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# Group Mineral Resources and Mineral Reserves

This report serves as the annual update of the Group Mineral Resources and Mineral Reserves for Implats and to inform shareholders and potential investors of the status of Group mineral assets

Underground trackless machines in operation

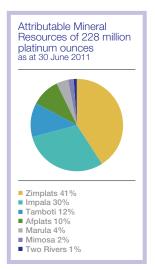
# Introduction

This report serves as the annual update of the Group Mineral Resources and Mineral Reserves for Implats and to inform shareholders and potential investors of the status of group mineral assets. This is the detailed version of the Mineral Resource and Mineral Reserve Statement, an abridged version is contained in the Implats Integrated Annual Report for 2011.

Main features relating to Implats' Mineral Resources and Mineral Reserves as at 30 June 2011 relative to 30 June 2010:

 Estimated total attributable Mineral Resources increased by 2.4 million platinum ounces to 228 million platinum ounces

- Total attributable Group Mineral Reserves decreased by 1.9 million platinum ounces to 35.0 million platinum ounces
- Material restatement of Mineral Reserves at Marula, in line with a new mine plan
- Additional work resulted in updated estimates for Impala, Afplats, Two Rivers, Zimplats and Mimosa
- Steady progress is being made to convert Mineral Resources across the Group from the inferred category to an indicated and measured status
- Attributable Mineral Resources remain dominated by the Impala and Zimplats contributions.



# Attributable platinum ounces, net of depletion, corporate activity and additional work (Moz Pt)

		· ·	
20 hung 2007	Resources	187	2% increase, Afplats included
30 June 2007	Reserves	40.0	8% increase, Afplats included
00 luna 0000	Resources	237	27% increase, Tamboti added, reporting principle adjusted
30 June 2008	Reserves	42.0	5% increase, progression of 17 Shaft to reserves
20 luna 2000	Resources	230	3% decrease, northern graben at Impala excluded
30 June 2009	Reserves	37.4	12% decrease, Afplats excluded
30 June 2010	Resources	225	2% decrease, mostly due to introduction of a depth cut-off
30 June 2010	Reserves	36.9	No material changes
30 June 2011	Resources	228	1% increase, mostly due to increase in estimated widths
30 June 2011	Reserves	35.0	5% decrease, mostly due to Marula mine plan and depletion

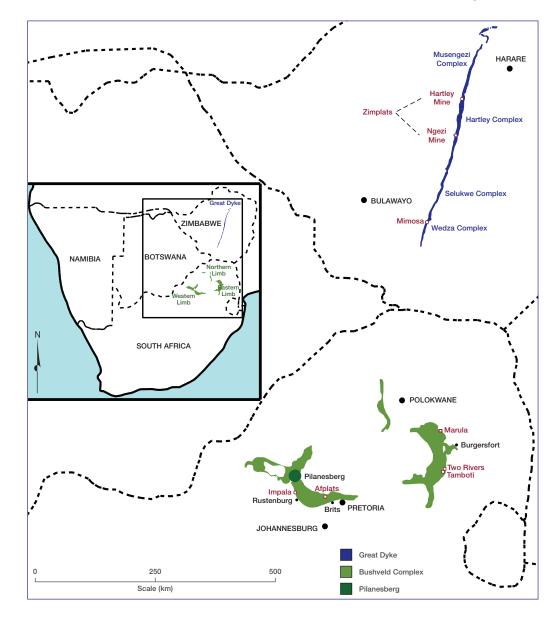
Note: Mineral Resources are inclusive of Mineral Reserves.

# **Geological settings**

Implats exploits platiniferous horizons within the Bushveld Complex in South Africa and the Great Dyke in Zimbabwe. These are the two largest known deposits of platinum group minerals in the world and are unique in terms of geological continuity. Mining mostly takes place as underground operations focusing on relatively narrow mineralised horizons with specific mining methods adapted to suit the local geology and morphology of the mineralised horizons.

# The Bushveld Complex

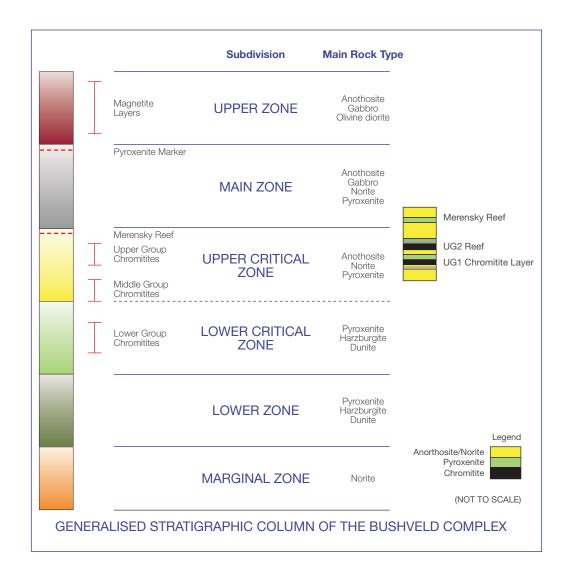
The Bushveld Complex is an extremely large (66 000 km²), two billion year-old layered igneous intrusion occurring in the northern part of South Africa. Rock types range in composition from ultramafic to felsic. The complex is not only unique in size but also in the range and economic significance of its contained mineral wealth. In addition to the platinum group metals (PGMs) and associated base metals, vast quantities of chromite, iron, vanadium and dimension stone are produced.



The layered sequence, the Rustenburg Layered Suite, comprises five major subdivisions, the Marginal, Lower, Critical, Main and Upper Zones. Two horizons within the Critical Zone, namely the Merensky Reef and the Upper Group 2 (UG2) Reef, host economically exploitable quantities of PGMs. These two horizons, along with other layers, that can be traced for hundreds of kilometres around the complex, are the focus of Implats' operations. The PGMs – platinum, palladium, rhodium, ruthenium and iridium as well as the associated gold, copper, nickel, cobalt, chromite and other minor metals and compounds, are mined and

recovered. A detailed geological description of the various reef types is provided in the relevant operations section.

Implats' operations on the Bushveld Complex comprise Impala Platinum, located north of Rustenburg, and Marula situated north-west of Burgersfort. The Two Rivers Mine, a joint venture between Implats and African Rainbow Minerals Limited (ARM), is located south-west of Burgersfort. Afplats, with its Leeuwkop Project and contiguous prospecting areas is situated west of Brits.



# Geological settings continued

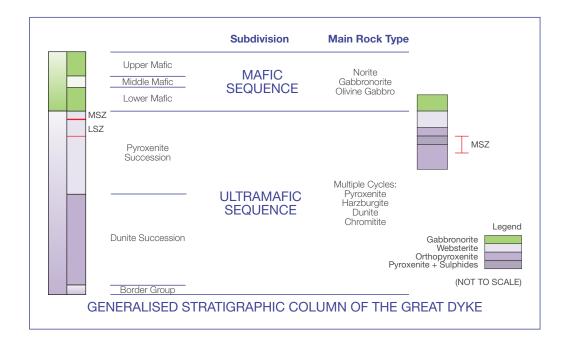
# The Great Dyke

The Great Dyke is a long (550km) and narrow (11km), 2.5 billion year-old layered igneous intrusion which bisects Zimbabwe in a north-north-easterly trend. Rock types range in composition from ultramafic to mafic. The Dyke is divided vertically into a lower ultramafic sequence, comprising cyclic repetitions of dunite, hartzburgite, pyroxenite and chromitite, and an upper mafic sequence consisting mainly of olivine-gabbro, gabbronorite and norite. It is V- to Y-shaped in section with layers dipping and flattening towards the axis of the intrusion.

Much of the mafic sequence has been removed by erosion and at the present plane of erosion the Dyke is exposed as a series of narrow contiguous layered complexes or chambers. These are, from north to south, Musengezi, Hartley (comprising the Darwendele and Sebakwe sub-chambers) and a southern chamber comprising the Selukwe and Wedza sub-chambers.

The Main Sulphide Zone (MSZ), host to economically exploitable PGMs and associated base metal mineralisation, is located 10m to 50m below the ultramafic/mafic contact in the P1 pyroxenite. Before erosion the MSZ would have been continuously developed along the length of the Dyke. The PGMs - platinum, palladium, rhodium, ruthenium and iridium along with gold, copper and nickel occur in the MSZ. Unlike the Bushveld Complex no chromite is present and it is difficult to identify mineralisation visually. A detailed description of the MSZ and the value distributions is provided in the relevant operations sections. Chromitite layers present below the MSZ contain little to no PGM mineralisation and are mined for their chromium content only.

Implats' operations on the Great Dyke comprise Zimplats' Ngezi Mine south-west of Harare and the Mimosa Mine, a joint venture between Implats and Aquarius Platinum Limited (Aquarius) situated east of Bulawayo.

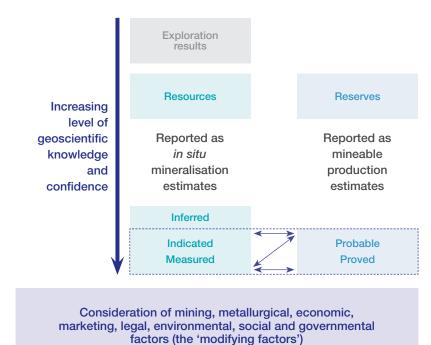


# Regulatory compliance

The reporting of Mineral Resources and Mineral Reserves for Implats' South African operations is done in accordance with the principles and guidelines of the South African Code for Reporting of Mineral Resources and Mineral Reserves (SAMREC Code). SAMREC was established in 1998 and modelled its code on the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code). The first version of the SAMREC Code was issued in March 2000 and adopted by the JSE Limited (JSE) in the Listings Requirements later in the same year; this was similarly the basis for the JSE Ongoing Reporting Requirements which were promulgated in 2005. The SAMREC Code has been under review since 2004 and an updated code, SAMREC 2008, was promulgated by the Southern African Institute of Mining and Metallurgy (SAIMM) and Geological Society of South Africa (GSSA) in June 2008; the JSE subsequently incorporated this new version into its listing and reporting requirements.

Zimplats, as an Australian Securities Exchange (ASX) listed company, reports its Mineral Resources and Ore Reserves in accordance with the JORC Code. Mimosa Investments Limited, a Mauritius-based company, does not fall under any regulatory reporting code but has adopted the JORC Code for its reporting.

The definitions contained in the SAMREC Code are either identical to, or not materially different from, international definitions. International definitions for Mineral Resources and the Indicated and Measured Mineral Resource subcategories, and the definitions for Mineral Reserves and the Probable and Proved Mineral Reserve subcategories, are the same as those found in the SAMREC Code.



Various Competent Persons, as defined by the SAMREC and JORC codes, have contributed to the summary Mineral Resource and Mineral Reserve figures quoted in this report. As such, these statements reflect the estimates as compiled by teams of professional practitioners from the various operations, shafts and projects.

Accordingly, the Group Executive: Mineral Resource Management, Seef Vermaak, PrSciNat Registration No 400015/88, a full-time employee of Implats, assumes responsibility for the collation of the Mineral Resource and Mineral Reserve estimates for the Implats Group. (The Competent Person has 25 years' experience in the exploitation of PGM-bearing deposits.)

# Regulatory compliance continued

In addition the following competent persons (CPs) are appointed:

CPs name	Appointment	Registration
Bennie Cilliers	Exploration	SACNASP
Louise Fouche	Geostatistics and Databases	SACNASP
Johannes du Plessis	Standards, Audits, Reconciliation	SACNASP
Emmanuel Acheampong	Mine Planning	ECSA

Unit/Project	CPs Mineral Resources	Registration	CPs Ore Reserves	Registration
Impala Operations	David Sharpe*	SACNASP	Emmanuel Acheampong	ECSA
Impala Projects	Niel de Bruin*	SACNASP	Emmanuel Acheampong	ECSA
Marula	Jacolene de Klerk*	SACNASP	Jacques Pretorius	ECSA
Afplats	Don Grimbeek*	SACNASP	Not applicable	
Two Rivers	Paul van der Merwe	SACNASP	Mike Cowell	SACNASP
Tamboti	Bennie Cilliers	SACNASP	Not applicable	
Zimplats	Andrew du Toit*	AusIMM	Sydney Simango#	AusIMM
Mimosa	Dumisani Mapundu*	SACNASP	Dumisani Mapundu#	SACNASP

<sup>\*</sup> Donates dual responsibility for Mineral/Ore Reserves.

- Implats has obtained written confirmation and consent from ARM Platinum that the information disclosed in this report pertaining to its Mineral Resources and Mineral Reserves is compliant with the SAMREC Code and can be published in this form
- Implats has legal entitlement to the mining of PGMs and associated base metals being reported upon without any known impediments
- Reporting of the Mineral Resources is quoted inclusive of Mineral Reserves.

  A table is also provided to illustrate the proportion of Mineral Resources that has not been converted to Mineral Reserves. For clarity note that inclusive reporting implies that Mineral Reserves are included in Mineral Resources, whereas exclusive reporting means that Mineral Resources are not included in Mineral Resources.

Donates dual responsibility for Mineral Resources.
Two Rivers, Mimosa and Zimplats CPs are appointed by their respective CEOs.

# Mineral rights status

In South Africa, Implats operates under the legislative framework provided by the Mineral and Petroleum Resources Development Act, No 28 of 2002 (MPRDA) which came into effect on 1 May 004. The MPRDA, its associated broadbased socio-economic empowerment charter for the mining industry and its attendant scorecard, as revised and amended from time to time, have played a significant role in the transformation of the South African mining industry. The Act effectively transferred ownership of privately held mineral rights to the State to enable any third party to apply to the Department of Mineral Resources (DMR) for new order prospecting rights or mining rights over these previously privately held minerals. Implats embraces the principles of transformation as a strategic imperative to reinforce its position as a leading southern African mining company, making the best possible use of available Mineral Resources.

Since promulgation the administration of the MPRDA has been fraught with problems. As a result the DMR launched its new online application and reporting system, SAMRAD, on 18 April 2011. As from that date, all new mining and prospecting right applications are required to be submitted online. The DMR aims to extend the system to cover all MPRDA reporting, such as renewals, Section 11 transfers, Section 102 amendments, prospecting work programmes, environmental assessments, Mining Charter and social and labour plan reporting.

The launch of the system has not been without problems in terms of availability and some unintended consequences. Examples include no provision made to facilitate applications for different orebodies mined by different parties on the same land; platinum and chrome orebodies for instance. Certain data relating to existing rights granted, as well as pending applications submitted prior to 18 April 2011 have been incorrectly captured, or in some cases omitted from SAMRAD and until corrected could lead to double granting of existing rights to third parties. Implats, along with most other mining and exploration companies, has been affected by the launch of the new system. Implats has identified a number of system and data capture shortcomings and will work closely with the DMR to rectify these, including two of the four converted mining rights at the Rustenburg

operation, the 4th and 5th Bafokeng area, the Kareepoort/Wolwekraal prospecting right, the two Inkosi Prospecting Rights on Hartebeestpoort B and all pending applications submitted prior to 18 April 2011.

Last year we reported that the DMR had awarded overlapping prospecting rights to a third party over portions of the Afplats project area. We are pleased to report that this matter has been successfully resolved in Afplats' favour, but the Two Rivers conversion of old order mining rights is still awaited, some four years after first submission.

Previously existing prospecting rights over the farms Welbekend and Reinkoyalskraal have successfully been incorporated into the contiguous converted mining right at the Impala Rustenburg operation.

In 2011 Impala reached agreement with the Bafokeng Rasimone JV to access certain of its mining areas from 6, 8 and 20 Shafts. This is essentially a royalty agreement which will provide mining flexibility to these shafts. The Mineral Resources and Reserves involved are not reflected in this report as the ownership has not been transferred.

Fully permitted mining tenements are not specified by SAMREC as a prerequisite for the conversion of Mineral Resources to Mineral Reserves, however Implats is cognisant of the fact that a reasonable expectation must exist that such mining rights will be obtained. We remain committed to South African legislative requirements to convert applicable prospecting rights to mining rights.

In Zimbabwe the indigenisation regulations relating to the mining industry were issued during the financial year. This legislation affects both Zimplats and Mimosa. Both companies submitted their "Indigenisation and Economic Empowerment Implementation Plans" in May 2011 against the background of existing agreements with the Government of Zimbabwe, in particular regarding credits for the return of mining rights and credits for social and infrastructure expenditure.

# **Exploration**

strategy The Group remains committed to timeous brownfields exploration in support of existing mining operations and growth opportunities. Greenfields exploration efforts to expand the Group mineral assets continues at a modest level. Hartley Mine, Zimplats

# **Exploration review**

Implats' exploration strategy was essentially unchanged from previous years i.e. focus on brownfields evaluation drilling at or adjacent to existing mining operations combined with low level greenfields exploration activity both locally and offshore. The focus of all exploration was on primary platinum group metal targets.

### **Bushveld Complex in South Africa**

Exploration on and around the current lease area at Impala focused on drilling required to support feasibility studies at the proposed 19 and 16 Lower shaft blocks. This exploration, combined with enhanced processing of the 3D seismic volume, has resulted in detailed structural models for the 19 Shaft and 16 Lower blocks.

Drilling in support of ongoing mining operations was conducted at various opencast targets and 1, 6 and 7A Shafts. The drilling of geotechnical shaft boreholes at 18 Shaft will commence in 2012 financial year. Focus in FY2012 will be on 20 and 20 Lower Shaft and infill drilling of geologically more complex areas at 12 and 14 Shaft declines.

