

Regional overview



Contents

1. Australasia	Page	1
1.1 Overview	Page	1
1.1.1 Introduction	Page	1
1.1.2 Heat map	Page	2
1.2 Operation: Agnew	Page	3
1.3 Operation: St Ives	Page	5
2. South Africa	Page	8
2.1 Overview	Page	8
2.1.1 Introduction	Page	8
2.1.2 Heat map	Page	9
2.2 Operation: Beatrix	Page	10
2.3 Operation: KDC	Page	12
2.4 Operation: South Deep	Page	15
3. South America	Page	18
3.1 Overview	Page	18
3.1.1 Introduction	Page	18
3.1.2 Heat map	Page	19
3.2 Operation: Cerro Corona	Page	20
4. West Africa	Page	22
4.1 Overview	Page	22
4.1.1 Introduction	Page	22
4.1.2 Heat map	Page	23
4.2 Operation: Damang	Page	24
4.4 Operation: Tarkwa	Page	27

Regional overview

1. Australasia

1.1 Overview

1.1.1 Introduction

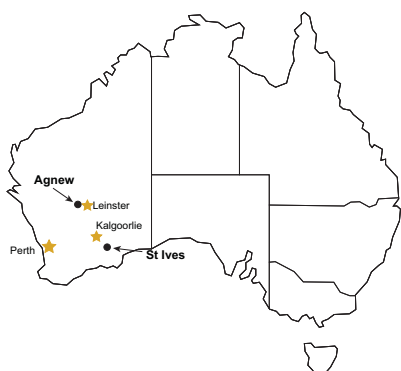
Role within Group

Our Australasia Region includes two relatively low-cost gold mines sitting within the same highly prospective geological belt – with ongoing near-mine drilling indicating significant growth potential at both. The region is also home to one of the Group's most exciting greenfields growth opportunities, the Far Southeast project in the Philippines. Furthermore, Gold Fields is involved in a number of early stage exploration projects in Australia and the Philippines.

Figure 1.1: Contribution to Group – Australasia region (including Sibanye Gold)

	% of Group total
Optimising our operations	
Attributable gold production	19
Growing Gold Fields	
Attributable Mineral Resources	5
Attributable Mineral Reserves	5
Securing our future	
Total economic contribution	17
Employees	2

Figure 1.2: Australasia Region map



Operations

Our operations in the region are focused on the St Ives and Agnew mines in Western Australia, both of which have highly prospective opportunities for reserve growth and life extension.

Growth projects

Our most promising growth project in the region is the highly prospective gold-copper Far Southeast project in the Philippines, in which Gold Fields holds a 40% interest – with an option to acquire a further 20%. Our efforts at Far Southeast are now focused on obtaining the Free Prior and Informed Consent of local indigenous communities. This is a critical step in our efforts to secure a Foreign Technical Assistance Agreement (FTAA), which was submitted in November 2011 – and which is necessary if we are to achieve majority ownership of the project. We are actively engaging with local communities to ensure ongoing support for the development of the project and access for surface drilling. Activities will be scaled back in 2013 until the FTAA processes are completed. An updated resource model is anticipated by mid-2013.

Optimising our operations

Figure 1.3: Attributable gold production

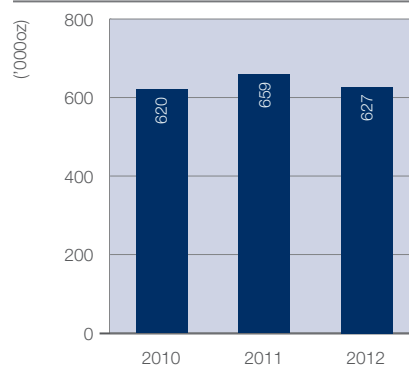
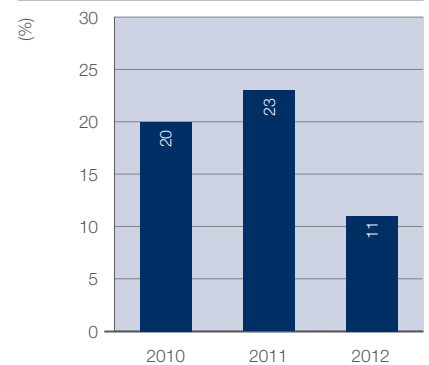
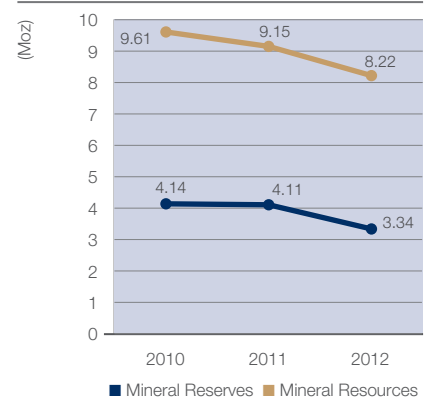


Figure 1.4: NCE margin



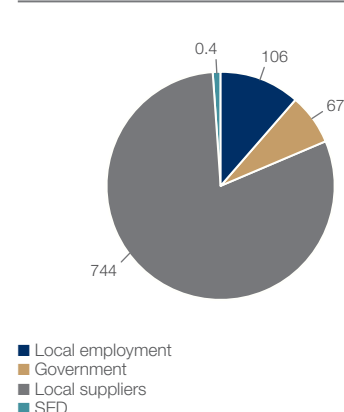
Growing Gold Fields

Figure 1.5: Attributable Mineral Reserves and Resources



Securing our future

Figure 1.6: Local economic contributions (US\$m)



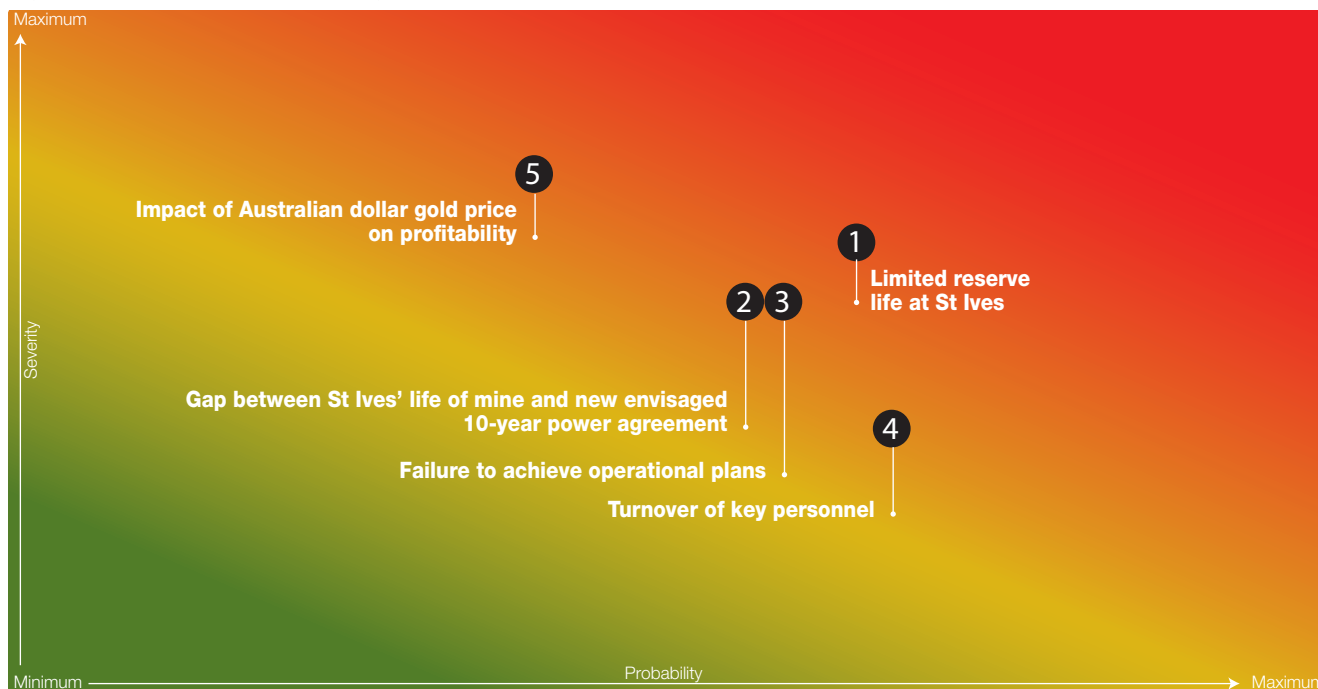
Regional overview

1. Australasia

1.1.2 Heat map

The heat map below sets out the top five risks for the Australasia Region, as identified through our Enterprise Risk Management (ERM) process.

Figure 1.7: Top five Australasia Region heat map



Risks	Mitigating strategies
1	<ul style="list-style-type: none"> • Delineation of further reserves through significant near mine exploration • Implementation of ongoing business improvement to achieve cost savings and productivity gains to reduce cut-off grades • Closure of high-cost, heap leach facility to improve cost structures
2	<ul style="list-style-type: none"> • Development of power supply agreement that allows for on-trading in unlikely event of early suspension of operations
3	<ul style="list-style-type: none"> • Mining of higher-grade underground ore at St Ives in place of lower-grade open pit ore • Mining of higher-grade Kim ore zones at Agnew • Completion of owner-mining transition at St Ives' open pits
4	<ul style="list-style-type: none"> • Review and improvement of employee development programmes • Implementation of a centralised recruitment and retention strategy
5	<ul style="list-style-type: none"> • Implementation of ongoing business improvement to achieve cost savings and productivity gains • Implementation of portfolio review initiatives

Regional overview

1. Australasia

1.2 Operation: Agnew

Introduction

The Agnew mine is located 23km west of the town of Leinster, 1,100km north-east of Perth – and sits within the same highly prospective geological region as St Ives. The mine produces from the Waroonga underground mining complex (comprising the Kim, Main and Rajah ore bodies) as well as the Songvang open pit. The lease area includes exploration and mineral rights covering a total area of 68,138 hectares.

Strategic overview

Following our Portfolio Review in the second half of 2012, we have withdrawn from the low-grade and marginal Main and Rajah lodes to instead focus only on the high-grade Kim Lode. Although this will result in slightly lower production in 2013, it will also reduce unit costs and improve Agnew's immediate cash-generation performance.

