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12 April 2010

The Directors
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Dear Sirs

COMPETENT PERSONS' REPORT ON THE MINERAL ASSETS OF CENTRAL RAND GOLD LIMITED

At your request, Snowden Mining Industry Consultants (Pty) Ltd (Snowden) has prepared a Competent Persons' Report on Central Rand Gold South Africa (Pty) Ltd's (CRGSA) mineral assets located in the Republic of South Africa. It is our understanding that this report will be included in its entirety in a Prospectus for a proposed capital raising. The report represents an update to Snowden's Competent Persons' Report (CPR) of 21 September 2007, for Central Rand Gold Ltd's (CRG) listing on the Main Board of the London Stock Exchange.

CRGSA has consolidated a number of historical mining rights into its current project and in November 2008, was granted a mining right that allows it to mine those portions of the historical Consolidated Main Reef (CMR), Crown Mines and Langlaagte Crown Mines properties at depths down to 900 metres below surface. The remaining portions of the Central Rand project area are held by CRGSA as prospecting rights. In total these mining and prospecting rights cover some 211 square kilometres (km^2) over a strike length of about 40 km in the Central Rand goldfield. CRGSA has also applied for new order prospecting rights for an additional area to the south, which will add an additional 373 km^2 to CRGSA's holdings.

In early 2009, CRGSA commenced a programme of underground trial mining on the Main Reef at CMR and in August 2009, CRGSA and its consultants prepared a pre-feasibility level life-of-mine plan using highly mechanised underground mining methods. This plan demonstrated that mining of the Main Reef is technically and economically feasible. In August 2009 CRGSA published its maiden Probable Ore Reserve estimate of 2.06 million tonnes (Mt) at 4.1 grams per tonne (g/t) for 271,000 ounces (oz) Au.

In March 2010, CRGSA successfully completed its programme of trial mining which provided confidence that the mining method is appropriate, that the Main Reef can be safely and efficiently mined and the reserve modifying factors are reasonable. Knowledge and experience gained from the trial mining was incorporated into CRG's April 2010 CMR Main Reef Probable Ore Reserve estimate of 3.73 Mt at 4.0 g/t for 482,000 oz Au. Based on an updated mine plan and this new Probable Ore Reserve, the Main Reef at CMR has a mine life of 12 years.

The objectives of this report are to:

- provide an overview of the geological setting of CRGSA's project area and associated mineralisation

- outline recent exploration work undertaken over the project areas and comment on exploration potential
- present recently updated tonnage and grade estimates for the defined gold mineralisation with the project
- discuss and comment on CRGSA's proposed mining and processing plans for the Main Reef at CMR.

This latest report does not recount the general history of mining in the Central Rand goldfield and the Witwatersrand Basin as this was addressed in detail in Snowden's 2007 CPR. However, this report discusses the main Mineral Resources applicable to the Central Rand project, as presented in Snowden's 2007 CPR, and updated where necessary.

Snowden has based its assessment of CRGSA's project areas on investigations carried out during regular site visits to the project area, most recently in March 2010, where reviews of technical information compiled by CRGSA and its consultants took place, including extensive discussions with key company personnel. Snowden has worked closely with CRGSA and its consultants to prepare a life-of-mine plan and Probable Ore Reserve estimate for the Main Reef at CMR, down to about 800 m below surface.

Consent has been sought from CRG and CRGSA's representatives to include technical information and opinions expressed by them. Except where indicated in the text none of the other entities referred to in this report have consented to the inclusion of any information or opinions and have only been referred to in the context of reporting.

Snowden has based its findings upon information made known to it as mid-March 2010. Snowden has endeavoured, by making reasonable enquiry of CRG and CRGSA, to ensure that all material information in their possession has been fully disclosed to Snowden. However, Snowden has not carried out any type of audit of the records of CRGSA to verify that all material documentation has been provided. CRG and CRGSA have agreed to indemnify Snowden from any liability arising from Snowden's reliance upon information provided or not provided to it by CRG and CRGSA.

This report is provided subject to the following qualifications:

- it is assumed that CRGSA has made available to Snowden all material information in its possession, or known to CRGSA in relation to the technical, development, mining and financial aspects of the various projects, and that CRGSA has not withheld any material information and that information is accurate and up to date in all material respects
- it is assumed that all geological reports and other technical documents provided by CRGSA correctly and accurately record the result of all geological and other technical activities and testwork conducted to date in relation to the relevant mineral rights and accurately record any advice from relevant technical experts
- Snowden has had sight of CRGSA's new order mining rights and it is assumed that good and valid title to all other tenements or other land tenure required by CRGSA to prospect, explore, develop, mine and operate the projects in the manner proposed exists
- it is assumed that all necessary governmental consents and approvals (including those regarding environmental issues) required to implement the various phases of the projects have been obtained, or will be forthcoming, without any material delay and on terms, which will not cause any material change to any mining, exploration or other activities proposed, and which will not cause any material change to the costs of such activities
- it is assumed that CRGSA will have access to sufficient working capital or other sources of finance to conduct the activities it proposes
- it is assumed that macro or other economic conditions will not cause any material change to the prices expected to be obtained for the mineral products expected to be produced and marketed from the projects
- it is assumed that all factual information provided by CRG and CRGSA as to the project or its history or CRG and CRGSA's future intentions, financial forecasting or the effect of relevant agreements is correct and accurate in all material respects

- it is assumed that CRGSA, either on its own or with other parties, will build and operate a pumping and water treatment facility on the Central Rand Basin, to prevent flooding of the proposed mine workings at CMR, down to 800 m below surface, and that the capital cost of this pump station has been provided for by CRGSA in its corporate costs as noted in Section 17.1.3.

In relation to the above qualifications, Snowden has not undertaken any independent enquiries or audits to verify that the assumptions are correct and gives no representation that the assumptions are correct.

Snowden is an independent firm providing specialist mining industry consultancy services in the fields of geology, exploration, resource estimation, mining engineering, geotechnical engineering, risk assessment, mining information technology and corporate services. The company, which operates from offices in Perth, Brisbane, Johannesburg, Vancouver, London and Belo Horizonte, has prepared independent expert's reports and mineral asset valuations on a variety of mineral commodities in many countries.

This report was prepared by, Mr Allan Earl (Divisional Manager: Mining, Perth) Mr Mark Burnett (Divisional Manager: Applied Geosciences, Johannesburg) and Mr Dennis Cowen (Divisional Manager: Corporate, Johannesburg) in accordance with the Code for the Technical Assessment and Valuation of Mineral and Petroleum Assets and Securities for Independent Experts Reports (the VALMIN Code) and the 2004 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (the JORC Code (2004)). The report was reviewed by Dr Leon Lorenzen (Executive Consultant: Metallurgy, Perth) and Mr Bill McKechnie (General Manager, Africa).

Neither Snowden nor those involved in the preparation of this report have any material interest in any of the companies or mineral assets considered in this report. Snowden is remunerated for this report by way of a professional fee determined according to a standard schedule of rates, which is not contingent on the outcome of this report.

Yours faithfully

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1. SUMMARY

1.1 PURPOSE

At the request of the Directors of Central Rand Gold Limited (CRG), Snowden Mining Industry Consultants (Pty) Ltd (Snowden) has prepared a Competent Persons' Report (CPR) on CRG's gold mining and exploration assets in South Africa to be included in its entirety in a Prospectus for a proposed capital raising.

CRG is listed on the London Stock Exchange (LSE) and the Johannesburg Securities Exchange (JSE) and is the holding company for a group of companies engaged in gold mining and exploration. CRG's operating subsidiary (74% owned), Central Rand Gold South Africa (Pty) Limited (CRGSA), is conducting work on a mining right and various prospecting rights, which it holds over its Central Rand project, in an area south of the Johannesburg Central Business District.

CRGSA is 26% owned by Puno Gold Investments (Proprietary) Limited (Puno), a consortium of seven Black Economic Empowerment (BEE) groups.

This Report represents an update to Snowden's previous Competent Persons' Report of 21 September 2007 which was prepared for CRG's listing on the Main Board of LSE. It presents a review of the geology and mineralisation contained in the prospecting rights granted to CRGSA and comments on the mine plan for the Main Reef at Consolidated Main Reef (CMR).

1.2 BACKGROUND

CRGSA's Central Rand project is situated in the Central Rand goldfield, which underlies the southern part of the City of Johannesburg in South Africa. The historical mining leases that form the Central Rand project have evolved from the merger and consolidation of numerous smaller mining properties over a period of time since the discovery of Witwatersrand goldfields in the 1880s.

By the late 1960s the mines of the Central Rand goldfield were considered to be substantially "worked out" and the last mine closed in 1977. Infrastructure was old and the operating faces (stopes) were generally deeper than 2,800 metres below surface (mbs) and expensive to operate.

Between 1886 and the mid 1970s, these mining leases are estimated to have produced some 224 million ounces (Moz) of gold (6,970 tonnes) at a reported average head grade (run of mine grade) of 8.68 grams per tonne (g/t) (Werdmüller, 1986).

Historically, gold was mined from five separate quartz pebble conglomerates (reefs) that occur as three distinct reef packages - the Main, Bird and Kimberley. The reefs within the Main Reef package were by far the most economically important and most extensively mined.

In the last 25 years a number of attempts were made to compile inventories of mineral resources remaining within some of the old mine leases that now make up the Central Rand project area. Much of the work done in this regard has been focussed on the 3Cs mines (CMR, Crown Mines and City Deep).

During the period 1970 to 1989 Rand Mines assessed the potential on the 3Cs (Camden-Smith et. al, 1980; Rand Mines Survey Department, 1980 and Camden-Smith et. al, 1989), with specific reference to the Main Reef, Main Reef Leader and South Reef. No further work appears to have been undertaken to understand the remnant Mineral Resource potential of the 3Cs until Professors R P Viljoen and M J Viljoen (the Viljoens) commenced a series of studies in conjunction with BJ Zhao and students from the Centre for Applied Mining and Exploration Geology at the University of the Witwatersrand (Viljoen and Viljoen, 2006). These studies subsequently led the Viljoens to recognise the exploration potential of the Central Rand goldfield and initiate the project as described in this report and in more detail in Snowden (2007).

Having recognised the remnant exploration and mining potential of the old Central Rand mines, and the improved positive environment for gold, CRGSA consolidated the 3Cs as well as the old Langlaagte, Village Main, Robinson Deeps and Simmer and Jack Mines into its Central Rand project.

A new order mining right for CMR, Crown Mines and a portion of Langlaagte was executed on 11 November 2008 (CRGSA, 2008), which allows CRGSA to undertake mining activities to a depth of 900 mbs. CRGSA also holds new order prospecting rights to additional areas in the Central Rand goldfield. The Simmer and Jack prospecting permit has not yet been executed and applications have also been submitted for prospecting rights in a substantial area located to the south and southwest (South Deeps). CRGSA's mining and prospecting rights are summarised in Table 1.1.

Table 1.1 CRGSA's new order rights*

New order right	Reference number
Mining right (3,204 Ha)	
Certain portions of CMR, Crown Mines and Langlaagte	GP30/5/1/2/2(140)MR
Prospecting rights (16,468 Ha)	
Remainder of the 3Cs area not included in the mining right	GP30/5/1/1/2/(22)PR
AngloGold Ashanti	GP30/5/1/1/2/(30)PR
Village Main	GP30/5/1/1/2(148)PR
Western Area A	GP30/5/1/1/2(253)PR
Western Area B	GP30/5/1/1/2(254)PR
Western Area E	GP30/5/1/1/2(257)PR
Prospecting right pending but not yet executed (1,469 Ha)	
Simmer and Jack	GP30/5/1/1/2(167)PR
Application pending with DMR (37,284 Ha)	
South Deeps	GP30/5/1/1/2(295)PR

*Source: CRGSA

CRG, in 2007, listed on the LSE and JSE and since then CRGSA has carried out exploration drilling over its mineral holdings, has built a gold processing facility at CMR and has processed oxide gold ore from shallow open pits. CRGSA has recently completed a programme of underground trial mining and proposes to establish a 500,000 tonne per annum (tpa) underground mine at CMR to mine the Main Reef, as well as any residual portions of the Main Reef Leader left behind by earlier mining activities. As at 12 April 2010, CRGSA has produced 3 455 oz Au from its operations.

1.3 RESPONSIBILITY

CRG commissioned Snowden to compile a CPR on CRGSA's mineral assets in South Africa. Mr A Earl, Mr M Burnett and Mr D Cowen are the principal Authors, but have relied on previous and current contributions by Dr P Snowden, Mrs V Snowden, Mr F Grobler, Mr T Bradley and Mr J Froud of, or previously of, Snowden as well as specialist studies and reviews requested or undertaken by Snowden. In preparing this report the Authors and associated contributors have relied on information provided by CRG and CRGSA and reports by a number of geological, mining and other specialist consultants (including Snowden) commissioned by CRGSA, as well as other relevant historical sources. .

1.4 GEOLOGY AND MINERALISATION

The Central Rand project area is underlain by rocks of the Central Rand Group within the upper part of the Witwatersrand Supergroup. The Central Rand Group comprises a 7 km thick sequence of quartz-rich sediments, within which three principal packages of quartz pebble conglomerate packages (known as reefs) are recognised, namely the Main, Bird and Kimberley reef packages. Within these packages, heavy minerals, including gold, uranium and pyrite, have been concentrated to a greater or lesser extent.

The Main Reef package lies at or near the base of the Central Rand Group and is by far the most important of the three reef packages. It contains several distinct sheet-like reefs dipping about 40° south (measured at surface), each with its own geological characteristics. The principal gold bearing

reefs in the Main Reef package, from the bottom upwards, are North Reef, Main Reef, Main Reef Leader, South Reef and South South Reef. The Main Reef Leader was by far the most important gold bearing reef and was comprehensively mined out (except for a few small blocks left unmined) down to a vertical depth of about 2,800 mbs – in other words for a down-dip distance of about 5 km.

Drilling undertaken for DRDGold Limited's (DRD) Argonaut project indicates that the Main Reef package persists and continues to dip south into the Southern Deeps' lease application area where no previous mining has been undertaken (Stewart, 2004a, b).

The Main Reef Leader was generally high grade i.e. greater than 12 g/t gold over a reef width of about 60 centimetres (cm). High and low grade areas of gold mineralisation occurred within the reef, which are interpreted as being due to fluvial processes prevalent at the time of conglomerate deposition.

The Main Reef, which underlies the Main Reef Leader, is a well developed pebble conglomerate but generally contains lower gold grades than the Main Reef Leader. In most of the project area the Main Reef was mined only in patches with the most extensive exploitation occurring in the Simmer and Jack mining lease in the east.

The South Reef was mined extensively across the project area, although mining was terminated at a much shallower depth than was the case for the Main Reef Leader. Records suggest that, in the case of the South Reef, gold grades diminished progressively down dip. Mining of the Bird Reef occurred on a relatively minor scale, with mining restricted to the western part of the project area. This was also the case for the Kimberley package where, amongst its numerous pebble reefs, only one, the K9a Reef, was mined to a limited extent. A number of other reefs occur within the Central Rand project area such as the Johnstone and Livingstone Reefs but these were not exploited during previous mining operations.

1.5 MINERAL RESOURCES

Compilation of estimates of the remnant gold mineralisation within the project area has been a challenging undertaking, given the size of the project area, its complex multiple reef geology, the complex distribution of gold in the reefs and the extent of historical mining operations. These challenges were further compounded by the difficulties encountered in tracing and recovering old mine plans from archives. However, the amount of underground reef assay data and the high quality of underground mine survey data recorded on these plans has proved the value of this exercise and as old underground workings are accessed, CRGSA continuously checks historical survey plans against current reality observed underground.

During the development of this project, CRGSA has commissioned various Johannesburg based geological and/or mining consulting firms to compile estimates of the gold mineral resources remaining within its Central Rand project area. The resource estimates detailed in this report for the CMR area rely on the Mineral Resource estimates calculated by Lemmer (2007a, b, c, 2009). The details pertaining to earlier resource estimates (e.g. Viljoen and Viljoen (2006)), which outline Inferred and exploration resources in other parts of the project area are to be found in Snowden (2007).

The Authors accept the Indicated and Inferred Main Reef and Main Reef Leader resources as presented by Lemmer (2007b, 2009) as well as the Inferred and exploration resources presented by Viljoen and Viljoen (2006).

Sufficient historical sampling data exists for the Main Reef area being developed by CRGSA on the CMR property to allow Mineral Resources to be estimated and classified at the Indicated and Inferred levels (Lemmer, 2009).

Sampling of the Main Reef, Main Reef Leader and North Reef exposed by onreef development, commenced in late 2009. As development progresses, CRGSA staff map and sample exposures of the Main Reef, Main Reef Leader and North Reef. To date 84 sample sections have been taken through the Main Reef.

Table 1.2 summarises the classified Mineral Resource estimate for the Central Rand project area based on the Main Reef and Main Reef Leader estimates by Lemmer (2007b, 2009) and the additional

reefs by Viljoen and Viljoen (2006). The Central Rand project area Mineral Resources are reported in accordance with the JORC Code (2004).

Table 1.2 The total classified Mineral Resource Estimate for CRG's project area

	Indicated			Inferred		
Reef	**Mt**	**g/t Au**	**Moz**	**Mt**	**g/t Au**	**Moz**
Main Reef	42.2	6.6	9.0	15.8	7.5	3.8
Main Reef Leader	35.6	11.7	13.4	9.9	12.6	4.0
Pyritic Quartzite				0.9	45.0	1.3
South Reef				5.3	6.0	1.0
Bird Reef	4.5	4.1	0.6	14.7	4.2	2.0
Kimberley Reef	5.1	2.4	0.4	11.9	3.1	1.2
Total	**87.4**	**8.3**	**23.4**	**58.5**	**7.1**	**13.3**

The Mineral Resource has been calculated by Dr Carina Lemmer (Lemmer 2007a, b, c and 2009), reported in accordance with the JORC (2004) and SAMREC (2007) reporting codes.

This Resource estimate differs marginally from CRG's 2008 Annual Report as a result of Lemmer's re-estimation of the Main Reef Resource (Lemmer, 2009).

The current mine plan has only considered the Main Reef resource above 900 mbs in the CMR area as outlined in Table 1.3. The Main Reef resource above 900 mbs in the Crown Mine area has not been considered at this stage.

Table 1.3 CMR Main Reef resources above 900 mbs considered for the mine plan

Indicated			Inferred		
Mt	**g/t Au**	**Moz**	**Mt**	**g/t Au**	**Moz**
9.4	4.7	1.39	0.6	4.68	0.09

1.5.1 Opinion on the classification of resource estimates

A significant amount of historical underground assay data and mining history is available for this brownfields project, when compared with mining projects in greenfields areas.

The assay data on which current resource estimates are based was the original underground exploration drilling, development and stope sampling data gathered during historical mining operations. Snowden acknowledges that the quality of the data is acceptable for resource estimation.

In Snowden's opinion, Lemmer's (2007b, 2009) allocation of part of the Main Reef and Main Reef Leader Mineral Resource to the Indicated category and part to the Inferred category is consistent with the JORC Code (2004) classification criteria for resources in these categories. The Authors therefore endorse Lemmer's (2007b, 2009) classification of the Main Reef and Main Reef Leader Mineral Resources for the areas investigated.

In terms of international reporting guidelines for Mineral Resources and Mineral Reserves, the Australasian JORC code (2004) and the South African SAMREC (2007) codes may be regarded as interchangeable, as the JORC code formed the basis of the SAMREC reporting code. Persons who are deemed competent in terms of the JORC codes reporting requirements are regarded as competent in terms of the JORC code in terms of reciprocal agreements (ROPOs) that exist between professional organisations, membership of which is a prerequisite for the Competent Person.

In Snowden's opinion, the accuracy of the model volume depends on the degree to which the most recent shareholder plans (mine stoping and development plans issued annually by the mining

companies to their shareholders and generally referred to as “shareholder plans”) represent reality in terms of in-situ residual resource. Annual production, subsequent to the year of the last shareholder plans that are available, dropped off sharply for all the mines studied and indicated, in Lemmer’s opinion (2007b, 2009), that any error in model volume is not likely to be material. Snowden concurs with this assessment, on the basis that the shareholder plans are accepted as being accurate.

Successful application of lower-cost mechanised mining methods has the potential to increase resource tonnage that could be mined due to an associated decrease in the average cut-off grade.

Additional resources and potential for further exploration have been determined in previous studies, the details of which are available in Snowden (2007).

1.6 CMR MINING STUDY

CMR will be the first area to be mined as part of the Central Rand project. CRGSA has successfully addressed six key issues in preparing its mine plan:

- The residual higher grade ore shoots, which are the economic targets at CMR, are difficult to model using conventional resource estimation methods. A statistical process, which approximates the higher-grade locations similar to localised uniform conditioning (LUC), has allowed identification of modelled higher grade ore shoots.
- The narrow, flat dipping gold reefs of the Central Basin have historically been mined using labour intensive, high-cost stoping methods. The Main Reef at CMR will be extracted using a combination of simple, but highly productive mechanised mining techniques that are common in the Australian mining industry, but less common in the Witwatersrand gold mines.
- The mine plan requires high development and stoping productivities. In South Africa, there is a shortage of trained supervisors and operators skilled in the efficient use of mechanised long-hole mining equipment in a narrow reef mining environment. CRGSA has engaged an Australian contractor to provide skilled staff to work alongside and train local personnel in the safe and efficient use of the mechanised mining equipment.
- Historic stoping has left extensive voids, bed separation, collapses and other rock instability close to the Main Reef. Working with its geotechnical consultants, CRGSA has developed safe and efficient local and regional ground control standards, well suited to the mechanised mining methods now in use.
- The highly mechanised mining method used by CRGSA relies on successfully transferring proven mining practices into a challenging, narrow reef environment. CRGSA has recently completed a programme of trial mining, which successfully demonstrated that the Main Reef, even in areas of poor ground conditions, can be accessed and mined in a safe and efficient manner using highly mechanised mining methods.
- About 50% of the scheduled mine production will be dilution, which is mined concurrently with the Main Reef. CRGSA has developed and tested a beneficiation process, using crushing and screening, optical sorting and flotation to remove a large proportion of the dilution, to produce a high-grade feed for the Carbon in Pulp (CIP) plant. In addition, CRGSA has identified a market for some of the waste product.

CRGSA and Snowden have worked together to produce a pre-feasibility level mining study, which demonstrates the technical and economic viability of underground mining of the Main Reef at CMR. Development designs and stope layouts were prepared by Snowden, which allowed underground reserves and mining operating and capital costs to be estimated. Underground infrastructure such as ventilation and mobile equipment were identified and costed.

Snowden estimated a Probable Ore Reserve of 3.73 million tonnes (Mt) at 4.0 g/t for 482,000 oz. Snowden also prepared a life-of-mine schedule for the CMR Main Reef, which included an additional 0.17 Mt tonnes from Inferred Resources and 0.62 Mt of low grade from unpay reef drives, which is processed on a marginal cost basis. Mining, processing and administration costs were developed and included in a life-of-mine cash flow model.

1.7 METALLURGICAL PROCESS

The existing process design for CRG will be modified in order to accommodate differing mining rates and ROM grades. Existing equipment has been employed, with some configuration changes, together with new equipment and some increase in current unit capacities.

The principal changes are:

- The underground concentration plant has been incorporated on surface into a primary beneficiation plant.
- CRG has investigated the implementation of ore sorting of low grade streams prior to leaching in order to improve grade and recovery.
- Gold recovery has changed from a strategy of Carbon in Leach (CIL) to CIP in order to improve gold recovery and throughput.
- The CIP plant will be upgraded to 250,000 tpa.

Capital and operating cost estimates have been based on studies by independent engineers with accuracy to feasibility study level.

1.7.1 Process Summary

Approximately 50% of the ROM feed is low grade ore or waste, and consequently CRGSA has employed a beneficiation strategy where waste is removed on surface and the low grade feed is upgraded prior to being fed to CIP. This results in increased gold content in feed to the CIP plant, and reduced unit operating costs per ROM tonne.

The beneficiation stages comprise:

- 620,000 tpa primary crushing and screening plant
- 310,000 tpa secondary crusher and screening plant integrated with:
  - 280,000 tpa optical sorter
  - 220,000 tpa flotation plant.

The main addition to currently employed process is the addition of an Optical Ore Sorter, which employs automated optical identification and pneumatic pulse sorting of processed ore. Investigation of this technology at Mintek, in Johannesburg, has been recently undertaken and promising results have been obtained, indicating that sorter implementation has the potential to benefit CRGSA's process economics.

The beneficiated gold ore, comprising screened fines, concentrate from the flotation plant and ore-sorter products are fed to an upgraded 250,000 tpa conventional CIP plant.

The original gold recovery plant comprised the 10,000 tpm CIL plant, which is being upgraded to a CIP plant increasing capacity to 21,000 tpm. The principal reason for the conversion to a CIP plant is to increase carbon loadings, thus reducing a bottleneck in the elution circuit.

The net result of these concentrating processes is an upgrade of overall gold recovery from 81% to 86%.

1.8 TECHNICAL CASH FLOW MODEL

Snowden prepared a life-of-mine schedule for the CMR Main Reef, which included an additional 0.17 Mt tonnes from Inferred Resources and 0.62 Mt of low grade from unpay reef drives, to be processed on a marginal cost basis. Owner mining, processing and administration costs were developed for inclusion in a life-of-mine cash flow model.

State Royalties are payable at a minimum rate of 0.5% on gross sales, up to a maximum of 5%, based on formulae outlined in the Mineral and Petroleum Resources Royalty Act of 2008 (MPRRA). In the

case of CRGSA, the current royalty payable has been calculated at 0.5% as advised by CRGSA (ZAR20 M per annum) and is included in the cash flow model.

The cash flow model shows a positive return of ZAR1,366 million (M) (undiscounted, EBITDA) with an average operating cost of about ZAR4,660/oz (US$582/oz at ZAR8.00:US$) and an operating plus capital cost of about ZAR6,050/oz (US$755/oz at ZAR8.00:US$). The base case would be break-even at a gold price of US$800/oz at an exchange rate of ZAR8.00:US$. Additional revenue can be expected from sweepings, vampings and remnant pillars as discussed in Section 16.

1.9 CONCLUSION

In Snowden's opinion, the Central Rand project has the potential to develop a number of underground operations similar to that proposed for the CMR Main Reef. At CMR, there is an area to the east of the Central decline which has not been evaluated for mining and has not been included in the cash flow model or the estimated Reserves. CRGSA will carry out a mining study to assess further mining areas can be established at CMR.

At Crown Mines, there is a large area of higher grade Main Reef, which appears to be available for stoping. Subject to confirmation that the Main Reef resource is still present, and that access can be gained, there is potential to identify an operation at Crown Mines, which could be equivalent in scale to the current CMR mine.

Trial mining has demonstrated that the Main Reef at CMR can be successfully accessed and mined and other areas may be developed (subject to positive feasibility studies) progressively over several years, subject to all ownership and permitting requirements being satisfied and the dewatering of the Central Basin to below 800 mbs. Exploration programmes will be required to assess the deeper reefs and these are likely to remain as low priority targets for CRGSA for some time.

