t)	Gold (000kg)	Gold (000oz)	Tonnes (Mt)	Gold (g/t)	Gold (000kg)	Gold (000oz)	Tonnes (Mt)	Gold (g/t)	Gold (000kg)	Gold (000oz)	Tonnes (Mt)	Gold (g/t)	Gold (000kg)	Gold (000oz)
Hidden Valley	2.8	1.11	3	100	77.0	1.57	121	3 895	2.2	1.33	3	93	82.0	1.55	127	4 088
Hamata	0.32	1.09	0.3	11	3.2	2.16	7	222	0.2	1.82	0	10	3.7	2.05	8	244
Grand total	**3.1**	**1.11**	**3**	**111**	**80.2**	**1.60**	**128**	**4 117**	**2.3**	**1.37**	**3**	**103**	**85.6**	**1.57**	**135**	**4 331**

Modifying factors

	MCF (%)	Dilution (%)	PRF (%)
Hidden Valley	95	8	88
Hamata	95	10	88

Gold – Mineral reserves

	Proved reserves				Probable reserves				Total mineral reserves			
	Tonnes (Mt)	Gold (g/t)	Gold (000kg)	Gold (000oz)	Tonnes (Mt)	Gold (g/t)	Gold (000kg)	Gold (000oz)	Tonnes (Mt)	Gold (g/t)	Gold (000kg)	Gold (000oz)
Hidden Valley	2.8	1.11	3	100	24.1	1.79	43	1 387	26.9	1.72	46	1 487
Hamata	0.3	1.09	0	11	2.1	2.36	5	159	2.4	2.19	5	170
Grand total	**3.1**	**1.11**	**3**	**111**	**26.2**	**1.84**	**48**	**1 546**	**29.3**	**1.76**	**52**	**1 657**

Silver – Mineral resources

	Measured resources				Indicated resources				Inferred resources				Total mineral resources			
	Tonnes (Mt)	Ag (g/t)	Ag (000kg)	Ag (000oz)	Tonnes (Mt)	Ag (g/t)	Ag (000kg)	Ag (000oz)	Tonnes (Mt)	Ag (g/t)	Ag (000kg)	Ag (000oz)	Tonnes (Mt)	Ag (g/t)	Ag (000kg)	Ag (000oz)
Hidden Valley	2.8	20.4	57	1 834	77.0	29.8	2 294	73 761	2.2	33.3	72	2 323	82.0	29.6	2 424	77 918

Silver – Mineral resources as gold equivalents

	Measured	Indicated	Inferred	Total
	(000oz)	(000oz)	(000oz)	(000oz)
Hidden Valley	32	1 318	41	1 391

Modifying factors

	MCF (%)	Dilution (%)	PRF (%)
Hidden Valley	95	6	61

Silver – Mineral reserves

	Proved reserves				Probable reserves				Total mineral reserves			
	Tonnes (Mt)	Ag (g/t)	Ag (000kg)	Ag (000oz)	Tonnes (Mt)	Ag (g/t)	Ag (000kg)	Ag (000oz)	Tonnes (Mt)	Ag (g/t)	Ag (000kg)	Ag (000oz)
Hidden Valley	2.8	20.4	57	1 834	24.1	35.1	845	27 164	26.9	33.6	902	28 998

Silver – Mineral reserves as gold equivalents

	Proved (000oz)	Probable (000oz)	Total (000oz)
Hidden Valley	29	435	464

WAFI, GOLPU AND NAMBONGA

Location

The Wafi, Golpu and Nambonga deposits are located in eastern Papua New Guinea, approximately 60km southwest of Lae in the Morobe Province. Access to the project from Lae is via a combination of sealed and unsealed roads with a travel time of 4 hours. The operation is a 50:50 joint venture between Harmony Gold Mining Limited (Wafi Mining Limited) and Newcrest Mining Limited (Newcrest Papua New Guinea 2 Limited).

Nature of operations

The Wafi area mineralisation was first identified in 1979 by CRA Exploration with the discovery of the underlying Golpu Porphyry by Elders Resources Ltd in 1990. Since this time, several companies have completed exploration and resource definition drilling programmes with associated mine development studies.

The operations are in advanced exploration and project studies phase. Golpu, the most advanced is currently busy with the feasibility study for stage 1 and the prefeasibility study for stage 2. No mining has occurred in the project area.

REGIONAL GEOLOGY

Golpu

The Golpu deposit is the largest of the deposits and found in a block of deformed Upper Mesozoic to Middle Miocene metasedimentary rocks cut by Miocene-Pliocene calc-alkaline dioritic intrusives. Copper and gold mineralisation results from a porphyry system with the upper portion overprinted by high sulphidation epithermal alteration. The deposit is also 60km north-northwest of the porphyry-related gold-silver-base metal Hidden Valley-Kaveroi mines and other related deposits in the Bulolo Graben (e.g. Edie Creek, Kerimenge, Upper Ridges).

The Golpu mineral resource is approximately 800m by 400m elliptical in plan and extends from 200m below surface to greater than 2 000m depth. The deposit remains open at depth.

The system consists of multiple, hornblende-bearing diorite porphyries intruded into host sediments. Intrusives range from small dykes to small stocks and apopheses. Hydrothermal alteration related to the porphyry Cu-Au mineralisation forms a predictable zonal arrangement grading from potassic core to propylitic margins. A high sulphidation epithermal system is 'telescoped' over the upper portion of the porphyry system forming a central alunite-quartz (advanced argillic) core grading out to dickite-kaolinite (argillic) with an outer margin of sericite alteration. This results in either epithermal-dominant, interaction (mixed) or porphyry-only zones.

The June 2015 Golpu mineral resource model incorporates lithology, alteration, oxidation, sulphide distribution and structure interpretative wireframes developed from the drilling information using implicit modelling interpolations. For more information on Golpu, please refer to page 156 of the Projects and Exploration section of the Integrated Annual Report 2015.

PAPUA NEW GUINEA continued

Golpu reserve

The Golpu reserves estimate is based on the assumption that block cave mining method will be used with a two-lift strategy based on the June 2012 prefeasibility study. The 2012 prefeasibility study was optimised during FY15 with a prefeasibility study focusing on a lower upfront (and expanding) capital investment in the higher grade portions of the ore body. The prefeasibility study was supplemented by a concept study focusing on the optimisation of the extraction of the resource. The feasibility study for stage 1 and prefeasibility study for stage 2 are due for completion by the end of December 2015 together with a revised reserve statement.

Wafi resource

The Wafi deposit is centred on high sulphidation epithermal mineralisation within a larger epithermal and porphyry related complex in granted Exploration Licence EL440, approximately 60km southwest of Lae, Papua New Guinea. The Wafi deposit outcrops less than 1km to the south of the top of the Golpu porphyry deposit.

The Wafi mineralisation has been defined over a surface area of 1 100m x 800m and up to 600m below surface, with the majority of the material potentially exploitable by open pit mining methods. No reserve is declared and no mining has been undertaken in the project area to date.

Nambonga resource

The Nambonga deposit is located 700m east of Golpu and is hosted in a diorite porphyry stock, termed the Nambonga Porphyry. Chalcopyrite is the dominant copper mineral in the porphyry, which is associated with silicification, either pervasive or as veins. Gold is thought to be intergrown with the chalcopyrite or pyrite.

The approximate extents of the system are 500m (east-west), 400m (north-south) and 1 000m vertically.

The Nambonga resource model contains estimates for gold, silver, copper, lead, zinc and sulphur. Estimation domains are based on a combination of lithology, alteration and mineralisation. The Nambonga deposit is an advanced exploration target and no mining has been undertaken in the project area to date.

GOLPU feasibility project

A scalable development path with a business case supported by high grades, low capital, and robust returns

The conclusion of the optimised Golpu prefeasibility study in December 2014 represents a major project milestone for FY15. Key objectives of the study, which included reducing the capital of the project, lowering the operating costs and improving the rate of return, were all achieved by focusing on the high value portions of the resource, in a scalable modular approach to development. The results highlight the quality of the ore body and flexibility afforded by this world class asset.

