



Global Resource Increase to 3.26 Moz for Witwatersrand Basin Project

Highlights

- Following an engineering study, WWI has materially added a new Mineral Resource Estimate (MRE) for the Kimberley Reef East Project of 1.88 Moz Au
- The Global MRE for the Witwatersrand Basin Project in South Africa is now 3.26 Moz Au
- Significantly, within the new MRE 1.55 Moz Au is classified as Measured and Indicated, which lifts the Global resource within these categories to 2.45 Moz Au
- The Board believes incremental work can potentially lift the resource size further to comply with the JORC 2012 code; under the JORC 1999 code the historic resource was 12.8 Moz (ASX Release 6 December 2017)
- With the South African operations on a self-sustaining footing, the Board has made it a priority to evaluate further mining opportunities within the tenure, boosting current production and securing mining rights

West Wits Mining Limited (“WWIs” or “the Company”) is delighted to announce a material increase in its Witwatersrand Basin Project’s (WBP) (66% interest) Global Mineral Resource Estimate to 3.26 Moz Au (from 1.38 Moz Au) that complies with the JORC 2012 Code. Within the WBP, there are six defined gold mineralised conglomerate reefs – this upgrade covers the eastern portion of the Kimberley Reef Outcrop (refer Figure 1) following a comprehensive geology and engineering review.

Michael Quinert, Chairman commented: “It is pleasing to be heading into 2018 with an exceptional resource upgrade at our Witwatersrand Basin Project in South Africa. Clearly, the newly declared Kimberley Reef East resource is a massive gain for the Company. Further, increasing the JORC 2012 Mineral Resource to 3.26 Moz Au, with approximately 80% in the measured and indicated categories, highlights the project’s significant upside potential. The geology team is continuing to evaluate historic resources across the licence and is confident of further growth in the new year. Clearly, 2017 has been a year of significant change for WWI and the Board is strategically focused on fast-tracking developing profitable gold mining operations in the Witwatersrand Basin and Pilbara region.”

TABLE 1: MRE FOR THE KIMBERLEY REEF OUTCROP (EAST) AT 2.0G/T CUT-OFF

| Category | Ore Tonnes (Mt) | Grade g/t Au | Ounces Au |
|----------------------|-----------------|--------------|------------------|
| Measured | 8.07 | 3.50 | 905,000 |
| Indicated | 5.9 | 3.45 | 650,000 |
| Measured & Indicated | 14.0 | 3.48 | 1,555,000 |
| Inferred | 2.9 | 3.5 | 322,000 |
| Total | 16.8 | 3.5 | 1,877,000 |

Notes: The MRE set at a 2.0 g/t Au cut-off. Reported in accordance the JORC Code of 2012. Number differences may occur due to rounding errors.

MINERAL RESOURCE STATEMENT FOR KIMBERLEY REEF OUTCROP (EAST)

The updated Mineral Resource Estimate (MRE) in Table 1 and 2 is a subset of the Durban Roodeport Deep Mineral Resource Estimate published under JORC Code 1997 which was released to the ASX in 2000. In recent years, WWI has only considered resources to 400m for inclusion in published documents. The inclusion of deeper resources within the Kimberley Reef Outcrop (East) – mineralisation between 400-1,500m below surface – was made possible following an evaluation by Bara Engineering Consulting (Pty) Ltd which identified technical means to access these areas.

TABLE 2: UPDATED GLOBAL MRE FOR THE WITWATERSRAND BASIN PROJECT AT 2.0G/T CUT-OFF

| Category | Ore Tonnes (Mt) | Grade g/t Au | Ounces Au |
|----------------------|-----------------|--------------|------------------|
| Measured | 10.28 | 3.66 | 1,207,000 |
| Indicated | 11.5 | 3.38 | 1,243,000 |
| Measured & Indicated | 21.8 | 3.51 | 2,450,000 |
| Inferred | 7.8 | 3.25 | 811,000 |
| Total | 29.58 | 3.4 | 3,261,000 |

Notes: The Global MRE set at a 2.0 g/t Au cut-off. Reported in accordance the JORC Code of 2012. Number differences may occur due to rounding errors.

Figure 1 shows the location of main auriferous lodes within the WBP, WWI's tenure and Kimberley Reef Outcrop (East). Note, all the outcrops of the major reefs are shown and they all dip between 25° to 45° to the south.