Exploration continued on the prospecting right areas adjacent and downdip of the current Impala mineral right boundary on portions of the farms Doornspruit and Roodekraalspruit, and the farms Diepkuil and Klipgatkop. At least one borehole was drilled on each of these prospecting areas.

At Marula, exploration was undertaken on the extension of the Driekop mining right acquired from the Anglo Platinum/ARM joint venture. Limited infill drilling in support of ongoing mining operations was completed on Clapham,

Driekop and Winnaarshoek whilst geotechnical boreholes were drilled for future ventilation shaft construction and for information on the proposed Merensky decline development.

At Afplats four boreholes were completed on the Leeuwkop Project area as well as another eleven on the Kareepoort/Wolwekraal and the Imbasa/Inkosi extensions of the greater Afplats project area. A further six boreholes are currently underway. An accelerated 38 borehole programme for the greater Afplats project area is planned over the next two years.

At the Tamboti project, Impala completed two boreholes to meet prospecting right obligations.

### Great Dyke in Zimbabwe

At Zimplats, exploration actively recommenced following the suspension of all drilling in October 2008. Focus was on the replacement of depleted reserves at Portals 2 and 4 and on widely spaced reconnaissance drilling north of the current mining operations. Focus in FY2012 will be on reserve depletion at Portal 4, exploration for the proposed Portals 5 and 7 as well as a significant drilling fence programme (4 x 1km) north of Portal 10.

At Mimosa 73 boreholes were drilled on North Hill in support of a prefeasibility study and to convert the Mineral Resource to the measured and indicated categories. Four boreholes, all intersecting the Main Sulphide Zone, were drilled at Far South Hill and 18 infill boreholes were drilled west and north of Blore Shaft with 15 of these aimed at upgrading the Mineral Resource estimate and three at assisting with structural interpretation.

# **Exploration review continued**

# Offshore projects

Offshore exploration activities continued at a low level during the year and were concentrated on Canadian projects within the Sudbury Basin in conjunction with Wallbridge Mining and in the Mid Continental Rift area around Thunder Bay with our strategic alliance partner, HTX Minerals.

Drilling and borehole geophysical surveys continued at the Milnet and Parkin project with Wallbridge Mining. Exploration was targeted at extensions to the mineralisation intersected last year i.e. 8g/t (Pt, Pd, Au), 2.54% Cu and 0.78% Ni over a borehole width of 14.24m and 2.46g/t (Pt, Pd, Au), 0.96% Cu and 0.44% Ni over 12.66m. Two additional boreholes were drilled, of which one intersected two zones of mineralisation returning 2.11g/t (Pt, Pd, Au), 1.05% Cu and 0.72% Ni over a borehole width of 8m and 4.61g/t (Pt, Pd, Au), 0.42% Cu and 1.55% Ni over 1.47m respectively. Three holes were drilled elsewhere on the offset dyke at the

Wallbridge Champion Bear property without intersecting significant mineralisation.

In the Thunder Bay area a regional airborne geophysical survey identified a number of prospective areas which were subsequently staked. The strategic alliance with HTX Minerals was renegotiated to reflect a Cad\$1.3m per annum commitment for three years to explore the abovementioned areas. Exploration on these areas had commenced by year-end. Elsewhere, five boreholes were drilled on the Hele Project and four boreholes at Thread Lake. Neither drilling programme intersected mineralisation. The Thread Lake project was suspended. Further gravity and geochemical exploration is underway at Hele.

In southern Africa further target generation work was continued in conjunction with Impact Minerals. Implats declined participation in the Xade project in Botswana.



# **Auditing and risk**

Implats is committed to independent third-party reviews of Mineral Resource and Mineral Reserve estimates. A Group-wide audit was undertaken in 2010 and 2011 saw limited independent reviews:

- AMEC Americas Limited (AMEC) has completed a review of the Afplats Mineral Resource estimate; they concluded that there are no issues identified with the Afplats resource model that would materially affect the resource estimate
- At Zimplats, Steffen Robertson and Kirsten (SRK) conducted Mineral Resource and Ore Reserve estimates as part of the feasibility study for Portal 6 and prefeasibility studies for Portals 5 and 7. The main recommendations forthcoming from trade-off studies indicated an increase in optimal resource width from 2.25m to 2.5m leading to an increase in tonnage. A reinterpretation of the footprint of the less than 9° area reduced the tonnage, especially along the eastern margin. Compared to previous estimates the mining losses associated

with geological complexity have been reduced in light of the Portal 4 experience and this also contributed to an increase in estimated tonnage.

Implats recognises that the Mineral Resource and Mineral Reserve statements are based on projections and that estimates may vary if additional information becomes available or specifically if assumptions, modifying factors and market conditions change materially. To that effect independent third-party reviews are undertaken every second year on a Group-wide basis. The next review is scheduled for 2012.

This is consistent with Group definitions of risk as per ISO31 000: 2009, "The effect of uncertainty on objectives". Our assumptions, modifying factors and market conditions therefore represent areas of potential risk.

In addition, security of mineral right tenure or corporate activity could have a material impact on the future mineral asset inventory.

# Pertinent assessment and reporting criteria

The following key assumptions and parameters, unless otherwise stated, were used in the compilation of the estimates in this declaration:

- Implats developed a Group-wide protocol for the estimation, classification and reporting of Mineral Resources and Mineral Reserves in 2010 to enhance standardisation and to facilitate consistency in auditing. This protocol is updated annually on a needs basis and specifically guides the classification of Mineral Resources
- Mineral Resource tonnage and grades are estimated in situ. The Mineral Resources for the Merensky Reef are estimated at a minimum mining width, and may therefore

- include mineralisation below the selected cut-off grade
- Mineral Resource estimates for the UG2 Reef reflect the channel widths only and do not include any dilution; the estimates only reflect the main UG2 chromitite layer
- Note that the UG2 channel widths in the case of Impala and Marula are narrower than a practical minimum mining width. In order to provide further transparency average widths are included in the detailed tabulations in 2011
- Mineral Resource estimates for the Main Sulphide Zone are based on optimal mining widths

# Pertinent assessment and reporting criteria continued

- Mineral Resources are reported inclusive of Mineral Reserves, unless otherwise stated
- Mineral Resource estimates allow for estimated geological losses but not for anticipated pillar losses during eventual minina
- Mineral Reserve estimates include allowances for mining dilution and are reported as tonnage and grade delivered to the mill
- Rounding-off of figures in the accompanying summary estimates may result in minor computational discrepancies; where this occurs it is not deemed significant
- All references to tonnage are to the metric
- All references to ounces (oz) are troy with the factor used being 31.10348 metric grams per ounce
- The Mineral Resources and Mineral Reserves reported for the individual operations and projects are reflected as the total estimate. The corresponding estimates relating to attributable Mineral Resources and Mineral Reserves are only given as combined summary tabulations
- Mineral Reserves are that portion of the Mineral Resource which technical and economic studies have demonstrated can justify extraction at the time of disclosure. Historically, Implats has only converted Mineral Resources to Mineral Reserves on completion of a full feasibility study. The exception to this has been at Zimplats where the basis of a prefeasibility study was applied, as permitted by the JORC Code. This practice is in line with the SAMREC 2008 clarification that only a prefeasibility study is required for such conversions

- The term Ore Reserve is the same as that applied for Mineral Reserve
- Implats uses a discounted cash flow model that embodies economic, financial and production statistics in the valuation of mineral assets. Forecasts of key inputs are:
  - Relative rates of inflation in South Africa and the United States
  - Rand/Dollar exchange rate
  - Metal prices
  - Capital expenditure
  - Operating expenditure
  - Production profile
  - Metal recoveries.

The outputs are net present value, the internal rate of return, annual free cash flow, project payback period and funding requirements. Metal price and exchange rate forecasts are regularly updated by the Marketing Department of Implats. As at 30 June 2011, a real long-term forecast for revenue per platinum ounce sold of R22 560 was used.

# **Integrated Mineral Resource Management**

Key Mineral Resource Management (MRM) areas, including exploration, geology, geostatistical modelling, mine-survey, sampling, MRM systems and mine planning have been integrated as a functional grouping over the past five years. The MRM function is the custodian of the mineral assets of the Group and specifically strives to grow these assets in terms of both Resources and Reserves, and to unlock value through a constant search for optimal extraction plans which vield returns in line with the corporate and business objectives. The Implats MRM function also strives to develop strategies and actions that are at least equal to best practice in the platinum industry.

The main objective of the MRM function is to add value to the organisation, through:

- Ensuring that safe production is the first principle underpinning all Mineral Reserve estimates
- Appropriate investigation, study and understanding of the orebodies
- Accurate and reconcilable Mineral Resource and Mineral Reserve estimates
- Integrated and credible short-, medium- and long-term plans
- Measured and managed outputs
- Sound management information systems.

Functional liaison, co-operation and auditing have been imbedded in the MRM function throughout the Group. Specific focus is given to standardisation and the development of protocols to govern MRM in the Group. The Group accordingly remains committed to the following:

- Continuously improving the management of Mineral Resources and related processes, whilst addressing skills development and retention
- Optimal exploitation of current assets, together with growth of the Mineral Resource base by leveraging and optimising existing Implats properties, exploration and

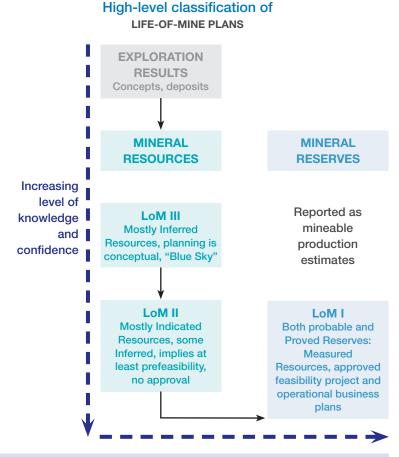
- acquisitions, including alliances and equity interests with third parties
- The legislative regime that governs mineral rights ownership
- The transparent, responsible disclosure of Mineral Resources and Mineral Reserves in line with the prescribed codes, SAMREC and JORC, giving due cognisance to materiality and competency.

# Mine planning

The entire mine planning process in Implats is multidisciplinary and is influenced by the environment in which the Group works, both now and in the future. Two approaches to planning are adopted. Top-down goals inform planning at lower levels, whilst at the same time, plans are compiled from areas which are accessible and mineable (geology and economics permitting).

Implats embraces integrated and dynamic planning that is governed by set protocols. The planning cycle facilitates this. The planning cycle incorporates the sequence of the planning levels. Starting in July/August a period of strategic mine planning is entered into, which critically re-examines (from a high level) the existing life-of-mine (LoM) plans and performances. This work is cascaded down to operational level, so that operations can be "tested" for optimality, in terms of issues such as half level optimisation, shaft tail management, cost/volume performance, capacity considerations, logistical constraints, ramp-ups etc. Reconsolidation to a strategic level is then done, to assess the optimised value and profiles that define the capability of the existing mining assets. This information is then fed through a strategic planning level so that informed decisions can be made regarding top-down goals. In November the geological models and shaft boundaries are frozen and the optimal plans used as input into the delivery phase of planning (October to May period).

# **Integrated Mineral Resource Management continued**



Consideration of approved modifying factors, specifically feasibility studies, funding, Board approvals, business plans. Significant increased confidence from LoM II to LoM I.

> Implats has defined three levels of LoM planning, these being classified as Levels III, Il and I, detailed above, which also shows a broad alignment with Resource and Reserve categories. The three levels are linked to increasing levels of confidence and the conversion of Mineral Resources to Mineral Reserves.

LoM Level III includes "Blue Sky" and scoping studies, and therefore focuses mainly on Inferred Resources and exploration results. It also includes contiguous areas and opportunities outside existing mining right boundaries and ownership. Valuation on these Resources is only done

internally, for the purpose of justifying expenditure for the upgrading of the Inferred Resources.

LoM Level II includes planned but as yet unapproved projects, which have a reasonable chance of future Board approval.

LoM Level I includes operational shafts and approved capital projects where a portion of the Mineral Resources is converted to Mineral Reserves and sufficient confidence exists for the declaration of Mineral Reserves in a public report.

Implats complies with the SAMREC requirement for a prefeasibility study to define Mineral Reserves by insisting that a feasibility study and approved capital defines Mineral Reserves.

Estimation of grade block models is facilitated by geostatistical packages such as Isatis™ and Datamine™ and is based on a fit-for-purpose principle. Mine design and scheduling utilise 3D planning tools; the output of which supports the Mineral Reserve estimates. Grade and tonnage modifying factors are stored in electronic databases. Where there is no history, factors from similar operations are used as a guideline.

At Impala, the Executive: Mining Operations and the Group Planning Manager reviews and endorses the one year, five year and LoM profiles. The General Managers and the Group Planning Manager review and sign-off the detailed five year and LoM profiles of individual shafts. The responsible Mine Manager signs the detailed production profile of the shafts' one year plan. In addition, graphical plans depicting the layouts, design and sequence of mining are interrogated and signed off by the Mine Manager, Mine Planner, Geologist, Surveyor, Rock Engineer and Ventilation Officer of each unit.

Minor variations of the abovementioned protocol are used at other Group operations and the medium-term plan is to standardise the procedure across the Group.

# Key year-on-year changes in Mineral Resource and Mineral Reserve reporting and estimates

Material and significant issues affecting the Mineral Resource and Mineral Reserve reporting and estimates at 30 June 2011, relative to the previous reporting period include the following:

- The Implats protocol for the estimation, classification and reporting of Mineral Resources and Mineral Reserves was updated in 2011. The changes relate mostly to mine planning factors, internal sign-off and reporting style
- Mineral Resource statements in this report now illustrate the estimated average resource widths. This was introduced to provide additional transparency, specifically in areas where the Mineral Resource width is less than a practical stoping width
- Similarly average mining width is reported as average milling width

- Implats has adopted the terms 4E (platinum, palladium, rhodium and gold) and 6E (platinum, palladium, rhodium, ruthenium, iridium and gold) instead of the synonymous acronyms 3PGE+Au and 5PGE+Au
- The tabulations in this report include the summation of 4E ounces to facilitate comparisons with other companies that report on the same basis
- The Marula Mineral Reserve estimate is materially different from previous statements following the adoption of a new mine plan that has a smaller footprint and is limited at a depth down to 4 levels
- Specific changes relating to the other estimates are clarified under each operational subsection.



# **Attributable Mineral Resources** and Mineral Reserves

Implats reports a summary of total attributable platinum ounces as sourced from all categories of Mineral Resources of the Group and its other strategic interests on a percentage equity interest basis. The tabulation below reflects estimates for platinum, palladium, rhodium and gold, based on the percentage equity interest. The BEE transaction with the Royal Bafokeng Nation (RBN) was executed at an Implats level and such

ownership is not reflected below. No additional BEE participation is accounted for. For clarity, both attributable Mineral Resources, inclusive of Mineral Reserves, and attributable Mineral Reserves are shown separately. Note that these are not in addition to each other. These are summary estimates and inaccuracy is derived from rounding of numbers.