Performance overview

During 2012, total production decreased to 176,600 ounces (2011: 194,000 ounces). This reflected operational challenges encountered during the first half of the year, which included:

- Poor ground conditions at the Main Lode ore body (resulting in lower underground volumes mined and processed)
- Lower underground and surface yields
- Reduced mining rates on the Kim ore body due to a change in the plunge of mineralisation, which is no longer a challenge
- The ongoing high turnover of skilled employees

This resulted in a 29% drop in production in the first quarter and stable production in the second quarter. However, production improved dramatically as a result of the refocusing of our mining activities on the high-grade Kim Lode and our withdrawal from the Main and Rajah lodes. This supported an increase in production of 28% between the second and third quarters – and a further 15% increase between the third and fourth quarters – marking a major turnaround for the mine. Indeed, the fourth quarter marked Agnew's highest producing quarter since September 2006. The NCE margin improved to 46% in the fourth quarter, one of the highest in the Group.

Meanwhile, net operating costs increased by 14% from A\$128 million (US\$133 million) to A\$146 million (US\$152 million) due to the draw-down of Songvang stockpiles in 2012, compared with a build-up of Songvang stockpiles in 2011. Mining operations at Songvang were completed in February 2012.

In 2012, the mine's NCE margin remained relatively steady at 29% (2011: 32%). This reflected capital expenditure of A\$60 million (US\$62 million) mainly focused on underground development of the Kim ore body, exploration (mainly at the Waroonga underground complex) and the purchase of additional mining equipment.

Near-mine exploration

Agnew offers significant exploration opportunities, and is implementing an ongoing and aggressive near-mine exploration programme (known as the High Grade Shoots Project). This is focused on resource modelling three high-grade extensions to mineralisation at the Waroonga mining complex (the Hastings, Fitzroy and Bengal shoots) – and on drilling the Link Zone between Kim and the High Grade Shoots to define high-grade mineralisation intersected in 2011. Waroonga has been a consistent source of high-grade ore for a number of years and comprises the bulk of Agnew's production and Mineral Reserve.

Results from this activity – as well as drilling on a conceptual target 500 meters north of Waroonga – have been encouraging.

2013 outlook

Planned production at Agnew is estimated at between 150,000 ounces and 160,000 ounces of gold at a total cash cost of A\$700/oz (US\$728/oz) and an NCE of A\$990/oz (US\$1,030/oz). This plan assumes:

- Ongoing focus on the high-grade Kim Lode
- Continuation of new-mine exploration

Regional overview

1. Australasia

Key indicators

Figure 1.8: Optimising our operations indicators – Agnew

Category	2012	2011	2010	2009	2008
Gold produced – attributable ('000oz)	177	194	152	188	201
Total cash cost (A\$/oz)	799	672	684	536	524
Notional Cash Expenditure (NCE) (A\$/oz)	1,150	1,062	1,098	799	701
Gold price (A\$/oz)	1,610	1,564	1,326	1,241	1,034
Operating profit (A\$m)	139	175	96	133	98
Operating costs (A\$m)	143	134	105	99	101
Operating margin (%)	49	58	48	57	47
NCE margin (%)	29	32	17	36	32
Fatal Injury Frequency Rate	0	0	0	0	0
Lost Time Injury Frequency Rate	3.93 ¹	2.72	1.11	2.13	2.23
Energy consumption (TJ)	420	439	339	356	368
CO ₂ -e emissions ('000 tonnes) (Scope 1 & 2)	49.4	49.6	40.6	42.9	45.7
Water withdrawal (million liters)	1,094	1,287	1,213	1,564	1,096

Figure 1.9: Growing Gold Fields indicators – Agnew

Category	2012	% of Group total
Attributable Mineral Resources (million oz)	3.50	2
Attributable Mineral Reserves (million oz)	1.15	2

Figure 1.10: Securing our future indicators – Agnew

Category	2012	2011	2010	2009	2008
Total employees	256	235	212	158	136
Employee wages and benefits (A\$m)	34	27	21	20	21
Total taxation and royalties paid (A\$m)	7	8	0	0	0
SED spend (A\$)	15,000	11,000	n/a	n/a	n/a

¹ Excludes restricted work cases – 16.69 if such cases are included

Regional overview

1. Australasia

1.3 Operation: St Ives

Introduction

Our St Ives mine is located in the highly prospective geological region of the Norseman-Wiluna Greenstone Belt – 80km south of Kalgoorlie in Western Australia. During the year, the mine produced from four underground mines, three open pits and a number of surface stockpile sources, with processing taking place through a carbon in leach plant and a heap leach plant. The lease area includes exploration and mineral rights covering a total of 104,509 hectares.

Strategic overview

Following our Portfolio Review in the second half of 2012, we took the decision to close the marginal heap leach operation at St Ives. Challenges included ageing infrastructure, as well as continued levels of low-grade ore combined with low-recovery levels. Although the mothballing process was initiated in the fourth quarter, full closure will take place in the first half of 2013, depending on the results of the residual leaching programme.

While the removal of the heap leach operations will reduce production by 30,000 ounces to 40,000 ounces per year, it should also contribute to reduced costs and more profitable overall production. In addition, the completion of the transition to owner-mining in 2012 means St Ives can expect additional cost reductions to feed-through during 2013 – further enhancing the mine's ability to support Group cash generation.

Performance overview

Gold production decreased by 3% in 2012 to 449,800 ounces (2011: 464,600 ounces). This was largely due to:

- Increased reliance on lower-grade open pit ore as we carried out further development to open up new underground mining areas at Cave Rocks in the first half of the year
- Temporary closure of the Leviathan and Mars/Minotaur link high-grade pits due to wall failure in the first quarter
- A decrease in open pit mining volumes in the third quarter, given the transition to owner-mining
- The mothballing of the marginal heap leach operation

However, gold production recovered significantly in the fourth quarter, increasing by 5% to 111,600 ounces – reflecting increased throughput of higher grade underground ore. At the underground operations, for example, ore mined increased by 56% to 553,000 tonnes in the fourth quarter, with the Cave Rocks and Hamlet mines continuing to ramp-up towards full production levels.

In 2012, St Ives focused on the transition to full owner-mining at its surface operations. This built on the transition to owner-mining for underground stoping, which was completed in late 2011. During the course of the year, this included a gradual shift from contract- to owner-mining in the open pits as elements of our new mining fleet were delivered. The transition to full owner-mining was completed in the fourth quarter, with the passing of drilling and blasting activities to our own teams.

Causeway to Invincible at St Ives, Australia



Regional overview

1. Australasia

A total of A\$54 million (US\$56 million) has been spent on the owner-mining programme since it commenced in 2011 – largely on trucks and mobile equipment. The total cost of the mine's conversion to owner-mining is estimated at A\$92 million (US\$96 million), with a completion date planned for early 2014. It is expected to significantly reduce open-pit operating costs and has the potential to increase open pit Mineral Reserves by reducing cut-off grades.

Over 2012, net operating costs increased by 3% to A\$412 million (US\$428 million) – largely due to an increase in mining activity at the higher-cost Cave Rocks underground operation and additional open pit mining.

In 2012, the NCE margin fell to 4% (2011: 19%). Capital expenditure during the year of A\$301 million (US\$313 million) was focused on:

- Mine development to extend the life of our existing underground mine at Cave Rocks
- The purchase of equipment for – and the development of – our Hamlet underground mine
- Construction of a new tailings storage facility, which was completed in the third quarter
- Open pit fleet acquisition to support our shift to owner-mining

Near-mine exploration

Our St Ives mine is at the forefront of innovative near-mine exploration thinking and technology, and serves as a centre of excellence within the Group. During the fourth quarter, for example, near-mine drilling at St Ives accounted for approximately 70% of all near-mine drilling carried out at our international operations – with much of this focused on the promising Greater Neptune area.

In addition, a new discovery took place in the third quarter, focused on the new Invincible shallow prospect – including definition of mineralisation over a 1km strike to 200 meters, remaining open along strike and at depth. This represents a significant new exploration search space in the area.

In 2012, we spent A\$40 million (US\$42 million) on near-mine exploration. This was aimed at ensuring a range of new deposits are in place to fill the longer-term production pipeline.

2013 outlook

Planned production at St Ives is estimated at between 380,000 ounces and 400,000 ounces of gold at a total cash cost of A\$930/oz (US\$967/oz) and an NCE of A\$1,350/oz (US\$1,404/oz). This plan assumes:

- Significantly higher power costs as a result of expiry of the existing power supply agreement – as well as the need to renegotiate a new power agreement
- Ongoing advancement of open pit owner-mining until final completion in 2014
- Completion of the heap leach closure process

Regional overview

1. Australasia

Key indicators

Figure 1.11: Optimising our operations indicators – St Ives

Category	2012	2011	2010	2009	2008
Gold produced – attributable ('000oz)	450	465	468	415	415
Total cash cost (A\$/oz)	899	873	776	816	739
Notional Cash Expenditure (NCE) (A\$/oz)	1,553	1,248	1,064	1,056	1,014
Gold price (A\$/oz)	1,615	1,532	1,336	1,241	1,033
Operating profit (A\$m)	315	312	273	180	116
Operating costs (A\$m)	398	403	376	345	301
Operating margin (%)	43	44	44	35	27
NCE margin (%)	4	19	20	15	12
Fatal Injury Frequency Rate	0	0	0	0	0
Lost Time Injury Frequency Rate	3.49¹	2.86	5.03	0.82	1.60
Energy consumption (TJ)	1,722	1,718	1,805	1,919	1,980
CO ₂ -e emissions ('000 tonnes) (Scope 1 & 2)	175.0	174.7	183.8	198.1	212.1
Water withdrawal (million liters)	10,074	10,686	16,309	23,291	22,159

Figure 1.12: Growing Gold Fields indicators – St Ives

Category	2012	% of Group total
Attributable Mineral Resources (million oz)	4.72	3
Attributable Mineral Reserves (million oz)	2.19	3

Figure 1.13: Securing our future indicators – St Ives

Category	2012	2011	2010	2009	2008
Total employees	652	466	319	315	271
Employee wages and benefits (A\$m)	69	47	43	36	32
Total taxation and royalties paid (A\$m)	18	18	21	29	16
SED spend (A\$)	146,000	150,000	n/a	n/a	n/a

¹ Excludes restricted work cases – 23.17 if such cases are included

Regional overview

2. South Africa

2.1 Overview

2.1.1 Introduction

Role within Group

The South Africa Region represents Gold Fields historical centre – and has traditionally been the largest contributor to Group production. It also accounts for the majority of our workforce, which is primarily focused on the mature, deep underground Beatrix and KDC mines (now owned and managed by Sibanye Gold).