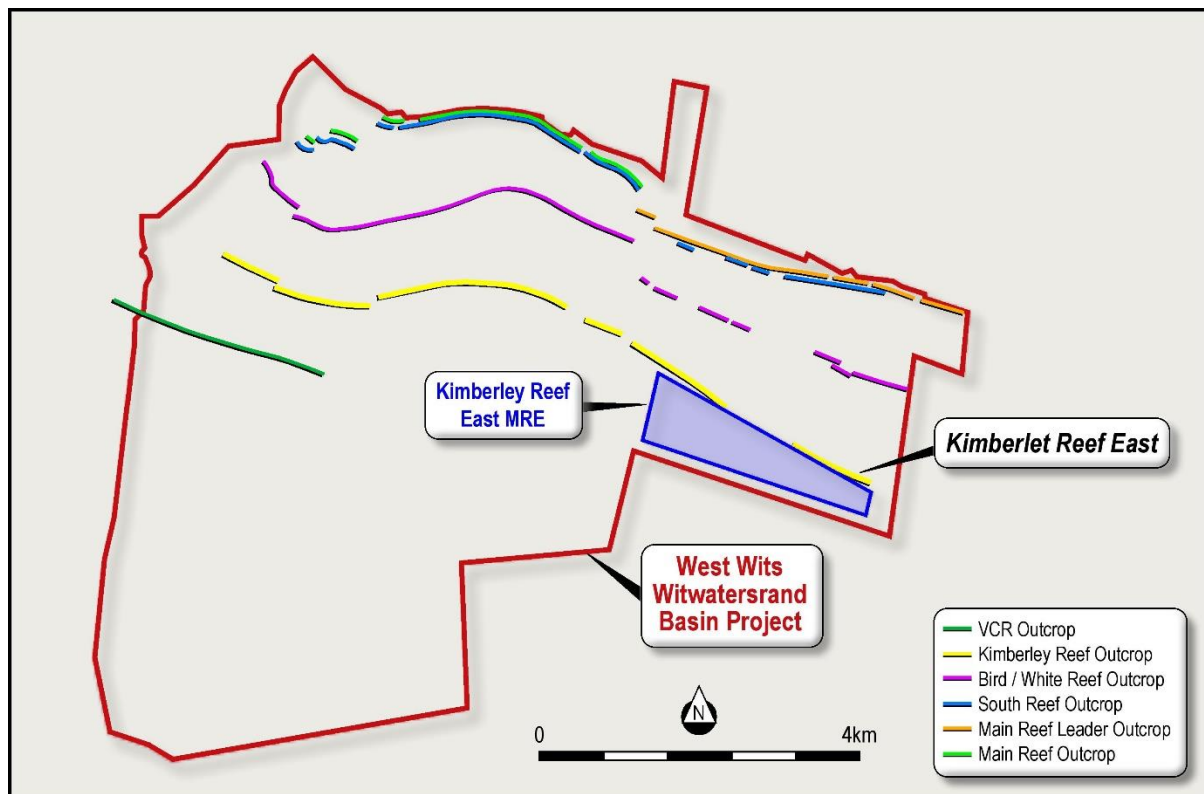


Figure 1: Outcrop of the significant Gold producing Conglomerates within the WPB

WITWATERSRAND BASIN PROJECT

WWI’s WBP comprises two historic mining centres: Durban Roodepoort Deep and the Rand Leases within the Witwatersrand Basin. Mining has been taking place within these areas since the goldfields were discovered in 1896. During that time up to seven different gold bearing conglomerate horizons were mined from surface down to 3,100m, Total production for the combined DRD and Rand Leases area was >40 Moz Au at grade exceeding 5 g/t Au (ASX: WWI prospectus 15 November 2007). Harmony Gold Mining Company Limited (JSE: HAR) reported production of 86,000 oz of gold for FY2017 at its Doornkop Mine situated directly adjacent to WBP western boundary.

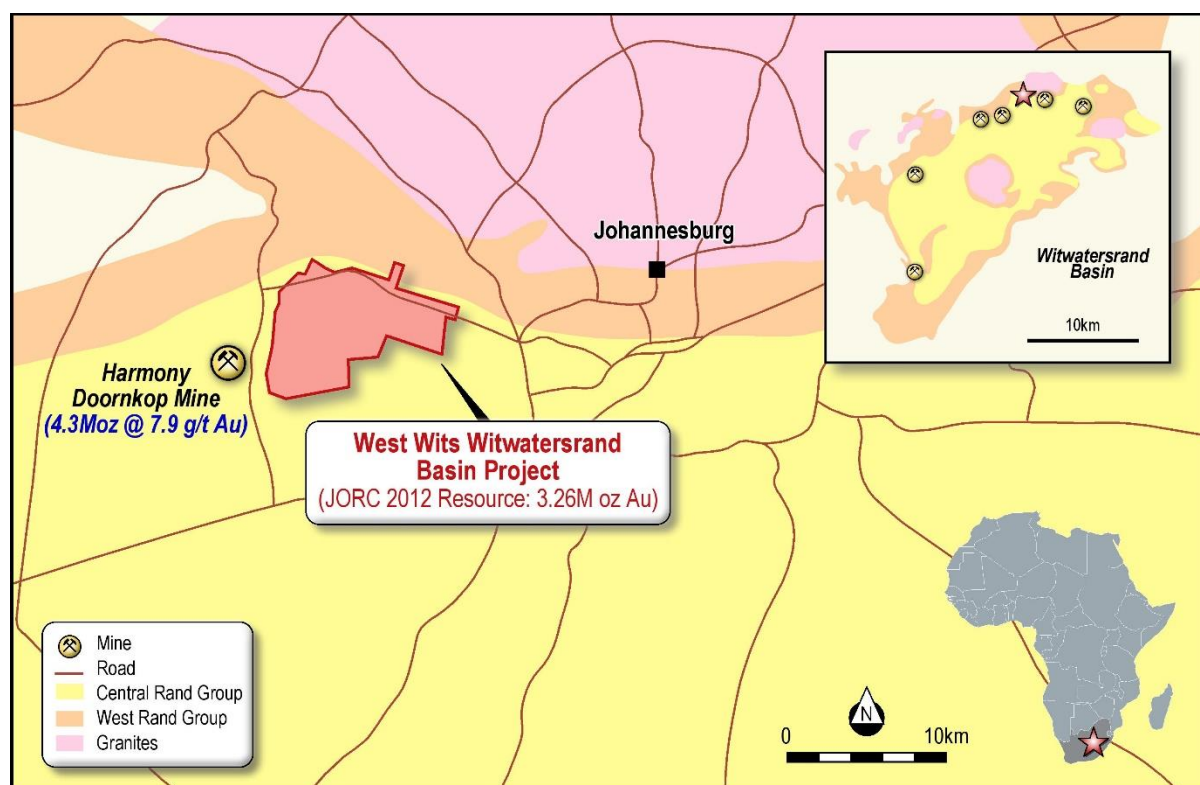


Figure 2: WWI’s Witwatersrand Basin Project

Source: 4.3Moz @ 7.0 g/t Au Harmony Gold Mining 2017 Annual Report

UPDATED RESOURCE ESTIMATE

Geology

Gold mineralisation within WWI’s WBP forms part of the Central Rand Goldfield hosted by the Witwatersrand Supergroup sediments. The Central Rand Goldfield is situated south of Johannesburg and has been host to one of the most extensive gold fields in the world (Figure 3). The reefs have been mined continuously on strike for 32 km in an east/west direction, bounded by DRD in the west, and down-dip, to the south, for about 6 km from its outcrop position, to depths of more than 3km Figure 4). Between 1897 and 1984, approximately 290 Moz Au were extracted from the Central Rand Goldfields. The gold orebodies occur in stacked, channelized, quartz pebble conglomerate horizons referred to as “reefs”. The major orebodies mined in the Central Rand Goldfield are the Main Reef, Main Reef Leader, South Reef, Bird reefs and Kimberley reefs.

