

**AN OVERVIEW OF CURRENT GOLD EXPLORATION PROJECTS  
AND NEW MINE DEVELOPMENTS IN SOUTH AFRICA**

DIRECTORATE: MINERAL ECONOMICS



**mineral resources**

Department:  
Mineral Resources  
**REPUBLIC OF SOUTH AFRICA**

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## TABLE OF CONTENTS

	Page
Abbreviations and Symbols	i
A. Introduction	1
B. Projects by Company	2

## ABBREVIATIONS AND SYMBOLS

\$	-	US Dollar
£	-	Pounds Sterling
A\$	-	Australian Dollar
DBM	-	De-Bron-Meriespruit
ERGO	-	East Rand Gold Operations
g/t	-	gram per ton
IRR	-	Internal Rate of Return
kg	-	kilogram
kt	-	kiloton
lbs	-	pounds
mill.	-	millions
Mt	-	megaton (million tons)
n.a	-	not available
NCF	-	Not currently feasible
oz/a	-	ounces per annum
p/m	-	per month
R	-	rand (RSA currency)
R/Kt	-	Rand/kiloton
t	-	metric ton
U <sub>3</sub> O <sub>8</sub>	-	Uranium
WRTRP	-	West Rand Tailings Retreatment Project

## **A. INTRODUCTION**

South Africa's gold producers have traditionally exploited the Wits Basin. By far the most important occurrences of gold in South Africa are found within conglomerates in the upper division of the Witwatersrand Supergroup and the basal formation of the overlying Ventersdorp Supergroup. Despite the exploitation of the Wits Basin by predominantly major companies, additional goldfields, such as the Barberton Greenstone Belt, Free State Gold Field and the Kraaipan Belt are increasingly being exploited, especially by junior dynamic gold companies.

2013 and 2014 saw mining costs escalating above \$ 1 200/oz in combination with a decline in the gold price below \$ 1 300/oz. This prompted two major gold companies, to reduce their exploration expenditure costs by R 4.1 billion. Despite this development, junior companies continued developing their Brownfield exploration projects, inclusive of expansions and new mine developments. This was in-line with these companies' optimization of high-yielding operations and innovative cost-cutting methods which were implemented as a result of the operating costs

This report entails a list of projects in the gold sector and, provides details such as location, expected production and employment, as well as the latest developments on the projects. This edition of the report on gold expansion projects is intended to provide a complete coverage of the gold exploration industry in South Africa. Some information from this report was obtained from media sources and company financial reports as well as websites. Once completed, the projects are expected to ramp-up production and also intensify their scoping and exploration targets. This is expected to occur as the gold price recovers and, exchange rate weakens to create profitable margins. It is hoped that this report will provide a useful reference for all industry participants and prospective investors.

**B PROJECTS BY COMPANY**

<i>Company</i>	<i>Project and Location</i>	<i>Ownership</i>	<i>Production and Employment</i>	<i>Capital and Duration</i>	<i>Latest developments/Outlook</i>	<i>Contact details</i>
AngloGold Ashanti	Mponeng below 120 level deepening projects at Mponeng mine.  Gauteng Province.	AngloGold Ashanti: 94.0 %, Izingwe Holdings Proprietary: 6 %.	Approximately 734 065 Koz for phase 1-6, including project Zaaiplaas.  Employment not stated.	Approximately \$ 2.03 billion over the next 10 years, inclusive of Zaaiplaas.	Production time-frame phase 1-6: 2015-2045	Neil Terblanche <a href="mailto:Nterblanche@AngloGoldAshanti.co.za">Nterblanche@AngloGoldAshanti.co.za</a> +27 011 737 6000
Gold One Post Transaction with Sibanye Gold	Cooke Plant Optimisation Project.  Gauteng Province.	BCX Gold: 90.03 %, Gold One: 9.97 %.	Production increase from 35 koz per annum to 38 koz per annum. Employment not stated.	Approximately \$ 24.3 mill. (ZAR 230 mill.)	The project will be commissioned during March 2014.	Grant Stuart <a href="mailto:grant.stuart@gold1.co.za">grant.stuart@gold1.co.za</a> <a href="http://www.gold1.co.za">www.gold1.co.za</a> +27 10 591 5219
	WRTRP Joint Venture.  Gauteng Province.		3 Moz of gold and 50 m lbs of U <sub>3</sub> O <sub>8</sub> over the next 30 years. The project could create 1 500 jobs	Approximately R 500 mill. spent from 2013 to 2014.		

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Gold One	Zuurbekom exploration Project.  Gauteng province.	BCX Gold: 90.03 %, Gold One: 9.97 %.	Production and employment not stated.	n.a	8 out of 9 exploration holes and 24 deflections have been drilled since May 2013.	Grant Stuart  <a href="mailto:grant.stuart@gold1.co.za">grant.stuart@gold1.co.za</a>  +27 011 726 1047
	Randfontein exploration Project.  Gauteng province.				New backfill plant will facilitate secondary reef mining once completed.	
	Modder North Project pre-feasibility study.  Gauteng province.				The Modder North pre-feasibility study primarily evaluated various access options to the ore body, including twin-haulage options directly from strategic points in the current Modder East underground operations and decline access from surface in the vicinity of Modder North.	