Our South Deep mine remains of key strategic importance to the long-term sustainability of Gold Fields, with a life of mine estimated to extend beyond 2060.

Figure 2.1: Contribution to Group – South Africa region (including Sibanye Gold)

	% of Group total
Optimising our operations	
Attributable gold production	46
Growing Gold Fields	
Attributable Mineral Resources	82
Attributable Mineral Reserves	72
Securing our future	
Total economic contribution	58
Employees	81

Figure 2.2: South Africa region map



Operations

Operations in the region are focused on:

- The mature, deep underground Beatrix and KDC mines
- The underground mechanised South Deep mine – the most significant gold development in South Africa

During the fourth quarter, Gold Fields announced the creation of a new South African gold mining company – Sibanye Gold Limited (Sibanye Gold) – through the proposed unbundling of its 100% owned subsidiary, formerly known as GFI Mining South Africa Proprietary Limited (GFMSA). Sibanye Gold holds both the KDC and Beatrix gold mines as well as various service companies.

Sibanye Gold was successfully listed on the JSE Limited¹ on 11 February 2013 and the New York Stock Exchange on 18 February 2013. The transaction creates a new, fit-for-purpose vehicle that will allow Sibanye Gold management to determine the optimal future exploitation strategy for its assets and to have control over its cash flows – including rewarding shareholders through the payment of dividends.

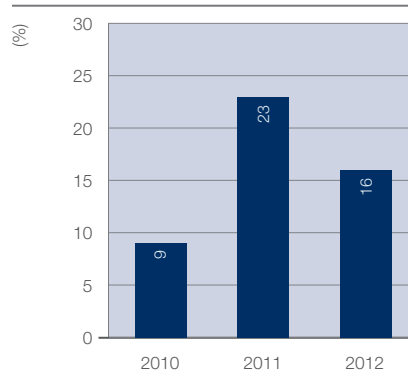
Following the unbundling, Gold Fields retains the South Deep mine.

Optimising our operations

Figure 2.3: Attributable gold production



Figure 2.4: NCE margin – excluding South Deep



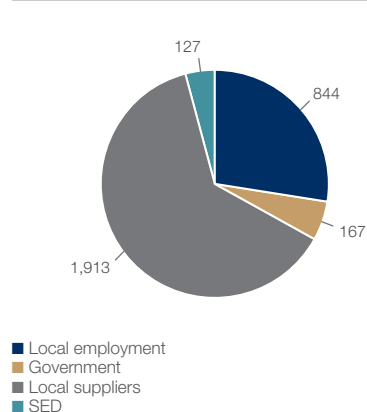
Growing Gold Fields

Figure 2.5: Managed Mineral Reserves and Resources



Securing our future

Figure 2.6: Local economic contributions (US\$m)



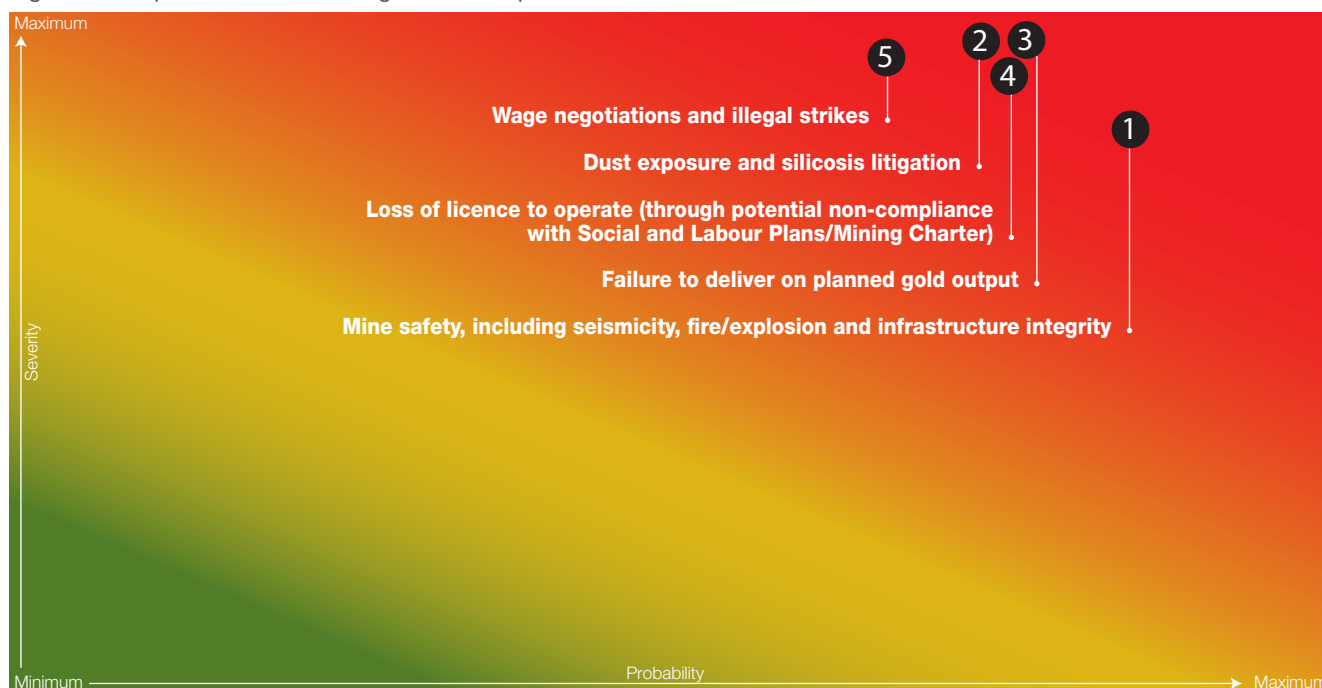
Regional overview

2. South Africa

2.1.2 Heat map

The heat map below sets out the top five risks for the South Africa Region – before the formal unbundling of Sibanye Gold – as identified through our Enterprise Risk Management (ERM) process.

Figure 2.7: Top five South Africa region heat map



Risks	Mitigating strategies
1	<ul style="list-style-type: none"> Implementation of the five pillars of our Mine Safety Management Strategy (engineering out risks, compliance, wellbeing, cultural transformation and stakeholder engagement) Carrying out of structural/external inspections and our maintenance management programme Implementation of internal and external fire audits
2	<ul style="list-style-type: none"> Application of engineering measures to limit the impact of health risks (including tip filters, mist sprays and settling agents) Enhancement of personal protective equipment performance through our Respiratory Protection Programme Detailed preparation to determine potential silicosis liability and legal strategy development
3	<ul style="list-style-type: none"> Resourcing of appropriate skills to improve underground mechanised mining performance and maintenance Acceleration of distress mining to achieve production ramp-up at South Deep Implementation of the new '24/7/365' operating model at South Deep
4	<ul style="list-style-type: none"> Close monitoring of Social and Labour Plan compliance at a senior level Carrying out of quarterly meetings of a dedicated Mining Charter Steering Committee – and associated monitoring Provision of enhanced resourcing to ensure non-financial reporting integrity
5	<ul style="list-style-type: none"> Responsible security provision Ongoing support for the gold sector's existing Collective Wage Agreement pending its end of term in July 2013 Direct communication and engagement with employees Engagement with employees, government, peers and unions, directly and indirectly via the Chamber of Mines, regarding reform of existing labour negotiation framework in the mining sector

¹ Johannesburg Stock Exchange

Regional overview

2. South Africa

2.2 Operation: Beatrix

Introduction

The mature, deep underground Beatrix mine – which is located in the Free State – has been in production since 1985.

Strategic overview

Beatrix has typically offered steady, predictable production to the South Africa Region – complementing higher volume production from the larger KDC mine.

Mine shaft at Beatrix, South Africa



Performance overview

During 2012, total production fell to 288,700 ounces (2011: 346,800 ounces). As with KDC, this reflected the impact of unlawful and unprotected strike action during the third and fourth quarters.

Employees engaged in an unprotected strike lasting 23 days (24 September to 16 October) at the Beatrix North and South sections, and for 29 days (21 September to 18 October) at its Four Shaft West section. The full complement of strikers returned to work on 18 October – following an ultimatum given by management on 16 October. It is estimated that the mine lost 29,000 ounces in production as a result – mainly during the fourth quarter.

Additional challenges during the year included:

- A decrease in underground mining yields, as a result of lower-grade areas currently being mined at the North and West sections
- Ongoing internal and external unplanned safety stoppages (including the loss of 20,000 ounces in the second quarter)

Mechanised advancement of the development ends at our long life shafts at Beatrix continued throughout the year. This is aimed at:

- Improving safety by removing employees from the face
- Reducing development costs and improving productivity through enhanced operational efficiency
- Increasing ore reserve flexibility through the acceleration of monthly development advance rates

In the third quarter, 98% of our flat-end development meters advanced at Beatrix's long life shafts were completed by mechanised means. This means that the project has essentially been completed.

Although there was a temporary slowdown in development in the same quarter (due to the installation of a new Guard Communications System to improve tramming safety, the effect of the illegal strikes and additional safety stoppages), progress during the year was otherwise relatively strong.

Operating costs at Beatrix increased by 10% to R2.64 billion (US\$322 million) due to:

- Implementation of an effective 25% electricity tariff increase by state power utility Eskom with effect from April
- The installation of additional mechanical support
- Increased maintenance costs and general cost inflation
- Annual wage increases

The impact of these factors was partially offset by reduced labour costs resulting from the illegal (and thus no-work, no-pay) nature of the strikes at the mine in September and October – as well as a range of cost-saving initiatives.

In 2012, the mine's NCE margin decreased to 16% (2011: 25%). Capital expenditure totalled R658 million (US\$80 million) and was primarily focused on ore reserve development and the upgrading of underground and surface infrastructure.