CRGSA will have to deal with various risk areas and challenges including:

- the location of the project within the greater Johannesburg City Metropolitan area
- continuous pumping of the Central Basin at an average rate of 54 ML/day to reduce the water table to below 800 mbs
- accessing old mine workings, where ground conditions are difficult to predict
- identifying, training and retaining skilled supervisors and operators to run the highly mechanised mines
- continuing the process of refining the Mineral Reserve estimates to identify areas of high potential
- upgrading of the Mineral Resource estimates to Mineral Reserves
- ongoing management of various regulatory, environmental and social aspects.

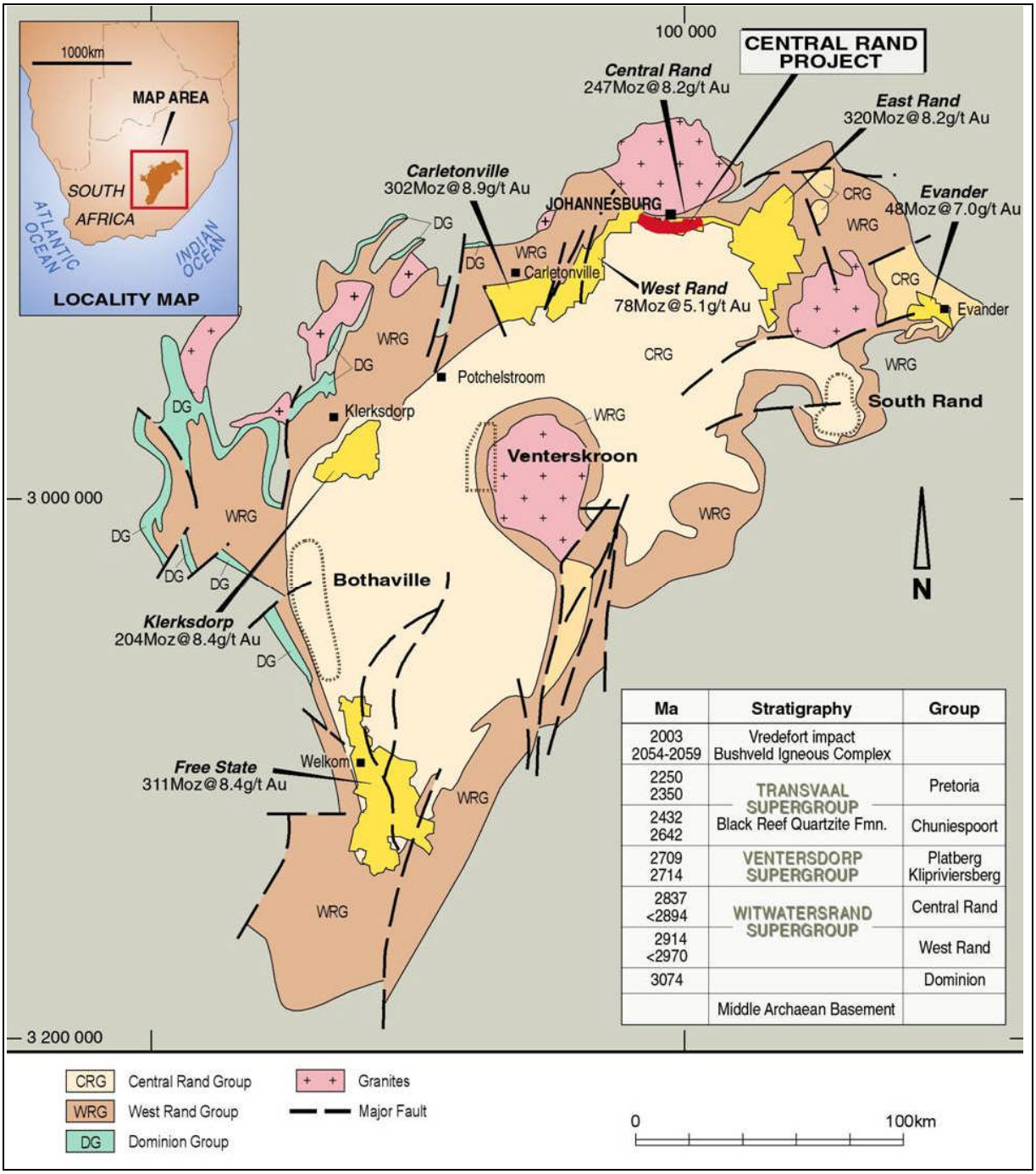
2. INTRODUCTION

2.1 TERMS OF REFERENCE

At the request of the Directors of Central Rand Gold Limited, Snowden Mining Industry Consultants (Pty) Ltd has prepared a Competent Persons Report (CPR) on CRG's gold mining and exploration assets in South Africa to be included in its entirety in a Prospectus for a proposed capital raising.

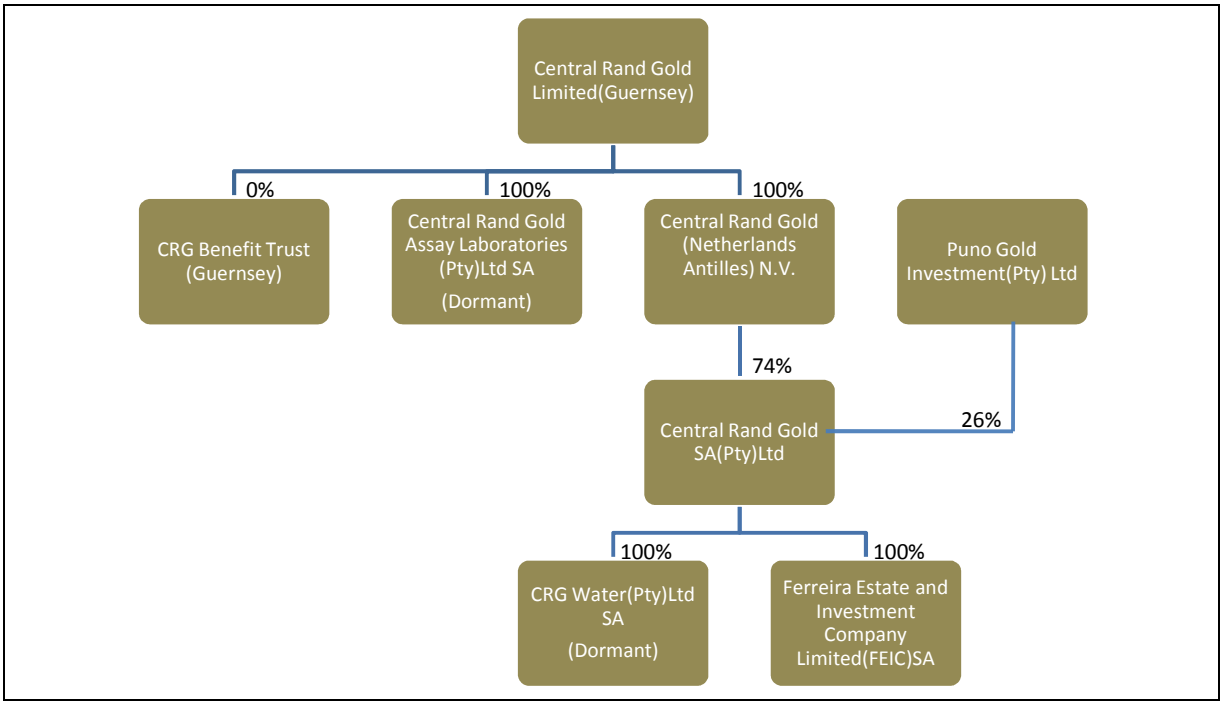
CRG is listed on the London Stock Exchange (LSE) and the Johannesburg Securities Exchange (JSE) and is the holding company for a group of companies engaged in gold mining and exploration. CRG's operating subsidiary (74% owned), Central Rand Gold South Africa (Pty) Limited (CRGSA), is conducting work on a mining right and various prospecting rights, which it holds over its Central Rand project, in the northern part of the Witwatersrand Basin and within the immediate vicinity of and underlying the southern part of the City of Johannesburg (Figure 2.1). Also shown in this figure is the known extent of the Central Rand Group sequence, the location of the seven principal goldfields that have been mined and the estimated gold production from each goldfield.

Figure 2.1 Location of the Central Rand project



CRGSA is 26% owned by Puno Gold Investments (Proprietary) Limited (Puno), a consortium of seven Black Economic Empowerment (BEE) groups. The Group's BEE arrangements were formalised on 14 June 2007, at which date Puno acquired 26% of CRGSA's shares from Central Rand Gold Netherlands Antilles (CRGNA).

Figure 2.2 CRG's corporate structure



In terms of IFRS, the CRG Benefit Trust is deemed to be a subsidiary.

This CPR has been prepared on all material assets of CRGSA and is intended to properly inform readers of CRG's Prospectus on the current status and mining and exploration potential of CRGSA's Central Rand project and to provide comment on CRGSA's planned mining programme at CMR.

Unless otherwise stated, information and data contained within this report or used in its preparation has been provided by CRG and CRGSA.

2.2 PURPOSE

This report has been prepared to provide a summary of the scientific and technical information relating to CRGSA's Central Rand project. The objectives of this report are to:

- provide an overview of the geological setting of CRGSA's project area and the associated mineralisation
- outline the recent exploration work undertaken over the project areas and comment on the exploration potential
- present the recent tonnage and grade estimates for the defined gold mineralisation with the project
- provide a description of CRGSA's proposed development plans at CMR.

2.3 SOURCES OF INFORMATION

In preparing this report, Snowden has relied principally upon the following information sources:

- Data compiled by independent consultants and organisations who are experts in their fields and were engaged by CRGSA to specifically undertake the work for the Central Rand project.
- Experience and knowledge of Witwatersrand Basin geology, gold deposits and mining practices acquired by Snowden over a period of 26 years.
- Published and unpublished reports which are listed in the Reference section of this report.
- Various site inspections of CRGSA's Central Rand project from 2006 to present.
- Data provided by CRG and CRGSA.

- Information obtained from discussions with CRG and CRGSA office bearers and employees.

3. RELIANCE ON OTHER EXPERTS

Mr A Earl, Mr M Burnett and Mr D Cowen are the principal Authors of this report but have relied on previous and extensive contributions by Dr P Snowden, Mrs V Snowden, Mr F Grobler, Mr T Bradley, and Mr J Froud of, or previously of, Snowden as well as specialist studies and reviews requested or undertaken by Snowden.

In preparing the report, in addition to knowledge and experience gained through its own long association with CRG and CRGSA, Snowden has relied on detailed geological information set out in several reports prepared by Johannesburg based geological, environmental, mining and property management consultants commissioned by CRGSA as well as data provided to Snowden by CRG and CRGSA.

Snowden has held ongoing discussions with CRG and CRGSA staff including Mr J du Toit (Chief Executive Officer), Mr D Harper (Mining Director), Mr K Matier (Chief Geologist), Mr K Mathenjwa (Divisional Mineral Resource Manager), Mr P Mazibuko, (Section Geologist), Mr J Ramabaleha (Mine Manager), Mrs J Johnson (Environmental and Tenement Manager) and Mr S Urquhart (Manager Contracts/Underground Operations).

Snowden has also relied on information compiled by a range of mining industry consultants commissioned by CRGSA during the preparation of this report. Some of those involved are recognised Competent Persons and some are not. Snowden has knowledge of the background expertise and experience of the key contributors to the project, Professors M J Viljoen and R P Viljoen and Dr C Lemmer, and is satisfied that these are professional persons of considerable standing in the South African gold mining industry.

This report has been forwarded to the Directors of CRG (the commissioning entity) for review of factual accuracy. The Directors have advised Snowden that all material information in their possession, or that they are aware of, has been revealed to Snowden and that they are satisfied that there is no material omission. The Directors of CRG have agreed to indemnify Snowden, other contributing Snowden personnel and Snowden Mining Industry Consultants from any liability arising from their reliance on information provided directly or indirectly (or for information not provided) by CRGSA via its officers and consultants.

4. PROPERTY DESCRIPTION AND LOCATION

4.1 MINING AND PROSPECTING RIGHTS BACKGROUND

In South Africa mineral exploration and mining is regulated in terms of the Mineral and Petroleum Resources and Development Act (Act No 28 of 2002) (The Act) and its regulations.

The Act provides for State custodianship of mineral resources with the Department of Mineral Resources (DMR) representing the State as grantor of prospecting, exploration, mining and production rights. At the time of implementation of the Act, on 10 October 2002, in order to ensure continuity of tenure for existing prospecting and mining ventures certain transitional provisions as set out in Schedule 2 of the Act came into force whereby holders of mineral or mining rights, were accorded a period of time to convert their “old order” rights into “new order” rights. Three categories of “old order” rights were given recognition in terms of the transitional provisions, namely:

- ‘‘old order mining right’’ - means any mining lease, consent to mine, permission to mine, claim licence, mining authorisation or right listed in Table 2 to this Schedule (of the Act) in force immediately before the date on which this Act came into effect and in respect of which mining operations are being conducted. The holder of such an old order mining right was granted a period of five years from the commencement of the Act to convert an old order mining right into a new order mining right in terms of the Act.
- ‘‘old order prospecting right’’ - means any prospecting lease, permission, consent, permit or licence, and the rights attached thereto, listed in Table 1 to this Schedule (of the Act) in force immediately before the date on which this Act took effect and in respect of which prospecting is being conducted. The holder of the old order prospecting right was provided a period of two

years from commencement of the Act to convert the old order prospecting right into a new order prospecting right in terms of the Act.

- ''unused old order right'' - means any right, entitlement, permit or licence listed in Table 3 to this Schedule (of the Act) in respect of which no prospecting or mining was being conducted immediately before this Act took effect.

It should further be noted that all old order rights automatically lapsed upon conversion of old order rights to new order rights.

In accordance with one of the principles of the Act, to increase the participation of historically disadvantaged South Africans (HDSAs) in the mining industry and enhance benefits to HDSAs from the exploitation of mineral resources the DMR published, in 2002, a broad-based socio-economic empowerment Charter that sets out the framework, targets and time-table for increasing the participation of HDSA's in the mining industry. The key principles of the Charter have been distilled into a simple document known as 'the Scorecard', which is designed to facilitate the application of the Charter in terms of the requirements for conversion of old order mining rights under the Act. The Charter is based on seven key principles, five of which are operationally orientated and cover areas focused on improving conditions for HDSAs, whereas the remaining two are focused on HDSA ownership targets and beneficiation.

The five areas of operational focus in the Charter include:

- human resource development
- employment equity including HDSA participation in management and participation by women
- HDSA participation in procurement
- improved housing and living conditions for mine employees
- community and rural development.

4.2 LOCATION, AREA AND STATUS OF MINERAL TENURE

CRGSA's Central Rand project covers a total area of 21,141 hectares (Ha) as shown in Figure 4.1.

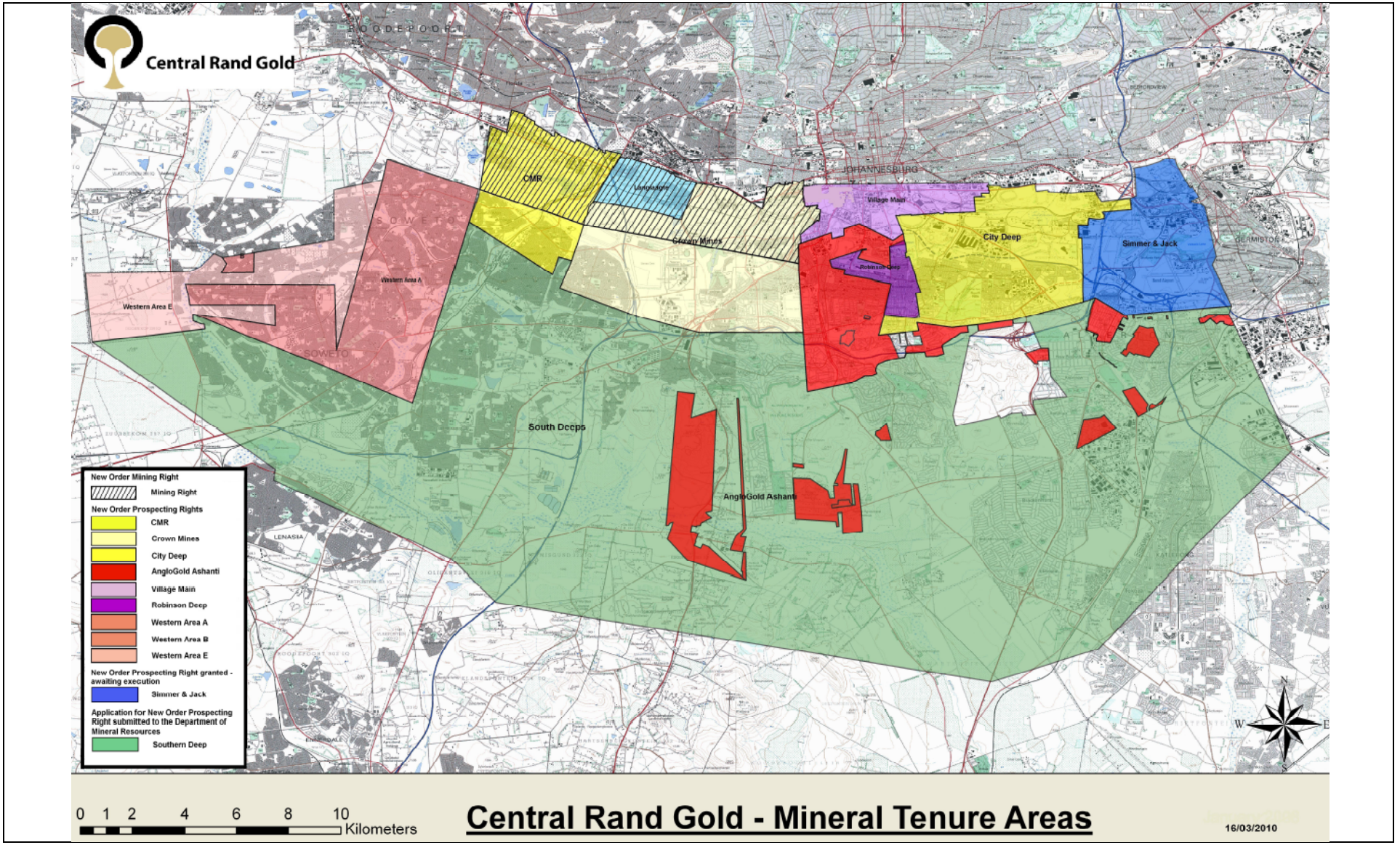
CRGSA advised Snowden on 17 November 2009, that the following new order rights have been granted as outlined in Table 4.1:

- Ferreira Estate and Investment Company Limited (FEIC), being the wholly owned subsidiary of CRGSA was granted a new order mining right covering portions of the now defunct CMR, Crown Mines and Langlaagte mining areas, south of Roodepoort and Johannesburg. The mining right was executed on 11 November 2008, and is valid until 10 November 2016, with the exclusive right, in terms of the MRPDA, to renew for further periods based on available reserves, each of which may not exceed 30 years at a time.

Prospecting rights, which have been granted and executed, are as follows:

- The remainder of the 3Cs Area not held under the mining right covering the defunct CMR, Crown Mines and City Deep. This Right is valid from 19 July 2006 until 18 July 2011, with the exclusive right to renew for an additional three year period.
- The AngloGold Ashanti area covering various farm sub-divisions in the central Witwatersrand area granted on 19 July 2006 and valid until 18 July 2011. CRGSA has the exclusive right to renew for a three year period.
- The Village Main area comprising the old Village Main and Robinson Deep gold mining areas, just south of the Johannesburg Central Business District granted on 3 January 2006 and valid until 2 January 2011. CRGSA has the exclusive right to extend the period by a further three year period.
- Prospecting rights for the Western Area A, Western Area B and Western Area E covering the western extent of the Central Rand Basin, granted on 3 February 2009 and valid until 2 February 2014. CRGSA has an option to extend these Rights for an additional three year period.

Figure 4.1 Location of CRGSA's new order mining and prospecting rights



The prospecting right for the now defunct Simmer and Jack gold mine area is pending but not yet executed.

The South Deeps prospecting right application, covering the southern extent (some 37,284 hectares) of the Central Rand Basin, is still pending with the DMR.

Table 4.1 CRGSA's new order rights*

New order right	Reference number
Mining right (3,204 Ha)	
Certain portions of CMR, Crown Mines and Langlaagte	GP30/5/1/2/2(140)MR
Prospecting rights (16,468 Ha)	
Remainder of the 3Cs area not included in the mining right	GP30/5/1/1/2/(22)PR
AngloGold Ashanti	GP30/5/1/1/2/(30)PR
Village Main	GP30/5/1/1/2(148)PR
Western Area A	GP30/5/1/1/2(253)PR
Western Area B	GP30/5/1/1/2(254)PR
Western Area E	GP30/5/1/1/2(257)PR
Prospecting right pending but not yet executed (1,469 Ha)	
Simmer and Jack	GP30/5/1/1/2(167)PR
Application pending with DMR (37,284 Ha)	
South Deeps	GP30/5/1/1/2(295)PR

*Source: CRGSA

4.3 PROPERTY BOUNDARIES

The location of old order mine lease property boundaries are clearly defined through historical records. Since acquiring exploration rights to the properties, CRGSA has had all boundaries formally surveyed by a qualified Land Surveyor. Snowden has been provided with a listing of all property boundary coordinates.

These historical mining leases have since been superseded by CRGSA's new order mining and new order prospecting rights.

4.4 LOCATION OF KNOWN MINERALISATION, OLD MINE WORKINGS AND OLD SURFACE INFRASTRUCTURE

The principal infrastructural elements across the project area are shown in Figure 4.2. The down-town area of Johannesburg city is shown in white and the area shaded light green within the project and surrounding area is comprehensively covered by residential, industrial and commercial development. The map was last updated in February 2004 and although out-of-date in certain respects it does convey the extent of the city development across the area. Evident on the map are:

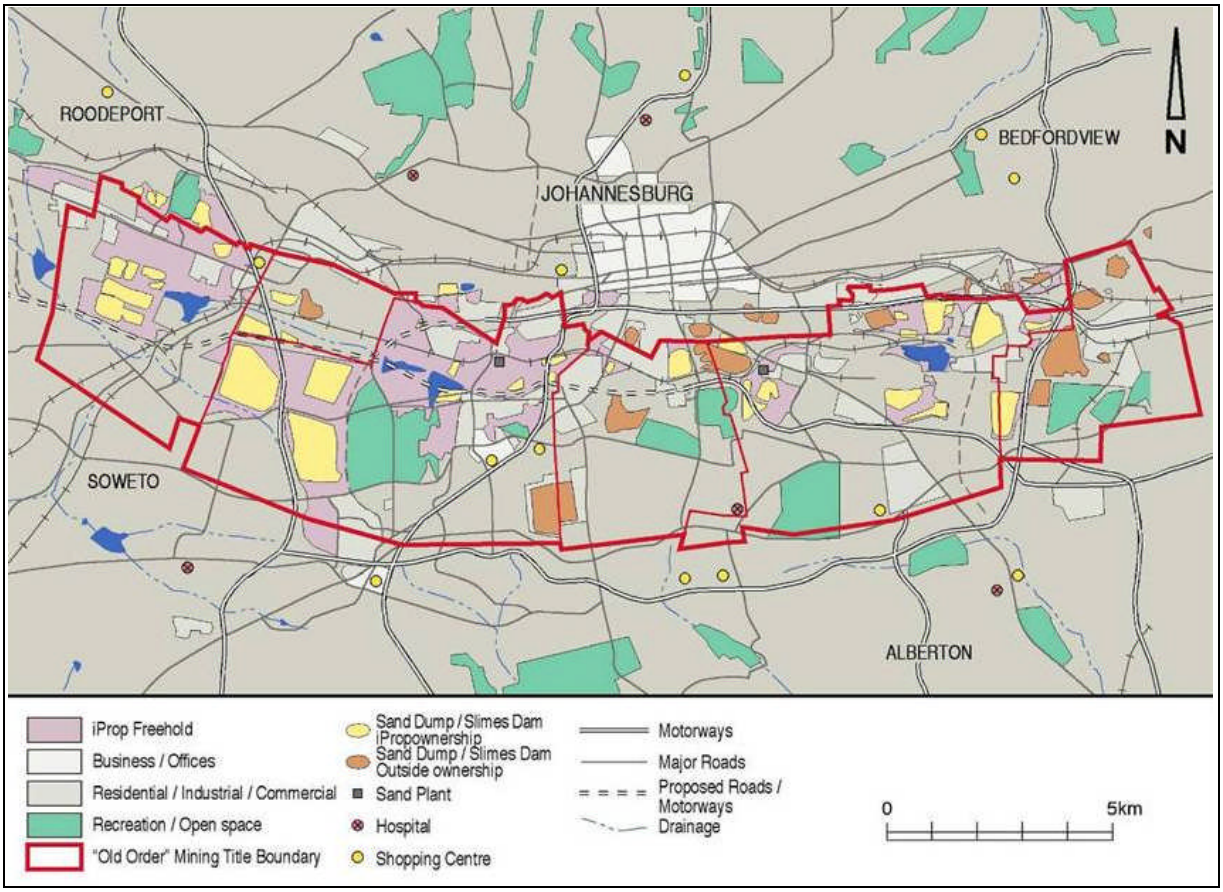
- the down-town area of Johannesburg
- Johannesburg city's residential, industrial and commercial areas
- key roads and rail lines
- parkland
- undeveloped 'Freehold' areas (owned by iProp Limited) incorporating old mine infrastructure
- sites of old tailings dams – (sands and slimes).

Ferret, in association with Shango (2006), has undertaken an investigation of shafts and their physical characteristics within the CRGSA's Central Rand project, including Crown Mines, City Deep, Consolidated Main Reef, Robinson Deep, Simmer and Jack, Village Main and Langlaagte. The data

was compiled when locating shafts for water monitoring and sampling as part of a water management study. A total of 251 shafts and the like were identified within the project area from the DME mine plan inventory, verified in the field and characterised according to a safety and accessibility criteria rating form and located on plans:

CRGSA has informed Snowden that the Village Main has been accessed down to 103 m. East shaft has been accessed at Consolidated Main Reef and equipped with a travelling way down to 9 Level, which is 170 m from surface. The central and western sections are being accessed through an adit adjacent to the Number 2 shaft and the new inclined shafts. The K9 Kimberley Reef was accessed via an old stope, which was intersected whilst trenching north-south across the reef for bulk sampling and grab samples.

Figure 4.2 Map showing infrastructure within the Central Rand project area



4.5 CRGSA AGREEMENTS

Snowden is not qualified to provide advice on the status or standing of legal agreements entered into by CRGSA. Snowden has, however, been provided with information by the management of CRGSA regarding firstly, the terms of Option Agreements entered into with holders of old order mineral rights and, secondly, agreements relating to the company's Black Empowerment status.

CRGSA has confirmed to Snowden that the information presented below accurately reflects the current status of such material agreements and their impact on ownership of the company's mineral assets and the company's obligations to other parties.

3Cs Agreement

CRGSA is obliged to pay iProp US$500,000, in advance, for each year commencing November 2005 and ending November 2013, whereafter the minimum amount payable to iProp for the remainder of the period of agreement will reduce to US$100,000. In addition, CRGSA has exercised the option given to it to acquire the entire shareholding of the registered 3C's prospecting rights holder, being Ferreira Estate Investment Company Limited (FEIC). Upon reaching the production threshold as agreed with

iProp, CRGSA will pay a royalty on production of US$8 per ounce of gold won from the 3C's areas. Once a profit starts to flow from production this US$8 royalty will cease and a 10% Net Profit Interest ('"NPI) will become payable to iProp. It should be noted that these royalties and the NPI will be offset against all advance pre-production payments made to iProp.