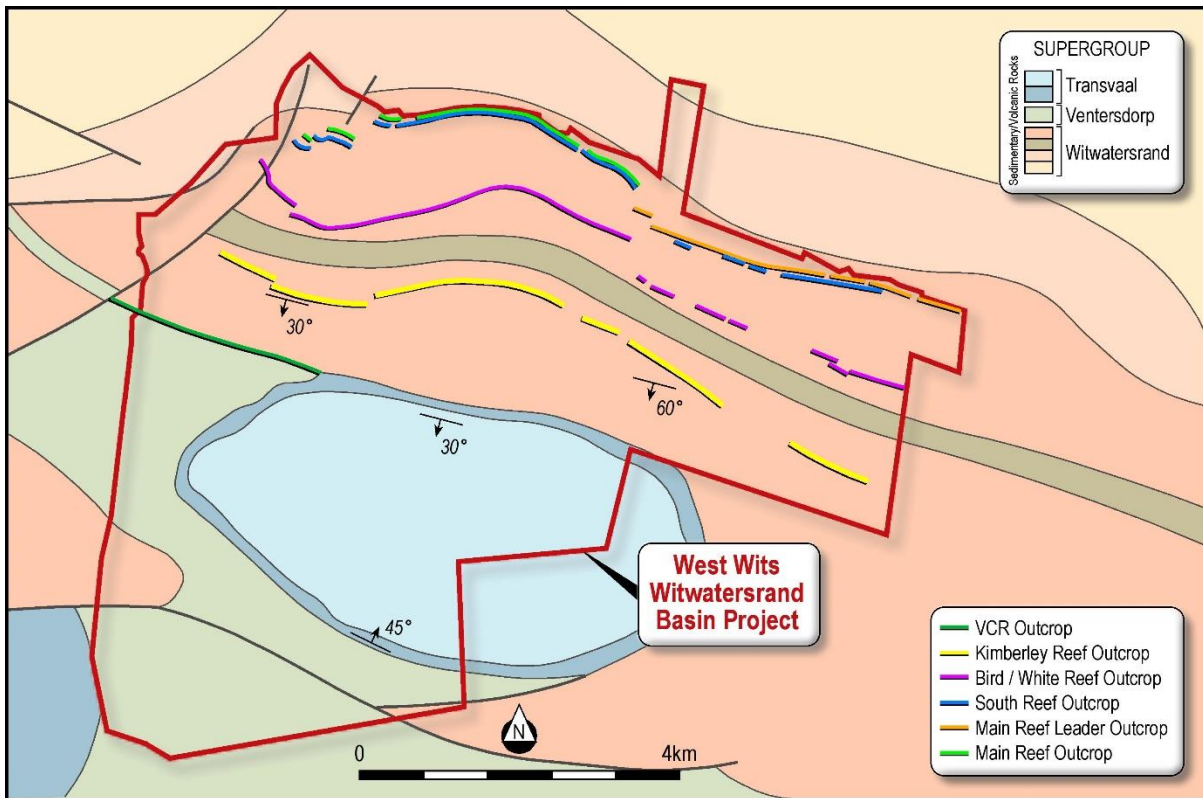


Figure 3: Geology of Witwatersrand Basin Project

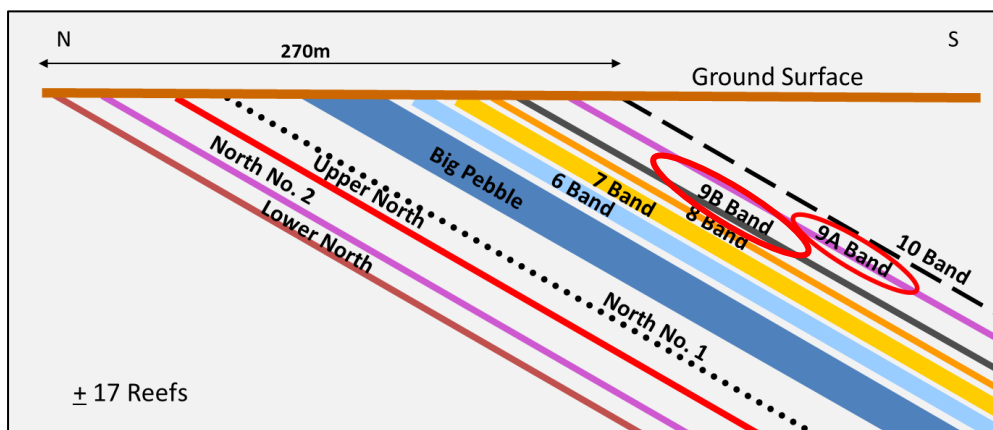


Figure 4: Schematic Cross Section for Gold bearing Kimberley Reef conglomerates, all conglomerate horizons are gold mineralised to some extent but the 9A and 9B Bands were the main target for mining.

Sampling and data for the MRE

The sampling data used in the MRE comes solely from the underground workings. Diamond drilling was extensively used during the previous mining history of the area but its use was confined to defining the spatial location of the reefs and the down hole assays were not included in the resource calculations.



