



# 04 Report to Society

The group's 2004 Report to Society presents a review of the company's economic, social and environmental impact and obligations for the period 1 January 2004 to 31 December 2004. It has been prepared in conjunction with the Annual Report on the company's operating and financial performance for the same period. Through the combination of the Report to Society and Annual Report, AngloGold Ashanti seeks to report on these issues to a wide range of stakeholders, who include shareholders, employees, employee representatives and the communities in which it operates, as well as regional and national governments and other interested parties.

AngloGold Ashanti believes that the report presents a fair and balanced reflection of the group's operations and performance, its objectives, values and business principles and the major issues and challenges that it faces (outside of the operating and financial sphere).

Efforts have been made to report on a wide range of issues from around the world. Because of the scale of the group's operations, reporting has been done on the basis that the group's principles and policies are illustrated rather than detailed in every case. This is done as far as possible, through practical examples or case studies. Because the majority of the group's operations and employees are based in South Africa, there is more reporting on this region. Attempts have been made, however, to cover issues pertinent to individual operations through specific country reports.

To address the needs of the stakeholders who will read this report, the report has been compiled in such a way as to make it more accessible.

- The primary reporting format is through a dedicated webpage on the company's own website at [www.anglogoldashanti.com](http://www.anglogoldashanti.com). Copies of the entire report or portions of this report may be accessed, downloaded or printed from this website. This report is also available on CD-ROM or in a printed version from the persons listed on the back pages of the Report to Society and the annual report, or the website.

- The report may be accessed from three vantage points:
  - First: The report is structured in line with the various disciplines – safety and health, environment, labour, HIV/AIDS and malaria, and community and these are covered in terms of the company's own values and business principles;
  - Second: Readers may access specific information in the main report or in country reports which present country specific information on the operations and case studies; and
  - Third: The Global Reporting Initiative (GRI) format has also been followed in compiling this report and a GRI matrix (to be found in each section of the printed report or in the GRI section on the website) indicates the page numbers on which relevant discussions may be found.

While no generally accepted reporting guidelines exist for this type of report, the group believes that it has sought to follow good practice, GRI guidelines and various other instruments (such as the Sarbanes-Oxley Act of 2002, and the guidelines of the King Report on Corporate Governance (2002), among others). AngloGold Ashanti has also asked auditors PricewaterhouseCoopers (PWC) to assist in developing a framework for reporting, and in providing assurance on certain sections of the report. The sections that have been assured have been selected in conjunction with PWC and are based on those areas that are most meaningful to the company and its stakeholders. The assurance letter from PWC may be found on page 6 of this report.

The most significant event of the past year was the business combination between AngloGold Limited and Ashanti Goldfields Company Limited, effective 26 April 2004. For reporting purposes, the effective reporting period for these operations begins on 1 May 2004. The former Ashanti operations are therefore reported in this report for an eight-month period only, that is, May to December 2004.

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### Performance



### Reporting according to business principles



Glossary of terms
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## 2 Corporate profile

AngloGold Ashanti, headquartered in Johannesburg, South Africa, has a global presence with a portfolio of differing orebody types in key gold producing regions.

The group's 22 operations are located in 10 countries (Argentina, Australia, Brazil, Ghana, Guinea, Mali, Namibia, South Africa, Tanzania and the United States of America), and are supported by extensive exploration activities. The combined Proved and Probable Ore Reserves of the group amounted to 79 million ounces, as at 31 December 2004.

AngloGold Ashanti was formed through the business combination between AngloGold Limited and Ashanti Goldfields Limited – effective

26 April 2004 – forming Africa's foremost gold producer, and one of the world's leading resources companies.

AngloGold Ashanti is listed on the following securities exchanges: Johannesburg (ANG), New York (AU), Australia (AGG) and Ghana (AGA and AADS), as well as the London Stock Exchange (AGG), Euronext Paris (VA) and Euronext Brussels (ANG).

The group employs 65,400 people, including both permanent employees and contractors.



## Mission and values

AngloGold Ashanti's mission, values and business principles were developed in consultation with employees and are reviewed as part of an ongoing process to ensure that they more accurately reflect our purpose and the way in which the company does business. This process continued in 2004 and was the subject of an internal communications campaign during the year.

### AngloGold Ashanti's mission:

Our business is gold. We consistently strive to create value for everyone with a stake in our company, by finding and mining gold and by developing the market for our product.

#### Our values

- AngloGold Ashanti consistently strives to generate competitive shareholder returns. We do this by replacing profitable gold reserves and by continuously improving the performance of our key resources – our people, our assets and our product. We conduct ourselves with honesty and integrity.
- We provide our employees with opportunities to develop their skills while sharing risks and rewards in workplaces that promote innovation, teamwork and freedom with accountability. We embrace cultural diversity.
- Every manager and employee takes responsibility for health and safety; and together strive to create workplaces that are free of occupational injury and illness.
- We strive to form partnerships with host communities, sharing their environments, traditions and values. We want communities to be better off for AngloGold Ashanti having been there. We are committed to working in an environmentally friendly way.

#### Our business principles

We live our values through our business principles. These principles are applicable across AngloGold Ashanti and in all the countries in which we do business.

They inform the way in which we go about achieving our mission, balancing key economic, social, environmental and ethical values. These business principles which will evolve over time as we interact with our stakeholders, both internal and external, are:

- ethics and governance – *page EG2*
- as an employer – safety and health – *page SH2*
- as an employer – our labour practices – *page L2 and HM2*
- the community – *page C2*
- the environment – *page E2*



## 4 | The process of producing gold

There are six main activities in which the company engages in the process of producing gold:



1

### Finding the orebody

AngloGold Ashanti's global exploration programme generates targets and undertakes exploration, on its own or in conjunction with joint venture partners.



2

### Creating access to the orebody

There are two types of mining which take place to access the orebody:

- underground – a vertical or decline shaft (designed to transport people and/or materials) is first sunk deep into the ground, after which horizontal development takes place at various levels of the main shaft or decline. This allows for further on-reef development of specific mining areas where the orebody has been identified; and
- open-pit – where the top layers of topsoil or rock are removed in a process called 'stripping' to uncover the reef.



3

### Removing the ore by mining or breaking the orebody

- In underground mining, holes are drilled into the orebody, filled with explosives and then blasted. The blasted 'stopes' or 'faces' are then cleaned and the released ore is now ready to be transported out of the mine.
- In open-pit mining, drilling and blasting may also be necessary to release the gold-bearing rock; excavators then load the material onto the ore transport system.



4

### Transporting the broken material from the mining face to the plants for treatment

- Underground ore is transported by means of vertical and/or horizontal transport systems. Once on surface, conveyor belts usually transport the ore to the treatment plants.
- Open-pit mines transport ore to the treatment plants in vehicles capable of hauling huge, heavy loads.



### Processing:

- Comminution, which is the breaking up of ore to make gold available for treatment. Conventionally, this process occurs in multi-stage crushing and milling circuits. Modern technology is based on large mills fed directly with run-of-mine material.
- Gold ores can typically be classified into:
  - refractory ores, where the gold is locked within a sulphide mineral and not readily available for recovery by the cyanidation process; or
  - free milling, where the gold is readily available for recovery by the cyanidation process.
- Refractory ore treatment – after fine grinding the sulphide materials are floated away from the barren gangue material to produce a high grade sulphide concentrate. The sulphide concentrate is oxidised by either roasting as at AngloGold Ashanti Mineração or bacterial oxidation (BIOX) as at Obuasi. The oxidation process oxidises the sulphide minerals liberating the gold particles making them amenable to recovery by the cyanidation process.
- Free milling and oxidised refractory ores are processed for gold recovery by agitator leaching the ore in an alkaline cyanide leach solution followed generally by adsorption of the gold cyanide complex onto activated carbon-in-pulp (CIP).
- The alternative process is the heap leach process. Generally considered applicable to only high tonnage, low grade ore deposits, AngloGold Ashanti has successfully applied this to medium grade deposits where the ore deposit tonnage cannot economically justify constructing a process plant. Here, the run-of-mine ore is crushed and placed on the leach. Low strength alkaline cyanide solution is applied, generally as a drip, to the top of the heap for periods of up to three months. The dissolved gold bearing solution is collected from the base of the heap and transferred to the carbon-in-solution (CIS) columns where the gold cyanide complex is adsorbed onto activated carbon. The stripped solution is recycled back to the top of the heaps.
- Gold adsorbed onto activated carbon is recovered by a process of re-dissolving the gold from the activated carbon (elution), followed by precipitation in electro-winning cells and subsequent smelting of that precipitate into bars that are shipped to the gold refineries.
- The retreatment of tailing stockpile from previous decades' operations is also practised by AngloGold Ashanti. The old tailings are mined by water sluicing followed by agitator leaching in alkaline cyanide solution and recovery of dissolved gold onto activated carbon.
- At AngloGold Ashanti operations the major by-products produced are:
  - silver, which is associated with gold in ratios ranging from 0.1 to 1 to 200:1 silver to gold
  - sulphuric acid which is produced by scrubbing the off gases from the roasting plants; and
  - uranium which is recovered in a process which involves initial acid leaching followed by recovery of the leached uranium onto resin and subsequent stripping with ammonium hydroxide and precipitation of crude yellow cake.
- The tailings from the process operations are stored in designated Tailings Storage Facilities designed to enhance water recovery and prevent contaminant seepage into the environment.



### Refining

The gold dust is then smelted into gold bars, which are transported to a refinery for further refining, to as close to pure gold as possible – good delivery status. This gives the assurance that the bar contains the quantity and purity of gold as stamped on the bar.

To: The management of AngloGold Ashanti Limited

### Introduction

We have been asked to provide assurance over certain selected performance statements, data and graphs (the "Selected Data") reported in AngloGold Ashanti Limited's Report to Society 2004 (the "Report to Society"). Selected Data are marked with the symbol . We did not attempt to provide assurance over all performance statements, data and graphs contained in the Report to Society.

The preparation and content of the Report to Society and the determination of Selected Data for our review are the responsibility of the management of AngloGold Ashanti Limited. Our responsibility is to express an opinion on the Selected Data, based on assurance work performed.

### Opinion

In our opinion, Selected Data marked in the Report to Society with a symbol  adequately reflect AngloGold Ashanti's performance in all material respects.

### Basis of opinion

Our approach reflects emerging best practice, using a framework based on principles of financial auditing and reporting and International Standards for Assurance Engagements (ISAE 3000) prepared by the International Auditing and Assurance Standards Board (IAASB), under the auspices of the International Federation of Accountants (IFAC). We therefore planned and performed our work in order to obtain reasonable, rather than absolute assurance with respect to the reliability of the performance information. We believe that our work provides a reasonable basis for our opinion.

### Assurance work performed

Our opinion is based on a test of the reliability of the Selected Data by way of:

- conducting interviews and holding discussions with management, key personnel and/or stakeholders of AngloGold Ashanti Limited and assessing data trends;
- obtaining an understanding of the systems used to generate, aggregate and report the Selected Data;
- conducting site visits to test systems and data and inspecting premises where necessary;
- assessing the completeness and accuracy of the Selected Data; and
- reviewing and analysing collected information and effecting re-calculations where considered appropriate.

### Considerations and limitations

Non-financial data are subject to many more inherent limitations than financial data, given both their nature and the methods used for determining, calculating or estimating such data. Our assurance did not constitute an audit in terms of generally accepted auditing standards. We have not provided assurance over all contents of the Report to Society, nor have we undertaken work to confirm that all relevant issues are included in it. We have not carried out any work on data reported in respect of future projections and targets.

**PricewaterhouseCoopers Inc.**

Johannesburg, 8 March 2005

## Letter from the chief executive officer

Dear stakeholders

Earlier this year the weekly journal, The Economist, published a supplement on corporate social responsibility. It was most unlike the average such supplement, scores of which are published in newspapers and journals around the world each year. These usually offer large companies the opportunity to tell readers about their 'good works' programmes, and invariably invite companies, in addition, to reinforce the 'positive message' about their commitment to socially responsible activity through the medium of a paid-for advertisement.

Instead, The Economist put forward to readers a heartfelt attempt to reverse what it sees as the 'victory' of the CSR (corporate social responsibility) lobby. The publication believes that this lobby has forced business leadership to adopt an almost embarrassed attitude to the pursuit of profit, when in fact this pursuit – as Adam Smith said all those years ago – willy-nilly serves the public good. Rather, it worries, business executives are wont to say, at least in their public pronouncements, that their preferred priority is the pursuit of what the publication sees as a woolly, apparently heartwarming but ultimately destructive (of economic progress) notion of CSR.

To be sure, The Economist was not advocating the crudest form of the philosophy that 'the business of business is business'. It acknowledged that the pursuit of self-interest by enlightened means could well be the sensible thing to do. However, the bottom line was that any activity which does not grow the bottom line is illegitimate.

At many levels, this view is correct. The primary purpose of any business must be to provide competitive returns to those who fund it – the shareholders. And we at AngloGold Ashanti seek to achieve this without any apology at all. That much is stated up front in the first paragraph of our business principles.

However, our business principles go further. They encompass commitments to fair economic reward and opportunity for employees, to their right to a healthy and safe working environment, to the communities living near our operations, and to the physical environment in and surrounding our operations.

We accept, and embrace, these commitments because we believe that, in order to operate, we need to do more than merely meet the minimum regulatory standards set by the government administrations in the countries and regions in which we operate. We also believe we need a moral licence to mine; a licence that has to be acquired, too, from our employees, from the communities in which we operate, and from other

stakeholders. In its simplest terms, we take the view that communities, and others, "must be better off for our having been there".

South Africa is one country where these parallel licensing standards have been, to some extent, recognised by law through the mechanism of the mining charter.

That moral licence to mine is not something we seek in order to make us feel good. We do it for good business reasons. Without it, our ability to carry out our work, and improve the return to our shareholders would be compromised. Gauging its value to the bottom line is not easily measured. Indeed, by any normal accounting standards, it is impossible. But it is real, nonetheless.

It is not just AngloGold Ashanti's licence to operate which hinges on the benefits of companies' efforts being spread widely. Ultimately, the entire international market economy's legitimacy depends on it. It is because market economies have the capacity to achieve this that they survive.

This Report to Society is AngloGold Ashanti's latest attempt to assess how we meet these aspirations. As in the case of the Report to Society 2003, it is intended primarily as a user-friendly web-based document. It follows a similar structure to last year's, with key sections again assured by PriceWaterhouseCoopers. Where not, it is essentially because our systems have not yet been adequately developed, though we hope there will be no exceptions by this time next year.

One innovation is that we are also publishing operation, region or country-specific reports, to ensure a more focused examination is available to stakeholders local to specific operations.

We hope you find this document to be a useful and objectively presented assessment of AngloGold Ashanti's operations. We welcome your feedback.

Bobby Godsell  
Chief executive officer



## 8 Stakeholder engagement

AngloGold Ashanti is committed to developing mutually beneficial partnerships with stakeholders throughout the lifecycle of its operations. The company has identified its principal stakeholders as:

- employees
- employee representative organisations and groups
- employees' families and communities
- communities surrounding its operations
- shareholders
- business partners, peer and professional organisations
- suppliers
- local, regional and national governments
- end users of its products
- non-governmental organisations (NGOs) and community-based organisations (CBOs) who have an interest in the company

AngloGold Limited's first Report to Society 2003 was distributed to a wide range of stakeholders when it was published in 2004 in both its printed format and in electronic form on CD. The report was developed primarily as an interactive online report and its existence was publicised through the annual report, the quarterly report and a wide variety of other means. Very little feedback was received via the formal processes in place (a feedback form on the website and in the printed version) and very little of the informal feedback was documented. With hindsight, this has been acknowledged as a flaw in the Report to Society 2003 feedback process.

Prior to the compilation of the Report to Society 2004, a workshop to discuss stakeholder engagement processes and the identification of key issues was led by the independent auditors PWC. This workshop was attended by a wide range of representatives from the disciplines covered in the report. In addition, the compilation of the report, the perceived shortcomings of the previous year's report and the proposal for the 2004 report was discussed with the head of each region and designated responsible individuals. Internal champions for each of the identified disciplines – occupational safety, occupational health, labour practices, community, HIV/AIDS, malaria, ethics and governance, were appointed to lead the identification of key

indicators and to oversee the compilation of the report. Due consideration was given to the various stakeholder audiences by both the discipline champions and the heads of the various regions.

Questionnaires were developed based on the company's business principles, and a specific part of each questionnaire was the identification of stakeholders and the engagement with them in respect of the 2003 report. While some regions had actively engaged with stakeholders specifically on reporting, others had not and have indicated that this will be a priority for the Report to Society 2004.

A list of the stakeholders identified by the regions is available on the website at [www.anglogoldashanti.com](http://www.anglogoldashanti.com). Stakeholders themselves have the ability to register on this list by filling in the feedback form available on the website or on page 10 of this report.

It is the company's intention to engage more formally with stakeholders following the publication of the Report to Society 2004. One shortcoming that has become apparent, however, is that local communities are not necessarily interested in a report on the group as a whole but would rather access information on the specific operation or country as a whole. It is for this reason that AngloGold Ashanti has developed country/regional reports which provide information relating to a specific operation or group of operations. The following reports are available:

- Australia
- Brazil
- Ghana – one for each of Obuasi, Iduapriem, Bibiani
- Guinea
- Mali – Morila and Sadiola/Yatela
- Namibia
- South Africa – Ergo, West Wits and Vaal River
- Tanzania
- USA

These reports draw on the information in the Report to Society 2004 but also report on additional issues and in local currencies. Where this is appropriate, these are translated into local languages.



**Dear stakeholder**

We would be very grateful for any feedback that you might have on AngloGold Ashanti's Report to Society 2004. This feedback form is available online at [www.anglogoldashanti.com](http://www.anglogoldashanti.com) or you may email it to [afine@anglogoldashanti.com](mailto:afine@anglogoldashanti.com) or fax it to **+27 11 637 6399**.

**Your details (optional)**

Name: \_\_\_\_\_  
Organisation: \_\_\_\_\_  
Tel: \_\_\_\_\_ Fax: \_\_\_\_\_  
E-mail address: \_\_\_\_\_  
Postal address: \_\_\_\_\_  
\_\_\_\_\_

**1. What is your interest in/association with AngloGold Ashanti?**

Employee                       Analyst                       Shareholder/investor  
 Journalist                       Government                       Non-governmental or community-based organisation  
 Supplier or business partner                       Student  
 Other – please specify: \_\_\_\_\_

**2. Would you like to be added to our database as an organisational stakeholder?**     Yes     No

**3. Indicate your main areas of interest:**

Safety and health                       Environment                       Ethics and governance  
 Community                       HIV/AIDS and malaria                       Economic performance  
 Financial performance/annual report                       Other, please specify: \_\_\_\_\_

**4. How did you access the report?**

on the internet     Yes     No                      in the printed version     Yes     No                      on CD     Yes     No

**5. How did you find the report?**

Too detailed                       Not enough detail  
Other comment: \_\_\_\_\_

**6. Did you use the Global Reporting Initiative (GRI) index?**                       Yes     No

**7. Do you think that it is important that the report is independently assured?**                       Yes     No

**8. Do you have any other comments on the report?**

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Thank you for your feedback.

## 10 | Global Reporting Initiatives (GRI) reporting principles

AngloGold Ashanti registered as an organisational stakeholder of the Global Reporting Initiative (GRI) in 2004, and is committed to reporting in accordance with GRI's principles. GRI identifies 11 reporting principles that are deemed essential to produce a balanced and reasonable account of an organisation's economic, environmental and social performance, and resulting contribution of the organisation to sustainable development; to facilitate comparison over time and across organisations; and to credibly address issues of concern to stakeholders.

These are:

- **transparency:** full disclosure of the processes, procedures, and assumptions in report preparation are essential to its credibility
- **inclusiveness:** the reporting organisation should systematically engage its stakeholders to help focus and continually enhance the quality of its reports
- **auditability:** reported data and information should be recorded, compiled, analysed and disclosed in a way that would enable internal auditors or external assurance providers to attest to its reliability
- **completeness:** all information that is material to users for assessing the reporting organisation's economic, environmental and social performance should appear in the report in a manner consistent with the declared boundaries, scope and time period
- **relevance:** relevance is the degree of importance assigned to a particular aspect, indicator, or piece of information, and represents the threshold at which information becomes significant enough to be reported on
- **sustainability context:** the reporting organisation should seek to place its performance in the larger context of ecological, social, or other limits or constraints, where such context adds significant meaning to the reported information
- **accuracy:** the accuracy principle refers to achieving the degree of exactness and low margin of error in reported information necessary for users to make decisions with a high degree of confidence
- **neutrality:** reports should avoid bias in selection and presentation of information and should strive to provide a balanced account of the reporting organisation's performance.
- **comparability:** the reporting organisation should maintain consistency in the boundary and scope of its reports, disclose any changes and re-state previously reported information
- **clarity:** the reporting organisation should remain cognisant of its stakeholder groups and should make information available in a manner that is responsive to the maximum of users while still maintaining a suitable level of detail
- **timeliness:** reports should provide information that meets users' needs and comports with the nature of the information itself

AngloGold Ashanti is an organisational stakeholder of GRI and, as such, has endeavoured to adopt and incorporate the GRI principles in this Report to Society 2004.

AngloGold Ashanti has endeavoured to present a fair and balanced reflection of the group's operations in 2004. The most notable feature of the past year was the business combination with Ashanti Goldfields Limited and, as far as it has been possible, these operations have been included in reporting. However, there remains a bias in reporting towards the group's South African operations as this is where the majority of the group's employees are based and where the greatest material impact has been historically.

See Scope of the Report on the inside front cover, the Letter from the chief executive officer on page 7 and the Report of the Independent Assurers on page 6 for further information.



# Economic Performance

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## EP2 | 1 Mission and values

AngloGold Ashanti's mission, values and business principles were developed in consultation with employees and are reviewed as part of an ongoing process to ensure that they more accurately reflect the group's purpose and the way in which it does business. This process continued in 2004 and was the subject of an internal communications campaign during the year.

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- ethics and governance
- as an employer – safety and health
- as an employer – our labour practices
- in the community
- the environment

### Sustainable development and economic contribution

The economic aspect of sustainability concerns the organisation's effect on the economic circumstances of its stakeholders and on the economic systems at local, national and global levels.

The economic contribution made by AngloGold Ashanti, which is far larger than just the financial profits generated by the company, includes the value of the money flows from its operations to employees and suppliers, and the taxes and royalties paid to governments.

For a detailed Value Added Statement, see the Annual Report 2004.

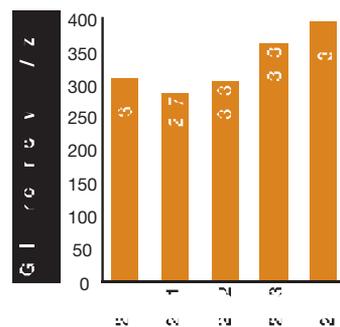
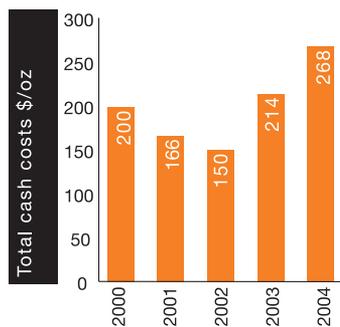
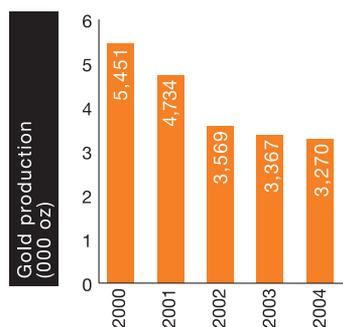


## 2 Key indicators and milestones

- Business combination between the operations of AngloGold Limited with those of Ashanti Goldfields Company Limited, effective 26 April 2004.
- Total gold production up 8% to 6.05 million ounces (2003: 5.62 million ounces).
- Total gold income of \$2,396 million for 2004 (2003: \$2,029 million).
- Total cost of goods and services used to operate mines and produce refined metal, including market development costs and net of other income, was \$900 million in 2004 (2003: \$760 million).
- Payments to employees, including salaries, wages and other benefits, totalled \$860 million in 2004 (2003: \$660 million).
- Net \$40 million taxation utilised in the group. \$142 million distributed in 2003.
- Dividends of \$147 million distributed to shareholders.
- Financing costs and unwinding of decommissioning obligations of \$87 million in 2004. In 2003 this was \$53 million.
- Capital expenditure of \$585 million in 2004 (2003: \$449 million)<sup>(1)</sup>.
- As at 31 December 2004, Ore Reserves were up 25% to 79 million ounces and Mineral Resources were 3% higher at 218 million ounces.

<sup>(1)</sup> 2003 restated to reflect the change in accounting treatment of Ore Reserve development expenditure

Key financial ratios	%
Return on net capital	7%
Return on equity	7%
Net debt to net capital employed	21%
Net debt to equity	27%
Cash operating margin	32%
EBITDA margin	28%
Interest cover	9 times



A full review of the 2004 financial year can be found in AngloGold Ashanti Annual Report 2004. The report is available in a printed format from the contacts listed on the back page or on the website at [www.anglogoldashanti.com](http://www.anglogoldashanti.com).

### Adding value, creating wealth, generating income

The charts alongside illustrate the distribution of wealth generated by the company during 2004 as compared to 2003. A detailed value-added statement is presented in the Annual Report 2004.

### Gold production

In 2004, AngloGold Ashanti produced 6.052 million ounces of gold from 22 operations in 11 countries. This was 8% up on 2003, largely as a result of the business combination between AngloGold and Ashanti. (Note that the Freda-Rebecca mine in Zimbabwe was sold during the year.)

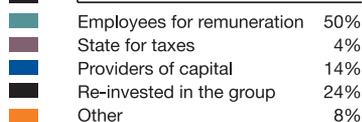
### Income/revenue generated by destination

Total gold income of \$2,396 million was generated in 2004 (2003: \$2,029 million). The chart (bottom right) illustrates the breakdown by market in which this income was generated.

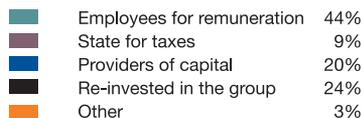
Gold production by country (000 oz)		
	2004	2003
Argentina	211	209
Australia	410	432
Brazil	334	323
Ghana	485	–
Guinea	83	–
Mali	475	577
Namibia	67	73
South Africa	3,079	3,281
Tanzania	570	331
USA	329	390
Zimbabwe*	9	–
<b>Total gold production</b>	<b>6,052</b>	<b>5,616</b>

\* The Freda-Rebecca mine in Zimbabwe was sold during 2004.

Distribution of wealth 2004



Distribution of wealth 2003



Gold income: Geographical analysis (\$ million)



### Distributions to employees

Distributions to employees (including executive directors) for 2004 amounted to \$863 million (2003: \$660 million) – 50% of the total value created by the group as compared with 44% of the value created being distributed to employees in 2003. The significant increase from 2003 to 2004 relates to the business combination between AngloGold and Ashanti.

Employee benefits (\$ million)	2004		2003	
Salaries, wages and other benefits <sup>(1)</sup>	742	86%	551	84%
Health care and medical schemes <sup>(2)</sup>	64	7%	69	10%
Contribution to pension and provident plans	48	6%	36	5%
Retrenchment costs	9	1%	4	1%
<b>Total</b>	<b>863</b>	<b>100%</b>	<b>660</b>	<b>100%</b>

<sup>(1)</sup> Including executive directors

<sup>(2)</sup> Including post-retirement medical expenses

### Gold market development

AngloGold Ashanti is the only gold company to dedicate resources to market development. During 2004, \$15 million was spent on market development (2003: \$19 million). (See the Annual Report 2004 for further details, as well as case studies: *Brazilian Designer Forum becomes leading event in Brazilian jewellery market* on page EP18 and *Riches of Africa 2004 – six years on*, on EP16.)

### Distributions to shareholders – dividends

The dividends declared and paid during the 2004 financial year were as follows:

- final dividend for the second half of 2003 financial year: a dividend of 335 SA cents (50 US cents) per ordinary share was declared on 29 January 2004 and paid on 27 February 2004; and
- interim dividend for first half of 2004 financial year: a dividend of 170 SA cents (26 US cents) per ordinary share was declared on 29 July 2004 and paid on 27 August 2004.

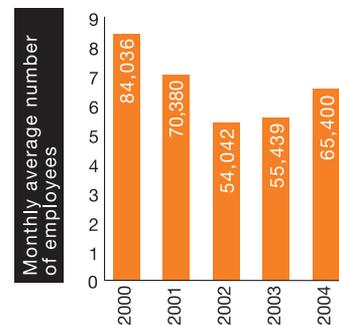
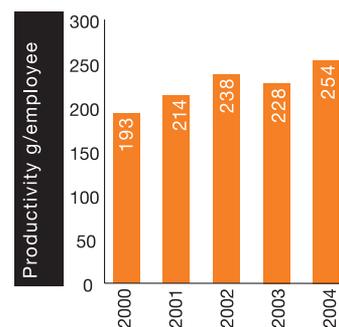
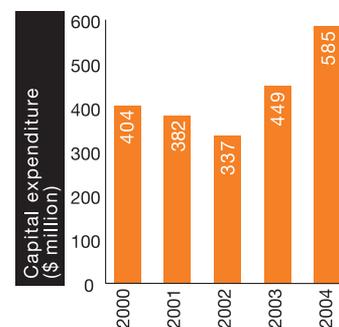
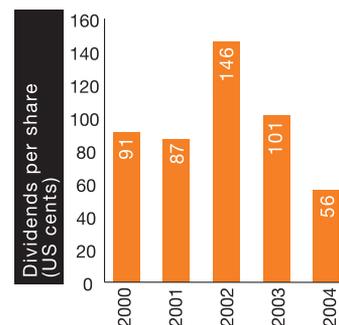
Stock exchange listings	Trading symbol
<i>Ordinary shares listed on:</i>	
JSE Securities Exchange South Africa (JSE)	ANG
London Stock Exchange	AGD
Euronext Paris	VA
Ghana Stock Exchange	AGA
<i>Also quoted as:</i>	
International Depository Receipts (IDR) in Brussels	ANG
American Depository Shares (ADS) on the New York Stock Exchange	AU
CHES Depository Interest (CDIs) in Australia	AGG
Ghana Depository Shares (GhDS) in Ghana	AADS

### Finance costs

Finance costs expensed were \$79 million in 2004 (2003: \$49 million). This is after capitalising borrowing costs of \$11 million (2003: nil).

### Capital expenditure

Capital expenditure during the 2004 financial year totalled \$585 million. Of this, \$329 million (56%) was for maintenance capital expenditure and \$256 million (44%) on new projects.



## Outlook for AngloGold Ashanti in 2005

With the business combination of the operations of AngloGold Ashanti complete, overall production is forecast to rise by approximately 8% to 6.5 million ounces. Most of this increased production is expected to come from Obuasi in **Ghana**, Mponeng in **South Africa**, Geita in **Tanzania**, the **Malian** operations Sadiola and Yatela, and Siguiiri in **Guinea**. In line with this, it has been estimated that capital expenditure will increase by 12% to \$655 million.

### Exploration activities

The exploration programme is an integral part of AngloGold Ashanti's growth strategy and is aimed at sustaining or expanding existing operations (brownfields exploration) and discovering new gold deposits (greenfields exploration). Exploration expenditure totalled \$81 million in 2004 (2003: \$63 million).

Brownfields exploration was undertaken at most of the group's existing operations, while greenfields exploration was conducted in Australia, Mali, Canada, Alaska, Peru, the Democratic Republic of Congo (DRC), Colombia, China, Russia, Vietnam, Brazil and Mongolia.

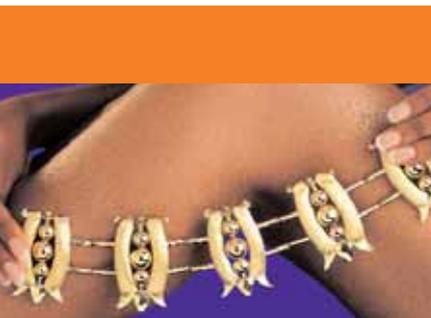
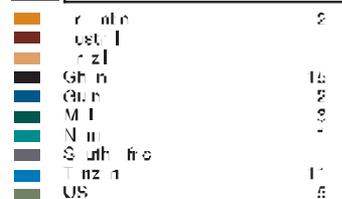
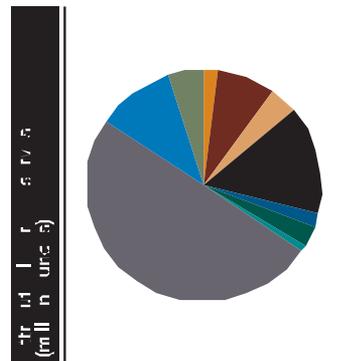
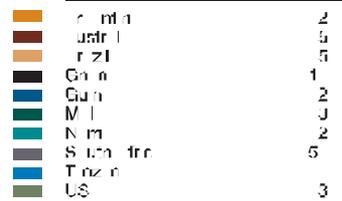
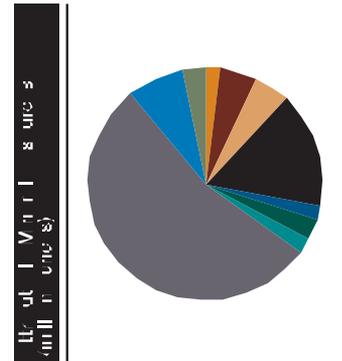
The Annual Report 2004 contains a detailed review of exploration undertaken during the year. (See case study: *Generating new ounces – doing business in new places* on page EP9.)

### Attributable Mineral Resources and Ore Reserves (as at 31 December 2004)

Attributable Mineral Resources and Ore Reserves (million ounces)	Mineral Resources	Ore Reserves
Argentina	3.5	1.6
Australia	11.6	6.2
Brazil	10.9	2.8
Ghana	34.3	11.8
Guinea	4.2	1.7
Mali	5.7	2.3
Namibia	5.2	0.5
South Africa	117.0	39.1
Tanzania	18.1	9.0
USA	7.7	3.9
<b>AngloGold Ashanti</b>	<b>218.2</b>	<b>78.9</b>

### Preparing for closure

Mining activities by their very nature have finite lives. An important part of current mining activity is the provision for environmental rehabilitation/restoration. A detailed account of environmental liabilities may be found in the environmental section of this report on page E13. The socio-economic implications of closure are equally important and are addressed in the community and labour sections of this report. The Ergo operation in South Africa will close in 2005: see the website – [www.anglogoldashanti.com](http://www.anglogoldashanti.com) – for the Ergo case studies relating to closure.



## 4 Reporting in line with GRI

**Note:** Significant increases from 2003 to 2004 are primarily as a result of the business combination between AngloGold and Ashanti.

Economic indicators	
Core indicators	Additional indicators
<b>Direct economic impacts</b>	
<b>Customers</b>	
<b>*EC1. Net sales</b>	
Net sales (gold income) of: 2004: \$2,396 million 2003: \$2,029 million	
<b>EC2. Geographic breakdown of markets</b>	
See graph on page EP4	
<b>Suppliers</b>	
<b>*EC3. Cost of all goods, materials, and services purchased</b>	<b>EC11. Breakdown of supplier by organisation and country</b>
2004: \$900 million* 2003: \$760 million* (*Cost of goods and services used to operate mines and produce refined metal, including market development costs, net of other income)	Information not available
<b>EC4. Percentage contracts that were paid in accordance with agreed terms, excluding agreed penalty arrangements</b>	
Information not available	
<b>Employees</b>	
<b>*EC5. Total payroll and benefits (including wages, pension, other benefits, and redundancy payments) broken down by country or region</b>	
See table on page EP5	
<b>Providers of capital</b>	
<b>*EC6. Distribution of capital broken down by interest on debt and borrowings and dividends on all classes of shares, with any arrears of preferred dividends to be disclosed</b>	
Distribution of capital in 2004 as follows: Finance costs and unwinding of decommissioning obligation: \$87 million (2003: \$53 million) Dividends declared: \$147 million (2003: \$224 million) See Annual Report 2004 for further details	
<b>*EC7. Increase/decrease in retained earnings at the end of period</b>	
Retained income utilised in the group is \$66 million compared with \$88 million reinvested in the group in 2003	
<b>Public sector</b>	
<b>*EC8. Total sum of all taxes paid broken down by country</b>	<b>EC12. Total spent on non-core business infrastructure</b>
Net \$40 million taxation utilised in the group. \$142 million distributed in 2003.	Information not available
<b>EC9. Subsidies received broken down by country or region</b>	
Information not available	
<b>EC10. Donations to community, civil society and other groups broken down in terms of cash and in-kind donations per type of group</b>	
See the community section of this report on pages C1 to C20	
<b>Indirect economic impacts</b>	
	<b>EC13. The organisation's indirect economic impacts.</b>
	Quantitative information not available. See the community section of this report on pages C1 to C20 for further information

\* Monetary flow indicators

Social performance indicators: product responsibility	
Core indicators	Additional indicators
<b>Customers' Health and Safety</b>	
<b>PR1. Description of policy for preserving customer health and safety during use of products and services, and extent to which this policy is visibly stated and applied, as well as description of procedures/programmes to address this issue, including monitoring systems and results of monitoring</b>	<b>PR4. Number and type of instances of non-compliance with regulations concerning customer health and safety, including the penalties and fines assessed for these breaches</b>
Not applicable	Not applicable
	<b>PR5. Number of complaints upheld by regulatory or similar official bodies to oversee or regulate the health and safety of product services</b>
	Not applicable
	<b>PR6. Voluntary code compliance, product labels or awards with respect to social and/or environmental responsibility that the reporter is qualified to use or has received</b>
	See environment and community sections of this report
<b>Product and services</b>	
<b>PR2. Description of policy, procedures/management systems, and compliance mechanisms related to product information and labelling</b>	<b>PR7. Number and type of instances of non-compliance with regulations concerning product information and labelling including any penalties or fines assessed for these breaches</b>
Not applicable	Not applicable
	<b>PR8. Description of policy, procedures/management systems, and compliance mechanisms related to customer satisfaction, including results of surveys measuring customer satisfaction</b>
	Not applicable

## 5.1 Generating new ounces – doing business in new places

It is a truism that mining companies must search for and exploit their minerals in those regions and countries where the orebodies have been deposited.

Says Gordon Wylie, executive officer responsible for the global exploration programme at AngloGold Ashanti, “Back in 2001 we took a long hard look at the world and noted that our global production profile would drop substantially after 2006 as our existing operations come closer to maturity. This was not unique to AngloGold Ashanti, but common to the industry as a whole.

“On top of that, our exploration projects had become distinctly mature. We asked ourselves the question: How do we fill the gap? Where should we be exploring or looking to acquire new assets which are of a sufficiently high quality to meet AngloGold Ashanti’s economic criteria? It became obvious that new ounces must come from new areas with potentially higher risk profiles, and hence, our ‘New Frontiers Strategy’ was born.”

Geologically speaking, the world of gold is divided into two distinct areas – the ancient (Archaean or Proterozoic) terrains, which host orebodies such as those found in the Wits Basin, at Morila, and Sunrise Dam mines, and the younger plate margins where orebodies such as those mined at the Cerro Vanguardia and Cripple Creek operations are found (see map on page EP10). Generally, AngloGold Ashanti has been exploiting the Archaean terrains and is seeking to expand into the younger plate margin areas through its activities in the Andes, Alaska and South East Asia.

“Given that we know in broad terms where these regions are, the next step is to identify target areas that are likely to produce major long-life orebodies with reserves of at least five million ounces. During the process of looking for these so-called ‘elephants’ we will also identify smaller orebodies which will be mined if they promise good returns. Importantly, we are also looking at the junior exploration sector for opportunities which could meet these criteria,” says Wylie.

“The next step in our process was to start identifying the potential risks involved with various prospective regions, countries and projects. While we are cautious of risk, we are not put off by it: once we have identified risks we then ask ourselves the question of whether we can manage them.

“There are four general areas of risk that the company looks at. These are included in a detailed risk analysis undertaken regionally, using local knowledge, and an external view. This is managed by Tomasz Nadrowski, our political analyst based in New York, who, using the relevant expertise, has expanded our methodology to become more comprehensive and more systematic. The key issue with ‘risk’ is that people’s views are in the ‘eye of the beholder’. Getting views from reliable, trusted and knowledgeable sources locally is important because these may in fact be quite different to an external view. Then, using a matrix, the relative risks associated with each country or part thereof are analysed and compared. Finally, a discount factor is calculated for risk which is added to the cost of capital to obtain an overall discount factor for discounted cash flow calculations to obtain value on existing projects in risky areas that we may be interested in acquiring.”



### The broad categories of risks that are analysed are:

- **Prospectivity risk**, which includes geological potential, the maturity of the region, the availability of ground and degree of difficulty involved in both exploration and mining. “If, for instance, the region is not rated as highly prospective, then no further analysis is done.”
- **Operational risk**, which includes security of tenure, the accommodation of repatriation of profits, tax and royalty structure, and existing infrastructure. “If we are not guaranteed to convert an exploration licence into a mining licence or if taxes and royalties are likely to diminish our profits significantly, or if the cost of constructing new roads and services is likely to be prohibitive, we will not invest in exploration.”
- **Environmental risk**, which includes legislation, community issues, external pressures and the cost of compliance. “If it is probable that, despite our commitments to upholding environmental standards and towards community sustainability, external pressures will make the project unworkable, then we will not invest in exploration.”

*See next page*

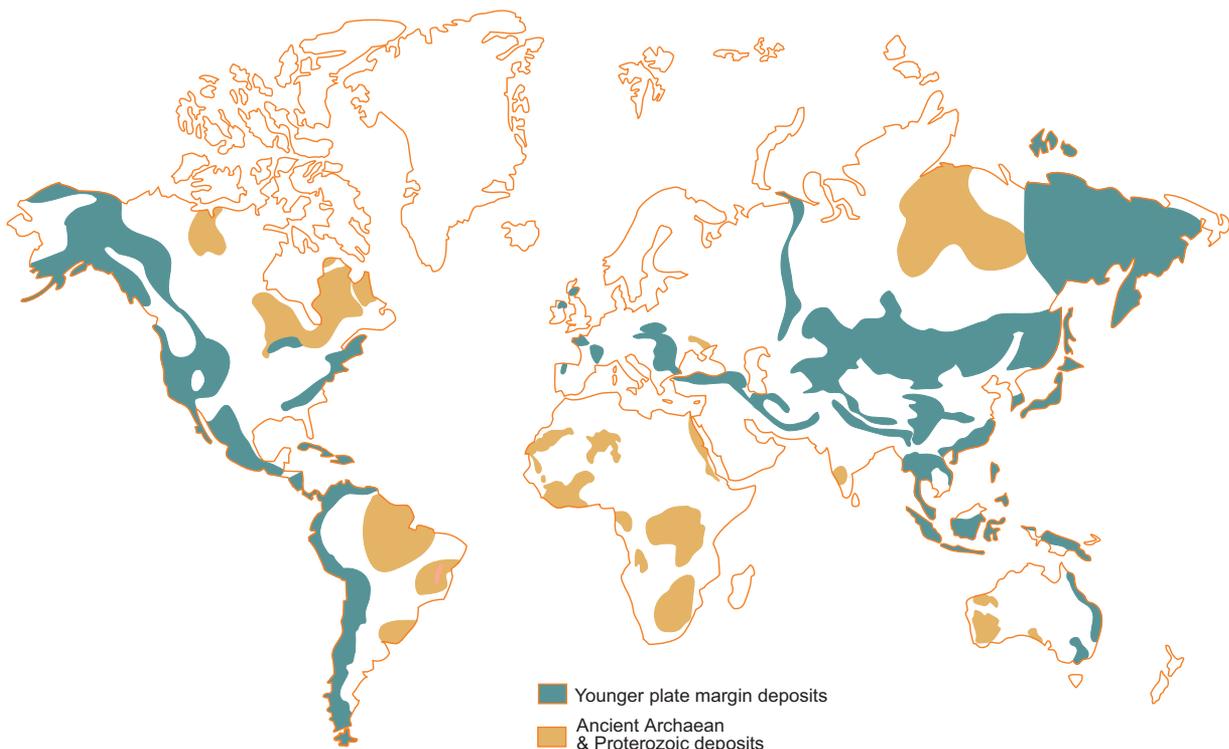


“Even once we have decided on a particular area, we can go quite a long way down the road on an exploration project before we start spending too much capital - significant capital injection usually occurs as we move from the feasibility study to the development phase. Another aspect which is in our favour is our policy to utilise locals, both as employees and contractors, and as recognised local experts. We firmly believe that it is important to involve the community from the start to understand what we can best put in place that will ensure some form of livelihood and sustainability once we have left again. An important part of the process however, is the management of their initial expectations because, statistically, most exploration projects do not develop into operating mines.

“An example of early stage involvement is sponsoring fêtes to raise funds for village schools or buying soccer jerseys for the school kids in Colombia where we have dedicated staff whose full time job is to interact with the community.

Our general policy is to use old drillholes as water boreholes; roads built for drill access are also of great value to the community. As the project advances we would encourage sustainable small industries such as vegetable farming or clothes-making. As the project moves through feasibility into production, in addition to supplying work and skills through our workforce, local industries will grow, which we hope will still be viable after our departure.”

● **Political risk**, which includes security and safety, corruption and bureaucracy. “If it is likely that our employees are at personal risk - which we cannot manage - or we cannot work without indulging bribes, we will not invest in exploration.”



## 5.2 Meeting the Mining Charter's procurement targets

With R711 million (\$111 million) of total procurement spend at its South African operations in 2004 being attributable to companies with at least 25% historically disadvantaged South African (HDSA) ownership, AngloGold Ashanti has been able to raise its own HDSA procurement targets in line with its commitment to the spirit of the Broad-Based Socio-Economic Charter for the Mining Industry (the Mining Charter) and the accompanying Scorecard. Though the Mining Charter and Scorecard do not set specific targets, a key aspect is procurement from HDSA-affiliated companies. The intention is to encourage and promote growth and employment by businesses managed and owned by HDSAs. AngloGold Ashanti's Black Economic Empowerment (BEE) procurement policy is designed to comply with the principles set out in the Mining Charter.



The government's Scorecard has been designed to determine compliance with the Mining Charter and in terms of procurement asks:

- do you give HDSAs preferred supplier status?
- have you identified current levels of procurement?
- have you indicated your progressive commitment to procurement of capital goods, consumables and services from HDSA companies over the next three to five years and to what extent has this commitment been implemented?

AngloGold Ashanti can answer yes to all three questions: HDSA companies are regarded as preferred suppliers. Those companies complying with the HDSA criteria are included in the preferred vendor list and receive preferred status should they be commercially competitive. The group has identified current procurement levels for spend on capital goods, consumables and services and has set targets for procurement from HDSA companies until 2012 (see table below). Furthermore, existing suppliers are encouraged to establish partnerships with HDSA companies. AngloGold Ashanti also promotes the development of HDSA procurement capacity by facilitating access to the Department of Trade and Industry's assistance programmes.

In 2001, the then AngloGold introduced its black economic procurement strategy which serves as a guide for the purchase of goods and services from BEE companies. At that time, total BEE procurement was 7.5% of total procurement of R3.4 billion (\$530 billion). Since then, this has increased steadily towards the target of 63.5% for 2012. (See case study: *Growing small businesses in southern Africa* on page EP12.)

### BEE procurement and targets (%): 2001 - 2012

Year	Total %	Consumables	Services	Site works	Capital
2001	7.5	7.5	0	0	0
2002	8.0	10.8	3.2	84.1	0
2003	11.0	13.7	6.6	25.1	4.9
<b>2004</b>	<b>22.0</b>	<b>38.7</b>	<b>12.6</b>	<b>31.1</b>	<b>6.9</b>
2008	47.7	68.7	17.4	35.8	8.5
2012	63.5	98.7	22.2	40.7	10.1



### EP12 | 5.3 Growing small businesses in southern Africa

Since its formation, AngloGold Ashanti has been involved in stimulating economic growth by developing small business enterprises. The Small and Medium Enterprise Development Initiative (SMEDI) identifies people, mainly from an historically disadvantaged South African (HDSA) background, who have ability and potential, and enters into a partnership with them to provide education, capacity-building and funding with the long-term aim of creating self-sustaining businesses. The raising of venture capital is managed through Masakhisane (meaning 'Come Let's Build Each Other Together' in Zulu), which was established with an initial R10 million (\$1.6 million) capital in 1998. Since then, SMEDI has been involved in setting up 172 small businesses. These have a current average annual turnover of R696 million (\$109 million) and have created jobs for more than 3,289 people.

There is a close link between SMEDI and AngloGold Ashanti's Black Economic Empowerment (BEE) procurement strategy, which serves as a guide in obtaining goods and services from suppliers in compliance with the Mining Charter's Procurement Scorecard. "We have made good progress in this area," says commercial services manager, Johan Coetzer. (See case study: *Meeting the Mining Charter's Procurement targets on page E11.*) "In 2003, BEE procurement amounted to R367 million (\$57 million), or 11% of the total: in 2004, this amounted to R711 million (\$111 million), or 21% of the total. We are confident that we will be able to meet our scorecard target, which is 63.5% by 2012.

"In many instances institutions will not grant finance unless the applicant can provide a certain percentage, usually around 30%. We first insist applicants establish their good faith by raising a small proportion of the required sum themselves. We lend the balance required at favourable rates, and then jointly approach the institutions to finance the full amount," says Coetzer.

While the growth of small business is an important factor in BEE procurement, the greatest impact is achieved through substantial suppliers who play a major part in the local economy. "We talked to our strategic suppliers, and sensitised them to the importance we attach to fulfilling the BEE requirements of the Mining Charter." comments Coetzer.

Most of the projects supported by Masakhisane are located in the areas surrounding AngloGold Ashanti's operations. The new Stone and Allied JV project is one of the exceptions, as it is situated in one of the company's major labour sending areas (see box). This also applies to the Ngezandla Zethu project ('with our hands' in Zulu), which is based in the KwaZulu Natal village of Kwa-Ngwanase. Using hard wood from fallen trees in the surrounding indigenous forests, the project team produces items ranging from tables to lamps to bedsteads. The Department of Nature Conservation supports the project, and the Council for Scientific and Industrial Research (CSIR) assisted with strategic planning, technical training and marketing.

Demand for Ngezandla Zethu's products increased substantially through these inputs but the project lacked the infrastructure to meet this. Masakhisane provided woodturning machinery and a delivery vehicle. "Their turnover for 2003 was about R60,000 for the year," says Coetzer, "while for 2004 it has averaged R68,000 per month."