Langlaagte Agreement

This area falls between CMR and Crown Mines and is included in the now granted new order mining rights. In order to include this area in the mining right, CRGSA exercised its option to purchase the prospecting right previously registered in the name of Gravelotte Limited. The purchase price was US$250,000. CRGSA applied for Ministerial Consent to the transfer of such right into the name of FEIC, which was obtained on 25 February 2009.

Once mining commences in the Langlaagte area, CRGSA must on a quarterly basis pay a royalty on production of US$10 per ounce of gold won.

Anglo Deeps

CRGSA concluded an agreement with AngloGold Ashanti Ltd (AGA) which entitled CRGSA to take cession of the new order prospecting right originally applied for by AGA upon grant thereof and on payment of the sum of US$150,000 to AGA. Ministerial consent to this cession was obtained on 25 February 2009.

When a definitive feasibility study has been completed AGA and CRGSA will assess commercial terms for a possible role for AGA involving a 40% mining equity buy back and a mine management role. Should AGA fail to exercise its buy-back option, CRGSA will be obliged to pay AGA a royalty on production from the AGA leases of US$8 per ounce of gold produced.

Guarantee of Exploration Expenditure

In terms of the above mentioned concessions, CRGSA guarantees the budget expenditures for prospecting work and will manage and conduct exploration work programmes for each new order prospecting right application.

CRGSA's Black Economic Empowerment status

In terms of South African Mineral Policy a Broad Based Empowerment Charter was implemented in 2004 whereby it was agreed that by August 2014 a minimum of 26% equity participation in all mining assets held by mining companies operating in South Africa must be owned by historically disadvantaged South African's (HDSAs) or legally constituted organisations owned by HDSAs, commonly referred to as Black Economic Empowerment (BEE) entities. The Charter document commits all stakeholders to accepting that all transactions take place in a transparent manner and at fair market value.

CRGSA has advised Snowden that it complies fully with the South African legal requirements in that its BEE partner currently holds a 26% shareholding stake in CRGSA.

The following summarises the significant activity which took place during the last year regarding CRGSA's BEE shareholding:

- February 16, 2009

  Central Rand Gold Netherlands Antilles NV (CRGNV), having given the requisite 90 days' notice as stipulated under the CRGSA shareholders agreement, exercised the call option granted to it to acquire Puno Gold Investments (Pty) Ltd's entire interest in CRGSA (the Call Option)

- April 7, 2009

  Puno made urgent application to the South Gauteng Division of the High Court of South Africa to interdict CRGNV from proceeding with the Call Option pending the final determination by arbitration of the validity and enforceability of: 1) the various funding calls made by CRGSA, under the auspices of the CRGSA shareholders agreement, for Puno to make its pro rata

contribution to funding requirements and the consequent Call Option; and 2) the interpretation of the shareholder funding provisions of the Shareholder's Agreement

- During June 2009

  CRGSA was informed that Puno had complained to the Financial Services Board averring that the CRG Group had made false statements in its listing prospectus and further continued to issue false information to its shareholders

- September 9, 2009

  Application was made by Puno seeking to interdict CRGSA from proceeding with mining operations on its CMR, Langlaagte, City Deep and Crown Mines mining rights pending the final determination by Arbitration award or Court order of the interpretation of the provisions of the shareholders agreement entered into between Puno and CRGNV in respect of CRGSA, which provide for the completion of, and timeframe within which, a Bankable Feasibility Study is to be prepared in respect of the anticipated mining of the mining rights. The matter which was initially scheduled to be heard on October 13, 2009, was postponed to November 5, 2009

- November 5, 2009

  At the hearing of the interdict applications, the Court dismissed Puno's request for an urgent interdict to halt CRGSA's trial mining activities and made a costs order against Puno to pay the costs incurred by the CRG group in opposing the application. Puno subsequently indicated that they intend to appeal this decision and intend to do so once the formal court order is made available

- November 25, 2009

  CRG was advised that at a meeting held on 24 November 2009, the Financial Services Board rejected the complaint lodged by Puno that the CRG Group had made false statements in its listing prospectus and continued to issue false information to its shareholders.

- April 6, 2010

  CRG announced that Puno had been unsuccessful in its application for leave to appeal the decision handed down by the South Gauteng High Court on 5 November 2009.

Currently, pre-arbitration formalities are being finalised in regard to the arbitration between CRGSA and Puno in relation to inter-alia the validity of the Call Option. It is expected that actual arbitration proceedings will commence in the second quarter of 2010.

5. ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY

5.1 TOPOGRAPHY, ELEVATION AND VEGETATION

The Central Rand project area has effectively been consumed by development of the Johannesburg city precincts and environs, which has substantially obliterated or, at the very least, significantly modified the original surface morphology of the area. The topography can be described as gently undulating 'highveld' terrain standing at about 1,830 metres above sea level (masl) and there is little or no indigenous vegetation remaining within the project area. Areas where old mine infrastructure remain are marked by open grass-covered terrain.

5.2 ACCESS

All parts of the project area can be easily accessed by motor vehicle or by foot. In practical terms access is restricted due to the occurrence of private dwellings, industrial and commercial developments and road infrastructure. The city of Johannesburg offers world class facilities and excellent infrastructure including the Oliver Tambo International Airport (within a few kilometres of the eastern part of the Central Rand project area), hotels, roads, telecommunications and financial facilities. Water supplies to the greater Johannesburg city are plentiful.

5.3 OPERATING SEASON

Johannesburg, at latitude 26º south has a climate that permits year-round field work. The daytime summer temperature rarely rises above 35ºC while night-time winter temperatures rarely drop below -5ºC. Johannesburg experiences mainly summer rainfall and receives approximately 750 millimetres (mm) per annum. Johannesburg occasionally receives a light winter snowfall.

5.4 SUITABILITY OF SURFACE RIGHTS FOR MINING

The project is currently considered an early stage mining project and its viability for full-scale mining has been the subject of a pre-feasibility study. Further appropriate applications for mining will have to be made by CRGSA. It is anticipated that any application to undertake further mining within the Central Rand project area will become the subject of intense scrutiny by the relevant licensing authorities and the public.

Figure 4.2 illustrates the enormous extent and variety of surface infrastructure within the project area that will inevitably impact on the opportunity for surface and underground mining.

A detailed account of environmental matters and considerations impacting on the project, together with factors that will have to be dealt with in any future mining operations, has been presented in various reports commissioned by CRGSA from environmental consultants. These reports deal with the sufficiency of surface rights for mining operations, water management and requirements for the management of mine tailings and potential processing plant sites.

Should full-scale mining be feasible, there is a supply of power available for any mining operation although South Africa's recent shortage of power is noted. There is also likely to be a large pool of semi-skilled mining personnel available to draw upon once an operation is established. South Africa is currently experiencing skills shortages of experienced mining personnel.

6. HISTORY

6.1 HISTORICAL PRODUCTION AND REMNANT MINERALISATION

Total gold production from the Central Rand goldfield has been estimated at 247 Moz at 8.2 g/t gold while other estimates such as Werdmüller, (1986) indicate that, 224 Moz at 8.68 g/t were produced. Chamber of Mines records document production to have been 162 Moz while a recent re-estimate by Jamieson (undated) on behalf of CRGSA indicates that production was significantly above 300 Moz for the entire Central Rand goldfield.

Mining in the Central Rand goldfield, including historical operations within CRGSA's current Central Rand project area, ceased in the mid-1970s at depths of about 2,800 mbs and at cut-off grades of approximately 7 g/t gold. Termination of operations in this area was prompted by the poor condition of old mine infrastructure, rising mining costs due to the depth of the principal operations and the relatively low gold price. Closure was further encouraged by the opportunities that arose to develop new lower cost, higher grade mines in the other 'new' goldfields of the Witwatersrand Basin, i.e. in the West Rand, Carletonville (West Wits line), Klerksdorp, Free State and the Evander Goldfields.

Mines on the Central Rand goldfield were left to flood to a depth of 1,000 mbs and the water table remained at that depth until October 2008 when the last pump station was abandoned. Recent reports, (Schoeman, 2010) report that at the current rate of water rise is between 0.47 m and 0.9 m per day and that the water level will reach 400 mbs by early 2011 if unchecked.

When the mines of the Central Rand goldfield ceased operations in the mid 1970s it was known that several categories of mineralisation remained as summarised below, but no attempt was made to quantify the extent of the remaining mineralisation at that time.

- down dip reef extensions
- other reefs
- remnant Pillars
- sweepings

- vampings
- other areas.

Detailed descriptions of these other sources of gold mineralisation are to be found in Snowden (2007).

6.2 GOLD DISTRIBUTION ACROSS THE GOLDFIELD

Werdmüller (1986) compiled gold production statistics for the Central Rand area for the period 1887 to 1977. These production estimates are of interest because they also provide an indication of how gold grades varied throughout the historical mines included in CRGSA's Central Rand project (Table 6.1).

Table 6.1 Gold production estimate and average recovered grade for historical mines in the Central Rand project area after Werdmüller (1986)

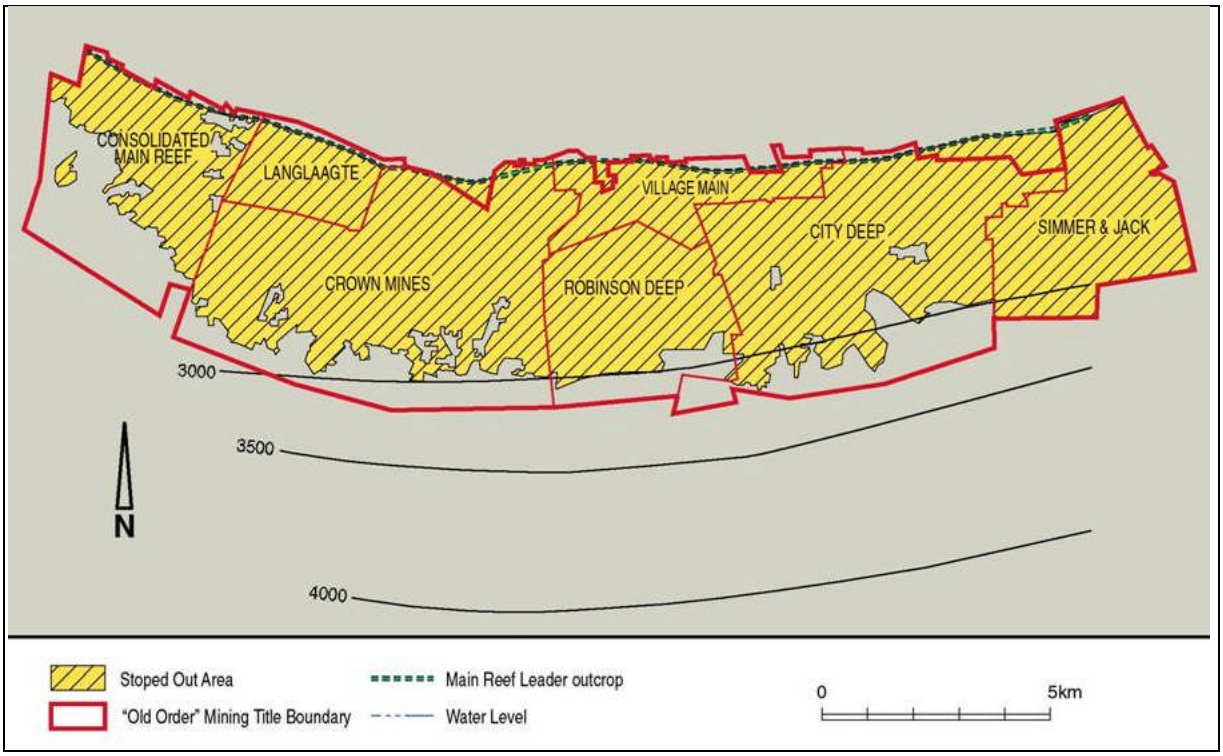
Name of Mine	Years of production	Tonnes milled (Mt)	Ounces recovered (Moz)	Grade recovered (g/t Au)
Crown Mines	1897 to 1977	16	45	8.67
City Deep	1910 to 1976	67	18	8.51
CMR	1898 to 1975	69	15	6.67
Robinson Deep	1898 to 1966	52	15	8.75
Langlaagte	1888 to 1946	42	12	8.88
Village Main	1905 to 1930	12	4	10.93

6.3 EXTENT OF PREVIOUS MINING

Viljoen and Viljoen and Zhao (2004) compiled a series of plans to illustrate the extent of mine stoping on the Main Reef Leader, Main Reef, South Reef, Bird Reef and Kimberley Reef. The plans, indicating mining on the Main Reef Leader and Main Reef are reproduced in Figure 6.1 and Figure 6.2. The reader is referred to Snowden (2007) for the figures that illustrate mining on the reef horizons in other parts of the project area.

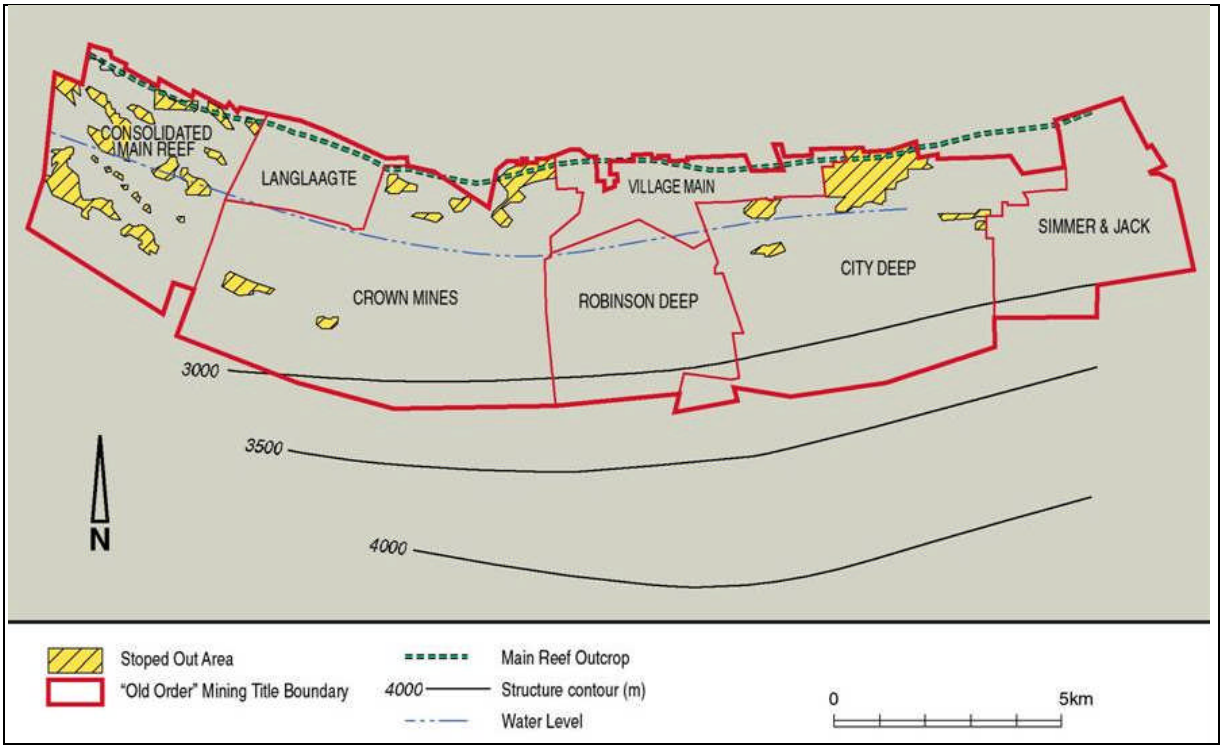
Figure 6.1 shows that the Main Reef Leader was extensively mined across almost the entire historical mining lease areas down to a depth of about 2,800 mbs but there are unmined areas that warrant further investigation.

Figure 6.1 **Plan showing the extent of stoping on the Main Reef Leader. (Lemmer's resource boundary extends south of the mined-out boundary delineated)**



Compared with the Main Reef Leader the Main Reef has been very sparsely mined as shown in Figure 6.2.

Figure 6.2 **Plan showing the extent of stoping on the Main Reef. The extent of stoping on Village Main, Robinson Deep and Simmer and Jack has yet to be included. Stoping on the Main Reef of Simmer and Jack is reported to be quite extensive**



The water level shown in Figure 6.1 and Figure 6.2 is the historic level prior to October 2008.

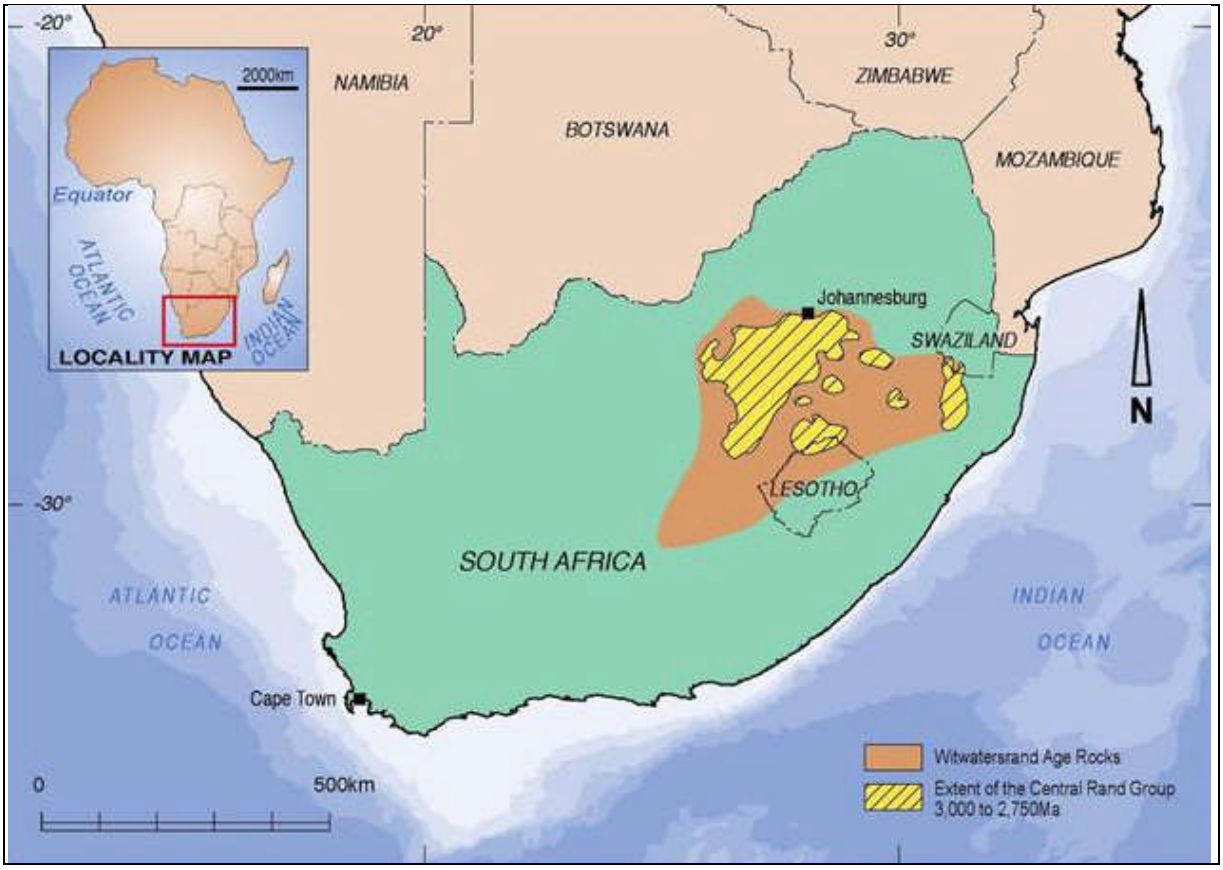
7. GEOLOGICAL SETTING

7.1 REGIONAL GEOLOGY

The Central Rand project is situated on the northern edge of the Witwatersrand Basin in central South Africa (Figure 7.1). This middle Archaean age basin principally contains sedimentary rocks deposited between 3,000 Ma to 2,750 Ma. These rocks, which were deposited on early relatively stable Archaean crystalline basement known as the Kaapvaal Craton, constitute probably the best preserved succession of Archaean sedimentary rocks known to exist. Moreover, because of the basin's enormous gold endowment and the vast extent of mining operations, it is almost certainly the most comprehensively studied sedimentary basin in the world.

The lateral extent of the Central Rand Group has been well established from of intense exploration and mining (Figure 7.1).

Figure 7.1 Map showing the estimated extent of the Witwatersrand Basin in South Africa and the restricted extent of Central Rand Group rocks



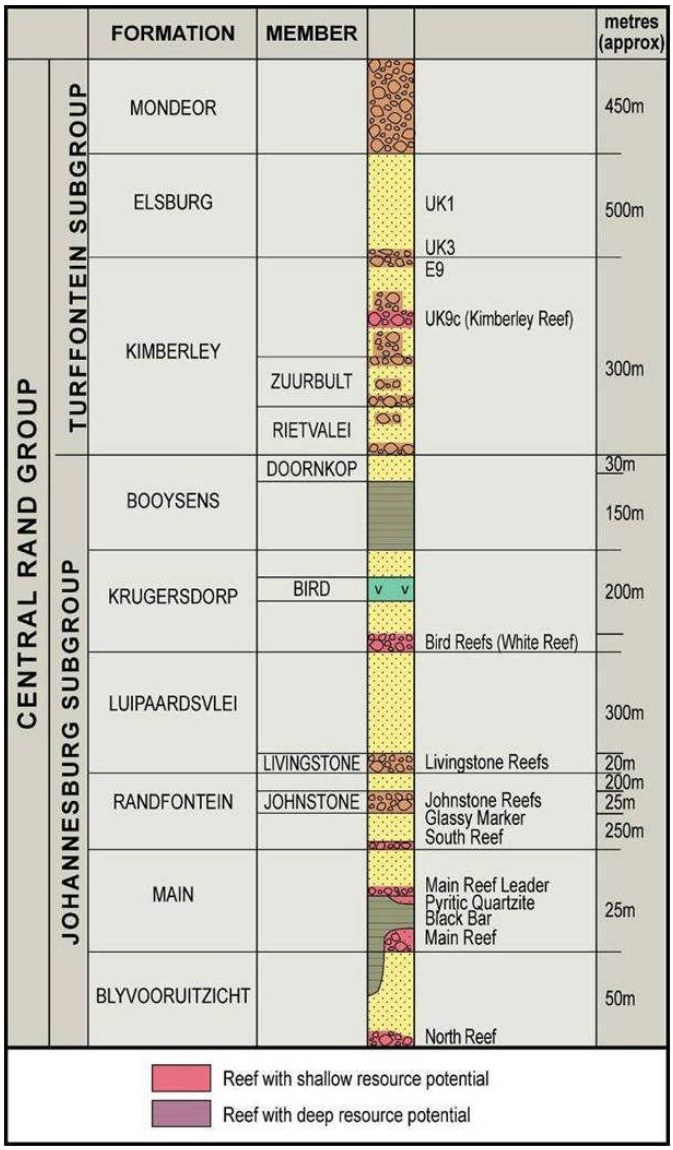
The basin sediments (approaching 10 km thick in places) have been classified as the Witwatersrand Supergroup, comprising two main subdivisions: the West Rand Group and the Central Rand Group (Figure 7.2).

A feature of the geology of the Witwatersrand Basin is the regional continuity of the principal lithological units within the Central Rand Group which comprises mainly quartzites and greywackes with rare orthoquartzites as well as the key unconformity surfaces and the economically important quartz pebble conglomerate bands (known as reefs). An overwhelming feature of several of these Central Rand Group reefs is the concentration of gold and uranium, in some cases to exceptional levels.

Figure 7.2 also highlights the two principal stratigraphic subdivisions within the Central Rand Group; i.e. the lower Johannesburg Subgroup and the upper Turffontein Subgroup as well as the principal reefs or reef packages.

The principal reef packages are the Main, Livingstone and Bird packages within the Johannesburg Subgroup and the Kimberley and Elsburg packages of reefs within the Turffontein Subgroup.

Figure 7.2 Generalised stratigraphic column for the Central Rand Group



7.2 LOCAL AND PROPERTY GEOLOGY

The geology of CRGSA's Central Rand project and surrounding area is depicted in Figure 7.3 and in Figure 7.4. The seven principal old order mining leases that make up the project, CMR in the west, Langlaagte, Crown Mines, Village Main, Robinson Deep, City Deep, Western Area A, Western Area B and Western Area E, and Simmer and Jack in the east, cover the east-west striking Central Rand Group sequence which dips southwards at between 30° to 40° south. The apparent thickness of the sequence measured at surface is about 6.5 km and the true thickness is estimated to be about 3 km.

The base of the Central Rand Group is located immediately to the north of the project boundary. Underlying the Central Rand Group is the West Rand Group (formerly referred to as the Lower Witwatersrand) which in turn unconformably overlies the Archaean basement rocks of the Johannesburg Dome. Overlying the Central Rand Group sequence is the Ventersdorp Supergroup shown to the south of CRGSA's project in Figure 7.3.

Within the project area three important reef packages known as the Main, Bird and Kimberley are recognised.

The Main Reef package is stratigraphically the lowest and in an historical context, economically the most important. It comprises a number of reefs:

- South Reef
- Main Reef Leader
- Main Reef
- North Reef.

Generally individual reefs are less than a metre thick. Higher up in the succession, is the Bird Reef package which comprises at least three discrete pebble reefs.

Above the Bird package is the Kimberley package, which comprises multiple quartz pebble reefs and towards the top of the succession, two reef packages of secondary importance: the Livingstone and Elsburg are present. The surface trace of the Elsburg package (also referred to as the Mondeor package) is located south of the Central Rand project boundary and is generally considered to have little economic relevance.

To the best of Snowden's knowledge the Livingstone Reef (between the Main and Bird packages) has not previously been mined in the Central Rand and is not currently considered by CRGSA to be important in its assessment of the economic potential of the Central Rand project.