Regional overview

2. South Africa

Key indicators

Figure 2.8: Optimising our operations indicators – Beatrix

Category	2012	2011	2010	2009	2008
Gold produced – attributable (kg)	8,981	10,787	11,715	12,443	12,696
Gold produced – attributable ('000oz)	289	347	377	400	408
Total cash cost (R/kg)	294,277	220,073	194,406	169,847	142,045
Total cash cost (US\$/oz)	1,118	957	826	627	539
Notional Cash Expenditure (NCE) (R/kg)	366,875	279,957	255,066	228,128	196,282
Notional Cash Expenditure (NCE) (US\$/oz)	1,393	1,206	1,084	842	745
Gold price (R\$/kg)	435,698	371,772	287,187	259,126	231,750
Gold price (US\$/oz)	1,655	1,602	1,220	956	879
Operating profit (Rm)	1,276	1,602	1,026	1,021	1,052
Operating costs (Rm)	2,637	2,409	2,339	2,203	1,891
Operating margin (%)	33	40	30	32	36
NCE margin (%)	16	25	11	12	15
Fatal Injury Frequency Rate (FIFR)	0.25	0.19	0.18	0.10	0.08
Lost Time Injury Frequency Rate (LTIFR)	3.54	2.95	3.31	3.92	4.74
Energy consumption (TJ)	2,980	3,234	3,325	3,470	3,508
CO ₂ emissions ('000 tonnes) (Scope 1 & 2) ¹	736.5	798.6	845.3	901.8	892.8
Water withdrawal (million liters)	10,006	10,226	10,834	14,866	16,678

Figure 2.9: Growing Gold Fields indicators – Beatrix

Category	2012	% of Group total
Attributable Mineral Resources (million oz)	8.43	5
Attributable Mineral Reserves (million oz)	3.36	5

Figure 2.10: Securing our future indicators – Beatrix

Category	2012	2011	2010	2009	2008
Total employees	9,222	9,151	9,485	10,327	11,151
Silicosis submissions (Rate per 1,000 employees)	0.85	n/a	n/a	n/a	n/a
Employees on Highly-Active Anti-Retroviral Treatment (HAART)	20.34	n/a	n/a	n/a	n/a
Employee wages and benefits (Rm)	1,566	1,473	1,422	1,307	1,141
Total taxation and royalties paid (Rm)	170	35	18	2	1
SED spend (US\$m)	23²	6	n/a	n/a	n/a

¹ Excludes fugitive mine methane emissions

² Higher figure reflects the inclusion of maintenance provisions and operating costs in 2012

Regional overview

2. South Africa

2.3 Operation: KDC

Introduction

KDC (Kloof Driefontein Complex) is a large, well-established intermediate to ultra-deep-level gold mining complex, with its lowest working level around 3,350 meters below surface. It was established in 2010 through the merger of the Kloof and Driefontein mines and is located around 60km west of Johannesburg, and consists of a total of 11 producing shaft systems and five processing plants. Despite KDC's long history of production, it retains considerable Mineral Resources and Mineral Reserves of 66 million ounces and 10 million ounces respectively.

Strategic overview

KDC has historically been Gold Fields' largest producing mine – accounting for 29% of Group attributable output in 2012. It has offered Gold Fields a significant production base – albeit one that has been subject to consistent production declines in recent years.

The mine has offered a strong foundation for international growth and diversification by helping fund the development of new operations in the Gold Fields portfolio – including the neighbouring South Deep mine in particular. In recent years, Gold Fields focus has been on stabilising production at the mine – and reducing its operational costs to ensure it remains sustainable.

Performance overview

In 2012, Gold production fell to 934,900 ounces (2011: 1.1 million ounces). This was despite strong signs of production stabilisation and the reversal of a declining production trend in recent years – and was largely attributable to the impact of illegal strike action as well as a large-scale underground fire at the Ya Rona shaft, both of which took place in the second half of the year (see below).

Indeed, output in the first two quarters was similar to that of the first two quarters of 2011 – supported by good results from our ongoing Shaft Full Potential programme. This included, for example:

- Robust crew productivity performance
- Improved safety performance based on stronger compliance and better safety behaviour
- Optimisation of face length and labour planning
- Improved blasting quality
- Full face advance
- Enhanced ore feed sizes to support effective processing
- Leadership training to ensure effective employee development

Surface operations at KDC East, South Africa



Regional overview

2. South Africa

Nonetheless, the overall annual fall in production – including a quarter-on-quarter 15% fall in the third quarter and a quarter-on-quarter 30% fall in the fourth quarter – reflected two key events.

The first was the loss of 116,000 ounces of production as a result of unlawful and unprotected strikes in September and October (which also affected Beatrix – and was part of a wave of strike action across the South African mining sector). The strikes resulted in the loss of 30 days of production at KDC East and 39 days of production at KDC West.

The second was the loss of 30,000 ounces of production as a result of a large-scale underground fire which took place on 30 June 2012 at KDC West's Ya Rona shaft, and which resulted in five fatalities. Operations across the mine were temporarily suspended as a consequence. Production resumed at KDC East after three days, whilst those parts of KDC West unaffected by the fire resumed production after five days. Ya Rona itself was only opened on 14 August 2012, but the resumption of production was then hampered by the illegal strike. The cause of the fire, which started in a long-closed, worked-out part of the shaft, remains unknown. Although the fire – and our subsequent work to extinguish it and make the area safe – disrupted production, no damage was caused to our existing working areas.

Despite these material setbacks, we did manage to advance the mechanisation of development ends at KDC's long life shafts. This is with the aim of improving safety, productivity, cost efficiency and ore reserve flexibility (through accelerated face advance). In the third quarter, we achieved 98% mechanisation in this respect – effectively completing the project.

Total operating costs increased by 11% from R7.45 billion (US\$1.03 billion) in 2011 to R8.24 billion (US\$1.01 billion) in 2012, due to the implementation of an effective 25% electricity tariff increase by state power utility Eskom from April onwards, general cost inflation and annual wage increases. These cost increases were partly offset by reduced labour costs relating to the 'no-work, no pay' illegal strikes during the second half of the year, in addition to a range of cost-saving initiatives at the mine.

In 2012, the mine's NCE margin decreased to 16% (2011: 23%). Capital expenditure, which rose to R2.43 billion (US\$297 million) (2011: R2.30 billion (US\$319 million)) was largely focused on:

- Ore reserve development
- Advancement of the mine's Social and Labour Plan (including housing construction)
- Ongoing implementation of mine safety initiatives

KDC East achieved three million fatality free shifts in August – the first time this has been achieved in its history. Furthermore, the mine operated for the 12 months to September without any fatal accidents.

In addition, the mine continued to implement a range of best practice dust control programmes, including:

- Coaching around personal protective equipment
- Use of water mist systems in haulage and tipping areas
- Installation of dual stage tip filters
- Management of ore transfer chutes to reduce dust transfer to work areas
- Treatment of footwalls with binding chemicals
- Individual filter analysis to determine silica dust exposure levels more accurately

Regional overview

2. South Africa

Key indicators

Figure 2.11: Optimising our operations indicators – KDC

Category	2012	2011	2010	2009	2008
Gold produced – attributable (kg)	29,078	34,218	37,790	45,362	46,430
Gold produced – attributable ('000oz)	935	1,100	1,215	1,458	1,493
Total cash cost (R/kg)	283,249	219,642	193,948	145,177	125,503
Total cash cost (US\$/oz)	1,076	946	824	536	476
Notional Cash Expenditure (NCE) (R\$/kg)	366,707	285,017	262,141	198,646	173,500
Notional Cash Expenditure (NCE) (US\$/oz)	1,393	1,228	1,114	733	658
Gold price (R/kg)	434,710	368,309	287,499	261,611	228,856
Gold price (US\$/oz)	1,651	1,587	1,222	965	868
Operating profit (Rm)	4,404	5,150	3,398	4,969	4,505
Operating costs (Rm)	8,237	7,452	7,467	6,898	6,121
Operating margin (%)	35	41	31	42	42
NCE margin (%)	16	23	9	24	24
Fatal Injury Frequency Rate (FIFR)	0.15	0.17	0.13	0.24	0.18
Lost Time Injury Frequency Rate (LTIFR)	8.10	7.95	6.31	5.26	6.72
Energy consumption (TJ)	11,506	12,126	12,293	12,334	12,066
CO ₂ emissions ('000 tonnes) (Scope 1 & 2)	3,141.7	3,295.9	3,348.2	3,492.3	3,311.7
Water withdrawal (million liters)	54,782	38,971	36,859	22,797	27,182

Figure 2.12: Growing Gold Fields indicators – KDC

Category	2012	% of Group total
Attributable Mineral Resources (million oz)	65.81	37
Attributable Mineral Reserves (million oz)	10.17	15

Figure 2.13: Securing Our Future indicators – KDC

Category	2012	2011	2010	2009	2008
Total employees	26,159	26,335	31,033	32,196	28,693
Silicosis submissions (Rate per 1,000 employees)	0.44	n/a	n/a	n/a	n/a
Employees on Highly-Active Anti-Retroviral Treatment (HAART)	56.41	n/a	n/a	n/a	n/a
Employee wages and benefits (Rm)	4,224	4,119	4,303	3,896	3,313
Total taxation and royalties paid (Rm)	1,196	895	348	834	674
SED spend (US\$m)	89¹	33	n/a	n/a	n/a

¹ Higher figure reflects the inclusion of maintenance provisions and operating costs in 2012

Regional overview

2. South Africa

2.4 Operation: South Deep

Introduction

South Deep is a long-life, deep-level mechanised gold mine operating at between 2,000 and 3,000 meters below surface. The mine was acquired by Gold Fields in 2006 and is located 45km south-west of Johannesburg.

South Deep is one of the largest undeveloped ore bodies in the world.

Strategic overview

South Deep is still undergoing development and ramping up production towards 700,000 ounces a year by 2016. It is set to offer a mechanised, efficient and low-cost operation focused on a world-class underground ore body – with an estimated life of mine in excess of 80 years.

Our application of advanced mining techniques and mechanised underground mining at South Deep is helping prove that – despite prevailing presumptions – deep underground gold mining can be carried out in an efficient, profitable and safe way.

Under the terms of the recent unbundling of Sibanye Gold, South Deep will remain under the management of Gold Fields. As such, it will play a vital role in the Group's long-term commercial sustainability – in terms of cash generation, production volume and inventory. Indeed, the mine currently accounts for 69% of Gold Fields Mineral Resources and 65% of its Mineral Reserves.

Performance overview

During 2012, gold production remained relatively stable at 270,400 ounces (2011: 273,000 ounces). This reflected a 33% surge in production in the second quarter, balanced out by declines in production in the third and fourth quarters. These falls related to the anticipated disruption following the implementation of the new operating model on 21 November (see below).

Destress mining progressed extremely well during the year, increasing by about 75% year-on-year – and reaching new, record levels.