Golpu is a spectacular ore body and a significant value accretive game changer for Harmony. In steady state production from years 2024 to 2029 attributable annual production for Harmony averages 500 000 gold equivalent ounces. Expected operating cost of US$34.6 per tonne and total production cost inclusive capital (C3) of US$1.42 per pound will place Golpu amongst the most profitable copper-gold producers in the world in the lowest quartile of the cash cost curve. Stage 1 is expected to have a life of approximately 27 years and options to exploit the remaining 70% of the resource base beyond that are under consideration.

Overview

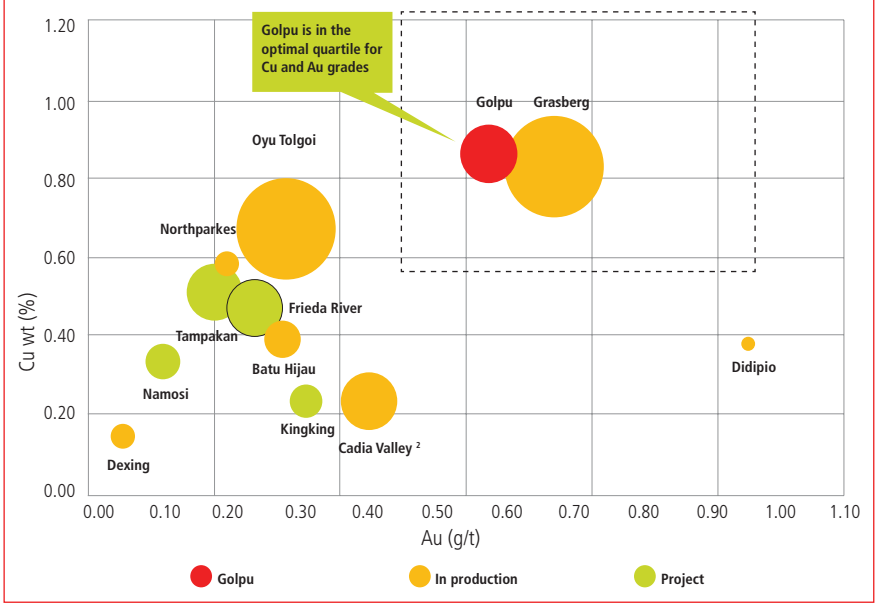
Golpu is located in the Morobe Province of Papua New Guinea (PNG) and ranks as one of the World's largest undeveloped copper-gold deposits. In December 2014, the board approved an optimised prefeasibility study (PFS) for the stage 1 of mine development at the project, and agreed to advance work to the feasibility study stage. The optimised stage 1 project comprises an underground mine with low development capital costs targeting early high grades to maximise free cash flow generation. The optimised prefeasibility (December 2014) study demonstrates the potential of this world class ore body with key highlights including:

- Staged development of the Golpu deposit with the first stage (stage 1) targeting the higher grade portions of the ore body
- Stage 1 comprises two block caves. The first block cave operating at 3Mtpa and first production forecast for 2020, followed by a deeper block cave operating at 6Mtpa in steady state from 2024
- Attractive return on investment, with an estimated Internal Rate of Return (IRR) of 17%
- The approximate life of stage 1 is 27 years, with annual production peaking at 320 000 ounces of gold and 150 000 tonnes of copper in 2025
- Substantially lower project capital than previous studies, with maximum negative cash flow predicted to be US$785m (Harmony's 50%)

In December 2014, the board also approved the commencement of the Golpu stage 2 (stage 2) prefeasibility study that considers the optimisation of the mining and processing infrastructure and potential further expansion of stage 1. A prefeasibility study is in progress for stage 2 and also due for completion by December 2015.

Golpu exploration drilling

Asian porphyry copper-gold deposites
(bubble represents total resource – gold equivalent ounces)



Geology and resource modelling

Golpu ranks as a world-class copper-gold porphyry in terms of its size and grade. Knowledge of the system is limited by the extent of drilling and the deposit remains open for future expansion. Exploration activity is guided by strong indications that the resource will continue to grow at depth as a better understanding is gained of the nature and extent of the mineralised systems.

The Golpu June 2015 Mineral Resource is estimated as 1 070Mt at 0.89% Cu, 0.59g/t Au, 1.09g/t Ag and 94ppm Mo. Contained metal is estimated to be 20.2Moz Au and 9.4Mt Cu. The Mineral Resource is reported within a 0.2% Cu cut-off constraining shell within the primary sulphide mineralisation and above 4100mRL.

The global metal content has not changed significantly from the 2012 resource estimate although, locally, metal has been redistributed due to:

- A total of 52,046m of new drill core samples were incorporated into the estimation of the June 2014 model. This drilling has significantly improved the understanding of the geological framework and increased confidence in the grade model estimate.
- The faulting architecture and displacement on structures is more fully understood
- Drilling has confirmed that the porphyry system is not vertical, as modelled in June 2012, but is tilted 70 degree to the west between major faults
- The high-grade Livana (previously known as the Hornblende) Porphyry phase has been modelled as an independent 'hard' domain based on contact analyses that clearly demonstrated a sharp grade change at the porphyry boundary

These changes have resulted in a more complex model with increased local precision critical for assessment of high grade start-up options. The June 2015 Mineral Resource supports the optimised (2014) prefeasibility study.

PAPUA NEW GUINEA continued

Mining

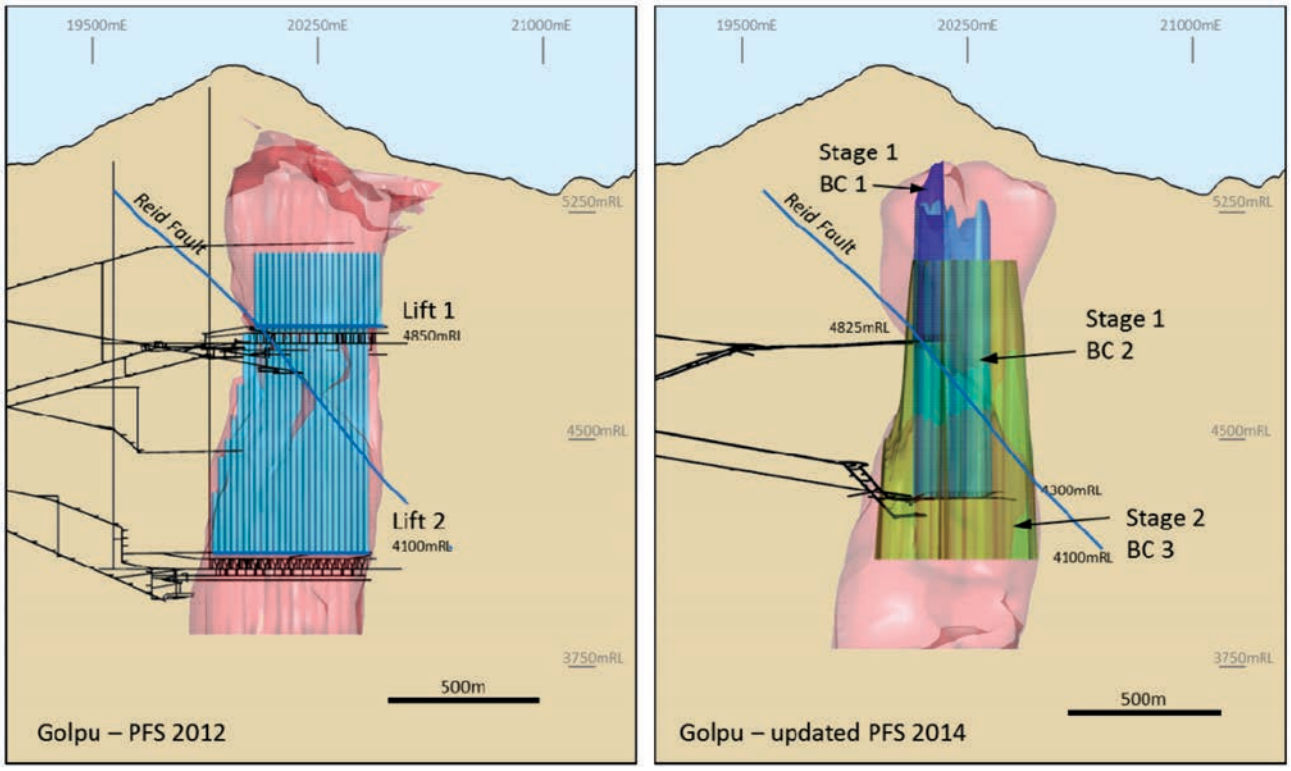
Golpu is expected to comprise of at least two stages.