### **Attributable Mineral Resources**

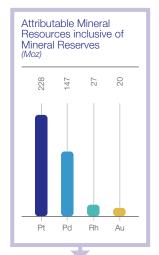
inclusive of Mineral Reserves as at 30 June 2011

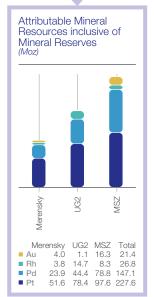
			Tonnes	4E grade	6E grade	Implats share		Attribu	ıtable ou Moz	inces	
	Orebody	Category	Mt	grade g/t	grade g/t	%	Pt	Pd	Rh	Au	4E
Impala	Merensky	Measured	131.0	6.11	7.05	100	16.8	7.4	1.37	1.05	26.6
		Indicated	90.4	5.30	6.12	100	10.1	4.4	0.82	0.63	15.9
		Inferred	75.8	5.18	5.99	100	8.3	3.6	0.68	0.52	13.1
	UG2	Measured	132.4	6.87	8.86	100	18.1	9.7	3.31	0.25	31.4
		Indicated	59.9	6.67	8.60	100	8.0	4.3	1.45	0.11	13.8
		Inferred	43.4	6.52	8.41	100	5.6	3.0	1.03	0.08	9.8
Impala/RBR JV	Merensky	Measured	1.3	7.15	8.26	49	0.2	0.1	0.02	0.01	0.3
		Indicated	2.8	6.98	8.06	49	0.4	0.2	0.03	0.03	0.7
		Inferred	11.3	5.82	6.72	49	1.4	0.6	0.11	0.09	2.2
	UG2	Measured	1.0	7.07	9.13	49	0.1	0.1	0.03	0.00	0.2
		Indicated	1.0	7.14	9.21	49	0.1	0.1	0.03	0.00	0.2
		Inferred	5.3	6.95	8.96	49	0.7	0.4	0.13	0.01	1.3
	Total		556	6.14	7.49		69.9	33.8	9.01	2.76	115.5
Marula	Merensky	Measured	25.0	4.24	4.55	73	2.0	1.1	0.10	0.26	3.4
		Indicated	5.6	4.16	4.54	73	0.4	0.2	0.02	0.06	0.8
		Inferred	7.2	4.26	4.46	73	0.6	0.3	0.03	0.07	1.0
	UG2	Measured	23.2	8.57	10.07	73	2.9	2.9	0.61	0.07	6.4
		Indicated	8.8	8.66	10.22	73	1.1	1.1	0.23	0.03	2.5
		Inferred	4.8	8.70	10.29	73	0.6	0.6	0.13	0.02	1.4
	Total		75	6.39	7.29		7.6	6.2	1.12	0.51	15.4

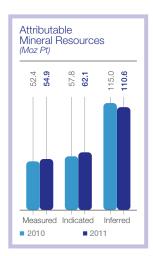
# Attributable Mineral Resources (continued) inclusive of Mineral Reserves as at 30 June 2011

			Tonnes	4E grade	6E grade	Implats share		Attribu	ıtable oı Moz	unces	
	Orebody	Category	Mt	grade g/t	g/t	%	Pt	Pd	Rh	Au	4E
Afplats											
Leeuwkop	UG2	Measured	49.7	5.33	6.61	74	5.2	2.3	0.99	0.04	8.5
		Indicated	8.7	5.36	6.60	74	0.9	0.4	0.17	0.01	1.5
		Inferred	56.7	5.15	6.39	74	5.7	2.5	1.09	0.04	9.4
Kareepoort/		Indicated	9.7	5.08	6.33	74	1.0	0.4	0.18	0.01	1.6
Wolwekraal		Inferred	15.0	5.04	6.25	74	1.5	0.7	0.28	0.01	2.4
Imbasa		Indicated	6.6	4.97	6.15	60	0.6	0.3	0.12	0.00	1.0
		Inferred	31.1	4.81	6.00	60	3.0	1.3	0.56	0.02	4.8
Inkosi		Indicated	10.9	4.47	5.59	49	1.0	0.4	0.18	0.01	1.6
		Inferred	37.2	4.72	5.87	49	3.5	1.5	0.66	0.02	5.7
	Total		226	5.03	6.25		22.3	9.8	4.24	0.16	36.6
Two Rivers	Merensky	Indicated	17.3	2.98	3.17	45	1.0	0.5	0.05	0.11	1.6
		Inferred	4.7	2.81	2.99	45	0.3	0.1	0.01	0.03	0.4
	UG2	Measured	5.7	4.58	5.49	45	0.5	0.3	0.09	0.01	0.8
		Indicated	21.0	3.62	4.33	45	1.4	0.8	0.25	0.02	2.4
		Inferred	0.5	4.66	5.66	45	0.04	0.03	0.01	0.00	0.08
	Total		49	3.44	3.94		3.1	1.7	0.41	0.17	5.4
Tamboti	Merensky	Inferred	141.1	3.81	4.11	100	10.2	5.3	0.56	1.16	17.3
	UG2	Inferred	177.6	5.58	6.65	100	16.9	11.5	3.21	0.34	31.9
	Total		319	4.80	5.52		27.1	16.8	3.77	1.50	49.2
Zimplats	MSZ	Measured	125.2	3.64	3.85	87	7.2	5.8	0.61	1.06	14.7
		Indicated	602.7	3.65	3.85	87	34.9	27.3	2.91	5.55	70.6
		Inferred	933	3.58	3.78	87	51.4	42.5	4.39	9.04	107.4
	Total		1 661	3.61	3.81		93.6	75.5	7.92	15.64	192.7
Mimosa	MSZ	Measured	30.2	3.82	4.07	50	1.8	1.5	0.17	0.30	3.7
		Indicated	21.9	3.60	3.82	50	1.2	1.0	0.11	0.20	2.5
		Inferred	17.2	3.62	3.86	50	1.0	0.8	0.09	0.16	2.0
	Total		69	3.70	3.94		4.0	3.2	0.37	0.66	8.2
All	Total		2 954	4.39	4.96		228	147	27	21	423

# **Attributable Mineral Resources** and Mineral Reserves continued



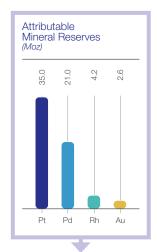


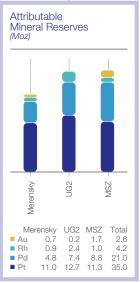


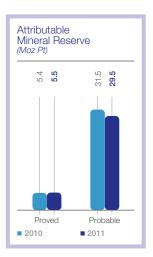
For comparative purposes note that Implats reported some 225 million attributable platinum ounces in FY2010 from the summation of all attributable Mineral Resources. The comparison of the platinum ounces per reef shows that some 43% of the attributable Group Mineral Resources is hosted by the Great Dyke, the Zimplats Mineral Resources make up the bulk of these (41%).

The detailed reports per section indicate various movements in classification, resulting from the introduction of the Implats Group-wide protocol as well as additional work during the reporting period. There has been some improvement in the conversion of Inferred Mineral Resources, the estimate as at 30 June 2011 shows an increase in Indicated and Measured Mineral Resources from 48.8% in 2010 to 51.4% at present. The graph comparing the attributable 4E ounces over the last three reporting periods reflects a stable situation.



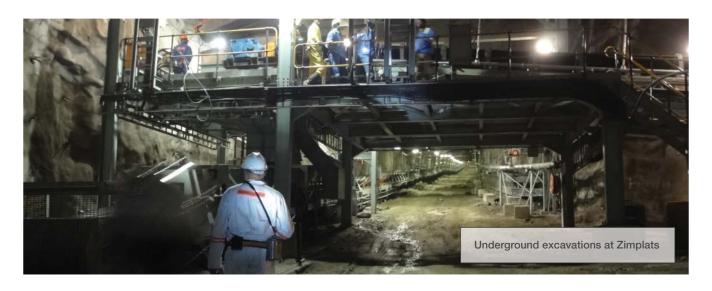




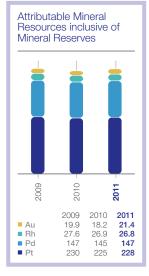


# Attributable Mineral Reserves as at 30 June 2011

			Tonnes	4E grade	6E grade	Implats share		Attribu	utable ou Moz	ınces	
	Orebody	Category	Mt	grade g/t	grade g/t	%	Pt	Pd	Rh	Au	4E
Impala	Merensky	Proved	11.5	3.89	4.50	100	0.9	0.4	0.08	0.06	1.5
		Probable	119.1	4.00	4.62	100	10.0	4.4	0.82	0.63	15.9
	UG2	Proved	14.3	3.70	4.77	100	1.1	0.6	0.19	0.01	1.8
		Probable	130.9	3.66	4.72	100	9.6	5.1	1.74	0.13	16.5
	Total		275.8	3.82	4.67	100	21.6	10.5	2.83	0.83	35.7
Marula	UG2	Proved	1.9	3.97	4.68	73	0.1	0.1	0.02	0.00	0.2
		Probable	18.6	3.99	4.70	73	1.1	1.1	0.23	0.03	2.4
	Total		20.5	3.99	4.70	73	1.2	1.2	0.25	0.03	2.7
Two Rivers	UG2	Proved	4.3	3.30	3.96	45	0.3	0.1	0.05	0.00	0.5
		Probable	13.3	2.83	3.40	45	0.7	0.4	0.13	0.01	1.2
	Total		17.6	2.95	3.54	45	0.9	0.5	0.17	0.02	1.7
Zimplats	MSZ	Proved	48.6	3.39	3.58	87	2.6	2.0	0.22	0.39	5.3
		Probable	143.1	3.40	3.60	87	7.8	6.0	0.66	1.16	15.7
	Total		191.7	3.40	3.59	87	10.4	8.1	0.88	1.55	20.9
Mimosa	MSZ	Proved	9.5	3.59	3.82	50	0.5	0.4	0.05	0.09	1.1
		Probable	6.1	3.39	3.61	50	0.3	0.3	0.03	0.05	0.7
	Total		15.5	3.51	3.74	50	0.9	0.7	0.08	0.14	1.8
All	Total		521.1	3.63	4.21		35.0	21.0	4.2	2.6	62.7

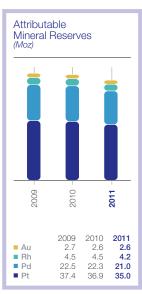


# **Attributable Mineral Resources** and Mineral Reserves continued



For comparative purposes, note that Implats reported some 36.9 million attributable platinum ounces in FY2010 from the summation of all Mineral Reserves. The tonnage shown reflects the attributable tonnes.

The detailed reports per section indicate various movements and updates. There has been a small improvement in the ratio of Proved to Probable Mineral Reserves. The graphs at the side comparing the last three reporting periods indicate an overall decrease in attributable Mineral Reserves in line with expected depletion.





# **Mineral Resource summary** exclusive of Mineral Reserves

Both inclusive and exclusive methods of reporting Mineral Resources are permitted by the governing codes. Implats has adopted the inclusive reporting for consistency purposes and to be aligned with its strategic partners. A collation of the Mineral Resource estimates exclusive of Mineral Reserves is however presented below as it allows for additional transparency. Note that this format is not adhered to by Implats' strategic partners and the corresponding estimates have been derived from details provided to Implats. The tabulation below should be read in conjunction with the Mineral Reserve statements in the preceding sections. A direct comparison of tonnes and grade is not possible between inclusive and exclusive reporting, owing to the mixing of Mineral Resource figures with production estimates.

# **Attributable Mineral Resources**

exclusive of Mineral Reserves as at 30 June 2011

						tal estima	te			Attribu	table esti	mate
	Orebody	Remarks	Category	Tonnes Mt	4E grade g/t	6E grade g/t	4E Moz	Pt Moz	Implats share %	Tonnes Mt	4E Moz	Pt Moz
Impala	Merensky		Measured	22.5	6.23	7.20	4.5	2.9	100	22.5	4.5	2.9
			Indicated	82.9	5.13	5.92	13.7	8.9	100	82.9	13.7	8.9
			Inferred	75.8	5.18	5.99	12.6	8.3	100	75.8	12.6	8.3
	UG2		Measured	30.0	6.83	8.81	6.6	4.1	100	30.0	6.6	4.1
			Indicated	57.3	6.67	8.60	12.3	7.6	100	57.3	12.3	7.6
			Inferred	43.4	6.52	8.41	9.1	5.6	100	43.4	9.1	5.6
	Merensky	Impala/	Measured	2.7	7.15	8.26	0.6	0.4	49	1.3	0.3	0.2
		RBR JV	Indicated	5.8	6.98	8.06	1.3	0.9	49	2.8	0.6	0.4
			Inferred	23.0	5.82	6.72	4.3	2.8	49	11.3	2.1	1.4
	UG2		Measured	2.0	7.07	9.13	0.5	0.3	49	1.0	0.2	0.1
			Indicated	2.0	7.14	9.21	0.5	0.3	49	1.0	0.2	0.1
			Inferred	10.8	6.95	8.96	2.4	1.5	49	5.3	1.2	0.7
		Total Impala		358	5.93	7.22	68.3	43.6		335	63.5	40.5
Marula	Merensky		Measured	34.3	4.24	4.55	4.7	2.7	73	25.0	3.4	2.0
			Indicated	7.7	4.16	4.54	1.0	0.6	73	5.6	8.0	0.4
			Inferred	9.9	4.26	4.46	1.4	0.8	73	7.2	1.0	0.6
	UG2		Measured	17.6	8.60	10.13	4.9	2.2	73	12.8	3.5	1.6
			Indicated	12.0	8.66	10.22	3.4	1.5	73	8.8	2.4	1.1
			Inferred	6.6	8.70	10.29	1.8	0.8	73	4.8	1.3	0.6
		Total Marula		88	6.04	6.85	17.1	8.7		64	12.5	6.3
Afplats	UG2	Leeuwkop	Measured	67.2	5.33	6.61	11.5	7.0	74	49.7	8.5	5.2
			Indicated	11.8	5.36	6.60	2.0	1.2	74	8.7	1.5	0.9
			Inferred	76.7	5.15	6.39	12.7	7.8	74	56.7	9.4	5.7
		Kareepoort-	Indicated	13.1	5.08	6.33	2.1	1.3	74	9.7	1.6	1.0
		Wolwekraal	Inferred	20.3	5.04	6.25	3.3	2.0	74	15.0	2.4	1.5
		Imbasa	Indicated	10.9	4.97	6.15	1.7	1.1	60	6.6	1.0	0.6
			Inferred	51.8	4.81	6.00	8.0	4.9	60	31.1	4.8	3.0
		Inkosi	Indicated	22.3	4.47	5.59	3.2	2.0	49	10.9	1.6	1.0
			Inferred	76.0	4.72	5.87	11.5	7.1	49	37.2	5.6	3.5
		Total Afplats		350	4.99	6.20	56.1	34.3		226	36.5	22.3

# Mineral Resource summary – exclusive of Mineral Reserves continued

# **Attributable Mineral Resources (continued)**

exclusive of Mineral Reserves as at 30 June 2011

	or willeral neserves			To	tal estima	te			Attribu	ıtable estir	mate
	Orebody Remai	ks Category	Tonnes Mt	4E grade g/t	6E grade g/t	4E Moz	Pt Moz	Implats share %	Tonnes Mt	4E Moz	Pt Moz
Two	Merensky	Indicated	38.4	2.98	3.17	3.7	2.1	45	17.3	1.7	1.0
Rivers		Inferred	10.4	2.81	2.99	0.9	0.6	45	4.7	0.4	0.2
		Indicated	2.3	4.63	5.63	0.3	0.2	45	1.0	0.2	0.1
	UG2	Measured	7.0	3.60	4.33	0.8	0.5	45	3.2	0.4	0.2
		Inferred	1.2	4.66	5.66	0.2	0.1	45	0.5	0.1	0.0
	Total Two Rive	rs	59	3.12	3.42	5.9	3.5		27	2.7	1.6
Tamboti	Merensky	Inferred	141.1	3.81	4.11	17.3	10.2	100	141.1	17.3	10.2
	UG2	Inferred	177.6	5.58	6.65	31.8	16.9	100	177.6	31.8	16.9
	Total Tamb	oti	319	4.80	5.52	49.1	27.1		319	49.1	27.1
Zimplats	MSZ	Measured	74.2	3.80	4.02	9.1	4.4	87	64.6	7.9	3.9
		Indicated	465.9	3.73	3.93	55.8	27.5	87	405.3	48.6	23.9
		Inferred	1072.5	3.58	3.78	123.4	59.1	87	933.0	107.4	51.4
	Total Zimpla	ts	1613	3.63	3.83	188.4	91.1		1 403	163.9	79.2
Mimosa	MSZ South I	Hill Measured	18.5	3.96	4.22	3.2	1.1	50	9.2	1.6	0.6
		Indicated	11.9	3.62	3.85	3.2	0.7	50	6.0	1.6	0.3
		Inferred	6.9	3.72	3.97	0.8	0.4	50	3.5	0.4	0.2
		ferred (Oxides)	4.4	3.58	3.84	0.5	0.3	50	2.2	0.3	0.1
	North I		17.5	3.49	3.70	2.0	1.0	50	8.8	1.0	0.5
		Indicated	16.2	3.56	3.77	1.9	0.9	50	8.1	0.9	0.5
		Inferred	2.1	3.53	3.73	0.2	0.1	50	1.0	0.1	0.1
		ferred (Oxides)	9.5	3.39	3.62	1.0	0.6	50	4.8	0.5	0.3
	Far South I		11.3	3.78	4.03	1.4	0.7	50	5.7	0.7	0.3
	Total Mimo	sa	101	3.65	3.88	14.2	5.8	50	50	7.1	2.9
	All Mineral Decarry	Measured	294	5.03	5.85	48	27		228	38	21
	All Mineral Resource exclusive of Miner	Indicated	760	4.27	4.78	106	57		632	89	48
	Reserve	Informed	1 831	4.16	4.66	245	130		1 562	209	111
		Total	2 885	4.27	4.81	399	214		2 422	335	180

The tabulation above reflects both the total and attributable Mineral Resource tonnages, 4E and Pt ounces. Some 208 million total platinum ounces updated estimates which resulted in increased were reported last year, the corresponding figure is

214 million ounces as at 30 June 2011. The year-on-year difference can mostly be ascribed to Mineral Resource widths at some operations.

# Reconciliation

A high-level reconciliation of total Mineral Resources and Mineral Reserves for the Group is shown below. These high-level variances are relatively small; particulars of these variances in addition to depletions are explained in the detailed sections by operation. Rounding of numbers may result in computational discrepancies, specifically in these high-level comparisons.

**Total Mineral Resources** 

inclusive of Mineral Reserves Tonnage (million)

	2010	2011	Variance	Attributable
Impala	560	579	19	556
Marula	105	102	(3)	75
Afplats	359	350	(9)	226
Two Rivers	79	109	30	49
Tamboti	319	319	0	319
Zimplats	1 879	1 909	30	1 661
Mimosa	135	139	3	69
Totals	3 437	3 507	70	2 954



# Reconciliation continued

The main factors impacting the variances, other than depletions are:

- Overall the comparison does not indicate material differences, the total estimate for 2011 increased over and above the normal depletion
- The positive variance at Impala can mostly be ascribed to additional information resulting in increased widths for the Merensky Reef
- The negative variance at Afplats is the result of updated estimates following further exploration drilling at the prospecting right areas
- The increased estimate at Two Rivers can be attributed to the reassessment of the Merensky Reef Mineral Resource estimate; this now includes the complete Merensky Pyroxenite unit
- The positive variance at Zimplats is mostly the result of adjusting the Mineral Resource width in some areas
- The small positive variance at Mimosa essentially resulted from the addition of the Far South Hill Mineral Resource.