During the fourth quarter, South Deep also marked three important milestones in its journey towards its long-term production target. These included:

- Completion (within budget and on time) of the deepening of the new Vent Shaft and the initiation of its commissioning for hoisting. Once it reaches full capacity (planned for late 2013), this will provide additional rock hoisting capacity of 195,000 tonnes per month – more than doubling mill-feed potential to 330,000 tonnes per month
- Completion and commissioning of the gold plant expansion, which increased plant capacity from 220,000 tonnes per month to 330,000 tonnes per month – three years ahead of full production

- Signing of a landmark agreement with the National Union of Mineworkers (NUM – representing over 70% of employees at the mine) and UASA, on the terms of a new '24/7/365' operating model at South Deep. This is supported by a new bonus system designed to deliver appropriate rewards to employees who achieve production targets, as well as more competitive employment grading. The new operating model, which was implemented on 21 November 2012, is ultimately expected to increase face time by 23%. It also resolved all outstanding labour issues with the NUM dating back to the strike at South Deep in 2010 – and lays the basis for establishing South Deep as a world-class mine for the next 50 years and beyond, to the benefit of all of its stakeholders

Operating costs increased by 16% from R2.14 billion (US\$296 million) in 2011 to R2.48 billion (US\$303 million) – reflecting annual wage increases, an effective 25% electricity tariff increase implemented by state power utility Eskom, workforce expansion ahead of the expected production build-up, and general cost inflation.

Regional overview

2. South Africa

In 2012, the mine's NCE margin regressed to -37% (2011: -34%). Capital expenditure increased from R1.98 billion (US\$275 million) in 2011 to R2.58 billion (US\$315 million) in 2012 and was mainly focused on supporting the production ramp-up. This included expenditure on:

- Deepening of the Vent Shaft
- Expansion of the processing plant
- Completion of the backfill plant
- Ore reserve development (including destressing)
- Acquisition of mobile underground equipment and vehicles

In addition, work continued on the development of further infrastructure projects that will support productivity at the mine. These included:

- A Trackless Engineering Skills Training Centre, which will use advanced training and electronic simulators to produce a cadre of world-class underground mechanised miners. This is due for completion in the first half of 2013
- The new, underground 93-level Main Workshop, which will maintain our mechanised underground mining fleet on a 24-hour, double-shift basis

South Deep achieved three million fatality free shifts during the third quarter and reported no fatalities during the year.

2013 outlook

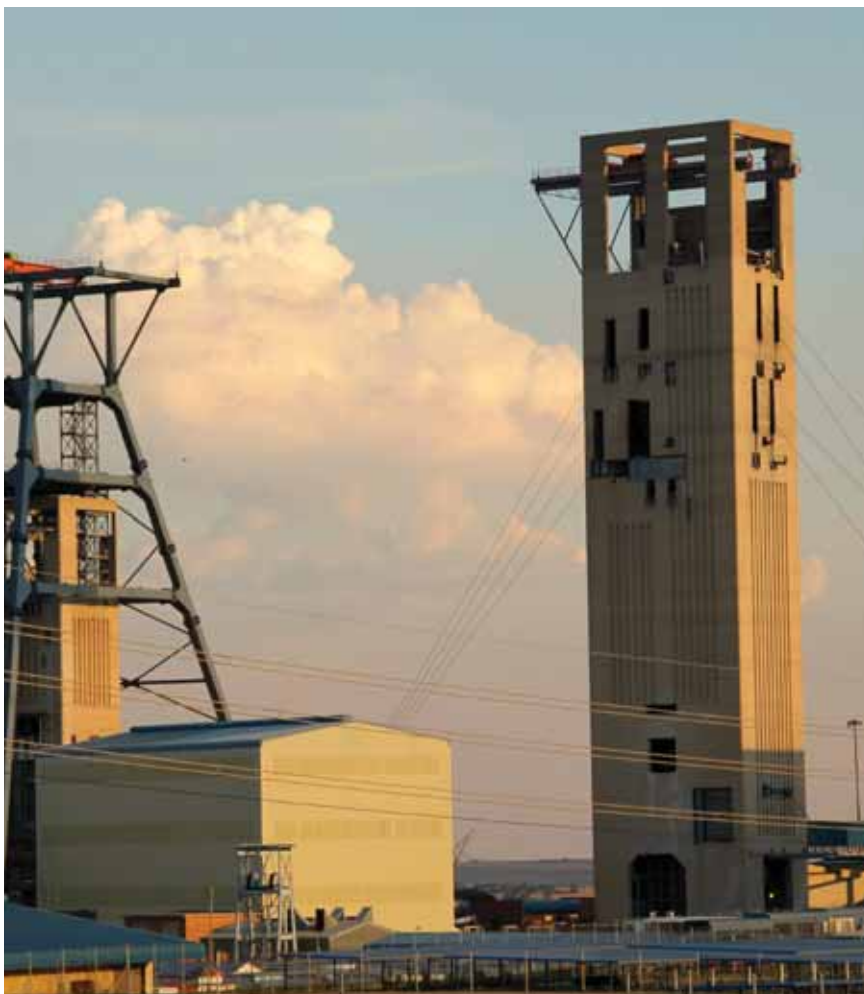
Planned production for South Deep is estimated at between 305,000 and 320,000 ounces of gold at a total cash cost of US\$1,100/oz and an NCE of US\$1,800/oz. This plan assumes:

- The embedding of the new operating model by the end of the first quarter – including the implementation of relevant training and the end of any disruptions linked to the transition in working arrangements
- The achievement of full capacity hoisting via the new Vent Shaft
- Selective outsourcing of equipment maintenance

The new operating model is expected to increase production by between 10% and 15%, helping the mine achieve its target of becoming cash generative by the end of 2013 subject to appropriate gold prices. Thereafter, the total cash cost and NCE are likely to fall as the production build-up progresses over the next three years.

At full production, South Deep is expected to be globally competitive from a cost perspective.

The 'twin' shafts at South Deep, South Africa



Regional overview

2. South Africa

Key indicators

Figure 2.14: Optimising our operations indicators – South Deep

Category	2012	2011	2010	2009	2008
Gold produced – attributable (kg)	8,411	8,491	8,524	7,373	5,124
Gold produced – attributable ('000oz)	270	273	274	237	165
Total cash cost (R/kg)	290,952	249,146	215,157	183,358	226,776
Total cash cost (US\$/oz)	1,105	1,073	914	677	860
Notional Cash Expenditure (NCE) (R/kg)	601,141	485,314	431,335	379,004	403,044
Notional Cash Expenditure (NCE) (US\$/oz)	2,283	2,091	1,833	1,398	1,529
Gold price (R/kg)	438,961	363,538	288,022	259,921	231,187
Gold price (US\$/oz)	1,667	1,566	1,224	959	877
Operating profit (Rm)	1,212	948	584	509	(24)
Operating costs (Rm)	2,480	2,138	1,871	1,408	1,209
Operating margin (%)	33	31	24	27	(2)
NCE margin (%)	(37)	(34)	(50)	(46)	(74)
Fatal Injury Frequency Rate (FIFR)	0.00	0.04	0.07	0.08	0.94
Lost Time Injury Frequency Rate (LTIFR)	1.95	1.67	2.87	2.74	12.45
Energy consumption (TJ)	2,053	2,092	2,171	2,039	1,719
CO ₂ emissions ('000 tonnes) (Scope 1 & 2)	537.9	546.7	572.5	559.1	463.0
Water withdrawal (million liters)	3,847	4,674	2,926	2,770	3,870

Figure 2.15: Growing Gold Fields indicators – South Deep

Category	2012	% of Group total
Attributable Mineral Resources (million oz)	73.03	41
Attributable Mineral Reserves (million oz)	36.02	53

Figure 2.16: Securing our future indicators – South Deep

Category	2012	2011	2010	2009	2008
Total employees	3,540	3,503	3,077	2,683	2,488
Silicosis submissions (Rate per 1,000 employees)	0.33	n/a	n/a	n/a	n/a
Employees on Highly-Active Anti-Retroviral Treatment (HAART)	3.92	n/a	n/a	n/a	n/a
Employee wages and benefits (Rm)	1,067	934	742	565	578
Total taxation and royalties paid (Rm)	19	15	0	0	0
SED spend (US\$m)	16¹	7	n/a	n/a	n/a

¹ Higher figure reflects the inclusion of maintenance provisions and operating costs in 2012

Regional overview

3. South America

3.1 Overview

3.1.1 Introduction

Role within Group

Our South America Region has both an operating mine (Cerro Corona) and a major growth project (Chucapaca). Cerro Corona, which is the newest of our mines, remains the most profitable operation in our Group.

Figure 3.1: Contribution to Group – South America Region (including Sibanye Gold)

	% of Group total
Optimising our operations	
Attributable gold production	10
Growing Gold Fields	
Attributable Mineral Resources	2
Attributable Mineral Reserves	4
Securing our future	
Total economic contribution	7
Employees	1

Figure 3.2: South America Region map



Operations

The region is home to the Cerro Corona mine – in which we hold a 98.5% interest through our subsidiary Gold Fields La Cima. Cerro Corona produces both copper and gold.

Growth projects

The region is also home to our high-altitude Chucapaca growth project. This is managed by our subsidiary company Canteras del Hallazgo – in which we hold a 51% interest – and Peruvian mining group Compañía de Minas Buenaventura, which holds the remaining 49% interest.

In the fourth quarter of 2012, we completed our final feasibility reviews of the project, which indicated inadequate project returns, relating to the high capital over the life of mine associated with the development plan. As a result, we have suspended development activity and downgraded Chucapaca to an exploration/scoping stage.

Despite this, we remain committed to developing Chucapaca and are instead carrying out a value re-engineering exercise (including a focus on scale, mining method and additional exploration) to identify models that will facilitate the unlocking of its substantial potential whilst offering adequate returns.