Extensive underground sampling was conducted over the course of the mining, all underground samples were analysed from top to bottom over the full exposure of the reef in question. This included 2cm footwall and hanging-wall waste to ensure that high grades typically associated with the bottom and top contacts were included. All sample locations were spatially recorded with reference to the surveyed underground mine plans and transferred onto master plans which were subsequently used in formulating the resource statement:

- Underground “on ore” development was sampled every 6m;
- Underground ore stopes were sampled every 3m;
- Stope sampling was checked against broken ore sampling (BOS) and if discrepancies between chip and BOS samples were evident, then the stopes were sampled again to increase the frequency of sampling;
- All samples were geologically logged, with their position and grade recorded;
- Sample values received from the laboratory were composited by the sampler on sample sheets, with QA/QC performed by the Chief Sampler;
- Composited values were plotted on 1:200 assay tracings by the Chief Sampler, with QA/QC performed by the Chief Surveyor; and
- The geologist then digitised the composite values from the assay tracings into the master database for each reef; with QA/QC performed by the Mineral Resource Manager.

Analysis

All analyses were conducted by operator-owned laboratories as was common in the Central Rand at the time. All laboratories used participated in a round robin exercise with other mine laboratories in the DRD group (and Rand Mines Group prior to 1995) to determine precision and reproducibility. Importantly, assay analysis was backed up by a complete reconciliation between estimated grade coming from the production centres and gold produced from the plant.

Samples were assayed by fire assay using 25g charges, applying discounts for silver by using a standard silver discount chart developed over the 100-year mining history in this area. Some 10% of samples were re-assayed as duplicates.

Resource Estimation

The upgrade of the DRD resource estimate into the JORC 2012 Code is effectively restating a Mineral Resource estimate published under an older version of the code. As such, the following reviews from that time are relevant.

In 1998, DRD engaged Resource Services Group (RSG) Principal Geoscientists Dr Julian Barnes and Mr Colin Jones to review its Mineral Resource Inventory, according to the guidelines set out in the 1997 Australian Code for Reporting of Identified Mineral Resources (JORC). This work was completed in preparation for DRD’s listing on the ASX which became official in May 1999.

The detailed Ore Reserve and Mineral Resource Statements for DRD and Rand Leases (now known as the Witwatersrand Basin Project by WWI) was based on data compiled by Hermanus Swart (CP of this release), Cecilia Hoffman and Graeme Morgan who were all employed by DRD and had the relevant experience of the orebody and the mineralisation being reported on.



The estimate for the Durban Deep Section was re-issued in DRD’s 2000 annual report to the ASX and, moreover, has taken depletion into account by mining activities during 1999 and 2000. Proved and Probable Ore Reserves were reported in 1999. However, given significant uncertainties on costs and state of underground infrastructure due to the time factor, these are not considered to be relevant.

The following steps have been completed by Shango Solutions under contract to WWI to ensure the correctness of the previous data:

- The original DRD Mineral Resource block plans utilised for the 2000 Mineral Resource estimations were in a hardcopy data quantification exercise; The original spreadsheet containing all the Mineral Resource block values, utilised in the 2000 Mineral Resource were sourced and checked against the estimation;
- Captured reef values were compared with mine plans to ensure spatial correctness and were also scrutinised for anomalous values.

The Mineral Resource was estimated using the following Measured, Indicated and Inferred blocks; lognormal third parameter ordinary kriging (OK) utilising a minimum of 5 samples and a maximum of 40 samples within each defined pass. The estimation was completed in Datamine 5 utilising 15x15, 30x30 and 50x50m regularised data respectively. The orebody was classified into geozones with similar grade characteristics by its macro features for each reef. Kriging was conducted within these defined geozones:

- Resource blocks were validated monthly and reconciled against actual mining;
- The results were incorporated into Block Factors (BF) for consideration in the annual estimates as well as for the Mine Call Factor (MCF) in the determination of Ore reserves;
- Histograms were established for each reef dataset and high-grade outliers were capped at 3 times the standard deviation for that reef; and
- Mining dilution was based on reef width plus 20cm with a minimum thickness of 80cm.

Table 3: Previous Global MRE for The Witwatersrand Basin Project At 2.0g/t Au Cut-Off

| Category | Ore Tonnes (Mt) | Grade g/t Au | Ounces Au |
|----------------------|-----------------|--------------|------------------|
| Measured | 2.21 | 4.25 | 302,000 |
| Indicated | 5.6 | 3.30 | 593,000 |
| Measured & Indicated | 7.8 | 3.57 | 895,000 |
| Inferred | 4.9 | 3.10 | 489,000 |
| Total | 12.7 | 3.4 | 1,374,000 |

Notes: The previous Global MRE table for the Witwatersrand Basin Project at a 2.0 g/t Au cut-off. Reported in accordance the JORC Code of 2012. Number differences may occur due to rounding errors.

Future Work

A considerable mining study was completed on portions of the Kimberley Reef Outcrop (East) area by the previous operators. Notably, a fully scheduled mine plan including development access, ore blocks and grades was delineated (Figures 5 and 6).