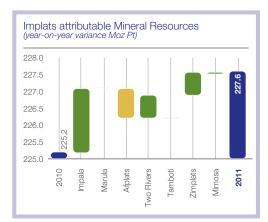
### **Total Mineral Resources**

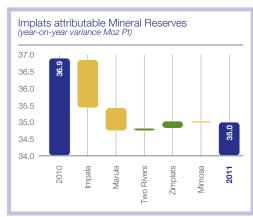
inclusive of Mineral Reserves Pt ounces (million)

	-,		Other		
	2010	Depletion	changes	2011	Attributable
Impala*	71.2	(1.30)	3.1	73.1	69.9
Marula	10.4	(0.10)	0.1	10.4	7.6
Afplats**	35.7	0.00	(1.4)	34.3	22.3
Two Rivers	5.5	(0.21)	1.6	6.8	3.1
Tamboti	27.1	0.00	0.0	27.1	27.1
Zimplats	106.8	(0.26)	1.0	107.6	93.6
Mimosa	7.9	(0.16)	0.4	8.1	4.0
Totals	264.6	(2.04)	4.9	267.4	227.6

# Notes:

- Depletion ounces were adjusted by global concentrator and mine call factors
- Potential impact of pillar losses was taken into account
- Includes Impala/RBR JV
- \*\* Includes Imbasa and Inkosi





Year-on-year comparisons for the Mineral Reserve estimates are summarised below, both as tonnage and platinum ounce estimates.

# **Total Mineral Reserves**

tonnage (million)

,			Other		
	2010	Depletion	changes	2011	Attributable
Impala	291	(14.1)	(1.0)	276	276
Marula	45	(1.5)	(15.6)	28	21
Two Rivers	36	(2.9)	6.0	39	18
Zimplats	214	(4.2)	10.8	220	192
Mimosa	33	(2.3)	(0.1)	31	16
Totals	619	(25.0)	0.2	594	521

The main considerations impacting on the year-on-year comparisons other than depletions include:

- Depletion ounces were adjusted for global concentrator factors
- With the exception of Marula, the comparison does not show material differences over and beyond depletion
- The negative variance at Impala is the net effect of a number of factors, the most relevant being reclassifying some UG2

correctly as a Mineral Resource prior to full capital approval

- At Marula, the high variance is related to the restatement of the mine plan, limiting the extraction plan to a maximum depth of 4 levels
- The increase at Two Rivers can in part be ascribed to the inclusion of the UG2 opencast area into the Reserves
- The increase at Zimplats is the result of increased mining widths in certain areas.

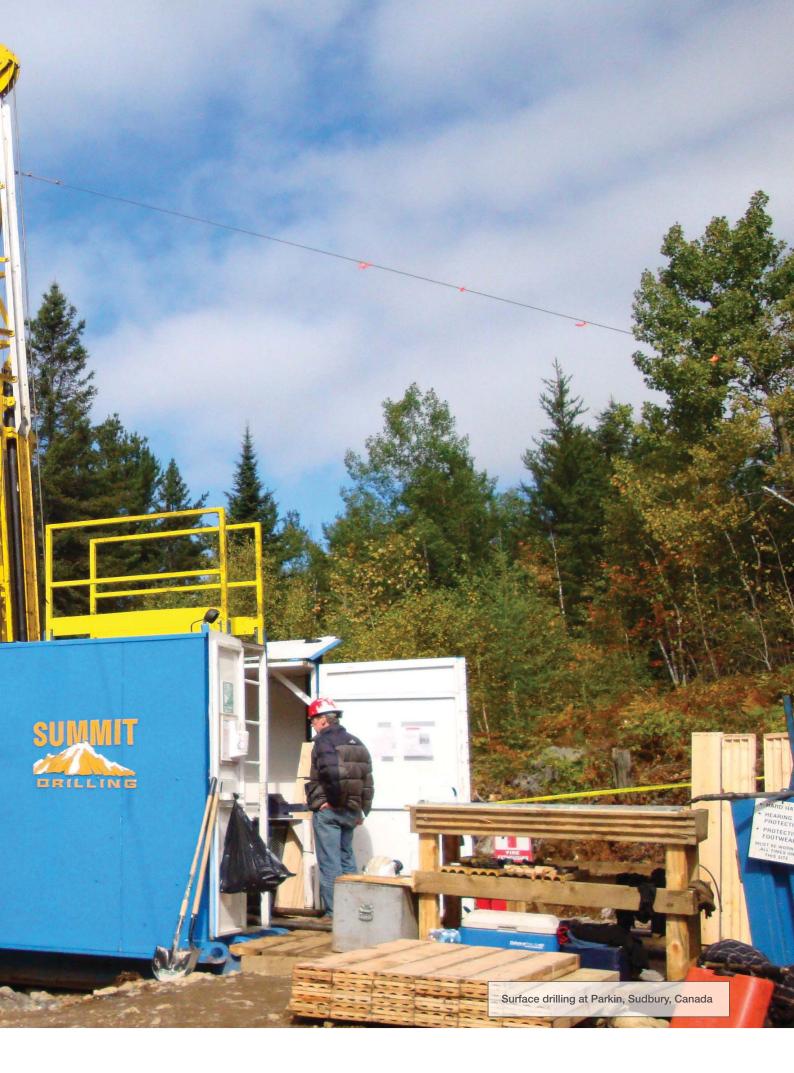
# **Total Mineral Reserves**

Pt ounces (million)

			Other		
	2010	Depletion	changes	2011	Attributable
Impala	23.0	(1.15)	(0.3)	21.6	21.6
Marula	2.6	(0.09)	(0.8)	1.6	1.2
Two Rivers	1.9	(0.19)	0.4	2.1	0.9
Zimplats	11.8	(0.22)	0.4	12.0	10.4
Mimosa	1.8	(0.14)	0.1	1.7	0.9
Totals	41.1	(1.78)	(0.3)	39.0	35.0

The above high level reconciliations reflect both stability and growth opportunities for Implats and its subsidiaries.

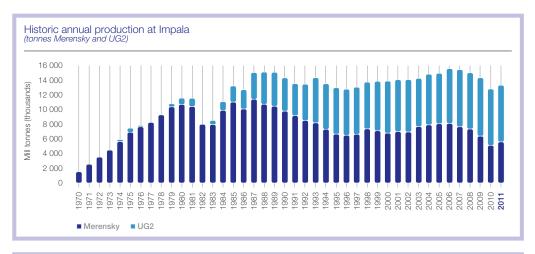




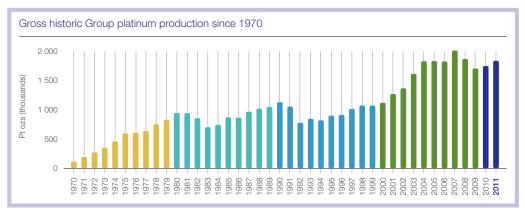
# **Historic production**

Mining commenced in 1969 at Impala; subsequently the Group has continued to grow the Mineral Resource portfolio and related platinum production. The production performance for FY2011 is described in detail in the Implats integrated annual report for 2011. Summary production statistics are provided

below as an overall perspective of the Group performance. The total production in terms of tonnage and platinum ounces is depicted in the accompanying graphs; notably the tonnage mined at the other operations, excluding Impala, exceeded the 10Mt level in FY2010.



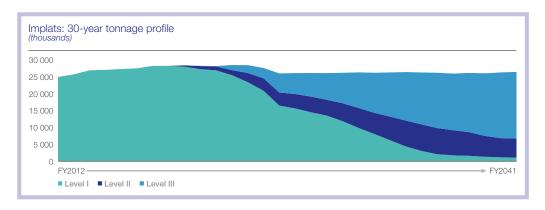


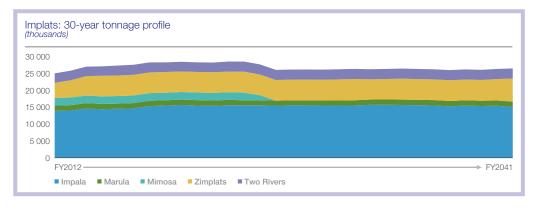


# Life-of-mine production

The high level LoM (30-year) planning is depicted in the detailed sections below describing each operation in terms of planning Levels III, II and I. These do not include all the "Blue Sky" opportunities as this is often in the scenario or prefeasibility stage of planning; some of this potential is specifically excluded so as not to create expectations. Caution should be taken when considering the LoM plans as these may vary if assumptions, modifying factors, exchange rates or metals prices change materially. These profiles should be read in conjunction with Mineral Resource estimates to judge long-term potential. The graphs below show the consolidated high level LoM plans

collated from the individual projected production profiles per operation, the pictorial 30-year profiles are shown as a combination of Levels III, Il and I and also the contribution by operation. Essentially Level I depicts the Mineral Resources already converted to Mineral Reserves, while Level II depicts unapproved projects. It is clear from a combined view, that a large proportion of the 30-year plan (some 40%) is still in Levels III and II and would require further studies and approval. Note that the profiles below illustrate the total projected tonnages; the volumes attributable to Implats will be lower.





# Mineral Resources and Mineral Reserves

# **Impala**

### Mineral Resources and Mineral Reserves

The Impala mining operation is located just to the north of Rustenburg on the western limb of the Bushveld Complex. Impala holds contiguous mining and prospecting rights over a total area of 33 191ha across 20 farms or portions of farms.

Both the Merensky and UG2 Reefs are exploited. The Merensky Reef is generally composed of an upper feldspathic pyroxenite, overlying a thin basal chromitite stringer, followed by an anorthosite to norite footwall. Locally this is termed a "pyroxenite reef". Occasionally a pegmatoidal pyroxenite and a second chromitite stringer may be developed between the feldspathic pyroxenite and the footwall units. This is termed a "pegmatoid reef". As an aid to mining operations the Merensky Reef is further defined as being "A", "B" or "C" Reef if it rests on specific footwall units, i.e. locally called Footwall 1, 2 and 3 respectively.

The UG2 Reef is defined as a main chromitite laver, with most of the mineralisation confined to his unit, followed by a poorly mineralised pegmatoidal pyroxenite footwall. The hanging wall to the main chromitite layer is a feldspathic pyroxenite containing up to three thin weakly mineralised chromitite layers.

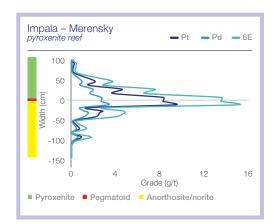
Both mineralised horizons dip gently away from the sub-outcrop in a north-easterly direction at

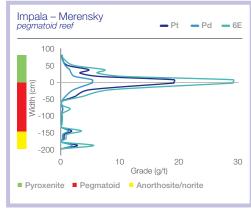
10° to 12°. The vertical separation between the Merensky and UG2 Reefs varies from about 125m in the south to 45m in the north of the mining area. The reefs may be disrupted by minor and major faults, lamprophyre and dolerite dykes, late stage ultramafic replacement pegmatoid bodies and potholes. The latter features are generally circular in shape and represent "erosion" or "slumping" into the footwall units. They vary in size from a few metres to tens of metres across and up to tens of metres in depth. All the above features contribute to dilution of the mineralised channel and are accounted for in the Mineral Resource and Mineral Reserve statements as geological losses.

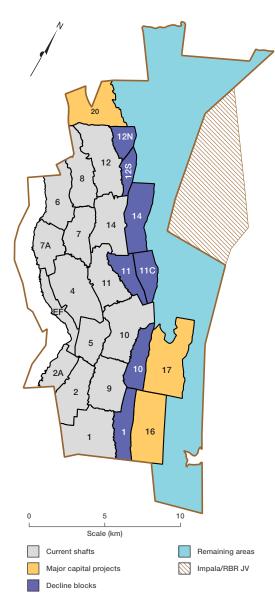
The Merensky and UG2 Reefs are mined concurrently; the mining method is predominantly conventional breast mining. Mechanised bord and pillar (trackless mining) occurs in selected Merensky Reef areas on two of the shafts.

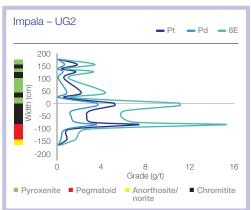
Limited opencast mining takes place at the outcrop positions to a maximum depth of 50m.

Stoping at the operations is carried out through conventional double-sided breast mining in accordance with Impala's best practice drive. The haulages are developed in opposite directions following the two reef horizons in the footwall and are defined as half levels. Footwall









drives are developed at approximately 18m to 20m below the reef horizon with on reef raise/ winze connections being between 180m and 250m apart.

Face panel lengths are approximately 20m to 30m for both Merensky and UG2 Reefs, with panels being typically separated by 6x3m grid pillars with 2m ventilation holings. Stoping widths are approximately 1.2m and 1.0m for conventional Merensky and UG2 Reefs respectively, depending on the width of the economical reef horizon. The average stoping width of mechanised panels is about 1.9m.

Mine design and scheduling of operational shafts is done utilising CadsMine™ software and projects is done using Mine 2-4D™ software. Geological models/Ore blocks are updated and validated using G-Blocks and boundaries in a Mineral Resource Management (MRM) system. Grade block models are developed utilising Isatis™. Planning parameters are informed by historical performance incorporating some improvement. The first five years mine design is scheduled in much detail - monthly per crew. This is extended on an annual basis for the remaining period of the LoM.

Key modifying factors such as overbreak, underbreak, off-reef mining, development dimensions, sweepings and mine call factors are applied to the mining area (centare profile) to generate tonnage and grade profiles.

The 30-year LoM profile for Impala is depicted in the graph below. LoM I comprise the profile of 14 operating vertical shafts, five associated with declines and three approved shafts (20, 16 and 17) under construction. The 20 Shaft UG2 and 12 Shaft Decline UG2 projects constitute LoM II. LoM III is made up of shaft blocks in different stages of feasibility studies.

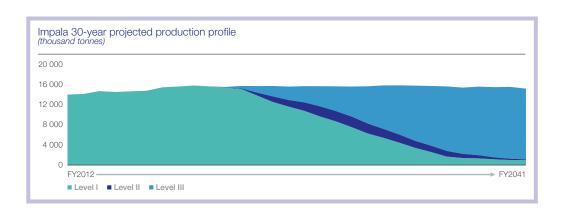
# Mineral Resources and Mineral Reserves continued

# Impala continued

# Impala Mineral Resources and Mineral Reserves

as at 30 June 2011

as at 60 bane 2011		as at 30 June 2011						as at 30 June 2010				
	Orebody	Category	Tonnes Mt	Width cm	4E grade g/t	6E grade g/t	4E Moz	Pt Moz	Tonnes Mt	4E grade g/t	6E grade g/t	Pt Moz
Mineral Re	sources											
IMPALA	Merensky	Measured	131.0	114	6.11	7.05	25.7	16.8	136.2	5.91	6.82	16.9
		Indicated	90.4	119	5.30	6.12	15.4	10.1	63.6	5.85	6.76	7.8
		Inferred	75.8	129	5.18	5.99	12.6	8.3	78.5	5.37	6.21	8.9
	UG2	Measured	132.4	63	6.87	8.86	29.2	18.1	132.2	6.87	8.87	18.1
		Indicated	<b>59.9</b>	61	6.67	8.60	12.9	8.0	48.8	6.54	8.44	6.4
		Inferred	43.4	64	6.52	8.41	9.1	5.6	53.4	6.50	8.38	6.9
	Total		532.9		6.13	7.48	105.0	66.9	512.7	6.19	7.56	65.0
Mineral Re	serves											
	Merensky	Proved	11.5	123	3.89	4.50	1.4	0.9	13.0	3.96	4.58	1.1
		Probable	119.1	128	4.00	4.62	15.3	10.0	121.6	4.11	4.75	10.5
	UG2	Proved	14.3	96	3.70	4.77	1.7	1.1	17.6	3.60	4.64	1.3
		Probable	130.9	98	3.66	4.72	15.4	9.6	138.7	3.67	4.74	10.1
	Total		275.8		3.82	4.67	33.9	21.6	290.9	3.87	4.73	23.0
Mineral Re	sources											
	1 & 2 Tailings Complex	Indicated	48.1		0.42 P	t g/t		0.6	48.1	0.42 F	Pt g/t	0.6
Mineral Re	sources											
IMPALA/	Merensky	Measured	2.7	108	7.15	8.26	0.6	0.4	3.3	6.04	6.98	0.4
RBR JV		Indicated	5.8	107	6.98	8.06	1.3	0.9	7.3	5.64	6.51	0.9
		Inferred	23.0	120	5.82	6.72	4.3	2.8	21.5	6.26	7.23	2.8
	UG2	Measured	2.0	56	7.07	9.13	0.5	0.3	2.2	7.07	9.13	0.3
		Indicated	2.0	55	7.14	9.21	0.5	0.3	2.1	7.13	9.20	0.3
		Inferred	10.8	59	6.95	8.96	2.4	1.5	11.1	6.95	8.96	1.5
	Total		46.3		6.42	7.71	9.6	6.1	47.4	6.39	7.69	6.3

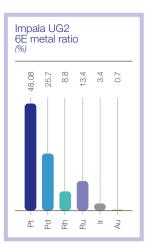


#### Notes

- Mineral Resources are quoted inclusive of Mineral Reserves
- Mineral Resource estimates allow for estimated geological losses but not for anticipated pillar losses during eventual mining
- The modifying factors used to convert a Mineral Resource to a Mineral Reserve are derived from historical figures using an in-house ore accounting system. This system is able to provide dilution factors that are applied to in situ estimates to project the final product delivered to the mill
- Mineral Reserves quoted reflect the grade delivered to the mill rather than an in situ channel grade quoted in respect of Mineral Resources