Clean Shop, the brainchild of Trevor Mulaudzi, is an example of a successful project based in the mining operations. What began as a small operation employing two people who cleaned the hostel ablution blocks, has expanded to providing cleaning services to companies across Gauteng and the Limpopo Province. "We assisted by lending funds to Trevor Mulaudzi before he completed a job, thus eliminating cash flow problems," says Coetzer. "We also provided him with the training to cost his tenders more accurately. The project now employs some 320 people."

Looking ahead, the Masakhisane Board (which comprises representatives from AngloGold Ashanti and the Mineworkers' Development Agency (MDA), established by the National Union of Mineworkers to retrain retrenched mineworkers) has agreed that, where procurement suppliers embark on a transformation process to increase black employee ownership, Masakhisane will assist through education of employees in understanding the principles of share ownership.



#### Masakhisane and Stone and Allied

Many smaller AngloGold Ashanti SMEDI projects have reported significant successes. One of these is Stone and Allied Industries (a former AngloGold subsidiary now in partnership with a group of black entrepreneurs), in which Masakhisane has a 10% stake. Stone and Allied has recently entered into a joint venture (JV) with two women in the Eastern Cape, who have obtained a licence to quarry rock. This will be crushed to aggregate and used to resurface the national road in the area. "This is a first for the Eastern Cape, where there are currently no rock quarries," says Coetzer. It is envisaged the project will provide employment for about 100 people. Masakhisane, through its link into Stone and Allied, has provided technical expertise and equipment.



## 5.4 Ergo moves towards closure after 25 years

Since Ergo formally came into production on 25 February 1978, the operation had recorded a profit before tax of R2.4 billion (\$374 million) and a company tax contribution of R353 million (\$55 million) to the national fiscus - both in money-of-the-day terms. However, in the lead-up to closure the operation began moving into a loss-making status due to the declining gold production (arising from lower tonnage and reduced head grade), combined with increasing costs associated with the environmental rehabilitation process which is required in order to achieve final closure. For the two year period 2003/4 a total loss of R63 million (\$9.8 million) has been recorded and an additional operating loss of R142 million (\$22.2 million) is expected between 2005 and 2015. This number excludes additional expenditure from the closure rehabilitation trust fund of around R145 million (\$22.6 million). Nonetheless, the company has made a significant contribution to shareholders, employees and the local and national government over its 25 year income-generating life. In addition, it has played a role in 'cleaning up' tailings dams of the Witwatersrand, whilst developing two new state-of-the-art tailings disposal facilities, thereby improving the environmental conditions and facilitating urban development in the Ekurhuleni Metropolitan area. As at December 2004, total slimes treated was 870 million tonnes, yielding 254,811 kilograms of gold.

Ergo contributed to sustaining a number of private and public companies, as well as local municipalities, through the purchase of commodities and utilities which were required during the re-treatment of material from more than 50 reclamation sites. Communication has been ongoing with these stakeholders, who have been aware of Ergo's anticipated life span since the plant was commissioned in 1977 and, indeed, who have benefited from a number of life extensions (see box).

### Suppliers preparing for closure

Sasol Polymers, a division of Sasol Limited, is one of four private companies that will be most affected by Ergo's closure. This company supplied approximately 1,000 tonnes of calcium cyanide per month to Ergo, which is the largest consumer of cyanide in the world. So high is the demand that Sasol Polymers has historically had a dedicated factory for the production of Ergo's calcium cyanide supplies which have a value of approximately R7.2 million (\$1.12 million) per month. Over the last seven years, Ergo has held annual workshops with Sasol to discuss mutual cost-saving synergies. This forum also discussed Ergo's closure and the expected economic impact on Sasol Polymers, who are now switching production from calcium cyanide to sodium cyanide which is a more marketable product. Besides retaining existing jobs, this move is expected to offset the company's loss in income from Ergo.

Daily communication is held with suppliers Fraser Alexander and West Rand Plant Hire, whose services at the slimes dams in the 1,500 km<sup>2</sup> area around Ergo operations are tapering off, as the daily tonnages of tailings from these sites decrease. Fraser Alexander supplies reclamation equipment and labour - approximately 603 contractors. However, the company's services are also used at reclamation sites at a number of other operations, for example, in the Rustenburg and Klerksdorp areas, so the company is gradually redeploying its labour component during Ergo's winding-up phase.

West Rand Plant Hire, which provides earthmoving equipment and labour of around 247 contractors also has other interests on the West Rand and has opened up a branch in Klerksdorp specifically to offset the impact of Ergo's closure. Midway 2, which supplies approximately 197 contractors at Ergo has also been aware of the closure programme and is making alternative business plans.



### Longer than intended

Ergo was originally developed on the basis of a 15-year operational life. This was eventually extended to 25 years, largely as a result of the installation of a carbon-in-leach treatment section, which enabled greater and more efficient extraction of gold. This allowed Ergo to exploit lower grade reserves in the area and extend the life of the operation by 10 years.



### **Municipality and utilities to feel impact**

Electricity and water consumption is reducing gradually, impacting on contributions by Ergo to its suppliers. The main Ergo operation sources its electricity and water supplies from Eskom and Rand Water respectively, while utilities at the surrounding reclamation sites of Germiston, Boksburg, Benoni, Springs and Brakpan, are supplied by their local municipalities. Total monthly electricity consumption currently averages 24.6Mwh at a cost of R3.7 million (\$0.6 million). Total monthly water consumption averages 380,000 kilolitres at a cost of R1.5 million (\$0.2 million). Brakpan municipality which supplies 63% of Ergo's electricity demand will feel a significant financial impact on Ergo's closure, not least by dint of the fact that Ergo is a reliable customer, a huge advantage considering the bad debt faced by many municipalities. Ergo has been in regular communication with both the utilities and the municipality and is, through its social investment initiatives, trying to offset some of the negative impact on the municipal area. (See case study on page C30 in the community section: Ergo programme focuses on maths and science education.)

### **Communication with customers**

Ergo's two main customers are Rand Refinery, to whom it sells approximately 500 kilograms of gold a month; and Chemical Initiatives, manufacturers and distributors of acid and oleum products, of which a combined total of 8,062,607 tonnes was supplied by Ergo from inception up to October 2004.

AngloGold Ashanti has been supportive of Rand Refinery's bid to increase its customer base, particularly in Africa, and Rand Refinery recently won a successful tender to conduct the refining of gold from AngloGold Ashanti's Malian and Ghanaian operations.

Production of sulphuric acid was stopped when the acid plant closed in October 2004, due to suitable pyrite dams being exhausted. Oleum production was also stopped in October 2004 when the acid plant closed but by that time Lever Brothers, Chemical Initiatives' main oleum customer had switched to an alternative sulphination source for its process.



## 5.5 Outsourced health care at Ergo

The Ergo occupational health clinic - now known as East Rand Occupational Health Surveillance (EROS) - was established as a separate entity on 1 September 2004. The clinic was previously manned by Ergo staff, with a medical officer appointed by AngloGold Health Service (AHS). The same staff now runs the clinic as an independent entity, in conjunction with a private occupational medical officer. The contract with AngloGold Ashanti provides for AHS to continue auditing service levels.

EROS was the brainchild of senior occupational health practitioner Bannie Grobler. "The idea began with Ergo's social plan. Johan Coetzer and the team from SMEDI (AngloGold Ashanti's Small and Medium Enterprise Development Initiative) were very helpful in drawing up our business plan and in conducting negotiations with Ergo management.

"It's business as usual at Ergo until closure," says Grobler. "Thereafter, we will occupy the same premises for a two-year period. What happens after that will depend on what is decided regarding the Ergo premises, as well as on our new clients and their demands."

The clinic's future target market is principally the smaller companies in the Ekurhuleni area who do not have the resources to provide for occupational health services in-house. Seven companies have agreed to retain the clinic's services. The clinic provides services in five principal areas:

- assistance to employees injured on duty;
- medical surveillance as required by COIDA (Compensation for Occupational and Industrial Diseases Act) and ODMWA (Occupational Disease in Mines and Works Act). This includes medical examinations on recruitment, after annual leave, and on exit and transfer;
- primary health care facilities including treatment for chronic conditions, such as diabetes and hypertension. This facility is regularly attended by over 400 employees or contractors;
- Ergo's HIV/AIDS programme, currently still integrated with the AngloGold Ashanti programme. Grobler and her team manage the Wellness Clinic and administration of anti-retroviral therapy (ART), while a counsellor visits the clinic twice per week to assist with the voluntary counselling and testing (VCT) programme. 67 people are currently registered at the Wellness Clinic; and
- the TB management programme.

While the clinic is currently fully occupied, the challenge will come after Ergo's closure during 2005.

"We need a patient base of at least 450 to break-even," says Grobler. "The seven clients we have retained so far are going to pay us on a per-visit basis: we are hoping to sign up future clients on a monthly retainer, which would provide some guaranteed income."

The clinic has entered into a partnership with Ambusave, a locally-based company that provides assistance to smaller employers in the Ekurhuleni area.

Says Grobler "It's been a steep learning curve, but we are looking forward to the challenge of going on our own."



### EP16 | 5.6 Riches of Africa 2004 – six years on

Now in the sixth year of its existence, AngloGold Ashanti's Riches of Africa Gold Jewellery Design Competition has become an annual highlight of the company's marketing initiatives. The company established the Riches of Africa competition with the objectives of stimulating demand for gold jewellery, promoting excellence and originality in design and developing the skills base of the South African jewellery industry.

While the fundamental goals of the competition have not changed, it is interesting to reflect on their development and growth. Alyson Horsley of AngloGold Ashanti Marketing comments, "We have learnt from experience each year. Looking back at the 1999 prizewinning pieces, for example, while they certainly showed talent and originality, they were primarily aimed at a consumer market and were smaller and more understated than the striking ramp pieces of later years." This is borne out by the increasingly imaginative and original designs and the ingenuity applied to create greater visual impact. The growing prestige enjoyed by the competition is demonstrated by the steady growth in the number of entries received, from just over 200 in 1999 to 1,899 in 2004.

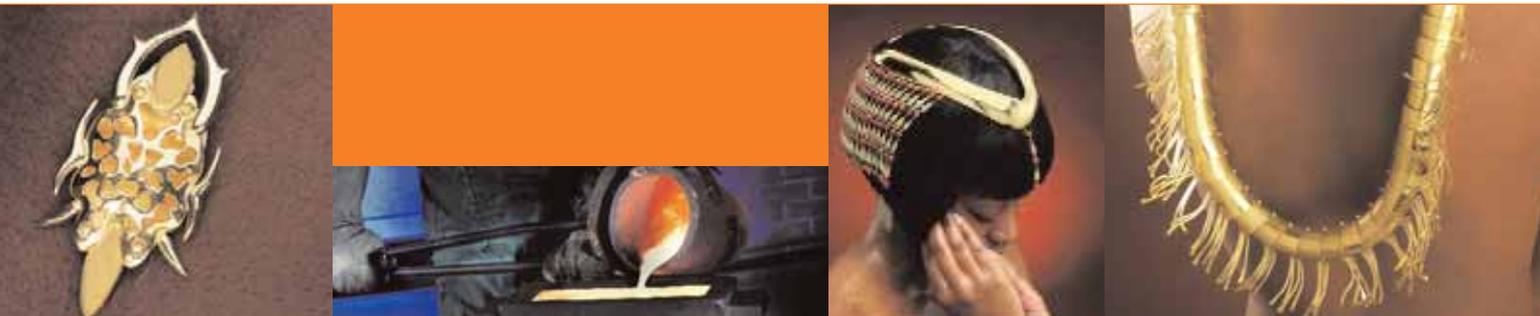
"Over the lifetime of the competition, we have experimented with different gold caratages," says Horsley. "To promote high caratage jewellery, entrants were required to work in 22 and 24 carat gold for the 2000 and 2001 competitions. This proved to have a number of disadvantages, among others its softness, making it unsuitable for the rigours of fashion shows and exhibitions. As a result, from 2002, pieces submitted have again been required in 18 carat gold."

A noticeable development in recent competitions has been the shift from an exclusive focus on jewellery to designers creating gold product in a broad spectrum of objects from fashion to art. This development is in tune with international trends but has represented too much of a shift away from real jewellery. The organisers thus intend to refine the brief for 2005 in order to draw designs which produce statement jewellery as opposed to ramp pieces or fashion accessories.

Significant changes which have improved or enhanced the competition over the years include the introduction of white and rose gold allowing for greater expressiveness. The competition is also open to entrants from a wide range of creative disciplines, such as graphic design or fine arts. Importantly, the competition has gained additional credibility and greater international attention by including international judges on its panel in the last four years.

While unmistakably South African, the competition entries can hold their own internationally. Since its inception, Riches of Africa's winning collections have featured in more than 40 exhibitions in 12 countries. To celebrate South Africa's 10 years of democracy in 2004, pieces from various Riches of Africa collections were exhibited at shows in China and Brazil, and also in Belgium at the Antwerp Diamond Conference, the latter at the specific request of President Thabo Mbeki. Besides these displays, Riches of Africa has been showcased at the International Jewellery London exhibition for the past two consecutive years.

Fundamental to all of the Riches of Africa competitions has been a focus on providing career opportunities and development for talented young South Africans, particularly from the ranks of the previously disadvantaged.



As part of this approach, annual seminars are held for all entrants providing training in business and marketing as well as in design and goldsmithing techniques. In 2004, these seminars drew some 450 people and due to venue constraints some had to be turned away.

For the last two years, grants have been awarded to candidates adjudged the most meritorious. Grants are awarded following receipt of nominations by the various jewellery institutions. Whilst the value of the grants varies each year, the true worth of the contribution is often as simple as guaranteeing a student's future studies. Eight such grants (four to historically disadvantaged South Africans HDSAs) were awarded in 2003, and nine (six to HDSAs) in 2004. In 2003, a merit award was given to Technikon Pretoria (now the Tshwane University of Technology) as the institution that produced the most winners in the competition.

In another significant development, AngloGold Ashanti has been approached by QVC United Kingdom (a major television and internet-based shopping channel) to permit QVC to develop and sell ranges of commercial jewellery inspired by the 2004 collection. This will provide a major opportunity for Riches of Africa designers to benefit from part of these sales but, more notably, it will provide them with international exposure. Royalties will be payable to AngloGold Ashanti on all pieces sold, with a portion being credited to the designers.

Further noteworthy and exciting changes are in the pipeline. The formation of AngloGold Ashanti has provided an opportunity for the reassessment and reinvigoration of a number of projects including Riches of Africa. The future competition will retain the name Riches of Africa but will now fall under the new banner of AuDITIONS, which will be used to brand all the jewellery design competitions in which AngloGold Ashanti is involved.

An important change is that Riches of Africa will be held every two years. Given the scale of the competition, it has become more and more difficult to gain maximum benefit on an annual basis. The longer period will give the organisers more time for planning and it will make for a more streamlined process. Entrants too will benefit from the biannual format as their pieces will gain a longer period of exposure.



EP18 | **5.7 Brazilian Designer Forum becomes leading event in Brazilian jewellery market**

The jewellery industry in Brazil reportedly earns revenue of \$1.5 billion per annum, (exports amounting to some \$600 million annually). To capitalise on this market, in 2002, AngloGold Ashanti launched the Designer Forum competition, making a commitment to sponsor a similar event every other year. Following the success of the 2004 event, the Designer Forum is now firmly positioned as the foremost jewellery design competition in the country, and is the only one sponsored by a mining company.

AngloGold Ashanti has found this to be a valuable opportunity to market both the company and its product, gaining significant local and some international media attention. More importantly, it supports the group's marketing initiatives to make gold more accessible, innovative and interesting for newer and younger markets.

The 2004 Designer Forum was launched at the South African Embassy in April 2004 to coincide with the South African 10 years of democracy celebrations. In May, preliminary forums took place in Rio de Janeiro, Belo Horizonte and São Paulo with 525 participants entering – 80% more than in 2002.

Designs were entered into one of two different categories: the Designers Category (for professionals) and the New Talent Category (for students and beginners). Technical judging took place over three days at the group's regional headquarters in Nova Lima where 120 finalists were selected. A second round of judging in July yielded 33 pieces for the 2004 collection - 28 pieces from the Designer Category and five pieces from the New Talent category.

The final event was held this year in Belo Horizonte, Brazil, with 'Roots and Form' as the theme. Top international model Ana Hickmann displayed the pieces to a gathering of 600 people. To support the event and collection still further, the final collection was shot on models underground and well-known model and actress Janaína Lince was photographed on a bed of gold bars.

Not only does the event promote AngloGold Ashanti and gold jewellery in particular, but the participant designers reported that the most valuable aspect of the Forum was the publicity and exposure they received in the media.



*The winning piece, Volpi, was designed by Fernanda Barcellos. Her piece, a miniskirt made of flag banners of white gold, yellow gold and coconut discs, is named after Volpi, one of Brazil's renowned artists.*



*Roberto Carvalho Silva, Deputy COO International model and actress, Janaína Lince, at the launch of Designer Forum 2004 at the South African Embassy in Brazil.*



# Ethics and Governance

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## EG2 | 1 AngloGold Ashanti – a responsible and ethical corporate citizen

- We will **comply with all laws**, regulations, standards and international conventions which apply to our businesses and to our relationships with our stakeholders. Specifically, AngloGold Ashanti supports the Universal Declaration of Human Rights, the Fundamental Rights Conventions of the ILO and those principles and values referred to in the United Nations Global Compact
- Should laws and regulations be non-existent or inadequate, we will maintain the highest reasonable regional standard for that location
- We will fully, accurately and in a timely and verifiable manner, consistently **disclose material information** about the company and its performance. This will be done in readily understandable language to appropriate regulators, our stakeholders and the public
- We will **not** offer, pay or accept **bribes**, nor will we condone anti-competitive market practices and we will not tolerate any such activity by our employees
- We **prohibit** our employees from **trading shares** when they have unpublished, material information concerning the company or its operations
- We require our employees to comply with all money handling requirements under applicable law, and we further **prohibit** them from conducting any illegal money transfers or any form of **'money laundering'** in the conduct of the company's business
- We will require our employees to perform their duties conscientiously, honestly and in ways which **avoid conflicts** between their personal financial or commercial **interests** and their responsibilities to the company
- We will take all reasonable steps to **identify and monitor** significant **risks** to the company and its stakeholders. We will endeavour to safeguard our assets and to detect and prevent fraud. We will do this in a manner consistent with the international human rights agreements and conventions to which we subscribe
- We will **promote** the application of our **principles** by **those with whom we do business**. Their willingness to accept these principles will be an important factor in our decision to enter into and remain in such relationships
- We are committed to seeking out mutually beneficial, ethical **long-term relations** with **those with whom we do business**
- We encourage employees to take **personal responsibility** for ensuring that our **conduct** complies with our principles. No employee will suffer for raising with management violations of these principles or any other legal or ethical concern. Although employees are encouraged to discuss concerns with their direct managers, they must, in any event, inform the Group Internal Audit Manager of these concerns. Mechanisms are in place to anonymously report breaches of this statement of principles
- The company will take the **necessary steps** to **ensure** that all employees and other stakeholders are **informed of these principles**
- If an employee acts in **contravention** of these principles, the company will take the appropriate disciplinary action concerning such contravention. This action may, in cases of severe breaches, include termination of employment. In addition, certain contraventions may also result in the commencement of civil proceedings against the employee and the referral of the matter to the appropriate enforcement bodies if criminal proceedings appear warranted

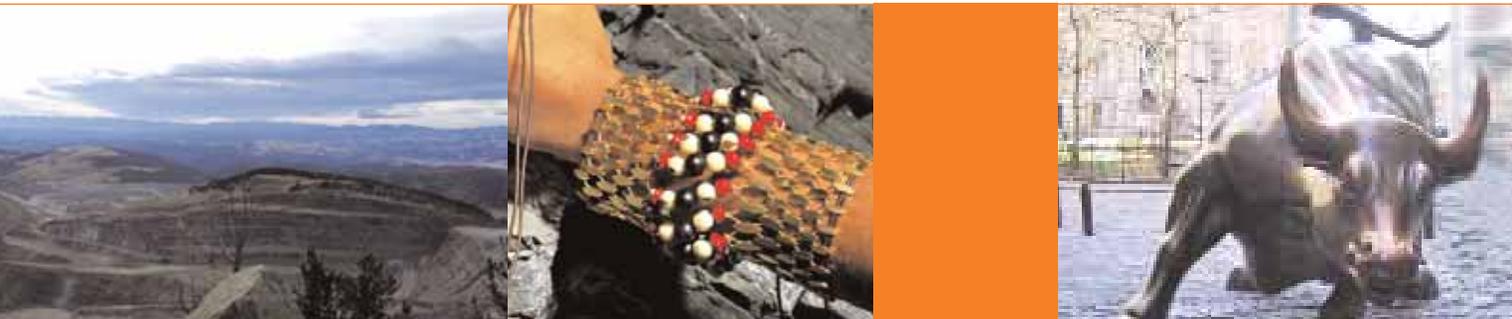
## 2 Key indicators

- AngloGold Ashanti's business practices and policies are in compliance with the values enshrined in the King Report on Corporate Governance (2002) and the US Sarbanes-Oxley Act. New governance requirements are addressed by management as and when they arise.
- The most significant event of the year was the business combination between the former AngloGold and Ashanti operations. Several task teams were set up to manage the integration which was effectively achieved from an operating and reporting perspective by the second quarter of 2004.

### Composition of the board

- The board comprises 15 directors.
- The chairman, who is independent, is Russell Edey, and the deputy chairman, who is also independent, is Dr James Motlatsi.
- Directors retire by rotation every three years.
- While the board has the power to appoint new directors, such directors must resign and stand for re-election at the next annual general meeting following their appointment. The appointment of new directors is screened by the nominations committee.
- There are five independent directors namely, Frank Arisman, Elisabeth Bradley, Colin Brayshaw, Russell Edey and Dr James Motlatsi. They are classified as independent in terms of the JSE Securities Exchange (JSE) Listings Requirements and the US Sarbanes-Oxley Act.
- There are five non-independent non-executive directors namely, Tony Lea, Bill Nairn, Simon Thompson, Tony Trahar and Lazarus Zim.
- There are five executive directors namely, Jonathan Best (CFO), Bobby Godsell (CEO), Dave Hodgson (COO), Dr Sam Jonah (President) and Kelvin Williams (Marketing).

A board charter (approved by the board on July 2003 and amended on 27 October 2004) sets out the powers, responsibilities, functions, delegation of authority and areas of authority expressly reserved for the board.



## EG4 | 3 Milestones 2004

- Publication and distribution of AngloGold Ashanti's first Report to Society 2003. Produced in conjunction with the Annual Report to ensure a comprehensive understanding of all aspects of the group, the Report to Society seeks to explain and assess the economic, social and environmental responsibilities and performance obligations the company believes it has to its stakeholders, who include shareholders, employees, employee representatives and the communities in which it operates, as well as regional and national governments.
- AngloGold Ashanti was admitted to the JSE Securities Exchange's first Socially Responsible Investment (SRI) Index. The index was launched in March 2004 (see box).
- AngloGold Ashanti is a founding member of the International Council on Mining and Metals (ICMM) (see box on EG5) and became an organisational stakeholder of the Global Reporting Initiative (GRI) in 2004.
- AngloGold Ashanti became a signatory to the United Nations' Global Compact following the business combination between AngloGold and Ashanti in April 2004. Ashanti had been a member since August 2001.
- AngloGold Ashanti achieved third place on the Edward Nathan & Friedland Sustainability Index.
- The company's annual report has once again won awards: a double award for best report in the mining and non-mining resources sector from the South African Institute of Chartered Secretaries and Administrators; also best Proudly South African report.
- The evaluation of the board and board sub-committees was completed during the year.
- A directors' induction policy was approved by the board on 30 January 2004 and a directors' induction pack – a file containing information for board members on the company's origins, activities and business, including an exposition of the directors' legal responsibilities – was completed during the year.
- The establishment of a political donations board sub-committee comprising three non-executive independent directors, chaired by Dr James Motlatsi. The committee determines the funding of political parties in South Africa. The political donations policy is available on the website.
- A disclosures policy to guide the communication of full, accurate and consistent reporting and communication with its stakeholders was approved by the executive committee on 6 December 2004. This policy is available on the company's website.
- The adoption of a confidential reporting policy, which was approved by the board on 30 January 2004.

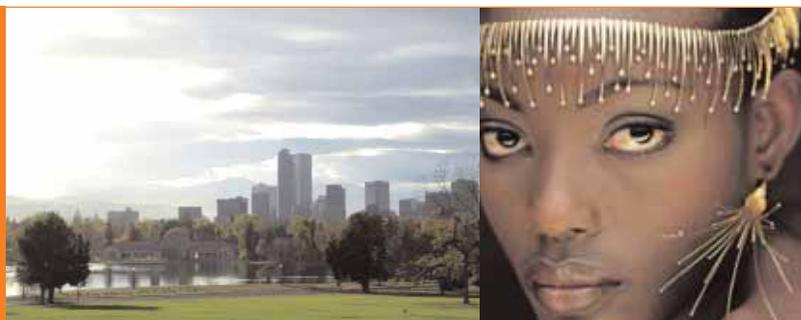
### JSE Securities Exchange SRI Index

In March 2004, the JSE Securities Exchange South Africa (JSE) announced a list of those companies that had successfully achieved admittance to its Socially Responsible Investment (SRI) Index. The SRI Index was launched as a means to identify those companies listed on the JSE that integrate the principles of sustainability into their business activities, and to facilitate investment in such companies. According to the JSE, the SRI Index has been structured to reflect the complex nature of social responsibility in South Africa with detailed criteria for each of the triple bottom lines. The SRI Index has been constituted from companies that form part of the FTSE/JSE All Share Index and which meet the criteria determined by the SRI Index Advisory Committee. These will be reviewed from time to time to reflect the continuous development of both the concepts and practices of SRI and sustainability.

### The three pillars

The Index is structured along the three pillars of the triple bottom line, namely environment, society and economy. A company must address each of these pillars if it is truly to be said to have integrated sustainability into its business practices. In addition, the principles of fairness, accountability, responsibility and transparency are common to all three pillars of the triple bottom line. These principles are also the fundamental concepts that lie at the root of corporate governance. Successful governance, as advocated by the King Report on Corporate Governance (2002), and also for purposes of the Index, requires companies to adopt a more inclusive approach to business, with greater emphasis on the non-financial aspects of performance.

For more information see [www.jse.co.za](http://www.jse.co.za)



### AngloGold Ashanti subscribes to ICMM principles

AngloGold Ashanti is a founding member of the International Council on Mining and Metals (ICMM) and subscribes to the ICMM principles of sustainability.

#### ICMM sustainable development framework – ICMM principles

As members of the ICMM, or as companies that have otherwise agreed to adopt the same performance obligations as ICMM members, we seek continual improvement in our performance and contribution to sustainable development so as to enhance shareholder value. In striving to achieve this, we will:

- implement and maintain ethical business practices and sound systems of corporate governance.
- integrate sustainable development considerations within the corporate decision-making process.
- uphold fundamental human rights and respect cultures, customs and values in dealings with employees and others who are affected by our activities.
- implement risk-management strategies based on valid data and sound science.
- seek continued improvement of our health and safety performance.
- seek continued improvement of our environmental performance.
- contribute to the conservation of biodiversity and integrated approaches to land use planning.
- facilitate and encourage responsible product design, use, re-use, recycling and disposal of our products.
- contribute to the social, economic and institutional development of the communities in which we operate.
- implement effective and transparent engagement, communication and independently verified reporting arrangements with our stakeholders.

ICMM corporate membership includes a commitment to measure corporate performance against these principles. In this report, AngloGold Ashanti also reports its performance against these principles.

### About the United Nations Global Compact

In an address to The World Economic Forum on 31 January 1999, United Nations' Secretary-General Kofi Annan challenged business leaders to join an international initiative – the Global Compact – that would bring companies together with UN agencies, labour and civil society to support principles in the areas of human rights, labour, the environment and anti-corruption. The Global Compact's operational phase was launched at UN headquarters in New York on 26 July 2000 and the first Global Compact Leaders' Summit was held there on 24 June 2004.

Through the power of collective action, the Global Compact seeks to advance responsible corporate citizenship so that business can be part of the solution to the challenges of globalisation. In this way, the private sector – in partnership with other social sectors – can help realise the Secretary-General's vision: a more sustainable and inclusive global economy.

The Global Compact is a voluntary corporate citizenship initiative with two objectives:

- to mainstream the principles in business activities around the world; and
- to catalyse actions in support of UN goals.

The Global Compact is not a regulatory instrument – it does not police, enforce or measure the behaviour or actions of companies. Rather, it relies on public accountability, transparency and the enlightened self-interest of companies, labour and civil society to initiate and share substantive action in pursuing the principles upon which the Global Compact is based.

Information drawn from the United Nations Global Compact website – [www.unglobalcompact.org](http://www.unglobalcompact.org)



A comprehensive review of AngloGold Ashanti's corporate governance practices and risk management is included in the Annual Report 2004, which is available in print, and also in electronic format on the company's website, [www.anglogoldashanti.com](http://www.anglogoldashanti.com). At the highest level corporate governance is guided by the audit and corporate governance committee, a sub-committee of the board under the chairmanship of an independent non-executive director.

Key achievements in the field of governance and risk management for 2004 are listed in the milestone section on page EG4 of this report. During the year Mr Julian Ogilvie Thompson and Mr Nicky Oppenheimer retired from the board, and were replaced by Mr Lazarus Zim and Mr Simon Thompson. With the consummation of the business combination with Ashanti, Dr Sam Jonah KBE was appointed to the board, and is also president of AngloGold Ashanti. All new board members were reviewed by the nominations committee prior to their appointment as directors.

Following the intended retirement during 2005 of current executive directors Dave Hodgson (COO) and Jonathan Best (CFO) the nomination committee has proposed the appointment of:

- Srinivasan (Venkat) Venkatakrishnan as CFO; and
- Neville Nicolau and Robert Carvalho Silva as COOs respectively responsible for Africa, and the Americas and Australia. Neville Nicolau and Robert Carvalho Silva currently serve as deputy COOs. Their election to the board as executive directors will be proposed at the group's proposed board meeting in April 2005.

Six board meetings were held during the year. Details on attendance at these meetings, and board sub-committee meetings can be found in the AngloGold Ashanti Annual Report 2004.

**Board sub-committees**

To facilitate the activities and deliberations of the board, the board has established a number of sub-committees (see box), comprising members of the board. Each sub-committee has written terms of reference governing the powers, functions and activities of each sub-committee.

Members of the board and sub-committees have access to management and the records of the company, as well as to external professional advisors should the need arise.

**Risk management and internal controls**

The board has ultimate responsibility for the risk management process within the group. A detailed discussion on risk management and internal controls may be found in the Annual Report 2004. This includes discussions on risk factors relating to:

- the gold mining industry generally;
- AngloGold Ashanti's operations; and
- AngloGold Ashanti's ordinary shares and American Depository Shares (ADSs).

To comply with the company's obligations in terms of the Sarbanes-Oxley Act and the King Code, and in the interests of good corporate governance, the company has adopted a code of ethics for employees, a code of ethics for senior financial officers, and a whistle-blowing policy that encourages employees and other stakeholders to confidentially report acts of an unethical or illegal nature affecting the company's interests. Both codes and the whistle-blowing policy are available on the company

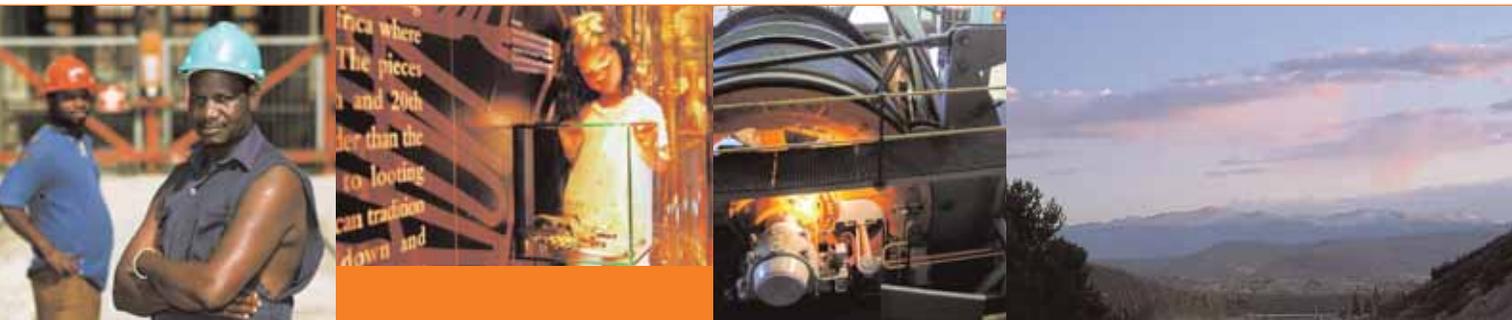
**Board sub-committees:**

- audit and corporate governance committee
- employment equity and development committee
- executive committee
- investment committee
- market development committee
- nominations committee
- political donations committee
- remuneration committee
- safety, health and sustainable development committee

**About GRI**

AngloGold Ashanti became an organisational stakeholder of the Global Reporting Initiative (GRI) 2004. The GRI is a multi-stakeholder process and independent institution whose mission is to develop and disseminate globally applicable Sustainability Reporting Guidelines. These guidelines are for voluntary use by organisations in their reporting on the economic, environmental, and social dimensions of their activities, products, and services. The GRI involves the active participation of representatives from business, accountancy, investment, environmental, human rights, research and labour organisations from around the world. Established in 1997, GRI became independent in 2002, and is an official collaborating centre of the United Nations Environment Programme (UNEP) and works in cooperation with UN Secretary-General Kofi Annan's Global Compact.

For more information see [www.globalreporting.org](http://www.globalreporting.org)



website. (See case studies: AngloGold Ashanti's response to the Sarbanes-Oxley Act of 2002 on page EG11, and Whistle-blowers programme – success or otherwise on page EG13.)

### Global sustainable initiatives

AngloGold Ashanti is a founding member of the International Council of Mining and Minerals (ICMM) and actively participates in international debate as part of this organisation. AngloGold Ashanti became an organisational stakeholder of the GRI in 2004. In terms of this, the company is committed to:

- active promotion of GRI's principles and its broader stakeholder constituency;
- participation in the GRI process; and
- in principle, preparing sustainability reports informed by the GRI guidelines and principles and which are available to the public.

AngloGold Ashanti became a signatory to the United Nations Global Compact following the merger with Ashanti. Ashanti had been a member since August 2001. In preparing the Report to Society 2004, AngloGold Ashanti has taken these principles into account.

### 10 principles of the UN Global Compact

The Global Compact's 10 principles in the areas of human rights, labour, the environment and anti-corruption enjoy universal consensus and are derived from:

- the Universal Declaration of Human Rights;
- the International Labour Organization's Declaration on Fundamental Principles and Rights at Work;
- the Rio Declaration on Environment and Development; and
- the United Nations Convention Against Corruption.

The Global Compact asks companies to embrace, support and enact, within their sphere of influence, a set of core values in the areas of human rights, labour standards, the environment and anti-corruption.

#### Human rights

*Principle 1:* Businesses should support and respect the protection of internationally proclaimed human rights; and

*Principle 2:* make sure that they are not complicit in human rights abuses.

#### Labour standards

*Principle 3:* Businesses should uphold the right to freedom of association and the effective recognition of the right to collective bargaining;

*Principle 4:* the elimination of all forms of forced and compulsory labour;

*Principle 5:* the effective abolition of child labour; and

*Principle 6:* the elimination of discrimination in respect of employment and occupation.

#### Environment

*Principle 7:* Businesses should support a precautionary approach to environmental challenges;

*Principle 8:* undertake initiatives to promote greater environmental responsibility; and

*Principle 9:* encourage the development and diffusion of environmentally friendly technologies.

#### Anti-corruption

*Principle 10:* Businesses should work against all forms of corruption, including extortion and bribery.

## EG8 | 5 Reporting in line with GRI

<b>Governance structure and management systems</b>
<p><b>Governance structure of the organisation, including major committees under the board of directors that are responsible for setting strategy and for oversight of the organisation</b></p> <p>See the corporate governance section in the Annual Report 2004</p>
<p><b>Percentage of the board of directors that are independent, non-executive directors</b></p> <p>See box on page EG3</p>
<p><b>Process for determining board members need to guide the strategic direction of the organisation including issues related to environmental and social risks and opportunities</b></p> <p>Not in place</p>
<p><b>Board-level process for overseeing the organisation's identification and management of economic, environmental and social risks and opportunities</b></p> <p>See the corporate governance section in the Annual Report 2004</p>
<p><b>Linkage between executive compensation and achievement of the organisation's financial and non-financial goals</b></p> <p>See the corporate governance section and the remuneration report in the Annual Report 2004</p>
<p><b>Organisational structure and key individuals responsible for oversight, implementation and audit of economic, environmental, social and performance, and states of implementation</b></p> <p>See the directorate and management section of the Annual Report 2004</p>
<p><b>Mission and value statements, internally developed codes of conduct or principles, and policies relevant to economic, environmental, social policies and implementation status</b></p> <p>See page EP2 of the economic performance of the Report to Society 2004 and corporate governance section of the Annual Report 2004</p>
<p><b>Mechanisms for shareholders to provide recommendations or direction to the board of directors</b></p> <p>Informal process in place. See discussion on communication with shareholders in the Annual Report 2004</p>

<b>Social performance indicators: product responsibility</b>	
<b>Core indicators</b>	<b>Additional indicators</b>
<b>Customers' health and safety</b>	
<b>SO1. Description of policies to manage impacts on communities in areas affected by activities, as well as description of procedures/programmes to address this issue, including monitoring systems and results of monitoring</b>	<b>SO4. Awards received relevant to social, ethical, and environmental performance</b>
See community section of this report	See the community and environment sections of this report
<b>Bribery and corruption</b>	
<b>SO2. Description of the policy, procedures/management systems, and compliance mechanisms for organisations and employees addressing bribery and corruption</b>	
See corporate governance section of the Annual Report 2004 and the case study on Whistle-blowers programme – success or otherwise on page EG13	
<b>Political contributions</b>	
<b>SO3. Description of policy, procedures/management systems, and compliance mechanisms for managing political lobbying and contributions</b>	<b>SO5. Amount of money paid to political parties and institutions whose prime function is to fund political parties or their candidates</b>
Overseen by political donations committee of the board. Policy available on the website	See company website
<b>Competition and pricing</b>	
	<b>SO6. Court decisions regarding cases pertaining to anti-trust and monopoly regulations</b>
	None
	<b>SO7. Description of policy, procedures/management systems, and compliance mechanisms for preventing anti-competitive behaviour</b>
	Not applicable

## EG10 | 6 Scorecard

Objectives for 2004	Review of 2004	Objectives for 2005
Development of strategy for board members' appraisals.	Strategy completed, as well as first appraisals.	Finalise roll-out of the conflicts of interest policy.
Development of a web-based corporate governance and compliance site for employees.	Completed.	Complete the Sarbanes-Oxley Section 404 internal control requirements including the design, implementation, testing and maintenance phases.
Formal adoption of terms of reference of a disclosures committee to oversee the timely, accurate and reliable material disclosure of company information to regulatory bodies and other stakeholders.	Establishment of a disclosures committee, comprising members of the finance, risk, legal, compliance and secretarial functions, to ensure the reliability of information.	Develop a document retention strategy for AngloGold Ashanti.

## 7.1 AngloGold Ashanti's response to Sarbanes-Oxley Act of 2002

The Sarbanes-Oxley Act, introduced into law in 2002 by President George W. Bush, was the US government's response to an increasing number of corporate fraud scandals involving high-level executives of well-known companies, most notably Worldcom and Enron. Its introduction was also an attempt to restore public trust, but more importantly, to protect the financial assets of investors, many of whom lost vast sums of money in the wake of the misappropriation of corporate funds. The Act sets new standards for corporate boards and accountability standards and penalties for corporate management.

All companies listed on the New York Stock Exchange (NYSE) are bound by the Act; this includes South-African based AngloGold Ashanti, which listed on the NYSE in 1998, and which is classified as a foreign private issuer.

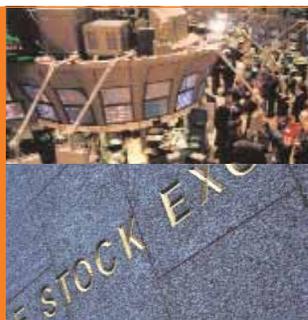
Consisting of 11 sections, the focus is primarily on the accounting profession, relating as it does to corporate governance, financial disclosure and the practice of public accounting within companies. In tightening financial controls, a Public Company Accounting Oversight Board (PCAOB) was established in terms of Sarbanes-Oxley to oversee and regulate a public company's auditors. The PCAOB looks at corporate responsibility and focuses on stricter regulations around the company's Audit Committee, financial reporting, and the improper influence over the external auditors.

Hester Hickey, group internal audit manager at AngloGold Ashanti, explains that when initiating compliance with Sarbanes-Oxley in early 2003, the company first analysed the requirements of the Act and reviewed current practices. AngloGold Ashanti was already compliant with a number of sections of the Act, but it was eager to ensure full compliance as soon as possible.

One of the key requirements with which AngloGold Ashanti was able to comply immediately was certification by the chief executive officer and chief financial officer of the Annual Report 2003, confirming its accuracy and reliability and testifying to the absence of fraud, errors or misstatements. Another requirement required of AngloGold Ashanti under Sarbanes-Oxley regulations was moving the responsibility for auditors from management to the audit and corporate governance committee, which comprises independent non-executive directors.

The most onerous requirement of the Act currently for AngloGold Ashanti is the one pertaining to Section 404 (Sarbanes-Oxley 404), which looks at the evaluation of internal controls with regard to financial reporting. A high level of detail is required in this section of the Act, to which each and every AngloGold Ashanti operation is subject. A Sarbanes-Oxley 404 Task Team was established at the beginning of 2004 to guide the process. Regional steering committees were established feeding into a corporate office steering committee, which reports directly to the audit and corporate governance committee. The corporate office steering committee meets monthly to review progress of the initial methodology documents which outlines four components to the delivery of internal controls – design, implementation, testing and maintenance. Key activities and deliverables have been identified in each area to ensure full compliance with Sarbanes-Oxley. The task team is currently in the second phase – implementation – which includes documentation of controls at all of the operations and evaluation thereof, to reveal any deficiencies in control mechanisms. Full implementation is expected to be complete by the end of 2005. Last but not least is maintenance, a critical aspect in ensuring continuation of internal controls once their effectiveness has been established.

Sarbanes-Oxley challenges going forward include ongoing compliance with current and new requirements of the law; ensuring that documentation processes are completed within given time frames; and timeous remediation where it is required.



## EG12 | 7.2 Role of the compliance manager – an interview with Bobby Barua

A new position was created when AngloGold Ashanti saw the need for a compliance manager in July 2003, and there was someone ready to step into the role.

“The offer came at the right time,” says Bobby Barua, who had previously practised as an advocate for three years, and who was ready to make the move from court to corporate.

The position, a consolidation of duties previously carried out by a number of individuals, comprises general and corporate governance from an internal group perspective. Corporate governance encompasses, for example, compliance with legislation pertaining to the company’s South African, United States and Australian stock exchange listings; the US Securities Exchange Commission and the Sarbanes-Oxley Act and the King Report on Corporate Governance (2002.)

General compliance relates to, amongst others, the South African Protected Disclosures Act aimed at the protection of whistle-blowers; the Financial Intelligence Centre Act (FICA) to eliminate money laundering and fraud at international level; the Access to Information Act which requires that business and government furnish information for the exercise or protection of any rights; and the Companies Act and, more specifically, proposed changes to the Act.

It also relates to company policy directed at employees and directors. Since his appointment last year, Barua has either amended or designed a number of policies directed at protecting the interests of the company by taking into account legislative and regulatory requirements of the various jurisdictions in which AngloGold Ashanti operates. Requests for policies come mainly from either the company secretariat, the board of directors or executive committee (Exco). A recent example was a request from Exco to design a policy that would require employees to disclose any conflicts of interest they may have between their roles as company employees and their private capacity. The policy is applicable to four categories of employees – senior management; everybody in the procurement department as well as other individuals not in the department who may from time to time procure goods or services; those individuals who are in a position to influence those who may procure goods and/or services; and any other individual identified by management.

One of his main challenges is the diversity of jurisdictional requirements in the 10 countries in which AngloGold Ashanti operates. He says that although people are generally fearful of change, it is important that they realise it is for the good of the company, which is committed to upholding company values. Since his position is still fairly new, it is difficult to gauge his success; suffice to say that people have been supportive of his role and his responsibilities.

Barua sits on the disclosures committee and the corporate office employment equity committee. He also liaises with each regional legal counsel individually to discuss legal and compliance issues. Under the auspices of the company’s general counsel, Ms Merene Botsio-Philips, a global legal team has been established to help co-ordinate the legal discipline across regions. A charter for the global legal team has been drafted by Barua – a statement of principle of what the company’s legal objectives are and how best to serve them.



### 7.3 Whistle-blowers programme – success or otherwise

“The whistle-blowing programme is working,” reports AngloGold Ashanti’s group internal audit manager Hester Hickey, a year after its introduction. Its establishment followed the Protected Disclosure Act of South Africa (2000), the King Report on Corporate Governance of South Africa (2002), and the Sarbanes-Oxley Act of 2002, intended to tighten up corporate governance following a spate of international corporate frauds.

Shareholders, the public, employees, suppliers, contractors and any other interested parties, at any of AngloGold Ashanti’s global operations, now have a conduit through which to channel reports of not just criminal acts, but also of unethical behaviour and practices, without any fear of reprisal. Because whistle-blowers world-wide tend to be victimised and ostracised, and are often under pressure to leave their place of employ, AngloGold Ashanti has now established an anonymous email system to circumvent accusations of this nature. This is in addition to the other reporting methods via telephone (through a toll-free number within South Africa), fax, intranet or letter. However, the drawbacks to anonymous reporting are that complaints cannot be verified, the investigative process takes longer and the department cannot give feedback.

90% of reports currently received are anonymous. Twenty two reports (20 from South Africa, one from Mali and one from Australia) were received between January and November 2004, of which 15 were anonymous. Ten related to fraud concerning mainly impropriety with regard to internal or external suppliers; eight to human resource issues where the complainant was unwilling to follow grievance procedures, fearing victimisation; and four to minor issues such as fraudulent leave.

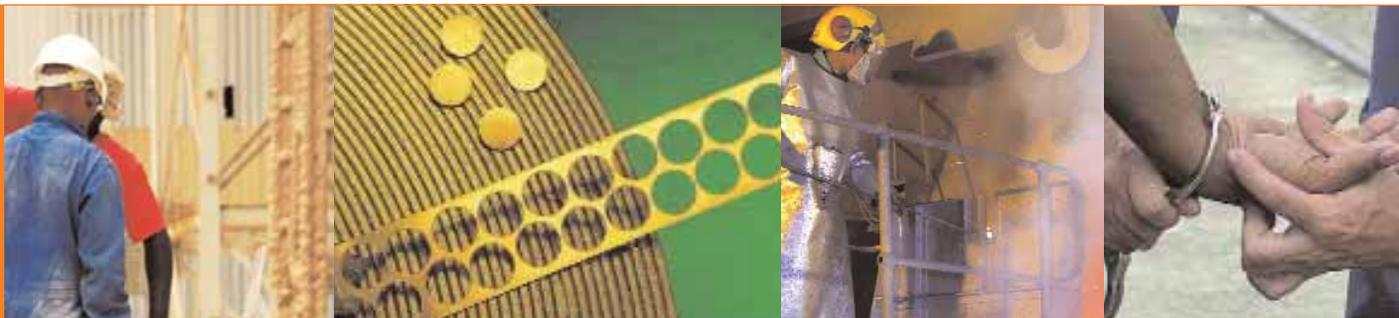
One report was received from a supplier regarding anti-competitive tendering. Since the supplier had identified himself, he was given subsequent feedback and was satisfied with the outcome in that there had been a genuine error in the tender. The supplier was also satisfied that the future tenders would not prejudice any suppliers.

All whistle-blowing reports are investigated where possible and, if substantiated, are followed by a full grievance and disciplinary process, and where applicable dismissal, and criminal or civil action. To date there have been no dismissal or court cases. Most investigations are dealt with internally but external consultants may be employed, depending on the nature of the complaint and the availability of appropriate resources.

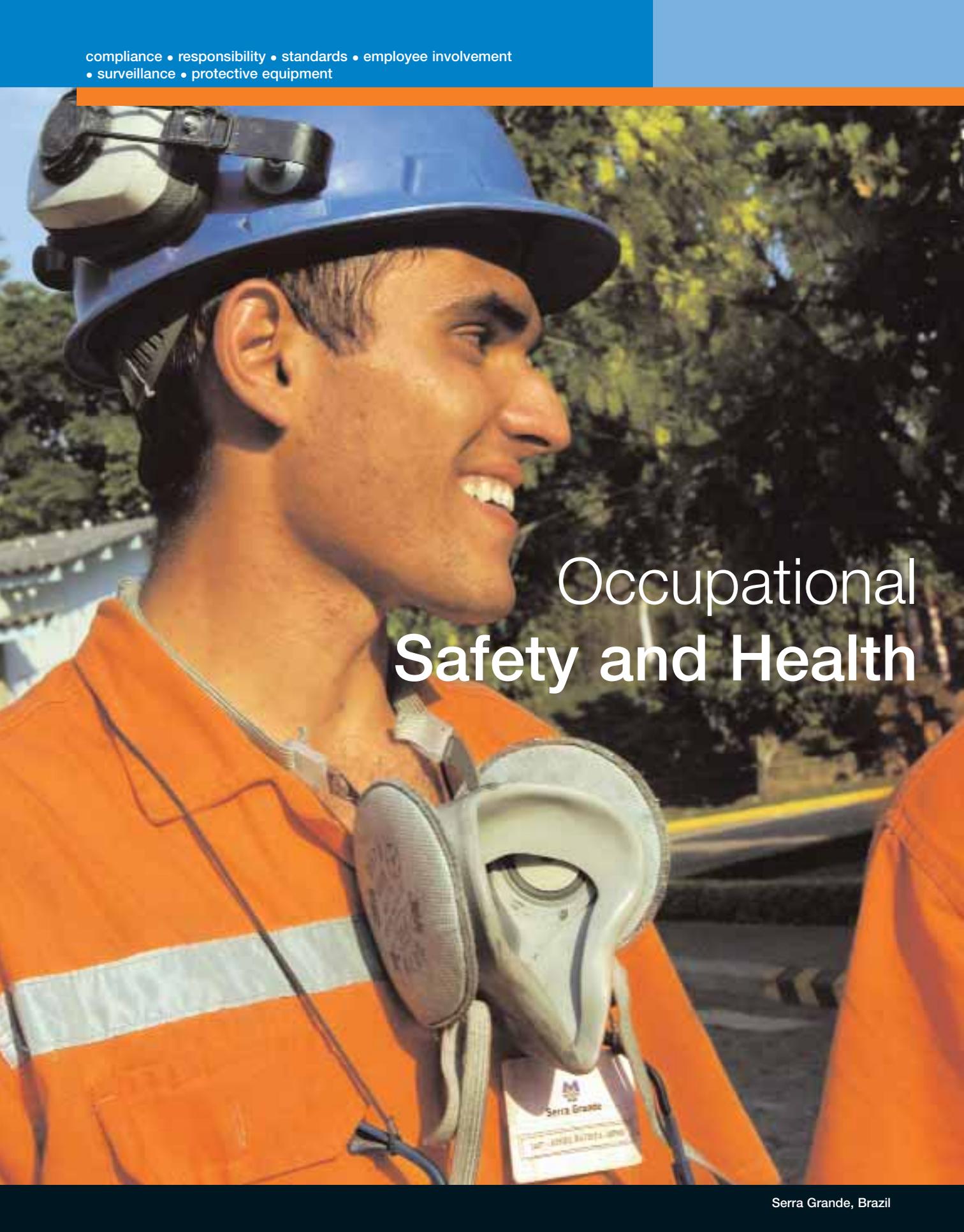
Blank emails are received, as well as a number of nuisance and malicious calls – not uncommon, says Hickey, following discussions with other companies which have a whistle-blowing process in place. However, the benefits of the reporting process, at this stage, outweigh the obstructive behaviour of some individuals. Other common areas of complaint, Hickey discovered, are around labour, race and moral issues. Although AngloGold Ashanti has received reports of unethical behaviour, there have been none yet regarding financial reporting, a key focus of Sarbanes-Oxley.