Optimising our operations

Figure 3.3: Attributable gold equivalent production

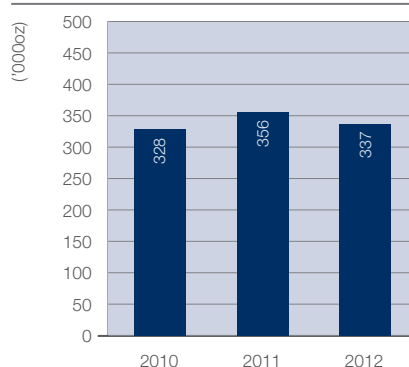
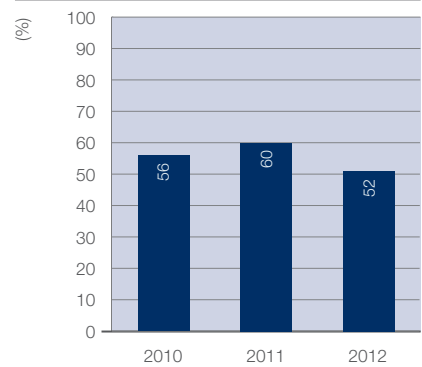
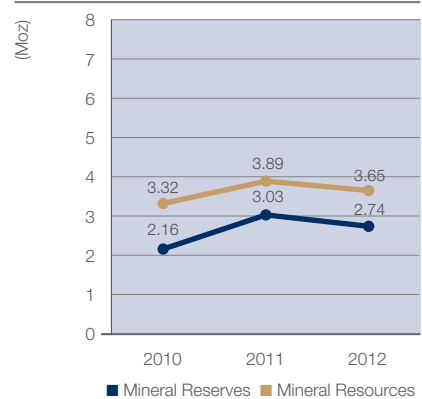


Figure 3.4: NCE margin



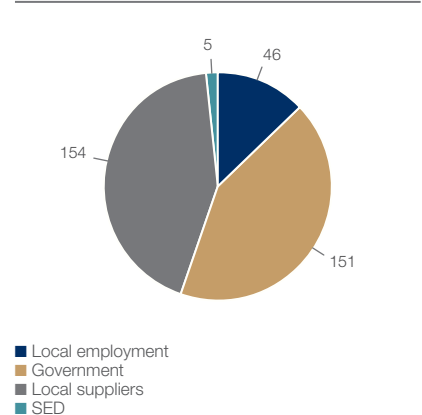
Growing Gold Fields

Figure 3.5: Attributable Gold Mineral Reserves and Resources



Securing our future

Figure 3.6: Local Economic Contributions (US\$m)



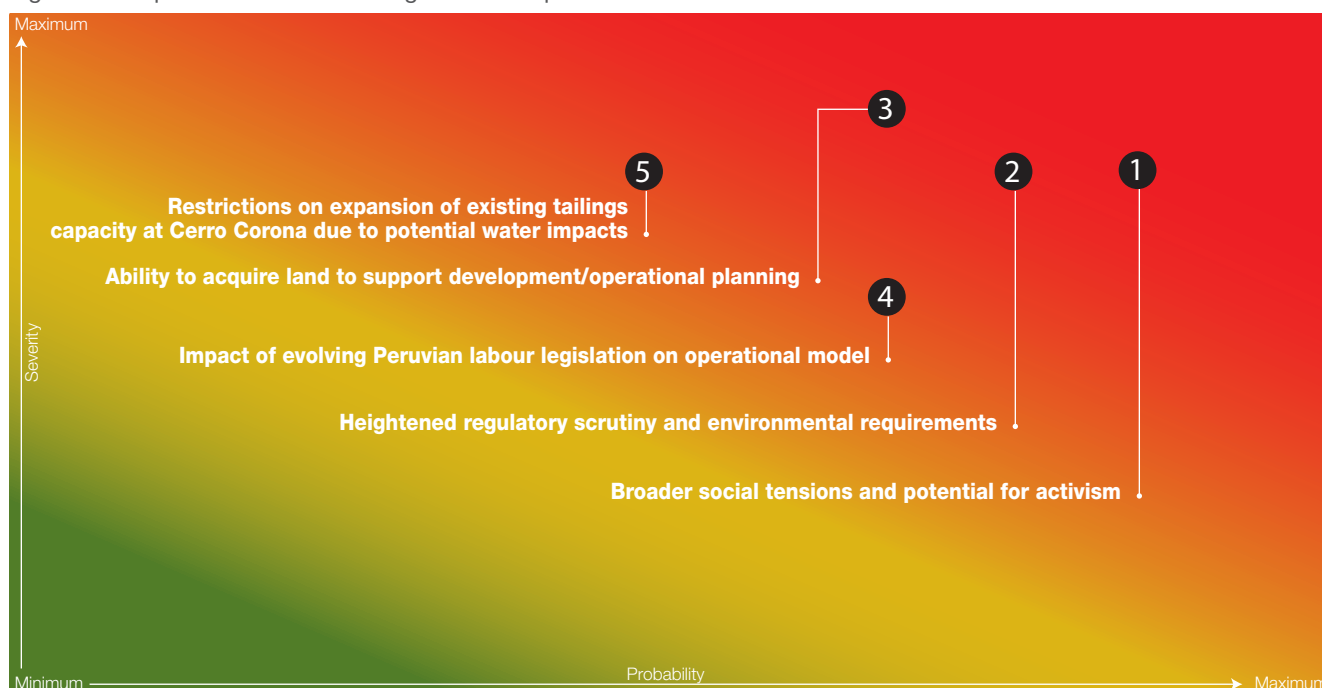
Regional overview

3. South America

3.1.2 Heat map

The heat map below sets out the top five risks for the South America Region, as identified through our Enterprise Risk Management (ERM) process (p. 44).

Figure 3.7: Top five South America region heat map



Risks	Mitigating strategies
1	<ul style="list-style-type: none"> Comprehensive satisfaction of our community commitments Stakeholder engagement and monitoring on a regular, ongoing basis Engagement and coordination with peer companies and central government to support the prevention of social conflicts
2	<ul style="list-style-type: none"> Constant environmental monitoring – including water monitoring – and strict compliance with relevant regulations Implementation of a focused programme to expedite relevant water permits for Chucapaca (pending value-re-engineering exercise) Promotion of participatory environmental monitoring in the Tingo River watershed adjacent to Cerro Corona
3	<ul style="list-style-type: none"> Development and implementation of a coordinated/systematic acquisition strategy to ensure maximum planning flexibility and optimal prices Suspension of land acquisition at Chucapaca (pending value-re-engineering exercise)
4	<ul style="list-style-type: none"> Ongoing engagement with central government (directly and through the National Society of Mining), including the evaluation of laws and initiatives to enhance Peruvian labour regulation Monitoring of proposed and actual changes to labour legislation
5	<ul style="list-style-type: none"> Evaluation of the potential relocation of the existing Las Tomas reservoir to allow for the expansion of Cerro Corona's existing tailings dam Examination of the potential construction of a new reservoir in the Vira Vira area to help address the impact of such an expansion on local water systems

Regional overview

3. South America

3.2 Operation: Cerro Corona

Introduction

Cerro Corona is located in the highest part of the western Cordillera of the Andes in northern Peru. It produces gold and copper concentrate from a large open pit, and processes ore through a standard sulphide floatation tank. The copper-gold concentrate is trucked to the port of Salaverry for export.

Strategic overview

In 2013, the mine could achieve its full five-year payback of all initial capital expenditure on its development and construction depending on gold and copper prices. Given it has an 18-year life of mine remaining, 3.7 million ounces of Mineral Resources and enjoys the highest NCE margin in the Group, Cerro Corona should continue to play a key role in supporting Gold Fields cash generation strategy well into the future.

Performance overview

Managed gold equivalent production fell by 11% from 383,100 ounces to 342,100 ounces. This was due to anticipated lower gold and copper grades, a lower copper to gold price ratio (dictated by changes in market prices for the respective metals) and a lower milling rate in the third quarter due to the processing of hard ore.

Nonetheless, the overall mining fundamentals of the operation remain strong, with technical parameters including volume, grade and recovery expected to track disclosures in our Mineral Resources and Reserve declaration.

Lower gold equivalent production, higher ore and waste mining volumes, and expenditure on plant contributed to a higher total cash cost of US\$492 per ounce – compared with US\$437 per ounce in 2011. Meanwhile, the mine's NCE margin fell to 52% (2011: 60%) – partly reflecting lower net metal prices received and higher capital expenditure of US\$94 million. Much of this related to construction activity on our tailings facility throughout the year (including an additional raise), as well as the implementation of optimisation projects at the processing plant designed to debottleneck the facility. Despite this, the mine continues to boast the highest NCE margin in the Group.

Cerro Corona has recorded no Lost Time Injuries since September 2011.

Near-mine exploration

During 2012, we have been assessing the potential offered by the extension of mineralisation of a gold-copper porphyry system that runs to significant depths beneath the current reserve pit (known as Corona Deep). It shares similar characteristics to a number of 'pencil' gold-copper porphyry systems that can extend to depths far below those currently tested at Cerro Corona. As a result, we have been carrying out drilling to establish the potential for an ore body capable of supporting a large-scale underground mining operation.

2013 outlook

Planned production at Cerro Corona is estimated at between 270,000 and 280,000 gold equivalent ounces at a total cash cost of US\$600/oz and an NCE of US\$920/oz. This plan assumes:

- A gold price of US\$1,700/oz and a copper price of US\$8,000/t

We are examining two potential opportunities to add further production at Cerro Corona, including:

- Expansion of the existing processing plant to bring forward sulphide-based production
- A new heap leach facility to process more than 300,000 ounces of gold contained in the mine's surface oxide stockpiles

The Las Tomas reservoir at Cerro Corona, Peru



Regional overview

3. South America

Key indicators

Figure 3.8: Optimising our operations indicators – Cerro Corona

Category	2012	2011	2010	2009	2008
Gold-equivalent produced – attributable ('000oz)	337	356	328	268	60
Total cash cost (US\$/oz)	492	437	363	361	380
Notional Cash Expenditure (NCE) (US\$/oz)	775	592	532	626	1,560
Gold price (US\$/oz)	1,588	1,463	1,201	970	658
Operating profit (US\$m)	396	403	341	206	19
Operating costs (US\$m)	171	157	146	122	32
Operating margin (%)	71	72	71	62	43
NCE margin (%)	52	60	56	35	(137)
Fatal Injury Frequency Rate (FIFR)	0	0	0	0	0
Lost Time Injury Frequency Rate (LTIFR)	0.00	0.18	0.00	0.32	0.21
Energy consumption (TJ)	1,122	1,006	895	425	n/a
CO ₂ emissions ('000 tonnes) (Scope 1 & 2)	80.2	70.8	49.4	22.8	n/a
Water withdrawal (million liters)	3,297	3,582	574	187	n/a

Figure 3.9: Growing Gold Fields indicators – Cerro Corona

Category	2012	% of Group total
Attributable Gold Mineral Resources (million oz)	3.65	2
Attributable Gold Mineral Reserves (million oz)	2.74	4

Figure 3.10: Securing our future indicators – Cerro Corona

Category	2012	2011	2010	2009	2008
Total employees	373	367	350	337	n/a
Employee wages and benefits (US\$)	46	49	33	22	9
Total taxation and royalties paid (US\$m)	139	126	73	46	1
SED spend (US\$m)	5	4	n/a	n/a	n/a

Regional overview

4. West Africa

4.1 Overview

4.1.1 Introduction

Role within Group

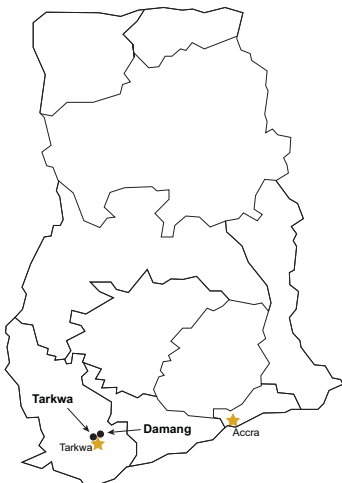
Production in the West Africa Region is focused on our Damang and Tarkwa open pit mines in Ghana.