- The increase in the Merensky Reef Mineral Resource estimate is due to an increase in the estimated width
- The moderate decrease in Mineral Reserves over and beyond depletion can largely be ascribed to the exclusion of some UG2 areas where project approval is pending. This was offset to some extent by changes in some dilution factors
- The year-on-year reduction in Proved Mineral Reserves illustrates that main development is still under pressure to keep up with stoping operations. The reduction is in part related to some older shafts approaching the end of their life
- Mineral Resource and Mineral Reserve grades are shown as both 6E and 4E
- Rounding of numbers may result in minor computational discrepancies

# Impala Merensky 6E metal ratio (%) 1.84 4 4 8 8 8

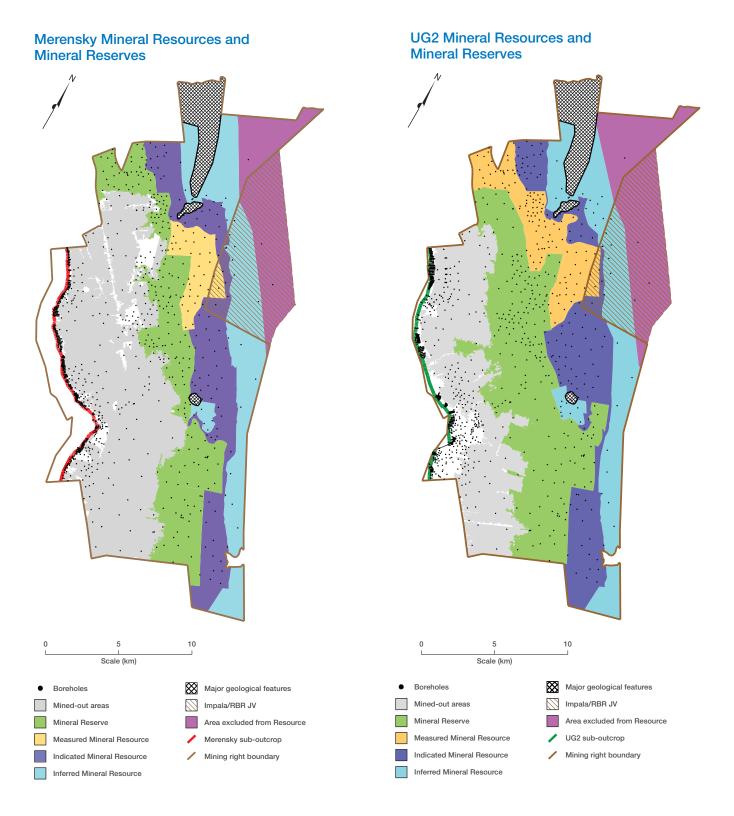


## Attributable platinum ounces (Moz), net of depletion, corporate activity and additional work

additional work			
30 June 2007	Resources	71.4	4% decrease, exclusion of area in northern extremity
30 Julie 2007	Reserves	20.8	4% decrease, mostly depletion
30 June 2008	Resources	79.1	10% increase, reporting method adjusted
30 June 2006	Reserves	24.5	17% increase, addition of 17 Shaft Reserves
20 June 0000	Resources	74.1	6% decrease, exclusion of large graben
30 June 2009	Reserves	23.5	4% decrease, mostly depletion
00 luma 0040	Resources	68.0	8% decrease, depth cut-off, JV area added
30 June 2010	Reserves	23.0	2% decrease, reduction of trackless reserves
20 June 2011	Resources	69.9	3% increase, increased Merensky widths
30 June 2011	Reserves	21.6	6% decrease, mostly depletion

**Note:** Mineral Resources are inclusive of Mineral Reserves.

# Impala continued





# Marula

### Mineral Resources and Mineral Reserves

The Marula mining operation is located on the eastern limb of the Bushveld Complex, some 35km north-west of Burgersfort. Marula holds a prospecting right and two contiguous mining rights covering 5 717ha across the farms Winnaarshoek and Clapham, and portions of the farms Driekop, Forest Hill and Hackney. Marula also has a royalty agreement with Modikwa Mine which allows limited mining on an area adjacent to the Driekop hybrid section. These Mineral Resources and Mineral Reserves have not been reflected in the 2011 statement as ownership still rests with Modikwa. Implats has an effective 73% interest in Marula with each of the three empowerment groupings (Mmakau Mining, the Marula Community Trust and Tubatse Platinum) each holding a 9% interest.

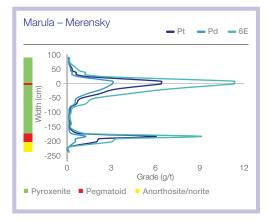
Both the Merensky and UG2 Reefs are present but only the UG2 is currently exploited. The geological succession is broadly similar to that of the western limb. The UG2 Reef is defined as a main chromitite layer, with most of the mineralisation confined to this unit, followed by a poorly mineralised pegmatoidal pyroxenite footwall. The Merensky Reef is the upper portion of a pyroxenite layer, with a chromitite stringer close to the hangingwall contact. Mineralisation peaks over the chromitite stringer and decreases into the hangingwall and footwall.

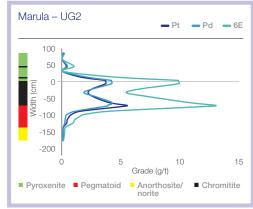
Both mineralised horizons sub-outcrop on the Marula mining rights area and dip in a westsouth-west direction at 13°. The vertical separation between the Merensky and UG2 Reefs averages 400m. The reefs are relatively undisturbed by faults and dykes. Only one major dyke traverses the mining area. A dunite pipe and potholes disrupt the reef horizons. A large pothole feature occurs on the UG2 horizon between the Driekop and Clapham Shafts and has significantly impacted on mining in this area. These geological features are accounted for in the Mineral Resource and Mineral Reserve statements as geological losses.

The mine was originally planned as a mechanised bord and pillar layout. Over time this is being converted to a conventional breast mining method with mechanised development. Hybrid mining in the shallow areas on Driekop and Clapham (including Forest Hill) will continue for some 10 years.

# **Driekop and Clapham hybrid operation**

Stoping is carried out through conventional single-sided breast mining from a centre gully. The haulages (drives) are developed on reef utilising LHDs and drill rigs. Face panel lengths are approximately 16m to 20m, with panels being separated by 6x4m grid pillars with 2m ventilation holings. Stoping width averages 1.4m.





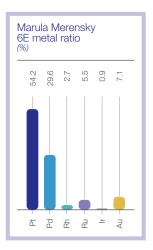
#### Clapham conventional operation

Footwall drives are developed approximately 20 to 25m below the reef horizon with cross-cut breakaways about 220m apart. Panel lengths are approximately 20m to 24m. Stope face drilling takes place with hand-held pneumatic rock drills with air legs.

Mine design and scheduling of operational shafts is carried out utilising CadsMine™ software. Geological models and ore blocks are updated and validated using G-Blocks and boundaries in the MRM System. Grade block models are developed utilising Datamine™. Planning parameters are informed by historical performance

with some improvement. The first five years scheduling is done in much detail - monthly per crew. Thereafter, yearly rates are applied.

The LoM I encompasses the Clapham UG2 from Level 0 to Level 4 as well as the hybrid sections on both Clapham and Driekop. This will take the mine to 1.57 Mt per annum sustainable production up to 2020. Maintaining the production profile after 2020 will be achieved by extending Clapham to 5 and 6 Level (LoM II) and further extension to 9 Level and beyond (LoM III). The comparison between the Mineral Resource statement and the 30-year LoM profile clearly illustrates its potential to expand operations in future if economically viable.



#### Marula Mineral Resources and Mineral Reserves

as at 30 June 2011

ao at oo oan			as at 30 June 2011							as at 30 June 2010				
	Miner	al Resources	_		4E	6 <b>E</b>			_	4E	6E			
	Orebody	Category	Tonnes Mt	Width cm	grade g/t	grade g/t	4E Moz	Pt Moz	Tonnes Mt	grade g/t	grade g/t	Pt Moz		
Mineral Re														
Marula	Merensky	Measured	34.3	100	4.24	4.55	4.7	2.7	19.3	4.47	4.77	1.6		
		Indicated	7.7	100	4.16	4.54	1.0	0.6	15.0	4.19	4.49	1.2		
		Inferred	9.9	100	4.26	4.46	1.4	8.0	18.5	4.01	4.30	1.4		
	UG2	Measured	31.7	<b>59</b>	8.57	10.07	8.7	4.0	26.6	8.32	9.64	3.1		
		Indicated	12.0	61	8.66	10.22	3.4	1.5	16.8	8.77	10.22	2.1		
		Inferred	6.6	59	8.70	10.29	1.8	8.0	9.2	8.92	10.35	1.1		
	Total		102.2		6.39	7.29	21.0	10.4	105.4	6.39	7.23	10.4		
Mineral Re	eserves													
	UG2	Proved	2.6	167	3.97	4.68	0.3	0.2						
		Probable	25.5	155	3.99	4.70	3.3	1.5	45.2	4.10	4.76	2.6		
	Total		28.1	156	3.99	4.70	3.6	1.6	45.2	4.10	4.76	2.6		

### Notes

- The figures in the statement above reflect total estimates for Marula as at June 2011, corresponding estimated attributable Mineral Resources and Reserves are summarised elsewhere in the report
- Mineral Resources are quoted inclusive of Mineral Reserves
- Mineral Reserves quoted reflect the grade delivered to the mill rather than an in situ channel grade guoted in respect of the Mineral Resources
- The modifying factors used in the UG2 Mineral Reserve calculation are based on

- the mine plan which envisages hybrid and conventional breast mining operations
- Estimated geological losses have been accounted for in the Mineral Resource calculations but not estimated pillar losses
- The UG2 Mineral Resource accounts for the main chromitite layer channel width only, without consideration of dilution
- Grade estimates were obtained by means of ordinary kriging of borehole intersections
- The Merensky Mineral Resource is based on the re-estimation that was prompted by the third-party audit in 2010. The classification of the Merensky Reef is aligned with the Impala protocol



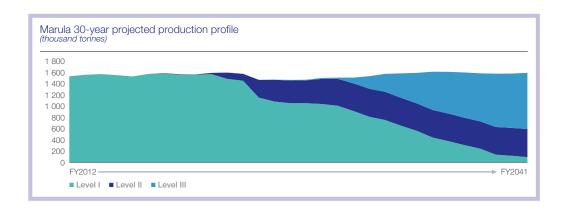
# Marula continued

- The Merensky Reef Mineral Resource estimate is based on a consistent width of 100cm
- Changes in the UG2 Mineral Resource estimates since last year essentially reflect updated estimation using additional data, revision of the classification and some adjustment of extraction rates
- The UG2 Mineral Reserve has decreased materially due to the revised mining plan. In
- line with this Mineral Reserves are now only stated down to 4 Level; the corresponding depth boundary was previously 8 Level. This is in part off set by adding some areas that were previously excluded from the mine plan
- Mineral Resource and Mineral Reserve grades are reflected in both 4E and 6E formats
- Rounding of numbers may result in minor computational discrepancies.

# Attributable platinum ounces (Moz), net of depletion, corporate activity and additional work

30 June 2007	Resources	9.0	2% increase, additional work on Merensky estimate
30 Julie 2007	Reserves	1.9	4% decrease, mostly depletion
	1		
30 June 2008	Resources	8.3	8% decrease, re-estimate for Merensky and depletion
30 Julie 2006	Reserves	1.7	8% decrease, depletion
30 June 2009	Resources	8.2	2% decrease, depletion
30 June 2009	Reserves	1.7	4% decrease, depletion
	İ		
00 luna 0040	Resources	7.6	7% decrease, net of depletion and re-estimation
30 June 2010	Reserves	1.9	11% increase, revised shaft area
	Resources	7.6	No material change
20 June 2011	11000001000	7.0	140 material orial 190
30 June 2011	Reserves	1.2	35% decrease, due to change in mine plan

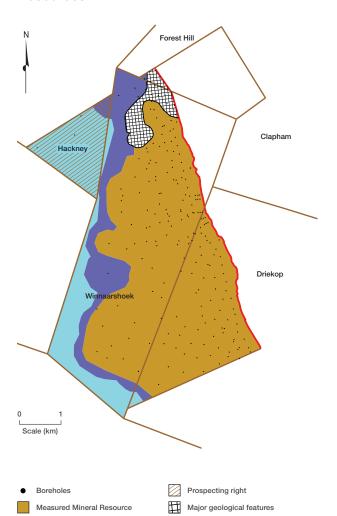
Note: Mineral Resources are inclusive of Mineral Reserves.



# Merensky Mineral Resources

Indicated Mineral Resource

Inferred Mineral Resource

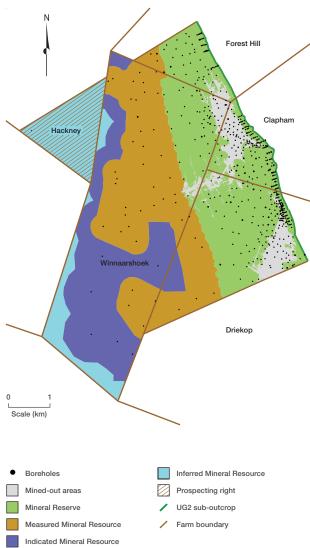


/ Merensky sub-outcrop

/ Farm boundary

# **Mineral Reserves**

**UG2 Mineral Resources and** 

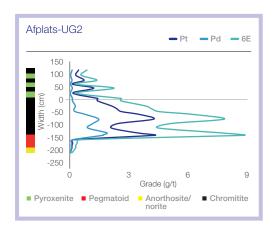


# **Afplats**

#### Mineral Resources

The Afplats Leeuwkop Project and adjacent prospecting right areas are located 10km west of Brits on the western limb of the Bushveld Complex. Afplats holds a mining right (awarded April 2008) for the Leeuwkop Project and contiguous prospecting rights over a total area of 9 931ha across the farm Leeuwkop and portions of the farms Hartebeestpoort B, Kareepoort and Wolwekraal. In February 2007 Implats acquired 100% of Afplats and, by implication, 74% of the Leeuwkop Project and various proportions of the associated Imbasa and Inkosi prospecting areas on the farm Hartebeestpoort B.

Both the Merensky and UG2 Reefs have been extensively explored but only the UG2 Reef is considered to be economically exploitable at this time. The UG2 Reef comprises a main and upper chromitite layer separated by a narrow pyroxenite parting. This will be exploited as a single package. The Merensky Reef is the upper portion of a pyroxenite layer, with a chromitite stringer close to the hangingwall contact. Mineralisation peaks over the chromitite stringer and decreases into the hangingwall and footwall.



The Merensky Reef occurs about 850m below surface at the southern boundary of Leeuwkop. The vertical separation between the Merensky and UG2 reefs averages 200m and both reefs dip northwards at 9°.

In 2009 shaft sinking operations were deferred due to the prevailing market conditions. Shaft sinking operations have recently recommenced and a final feasibility study is nearing completion. The Mineral Resource has therefore not been reclassified to the Reserve category pending the results of the feasibility study.

### **Afplats Mineral Resources**

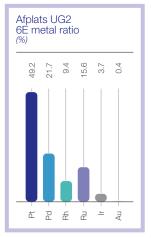
as at 30 June 2011

as at oo dane	2011		as at 30 June 2011 4E 6E							as at 30 June 2010 4E 6E				
	Orebody	Category	Tonnes Mt	Width cm	Grade g/t	grade g/t	4E Moz	Pt Moz	Tonnes Mt	Grade g/t	grade g/t	Pt Moz		
Mineral Re	esources													
Afplats	Leeuwkop	Measured	67.2	133	5.33	6.61	11.5	7.0	65.1	5.30	6.63	6.8		
	UG2	Indicated	11.8	131	5.36	6.60	2.0	1.2	11.0	5.25	6.72	1.2		
		Inferred	76.7	128	5.15	6.39	12.7	7.8	86.4	5.18	6.34	8.7		
	Kareepoort-													
	Wolwekraal	Indicated	13.1	128	5.08	6.33	2.1	1.3	11.1	5.24	6.48	1.1		
		Inferred	20.3	129	5.04	6.25	3.3	2.0	23.7	5.09	6.23	2.3		
	Imbasa	Indicated	10.9	136	4.97	6.15	1.7	1.1	9.4	4.65	5.65	0.8		
		Inferred	51.8	132	4.81	6.00	8.0	4.9	53.3	4.93	6.10	5.1		
	Inkosi	Indicated	22.3	129	4.47	5.59	3.2	2.0	24.1	5.02	6.18	2.4		
		Inferred	76.0	136	4.72	5.87	11.5	7.1	74.6	4.94	6.09	7.2		
	Total		350.0		4.99	6.20	56.1	34.3	358.8	5.09	6.28	35.7		

#### **Notes**

- The figures in the statement above reflect total Mineral Resource and Mineral Reserve estimates for Afplats and the immediately adjoining areas as at 30 June 2011
- The corresponding estimated Mineral Resources and Mineral Reserves attributable to Implats are summarised elsewhere in the report
- The mining right for the Leeuwkop Project was awarded in April 2008
- The Inkosi prospecting area was amended in February 2009 with the addition of the socalled "gap area" on the farm Hartebeestpoort B that had previously been excluded
- Shaft sinking activities at the Leeuwkop Project recommenced in June 2011; limited early sinking of the main shaft prior to Board approval of the full project was adopted
- During 2011 feasibility work continued to assess different options to render the project viable; these studies have not been concluded and the Mineral Resource has not been reclassified to the Reserve category

- Implats has chosen not to publish Merensky Reef Mineral Resource estimates as their eventual economic extraction is presently in doubt
- The updated UG2 grade estimates are based on borehole assay data, which has been expanded through a prospecting programme conducted in the past year
- The updated estimate is based on in-house Mineral Resource estimation using ordinary kriging
- Given the additional prospecting, selected Mineral Resource areas with a higher level of confidence have been upgraded in terms of their classification
- Negative variance in the Mineral Resource estimate is mostly attributed to the new information in the Imbasa/Inkosi areas
- Mineral Resource and Mineral Reserve grades are reflected in both 4E and 6E formats
- Rounding of numbers may result in minor computational discrepancies.