Hickey, who is an appointee of the audit and corporate governance committee, reports regularly to the chief executive officer, the executive committee and the audit and corporate governance committee on the current status of cases, and the manner in which they are being dealt with. Formal reports are also received from the human resources, internal audit and asset protection departments.

AngoGold Ashanti’s whistle-blowing policy is covered comprehensively in a recent ‘values and business principles’ booklet, and provides contact numbers and addresses for those wishing to report criminal offences or unethical behaviour.



compliance • responsibility • standards • employee involvement  
• surveillance • protective equipment



# Occupational Safety and Health

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### SH2 | 1 AngloGold Ashanti as an employer – safety and health

- The company is committed to **complying** with all relevant occupational health and safety laws, regulations and standards. In the absence of such standards, leading practice will be adopted.
- We are committed to providing a working environment that is conducive to **safety** and **health**.
- The management of occupational safety and health is a prime **responsibility** of line management, from the executive level to the first line supervisory level.
- We strive for **employee involvement** and consultation with employees or their representatives to gain commitment in the implementation of these principles.
- The company is committed to providing all necessary **resources** to enable compliance with these principles.
- The company will not tolerate or condone deliberate **breaches** in standards and procedures.
- We will implement safety and health management systems based on internationally recognised **standards** and we will assess the effectiveness of these systems through periodic audits.
- We will conduct the necessary **risk assessments** to anticipate, minimise and control occupational hazards.
- We will promote initiatives to continuously **reduce** the safety and health **risks** associated with our business activities.
- We will set safety and health objectives based on comprehensive strategic **plans** and will **measure** performance against these plans.
- We will **monitor** the effects of the company's operational activities on the safety and health of our employees and others, and we will conduct regular performance reviews.
- We will provide all necessary personal **protective equipment**.
- We will establish and maintain a system of **medical surveillance** for our employees.
- We will **communicate** openly on safety and health issues with employees and other stakeholders.
- We will ensure that employees at all levels receive appropriate **training** and are competent to carry out their duties and responsibilities. We will require our **contractors** to **comply** with these principles and we will seek to influence joint venture partners to apply them as well.



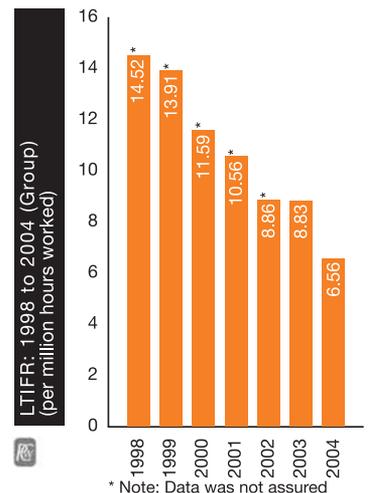
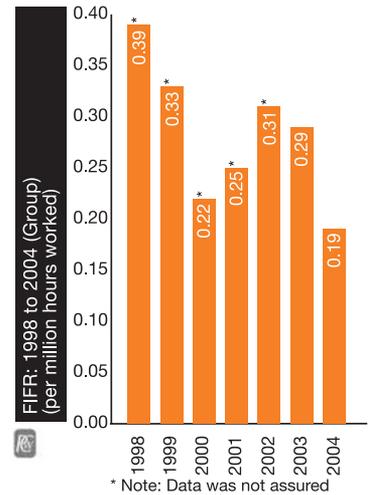
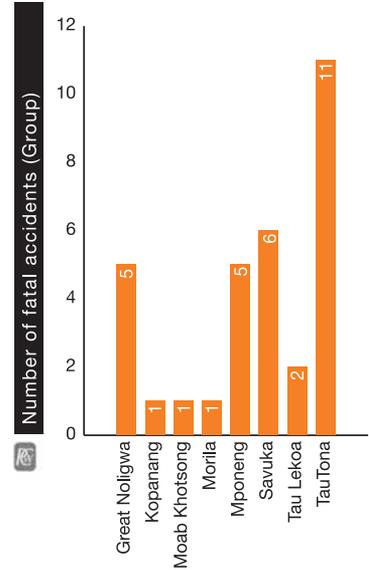
## 2 Key indicators

### Safety:

- 32 employees lost their lives in work-related accidents in 2004, 31 of these at the South African operations and one at the Morila mine in Mali. In 2003, 43 employees lost their lives in work-related accidents.
- The group's Fatal Injury Frequency Rate (FIFR) was 0.19 per million man hours worked, which is a 34% improvement on the previous year's rate of 0.29. This reflects an improvement of 51% on the FIFR of 0.39 achieved in 1998.
  - The FIFR was 0.29 per million man hours in the South Africa region (which employs 66% of the workforce), an improvement of 16%.
- The group's Lost Time Injury Frequency Rate (LTIFR) also declined by 26% to 6.56 per million man hours, the lowest ever in the group, from 8.83 the previous year. This reflects a 54% improvement on the LTIFR of 14.52 achieved in 1998 (when AngloGold was established).
  - The LTIFR for the South Africa region was 9.11, an improvement of 12% on the previous year.

### Health:

- 51,084 occupational medical surveillance examinations (initial, periodical, transfer and exit) were performed in the South Africa region during 2004 in accordance with the requirements of the Mine Health and Safety Act. Medical surveillance is also undertaken at other operations.
- 285 new cases of noise-induced hearing loss (NIHL) were compensated in the South Africa region during 2004, which is a rate of 7 per 1,000 employees. This is a decrease of 61% on the previous year's rate of 18 per 1,000 employees.
- 319 cases of occupational lung disease (OLD) were compensated in the South Africa region during 2004, which is a rate of 8 per 1,000 employees, double the rate of 4 reported last year. HIV, silica exposure, TB and an ageing workforce all play a role in OLD.
- 1,386 new cases of pulmonary tuberculosis (TB) were detected and treated during the year, which is a rate of 35 per 1,000 employees, up from a rate of 33 last year. The rates are increasing despite intensive efforts to both detect and treat TB. This is because of an increasing incidence of HIV and AIDS amongst a silica-exposed workforce. It is estimated that over 80% of individuals detected with TB are HIV-positive. TB in silica-exposed employees, who do not have concomitant silicosis, is not classified as an occupational disease outside of South Africa and is therefore not reported.
- Dust (silica) control on the South African mines improved. No Homogenous Exposure Group (HEG) above the Occupational Exposure Limit (OEL) of 0.1mg/m<sup>3</sup> was recorded in 2004.
- 100% of underground rockdrills and 98% of all critical fans have now been silenced.



#### Our opinion is based on a test of the reliability of the selected data by way of:

In relation to selected data marked with the  on which we have provided reasonable assurance:

- conducting interviews and holding discussions with management, key personnel and/or stakeholders of AngloGold Ashanti limited and assessing data trends;
- obtaining an understanding of the systems used to generate, aggregate and report the selected data;
- conducting site visits to test systems and data and inspecting premises where necessary;
- assessing the completeness and accuracy of the selected data; and
- reviewing and analysing collected information and effecting re-calculations where considered appropriate.

## SH4 | 3 Milestones 2004

### Group

- The alignment of safety and health statistics between AngloGold and the former Ashanti operations was completed during the first quarter and consolidated safety statistics were reported for the AngloGold Ashanti group as a whole from the second quarter. This follows an agreement to adopt common safety standards and definitions.
- AngloGold Ashanti Mineração, formerly Morro Velho, was awarded the third Dick Fisher Global Safety Award for excellence in safety in 2004. The award was made in recognition of a 23% improvement when compared to the operation's best ever previous performance since 2002. This operation (comprising the Cuiabá mine, the Queiroz plant and surface infrastructure) recorded only eight lost-time injuries in 2004 (LTIFR of 1.56 per million hours worked). The board committee on safety, health and sustainable development acknowledged that AngloGold Ashanti Mineração had made significant improvements in respect of risk management, and this has manifested in extremely high compliance to support standards, best in class ramp and roadway conditions and many other safety improvements. The Savuka mine in South Africa and the Cripple Creek & Victor mine (CC&V) in the United States were also commended for achieving significant improvements in safety management performance.

### South Africa

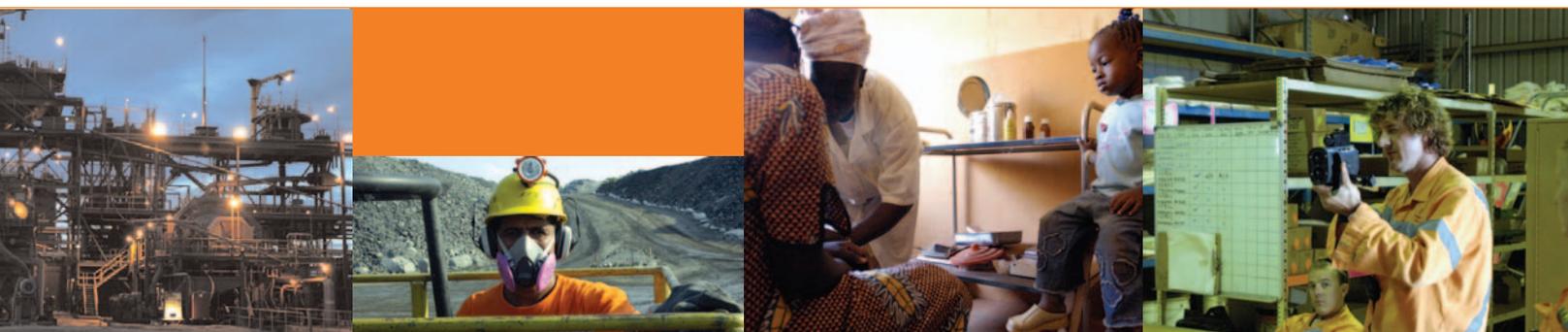
- The South Africa region held a safety re-launch on 7 April 2004. During the re-launch, each general manager committed his team to improved safety performance.
- The shaft mine overseer section at Tau Lekoa mine achieved one million fatality-free shifts on 21 June 2004. It took the section, comprising about 250 people, 12 years and 10 months of safe operations to reach this milestone.
- Great Noligwa reached one million fatality-free shifts on 31 March 2004, after 5.5 months.
- Savuka mine won the South African Safety Shield Competition for 2004. The mine showed an 8.34% improvement in its Serious Injury Frequency Rate, compared to its best performance over the previous four years.
- On 10 July 2004, the Kopanang mine achieved one million fatality-free shifts. It took 4,900 employees 8.5 months to attain this.
- Aurum Health Research, a wholly-owned subsidiary of AngloGold Health Service (AHS) has been granted \$14 million for a major HIV-TB research project over five years. The grant is part of a larger award to the international Consortium to Respond Effectively to the AIDS/TB Epidemic (CREATE) to research strategies for TB control, by the Bill and Melinda Gates Foundation.

### Australia

- The Sunrise Dam mine in Australia region won the Mineral Council of Australia's Minex award for excellence in health and safety.
- The Australia region attained second place in the Western Australian Chamber of Minerals and Energy's (CME) Safety and Health Innovation awards for the Hori Board, an innovation designed to reduce hand injuries in core yards.
- Sunrise Dam Gold mine performed well in the Western Australian Chamber of Minerals and Energy's Surface Mine Emergency Response Competition. Sunrise Dam took top honours in the vehicle extraction scenario. The competition tests teams with realistic scenarios to evaluate knowledge and skills in fire fighting, first aid, vehicle extraction, hazardous chemicals, rope rescue, breathing apparatus, team skills and theory.

Fatal injury frequency rate (FIFR) per million man hours 

	2003	2004
<b>Australia</b>		
Sunrise Dam	0.00	<b>0.00</b>
<b>Ghana</b>		
Bibiani	-	<b>0.00</b>
Iduapriem	-	<b>0.00</b>
Obuasi	-	<b>0.00</b>
<b>Guinea</b>		
Siguiiri	-	<b>0.00</b>
<b>Mali</b>		
Morila	0.31	<b>0.32</b>
Sadiola	0.31	<b>0.00</b>
Yatela	0.00	<b>0.00</b>
<b>Namibia</b>		
Navachab	0.00	<b>0.00</b>
<b>South Africa</b>		
Ergo	0.00	<b>0.00</b>
Great Noligwa	0.32	<b>0.26</b>
Kopanang	0.41	<b>0.06</b>
Moab Khotsong	0.00	<b>0.22</b>
Mponeng	0.33	<b>0.37</b>
Savuka	0.47	<b>0.73</b>
Tau Lekoa	0.09	<b>0.19</b>
TauTona	1.10	<b>0.86</b>
<b>South America</b>		
AngloGold Ashanti Mineração	0.20	<b>0.00</b>
Cerro Vanguardia	0.00	<b>0.00</b>
Serra Grande	0.00	<b>0.00</b>
<b>Tanzania</b>		
Geita	0.00	<b>0.00</b>
<b>USA</b>		
CC&V	0.00	<b>0.00</b>
<b>Group</b>	<b>0.29</b>	<b>0.19</b>



**Ghana**

- Obuasi mine achieved one million fatality-free shifts on 17 June 2004 and two million fatality-free shifts on 30 October 2004.
- On 25 September 2004, the Iduapriem mine was recognised by Nosa for achieving 4 million hours without a disabling injury. Both Bibiani and Iduapriem were acknowledged with Nosa 5 star ratings during 2004.
- AngloGold Ashanti has budgeted \$1.2 million for facilities and equipment upgrading at the Edwin Cade Memorial Hospital in Obuasi.

**Namibia**

- The Navachab mine in Namibia maintained its Nosa four star status, achieving an 84% audit result, an improvement on the previous year.

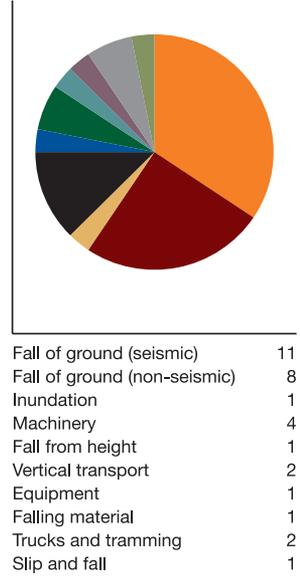
**Mali**

- The Morila mine's power plant shared the 'Best Overseas Operation' award by Rolls Royce Power Ventures Limited with respect to Health, Safety and Environmental management. The \$1,000 prize money has been donated to a charity in the local village of Sanso.

**Tanzania**

- An annual Nosa audit was conducted at Geita in June 2004, covering all areas of health, safety and environment. The site retained its four-star rating, achieving an increased percentage score of 83.4%.

Causes of fatal accidents (2004)



Good progress was made towards the group's long-term objective of eliminating accidents during the year with all the major safety indicators improving on the previous year and reaching their best ever levels. From a health perspective, some progress is reported along with some negative statistics, the latter particularly in respect of occupational lung disease (OLD) and tuberculosis (TB) on the South Africa operations. This is largely because of the increasing impact of the HIV/AIDS epidemic in southern Africa.

## Safety performance

Safety performance at AngloGold Ashanti was the best ever for the company, with all major safety parameters indicating an improving trend. In fact, the group has achieved a 57% improvement in LTIFR and a 51% improvement in FIFR over the past six years.

Regrettably, however, 32 employees lost their lives in work-related accidents during the year, 31 of these at the **South African** operations. The single non-South African fatal accident was at the Morila mine in **Mali**.

As a result, the group's Fatal Injury Frequency Rate (FIFR) was 0.19 per million man hours worked, improved by 34% on the rate of 0.29 achieved last year. The Lost Time Injury Frequency Rate (LTIFR) also declined significantly, by 26%, to 6.56 per million man hours from 8.83 the previous year. The latter exceeds the company's objective of achieving a 20% improvement in the LTIFR. Both the LTIFR and FIFR statistics represent record lows for the company.

## Causes of fatal accidents

The primary causes of fatal accidents were falls of ground (60%), with seismically-induced falls of ground accounting for 58% of these. Other primary causes were: machinery (13%), trucks and tramping (6%), and vertical transport (6%).

## Fatal accident reviews

AngloGold Ashanti has a policy of investigating all fatal accidents independently of mine-based and statutory investigations using a team convened by the corporate office, and followed up by a formal executive review conducted at the corporate office. The group believes that this methodology not only indicates the seriousness with which the board and executive view fatal accidents, but reveals important risk issues and lessons learnt.

## Health performance

AngloGold Ashanti continues to provide comprehensive health care services to employees either through AHS (in South Africa), overseen by AHS (elsewhere in Africa) or through mine-based and external health care service providers (elsewhere in the world).

Medical surveillance at the **South African** operations is conducted in line with the Mine Health and Safety Act: 51,084 occupational medical surveillance examinations (initial, periodical, transfer and exit) were performed in 2004. Medical surveillance is also undertaken at other operations, in line with specific needs and local legislation.

In **South Africa**, noise-induced hearing loss (NIHL), occupational lung diseases (OLD) and tuberculosis (TB) are categorised as occupational diseases and are therefore compensable by law. In 2004:

- 285 new cases of NIHL were compensated during 2004, which is a rate of 7 per 1,000 employees. This is a decrease of 61% on the previous year's rate of 18 per 1,000 employees.
- 319 cases of OLD were compensable in the South Africa region during 2004, which is a rate of 8 per 1,000 employees.
- 1,386 new cases of TB were detected and treated during the year, which is a rate of 35 per 1,000 employees. The rates are increasing despite intensive efforts to both detect and treat TB. This is because of an increasing incidence of HIV and AIDS amongst a silica-exposed workforce.

Number of shifts lost due to injuries 

	2004
<b>Australia</b>	
Sunrise Dam	31
<b>Ghana</b>	
Bibiani	0
Iduapriem	0
Obuasi	496
<b>Guinea</b>	
Siguiri	74
<b>Mali</b>	
Morila	42
Sadiola	76
Yatela	150
<b>Namibia</b>	
Navachab	122
<b>South Africa</b>	
Ergo	944
Great Noligwa	9,746
Kopanang	6,134
Moab Khotsong	1,268
Mponeng	5,343
Savuka	3,008
Tau Lekoa	5,369
TauTona	3,444
<b>South America</b>	
AngloGold Ashanti Mineração	491
Cerro Vanguardia	575
Serra Grande	107
<b>Tanzania</b>	
Geita	149
<b>USA</b>	
CC&V	244

## Governance and structure

The safety, health and sustainable development committee of the board has as its brief the evaluation of social, economic, environmental and health impacts of the company's operations on both local and global communities and to achieve a sustainable balance between economic and social development with due regard to:

- the safety of its employees;
- the health of its employees; and
- the impact of its operations on the environment.

One of the stated primary objectives of this committee is to ensure the elimination of all work-related accidents and diseases, and the committee conducts on-site inspections on matters of serious concern.

The committee comprises two non-executive directors, Bill Nairn (chairman) and Dr James Motlatsi, and the chief executive officer Bobby Godsell. Members of management, including chief operating officer, Dave Hodgson, are invited to participate, as well as John McEndoo (Safety), Dr Dave Barnes and Dr Brian Chicksen (Health), Andrew Mackenzie (Environment) and Paul Hollesen (Community Development).

The management of safety and health issues at an operational level falls under the auspices of the chief operating officer, who is supported by line management. In the case of health services in **South Africa** and, to some extent, in the rest of Africa, these are guided and provided by AHS under the direction of Dr Brian Chicksen.

Responsibility for safety and health has been devolved to operational line management, down to the level of first line supervisor. The actual operational structure varies from operation to operation. At the Geita Mine in **Tanzania**, the environmental manager, safety manager and health services manager all report to the general manager. At the Obuasi mine in **Ghana** each underground section and the surface operations have a safety engineer dedicated to them. These safety engineers play a co-ordinating role and support the line managers, who are also supported by safety and health representatives appointed from amongst the workforce.

## Safety and health policies

The group's values and business principles on safety and health and accompanying safety and health policy are minimum guidelines for the group in respect of safety and health. Regions and operations are encouraged to develop their own specific principles, guidelines and policies in line with local conditions and legislation. (See *Tau Lekoa occupational health and safety policy and Geita Gold Mine values on the Report to Society 2004 website*.)

The **Australia** region has a signed health and safety policy in line with the AngloGold Ashanti health and safety policy and objectives. This policy was reviewed by employees and a group of external stakeholders in 2003 with a positive response received and will be reviewed again by external stakeholders in 2005. (See *Australia region safety and health policy on the Report to Society 2004 website*.)

The Sadiola and Yatela mines in **Mali** have developed a code of conduct with three parts, dealing with safety and health, and the environment. Because these are applicable to local employees and communities they are available in English and French. (See *Sadiola/Yatela safety and health policy on the Report to Society 2004 website*.)

## Safety and health agreements

The **South Africa** region has safety and health agreements and policies in place at all mines and business units that have been negotiated with representative unions as prescribed by the Mine Health and Safety Act.

At Navachab in **Namibia** a health and safety agreement was concluded with the representative union in 1997 and, as a consequence of this, union and other employee representatives attend safety meetings on a regular basis.

Where no formal agreements are in place at the other operations, participation by employees is encouraged as it is a fundamental philosophy of the group that safety and health is the responsibility of each individual, as well as that of management.

Lost time injury frequency rate (LTIFR) – per million man hours worked 

	2003	2004
<b>Australia</b>		
Sunrise Dam	6.05	<b>3.73</b>
<b>Ghana</b>		
Bibiani	–	<b>0.00</b>
Iduapriem	–	<b>0.00</b>
Obuasi	–	<b>2.53</b>
<b>Guinea</b>		
Siguiiri	–	<b>0.94</b>
<b>Mali</b>		
Morila	3.78	<b>1.94</b>
Sadiola	0.31	<b>1.13</b>
Yatela	2.92	<b>0.76</b>
<b>Namibia</b>		
Navachab	3.60	<b>0.90</b>
<b>South Africa</b>		
Ergo	1.75	<b>1.90</b>
Great Noligwa	9.83	<b>10.04</b>
Kopanang	14.08	<b>12.96</b>
Moab Khotsong	7.11	<b>6.70</b>
Mponeng	9.81	<b>9.50</b>
Savuka	17.57	<b>12.91</b>
Tau Lekoa	25.96	<b>15.43</b>
TauTona	8.24	<b>11.40</b>
<b>South America</b>		
AngloGold Ashanti Mineração	4.04	<b>1.56</b>
Cerro Vanguardia	7.95	<b>6.66</b>
Serra Grande	1.94	<b>1.21</b>
<b>Tanzania</b>		
Geita	0.79	<b>1.00</b>
<b>USA</b>		
CC&V	3.22	<b>0.00</b>
<b>Group</b>	<b>8.83</b>	<b>6.56</b>

## Complying with laws, regulations, standards

AngloGold Ashanti is committed to complying with all relevant laws, regulations and standards applicable to the countries in which its operations are located. In the absence of appropriate laws, regulations or standards, or where these are perceived to be inadequate, the company will adopt standards reflecting good practice.

### *Enforced stoppages by regulatory authorities, non-compliance with legislation or fines imposed by regulatory authorities*

A total of 13 withdrawals/partial withdrawals and/or stoppages were instigated by the South African Department of Minerals and Energy (DME) in line with section 54 of the Mine Health and Safety Act during the year. (See table bottom right.) Two stoppages resulted in a significant interruption to business (of more than three days):

- on 18 August 2004 work was stopped for three weeks at Great Nologwa mine while the mine instituted remedial safety measures, following a multiple fall of ground seismic-related fatal accident; and
- work on the reef horizon was suspended for five consecutive Sundays following a fatal accident at Tau Lekoa mine.

A fine of R200,000 was imposed by the DME relating to a gas explosion that took place at Mponeng mine on 29 June 1999 and in which 19 employees lost their lives. The investigation conducted by the DME after the accident highlighted a number of procedural shortcomings at the mine, although these were found not to relate directly to the accident.

At the Obuasi mine in **Ghana**, two breaches of the mining regulations resulted in reprimands from the Department of Mines:

- on 5 April 2004, a fire in the No 2 compartment of the Sansu Shaft occurred after shaft repairs using an oxy-acetylene cutting device. No injuries occurred. Remedial action has been put in place; and
- on 3 May 2004, an eight-year old girl drowned while swimming in a defunct slurry trench. This and all similar trenches in the area have been filled and the area is being rehabilitated for eventual hand-over to the community.

No other breaches to, or violations of, the various legislation or regulations were reported during 2004, and no further non-compliance fines were paid in respect of safety and health.

### Safety and health management in North America: top-down and bottom-up

For the North America region's CC&V mine, health and safety is approached from top-down and bottom-up. Health and safety issues start with Ron Largent, vice president and general manager, who relies on Larry Snyder, manager, safety and security, for overall programme administration as well as each departmental manager for implementing health and safety policies and programmes.

The DuPont STOP (See Report to Society 2003) for Supervisors and Employees programmes have been implemented and are in use. The STOP programme promotes safety observations and positive remedial measures for observed unsafe acts and conditions on all levels, from the vice president and general manager to hourly employees. The programmes have been proven to be most valuable for hourly employees by enabling them to correct unsafe acts and conditions directly and immediately without having to go to a supervisor with a report of an unsafe act or condition.

DME-initiated withdrawals – South Africa – 2004

	Full withdrawals	Partial withdrawals
Accidents	1	0
Environmental conditions	0	2
Fatalities	0	2
Ground conditions	2	4
<b>Total</b>	<b>3</b>	<b>8</b>



### Laws, regulations and standards applicable to safety and health

Australia	Mines Safety and Inspection Act (WA) 1994 (MSI Act) Mines Safety and Inspection Regulations (WA) 1995 (MSI Regs)
Argentina	Argentinian Constitution, Law 19587/72 – National Conditions of Hygiene and Safety for Organisations and Mining, Law 24557/95 – Work Risk Law
Brazil	Constitution and labour legislation. Regulatory Norm 22 – Occupational Health and Safety in Mining Regulatory Norm 7 – Occupational Health Medical Control Programme, Mining Decree 237, October 2001 Regulatory Norm – National Department of Mineral Production (DNPM)
Ghana	Mining and Explosives Regulators, 1970 (Legislative Instruments 665 & 666) Radiation Protection Regulations, 1993 (Legislative Instrument 1559) Environmental Protection Agency (EPA) Regulations
Mali	The primary laws governing safety and health in Mali are Code de la Sécurité Sociale du Mali (Social Security Code), Convention Collective (Collective Agreement) and Code du Travail du Mali (Mali Labour Code) The International Finance Corporation (IFC) is a partner of the SEMOS SA joint venture. As a partner, the IFC requires that SEMOS SA adhere to IFC and World Bank guidelines, including those guidelines covering health and safety. Thus, additional applicable IFC guidelines for SEMOS SA include: - Environmental Guidelines for Health Care Facilities, May 2003 - IFC Environmental Guidelines for Occupational Health and Safety, June 24, 2003 - World Bank Environment, Health and Safety Guidelines – Mining and Milling - Open Pit, August 1995 - Environmental, Health and Safety Guidelines for Precious Metal Mining, Draft July 2004
Namibia	Health & Safety Regulations Act 6 of 1992 Hazardous Substance Act 15 of 1973 Mineral and Ordinance Act Environmental Act 10 of 1998 Namibia Water Corporation Act no 12 of 1997
South Africa	Occupational Health & Safety Act N0 85 of 1993 Mine Health and Safety Act 26 of 1999 & Regulations Compensation for Occupational Injuries and Diseases Act 130 Of 1993 Occupational Diseases in Mines and Works Act 78 of 1973 Minerals Act 50 of 1991 Minerals and Petroleum Resources Development Act 28 of 2002 National Nuclear Regulator Act 47 of 1999 Hazardous Substances Act 15 of 1973 Atmospheric Pollution Prevention Act 45 of 1965 National Building Regulations and Building Standards Act 103 of 1977 Explosives Act 26 of 1956
Tanzania	The United Republic of Tanzania Mining Act 1998 The United Republic of Tanzania Mining Regulation 1999 The Industrial and Consumer Chemicals (Management and Control) Act 2003 The Factories/Chemicals Management and Control Act 2003 The Employment and Labour Relations Act 2004 The National Environmental Management Bill (currently before Parliament)
United States	Mine safety and health is administered via the Mine Safety and Health Administration (MHSa), under a programme that is separate of safety and health requirements that are applicable to other industries in the United States as addressed under Occupational Safety and Health Administration

## Risk assessments

Risk assessments are conducted at both group and operational level, right down to working places. This is to understand the potential safety and health risks that exist so that they may be removed or reduced to tolerable levels. A detailed discussion on risk analysis within the group can be found in the Annual Report 2004.

Risk assessment may be conducted by or with the assistance of external consultants, by the group's corporate office, by underwriters (for insurance purposes) or by the operations themselves. An important development that has taken place in recent years has been the extension of basic hazard identification into the front line supervisory ranks and to employees themselves.

At Geita in **Tanzania**, for example, many supervisors, safety officers and representatives have been trained to conduct risk assessments.

An example of a risk assessment that draws on the broad base of experience and expertise within the group was recently conducted at the South America region's Cerro Vanguardia operation in **Argentina** to ensure that these open-pit operations are managed in line with world best practice. (See case study: *Towards best practice in open-pit mining on page SH22*). Yet another example are the Hazop studies that were undertaken during 2004 as part of the process of constructing the Hanna Cyanide recovery plant at Sadiola and Yatela in **Mali**.

The **Australia** region uses the SafeGold risk management system as the basis for risk management. All employees are trained in hazard identification and risk assessments. Risks are managed through the hierarchy of control and there is demonstrated use of the high levels of control including elimination of hazards and engineering out the hazards rather than relying on personal protective equipment.

At Sunrise Dam a formal process of identifying potential hazards and defining control processes for the underground operation was recently undertaken. This process identified some 1,600 hazards which were subsequently assessed and addressed. At present the mining contractor is reviewing this list of hazards and controls that are in place. During the Mineral Council of Australia's Minex evaluation, the application of the rigorous risk management process was identified as a principal strength in the safety management programme. (See case study: *Sunrise Dam awarded prestigious Minex trophy on page SH23*.)

This process has been extended to exploration activities, such as the Tropicana project, where risk was assessed by the team working on the project prior to the project commencing. An external party was used to educate the team in the principles of risk assessment and assist in the process. Major risks identified were reviewed and action plans developed to reduce their impact. Having undertaken this process before the project commenced, all personnel were made aware of the hazards, resulting in no incidents and injuries occurring to date.

The Australia region has also made good progress in its transition to using leading rather than lagging indicators. For example, three positive indicators used to measure safety performance include corrective actions completed, scheduled inspections conducted and a number of green (or incident-free) days achieved.

In South America (**Argentina** and **Brazil**), annual Hazard Identification and Risk Assessments (HIRAs) are undertaken by company teams, and these are subject to internal and external audits. The HIRA is conducted for each activity, identifying risk factors, consequences, existing and proposed risk measures. The final result is a matrix indicating a Residual Risk Profile and respective controls, which has brought about a significant reduction in the number of lost-time accidents.

## Audits

Both internal and external audits are conducted on a regional and operational basis. Many operations outside of South Africa have adopted the National Occupational Safety Association (Nosa) systems and were audited during the year.

### Communications media used in the Australia region

- Electronic – intranet, email, internal television/video system, presentations, and Aura newsletter.
- Hard copies – notices, bulletins, posters, and quarterly site newsletters.
- Notice boards – distinctive notice boards in offices, cribsrooms, meeting rooms, and training rooms.
- Oral communication – daily morning meetings, weekly managers' meetings, quarterly department presentations, monthly safety strategy meetings, monthly safety meetings

### Monthly MD meetings on safety at Geita

Issues relating to safety and health form an important component of the monthly meetings held between the managing director, Peter Turner, and both Geita and contractor senior staff. These meetings form a valuable means of directly communicating important information dealing with all aspects of the operation and its effect on other stakeholders. There is an opportunity to exchange ideas, ask questions and propose changes. Any significant or potential safety incidents are discussed.

It has been AngloGold Ashanti practice to engage the services of recognised safety experts to undertake a high-level safety audit, with recommendations made to the board committee. Retired state mining engineer (Western Australia) Jim Torlach, undertook a second audit of the operations in late 2004, including the South African, Malian and Australian operations. His brief was to review the progress made on, and compliance with, certain of the recommendations made in his previous report from 2002/2003. (See case study *Australian expert evaluates AngloGold Ashanti's safety risks on page SH27 of this report.*)

The assessment of the group's adherence to the international Cyanide Protocol (See case study: *Developing and implementing best practice for cyanide implementation on page E33 in Environment section*) uses a novel approach of creating expert teams drawn from different regions to work with a local team in undertaking what is essentially a detailed risk assessment and audit.

Both the South Africa region Occupational Health Centres were audited during the year by an external auditor using Anglo American plc guidelines. Both centres achieved more than 95% in all audit elements.

### Employee involvement and communication

AngloGold Ashanti encourages both employee involvement in matters relating to safety and health, and communication with employees in this regard. This is necessary to understand and arrive at the best outcomes, and to gain commitment in the implementation of safety and health programmes. Effective communication is an important adjunct to safety management, not only to disseminate knowledge, but also to ensure that employees are aware of their own responsibilities.

The group uses the intranet, mine-based newsletters, safety newsletters and a monthly safety letter from its chief operating officer to communicate about safety and health issues and ensure that they remain a priority. Operations are required to report on monthly, quarterly and annual safety performance in respect of both leading and lagging indicators. Coaching to interpret these indicators through these media is ongoing.

In **South Africa**, employee involvement is specified by law. In line with the Mine Health and Safety Act, 2,500 workplace and 60 full time safety and health representatives have been trained, designated and appointed. These cover all South African production employees and all working places.

In **Ghana**, article 16 of the collective bargaining agreement between the company and union allows for safety and health representatives to be appointed from within the workforce. The union is represented on a panel of investigators during enquiries into incidents and is actively involved in safety and health campaigns coordinated by the safety, health and environment department. One of the challenges that remains in Ghana, and elsewhere, is to obtain employee support for, and participation in, the various programmes.

At Sadiola and Yatela in **Mali**, safety representatives are elected (most recently in February 2004) and form part of the team that drives both safety communication and management.

In **Tanzania**, both Geita and the contractors' employees are represented by a health, safety and environment (HSE) representative committee. These representatives are appointed by the various departmental heads. In this capacity they attend regular training sessions on their roles and responsibilities and are part of a group that is accountable for accident and incident investigations. They also play an important role in developing and implementing new safety and health systems and programmes, or raising employee concerns.

Although there is no formal union representation at the **Australia** operations, site management encourages teamwork and ownership in safety and health initiatives. Employees are encouraged to take responsibility for safety and to report risks and hazards before an incident can occur. This is reinforced through pre-shift instruction meetings and the ACTSAFE programme. The general manager is active in the promotion of safety and health on the site through the weekly safety and health meetings involving all employees and contractors. At the CC&V mine in the **United States**, the general manager conducts quarterly all-hands meetings that present an open forum to discuss safety, health and production status, and issues concerning the workforce.

Absentee rate

	2004 Injury only
<b>Argentina</b>	
Cerro Vanguardia	3.61
Serra Grande	1.49
<b>Australia</b>	
Sunrise Dam	0.02
<b>Ghana</b>	
Bibiani	0.00
Iduapriem	0.00
Obuasi	0.03
<b>Guinea</b>	
Siguiri	0.01
<b>Mali</b>	
Morila	0.01
Sadiola	0.02
Yatela	0.06
<b>Namibia</b>	
Navachab	0.05
<b>South Africa</b>	
Ergo	0.20
Great Nologwa	0.51
Kopanang	0.39
Moab Khotsong	0.27
Mponeng	0.39
Savuka	0.37
Tau Lekoa	0.51
TauTona	0.27
<b>South America</b>	
AngloGold Ashanti Mineração	0.10
Cerro Vanguardia	0.35
Serra Grande	0.46
<b>Tanzania</b>	
Geita	0.02
<b>USA</b>	
CC&V	0.32
<b>Group</b>	<b>0.23</b>

**Examples of forums for joint safety and health committees comprising management, employees and/or employee representatives.**

Operation	Forums in place
Australia	Joint safety and health committees are in place
Ghana	Safety and health representative appointed in line with legislation
Mali	Elected safety representatives
Navachab	Committee in place and safety and health representatives in line with agreement
South Africa	Joint safety and health committees in place at every operation, in line with the Mine Health and Safety Act. All working places covered by such agreements
South America	Committees in place
Tanzania	HSE representatives made up of employees and contractor employees
USA	Employee participation encouraged

## Training

The provision of appropriate training is essential to ensure that employees are competent to carry out both their duties and responsibilities in a safe manner.

In **South Africa**, occupational environment, health and safety training is a particular priority for the company and is incorporated, in the first instance, into all technical training programmes and learning material with reference to the workplace and work-related hazards for each and every occupation and associated tasks. In 2004, 3,424 employees attended formal occupational environment, safety and health training, which took 7,833 shifts.

An important development in recent years has been the changes to legislation that have facilitated the empowerment of first line supervisors, both in examining and making safe their work areas, and in withdrawing from working areas should these be thought to be unsafe.

In the **Australia** region, safety and health training begins with induction which is competency based and then progresses to an area-specific induction. A 'buddy' system has been set up where an experienced person works with a new employee. Basic safety and health training is undertaken in areas such as hazard identification, risk assessment, job hazard analysis, working at heights, emergency response and fatigue management. Each area of the plant has its own safety and health training package. Safety and health and lifestyle topics are discussed regularly at safety meetings. Most of this training is formal and competency-based.

At CC&V in the **USA**, eight to 24 hours of safety and health training is conducted immediately following hiring. Eight hours of refresher training is conducted annually for all employees. Task training in the safety and health aspects of a task is conducted whenever an employee is assigned to a new task. Equipment operator skills training is conducted on an ongoing basis for mine operators.

Navachab mine in **Namibia** undertook a range of training programmes during the year: safety induction (annually for all employees), Nosa-related courses, incident investigation training, risk assessment training, cyanide basic awareness and intermediate training, safety representative training and defensive driving training.

In **Ghana**, safety related training has largely been informal and on-the-job for the majority of employees, while selected employees – who have a significant role to play in respect of safety and health – have enjoyed full time, formal training courses.

Some of the training that has taken place in **Mali** includes employee health and safety training courses (Levels 1 and 2), basic and intermediate cyanide training, fire fighting training, hazard recognition and hazard hunt training, as well as first aid training.

At Geita in **Tanzania**, all employees attend a health, safety and environment induction on their first day on site. Area-specific induction is then carried out by area supervisors before the employee may commence work. Other training is conducted on a needs basis and includes specific operator training, fire-fighting training, hazard identification, first aid training, cyanide awareness and response training. The on-site emergency response team (which includes two artisanal miners) trains twice a week after hours and one full day per month. They also receive training in all aspects of emergency response from external service providers.

At AngloGold Ashanti Mineração in **Brazil**, each employee spends between six and 10 hours each year on refresher safety training. This follows induction training (of 16 hours in total) on safety at work, firefighting, first aid, risk management and the handling of cyanide.

### Safety programmes

A Safety Summit was held in March 2004 where five strategic thrusts for the **South African** safety programme were identified. This was followed by a re-launch of the South African safety programme involving a symbolic ceremony where the various business unit managers committed themselves and their business units to the implementation of the five strategic thrusts. (See box on page SH14.)

Discussions on some of the initiatives undertaken on the South African operations may be found on the following pages:

- *From lagging to leading indicators – Tau Lekoa rises to the challenge on page SH35*
- *Mponeng's safety strategy focuses on behavioural change on page SH36*
- *Safety interventions at depth at TauTona on page SH37*

### Safety training in South Africa

The following structured formal courses relating purely to occupational environment, health and safety are also presented on a regular basis in accordance with the prescribed course schedule.

- Business unit induction and annual refresher programmes.
- Risk assessment:
  - i. Risk assessment level 1 (designed for and presented to all non-supervisory categories). The focus is on hazard identification.
  - ii. Risk assessment level 2 (designed for and presented to supervisory categories – miner/artisan level). The focus is on hazard identification but includes practical exercises on observation and inspections.
  - iii. Risk assessment level 3 (designed for and presented to supervisory employees). The focus is on issue-based risk assessment.
- Enterprise-wide risk management (designed for and presented to supervisory employees).
- Advanced principles of safety management (designed for and presented to safety practitioners, learner officials and management trainees).
- Safety representative course (designed for and presented to all safety representatives).
- Hazard identification techniques (needs-based).



### Five strategic thrusts underpin South African safety drive

The South Africa region's 2004 safety summit resolved to follow five key strategic thrusts for safety management during 2004/2005. These are:

#### Mindset change

A phased and structured behaviour change process is in progress to gradually change individual, team, section and ultimately the entire operation's mindset. 90% of employees down to team leader category were trained in behaviour auditing techniques and principles during the year. The aim is to embed these principles at this level before commencing with the remainder of employees. A complete behavioural safety implementation status review is planned for 2005.

#### Risk management

A simple yet technically sound approach to enterprise-wide risk management process was instituted in 2003. 'Risk owners' for each risk were identified and are following a structured approach to identifying risks facilitated by each operation's risk manager. The aim is to be able to assess risk controls through a continuous pro-active management process which will bring together all assessments, inspections and observations giving a clear indication of the risk status. This process is continually being improved and it is envisaged that the OHSAS 18001 system will be adopted within the region's risk management process. Audits are already being conducted and will eventually be used in OHSAS 18001 certification audits.

#### Fall of ground management

Further research is being conducted into rock-related injuries in relation to the depth at which they occur. Another issue being looked at is the delegation of relevant fall of ground management components to each level in the mining ranks.

Five elements of fall of ground management have been audited on a regular basis since 2003 to identify where remedial action needs to be taken, and positive results have been noted during fall of ground management analysis as a result. These five elements are:

- design of mine layout;
- design of support systems;
- human factors involved in falls of ground;
- monitoring systems, verifying sufficiency of designs and implementation; and
- problem solving and technological development. (See case study: *Employee attitudes to safety in Mali on page SH30.*)

#### Horizontal and vertical transport

A competition to motivate safety performance in these areas was initiated during 2004 and awareness has since increased significantly. The implementation of a quarterly report on horizontal and vertical transport issues using a causational model to identify leading indicators as well as a report on lagging indicators, has increased this awareness even more and is yielding positive results and much interest.

Other initiatives include horizontal and vertical transport group meetings, a third round of region-wide horizontal and vertical transport audits, the implementation of enhanced track maintenance protocols, and improving design specifications for cage (vertical transport) arresting devices.

#### Wellness in the workplace

The wellness in the workplace thrust recognises that safety and health are integrally related. This thrust will primarily address the working environment, health care and medically affected employee programmes so as to enhance manpower management.

Wellness in the workplace embraces the following: recruitment and selection, dust management, TB control, noise management, thermal management, radiation management and HIV/AIDS workplace initiatives.

The **Australia** region recorded a number of achievements during the year. Among these was the successful implementation of the ACTSAFE programme at Sunrise Dam that has resulted in improved employee acceptance of responsibility for personal health and safety within the workplace.

Another achievement was the effective implementation of exploration drilling equipment improvements which has seen the implementation of automatic break-out tools on all drill rigs. Breakout-tools are used for breaking the joints between drill rods. The rod string comprises a series of rods of three or six metres each, that are screwed together and added as the drill hole gets deeper. These joints become very tight as a result of the tremendous torques involved. Manually breaking the joints has long been recognised as a very hazardous task and the source of frequent hand and back injuries.

Two areas of concern remain, and will receive increased focus during the year ahead:

- the need for improved contractor management and, in particular, the need to review and increase contractor commitment to safety; and
- the high turnover of personnel in the mining industry and the implications this has for safety training.

In addition, the region will be undertaking a safety culture survey during the year ahead.

A primary challenge at the **Ghanaian** operations, and indeed elsewhere, is to reinforce the commitment of supervisors towards safety and health, in the same way that they have assumed responsibility for production. This accountability is now being incorporated into the formal responsibilities for senior employees at the time of their appointment. To ensure that all employees recognise their own responsibilities in respect of safety and health, a behaviour-based safety programme is planned for 2005. Another area of concern has been the negative impact that budgetary constraints have placed on the provision of personal protective equipment and safety facilities and this is being addressed.

At the Sadiola and Yatela operations in **Mali**, major challenges ahead include the further development of full time safety and health representatives, the inculcation of safety as a fundamental value within the company, improved vehicle controls, and the fostering of a risk control mindset. At Morila, a near-miss reporting system has been implemented, along with increased communication in local languages, in an effort to improve safety performance. Some success has been achieved, but this was negated by the relatively poorer performance by contractors during the Plant Expansion Project, which was completed in October 2004. Plans for the year ahead include:

- better supervision of contractors undertaking atypical work; and
- the implementation of a Behaviour-based safety programme for all employees. (See case study: *Employee attitudes to safety in Mali* on page SH30.)

In the **USA**, at the CC&V mine, the DuPont STOP for Supervisors and Employee programmes continue to yield significant improvements in reported injuries and equipment damage incidents. A significant portion of the 2004 annual refresher training was devoted to programme skills and requirements. Overall, programme feedback has been positive both in reduction of accident occurrence and in changing attitudes to reflect positive methods of remedial measures. Continuing to improve the STOP programme and ensuring utilisation of STOP principles and observations will be a major focus during the year.

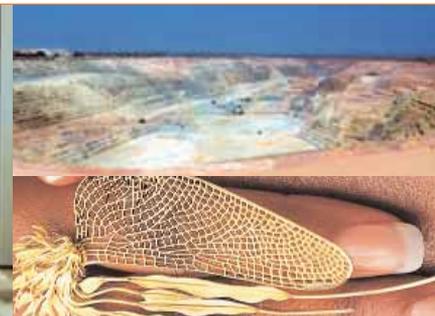
**AngloGold Health Service (AHS) – providing health care to more than 40,000 employees and many more dependents**

AHS is a wholly-owned subsidiary of AngloGold Ashanti and provides health care services to the group's 40,000+ South African employees and growing numbers of their dependents.

AHS comprises two world-class hospitals, community-based clinics and on-mine medical stations as well as two occupational health centres.

AHS employs some 1,300 people, 60% of whom are health care professionals.

Each AHS hospital has medical, surgical and maternity wards, an intensive care unit, operating theatres, casualty and outpatient facilities, as well as radiography, occupational therapy and physiotherapy services. Employees have unlimited access to these facilities.



Current safety priorities for Geita mine in **Tanzania** include:

- the development and training of safety representatives;
- ensuring compliance with site driving rules (especially wearing of seat belts);
- increased drug and alcohol awareness programmes and substance abuse testing;
- risk assessment training;
- implementation of behaviour based safety system;
- reducing worker fatigue; and
- succession planning and localisation of safety skills.

## Health programmes

The provision of health care in South Africa continues to be made under the auspices of AHS, which has undergone a change in strategic direction this year. A key strategic objective during 2004 was to align health care provision at other African operations with that of AHS facilities and this has largely been achieved. Three such facilities are discussed in this report. (See the case studies: *Model mine medical facility at Iduapriem on page SH26, Upgrade planned for the Edwin Cade Memorial Hospital at Obuasi on page SH25, and State-of-the-art x-ray facilities at Geita on page SH41.*) The first two operations are in Ghana and the latter is in Tanzania.

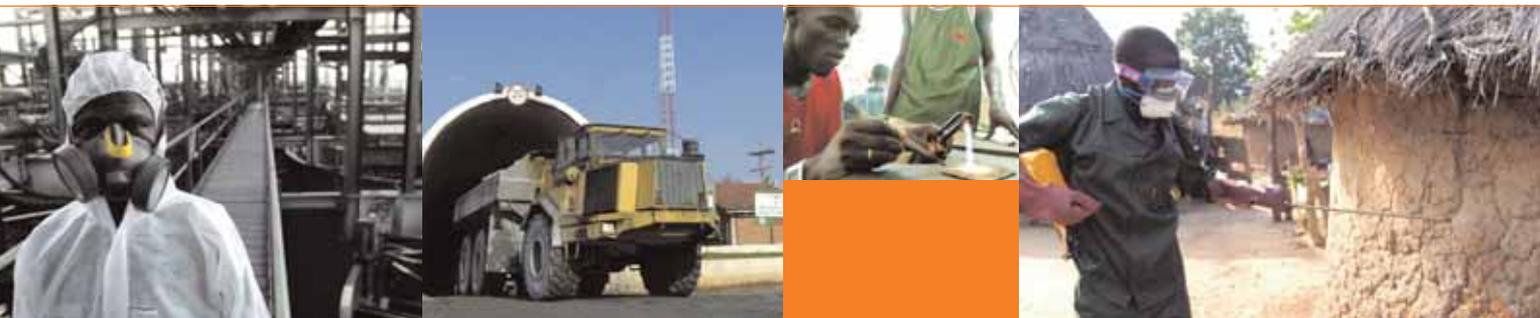
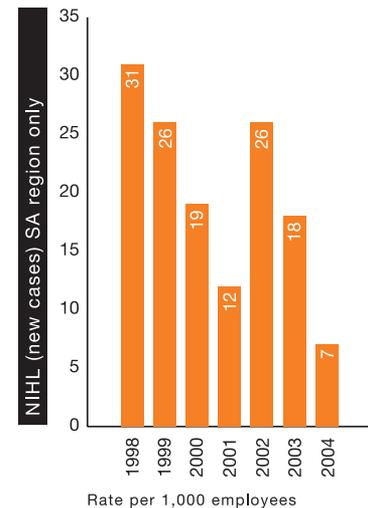
## Occupational health threats

NIHL and OLD, as well as TB in South Africa, are the most significant occupational health threats faced by employees in the gold mining industry and the various operations have programmes in place to address these. Other threats are excessive fatigue and poor lifestyle and nutrition. The major health threat at the Mali, Ghana and Guinea operations remains malaria and this is dealt with separately on pages HM10 to HM11 of the HIV/AIDS and Malaria section. Indeed, one of the issues related to being a global group is both extensive travel and secondment. (A case study: *Setting up tropical travel protocols as global travelling increases on page SH28.*)

## Noise induced hearing loss (NIHL)

In South Africa baseline audiograms in terms of new compensation regulations were completed for all employees during 2003. The decreased NIHL levels recorded in 2004 do not represent a significant downward trend but are consequent upon this legislative change. In light of this first-ever accurate baseline survey covering all employees at one time, and the increased levels of compensation that may be awarded in the future for NIHL, reducing noise levels at source and preventing hearing loss is an occupational health priority.