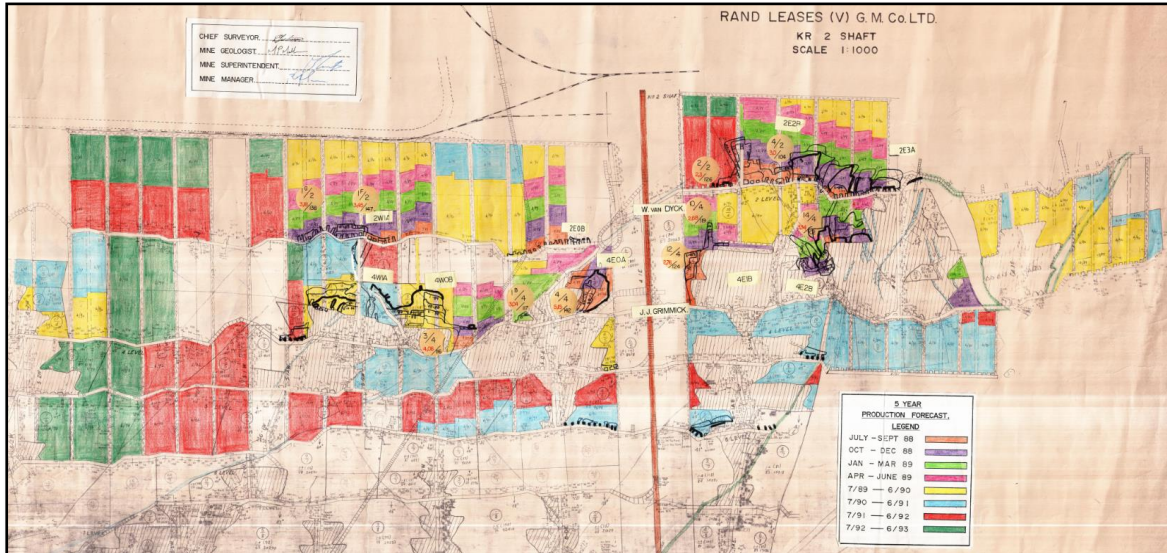


Figure 5: Shaft Five-Year Mine Plan for the Kimberley Reef (Historic plan circa 1999)

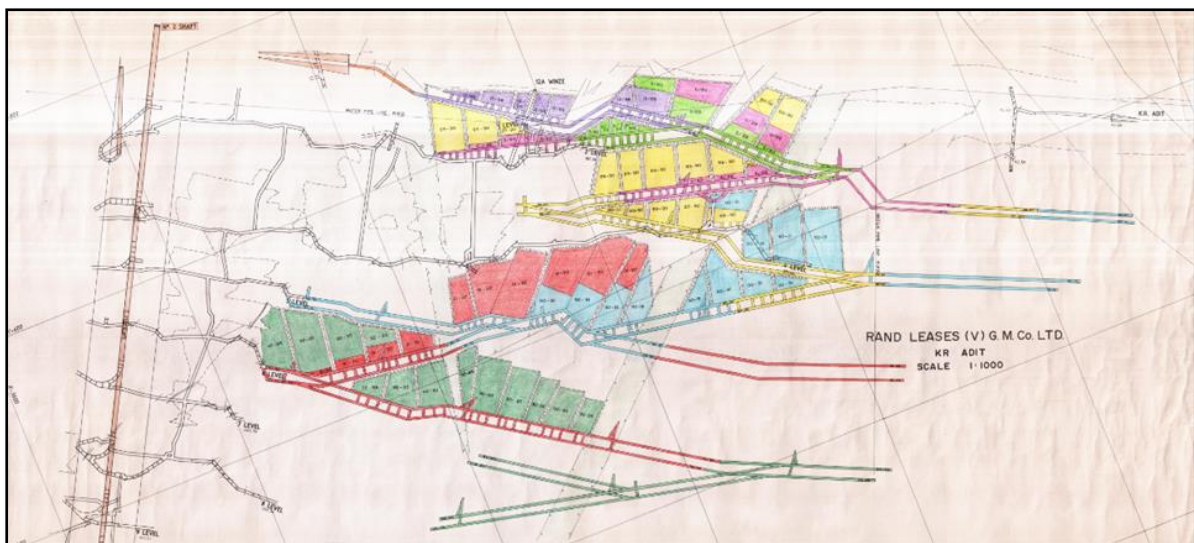


Figure 6: Mechanised Five-Year Plan for The Eastern Part of Rand Leases (Historic plan circa 1999)

Currently, WWI's team in South Africa is working with Bara Consulting on evaluating these historic plans to advance the project closer to a mining reserve.

For and on behalf of the Board



Michael Quinert
Chairman
West Wits Mining Limited

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Or Contact
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Competent Persons Statement

The information in this announcement that relates to Exploration Results is based on information compiled by Hermanus Berhardus Swart, a Competent Person who is a Professional Natural Scientist registered with South African Council for Natural Scientific Professions accredited (No. 400101/00) and a Fellow of the Geological Society of South Africa, each of which is a "Recognised Professional Organisation" (RPO) that is included in a list that is posted on the ASX website from time to time. Hermanus Berhardus Swart is employed by Dunrose Trading 186 (PTY) Ltd trading as Shango Solutions, which provides services as geological consultants to the Company. Hermanus Berhardus Swart has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". Hermanus Berhardus Swart consents to the inclusion in this announcement of the matters based on his information in the form and context in which it appears.

Dr Andrew J. Tunks MAIG

The peer review of the results was undertaken by Dr. Andrew Tunks and represents an accurate representation of the available data. Dr. Tunks (Member Australian Institute Geoscientists) is a consultant to the Company and has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Dr Tunks consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.'