The optimised prefeasibility study for stage 1 of Golpu recommends two block caves accessing the high value core of the Golpu ore body. Combined, a total (100% basis) of 145Mt at an average grade of 1.02g/t gold and 1.60% copper will be extracted. The proposed start-up production rate is 3Mtpa mined from Block Cave 1 (BC1) and 6Mtpa mined from the deeper Block Cave 2 (BC2).

BC1 is situated approximately 425m below surface and will extract 12Mt of cave ore over a five-year period at a peak production rate of 3Mtpa. During caving operations, ore from the block cave draw points will be delivered by diesel load haul dump units to an underground jaw crusher and then conveyed to surface.

BC2 is situated approximately 1 050m below surface. BC2 will be mined at a rate of 6Mtpa to extract 133Mt of cave ore over a 23 year period.

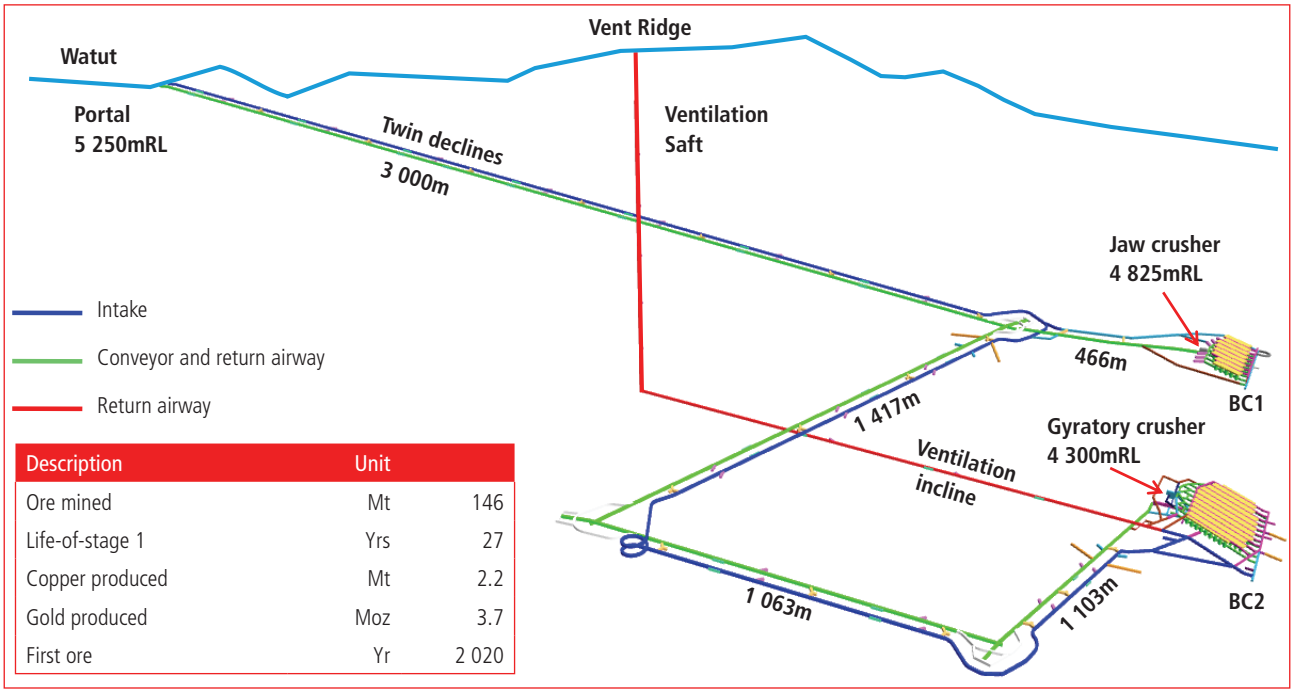
Schematic cross section of Golpu porphyry deposit 2012 compared to 2014



Hidden Valley plant in Papua New Guinea

Access to the ore body is planned to be via twin declines developed from the Watut River flats. During the production phase it is envisaged that an inclined conveyor is installed in one of the declines for transportation of production ore to the process plant located near the portal; the other being used for ventilation.

Schematic of proposed operations



Description	Unit	
Ore mined	Mt	146
Life-of-stage 1	Yrs	27
Copper produced	Mt	2.2
Gold produced	Moz	3.7
First ore	Yr	2 020

The two proposed block caves in stage 1 are designed to access approximately 30% of the tonnes, which contain approximately 40% of the metal (gold and copper) of the Golpu reserve. The mining and processing infrastructure would then be utilised to exploit 70% of the remaining tonnes, which contain about 60% of the contained metal (gold and copper) of the Golpu reserve of the Golpu reserve at a future date subject to operating, regulatory and economic conditions. Stage 2 focuses on further optimisation and the potential expansion of prefeasibility stage 1.

Process plant

The optimised prefeasibility study anticipates the construction of a 6Mtpa process plant which will produce a copper-gold concentrate to be transported to the Port of Lae for onward shipping to customers. This represents a reduction of 73% in nameplate milling capacity from the 2012 prefeasibility study and, together with the reduced footprint and earthworks required in the construction phase, has also contributed to a significant reduction in capital expenditure of 76% from US$652 million to US$155 million.

Gold and copper recoveries have also been improved with average gold and copper recoveries for the optimised 6Mtpa case now 77% and 94% respectively. This improvement reflects the change in the mine design to focus on extraction of the high grade hornblende porphyry. The porphyry has more favourable metallurgical recovery properties compared to the mineralised metasediment host rock, which formed a large component of the feedstock in the 2012 prefeasibility study.

Infrastructure

The Golpu project is located in a greenfields location. The main infrastructure requirements for the Golpu project are access roads, tailings storage, water management, port facilities and power supply and transmission.

The infrastructure capex estimate is similar to the 2012 estimate, with the plant located on the Watut River flats requiring road access. However, the optimised (2014) prefeasibility study utilises on-site generated power (maximum load of 12MW) for advanced exploration/early works and utilises an independent power producer for supporting steady-state production.

Steady state production draws approximately 38MW of power (or 45MW of generation when accounting for transmission losses, spinning reserve etc), significantly reduced from the previous 22Mtpa case, which required a power of approximately 150MW.

PAPUA NEW GUINEA continued

Community development

Engagement with key stakeholders (including the PNG and Morobe Province Governments, landowners and community representatives) continues to ensure clear alignment on the project objectives.

Golpu has the potential to deliver significant benefits to local and regional communities and the broader economy of Papua New Guinea, including local business opportunities, taxation and royalty revenues to all levels of government. It will also offer benefits through training and employment opportunities, business and community development programmes, health and education investments and improved regional infrastructure.

Key results of the optimised (2014) prefeasibility study

A summary of the evaluation results for the stage 1 Golpu project are as follows (100% basis).