In this regard the muffling of all rock drills and noisy fans has been completed with the result that ambient noise levels have been significantly reduced. In addition to these engineering efforts, specifically selected hearing protection devices (HPDs) are available to employees. Increased education and training efforts on the need to wear HPDs, and the nature and consequences of NIHL, will be undertaken during the year ahead.



### Occupational lung disease (OLD)

Also in **South Africa**, exposure to silica dust remains one of the major contributing factors to the development of OLD. Silica exposure plays a role with HIV in the development of TB. Initiatives to eradicate dust and improve methods of control have continued. (See case study: *Controlling dust levels underground remains a focus area on page SH34.*)

### Silicosis

A legacy issue of both the South African and Brazilian mining industries is that of silicosis. Silicosis is an occupational lung disease caused by the inhalation of free silica dust which is present in mining areas where quartz concentrations are high, as is frequently the case in deep level mines. In South Africa the follow-up treatment and compensation systems set up in the past under the Occupational Diseases in Mines and Works Act, especially for ex-employees, do not seem to be functioning as well as intended. AngloGold Ashanti is working with the state, unions and other mining companies in developing solutions. (See *Report to Society 2003.*)

#### Pneumology Reference Centre – focusing on the health of former employees in Nova Lima

Medical surveillance results at AngloGold Ashanti Mineração indicate that the incidence of silicosis is now rare as a result of the risk management programme, mining technology and manpower training schemes that have been implemented in recent years to limit employees' exposure to silica dust in the workplace. Only four cases have been detected during the past five years.

This has not always been the case, however. The company's Brazilian origin – Nova Lima – has been a mining town for 170 years; in the past, the Morro Velho mine, located in Nova Lima, employed thousands of people. Less was known than today about the effects of dust on the health of employees and fewer measures were in place to protect employees' health as a result, and the disease was frequently undetected and untreated.

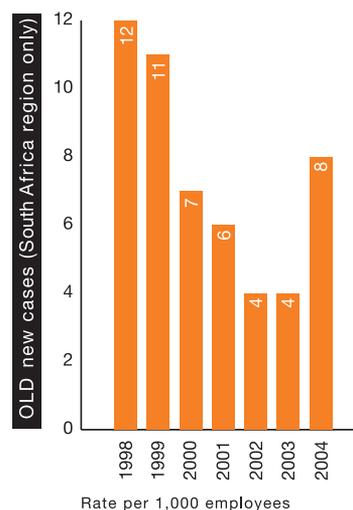
On the closure of Morro Velho Mina Grande mine in 1995, AngloGold Ashanti contributed \$198,000 to the establishment of the Reference Centre for Pneumology, for the treatment of, and research into, lung diseases. This was particularly aimed at ensuring a better quality of life for former employees afflicted by silicosis.

Inaugurated in May 2003, the Reference Centre was the result of a partnership with the Nova Lima Town Authorities and the local hospital – Nossa Senhora de Lourdes. It may also be used by community members who require diagnosis and treatment of lung diseases not associated with the mining industry.

The 1,570 current registered users of the facilities are treated by a team of pulmonology specialists, a thoracic surgeon, a lung physiotherapist, nutritionists, social workers and nursing aides. The company currently contributes \$188,000 per year to the Centre's running costs. (Former employees who are found to have silicosis are also eligible for compensation. A number of such claims (2,568) have been tested in court and compensation has been paid by the company, the average claim being in the region of \$12,000.)

The Centre aims to achieve the rehabilitation of patients, so – in addition to medical care – assistance is also given to employees and their families in dealing with the illness, and with financial and social issues.

In 2004, the Centre contributed \$3,500 and provided technical support for the first Symposium for Work-Related Respiratory Diseases in the State of Minas Gerais bringing together a range of professionals working towards combating these diseases.



## Tuberculosis (TB)

TB in silica-exposed employees remains a compensable disease in South Africa. The higher rates recorded in 2004 are a result of HIV/AIDS, silica exposure and an ageing workforce. More attention is being paid to the early detection of TB by using Digital Diagnostic Radiography (DDR), and this has also had an impact on TB rates. During 2004, a R5 million (\$0.8 million) budget was approved for the purchase and equipping of two mobile DDR units. These will move from shaft to shaft and facilitate more frequent x-raying of employees in an effort to detect and treat TB infection earlier, thereby preventing its spread and the severity of impact.

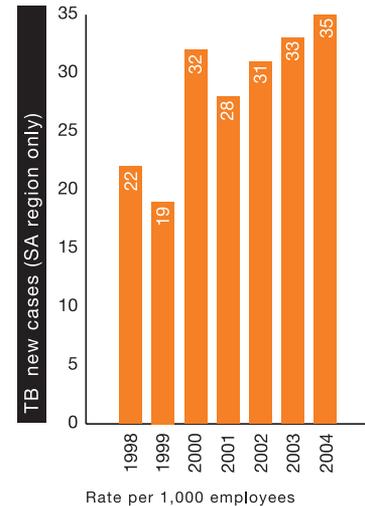
Another milestone in 2004 was the granting to Aurum Health Research, a subsidiary of AHS, of \$14 million over a five-year period by the Consortium to Respond Effectively to the AIDS/TB Epidemic (CREATE). The money will be used to research strategies around TB control in the South African gold mining industry. The grant, which is part of a larger award of \$45 million to CREATE by the Bill and Melinda Gates Foundation, was announced in July 2004 at the XV International AIDS Conference in Bangkok. In addition to Aurum, members of CREATE include, among others, the Johns Hopkins University Centre for Tuberculosis Research, the London School of Hygiene and Tropical Medicine, the University of Stellenbosch and the World Health Organization. (See case study: *Aurum's battle against TB gains momentum on page SH31.*)

The research being conducted by Aurum, is being done after extensive consultation, and collaboration, with several South African gold mining companies, including AngloGold Ashanti, Gold Fields and Harmony, the departments of Health, Labour, and Minerals and Energy; and various labour unions and associations. The aim of the research is to determine the effects of community-wide preventive therapy on TB rates in the South African gold mining industry. As mentioned above – the rates of TB among employees in the South African gold mining industry have risen sharply, coinciding with the onset of the HIV epidemic.

## Heat and physical fitness

Deep level mining is often accompanied by exposure to heat; the deeper the mine, the hotter the rock temperatures. AngloGold Ashanti employs a heat stress management programme to promote the health and well-being of its employees and to meet the requirements of legislation. (See case study: *New heat tolerance centre at West Wits on page SH33 of this report.*)

A related issue is the operation of the Functional Work Capacity (FWC) test battery developed by AngloGold Health Service and featured in last year's report. The use of this test battery has been extended to assess the fitness of women for work underground, which is particularly important in light of the South African mining industry Charter requirements.



### Other issues

In **Australia**, lifestyle choice is a health challenge, and programmes are in place to assist employees in improving their personal health, for example, quitting smoking, eating balanced nutritious meals and encouraging personal fitness. A further area of activity during the year ahead is fatigue education and management.

CC&V in the **USA** has a limited number of health issues to manage. Despite elevated airborne concentrations of silver in the refinery, blood sampling of refinery personnel has not detected any problems. Nonetheless, reducing silver exposure to refinery personnel to less than a threshold limit value is the major health challenge for 2005 and significant engineering controls have therefore been implemented. Compliance with MSHA regulations relating to silver exposure is pending health sampling conducted by MSHA inspectors. A baseline risk assessment was performed in December 2004. The assessment will be verified with operating groups in early 2005, and a safety plan developed to address significant risks.

At Sadiola and Yatela in **Mali**, a major epidemiological baseline study has been initiated, along with the yellow fever inoculation programme. A programme to reduce and manage worker fatigue, along with a vitamin A distribution, is underway.

Malaria remains a major health threat in the African operations. This is dealt with in a separate section on HIV/AIDS and Malaria. Similarly, a review of activities relating to HIV/AIDS – also in the African operations – can be found in this section.



Social performance indicators:	
Labour practices and decent work	
Core indicators	Additional indicators
<b>Health and safety</b>	
<b>LA5. Practices on recording and notification of occupational diseases and how they relate to the ILO Code of Practice on Recording and Notification of Occupational Accidents and Diseases</b>	<b>LA14. Evidence of substantial compliance with the ILO guidelines for Occupational Health Management Systems</b>
Recording and notification of occupational diseases and injuries in line with AngloGold Ashanti safety and health guidelines, which are informed by ILO guidelines. See discussion on pages SH7 to SH8 of this report	Compliance is assessed through internal and external assessment. See discussion on pages SH7 to SH8 of this document
<b>LA6. Description of formal joint health and safety committees comprising management and worker representatives and proportion covered by any such committees</b>	<b>LA15. Description of formal agreements with trade unions or other bona fide employee representatives covering health of workforce and safety at work and the proportion of the workforce covered by any such agreements</b>
Joint health and safety committees exist at all operations, some less formal, and others such as at the South African operations, are required by law	Agreements in place at the South African operations covering all workplaces. Agreements or, alternatively, employee representative committees in place at all operations
<b>LA7. Standard injury, lost day, and absentee rates and number of work-related fatalities (including sub-contracted workers)</b>	
All statistics available on pages SH1 to SH18 of this document	
<b>LA8. Description of policies or programmes (for the workplace and beyond) on HIV/AIDS</b>	
See separate discussion related to regional health threats, HIV/AIDS and malaria on page HM5 of this document	

## 6 Scorecard

Safety		
Objectives for 2004	Review of 2004	Objectives for 2005
Long-term objective to eliminate all accidents	Significant achievement towards this objective with the fatal injury frequency rate declining by 34%, and the lost time accident rate falling by 26% during 2004	Long-term objective remains to eliminate all accidents
Reduce the LTIFR by 20% year-on-year	LTIFR declined by 26% from 2003 to 2004	Reduce LTIFR the by 20% year-on-year
Transition across the group to using leading indicators (as opposed to lagging indicators) as a management tool	Progress made with many operations implementing a process to monitor leading indicators	Much work remains to be done to move to using leading indicators (as opposed to lagging indicators) as a management tool
Further implementation of the fall of ground campaign in South Africa	Good progress was made in 2004. <i>(See case study: Control of mining-induced seismicity in the South Africa region on page SH38)</i>	Further implementation of the fall of ground campaign
Further implementation of Du Pont SMAT system at the South African operations	Some 9,000 employees trained on SMAT techniques, with 6,000 audits in 2004	Peer-on-peer SMAT approach to be implemented in 2005

Health		
Objectives for 2004	Review of 2004	Objectives for 2005
Continue to provide medical surveillance examinations in South Africa, and improve on those currently undertaken in East and West Africa	South African medical surveillance remains state-of-the-art. Increasingly medical surveillance undertaken at other operations	Improved medical surveillance to be implemented in Ghana
Continue efforts to minimise noise in the workplace and further reduce the number of new cases of NIHL	All rockdrills on SA operations now silenced as well as 98% of critical fans	Establish leading indicators to manage progress in meeting the South African Mine Health and Safety Council's targets on NIHL and silicosis. These targets are: <ul style="list-style-type: none"> <li>● OLD: <ul style="list-style-type: none"> <li>– by 2008, 95% of all silica exposure measurements will be below the occupational exposure limit of 0,1mg/m<sup>3</sup></li> <li>– by 2013, no new cases of silicosis will occur, in previously unexposed employees</li> </ul> </li> <li>● NIHL: <ul style="list-style-type: none"> <li>– by 2013, noise emissions of all equipment will be below 110dB(A)</li> <li>– by 2008, no deterioration in hearing, greater than 10%, will occur in noise-exposed employees</li> </ul> </li> </ul>
Continue to improve dust measurement and control, and reduce the incidence of OLD by 50%	Improvements in dust measurement and control being implemented. Improved measurement has resulted in better understanding and allowed controls to be implemented. There is still a past legacy of high silica exposure	
Monitor and manage the incidence of TB, including undertaking far-reaching research projects through Aurum	Efforts to monitor and manage the incidence of TB continued. However, increased levels of HIV and earlier detection have exacerbated TB levels to the highest levels detected yet	Continue to monitor and manage the incidence of TB. Mobile DDR clinics to be commissioned in 2005. Aurum to lead Gates Foundation on TB prophylaxis

### SH22 | 7.1 Towards best practice in open-pit mining

Cerro Vanguardia, situated in the Santa Cruz province in Argentina, is unique among AngloGold Ashanti's surface mines because of the nature of the ore occurrence. The gold-bearing ore occurs in vertical veins up to 10 metres thick, which average 3.5 metres with near vertical dip. Separation of the multiple veins by barren country rock dictates that mining is carried out in multiple small open pits, with relatively steep walls: slope angles are around 65°.

To ensure that risk identification and management across the open-pit operations of AngloGold Ashanti are in line with world best practice, the company established Geotechnical Review Boards (GRBs) in 2003. These boards have a multi-disciplinary membership, including specialists from the disciplines of mining, rock mechanics, hydrology, safety as well as regional and site representatives. Their terms of reference cover all regions outside South Africa.

Dave Worrall, manager – surface mining (corporate technical group), was responsible for establishing the GRBs, whose mandate is to provide a tool to ensure best practice is implemented; and to perform detailed geotechnical risk assessments to quantify and manage risks for individual risk operations.

Carl Brechtel (corporate technical group) assisted in the Cerro Vanguardia risk assessment and comments, "The steep walls of the Cerro Vanguardia pits, and their relatively small size, means that there is limited room at the bottom of the pits, with consequent risk to people working there. We therefore carried out a detailed geotechnical risk assessment of Cerro Vanguardia operations, spanning a three-year period." The steep pit walls presented two main risks: major slope failure, and loose rocks falling into the pits.

"Through a rigorous computer simulation process, our geotechnical consultants modelled the risk of slope failure in terms of a number of variables," says Brechtel. "They applied block kinematics models to assess the risk of single rockfalls, taking into account gravity, velocity and range of movement on impact." Once quantitative risk levels have been established, overall risk is evaluated by assessing the effectiveness of measures in place to manage risk and mitigate the impacts of any event. This process examines five key areas, to establish:

- what systems are in place to monitor pit walls, in order to gain early warning of any instability;
- whether effective evacuation procedures are in place;
- the numbers of people present in at-risk areas at any given time, and the duration of such exposure;
- the differing exposure levels applicable to various occupations; and
- appropriate safety awareness and training.

A number of issues were highlighted at Cerro Vanguardia. "Catch-berms created in previous mining were below the specified width, leading to increased rockfall risk," explains Brechtel. Catch-berm construction designs and pit access ramps have been redesigned to reduce this risk. In addition, two-state-of-the-art electronic instruments – a laser imaging scanner and a digital stereo-photography camera system – have been purchased by the mine to improve reconciliation between design and actual geometry of the walls."

Ground water is a major component of pit stability, as the presence of water tends to reduce weight-bearing capacity for a given friction. John De Souza, a specialised hydrologist, has been seconded from the Africa region to supervise the installation of a de-watering system, which is planned to run for the life of mine. The system has been in operation since July 2004 and has lowered the ground water elevation by 14 metres in the largest pit, Osvaldo Diez. John McEndoo, group manager – safety, participated in the risk assessment and is assisting Cerro Vanguardia to develop pit evacuation procedures. "These will be fully integrated with the pit slope stability monitoring systems to ensure the safety of all personnel required to work in the pits at Cerro Vanguardia. The safety management programme is also being reviewed to ensure optimal employee awareness and training," comments McEndoo.



## 7.2 Sunrise Dam awarded prestigious Minex trophy

Sunrise Dam Gold Mine's commitment to health and safety was recognised in August 2004, when it received the National Minerals Industry Safety and Health Excellence Award (known as the MINEX trophy), acknowledged as the Australian mining industry's highest award for safety and health excellence.

Sunrise Dam Gold Mine, situated in Western Australia, produces 400,000 ounces of gold per year. Known reserves from the open and underground pits extend the likely life of mine to 2012 and beyond. The mine employs some 500 people, who are accommodated at the Sunrise Dam Village about eight kilometres from the mine's operations. This includes a significant number of contractors including Roche Mining (open cast pit), an indigenous mining company, Carey Mining and Barmincio (underground operations) and ESS (catering).

The mine's commitment to health and safety has previously been recognised, when it received the Dick Fisher Global Safety Award, AngloGold Ashanti's annual international safety award, for their outstanding performance in 2003.

Health and safety efforts at the mine are steered by the Site Strategy Group, comprising key members of the management team and of contracting companies Roche, Barmincio and ESS. ACTSAFE, which is the behavioural aspect underpinning the mine's current health and safety initiatives, was the brainchild of the Safety Strategy Group. ACTSAFE is based on a daily safety focus, which requires employees to check procedures, equipment and conditions, assess and report risks, hazards and incidents, attend safety meetings and perform or discuss an Act of Safety. Comments general manager Graham Ehm, "ACTSAFE's adaptability is a key part of its effectiveness. Departments and contractors have been empowered to interpret ACTSAFE and apply this in their own unique work environment. What is not allowed to change is the employees' unremitting focus on safety."

A cycle is followed in each of these areas, whereby intents and the necessary resources to achieve them are articulated, results are measured and possible future improvements agreed.

An audit of the mine's Site Safety Plan is conducted each year through SafeGold, a 36-element risk management system introduced in 2001 by an external certified auditor. Sunrise Dam's improvement can be seen in the continuous improvement results from the audit. In 2004, the score was 81%, up from 76% in 2003.

A feature of the mine's approach is the emphasis given to the participation of contractors in all aspects of health and safety. Contractors' safety management systems are extensively reviewed as part of the tendering phase and during operations, and all contractors are evaluated on safety and health issues. Management on site has been known to suspend the operations of contractor companies for poor safety compliance. Contractors working with ACTSAFE at Sunrise Dam have found the system so effective that they have adopted it within their wider operations both nationally and internationally.

Safety and health are included in the job descriptions of all employees, permanent and contractor, and the annual performance appraisal reinforces people's understanding of their roles and responsibilities. All job advertisements refer to the importance of safety.

Continuous improvement is part of the equation. Each year's Site Safety Plan incorporates improvement targets for the next twelve months. All departments report, in quarterly reviews and presentations, on the progress of their safety initiatives against plan. "The ACTSAFE behavioural tool works to turn plans into performance," says Ehm. "It engages employees in our positive safety culture that includes no-blame reporting and encourages open communication."



### ACTSAFE

**Assess and  
Check conditions before a  
Task**

**Sustain a positive  
Attitude  
For the  
Environment and safety**

The mine's safety strategy focuses on six key areas:

Leadership (at corporate and site level)

Safety and health management

People

Information and analysis

Safety and health processes

Performances

### SH24 | 7.3 Overcoming the challenges to working safely in Mongolia

Not only is Mongolia a country steeped in history and cultural diversity, but it is also a land of extreme climates and terrain which create significant challenges to undertaking safe exploration. AngloGold Ashanti established an office and began exploration in Mongolia in May 2003 and currently has 23 employees (including contractors) based in that country.

The company has committed to a set of best practice safety initiatives, adapted to Mongolian conditions; these are captured in a comprehensive bilingual Standard Operating Procedures document. To ensure that exploration is undertaken safely in local conditions (see box), the company has brought in experts to educate staff on such diverse topics as cold weather survival and snow driving, map-reading and navigation, and search and rescue techniques. Appropriate clothing, equipment and vehicles are essential to efficient and safe working procedures in this environment.

Says Mike Hawkins, exploration manager, “The ability to explore safely can be complicated by the remote location of many projects and the lack of local and regional infrastructure. This lack of infrastructure forces a greater reliance on internal company resources to ensure a safer work environment. Evacuation procedures, regimented scheduled communication and training have been implemented to counter the lack of infrastructure. To complement this, the company liaises with an international medical provider for emergency medical advice and med-vac facilities.

“At least 15 distinct ethnic groups co-exist in Mongolia, many of whom speak their own dialect and have their own cultural sensitivities and customs. An awareness of these is critical to working harmoniously in the Mongolian countryside. As part of the rigorous induction process, all employees and contractors are familiarised with these issues and the need to respect this cultural diversity, and employees are encouraged to learn both Mongolian and English. These skills become particularly useful in dealing with emergency situations apart from day-to-day exploration activities.”

In April, May and June, a series of navigational, survival and search and rescue exercises were conducted using local and expatriate exploration personnel in co-ordination with local and central government authorities. The exercises were overseen by independent search and rescue consultants. Included among the exercises were overnight survival practicals, during which staff were required to build shelters such as snow caves and to co-operatively pool their resources to enable them to survive the night in temperatures that fell below  $-10^{\circ}\text{C}$ . Search and rescue exercises were also conducted on AngloGold Ashanti exploration tenements in a variety of terrains, ranging from forested, mountainous areas with late-season snow cover, to the arid Gobi desert. Each of the terrains offered different challenges to the participants, and valuable lessons were learnt about how terrain can influence the requisite search area and methodology. Additionally, the long hours put into the programmes showed how fatigue can adversely influence decision-making. The search and rescue exercises also enabled participants to put into practice some of the specialist driving and vehicle recovery techniques that they had been taught, as the challenging terrains necessitated numerous real vehicle recovery actions.

A commitment by all staff to ongoing training, and adoption of safe work practices specifically tailored to local conditions, enabled the Mongolian team to successfully complete the field season without recording a single lost time injury.



#### Conditions in Mongolia

Terrain in Mongolia varies from rugged mountain ranges to harsh desert. The high Altai, which dominates the western reaches of the country, has mountain ranges in excess of 4,000 metres in height, where flash floods and snow are common. In contrast the harsh Gobi desert in the south is deeply incised with numerous steep gorges and mountain ranges, making driving difficult and time-consuming. Winter temperatures across the entire country can fall below  $-40^{\circ}\text{C}$ .



### 7.4 Upgrade planned for the Edwin Cade Memorial Hospital at Obuasi

The Edwin Cade Memorial Hospital at Obuasi, which has been open for some 70 years, has played a crucial role in health care in the vicinity of the Obuasi mine. The hospital, which has a capacity of some 170 beds, caters for about 70,000 patients per year, currently drawn predominantly from the non-employee community.

The hospital has five doctors (two of whom are specialists), two medical assistants, 16 senior nurses, 50 junior nurses, and 10 support staff in other medical disciplines. It caters for some 14,000 outpatient visits and 500 admissions per month, with an average length of stay of five days. About one third of the patients are drawn from the community, with a recovery of only 25% of costs. (The policy has always been that community members should pay, but this has not been enforced. Even though there is a government hospital in Obuasi, many community members prefer to use this mine hospital, which also receives referrals from the government hospital.)

In recent years, the burden of a large, non-paying community and ageing equipment and infrastructure have led to reduced levels of service for employees and their dependents. This has resulted in some of the more senior employees making use of private health care providers. Another burden for the hospital is the malaria pandemic, with between 6,000 and 7,000 new cases diagnosed every month. Employees comprise 27% of malaria cases, while their dependents and the community make up 40% and 33% respectively.

A recent review of service levels and facilities has precipitated a review of hospital policies and procedures to ensure:

- that the same level of care is accessible to all employees and their dependents;
- that this will be provided at the company's facilities in the first instance (prior to referral to an external service provider should this be required); and
- that employees will have preference, in terms of access and hospitalisation, over private, non-employee related patients. A costing structure to provide health care at reasonable cost levels for the community is being devised.

A \$1.235 million upgrade of facilities and infrastructure is planned over a three year period, alongside the appointment of additional medical practitioners, nursing and other staff (including a malaria laboratory technologist). A number of immediate remedial actions has been taken although the upgrade is likely to only be completed in 2007. In addition a major malaria campaign is being embarked upon. (See case study: *A scientific approach to malaria control at Obuasi* on page HM14 of the HIV/AIDS and malaria section of this report.)

Included in the upgrade are the planned refurbishment of the casualty and maternity sections; new kitchen facilities; the setting up of an in-service training facility; a staff room; and malaria laboratory. Plans are also in place to improve the medical information and reporting system. An important part of this plan is refurbishment of the radiology facility and the occupational health department, to enable the establishment of an occupational health service. Audiometry facilities will also be installed, and additional training will be provided to existing medical personnel in occupational health. Increased attention is being focused on HIV/AIDS programmes including peer educator training, condom distribution, and voluntary counselling and testing. In addition, an emergency response/mass casualty plan is being developed as well as a cyanide response plan.



### SH26 | 7.5 Model mine medical facility at Iduapriem

The Iduapriem mine in Ghana is one of the smallest in the group, with an employee complement of just 710 people. The mine is located in the western region of Ghana, some 70 kilometres north of the coastal city of Takoradi, and 10 kilometres south west of Tarkwa. The mine's on-site clinic – named the Sam Jonah Clinic – was upgraded in 2004 to a model medical facility.

The clinic provides 24-hour primary health care and occupational health services for employees as well as their registered dependants, while contractors are treated for work-related conditions. The clinic services about 7,000 people in total.

The clinic is staffed by one medical officer, two registered nurses (one of whom is qualified in occupational health), and two enrolled nurses. The clinic has adopted the AHS model where the registered nurses screen patients prior to consultation with the medical officer.

Between 30 and 50 out-patient consultations are processed daily. Current occupancy of the 12-bed in-patient section (for general medical and minor surgical conditions) is low, and the acuity levels of the cases admitted to the wards is also low. The well-stocked pharmacy fills approximately 30 prescriptions a day, and there is a fully equipped medical laboratory on site.

No obstetrical service is currently available at the clinic, but a feasibility study is underway to determine whether this service will be cost-effective. A theatre for minor procedures will be commissioned in February 2005, while radiology investigations are performed at the local Tarkwa hospital. An ambulance is available for emergency response.

In the occupational health section, pre-employment, routine and exit medical examinations are performed, as well as medical surveillance, informed by occupational hygiene data. Audiometric assessment, lung function testing and electro-cardiometry are performed. A code of practice is in place to deal with possible cyanide exposure.

Says Dr. Piet van Wyk, health service manager, AHS, responsible for facilities in Africa, "The clinic provides a high quality of health service and can serve as a model for similar ventures in East and West Africa.

"The major health care challenge at the mine remains malaria – this is the single most significant driver of health service costs and medical absenteeism at Iduapriem, not to mention the local community. AngloGold Ashanti is reviewing a potential integrated approach to malaria control in the area in conjunction with other mining companies, and the experiences being gained at Obuasi will be an important contributor to this." (See case study: *Scientific approach to malaria at Obuasi on page HM14 in the HIV/AIDS and Malaria section of this report.*)



### 7.6 Australian expert evaluates AngloGold Ashanti's safety risks

Safety and health are at the core of AngloGold Ashanti's values. A willingness to expose its safety practices to the scrutiny of independent internationally-based safety experts has always been a cornerstone of the company's safety philosophy. Most recently, Jim Torlach, a retired state mining engineer from Western Australia, and now an independent senior mining consultant based in Perth, has visited AngloGold Ashanti operations on two occasions, in September/October 2002 and in October 2004.

The following key points formed part of Torlach's first report to the Safety, Health and Sustainable Development Committee of the board following his initial visit:

- develop a culture where
  - safety becomes a core value
  - safety is a line responsibility;
- AngloGold Ashanti's fatality review process should be extended to cover serious injuries; and
- appropriate relationships should be developed and maintained with mining contractors.

The purpose of Torlach's recent visit was to reassess progress in these and other areas. As before, he followed a process of interviews with board directors, the chief operating officer and regional heads, validated by discussions at all levels – from senior manager to mineworker – at the operations. Regions covered included Africa, Australia and South Africa.

In South Africa particularly, Torlach's visit was preceded by a period of serious concern regarding safety following 11 fatalities in the first quarter of 2004. In a tripartite initiative between government, the unions and the company, a safety summit was held in March, followed by a major safety launch in April.

"From the outset, AngloGold Ashanti has devoted substantial resources to occupational safety," says Torlach. "On my recent visit, it was encouraging to note further practical progress. Safety was always a core value at the top, but its penetration down the line was not always evident. At operational level, for example, there was still some residual evidence that production pressures could affect the focus on safety. There is now almost no evidence of this. Managers are walking the talk by stopping production where safety may be compromised."

Torlach initially noted a tendency to ascribe responsibility for safety, health and environment to the safety department rather than to line management. As an example, he cites the findings of an attitude survey on the Malian operations: more than 50% of employees felt that safety was a specialised, non-line function. A repeat of this survey, currently being undertaken with the help of Prof. Petri Schutte of ProHuman, shows a reversal of this trend.

Torlach comments, "AngloGold Ashanti's fatality review process is a powerful and effective intervention. I suggested that this could profitably be extended to the investigation of serious injuries and this has been done." Some mines have taken the process further, and introduced investigations of minor injuries that could potentially have had serious consequences.

Torlach notes that significant progress has been made with the important issue of managing relationships with mining contractors. At Sunrise Dam, for example, management have moved from a pattern of briefing and report-back with the various contractors to one of regular interaction. "By any measure, the changes, improvements and new initiatives have been remarkable, and major progress on the primary recommendation, embedding of safety as a core value to the 'operator at the face' level, is clearly evidenced. All of the recommendations have been acted on or accounted for with due diligence."

In conclusion, comments safety manager John McEndoo, "Jim's second visit has highlighted satisfactory progress in a number of areas, and indicates that we are on the right track."



### SH28 | 7.7 Setting up tropical travel protocols as global travelling increases

The clinic at AngloGold Ashanti's corporate office was initially established to provide occupational health and primary health care services to corporate office employees but the company's steady expansion abroad has meant the clinic has had to rise to new challenges.

The clinic currently has five key focus areas: occupational health; primary health care; implementing AngloGold Ashanti's HIV/AIDS programme for the corporate office; annual executive medicals; and managing the health care aspects of business travel.

Sister Willemien (Will) McKechnie comments, "A lot of what we do in terms of occupational health is standard as in most large companies, but there have been some new developments. For example, with effect from January 2005, all employees in the corporate office will be examined each year for a certificate of fitness." This initiative, spearheaded by AngloGold Health Service (AHS) will ensure that all corporate office employees (currently some 400) will go through a basic medical examination at intervals varying according to the nature of the job. "This will give us valuable early warning of such conditions as diabetes and hypertension," explains McKechnie.

Pre-employment medicals are in place for people who are to be assigned to tropical areas, and, from next year, clinic staff will also carry out exit medical examinations for all employees leaving the company.

"We also run a thorough check on people about to be transferred to operations outside South Africa, particularly the rest of Africa," explains McKechnie. "Some conditions provide a predisposition to an illness – a patient who has had a splenectomy, for example – has a very high risk of developing malaria. Other conditions such as diabetes, asthma, and epilepsy bring with them a set of problems that may be difficult to manage at a remote site. A history of heart disease would also prompt special attention."

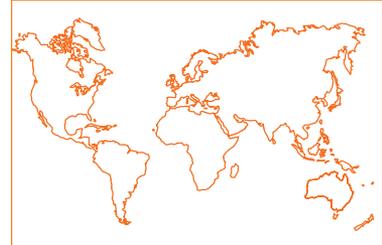
AngloGold Ashanti's globalisation has had an impact upon the clinic's scope of responsibility, principally as concerns Africa, South America (travel to which requires yellow fever immunisations) and some of the countries where exploration is carried out, such as China, India or Russia. McKechnie explains, "Yellow fever immunisations may only be administered under licence from the World Health Organization (WHO) and the South African Department of Health by appropriately qualified people."

Dave Barnes (occupational health consultant) and Zahan Eloff (occupational medical practitioner) hold the travel clinic's licence, both having recently obtained the appropriate travel medicine qualification at the University of the Witwatersrand. Both Sisters McKechnie and Lynn Silcock have also completed the travel medicine qualification: they are in fact the only two nurses within AHS to have obtained this qualification.

Apart from yellow fever, McKechnie and Silcock carry out all necessary immunisations for people travelling outside South Africa, as well as providing everyone with a comprehensive medical travel kit appropriate to the region they will be visiting.

"We also offer a comprehensive briefing service to people travelling to areas requiring awareness of health hazards," says McKechnie, "For example, we would give practical advice on how to avoid exposure to malaria."

The clinic's workload in this area has grown significantly in recent years. "For example, in October 2004 we briefed 100 employees regarding foreign travel, compared with 60 in October 2000. Immunisations for the same two months totalled 33 and 20 respectively."



## 7.8 Measures taken to combat driver fatigue

Shift workers face considerable challenges when compared to their day-working colleagues. Not only can a shift worker's health be affected, but people who work night shifts for long periods are at odds with regular sleep patterns. They thus often become uncontrollably drowsy during their work period and may suffer insomnia when they do try to sleep, exacerbating the problem. This contributes to an increase in the number and severity of occupational accidents during the night shift.

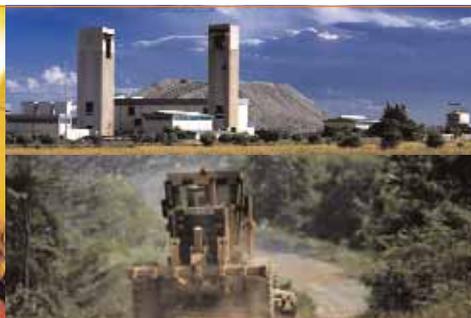
International research indicates that falling asleep on the job amongst shift workers is a common occurrence. In confidential surveys conducted, 80% of shift workers interviewed admitted to 'nodding off' during the night shift. Further studies found that night shift workers are twice as likely to make mistakes as their day shift colleagues. Not only do shift workers face a higher risk of injury during their working hours, they are also involved in more domestic (off-the-job) accidents than their day-working colleagues. It has also been established that extreme fatigue is as harmful to worker performance as drunkenness.

The problem of operators falling asleep while at work can be addressed in two ways. Firstly, attempts to 'wake-the-driver-up' by introducing electronic devices to either the machine or providing similar devices to the driver himself. Although these can be effective, they are susceptible to interference and are often sabotaged by the very people they are aimed at helping. The second and more effective method of addressing operator fatigue is to ensure that the operator is sufficiently rested prior to the start of a shift. To achieve this, a holistic approach to fatigue management is needed, addressing both management's responsibilities in terms of shift scheduling, work processes and educational programmes as well as the employees' responsibility regarding activities while not at work, nutrition and other related issues.

It is important to include lifestyle training – exposing shift workers and their families to the hazards associated with shift work. The process should be preceded by a comprehensive risk assessment to establish the extent of the fatigue problem within an operation. This will allow management to develop a comprehensive fatigue management programme, suited to the mine's specific needs and circumstances.

The nature of AngloGold Ashanti's operations means that operator fatigue is a major hazard facing the organisation. This is especially prevalent at the company's open-pit operations where employees drive large trucks in an environment where daytime sleep is often difficult. The monotonous nature of the work is also conducive to drivers falling asleep, especially during night shift. In an attempt to address the issue the company is represented on a working-group informed by Anglo American plc with developing a guideline to assist mine management develop effective strategies to control the risks of operator fatigue at their specific operation. The guideline should be available within the first quarter of 2005.

In the meantime, a number of AngloGold Ashanti operations have embarked on programmes aimed at addressing driver fatigue. At Sunrise Dam in Australia, a wellness programme encouraging drivers to walk the approximately eight kilometres from the camp to the mine site has been initiated. The mine camp has also been divided into 'shift areas' where all people working a particular shift are accommodated together in an effort to prevent sleeping workers being disturbed. At Sadiola and Yatela in Mali, the company has initiated a programme to educate the families of mine employees regarding the risks faced by shift workers. Mines are also looking at nutrition and have introduced start-of-shift and mid-shift refreshments for employees. Positive results may be expected from these initiatives, and once the guideline is available, a more co-ordinated approach to the management of fatigue is planned for the group.



### SH30 | 7.9 Employee attitudes to safety in Mali

An attitude survey carried out at AngloGold's Ashanti's three operations in Mali (Morila, Sadiola and Yatela) in 2003 revealed that more than 50% of employees felt that safety was essentially a specialised function. This has obvious negative implications for the successful implementation of safety and health improvement programmes. The survey was repeated in 2004 at Sadiola and Yatela, with both mines showing a significant turnaround, following behavioural safety interventions during the year.

The survey was carried out by SafeHuman, an independent consulting company under the guidance of Prof. Petri Schutte, who has built up considerable experience over more than a decade with the Business School of the University of Potchefstroom. The detailed analyses on site were carried out by Prof. Schutte's colleague, Hugo Botha.

The surveys used the methodology known as SafeHuman Mindset. This reflects the state of organisational safety culture as perceived by the workforce. The SafeHuman Mindset Index (SMI) explains the context and meaning of employee behaviour as it relates to safety. Survey results are measured according to five critical factors:

- the SafeHuman Mindset Index;
- relationship credibility;
- impact of worklife experiences, essentially dealing with satisfaction levels;
- impact of the work environment and perceived supportive relationships; and
- behaviour in the context of organisational culture.

A high SMI score indicates a supportive work culture, positive team morale as well as employee responsibility and commitment to performance excellence in safety, quality and productivity. A low SMI reflects potentially immature work relationships and a degree of demoralisation or demotivation among employees or teams. This brings with it a corresponding lack of commitment and sense of responsibility for safe behaviour, which in turn has a dangerous potential to foster or strengthen a fatalistic approach to safety and work.

High scores in the various factors indicate a high level of morale, feelings of personal accountability and responsibility, and mature work relationships while low scores are indicative of low motivation, scepticism, feelings of powerlessness, and, in many cases, an increasing tendency towards a fatalistic attitude regarding workplace safety.

Hugo Botha of SafeHuman comments, "My first impression when I arrived to carry out the follow-up survey was that something was different about the attitude of employees. I sensed a passion for a safe working environment."

This impression is borne out by the results of the follow up survey. Sadiola Mine improved from an index of 44% in 2003 to 67% in 2004, while the corresponding figures for Yatela were 40% and 65%. Results in the other survey factors showed a correspondingly significant improvement from last year's results.

Stan Padgett, general manager at Sadiola and Yatela, comments, "My management team and I are committed to implementing our safety vision developed during the SafeHuman work and to creating understanding at all levels within the workforce and the local community. I understand that, typically, the tendency is for the SMI to reduce before an improvement is noted. We have committed ourselves to avoiding this regression, and our SMI target for 2005 is 77%, for both mines."



#### How the improvement was achieved

During 2003 there were many changes of senior personnel at Sadiola and Yatela and a new safety management process was introduced. The framework established was to ensure that no vestige remained of the 'production ahead of safety' approach, and that disciplinary action against personnel involved in accidents/incidents ceased. A 'no blame, full responsibility' system ensures that accidents and incidents are reported without fear of disciplinary action.

There is now a full awareness of the responsibility of the individuals being responsible for their own safety as well as that of others in their work area. This is reinforced on a weekly basis to all employees through direct meetings and briefings by the heads of department.

Managers are encouraged to be present in the workplaces and practise management by walking around. The metallurgical and engineering superintendents now have their offices relocated within the plant.

Safety representatives have been elected by the workforce and have received appropriate training. Safety awareness programmes have also been introduced into the community and other stakeholders.



## 7.10 Aurum's battle against TB gains momentum

Aurum Health Research, a subsidiary of AngloGold Ashanti, has been granted funding of \$14 million over a five-year period by the international Consortium to Respond Effectively to the AIDS/TB Epidemic (CREATE) to research strategies to improve TB control in the South African gold mining industry. The grant, which is part of a larger award of \$45 million to CREATE by the Bill and Melinda Gates Foundation, was announced in July 2004 at the XV International AIDS Conference in Bangkok, where the keynote speaker was former South African President, Nelson Mandela. In his speech, Mr Mandela focused worldwide attention on the need to fight TB in conjunction with the battle against AIDS. He said, "We have lost ground in the fight against TB in the face of a spreading AIDS epidemic. Today we are calling on the world to recognise that we cannot fight AIDS unless we do much more to fight TB as well."

In addition to Aurum, members of CREATE include, among others, the Johns Hopkins University Centre for Tuberculosis Research, the London School of Hygiene and Tropical Medicine, the University of Stellenbosch and the World Health Organization (WHO).

The research being conducted by Aurum, under the auspices of CREATE, is being done after extensive consultation, and collaboration, with several South African gold mining companies, including AngloGold Ashanti, Gold Fields and Harmony and the Departments of Health, Labour and Minerals and Energy. Extensive discussion and debate have also been held with representatives from the National Union of Mineworkers and other labour unions representing mineworkers to obtain their support for the study.

The aim of the research is to determine the likely effects of community-wide preventive therapy on TB rates in the South African gold mining industry, as it has become increasingly apparent in the last 15 years that, despite meeting WHO targets for the detection and cure of TB, the rates of TB among employees in the industry have risen sharply. This has coincided with the onset of the HIV epidemic. Fatalities during TB treatment account for the majority of deaths in the workforce, with a more than four-fold increase in TB rates having been recorded.

According to Prof. Churchyard, the head of Aurum, "It is imperative that new and effective public health strategies are developed, particularly in the gold mining industry which has a high burden of TB. Specifically, the objective is to compare the efficacy of nine months of TB preventive therapy using the TB drug isoniazid offered on a community-wide basis, with that of the standard TB control programme currently practised in the gold mining industry."

The rationale behind the research is that all individuals at risk of developing TB in the population would be treated rather than only those identified as being high-risk, such as those who have the HIV infection or silicosis. If successful, such a programme would reduce the rate of transmission of TB between people, which would lead to fewer TB cases occurring later, thus resulting in improved control of the disease.

Since the start of the project in South Africa, several key appointments have been made, including the study director. Other key positions, such as those of regional project managers, social scientist and project administrator have been filled, while 200 additional staff are currently being recruited. A pilot study is underway to determine the proportion of gold mine workers infected with TB by means of the traditional skin test and a newer blood test. Initially there will be a selection of shafts from the various gold mines (by means of cluster-random methods). Once the participating shafts have been selected, people working on those shafts will be invited to join the study. This is planned for April 2005. In all, around 65,000 people will be involved in the study.



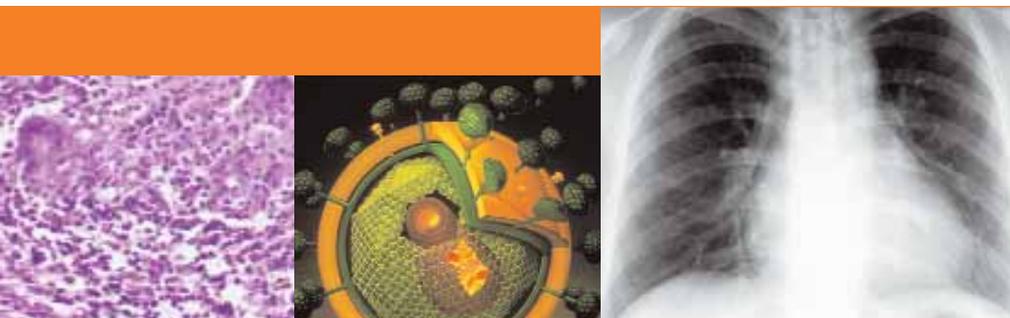
### CREATE – Background

The Consortium to Respond Effectively to the AIDS/HIV Epidemic (CREATE) was established in response to the growing recognition by TB and HIV experts that innovative and even radical approaches to TB control will be necessary to reverse the alarming trends of the incidences of these diseases which have been exacting a devastating toll on societies in the developing world. CREATE aims to co-ordinate, organise, implement and evaluate novel strategies to reduce the incidence of TB and related mortality in communities with high HIV infection rates.

At the XV International AIDS Conference in Bangkok in July 2004, The Bill and Melinda Gates Foundation announced the award of a \$45 million grant to CREATE which will conduct three large-scale community studies (including the one being conducted by Aurum in the South African gold mining industry) over seven years in Africa and South America.

The Consortium is led by the Johns Hopkins University (School of Medicine, Centre for Tuberculosis Research); research partners are Aurum Health Research, the London School of Hygiene and Tropical Medicine, the Municipal Health Secretariat (Brazil) and the World Health Organization. The University of Stellenbosch is also involved.

The findings of the CREATE research portfolio will be used to develop new global policies to combat TB/HIV, a key criterion of projects supported by The Bill and Melinda Gates Foundation. CREATE will make a major contribution to identifying efficacious strategies to reduce suffering and death from HIV-related TB worldwide.



### SH32 | 7.11 Temporary shift in hearing loss study at Great Nologwa

Many miners are exposed to one of the most insidious work-related diseases in the industry – that of noise-induced hearing loss (NIHL).

“The worst thing is that they don’t know it’s happening until it’s too late,” says Tsedi Taela, head of the audiology department at AngloGold Health Service’s West Vaal Occupational Health Centre. “That’s because the tiny hair cells in the ear, which send signals to the brain alerting us to sounds, get worn out gradually by long periods of loud sounds, or short blasts of extremely loud sounds. The result is that the signals don’t reach the brain and sounds become imperceptible. This all happens without the noise-exposed employee noticing. Unfortunately, the hair cells are not replaceable so any hearing damage is permanent.”

AngloGold Ashanti’s approach to the challenge of NIHL is to firstly address the problem at source by muffling rockdrills, fans and other noisy underground equipment, and secondly to ensure that appropriate hearing protection devices are worn by those employees who are still exposed to excessive noise levels. Audiologists monitoring hearing at AngloGold Ashanti’s Vaal River operations have recently embarked on research which they hope will provide some solution to early intervention, which, coupled with individual responsibility, should lead to more successful hearing conservation programmes.

Instead of testing in an audio booth at the Occupational Health Centre where employees would only visit once or twice a year, they decided to test a sample group closer to the workplace, and set up the audio booth at the point where miners exit the mine after work.

“Before one suffers any permanent hearing loss, exposure to high levels of noise may result in a temporary threshold shift (TTS), which recovers over the next 16 hours,” says audiologist Anita Edwards, explaining why hearing loss can remain undetected. “Changes in hearing are small but they all mount up,” she continues. Eventually they result in a permanent threshold shift (PTS), that is, permanent hearing loss.

By moving closer to the workplace, Edwards and Taela were hoping to measure the TTS. Their initial research findings have, however, shown unexpected results and are directing the audiologists into other areas of research in an effort to obtain greater accuracy and a more sensitive means of early identification of NIHL.

They will now test a larger sample group who are exposed to noise levels exceeding 85 dBA and they will move the test booth even closer to the workplace to reduce the time lapse between noise exposure and testing.

Taela and Edwards are also looking at audio testing using distortion product otoacoustic emission (DPOAE), an objective test, which can tell whether the function of the outer hair cells is damaged. The audiologists are hopeful that this will provide them with the information they require to successfully intervene earlier and thus prevent cumulative hearing loss.

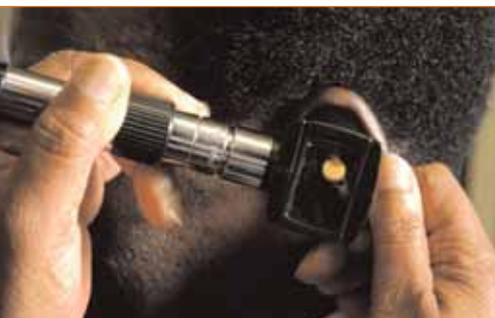
But Edwards says that much of the responsibility for hearing conservation also lies with the employer and employee. “It’s a mindset change. Employees need to take cognisance of the importance of wearing HPDs and be aware of the risks, and employers have a responsibility to their employees’ health by muffling noisy equipment and by providing effective ear protection along with education on hearing loss prevention.”



#### NIHL in the workplace

NIHL can occur in individuals in occupations where, over the course of an eight hour period, they are exposed to a noise level of 85 dBA (decibels) or above. Although underground workers, for example rock drillers, loco drivers and winch drivers, are predominantly at risk, surface workers, like boilermakers and fitters and turners, may also be affected.

Employees at AngloGold Ashanti are currently tested once a year for NIHL if exposed to 85 dBA and above, and twice yearly, if the levels exceed 105 dBA. The individual screening audiometry tests employees across eight sound frequencies, ranging from 500 KiloHertz (KHz) to 8,000 KHz. This test relies on employees indicating their hearing capacity at each frequency. If there is a 5 percentage loss of hearing (PLH), the employee is counselled for hearing loss prevention to avoid further damage; if the shift is as much as a 10 PLH, the employee may be eligible for compensation.



### 7.12 New heat tolerance centre at West Wits

One of the main risks encountered by underground employees in deep level hard rock mining is exposure to high temperatures, which, coupled with strenuous work and dehydration, can result in varying degrees of heat disorders – from heat cramps to heat exhaustion, to heat collapse and heat stroke. Heat stroke is the most serious and dangerous, causing multiple organ failure, and can be fatal.

AngloGold Ashanti employs a heat stress management (HSM) programme to promote the health and well-being of its employees and to meet the requirements of legislation. HSM's focus is not solely on cooling underground working areas, but also on detecting and excluding individuals with heat intolerance by means of a screening procedure. Employees who are not heat intolerant then proceed underground for natural acclimatisation to occur, during the course of their first 10 shifts .

New recruits, employees returning from leave, and employees who have been off sick for seven days or more – and who work in physically demanding jobs at temperatures exceeding 27.5°C wet bulb – are required to undergo heat tolerance screening (HTS).

HTS involves a 30-minute step test, at a carefully controlled temperature (29.5°) in a climatic chamber. To make the test as representative as possible of underground physical work, employees are required to work at a constant rate in the climatic chamber by stepping on and off a bench, at a rate of 24 steps per minute, onto a 30.5 centimetre high bench. This stepping is intended to achieve a work output of 80 watts. Employees with an oral temperature below 37.6°C, at the end of the 30 minute period, are classified as 'potentially heat tolerant' and may proceed with natural acclimatisation underground. Individuals in excess of this temperature are considered to be 'grossly heat intolerant' and may not work in an environment which exceeds a wet bulb temperature of 27.5°C. The current rate of potentially heat intolerant employees is about 5% a month; this group is allowed a further two attempts to prove they are not heat intolerant, before they are considered a health risk and subsequently redeployed to alternative work areas.