JORC TABLE 1

Section 1 Sampling Techniques and Data

(Criteria in this section apply to all succeeding sections)

| Criteria | Practice at Durban Roodepoort Deep (DRD, 1998-2000) |
|--|---|
| Sampling Techniques | <ul style="list-style-type: none"> • Underground development was sampled at 3m intervals. Stoping was sampled at 6m intervals along dip, once a month (on average 10m advance). Sampling was conducted as face sampling, utilising hammer and chisel as is standard procedure in the Witwatersrand Goldfield. Diamond drilling was utilised both underground and on surface for exploration purposes, however samples were seldom used for resource estimates. The core was split and the one half submitted for assays. The samples included 2cm waste on the footwall and hangingwall of the reef. Minimum sample length was 8cm with a maximum of 40cm. • Underground samples were sampled from top to bottom over the full exposure of the reef and included 2cm footwall and hangingwall waste so as to ensure that high grades typically associated with the bottom and top contacts were included. Internal waste was sampled separately but minimum sample length was 8cm with a maximum of 40cm. Stope sampling was checked against broken ore sampling (BOS) which were sampled for each span of hoppers by means of catching a full sample in a dish placed on the grizzly of the ore pass. If discrepancies between chip and BOS samples were evident then the stopes were sampled again to increase the frequency of sampling. • Industry standard Witwatersrand Goldfield underground face sampling was applied. |
| Drilling Techniques | <ul style="list-style-type: none"> • Diamond drilling was conducted but is not applicable as samples were not utilised for resource estimates. Only underground face sampling was used for resource estimates. |
| Drill Sample Recovery | <ul style="list-style-type: none"> • Not applicable for resource estimates but a minimum of 95% core recovery was required, otherwise holes were redrilled. Core was fitted and measured against drill meters provided by driller. |
| Logging | <ul style="list-style-type: none"> • Diamond drilling was conducted but is not applicable as samples were not utilised for resource estimates. However, samples were geologically and geotechnically logged to a detail that would have supported appropriate Mineral Resource estimations, mining studies and metallurgical studies. • Core logging was not applicable for Mineral Resource estimations, but was qualitative in nature. • The total length of the relevant core intersections were 100% logged. |
| Sub-sampling Techniques and Sample Preparation | <ul style="list-style-type: none"> • The entire underground sample (on average 1.5 kg) was submitted for analysis. However, when maximum allowable weight of 1kg was exceeded, the sample was riffled down in size at the laboratory. Samples generally contained moisture because the face was washed before sampling to prevent contamination from dust as a result of blasting. • The remaining sample was pulverised for analysis, which is standard practice for fire assays. • Underground face samples were sampled from top to bottom over the full exposure of the reef and included 2cm footwall and hangingwall waste so as to ensure that high grades typically associated with the bottom and top contacts were included. • If concentrated mineralisation (especially carbon) was noted, specifically on the bottom contact, a second sample was taken to account for the nugget effect. This also applied to other portions of reef depending on mineralisation observed. • If samples yielded anomalous results then the returned pulps were resubmitted under a new number and if still unsatisfactory, were resampled in the case of development sampling. • Underground face sampling was standard practice in the Witwatersrand Goldfield and was deemed appropriate and representative for the grain size. |
| Quality of Assay Data and Laboratory Tests | <ul style="list-style-type: none"> • Underground face samples were assayed by fire assay using 25g charges, applying discounts for silver by silver discount chart. The standard practice of fire assaying in the Witwatersrand Goldfield was deemed appropriate and representative for the samples. • Industry standard fire assays were applied. • 10% of samples were reassayed. Returned pulps were on occasion resubmitted under a new number for validation. The laboratory participated in a round robin exercise with other mine laboratories in the DRD group (and Rand Mines Group prior to 1995) to determine precision and reproducibility. • Best practice in the field of assaying was recorded in book form which set the standards for laboratories throughout the local gold mining industry. The first of these, entitled "A Text Book of Rand Assay Practice" by J Moir and G H Stanley, was published in 1923. This was followed in 1955 by "Assay Practice on the Witwatersrand" by V S Dillon and others. The rapid growth of instrumental methods of analysis led to the compilation and publication of a third volume in 1986 entitled "Assay and Analytical Practice in the South African Mining Industry" by W C Lenahan and R Murray-Smith, published by the Chamber of Mines, which described best |



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| | <p>practice then in use in assay laboratories associated with the Chamber. Analytical quality was assured by the regular use of internal controls and by periodic “round-robin” exchanges of samples between laboratories, either within individual mining houses or sometimes between mining houses. Assay laboratories at mines affiliated to the Chamber of Mines operated under the umbrella of the Chamber and the South African Association of Assayers, both of which engendered an ethos of high quality workmanship and continuous improvement.</p> |
| Verification of Sampling and Assaying | <ul style="list-style-type: none"> • If concentrated mineralisation (especially carbon) was noted, specifically on the bottom contact, a second sample was taken to account for the nugget effect. This also applied to other portions of reef depending on mineralisation observed. • If samples yielded anomalous results then the returned pulps were resubmitted under a new number and if still unsatisfactory were resampled in the case of development sampling. • The average of repeat and original samples was utilised. |
| Location of Data Points | <ul style="list-style-type: none"> • Location of underground face sampling was measured with a tape from a surveyed peg. The wooden peg was inserted in a hole drilled into the hangingwall of the development or stope with unique numbers imprinted on copper plates and fixed to the exposed part of the wooden peg. • DRD originally had local mine coordinates with zero longitude and latitude through the centre of the DRD mine lease. Coordinates west of the zero longitude and north of the zero latitude, increased positively. Coordinates east of the zero longitude and south of the zero latitude, increased negatively. DRD subsequently (approximately 1995) converted to LO27 a South African grid system. • Topographic control was achieved from surveying from official surface beacons and was deemed accurate and adequate for the purpose. |
| Data Spacing and Distribution | <ul style="list-style-type: none"> • Exploration results were not reported. Pre-resource mineralisation was reported for the remainder of the mine lease where classification of Mineral Resources could not be performed. • Measured, Indicated and Inferred blocks were estimated using lognormal third parameter ordinary kriging utilising 15x15, 30x30 and 50x50m regularised data respectively. Kriging was conducted within defined geozones. Audits performed by RSG Global in 1998, regarded the block sizes employed during the estimation as conservative. They furthermore deduced that the estimates classified appropriately under the guidelines of the AusIMM/JORC 1997 (see attachment below). • Each sample section was composited to represent the total reef intersection. |
| Orientation of Data in Relation to Geological Structure | <ul style="list-style-type: none"> • Structures have no known influence on the mineralisation of the Witwatersrand placer type reefs, other than displacements. • Not applicable. |
| Sample Security | <ul style="list-style-type: none"> • Samples were delivered directly by the sampler after each shift to the laboratory sample receiving staff. Line of custody procedures was applied. |
| Audits or Reviews | <ul style="list-style-type: none"> • Audits were performed by RSG Global in 1998 (see attachment below). RSG regarded the estimation as conservative and deduced that the resources were classified appropriately under the guidelines of the AusIMM/JORC 1997. Venmyn Rand signed off DRD’s Mineral Resource and Ore Reserve for the listing at the Australian Stock Exchange in May 1999 (see attachment below). |