Area		Unit	
Production	First ore	Date	2020
	Steady-state production	Date	2024
	Ore mined	Mt	145
	Life of stage 1	Years	27
	Cu metal produced	Mt Cu	2.2
	Au metal produced	Moz Au	3.7
	Peak gold production (Year 2025)	koz pa	320
	Peak copper production (Year 2025)	kt pa	150
	Gold recoveries	%	77
	Copper recoveries	%	94
Capital	Project capital	US$ billion	2.3
	Sustaining capital	US$ billion	0.8
	Total life of stage 1 capital	US$ billion	3.1
	Maximum negative cash flow	US$ billion	1.6
Operating	Total operating cost (real)	US$/t	34.6
	Cash cost (C1) (after gold credits)	US$/lb Cu	0.78
	Total production cost (after gold credits)	US$/lb Cu	1.42
	Cash costs (after copper credits)	US$/oz Au	~ negative 1 700
Economic assumptions	Gold price	US$/oz	1 250
	Copper price	US$/lb	3.1
	Exchange rates	AUD/USD	0.90
		PGK/USD	2.45
Stage 1 outcomes	Percentage of reserve utilised	%	~40
	Internal Rate of Return	%	17
	Net present value (at a discount rate of 8.58%)	US$ billion	1.1

Forward work programme

The feasibility study will address and finalise technical issues identified in the prefeasibility study. It will address progress with further environmental, social and cultural heritage studies associated with access roads and tailings storage. Further work will also be conducted to identify the optimal solution for power for the operations.

The optimised prefeasibility (2014) study recommends the development of an exploration decline to establish platforms for to gather more detailed geotechnical and geological data to support the feasibility study. A decision on the declines, in support of the advanced exploration activities, is anticipated towards the end of 2015.

Advanced exploration activities are subject to board and government regulatory approval with progress at various stages:

- Level 2B permitting for the advanced exploration works has been granted by the Conservation and Environment Protection Authority in April 2015
- Engagement with the PNG government regarding pre-mine development agreement to establish suitable fiscal and regulatory framework with the PNG government continues

Discussions with local landowners and other stakeholders around regional and economic development strategy, sustainable local preference procurement strategy and social impact and cultural heritage studies are continuing.

The Papua New Guinea government has the right to buy up to 30% of the project before or when granting the special mining lease. The costs to acquire are the sum of historical exploration costs spend to date, while the stake needs to fund the relative portion of capital contributions going forward.

Both the stage 1 feasibility study and the prefeasibility study for stage 2 are targeted to be released by the end of calendar year 2015 at which time the mineral resource and ore reserve will be reviewed.

WAFI

Gold – Mineral resources

	Measured resources				Indicated resources				Inferred resources				Total mineral resources			
	Tonnes (Mt)	Gold (g/t)	Gold (000kg)	Gold (000oz)	Tonnes (Mt)	Gold (g/t)	Gold (000kg)	Gold (000oz)	Tonnes (Mt)	Gold (g/t)	Gold (000kg)	Gold (000oz)	Tonnes (Mt)	Gold (g/t)	Gold (000kg)	Gold (000oz)
Wafi	–	–	–	–	113.5	1.72	196	6 292	22.7	1.30	30	950	136.1	1.65	225	7 242

GOLPU

Gold – Mineral resources

	Measured resources				Indicated resources				Inferred resources				Total mineral resources			
	Tonnes (Mt)	Gold (g/t)	Gold (000kg)	Gold (000oz)	Tonnes (Mt)	Gold (g/t)	Gold (000kg)	Gold (000oz)	Tonnes (Mt)	Gold (g/t)	Gold (000kg)	Gold (000oz)	Tonnes (Mt)	Gold (g/t)	Gold (000kg)	Gold (000oz)
Golpu	–	–	–	–	856.4	0.61	525	16 868	217.5	0.48	104	3 338	1 073.9	0.59	629	20 206

Modifying factors

	MCF (%)	Dilution (%)	PRF (%)
Golpu	100	0	61

Gold – Mineral reserves

	Proved reserves				Probable reserves				Total mineral reserves			
	Tonnes (Mt)	Gold (g/t)	Gold (000kg)	Gold (000oz)	Tonnes (Mt)	Gold (g/t)	Gold (000kg)	Gold (000oz)	Tonnes (Mt)	Gold (g/t)	Gold (000kg)	Gold (000oz)
Golpu	–	–	–	–	450.0	0.86	385	12 388	450.0	0.86	385	12 388

Silver – Mineral resources

	Measured resources				Indicated resources				Inferred resources				Total mineral resources			
	Tonnes (Mt)	Ag (g/t)	Ag (000kg)	Ag (000oz)	Tonnes (Mt)	Ag (g/t)	Ag (000kg)	Ag (000oz)	Tonnes (Mt)	Ag (g/t)	Ag (000kg)	Ag (000oz)	Tonnes (Mt)	Ag (g/t)	Ag (000kg)	Ag (000oz)
Golpu	–	–	–	–	856.4	1.1	974	31 328	217.5	0.9	192	6 180	1 073.9	1.1	1 167	37 508

PAPUA NEW GUINEA continued

Modifying factors

	MCF (%)	Dilution (%)	PRF (%)
Golpu	100	0	61

Silver – Mineral reserves

	Proved reserves				Probable reserves				Total mineral reserves			
	Tonnes (Mt)	Ag (g/t)	Ag (000kg)	Ag (000oz)	Tonnes (Mt)	Ag (g/t)	Ag (000kg)	Ag (000oz)	Tonnes (Mt)	Ag (g/t)	Ag (000kg)	Ag (000oz)
Golpu	–	–	–	–	450.0	1.4	614	19 728	450.0	1.4	614	19 728

Copper – Mineral resources

	Measured resources				Indicated resources				Inferred resources				Total mineral resources			
	Tonnes (Mt)	%	Cu (Mkg)	Cu (Mlb)	Tonnes (Mt)	%	Cu (Mkg)	Cu (Mlb)	Tonnes (Mt)	%	Cu (Mkg)	Cu (Mlb)	Tonnes (Mt)	%	Cu (Mkg)	Cu (Mlb)
Golpu	–	–	–	–	856.4	0.93	7 991	17 618	217.5	0.64	1 400	3 087	1 073.9	0.87	9 392	20 705

Copper – Mineral resources as gold equivalents

	Measured	Indicated	Inferred	Total
	(000oz)	(000oz)	(000oz)	(000oz)
Golpu	–	39 042	6 832	45 874

Modifying factors

	MCF (%)	Dilution (%)	PRF (%)
Golpu	100	0	92

Copper – Mineral reserves

	Proved reserves				Probable reserves				Total mineral reserves			
	Tonnes (Mt)	%	Cu (Mkg)	Cu (Mlb)	Tonnes (Mt)	%	Cu (Mkg)	Cu (Mlb)	Tonnes (Mt)	%	Cu (Mkg)	Cu (Mlb)
Golpu	–	–	–	–	450.0	1.21	5 436	11 984	450.0	1.21	5 436	11 984

Copper – Mineral reserves as gold equivalents

	Proved	Probable	Total
	(000oz)	(000oz)	(000oz)
Golpu	–	26 529	26 529

Molybdenum – Mineral resources

	Measured resources				Indicated resources				Inferred resources				Total mineral resources			
	Tonnes (Mt)	(ppm)	Mo (Mkg)	Mo (Mlb)	Tonnes (Mt)	(ppm)	Mo (Mkg)	Mo (Mlb)	Tonnes (Mt)	(ppm)	Mo (Mkg)	Mo (Mlb)	Tonnes (Mt)	(ppm)	Mo (Mkg)	Mo (Mlb)
Golpu	–	–	–	–	856.4	98	84	186	217.5	76	17	37	1 073.9	94	101	222