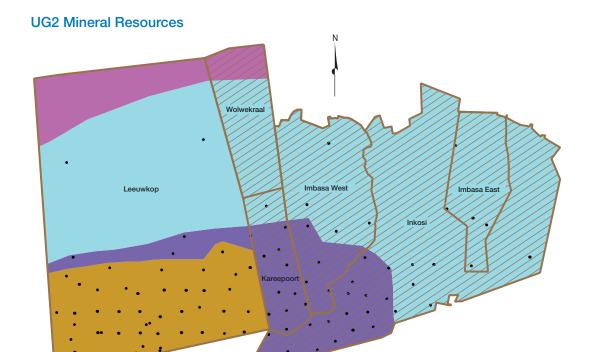


# Attributable platinum ounces (Moz), net of depletion, corporate activity and additional work

30 June 2007	Resources	20.9	100% increase, new acquisition
30 Julie 2007	Reserves	2.6	100% increase, new acquisition
30 June 2008	Resources	23.4	12% increase, reporting method adjusted
30 Julie 2006	Reserves	2.6	no change
30 June 2009	Resources	24.7	6% increase, additional data, area adjusted
30 Julie 2009	Reserves	0.0	100% decrease, Leeuwkop Project deferred
30 June 2010	Resources	23.2	2% decrease, introduction of depth cut-off
30 June 2010	Reserves	0.0	no change, studies in progress
20 June 2011	Resources	22.3	4% decrease, net of additional work and re-estimation
30 June 2011	Reserves	0.0	studies in progress

Note: Mineral Resources are inclusive of Mineral Reserves

# Afplats continued









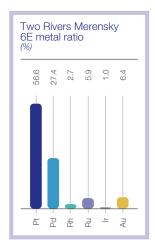




Scale (km)



# **Two Rivers**



### Mineral Resources and Mineral Reserves

Two Rivers is located on the eastern limb of the Bushveld Complex, some 35km south-west of Burgersfort. Two Rivers holds a contiguous old order mining right over 2 139ha on a portion of the farm Dwarsrivier. The operation is managed by ARM and Implats has a 45% stake in the joint venture. Agreement has been reached to incorporate Portions 4, 5 and 6 of the adjoining farm, Kalkfontein, into the mining area. When this happens, Implats' effective interest will increase to 49%.

Both the Merensky and UG2 Reefs are present but only the UG2 is currently exploited. The geological succession is broadly similar to Marula and to the western limb of the Bushveld Complex. Three distinct reef types have been defined for the UG2 Reef, namely the "normal" reef with a thick main chromitite layer; a "split" reef characterised by an internal pyroxenite/ norite lens up to 6m thick and some two-thirds of the chromitite thickness upwards from the base, predominantly in the southern, westcentral and north-eastern part of the mining area; and a "multiple split" reef with a second pyroxenite/norite lens approximately one third of the chromitite thickness from the base. The Merensky Reef is a pyroxenite layer with a chromitite stringer close to the hangingwall contact and also at the basal contact. Mineralisation is primarily associated with the upper and lower chromitite stringers. The grade profiles at Two Rivers are generally similar to that at the adjoining Tamboti Project, the graphical illustration of the profiles are shown in the Tamboti section.

The UG2 Reef outcrops in the Klein Dwarsrivier valley over a north-south strike of 7,5km and dips gently to the west at 7° to 10°. The vertical separation between the Merensky and UG2 Reefs is around 140m and as a result of the extreme topography the Merensky outcrops further up the mountain slope. The topography also means that the UG2 occurs at 935m below surface on the western boundary.

The UG2 orebody is accessed via two decline shaft systems situated 3km apart, namely the

Main Decline and the North Decline. Reef production is through a fully mechanised bord and pillar stoping method. A mining section consists of eight 12m rooms, with pillar sizes increasing with depth below surface. In the shallow areas up to 100m below surface, the pillars are 6m x 6m in size. The rooms are mined mainly on strike.

The scheduling of the two declines is done in Mine2-4D™. A 3D geological model with layer grades and widths per stratigraphic unit is utilised. The schedule is evaluated against the grade and thickness block model; the three distinct reef types impact significantly on the mine plan. Dilution calculations are based on the specific reef type. Pay limits are applied to the final mining cut.

Hangingwall and footwall over break, percentage off-reef, ore remaining (mining losses), geological losses (potholes, faults, dykes and replacement pegmatoid) and a shaft call factor are applied to the planned areas to generate the tonnage and grade profiles.

The 30-year profile of Two Rivers Mine is shown below. LoM I constitutes production from the Main and North Decline Shafts. The potential output from the Kalkfontein blocks and the Merensky Reef are consolidated into LoM Level III. A feasibility study is in progress on the Merensky Reef and infill drilling on Kalkfontein Portions 4, 5 and 6 is being undertaken over the next two years.



### Two Rivers Mineral Resources

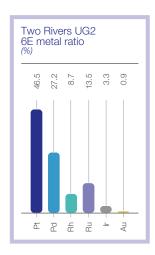
as at 30 . lune 2011

as at 30 June	, 2011				as at 30 Ju	ine 2011			as at 30 June 2010				
	Orebody	Category	Tonnes Mt	Width cm	4E grade g/t	6E grade g/t	4E Moz	Pt Moz	Tonnes Mt	4E grade g/t	6E grade g/t	Pt Moz	
Mineral Re	esources												
Two	Merensky	Indicated	38.4	246	2.98	3.17	3.7	2.1	18.7	3.34	3.55	1.2	
Rivers		Inferred	10.4	238	2.81	2.99	0.9	0.6	3.9	3.16	3.36	0.2	
	UG2	Measured	12.7	146	4.58	5.49	1.9	1.1	8.8	4.53	5.43	0.7	
		Indicated	46.7	222	3.62	4.33	5.4	3.0	46.8	3.76	4.53	3.2	
		Inferred	1.2	166	4.66	5.66	0.2	0.1	1.1	5.19	6.26	0.1	
	Total		109.3		3.44	3.94	12.1	6.8	79.4	3.74	4.37	5.5	
Mineral Re	eserves												
	UG2	Proved	9.6	237	3.30	3.96	1.0	0.6	5.1	3.29	3.94	0.3	
		Stockpile	0.01	_	3.25	3.88	0.001	0.001					
		Probable	29.5	281	2.83	3.40	2.7	1.5	30.8	2.88	3.47	1.6	
	Total		39.0		2.95	3.54	3.7	2.1	35.9	2.94	3.54	1.9	

#### **Notes**

- The figures in the statement above reflect the total estimates for Two Rivers, as at 30 June 2011. The corresponding estimated Mineral Resources and Reserves attributable to Implats are summarised elsewhere in the report
- Mineral Resources are quoted inclusive of Mineral Reserves
- Grade estimates were obtained by means of ordinary kriging of UG2 and Merensky Reef borehole intersections
- The modifying factors used in the UG2 Mineral Reserve calculations are based on mechanised bord and pillar mining operations
- Merensky Reef estimates changed materially from previous estimates; the complete Merensky Pyroxenite unit is now

- included in the Mineral Resource estimate, resulting is a material increase in tonnage and ounces
- The updated UG2 Mineral Resource estimate is effectively unchanged if depletion is taken into account
- Following environmental approval Two Rivers has now converted the UG2 opencast areas to the Mineral Reserve category
- The individual metal proportions for the Merensky Reef were derived by Implats
- Mineral Resource and Mineral Reserve grades are reflected in both 4E and 6E formats
- Rounding of numbers may result in minor computational discrepancies
- More details regarding the Mineral Resources and Mineral Reserves can be found in the 2011 ARM Annual Report.

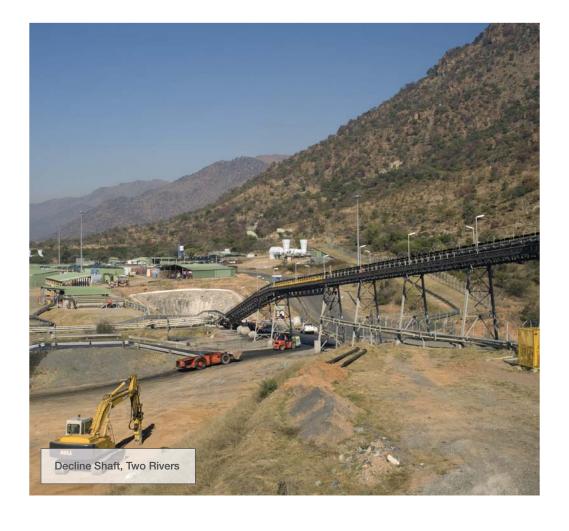


# Two Rivers continued

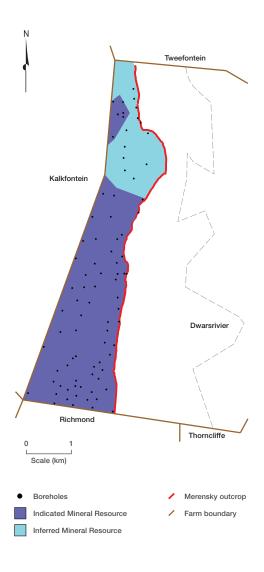
# Attributable platinum ounces (Moz), net of depletion, corporate activity and additional work

Resources   2.8   12% increase, inclusion of Inferred Resources				
Reserves 1.1 4% increase, updated plan and re-estimate  30 June 2008  Resources 2.7 3% decrease, depletion  Reserves 1.1 5% decrease, depletion  Resources 2.6 3% decrease, depletion, North pit excluded  Reserves 0.9 13% decrease, depletion, North pit excluded  Resources 2.4 6% decrease, depletion and re-estimate  Reserves 0.9 7% decrease, depletion and additional dilution  Resources 3.1 28% increase, due to re-estimate of full Merensky Reef width	20 June 2007	Resources	2.8	12% increase, inclusion of Inferred Resources
30 June 2008  Reserves 1.1 5% decrease, depletion  Resources 2.6 3% decrease, depletion, North pit excluded  Reserves 0.9 13% decrease, depletion, North pit excluded  Resources 2.4 6% decrease, depletion and re-estimate  Reserves 0.9 7% decrease, depletion and additional dilution  Resources 3.1 28% increase, due to re-estimate of full Merensky Reef width	30 June 2007	Reserves	1.1	4% increase, updated plan and re-estimate
30 June 2008  Reserves 1.1 5% decrease, depletion  Resources 2.6 3% decrease, depletion, North pit excluded  Reserves 0.9 13% decrease, depletion, North pit excluded  Resources 2.4 6% decrease, depletion and re-estimate  Reserves 0.9 7% decrease, depletion and additional dilution  Resources 3.1 28% increase, due to re-estimate of full Merensky Reef width				
Reserves 1.1 5% decrease, depletion  30 June 2009  Resources 2.6 3% decrease, depletion, North pit excluded  Reserves 0.9 13% decrease, depletion, North pit excluded  Resources 2.4 6% decrease, depletion and re-estimate  Reserves 0.9 7% decrease, depletion and additional dilution  Resources 3.1 28% increase, due to re-estimate of full Merensky Reef width	20 June 2009	Resources	2.7	3% decrease, depletion
30 June 2009  Reserves 0.9 13% decrease, depletion, North pit excluded  30 June 2010  Resources 2.4 6% decrease, depletion and re-estimate Reserves 0.9 7% decrease, depletion and additional dilution  Resources 3.1 28% increase, due to re-estimate of full Merensky Reef width	30 Julie 2006	Reserves	1.1	5% decrease, depletion
30 June 2009  Reserves 0.9 13% decrease, depletion, North pit excluded  30 June 2010  Resources 2.4 6% decrease, depletion and re-estimate Reserves 0.9 7% decrease, depletion and additional dilution  Resources 3.1 28% increase, due to re-estimate of full Merensky Reef width				
Reserves 0.9 13% decrease, depletion, North pit excluded  Resources 2.4 6% decrease, depletion and re-estimate  Reserves 0.9 7% decrease, depletion and additional dilution  Resources 3.1 28% increase, due to re-estimate of full Merensky  Reef width	30 June 2009	Resources	2.6	3% decrease, depletion, North pit excluded
30 June 2010  Reserves 0.9 7% decrease, depletion and additional dilution  Resources 3.1 28% increase, due to re-estimate of full Merensky  Reef width		Reserves	0.9	13% decrease, depletion, North pit excluded
30 June 2010  Reserves 0.9 7% decrease, depletion and additional dilution  Resources 3.1 28% increase, due to re-estimate of full Merensky  Reef width		İ		
Reserves 0.9 7% decrease, depletion and additional dilution  Resources 3.1 28% increase, due to re-estimate of full Merensky Reef width	20 June 2010	Resources	2.4	6% decrease, depletion and re-estimate
30 June 2011 Reef width	30 Julie 2010	Reserves	0.9	7% decrease, depletion and additional dilution
30 June 2011 Reef width				
Reserves 0.9 small increase, UG2 opencast added	30 June 2011	Resources	3.1	•
		Reserves	0.9	small increase, UG2 opencast added

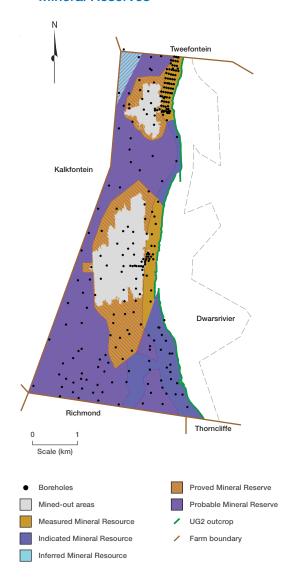
Note: Mineral Resources are inclusive of Mineral Reserves.



# **Merensky Mineral Resources**



# **UG2 Mineral Resources and Mineral Reserves**



# Tamboti project

### **Mineral Resources**

The Tamboti Project is located approximately 45km south-west of Burgersfort on the eastern limb of the Bushveld Complex, down-dip of the Two Rivers Mine. Impala holds a prospecting right over 8 524ha on Buffelshoek and large portions of the farms Tweefontein and Kalkfontein. Agreements with junior resource company Kameni and with African Rainbow Minerals over these properties were recorded in the 2009 Annual Report.

Both the Merensky Reef and underlying UG2 Reef occur at the Tamboti Project, however no Merensky Reef is present on Tweefontein and the UG2 Reef only occurs on a small portion of this farm. The vertical separation between the Merensky Reef and UG2 Reef is around 160m. The geological succession is broadly similar to

Tamboti - Merensky - Pd - 6F 100 50 (cm) Width ( -50

5 Grade (g/t)

Anorthosite/

10

-100

-150

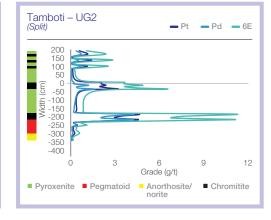
■ Pvroxenite ■ Peamatoid

Tamboti – UG2 Pd (Normal) 200 150 100 50 Width 0 -50 -100 -150 4 Grade (g/t) Anorthosite/ norite ■ Pyroxenite ■ Pegmatoid ■ Chromitite

other areas of the eastern limb, at the adjacent Two Rivers operation in particular. An exception is the presence of the Steelpoortpark granite in the south-western part of the project which is unique to this area.

Two distinct UG2 Reef types have been defined, namely a "normal" reef with a thick main chromitite layer and a "split" reef, characterised by an internal pyroxenite/norite lens. The Merensky Reef is the upper portion of a pyroxenite layer, with a chromitite stringer close to the contact with the hangingwall and mineralisation decreases from the chromitite stringer into the hangingwall and footwall.

The geological structure of the area is dominated by the regional north-north-east south-south-west trending Kalkfontein fault with an apparent vertical displacement of 1 200m downthrow to the west and a lateral dextral displacement of several kilometres. In the central portions of the project area both reefs on the eastern side of the Kalkfontein fault are gently folded into a south-south-west plunging asymmetric syncline, followed by a smaller anticline to the west. Dips of the limbs vary from 10° to 31°. Further to the west of the anticline, the reefs occur at a lower level, due to the combined effects of the folding and the Buffelshoek fault.