Section 2 Reporting of Exploration Results

Note that DRD did not report Exploration Results

(Criteria listed in the preceding section also apply to this section)

| Criteria | Practice at Durban Roodepoort Deep (DRD, 1998-2000) |
|---|---|
| Mineral tenement and land tenure status | <ul style="list-style-type: none"> • The Prospecting Right GP 30/5/1/1/2/183 (10035) PR is currently held by Mintails SA Soweto Cluster (Pty) Ltd. (“Mintails”). West Wits MLI (Pty) Ltd (“West Wits MLI”) (a subsidiary of West Wits Mining Limited which holds indirectly 66.6% of that company with the remaining 33.4% held by Lalitha (Pty) Ltd a black empowered (“BEE”) entity ensuring compliance with South African laws. The Prospecting Right is the subject of an application for the transfer of same from Mintails to West Wits MLI which has been lodged with the DMR in South Africa and is currently being processed. The parties expect completion of the transfer shortly. The Prospecting Right was renewed for 3 years in April 2016. |



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|--|--|
| Exploration done by other parties | <ul style="list-style-type: none"> No other parties have performed exploration in the DRD mine lease area. |
| Geology | <ul style="list-style-type: none"> The DRD deposit forms part of the Central Rand Goldfield hosted by the Witwatersrand Supergroup sediments. The Central Rand Goldfield is situated immediately to the south of Johannesburg and has been host to one of the most extensive gold reserves in the world. The reefs have been mined continuously on strike for approximately 32km in an east/west direction, bounded by DRD in the west, and down-dip, to the south, for about 6km from its outcrop position, to depths of approximately 3km. Between 1897 and 1984, approximately 9 000 tons of gold were extracted from the Central Rand Goldfield. The reef horizons are channelised conglomerates. The major orebodies mined in the Central Rand Goldfield are the Main Reef, Main Reef Leader, South Reef, Bird reefs and Kimberley reefs. |
| Drill hole Information | <ul style="list-style-type: none"> The information is not Material because exploration results were not reported by DRD. However, the information is supplied for completeness: <ul style="list-style-type: none"> DRD originally had local mine coordinates with zero longitude and latitude through the centre of the DRD mine lease. Coordinates west of the zero longitude and north of the zero latitude, increased positively. Coordinates east of the zero longitude and south of the zero latitude, increased negatively. DRD subsequently (approximately 1995) converted to LO27, a South African coordinate system. Elevations were defined as below datum numbers with datum representing 6,000 feet (1,828.8m) above mean sea level. Surface drill holes were drilled vertically down, but underground holes were drilled in various directions due to requirements for relevant structural information. Azimuth was measured clockwise with north as zero. Down hole length and interception depth of reefs were measured with the collar of the hole as zero. Hole length was determined by down hole surveys for surface and long underground holes. Short underground holes (less than 100m) were generally not surveyed and length was measured by the drill operator. |
| Data aggregation methods | <ul style="list-style-type: none"> Exploration Results were not reported. However, weighting was conducted against relative sample lengths due to no differences in waste and ore bulk densities. Minimum grades were dependent on laboratory detection limits, which improved as technology advanced. However, cutting of low and high-grade samples was not standard practice. No allowance was made to differentiate between short lengths of high grade results and longer lengths of low grade results. However, minimum sample lengths were not less than 10cm. Metal equivalent values were not applicable. |
| Relationship between mineralisation widths and intercept lengths | <ul style="list-style-type: none"> All down hole lengths were converted to true widths by correcting for the dip of the strata. |
| Diagrams | <ul style="list-style-type: none"> Exploration Results were not reported by DRD. |
| Balanced reporting | <ul style="list-style-type: none"> Exploration Results were not reported by DRD. |
| Other substantive exploration data | <ul style="list-style-type: none"> Exploration results were not reported by DRD. However, the information is supplied for completeness: <ul style="list-style-type: none"> Geology of reef intercepts were noted in detail on standardised logging sheets. Geophysical and geochemical survey results were conducted as required. Bulk samples were conducted when required by compositing the pulps of all reef intercepts. Bulk density was never measured and always taken as 2.71 based on industry standard underground test work. It was standard practice for drill operators to test groundwater intersections measured in liters per hour. Geotechnical and rock characteristics were always noted, albeit typical geological structures and not modern geotechnical parameters such as RQD, RMR, etc. Deleterious or contaminating substances such as methane were tested for by drill operators utilising test meters. |
| Further work | <ul style="list-style-type: none"> See body of report |