Tarkwa is the highest gold producer in the Gold Fields International portfolio, with a relatively robust NCE margin of 37%. As such, it plays a key role in supporting cash flow generation within the Group.

Figure 4.1: Contribution to Group – West Africa Region (including Sibanye Gold)

	% of Group total
Optimising our operations	
Attributable gold production	24
Growing Gold Fields	
Attributable Mineral Resources	11
Attributable Mineral Reserves	18
Securing our future	
Total economic contribution	18
Employees	8

Figure 4.2: West Africa Region map



Operations

Our Damang and Tarkwa open pit mines are located within 30km from another in south-western Ghana.

Tarkwa is Africa's largest open pit gold mine by production, with a substantial and well-defined Mineral Resource.

Damang, which is smaller, is in a period of transition with production expected to shift from the mature Damang pit to the adjacent Huni and Juno pits. These contain 14% of the mine's current 4.1 million Mineral Reserves. The Huni Saddle between the Damang and Huni pits contain a further 23% of the Mineral Reserves. As such, our immediate focus is on stabilising production at the mine as we continue to investigate opportunities to capitalise on our large Mineral Reserve and Resource position so as to provide a production profile of 200,000 – 250,000 ounces per annum over the next 10 – 15 years. This exercise will also examine the potential for a push-back of the original Damang pit, which contains higher-grade ore than Huni and Juno at close to 2 grams per ton, as well as an underground operation.

Optimising our operations

Figure 4.3: Attributable gold production

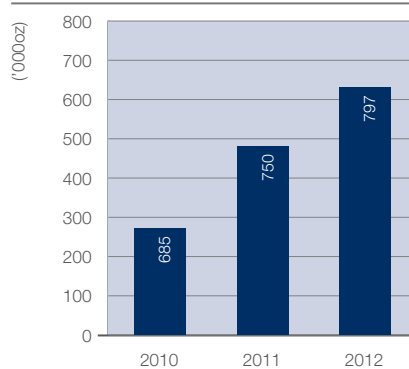
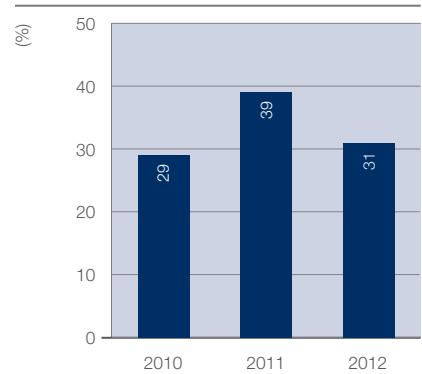


Figure 4.4: NCE margin



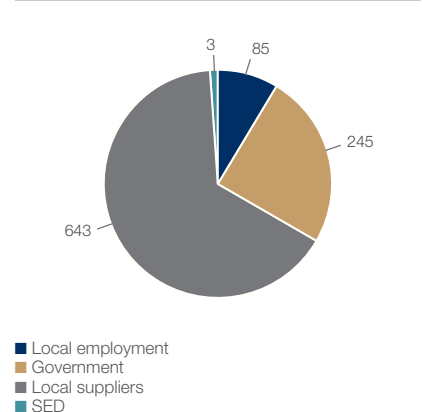
Growing Gold Fields

Figure 4.5: Attributable Mineral Reserves and Resources



Securing our future

Figure 4.6: Total economic contribution (US\$m)



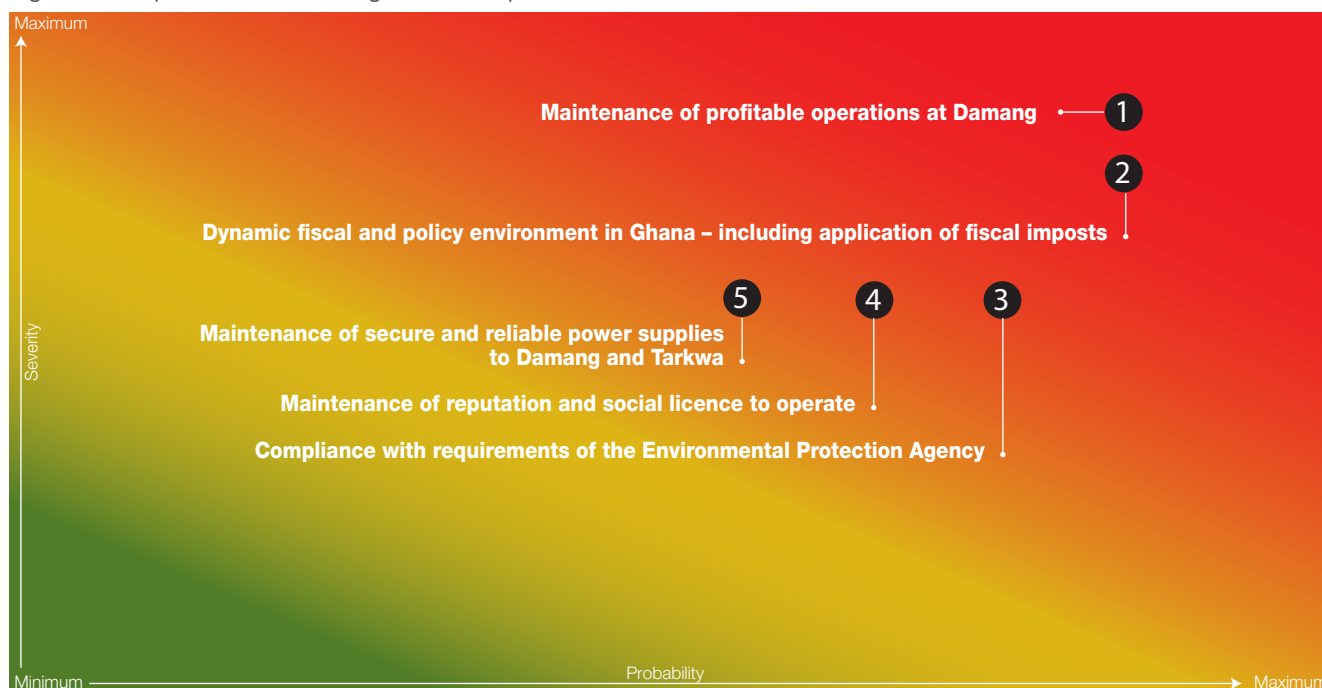
Regional overview

4. West Africa

4.1.2 Heat map

The heat map below sets out the top five risks for the West Africa Region, as identified through our Enterprise Risk Management (ERM) process.

Figure 4.7: Top five West Africa region heat map



Risks	Mitigating strategies
1	<ul style="list-style-type: none"> Carrying out infill drilling programme to improve confidence in mine potential Upgrading of processing plant, including the enhancement of its crushing capability to sustain long-term process capacity of 5Mt/pta Exploration of potential operational synergies with Tarkwa
2	<ul style="list-style-type: none"> Direct and indirect engagement with government to highlight negative consequences around long-term revenue generation and employment Submission of a proposed stability agreement to the government to ensure a level playing field with in-country peers Ongoing monitoring of business environment and modelling of actual/potential impacts of fiscal/policy changes Communication of existing contributions to the Ghanaian economy
3	<ul style="list-style-type: none"> Implementation of a comprehensive water management plan Implementation of enhanced environmental reporting structures at Damang and Tarkwa Completion of new water treatment plants for Tarkwa's heap leach facilities Direct, ongoing engagement with the Environmental Protection Agency and other relevant stakeholders Indirect engagement via the Chamber of Mines to assist government/regulators in the development of effective and operationally viable environmental regulations Completion of environmental and legal due diligence at Tarkwa and Damang to assess and mitigate risks
4	<ul style="list-style-type: none"> Ongoing application of our comprehensive, multi-layered stakeholder engagement model Auditing of social projects to gauge impact on host communities and quantify Gold Fields overall contribution to socio-economic development Application of the 'shared value' concept
5	<ul style="list-style-type: none"> Carrying out of a feasibility study for a combined 'clean coal'/biomass power plant Agreement of power purchase sale agreement with the Volta River Authority and the Electricity Company of Ghana, as well as transmission agreement with GridCo. This was achieved after the 2012 year-end Implementation of energy efficiency measures Long-term development of/support for independent power providers

Regional overview

4. West Africa

Growth projects

In the first quarter of 2012, we completed all drilling activities and resource models to support the feasibility study for the Damang Superpit project in Ghana. The geological, mining and metallurgical components of the study indicated a robust project under prior tax conditions.

In the second quarter, however, we slowed work on the project, due to the negative impact of recently introduced changes to the local fiscal regime that would materially increase our tax liabilities – including the imposition of less favourable capital allowances. We are still in discussions with the government of Ghana in this respect.

In the meantime, we initiated a concept study on a smaller, more capital efficient starter project to bring Damang's potential to account earlier and in a more incremental way. This is focused on a Damang pit cut-back to provide higher-grade ore to the existing plant.

4.2 Operation: Damang

Introduction

Damang is located approximately 30km north of our neighbouring Tarkwa mine. It consists of four open pits, as well as surface stockpiles and a Carbon-In-Leach processing plant.

Strategic overview

Our focus is to stabilise production at the mine to between 200,000 ounces and 250,000 ounces per year in the medium- to long-term. Damang has experienced an overall decline in production due to its transition from the mature Damang pit into the developing Huni and Juno pits, which are expected to provide most of the new mining volumes over the next two years.