Figure 7.3 Geological map of the Central Rand project and surrounding area

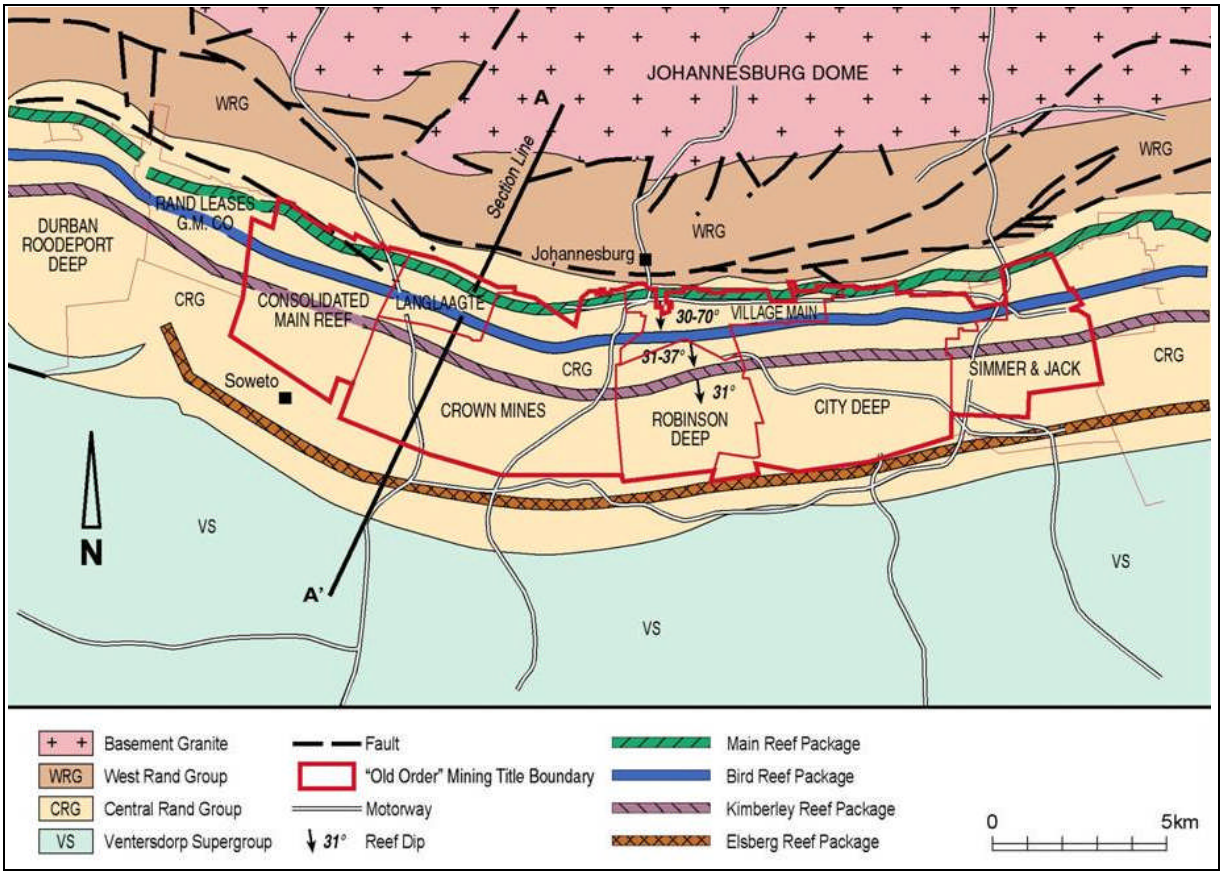
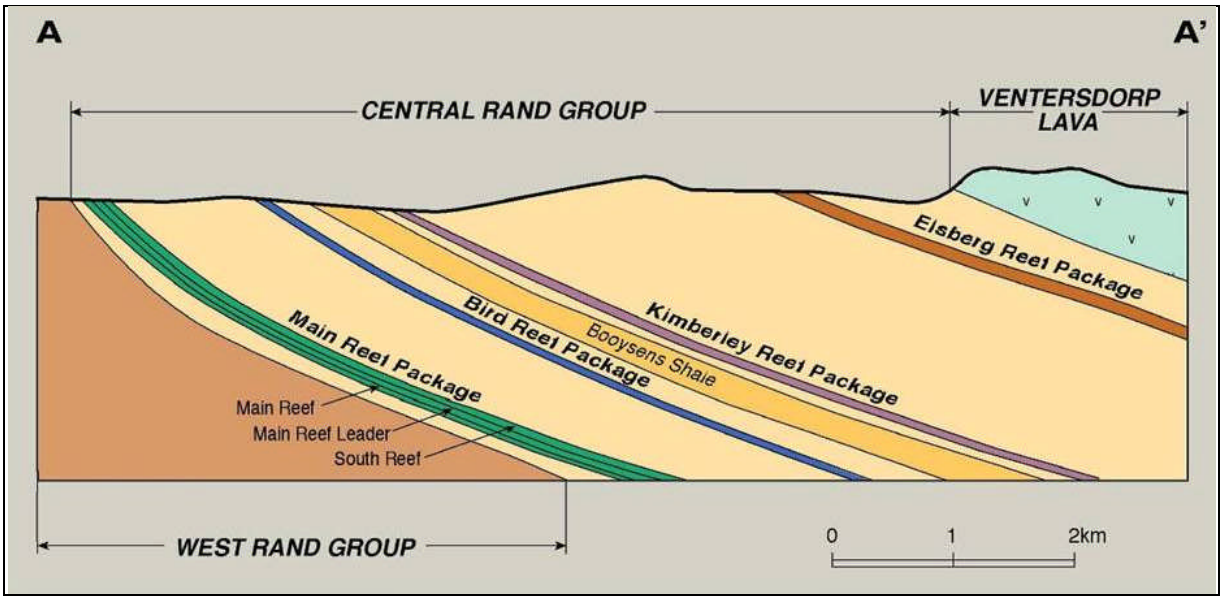


Figure 7.4 **Geological section A-A' (see Figure 7.3) showing the south dipping quartz pebble reefs within the Central Rand Group (looking east)**



8. GOLD DISTRIBUTION AND MINERALISATION

8.1 INTRODUCTION

For the descriptions of the reefs within the Central Rand project area, Snowden has relied on a detailed paper by Pretorius (1964), who reports that gold mineralisation within the rocks of the Central Rand goldfield occurs in two principal settings:

- in the matrix of conglomerate beds
- in banded pyritic quartzites.

Pebbles typically comprise about 70% of the reef material. They include vein quartz, quartzite, white chert, banded chert, quartz porphyry, shales and schists and rarely red jasper.

The matrix of the gold reefs is composed essentially of quartz, pyrite and various micas. Minor mineral constituents include chlorite, chloritoid, rutile, tourmaline, carbon, zircon, calcite, dolomite, pyrrhotite, galena, sphalerite, chalcopyrite, chromite, gold, uraninite, ilmenite, platinoids and pentlandite. Numerous other minor mineral constituents have also been recorded.

Pyrite is by far the most common matrix mineral while carbon is present in most reefs as 'fly-speck' carbon, which is generally less than 1 mm in diameter.

Gold is present in the matrix in sub-microscopic size ranging from 0.001 mm to 0.1 mm in diameter (averaging 0.04 mm).

Gold distribution within the various reefs is highly variable and ranges from being evenly distributed through the reef horizon to being concentrated at the base of the conglomerate or concentrated towards the top.

The local lateral variation in gold distribution within Central Rand goldfield reefs has not been well understood. Probably the most consistent observation is that the highest gold grades in any particular reef correlate with areas of better sorting where the pebbles display a relatively high degree of rounding. This relationship has of also been demonstrated for Witwatersrand reefs in all of the goldfields.

Pretorius (1964) emphasised that gold is concentrated into payshoots within the Witwatersrand reefs. Zones of higher gold values are bounded by reef of average or lower than average values. Payshoots within the Main Reef Leader were observed to be five to ten times as long as they are broad.

8.2 REEFS

The Central Rand Group in the Central Rand goldfield is reported by Pretorius (1964) to be about 7,000 m thick, of which various conglomerates make up about 600 m. These occur as single beds or as large groups (referred to as packages in this report) containing more than 100 individual pebbly bands. Although almost all conglomerates contain elevated levels of gold mineralisation only a few contain exploitable quantities of gold. From an economic perspective, the most important of these are located towards the base of the Central Rand Group and include the North Reef, Main Reef, Main Reef Leader and South Reef. Higher in the stratigraphic succession are the economically less important reefs including the Livingstone, Bird and Kimberley reefs. (Detailed descriptions of these reef packages are to be found in Snowden, 2007).

Average channel widths for the portions of the Main Reef and Main Reef Leader that lie within the CMR mining area are reported in Table 8.1

Table 8.1 Average channel widths for the Main and Main Reef Leader in CMR

Name of Mine	Main Reef (cm)	Main Reef Leader (cm)
CMR	102	38

Brief descriptions of the reefs currently being exposed and sampled by CRGSA in the CMR mining area follow.

8.2.1 North Reef

In the central and west of the project area the North Reef consists of small white and grey quartz pebbles up to 1.2 cm in diameter although pebbles up to 15 cm have been seen in discrete channels. The conglomerate is generally poorly mineralised. The reef thins towards the east from about 100 cm to 15 cm. The reef was stoped locally but overall production from the North reef was negligible.

8.2.2 Main Reef

The Main Reef is reported to be the most strongly developed of the reefs within the main package but is lower in gold grade than either the Main Reef Leader or South Reef. Pebbles up to 5 cm in diameter are common and, in the old City Deep and Langlaagte mines, 15 cm boulders were reported. Sorting of reef sediment is generally poor. This reef was mined more extensively in the east of the project area than in the west. In the east, the reef generally consists of three or four conglomerate bands separated by thin quartzite partings. Pebbles are white to grey in colour and are set in a matrix well mineralised with pyrite as shown in Figure 8.1.

8.2.3 Main Reef Leader

In general, the Main Reef Leader is thinner than the Main Reef with larger pebbles (7.5 cm or more in diameter) and is better sorted and graded. Towards the east of the Central Rand goldfield the pebbles become smaller and are more closely packed. The matrix between pebbles is strongly enriched with pyrite mineralisation.

Figure 8.1 Example of the Main Reef as exposed underground at 1575ECRM

9. EXPLORATION

The Mineral Resource estimates report in this document have relied on the assessment and interpretation of historical records that existed at the time the mines of the Central Rand project area finally closed in the 1970s. Exploration work undertaken by CRGSA, since it entered into acquisition arrangements with the owners of the properties that are included within the Central Rand project, has focussed on investigating potential near surface targets and validation of some historical data. Slightly increases to resource estimates for the Bird and Kimberley Reefs in Slots 1, 4, 5 and 7 (Lemmer 2007b) resulted from this work.

CRGSA has completed the first phase of its surface exploration programme, which was intended to explore the Main, Bird and Kimberley reef packages in the old Langlaagte, Crown Mines and Consolidated Main Reef mine leases, with the objective being to identifying areas that would warrant follow up drilling. Data from this work was used to update the understanding of the exploration potential of the various reefs present in the localities known as Slot 1 to Slot 8 (CMR).

Table 9.1 provides a summary of CRGSA's exploration drilling within the exploration areas as of 30 November 2009.

CRGSA's underground exploration programme is on-going, with the Main Reef being mapped and sampled in the reef drives being developed at CMR as part of the trial mining programme. When there is sufficient underground sampling data from CMR (Slot 8) to warrant a resource update, the results from the drilling programme will also be included.

Detailed descriptions of the work undertaken by CRGSA as well as the protocols and procedures used by CRGSA during the exploration programme are detailed in Snowden (2007).

Table 9.1 CRGSA exploration and geotechnical summary as at March 2010

Drilling type	Area	No of holes	Metres drilled
Diamond drilling	CMR	157	17,166
	Crown Mines	34	9,513
	Langlaagte	6	432
	Village Main	2	720
	City Deep	11	2,899
	Total	**210**	**30,729**
Exploratory reverse circulation	CMR	366	21,079
	Crown Mines	87	5,589
	Langlaagte	99	5,572
	Total	**552**	**32,239**
Near surface percussion soil drilling/augering	CMR	994	1,580
	Crown Mines	294	465
	Langlaagte	259	465
	Total	**1,547**	**2,509**
Geotechnical diamond drilling (rock strength/quality)	CMR	41	1,391
	Crown Mines	7	156
	Total	**48**	**1,547**
Other	CMR	3	99
Total		**2,360**	**67,124**

10. MINERAL RESOURCE ESTIMATES

Since 2004, CRGSA has commissioned a number of Johannesburg based geological and/or mining consulting firms to compile estimates of the gold mineral resources remaining within its Central Rand project area. The approach taken in each study differed, with each focussing on a particular aspect of the mineralisation. The resource estimates rely on two groups of studies, those undertaken by the Viljoens (e.g. Zhao, Viljoen and Viljoen (2004); Viljoen and Viljoen (2006b)) and later Mineral Resource estimates by Lemmer (2007a, 2007b, 2007c, 2009). For additional detail on the studies undertaken by the Viljoens, the reader is referred to Snowden (2007).

Dr C Lemmer (Lemmer) of Geological and Geostatistical Services was engaged by Shango (acting on behalf of CRGSA) to prepare updated independent geostatistical resource estimates for the Main Reef and Main Reef Leader remaining within the Central Rand project area. Lemmer's reports are dated March 2007, April 2007 and May 2007 and January 2009 and were reviewed by Snowden in July 2008 and March 2009 (see References).

Dr Lemmer is registered with the South African Council for Natural Scientific Professions, is a Member of the South African Geostatistics Association and a Fellow of the South African Geological Society.

Dr Lemmer has sufficient experience, relevant to the style of mineralisation and type of deposit under consideration and the activity to which CRGSA is undertaking, to qualify as a Competent Person as defined in the JORC Code. Dr Lemmer consents to the inclusion in the report of the matters based on this information in the form and context in which it appears.

Lemmer (2007 a and b) has made the observation that the available data is based on underground development (and in some cases stope) channel samples collected by major South African mining houses in the 'thorough traditions of the times'.

The Mineral Resource has been reported on the assumption that conventional mining techniques will be employed. This provides the basis for the cut-off grades applied by Lemmer (2007b, 2009), which increase with depth in line with conventional cost structures. CRGSA proposes to use mechanised underground mining methods in order to reduce costs and minimise environmental impact, which will impact positively on the cut-offs currently used. However, until a sufficiently detailed cost history has been established by CRGSA, Snowden considers it prudent to use the cut-offs as calculated.

Lemmer (2007a, b and c) independently estimated, classified and reported a mineral resource for the Main Reef and Main Reef Leader of the Central Rand project on CMR, Crown Mines, Robinson Deep (including a portion of Village Main Reef) and City Deep old order mining leases. In addition Lemmer (2007c) has reported the resource for the Main Reef Leader on the Simmer and Jack lease. No resources were estimated for Langlaagte (all old data has been lost) and only a small proportion of Village Main Reef was estimated due to lack of data.

Development sample assay data was derived from the Rand Mines database regularised to a 25 m by 25 m grid. Data locations were transformed from numerous local grids to a single grid system by translating survey co-ordinates and referencing the data to the latest shareholder plans on a scale of 1 to 10,000. The locations of major faults and dykes and mined-out voids were digitised from the same plans. Pattern recognition software was used to match the point data to mining development.

The estimate was completed after the verification of, amongst other items, property and data coordinates, stoped out areas, reef dip and depth information. On this basis Lemmer (2007a, 2007b, 2007c, 2009) classified the Main Reef and Main Reef Leader resource as Indicated and Inferred Mineral Resources.

Lemmer (2009) estimated an Indicated Resource of 27.0 Mt at 12.2 g/t plus an Inferred Resource of 8.2 Mt at 13.0 g/t remaining for the Main Reef Leader. The remaining Main Reef is estimated as an Indicated Resource of 42.2 Mt at 6.6 g/t plus an Inferred Resource of 15.8 Mt at 7.5g/t. The overall Indicated Resource is 69.2 Mt at 8.8 g/t and the overall Inferred Resource is 24.0 Mt at 9.4 g/t.

Lemmer (2007a, 2007b, 2007c, 2009) reports that the purpose of the re-estimation was to incorporate additional information in order to improve the classification of a portion of the Main Reef resource from Inferred to Indicated. In addition, domains were defined on the basis of geological attributes such as width or thickness of reef, gold grade and accumulation (grade by channel width).

Table 10.1 to Table 10.4 presents Lemmer's breakdown by depth for each reef and resource category and the proportion of the gold resource within each depth interval.

Table 10.1 Summary of Lemmer's Main Reef Indicated Resource by vertical depth category

Depth domain	Cut-off	Indicated		
(m)	(cm.g/t)	Mt	g/t Au	Moz
0 to 70	100	0.6	4.2	0.1
70 to 200	200	0.3	4.2	0.1
200 to 900	350	18.4	5.3	3.2
900 to 1,500	600	11	6.7	2.4
1,500 to 3,000	850	11.7	8.6	3.3
3,000+	1,200	0	10.8	1
Total		**42.2**	**6.6**	**9.0**

Cut-offs are based on conventional mining methodologies and are considered by Snowden to be reasonable for this style of operation.

Table 10.2 Summary of Lemmer's Main Reef Inferred Resource by vertical depth category

Depth domain	Cut-off	Inferred		
(m)	(cm.g/t)	Mt	g/t Au	Moz
0 to 70	100	0.6	4.7	0.1
70 to 200	200	0.3	5.0	0.1
200 to 900	350	4.0	5.3	0.7
900 to 1,500	600	3.9	6.8	0.9
1,500 to 3,000	850	6.9	9.4	2.1
3,000+	1,200	0.1	12.1	0.0
Total		**15.8**	**7.5**	**3.8**

Table 10.3 Summary of Lemmer's Main Reef Leader Indicated Resource by vertical depth category

Depth Domain	Cut-off	Indicated		
(m)	(cm.g/t)	Mt	g/t Au	Moz
0 to 70	100	0	0.0	0.0
70 to 200	200	0.2	9.5	0.1
200 to 900	350	3.1	10.3	1.0
900 to 1,500	600	5.9	12.1	2.3
1,500 to 3,000	850	23.5	11.5	8.7
3,000m+	1,200	2.9	13.7	1.3
Total		**35.6**	**11.7**	**13.4**

Table 10.4 Summary of Lemmer's Main Reef Leader Inferred Resource by vertical depth category

Depth Domain	Cut-off	Indicated		
(m)	(cm.g/t)	Mt	g/t Au	Moz
0 to 70	100	0.2	0.0	0.0
70 to 200	200	0.1	9.4	0.0
200 to 900	350	2.6	12.7	1.1
900 to 1500	600	1.5	13.7	0.7
1,500 to 3,000	850	2.4	10.8	0.8
3,000m+	1,200	3.0	13.6	1.3
Total		**9.9**	**12.6**	**4.0**

Table 10.5 Summation of Tables 10.1 to 10.4

Reef	Indicated			Inferred		
	Mt	g/t Au	Moz	Mt	g/t Au	Moz
Main Reef	42.2	6.6	9	15.8	7.5	3.9
Main Reef Leader	35.6	11.7	13.4	9.9	12.6	4.0
Total	**77.8**	**8.9**	**22.4**	**25.7**	**9.5**	**7.8**

The current mine plan only considers the Main Reef resource above 900 mbs in the CMR Mining right area. The additional Main Reef resource above 900 mbs in the Crown Mine area has not been considered at this stage. The resources that have been considered by the mine plan are shown in Table 10.6.

Table 10.6 CMR Main Reef resources above 900 mbs considered for the mine plan

Indicated			Inferred		
Mt	g/t Au	Moz	Mt	g/t Au	Moz
9.4	4.7	1.4	0.6	4.7	0.1

Table 10.5 and Table 10.6 are based on data compiled by Dunrose Trading 186 (Pty) Ltd t/a Shango Solutions and processed by Dr C Lemmer in 2007 and subsequently amended in 2009. Resource estimates by Lemmer.

Table 10.7 summarises the Lemmer's (2007b, 2009) current Mineral Resource Estimates for the Main Reef and Main Reef Leader, based mainly on the 'Rand Mines' database where individual data points (mainly located along on-reef development) were regularised into 25 m by 25 m blocks but also contains some data from stoped-out areas. The resource is quoted over a minimum stoping width (100 cm above 900 mbs, 110 cm between 900 mbs and 1,500 mbs and 120 cm below 1,500 mbs). Cut-off grades were determined per depth domain and increase from 100 cm.g/t at surface to 1,200 cm.g/t below 3,000 mbs.

Table 10.7 Lemmer's (2007b, 2009) classified Mineral Resource estimates*

		Indicated			Inferred		
Area	**Reef**	**Mt**	**g/t Au**	**Moz**	**Mt**	**g/t Au**	**Moz**
Consolidated Main Reef	Main Reef	14.9	5.5	2.7	1.2	5.57	0.2
Crown Mines	Main Reef	13.3	7.2	3.1	7.3	6.9	1.6
City Deep	Main Reef	9.4	7.3	2.3	7.3	8.5	2
Robinson Deep	Main Reef	4.5	6.7	1	0.06	7.1	0
Subtotal	Main Reef	42.2	6.6	9.1	15.8	7.5	3.8
Consolidated Main Reef	Main Reef Leader	6.8	11.5	2.5	1.6	10.7	0.6
Crown Mines	Main Reef Leader	7	12.8	2.9	2.3	14.5	1.1
Robinson Deep	Main Reef Leader	7	11.7	2.6	2.7	13.2	1.2
City Deep	Main Reef Leader	6.2	13	2.6	1.5	13.1	0.6
Simmer and Jack	Main Reef Leader	8.6	10.1	2.8	1.8	10.4	0.6
Subtotal	Main Reef Leader	35.6	11.7	13.4	9.9	12.6	4.1
Total		**77.8**	**8.9**	**22.5**	**25.7**	**9.5**	**7.9**

*Note: Maximum depth of Main Reef is 3,000 mbs, 9% of Main Reef Leader (Indicated) and 33% of Main Reef Leader (Inferred) located below 3,000 mbs.

For the surface slot areas, cut-offs were estimated using examples from the Tarkwa gold mine in Ghana, and the Lindum Reefs mine in South Africa as these are shallow, near surface, tabular conglomerates exploited by mechanised mining methods and therefore similar to CRGSA's operation.

Continuity of mineralisation was determined using variograms for reef width and grade by width accumulations and generally confirmed a preferred direction to the southeast.

Based on these parameters, ordinary kriging was applied to estimate the accumulation and reef width for 250 m by 250 m blocks. Widths were 'bulked up' to the assumed minimum stoping widths at the various depths and 10 cm external waste was applied for shallow mining above 70 mbs (open cut). The proportion of selective mining units of 25 m by 25 m within each block was determined using standard Witwatersrand economically viable cut-offs, and taking into account current mining methods. The cut-offs applied by Lemmer (e.g. 2009) range from 100 cm.g/t at surface to 1,200 cm.g/t below 3,000 mbs.

Lemmer (e.g. 2009) reported the resource within depth categories 0 mbs to 70 mbs, 70 mbs to 200 mbs, 200 mbs to 900 mbs, 900 mbs to 1,500 mbs, 1,500 mbs to 3,000 mbs and below 3,000 mbs for each mine area using a density of 2.7 t/m^3 for the resource above 70 mbs and 2.73 t/m^3 elsewhere after applying an allowance for 10% geological loss and dip corrections.

The gold accumulation values of the regularised Main Reef historical sampling data were found to have a Compound Log Normal (CLN) distribution. Lemmer (2007b, 2009) assumed permanence of the distribution shape. From this assumption it is reasonable to assume that the gold accumulation values (cm g/t) for the selective mining units (SMU, 25 m by 25 m) in a panel (a larger estimation unit comprises of a number of SMU's, in this case the panel size is 250 m by 250 m), will also follow a CLN distribution. The mean of the distribution will be given by the estimated panel grade and the variance by the dispersion variance of the SMU cm g/t values within a panel (Lemmer, 2009)

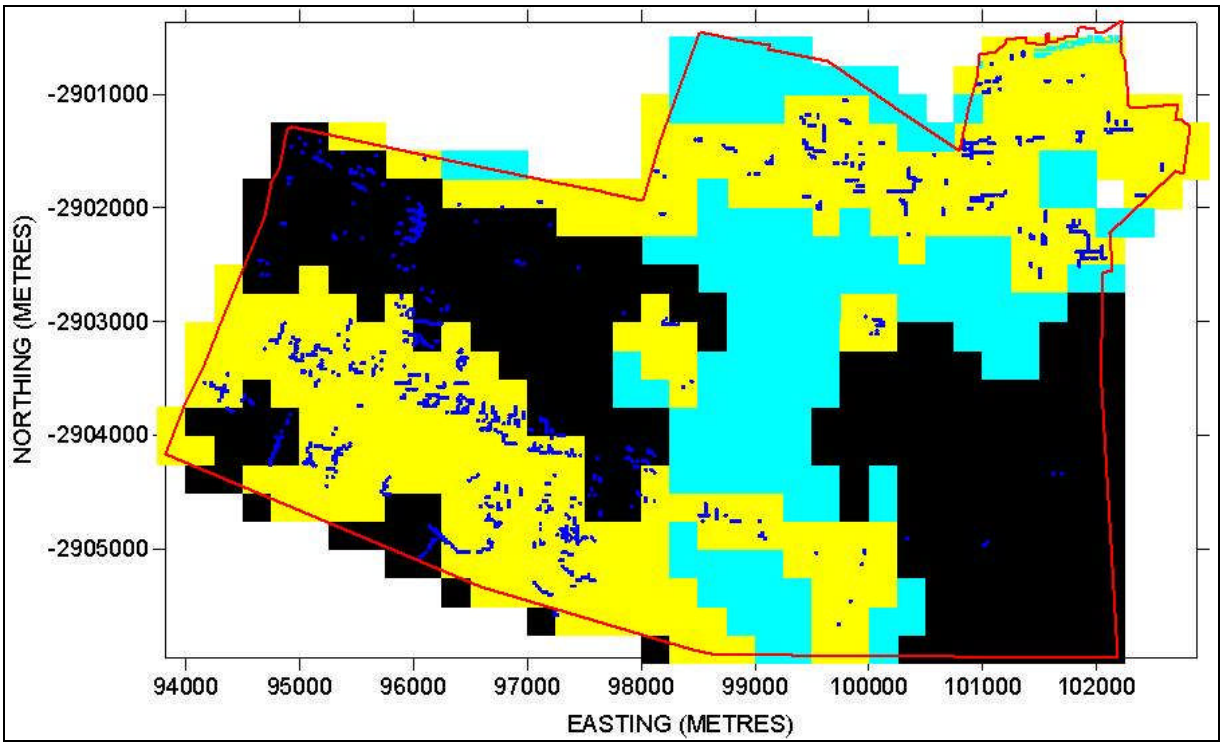
The mean values for cm g/t and reef widths (cm), for the 250 m by 250 m panels were estimated using Ordinary Kriging (Lemmer 2007b, 2009). In panels where a large proportion of the tonnage had been mined, it was assumed that the SMU's having better grades were mined out, a correction was then made to the grade distribution to moderate tonnage and grade expectations in these areas.

Panels, in which the estimated proportion of the tonnage above cut-off is less than 10%, have been excluded from the resource. This resulted in the removal of substantial areas at depth (where the cut-off is higher) and entire panels of lower grade elsewhere.

Lemmer (2009) classified the resource into Indicated and Inferred categories with the assistance of kriging variance and according to data quantity and quality, variogram ranges, quality of kriged estimates and the characteristically continuous nature of the Main Reef.

Figure 10.1 is an example of Lemmer (2009) classification of the Main Reef resource at Crown Mines, showing the Indicated classification in yellow and the Inferred classification in turquoise, with the underlying data in blue. Only the unmined portions of these areas are accumulated to estimate the remaining resource. Areas considered uneconomic due to their depth and therefore excluded from the resource are shown in black. No account has been made for exclusion of pillars of any type. Extrapolation of grades into the Mineral Resource was constrained by the search ellipse in directions dictated by the variogram ranges of influence, which are generally less than about 500 m for both accumulation and width.

Figure 10.1 Example of Lemmer's classification (2009) of the Main Reef resource at Crown Mines (yellow – Indicated, turquoise – Inferred, blue – sample data, black – excluded)



The resource figures tabulated above reflect the resources present within CRGSA's Central Rand project area. The current mine plan has only considered the Main Reef resource above 900 mbs covered in the CMR area. The additional Main Reef resource above 900 mbs in the Crown Mine area has not been considered at this stage.