Section 3 Estimation and Reporting of Mineral Resources

(Criteria listed in section 1, and where relevant in section 2, also apply to this section)

| Criteria | Practice at Durban Roodepoort Deep (DRD, 1998-2000) |
|-------------------------------------|--|
| Database Integrity | <ul style="list-style-type: none"> Sample values received from the laboratory were composited by the sampler on the sample sheets, with QA/QC performed by the Chief Sampler. The composited values were plotted on the 1:200 assay tracings by the Chief Sampler, with QA/QC performed by the Chief Surveyor. The geologist digitised the composite values from the assay tracings into the master database for each particular reef; with QA/QC performed by the Mineral Resource Manager (MRM, Hermanus Berhardus Swart) who conducted the resource estimates (see Appendix 1, 1998, 1999 and 2000 annual report extracts). Captured reef values were compared with mine plans to ensure spatial correctness and were also scrutinised for anomalous values. |
| Site Visits | <ul style="list-style-type: none"> The Mineral Resources were reported by the MRM, who worked on the mine and who had relevant experience and qualified as competent person in South Africa and internationally as listed by JORC as a recognised professional. Not applicable as explained above. |
| Geological Interpretation | <ul style="list-style-type: none"> Audits were performed by RSG Global and Venmyn Rand in 1998 and both agreed with the geological interpretations as performed at the mines. The data was captured into Lotus 123 databases for each particular reef and exported into Datamine 5 as csv files detailing reef width and grade. The individual sample reef widths and grades were multiplied as cmg/t accumulations. No alternative interpretation was performed. The orebody was classified into geozones with similar grade characteristics by its macro features for each separate reef. Kriging was performed within defined geozones. Witwatersrand reefs are world renowned for their continuity in geology and grade. Kriging was conducted within defined geozones. |
| Dimensions | <ul style="list-style-type: none"> The reefs are part of the world-famous Witwatersrand Basin, and are renowned for their regional lateral (hundreds of kilometres) and down dip (tens of kilometres) continuity. The reefs were only reported down to the water level of the time, which was 1.9km below surface on DRD and 1km on Rand Leases. Strike length totalled 9km. |
| Estimation and Modelling Techniques | <ul style="list-style-type: none"> Measured, Indicated and Inferred blocks were estimated using lognormal third parameter ordinary kriging in Datamine 5 utilising 15x15, 30x30 and 50x50m regularised data respectively. Kriging was conducted within defined geozones. Resource blocks were validated on a monthly basis and reconciled against actual mining. The results were incorporated into Block Factors (BF) for consideration in the annual estimates as well as for the Mine Call Factor (MCF) in the determination of Ore reserves. No by-products were recovered, hence no quantification or estimation. Although the presence of pyrite resulted in severe acid mine water, sulphide was not quantified and estimated. Underground development was sampled at 3m intervals and stoping at 6m intervals along dip once a month (on average 10m advance). Measured, Indicated and Inferred blocks were estimated using lognormal third parameter ordinary kriging utilising 15x15, 30x30 and 50x50m regularised data respectively. The search ranges were based on the semi-variogram and varied considerably for each reef. No assumptions were made for selective mining units. |
| Estimation and Modelling Techniques | <ul style="list-style-type: none"> No assumptions were made about the correlation between variables. The outcome was based on the lognormal third parameter ordinary kriging lag distance between samples, utilising a minimum of 5 samples and a maximum of 40 samples within each defined pass. The orebody was classified into geozones with similar grade characteristics by its macro features for each reef. Kriging was conducted within defined geozones. Histograms were established for each reef dataset and outliers were capped at 3 times the standard deviation. Resource blocks were checked on a monthly basis and reconciled against actual mining. The results were incorporated into BF's for consideration in the annual estimates as well as for the MCF in the determination of Ore Reserves. |
| Moisture | <ul style="list-style-type: none"> Tonnages were estimated on a dry basis. |
| Cut-off Parameters | <ul style="list-style-type: none"> Cut-off was based on the stoping, transport and milling costs over the previous 12 months and the production plan for the next 12 months. |



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| Mining Factors or Assumptions | <ul style="list-style-type: none"> Mining methods were based on traditional Witwatersrand conventional hand-held drilling and scraper cleaning operations, except for the steep Kimberley reefs where overhand shrinkage methods were employed. Mining dilution was based on reef width plus 20cm with a minimum thickness of 80cm. |
| Metallurgical Factors Applied | <ul style="list-style-type: none"> Metallurgy was based on traditional Carbon In Leach methods (CIL). |
| Environmental Factors or Assumptions | <ul style="list-style-type: none"> Residues were deposited on environmentally approved tailings dams. |
| Bulk Density | <ul style="list-style-type: none"> Bulk density was accepted as the standard industry norm for pyritic quartzite i.e. 2.71 and was on a dry basis. Bulk density was not measured as there was no variance in the samples due to their homogenous nature. The same bulk density was multiplied with the respective volumes for all reefs in order to obtain tonnages. |
| Classification | <ul style="list-style-type: none"> The classification for Measured, Indicated and Inferred blocks were estimated using lognormal third parameter ordinary kriging utilising 15x15, 30x30 and 50x50m regularised data respectively. The results were compared with the kriging variance and only blocked up to where the variance was acceptable. Appropriate account was taken of all relevant factors. The results of the classification reflected the view of the MRM and was subsequently confirmed during resource/reserve conversion and mining. |
| Audits or Reviews | <ul style="list-style-type: none"> Audits were performed by RSG Global in 1998 (Appendix 1). RSG regarded the estimation as conservative and deduced that the resources were classified appropriately under the guidelines of the AusIMM/JORC 1997. Venmyn Rand signed off DRD's Mineral Resource and Ore Reserve for the listing at the Australian Stock Exchange in May 1999 (Appendix 1). |
| Discussion of Relative Accuracy/ Confidence | <ul style="list-style-type: none"> RSG Global regarded the estimation as conservative and agreed that they were classified appropriately according to the guidelines of the AusIMM/JORC 1997. The geostatistical approach used was a standard approach on Witwatersrand style deposits. Ordinary kriging can lead to smoothing of grades similar in nature to global estimates. However, the selection of smaller grid sizes prevented this as observed by RSG Global. The statements are local estimates but approach global estimates for the Inferred Resources due to the larger grid sizes used. Resource blocks were validated monthly and reconciled against actual mining. The results were incorporated into BF's for consideration in the annual estimates as well as for the MCF in the determination of Ore reserves. |

References

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