# **Tamboti Mineral Resources**

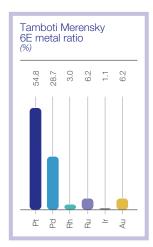
as at 30 June 2011

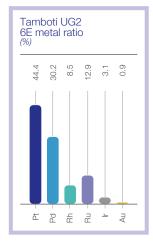
as at 50 Jul	10 2011			а	s at 30 J		as at 30 June 2010						
	Orebody per farm	Portions	Category	Tonnes Mt	Width cm	4E grade g/t	6E grade g/t	4E Moz	Pt Moz	Tonnes Mt	4E grade g/t	6E grade g/t	Pt Moz
Tamboti	Kalkfontein												
	Merensky	1 – 3	Inferred	58.0	113	3.43	3.70	6.4	3.8	58.0	3.43	3.70	3.8
		4 – 6	Inferred	14.0	113	3.43	3.70	1.5	0.9	14.0	3.43	3.70	0.9
	UG2	1 – 3	Inferred	72.2	116	5.68	6.82	13.2	7.1	72.2	5.68	6.82	7.1
		4 – 6	Inferred	21.5	116	5.68	6.82	3.9	2.1	21.5	5.68	6.82	2.1
	Buffelshoek												
	Merensky	All	Inferred	69.1	117	4.21	4.54	9.3	5.5	69.1	4.21	4.54	5.5
	UG2	All	Inferred	83.9	124	5.46	6.45	14.7	7.6	83.9	5.46	6.45	7.6
	Total			318.7		4.80	5.52	49.1	27.1	318.7	4.80	5.52	27.1

#### **Notes**

- The figures in the statement above reflect the total estimates for the Tamboti Project as at 30 June 2011, and are totally attributable to Implats until the rights are transferred to Kameni and ARM on completion of certain conditions as outlined in 2009
- The small area of UG2 Reef that occurs at Tweefontein was excluded as it is structurally complex
- Only Mineral Resources are quoted, as Mineral Reserves cannot be calculated at this stage
- Mineral Resource estimates allow for estimated geological losses but not for anticipated pillar losses during eventual mining

- During the past two years Kameni has conducted extensive exploration, the results were not incorporated in the estimate above as work was still in progress at 30 June 2011
- The Merensky Reef represents the mineralised portion of the upper portion of the pyroxenite layer, the resource estimate is based on a minimum mining height of 100cm
- The UG2 Reef includes the main and leader chromitite layers, which given their close proximity, makes them difficult to separate during mining
- Mineral Resource grades are reflected in both 4E and 6E formats
- Rounding of numbers may result in minor computational discrepancies.





# Tamboti project continued

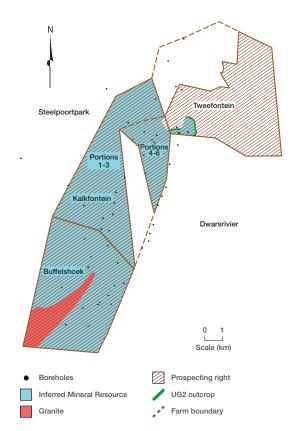
# Attributable platinum ounces (Moz), net of depletion, corporate activity and additional work

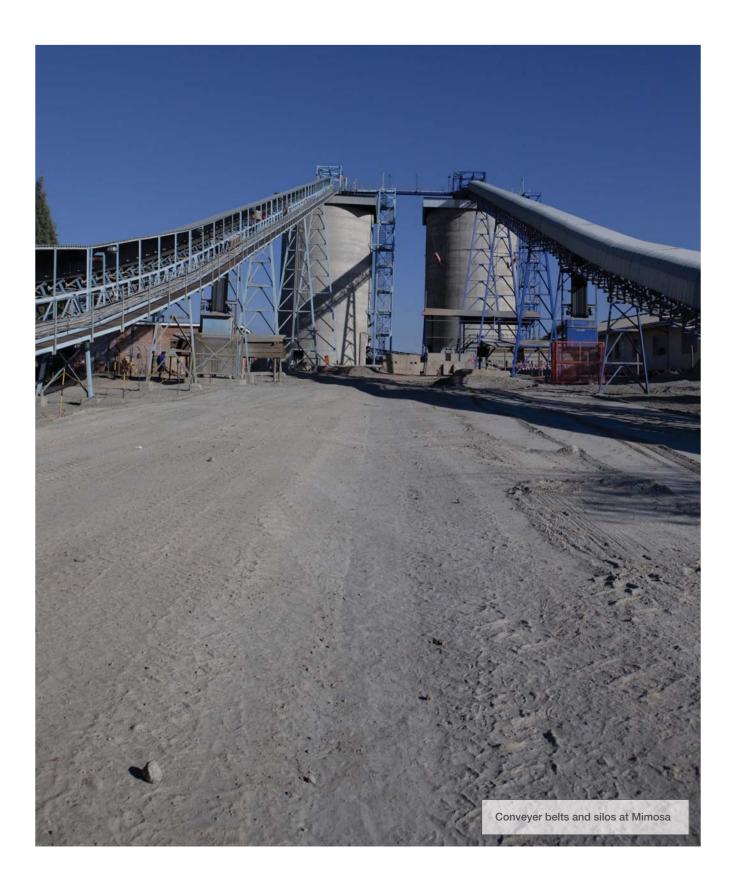
30 June 2007	Resources	0	in prospecting phase only
30 June 2008	Resources	24.6	100% increase, first statement following prospecting
30 June 2009	Resources	23.6	4% decrease, re-estimate and additional data
30 June 2010	Resources	27.1	15% increase, additional area
30 June 2011	Resources	27.1	No change

# **Merensky Mineral Resources**

# Steelpoortpark Dwarsrivier Scale (km) Prospecting right Inferred Mineral Resource Merensky outcrop Granite Farm boundary

# **UG2 Mineral Resources**





# **Zimplats**

### Mineral Resources and Ore Reserves

Zimplats' Ngezi Mine is located approximately 150km south-west of Harare at the southern end of the Sebakwe sub-chamber of the Hartley Complex on the Great Dyke. The Hartley Complex is about 100km long and contains 80% of Zimbabwe's PGM resources. The mothballed Hartley Mine and the Selous Metallurgical Complex are located 77km north of the Ngezi Mine in the Darwendale subchamber. Zimplats holds a special mining lease covering two areas totalling 48 500ha.

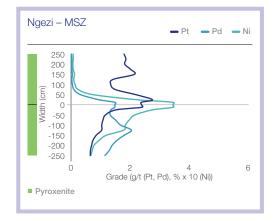
The platinum-bearing Main Sulphide Zone (MSZ) is located in the P1 pyroxenite some 10m to 50m below the ultramafic/mafic contact. The MSZ is a continuous layer, 2m to 10m thick, and forms an elongated basin. The zone strikes in a north-north-easterly trend and dips between 5° to 20° on the margins flattening towards the axis of the basin. Peak base metal and PGM values are off-set vertically with palladium peaking at the base, platinum in the centre and nickel towards the top. Visual identification of the MSZ is difficult.

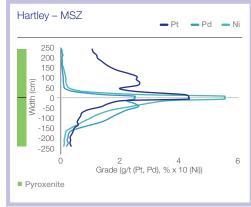
Production is presently sourced from three decline shafts or portals, with a fourth portal currently under development. Boundaries between individual portals are usually based on major faults. Minor faults and other disrupted areas are present and are taken into account in the Mineral Resource and Ore Reserve statements as geological losses. No potholes,

as experienced in the South African operations, have been identified.

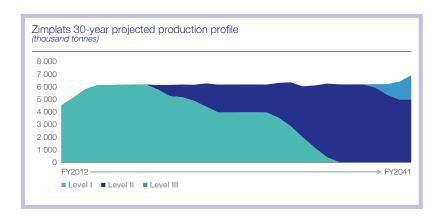
Open pit strip mining at Zimplats commenced in 2002 at Ngezi, this was suspended in 2008 and all mining is presently from underground sections.

Zimplats employs mechanised bord and pillar mining to mine ore from stopes with a nominal width of 2.5m at dips of less than 9°. Each production team comprises a single boom face rig, a bolter, a 10t LHD and a 30t dump truck and mines 20 panels, each 7m wide. This allows sufficient flexibility for the required grade control sampling and to negotiate faults and intrusions while still meeting the team's target of 20 000t per month. The default layout has 7m roadways with 4m square pillars, spans decrease and pillar dimensions increase in bad ground and with depth. A combination of roof bolts and tendons is integral to the support design. The mining infrastructure presently consists of decline accesses via surface portals. Portals 1 and 2 (Ngwarati and Rukodzi) are producing at full capacity. Portal 4 (Bimha) completed its ramp up to full production in June 2011. Following Board approval early in 2011, construction of the new two million tonne per annum mine at Portal 3 (Mufuti Mine) commenced, the box cut is complete and initial underground access established.





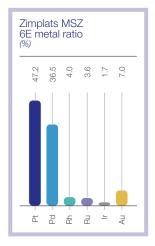
In the next five years production will increase from the current 4.2 Mt per annum to 6 Mt per annum sustainable until FY2042. Portals 1 to 4 constitute LoM I and portals 5 to 7 LoM II. LoM III is made up of future mining from Portal 8. The potential growth beyond the 6Mt profile is dependent on a range of technical, economic and political considerations.



# **Zimplats Mineral Resources and Ore Reserves**

as at 30 .	June 2011												
				a	s at 30 J	une 2011				a	as at 30 J	une 2010	
	Mineral Resou Orebody Cate		Width cm	4E grade g/t	6E grade g/t	Ni %	Cu %	4E Moz	Pt Moz	Tonnes Mt	4E grade g/t	6E grade g/t	Pt Moz
Zimplats	Ngezi Portals Advanced to Res												
	MSZ Meas	sured <b>69.7</b>	250	3.47	3.66	0.10	0.08	7.8	3.9	65.4	3.50	3.70	3.7
	Indic	cated <b>226.9</b>	250	3.48	3.67	0.11	0.07	25.4	12.6	229.5	3.54	3.74	13.2
		Total 297		3.47	3.67	0.11	0.08	33.1	16.5	295	3.53	3.73	17
	Ngezi Portals – I Advanced to Res	erve											
	MSZ Meas		250	3.36	3.55	0.10	0.09	5.0	2.4	43.6	3.44	3.63	2.4
	India	cated <b>252.8</b>	229	3.43	3.62	0.12	0.09	27.9	13.7	227.1	3.50	3.69	12.6
		erred 134	200	3.44	3.63	0.13	80.0	14.7	7.6	134	3.44	3.63	8
		Total 432		3.42	3.61	0.12	0.09	47.6	23.7	404	3.47	3.66	23
	Mining Lease nor Portal 10												
	MSZ India	<b>53.8</b>	127	4.56	4.80	0.22	0.18	7.9	3.6	53.8	4.56	4.80	3.6
		erred 829	183	3.59	3.79	0.15	0.13	95.8	45.1	829	3.59	3.79	45
		Total 883		3.65	3.85	0.15	0.13	103.7	48.8	883	3.65	3.85	49
	Hartley												
	MSZ Meas		158	4.53	4.78	0.14	0.12	4.1	2.0	28.3	4.53	4.78	2.0
		cated <b>143.1</b>	189	3.97	4.19	0.13	0.11	18.3	9.3	143.1	3.97	4.19	9.3
		erred 46	191	3.89	4.10	0.13	0.10	5.8	3.0	46	3.89	4.10	3
		Total 218		4.03	4.25	0.13	0.11	28.2	14.2	218	4.03	4.25	14
	Oxides – all are												
		tated <b>16.2</b>	250	3.42	3.61	0.10	0.07	1.8	0.9	16.2	3.42	3.61	0.9
		erred 63	219	3.48	3.67	0.12	0.10	7.1	3.5	63	3.48	3.67	3.5
		Total 80		3.47	3.66	0.12	0.10	8.9	4.4	80	3.47	3.66	4.4
	Overall	total 1 909		3.61	3.81	0.13	0.11	221.5	107.6	1 879	3.63	3.83	107
				á	as at 30 J	une 2011					as at	30 June 2	2010
	Ore Reserve	10111103	Width	4E grade g/t	6E grade g/t	Ni %	Cu %	4E Moz	Pt Moz	Tonnes Mt	4E grade g/t	6E grade g/t	Pt Moz
Zimplats	-	roved <b>55.9</b>	261	3.39	3.58	0.10	0.07	6.1	3.0	52.0	3.41	3.60	2.8
Zimpiats		oved <b>33.9</b> pable <b>164.4</b>	263	3.40	3.60	0.10	0.07	18.0	9.0	161.6	3.44	3.63	9.0
		Total 220.3		3.40	3.59	0.10	0.07	24.1	12.0	213.6	3.43	3.62	11.8

# **Zimplats** continued



#### Notes

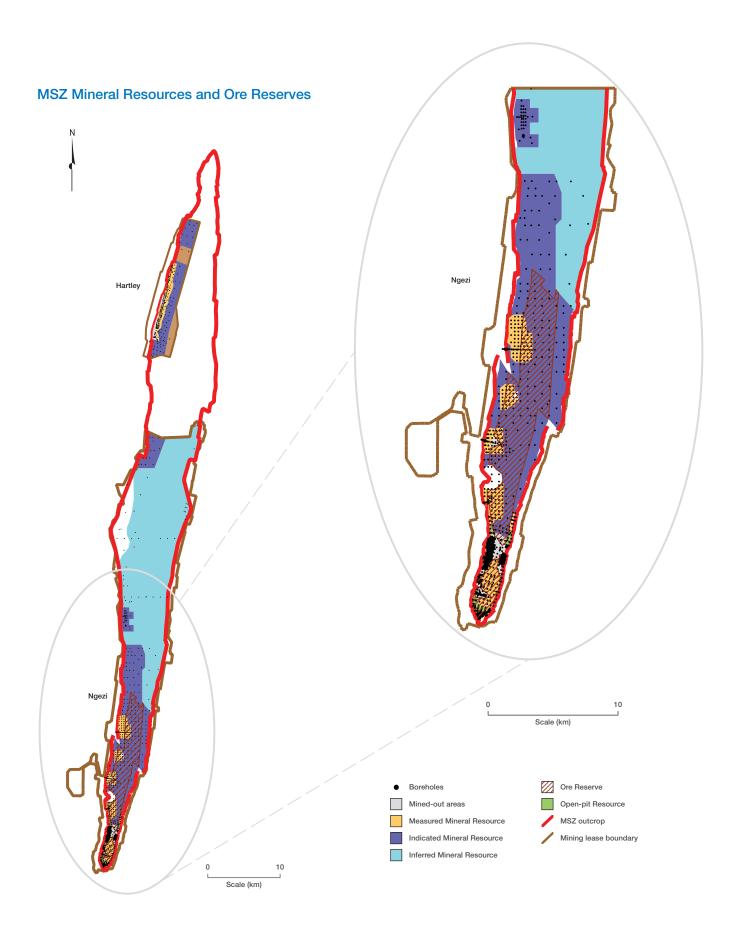
- The figures in the statement above reflect the total Mineral Resource and Ore Reserve estimate for Zimplats as at 30 June 2011, corresponding estimated Mineral Resources and Ore Reserves attributable to Implats are summarised elsewhere in this report
- Mineral Resources are quoted inclusive of Ore Reserves
- Mineral Resource estimates allow for estimated geological losses, while no allowance is made for anticipated support pillar losses during eventual mining
- The Ore Reserves quoted reflect anticipated grades delivered to the mill
- Day-to-day operations are monitored using in-house lead collection fire assays with AA finish.
- The Mineral Resources and Ore Reserves in this statement are based largely on external nickel sulphide collection fire assays with ICP-MS finish. The differences between the methods are incorporated within the modifying factors that have been applied,

- which means that there may be slight distortions in recovery and other parameters
- Nickel grades are stated as nickel in sulphide that is amenable to recovery by flotation
- Mineral Resources have been estimated using kriging techniques on data derived from surface boreholes
- Estimates are based on composite widths that vary depending on cut-off grades, which are based on appropriate economic parameters. The widths have been adjusted following the review work conducted by SRK
- The main difference from the 2010 statement other than depletion can be ascribed to the wider widths in some areas and the slight improved extraction rate in some areas
- Rounding of numbers may result in minor computational discrepancies
- More details regarding the Mineral Resources and Ore Reserves can be obtained in the 2011 Zimplats annual report.

# Attributable platinum ounces (Moz), net of depletion, corporate activity and additional work

30 June 2007	Resources	77.1	no change, depletion offset by re-estimate
30 Julie 2007	Reserves	11.2	4% decrease, depletion and re-estimation
	İ		
30 June 2008	Resources	95.2	23% increase, reporting method adjusted
30 Julie 2006	Reserves	10.9	3% decrease, depletion
30 June 2009	Resources	92.9	3% decrease, depletion
30 June 2009	Reserves	10.4	5% decrease, open-pit reserves moved to resources
00 luna 0040	Resources	92.9	No material change
30 June 2010	Reserves	10.2	1.5% decrease, depletion
20 June 2011	Resources	93.6	1% increase, due to wider widths and lower estimated losses
30 June 2011	Reserves	10.4	2% increase, mostly due to wider widths and lower losses

Note: Mineral Resources are inclusive of Ore Reserves.



# **Mimosa**

### Mineral Resources and Ore Reserves

Mimosa is located 150km east of Bulawavo on the Wedza Complex of the Great Dyke in Zimbabwe. PGM mineralisation is located in four erosionally isolated and fault-bounded blocks, consisting from north to south of the North Hill, South Hill, Mtshingwe and Far South Hill areas. Mimosa holds contiguous mining rights over the above mentioned areas totalling 6 590ha. The operation is a 50:50 joint venture between Implats and Aquarius.