An equally important aspect of HTS is education and awareness around the risks of heat-related disorders. This takes place in the waiting period prior to the actual heat tolerance test as well as during induction training on the mines. Employees need to know the importance of drinking water regularly to prevent dehydration (hourly water breaks of 500 millilitres are mandatory); the consequences of alcohol-induced dehydration; and the effects of pushing oneself over the limits. They also need to know the temperatures at which heat-related disorders may manifest and what precautions to take to minimise the risk.

The current HTS Centre, based at West Wits, is a large and somewhat run-down building, accommodating up to 100 employees at a time – an unwieldy number to effectively monitor correct and constant stepping, both of which are crucial to reliable statistics. A new building, catering for 20 at a time, is now to be erected in its place at a cost of R1 million (\$160,000). This will result in an improvement in the quality of monitoring, which will also be conducted at fixed temperature and wind speed conditions. Construction of the centre is to take place over a 14-week period, and is expected to be operational by March 2005.



### SH34 | 7.13 Controlling dust levels underground remains a focus area

Silica dust in the air, generally as particles too small to be visible to the naked eye, is an inevitable accompaniment to South African gold mining. The inhalation of silica dust may cause silicosis, an occupational lung disease (OLD).

In 2003, AngloGold Ashanti's South Africa region established a 'wellness in the workplace forum' – a multi-disciplinary body comprising experts from the areas of dust control, noise in the workplace, radiation, TB and HIV/AIDS. The forum has taken over the work of the regional dust steering committee. Similar forums will be established at an operational level during 2005 to ensure that this integrated approach to occupational health is cascaded through the company.

Kobus Dekker, (occupational environment, safety and health manager – occupational hygiene) is responsible for dust and noise control. Dust management involves both the implementation of dust control systems and the education and training of employees to implement these.

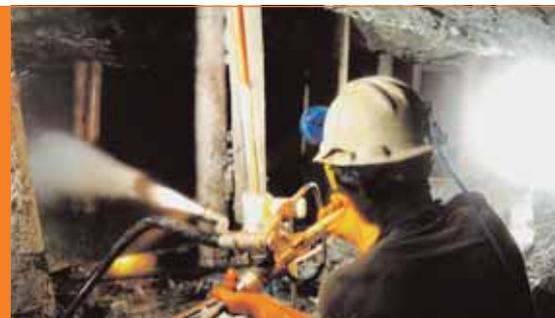
"Behaviour is the critical factor," says Dekker. "As part of our efforts to educate and inform employees, we have recently produced a training video, which is being rolled out to mines this year. This will be shown to all employees as part of their induction and again annually on return from leave."

A number of other significant developments have taken place this year:

- automatically triggered in-stope water blasting, whereby the face is washed down immediately after blasting, is currently in development phase. The project is being tested at Tau Lekoa Mine, which is unique in AngloGold Ashanti in that it uses hydropower instead of compressed air to power underground machinery such as rockdrills. "Water at high pressure has the effect of liberating dust in the air," explains Kobus, "so it made sense to pilot the project at Tau Lekoa." This project began in September 2004 and is expected to be complete by this year-end. If successful, the project will be extended to Kopanang Mine, to test it in a normal compressed air environment.
- footwall treatment has also been successfully rolled out. Footwalls are sprayed with a chemical mixture that binds dust onto the footwall. Dekker explains, "A number of variables have to be considered in the chemical mix: the speed of air over the airway, the number of people and amount of equipment traffic, as well as the quantity of dust released from ore being carried in hoppers." The project has been rolled out to all the South Africa region mines, with some 372 kilometres of footwall treated in total. "This is not a once-off treatment, but has to be repeated at intervals which vary according to mining conditions and volumes," says Dekker.

Results are encouraging. Dust levels are measured daily on all mines, through the use of gravimetric pumps issued to a sample of employees. Target levels of total respirable dust have been set for the various workplaces, ranging from 0.24 mg/m<sup>3</sup> for underground to 0.40 mg/m<sup>3</sup> for surface areas. This is significantly below the limit of 1.00 mg/m<sup>3</sup> recommended by NIOSH (the National Institute for Occupational Health and Safety: an international occupational health and safety organisation based in Washington DC).

Between 2002 and 2004, the percentage of employees at the South African operations exposed to levels of total respirable dust in excess of 1.00 mg/m<sup>3</sup> has decreased from 2.4% in 2002 to zero for the second and third quarters of 2004.



### 7.14 From lagging to leading indicators – Tau Lekoa rises to the challenge

Tau Lekoa Mine, which employs some 4,000 people including contractors, is situated within the Vaal River area of AngloGold Ashanti's South Africa region.

In recent years, Tau Lekoa ('the lion of the river' in seSotho) has struggled with above-average injury rates. In a significant turnaround, the mine has achieved improvements of 40% and 22% respectively in its lost time and serious injury frequency rates for 2004, compared with 2003.

"Previous strategies essentially focused on reacting after the event: we have now combined this with a proactive system through which leading, rather than lagging indicators of risk are identified and managed before incidents occur," says general manager Mitch Hill. "In addition to this, we have statistically proved the correlation between the assessed risk status of workplaces (a leading indicator) and injury rates (lagging indicators)."

The point of departure was the development of a Tau Lekoa-specific occupational health and safety policy, within the framework of the AngloGold Ashanti policy. In terms of this, significant risks were identified, with the overall objective of continually reducing these to a level as low as reasonably practicable. These risks are then managed within the OHSAS 18001 specification, based on British standard BS 8800.

The full acceptance for the management of safety by line management has been one of the major reasons for success at Tau Lekoa over the past year. "Ownership of the new pro-active strategy of risk management is now a way of life at the mine," says Hill. "This is evident in the overall understanding and application of the principles of risk management, which has been successfully filtered down to team leader/crew supervisor level. This has been achieved through ongoing coaching sessions on the principles of risk management and the development of mechanisms to allow for a simple, yet technically sound approach."

Increased labour unavailability, with the associated fatigue and risk effect, was identified as another leading indicator. "We established a system whereby people regularly absent from work, and the causes for this absenteeism, were identified and managed accordingly," explains senior human resources manager Daan Adlem. "The mine has now developed a work attendance policy, with the full support of all unions and associations."

The mine's four-phase approach to behaviour-based safety was developed to address the effects of 'at-risk' behaviour and formed the core of the on-mine safety launch, which dovetailed with the South Africa region's safety re-launch in April 2004. The 'red/green glove' initiative, which focuses on the observation of critical behaviours, is a key component of the system. "This was based on the SMAT (Safety Management Auditing Technique) but was tailored to Tau Lekoa's circumstances and culture," says safety and risk manager George Coetzee. "When people see a red glove held up underground they stop work immediately and a formal interaction process starts."

Every Friday afternoon, Mitch Hill personally reviews selected working places with high risk ratings and all lost time injuries that have taken place during the preceding week, with the miner being required to make a presentation to the mine Exco and any other work teams who have been involved in accidents.

"This is quite a gruelling process, but the focus is only 20% on determining causes, and 80% on coaching, counselling, and identifying future strategies. Teams are equipped with the necessary knowledge and training to present a competent analysis," says Hill.

The output of each session – which can take up to two hours – is fed into a database and is utilised for future strategies.



### SH36 | 7.15 Mponeng's safety strategy focuses on behavioural change

Mponeng mine, which employs some 5,700 people including contractors, is situated in the West Wits area of AngloGold Ashanti's South Africa region. (Mponeng means 'look at me' in Tswana.) The mine has had a great deal to be proud of in recent years, with lost time injury frequently rate (LTIFR) declining steadily from 22.7 in 1999 to 9.5 for 2004. Mponeng won the South Africa region safety shield in 2001 and 2003, and was the runner up in 2002. The mine has achieved 500,000 fatality free shifts on four occasions in the last two years, and achieved 116 'White Flag Days' (days on which no injury is recorded) in 2004, compared with 75 days in 2003.

Early in 2004, tragedy struck when four fatal accidents took place within four weeks. One of these events, which took place on 29 January and resulted in the loss of two lives, was attributable to a seismic fall of ground; one (on 23 January) was attributable to a failure to comply with equipment standards, and one (on 10 February) was a rigging hoist accident.

"No one went underground for three days after the third accident," says general manager Johan Viljoen. "Everyone on the mine – employees, unions and associations – went through an intensive process of renewing our commitment to safety."

Mponeng has implemented the SHARP (Safety, Health, Achieve, Respect, Productive) system. This was developed at Mponeng, based on the DuPont principles of peer observation. "The SHARP system represents a step in the process of taking the peer observation principle down to mineworker level," explains Viljoen. Before any task can be carried out, people have to ask four critical questions:

- Is there a procedure? Am I complying?
- What PPE (personal protective equipment) should be worn?
- Are tools and equipment in good order?
- Are people in the right position?

Only when the four questions are answered affirmatively may work begin.

All mineworkers have been comprehensively briefed on the implementation of the system, and training has been provided in a series of workshops and face-to-face communication sessions. Anyone not complying with the system is coached and counselled appropriately, and, ultimately, would be subject to the normal disciplinary procedure.

Stringent safety targets are set. "Targets vary according to discipline," explains Viljoen. "For example, development and services are measured on dressing cases, with a target of zero incidents. At this stage, the target for stoping is zero lost time injuries."

Teams of 'rock stars' have also been established. The 'rock stars' are members of the rock engineering department who are integrated into work teams across the mine. Their role is critically important in that they are able to make first-hand workplace assessments. Where support standards are not adhered to, they play a coaching and mentoring role with the work teams concerned.

Despite all these efforts, seismicity remains a fact of life at Mponeng, as at all deep level South African mines. To illustrate this, three of the five fatalities that occurred at Mponeng during 2003 were attributable to seismic falls of ground. The mine has a number of strategies in place to counter seismicity, ranging from macro elements such as mine design and layout to support and preconditioning at the micro level. (See case study: *Control of mining-induced seismicity in the South Africa region on page SH38*).

"We are one of the few mines in the industry to make extensive use of pre-conditioning," says Viljoen. Preconditioning refers to the drilling of holes ahead of the face to be blasted and detonating these with a light charge. This reduces the induced stresses on the advancing face." The mine is also increasing the use of backfill from the current 60% to a planned 95% of the stoping area by the end of 2006. (Backfill refers to the use of waste material or rock integrated with timber props to support the hanging wall after removal of ore from a stope. Backfill gives more effective support than conventional spaced support methods, such as packs or elongates, because it provides complete coverage of the area supported.)



## 7.16 Safety interventions at depth at TauTona

Situated in the West Wits area of AngloGold Ashanti's South Africa region, TauTona mine (the name means 'mighty lion' in seSotho) employs some 5,000 people and currently operates at the deepest level in the world. The deepening project currently under way will take the mine to 128 level using a twin decline system, and will result in mining being carried out at depths of around 4,000 metres.

TauTona's commitment to safety was, for several years, demonstrated by a safety record comparable with best practice anywhere in the world. TauTona has been a winner of the South Africa region's safety competition on two occasions (2000 and 2002), and has been acknowledged by the Mine Health and Safety Council through the award of its Safety Flag in 2000 and 2001.

TauTona's exemplary safety record was dealt a blow by two seismic events in the first half of 2003, which together claimed nine lives. The mine recorded a total of 14 fatalities in 2003. Accidents at the mine claimed the lives of 11 people in 2004 – four of whom died in seismicity-related accidents.

"As a result of these events, we reviewed both the areas which we mine and our mining methods. Development on 109 and 112 levels, which mined under an advancing abutment, was stopped. This resulted in a change from a sequential grid mining method to the more usual longwall mining," says former general manager Robbie Lazare. (Lazare was appointed executive officer for South African operations in December 2004.) Where mining is carried out by the longwall method, development is always behind the moving face, minimising the risk of damage to haulages.

"We have also drilled one long cover hole – some 1,000 metres in length – to enable us to get as much information as possible about the geology of the area ahead of the face," adds Lazare. It is planned to start drilling two more such holes, at levels 115 and 118, before the end of 2005.

Following a fatality in the shaft pillar area on 29 September 2004 at Level 101 East 2 panel, a further review of support systems was undertaken. Lourens Smit, senior occupational environmental safety and health manager, explains that two outputs have arisen from this review. "We have introduced the use of cementitious backfill rather than the conventional slurry in certain high-risk areas." (Backfill refers to the use of waste material or rock integrated with timber props to support the hanging wall after removal of ore from a stope.) Roof bolting of stopes in the shaft pillar area is also being introduced.

"The interventions have borne fruit. The mine had four seismic-related fatalities this year, compared to 11 for the same period last year."

The behavioural aspects of safety have also been integral to TauTona's efforts during 2004. In common with the other South African operations, TauTona held a major safety launch, dovetailed into the South Africa region's 'safe acts save lives initiative', in March 2004.

More than 90% of the mine's workforce has been trained in the principles of behaviour-based safety, through the 'yellow glove' campaign (based on the DuPont principles). Some 1,500 behaviour based safety observation are currently carried out in working places each month.

Says senior human resources manager Gops Modise, "The intervention has been well received. There were initially some problems in that some supervisors understood this as replacing conventional discipline. We are currently working on integrating the 'yellow glove' programme with the normal principles of basic supervision."

The development of mine-based rescue teams is another initiative that has been concluded this year. This pilot project has been carried out at TauTona with the help of the Mines Rescue Service (MRS). There are now two fully trained rescue teams at TauTona, each comprising team members from the various critical occupations, who have already been involved in three rescue operations. (*See Report to Society 2003.*)



### SH38 | 7.17 Control of mining-induced seismicity in the South Africa region

Seismic events and rockbursts are a constant feature of South African gold mines and are a significant cause of fatalities in the South African gold mining industry. AngloGold Ashanti has adopted a holistic approach to the management of seismicity at its deep level mining operations in the South Africa region.

The type of seismicity experienced in an area or particular mine is closely related to the geological setting. The Klerksdorp area, where the Vaal River mines are situated, is geologically more complex than the West Wits area and most of the seismic events here relate to the failure of geological structures and some strain-bursting. In the West Wits area, the geology is less complex and all three forms of seismicity are observed (see box), and face bursting is a particular problem when mining the Ventersdorp Contact Reef here.

Generally, seismicity levels in the West Wits area are far higher than in the Vaal River area due to the greater depth of mining and stiffer rock mass. Events in the West Wits area also occur closer to the workings. However, the Vaal River area does experience some very large seismic events related to failure along major geological structures. These are normally some distance away from workings.

AngloGold Ashanti's fall-of-ground management (FOGM) system was developed in 2002 and has been implemented at all its South African deep level mines to manage mining-induced seismicity and rockbursts.

This strategy has the following five focus areas:

- FOGM 1 – mine-wide, the design of mine layouts to prevent adverse rock conditions: the aim is to reduce the occurrence of mining-induced seismicity and rock-bursting as well as unfavourable stress concentrations and fracture orientations
- FOGM 2 – locally, the design of support systems to protect against adverse rock conditions and hazards. Careful attention is given to the design of standards to cater for both rockfall and rockburst conditions;
- FOGM 3 – training and communication to prevent accidents
- FOGM 4 – monitoring the effectiveness of layout and support system designs, and
- FOGM 5 – problem solving by means of research and technology development: AngloGold Ashanti participates actively in industry research initiatives (SIMRAC) and both motivates and guides research projects. In addition, AngloGold Ashanti also conducts its own research through the Technology and Innovation Fund.

#### Technology and Innovation Fund

This fund focuses on developing and implementing knowledge, rather than on fundamental research, on issues which are specific to operations in the South Africa region. This research and development is over and above that undertaken by the industry as a whole and government. Rock engineering related projects overseen by the fund over the past few years include:

- investigation into the development of support systems that can be transported by pipeline, eg packs superfill and shotcrete;
- development of technology for the rapid dissemination of seismic data via the intranet;
- optimisation of the daily seismic hazard rating system;
- development of a testing and quality assurance programme for support; and
- integration of rock engineering audit data into the integrated risk management system (IRMS).

Around R6.5 million (\$1.01 million) was spent on these projects in 2003 and 2004 and an additional R1.5 million (\$0.23 million) has been budgeted for 2005.



#### Definitions

A **seismic event** is the transient motion and release of kinetic energy caused by the sudden failure of the earth's crust. This release of energy is usually felt as shaking or tremors in the rock mass. This can be extended to include **mining-induced seismicity** which is the failure of the earth's crust or rock mass as a result of mining-induced changes in rock stress levels. Seismic events range in size from barely discernable ground motions to very large tremors.

There are three types of mining-induced seismicity:

- failure at pre-existing geological weaknesses such as faults, dykes and joints which results in medium to large events often far away from workings;
- failure of the intact rock mass in the form of shear fractures that results in larger events close to workings; and
- localised bursting or failure of brittle rock types often referred to as strain-bursting or face bursting (small events at the working face).

*continued on page SH39*



### Implementing the fall of ground management strategy at Mponeng

A good example of the successful management of seismicity is Mponeng Mine. Mponeng mines to a depth of up to 3,800 metres underground and is one of the most seismically active mines in the industry. Its history has been marred by high injury rates, caused largely by seismicity in the 1980s and early 1990s. Since the late 1990s, Mponeng has implemented several strategies to reduce the incidence and effects of seismicity. These have resulted in a 70% reduction in the number of potentially damaging seismic events per square metre mined since 1996, and a 75% reduction in the seismic-related lost-time injury rate since 1998.

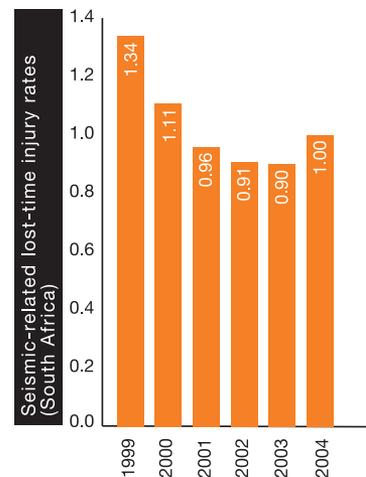
The strategies adopted fall into three main areas: mine design (prevention), support design (protection) and monitoring.

- Prevention** The key elements in this focus area have been the adopting of smaller mining spans between dip-stabilising pillars and the reintroduction of backfill. Better quality extraction sequences and the control of inter-panel leads and lags have also been implemented.
- Protection** The introduction of a more dense, elongate-based support system has contributed to improved ground conditions.
- Monitoring** The introduction of the strata control auditing system at Mponeng, an AngloGold Ashanti first, has now become standard in the South Africa region and has 'closed the loop' between design and implementation, ensuring better compliance with support standards and layout rules. The system involves up to eight auditors visiting stopes daily to measure support spacings and monitor other potential hazard indicators. This information is entered into the IRMS database and supervisors are informed immediately of sub-standard implementation to enable corrective measures to be taken as speedily as possible. Follow-up audits ensure that all hazards have been dealt with.

The management of seismicity will continue to be the backbone of the Mponeng risk management strategy with the increased use of backfill.

The mines are equipped with state-of-the-art **seismic monitoring systems**. These vary from mine-to-mine, depending on the extent of the seismic problem. ISS International, a leader in the development and manufacture of seismic systems as well as seismic research and analysis, runs the seismic networks on a contract basis and provides a round-the-clock service in terms of network management and analysis. Seismic information is used in terms of short-, medium- and long-term seismic hazard assessment as well as for back-analysing the effectiveness of different mine designs and layouts. The performance of different support types is also monitored.

A **rockburst** is caused by a mining-induced seismic event of sufficient magnitude to cause obvious damage to mining excavations and support or widespread simultaneous falls of rock. This may be accompanied by injury or more seriously, fatalities.



### SH40 | 7.18 Medical Working Group formed to promote best practice

The medical working group is a special interest focus group developed within AngloGold Health Service (AHS) in the mid-1990s. Its members are drawn from the specialist physicians from the hospitals within the AHS – two from Western Deep Levels Hospital from West Wits and two from the West Vaal Hospital at Vaal River. As the need arises, the group co-opts members from other departments for their particular specialised input. The group meets monthly to discuss, and act on, clinical matters that are of importance to AHS, the patients they serve, and AngloGold Ashanti, the primary funder of the health service.

Says Alistair Calver, the current chair of the working group, “The medical working group is the custodian of the AHS medicines list, which is a comprehensive list of medications and treatment used in the management of the patients who receive their health care from our service. The list is a dynamic document, the development and maintenance of which requires input from a wide variety of specialists, medical practitioners and pharmacists. Two of the overriding principles involved in placing any medication on the list is that it should provide cost effective treatment for the patients, and be in line with appropriate academic protocol.”

Defining treatment protocols and making them fit with the occupational health environment of the gold mining industry has been an additional function performed. Protocols for the management of epilepsy, diabetes, pneumonia, cyanide poisoning, heat illness, and tuberculosis (TB) within the mining industry are some of the most important. With respect to TB, AHS has some of the most detailed statistical and medical data available in the world today. This is used to monitor and guide the TB control programme within the company.

Says Calver, “According to the World Health Organization, South Africa ranks within the top seven countries in respect of TB levels among the general population. Specifically in the gold mining industry we have some of the highest known TB rates in the world today. The combination of the expanding HIV epidemic and increasing levels of silicosis in a workforce with longer work experience have both individually and together, contributed to the higher levels of TB. These facts highlight the importance of a combined approach to the management and treatment of HIV in association with a high-level TB control programme for the mines, where, in turn, dust levels need to be engineered to a minimum. The medical working group plays an important role – together with other health care practitioners within the company – in ensuring that both TB and HIV programmes run concurrently with maximum effect.”

The medical working group has also had to take into account the impact and possible impact that arises out of the threat of epidemic illnesses occurring in other parts of the world. Malaria is one such threat that has a significant effect on all the AngloGold Ashanti operations in Africa. With the development of the SARS (severe acute respiratory syndrome) in the Far East in 2002, the Group was acutely aware of the possible consequences such an epidemic would have if it spread within the confines of the South African operations. As part of its disease response function, the Group proactively developed contingency plans to handle such an epidemic, which, by necessity, would involve co-operation with the Department of Health and state facilities.

“It is an additional function of the medical working group to ensure that high standards are maintained in the activities of individual health care workers, and collectively at a medical departmental level. This ensures we provide optimal care for the patients that are either employees or their dependants of AngloGold Ashanti,” Calver concludes.



## 7.19 State-of-the-art x-ray facilities at Geita

2004 saw the purchase of a state-of-the-art x-ray machine to be used in the Geita Gold Mine clinic, raising the level of medical services available to all Geita employees and contractor staff. In the past, on-site diagnosis and treatment of trauma patients was somewhat difficult. The mine medical staff had to use the existing facilities in the Geita district hospital some 20 kilometres away from the mine. These were seldom available as the required generator was in service for a limited number of hours every day, or radiographers were not always able to be found, particularly after hours.

In selecting the machine, the mine ensured that it was similar to those used in the district so that the same technicians would service it and that local radiographers could operate it. This modern machine does not require x-ray plates or chemical developing. The images are captured digitally and displayed on VDUs. No hard copies are kept. The major advantage of this is that if there is any doubt about a diagnosis, the x-ray can be immediately e-mailed to Dr Emby, consultant radiologist at AngloGold Health Service hospital in the West Wits region in South Africa. Consultation has thus become easier and faster, and diagnosis more reliable.

"This machine, costing 155,000 is money well spent," says Dr Gerald Baldrey, health services manager at Geita Mine. "It has already proved to be a very valuable resource, not only in the increased efficiency of service provision, but also in successfully dealing with accidents. The last two accidents on the mine involved 65 and 11 patients respectively, with the new machine allowing for improved and immediate radiological diagnosis and consequent treatment." (The first of these accidents involved a local contractor's bus rolling off the road while transporting the mining contractor's (DTP) staff home. The second incident involved a light vehicle accident.)

Potentially, this purchase also has positive impacts for the broader community beyond Geita as the mine has often volunteered the services of doctors and equipment in case of a major accident or incident in the surrounding communities.

Another valuable advantage of the machine is the increased ease of surveillance medicals, as these require chest x-rays. It is now mandatory for most employees to have a surveillance medical every year as part of good occupational health practice.





# HIV/AIDS and Malaria

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## 1 Business principle: AngloGold Ashanti as an employer – our labour practices

- AngloGold Ashanti is committed to upholding the Fundamental Rights Conventions of the ILO. Accordingly, we seek to ensure the implementation of fair employment practices by prohibiting forced, compulsory or child labour.
- AngloGold Ashanti is committed to creating workplaces free of harassment and unfair discrimination.
- As an international company, we face different challenges in different countries with regard to, for example, offering opportunities to citizens who may not have enjoyed equal opportunities in the past. In such cases, the company is committed to addressing the challenge in a manner appropriate to the local circumstances.
- We will seek to understand the different cultural dynamics in host communities and adapt work practices to accommodate this where doing so is possible and compatible with the principles expressed in this document.
- The company will promote the development of a work force that reflects the international and local diversity of the organisation.
- The company will provide all employees with the opportunity to participate in training that will improve their workplace competency.
- The company is committed to ensuring that every employee has the opportunity to become numerate and functionally literate in the language of the workplace.
- The company is committed to developing motivated, competent and experienced teams of employees through appropriate recruitment, retention and development initiatives. An emphasis is placed on the identification of potential talent, mentoring and personal development planning.
- Remuneration systems will reward both individual and team effort in a meaningful way.
- Guided by local circumstances, we shall continue to work together with stakeholders to ensure minimum standards for company-provided accommodation.
- The company assures access to affordable health care for employees and where possible, for their families.
- **We are committed to prompt and supportive action in response to any major health threats in the regions in which we operate.**



## 2 Key indicators

Information pertaining to HIV/AIDS and malaria – the primary public health threats facing the company – is relevant to the Africa operations only. While HIV/AIDS is a significant challenge in South Africa, it is less so in the other African operations, as the East and West African general populations have far lower prevalence levels than in southern Africa. The labour intensive nature of mining in South Africa is another reason why this pandemic is critical to South African mining operations. It is for this reason that the focus of the HIV/AIDS programme has been South Africa. The statistics and information reported in this section relate primarily to the South Africa region. Where information pertains to other regions, this has been specifically stated.

The threat of malaria is one that has the greatest impact in the Ghana, Mali, Guinea and Tanzania regions. No consolidated information is available as many of these programmes, and particularly the gathering of information, are in their infancy.

### HIV/AIDS

- Based on best available information, including surveys, antenatal data, and extrapolation from comparable reference groups, AngloGold Ashanti estimates a 2004 HIV prevalence rate of 30.24% amongst its **South African** workforce. In 2003, this was estimated to be 29.95%.
- 4,248 cases of Sexually Transmitted Infections (STIs) were treated by AngloGold Health Service (AHS) during the year, a decrease of 23% on the number recorded in 2003. STI rates can be used as a proxy for unprotected sex.
- 4,071 visits were recorded at AngloGold Ashanti's voluntary counselling and testing (VCT) centres in 2004, an increase of 25% on those recorded in 2003.
- 935 employees registered for the first time with the AngloGold Ashanti wellness programme during 2004, compared with 834 in 2003.
- 315 employees were enrolled in the anti-retroviral therapy (ART) programme in 2004, a decrease of 41% from 2003, bringing the cumulative total of employees started on ART to 849.
- Expenditure related to chronic disease management of HIV-infected employees (including the provision of ART), voluntary counselling and testing, home-based care for terminally ill ex-employees, the personnel managing the company HIV-programme, and some programme-related research, monitoring and evaluation, amounted to \$2.28 million or R14.62 million in 2004.\*

\* This excludes awareness campaigns and peer education conducted on-mine, or the HIV-component of mine-based induction programmes and excludes hospitalisation costs for AIDS-related illnesses.

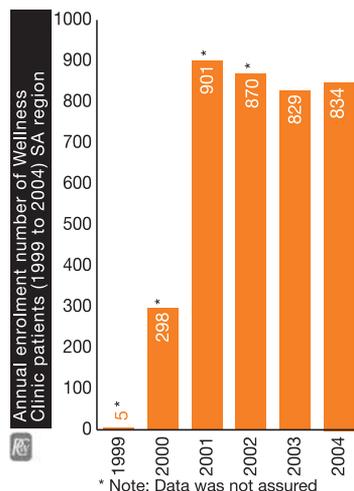
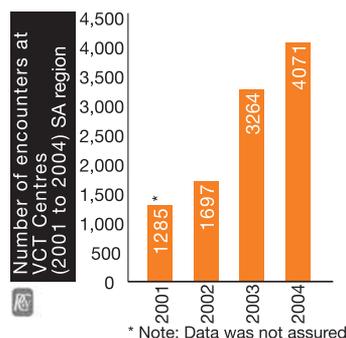
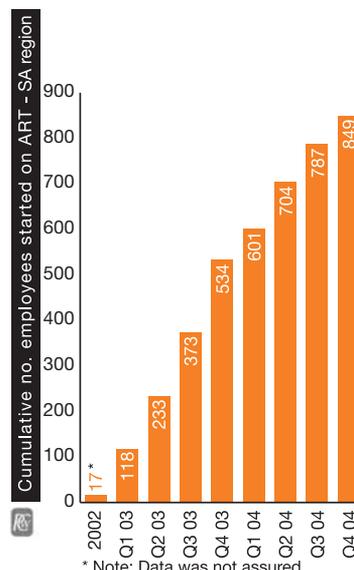
### Malaria

- Malaria remains the most significant public health threat for AngloGold Ashanti's operations in **Ghana, Mali, Guinea and Tanzania**. A means of measuring the impact of malaria on the group has been introduced, namely a Malaria Lost Time Injury Frequency Rate (MLTIFR). Measured per million man hours, this is similar to the safety and health indicators of Lost Time Injury Frequency Rate. At Geita, the MLTIFR is estimated at 130 per million man hours, and at Morila in Mali, it is estimated at 167. The data for the Sadiola/Yatela operations is incomplete and cannot be represented as an MLTIFR figure.



**Our opinion is based on a test of the reliability of the selected data by way of:**

- In relation to selected data marked with on which we have provided reasonable assurance:
- conducting interviews and holding discussions with management, key personnel and/or stakeholders of AngloGold Ashanti limited and assessing data trends;
  - obtaining an understanding of the systems used to generate, aggregate and report the selected data;
  - conducting site visits to test systems and data and inspecting premises where necessary;
  - assessing the completeness and accuracy of the selected data; and
  - reviewing and analysing collected information and effecting re-calculations where considered appropriate.



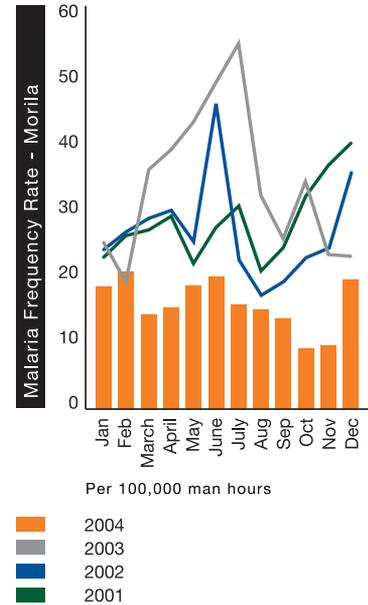
## HM4 | 3 Milestones 2004

### HIV/AIDS

- An internal auditing process was implemented in the **South Africa** region, based on a comprehensive risk assessment which focuses on both the health service's wellness programme and workplace prevention programmes.
- AHS became more involved in the management of HIV/AIDS in the **African** operations, outside of South Africa, and more detailed data collection is being targeted for 2005.
- The provision of anti-retroviral therapy at Geita hospital (by the State and supported by the mine) in **Tanzania** for Geita mine's employees and dependents began in November 2004.
- The annual Geita gold mine Kilimanjaro challenge undertaken to raise funds for HIV/AIDS programmes raised \$150,000 in 2004.
- ART roll-out for employees at the Navachab mine in **Namibia** commenced in April 2004, to support the VCT and wellness programme already in place.

### Malaria:

- A scientific, \$1.6 million malaria campaign has been proposed at Obuasi in **Ghana**.
- At Geita in **Tanzania**, resident mosquito species identification and insecticide-resistance profiling was completed in 2004, in preparation for the development of an integrated malaria programme.
- An integrated malaria control programme, introduced at Morila in **Mali** in 2003, has reduced the incidence of malaria significantly. (See graph.)



## 4 Review 2004

Note that the information relating to HIV/AIDS is for the group's South Africa operations only, which accounts for 69% of the workforce and is the region in which HIV/AIDS is the most significant regional health threat. Where this report has been extended to cover the other regions in which AngloGold Ashanti operates, this is specifically indicated.

### HIV/AIDS policy and agreement

AngloGold Ashanti's HIV/AIDS policy is contained in an agreement signed with all recognised trade unions in July 2002. Embodied within this agreement are the principles of:

- non-discrimination
- confidentiality and non-disclosure
- benefits applicable, and
- rules governing ill-health retirement.

While the provision of anti-retroviral therapy (ART) was not part of the original agreement, trade unions participated in the ART programme from inception through the project's steering committee and ethics forum.

Efforts have been made to engage with the primary union, the National Union of Mineworkers (NUM) to undertake an HIV-prevalence survey amongst employees, linked to a behavioural study. This information would be used to plan for and implement appropriate changes to the current programme. No progress has been made in this regard as the company has been unable to convince the NUM that this will be to the benefit of the company and employees alike.

### Governance and structure

AngloGold Ashanti's HIV/AIDS programme is managed at both a clinical and operational level, and overseen by a joint management/union committee. (See diagram below.)

The clinical expertise, resources and oversight is provided by AHS. AHS provides a comprehensive medical service at on-mine clinics, occupational health centres, and two world-class hospitals. These services are complemented by the research undertaken by Aurum Health, a subsidiary of AHS. Included as part of the AHS service is the company's voluntary counselling and testing (VCT) and wellness programme which includes the provision of ART. Since the health care service is managed independently of the mining operations, this promotes the confidentiality of the medical programme.

In addition to centralised education, training and management initiatives undertaken under the auspices of AHS, each operation has a joint management/union HIV/AIDS committee that oversees the implementation of mine-based programmes, and raises any issues of concern.

#### Make-up of the HIV/AIDS committee at Ergo:

The joint management/union committee meets regularly and consists of both senior and middle management, all representative unions and associations (NUM, Uasa, SAEWA), the Medical Centre, contractors and peer educators. The medical centre is also part of the East Rand hospital initiative outreach to the community.

#### Induction training

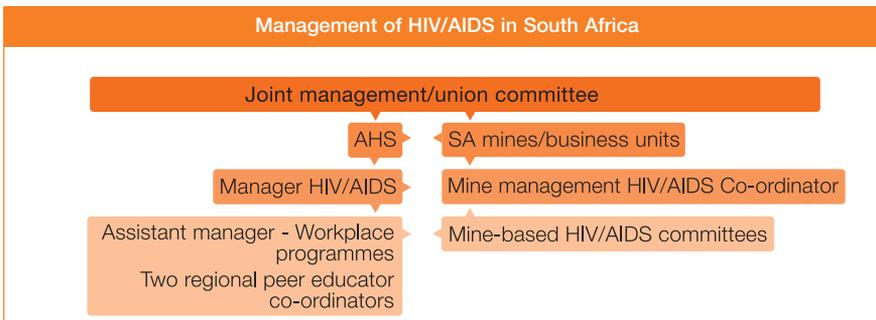
HIV/AIDS training is provided to all employees at induction. The induction programmes at the West Wits Metallurgical operations (which is fairly typical) comprises:

- understanding and implementing the AngloGold Ashanti HIV/AIDS framework;
- understanding and implementing the AngloGold Ashanti HIV/AIDS policy and union agreement;
- understanding basic facts about HIV/AIDS;
- understanding employees' rights as entrenched in legislation;
- precautions against occupational exposure to HIV and how to deal with accidental exposure; and
- AngloGold Ashanti VCT, Wellness and ART services and other support.

#### Supervisory training

Supervisory HIV/AIDS training at the West Wits Metallurgical operations (which is fairly typical) comprises:

- basic facts – HIV/AIDS
- HIV/AIDS framework
- HIV/AIDS Policy
- indicators and causes of declining performance
- psychological reactions
- counselling process
- legal framework
- referral sources.



## Prevalence levels

An anonymous unlinked survey undertaken in 1999 indicated an HIV prevalence level amongst AngloGold Ashanti employees of 24%. (See *Report to Society 2003*.) This was followed up by a second survey in 2000/2001 undertaken in collaboration with the London School of Hygiene and Tropical Medicine which indicated a prevalence level of 29%. Based on these surveys, provincial antenatal data and extrapolation from comparable reference groups, AngloGold Ashanti's current best estimate of prevalence levels amongst employees is 30.24%. Through actuarial modelling, the company is able to project prevalence levels going forward. In terms of this model (see graph), prevalence levels are thought to have peaked in 2004. However, without a scientifically-based survey, these numbers cannot be confirmed. Based on the current stance of the NUM on anonymous testing, such a survey is not likely to be conducted within the foreseeable future.

## The AngloGold Ashanti HIV/AIDS programme

The AngloGold Ashanti HIV/AIDS programme comprises five parts: education and training; voluntary counselling and testing (VCT); a wellness programme (including ART); ill-health retirement for employees who become AIDS-ill; and home-based and community-based programmes.

### Education and training

Education and training is conducted at mine-level and is aimed at informing and changing behaviour. Issues dealt with include prevention of infection, the benefits of the VCT and wellness programmes (including ART) and ill-health retirement. Education and training is aimed at those who are HIV positive, those who are not, and those in supervisory and management positions who deal with the ill-health consequences of the epidemic in the workplace.

A wide variety of communication media are used, including peer education and industrial theatre. Education and training is supported by condom distribution and STI management in the workplace and in the community, particularly amongst women at high risk.

### Voluntary counselling and testing (VCT)

Free and confidential VCT has been offered to all employees since March 2001 at 19 VCT centres across the group. VCT usage has steadily increased over the years and is now also offered to dependents. In total, 4,071 tests were undertaken in 2004 at the AHS centres, bringing the cumulative total number of tests undertaken by AHS to 10,317 at year-end.

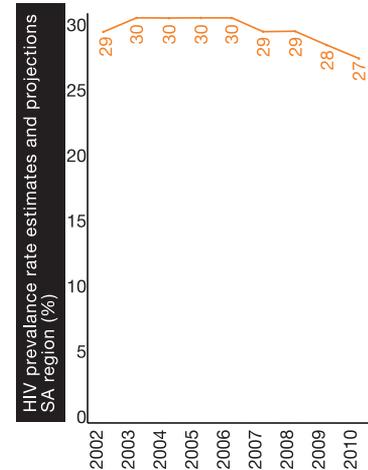
### Wellness programme

A comprehensive Wellness programme was introduced in 1999, and since November 2002, this has included ART for those employees who are HIV positive and whose clinical condition meets the World Health Organization's medical guidelines for starting ART. (See case study: *Success reported with ART implementation, although uptake still slow on page HM16*.)

The aim of the programme is to extend the productive life of the employee as long as possible. (See case study: *Wellness Clinic at West Vaal Hospital on page HM18*.) Treatment is undertaken on an out-patient basis as is customary for other chronic diseases. Opportunistic infections are managed through early detection as well as the prescription of prophylaxis (against TB for example). All employees have unlimited hospitalisation benefits. Nutritional and lifestyle counselling and psychosocial support is also provided to the employee and his or her family as part of the Wellness programme. 935 employees enrolled in the Wellness programme in 2004; 849 employees were treated with ART as at the end of December 2004.

It must be stated that the extent of take-up of ART by prospective patients is lower than anticipated at the start of the programme. Estimations are that, more than two years after the launch of ART at AngloGold Ashanti in South Africa, no more than a quarter of employees for whom ART would be medically indicated have taken up the treatment. In most cases, these employees have not come forward for VCT and participation in the Wellness programme.

This is a trend apparent in other large scale ART programmes, such as, for example those in the broader Anglo American group and the South African government's programme which is also failing to meet planned levels.



### HIV/AIDS awareness and training at Mponeng in 2004

- Awareness campaigns included the marketing of VCT, STI awareness, visits to the visiting wives centres, handing out of condoms and pamphlets, interaction with local sex workers and peer education. Quarterly safety campaigns have been combined with HIV/AIDS awareness campaigns.
- Supervisors receive training as part of induction.
- All new employees are also trained at their initial induction; employees returning from leave receive refresher training once a year.
- The mine has 21 active peer educators operating in the workplace. The majority of interaction currently takes place in the hostel environment, but plans are being implemented to take this into the workplace.

There are likely a multiplicity of causes, some of these inter-related, including the phenomena of stigma and denial, shortcomings in community and political leadership, and less than optimal communication and education efforts on the part of AngloGold Ashanti. Whatever the reasons may be, it remains a major challenge for this company and for society as a whole.

**Ill-health retirements**

A medical incapacitation process may be initiated by the employee, fellow workers or supervisors, medical or human resources practitioners. This process is exactly the same for any chronic illness that has permanently impaired an employee from carrying out his/her normal work duties. It seeks to find an alternative job placement within the employee's limitations, failing which the employee is ill health retired. The number of ill-health retirements\* continued to rise during the year to 22.7 per 1,000 employees (15.2 in 2003). The untested assumption is that increasingly, employees with HIV infection are progressing to AIDS-illness and debilitation, but remain reluctant to acknowledge their status and seek treatment. Of those employees who were ill-health retired in 2004 due to a terminal illness, 71.6% were known to be terminally ill as a consequence of AIDS\*\*.

The number of deaths\*\*\* per 1,000 employees has decreased marginally at 12.5 per 1,000 in 2004 (12.9 per 1,000 employees in 2003).\*\*\*\*

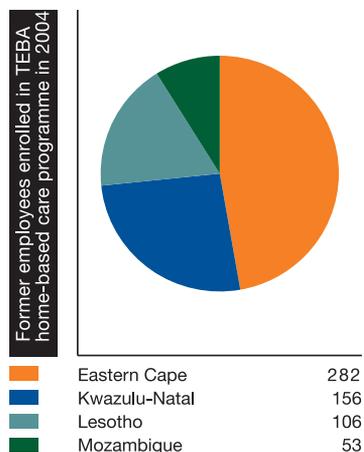
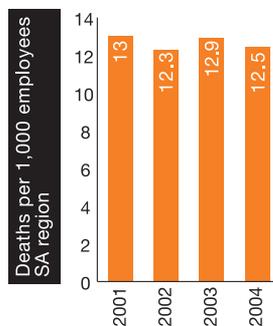
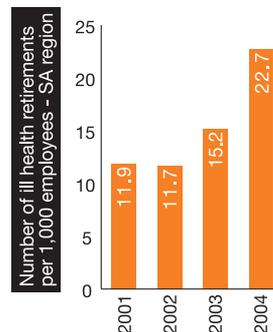
- \* Includes all employees separated from the company due to medical incapacitation, except those due to occupational injury.
- \*\* The remainder were either HIV negative or had an unknown HIV status.
- \*\*\* Includes all deaths in service except those due to occupational injury.
- \*\*\*\* All data is based on South Africa region employees, excluding contractors.

**Community-based programmes and home-based care**

Community-based prevention interventions target high-risk populations in the two regions surrounding AngloGold Ashanti mines. AngloGold Ashanti provides home-based care for employees with AIDS through a wide range of partnerships, both in the communities surrounding its operations and the traditional labour sending areas. The latter is done particularly through TEBA, which provides both palliative care to the terminally ill and support for the bereaved families, assisting them in accessing financial and welfare support.

**Community and home-based care organisations supported by AngloGold Ashanti in 2004**

Name of NGO	Service Rendered
Carletonville Home & Community-based care	Palliative care of terminally ill; support groups for people with AIDS; orphan care
Mothusimpilo	Sexual health care of commercial sex workers; peer education in Merafong communities in the West Wits area
Bambisanani	Palliative and orphan home based care in the Eastern Cape
Siyakhula	Sexual health care and peer education of commercial sex workers in Kerkisdorp/Orkney area
Heartbeat Centre for Community Development	Situational analysis of home based and orphan care need in the Kerkisdorp/Orkney area
Rudo Home-based care	Palliative and orphan home based care in the West Wits area
TEBA Home-based care	Palliative care of terminally ill ex-AngloGold Ashanti employees in the Eastern Cape, Kwazulu-Natal, Lesotho and Mozambique



## Taking care of orphaned and vulnerable children

Taking care of orphans and children left vulnerable as a result of the toll of the HIV/AIDS pandemic is an ever-increasing challenge. A recent publication by UNAIDS and UNICEF estimated that 14% of all South African children (2.5 million) will be orphans by 2005. Given the numbers involved, it is widely acknowledged that institutional care is not a viable solution and that community-based support systems are required to care for and support these children.

Early in 2004, AngloGold Ashanti recognised the Klerksdorp-Orkney-Stilfontein-Hartebeestfontein (KOSH) area in the North West Province, where four of its operations are located, as one without an adequate centralised oversight structure which could effectively coordinate the AIDS-related activities in the region. This was despite the fact that there were indeed numerous organisations in this area. It was this need that led to the involvement of Heartbeat, a community development organisation with a track record for delivery, particularly in addressing the needs of orphans and vulnerable children.

Heartbeat Centre for Community Development was initiated in 2000 by Rev Dr Sunette Pienaar to address the rights and needs of children orphaned mainly as a result of HIV/AIDS. Based on its extensive experience in Khutsong, near Carletonville, Heartbeat has developed a renowned model of care for orphans and vulnerable children, which is now being replicated across the country. This was done in conjunction with Carletonville Home and Community-Based Care, a project supported by AngloGold Ashanti. As a result of this intervention, all the children identified were registered for school, had school uniforms and stationery, accessed free water and electricity, gained government grants where applicable, and access to medical care. They all receive food parcels. The overall aim was to ensure they became just like other children in the community.

Heartbeat's proposal was to do a situational analysis of the area, including:

- a geographical analysis;
- identifying the number of orphaned and vulnerable children through schools so as to scope the problem;
- identifying existing organisations dealing with orphan care, income generation and palliative care in the areas; and
- identifying the gaps in service delivery by these organisations.

## HIV/AIDS programmes at the Africa operations (outside of South Africa)

While the prevalence of HIV/AIDS is not as high in countries such as **Ghana, Mali, Tanzania** and **Namibia**, the disease has had – and continues to have – an impact on both AngloGold Ashanti employees and their families in these areas. While AHS is becoming increasingly involved in directing these HIV/AIDS programmes, strategic direction and service delivery is managed on-mine, frequently involving other partners.

At Geita, in **Tanzania**, HIV and STI management has long been provided in collaboration between Geita and the African Medical and Research Foundation (AMREF) (*See case study on page HM21 on Geita gold mine and AMREF: Working together to address HIV/AIDS*). A significant development during the year was the roll-out of ART at Geita, thanks to the intervention of the partners with Government. (See box on page HM9). In preparation for this, Aurum conducted a four-day course on HIV management for all clinic doctors, nurses, AMREF staff and Geita hospital staff.

Geita's awareness and training programme is extensive: Its 27 on-mine peer health educators meet on a monthly basis to discuss issues faced during the previous month. A new topic for the month ahead is discussed, fact sheets are developed and demonstrations are held. All employees are exposed to the AIDS education at induction and as part of the monthly hazard identification training.

About 50 active peer health educators provide education and training to three local villages and plans are in place to extend this to two further villages in 2005.

At the VCT centre operated in Geita Town by AMREF, both employees and members of the local community are equally entitled to make use of these services. The centre offers free STI testing and treatment and free family planning services. HIV tests are charged at a rate of \$0.95. (*See case study HM21.*)

### Useful websites

[www.amref.org](http://www.amref.org)  
[www.heartbeat.org.za](http://www.heartbeat.org.za)

At Morila in **Mali**, an HIV prevention programme is in place, and focuses on prevention rather than treatment, owing to relatively low prevalence rates. The mine enjoys good collaboration with local NGOs in respect of HIV education and infection prevention: the mine distributed some 45,000 condoms during the year.

At the Sadiola and Yatela operations in **Mali**, peer educator training was implemented during the year. In addition, extensive community health education was provided by the mine to more than 13,000 community members during the year.

The Navachab mine in **Namibia** commenced the roll-out of its ART programme for employees in April 2004. The mine's comprehensive HIV prevention campaign is supported by VCT and a wellness programme.

At Obuasi in **Ghana**, VCT is offered free of charge at the Edwin Cade hospital. Medical care for HIV-positive employees is also provided by the hospital. The company has developed links with both NGOs (such as Care International) and government authorities (such as the Municipal Assembly, the Ministry of Health) in educating communities regarding reproductive health (including HIV/AIDS).

#### HIV/AIDS spending at Geita

In 2004, Geita mine spent some \$80,000 on various HIV/AIDS initiatives, excluding the \$150,000 raised through the Kilimanjaro Challenge. Most of the funding is provided to AMREF which oversees project implementation on behalf of the mine. Included in the projects/initiatives funded are:

- ongoing HIV/STI primary awareness programme
- mineworkers' peer health educator programme
- community peer health educator programme
- distribution of male and female condoms
- information, education and communication materials
- management of the VCT centre
- patient counselling
- focused interventions for high-risk groups, such as the handing out of tokens for free HIV tests at the Geita Town VCT Centre, and
- capacity-building for district hospital staff.

#### Climbing Kilimanjaro to conquer AIDS

In 2004, Geita Gold mine led the third Geita Kilimanjaro Challenge – a sponsored climb up Africa's highest peak – to demonstrate its commitment to eradicating HIV/AIDS and to generate funds for various AIDS related beneficiaries. The main aims of the Geita Kilimanjaro Challenge are to:

- raise awareness of the HIV/AIDS pandemic in Tanzania through media coverage
- make a significant financial contribution in support of HIV/AIDS initiatives in Tanzania. The Kilimanjaro climb has contributed \$290,000 over the last three years.
- align the challenge with existing government HIV/AIDS initiatives and programmes. The Tanzanian Commission for AIDS (TACAIDS), the national AIDS body in Tanzania, is a proud supporter of Geita Gold Mine's initiative.

#### Roll-out of ART advanced at Geita, thanks to intervention

Recently the mine health project collaboration has brought forward the introduction of anti-retroviral therapy (ART) at Geita, after a concern that Geita may be excluded from the national ART roll-out until the 3rd year in 2006. Since the VCT programme has alerted people to their status, Geita was considered by all parties (GGM, AMREF and Geita District) to be a high priority site for ART.

Following a plea by these parties to the Tanzanian Commission for AIDS (TACAIDS), Geita has now been advanced to the first year of national ART roll-out. Provision has been made for 300 patients in the first year in compliance with government treatment regimes and the first patient treatment began in November 2004.