Snowden accepts the Indicated and Inferred Main Reef and Main Reef Leader Resource as presented by Lemmer.

10.1 SNOWDEN'S OPINIONS

A significant amount of underground assay data and mining history exists for the Central Rand project. The assay data on which CRGSA's resource estimates are based is the historical data used to direct the original underground exploration, development and mining and hence Snowden considers that the quality of the data is acceptable for resource estimation.

It is Snowden's opinion that Lemmer's (2007b, 2009) allocation of part of the Main Reef and Main Reef Leader Mineral Resource to the Indicated category and part to Inferred is consistent with the JORC

Code (2004) classification criteria for resources in these categories. Snowden therefore endorses Lemmer's classified Main Reef and Main Reef Leader Mineral Resources for the areas investigated (2007b, 2009).
In Snowden's opinion, the accuracy of the Main Reef and Main Reef Leader model volume estimates are dependent on the degree to which the most recent shareholder plans represent reality in terms of residual resource in the ground. Annual production subsequent to the year of the last shareholder plan dropped off sharply for all the mines studied and Snowden agrees with Lemmer's (2009) interpretation that the likely error in model volume is not material.

The JORC Code (2004) requires Authors of Competent Persons' Reports to provide investors and their professional adviser's sufficient supporting information to evaluate and assess the risk associated with reports of Mineral Resources. In this report Snowden has reported Inferred and Indicated mineral resources within the Central Rand project area, which have been estimated by appropriately qualified and experienced experts and Snowden is satisfied that the resources have been properly classified.

An important consideration in reporting mineral resources within the context of the JORC Code (2004) is the requirement that Snowden must be satisfied that the resources have reasonable prospects for eventual economic extraction. In the case of CRGSA's Central Rand project, the company has many options for future mining development and there is no simple blanket statement relating to all the mineral resources that can be presented to satisfy the eventual economic extraction consideration.

Snowden has previously noted (Snowden, 2007) that the Central Rand project is of such an extent that it can only be realistically considered as a number of subprojects, each of which will require comprehensive exploration followed by detailed mine feasibility studies to establish whether economic extraction of ore is possible. The mineral resources that have been estimated by CRGSA's consultants and reported in this report provide the basis on which CRGSA can plan its exploration and mining studies.

Snowden has prepared a pre-feasibility level mining study to extract Main Reef in a single, mechanically mined stope and such an approach in the shallower areas is technically and economically feasible.

It is likely to be many years before CRGSA gives serious consideration to mining below 900 mbs, where a large percentage of the Mineral Resources in this report are located. In the context of Witwatersrand mining, it is appropriate, in Snowden's opinion, to classify mineralisation below the pre-October 2008 water table as Mineral Resources as these are based on historical sampling. However portions of this resource may only be mined in 20 or more years, and then only subject to proper feasibility studies having been undertaken.

With respect to the ultra-deep Mineral Resources below the deepest old mining levels, within the old mining leases of the Central Rand project area, i.e. below 2,800 mbs, the delineation of Mineral Resources progresses to a yet more extreme situation. It is reasonable to expect that evaluation of ultra-deep areas by surface drill holes could quite easily take five to 10 years or more and that development of a deep mine, if justified by detailed feasibility studies, could take between five to 15 years depending on circumstances. Such projects have been developed elsewhere in the Witwatersrand Basin during the last 20 to 30 years and established Witwatersrand based mining companies are constantly engaged in evaluating such projects. For example Gold Fields' South Deep gold mine in the West Wits line and Harmony Golds' Target operation in the Free State gold field. Therefore, in Snowden's opinion, delineation of Mineral Resources at such depths is acceptable (given the nature and inferred reef grade) however investors should clearly understand the 'long term' aspect and considerable cost involved in bringing these resources to a stage where they can be commercially exploited.

Whether or not an ultra-deep mining project is feasible depends on an enormous array of considerations, not the least of which are forward long range gold price projections and capital costs. From a technical stand point however there are no significant barriers to prevent developing such a project.

The Central Rand project hosts a very large mineral resource base that is likely to increase with further exploration. There are numerous factors that will influence the conversion of resources to ore reserves

and their eventual economic exploitation and it is currently impossible to determine which parts of the Mineral Resource inventory will eventually prove to be economic to mine. A systematic approach to exploration and feasibility studies is the best way to mitigate sub-project development risks. It is important to appreciate that the Central Rand project is considered by Snowden to be an early-stage mining project, rather than a full-scale mining project.

11. TRIAL MINING

CRGSA has recently completed a programme of trial mining, which has demonstrated that the Main Reef can be safely and efficiently mined.

The 5.3 m high by 5.0 m wide decline has advanced about 800 m from the portal and is currently about 100 vertical metres below surface. Initial ground conditions near surface were poor, and about 30 linear meters of steel sets were installed to manage this. From this point onwards, ground conditions improved and standard ground support was used. A Sandvik DD420 jumbo is used to advance the decline about 3.5 m every blast. Up to two blasts per day can be achieved in the decline.

Ground support, in the form of 2.4 m long fully grouted splits sets and welded mesh are installed up to the face after every blast. 6.0 m long fully grouted cable bolts are installed at intersections and in faulted areas. The decline is ventilated using a 150 kW fan and flexible ventilation ducting. Waste rock is crushed on surface and provides a high quality road base.

Cross cuts are developed and supported in a similar manner to the decline. As the cross cut approaches the Main Reef Leader, poor ground conditions can be expected so the length of the blast is reduced. A potentially unstable brow is formed where the cross cut undercuts the mined out Main Reef Leader and the Main Reef. This brow has been successfully supported using a combination of splits sets, mesh and cable anchors.

Three reef drives were developed in the CMR trial mining block using the large decline jumbo because a smaller two-boom jumbo was not available. The first reef drive was developed about 6.0 m wide to accommodate the decline jumbo. As the operators gained experience, the reef drive width was reduced to about 3.8 m wide.

Ground conditions in the reef drives are variable. In all areas the mined out Main Reef Leader stope has closed to 40 cm to 50 cm, and less in some places. Where the Main Reef was stoped, the waste parting was packed into the mined out area and in some areas the waste packing has collapsed. Locally, there are areas where the Main Reef Leader hangingwall beam has collapsed up to 50 cm to 75 cm. However, the beam above this collapse appears stable.

In all areas, the reef drives were safely developed and supported using grouted split sets, welded mesh and grouted cable anchors. There is a risk of rocks rolling from the Main Reef Leader void into the reef drive below and thick welded mesh sheets are installed across the opening to provide a safe, effective barricade.

Three backfill slots were successfully developed and backfilled using cemented waste. Waste rock was mixed with cement slurry in an agitator truck, loaded into the LHD and tipped into the backfill slot. A system of steel supports and mesh was used as a barricade at the bottom of the stope. The narrow stope void and the relatively thick backfill mix prevented backfill pillar from escaping into the Main Reef Leader void. Inspection showed that there was good contact between the backfill and the Main Reef Leader hangingwall. The backfill pillar was not damaged by subsequent blasting.

CRGSA has developed an innovative barricade that can be quickly installed along the slot in wider areas where there is a risk of the backfill escaping, however it has not been trialled to date.

A stope drilling rig was purchased by CRGSA and used to drill the 15 m long stope blast holes in the reef and overlying parting. A double cut stoping method, where parting and reef are blasted separately, was successfully trialed.

In Snowden's opinion, the recently completed trial mining programme provides confidence that the Main Reef can be safely and efficiently mined and that the reserve modifying factors are reasonable.

12. MINING STUDY

CMR will be the first area to be mined as part of the Central Rand project. CRGSA has successfully addressed six key issues in preparing its mine plan:

- The residual higher grade ore shoots, which are the economic targets at CMR, are difficult to model using conventional resource estimation methods. A statistical process, which approximates the higher-grade locations, similar to localised uniform conditioning (LUC) has allowed identification of modelled higher grade ore shoots.
- The narrow, flat dipping gold reefs of the Central Basin have historically been mined using labour intensive, high cost stoping methods. The Main Reef at CMR will be extracted using a combination of simple, but highly productive mechanised mining techniques that are common in the Australian mining industry, but less common in the Witwatersrand gold mines.
- The mine plan requires high development and stoping productivities. In South Africa, there is a shortage of trained supervisors and operators skilled in the efficient use of mechanised long-hole mining equipment in a narrow reef mining environment. CRGSA has engaged an Australian contractor to provide skilled staff to work alongside and train local personnel in the safe and efficient use of the mechanised mining equipment.
- Historic stoping has left extensive voids, bed separation, collapses and other rock instability close to the Main Reef. Working with its geotechnical consultants, CRGSA has developed safe and efficient local and regional ground control standards, well suited to the mechanised mining methods being used.
- The highly mechanised mining method at CRGSA relies on successfully transferring proven mining practices into a challenging, narrow reef environment. CRGSA has recently completed a programme of trial mining, which successfully demonstrated that the Main Reef, even in areas of poor ground conditions, can be accessed and mined in a safe and efficient manner using highly mechanised mining methods.
- About 50% of the scheduled mine production will be dilution, which is mined concurrently with the Main Reef. CRGSA has developed and successfully tested a beneficiation process, using crushing and screening, optical sorting and flotation to remove a large proportion of the dilution, to produce a high-grade feed for the CIL plant. In addition, CRGSA has identified a market for some of the waste parting.

CRGSA and Snowden have worked together to produce a pre-feasibility level mining study, which demonstrates the technical and economic viability of underground mining of the Main Reef at CMR. Development designs and stope layouts were prepared by Snowden, which allowed underground reserves and mining operating and capital costs to be estimated. Underground infrastructure such as ventilation and mobile equipment were identified and costed.

Snowden estimated a Probable Ore Reserve of 3.73 million tonnes (Mt) at 4.0 g/t for 482,000 oz. Snowden prepared a life-of-mine schedule for the CMR Main Reef, which included an additional 0.17 Mt tonnes from Inferred Resources and 0.64 Mt of low grade from unpay reef drives, which is processed on a marginal cost basis. Mining, processing and administration costs were developed and included in a life-of-mine cash flow model.

Approximately 50% of the run-of-mine (ROM) feed is low grade ore or waste, and consequently CRG has employed a beneficiation strategy where waste is removed on surface and the low grade feed is upgraded prior to being fed to CIP. This results in increased gold content in feed to the CIP plant and a reduced unit operating costs per ROM tonne.

Snowden prepared a base case technical cash flow model (pre-tax, undiscounted) for the CMR Main Reef mine plan, which included operating costs and future capital costs for CMR Main Reef. The base case cash flow model used a gold price of US$1,120/oz gold price and a ZAR:US$ exchange rate of 8.00. No allowance was made for revenue from sweepings, vamping and remnant pillars.

The cash flow model shows a positive life-of-mine return of ZAR1,366 million (M) (undiscounted, EBITDA) with an average operating cost of about ZAR4,660/oz (US$582/oz at ZAR8.00:US$) and an

operating plus capital cost of about ZAR6,050/oz (US$755/oz at ZAR8.00:US$). The base case would be break-even at a gold price of about US$800/oz at an exchange rate of ZAR8.00:US$.

12.1 GEOTECHNICAL

Middindi Consulting (Pty) Ltd (Middindi) provides geotechnical services to CRGSA and has developed effective development and stope ground control systems to support the high productivity, mechanised mining methods that will be used at CMR.

The key features that impact on the geotechnical considerations and the ground support systems at CMR are as follows:

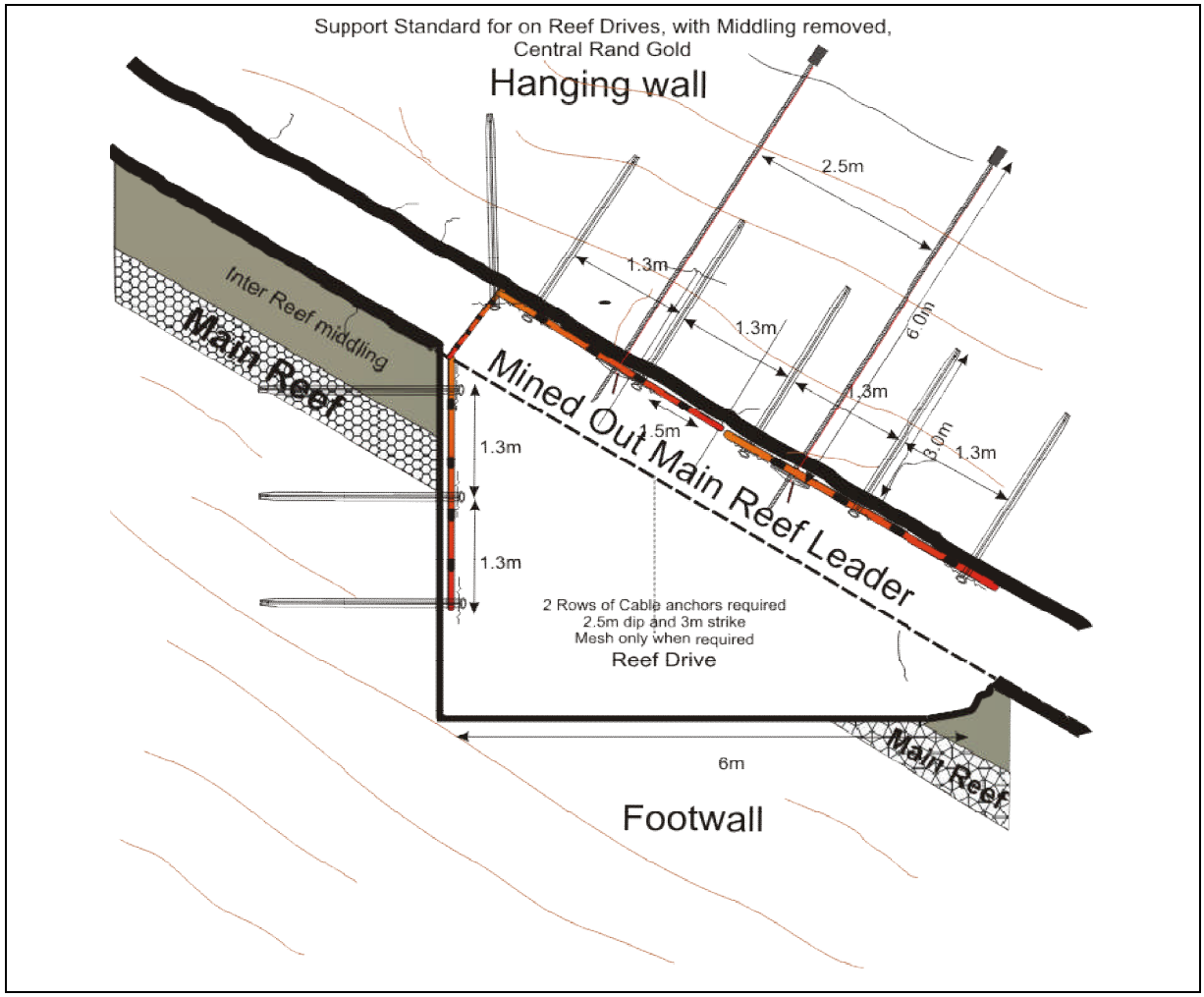
- The shallow nature of the deposit, from 50 mbs to 800 mbs, and the historic stoping of the Main Reef Leader means that mining will be undertaken in a low stress environment. Although the risk of damaging seismicity is considered as low, CRGSA has installed a seismic monitoring system.
- Closure has occurred in the Main Reef Leader void, reducing the void width to between 40 cm and 50 cm, and less in some areas. A 50 cm to 70 cm thick beam has also collapsed into the Main Reef Leader void in some areas.
- There has been significant bed separation above the Main Reef Leader voids, extending tens of meters into the hangingwall. Despite this bedding separation, the exposed hangingwall appears strong enough to maintain its stability over spans of +11 m.
- Surface subsidence has occurred as the hangingwall deformation caused by historical mining propagated through to surface. The presence of extensive commercial infrastructure and major roads and railways above the mine means that any further surface subsidence must be avoided. Analysis by Middindi shows that, provided the areas are well supported, future mining of the Main Reef and removal of the Main Reef Leader pillars may not have a significant impact on surface subsidence.

Based on these features and their experience in similar environments and supported by numerical analysis modelling, Middindi designed a range of regional and local ground control methods to be used at CMR. Regional stability has been maintained by the unmined areas around large dykes and faults, which act as barrier pillars. It is not planned to mine these structures. The use of cemented backfill will create stiff pillars that will significantly improve the ability of the rock mass to be regionally stable.

Local ground control will be maintained using a combination of rock bolts, mesh and cable bolts in the reef drives as shown in Figure 12.1. Stope stability will be maintained by limiting stope spans to 12 m along strike using a combination of natural pillars and cemented backfill ribs.

The reef drive will be mined using a two-boom development jumbo, which is efficient in installing rock bolts, cable bolts and welded mesh. Middindi will undertake routine geotechnical inspections to monitor ground conditions provide geotechnical quality control and routinely review and update the ground control standards.

Figure 12.1 Cross section showing ground support standards for the initial reef drive



12.2 MINE DESIGN

The Main Reef is a well developed conglomerate reef dipping at about 35° to the south, which averages about 120 cm over channel width. The Main Reef Leader, which immediately overlies the Main Reef, was extensively mined in the early to mid 1900s. Parts of the Main Reef were also sporadically stoped at the time. There has been significant closure on the Main Reef Leader stopes as the hangingwall has moved downwards into the stope void. This closure has resulted from a combination of bed separation and shearing of the hangingwall along the contacts with geological features.

The inter-reef parting (the parting), between the Main Reef and the Main Reef Leader, ranges in thickness from 50 cm to 200 cm. As it will be difficult to safely maintain the parting as a stable beam, the mine plan assumes that it will be extracted concurrently with the Main Reef in all areas.

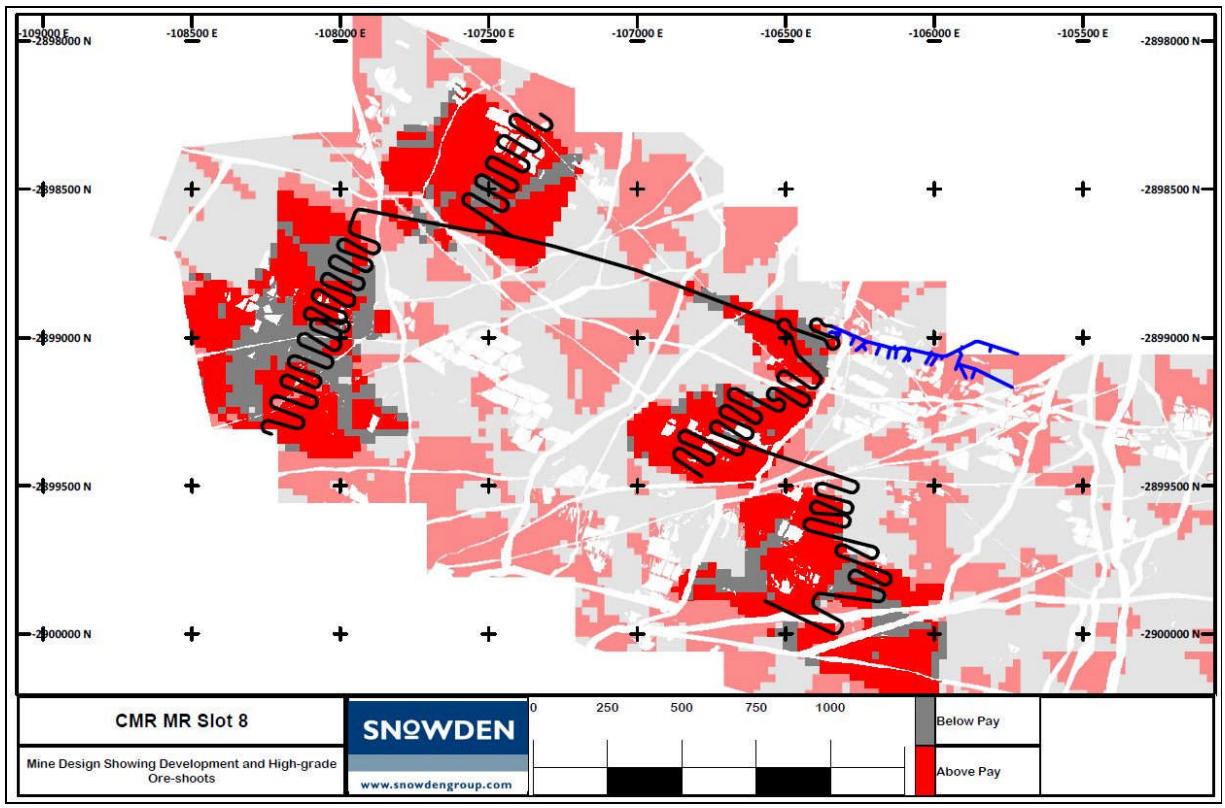
Mining will target two large ore shoots in Central and West CMR as shown in Figure 12.2. Underground mining will be carried out in fresh rock from 50 mbs because mining in the weathered material from underground would be hazardous. A 30 m to 50 m wide crown pillar (in the plane of the reef) is left between the base of the open pits and the top of the underground workings. This area has also been extensively stoped on the Main Reef.

The mine will be accessed from the existing box cut at Slot 8 using a 5 m wide by 5.3 m high decline developed in the footwall of the Main Reef at a gradient of 1:7 down. The decline has progressed about 800 linear metres to date and is about 100 vertical metres below surface. The decline is developed in a south-westerly direction to establish the Central stoping blocks. A second decline servicing the West ore shoot will be established via a connecting decline from the Central decline.

This layout provides a single access point into the mine and consideration is being given to establishing a second portal for the West decline. Production from the Central and West declines will be trucked to the Central portal, which is close to the processing facilities at Slot 8.

A highly mechanised underground mining method will be used to extract the Main Reef. The reef will be accessed via 4.0 m wide by 4.8 m high crosscuts developed from the decline to intersect the Main Reef at about 11 m vertical intervals. The reef drives will be developed east and west of the cross cut to the limits of the ore shoot leaving a 15 m long stope panel between each reef drive. Where there is sufficient economic Main Reef to justify the development, the reef drives may be extended up to 500 m east and west of the cross cut. Generally, the maximum cross cut length is less than 300 m.

Figure 12.2 Plan view showing the location of the Central and West ore shoots and the footwall declines

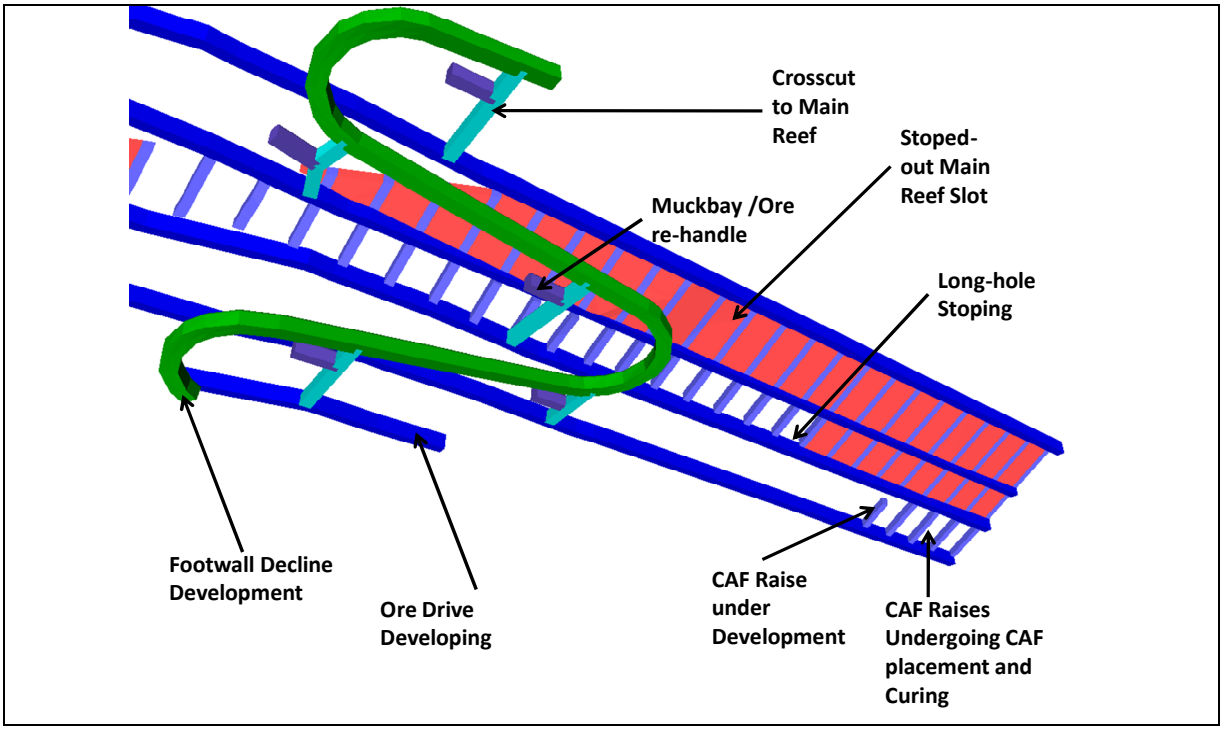


The reef drive will be excavated to the full height of the Main Reef Leader hangingwall, and will be supported with a combination of rock bolts, cable anchors and mesh as recommended by Middindi and shown in Figure 12.1.

The reef drives will be developed using a two-boom development jumbo, which will drill blast holes and install the ground support. The reef drive drill pattern will be designed to break the waste into much larger fragments than from the reef. This will improve scalping and screening efficiency in the beneficiation process. A 10 t capacity load-haul-dump loader (LHD) will be used to muck the blasted ore to stockpiles in the cross cut and decline.

Pillars have been left in the Main Reef Leader, either as local or regional stability pillars, or in areas of poor ground conditions (especially close to faulting). It will be necessary to mine through these pillars and develop through the areas of poor ground where the Main Reef Leader hangingwall has collapsed. Sampling of the reef drives will identify the payable zones on each level. The mine will be divided into a series of stoping “panels”. Each stope panel will comprise four reef drives and associated stope slots on either side of the access cross cut (or half levels). Each level will comprise a series of 12 m wide by about 15 m long stope slots, separated by 3 m wide backfill ribs. Figure 12.3 shows a typical layout for the reef drive and stoping slots.

Figure 12.3 Plan view showing typical reef drive and stope slot layout



Each stope panel will be backfilled prior to stoping. To avoid sterilising the Main Reef below each backfill rib, a series of 3 m wide by 15m long trenches will be blasted every 12 m along the reef drive. A barricade of poles and welded mesh will be constructed at the bottom of the trench to contain the backfill which is to be deposited in the slot.

Waste rock and crushed aggregate will be delivered from surface or directly from waste development headings to the cross cut stockpile. An agitator truck will deliver cement slurry to the cross cut to be mixed with the waste using the development LHD. The LHD will tip the backfill mix into the top of the backfill slot. Larger waste will be used to create a solid barricade at the bottom of the stope. Once this backfill has set, smaller waste and aggregate will be used in the backfill to achieve a tight contact to the hangingwall.

A mechanised drill will be used to drill up to 15 m long blast holes in the waste parting and the Main Reef. A 20 cm thick skin will be left to protect the Main Reef. The parting will be blasted as large fragments and tipped into the old voids. The Main Reef will then be blasted, loaded by the LHD and tipped into stockpiles at the cross cut.