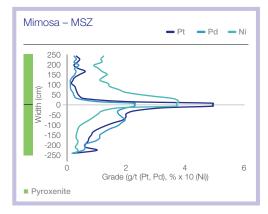
The platinum bearing Main Sulphide Zone (MSZ) is located in the P1 pyroxenite some 10m below the ultramafic/mafic contact. The MSZ is a continuous layer, 2m to 3m thick, and forms an elongated basin. The zone strikes in a north-north-easterly trend and dips at about 10° on the margins flattening towards the axis of the basin. Mimosa has a well defined grade profile where peak base metal and PGM values are offset vertically, with palladium dominant towards the base, platinum in the centre and nickel towards the top. As at Zimplats, the MSZ is difficult to identify visually with no clear marker horizons.

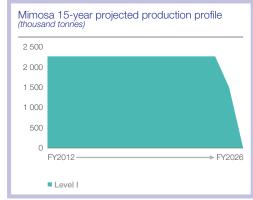
Minor faults and dykes are present at Mimosa. Although no potholes have been identified, low-grade areas and areas of no mineralisation or "washouts" have been intersected. These are all accounted for in the Mineral Resource and Ore Reserve statement.

Mimosa is a shallow underground mine accessed by the Blore Decline Shaft system. The bord and pillar mining method is employed and stoping widths average around 2m. Mining panels advance along strike. The mining cycle involves mechanised support drilling and installation, mechanised face drilling, charging and blasting and mechanised lashing onto a conveyor network to an underground bunker. From the bunker ore is conveyed out to a surface stockpile.

Mining models are based on the platinum peak datum. Mining currently extracts a slice which extends from 0.45m above the platinum peak datum to 1.55m below the datum. The mined grade is based on an arithmetic mean of borehole values covering this slice. Work is ongoing to conduct this estimation using block modelling.

Mine design and scheduling is done utilising Xpac<sup>™</sup> and work is ongoing to migrate to Surpac™. The mine plan is derived from a target milling throughput. Strategic stockpile levels are factored into the volumes to be hoisted. Losses due to mining and geology are applied to the planned tonnages and then consolidated into the LoM profile. The assured LoM of Mimosa is limited to the Wedza block. Studies are underway on the South and North Hill blocks and once completed and approved, will significantly extend the life and output.





# Mimosa Mineral Resources and Ore Reserves

as at 30 June 2011

					а	s at 30 J	une 2011				a	as at 30 J	une 2010	
	Mineral R	esources	Tonnes	Width	4E grade	6E grade	Ni	Cu	4E	Pt	Tonnes	4E grade	6E grade	Pt
	Orebody	Category	Mt	cm	g/t	g/t	%	%	Moz	Moz	Mt	g/t	g/t	Moz
Mimosa	South Hill	Measured	42.9	200	3.96	4.22	0.14	0.11	5.5	2.6	38.3	3.99	4.26	2.4
	MSZ	Indicated	27.6	200	3.62	3.85	0.14	0.12	3.2	1.6	34.7	3.44	3.71	1.9
		Inferred	6.9	200	3.72	3.97	0.14	0.12	8.0	0.4	6.9	3.85	4.09	0.4
		Inferred (Oxides)	4.4	200	3.58	3.84	0.14	0.12	0.5	0.3	6.6	3.70	3.95	0.4
		Total	81.9	200	3.80	4.05	0.14	0.11	10.0	4.9	86.6	3.74	4.00	5.1
	North Hill	Measured	17.5	200	3.49	3.70	0.14	0.10	2.0	1.0				
	MSZ	Indicated	16.2	200	3.56	3.77	0.15	0.11	1.9	0.9				
		Inferred	2.1	200	3.53	3.73	0.14	0.10	0.2	0.1	48.6	3.64	3.90	2.8
		Inferred (Oxides)	9.5	200	3.39	3.62	0.15	0.11	1.0	0.6				
		Total	45.4	200	3.49	3.71	0.15	0.11	5.1	2.6	48.6	3.64	3.90	2.8
	Far South Hill MSZ	Inferred	11.3	200	3.78	4.03	0.14	0.13	1.4	0.7				
	01	verall total	138.6	200	3.70	3.94	0.14	0.11	16.5	8.1	135.3	3.70	3.96	7.9

				as at 30 June 2011								as at 30 June 2010			
		Ore Reserves		Tonnes	Width	4E grade	6E grade	Ni	Cu	4E	Pt	Tonnes	4E grade	6E grade	Pt
		Orebody	Category	Mt	cm	g/t	g/t	%	%	Moz	Moz	Mt	g/t	g/t	Moz
Mir	nosa	South Hill	Proved	18.9	200	3.59	3.82	0.14	0.12	2.2	1.1	15.5	3.66	3.91	0.9
		MSZ	Probable	12.1	200	3.39	3.61	0.15	0.12	1.3	0.7	17.9	3.21	3.41	0.9
			Total	31.1	200	3.51	3.74	0.14	0.12	3.5	1.7	33.4	3.42	3.64	1.8

# **Notes**

- The figures in the statement above reflect the total Mineral Resource and Ore Reserve estimates for Mimosa as at 30 June 2011, corresponding estimated Mineral Resources and Ore Reserves attributable to Implats are summarised elsewhere in the report
- Mineral Resources are quoted inclusive of Ore Reserves
- Mineral Resources are quoted before accounting for anticipated pillar losses. Predicted geological losses have been subtracted from the Mineral Resource estimates
- Mineral Resource and Ore Reserve estimates are based on a 2m mining width

- Additional surface drilling has been conducted, resulting in the upgrading of some Indicated Resources at the Blore Shaft to the Measured category
- Extensive exploration was conducted at North Hill, this resulted in a general restatement and upgrade of the Mineral Resource category
- Minor oxide areas were omitted from the statement in view of infrastructure effectively sterilising potential opencast mining
- Following drilling of four boreholes at Far South Hill this Mineral Resource has now been incorporated for the first time in the Mineral Resource estimate
- Rounding-off of numbers may result in minor computational discrepancies.

# Mimosa continued

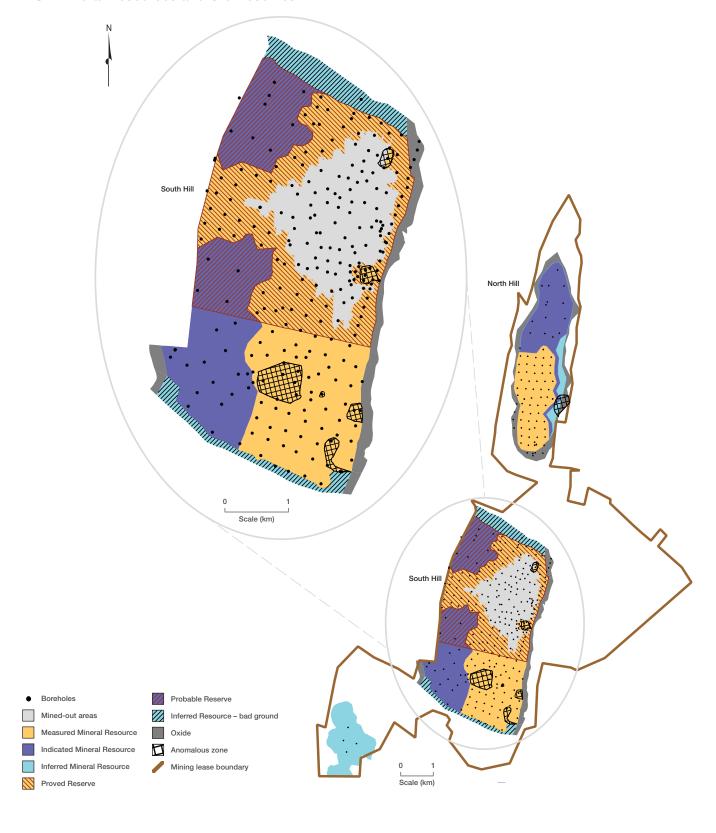
# Attributable platinum ounces (Moz), net of depletion, corporate activity and additional work

30 June 2007	Resources	4.1	minor increase, depletion off-set by increased width
30 Julie 2007	Reserves	1.0	marginal increase, width adjusted
30 June 2008	Resources	4.1	no change, depletion off-set by increased width
30 Julie 2006	Reserves	1.0	4% decrease, mostly depletion
30 June 2009	Resources	4.0	4% decrease, depletion and increased geological loss
30 June 2009	Reserves	0.9	5% decrease, depletion
00 lune 0010	Resources	3.9	1.5% decrease, depletion
30 June 2010	Reserves	0.9	2% decrease, depletion
00 lune 0011	Resources	4.0	2% increase, Far South Hill added
30 June 2011	Reserves	0.9	No material change

Note: Mineral Resources are inclusive of Ore Reserves.



# **MSZ Mineral Resources and Ore Reserves**



# **Glossary of terms**

4E (equivalent to 3PGE+Au)	Refers to the sum of platinum, palladium, rhodium and gold as determined by a fire assay method (typically by a lead collection procedure); notably there are various methods in operation at different laboratories and companies; these are not directly comparable. These fire assay methods typically under-measure the actual total platinum, palladium, rhodium and gold content.
6E (equivalent to 5PGE+Au)	Refers to the sum of platinum, palladium, rhodium, ruthenium, iridium and gold as determined by a nickel sulphide collection fire assay procedure; this is considered to be the most accurate assay procedure, and results can usually be compared between laboratories.
Afplats	African Platinum Limited.
Anorthosite	Plutonic rock composed almost entirely of plagioclase feldspar.
Aquarius	Aquarius Platinum Limited.
ARM	African Rainbow Minerals Limited of which ARM Platinum is a subsidiary.
ASX	Australian Securities Exchange.
BEE	Black economic empowerment.
Bord and pillar	Underground mining method where ore is extracted from rectangular shaped rooms, leaving parts of the ore as pillars to support the roof. Pillars are usually rectangular and arranged in a regular pattern.
Concentrating	A process of splitting the milled ore in two fractions, one containing the valuable minerals, the other waste.
Decline	A shallow dipping mining excavation used to access the orebody.
Development	Underground excavations for the purpose of accessing Mineral Reserves.
DMR	Department of Mineral Resources, formerly known as the Department of Minerals and Energy (DME).
Dunite	Igneous rock consisting mainly of olivine.
Dyke	A wall-like body of igneous rock that is intruded (usually vertically) into the surrounding rock in such a way that it cuts across the stratification (layering) of this rock.
ECSA	Engineering Council of South Africa: The Engineering Profession Act, 2000 (Act No 46 of 2000) was promulgated in 2000; the Act became effective in 2011. In terms of Section 18(1), the Act empowers ECSA to register persons in certain prescribed Categories of Registration. Paragraph 9 of the SAMREC code refers to ECSA; "A 'Competent Person' is a person who is registered with SACNASP, ECSA or PLATO, or is a Member or Fellow of the SAIMM, the GSSA or a Recognised Overseas Professional Organisation (ROPO)".

Facies	The appearance and characteristics of a rock unit, reflecting the conditions of its origin, and differentiating it from adjacent (lateral or vertical) or associated units due to a change in the depositional environment. The term facies must not be confused with reef types, which show some variation within the same environment.
g/t	Grams per metric tonne. The unit of measurement of metal content grade, equivalent to parts per million.
GSSA	Geological Society of South Africa.
ha	Abbreviation for hectare, unit of area measurement equal to 10 000 square metres.
HDSA	Historically disadvantaged South Africans, being South African nationals who were, prior to 1994, disadvantaged whether by legislation or convention.
In situ	In its natural position or place.
IRS	Impala Refining Services Limited.
JORC Code	The Australasian Code for Reporting of Mineral Resources and Ore Reserves.
JSE	The JSE Limited, the South African securities exchange based in Johannesburg. Formerly, the JSE Securities Exchange and prior to that the Johannesburg Stock Exchange.
Kriging	A geostatistical estimation method that gives the best-unbiased linear estimates of point values or of block averages.
LSE	London Stock Exchange.
Mafic	An igneous rock composed mainly of dark ferromagnesium minerals.
Merensky Reef	A horizon in the Critical Zone of the Bushveld Complex often containing economic grades of PGM. The term "Merensky Reef" as it is generally used refers to that part of the Merensky unit that is economically exploitable, regardless of the rock type.
Mill grade	The value, usually expressed in parts per million or gram per tonne, of the contained mineralisation of economic interest in material delivered to the mill.
Moz	Million ounces. All references to ounces are troy ounces with the factor being 31.10348 metric grams per ounce.
MSZ	The Main Sulphide Zone (MSZ) is the PGM bearing horizon hosted by the Great Dyke, in addition to the economically exploitable PGMs there is associated base metal mineralisation. The MSZ is located 10m to 50m below the ultramafic/mafic contact in the P1 pyroxenite.
MPRDA	Minerals and Petroleum Resources Development Act of South Africa.
Mt	Abbreviation for million metric tonnes.

# Glossary of terms continued

NYSE	New York Stock Exchange.			
Pegmatoid	An igneous rock that has the coarse-grained texture of a pegmatite but lacks graphic intergrowths.			
PGE	Platinum group elements comprising six elemental metals of the platinum group. The metals are platinum, palladium, rhodium, ruthenium, iridium and osmium.			
PGM	Platinum group metals being the metals derived from PGE.			
PLATO	South African Council for Professional and Technical Surveyors.			
Pyroxenite	An ultramafic igneous rock consisting of pyroxenes which are usually methan 90% by volume.			
Reef	A local term for a tabular metalliferous mineral deposit.			
SACNASP	South African Council for Natural Scientific Professions: The Natural Sciences Profession Act, 2003 (Act No. 27 of 2003) was approved in 2003. The Act empowers SACNASP to register persons in certain prescribed categories of registration. Paragraph 9 of the SAMREC code refers to SACNASP; "A 'Competent Person' is a person who is registered with SACNASP, ECSA or PLATO, or is a Member or Fellow of the SAIMM, the GSSA or a Recognised Overseas Professional Organisation (ROPO)".			
SAIMM	South African Institute of Mining and Metallurgy.			
SAMREC	The South African Mineral Resource Committee.			
SAMREC Code	The South African Code for the Reporting of Exploration Results, Mineral Resources and Mineral Reserves.			
SAMVAL	The South African Mineral Asset Valuation Committee.			
Seismic surveys	A geophysical exploration method whereby rock layers can be mapped based on the time taken for wave energy reflected from these layers to return to surface.			
Smelting	A smelting process to upgrade further the fraction containing the valuable minerals.			
SSC committee	SAMREC/SAMVAL committee.			
Stoping	Underground excavations to effect the removal of ore.			
UG2 Reef	A distinct chromitite horizon in the Upper Critical Zone of the Bushveld Complex usually containing economic grades of PGE.			

# Mineral Resource and Mineral Reserve definitions

SAMREC Code - SAMREC Code - The South African Code for Reporting of Mineral Resources and Mineral Reserves sets out minimum standards, recommendations and guidelines for Public Reporting of Exploration Results, Mineral Resources and Mineral Reserves in South Africa. SAMREC was established in 1998 and is modelled on the Australasian Code for Reporting of Mineral Resources and Ore Reserves (JORC Code). An updated version of SAMREC was published in 2007.

In terms of SAMREC, a Competent Person is one who is registered with the South African Council for Natural Scientific Professions (SACNASP), the Engineering Council of South Africa (ECSA) or the South African Council for Professional and Technical Surveyors (PLATO). or is a member of or Fellow of the SAIMM, the GSSA or a Recognised Overseas Professional Organisation (ROPO). A complete list of such recognised organisations is promulgated by the SSC from time to time. The Competent Person must comply with the provisions of the relevant promulgated Acts. A Competent Person must have a minimum of five years' experience relevant to the style of mineralisation and type of deposit or class of deposit under consideration and to the activity they undertake. If the Competent Person is estimating or supervising the estimation of Mineral Resources, the relevant experience must be in the estimation, assessment and evaluation of Mineral Resources. If the Competent Person is estimating or supervising the estimation of Mineral Reserves, the relevant experience must be in the estimation, assessment and evaluation of Mineral Reserves. Persons called upon to sign as a Competent Person must be clearly satisfied in their own minds that they are able to face their peers and demonstrate competence in the commodity, type of deposit and situation under consideration.

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 subdivided, 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 assumed but not verified geological and/or 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 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 information gathered through appropriate techniques 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.

# Mineral Resource and Mineral Reserve definitions continued

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 exploration, sampling and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes. The locations are spaced closely enough to confirm geological and grade continuity.

A Mineral Reserve is the economically mineable material derived from a Measured and/or Indicated Mineral Resource. It is inclusive of diluting materials and allows for losses that may occur when the material is mined. Appropriate assessments, which may include feasibility studies, have been carried out, including consideration of, and modification by, realistically assumed mining, metallurgical, economic, marketing, legal, environmental, social and government factors. These assessments demonstrate at the time of reporting that extraction is reasonably justified. Mineral Reserves are subdivided in order of increasing confidence into Probable Mineral Reserves and Proved Mineral Reserves.

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 is inclusive of diluting materials and allows for losses that may occur when the material is mined. Appropriate assessments, which may include feasibility studies, have been carried out, including consideration of, and modification by, realistically assumed mining, metallurgical, economic, marketing, legal, environmental, social and governmental factors. These assessments demonstrate at the time of reporting that extraction is reasonably justified.

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 is inclusive of diluting materials and allows for losses that may occur when the material is mined. Appropriate assessments, which may include feasibility studies, have been carried out, including consideration of and modification by realistically assumed mining, metallurgical, economic, marketing, legal, environmental, social and governmental factors. These assessments demonstrate at the time of reporting that extraction is reasonably justified.

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