#### HIV/AIDS awareness and training at Sadiola in Mali

HIV/AIDS awareness campaigns are provided for by the mine, but undertaken by local NGO PSI Mali. Communications media include a mobile video unit on display in Sadiola village as well as extensive awareness campaigns on site using posters and slogans on electronic noticeboards. About 15,000 condoms are distributed by the mine each month and in a recent development 24 peer educators were trained to take the messages into the community.



## Malaria programmes

Malaria remains the most significant public health threat for AngloGold Ashanti's operations in **Ghana, Mali, Tanzania and Guinea**. Not only does the disease have a significant impact on the productivity of employees, but also on the functioning of entire communities in these regions.

The group aims to implement integrated malaria control programmes in each of these regions. While good progress has been made at some operations, for example Morila, further work remains necessary at others.

Such an integrated malaria control programme comprises four elements, namely:

- Vector control. Two elements of vector control need to be undertaken:
  - First, there needs to be some degree of understanding of the problem that is being dealt with, thus mosquito identification and insecticide susceptibility tests need to be undertaken.
  - Second, indoor residual house-spraying, house-screening and the provision of insecticide impregnated bed nets (ITNs) is an important component of the programme.
- Disease management. Effective diagnosis and treatment underpin a successful intervention campaign, leading to a limitation of the pool of infected people at any one time.
- Surveillance and monitoring. Ongoing monitoring of both the vectors and parasites (for drug resistance) and the compilation of accurate records and reports are an integral part of the programme.
- Information, education, communication (IEC) and health promotion. Ultimately, some of the burden of the programme falls on the community and the better informed and educated they are about malaria prevention, the more likely it is that such a programme will succeed.

At the Obuasi mine in Ghana the mine hospital was reporting an average 6,000 malaria cases per month (2,000 of whom were employees) at the time of the merger. An average of about 20% of the workforce is believed to be afflicted with malaria at any one time and the average time off work for this condition is between two and three days. If these trends are extrapolated to the broader Obuasi community of 180,000 people, the problem can be seen to be immense.

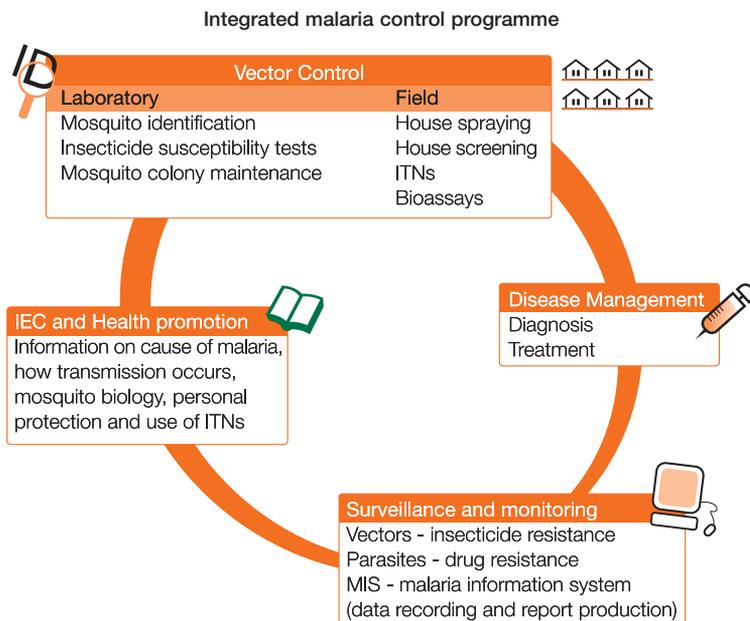
AngloGold Ashanti is embarking on a major malaria control programme at Obuasi and, following on from this, the lessons learnt and experience gained will be used to manage the disease at other operations in Ghana (Iduapriem and Bibiani) and Guinea (Siguir).



### Malaria – a deadly disease

This life-threatening parasitic disease is transmitted from person-to-person via the female Anopheles mosquito, which requires blood to nurture her eggs. Although this disease was once widespread, it was successfully eliminated from many countries with temperate climates during the mid-20th century. Today, the vast majority of malaria deaths occur in Africa, south of the Sahara.

It is estimated that more than one million deaths result and about 90% of these are in Africa. It is the leading cause of under-five mortality on the continent.



AngloGold Ashanti has committed itself to the implementation of an integrated malaria campaign at Obuasi and, in anticipation of this, Professor Richard Hunt of the National Institute of Communicable Diseases in South Africa, a world authority on insecticide resistance, was contracted to perform a study that would inform the way in which the malaria control programme is structured.

The \$1.6 million proposed programme is set to begin in mid-2005. (See case study: *A scientific approach to malaria control proposed at Obuasi on page HM14*).

At Geita in **Tanzania**, resident mosquito species were identified and insecticide resistance profiling was completed in 2004, in preparation for the development of an integrated malaria programme. (See case study: *Malaria vector survey and insecticide susceptibility assay on mosquito populations at Geita mine in Tanzania on page HM22*.) It is estimated that presently 10% of the workforce is afflicted by malaria every month. More comprehensive, standardised reporting on the incidence of malaria (including contractor incidence) is being implemented.

An integrated malaria control programme, introduced at Morila in **Mali** in 2003, has significantly reduced the incidence of malaria. The current incidence of malaria within the workforce per month is 4.7%, down from 9% three years ago. Ongoing mosquito species identification and research relating to insecticide resistance patterns are planned for 2005.

Malaria remains a significant health cost and cause of absenteeism at the Sadiola and Yatela operations in Mali. The current incidence level within the workforce per month is estimated at 10%.



HM12 | 5 Reporting in line with GRI

Social performance indicators:	
Labour practices and decent work	
Core indicators	Additional indicators
Health and safety	
<b>LA8 Description of policies or programmes (for the workplace and beyond) on HIV/AIDS.</b>	
See discussion on pages HM1 to HM11.	

\* Note that the balance of the indicators discussed in this section of GRI are covered in the section on occupational safety and health

## 6 Scorecard

HIV/AIDS		
Objectives for 2004	Performance in 2004	Objectives for 2005
Ensure that all AngloGold Ashanti operations susceptible to a higher HIV/AIDS risk adhere to best practice and common reporting standards	All operations implementing HIV programmes relevant to their risk in consultation with the company's HIV management team	Ensure that all AngloGold Ashanti operations susceptible to a higher HIV/AIDS risk adhere to best practice and common reporting standards
Renew prevention education efforts to pre-empt treatment complacency, evaluate behaviour change communication methods to ensure they are appropriate and effective, and maintain a ratio of one active peer educator per 100 employees	Objectives not achieved due to: – Lack of funding and support for communication project and its evaluation – Loss of peer education trainer, and delay in appointment of her successor	Reinforce prevention education efforts through more rigorous interaction between business units and HIV management team; increase ratio of peer educators to employees to 1:80
Increase VCT uptake by 200%, increase uptake on wellness programme by 150%, and increase ART enrolment by 100%	Only a fraction of the target was achieved for all three indicators. Attributable to persistent fear of disclosure and perceived stigma, and to stalled peer education programme	Increase numbers of VCT visits by 100% increase wellness clinic patients by 80%; increase patient numbers on ART by 80%
Extend provision of home-based care to more of its ill-health retired employees by expanding existing programmes	Ongoing collaboration with and operational support of home-based care services ensured continued uptake of ill-health retired employees in a palliative support programme	Consolidate the provision of supportive care to the company's ill-health retired employees as well as the communities in which AngloGold Ashanti operates
Pursue HIV sero-prevalence testing linked to a behavioural study, in partnership with recognised trade unions, some of which were reluctant to consent to such a survey in 2003	Based on the stance of NUM such a survey was not possible and is not likely to be conducted within the foreseeable future	

Malaria	
Objectives for 2005	
<ul style="list-style-type: none"> <li>● Roll-out of malaria control programme at Obuasi. It is envisaged that the programme developed here would be rolled out elsewhere in the group</li> </ul>	

## HM14 | 7.1 A scientific approach to malaria control at Obuasi

AngloGold Ashanti is poised to implement a multi-million dollar malaria control campaign in Ghana, following initial valuable research to understand the nature of the disease in the region.

Says Dr Piet van Wyk, (AngloGold Health service manager: Africa region), "Malaria is the single most important disease to impact on AngloGold Ashanti's operations in East and West Africa. The burden of malaria is reflected in increased morbidity, mortality and absenteeism in the workforce, as well as in decreased productivity and morale. The effect of malaria on surrounding non-mine communities is profound, with children and pregnant women being most severely compromised by this life-threatening parasitic disease."

The situation at Obuasi in the Ashanti region of West Ghana is no different and at the time of the business combination with Ashanti in April 2004, upwards of 6,000 malaria cases per month were being reported by the mine medical service. At any one point in time, 20% of the workforce had malaria and the average time off work for this condition was between two and three days. If these trends are extrapolated to the broader Obuasi community of 150,000 people, the full impact of the epidemic in this region can be appreciated.

As a starting point, the group needed to establish a scientific foundation on which to approach the problem, so a baseline study was initiated to identify resident mosquito vector species and possible insecticide resistance patterns in these populations. Professor Richard Hunt of the National Institute of Communicable Diseases in South Africa, a world authority on insecticide resistance, was contracted to perform the study.

The outcome of the study is now informing the way in which the malaria control programme is being structured: two dominant *Anopheles* mosquito species were identified, namely *funestus* and *gambiae*. Both of these species are effective in transmitting malaria and subsequent laboratory investigations in Johannesburg confirmed significant infection in both vectors with the malaria parasite, *Plasmodium falciparum*.

The insecticide resistance patterns in both species proved to be complex with complete, or partial resistance to three of the standard insecticides endorsed by the World Health Organization (WHO) for use in malaria control. However, both mosquito vectors were found to be susceptible to the organophosphate class of insecticides. Based on this knowledge an integrated malaria control approach was required as none of the recognised malaria control measures used in isolation would be effective in the Obuasi setting.

Says Dr Van Wyk, "Prior to implementing the full control programme, a baseline community parasite prevalence study will be performed by the Noguchi Research Institute in Accra. The baseline parasite prevalence rate will be used in follow-up studies to assess the success of local control initiatives.

"In conjunction with the prevalence study, a community knowledge, attitudes and practices survey will be conducted in Obuasi to inform a programme intended to disseminate information on malaria prevention and treatment as well as to market the the control programme. Periodic surveillance of mosquito species and insecticide resistance patterns will enable us to adapt our programmes in response to changes in any of the baseline parameters. A malaria laboratory will be established at Obuasi for this purpose in addition to maintaining captive mosquito colonies for use in quality assurance bioassays of insecticide efficacy."



"We aim to reduce the number of malaria cases in the community by 50% one year after the implementation of residual house spraying, scheduled to start in September 2005. We also aim to reduce the number of working days lost due to malaria from the current 3,600 per month to less than 1,000 days per month among the 6,500 employees at Obuasi.

"An effective malaria control programme at Obuasi will hold benefits not only for employees in Obuasi, but for society at large. It will have a positive impact on the health status, treatment costs, school attendance and productivity within the community."

### **Malaria programme at Obuasi**

When fully implemented by 2005, the integrated malaria control programme will consist of the following activities:

#### **Vector control**

Indoor residual house spraying with an organophosphate insecticide, in the first instance, will form the main thrust of the programme and to be effective, all of the estimated 40,000 houses in Obuasi need to be sprayed. This represents a major logistical challenge. In addition to house spraying, window and door screens need to be installed. The use of insecticide impregnated bednets (ITNs) will be promoted and subsidies to make bednets affordable to the community will be investigated. Environmental control efforts such as focused larvicidal spraying and engineering controls to ensure the reduction of open water bodies in the Obuasi district will augment the residual spraying campaign.

#### **Disease management**

Effective treatment protocols, which comply with national guidelines, have been introduced at the AngloGold Ashanti's William Cade Hospital (the local hospital at Obuasi) as chloroquine is no longer an effective drug in the treatment of malaria due to the development of significant drug resistance by the Plasmodium parasite. In addition to ensuring acceptable cure rates for malaria, effective drug treatment will reduce the pool of infected individuals in the community thereby impacting on the transmission cycle of malaria. Stricter criteria for the clinical diagnosis of malaria have been introduced which will improve the quality of case reporting and enable the health service to accurately track malaria incidence trends over time.

#### **Surveillance and monitoring**

A malaria information system will measure programme outcomes in the light of established standards and will consist of a database containing information on, for instance, insecticide resistance, larval surveys, bioassays, drug resistance, case detection, house spraying coverage, insecticide usage, bednet distribution and usage, breeding sites, disease outbreak foci, house screening and geographic information systems. The computerised system to be underpinned by field documentation will ensure that all the relevant data is captured at source.

#### **Information, education and communication**

Spray teams and medical staff have been trained to provide health information to the general population on aspects of malaria prevention, diagnosis and treatment.

This will be augmented by the provision of educational material such as pamphlets, posters and videos on malaria. Personal protective measures against malaria will also be promoted.

### HM16 | 7.2 Success reported with ART implementation, although uptake still slow

In April 2003, following a six-month pilot study, AngloGold Ashanti introduced its anti-retroviral therapy (ART) programme for those South African based employees infected with the HI virus and for whom ART was clinically indicated. (See Report to Society 2003.) This also followed extensive consultation and an eight-month implementation project to develop an understanding of and to find solutions to the challenges inherent in the provision of ART in the mining industry, particularly around supporting patient adherence to the drug regimen.

The delivery of ART is overseen by AngloGold Health Service, a subsidiary of AngloGold Ashanti. To date, uptake among employees has been slow. On the positive side the company has seen good progress among those employees who have taken up the treatment, says Dr Petra Kruger, formerly HIV/AIDS manager at AngloGold Ashanti and now a consultant to the company.

ART becomes medically indicated when a patient's CD4 count falls below 250 or if he or she has suffered an AIDS-defining illness. It is estimated that 20%, or about 2,400 of AngloGold Ashanti's South African-based HIV-infected employees (about 12,000 people), meet these medical eligibility criteria. Yet only 606 individuals are currently part of this programme.

In total 930 employees have been offered ART. Of these, 86% started the treatment; 10% declined to participate; in the case of 4%, a decision was taken along with their doctors not to embark on the treatment. In cases where the doctor was responsible for delaying the start of treatment it was because the patient was acutely ill and needed to recover before ART could be reconsidered. In a few cases it would have been because the patient was not, in the doctor's opinion, psychologically ready and would need more intensive counselling or even rehabilitation for substance abuse.

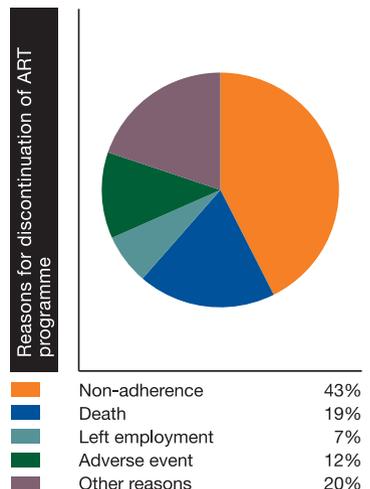
Of the 781 patients who started the treatment, 175 had dropped out for reasons ranging from non-adherence (43%), death (19%), adverse events (12%), leaving employment (7%) and other reasons (20%).

Of concern is the fact that the majority of employees (more than 70%) do not know their own HIV status because they choose not to be tested. The number of employees who chose to participate in the Voluntary Counselling and Testing (VCT) programme has been maintained year on year, at 3,264 people in 2003, and 4,071 in 2004. The reasons for this are varied, but are largely believed to be associated with the stigma of the disease and the resulting fear of discrimination. Other reasons cited are:

- concerns that clinic visits would mean lost shifts, affecting production bonuses;
- a lack of knowledge of ART and concern about its side-effects;
- the fact that some individuals are still feeling well and do not have any AIDS-related symptoms;
- insufficient evidence of individuals on ART who are visibly well or recovering, and who are willing to disclose their status and treatment; and
- concerns about their families and their well-being.

On the whole, patients who are on treatment return to work and show clinical improvement as evidenced by recovering CD4 counts and diminishing viral loads.

Says Dr Kruger, "We have fared well, particularly when looking at adherence rates, improvements in biological markers and return to work when on treatment. We can attribute this to very good counselling and education, a lesson that we can learn from and apply across the entire spectrum of chronic disease."



## Reasons for not entering treatment

Reason	No of people	%
Afraid of breach of confidentiality	1	1
Fear of stigma	4	4
Afraid of side-effects of drugs	5	5
Not willing to have blood taken	4	4
Not willing to accept HIV status	18	19
Not convinced of benefits of taking treatment	15	16
Other/no reason	47	49

### What is ART and how is it delivered?

Anti-retrovirals are drugs that act against viruses such as HIV and are used in anti-retroviral therapy (ART), a programme of treatment. Highly active anti-retroviral therapy (HAART) refers to a cocktail of three or more drugs, which in combination are strong enough to reduce viral loads to very low levels.

When an individual contracts HIV, the HI virus enters the cells of the body's immune (or defence) system where it multiplies before killing those cells and moving on to infect other cells. The most important cell that the virus enters is known as the CD4 cell.

As the virus destroys increasing numbers of CD4 cells, the individual reaches a point where his or her defence systems are no longer capable of withstanding attack from other diseases. At this point he or she becomes susceptible to certain infections and cancers against which the immune system would ordinarily have guarded the body – in other words, the HIV-infected person becomes AIDS-ill. These opportunistic illnesses – including TB – become more frequent and more severe and, in most cases, eventually lead to death.

ART works by stopping the virus from entering or multiplying itself in the immune cells of the body. Many people with HIV who have taken these drugs have been able to lead longer, healthier lives. While these drugs cannot cure HIV, they do interrupt the progression of the disease allowing employees to remain productive and to enjoy a vastly improved quality of life.

Eligible employees are invited to participate in the ART programme. They are given detailed information about the programme and the nature of the treatment, including the possible side-effects, the patient's own obligations while receiving the medication and the extent of the company's commitment. Each person is then given two weeks to consider his or her participation.



### HM18 | 7.3 Wellness Clinic at West Vaal Hospital

When Joseph Mohlakoana was asked if he would like to work with people living with HIV/AIDS, he had no hesitation. At the time he was working as a professional nurse in the casualty department of AngloGold Health Service's West Vaal Hospital at West Wits. He was delighted at the challenge of setting up AngloGold Ashanti's first Wellness Clinic from scratch. He also felt strongly that HIV/AIDS was not being accorded the priority it deserved.

Starting out initially as a wellness programme in October 2000, under the auspices of Aurum Health Research in the Free State, the centre evolved into the Wellness Clinic a year later. Looking to Aurum for guidance on how to run a clinic, Mohlakoana started off with five counsellors, two professional nurses (including himself), one medical officer, one enrolled nurse and a data capturer. Today, Mohlakoana is in the position of unit manager, overseeing a staff of 24 which includes nine professional nurses and an equal number of counsellors.

As his staff complement grew, so have his "clients", as Mohlakoana respectfully refers to HIV/AIDS people attending the clinic. In the early days, about 30 to 40 clients trickled through the clinic monthly; now there are up to 400 visits a month, comprising first-time appointments and follow-ups. All AngloGold Ashanti employees are eligible for treatment – also their spouses and dependents, provided they are on a medical aid.

The clinic offers HIV/AIDS awareness and education, voluntary counselling and testing (VCT) and preventative treatment for TB. Anti-retroviral therapy (ART), which controls the viral load and supports the body's defence mechanism against opportunistic illnesses, was introduced in 2002.

What Mohlakoana enjoys most about his involvement in the clinic is his interaction with clients at a personal level. He knows two-thirds by name – important, he says, in breaking down barriers and destigmatising the disease. Although there have been inroads in removing the stigma, Mohlakoana is disappointed that it has not gone as far as he expected, and he still has to deal with cases of discrimination from clients' peers and management. He goes as far as to say that attitudes are "sometimes appalling" with clients labelled as malingers and sometimes reprimanded when they are absent due to treatment – ironic, he adds, since those critics belong to a company that is not only at the forefront of HIV/AIDS programmes, but is also 'committed to creating workplaces free of harassment and unfair discrimination'. In an attempt to change attitudes, Mohlakoana holds awareness days to dispel some of the myths around the disease. "I use a very different approach," he says, which includes speaking in the vernacular and making use of analogies relevant to the culture of the audience. He also makes a point of greeting clients each morning when they arrive at the clinic by bus, using the opportunity to give an informal talk on general health issues, not just HIV/AIDS.

Mohlakoana's down-to-earth approach rubs off on his colleagues, in whom he tries to instill his attitude of caring and compassion. Some of his counsellors already have those qualities, living as they do with HIV/AIDS. "Those are the types of counsellors you would wish for," enthuses Mohlakoana, without a hint of irony, because they understand and have empathy for clients. They are also proof that HIV/AIDS is not a death sentence and that people living with the disease can regain much of their health; even clients who arrive in a wheelchair are often able to return to work after treatment.

The centre has become a prototype for wellness clinics at other AngloGold Ashanti operations and, if Mohlakoana's vision for the future is realised, they should succeed in reducing the company's disease/ill health burden significantly in the years to come.



### 7.4 Living with HIV/AIDS – an employee’s story

Johanna Moleko knew that something was amiss when she started experiencing bad bouts of dizziness, leaving her unable to stand for more than five minutes at a time.

Putting her symptoms down to low blood pressure, she consulted her doctor who booked her into hospital for three days. But when her symptoms persisted, and she became aware of significant weight loss, her suspicions were aroused.

She had been for HIV/AIDS voluntary counselling and testing (VCT) in October 2002 at AngloGold Health Service’s (AHS) West Wits Wellness Clinic at Western Deep Levels Hospital, where the results were negative. But she wasn’t convinced. “I have a feeling that I’m HIV positive,” thought Moleko who went for a follow-up test in December 2002. Her fears were confirmed when a counsellor gave her the diagnosis. However, as a nurse working in the tuberculosis (TB) ward at the hospital, Moleko knew about HIV and AIDS and took the news more calmly than others might have.



On first meeting Moleko, one is immediately struck by her calm nature. She’s a deeply religious person who attributes her faith to pulling her through the worst crisis in her life. So instead of feeling sorry for herself and looking to apportion blame, she accepted her fate almost immediately. But not before making a pact with the virus, which she has personalised by naming it ‘House in Vereeniging’ – an acronym for HIV. “Let’s live together as friends,” she appealed to it. “You know I can’t kill you so I am accepting you.”

She decided to attend the West Wits Wellness Clinic on a regular basis, revealing her condition to a close family member and to a trusted friend, as well as to her Supervisor and to the Assistant Matron of the ward. Since TB is an opportunistic infection for people living with HIV/AIDS, Moleko was moved from the TB Ward, where she’d worked for 10 years, to the out-patients department. When her CD4 count dropped to 187 from 500 and her viral load increased to 1,986, she decided to undertake anti-retroviral therapy (ART) in April 2004. But not before finally sharing her condition with her children – a daughter of 21 and a son of 19. The thought of telling them had haunted her since she first received the diagnosis and it was a huge relief once they knew.

Since then, Moleko has publicly declared her status to colleagues on Aids Awareness Day, on 1 December 2004. Her reasoning is simple, “If we can be open, join hands and fight, there won’t be a stigma.” Moleko is one of a few employees at AngloGold Ashanti and AHS, who, by being outspoken about their status, are hoping to help destigmatise the disease and encourage acceptance by both HIV positive and negative people. As a role model, she continues to speak out.

She engages in informal counselling and has attended a peer educator course in line with best practice that favours ‘lifetime experience’ over ‘theoretical experience’ – i.e. those living with or affected by HIV/AIDS are best equipped to interact with others at an educational and emotional level. It is also reassuring that the diminutive Moleko, despite her condition, is healthy and sprightly – due to a combination of medication and attitude. She copes with a regular 07:00 to 15:30 nursing shift and, indeed, appears so normal that some question whether she really is HIV positive! After three months of ART her CD4 count picked up to 218 and her viral load dropped to below 50. “Accept the virus and live positively,” is her advice, along with “Be open to talk. Don’t be afraid even though it is painful.”

Moleko has now proposed setting up a support group for those infected and affected by HIV/AIDS which has the backing of both management and unions.



### HM20 | 7.5 Peer education at AngloGold Ashanti in 2004

As significant employers of largely unskilled employees, South Africa mining companies have found themselves at the forefront of programmes aimed at HIV/AIDS education and awareness.

Peer education was introduced in 2000 as a way of changing behaviour patterns to ensure safer sexual practices among employees and external groups (families and communities), through either formal or informal interaction with an educator they could feel comfortable with – for example, someone with whom they socialise, play sport, or share a room. It was felt that the peer educator approach would remove any feelings of imposition by management, and that employees were more likely to engage with educators from a similar lifestyle in a non-threatening environment. Buti Kulwane, assistant manager HIV/AIDS at AngloGold Health Service has been involved with peer education since the early 1990s, when it was really the only form of education – and informal at that.

“Over the years, however, companies recognised its effectiveness as a teaching tool and the mining industry, in particular, decided to include it as part of its formal education and awareness programmes, linked to government’s five-year HIV/AIDS strategic plan. As a result AngloGold Ashanti trained its first peer educators in 2001.”

Peer educators are trained in a variety of skills including presentation techniques; participatory facilitation; sexually transmitted infections (STIs), gender issues and TB; and how the immune system works (e.g. understanding the viral load and CD4 count). Education sessions are held either formally in weekly group meetings with employees or informally on a daily basis with individuals. Peer education also takes place as part of induction training (when employees return from leave and are reacquainted with mine safety procedures) or is promoted at quarterly business unit awareness campaigns.

Up until last year peer educators were trained by AngloGold Ashanti’s in-house peer educator trainer; 351 peer educators were trained between 2001 and 2003. However, during 2004 AngloGold Ashanti’s in-house trainer left the health service with the result that only 14 peer educators were trained in 2004. The company has now decided to engage the services of an external South African Qualifications Authority (SAQA) accredited training vendor, and courses were scheduled to commence at the end of March 2005. As training is to become an external function, individual mines will now be responsible for the logistics of peer educator training and payment thereof.

Two regional co-coordinators were appointed at the end of 2004 to ensure effective peer education through monitoring, mentoring and motivating, the key pillars of peer education sustainability. The training vendor will also be responsible for skills and knowledge transfer in these three spheres. Key performance areas in the newly established regional co-ordinator positions are training provision; leadership and control; and liaison and communication.

Philip Alexander, Savuka’s senior human resources officer, has been involved with his mine’s peer education programme for the last three years. Savuka is unique in that it has an HIV/AIDS information centre as well as a full-time peer educator, Jutas Rikhotso, a former driller underground. Rikhotso was inspired to become a part-time peer educator in 1999 because he wanted to know more about HIV/AIDS and to tell others about it, after realising that people generally weren’t educated about the disease. He assumed the role of full-time peer educator in 2003 and now conducts training sessions for employees at Savuka’s training centre. Since employees’ partners are also an important target group in changing sexual behaviour patterns, Rikhotso also educates groups of wives, girlfriends and sex workers at the visiting wives’ centre, accompanied by a female VCT counsellor.

Savuka also has 27 part-time peer educators but aims to have 37 by the end of 2005; this will reduce the ratio to one peer educator for 80 people. (Guidelines vary from 1:20 up to 1:100.) According to Alexander, incentives are important in motivating peer educators and encouraging on-going peer education commitment. Savuka awards peer educators with certificates of PE competence, and distributes AIDS-related goods (e.g. HIV/AIDS-awareness T-shirts) to identify peer educators, and educational resources (e.g. HIV/AIDS toolkits) to assist in education sessions; the mine also holds an annual function which recognises ‘Best peer educator of the year’.

The success of AngloGold Ashanti’s overall peer educator programme is currently difficult to gauge, since proper monitoring mechanisms are not yet in place. However, as from 2005 peer educators will be obliged to submit monthly progress reports to their respective regional co-ordinator, in an effort to establish the effectiveness of peer education.



## 7.6 Geita gold mine and AMREF: Working together to address HIV/AIDS

The success of the HIV/STI programme at Geita gold mine in Tanzania is due in large part to the collaboration between Geita and African Medical and Research Foundation (AMREF) and the government of Tanzania. AMREF brings to the partnership a track record in the field of HIV research and HIV/STI programme implementation, specifically in Tanzania (see box); Geita contributed financially and in kind and is committed to ongoing HIV/AIDS prevention and control; and the state has contributed in its support for the programmes implemented and in the roll-out of anti-retroviral therapy (ART) in the region (see box).

Says Dr Gerald Baldrey, at Geita, "The Lake Victoria zone of Tanzania has a relatively high prevalence rate of HIV and sexually transmitted infections (STIs). Situated about 20 kilometres from Lake Victoria, Geita gold mine falls into this high-risk area. Aware of the pre-existing high HIV/STI incidence in the area and committed to fighting both, Geita joined forces with AMREF to establish HIV/STI programmes in the area a year after the mine was constructed in 2000. Geita provides funding to the AMREF mine health project, with support from Stanley Mining Services, African Mining Services, DTP Terracement and other contractors.

To establish baseline health data in the Geita mining community, in January 2001 an initial health survey was conducted by AMREF in and around the mine, including Geita town where the incidence of HIV is known to be high. The findings emphasised the urgent need for a comprehensive community health programme focusing on HIV/STI prevention, as well as malaria and tuberculosis (TB) prevention. As a result the AMREF Mine Health Project (MHP) started at Geita in July 2001. The project, aimed at mineworkers, female bar/guest house workers, and the communities surrounding the mines targets the mine site, the community and district health facilities. Key objectives of the programme have been to:

- promote healthy behaviour with respect to HIV, STIs and malaria among the mine workforce through awareness workshops and the peer health educator (PHE) scheme;
- facilitate community participation in the prevention of HIV, STI, TB and malaria transmission as well as care of those already infected through training and supporting community health educators (CHE);
- implement focused interventions targeting female bar/guest house workers by promoting safe sex and treating STIs;
- manage a sustainable voluntary counselling and testing (VCT) service for mineworkers, their families and the community;
- support district health facilities in the provision of services; and
- measure the impact, and assess the effectiveness of this intervention.

In 2002, with funds provided by Geita, AMREF opened the HIV information centre at the former Geita bus station. The Geita HIV information centre, offering sexual and reproductive health services, and VCT, is one of the first stand-alone VCT centres in Tanzania. In 2004 some 5,185 clients presented at the centre, of whom 2,128 requested HIV testing and 1,889 were treated for STIs. The VCT centre, with six full-time staff, three part-time staff and volunteer staff, works in partnership with the Geita district municipality.

A progress survey was conducted in 2004 to determine changes in the prevalence of HIV, STI and malaria and in high-risk behaviour patterns, since the baseline survey of 2001. Results showed an improvement in sexual health knowledge among mineworkers and community members. Condom use had increased and HIV prevalence had not risen significantly. HIV prevalence amongst both female community members and bar/guest house workers had decreased, though not significantly. STI incidence had decreased as had the number of men and women paying for sex.

### Roll-out of ART advanced at Geita, thanks to intervention

Recently the MHP collaboration has brought forward the introduction of anti-retroviral therapy (ART) at Geita, after a concern that Geita may be excluded from the national ART roll-out until the 3rd year in 2006. Since the VCT programme has alerted people to their status, Geita was considered by all parties (GGM, AMREF and Geita District) to be a high priority site for ART.

Following a plea by these parties to the Tanzanian Commission for AIDS (TACAIDS), Geita has now been advanced to the first year of national ART roll-out. Provision has been made for 300 patients in the first year in compliance with government treatment regimes and the first patient treatment began in November 2004.



### History of project

In 1989 the African Medical and Research Foundation (AMREF), the London School of Hygiene and Tropical Medicine and the Tanzania National Institute for Medical Research collaborated on the development and evaluation of interventions for HIV and STI prevention in the Lake Victoria zone. The AMREF mine health project was established in 2000 to minimise the potential health risks posed to new mine recruits and members of the surrounding communities.

### Putting the project in context: facts about Geita and HIV/AIDS

Geita town has an estimated population of 120,000 people. Geita gold mine – until the merger of the two companies in April 2004 – jointly managed by AngloGold and Ashanti Goldfields Company.

Construction began at Geita in 1999 and production in 2000, so this is a relatively new operation. Open-pit mining is conducted with 648 employees (594 local and 54 expatriate) and 1,390 contractor employees.

AMREF completed a baseline STI/HIV/AIDS survey in Geita town and on the mine in January 2001. The survey confirmed a pre-existing local HIV epidemic, and specifically that:

- 16% of men and 18% of women in the local community were HIV positive; and
- 42% of local commercial sex workers were HIV positive.

Geita collaborated with and contracted AMREF to run various components of its HIV programme for three years (2001 – 2004). A notable feature of this programme is that the mine-based interventions are integrated with parallel interventions in the community, which are partially sponsored by the mine. The programme is continuing.

## 7.7 Malaria vector survey and insecticide susceptibility assay on mosquito populations at Geita mine in Tanzania

AngloGold Health Service engaged Professor Richard Hunt, South African National Institute of Medical Research, an acknowledged expert on the subject, to conduct a malaria vector survey and insecticide susceptibility assay on mosquito populations at the mine. This is in anticipation of an integrated malaria control programme being developed and implemented in the near future. The research was undertaken in late October/early November 2004.

According to Prof. Hunt, "The survey carried out was designed to answer two questions that form the starting point of any malaria vector control programme, namely, which species of the Anopheles mosquito are transmitting malaria in the area, and what is their response to insecticides approved for malaria control."

### Species identification and parasite infectivity

Species identification was carried out using DNA analysis protocols that are designed to separate the individual species. Samples of mosquitoes were subjected to biochemical analysis to determine whether they contained the parasites in or near to the salivary glands and therefore were potential transmitters.

### Insecticide resistance tests

Five different insecticides were tested: The results indicated a low level of DDT resistance in the Geita funestus population, but both species groups showed full susceptibility to the pyrethroids, carbamates and organophosphates.

The main findings of the research reported by Prof. Hunt was that the three major mosquito vectors are all present at Geita mine, and that the parasite infectivity rate in the three species is in line with historical records for these species in East and southern Africa, that is funestus is the major vector with 6.7% infectivity, gambiae the next best with 3.03% and arabiensis apparently playing no role in malaria transmission at Geita. He notes, however, that these figures will change when sampling is done at different times of the year because the density of the different mosquito populations is dependent on seasonal fluctuations. So, for example, during the drier months, arabiensis will be more predominant and may have a higher infectivity rate than gambiae. This needs to be confirmed by additional mosquito sampling.

Prof Hunt concludes that a malaria control programme is effective only if the vectors are controlled in addition to accurate diagnosis and treatment of the disease in humans. In addition, he notes that:

- The vector control operations must be targeted at those mosquitoes that are transmitting the parasites, in this case funestus and gambiae. These species are both highly anthropophilic (which means that they prefer feeding on humans) and prefer feeding and resting inside houses. This makes them amenable to control through indoor residual house spraying and through the use of insecticide treated bed nets if the community is willing to participate.
- Insecticide susceptibility tests indicate 100% mortality to the pyrethroid Deltamethrin and so the use of this insecticide is recommended for both house spraying and treated nets. Pyrethroids are recommended by the World Health Organization (WHO) because of their low mammalian toxicity and low impact on the environment. Screening of doors and windows of houses should be encouraged and these can be impregnated or treated with insecticides to make them more efficient.
- Larviciding and environmental management should be practised where appropriate, but these operations need to be carefully planned as they are expensive and not as effective on a broad scale as house spraying or treated bed nets.
- Implementation of the control programme needs to be accompanied by the collection of baseline information on malaria cases as this will be used as an indicator of success of the programme.



Species	No. identified	% parasite positive
funestus	151	6.7 (4/60)
gambiae	34	3.03 (1/33)
arabiensis	39	0 (0/38)

Mortality of funestus and gambiae groups exposed to various insecticides used in malaria control

Insecticide	Species group	Number tested	% Mortality
DDT	An. funestus	110	90.9
	An. gambiae	61	100
Deltamethrin	An. funestus	115	100
	An. gambiae	55	100
Bendiocarb	An. funestus	88	98.9
	An. gambiae	40	100
Fenitrothion	An. funestus	99	100
	An. gambiae	26	100
Dieldrin	An. funestus	48	100
	An. gambiae	64	90
Controls	An. funestus	73	98.6

# Labour Practice

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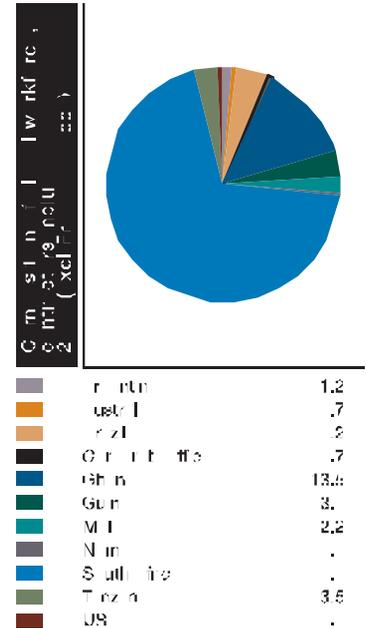
## L2 | 1 AngloGold Ashanti as an employer – labour practices

- AngloGold Ashanti is committed to upholding the Fundamental Rights Conventions of the International Labour Organization. Accordingly, we seek to ensure the implementation of fair **employment practices** by prohibiting forced, compulsory or child labour.
- AngloGold Ashanti is committed to creating workplaces free of **harassment** and **unfair discrimination**.
- As an international company, we face different challenges in different countries with regard to, for example, offering opportunities to citizens who may not have enjoyed **equal opportunities** in the past. In such cases, the company is committed to addressing the challenge in a manner appropriate to the local circumstances.
- We will **seek to understand** the different cultural dynamics in host communities and adapt work practices to accommodate this where doing so is possible and compatible with the principles expressed in this document.
- The company will promote the development of a work force that reflects the international and local **diversity** of the organisation.
- The company will provide all employees with the opportunity to participate in **training** that will improve their workplace competency.
- The company is committed to ensuring that every employee has the opportunity to become **numerate** and functionally **literate** in the language of the workplace.
- The company is committed to developing motivated, competent and experienced **teams** of employees through appropriate recruitment, retention and development initiatives. An emphasis is placed on the identification of potential talent, mentoring and personal development planning.
- Remuneration systems will **reward** both individual and team effort in a meaningful way.
- Guided by local circumstances, we shall continue to work together with stakeholders to ensure minimum standards for company-provided **accommodation**.
- The company assures access to affordable **health care** for employees and where possible, for their families.
- We are committed to prompt and supportive action in response to any major **health threats** in the regions in which we operate.



## 2 Key indicators

- Following the business combination between AngloGold and Ashanti on 26 April 2004, 65,400 people worked at AngloGold Ashanti (calculated on a monthly average basis post the business combination) in 2004. This figure comprises 50,737 employees and 14,663 contractors. As at 31 December 2003, this number was 55,439. At the time of the business combination, 8,965 permanent employees were employed by Ashanti. As part of the combination of AngloGold with Ashanti, the parties entered into a stability agreement where AngloGold agreed not to implement any retrenchment programmes for two years after the effective date of the business combination (26 April 2004).
  - The Freda Rebecca mine in Zimbabwe (745 employees) was sold on 10 September 2004.
- No breaches of fundamental rights conventions of the International Labour Organization (ILO) were charged or alleged during 2004 against the company.
- Employment costs for the group amounted to \$863.14 million for 2004.
- 83.5% of the global workforce is represented by recognised trade unions or catered for by collective bargaining processes.
  - In **South Africa**, 92.7% of all employees are either represented by unions or catered for by the agency shop agreement. (An agency shop agreement exists across the non-supervisory bargaining unit within the company. This means that subscriptions are deducted from non-union members and paid directly into a human and industrial relations fund.)
  - Union recognition agreements or industry collective bargaining arrangements are in place in **Mali, Tanzania, Namibia, Ghana, Guinea, Brazil and Argentina**.
  - The **Australia** and the **United States** operations are non-unionised.
- Training and development expenditure in the AngloGold Ashanti South Africa region amounted to \$28 million in 2004.
  - Adult Basic Education and Training (ABET) is a significant area of development in South Africa in particular, with 5,147 employees enrolled in the programme, at a cost to the company of \$1.6 million or R10.4 million in 2004 (2003: \$1.7 million or R12.8 million).
  - Training costs amounted to 3.2% of total employee costs for the year.
  - An estimated amount of \$950,000 was spent on executive, management and senior management development.
- Employment equity and/or equal opportunity targets are set and their achievement is monitored by a board sub-committee – the employment equity and skills development committee. In **South Africa** the employment of Historically Disadvantaged South Africans (HDSAs) is a particular priority. Employment targets and achievements are reported to the South African Department of Labour on an annual basis.
  - Within South Africa, 32% of management comprises HDSAs. (The latter term includes citizens of countries within the South African Customs Union – SACU – and Mozambique. Managerial employees are defined as those in supervisory and management roles in Paterson job grades C-Upper and above);
  - HDSAs make up 20% of the board.

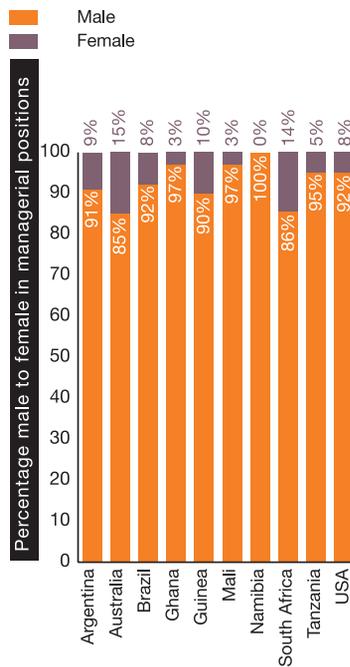
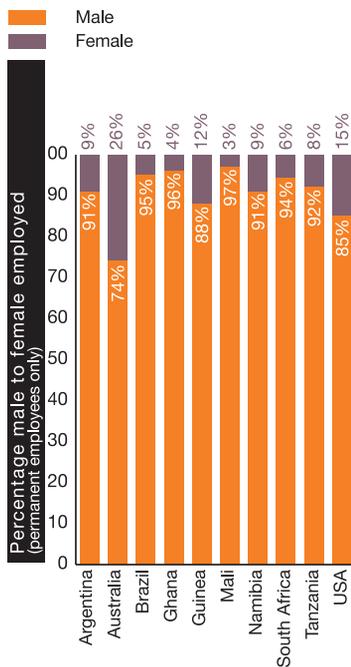
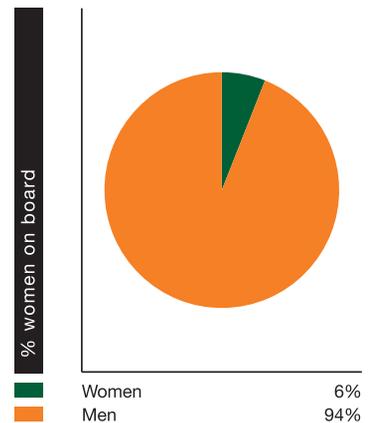
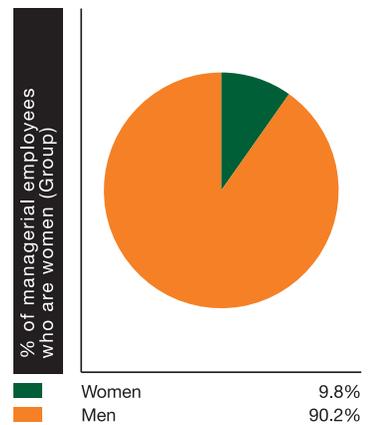
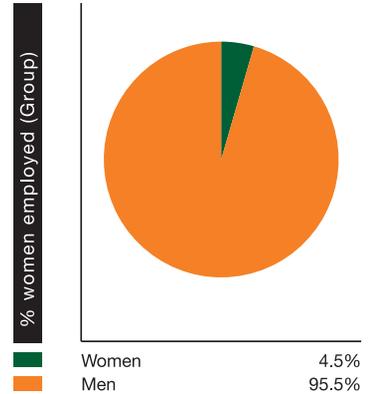


### Our opinion is based on a test of the reliability of the selected data by way of:

In relation to selected data marked with  on which we have provided reasonable assurance:

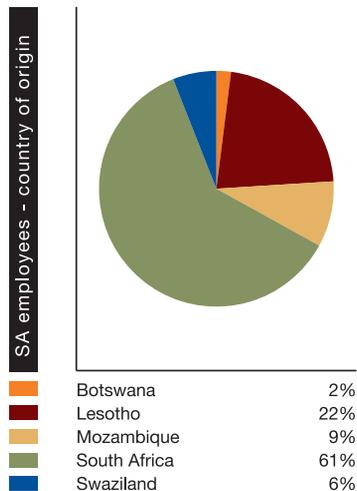
- conducting interviews and holding discussions with management, key personnel and/or stakeholders of AngloGold Ashanti limited and assessing data trends;
- obtaining an understanding of the systems used to generate, aggregate and report the selected data;
- conducting site visits to test systems and data and inspecting premises where necessary;
- assessing the completeness and accuracy of the selected data; and
- reviewing and analysing collected information and effecting re-calculations where considered appropriate.

- Efforts to increase the representation of women at all levels continue:
  - 4.5% of all permanent employees are women;
  - 6% of all permanent employees in South Africa are women;
  - 9.8% of all managerial employees are women, while 14% of managerial employees in South Africa are women; and
  - women comprise 6% of the board.
- A programme to employ indigenous people (rather than expatriates) is in place in the African operations (excluding South Africa). The percentage of indigenous people employed was 97% during the year (90% in 2003 for AngloGold).
- Foreign migrancy is reported in **South Africa** in line with the spirit of the Mining Charter. Foreign migrants are defined as employees drawn from outside of the borders of the country and generally from within the South African Customs Unions, plus Mozambique. Many other migrant workers originate from rural areas within South Africa. The percentage of foreign migrant employees (defined in this way) was 37% as at 31 December 2004.
- Across AngloGold Ashanti, 5,430 employees left employment during the year, representing a turnover rate for the group as a whole of 10%.



### 3 Milestones 2004

- Following the business combination between AngloGold and Ashanti Limited becoming effective on 26 April 2004, task teams were appointed to ensure the integration of systems and values between the two companies. A number of structural and senior management changes have been effected and the integration between the two companies has now largely been completed.
- At the Navachab operation in **Namibia**, the company successfully transferred to owner-mining (as opposed to contractor-mining) during the year.
- A bursary scheme was implemented in the **Mali** region during the year in an effort to develop local skills and expedite the localisation programme. Ten top Malian school leavers began graduate studies at the University of Pretoria, South Africa, at the beginning of 2005 in the disciplines of mining, engineering, metallurgy, environment and geology, following a language bridging programme at the end of 2004.
- A two-year dispute regarding the legal obligation of the Morila Mine in **Mali** to pay a bonus scheme (*prime de rendement*) was successfully resolved in November 2004.
- Closure plans, particularly in respect of reskilling of employees, have progressed at Ergo in **South Africa** in anticipation of the cessation of operations in early 2005.



**A significant employer**

AngloGold Ashanti is a significant employer in the global mining industry.

On average, during 2004, AngloGold Ashanti employed 65,400 employees and contractors (AngloGold 53,466 and Ashanti 11,934), broken down as follows: Corporate office 476; South Africa 44,867; Ghana 8,712; Argentina 791; Brazil 2,686, USA 411; Australia 455; Mali 1,413; Guinea 2,335; Tanzania 2,258 and Namibia 251. 745 employees were employed by Freda-Rebecca mine which was sold in September 2004.

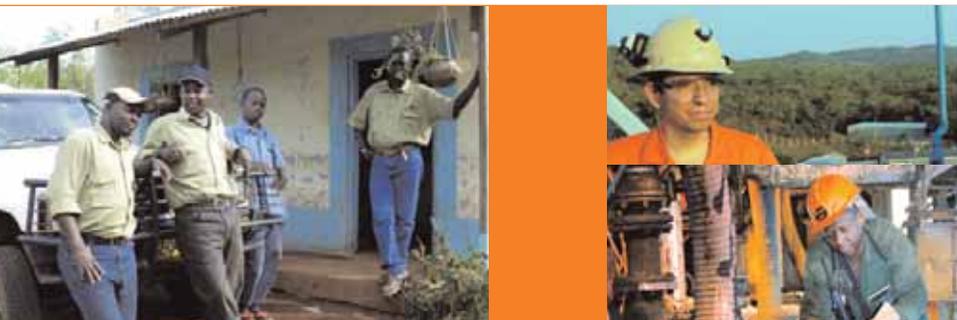
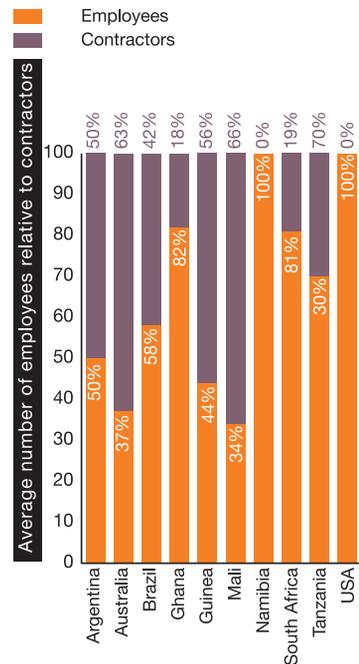
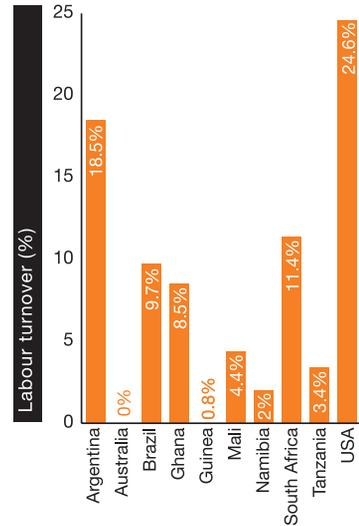
The number in South America increased as a result of the Cuiabá Expansion project in **Brazil** and additional employees at Cerro Vanguardia in **Argentina**. Employee numbers in the **South Africa** region decreased by about 4% largely as a result of natural attrition and downsizing at Savuka and Ergo.

It is expected that there will be a 10% increase in labour at the Geita mine in **Tanzania** in 2005, as a result of the implementation of new labour legislation limiting working hours. The number of people employed in the **South Africa** region is expected to decrease by close on 2,000 employees (5%) and 1,107 contractors (15%) during 2005 as a result of further downsizing of Savuka (See case study: *Reducing the trauma of retrenchment at Savuka on page L32*) and the closure of Ergo (See case study: *Orderly closure at Ergo – social plan for employees on page L31*).