Modifying factors

	MCF (%)	Dilution (%)	PRF (%)
Golpu	100	0	35.7

Molybdenum – Mineral reserves

	Proved reserves				Probable reserves				Total mineral reserves			
	Tonnes (Mt)	(ppm)	Mo (Mkg)	Mo (Mlb)	Tonnes (Mt)	(ppm)	Mo (Mkg)	Mo (Mlb)	Tonnes (Mt)	(ppm)	Mo (Mkg)	Mo (Mlb)
Golpu	–	–	–	–	450.0	81	36	80	450.0	81	36	80

NAMBONGA

Gold – Mineral resources

	Measured resources				Indicated resources				Inferred resources				Total mineral resources			
	Tonnes (Mt)	(g/t)	Gold (000kg)	Gold (000oz)	Tonnes (Mt)	(g/t)	Gold (000kg)	Gold (000oz)	Tonnes (Mt)	(g/t)	Gold (000kg)	Gold (000oz)	Tonnes (Mt)	(g/t)	Gold (000kg)	Gold (000oz)
Nambonga	–	–	–	–	–	–	–	–	39.8	0.79	31	1 010	39.8	0.79	31	1 010

Silver – Mineral resources

	Measured resources				Indicated resources				Inferred resources				Total mineral resources			
	Tonnes (Mt)	(g/t)	Ag (000kg)	Ag (000oz)	Tonnes (Mt)	(g/t)	Ag (000kg)	Ag (000oz)	Tonnes (Mt)	(g/t)	Ag (000kg)	Ag (000oz)	Tonnes (Mt)	(g/t)	Ag (000kg)	Ag (000oz)
Nambonga	–	–	–	–	–	–	–	–	39.8	2.9	114	3 672	39.8	2.9	114	3 672

Copper – Mineral resources

	Measured resources				Indicated resources				Inferred resources				Total mineral resources			
	Tonnes (Mt)	%	Cu (Mkg)	Cu (Mlb)	Tonnes (Mt)	%	Cu (Mkg)	Cu (Mlb)	Tonnes (Mt)	%	Cu (Mkg)	Cu (Mlb)	Tonnes (Mt)	%	Cu (Mkg)	Cu (Mlb)
Nambonga	–	–	–	–	–	–	–	–	39.8	0.21	84	184	39.8	0.21	84	184

Copper – Mineral resources as gold equivalents

	Measured	Indicated	Inferred	Total
	(000oz)	(000oz)	(000oz)	(000oz)
Nambonga	–	–	408	408

PAPUA NEW GUINEA continued

Total mineral reserves: Gold and gold equivalents*

	Proved	Probable	Total
	(000oz)	(000oz)	(000oz)
Gold	111	13 934	14 045
Silver	29	435	464
Copper	–	26 529	26 529
Grand total	**140**	**40 898**	**41 038**

Mineral resources and mineral reserves detailed in the following tables represent Harmony's 50% attributable gold equivalent mineral resources and mineral reserves in Papua New Guinea.

Mineral resources – gold equivalents*

	Tonnes	Gold	Gold
	(Mt)	(000kg)	(000oz)
Measured	2	2	72
Indicated	525	1 052	33 819
Inferred	141	197	6 342
Total	**668**	**1 251**	**40 232**

Mineral reserves – gold equivalents*

	Tonnes	Gold	Gold
	(Mt)	(000kg)	(000oz)
Proved	2	2	70
Probable	238	636	20 449
Total	**240**	**638**	**21 519**

**Gold equivalent ounces are calculated assuming a US$1 400/oz Au, US$3.10/lb cu and US$23.00/oz Ag with 100% recovery for all metals.*

MATERIAL
RISKS

Material risks which may impact the reserves and resource statement are as follows:

Operation	Significant risks	Remedial action
Bambanani	• Seismicity	• Control of mining sequence and appropriate support systems
	• Rate of rising water in the sub-shaft	• Installation of submersible pump
Doornkop	• Unexpected geological features	• Extensive exploration drilling from underground platforms
Kusasalethu	• Seismicity	• Control of mining sequence and appropriate support systems
	• Water build up at Deelkraal	• De-watering of the Deelkraal area
	• Backfill plant efficiency	• Re-commission module no 3 of backfill plant
Masimong	• Grade of the ore body	• Exploration for higher grade B Reef channels
Phakisa	• Logistics	• Upgrade of koepe rock winder and rail-veyor™
Joel	• Flooding of 145 level (shaft bottom)	• Installation of second submersible pump as a standby
	• Water and gas intersections in decline development	• Additional drilling in front of decline development
Tshepong	• Complexity of ore body	• Extensive exploration drilling
	• Ventilating of decline area	• Holing to Phakisa on 69 level and installation of booster fans
Target 1	• Grade dilution from waste/backfill in the massive stopes	• Reduce pillar mining between mined out areas
	• Ventilation	• Optimise ventilation and cooling capability
Unisel	• Scaling of shaft ore pass system	• Ore pass system to be kept full to reduce scaling
	• Aged shaft infrastructure and equipment	• Preventative maintenance schedules and repairs
Kalgold	• Slope failure	• Pre-split blasting to protect high walls
Hidden Valley	• Overland conveyor system	• Manage ore blending into crusher and increased sensors on conveyor
Golpu	• Project execution	• World class projects team appointed

APPENDIX

APPENDIX

The following standards, processes and procedures are followed and adhered to at all Harmony's underground mines in South Africa.

SAMPLING STANDARD

A standard procedure for the sampling of stopes and development ends is used to ensure quality of sampling information and safety in its collection. All samplers and sampling crews are trained based on the rules of the sampling standard. The standard specifies all the steps and rules involved in the preparation of the face and the collection of samples, as well as all safety aspects of sampling. Particular attention is given to quality of information captured, and planned task observations are routinely carried out to ensure adherence to the standard.

QUALITY ASSURANCE AND QUALITY CONTROL

Assessment of assaying accuracy and precision is carried out through the use of certified Standard Reference Materials (SRMs), blanks and duplicates. SRMs, blank samples and duplicate samples are added with the actual underground chip samples and drillhole samples sent to the assay laboratory. For analysis of Underground chip-samples, the total number of SRMs, blank samples and duplicate samples to be added to the daily underground samples will equal approximately 5% of the total underground samples submitted for that day. Generally, this equates to approximately 2% of each type of QAQC sample. For analysis of underground/surface drill-holes, QAQC is required to be more stringent in terms of numbers of SRMs, blank samples and duplicate samples submitted. One gold SRM, one uranium SRM, one duplicate and one blank is required for every 20 drill-hole samples assayed. In other words, QAQC material will equate to approximately 15% of the total drill-hole samples analysed. If the SRM or blank sample has been deemed to have failed, the entire batch of samples assayed with this failed QAQC sample must be identified. A request must then be sent to the laboratory requesting them to repeat the assay procedure on all samples within this batch. A second SRM or blank sample must be provided to the laboratory to be included with the batch of samples. Should the batch of samples fail the QAQC standards again, these samples will be excluded from the sampling database (not captured in the sampling system), and the sampling will be repeated if necessary.

ASSAY LABORATORY

Fire assay is the oldest and, in most circumstances, still the best method for determining the concentration of precious metals in ores and metallurgical products. Essentially, the method consists of two consecutive pyrochemical separations. The finely ground sample is fused with a suitable flux, under reducing conditions which promote the separation of the precious metals from the gangue, with simultaneous collection, normally as a lead alloy. Subsequently, the lead is removed by oxidising fusion (cupellation) and the precious metals, thus isolated, are available for measurement.

Harmony's assay laboratory performs various types of analysis, but the laboratory is only ISO 17025 accredited for the analysis of gold and uranium. Underground ore samples are received and prepared for fire assay gold, uranium and relative density analysis. Plant samples e.g. residues, head samples, carbons, and solutions are also analysed for gold. Determination of gold fines is determined on bullion samples and sludge. The laboratory undertakes precious metal determinations on SAPS (exhibits) and securities recovered samples.

Water samples are also analysed to determine the quality. Tests are conducted for the presence of cyanide and trace metals tests, as is bacteriological testing.