In areas where there are sufficient sweepings and vampings, or where a Main Reef Leader pillar has been mined, the parting will be hauled to surface and washed to recover the valuable fines and the reject waste parting will be sold for construction aggregate. Where there are economic grades in the parting, it will be hauled to surface and processed through the low grade process route.

A LHD will load the stockpiled ore into 50 t capacity trucks for haulage to surface. Up to five stockpiles will be required for various processing options:

- high grade – stope material reef widths
- medium grade – development material widths
- low grade – unpay development or thin reef
- sweepings – barren parting with economic sweepings and vampings and/or Main Reef Leader pillars
- other mineralisation such as mineralised parting or footwall.

The mine will be ventilated using the declines as main intake airways. The proposed mining and ventilation system of CMR is a low resistance, low pressure system. The South Reef, which was extensively stoped in the past, will act as the exhaust system. This results in very low fan power requirements. At the recommended air quantity of 110 m^3/s in each decline, the power requirements are 35.1 kW at 255 Pa and 24.5 kW at 178 Pa in the West and Central declines respectively. Secondary ventilation using fans and ventilation ducting will be used to ventilate blind development headings.

Secondary ventilation systems will be used to draw air from the decline into the reef drives. Ventilation controls will be required to ensure air is provided to the lower working levels without affecting the primary vent circuit. This may, at least partially, be achieved by opening the working levels up to the Main Reef Leader as much as possible while equipment is working in the reef drives, then closing them off as equipment returns to the decline.

Second egress and escape ways will be constructed between each level, close to the cross cut and again at the extremities of the reef drives. Underground refuge bays, equipped with emergency air, communications, food and water, will be located at strategic positions throughout the mine.

All intersections with the Main Reef Leader will be closed once mining of the level has ceased. This can normally be done by sealing off the cross cuts.

Underground mobile equipment will be returned to surface for routine servicing and repair. Mine fitters and electricians will be provided with 4WD vehicles to attend to break down maintenance requirements underground.

Underground power will be reticulated from surface to a series of transformers underground. The mine is largely dry, with limited water inflow. Service water is required for drilling, dust suppression and cooling hydraulic motors. Clean water will be piped into the mine and once used, will be directed to sumps and pumped from the mine using a staged pumping system.

12.3 ORE RESERVE ESTIMATE

Based on an average long term gold price of US$1120/oz, an exchange rate of ZAR8.00/US$, a metallurgical recovery of 86% and a life-of mine operating cost estimate of ZAR410/t, the break-even *in-situ* cut-off grade is approximately 1.7 g per ROM tonne. This breakeven grade is achieved at a reef grade of 3.0 g/t at average channel width.

The Main Reef Ore Reserve estimate is derived from the Indicated Mineral Resource estimate prepared by Lemmer. Snowden analysed the resource estimation practices and provided comment on data and parameters likely to have a significant impact on the estimate. Snowden concluded that the resource estimate is reasonably robust and, although there are a number of estimation parameters that could be refined, they are unlikely to materially impact on the overall resource.

The Mineral Resource was estimated into cells with dimensions of 250 m by 250 m. Lemmer estimated the tonnes and grade of each cell at a zero cut-off. From 70 mbs to 900 mbs, a minimum channel width of 100 cm was applied, based on opinion of the minimum mineable widths at the time. Where channel widths were less than 100 cm, they were bulked up at zero grade. This bulking retains the metal content, but at a lower grade.

Global “payability” factors were estimated for each cell at cut-off accumulations ranging from 50 cm.g/t to 700 cm.g/t in 50 cm.g/t increments. Because the large block size, or Selective Mining Unit (SMU), does not identify where the payable mineralisation is located within each cell, it is not a useful guide for more localised mine planning as it may result in high levels of unpay material being included within mining panels and some payable material being excluded from the mine plan.

Using the Lemmer model and available sample data, Snowden created a series of more useable mine planning models using a process which approximates the higher-grade locations, similar to localised uniform conditioning (LUC). LUC estimates are not ‘more accurate’ than linear SMU estimates (in this case) but have other desirable properties in that LUC estimates are more useful for mine planning. The background of LUC theory has been documented by (Harley M. & W. Assibey-Bonsu, 2007;

Abzalov. M, 2006). This approach is appropriate where the gold distribution is facies controlled and higher grades can be grouped together spatially.

Models for mine planning were generated for the cut-offs of 100 cm.g/t, 150 cm.g/t, 200 cm.g/t, 250 cm.g/t, 300 cm.g/t and 350 cm.g/t. The approach used is as follows:

- Each 250 m by 250 m parent cell is split into 25 m by 25 m SMUs. The SMUs within each parent cell are then ranked to identify the SMUs which are most likely to be higher grade. This is done through conducting a local estimate from the grades of the surrounding samples. Note, this estimate is only used for ranking purposes.
- The local average grade above cut-off from Lemmer's "payability" estimation was then applied to SMUs in sequence until the number of SMUs at the higher grade in the parent cell equalled the "payability" proportion estimated by Lemmer. The remaining SMUs within the parent cell are then assigned the average grade below cut-off. Through this process, the resource tonnage and grade is preserved and the metal balance is preserved. The prediction of the location of the potential higher grade regions at a 25 m by 25 m SMU scale assists the localised mine planning.

Polygons representing mining outlines were prepared for discrete mining areas within each modelled high grade pay shoot. The tonnage and grade of pay and unpay material and the average channel width at a 300 cm.g/t cut-off was reported for each mining block. Resource to reserve tonnage and metal recovery conversion factors were calculated and applied to modify the reef tonnages and grade reported within each stope block. The reef conversion factors were calculated based on the following assumptions and modifying factors:

- Main Reef dip angle of 35°
- an average Main Reef mining width of 120 cm
- an average parting width of 125 cm
- average parting of 1.0 g/t
- stope down-dip length of 15.0 m
- Main Reef stope dilution = 10 cm of hangingwall collapse, 20 cm of parting and 10 cm of footwall
- for low grade development, 66% of the waste is removed by optical sorting with corresponding 15% loss of reef
- additional stope losses = 5%.

The conversion factors are the difference between the original Main Reef resource tonnage and metal content and the final ROM tonnage and metal content (and hence a back-calculated grade). These factors include consideration for channel width, parting thickness, planned and unplanned dilution, reef losses and ore sorting.

An overall loss of 5% (tonnes and metal) was also applied to reflect unmineable blocks and small fault losses. Table 12.1 summarises the average resource to reserve conversion factors per linear metre of payable reef drive and stope slot based on the modifying factors outlined above.

Table 12.1 Main Reef tonnage and metal conversion factors

Area	% tonnes	% metal
Development (after optical sorting)	154	91
Stope slot	112	93

On average, a total of 71 t of ROM ore is excavated per meter (t/m) advanced in payable reef drives plus stope slots.

Table 12.2 summarises the CMR Main Reef Probable Ore Reserve by mine area. The mine schedule includes 640,000 t at 0.7 g/t from unpay reef drive development, which is processed when there is spare capacity. This material is profitable on an incremental basis. The schedule also includes 170,000 t from an Inferred Resource, which cannot be classified as an Ore Reserve.

The CMR Main Reef Ore Reserve estimate was prepared by Mr A Earl, a Fellow of the Australasian Institute of Mining and Metallurgy (AusIMM). Mr Earl is a Competent Person as defined by the 2004 JORC Code, having over five year's experience which is relevant to the style of mineralisation and type of deposit described in this Report.

Table 12.2 CMR Main Reef Probable Ore Reserve estimate March 2010*

Area	Classification	Tonnes (Mt)	Au (g/t)	Au (koz)
Central				
Development	Probable	0.60	3.2	62
Stoping	Probable	1.34	4.4	191
Subtotal Central	**Probable**	**1.94**	**4.1**	**253**
West				
Development	Probable	0.55	3.1	56
Stoping	Probable	1.23	4.4	173
Subtotal West	**Probable**	**1.79**	**4.0**	**229**
Total	**Probable**	**3.73**	**4.0**	**482**

* Estimate rounded to significant figures

12.4 MINE SCHEDULE

Snowden prepared a detailed mine schedule using Mine 2-4D software. The mine schedule commences in mid 2010 and shows a mine life of about 12 years with production increasing to steady state production of about 550,000 tonnes per year of unsorted ROM material in 2013, as shown in Figure 12.4. CRGSA will operate the mine with an owner-mining team, trained by experienced operators. The expatriate operator/trainers will be used for three years.

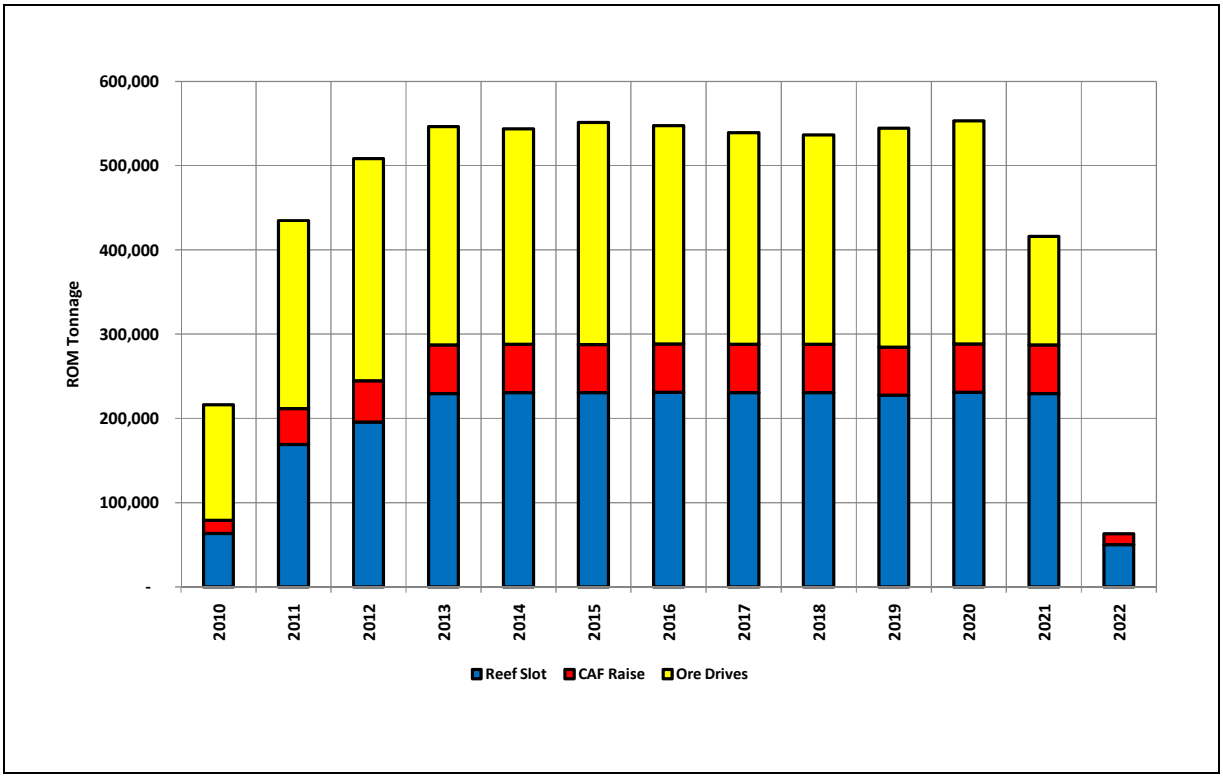
The mine is currently scheduled to operate down to about 800 mbs, which requires a vertical advance rate of about 70 vertical metres per year. Although the vertical advance rate is high compared with other South African gold mines; it is achievable due to the simple mining layout, the limited underground infrastructure required and the highly mechanised mining methods used.

The development schedule for the declines and reef drives is shown in Figure 12.4. Annual footwall development, including the declines, cross cuts and other footwall infrastructure, peaks at 3,600 m in 2012 as the two stoping areas are established. The decline and cross cut development requirement then reduces to about 1,800 m/year to maintain the 70 vertical meter/year advance rate. A second decline development jumbo will be required in 2011 and 2012. It is planned to keep the second jumbo after this due to the distance between declines. Each development jumbo can advance the decline up to 150 m/month in a single heading.

Up to 540 m/month or 6,500 m/year of reef drive development (pay, unpay and waste) will be required at full production. Three reef drive jumbos will be used and each reef drive jumbo has the capacity to advance up to 230 m/month where multiple headings are available.

Two long hole drilling rigs will be used in stoping and are scheduled to achieve up to 13,100 m/month of blast hole drilling.

Figure 12.4 Graph showing annualised production schedule, by source



About 45% of ROM ore will be from development and 55% from stoping. The maximum stoping rate will be about 300,000 t/year and will require about 69,000 m^2/year of stope and backfill slots to be mined.

Figure 12.5 shows the production from each decline.

Figure 12.5 Annual stoping schedule by mining area

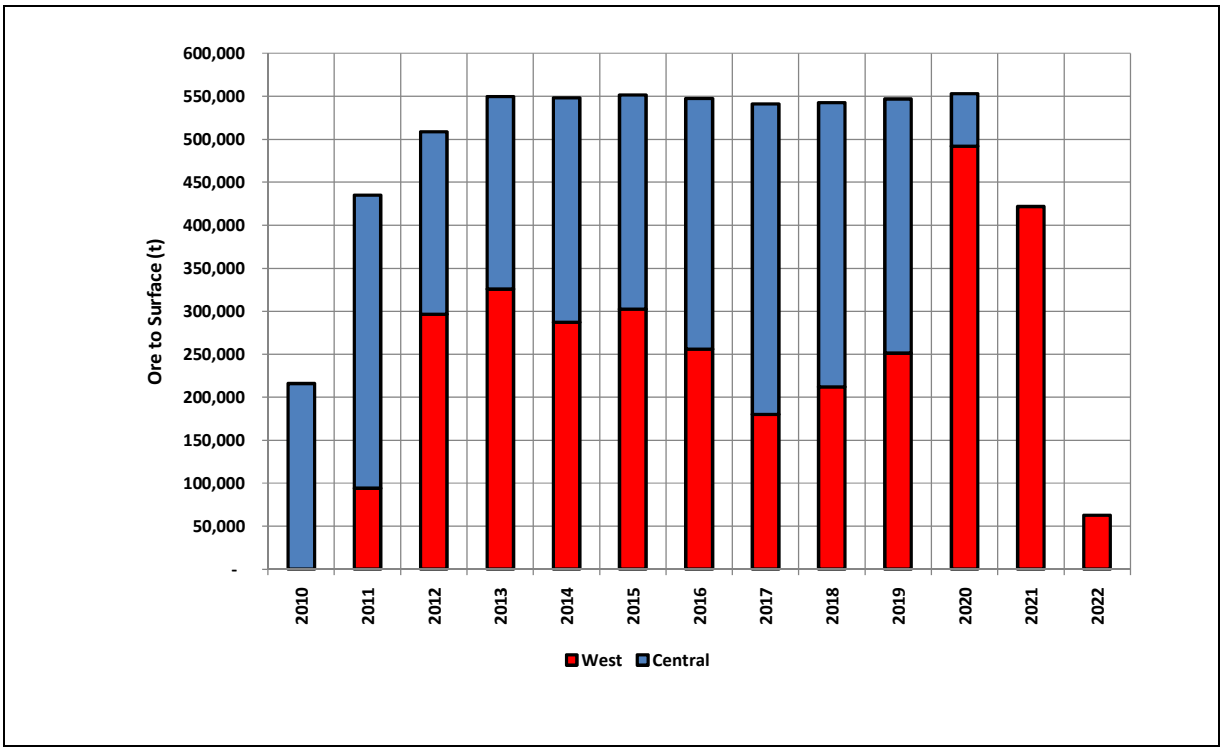


Table 12.3 summarises development and sloping on an annualised basis.

Table 12.3 CMR Main Reef life-of-mine schedule

Item	Unit	Total	Years											
			2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Main Decline	m	12,931	1,358	2,382	2,037	1,096	1,051	1,072	1,072	922	873	877	191	
Crosscut	m	5,994	377	913	812	455	584	551	566	696	477	464	98	
Other	m	1,873	174	302	266	182	149	176	165	165	126	117	51	
Vent rises	m	1,824	127	284	75	150	115	167	336	233	155	182		
Total waste development	m	**22,622**	**2,035**	**3,881**	**3,190**	**1,884**	**1,899**	**1,966**	**2,139**	**2,015**	**1,631**	**1,641**	**341**	
Reef drive pay	m	69,836	3,548	5,560	6,552	6,605	6,421	6,146	6,416	6,366	6,347	6,239	6,360	3,276
Reef drive Un-Pay	m	702				92	111			48	154	71		225
Reef drive waste	m	3,775	267	245	14	34	209	472	286	444	456	827	429	90
Development ore	kt	2,765	137	220	264	259	252	253	258	252	247	242	251	131
Stope ore	kt	3,076	79	211	241	287	288	288	289	287	285	286	251	284
Stope ore	g/t	4.01	3.82	4.02	4.08	4.06	4.19	4.13	3.86	3.86	4.11	4.04	3.92	3.90
Development (mined)	kt	2,765	137	220	264	259	252	253	258	252	247	242	251	131
Development ore (mined)	g/t	1.89	1.65	2.02	2.08	2.13	2.08	1.94	1.74	1.93	1.72	1.61	1.71	2.00
ROM mined	kt	5,841	216	431	505	546	540	540	547	539	531	528	501	415
ROM mined	g/t	3.01	2.44	3.00	3.04	3.15	3.21	3.11	2.86	2.96	3.00	2.93	2.81	3.30
Sorted development	kt	1,439	70	114	139	134	130	135	136	131	127	124	130	69
Sorted development	g/t	2.78	2.41	2.99	3.06	3.19	3.11	2.81	2.51	2.85	2.53	2.35	2.49	2.94
Total inventory	kt	4,515	149	326	380	421	418	422	424	418	412	411	381	353
Total inventory	g/t	3.62	3.16	3.66	3.71	3.78	3.86	3.71	3.43	3.55	3.62	3.52	3.43	3.72
Ore to CIP	kt	2,674	77	187	218	250	247	250	253	250	245	244	220	231
Ore to CIP	g/t	5.83	5.79	6.05	6.13	6.06	6.21	5.98	5.48	5.66	5.82	5.67	5.66	5.47

12.5 MINING COSTS

The mining operating cost forecasts are based on a unit per tonne basis comprising both fixed and variable portions that were calculated from first principles to an accuracy of +/-15% to 20%. Operating costs are structured into sections such as drilling, support, explosives and charging, cleaning, load and haul, stores and services (such as power, water and compressed air). Mine operating costs were calculated for waste development and stoping, labour and services, but exclude the cost of declines and cross cuts, which are considered to be capital development. The mine operating costs include an allowance for mine administration but exclude corporate overheads.

Utility costs include allowances for surface infrastructure costs such as offices and change rooms, lamp rooms and workshops and compressors.

Labour costs are calculated as fixed monthly costs, and include an allowance for the Australian contractors, geology and grade control and engineering support. Infrastructure operating costs include allowances for the purchase of smaller capital items such as ventilation fans, pumps and electrical distribution equipment.

The CMR mine operating costs include an allowance of ZAR1.1 M per month for the dewatering and water treatment plant on the East Rand.

Operating costs include allowances for mine geology and grade control, but not exploration, which is considered to be a corporate overhead.

Mining capital costs are based on first principles estimates for capital development, equipment schedules and support costs to an accuracy of +/-15% to 20%. Processing capital cost estimates are based on studies by CRGSA with an accuracy stated as being to a feasibility level, and CRGSA engineering and procurement estimates that are considered to be accurate to within 25%. Sustaining capital was estimated at 2.5% of annual operating costs.

Equipment replacements have been allowed for on the basis of manufacturers' recommended life.

The CMR capital costs exclude the cost of the Central Basin pumping and water treatment plant. No allowance has been made for mine closure and rehabilitation as mining at CMR is likely to continue beyond 2021.

Mine equipment purchases are summarised in Table 15.2. The total capital cost is ZAR630 M as summarised annually in Table 10. The main mine capital costs are capital development, labour and ancillaries and the mobile equipment. Capital costs include a sustaining capital allowance equivalent to 5% of operating costs between 2012 and 2019.

12.6 MINING OPPORTUNITIES

In Snowden's opinion, the Central Rand project has the potential to develop a number of underground operations similar to that proposed for the CMR Main Reef. At CMR, there is an area to the east of the Central decline, which has not been evaluated for mining. The pay shoots in this area are not well defined and the proportion of lower grade mined would be higher than that in the central and West declines. CRGSA proposes to undertake a mining study to assess if a third mining area can be established at CMR.

At Crown Mines, there is a large area of higher grade Main Reef in the western part of the property (Crown West), which appears to be available for stoping. Above 600 mbs the Crown West contains an Inferred Resource of about 1.8 Mt at 5.7 g/t Au/t and an Indicated Resource of about 2.1 Mt at 5.9 g/t. CGRSA proposes to undertake drilling of the Inferred Resource to upgrade the resource classification.

Subject to the outcome of the drilling programme, which will also confirm if the Main Reef resource is still present, CRGSA will undertake a feasibility study on this area. In Snowden's opinion, there is potential to identify an operation at Crown Mines, which is equivalent in scale to the current CMR mine. There will be significant access issues at Crown West as the surface at outcrop has been built over by commercial development.

13. METALLURGICAL PROCESS

13.1 ORE BENEFICIATION

The CIP plant will be upgraded to 250,000 tpa feed tonnage and beneficiation stages of crushing, screening, ore-sorting and flotation will be implemented in order to maximise the grade into the CIP plant. This will be achieved using the following methodology and material flow.

- Run of mine ore, containing higher grade fines due to preferential breakage of sulphides in the finer fractions, will be crushed to -75 mm and screened at 25 mm in the primary crushing and screening open circuit. An existing Extec mobile crusher and screen, capacity 90 tph to 110 tph, will be employed for this operation.
- The -25 mm high grade material from the primary crushing and screening will be stockpiled separately for direct feed to the CIP.
- The primary screen oversize from the primary crushing and screening will then be wet screened and crushed into four size fractions; -75 mm +25 mm; -25 mm +4 mm, -4 mm +1 mm and -1 mm. An existing double deck screen, of capacity 150 tph to accommodate a high circulating load, and an existing single deck screen, of capacity 70 tph will be employed for this operation.
- The -75 mm +25 mm size fraction will be fed to an Optical Ore Sorter to separate the high grade reef material and waste. The ore sorter will operate in batch/campaign mode to cater for two scenarios, i.e.:
  - sorted high grade material will be fed directly to the CIP when the plant is fed high grade stoped ore only
  - sorted barren waste will be rejected and stockpiled when the plant is fed low grade development ore.
- A new Commodas Ore Sorter unit, capacity 40 tph of sorted product will be employed in this operation.
- In the high grade sorting, rejects from the ore sorter will be crushed in an existing HSI crusher and recycled to wet screening.
- In low grade sorting barren waste will be rejected from the plant and sold as aggregate in construction applications.
- The -25 mm +4 mm fraction will be crushed in an existing secondary VSI crusher to -4 mm, and recycled to wet screening.
- The -4 mm +1 mm size fraction will be ground to -250 micron and fed to flotation plant to upgrade this material to be fed to the CIP plant. An existing Ultimate flotation plant with capacity 40 tph to 50 tph will be used in this operation.
- Tailings from the flotation plant will be dewatered and stored in an existing tailings dam or deposited in open pits as part of rehabilitation or underground in allocated voids.

The wet screened, -1 mm fines size fraction will be pumped directly to the process plant (for milling and CIP), this would also include all fine gold washed from the ore processed before.

All unit operations have been proven on industrial scale at CRGSA using extremely hard oxide development ore, except for the Commodas optical ore sorting process which is currently being evaluated.

Scoping test work is currently being performed at Mintek by the supplier of the Optical Ore Sorter and results to date indicate that the design throughput and recovery is achievable, with the best results obtained when the ore to waste ratio is 1:3.

The reef recovery varied between 77% and 85%. Since the efficiency and thus, the calibration of the ore sorter was determined by hand sorting the product and waste streams, the size fraction for testwork was coarser than that in the design, in order to speed up the hand sorting process.

Based on information provided by the supplier, sorting efficiency can be higher at particle sizes down to 25 mm, and the size range tested (+50 mm -75 mm) is regarded to be on the conservative side.

CRGSA's projections of reef recovery are conservatively predicted at 80% in order to accommodate the possibility of lower than expected optical sorter performance due to the calibration algorithms still being developed.

When waste is recovered, the algorithm is changed to maximise reef recovery. Test work has shown that 91% of the reef is recovered when this algorithm is employed, but this results in a significant dilution. For this report a 34% dilution (waste reporting to ore) of reef is assumed.

13.2 CIP GOLD RECOVERY

The existing process plant will treat the products of the beneficiation process.

The CIP section of the process plant currently has a maximum capacity of 18,000 tpm. A conventional milling and classification, gravity gold concentrating, thickening, pre-leach, CIP, carbon strip, electrowinning and smelt processes are part of the process plant.

Throughput of the CIP is planned to increase to approximately 21,000 tpm by 2013. In order to accommodate this increase, additional milling and leach capacity will be installed.

An existing conventional 380 kW ball mill treats the beneficiated material with dry screened fines and reef dry fed into the mill via a hopper and feeder controlled by means of a weightometer and controller.

Wet screened fines, and flotation concentrate are fed into the mill via a pumping arrangement in the beneficiation plant.

The target grind is 80% -75 µm. This is slightly finer than some traditional Witwatersrand ore treatment plants, but CRGSA considers that prudent to maximise gold extraction, as finer grinds will lead to a possible lower gold loss to tailings.

Milled product is fed to a gravity gold circuit, comprising a 20 inch Falcon concentrator to recover liberated gold, and a Gemini shaking table to produce a smeltable gold concentrate. The gold recovery obtained via this process is projected at a minimum of 30%. Peer operations in the Witwatersrand area recover in excess of 50% of the gold via this method, and it is envisaged that as this is a recent installation at CRGSA, it will eventually possibly exceed the industry benchmark.

The tailings from the concentrator and Gemini table are fed to the main CIP circuit for leaching. A high rate thickener is used to thicken or dewater the slurry to a density of 45% to 55% solids, and the water from this thickener is re-used in the treatment plant.

The leaching process is conventional mechanically agitated tanks, with a leach section comprising a 45 m³ tank for pH conditioning and cyanide control, followed by a 150 m³ tank for oxygen addition and leaching. The 150 m³ tank is equipped with a high shear reactor (Aachen reactor) to add oxygen in order to improve leach kinetics.

The carbon adsorption section is a conventional counter-current circuit comprising seven adsorption vessels with interstage screens to retain the loaded carbon.

Loaded carbon is recovered in a Zadra elution plant with a capacity of 700 kg of carbon per cycle. The carbon stripping rate is one elution per day for six days per week. The gold from the carbon is electro-won and smelted once a week.

Gold sludge and gravity gold are calcined at 700º C to remove organic impurities and smelted weekly in a diesel heated furnace.

Gold bars from the gravity circuit have a purity of 90% and that from the carbon circuit 92% to 95% gold. Some silver is present as an impurity, and the remainder is copper and other metals. The gold bars are dispatched to Rand Refinery as soon as possible to minimise security risks and improve cash flow.

All tailings from the cyanidation process are treated with peroxide to oxidise free cyanide. The tailing is combined with concentrator rejects and further dewatered by cyclones and a thickener. The dewatered tailing is deposited in an existing tailing storage facility, or a mined out open pit. Underground deposition whether cemented or not, is under review. The evaluation is pending in 2011 to 2012 when the additional storage capacity is required.