Nonetheless, we are also seeking opportunities to significantly expand the Damang pit in the medium to long term and harness the value of the mine's 10 million ounce Mineral Resource. Although the pit (in its current form) is expected to be depleted in approximately two years, significant Mineral Reserve potential exists below the current floor, which is only accessible via a significant cut-back. The viability of the cut-back will be investigated during 2013.

Performance overview

In 2012, managed gold production fell by 24% to 166,400 ounces – compared with 217,700 ounces in 2011. This was due to mining restrictions imposed by ongoing safety concerns in higher-grade parts of the Damang pit – resulting in decreased volumes of high-grade feed ore. These concerns included potential risks around the southern interface between the Juno pit and the Damang pit, as well as deteriorating ground conditions on the east wall.

Additional challenges during the year included:

- Related-blending constraints, resulting in suboptimal grind and recovery performance
- Below-capacity plant performance

The impact on production was partially offset, however, by the implementation of an additional work shift in the first quarter to accelerate waste stripping, increase mining volumes, maintain a constant feed to the plant and optimise equipment utilisation.

In addition, we are implementing a significant US\$21 million plant upgrade programme (US\$8 million to be spent in 2013) to improve reliability, enhance recovery (under current blending conditions), reduce processing costs and ensure the necessary processing capabilities are in place for the likely extension of Damang's life of mine. The programme, which is expected to be completed in the first half of 2013, includes:

- Introduction of an intensive leach reactor
- The addition of an eighth leach tank
- Introduction of a pre-leach thickener to improve the circuit water balance
- Upgrading of the gravity circuit
- Preventative maintenance

Regional overview

4. West Africa

Improved processing performance helped stop production declines in the third quarter – and contributed to a 10% production increase in the fourth quarter. Nonetheless, the plant is still processing below its 5 million tonnes per year historical nameplate capacity at 4.4 million tonnes per year – with run rate optimisation reliant on the implementation of mill feed size and crushing rate improvements. These are due to be fully commissioned in the second half of 2013.

Net operating costs increased by 9% to US\$153 million, primarily due to annual wage increases, general cost inflation and increased power rates – partially offset by the ongoing savings generated by owner-mining initiated in early 2011. For example, owner-mining has produced savings of US\$35 million over the course of the year.

The mine's NCE margin fell to 2% (2011: 33%). Capital expenditure of US\$114 million has been focused on pre-stripping, exploration, the acquisition of mining fleet and the upgrading of the processing plant. A high level of pre-stripping is necessary to open up the significant Mineral Reserve potential at the Huni and Juno pits.

Near-mine exploration

In early 2012, drilling focused on the Amoanda open pit, with the aim of adding Mineral Reserves to complement the Damang, Huni and Juno pits.

Near-mine exploration focused on an initial framework drilling programme on high priority targets in the Bonsa Hydrothermal project. This defined highly prospective structural target is similar in style to the main Damang deposit. We are awaiting final assay results to inform the geological interpretation of the results.

2013 outlook

Planned production at Damang is estimated at between 165,000 ounces and 180,000 ounces of gold at a total cash cost of US\$1,010/oz and an NCE of US\$1,650/oz. This plan assumes:

- No changes in the current tax regime
- Debottlenecking of the crusher circuit to restore throughput to 5.2 million tonnes per year by no later than the first half of 2014

During 2013, we plan to advance our concept study for a high-grade cut-back on the Damang pit. This is one of a number of options being examined to optimise the extraction of the ore body.

Pit at Damang, Ghana



Regional overview

4. West Africa

Key indicators

Figure 4.8: Optimising our operations indicators – Damang

Category	2012	2011	2010	2009	2008
Gold produced – attributable ('000oz)	149	174	162	144	140
Total cash cost (US\$/oz)	918	701	660	635	629
Notional Cash Expenditure (NCE) (US\$/oz)	1,630	1,056	973	698	783
Gold price (US\$/oz)	1,670	1,565	1,230	963	863
Operating profit (US\$m)	125	201	134	71	45
Operating costs (US\$m)	157	142	146	122	134
Operating margin (%)	55	59	48	36	26
NCE margin (%)	2	33	21	28	9
Fatal Injury Frequency Rate (FIFR)	0.00	0	0	0	0
Lost Time Injury Frequency Rate (LTIFR)	0.36	0.19	0.64	0.17	0.16
Energy consumption (TJ)	1,519	1,303	1,046	976	1,122
CO ₂ emissions ('000 tonnes) (Scope 1 & 2)	107.3	90.3	63.7	59.8	71.0
Water withdrawal (million liters)	1,817	5,127	3,011	906	436

Figure 4.9: Growing Gold Fields indicators – Damang

Category	2012	% of Group total
Attributable Mineral Resources (million oz)	7.59	4
Attributable Mineral Reserves (million oz)	3.68	6

Figure 4.10: Securing our future indicators – Damang

Category	2012	2011	2010	2009	2008
Total employees	1,132	969	463	411	414
Employee wages and benefits (US\$m)	20	17	14	10	9
Total taxation and royalties paid (US\$m)	35	45	39	16	8
SED spend (US\$m)	1	1	n/a	n/a	n/a

Regional overview

4. West Africa

4.3 Operation: Tarkwa

Introduction

Our Tarkwa mine consists of six open pits, two heap leach facilities (of which one was subsequently closed) and a Carbon-In-Leach (CIL) plant. The operation is currently focused on surface mining multiple reef horizons, with potential for underground mining in the future.

Strategic overview

Tarkwa is a stable, world-class mine – and accounts for the largest volume of production within the new Gold Fields portfolio at a relatively high NCE margin of 37%. As such, it plays a key role in supporting cash flow generation within the Group.

Performance overview

Managed gold production remained steady at 718,800 ounces – compared with 717,300 ounces in 2011.

During the second quarter of 2012, we commissioned a secondary crusher at the CIL plant – with ramp-up to its full run-rate taking place over the rest of the year. This has achieved a 5% improvement in the milling rate to one million tonnes per month since January 2013. This helped us offset some of the production lost as a result of the temporary suspension of heap leach operations in July and August (see below).

Over the course of the year, we also laid the ground for higher future mining volumes through the expansion of our load and haul fleet. This is expected to increase annual mining volumes by as much as 10% – whilst also allowing us to accelerate waste stripping to improve mine flexibility.

During the third quarter, a directive from the Environmental Protection Agency (EPA) instructed Tarkwa to stop the discharge of water from the North and South Heap Leach facilities, pending the installation of water treatment plants to reduce conductivity (i.e. the amount of non-toxic dissolved salts in discharged water). The heap leach facilities typically contribute around 20% of Tarkwa's production.

In the spirit of environmental best practice and stewardship, we stopped the operations on 16 July and committed to installing new water treatment plants at both facilities. Both facilities reopened on 9 August with the approval of the EPA – following a loss in production of around 15,000 ounces. The North Heap Leach water treatment plant was officially opened on 1 January 2013 with ramped up capacity expected by the end of the first quarter in 2013. The South Heap Leach water treatment facility is scheduled to be operational by the end of the first quarter in 2013, to capture any residual run-off in line with the closure plan.

Net operating costs at Tarkwa increased by 27% to US\$470 million (2011: US\$371 million). This reflected annual wage increases, general cost inflation, higher fuel costs and an increase in power rates – as well as a reassessment of the carrying value of gold-in-process inventories in 2011.

During the fourth quarter – and as part of Gold Fields broader Portfolio Review – we took the decision to stop production at the marginal and high cost South Heap leach operation, though we continue to percolate residual cyanide through the heap. This reflects Gold Fields strategic focus on cash generation and the depletion of Tarkwa's low-grade ore stockpiles. Although this will contribute to a decline in output of around 40,000 ounces per year, the closure will eliminate higher cost production and reduce the mine footprint.

The NCE margin held steady at 37% (2011: 42%). Capital expenditure of US\$260 million was focused on the acquisition of additional mobile equipment and vehicles, increased stripping to improve flexibility, commissioning of the secondary CIL crusher and the construction of water treatment facilities for the heap leach operations.

Near-mine exploration

No significant near-mine exploration took place at Tarkwa during 2012.

2013 outlook

Planned production at Tarkwa is estimated at between 640,000 ounces and 650,000 ounces of gold at a total cash cost of US\$785/oz and an NCE of US\$1,190/oz. This plan assumes the closure of the South Heap Leach operation, which produced 51,000 ounces of gold in 2012.

In line with our Group strategy of focusing on low risk, near-mine growth opportunities – we are continuing to investigate the Tarkwa Expansion Phase 6 (TEP6) project, which would see the replacement or partial replacement of all heap leach operations at Tarkwa, with either the expansion of the current processing plant or the construction of a new, additional CIL plant. This would offer considerably higher rates of recovery, helping us optimise utilisation of available high-grade ore sources and increase overall production.

Regional overview

4. West Africa

Key indicators

Figure 4.11: Optimising our operations indicators – Tarkwa

Category	2012	2011	2010	2009	2008
Gold produced – attributable ('000oz)	647	576	523	473	447
Total cash cost (US\$/oz)	673	556	573	488	494
Notional Cash Expenditure (NCE) (US\$/oz)	1,049	913	831	719	926
Gold price (US\$/oz)	1,668	1,565	1,223	966	863
Operating profit (US\$m)	729	752	480	320	231
Operating costs (US\$m)	494	436	416	342	324
Operating margin (%)	61	67	53	50	43
NCE margin (%)	37	42	32	26	(7)
Fatal Injury Frequency Rate (FIFR)	0.00	0.05	0	0	0
Lost Time Injury Frequency Rate (LTIFR)	0.15	0.21	0.43	0.13	0.31
Energy consumption (TJ)	3,982	3,853	3,743	3,397	3,130
CO ₂ emissions ('000 tonnes) (Scope 1 & 2)	283.6	270.5	246.7	225.2	215.2
Water withdrawal (million liters)	3,560	3,684	4,610	6,023	4,528

Figure 4.12: Growing Gold Fields indicators – Tarkwa

Category	2012	% of Group total
Attributable Mineral Resources (million oz)	13.11	7
Attributable Mineral Reserves (million oz)	9.07	14

Figure 4.13: Securing our future indicators – Tarkwa

Category	2012	2011	2010	2009	2008
Total employees	2,769	2,575	2,073	1,917	1,748
Employee wages and benefits (US\$)	64	55	45	36	32
Total taxation and royalties paid (US\$m)	199	202	110	31	37
SED spend (US\$)	2	3	n/a	n/a	n/a