The laboratory is accredited to ISO/IEC 17025 for all gold analysis. This means that it is competent in meeting international and national laboratory standards and provides reliable testing services. In terms of the ISO/IEC 17025 laboratory systems accreditation, feedback is provided to the laboratory on whether it is conducting its work in accordance with international criteria for technical competence. This feedback assists the laboratory in continual improving it performance in terms of data quality and laboratory effectiveness.

Société Générale de Surveillance (SGS) – Performance Laboratories Randfontein is a fully equipped laboratory providing analytical services using fire assay, instrumental and classical techniques for precious and base metal ores. The laboratory provides services to the major mining houses, including Harmony, in South Africa as well as exploration companies currently active in Africa.

The laboratory is ISO 17025:2005 accredited for the analysis of gold, uranium and the platinum group metals. This international standard confirms that the laboratory operates a quality system, is technically competent and is able to generate valid results. The quality system is applied across the entire laboratory, irrespective of the accreditation status of the method. This is critical in providing results on which major decisions regarding mining and plant operations are based.

APPENDIX continued

SAMPLE PREPARATION PLANT

To determine the grade of the ore hoisted at the mines, we make use of go belt sampling.

A belt sample of up to 1 000kg is received at the plant from the shaft. The sample is first put through a 300mm screen prior to drying with infra-red heaters. Primary crushing to <70mm is then followed by a secondary crushing to <25mm, after which the sample is reduced. At the primary splitter 7/8 of the sample is discarded via a conveyor belt and 1/8 of the sample progress to final drying. Tertiary crushing to <6mm is then followed by secondary splitting. Again 7/8 of the sample is discarded and 1/8 of the sample is pulverised to 85% <106 micron. At the final splitting, all eight sub-samples are packaged and sent to the laboratory for analyses.

The sample ticket with the necessary information from the shaft, accompanies the sample throughout the process. Empty bins are hosed out, whilst cleaning continues as part of the procedure to avoid contamination. At regular intervals grading analyses are done at the assay laboratory. A quartz sample is done to monitor any possible contamination.

To ensure that a high standard of preparation is maintained at each step of the process, which includes the adherence to safety standards and is checked by a supervisor.

REPORTING CODE

Harmony uses the South African Code for the Reporting of Exploration Results, Mineral Resources and Mineral Reserves (SAMREC), which sets out the internationally recognised procedures and standards for reporting mineral resources and ore/mineral reserves in South Africa. This code was developed by the South African Institute of Mining and Metallurgy and is the recommended guideline for reserve and resource reporting for companies listed on the JSE Limited. Harmony's reporting of its Australian and Papua New Guinea mineral resources and mineral reserves also complies with the Australian Code for the Reporting of Mineral Resources and Mineral Reserves (JORC) of the Australian Institute of Mining and Metallurgy. This code is materially the same as SAMREC. In reporting reserves, distinct cognisance has also been taken of Industry Guide 7 of the United States Securities Exchange Commission.

DEFINITIONS AS PER THE SAMREC CODE

Mineral resources

A mineral resource is a concentration (or occurrence) of material of economic interest in or on the earth's crust in such form, quality and quantity that there are reasonable and realistic prospects for eventual economic extraction. The location, quantity, grade, continuity and other geological characteristics of a mineral resource are known, estimated from specific geological evidence and knowledge, or interpreted from a well-constrained and portrayed geological model.

Mineral resources are sub-divided in order of increasing confidence in respect of geoscientific evidence into inferred, indicated and measured categories.

An inferred mineral resource is that part of a mineral resource for which tonnage, grade and mineral content can be estimated with a low level of confidence. It is inferred from geological evidence and sampling, and assumed, but not verified geologically and/or through analysis of grade continuity. It is based on information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes that may be limited in scope or of uncertain quality and reliability.

An indicated mineral resource is that part of a mineral resource for which tonnage, densities, shape, physical characteristics, grade and mineral content can be estimated with a reasonable level of confidence. It is based on exploration, sampling and testing of information from material gathered from locations such as outcrops, trenches, pits, workings and drill holes. The locations are too widely or inappropriately spaced to confirm geological and/or grade continuity but are spaced closely enough for continuity to be assumed.

A measured mineral resource is that part of a mineral resource for which tonnage, densities, shape, physical characteristics, grade and mineral content can be estimated with a high level of confidence. It is based on detailed and reliable information from exploration, sampling and testing of material from locations such as outcrops, trenches, pits, workings and drill holes. The locations are spaced closely enough to confirm geological and grade continuity.

Mineral reserves

A mineral reserve is the economically mineable material derived from a measured and/or indicated mineral resource. It includes diluting and contaminating materials and allows for losses that are expected to occur when the material is mined. Appropriate assessments to a minimum of a prefeasibility study for a project, and a life-of-mine plan for an operation, must have been completed, including consideration of, and modification by, realistically assumed mining, metallurgical, economic, marketing, legal, environmental, social and governmental factors (the modifying factors). Such modifying factors must be disclosed.

A probable mineral reserve is the economically mineable material derived from a measured and/or indicated mineral resource. It is estimated with a lower level of confidence than a proved mineral reserve. It includes diluting and contaminating materials and allows for losses that are expected to occur when the material is mined. Appropriate assessments to a minimum of a prefeasibility study for a project, and a life-of-mine plan for an operation, must have been carried out, including consideration of, and modification by, realistically assumed mining, metallurgical, economic, marketing, legal, environmental, social and governmental factors. Such modifying factors must be disclosed.

A proved mineral reserve is the economically mineable material derived from a measured mineral resource. It is estimated with a high level of confidence. It includes diluting and contaminating materials and allows for losses that are expected to occur when the material is mined. Appropriate assessments to a minimum of a prefeasibility study for a project, and a life-of-mine plan for an operation, must have been carried out, including consideration of, and modification by, realistically assumed mining, metallurgical, economic, marketing, legal, environmental, social and governmental factors. Such modifying factors must be disclosed.

HARMONY REPORTING IN COMPLIANCE WITH SAMREC

To meet SAMREC's requirements that the material reported as a mineral resource should have 'reasonable and realistic prospects for eventual economic extraction', Harmony has determined an appropriate cut-off grade which has been applied to the quantified mineralised body according to a process incorporating a long-term view on future economic modifying factors. In applying this process, Harmony uses a gold price of R525 000/kg to derive a cut-off grade to determine the mineral resources at each of its South African underground operations.

Mineral resources have been estimated on the basis of geoscientific knowledge with input from the company's ore reserve managers, geologists and geostatistical staff. Each mine's mineral resources are categorised, blocked-out and ascribed an estimated value. At all our mines, computerised geostatistical estimation processes are used.

To define that portion of a measured and indicated mineral resource that can be converted to a proved and probable mineral reserve, Harmony applies the concept of a cut-off grade. At our underground South African mines, this is done by defining the optimal cut-off as the lowest grade at which an ore body can be mined such that the total profits, under a specified set of mining parameters, are maximised. The cut-off grade is determined using the company's Optimiser software, which requires the following as input: the database of measured and indicated resource blocks (per shaft section); an assumed gold price which, for this mineral reserve statement, was taken as R450 000/kg; planned production rates; the mine recovery factor (MRF) which is equivalent to the mine call factor (MCF) multiplied by the plant recovery factor (PRF); and planned cash operating costs (rand per tonne). Rand per tonne cash operating costs are historically based but take cognisance of distinct changes in the cost environment such as restructuring, right-sizing, and other cost-reduction initiatives, and for below-infrastructure ounces, an estimate of capital expenditure.

The block cave reserve at Golpu in Papua New Guinea uses proprietary block cave optimisation software to define the optimal mine plan and sequencing. The open-pit reserve at Hidden Valley in Papua New Guinea is using the Whittle optimisation programme to guide the most efficient mine design given the commodity prices and cost inputs assumed.