13.3 METALLURGICAL CAPITAL COSTS

Capital expenditure required to implement the recommended plant changes necessary to increase capacity, improve recovery and reduce costs comprise four main phases:

- Phase A - Conversion of the CIL circuit to CIP, which has been in process since the 4th quarter of 2009, together with necessary tailings and stormwater management, mobile equipment and automation
- Phase B - Installation of the Commodas ore sorter and ancillary equipment
- Phase C - Increase in carbon elution capacity.
- Phase D – Increase in CIP milling and leach capacity.

Capital budgets for each phase, together with planned implementation timing, are described below and are included in the overall CMR capital costs (Table 15.3).

13.3.1 Phase A - Increase in CIP throughput- 1st Quarter 2010

The CIP conversion commenced in the last quarter of 2009 and cost to completion by Q2 2010 is summarised in Table 13.1. The major items still in progress are the relocation of the Falcon concentrator to the CIP plant in order to increase primary gold recovery, and installation of live stockpile capacity prior to comminution, in order to stabilise milling operations.

Table 13.1 Budget cost (ZAR) to increase CIP capacity and improvement initiatives

Item	Estimate (ZAR 000's)
CIP Plant	5,170
Elution heater	450
Relocation of Falcon Concentrator to CIP	1,000
CIP front feeder (hopper and controller)	350
Live stockpile	2,500
Thickener pump	250
Conveyors	100
Aachen Reactor (oxygen and leach tank)	220
Reduction of conveyor spillage	300
Tailings management	750
Storm water management	600
Front end loader	570
Dump Truck	1,813
Plant automation	500
Phase A Budget	**9,403**

The benefits of this investment are:

- CIP capacity increase from 10,000 tpm up to 18,000 tpm to maximise gold recovery.

- Gold recovery from 81% previously, up to 86%.
- Streamlined process that is measurable and reliable, as feeding is not controlled via bucket loaders.
- Capital investment above is driven by the following:
  - Elution heater required to enable full elution capacity on a daily basis.
  - Moving the Falcon concentrator places gravity concentration after ball mill rather than existing position in concentrator which will increase gravity recovery from 10% of total gold to in excess of 30% with associated lower recovery losses.
  - CIP front feeder is required to give accurate and measureable direct dry feed into the ball mill.
  - The live stockpile on the Bateman plant is required to generate a buffer and enable a constant feed into the crushing circuit critical for optimisation of the HSI and VSI crushers.
  - The positive displacement pump on the thickener ensures constant density feed into the CIP circuit.
  - Bateman conveyors are required to accommodate the live stockpiles and revised mobile crusher arrangement.
  - Aachen reactor and oxygen addition is a shear reactor that is needed to improved leach kinetics and improve leach retention time during pre-leach.
  - Conveyor spillage management has been addressed to eliminate or minimise spillage on the increased capacity crushing and screening circuit.

The plant upgrades are 90% complete as of mid March 2010, and completion is expected by end of March 2010.

13.3.2 Phase B - Ore Sorter Implementation - 2nd and 3rd Quarter 2010

The capital budget for full installation of the ore sorter is given in Table 13.2.

Table 13.2 Cost to incorporate Optical Ore Sorter into the beneficiation plant

Item	Estimate (ZAR 000's)
Optical sorter:	9,325
Optical unit	7,128
Installation and infrastructure	1,897
Splitter chute	300
Phase B Budget	**9,325**

The benefits of the Optical Ore Sorter are:

- Reef material is diverted directly into the process plant (milling, CIP) and 80% of the gold associated with the reef material can be recovered.
- Lower grade ROM ore can be treated in a cost effective method. Reef is sorted early in the process and higher grade reef is treated in the CIP process. This will improve the metallurgical process but also relates to the improved efficiency of the mining process whereby development ore can also be economically treated.

13.3.3 Phase C - Elution Plant Capacity Increase - 2011

Increase of the Zadra elution plant from 700 kg to 1,000 kg capacity is required for increased mining production. The budget is given in Table 13.3 below.

Table 13.3 Cost to incorporate the elution plant capacity increase

Item	Estimate (ZAR 000's)
Elution Plant Upgrade:	5,574
Phase C Budget	**5,574**

13.3.4 Phase D. CIP Mill and Leach Capacity Increase- 2012

In order for the CIP plant to accommodate an increase in feed from current capacity of 18,000 tpm to 21,000 tpm an allowance of ZAR30 million has been made comprising the following equipment and quoted costs from suppliers.

Table 13.4 CIP Upgrade capital costs

Item	Estimate (ZAR 000's)
Mill Refurbishment	1,600
Mill Installation	4,000
Mill Discharge Hopper	480
Cyclones and thickener pumps	640
One 500m^3 leach tank	3,040
Carbon Screens and Pumps	1,200
One Carbon safety screen	144
Upgrading of tailings pumps	240
Services Provision	1,600
Piping Provision	2,400
Electrical	7,200
Contingency	3,200
Engineering	4,800
Total	**30,544**

13.4 OPERATING COSTS

Operating costs have been estimated by CRG, to a +/-20% accuracy, for current plant configuration and for future when plant modifications are implemented.

Phase A plant configuration cost forecasts are based on a 45 ktpm plant feed and increased CIP plant capacity of 18 ktpm, without ore sorting implementation. CRGSA estimates that costs in this phase will average ZAR85/t treated.

Phase B and Phase C operating costs are based on the same plant feed tonnages, together with ore sorter implementation and increased elution capacity. This is presented for the two planned configurations; high grade stoping ore treatment, and low grade development ore treatment.

For high grade stoping ore treatment, costs are forecast at ZAR111/t treated. For low grade ore treatment costs are forecast at ZAR65 per ROM tonne.

It is projected that the weighted average process unit operating costs for Phase B and Phase C will be ZAR89 per ROM tonne.

These unit costs were developed from a zero base, with current unit input costs and forecast consumptions. The principal cost components comprise labour, diesel, power and reagents (cyanide

and calcium hydroxide). Unit rate estimates have been sourced from current operational experience and supplier information. Consumption data is based on current operating experience, supplier data and projected efficiency improvements.

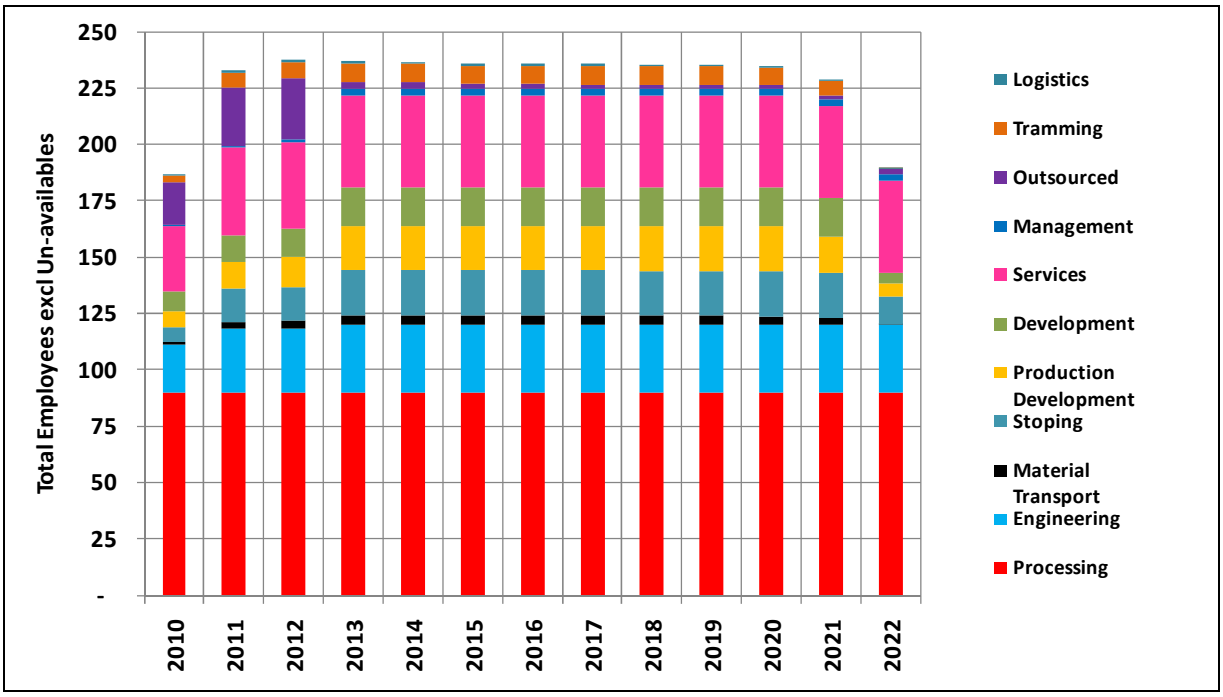
Historical costs do not provide a basis for comparison, since the plant configuration is planned to change significantly, and historical operational efficiencies have been low as a result of the variability of the material treated.

Whilst unit costs are high when compared to other Witwatersrand gold operations, the comparative complexity, treatment of low grade ores, lack of history of costs for the proposed plant configuration and implementation of new optical sorting technology results in a conclusion that the forecast operating costs will be towards the upper limit of the +/-20% accuracy stated.

14. ORGANISATION AND STAFFING

Mining complement, inclusive of management averages between 130 and 140 persons as shown in Figure 14.1. The processing complement remains stable at 90 persons over the life-of-mine.

Figure 14.1 CMR mining labour schedule



15. OPERATING AND CAPITAL COST SCHEDULES

Table 15.1 summarises the CMR life-of-mine operating costs.

Table 15.1 CMR Main Reef life-of-mine operating costs (ZAR M)

		Years											
Item	**Total**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Mining													
Waste development	31.99	2.26	2.38	0.25	0.54	1.80	3.89	2.79	3.79	3.74	6.61	3.25	0.69
Ore development	554.18	26.81	42.55	50.73	51.44	50.39	48.59	51.24	51.36	51.42	50.54	51.63	27.47
CAF raises	153.38	4.02	10.41	11.16	13.79	14.73	14.35	13.68	14.09	14.71	15.08	13.11	14.26
Stoping	176.11	4.10	10.98	12.34	15.32	16.29	16.02	16.06	16.79	17.46	17.77	15.55	17.43
Ancillary equipment	30.32	1.94	2.58	2.58	2.58	2.58	2.58	2.58	2.58	2.58	2.58	2.58	2.58
Surface infrastructure	1.88	0.12	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16
Utilities	67.95	2.82	4.49	5.28	6.17	6.16	6.17	6.17	6.17	6.16	6.16	6.12	6.09
Labour	435.92	39.98	57.08	61.54	31.00	30.98	30.91	30.93	30.90	30.88	30.87	30.79	30.05
Fixed costs	113.03	10.40	13.87	13.87	13.87	12.48	11.09	9.71	8.32	6.93	5.55	4.16	2.77
Other mining	104.76	7.55	10.14	10.23	7.57	7.81	8.01	8.36	8.62	8.90	9.15	9.46	8.96
Processing	549.70	20.51	41.09	46.22	50.48	50.00	50.34	50.79	50.24	49.51	49.37	46.27	44.88
Total	**2,219.21**	**120.52**	**195.73**	**214.37**	**192.91**	**193.38**	**192.11**	**192.46**	**193.03**	**192.45**	**193.84**	**183.08**	**155.33**

Table 15.2 summarises the underground equipment purchases.

Table 15.2 CMR capital purchases (number of units)

Item	Years												
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Ore mining													
LHD	2	1							3				
Truck	2	1		1				1		2	1		
Twin boom jumbo	1	1						1	1				
Long hole drill	1			1					1				
Waste mining													
Twin boom jumbo	1												
LHD	1												
Truck	1												

Table 15.3 summarises the CMR capital costs.

Table 15.3 CMR capital costs (ZAR M)

Item	Total	Year											
		2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Capital development	203.51	18.97	35.49	30.67	16.98	17.34	17.50	17.53	17.12	14.32	14.22	3.37	
Labour and ancillary	108.98	10.00	14.27	15.39	7.75	7.75	7.73	7.73	7.73	7.72	7.72	7.70	7.51
Ancillary	79.48	5.71	7.81	8.03	7.59	7.30	7.00	6.74	6.46	6.18	5.90	5.62	5.14
Ore mining fleet	108.49	33.23	15.74		3.52				16.24	6.54	20.51	9.20	3.52
Waste mining fleet	20.77	20.77											
Miscellaneous Capital	6.55	2.06		1.05	0.97	0.28	0.28	0.30	1.03	0.28	0.30		
Processing Plant Capital	54.30	18.73	5.57	30.00									
Sustaining	78.23			10.72	9.65	9.67	9.61	9.62	9.65	9.62	9.69		
Total capital	660.30	109.45	78.88	95.85	46.44	42.33	42.12	41.93	58.23	44.67	58.33	25.89	16.17

16. TECHNICAL CASH FLOW MODEL

Snowden prepared a base case technical cash flow model (pre-tax, undiscounted) for the CMR Main Reef mine plan, which included operating costs and future capital costs for CMR Main Reef (Table 15.3). The base case cash flow model used a gold price of US$1,120/oz, a ZAR:US$ exchange rate of ZAR8.00:US$. No allowance was made for revenue from sweepings, vampings and Main Reef Leader pillars.

The life-of-mine operating cost, including processing cost is ZAR2,219 M over the life-of-mine, as summarised in Table 15.1 and Table 15.2.

In terms of the Minerals and Petroleum Resources Royalty Act, Act No. 28 of 2008, (MPRRA) with effect from 1 March 2010, Royalties are payable to the State determined according to royalty formulae which vary according to whether minerals have been sold in a refined or an unrefined condition. The net effect is that unrefined mineral production is subject to a royalty, which may vary from 0.5% to 7% of gross mineral sales as determined in terms of the Act, or from 0.5% to 5% for refined minerals.

In the case of CRGSA, the current royalty payable has been calculated at 0.5% as advised by CRGSA (ZAR20 M per annum) and is included in the cash flow model.

The cash flow model shows a positive return of ZAR1,366 M (undiscounted, EBITDA) with an average operating cost of about ZAR4,660/oz (US$582/oz at ZAR8.00:US$) and an operating plus capital cost of about ZAR6,050/oz (US$755/oz at ZAR8.00:US$). The base case would be break-even at a gold price of US$800/oz at ZAR8.00:US$.

An analysis was undertaken to test the sensitivity of the CMR Main Reef cash flow model to a +/-30% change in key parameters. The results are summarised in Table 16.1.

Table 16.1 CMR life-of-mine base case net cash flow sensitivity (ZAR M)

Sensitivity	-30%	-15%	-7.5%	Base	+7.5%	+15%	+30%
Grade, recovery	93	730	1,048	1,366	1,685	2,003	2,640
Mining reserve	838	1,022	1,178	1,366	1,594	1,952	2,668
Metal price	93	730	1,048	1,366	1,685	2,003	2,640
Capital	1,565	1,466	1,416	1,366	1,317	1,267	1,168
Mining cost	1,867	1,617	1,492	1,366	1,241	1,116	866
Processing cost	1,531	1,449	1,408	1,366	1,325	1,284	1,202

Lying on top of the parting will be the Main Reef Leader pillars and sweepings. The pillars contribute about 4% of the total mining area. There appears to be a consistent 10 cm of fine sweepings on the Main Reef leader footwall. The pillars and sweepings will be recovered if the parting is hauled to surface and processed through the low grade stream. A sensitivity analysis assumed that 900,000 t of the parting at 2.5 g/t plus an additional 300,000 t of sweepings and pillars at 2.5 g/t would be recovered and processed at a cost of ZAR80/t. In this case, the cash flow model shows a positive return of ZAR1,966 M. This analysis assumes the pillars and higher grade parting can be selectively recovered. In areas where the pillars are present, a three-pass blasting sequence may reduce the amount of dilution and increase the head grade; however this has not been tested.

Table 16.2 CMR base case technical cash flow

Item	Total	Year											
		2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Ore to CIP	2,674	77	187	218	250	247	250	253	250	245	244	220	231
Grade (g/t)	5.8	5.8	6.1	6.1	6.1	6.2	6.0	5.5	5.7	5.8	5.7	5.7	5.5
CIP recovery	95%	95%	95%	95%	95%	95%	95%	95%	95%	95%	95%	95%	95%
Gold sold (koz)	476.19	13.58	34.62	40.87	46.37	46.96	45.65	42.41	43.21	43.55	42.34	38.05	38.57
Gold price (US$/oz)	1,120	1,120	1,120	1,120	1,120	1,120	1,120	1,120	1,120	1,120	1,120	1,120	1,120
Exchange rate (ZAR:US$)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Revenue (ZAR M)	4,266.70	121.71	310.22	366.18	415.49	420.79	409.02	380.01	387.19	390.22	379.37	340.92	345.58
Operating cost (ZAR M)	2,219.21	120.52	195.73	214.37	192.91	193.38	192.11	192.46	193.03	192.45	193.84	183.08	155.33
Capital cost (ZAR M)	660.30	109.45	78.88	95.85	46.44	42.33	42.12	41.93	58.23	44.67	58.33	25.89	16.17
Royalty (ZAR M)	20.73	0.56	1.50	1.78	2.03	2.05	2.00	1.85	1.89	1.90	1.85	1.65	1.68
Net Cash flow (ZAR M)	1,366.46	108.82	34.11	54.18	174.11	183.02	172.79	143.78	134.04	151.20	125.35	130.29	172.40
Operating cost (US$/oz)	582.54	109.03	706.64	655.67	520.01	514.72	526.05	567.23	558.36	552.36	572.27	601.47	503.42
Ore to CIP	2,674	77	187	218	250	247	250	253	250	245	244	220	231

17. RISKS

Snowden has worked closely with CRGSA management and its consultants to compile a technically and economically viable mine plan for the Main Reef at CMR. The mining method, production schedule and cost estimates have been prepared to a pre-feasibility level of confidence.

Although CRGSA has demonstrated that the Main Reef can be successfully and safely accessed, and that the Main Reef can be extracted using highly mechanised mining methods, Snowden considers the currently described CMR Main Reef mine plan to be Medium to High Risk. Small changes (individually or in combination) of modifying factors, mine layout, operating cost, recovery, ore loss and dilution, metal price and exchange rate may make the current mine plan uneconomic.

There are a number of technical risks at CMR that are material to the success of the project.

17.1.1 Resource estimate

The resource estimate is classified as Indicated and Inferred. Only the Indicated Resource has been used to generate the Ore Reserve, however there is about 6% Inferred Resource in the mining schedule.

For the current mine plan, Snowden approximated the position of the higher-grade ore shoots for more detailed mine planning. Confidence in the project will be improved by generating a more detailed resource estimate more suitable for mine planning. The resource estimate was estimated using historical data. The density of commercial development on surface reduces CRG's capacity to drill surface exploration holes while the flat dipping nature of the reefs limits the range of exploration drilling from underground.

17.1.2 Future ground conditions

The high grade ore shoots have been defined from historical data and can only be confirmed by decline development and reef driving. The mine will continually be developing into areas where ground conditions and the extent of old stoping are unknown. Old mine plans show the location of old stopes, however more Main Reef may have been extracted than shown on the plans.

17.1.3 Dewatering of the Central Basin

The Central Rand Basin experiences an average water ingress of 57 Mega litres per day (ML/day). The water level was held at 1,080 mbs by pumping on the East Rand, but has been allowed to flood at a rate of a rate of 0.47 m/day to 0.90 m/day since October 2008 since pumping ceased. A report by Western Utilities Corporation (WUC) states that the water level has risen 415 m in the last 16 months.

Because all other mining activities have ceased in the Central Basin, CRGSA may be required to construct a pumping and water treatment arrangement at one of the old shafts to protect their operation at CMR from flooding. WUC predict that the water level at CMR will rise to about 400 mbs by early 2011.

Murray and Roberts (M&R) identified a number of dewatering options for CRGSA. M&R developed indicative capital and operating costs for the installation of submersible pumps at 300 mbs and 400 mbs in a shaft to the east of CMR.

M&R estimate the capital cost of the pumping system to be ZAR178 M for the submersible pumps and the water treatment plant. Operating costs were estimated by M&R to be about ZAR76 M per year from April 2011. CRGSA controls about 36% of the Central Rand Basin as prospecting right and 10% as a mining right. CRGSA believes it will need to contribute this proportion of the capital and operating cost. There is potential to sell the treated water. Snowden has not considered this possible revenue in this report.

CRGSA's Ore Reserve extends to about 800 mbs and the submersible pump option will allow additional pump stages to be installed and the pumps progressively lowered as the water level is reduced.

CRGSA has not made a decision to proceed with the pump station, nor have the government, government departments or other mine owners agreed to contribute to the capital and operating costs. M&R capital and operating cost estimates were developed in 2009. WUC note that capital overruns are possible due to increased steel prices and power and chemical costs may rise in the future.

17.1.4 Skilled workforce

The current lack of skilled supervisors and operators has been addressed by engaging an Australian contractor to work alongside and train local personnel. There is a risk that once trained, operators will be attracted away from CRGSA by better conditions elsewhere.

17.1.5 Mine planning

Trial mining, although successful, has only accessed a small part of the orebody. Testing and refining of the mining methods will continue under full production conditions. The current mine plan has only been prepared to a pre-feasibility level of confidence. CRGSA plans to proceed towards achieving full production and should complete a detailed implementation plan as soon as possible.

17.1.6 Ore Sorter

The ore sorter to be used for surface beneficiation has not been tested in production mode and efficiencies and costs are uncertain.

17.1.7 Regulatory

The following may impact on the regulatory regime in South Africa:

- changes to legislative framework
- environmental permitting and auditing
- water management
- tailings management.

18. ENVIRONMENTAL AND WATER MANAGEMENT

18.1.1 Introduction

This section provides a description and commentary of the environmental management aspects of the mine. The criteria used in the assessment are based on the current legislative requirements of the Republic as well as generally accepted practice in the mining industry.

18.1.2 Legislation

The core pieces of legislation and associated regulations governing environmental management of mining activities and environmental protection are The National Environmental Management Act, 1998 (107 of 1998) (NEMA) and The Mineral and Petroleum Resources Development Act, 2002 (Act 28 of 2002) (MPRDA), NEMA and MPRDA establish the Department of Water and Environmental Affairs (DWEA) and the Department of Mineral Resources (DMR), respectively. The Environmental Impact Assessment regulations require that an Environmental Impact Assessment (EIA) be prepared for all investments that have a major impact on the environment. The identification and implementation of adequate environmental mitigation measures is also regulate by DWEA.

The regulation of the environmental impacts of the mining sector also involves other sectors, each with its own regulatory instruments: water affairs, transport, radiation protection, health, national heritage conservation, local government, agriculture and land. The regulations set environmental quality standards and makes the polluter responsible for meeting them. All effluents from mining operations are regulated through a system of permits, licenses and fines. Dumps, including overburden and tailings dams are similarly regulated.

Constitution of South Africa, 1996 (Act 108 of 1996)

The Constitution of South Africa, 1998 (Act 108 of 1996) provides for an environmental right (contained in the Bill of Rights, Chapter 2). In terms of Section 7, the state is obliged to respect, promote and fulfil the rights in the Bill of Rights.

Regulations published in terms of the National Environmental Management Act, Act 107 of 1998 provide the framework for the undertaking of Environmental Impact Assessments in South Africa. (NEMA). The act currently provides 18 specific principles relating to Environmental Management. Of key importance are the precautionary principle and the polluter pays principle.

These 18 principles of NEMA are to be recognised during the undertaking of the Impact Assessment Process and play a key role during the decision making process. The regulations identify a list of activities that must either be subjected to a basic assessment or Environmental Impact Assessment prior to the activity being undertaken.

Mineral and Petroleum Resources Development Act, 2002 (Act 28 of 2002)

A number of fundamental principles and objectives outlined in the Mineral and Petroleum Resources Development Act, Act 28 of 2002 (MRPDA) have relevance to this section:

- Promote employment and advance the social and economic welfare of all South Africans.
- Give effect to Section 24 of the Constitution by ensuring that the nation's mineral and petroleum resources are developed in an orderly and ecologically sustainable manner while promoting justifiable social and economic development.
- Ensure that holders of mining and production rights contribute towards the socio-economic development of the areas in which they are operating.

In addition, in terms of the latest legislation, regulations as well as guidelines issued by the Department of Mineral Resources, a process very similar to the Environmental Impact Assessment Process contemplated by the National Environmental Management Act must be followed during the compilation of an EIA/EMP.

Environmental Conservation Act, 1989 (Act 73 of 1989)

The Environmental Conservation Act was, prior to the enactment of the National Environmental Management Act, the primary legislation governing protection and control of the environment, but the National Environmental Management Act has substantially eroded its powers. The original listed activities that would trigger an EIA investigation have been replaced by the current EIA regulations that have been promulgated under the National Environmental Management Act. The provisions that have survived deal with, amongst other incidental issues, protected natural environments, waste management provisions, limited development areas, regulations on noise, vibration and shock, general regulatory powers and various provisions relating to offences and penalties.

National Water Act, 1998 (Act 36 of 1998)

The National Water Act, 1998 (Act No. 36 of 1998) (NWA), identifies 11 consumptive and non-consumptive water uses, which must be authorised under a tiered authorisation system, which include Scheduled uses, General Authorisations, or Licenses. It allows for the "Reserve" and provides for public consultation processes in the establishment of strategies and making decisions, and guarantees the right to appeal against such decisions. In terms of the National Water Act, the following water uses are identified:

(a) Taking water from a water resource.

(b) Storing water.

(c) Impeding or diverting the flow of water in a watercourse.

(d) Engaging in a stream flow reduction activity contemplated in Section 36.

(e) Engaging in a controlled activity identified as such in section 37(1) or declared under section 38(1).

(f) Discharging waste or water containing waste into a water resource through a pipe, canal, sewer, sea outfall or other conduit.

(g) Disposing of waste in a manner which may detrimentally impact on a water resource.

(h) Disposing in any manner of water which contains waste from, or which has been heated in, any industrial or power generation process.

(i) Altering the bed, banks, course or characteristics of a watercourse.

(j) Removing, discharging or disposing of water found underground if it is necessary for the efficient continuation of an activity or for the safety of people.

(k) Using water for recreational purposes.

The National Water Act recognises water uses as existing lawful uses provided that it was authorised by or under any law that was in force immediately before the date of commencement of the National Water Act.

Specific Government Notices have also been published in the Government Gazette, specifically relating to mining activities. These notices relate to restriction on the locality of certain mining infrastructure as well as the design capacity of certain pollution control facilities.

National Environmental Management: Air Quality Act and the Atmospheric Pollution Prevention Act

Both the Atmospheric Pollution Prevention act No 45 of 1965 and the National Environmental Management: Air Quality Act 39 of 2004 provides requirements for the:

- Control of dust
- Control of noise
- Control of offensive odours.

National Heritage Resources Act, 1998 (Act 25 of 1998)

Objects, which have been declared heritage objects, may have archaeological and paleontological significance. These must be listed in a Register maintained by the South African Heritage Resources Agency (SAHRA) and must be protected by the owner.

Hazardous Substances Act, 1973 (Act 15 of 1973)

The objective of the Act is to provide for the control of substances which may cause injury or ill health to or death of human beings by reason of their toxic, corrosive, irritant, strongly sensitising or flammable nature or the generation of pressure. In terms of the Act, substances are divided into schedules, based on their relative degree of toxicity and the Act provides for the control of importation, manufacture, sale, use, operation, application, modification, disposal and dumping of substances in each schedule.