An important part of the group's global presence is the allocation and use of the most appropriate personnel where they are required. While efforts are in place to minimise the use of expatriate labour, the secondment of staff is both an incentive to employees and a benefit to the company. About 270 assignees were placed on contracts within the group during the year, primarily in the African operations in **Mali, Tanzania, Ghana** and **Guinea**. These employees have largely been drawn from South Africa, Ghana, the United Kingdom, Australia and Canada. In 2004, some 5% of senior management at the corporate office were expatriates, mainly from Ghana, the US and Australia. (See case study: *Being part of a global group – the opportunity of secondment on page L26*.)

**Management structure and governance**

Five executive directors and 10 non-executive directors make up the board of the group, with the former CEO of AngloGold – Bobby Godsell – remaining the CEO of Anglo Gold Ashanti and the former CEO of Ashanti – Dr Sam Jonah – becoming the President of the group. The Board structure is dealt with comprehensively in the *Annual Report 2004 and in the Ethics and Governance section of the Report to Society 2004*. The five executive directors – Bobby Godsell, Dr Sam Jonah, Jonathan Best, Kelvin Williams and Dave Hodgson – are charged with the day-to-day running of the company (making up the executive committee, which is chaired by the CEO), and they are supported by operations committee, which is chaired by the chief operating officer/s.



While a member of the operations committee is responsible for human resources and the central human resource development policies that guide and support the human resources practice within the group, each region and/or business unit operates under the auspices of a regional head. Policies are developed and procedures implemented that are relevant to the country and circumstances inherent within the region, complying with regional legislation and labour requirements, as well as region-specific imperatives.

### Human rights and fair employment practices

AngloGold Ashanti is committed to upholding the Fundamental Conventions of the International Labour Organization (ILO) and seeks to ensure fair employment practices group-wide. The group's business principles – (See page L2) underpin this commitment, and reflect the spirit of the Universal Declaration and the Fundamental Human Rights Conventions of the ILO.

By virtue of its domicile in South Africa, AngloGold Ashanti is subject to certain conventions signed by the South African government. These include human rights and social conventions (ILO 29, 87, 98, 100, 105, 111 and 138). South Africa's constitution, together with its associated laws, is internationally acknowledged to be amongst the most progressive in the world, guaranteeing non-discrimination on the basis of race and other unfair grounds, freedom of association and the rights of children, among other basic human rights. These guarantees and undertakings are extended to the rest of the group by virtue of the company's commitments and domicile.

Certain ILO conventions (such as ILO Convention 128 dealing with child labour, and ILO Convention No 29 dealing with forced and compulsory labour) are also governed by law in **South Africa, Argentina, Brazil, Australia, Namibia, Tanzania** and the **USA**, and by law and various codes such as the Malian Labour Code and Malian Collective Agreement (in **Mali**).

Among the agreements and policies in place at an operational level to ensure that human rights are protected are:

- recognition agreements
- disciplinary procedures
- appeal procedures
- grievance procedures, and
- collective bargaining agreements.

### Unions and collective bargaining

Management/union relationships are governed by negotiated agreements in respect of most of the group's workforce, with 83.5% of the global workforce represented by recognised trade unions or catered for through collective bargaining processes.

In **South Africa**, 92.7% of all employees are either represented by unions or catered for by the agency shop agreement. (An agency shop agreement exists across the lower level bargaining unit within the company. This means that non-union members contribute 0.75% of their monthly basic pay to a human and industrial relations fund, whereas, union members contribute 1% of their monthly basic pay to this cause.) The four unions that are recognised are the National Union of Mineworkers

Group labour turnover (permanent employees)*	
Resignations	1,675
Retrenchment/redundancies	523
Dismissals	1,239
Leaving for other reasons	1,993
Number of new jobs created	565

\* In the USA permanent employees are categorised as regular employees.

### Human rights training of Asset Protection personnel

A key aspect of asset protection at AngloGold Ashanti is the role played by asset protection personnel. Security personnel are in the front line of many dealings with customers, suppliers, stakeholders and fellow employees. This is complicated by the fact that their role is to protect the company's assets and in so doing to be suspicious and alert to any wrongdoing by anyone. However, it is also important that asset protection personnel respect the rights of the people with whom they come into contact. Consequently an important part of their training is a focus on human rights, particularly as set out in the Constitution of South Africa 1996 (Chapter 2: Bill of Rights) and International Human Rights Standards and Practices for Police and Security.

The aim of the human rights training is that AngloGold Ashanti asset protection officials will be able to:

- understand the meaning of and be able to apply the principles of human rights in the context of asset protection;
- correctly identify the human rights principles applicable to different situations;
- explain when and how each human right may affect specific asset protection activities and if so, to explain how these activities should be altered to ensure they respect and comply with the Bill of Rights; and
- understand and apply legislation relevant to asset protection services at AngloGold Ashanti.

Other aspects covered by asset protection personnel training includes:

- basic asset protection (including a refresher course)
- use of firearms
- search and arrest
- the taking of statements
- investigations
- reaction
- CCTV operations
- control room duties
- analysis of statements
- interrogation procedures.

(NUM), the United Associations of South Africa (Uasa), Mineworkers Solidarity and the South African Equity Workers' Association (SAEWA), representing respectively 72.2%, 11%, 2.6% and 0.8% of employees in the region.

Two significant agreements were entered into with the National Union of Mineworkers during the year:

- on 30 January 2004, a Procedural Agreement relating to the Vaal River operations was concluded. The agreement, which will serve as a guide for the interaction between management and the union, was concluded after a process of negotiation, and replaces the Vaal River Record of Understanding (the previous Recognition Agreement) which was concluded on 3 July 1998. A recognition agreement is the highest form of agreement between the union and management at an operational level.
- also on 30 January 2004, agreement was reached on the Constitution of the Board of Governors of the Vaal River Operations' Residences, which allows residents to participate in the decision-making at the residences.

The 2003/2004 wage agreements, concluded in 2003 for a two-year period, remained in place during the year.

- The second year's increase of 7% in terms of the 2003/2004 Wage Agreement for Category 3 to 8 employees with the NUM, which became effective on 1 July 2004. Annual leave also increased from 29 to 30 days, and the company's contributions to the Mineworkers' Provident Fund increased from 13.5% to 13.9%.
- The second year's increase of 7% agreed with the NUM, Uasa and Solidarity as part of the 2003/2004 Wage Agreement for Miners and Artisans. This became effective from 20 June 2004.
- The 2003/2004 Wage Agreements for Officials entered into between management and the NUM and Uasa. The agreement required the parties to negotiate the percentage by which salaries would increase with effect from 1 January 2004. The increase was agreed at 9%, of which 8% was guaranteed to all employees and 1% distributed based on individual performance during 2003.

Other important agreements that are in place regulate any process of restructuring, namely:

- retrenchment agreement (NUM and Uasa); and
- restructuring/redeployment agreement (Solidarity, Uasa and SAEWA).

A Social Plan Framework Agreement is currently being negotiated with the NUM.

At the end of 2003, Navachab Mine in **Namibia** terminated its relationship with its mining contractor and transferred to owner mining. This entailed the employment of approximately 150 employees and the alignment of labour practices with local legislation. A recognition agreement is in place, signed with the Mineworkers Union of Namibia (MUN), and the union bargains with the company on behalf of all employees in the A2 to C1 Paterson bands. 75% of the workforce belongs to the MUN.

At the Morila, Sadiola and Yatela mines in **Mali**, all employees are represented by the Mining Industry Union (SECNAMI), although there are no specific recognition agreements.

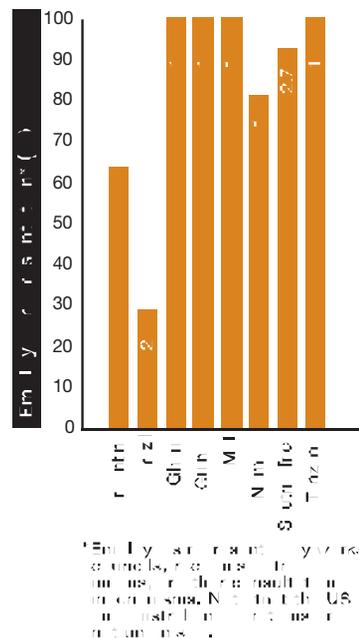
At Geita, in **Tanzania**, an access agreement and code of conduct has been entered into with the Tanzanian Mining and Construction Workers Union (TAMICO). To date, 22% of employees have joined the union; a formal recognition process will commence only once the union has sufficient representation.

The Ghana Mineworkers' union represents about 87% of the total labour force in **Ghana**, and all non-supervisory employees.

The **Australian and North American** operations are not unionised.

**Employee representation and participation**

AngloGold Ashanti has in place a variety of strategies and structures designed to promote participation at all levels within the company. These are developed and adapted regularly to meet operational requirements and changing circumstances.



Management and employee representatives meet both formally and informally at industry, company and operational level on a wide range of issues to share information and address matters of mutual interest.

- In **South Africa**, these include forums such as the skills development committees and health and safety committees. The diagram below illustrates the various structures in place that regulate the interaction with the NUM at the Vaal River area, as an example.

AngloGold Ashanti formal interaction with the NUM

Structure/Forum	Representation	Scheduled interaction	Objective
NUM stewards' council	1 NUM representative per business unit 5 representatives from Vaal River branch 5 AngloGold Ashanti representatives	Once a quarter	<ul style="list-style-type: none"> <li>● To make decisions on strategic issues relating to the Vaal River operation</li> <li>● Deliberate on the outcome of work done by work groups/ forums</li> <li>● To oversee implementation</li> </ul>
NUM steering committee (Sub-committees – Housing Forum, HIV/AIDS working group, Job grading working group)	3 NUM representatives 3 AngloGold Ashanti representatives	Once a month	<ul style="list-style-type: none"> <li>● To address company related strategic and other issues affecting both parties relating to the Vaal River operations.</li> </ul>
Vaal River NUM branch committee	16 NUM representatives 6 AngloGold Ashanti representatives	Every 6 weeks or ad hoc	<ul style="list-style-type: none"> <li>● To address issues affecting both parties, relevant to VR area.</li> <li>● To increase capacity of shaft committees</li> </ul>
NUM shaft committee	3 full time stewards per business unit committee and management	As decided at business unit	<ul style="list-style-type: none"> <li>● Workplace issues</li> <li>● Operational issues</li> </ul>

**Note:** Any level of interaction may be extended to include the participation of other unions and associations for matters of common or mutual interest.

- At AngloGold Ashanti Mineração in **Brazil**, programmes are in place to provide employees with the opportunity to raise issues with management on a regular basis. At Cerro Vanguardia in **Argentina** employees are organised into self-managed groups.
- In **Mali**, union committees exist at all three operations and regular participatory meetings take place. Safety representative committees and joint health and safety structures are in place to manage safety and health on the mines. Communication forums with local management level employees take place on a monthly basis.
- At Geita mine in **Tanzania**, senior and junior staff representative councils are in place and meet with the general manager on a monthly basis. Safety representative committees and joint health



and safety structures are in place and a monthly consultative meeting is held with all senior staff to discuss the mine's performance and other operational issues.

- The Mineworkers Union of Namibia committee meets regularly with management at the Navachab mine in **Namibia**. Safety representative committees and joint health and safety structures are also in place.
- The **Ghana** region has a Mine Standing Negotiation Committee which provides a consultative platform for management and branch unions to discuss issues of common interest. The union is also represented on the divisional board of the company.

At the **USA** and **Australian** operations, where the workforces are not unionised, communication with and participation by employees is encouraged.

**Constructive industrial relations**

The group aims to have constructive relations with representative and recognised unions and associations and industry forums representing employees. Some 14,200 man days were lost to industrial action during the year at Morila, Yatela and Geita. (These were a result of industrial action by largely contractor employees.)

In **South Africa**, the industrial relations climate can currently be described as constructive and stable. During the year disputes have been declared by NUM in the South Africa region regarding:

- grading issues pertaining to machine operators; and
- the introduction of additional screening tests for new recruits.

No days were lost due to strike action in South Africa. The disputes are being addressed through ongoing communication and facilitation.

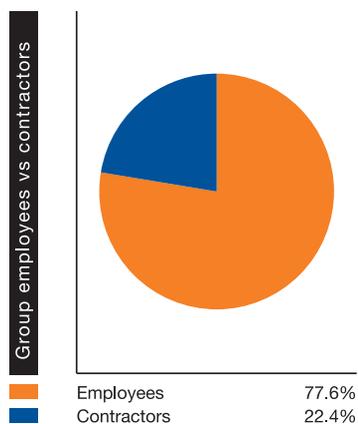
- A two-year dispute regarding the legal obligation of the company to pay a bonus scheme (prime de rendement) resulted in a three day strike at the Morila Mine in **Mali** in March 2004. This dispute was resolved in November 2004. (See case study: *Managing labour relations: 'Prime de Rendement' dispute at Morila on page L28.*)
- The mining contractor at Yatela mine in **Mali**, Moolman Brothers, experienced two strikes in 2004 which had an impact on operations. One lasted for three days (a sympathy strike with employees at Morila) and one lasted for seven days (as a result of a dispute relating to conditions of employment). Both were resolved through negotiation.
- The mining contractor, DTP, at Geita mine in **Tanzania** experienced a seven day strike relating to union recognition. The majority of employees returned to work; 207 employees were dismissed by the contractor.
- No industrial action was experienced at the Sadiola mine in **Mali**, the Navachab mine in **Namibia**, at any of the **Argentinian, Brazilian** or **USA** operations, or the **Australian** operations.
- No industrial action has been experienced in **Ghana** during the year. However, employee concerns relating to the AngloGold Ashanti business combination and, in particular, payouts to senior employees in terms of share option schemes at that time, have surfaced and are being dealt with.

The mining industry is still relatively new in **Mali** and the industrial relations movement is undergoing a natural growth process. The company is currently contributing towards a commission that is rewriting and modernising labour legislation, which is likely to assist in the management of labour relations and building relations with the unions in the future.

**Employment equity and diversity management**

**Diversity management**

By virtue of its size and the fact that the group currently has operations and interests in a host of different countries across five continents, AngloGold Ashanti is active in culturally diverse societies. This brings with it both opportunities and challenges. It is for this reason that a board committee, the employment equity and development committee, chaired by board deputy chairman Dr James Motlatsi, is charged with overseeing the development of opportunities in the company for all employees, and to encourage all employees to achieve their optimal levels of career development. In doing this, due cognisance is given both to the diversity of the societies in which the group operates and their historical context. Operations in **Mali, Namibia, and Tanzania**, for example, all run cultural diversity programmes aimed at creating cultural awareness, promoting diversity and developing



cross-cultural understanding. A revised diversity policy has been compiled in the **Australia** region and is currently being canvassed amongst employees and management.

### Employment equity and localisation of jobs

Employment equity forms a part of AngloGold Ashanti's broader human resources strategy which seeks to promote an organisational culture that recognises the diversity of the societies within which the company conducts its business, and which affords all employees the development opportunities that will enable them to achieve their optimal levels of career development in the course of their employment with the company. Key elements of the group's employment equity programme include employee development and retention, the implementation of strategies to counteract losses, to develop careers and to promote mobility in an environment that is free of discrimination.

Employment equity and/or equal opportunity targets are set and their achievement is monitored by a board sub-committee – the employment equity and skills development committee. In South Africa the employment of Historically Disadvantaged South Africans (HDSAs) is a particular priority. Employment targets and achievements are reported to the South African Department of Labour on an annual basis. Within South Africa, 32% of management comprises HDSAs. (The latter term includes citizens of countries within the South African Customs Union – SACU – and Mozambique. Managerial employees are defined as those in supervisory and management roles in Paterson job grades C-upper and above).

Within South Africa, 28% of management comprises HDSAs if managerial employees are defined as those in supervisory or management roles, Paterson job grades DL and above, as required by the Mining Charter.

In most of the countries in which it operates, cultural, racial and gender equity is governed by legislation. In the absence of such legislation, the AngloGold Ashanti business principles are followed.

- In **South Africa**, for example, the Employment Equity Act and the Broad-based Socio-economic Empowerment Charter (the Mining Charter) both cater for the promotion of HDSAs. An employment equity and skills development committee was launched at the corporate office in 2004 with the aim of identifying and promoting issues of employment equity and diversity, and monitoring compliance with statutes and regulations. The South Africa region has developed policies regarding equal opportunity employment, a framework promoting opportunities for women in mining, sexual harassment (see below), and fair practices for appointments and promotions. A framework for diversity training which aims to create sensitivity to diversity has also been developed and is being implemented at various business units
- At Navachab in **Namibia**, equal employment and affirmative action are legislated for under the Employment Equity and Affirmative Action Act. The mine's recruitment policies are aligned with this legislation and the mine complies fully with the Act.
- In many African countries, such as **Mali, Namibia and Tanzania**, legislation governs the recruitment of expatriate employees and promotes the localisation of the workforce. Policies are in place giving preference to the employment of local citizens (rather than expatriates). Plans to increase employment of local citizens and consequently reduce the number of expatriates (particularly at a management level) are in place at these operations and entail the identification and training of local citizens to replace expatriate staff once they have the requisite skills. The

### Dealing with discrimination

The USA's Equal Employment Opportunity Policy prohibits discrimination on the basis of age, race, sexual orientation, colour, religion, national origin, marital status, disability, or any other status protected by law. It also prohibits harassment on any of these bases. This policy is contained in the employee policy and benefit handbook that is given to all employees and posted on all bulletin boards in the company offices. Violation of this policy results in disciplinary action and could include termination of service. The policy also prohibits retaliation against an employee for filing a complaint under this policy or assisting in a complaint investigation.

### Communicating the values in South America

AngloGold Ashanti's values were launched at the regional offices within the South America region initially by group CEO, Bobby Godsell, to senior management and representatives of the various offices and operations. This was followed up by launches on every site for each shift. A values calendar was distributed to all employees and contractors.



percentage of local people employed at these operations was 97% during the year. (See case study: *Malian bursary scheme develops managers of the future* on page L27 of this report).

- In the South America region (**Argentina** and **Brazil**), expatriate labour is used only when required to fill key positions that can not be otherwise filled by locals. Currently, this is less than 1% of total staff.
- In **Ghana**, the use of expatriate labour is overseen by government and the state annually approves the company's expatriate quota. Expatriates are employed on a two-year contract during which local staff should be trained to take over their roles.

### Dealing with harassment and discrimination

AngloGold Ashanti is committed to creating workplaces which are free from harassment or unfair discrimination. Racial and sexual harassment and any form of discrimination are usually prescribed by law; nonetheless, specific policies are in place at all AngloGold Ashanti's operations to protect the interests of employees.

In the **Australia** region, for example, policies dealing with harassment and unfair discrimination were in place prior to the acquisition of these assets by what is now AngloGold Ashanti, and are designed to ensure compliance with stringent legislation. The policies are available on the company intranet, they form part of the induction process for new employees and regular training is provided for employees in this regard. An important part of this diversity policy relates to equal opportunities for women. The Australian operations have to report progress to government authorities an annual basis.

The **USA** has a comprehensive legal regime that addresses discrimination. In line with the Civil Rights Act, this region has developed an equal employment opportunity policy that prohibits discrimination on the basis of age, race, sexual orientation, colour, religion, national origin, marital status, disability, or any other status protected by law.

Issues relating to harassment and unfair discrimination are covered in the **Ghana** region's handbook on corporate governance. Each employee is given a copy and signs his/her acknowledgement of its contents on appointment.

In **South Africa**, a sexual harassment policy was put in place in 2002 so as to ensure that sexual harassment is dealt with as a serious form of misconduct, to expedite reporting, and to handle complaints. Half-day workshops on the policy were conducted among all staff at the corporate office and the policy is currently being rolled out to the business units. Equity and non-discrimination are also promoted through the AngloGold Ashanti values. Where no specific policies exist, the values are the reference point for employees and managers.

### Training and development

Training and development is a primary focus area for the group. In line with AngloGold Ashanti's belief that that all employees should be provided with the opportunity for appropriate training which improves their workplace competencies, the company is also committed to ensuring that every employee has the opportunity to become numerate and functionally literate in the language of their workplace. During 2004, some \$28 million was spent on training and development programmes across the South Africa region.

Four broad areas of training are identified:

#### Vocational training

While many of the group's employees come to the company with skills, the group also plays an active role in providing for vocational training. (See case study: *Apprenticeship programme at Obuasi* on page L25).

In **South Africa**, where 69.4% of the group's employees are based, the company is registered with the Mining and Minerals Sector Education and Training Authority (SETA) known as the Mining Qualifications Authority (MQA), a tripartite body formed between labour, the state and employers. The South Africa region's centralised training venue provides accredited technical training in the following core disciplines: mining, mining services, engineering, metallurgy, and occupational environment safety and health. The centre is ISO 9002 certificated and accredited by the MQA. Skills programmes and learnerships presented at the centre are outcomes-based and provide employees with the necessary knowledge and skills to do their work safely and efficiently.

In **Brazil**, for example, vocational training is provided by a range of institutions – 40 Serra Grande employees started a two-year mining technicians course at the National Industries Services School (SENAI) in Crixas Brazil. Nine employees were admitted to SENAI from AngloGold Ashanti Mineração for mechanical and electrical engineering apprenticeships during the year, while five trainees were sponsored to study at the SEBRAE technical school of management.

#### Adult Basic Education and Training

It is the company's policy to provide Adult Basic Education and Training (ABET) to ensure that all employees are able to become literate and numerate. (All employees at the **Australian** and **USA** operations are literate.)

To be literate in a particular language, an individual should be able to use the language effectively to think and acquire knowledge, express their identity, feelings and ideas, and interact with others. To be numerate, an individual should be able to develop the ability and confidence to think numerically in order to interpret and critically analyse everyday situations and to solve problems.

Achieving 100% literacy and numeracy amongst employees has long been a target for AngloGold Ashanti. More recently, however, the **South African** Mining Charter requires that all employees are offered the opportunity to become functionally literate and numerate within five years of conversion to new order mining rights.

During the past 12 years some 32,000 employees have attended ABET in South Africa. 76% of all supervisory employees (some 10,060 employees) have an ABET qualification; 45% of all employees have an ABET level 3 and above qualification. ABET has three qualification levels, 1, 2 and 3. ABET 1 is equivalent to three years of formal education, ABET 2 to five years and ABET 3 to seven years. As from 2004, the equivalent of ABET 4 – NQF1 – is available to employees.

Through the Recognition of Prior Learning Programme (RPL), workers' current level of education can be established and acknowledged. RPL also assists the human resources departments in the career path planning of employees. (See case study: *Adult Basic Education and Training for all on page L29 of this report*).

Full-time and part-time courses are held at the ABET centres and at individual mines at Vaal River and West Wits. Full-time ABET courses, which are generally for candidates who have been identified for career advancement, are run over a period of 10 weeks, and part-time courses over six months.

Literacy levels at the **Malian** and **Tanzanian** operations have been improving mainly through employee self-development. Company-sponsored French and English literacy programmes for these operations are being investigated.

The literacy level at Obuasi in **Ghana** has been improving year on year mainly as the older generation of employees who could not read or write have retired and a younger, schooled generation is employed. Although literacy classes are offered to employees on a part-time basis by the company, participation to these has been poor. At Bibiani, literacy is a prerequisite for employment.

While the level of literacy at the South American operations in **Argentina** and **Brazil** is very high (99.95%), English training is provided on site for those who wish to learn the language, and more than 150 people attended classes at these operations during the year. Employees are also encouraged to

#### Estimated levels of literacy at the African operations

Bibiani	100%
Geita	65%
Iduapriem	100%
Morila	85%
Navachab	100%
Obuasi	93%
Sadiola	68%
Siguiri	100%
Yatela	75%

#### Workplace languages:

Argentina	Spanish
Australia	English
Brazil	Portuguese
Ghana	English
Mali	English and French
Namibia	Afrikaans and English
South Africa	Afrikaans, English, Shangaan, Xhosa, Zulu
Tanzania	English
USA	English



complete their initial schooling – at Cerro Vanguardia 14 employees participated in a basic education programme during the year, while at Serra Grande 45 employees attended classes and received junior high school certificates.

### Management training

Four individuals participated in the group-wide Executive Development Programme (EDP) in 2004 (six in 2003), drawn from **South Africa** and **Australia**. This programme exposes candidates to high-level courses at a range of tertiary education institutions.

In the **South Africa** region, the development of senior employees in South Africa is catered for by the company's Management Development Programme (MDP); the region also offers an Intermediate Management Development Programme (IMDP), where younger employees with management potential are identified and given an opportunity to develop their careers. The **Malian, Tanzanian and Namibian** operations also participate in this programme, and – for the first time in 2004 – participants joined from the **USA, Argentina and Brazil**.

The group's Talent Management Programme identifies and develops the group's management for the future. The programme has three areas of intervention:

- development, through a range of management development programmes;
- retention, which is the mentorship of individuals as well as the allocation of special projects for identified talent; and
- monitoring of talent, which includes an annual talent review at executive level to monitor succession plans for talented employees.

The programme is aimed at:

- specific individuals, who have been identified through their career development plans; and
- groups of individuals with high potential attending a range of management development programmes.

Development plans form part of the greater performance management process within the group and is reviewed on a bi-annual basis.

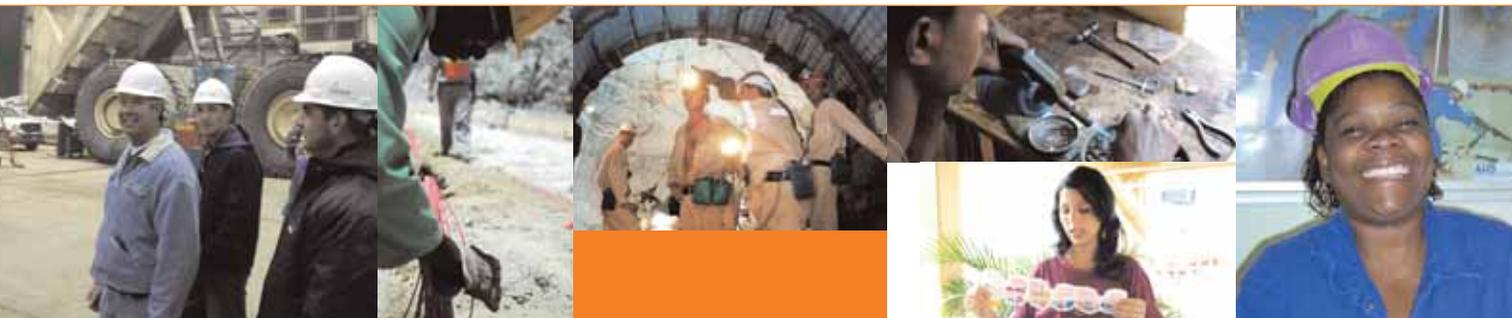
### Developing talent in the African operations

Through a process of development panel interviews, performance reviews and succession planning, talented employees are identified for development. This pool of talent is reviewed on an annual basis.

Development plans are put in place for these individuals including formal training programmes, exposure visits (to other operations), special project assignments and developmental moves to other locations.

Both the MDP and IMDP programmes were developed in partnership with the Graduate School of Business at the University of Cape Town. They each carry academic accreditation; in the case of the MDP it is equivalent to a post-graduate qualification. This allows for the company's needs for better trained managers to be met, while also fulfilling employees' requirements to obtain publicly recognised qualifications.

Programme	Number of candidates:		Country of origin
	2004	(2003)	
Executive Development Programme	4	(6)	South Africa, Australia
Management Development Programme	43	(39)	Australia, Brazil, Mali, South Africa, Tanzania, USA
Intermediate Management Development Programme	33	(34)	Mali, Tanzania, South Africa



### Graduate training

Study assistance programmes for employees and non-employees are provided across the group to increase the skills pool available to AngloGold Ashanti.

The **South Africa** region spent \$1.79 million (R11.5 million) on bursaries for 112 students in a wide variety of disciplines and at a number of tertiary education institutions. The bursary scheme is open to employees (in-service bursary scheme), and school leavers. Currently, the students are pursuing tertiary studies in:

- mining: 34 (22 at technikon, 12 at university);
- engineering (mechanical, heavy current electrical, as well as process and instrumentation control): 36 (14 at technikon, 22 at university);
- metallurgy: 17 (4 at technikon, 13 at university); and
- mineral resource management (geology and survey): 25 (3 at technikon, 22 at university).

In respect of the 112 students, 34 are employees, and 78 are school leavers. Successful completion of the tertiary qualification by non-employees may result in an offer of employment for in-service training. If accepted, the recruit will undergo an approved training programme for his or her selected discipline to equip him or her with the skills and knowledge necessary to progress on a defined career path.

A bursary scheme was implemented in **Mali** in 2004. Ten top school leavers entered into graduate studies at the University of the Witwatersrand in Johannesburg, South Africa, in the disciplines of mining, engineering, metallurgy, environment and geology, following a language bridging programme at the Wits Technikon at the end of 2003.

Three bursaries were awarded by the Navachab mine in **Namibia** in 2004 for study in the disciplines of mining, metallurgy and geology.

In the **USA**, the company offers scholarships to eligible employee dependents to assist them with their college education. Some \$47,000 was spent on this programme in 2004. The company also provided tuition reimbursement to employees wishing to pursue a college degree in a discipline related to their position in the company at a cost to the company of some \$40,000 during the year.

In **Ghana**, company bursaries are granted to the dependents of employees who have gained admission to government-approved secondary and tertiary educational institutions, with 1,380 bursaries having been granted during 2004 at a cost of some c1.2 million per person.

Staff at the **corporate office** may participate in the company's part time study assistance in respect of studies undertaken for the purposes of career development.

In **South America**, efforts to increase the skills and educational levels of employees reaping rewards, with a 35% increase in the number of employees holding university degrees as at the end of 2004.

At **Navachab** in Namibia, a study policy was implemented during the year which allows for employees to embark on part or full time studies for career and self-development.

### Training for life

Training for life is a relatively new concept in the mining industry and one that is increasingly being associated with the end of mine lives. Training for life equips employees or ex-employees with skills to ensure their continued employability or ability to be self-employed after employment by the company and in preparation of career endings, both as a result of ill health or as a result of mine closure.

The group's aim is to deliver excellent and valued training and development opportunities to all employees which would be broadly applicable and transferable; this is evident in the broad spectrum of programmes made available to employees, ranging from basic literacy and numeracy learning, through to superior technical training as well as executive development at top business schools of international repute.

Generally all employees who leave the company's employ through retrenchment are offered re-training in a skill that will assist them to remain economically active within their community. The type of skills include photography, engineering skills, candle-making, leather work etc.

### Developing talent for the future

Over the past five years AngloGold Ashanti's **South American** operations have been relying on a novel training and development programme to prepare newcomers and to develop talent for the future.

The course, known as the Trainee Development Programme, has been conceptualised and designed specifically for future incumbents of technical and managerial positions. With a duration of 12 to 15 months, the training includes exposure to a broad range of the company's activities, its values and policies, with a particular focus on safety, environment, human resources and external affairs including developing and maintaining stakeholder relationships. Opportunities exist for trainees to become familiar with finance and personnel management, while visits to other South American operations are included to broaden experience and to encourage interaction among operations.

Graduates between 23 and 28 years of age with a sound knowledge of geology, mining, metallurgy and other related disciplines, and a knowledge of both computer science and English at an intermediate level, would stand to benefit from the programme, which provides an opportunity for up to five newcomers annually. Aspirant trainees are selected by external recruitment offices, and are subject to many interviews, technical and psychological testing and an assessment by departmental managers.

Progress assessments are conducted periodically by managers and counsellors. The candidates are responsible for producing reports on the work they do and the operations and departments visited, with recommendations for improvements. On concluding the programme, the trainee is expected to present an 'applicable project' which he may consider of interest to the company.

At the end of the training period, trainees are assigned to suitable positions at the operations. Outstanding candidates are rewarded with a period of training abroad in order to broaden their exposure to the organisation and its culture.

Most mining operations in **Australia** have fly-in, fly-out arrangements owing to their remote location which leads to high staff turnover. The company has a policy of maintaining a full development plan for all employees, not only in relation to their current roles but also for potential roles and their general employability, skills and competencies.

### Fair remuneration and benefits

The company seeks to remunerate employees fairly at both an individual and team level. Remuneration levels are set taking into account the market as well as economic and inflation indicators. There is generally an annual review or annual negotiations with the representative unions in respect of those employees covered by collective bargaining agreements.

In **South Africa**, in particular, by far the majority of remuneration elements, although focused on the individual, are the result of collective bargaining between management and the representative unions. This has given rise to standard rates of pay for the majority of employees (non-supervisory employees and miners and artisans) rather than pay scales in which employees are remunerated for contributions, as in the case of management and officials. A process is currently underway between management and the representative unions to restructure the conditions of employment for miners and artisans in order to move away from standard rates to pay scales.

In addition to basic pay, various productivity and safety bonus schemes exist at most operations to both motivate and reward employees. As well as employee benefits that are legally mandated the various regions offer health care benefits, pension and provident funds, company vehicles, housing, housing allowances or home ownership schemes, life assurance, tuition assistance, maternity benefits, and subsidised canteens, amongst others.

### Provision of health care

AngloGold Ashanti provides a comprehensive health care service to employees, especially in South Africa, where the majority of the company's employees are located.

- In **South Africa**, AngloGold Health Service (AHS) runs two occupational health centres, which are staffed by two doctors and some 30 support health care practitioners each. In addition, comprehensive health care is provided to employees and some dependents.
- Health care is provided by an external service provider in South America (**Argentina** and **Brazil**) to employees and their families.
- The **Malian** operations have on-site mine clinics that are registered with the National Health authorities and provide health care for all employees and registered dependents.
- Health care in **Tanzania** is provided for employees and their dependents at an on-site mine clinic and local health care structures. The mine supports the upgrading of the facilities at the local Geita hospital and offers technical support to its staff. The on-mine occupational health clinic has also recently upgraded its facilities.
- Employees at the Navachab mine in **Namibia** are members of a medical scheme to which the company contributes and employees are entitled to private health care as part of this scheme. An on mine clinic provides primary health care and occupational health services.
- Health care services are provided to the employee, his or her spouse and six dependents at the Edwin Cade Memorial Hospital at Obuasi in **Ghana**, while the Iduapriem mine has a 24 hour clinic on site catering for employees and dependents.
- In **Australia**, health care is provided by the national government run health system as well as employee funded additional health insurance. On-site nurses are employed and other health care professionals are contracted to provide a level of care.
- In the **USA**, access to health care for employees is provided through a self-insured medical plan administered by a third party administrator.

### Broadening horizons - secondment as a form of people development

Being part of a global company has the advantage of broadening career opportunities and offering new experiences. *(See case study: Being part of a global group – the opportunity of secondment on page L26)*

"The company's secondment policy is an important element of the overall picture of developing people," says Leanne Gordon, human resources manager, AngloGold Ashanti Australia.

The Australia region is well represented in other parts of the AngloGold Ashanti group with 13 of its permanent employees currently seconded for periods of six months to three years on overseas assignments. This ranges from geologists working in Mali, Tanzania, China and Mongolia to a mine manager in Mali, and metallurgists in South Africa.

Matt Painter, a structural geologist recently returned from 12 months at Geita Gold mine in Tanzania, says of his experience: "Professionally, it was a great opportunity to work on what is shaping up as one of the world's great gold orebodies. I felt that I was also able to contribute my knowledge and experience in tangible ways that have benefited, and will benefit, mining at Geita."

Recently, the company also sponsored four young professional employees in the areas of mining engineering, training and development, metallurgy and geology on a two-week management training visit to the South African region. Suze Loughnan, training coordinator for geology at Sunrise Dam Gold Mine was one of the four participants. "What an eye opener into a global company... it was unbelievable to see the presence of AngloGold Ashanti in South Africa in terms of how the company cares for its people and ultimately walks the talk."

### Providing health care to employees and dependents in South Africa

AngloGold Ashanti strives to provide equitable health care funding for employees and their dependents. Health care provision and acceptable levels of care are determined by, among other factors, the infrastructure within the areas in which the employees are located. For the distant communities with which AngloGold Ashanti is associated, the focus is on facilitating access to, and enabling the state to fulfil its responsibilities in the provision of basic care.

AngloGold Health Service (AHS), a subsidiary of AngloGold Ashanti, operates in the core operating areas. Each operating area has a central hospital providing secondary, and to some extent tertiary level care, surrounded by a network of peripheral primary health care and occupational health clinics.

Health care activities which focus on care to employees in these areas and care to immediate dependents where appropriate, include:

- preventative health care
- occupational health care
- primary health care
- hospital care
- management of trauma, and injury on duty, and
- management of HIV/AIDS and tuberculosis.

The occupational health discipline performs the functions of screening prior to employment, evaluation of baseline health status, and surveillance during employment for purposes of early detection of disease (particularly high risk diseases commonly associated with the mining industry) and directing the management of diseases detected, including workplace and compensation initiatives required.

The primary health care discipline aims to provide care at an appropriate level at peripheral sites, facilitating patient access and enhancing cost-effective utilisation of resources. The service caters for both work-related and non work-related illness and injury. All patients who cannot be appropriately managed at this level are referred to the central hospital. The central hospital in each area has some 300 beds with, in addition to admission facilities, emergency rooms, operating theatres and multi-disciplinary intensive care units. Speciality disciplines include:

- internal medicine
- general surgery
- orthopaedic surgery
- ear, nose and throat surgery
- radiology
- paediatrics
- obstetrics, and
- gynaecology.

These clinical disciplines are supported by the allied clinical disciplines of physiotherapy, occupational therapy and clinical psychology, which together ensure comprehensive patient care and rehabilitation.



## Responding to regional health threats

The primary regional health threats faced by employees and their families and communities are HIV/AIDS and malaria. (TB is dealt with under the Occupational Safety and Health section of the Report to Society 2004.)

## Provision of accommodation and nutrition

### Accommodation

For the most part, mining operations are located in remote areas, drawing employees to the operations who would normally not be accommodated locally. The provision of company accommodation varies from region to region and is dependent on the availability of accommodation, the make-up of the workforce and the remoteness of the region. In the major cities, like Johannesburg, Denver, Perth, etc, housing is readily available. The same applies to a number of the operations, such as at CC&V.

At Sunrise Dam, **Australia**, many employees operate on a fly-in, fly-out basis and accommodation is therefore provided during the period that employees are at work.

At Cerro Vanguardia, in **South America**, many employees come from outside the immediate area of operation and houses have either been constructed by the company in nearby Puerto San Julian, or facilities erected at the mine site. The current facility comprises 335 rooms and will be extended during 2005 to further accommodate a growing workforce.

At the Morila and Yatela mines in **Mali**, senior staff are housed in company accommodation, while other staff are paid housing allowances. 80% of employees are housed in company accommodation at the Sadiola mine, and the balance receive housing allowances.

A housing loan scheme (for home ownership) is available for senior employees at Geita mine in **Tanzania**; the balance of employees receive a housing allowance. 90% of employees at Navachab in **Namibia** are housed in company housing; the remainder of employees receive a housing allowance (for rental accommodation).

In **South Africa**, programmes are in place to encourage home ownership. Many employees are housed in company accommodation. Nutritional professionals oversee meals provided at staff accommodation, and regular health audits are conducted. (See box on page L18.)

### Amohelang – a new centre for tetraplegics

Amohelang, which means 'we accept' in SeSotho, is the new centre for tetraplegics which was opened in March 2004 by AngloGold Ashanti CEO Bobby Godsell. The centre was previously located at Ithuseng on the premises of the Ernest Oppenheimer Hospital in the Free State. Currently it houses 34 tetraplegics.

It is AngloGold Ashanti's philosophy to care for employees who, as a result of some tragic event and/or injury at work, become disabled due to spinal injuries. The majority of those who are housed here have suffered work-related injuries, or injuries resulting from non-mine incidents, such as car accidents.

Tetraplegic is a term given to somebody who is paralysed from the neck down but has use of his hands. This type of injury is an infrequent occurrence - the last person to be admitted to the centre was in 2002. Amohelang becomes a home for the individual who for one or another reason cannot - or decides not to - return to his own home. There are often many reasons for this including the fact that the centre provides the extra care that many would not find in their own homes, particularly in rural areas.

Amohelang has a budget of about R6.7 million (\$1.05 million) per year. The new unit can accommodate up to 48 persons and is equipped with kitchen and dining room, gymnasium for physiotherapy, TV Room, office facilities for the medical staff, six family units for visitors, wheelchair-friendly ablution facilities, and a wheelchair workshop for wheelchair repairs, amongst other things.

The facility is run professionally with suitable staff including the unit manager, three professional nurses, five enrolled nurses, five enrolled nursing auxiliary personnel, 24 caregivers, as well as the cleaning staff. The centre has purchased a multi-purpose van for transporting individuals to and from the local town for additional care and for outings.



### Addressing issues of accommodation in the South African mining industry

Historically, the South African mining industry has drawn a large percentage of its non-supervisory workforce from countries around South Africa - Lesotho, Mozambique, Swaziland and Botswana - as well as from rural areas within South Africa - such as the Eastern Cape, KwaZulu-Natal and Mpumalanga. These employees are accommodated on-mine in company hostels which comprise high-density rooms (housing between four and eight people per room), catering facilities and entertainment and recreational facilities. Their families, though, were not offered accommodation on-mine and remained in their countries or regions of origin.

Over the years, much effort has been focused at lowering room density, improving facilities (adding classrooms and gyms, for example), and transferring management of these hostels to combined union/management committees. More family units have been constructed and facilities to accommodate visiting families for periods of time have also been constructed. At the same time, employees have been given an option of receiving allowances if they choose not to use the hostel facilities.

Hostel living is not ideal and not conducive to family life. However, even where employees have an option large numbers remain on-mine without their families, choosing to reside either in company accommodation or elsewhere (and, if the latter is chosen, receiving an allowance). Many employees canvassed by the company choose to maintain their homes and families in their country or region of origin, and return to their homes at the end of their employment.

The numbers of employees accommodated in hostels has declined to 65% in 2005. Currently, 23,400 employees are accommodated in the nine company hostels.

Plans are in place to renovate many of these, with the emphasis on the longer-life operations, to decrease room density and provide residents with improved facilities and a greater degree of privacy.



Social performance indicators:	
Labour practices and decent work	
Core indicators	Additional indicators
<b>Employment</b>	
<p><b>LA1. Breakdown of workforce, where possible, by region/country, status (employee non-employee), employment type (full/part-time), and by employment contract (indefinite or permanent/fixed term or temporary). Also identify workforce retained in conjunction with other employees (temporary, agency workers or workers in co-employment relationships), segmented by region/country</b></p>	<p><b>LA12. Employee benefits beyond those legally mandated. (eg. contributions to health care, maternity, education and retirement)</b></p>
<p>65,400 people (monthly average) worked at AngloGold Ashanti during 2004, comprising 50,737 employees and 14,663 contractors</p>	<p>Employee benefits vary from region to region. (See discussion on page L16)</p>
<p><b>LA2. Net employment creation and average turnover segmented by region/country.</b></p> <p>AngloGold Ashanti employed a monthly average of 65,400 people during 2004. For a breakdown per country, see page L3. For a breakdown of turnover per operation, see the section on economic performance</p>	
<b>Labour/management relations</b>	
<p><b>LA3. Percentage of employees represented by independent trade union organisations and other bona fide employee representatives broken down geographically or percentage of employees covered by collective bargaining agreements broken down by region/country</b></p>	<p><b>LA13. Provision of formal worker representation in decision-making, including corporate governance</b></p>
<p>83.5% of all employees are represented by trade unions or an industry collective bargaining agreement</p>	<p>Provision is made for both formal and informal employee participation at all operations</p>
<p><b>LA4. Policy and procedures involving information, consultation and negotiation with employees over changes in the reporting organisation's operations (eg. restructuring)</b></p> <p>Various policies and procedures are in place: These include:</p> <ul style="list-style-type: none"> <li>● Chamber of Mines 1997 Wage Agreement and Job Grading Agreements in South Africa and various Recognition Agreements</li> <li>● Workplace Relations Policy, Equal Opportunity Policy and Fair Employment Guideline in Australia</li> <li>● Malian Labour Code and Malian Collective Agreement</li> <li>● Tanzanian Employment Act</li> <li>● Recognition Agreement at Navachab Mine</li> </ul>	

<b>Social performance indicators:</b>	
<b>Social performance indicators: Labour practices and decent work</b>	
<b>Core indicators</b>	<b>Additional indicators</b>
<b>Training and education</b>	
<b>LA9. Average hours of training per year per employee by category of employee</b>	<b>LA16. Description of programmes to support the continued employment of employees and to manage career endings</b>
Not available	It is the group's philosophy that training and development programmes should support the continued employability of individuals after employment by the company and in preparation for career endings, both as a result of ill health or as a result of mine closure. (See discussion on page L12)
	<b>LA17. Specific policies and programmes for skills management or for lifelong learning</b>
	Performance management and talent management programmes are in place across the group, as well as training and development programmes to refresh, upgrade and learn new skills. Study assistance is also available to employees and, in some regions, to their dependents
<b>Diversity and opportunity</b>	
<b>LA10. Description of equal opportunity policy or programmes as well as monitoring systems to ensure compliance and results of monitoring</b>	
Equal opportunity policy is regulated by law in many of the countries in which the group operates. Additionally, policies and programmes are in place at all operations.	
<b>LA11. Composition of senior management and corporate governance bodies (including the board of directors), including female/male ratio and other indicators of diversity as culturally appropriate</b>	
Efforts to align the composition of management and the board to reflect appropriate representation of women, and other culturally diverse groups are in place.	

Human rights	
Core indicators	Additional indicators
<b>Strategy and management</b>	
<p><b>HR1. Description of policies, guidelines, corporate structure, and procedures to deal with all aspects of human rights relevant to operations, including monitoring mechanisms and results. State how policies relate to existing international standards such as the Universal Declaration and the Fundamental Human Rights Conventions of the ILO</b></p>	<p><b>HR8. Employee training on policies and practices concerning all aspects of human rights relevant to operations. Include type of training, number of employees trained, and average training duration</b></p>
<p>Human rights are entrenched within the company's values and business principles, and regulated by legislation in most of the countries in which AngloGold Ashanti operates</p>	<p>The company's values and business principles have been communicated to employees and various forms of training have been provided to employees, particularly security personnel</p>
<p><b>HR2. Evidence of consideration of human rights impacts as part of investment and procurement decisions, including selection of suppliers/contractors</b></p>	
<p>There is a vendor approval process in place to ensure that vendors meet the minimum requirements of doing business with AngloGold Ashanti. All vendors are required to comply with labour legislation to ensure that there are no human rights abuses. A further example would be the 'guidelines for contractors' which stipulates minimum compliance requirements for contractor employees</p>	
<p><b>HR3. Description of policies and procedures to evaluate and address human rights performance within the supply chain and contractors, including monitoring systems and results of monitoring</b></p>	
<p>There is a supplier monitoring committee in place that discusses non-compliance or unethical behaviour by suppliers. If there is evidence to suggest wrong doing, the supplier/contractor is removed from the approved vendor list</p>	
<p><b>HR4. Description of global policy and procedures/programmes preventing all forms of discrimination in operations, including monitoring systems and results of monitoring</b></p>	
<p>Policies relating to discrimination and harassment are in place at all operations and are guided by both the company's business principles, as well as local legislation</p>	
<p><b>HR5. Description of freedom of association policy and extent to which this policy is universally applied independent of local laws, as well as description of procedures/programmes to address this issue</b></p>	
<p>Freedom of association is entrenched within the company's values and business principles, in legislation in many of the countries in which the group operates and within regional recognition agreements and policies. In addition, AngloGold Ashanti is party to a <i>bilateral international agreement with the International Federation of Chemical, Energy, Mine and General Workers' Unions (the ICEM)</i> on the promotion and implementation of good human and industrial relations in AngloGold Ashanti's operations worldwide</p>	

Human rights	
Core indicators	Additional indicators
<b>Child labour</b>	
<b>HR6. Description of policy excluding child labour as defined by the ILO Convention 138 and extent to which this policy is visibly stated and applied, as well as description of procedures/programmes to address this issue, including monitoring systems and results of monitoring</b>	
In addition to the business principles in which this is entrenched, the prohibition of child labour is also contained within and monitored in terms of the legislation of the various countries in which the group operates. See discussion on adherence to ILO principles on page L7	
<b>Forced and compulsory labour</b>	
<b>HR7. Description of policy to prevent forced and compulsory labour and extent to which this policy is visibly stated and applied as well as description of procedures/programmes to address this issue, including monitoring systems and results of monitoring. See ILO Convention No. 29, Article 2</b>	
In addition to the business principles in which this is entrenched, the prohibition of forced or compulsory labour is also contained within and monitored in terms of the legislation of the various countries in which the group operates. See discussion on adherence to ILO principles on page L7	
<b>Disciplinary practices</b>	
	<b>HR9. Description of appeal practices, including, not limited to, human rights issues. Describe the representation and appeals process</b>
	Disciplinary processes in place at all operations include appeal procedures. Details available on request
	<b>HR10. Description of non-retaliation policy and effective, confidential employee grievance system (including, but not limited to, its impact on human rights)</b>
	Grievance procedures in place at all operations. Details available on request

## L24 | 6 Scorecard

Objectives for 2004	Review of 2004	Objectives for 2005
Alignment of human resource development initiatives with the Mining Charter in SA	Largely complete. Submissions were made for conversion of old order to new order mining rights (in line with the Charter) for all of AngloGold Ashanti's South African operations during the year	Adherence to and achievement of the guidelines and targets set in the submissions made
Further implementation of employment equity strategy in South Africa to meet targets	Progress reported to the Department of Labour. <i>(See discussion on page L12)</i>	
Full scale implementation of talent management programme	Largely implemented	
Roll out of mission, values and business principles	Largely concluded	
Roll-out of whistle-blowing initiative	Largely concluded. <i>(See discussion in Ethics and Governance section of the Report to Society 2004)</i>	

## 7.1 Apprenticeship programme at Obuasi

Over the years, the Engineering Training Centre at the Obuasi mine has grown from being a very basic facility to a significant skills development centre in Ghana. The development programmes offered by the centre prepare students for the competitive and technological challenges of an industry that is becoming increasingly mechanised.

The centre, established in 1988, was open only to Obuasi mine employees prior to 1997. With the expansion of the Ashanti group, however, trainees were accepted at the engineering training centre from the Ayanfuri, Bibiani and Iduapriem mines in Ghana, as well as the Siguiri mine in Guinea. Since 1997, this has been expanded to include the training of personnel from various other mining-related companies.

The 20 personnel at the centre, who represent various engineering disciplines, are all permanent employees of Obuasi, and have been drawn primarily from the engineering maintenance department at Obuasi. They therefore bring practical experience to bear on the training programmes conducted. The facilities provided include 16 lecture rooms and workshops which are fully equipped with the appropriate training and audio-visual aids.