The mineral reserves represent that portion of the measured and indicated resources above the cut-off grade in the life-of-mine plan and have been estimated after consideration of the factors affecting extraction, including mining, metallurgical, economic, marketing, legal, environmental, social and governmental factors.

A range of disciplines, including geology, survey, planning, mining engineering, rock engineering, metallurgy, financial management, human resources management and environmental management, has been involved at each mine in the life-of-mine planning process and the conversion of resources into reserves.

The modifying factors related to the ore flow that are used to convert the mineral resources to mineral reserves through the life-of-mine planning process are stated for each shaft. For these factors, historical information is used, except if there is a valid reason to do otherwise. As a result of the depth at which mining occurs and the resulting rock engineering requirements at our South African underground mines, some shafts include stope support pillars into the design of their mining layouts which accounts for discounts of 7% to 10%. A further 15% discount is applied as a life-of-mine factor to provide for unpay and off-reef mining. In general, life-of-mine plan extraction factors do not exceed 85% and are reflected in the mineral reserves.

APPENDIX continued

GLOSSARY OF TERMS

Term	Definition
Acidic	Descriptor for silica rich igneous rocks (containing greater than 65% silica) such as rhyolite or granite.
Alluvium	Relatively recent deposits of sedimentary material laid down in riverbeds, flood plains, lakes, or at the base of mountain slopes.
Alteration	Any physical or chemical change in a rock resulting from fluids moving through the rock.
Anticline	An arch or fold in layers of rock.
Assay	An analysis to determine the presence and concentration of one or more chemical components.
Basalt	An extrusive mafic volcanic rock.
Basic	Descriptor for silica poor igneous rocks such as basalt or gabbro.
Below infrastructure	That part of a company's mineral reserve that can only be accessed following certain capital expenditure which has yet to be approved.
BIF	Banded iron formation
Block caving	A mining method suited for large low-grade ore bodies that are unsuitable for open cut mining. In development a series of evenly spaced crosscuts are made at the bottom of the ore block from which raises are driven up into the ore. The ore block is then undercut so that it begins to collapse (or cave) into the raises. The weight of the material above provides the force to fracture and crush the underlying ore which is drawn from the drawpoints on the crosscuts. As ore is withdrawn the cave progresses up through the ore body.
Bornite	A copper iron sulphide that commonly defines the core of porphyry copper-gold deposits.
Breccia	Fractured and broken rock that results from structural, volcanic or sedimentary processes.
Bulk mining	Any large-scale mechanised method of mining involving significant volumes of material being extracted on a daily basis.
Caldera	A large, basin shaped volcanic depression, more or less circular in form, that results from the collapse of the earth's surface into an exhausted magma chamber.
Chalcocite	A copper sulphide mineral common in zones of secondary enrichment.
Chalcopyrite	A copper iron sulphide that comprises the bulk of ore in many copper mines.
Concentrate	The product of the milling process that contains a high percentage of the valuable metals. The concentrate is commonly the final product produced on-site and is sent to a third party for separation or smelting.
Conglomerate	A sedimentary rock consisting of rounded, water worn pebbles or boulders cemented into a solid mass.
Contact	A geological term used to describe the line or plane along which two different rock types meet.
Contact metamorphism	Metamorphism of country rocks adjacent to an intrusion caused by heat and fluids from the intrusion.
Craton	A part of the earth's crust that has attained stability and has been little deformed for a long period of geological time.
Crosscut	An opening underground that is cut at right angles from the main level drive or shaft that generally links to and cuts the ore body, may also refer to a link between different drives.
Country rocks	The surrounding "host" rocks into which an igneous intrusion or ore body is emplaced.
Cut-off grade	The lowest grade of copper or gold ore that is considered economic to mine.
Decline	A tunnel below the horizontal that allows access to the ore body.
Deposit	A concentration of mineral matter, sedimentary or volcanic material, commonly refers to an accumulation of mineralised material that need not be economic to extract.
Diamond drilling	A method of obtaining samples of rock that utilises a diamond encrusted drill bit to cut long cylindrical sticks of core.
Diatreme	A long vertical pipe or plug filled with volcanic breccia formed by explosive release of energy from a gas-charged magma.
Dilution	Unmineralised rock that is by necessity removed along with ore during the mining process that effectively lowers the overall grade of the ore.
Diorite	Plutonic or intrusive rocks of intermediate composition between acidic and basic.

GLOSSARY OF TERMS

Term	Definition
Dip	The angle at which a bed, stratum, or vein is inclined from the horizontal, measured perpendicular to the strike and in the vertical plane.
Disseminated ore	Ore carrying small distributed particles or valuable minerals distributed more or less uniformly through the rock.
Drawpoint	An underground opening at the bottom of the stope through which broken ore is extracted.
Dyke	A long and relatively thin body of igneous rock that, while in the molten state, intruded a fissure in older rocks.
Enrichment	The process of upgrading the concentrations of various elements into more concentrated deposits.
Epithermal deposit	A mineral deposit consisting of veins and replacement bodies containing precious metals or, more rarely, base metals; that form close to the earth's surface at high levels in the crust.
Exploration	Prospecting, sampling, mapping, drilling and other work involved in the search for ore.
Fault	A break in the continuity of a body of rock. It is accompanied by a movement on one side of the break relative to the other so that what were once parts of one continuous rock stratum or vein are now separated. The amount of displacement of the parts may range from a few inches to thousands of feet. Various descriptive names have been given to different kinds of faults, including but not limited to; closed fault, dip fault, dip-slip fault, distributive fault, flaw fault, gravity fault, heave fault, hinge fault, horizontal fault, longitudinal fault, normal fault, oblique fault, oblique slip fault, open fault, overthrust fault, parallel displacement fault, pivotal fault, reverse fault, rotary fault, step fault, strike fault, strike-slip fault, thrust fault, transcurrent fault, translatory fault, underthrust, vertical fault.
Felsic	An igneous rock having abundant light-coloured minerals and enriched in lighter elements such as silica and aluminium.
Flotation	A milling process in which valuable particles are induced to become attached to bubbles and float where they are more easily separated.
Fold	A curve or bend of a planar structure such as rock strata, bedding planes, foliation, or cleavage. A fold is usually a product of deformation, although its definition is descriptive and not genetic and may include primary sedimentary structures.
Gabbro	A dark, coarse-grained mafic igneous rock.
Gangue	The commercially worthless material that surrounds, or is closely mixed with, the ore.
Gold equivalent ounces	In instances where individual deposits may contain multiple valuable commodities with a reasonable expectation of being recovered; for example gold + copper in the one deposit, Harmony computes a gold equivalent to more easily assess the value of the deposit against gold only mines. Harmony does this by calculating the value of each of the deposits commodities then divides the product by the price of gold. For example ((gold ounces * gold price per ounce) + (copper pounds* copper price per pound))/gold price per ounce; this will return the gold equivalent of a gold and copper deposit. All calculations are done using metal prices as stipulated in attached documentation. Harmony assumes a 100% metallurgical recovery in its calculations unless otherwise stated.
Graben	A block of rock bound by faults that has moved downward to form a depression between adjacent fault blocks.
Granite	A light coarse-grained felsic intrusive rock.
Granodiorite	A light coarse-grained intermediate intrusive rock.
Greenstone	A field term for any compact dark green altered or metamorphosed basic igneous rock that owes its colour to chlorite.
Head grade	The average grade of ore fed into the mill.
Horst	An elongate, relatively uplifted crustal unit or block that is bounded by faults, the opposite of a graben. It is a structural form and may or may not be expressed geomorphologically.
Hydrothermal	Relating to hot fluids circulating in the earth's crust; generally the source of metals found in mineral deposits.