National Nuclear Regulator Act (Act 47 of 1999)

The NNR is regulated by the National Nuclear Regulator and Certificates of Registration are required for radiation sources above a certain threshold. Mining practices in South Africa are such that whilst individual operations are usually materially compliant, strict compliance can seldom be demonstrated and is rarely enforced by the relevant regulatory authorities.

18.1.3 Environmental Compliance

Authorisations

CRGSA is currently the holder of the following mining rights as contemplated in the MPRDA:

- GP30/5/1/2/2(140)MR granted to Ferreira Estates and Investment Company Ltd for the CMR, Crown Mines and Langlaagte Areas. The right is valid for a period of eight years is will expire on 11 November 2016.

- GP30/5/1/1/2(44)PR (application - now part of Mining Right (140) MR) issued in the name of Gravelotte Mining (Pty) Ltd. This right is valid for a period of five years and will expire on 3 November 2010.
- Various prospecting rights that may expire during 2011.

Environmental Management Programme Report

CRGSA is currently in possession of an approved Environmental Management Programme Report compiled by Ferret Mining and Environmental Services (Pty) Ltd for the former mining areas of Crown Mine, Consolidated Main Reef and Langlaagte. While CRGSA treats the consolidated Central Rand goldfields project area as a single mining development area, it actually comprises several discrete prospecting rights Areas. While the prospecting and mining rights to these areas are held by various companies and organisation, CRGSA reportedly managed to secure access to these resources through various agreements with the prospecting and mineral rights holders.

In keeping with the requirements of the MPRDA, EMPR compliance reports have been undertaken during 2009. No reports subsequent to June 2009 were presented to the reviewer.

Water Use License Application

Documentation presented indicates that a water use license application for the various uses associated with the mining operations was submitted towards the end of 2009. The application was augmented by an integrated water and waste management plan. Comments received from DWAF indicated that various aspects need to be addressed by the applicant and that further issues may be raised by the relevant authority. Taking into consideration the current capacity of regulatory authority, the applicant is likely to experience significant delays prior to obtaining the required license.

Environmental Auditing

In keeping with the requirements of the MPRDA the mine has been undertaking environmental audits, with the last documented audit completed for the period April – June 2009. Findings of the audits were highlighted in a report and corrective measures presented to the client. It is currently unclear whether these reports had been submitted to the DMR, although reference is made to the presentation of a report during November 2009.

18.2 ENVIRONMENTAL ASPECTS

Ground Water

A ground water mound exists underneath the operational slimes dam due to seepage of contaminated ground water through the base of the unlined tailings disposal facility. This has caused ground water pollution plumes which discharges contaminated ground water base flow into the stream. The current ground water quality on the old workings is significantly polluted and the ore body does have the potential to generate Acid Mine Drainage. CRGSA is aware of the legacy of the historical mining activities and has adapted their proposed tailings disposal methods to not further impact on the ground water quality. This is however dependent on the construction of the neutralisation plant and the efficient function of this system.

Air Quality

The proposed activities has the potential to significantly affect the air quality in the area, with dust fall out levels ranging from “very heavy” to “moderate” for various residential areas in the immediate vicinity of the operations. While various sources can be blamed for the high dust fall out levels, CRGSA is expected to contribute to the impact.

Socio-Economic Environment

The project is anticipated to have a net positive impact during the construction and operational phases on the region that is currently economically depressed. The positive impacts will include:

- stimulation of the economy
- increased government income

- decrease in unemployment levels
- skills transfer.

Financial Provision

The financial commitment required for the proposed development was completed by the external consultants and estimate the requirements in the excess of ZAR40 M. It is reported that the estimate is conservative but may change significantly as details were being finalised for the Langlaagte slot mining operations. The calculation of the financial provision required was completed during 2008 and requires updating. This amount is not included in the CMR cash flow model.

The report further indicates that a company has been set up to co-ordinate the joint efforts with neighbouring mine operators to manage the effluent treatment and clean water management. Should these efforts be unsuccessful the mine will face significant financial and operation challenges going into the future.

18.3 TAILINGS MANAGEMENT

CRGSA currently disposes of their tailings to an existing facility and it is anticipated that this will not pose any major challenges. It is, however a short term solution and is contingent upon them adhering to the requirements not only of the authorities but also the owners of that footprint.

The disposal of tailings to the mining pits is also an option, provided that the implications from a pollution and permitting viewpoint are addressed. The potential liabilities in this regard should not exceed by much the costs of removing the tailings from the pits for disposal elsewhere, which can easily be calculated. The plan is also based on the implied assumption that the tailings are assessed to be relatively benign oxide materials.

Disposal of underground tailings is an area of significant unknowns and no comment can be made on the feasibility of this disposal method without reviewing the relevant studies, detailed plans and designs.

19. CONCLUSIONS

19.1 RISK CONSIDERATIONS

In Snowden's opinion the key to the successful development of CRGSA's Central Rand project will be carefully considered mine planning based on high quality exploration data.

The location of the project in the midst of a very large city will present a wide range of challenges for project management and project development. On the positive side Johannesburg offers a large labour pool, excellent infrastructure and a strong mining culture. On the negative side it is to be expected that the project's management will face a range of hurdles on several fronts such as environmental management, community interaction and water management. All these facets of the project are nevertheless manageable assuming the right personnel are in place. It is notable that CRGSA has already shown a strong inclination to engage high level expertise to assist with studies undertaken so far.

The Central Rand project has the potential to develop into a number of operations of similar size to those planned at CMR. The current environment for developing and operating gold mines is strikingly different (i.e. more positive) to the negative sentiments that prevailed around the gold mining industry when mining on the Central Rand goldfield ceased in the 1960s and 1970s. However, in many respects the project is challenging and will face numerous risks.

In Snowden's opinion, the greatest risks to the successful execution of CRGSA's Central Rand project reside in CRGSA being able to progress the project in a reliably budgeted time and cost framework on a scale currently conceptualised by the company. Snowden considers the currently described CMR Main Reef mine plan to be Medium to High Risk. Small changes (individually or in combination) of modifying factors, mine layout, operating cost, recovery, ore loss and dilution, metal price and exchange rate may make the current mine plan uneconomic.

CRGSA will almost certainly encounter a wide range of 'unexpected' events as it proceeds to: (1) access old workings, (2) confirm and upgrade resource estimates, (3) identify areas suitable for application of CRGSA's proposed mining method, (4) compile a fully costed mining implementation study and (5) implement the mine plan.

Unexpected events could include more time taken to access old workings than planned, non-availability of suitably qualified and experienced man power to execute the plan, underground conditions more hazardous than reasonably anticipated in initial planning. CRGSA has a considerable amount of exploration work to do in order to delineate Probable Mineral Reserves outside the current CMR mining footprint.

19.2 FURTHER POTENTIAL RESOURCES

Additional exploration potential

Snowden 2007 identified a number of additional exploration targets at the Central Rand project. These include:

- old tailings in streams and dams
- gold in surface materials
- underground mine pillars
- recovery of sweepings and vampings
- extension of known shoots
- hangingwall and Footwall Mineralisation
- additional Reefs
- Pyritic Quartzite Channels
- uranium mineralisation.

These targets are being investigated to a greater or lesser extent and investigations are continuing. The bulk of the drilling to date was undertaken to this end and these targets are still under investigation.

Reef mining below 900 mbs vertical depth

This area has already been defined as an Inferred Resource by Lemmer, 2007b, 2009. Upgrading of the resource confidence will involve dewatering the old workings to gain access to stopes in the depth range 900 mbs to 2,800 mbs vertical depth. This represents an enormous down dip extent and is relevant principally to the Main Reef Leader and to a much lesser extent, the South and Main Reef stopes.

Dewatering of old workings will provide CRGSA with significantly increased options for exploiting remaining resources but to embark on such a project will require careful consideration through a detailed feasibility study.

Reef mining below 2,800 mbs vertical depth

This exploration project is aimed at extending mining of the high grade Main Reef Leader in the virgin ground down-dip from the deepest old workings. This project would effectively take the mine into the area of ultra-deep mining in the depth range 3,000 mbs to +4,000 mbs. A mining feasibility study for such a project will be founded on reef assay data from deep surface diamond drill holes. The drilling of such holes to the depths required to properly evaluate a 'deeps' project will be time consuming and costly. This project falls in the category 'long term' project.

20. DECLARATION BY SNOWDEN MINING INDUSTRY CONSULTANTS

20.1 INDEPENDENCE

Snowden Mining Industry Consultants (Pty) Ltd is an independent firm of consultants providing a comprehensive range of specialist technical and financial services to the mining industry in Australia and overseas, through offices in Perth, Brisbane, Johannesburg, London, Vancouver and Belo Horizonte. Our corporate services include technical audits, project reviews, valuations, independent expert reports, project management plans and corporate advice.

This report has been prepared independently and in accordance with the VALMIN and JORC Codes. The authors do not hold any interest in CRG or CRGSA, their related parties, or in any of the mineral properties which are the subject of this report. Fees for the preparation of this report are being charged at Snowden's standard rates, whilst expenses are being reimbursed at cost. Payment of fees and expenses is in no way contingent upon the conclusions drawn in this report.

20.2 QUALIFICATIONS

This report was prepared by Mr Allan Earl (Divisional Manager: Mining, Perth), Mr Mark Burnett (Divisional Manager: Applied Geosciences, Johannesburg) and Mr Dennis Cowen (Divisional Manager: Corporate, Johannesburg), and in accordance with the Code for the Technical Assessment and Valuation of Mineral and Petroleum Assets and Securities for Independent Experts Reports (the VALMIN Code) and the 2004 Edition of The Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves 2004 Edition (the JORC Code (2004)). The report was reviewed by Dr Leon Lorenzen (Executive Consultant: Metallurgy, Perth) and Mr Bill McKechnie (General Manager, Africa).

Mr Allan Earl is a mining engineer with over 30 years experience in underground mine design, planning and operations in Australia and South Africa. During this time he has held senior technical and management positions. Since joining Snowden in 1996, he has consulted on a large number of mining projects in several countries. His areas of expertise include mining feasibility studies at all levels, underground mine planning and design, reserve estimation, mine operations management and project management.

Mr Mark Burnett has 17 years experience in mine geology and resource estimation. Mark has particular experience in geological modelling, resource estimation and audits, mine planning, technical reviews, due diligence and grade control. Prior to joining Snowden, Mark was the New Business Manager (Technical) for Harmony Gold Mine Ltd. In this role Mark reviewed potential acquisition targets, both locally and internationally. Since joining Snowden Mark has worked on a number of projects, including exploration projects, gold, uranium, coal and base metals.

Mr Dennis Cowen is a metallurgist with 25 years broad experience in the mining industry including precious metals, base metals, coal and industrial minerals in Africa and Australia. He has consulted for over 10 years, including financial and technical audits, valuations and advanced risk modelling, project management, technical advisory and business development for companies such as Anglo American, Anglo Platinum, BHP Billiton, Ivanhoe Nickel and Platinum, Incwala Resources and Pan Palladium. In addition, Dennis has 10 years experience in metallurgy and minerals processing operations, design and research.

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[1] RQSL – Rand Quest Syndicate Limited, now Central Rand Gold South Africa (Pty) Ltd

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21.1 GLOSSARY

aeromagnetic	A geophysical technique of exploring an area by measuring the magnetic intensity of the rock from an aircraft.
alluvial	Water transported sedimentary deposit.
alluvial fan	A low, outspread, relatively flat to gently sloping mass of alluvium deposited by a stream or river. Viewed from above, it has the shape of an open fan, the apex being at the valley mouth.
anticline	A fold, the core of which contains the stratigraphically older rocks; it is convex upward.
Archaean	That period of geological time prior to 2.5 Ga years before present, i.e. the earliest part of the Precambrian.
arenite	A general name used for consolidated sedimentary rocks composed of sand-sized fragments irrespective of composition.
argillaceous	Sedimentary rock containing an appreciable amount of clay.
assay	The chemical analysis of ore samples to determine their metal content.
auriferous	Said of a substance that contains gold.
bedding plane	A planar surface that visibly separates each successive layer of stratified rock (of the same or different lithology) from its preceding or following layer.
braided	Divergence of stream channels into complex system of smaller channels.
capital expenditure (capex)	Specific project expenditure for equipment, materials and infrastructure.
channel	An abandoned or buried watercourse represented by stream deposits of gravel and sand.
Charter	The Broad Based Socio-Economic Empowerment Charter for the South African Mining Industry.
cut-off grade	The grade which distinguishes the material within a mineralised body that is to be extracted and treated from the remainder.
clast	An individual constituent, grain, or fragment of a sediment or rock, produced by the mechanical weathering (disintegration) of a larger rock mass.
Competent Person	A person who is a member of the South African Council for Natural Scientific Professions (SACNASP), or the Engineering Council of South Africa (ECSA), or the South African Council for Professional Land Surveyors and Technical Surveyors (PLATO) or any other statutory South African or international body that is recognised by SAMREC. A Competent Person should have a minimum of five years experience relevant to the style of mineralisation and type of deposit under consideration and to the activity which that person is undertaking. If the

	Competent Person is estimating, or supervising the estimation of Mineral Resources, the relevant experience must be in the estimation, assessment, evaluation and economic extraction of Mineral Reserves.
conformable	Said of strata or stratification characterised by an unbroken sequence in which the layers are formed one above the other in parallel order by regular, uninterrupted deposition under the same general conditions.
conglomerate	A coarse-grained, clastic sedimentary rock composed of rounded to subangular fragments larger than 2mm in diameter set in a fine-grained matrix of sand, silt or any other natural cementing material.
contour	An imaginary line or surface along which a certain quantity, otherwise variable, has the same value, e.g. a structure contour.
cut-off grade	The grade which distinguishes the material within a mineralised body that is to be extracted and treated from the remainder.
detrital	Minerals occurring in sedimentary rocks, which were derived from pre-existing rocks either within or outside the basin of deposition.
diamond drill	A rotary type of rock drill, with the drill bit studded with diamonds, that cuts a core of rock that is recovered in long cylindrical sections.
dip	The angle that a structural surface (e.g. a bedding or fault plane), make with the horizontal, measured perpendicular to the strike of the structure.
down-dip	A direction that is downwards and parallel to the dip of a structure or surface.
exploration	Prospecting, sampling, mapping, diamond drilling and other work involved in the search for mineralisation.
fault	A surface or zone of rock fracture along which there has been displacement, from a few centimetres to a few kilometres in scale.
fire assay	The assaying of metallic ores by methods requiring the use of furnace heat.
fluvial	Produced by the action of a stream or river.
flyspeck carbon	Very small grains of carbonaceous material, which is often associated with high gold grades, due to the affinity of gold with carbon.
fold	Plastic deformation of previously horizontal rock strata.
footwall	The underlying side of an orebody, fault, or other structure.
Formation	The basic or fundamental rock-stratigraphic unit in the local classification of rocks, consisting of a body of rock generally characterised by some degree of internal lithologic homogeneity or distinctive lithological features. Formations may be combined in groups or subdivided into members. A formation name generally consists of a geographic name followed by the word ‘formation’.
greenstone	A field term for any compact dark-green altered or metamorphosed basic igneous rock that owes its colour to chlorite.
grit	A coarse-grained sandstone characterised by angular particles.
Group	A major stratigraphic unit next higher in rank than Formation, consisting wholly of two or more contiguous or associated Formations having significant lithologic features in common. The Group name is customarily preceded by a geographic name.
hanging wall	The overlying side of an orebody, fault, or other structure.
HDSA	Historically Disadvantaged South Africans, being South African nationals who were, prior to 1994, disadvantaged whether by legislation or convention. Inferred Mineral Resource 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.
in situ	Reserves still in the ground, i.e. within unbroken rock.
isopach	A line drawn on a map through points of equal thickness of a designated stratigraphic unit or a group of stratigraphic units.
JORC Code (2004)	JORC Code, 2004 edition - The Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves.
Kaapvaal Craton	The ancient, proto-continental crystalline basement of South Africa.
leaching	dissolution of gold during the recovery process using cyanide.
level (mining level)	Horizontal tunnel – the primary purpose of which is the transport of personnel and materials.
lithological	Geological description pertaining to different rock types.
marker	An easily recognised geologic feature having characteristics distinctive enough for it to serve as a reference or datum or to be traceable over long distances.
Member	A stratigraphic unit of subordinate rank, comprising some specially developed part of a varied Formation.
metamorphic	Pertaining to the process of metamorphism or to its results.
metamorphism	The mineralogical and structural adjustment of pre-existing rocks in response to marked changes in temperature, pressure, shearing stress, and chemical environment at depth.
Mineral Resource	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.
'new order' prospecting rights	see unused 'old order' prospecting rights.
normal fault	A fault in which the hanging wall moves downward relative to the footwall.
'old order' rights	See unused 'old order' prospecting rights.
oligomictic	A conglomerate with over 95% of the clasts comprised of a single rock type.
ore	The naturally occurring material from which a mineral, or minerals, of economic value can be extracted.
orebody	A continuous, well-defined mass of material of sufficient ore content to make extraction economically feasible.
orthoquartzite	A clastic sedimentary rock that is made up almost exclusively of quartz sand, that is relatively free of or lacks a fine-grained matrix, and that is derived by secondary silicification.
palaeo-high	A high lying area in the topography at the time when the surface was exposed.

palaeoslope	The direction of initial dip of a former land surface.
placer	A surficial mineral deposit formed by mechanical concentration of mineral particles from weathered debris. The mechanical agent is usually alluvial, and the mineral is usually a heavy metal such as gold.
polymictic	A conglomerate with clasts comprised of many rock types.
prospecting rights	The rights granted to conduct prospecting activities over properties in South Africa in terms of the MPRDA.
pyrite	Iron sulphide mineral (FeS2).
quartz	Crystalline silica, the commonest gangue mineral of ore deposits.
quartzite	A very hard but unmetamorphosed sandstone consisting chiefly of quartz grains that have been completely and solidly cemented with secondary silica.
reef	A gold bearing sedimentary horizon, normally a conglomerate band, that may contain economic levels of gold mineralisation.
resource	A tonnage or volume of rock or mineralisation or other material of intrinsic economic interest, the grades, limits and other appropriate characteristics of which are known with a specified degree of knowledge.
sandstone	A medium-grained, clastic sedimentary rock composed of abundant and rounded or angular fragments of sand size set in a fine-grained matrix (silt or clay) and firmly united by cementing material such as silica, iron oxide or calcium carbonate.
sequence	A term for rocks formed during an era.
shaft	A vertical or subvertical excavation used for accessing an underground mine; for the transport of personnel, equipment and supplies; for the hoisting of ore and waste; for ventilation and utilities; and/or as an auxiliary exit.
shale	A fine-grained detrital sedimentary rock, formed by the compaction of clay, silt or mud.
Snowden	Snowden Mining Industry Consultants (Pty) Ltd.
South Africa	The Republic of South Africa.
stope	Underground excavation created by mining.
stratigraphy	The branch of geology that deals with the definition and description of major and minor natural divisions of rocks and the arrangement of the strata and taking special cognisance of geographic position and chronological order of sequence.
strike (geol)	The direction or trend that a structural surface (e.g. a bedding or fault plane) takes as it intersects the horizontal plane, always perpendicular to the dip direction.
structure contour	A contour that portrays a structural surface such as faults and formation boundaries. The resulting structure contour map portrays subsurface configuration by means of structure contour lines.
subcrop	Describes a rock unit that unconformably underlies another rock unit.
Sub-vertical (shaft)	An opening cut below the surface downwards from an established surface shaft.
sulphide	Sulphur-bearing mineral.
Supergroup	A formally named assemblage of related Groups, or of Formations and Groups, having significant lithologic features in common.
Sweepings	Mineralisation not removed from the stopes.

syncline	A fold, the core of which contains the stratigraphically younger rocks; a basin shaped fold.
tectonic	Pertaining to the forces involved in, or the resulting structures or features of, tectonics.
tectonics	A branch of geology dealing with the broad architecture of the upper part of the Earth's crust i.e. the regional assembling of structural or deformational features, a study of their mutual relations, their origin, and their historical evolution.
throw	The amount of vertical displacement.
unconformity	Buried erosion surface separating two rock units where the older was exposed to erosion for a long interval of time prior to the deposition of the younger.
unused 'old order' mineral right	Mineral rights, mining title, or rights to prospect, whether coupled with a mining authorisation or prospecting permit or not, and which relevant right was not actively being prospected or mined at the commencement of the MPRDA. The holder of such right had one year from the commencement of the MPRDA to apply for a new order prospecting right in terms of Sections 16 and 22 of the MPRDA respectively.
up-dip	A direction that is upwards and parallel to the dip of a structure or surface.
uraninite	A strongly radioactive, brownish-black mineral, UO2, forming the chief ore of uranium and containing variable amounts of radium, lead, thorium and other elements as impurities.
VALMIN Code	The VALMIN Code (2005) - Code for the Technical Assessment and Valuation of Mineral and Petroleum Assets and Securities for Independent Expert Reports.
Vamping	Mineralisation left in reef drives, sumps and cross cuts below loading boxes. Witwatersrand/Wits A sedimentary basin in South Africa and repository of the world's largest
Basin	known gold deposit.

21.2 ABBREVIATIONS

Au	the chemical symbol for gold
AGA	AngloGold Ashanti Limited
BEE	Black Economic Empowerment
CIL	Carbon in Leach – method of gold recovery using activated carbon during the leaching process
CIP	Carbon in Pulp – method of gold recovery using activate carbon after leaching
CMR	Consolidated Main Reef
CPR	Competent Persons Report
CRGSA	Central Rand Gold South Africa (Pty) Ltd
DME	Department of Minerals and Energy
DRD	DRDGold Limited
DMR	Department of Mineral Resources
EIA	Environmental Impact Assessment
EMP	Environmental Management Plan
FEIC	Ferreira Estate and Investment Company Limited

HDSA	Historically Disadvantaged South Africans
HSI crusher	Horizontal shaft impact crusher
LHD	Load-haul-dump
LSE	London Stock Exchange
Middindi	Middindi Consulting (Pty) Ltd
MPRDA	Minerals and Petroleum Resources Development Act, 2002 (Act No.28 of 2002)
NEMA	The National Environmental Management Act, 1998 (107 of 1998)
NPI	New Profit Interest
Puno	Puno Gold Investments (Proprietary) Limited
Snowden	Snowden Mining Industry Consultants (Pty) Ltd
VSI crusher	Vertical shaft impact crusher.

21.3 UNITS

cm	a centimetre
cm.g/t	Gold content per linear centimetre. Traditional standard method used in Witwatersrand goldfield for quantification of gold content in a reef horizon. cm.kg/t a centimetre-kilogram per metric tonne – metal accumulation over channel width
g	grams
Ga	a thousand million years/billion years
g/t	grams per metric tonne – metal concentration
Ha	a hectare
kg	a kilogram
kg/t	kilograms per metric tonne
km	kilometre
km^2	a square kilometre
koz	a thousand ounces
m	a metre
masl	metres above sea level
mbs	metres below surface
mm	a millimetre
Ma	Million years
Mt	a million metric tonnes
Moz	a million ounces
oz	a fine troy ounce equalling 31.10348 grams
R, ZAR	South African Rand
t, Tonnes	a metric tonne equalling 1000 kilograms
t/m^3	a metric tonne per cubic metre
µm	microns
US$	United States Dollar
US$/oz	United States Dollar per ounce

%	percentage

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Perth, Brisbane, Vancouver, Johannesburg, London, Belo Horizonte

Competent Person's Consent Form

Pursuant to the requirements of clause 8 of the 2004 JORC Code (Written Consent Statement)

Report Description

Competent Persons' Report on the Mineral Assets of Central Rand Gold Limited
(insert name or heading of report to be publicly released) ("Report")

Central Rand Gold Limited.
(insert name of company releasing the Report)

The Central Rand Project (Individual deposits tabulated below)
(insert name of the deposit to which the Report refers)

New order right	Reference number
Mining right (3,204 Ha)	
Certain portions of CMR, Crown Mines and Langlaagte	GP30/5/1/2/2(140)MR
Prospecting rights (16,468 Ha)	
Remainder of the 3Cs area not included in the mining right	GP30/5/1/1/2/(22)PR
AngloGold Ashanti	GP30/5/1/1/2/(30)PR
Village Main	GP30/5/1/1/2(148)PR
Western Area A	GP30/5/1/1/2(253)PR
Western Area B	GP30/5/1/1/2(254)PR
Western Area E	GP30/5/1/1/2(257)PR
Prospecting right pending but not yet executed (1,469 Ha)	
Simmer and Jack	GP30/5/1/1/2(167)PR
Application pending with DMR (37,284 Ha)	
South Deeps	GP30/5/1/1/2(295)PR

12 April 2010
(Date of Report)

Statement

I, ...Allan Earl..... confirm that:
(insert full name)

- I have read and understood the requirements of the 2004 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves ("2004 JORC Code").
- I am a Competent Person as defined by the 2004 JORC Code, having five years experience which is relevant to the style of mineralisation and type of deposit described in the Report, and to the activity for which I am accepting responsibility.
- I am a Member or Fellow of The Australasian Institute of Mining and Metallurgy or the Australian Institute of Geoscientists or a 'Recognised Overseas Professional Organisation' ("ROPO") included in a list promulgated by ASX from time to time.
- I have reviewed the Report to which this Consent Statement applies.
- I am a consultant working for Snowden Mining Industry Consultants (Pty) Ltd and have been engaged by Central Rand Gold Limited to prepare the documentation for the Central Rand Project on which the Report is based, for the period ended 12 April 2010.

I verify that the Report is based on and fairly and accurately reflects in the form and context in which it appears, the information in my supporting documentation relating to Mineral Reserves.

Consent

I consent to the release of the Report and this Consent Statement by the directors of:

Central Rand Gold Limited
(insert reporting company name)

Signature of Competent Person:	Date: 12 April 2010
Professional Membership: (insert organisation name) Australasian Institute of Mining and Metallurgy (FAusIMM)	Membership Number: 110247
Signature of Witness:	Print Witness Name and Residence (eg. Town/Suburb): Simon Thompson (Victory Park, Johannesburg)

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Competent Person's Consent Form

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Simmer and Jack	GP30/5/1/1/2(167)PR
Application pending with DMR (37,284 Ha)	
South Deeps	GP30/5/1/1/2(295)PR

12 April 2010
(Date of Report)

Statement

I, ...Mark Jason Burnett..... confirm that:
(insert full name)

- I have read and understood the requirements of the 2004 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves ("2004 JORC Code").
- I am a Competent Person as defined by the 2004 JORC Code, having five years experience which is relevant to the style of mineralisation and type of deposit described in the Report, and to the activity for which I am accepting responsibility.
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I verify that the Report is based on and fairly and accurately reflects in the form and context in which it appears, the information in my supporting documentation relating to Exploration Results and Mineral Resources.

Consent

I consent to the release of the Report and this Consent Statement by the directors of:

Central Rand Gold Limited
(insert reporting company name)

Signature of Competent Person:	Date: 12 April 2010
Professional Membership: South African Institute of Mining and Metallurgy (insert organisation name)	Membership Number: 704738
Signature of Witness:	Print Witness Name and Residence (eg. Town/Suburb): Simon Thompson (Victory Park, Johannesburg)