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Harmony	Surface Waste Rock Operations Project.  Gauteng province.	Harmony: 100 %	Milled 3 344 mill. t. and produced 1 284 kg @ 0.368 (g/t).  Employed 265 people.	A major capital project of R 4 mill. was approved to conduct upgrading test on waste rock dumps as a business case study over a period of 1 year.	Business Case Study completed.	<a href="mailto:corporate@harmony.co.za">corporate@harmony.co.za</a>  +27 011 411 2000
	Doornkop ramp up of South Reef project.  Gauteng province.	Harmony: 100 % through Randfontein Estates Limited.	Milled 1 008 kt in 2013 @ 3.6 (g/t).  Employed an average of 3 505 people in 2013.	A major capital project of R 1 811 mill. was previously approved, of which R1 740 mill was spent by June 2013. The remaining expenditure on the project is mainly for Raise bore drilling (ventilation).	Project still ongoing and progressing with final raise bore drilling related to ventilation for future mine.	<a href="mailto:corporate@harmony.co.za">corporate@harmony.co.za</a>  +27 011 411 2000

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Harmony	Masimong surface drilling project.  Free State province	The Phoenix Operation is owned by an HDSA consortium: 30 %	n.a	n.a	Masimong extend to the East of Saaiplaas fault. The project was completed in 2013, and the higher grade channels extend to the east. They will be explored further from underground.	<a href="mailto:corporate@harmony.co.za">corporate@harmony.co.za</a>  +27 011 411 2000
	Phoenix tailings surface expansion operations.  Free State province.		Produced 828 kg @ 0.155 (g/t) in 2013.  Employed 317 people.	A major capital project of R 184 mill. was approved to add two contact stages to carbon-in-leach circuit and the construction of new TSF-2 years.	Project completed and commissioned.	

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Vantage Gold Fields	Worcester Project pre-feasibility study.  Mpumalanga province.	Vantage Goldfields: 74 %, Lomshiyo Investments: 26 %	Feasibility indicates reserves of 1.4 Mt.  Not expected to contribute to employment.	IRR of 22 %. Life of mine is estimated at 10 years.	Pre-feasibility study will target a number of known gold deposits around Worcester.	Mr. Tony Perry  <a href="mailto:Tony.Perry@VantageGoldfields.co.za">Tony.Perry@VantageGoldfields.co.za</a>  +27 13 753 3046
	Crown Projects scoping study.  Mpumalanga province.		Scoping indicates a potential 151 kt/oz in the reefs.  Employment not stated.			
	Lily West production ramp-up. Lomshiyo Valley.  Mpumalanga province.		n.a	Approximately \$ 9.8 mill. made available during 2013.	Successful implementation of mine plan in 2014. Project on hold.	

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Vantage Gold Fields	Barbrook Mines Complex. Scoping study of the Barbrook and Zwartkoppie lines.  Mpumalanga province.	Vantage Goldfields: 74%, Lomshiyo Investments: 26 %	Planned mining of level 10, for 18 months. Stage 2 is expected to add 15 000 oz/a in 2014.  Not expected to contribute to employment	Approximately \$ 1.0 mill. cash operating loss in 2013.	Barbrook stage 1 was completed in 2013.	Mr. Mike Mckenzy  <a href="mailto:MMckenzy@VantageGoldFields.co.za">MMckenzy@VantageGoldFields.co.za</a>  +27 13 753 3046
	Barbrook Expansion Project stage 2. Lomshiyo Valley,  Mpumalanga province.		Not expected to contribute to employment	Approximately \$ 3.0 mill. set aside for future expansion	Trail mining was completed in 2014. Preparation is being made to expand into Barbrook, extension 2 A in 2014.	
	Taylor's Mine Production ramp-up. B  Mpumalanga province.		Gold produced: 4 899 oz before scoping study.  Not expected to contribute to employment.	Approximately \$ 276 000 in 2014 set aside for scoping study in April 2014.	Re-investigated for strike and depth extensions.	

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Wits Gold	DBM exploration Welkom province.	Wits Gold: 75 %, Continental Africa Gold Resources Consortium (Pty) Ltd and Tranter Kismet Investments (Pty) Ltd: 25 %	Average annual gold production of 200kt/oz at ramp-up of production.  Employment not stated	DBM Project covered 9 500 m at a total cost of approximately R 12 mill. in 2013.	Between March 2011 and September 2011, nine boreholes were completed.	Phillip Kotze  <a href="mailto:phillip@Witsgold.com">phillip@Witsgold.com</a>  +27 011 832 1749
	Bloemhoek scoping project. Welkom province.		Up to 224 kt oz/y over the next 6 years.  Employment not stated	\$ 1 billion over 32 years.	Preliminary model in 2013 based on footwall haulages and cross-cuts of reefs at 180 m.	