APPENDIX continued

GLOSSARY OF TERMS

Term	Definition
Igneous rock	Rocks formed by the solidification of molten material below the earth's crust.
Intrusive	A body of igneous rock formed by the consolidation of magma intruded into country rock, in contrast to lava which is extruded onto the earth's surface.
Lava	A general name for the molten rock ejected by volcanoes.
Mafic	An igneous rock composed chiefly of dark, ferromagnesium minerals and enriched in heavier elements such as iron.
Magma	The molten material within the earth from which igneous rocks are formed.
Maramuni arc	A part of the New Guinea Mobile Belt, an arc across the island of Papua New Guinea within which a large portion of economic deposits are found.
Matrix	The finer-grained material between the larger particles of a rock or the material surrounding a fossil or mineral.
Metallurgy	The study of extracting metals from their ores.
Mesozoic	An era of geologic time, from the end of the Paleozoic to the beginning of the Cenozoic, or from about 225 million years to about 65 million years ago.
Mine call factor	Is the ratio, expressed as a percentage, which the specific product accounted for in "recovery plus residue" bears to the corresponding product "called for" by the mine's measuring and valuation methods.
MW	Milling width is a calculated width expressing the relationship between the total reef area excavated and the total tonnes milled from underground sources.
Mobile belt	A belt of folded and mountainous terrain that defines the core of the island of Papua New Guinea, considered to define the leading edge of the Australian content where it is in collision with the pacific ocean plate.
Non-refractory	Gold or copper ore that is easily extracted using standard and well tested mill and plant technologies.
Ophiolite	A section of the earth's oceanic crust and the underlying mantle that has been uplifted and often emplaced (or obducted) onto the edge of a continental plate; commonly the product of subduction systems. The material comprises mafic and ultramafic rocks and minerals.
Ore	A mixture of minerals and gangue from which at least one of the minerals can be extracted at a profit.
Orogeny	A period of mountain building characterised by compression and folding within the earth's crust.
Oxidation	Generically refers to a chemical reaction of the rock when exposed to oxygen and surface water, resulting in oxide material in a mining environment.
Plunge	The inclination and orientation of a fold axis or other linear feature, measured in the vertical plane.
Porphyry	An igneous rock of any composition that contains conspicuous phenocrysts in a fine-grained groundmass that has intruded into the upper crust rapidly. A rock name descriptive of the groundmass composition usually precedes the term e.g. diorite porphyry.
Porphyry copper	A specific deposit type associated with the intrusion of multiple phases of porphyry. The heat and associated fluids commonly carry and precipitate metals such as gold, copper, molybdenum and silver.
PRF	Plant recovery factor is 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.
Pyrite	Iron sulphide that usually occurs in veins, as magmatic segregation, as an accessory in igneous rocks, and in metamorphic rocks, in sedimentary rocks including coal seams; It is commonly associated with gold.
Quartzite	A very hard metamorphosed sandstone, consisting chiefly of quartz grains that are so completely cemented with secondary silica that the rock breaks across or through the grains rather than around them.
Raise	Any tunnel having an inclination above the horizontal in the direction of workings.

GLOSSARY OF TERMS

Term	Definition
Recovery	The percentage of valuable metal in the ore that can be recovered by metallurgical treatment.
Refractory	Ore type that contains gold or copper that is 'locked up' and difficult to extract without specialised processing equipment.
Resource	The estimated amount of material in a mineral deposit, based on limited drilling but considered to be available for eventual economic extraction.
Rhyolite	A fine-grained extrusive igneous rock with the same chemical composition as granite.
Schist	A foliated metamorphic rock that has undergone sufficient strain so as to align all the mineral components into a roughly parallel arrangement.
Shaft	A vertical or inclined excavation in rock for the purpose of accessing the ore body, usually equipped with a hoist and winder to move miners and materials between the surface and various levels underground.
Silica	Fine grained silicon dioxide (such as quartz).
Siliceous	An alteration type where a large portion of the original rock has been replaced by silica, also spelled silicious.
Skarn	Lime-bearing silicates of any geologic age derived from nearly pure limestone or dolomite with the introduction of large amounts of silica, aluminium, iron and magnesium.
Stockwork	A mineral deposit in the form of a network of veinlets diffused in the country rock.
Stope	An excavation in a mine from which ore is, or has been, removed.
Strike	The bearing from north of a geological structure such as a bed, fault or ore body, defined as a horizontal line measured across the surface perpendicular to the dip.
Strip	To remove the overburden and waste to reveal the ore underneath.
Stripping ratio	The ratio of ton of waste removed to tons of ore recovered in an open pit mine.
Subduction	The process in plate tectonics whereby a portion of one of the earth's plates is drawn down below another.
Sub-level	A level in an underground mine between two main working levels.
Sub-outcrop	A rock stratum that unconformably underlies another rock stratum.
Syncline	Concave fold in stratified rock, in which strata dip down to meet in a trough.
Tailings	Material rejected from the milling process from which much of the economic material has been removed.
SW	Stoping width is the width of the excavation made during stoping operations.
TSF	Tailings storage facility (or tailings pond) – where the tailings are stored until the end of mining when the facility is capped and rehabilitated.
Unconformity	The structural relationship between rock strata in contact, characterised by a lack of continuity in deposition due to a period of non-deposition, weathering, or erosion prior to the deposition of the younger beds. An unconformity is often marked by absence of parallelism between the strata where the younger overlying stratum does not conform to the dip and strike of the older underlying rocks.
Volcanic	Derived from volcanoes.
Waste	Unmineralised or low-grade material that cannot be mined at a profit.
Winze	Any tunnel having an inclination below the horizontal in the direction of workings.

FORWARD-LOOKING STATEMENTS

PRIVATE SECURITIES LITIGATION REFORM ACT

Safe Harbour Statement

This report contains forward-looking statements within the meaning of the safe harbour provided by Section 21E of the Securities Exchange Act of 1934, as amended, and Section 27A of the Securities Act of 1933, as amended, with respect to our financial condition, results of operations, business strategies, operating efficiencies, competitive positions, growth opportunities for existing services, plans and objectives of management, markets for stock and other matters. These include all statements other than statements of historical fact, including, without limitation, any statements preceded by, followed by, or that include the words "targets", "believes", "expects", "aims" "intends" "will", "may", "anticipates", "would", "should", "could", "estimates", "forecast", "predict", "continue" or similar expressions or the negative thereof.

These forward-looking statements, including, among others, those relating to our future business prospects, revenues and income, wherever they may occur in this report and the exhibits to this report, are essentially estimates reflecting the best judgment of our senior management 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 report. Important factors that could cause actual results to differ materially from estimates or projections contained in the forward-looking statements include, without limitation: overall economic and business conditions in South Africa, Papua New Guinea, Australia and elsewhere, estimates of future earnings, and the sensitivity of earnings to the gold and other metals prices, estimates of future gold and other metals production and sales, estimates of future cash costs, estimates of future cash flows, and the sensitivity of cash flows to the gold and other metals prices, statements regarding future debt repayments, estimates of future capital expenditures, the success of our business strategy, development activities and other initiatives, estimates of reserves statements regarding future exploration results and the replacement of reserves, the ability to achieve anticipated efficiencies and other cost savings in connection with past and future acquisitions, fluctuations in the market price of gold, the occurrence of hazards associated with underground and surface gold mining, the occurrence of labour disruptions, power cost increases as well as power stoppages, fluctuations and usage constraints, supply chain shortages and increases in the prices of production imports, availability, terms and deployment of capital, changes in government regulation, particularly mining rights and environmental regulation, fluctuations in exchange rates, the adequacy of the Group's insurance coverage and socio-economic or political instability in South Africa, Papua New Guinea and other countries in which we operate.

For a more detailed discussion of such risks and other factors (such as availability of credit or other sources of financing), see the Company's latest Annual Report on Form 20-F which is on file with the Securities and Exchange Commission, as well as the Company's other Securities and Exchange Commission filings. The Company 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, except as required by law.

DIRECTORATE AND ADMINISTRATION

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Harmony Gold Mining Company Limited was incorporated and registered as a public company in South Africa on 25 August 1950

Registration number: 1950/038232/06

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