In 2001 the centre's apprenticeship training programme was redesigned to focus on the training of polytechnic graduates so as to equip them with the requisite practical experience required for employment in the mining sector. This programme is different in that it takes into account that polytechnic graduates already have some technical knowledge.

The programme is advertised annually. Polytechnic graduates who are interested apply and undergo a selection process that includes an entry examination and interviews.

Successful applicants are admitted as trainees and, on completion of the training programme, those who are needed are employed. The remainder are released into the labour market, but their particulars are retained on file as first choice contacts in future recruitment exercises.

To date, two groups of apprentice trainees – totalling 59 individuals – have successfully completed the programme in six disciplines, namely electrical engineering, instrumentation, welding and fabrication, auto mechanics, diesel mechanics and plant mechanics. About 80% of these have been absorbed as core junior staff employees at AngloGold Ashanti's operations. Of the 260 applicants in 2004, 45 were successful (35 from Obuasi and 10 from Siguir). About 40 entrants are anticipated for the 2005 year.

The cost to the company is currently, on average, \$6,900 for each trainee over the two-year training period. This amount includes personal protective equipment, monthly allowances and the provision of medical care.



Thomas Brentum from Enchi in Ghana, and his colleagues, rebuilt a heavy-duty engine at the Obuasi Mine engine rebuilding workshop, after completing the Apprenticeship Training Programme in July 2004. According to Brentum, the training received at the Engineering Training Centre has given him the right practical exposure and increased his knowledge as well as his appreciation of the motor mechanic trade. Today he is able to support himself and he sponsors his nephew who is pursuing a six-month computer literacy programme at NIIT in Accra, Ghana's leading information, technology, education and training institute.



L26 | **7.2 Being part of a global group – the opportunity of secondment**

AngloGold Ashanti currently has 269 employees assigned to posts away from their home countries around the world. This group includes both secondees (permanent employees sent on assignment into other countries); and contractors (individuals recruited to work in another country for a specific period).

Says Mark Stoffberg, international senior human resources manager, “Employees are seconded to countries where their skills are most needed. Cross-border deployment assists in the cross-pollination of skills. South Africa, for example, is home to some of the deepest mines in the world, but the Australian and USA operations have extensive open pit mining experience; these skills can most obviously be deployed at some of the newer operations in Africa.

“Not only does the assigning of employees facilitate the training of the local people, it also stretches the capacity of the assignee. For example, planning in the more remote locations is of the utmost importance as supplies can take up to three months to get to site. Some locations are so remote that they can only be reached within reasonable time frames by air. Many mine sites have had to establish their own infrastructure including power plants, roads, water supply, sewerage and communications. Shops are often non-existent and schooling for dependents can present real challenges. Overcoming challenges such as these can equip the assignee with the skills to take on more responsibility. Assignments can provide invaluable career and management experience as well as exposure to new and different mining and business methods.”

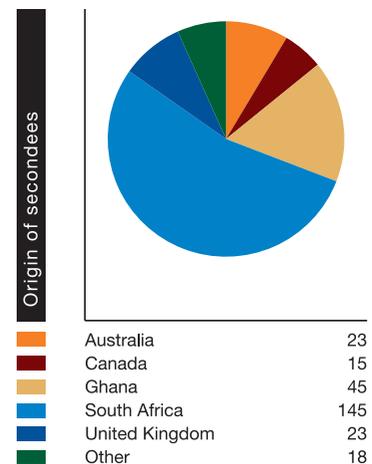
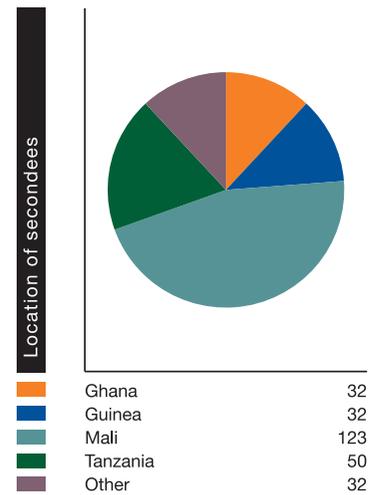
In the more developed countries like Australia, Brazil, South Africa and the USA, pay is in local currency and closer to local salary levels. AngloGold Ashanti makes use of the latest methodologies to calculate competitive assignee packages. Regular surveys are conducted to ensure that expatriates are paid competitively and receive market-related benefits. The company's philosophy is to ensure that the assignee is no worse off than in his/her home country.

Health risks may also abound in remote locations, with malaria and numerous stomach viruses being the chief culprits. To ensure the suitability of the AngloGold Ashanti assignees they are required to pass a medical examination and are psychologically assessed for adaptability and psychological toughness. (See case study: *Setting up tropical travel protocols as global travelling increases on page SH28 of the Occupational Safety and Health section.*)

Another of AngloGold Ashanti's philosophies is that the family should be kept together wherever possible. Schooling in remote locations is either provided or paid for by the company. In countries ranked high in 'hardship', employees are provided with benefits such as free furnished accommodation, nine weeks leave and three flights home, per accompanying family member, per year. Medical cover is provided through BUPA and emergency evacuation cover is provided.

While locations like Johannesburg, Perth and Denver may have less 'hardship' attached, adjustment for a relocated family may be just as difficult. In these locations the company tries to make the transition to the new location as easy as possible by providing the assignees with specialist relocation agents who show the family around and provide assistance with finding suitable shopping centres and schools, opening bank accounts, purchasing vehicles, finding permanent accommodation (temporary accommodation is provided) and getting advice on the local tax legislation.

There are disadvantages to the programme. There are occasionally retention issues if employees do not want to return to their home base, particularly those who have been paid in US dollars and have gained valuable experience, which is then lost to the company. Overall, however, the programme is seen as a very positive experience.



### 7.3 Malian bursary scheme develops managers of the future

"There are smart people in Mali who don't get the opportunity to extend their knowledge," says Malian student Cheick Ahmadou Tidiane Ba, one of 10 student bursars from Mali, expressing his delight at the opportunity for further study. Although the bursary scheme is not new to AngloGold Ashanti, it is the first intake of bursars from the West African country of Mali, where three of the company's mines are situated.

Every year in Mali scholarships are awarded to the top 30 maths and science students. These scholarships are funded either by the Malian, French or Belgian governments – or tertiary institutions – for university studies in either France or Belgium. In 2002, AngloGold Ashanti proposed to its Malian mine business partners that they assist 10 students in gaining a mining-related qualification from a South African tertiary education institution. The main aim is to groom talent for localisation of its Mali operations; there are currently 19 expatriates, 10 in metallurgical positions and nine in mining positions. In order to build up a localised pool, selected students were given the opportunity to study one of these professions, with a view to taking over completely from expatriates in the future.

The bursars, aged between 18 and 21, attended eight different high schools in the Bamako, Hippodrome and Mopti areas of Mali. All have attained their Baccalaureat Malian, the French equivalent of the A-level exam, studying as main subjects mathematics, physical science, biology and philosophy.

All 10 students have been accepted by the University of Pretoria to study disciplines such as mining engineering, environmental engineering, geology and metallurgy. Their four-year degree courses start at the end of January 2005. In order to encourage the students to remain in the mining industry at the end of their studies, as well as to groom future managers at AngloGold Ashanti's operations as part of its localisation programme, the company has developed incentives in the form of training resources; development through inter-mine exposure; development panel interviews to map out development plans; and regular performance reviews.

Since Mali is French-speaking, a three-month orientation period was provided to improve the students' English skills in preparation for English-instruction lectures at Pretoria University. Even though they had completed a six-month English course before their arrival in South Africa, AngloGold Ashanti felt they would benefit from further coaching in listening, writing, reading, thinking, oral, vocabulary building and research skills. This was provided by the University of the Witwatersrand as part of a bridging course, which also covered aspects of physics, chemistry, mathematics and life skills. In a subsequent Training of English for a Foreign Language (TOEFL) exam, all students exceeded expectations by achieving well above average marks.

The students' first year will be a combination of academic study and practical training. During term time, they'll stay on the university campus, while holiday breaks will be spent gaining underground experience at some of South Africa's deep level mines. The cost per student for one academic year is about R100,000.

The opportunity to pursue a career in the mining industry is limited in Mali and the students know they are some of the privileged few. They are also aware that, since this is a pilot project, the continuation of the programme rests on their success and, as such, they are committed to not only realising the expectations of AngloGold Ashanti, but those of their country. "Our country needs us," says Boubacar Traore, echoing the sentiments of his fellow students, who claim that the Malian gold mining industry bursary programme is an opportunity to empower both them and their people.

AngloGold Ashanti's operations in Tanzania and Namibia already have bursary schemes in place. Two employees from Geita Gold Mine in Tanzania studied at the University of the Witwatersrand and Rhodes University in 2004. Three Namibians, two males and one female, were awarded bursaries in 2004 to study mining engineering, geology and chemical engineering respectively. Namibia's Navachab Mine is to sponsor a further four students to study at Cape Town University and the University of Pretoria in 2005.



L28 | **7.4 Managing labour relations:  
'Prime de Rendement' dispute at Morila**

A strike at Morila in Mali was triggered in June 2004 by a dispute over a productivity bonus payment arising from a period of unusually high gold production during the second half of 2002. Members of the Malian mineworkers union, Section Nationale Des Mines Industries (SECNAMI) staged three days of industrial action. The union provided the legally required strike notification and employees were not paid for the period of the strike. The dispute was eventually settled on 5 November 2004.

The dispute arose following the exceptional increase in the grade recovered per ton of ore mined during the third quarter of the 2002 as Morila mined through a geological anomaly colloquially called the 'gold pot'. These high grades were not foreseen, nor were they part of the long-term plan of the mine owing to the high variability in the Morila orebody and the smoothing nature of long-term forecasts.

As a result of this exceptional performance, and to ensure that employees also benefited from this grade windfall, the board of Morila paid all employees an additional one month's gross salary. A further once-off contribution of \$500,000 was made to establish a community development fund. The mine also sponsored the building of mosques in the communities of Sanso and Domba in response to requests from community members.

However, the union demanded the payment of a 'prime de rendement' (productivity bonus) claiming that, in terms of the Industry Collective Agreement, it was obligatory that the mine paid employees a share of the additional gold produced.

The Morila management board views the 'prime de rendement' as a bonus for improvements in efficiencies. Management is also of the view that it has the right, in consultation with the union, to set appropriate criteria for the payment of such a bonus. In consultation with the union, a bonus scheme was introduced using plant throughput, costs, safety performance and gold produced as criteria, encouraging improvements in productivity and rewarding people's efforts primarily in areas over which they have influence. This also encompasses a degree of profit sharing.

As per article 84 of the Industry Collective Agreement, in November 2003 the union and management agreed to refer the dispute to the Interpretation Committee to establish clarity on the legal obligations and method of calculation of a bonus scheme. Unfortunately the Malian labour authorities were unable at that time to convene an interpretation committee. This committee had never been convened before. (According to the agreement the committee should consist of the original authors of the document – only one of the original authors is still living in Mali.) The dispute was therefore referred to arbitration.

On February 10, 2004, the Arbitration Counsel requested Morila to pay a productivity bonus. The dispute on the interpretation was never addressed and no value was attached to the decision. The lack of a definition of productivity and absence of any clarification of the procedure for agreeing criteria and the method of calculation of the productivity bonus led the union committee to resort to its own calculation based on gold production. This calculation resulted in an amount of CFA17.5 billion (\$32.5 million) for three years of mine activity equivalent to approximately 10 to 20 times the annual gross salary of a Morila employee.

After months of negotiations a settlement was finally reached when the parties agreed to the implementation of a productivity-based bonus scheme for the future, and the settlement of payment to employees for past performance amounting to between two and five months salary.



**Union membership at Morila**

All local employees at all levels at the mine are members of the union although in terms of Malian labour legislation no formal recognition is required and no deduction of union membership fees takes place. Employees are represented by a mine committee of elected union representatives or shop stewards. Collective bargaining is undertaken within the context of the relevant texts of the Mali Labour Code, the National Collective agreement as well as a site-specific agreement.



## 7.5 Adult Basic Education and Training for all

AngloGold Ashanti's Adult Basic Education and Training (ABET) programme started 12 years ago, as a result of the company's objective of ensuring that all employees are given the opportunity to become functionally literate. Since then, the group has trained more than 32,000 people at its facilities and this number continues to grow.

AngloGold Ashanti made available R10.4 million (\$1.62 million) for the programme in the 2004 financial year. Although 96 classrooms have been built and equipped as part of the project, there are currently only 56 classrooms in use as a result of both the lack of demand from students themselves and the downscaling of operations. There are currently 60 teachers and facilitators, and 1,392 students (173 full time and 1,219 part-time). Pass rates have been good: among employees studying full-time the pass rate was 92.5% and among employees who are doing ABET part-time, this was 74.7% during 2004.

By the time an employee reaches ABET level 3, he or she is able to engage in a range of English speaking and listening interactions; use reading and writing skills effectively; solve realistic and abstract problems involving changing quantities by addition, subtraction, multiplication and division; construct and use tables and graphs to organise and interpret information; work with a variety of numbers and their relationships; and solve problems involving measurement, perimeter, area, volume and time.

Part-time ABET students are incentivised by the company, and are paid an amount of money that is linked to the level of ABET training that they successfully complete. Full-time ABET courses, which are generally for candidates who have been identified for career advancement, are run over a period of 10 weeks, and part-time courses over six months. Facilitators are recruited from the local community, either on a full-time or part-time basis. Unemployed facilitators with a grade 12, plus an education certificate (those who do not have a formal qualification are offered opportunities to embark on the Mining Qualification Authority (MQA) learnership) are eligible to teach and in-house training is also available for these facilitators.

The South African Mining Charter (developed in terms of the MPRDA in pursuit of the transformation of the South African mining industry) requires that all employees are offered the opportunity to become functionally literate by 2005. 72% of all employees have obtained an ABET qualification, and 45% of these employees having an ABET level 3 and above qualification. ABET level 4 (or NQF1) was introduced in January 2004 after a pilot project was conducted in 2003. It is an Introductory Certificate for the Mining and Minerals Sector qualification.

Marketing initiatives such as literacy days and certificate ceremonies are arranged by various business units to promote ABET, and the company is also currently embarking on a strategy to supply and market ABET classes to the communities in which it operates, to ensure optimum utilisation of the resources and to increase literacy levels amongst potential employees as well.

AngloGold Ashanti's ABET programme, developed in-house, bases its curriculum on the South African Qualifications Authority (SAQA) unit standards and aligns itself with relevant Sector Education Training Authorities (SETAs). AngloGold Ashanti ABET centres are ISO 9001 certified, a requirement for accreditation by the MQA, as a training provider.



### Making a difference in people's lives

Elphas Gumbi, originally from Swaziland, is a stoper at Great Nologwa Mine. He joined the mine in 1994 at the age of 31 and completed the ABET 3 course in 1995 and did the Intermediate Mining Certificate (IMC) in 1996. He then enrolled for his Blasting Certificate at the Learner Miner Training Centre and completed his training in 1997.

He says that being a stoper is very challenging with a lot of competition. According to him, anybody can strive to be a miner, but one must have certain abilities like problem-solving and decision-making skills.

Above ABET 4	24%
ABET 3 and above	45%
ABET 2 and above	60%
ABET 1 and above	72%

Current literacy levels - SA Region: all employees

L30 | 7.6 The AngloGold Ashanti bursary scheme: developing engineers for the future

Against a background of a growing number of graduate school leavers in South Africa who cannot afford a tertiary education, the AngloGold Ashanti bursary scheme focuses primarily on identifying and supporting promising students with aptitudes particularly, engineering sciences.

In 2004 a total of 112 students benefited from the scheme at a cost of R11.5 million (\$1.79 million).

Bursaries are offered for full-time studies at either universities or universities of technology (formerly technikons) in the fields of mining engineering, geology, survey, electrical/mechanical engineering, metallurgy and other mining-related fields of study. Bursaries are advertised to prospective students via targeted recruitment and career publications, postings on faculty notice boards and visits to high schools and tertiary institutions.

The bursary attends to the most crucial needs for qualifying applicants. It offers 100% tuition and residence fees. An out-of-residence allowance is also offered should the bursar prefer to make use of private accommodation. Also, a generous cash allowance to cover the cost of books and incidental personal expenses is made available. Other facilities that come with the bursary are:

- a laptop computer provided in the third academic year;
- guaranteed vacation work at the end of every academic year; and
- personal attention by dedicated AngloGold Ashanti staff.

Successful completion of the required degree may result in an offer of employment for training. Bursars commit to a year's service for each year of bursary support and a new contract is negotiated if the bursar wishes to continue and if there is a vacancy. However, AngloGold Ashanti – along with the mining industry generally – is faced with a challenge of retaining bursars as many of them leave for 'greener pastures' after serving their contracts. This is exacerbated by the fact that the industry itself is employing fewer people.

Ian Heyns, head of human resources in the South Africa region says, "It is a core value of AngloGold Ashanti that we provide our employees with opportunities to develop their skills. In keeping with this value, opportunities are given to selected employees to pursue full-time studies at a tertiary institution with company support. A total of 34 employees benefited from these opportunities in 2004.

**Analysis of AngloGold Ashanti South Africa region bursar population (2004), detailed by discipline of study, type of tertiary institutions and includes the split between historically disadvantaged South Africans (HDSA) and white males**

Discipline	University			University of Technology			Pre-tertiary (Mining)			Total		
	HDSA*	WM*	Tot	HDSA*	WM*	Tot	HDSA*	WM*	Tot	HDSA*	WM*	Tot*
Mining	9	3	12	8	9	17	2	3	5	19	15	34
Engineering	16	6	22	11	3	14				27	9	36
MRM**	18	4	22	2	1	3				20	5	25
Metallurgy	9	4	13	2	2	4				11	6	17
<b>TOTAL</b>	<b>52</b>	<b>17</b>	<b>69</b>	<b>23</b>	<b>15</b>	<b>38</b>	<b>2</b>	<b>3</b>	<b>5</b>	<b>77</b>	<b>35</b>	<b>112</b>
<b>% EE</b>	<b>75%</b>	<b>25%</b>	<b>61%</b>	<b>39%</b>		<b>40%</b>	<b>60%</b>		<b>69%</b>	<b>31%</b>		



**Support for promising scholars**

Via the vehicle of the AngloGold Ashanti bursary scheme, tutorial assistance in mathematics and physical science is provided for deserving scholars at extra classes during Winter and Spring Schools. This initiative aims at improving competence and uplifting marks in these core subjects by means of expert tuition. During 2004 five deserving learners attended these lessons.

**HDSA\*** = Historically Disadvantaged South Africans

**WM\*** = White males

**MRM\*\*** = Mineral Resources Management



## 7.7 Orderly closure at Ergo – social plan for employees

Although Ergo was an extremely profitable operation for many years, it has run at a loss since 2003, and final closure is planned for March 2005. The loss-making operation of the plant since 2003 has been justified on the grounds that reclamation activities still produce substantial amounts of gold at the same time as contributing to environmental clean-up, as well as to longer employment and a well-planned closure process.

Ergo's labour complement at year-end numbered 770 employees and 1,100 contractors.

A Social Plan was implemented four years ago, in consultation with trade unions. Through interviews and questionnaires, the company assessed the training needs and preferences of employees so as to facilitate employment post closure. Of the 900 employees included in the original survey, 729 indicated their specific training preferences, which ranged from arts and crafts to building, construction and engineering. Carpentry, plumbing, refrigeration and chicken-rearing classes were run in conjunction with the Department of Labour.

To date, some 500 employees have completed their training. Senior human resources manager Chris Wiseman comments, "Ergo's approach was to a certain degree unusual. Most companies implementing skills development programmes only do so after closure. We embarked on the training as soon as the needs analysis was complete. Although the intention behind this was good, costs increased significantly due to catering for labour replacement while employees were attending in-service training. The initial budget was some R2.5 million (\$390,00), which has probably doubled if labour replacement costs are taken into account. There is also the risk that people forget the skills they have acquired if there is no immediate opportunity to put these into practice."

Some 220 employees remain to be trained until closure. "Progress has slowed recently, because it was possible in the earlier stages to put together large groups of trainees for the most popular subjects. We are now faced with groups of two or three employees with individual preferences, and it becomes difficult to source providers," says Ephraim Ralesekele, National Union of Mineworkers (NUM) branch chairman.

The process of obtaining new jobs for those affected can obviously only begin once operations have ceased. "Ergo is a unique operation, so this will not be an easy process," says Ralesekele. "Impala Platinum Refinery, situated in Springs, has similar requirements and a number of employees have applied there."

Regular communication with employees has continued, and the final 20 workplace road shows were held in September and October 2004.

A number of employees also expressed interest in life-skills and small business development training. AngloGold Ashanti's Small and Medium Enterprise Development Initiative (SMEDI) facilitated workshops and advice sessions on starting a business. 60 people have attended training supplied by the Springs Business Linkage Centre, developed jointly by the centre and Impala Platinum.

"Most employees have now come to terms with the reality that Ergo must close," says Ralesekele. "From the counselling sessions, financial problems emerged as the most pressing issue." To counter this, Ergo retained the services of Edutouch, a company offering finance guidelines and business advice. Two workstations, offering an audio-visual interactive programme in English, Zulu and Sepedi, have been installed.

"Take-up has been rather disappointing," says Wiseman, "but we are planning to move the machines from the training centre and administrative block into the workplace, and will also try and improve the level of facilitation." It is planned to extend the financial training intervention to the families of affected employees. Approximately 100 people have expressed interest in such training, which will be handled by Joe Mosehle, social plan/employment equity officer, in the period leading up to the operation's closure.



## L32 | 7.8 Reducing the trauma of retrenchment at Savuka

AngloGold Ashanti's Savuka operation in South Africa (formerly West Deep Levels West mine) has been a source of employment and income for thousands of employees and their families since the 1960s, with much of this spent in the local community and rural areas. Savuka has also subscribed to the practice of providing job opportunities for employees' children, giving them the chance to take up where their fathers left off.

For some time Savuka's costs have consistently exceeded its revenues. In 2003 it became apparent that right-sizing was inevitable, and as part of this, it was planned to reduce the labour complement by 40% – 1,800 people out of a total of some 4,500. Current life-of-mine plans will see Savuka continuing at this reduced level until 2007.

Given this scenario, management and labour had to develop a strategy that would be beneficial for both the company and employees, ensuring the financial feasibility of Savuka for as long as possible on the one hand, and minimising the resulting trauma on employees on the other.

The planning process was guided by the Retrenchment Agreement in place at the mine. There were two roleplayers in the downscaling process, following the guidelines of the Labour Relations Act – National Union of Mineworkers (NUM) and the United Associations of South Africa (Uasa). This pre-downscaling consultation phase commenced in 2003, and focused on mapping a route going forward. Given the mature relationship between labour and management, no major hiccups were experienced.

Agreement was reached in 2003 on a number of key elements, including extended unpaid leave, voluntary separation packages, transfers, early retirement, the replacement of contractors, the application of the last-in first-out principle, and skills training, provided by an external agency in consultation with the Department of Labour.

The process has been overseen by an advisory committee – known as the Future Forum – which comprises four individuals from the unions and a community representative who is also an employee of the mine. When the next phase of labour reductions starts in the latter part of 2005, regular meetings of the Future Forum will be re-instituted. The mine found that the Future Forum was crucial in this process, ensuring its fairness, interviewing employees for possible transfers, and in providing advice on skills training and ensuring that the skills training actually took place. Skills training will assist the retrenched employee to re-enter the labour market.

Agreement was reached on a Social Plan, providing for skills training and broadly covers ways of avoiding retrenchments, preventing displacement and providing for compensation. The Social Plan Agreement was signed by both NUM and Uasa, and was subsequently scrutinised by both the Department of Labour and the Department of Minerals and Energy.

Amongst the challenges currently being faced is the maintenance of production output over the next three years, without which the closure could potentially be brought forward. At the same time, it has sometimes proved difficult for employees to maintain a positive morale.



## 7.9 Implementing fall of ground regulations

Falls of ground have remained one of the most significant causes of fatal accidents in the South African underground mining industry. In an effort to combat this, the Department of Minerals and Energy (DME) formulated new Fall of Ground Regulations, in accordance with the provisions of Chapter 14 of the Mine Health and Safety Act, in July 2002. These came into effect in January 2003.

Two groups are affected by these regulations: people who are required to declare a working place safe ('Competent Person A'), and those who are required to install, maintain or remove any support unit ('Competent Person B'). These groups need to be assessed and found competent in accordance with education and training standards and qualifications as generated by the Mining Qualifications Authority (MQA). The MQA determined the specific competencies required to perform these activities and grouped the associated unit standards into clusters. These clusters of unit standards were registered as skills programmes.

As this was one of the first sets of regulations that placed the responsibility on employers to determine the competence of employees, the MQA decided to select four lead sites to pilot the implementation process. AngloGold Ashanti was selected as a gold mining lead site. The assessment and implementation process was carried out at AngloGold Ashanti's South Africa region's business units simultaneously, so that any problems encountered could be timeously communicated to the MQA.

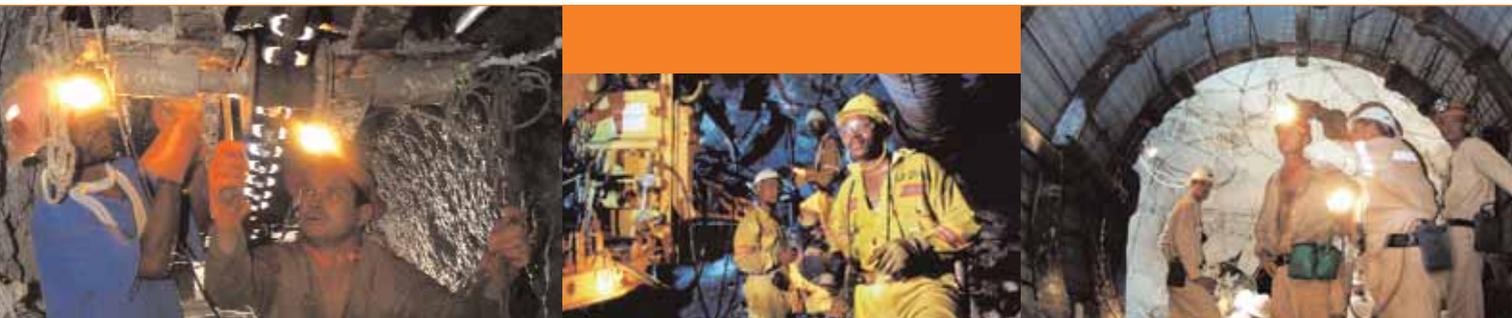
### Implementation schedule

Some 16,000 production employees, who performed the tasks referred to in the regulations, needed to be found competent in the West Wits and Vaal River areas. As it would not have been possible to complete the requirements of the regulations for so many people in the six month window period allowed, it was necessary for an application for exemption to be lodged with the DME. Before this could be done, an implementation schedule had to be developed.

The following factors were considered in the development of this schedule:

- development of learning materials and assessment checklists for the required unit standards;
- ISO 9001 certification (ISO 9001 is an internationally recognised quality management system developed by the International Standards Organization, and is a pre-requisite for MQA accreditation);
- MQA accreditation as an accredited training provider;
- development of an Assessment and Moderation Policy;
- training and registration of assessors and moderators;
- registration of learners on the MQA database (Praxis);
- the training and assessment process; and
- site specific competency matrices, setting out the specific requirements of the relevant occupations at each mine.

Once the schedule had been developed it became apparent that a period of 18 months would be necessary for the completion of the implementation plan. An application for exemption for compliance with the relevant regulations was submitted to the DME in December 2002. The application was approved and the necessary exemption granted.



## Recognition of prior learning

As noted previously, a population of some 16,000 employees was covered by the project. The scale of the project necessitated a change from the normal training and assessment methodology in practice in the training centres. Various models were considered, but with the new outcomes-based unit standards, an opportunity arose to apply Recognition of Prior Learning (RPL) principles. (The principle of RPL is to recognise competence achieved through past practices whilst ensuring alignment with the specific outcomes of the required unit standards to eliminate any gaps.)

All of the employees had been trained and assessed previously against the best practice training material, which had been used prior to the development of unit standards. It was accordingly decided that re-testing was only necessary in terms of the 'knowledge' components of the new unit standards, as this had not been covered by the previous training.

Employees found competent in the 'knowledge' component of the unit standards would be deemed competent to perform the tasks outlined in the Fall of Ground Regulations. Those found not yet competent would be retrained and assessed. The RPL and retraining of most employees was completed within one day.

Although the principle of 'once competent always competent' applies to unit standard outcomes-based training and development, all employees are still reviewed on their knowledge on returning from annual leave and refresher training is given where necessary.

## Training and assessment process

The current training resources were not able to cope with the magnitude of training and assessment required for this project, so a training and assessment model was developed and presented to the AngloGold Ashanti South Africa region executive. This model was accepted and a budget of R4.2 million (\$660,000) for 2003 approved for the project. 35 assistant training and development officers were employed and trained as subject matter experts and as workplace assessors. Assessment and training commenced in September 2002. Initially, employees were assessed on their return from leave but this did not provide a constant number of employees to be assessed and trained each day so it was decided to schedule employees on a call-up system. A reporting system was put in place on the intranet to enable progress to be monitored daily.

## Conclusion

The project was successfully implemented. The West Wits mines completed the process during the last quarter of 2004, within the exemption period allowed by the DME. In the Vaal River area two mines had to apply for a further extension to the initial exemption period granted, owing to various logistical problems, and are expecting to complete the project in the course of 2005.

The capacity of the MQA to receive the data submitted by the training centres via the internet was found to be insufficient and they had to upgrade both the connection portals and server.

The lessons learnt in the planning and execution of the implementation of the new Fall of Ground Regulations were communicated monthly to the MQA at various steering and co-ordinating committee meetings by the four lead sites. Other mining houses have used this information to assist them during their implementation projects.



## 7.10 Towards the transformation of proto teams

In any mine accident in South Africa, important behind-the-scenes players are the personnel of the Mines Rescue Services (MRS), commonly known in the industry as proto teams. Started 80 years ago to provide resources and expertise for an effective emergency service in the mining sector, MRS is a private sector, non-profit organisation that trains volunteer brigadesmen who work within the industry to find and recover fellow employees in the event of an underground accident or incident.

Through the years until the new democratically elected government of South Africa in 1994, the proto teams consisted of whites only. Although there was no legislation excluding people of colour, brigadesmen are usually drawn from within the supervisory ranks from which – historically – men of colour and women were excluded.

The transformation of the mine's proto teams, in line with the management structure of the company, has become an important priority for AngloGold Ashanti.

In this, AngloGold Ashanti is not unique. Presently there are 817 brigadesmen in service, of whom 724 are white and only 93 are men of colour. Christo de Klerk, MRS general manager says, "The integration is slow but it is taking place. This is a voluntary programme with a long legacy of affiliations. Although we have had many more men of colour joining us in the past few years, many of these have progressed into the management ranks which makes it difficult for them to continue with their work in the rescue services."

One of the elements that needs to be overcome is the historical legacy of who and what makes up a brigadesman – many of the people who are currently in the service are following in the footsteps of their fathers and grandfathers. There is also a natural inclination among those who have grown up together, studied and worked together, and socialised together, to join the service. Although integration of employees is taking place at a mine level, this is sometimes a slow process.

Mponeng's Rocky Tsoeute was one of the mine's first persons of colour to join the mine's rescue team. Nearby Savuka and TauTona also have men of colour in their rescue teams.

Tsoeute, Mponeng's brigadesman says, "What attracted me was the discipline and the dedication the rescue teams showed – I wanted to be part of that. Also, as a mineworker, there are a lot of accidents in the industry so I wanted to be part of the solution rather than stand back and criticise the management."

When asked about the barriers in the rescue services, he said that there is not enough information readily available on the proto teams. Some people still regard it as reserved for the elite group.

MRS itself is making efforts to transform its teams – when selecting new candidates, HDSA candidates will receive first preference.



### Training to be a brigadesman

Training to be a brigadesman is a demanding, arduous and time-consuming process. Initial brigadesman training is a five-day comprehensive course on the use of closed-circuit, long-duration breathing apparatus, fire-fighting and associated techniques. The workload test – which is a realistic controlled simulation of the physical tasks a person can expect to encounter during emergencies – is also a gruelling process. The mines rescue medics course, also known as the Basic Ambulance Assistance (BAA) course is optional and is a three week medical course on advanced life-support designed specifically for mine disasters. Candidates must also undergo annual refresher courses to keep abreast of new techniques.

To be considered for a place in a team, applicants must be 21 years or older and have a clean bill of health, be physically fit, employed by the mine and have underground knowledge. Applicants are then put through intensive training for a week, which is preceded by an hour long heat tolerance test. Brigadesmen can stay a maximum of 25 years in the team.

Presently there are three training centres located in the mining districts of Carletonville, Welkom and Evander.



# Environment

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### E2 | 1 AngloGold Ashanti and the environment

- We recognise that the **long-term sustainability** of our business is dependent upon good stewardship in both the protection of the environment and the efficient management of the exploration and extraction of mineral resources.
- We will comply with all applicable environmental **laws**, regulations and requirements.
- We are committed to establishing and maintaining **management systems** to identify, monitor and control the environmental aspects of our activities.
- The company will ensure that **financial resources** are available to meet its reclamation and environmental obligations.
- The company will ensure that its employees and contractors are **aware of this policy** as well as their relevant responsibilities.
- We will conduct **audits** to evaluate the effectiveness of our environmental management systems.
- We are committed to **communicating and consulting** with interested and affected parties on environmental aspects of our activities.
- We will work to **continually improve** our environmental performance; and
- The company will participate in **debate** on environmental matters at international, national and local levels.

## 2 Key indicators

- Continued implementation of the group-wide high-level environmental incident reporting system. 16 high-level incidents were reported to the Board during the year. (See table on page E11.)
- AngloGold Ashanti is considering the adoption of ISO 14001 as the group environmental management system. A decision will be taken during the course of 2005 after internal debate about the merits of the proposal. The following six operations are currently ISO 14001 certified – Bibiani and Iduapriem in **Ghana**, Cerro Vanguardia in **Argentina**, AngloGold Ashanti Mineração (formerly Morro Velho) and Serra Grande in **Brazil** and Geita in **Tanzania**. (See table below.)
- All operations outside of South Africa have Environmental Management Systems (EMSs) in place which align with the principles of ISO 14001. The South African operations are continuing with the process of implementing an EMS at each of the 25 business units.
- All **South African** operations have approved Environmental Management Programmes (EMPs) in place and, in line with this, applications for conversion to new order mining rights in line with the Mineral and Petroleum Resources Development Act have been submitted.

### ISO certification

Country	Operation	Date achieved	Certified by	Valid until
Argentina	Cerro Vanguardia	July 2002	National Quality Assurance (NQA) - USA	July 2005
Brazil	AngloGold Ashanti Mineração	March 2004	National Quality Assurance (NQA) - USA	May 2007
	Serra Grande	March 2004	National Quality Assurance (NQA) - USA	March 2007
Ghana	Bibiani	February 2003	DLIQ Certification services	Feb 2006
	Iduapriem	Jan 2004	DLIQ Certification services	January 2007
Tanzania	Geita	July 2001	DLIQ Certification Services	July 2007

## PRICEWATERHOUSECOOPERS

### Our opinion is based on a test of the reliability of the selected data by way of:

In relation to selected data marked with  which we have provided reasonable assurance:

- conducting interviews and holding discussions with management, key personnel and/or stakeholders of AngloGold Ashanti limited and assessing data trends;
- obtaining an understanding of the systems used to generate, aggregate and report the selected data;
- conducting site visits to test systems and data and inspecting premises where necessary;
- assessing the completeness and accuracy of the selected data; and
- reviewing and analysing collected information and effecting re-calculations where considered appropriate.



E4 | 3 Milestones 2004 

- Following the business combination with Ashanti, the AngloGold Ashanti safety, health and sustainable development committee of the board reviewed the AngloGold environmental policy (in April 2004). The review included a consideration of the former Ashanti environmental policy. The committee concluded that, when read in context with the group's business principles, the environmental policy remains appropriate for the group.
- An environmental steering committee, comprising the head of corporate environmental affairs and the regional environmental managers, was formed during the year. The steering committee has as its objective the identification of critical environmental issues facing the company, the development of strategic responses to these, and the formulation of implementation plans. The first meeting was held at Obuasi in Ghana in August 2004.
- The International Cyanide Code has been adopted as the standard for cyanide management within AngloGold Ashanti and substantial progress has been made with its implementation. Internal audits of compliance were completed in **Mali, Tanzania, Namibia, South Africa, the United States** and South America (**Argentina** and **Brazil**) in 2004. The audit of the **Australia** region was completed in January 2005, and the **Ghana** and **Guinea** operations are scheduled for auditing in March/April 2005.
- The Federal Mining Department (DNPM) of **Brazil** issued a partial closure certificate for surface infrastructure and the mining operations at Mina Velha following a technical visit in May 2004.
- Environmental operating licences were granted for the Lamego mine in December 2004, and for the Carvoaria mine (part of Córrego Do Sítio) in June 2004. Both are in **Brazil**.

**Management structure and governance**

Environmental policy and strategy within AngloGold Ashanti is overseen by a board committee on safety, health and sustainable development. This committee has as its brief the evaluation of social, economic, environmental and health impacts of the company's operations on both local and global communities. The committee comprises three non-executive directors, Bill Nairn (chairman), Dr James Motlatsi and Simon Thompson along with the chief executive officer Bobby Godsell and president, Dr Sam Jonah. Members of management, including Dave Hodgson (chief operating officer) John McEndoo (safety), Dr Dave Barnes and Dr Brian Chicksen (health), Andrew Mackenzie (environment) and Paul Hollesen (community), are invited to participate. Executives from each of the company's operating regions provide a report on the relevant performance and emerging issues in each of the regions. To provide an opportunity for in-depth deliberation, the focus of each meeting rotates through safety, health, environment and community issues.

The management of environmental issues at an operational level falls under the auspices of the chief operating officer, who is supported by line management, comprising the deputy chief operating officers, the heads of each region, and their respective general managers.

**Environmental staffing**

The environmental management function has been structured to support this operational mandate. The corporate environmental office is headed by Andrew Mackenzie who serves on the corporate technical group and advises both the chief executive and chief operating officers. Within each region, the regional environmental manager provides advice to the relevant management team. In some instances, the regional environmental office also includes a number of specialists who consult to the operations. In most situations, on-site environmental professionals advise the relevant general manager and are responsible for implementation of the environmental programme of their respective operations. Given the diversity of environmental issues one of the challenges in the environmental discipline is to effectively access the diverse range of skills required to address environmental issues. The company employs professionals with a range of technical skills and expertise and engages specialist consultants as and when this is necessary.

At the corporate level, an environmental steering committee has been established, comprising the various regional environmental managers. The insights of this group are used to identify and debate critical environmental issues facing the company, develop strategic response recommendations, and formulate plans for practical implementation. The first of such meetings was held at Obuasi mine in Ghana in August 2004. Environmental representatives from the Ghanaian operations were invited to participate as a way of facilitating the post-merger integration of the AngloGold and Ashanti environmental staff.

Every second year an in-house environmental conference is held, at which the broader environmental staff are invited to present technical papers and share best practice experience. The first of these meetings was held in Johannesburg, South Africa in May 2003, and will be followed by a second in October 2005.

**Responding constructively to pressure groups in North America**

AngloGold Ashanti is committed to active dialogue with trade associations, non-profit organisations (NPOs), elected officials, regulatory agencies, and other groups and individuals to promote responsible mining in the State of Colorado. As manager of the Cripple Creek & Victor Gold Mining Company (CC&V) – which is 67% owned by AngloGold Ashanti – the joint venture has an open door policy to discuss issues and arranges visits for interested parties to its operations.

AngloGold Ashanti is an active member of the Colorado Mining Association (CMA), which took the lead in 2004 to provide information to the Summit County Commissioners on why a ban was not appropriate and is now challenging the most recent attempts to prevent the use of cyanide in Summit County. AngloGold Ashanti is part of the litigation steering committee and is also active on several other committees.

Interaction with a wide range of entities and organisations will continue at the local, state, and national levels to demonstrate our environmental performance and thus help to minimise the potential for the approval of future bans or other adverse decisions that could escalate and directly impact the North American operations.



A web-based electronic collaboration system is also being implemented to encourage professional networking, information sharing and joint problem solving. At present, the system includes an environmental incident reporting function, several discussion forums, a document library (for policies and procedures), a news and announcements facility and a list of useful web-links.

Staff are encouraged to develop their skills through both 'on-the-job' opportunities (in-house management programmes) and external opportunities (such as participation in conferences and short courses). Development is also promoted by using environmental specialists from one part of the company to audit another, or by seconding them to another operation for a short period of time to address a particular need (such as the development of a mine closure plan).

## Legal compliance and permitting

The group's business principles and environmental policy guide AngloGold Ashanti's management of the impact that the company has on the environment. In addition, its operations are subject to the environmental laws, rules and regulations of the various countries in which they operate. Where no such laws exist or where these laws are perceived to be inadequate, the operations are guided by the company's business principles and deemed good practice.

Internationally, a topic of extensive debate is the application of global environmental standards. Some international NGOs are advocating that the most stringent standards are applied in every instance, irrespective of the conditions for which they were developed. For example a stringent dust standard which is appropriate in an urban environment could be unnecessarily burdensome in a remote, rural area.

Globally, mining activities are under continued scrutiny from legislators and pressure groups seeking to regulate and in some cases, contain mining operations in pursuit of environmental goals. This is particularly the case in the **USA**, where environmental activist groups aim to limit or ban the use of cyanide or other processing reagents, and heap leaching techniques. In addition, more stringent water quality standards are being considered by the regulatory agencies which would limit the viability of mining in some mineralised areas. While AngloGold Ashanti welcomes responsible and reasonable legislation, it is concerned that a balance needs to be found between regulation for the protection of the environment, commercial activity and sustainable development.

AngloGold Ashanti believes that good environmental management practice can protect and enhance the company's image and future business prospects. Through effective environmental management, the company is able to manage its exposure to business risks and liabilities, providing assurance to shareholders and attracting potential investors. Good environmental practices contribute to profits by reducing waste, ensuring the efficient use of natural resources such as water and reducing mine closure and clean-up costs.



With regard to environmental litigation, the company is involved in the following cases:

- in **South Africa** a claim of approximately R5 million (\$780,000) is due to be heard in the Bloemfontein High Court in May/June 2005 relating to claims brought against the company for allegedly polluting water bodies near Wesselbron in the Free State Province. The cost of litigation and any settlement will be paid out of an amount set aside by the Harmony Gold Mining Company Limited in terms of the sale agreement between AngloGold and the former ARMgold and Harmony in respect of the sale of AngloGold's Free State assets. AngloGold Ashanti intends to dispute these claims in court
- in the **USA**, two civil cases brought against the company in 2000 and 2001 by the Sierra Club and the Minerals Policy Center for allegedly exceeding certain permit water quality standards or lack of permits for certain identified flows (in terms of the Clean Water Act) at the CC&V mine continues. Last year, the company reported that it had entered into two settlements with the US Environmental Protection Agency and the State of Colorado. The federal court has scheduled a pre-trial conference in March 2005 wherein a determination will be made of claims that will be allowed to proceed to trial. No trial date has been scheduled

Region-specific legislative and compliance issues include the following:

- in **South Africa**, a range of new legislation has come into effect in 2004 and is currently under consideration. (See box on page E8.) All 25 business units (attached to the eight operations) within this region have environmental management programmes (EMPs), that have been approved by the Department of Minerals and Energy (DME), in place. An internal audit of the South African operations has indicated that the region is largely compliant with its EMP obligations. Importantly, the company has been able to submit its application for conversion to new order mining rights in line with the Mineral and Petroleum Resources Development Act (MPRDA), incorporating these EMPs. (See case study: *Three year project to fast track environmental management plans on page E35.*)
- in **Brazil**, new environmental regulations were implemented by the State Environmental Agency (FEAM) and became effective in December 2004. This new legislation requires small but important modifications to licensing procedures, which will expedite the issuing of licences in the State of Minas Gerais.
- a technical revision was submitted to the Colorado Division of Minerals and Geology (DMG) to allow extension of the East Cresson surface mine at CC&V in the **USA**. An application was also submitted to Teller County to allow this extension under the land use regulations. Both were approved during 2004. A modification to the CC&V air quality permit to allow for increased ore and overburden production separately was submitted to the Colorado Air Pollution Control Division and approval for this request is anticipated in the first quarter of 2005.
- an Environmental Impact Assessment (EIA) was performed at the Navachab mine in **Namibia** where a new earth-moving equipment workshop was established as part of the transition to owner mining.
- in **Australia**, new environmental legislation in Western Australia is being implemented with a focus on penalties, director liability, clearing native vegetation and contaminated sites.
- in **Tanzania**, the Environmental Management Bill was discussed in Parliament and the HSE manager from Geita Gold Mine was invited to Parliament to make a contribution. The Bill is expected to be passed into law early 2005, followed by promulgation of the supporting regulations.



### New and pending environmental legislation in South Africa

*The Mineral and Petroleum Resources Development Act, 28 of 2002 (MPRDA)* and the regulations published in terms of it came into operation on 1 May 2004. The MPRDA introduces a new system of mineral regulation whereby the state becomes the custodian of the country's mineral and petroleum resources and exercises control over them, to the benefit of all South Africans.

Holders of mining authorisations and prospecting permits issued under the previous legislation, the Minerals Act, 1991, are required to apply to the Department of Minerals and Energy (DME) for conversion of these into new order mining rights. The conversion will only be granted if the applicant complies with the criteria laid down in the MPRDA; one key area is reported in compliance with the applicant's previously approved environmental management programme (EMP).

In addition to compliance with its EMP, the MPRDA requires companies to:

- rehabilitate the environment affected by the prospecting or mining operations to its natural or predetermined state as far as it is reasonably practicable; and
- take responsibility for any environmental damage, pollution or ecological degradation as a result of his/her prospecting or mining operations.

It also states that the directors of the company are jointly and severally liable for any unacceptable negative impact on the environment, including damage, degradation or pollution advertently or inadvertently caused.

The Act stipulates that financial provision must be made available for rehabilitation, or management of negative environmental impacts, and that this responsibility is maintained until the Minister of Minerals and Energy has issued a closure certificate.

*The National Environmental Management: Biodiversity Act 10 of 2004, was published on 7 June 2004* and provides for the management and conservation of South Africa's biodiversity within the framework of the National Environmental Management Act, 1998. This includes:

- the protection of species and ecosystems that warrant national protection;
- the sustainable use of indigenous biological resources;
- the fair and equitable sharing of benefits arising from bio-prospecting involving indigenous biological resources;
- the establishment and functions of a South African National Biodiversity Institute; and
- matters connected therewith.

The Biodiversity Act will come into operation on a date determined by the President.

Amendments to the proposed *Environmental Impact Assessment (EIA) regulations under section 24(5) of the National Environmental Management Act, 1998*, were published on 25 June 2004. AngloGold Ashanti made a submission independently and in conjunction with the Chamber of Mines of South Africa.

The regulations will apply to any listed or specified activity identified in terms of section 24 of the National Environmental Management Act, 1998 (NEMA). The mining, quarrying, prospecting, extraction or production, including associated structures and the extension of existing operations, of precious metals (including gold) is now included in the schedule of activities that require an EIA. (This is a new development as, under the current EIA legislation, mining is excluded as an identified activity and therefore no EIA is required for the mining of gold.)

*The National Environmental Management: Air Quality Bill* (which was passed on 19 February 2005) replaces the Atmospheric Pollution Prevention Act, 1965. The aims of this Act are to 'reform the law regulating air to protect and enhance the quality of air, taking into account the need for sustainable development; to provide for national norms and standards regulating air quality monitoring, management and control of all spheres of government; for specific air quality measures; and for matters incidental thereto.' (See case study: *New legislation to impact on air quality management on page E43.*)

The draft bill on *Waste Management* has not been published for public comment but is on the agenda of the parliamentary portfolio committee for 2005. The purpose of the Act will be to ensure sound environmental management of waste; provide for utilisation of environmentally-sound methods that maximise the utilisation of valuable resources and encourage resource conservation and recovery; reduce risk to human health and prevent the degradation of the environment by the use of the mechanisms that promote pollution prevention and cleaner production, volume reduction at source, recycling, recovery and reuse, setting guidelines and targets for waste avoidance and volume reduction; ensuring the proper segregation, collection, transportation, storage, treatment and disposal of waste; encouraging greater private sector participation in waste management; and cooperation and self-regulation among waste generators through the application of market-based instruments.

## Environmental management systems

Environmental management systems (EMSs) form the backbone of environmental management at an operational level. Each of the regions also has an audit process in place, both internal and external, and which are generally conducted on an annual or bi-annual basis.

The company is considering the merits of obtaining the certification of its operations to the ISO 14001 standard. As part of these deliberations each region has carried out a gap analysis to determine the degree of compliance with the standard.

Region	Degree of conformance with ISO14001 and work required to achieve certification
USA	The only major area of non-conformance (1%) is the lack of a document control system. The existing EMS completely meets 60% of the standard, with 39% partial compliance.
Australia	The region has an EMS that is aligned with ISO 14001. A gap analysis indicates compliance of 67% to the standard.
Mali	Morila, Sadiola and Yatela are 69 – 72% compliant.
Namibia	Navachab is 48% compliant.
South Africa	Compliance is estimated at 41%. Environmental management is currently being driven, not through EMSs, but mainly through the implementation of DME-required EMPs and the implementation of a number of major remediation projects.

### Defining ISO 14001

**ISO 14001:** The International Standards Organization (ISO) is a voluntary not-for-profit network of national standards institutes from 146 countries with a Central Secretariat in Geneva, Switzerland, that coordinates the system. ISO 14001 focuses specifically on environmental management systems, and was first published in 1996. It applies to those environmental aspects which the organisation has control over and over which it can reasonably be expected to have an influence.

**ISO 14001 certification:** ISO 14001 is the only ISO 14000-series standard against which it is currently possible to be certified by an external certification authority. Based on regular auditing by an appropriately accredited external body, an organisation may state that it is ISO 14001 certified.

The operations in **Brazil, Ghana, Guinea** and **Tanzania** are committed to the maintenance or implementation of ISO 14001:

- Geita in **Tanzania** is ISO 14001 certified;
- Bibiani and Iduapriem in **Ghana** are ISO 14001 certified. Obuasi is in the initial stages of implementation;
- Siguiri in **Guinea** has started developing an environmental management system;
- Cerro Vanguardia in **Argentina** is ISO 14001 certified; and
- in **Brazil**, Serra Grande and AngloGold Ashanti Mineração are ISO 14001 certified – certification is being sought for the Córrego Do Sitio project.

Amongst others, a decision on whether or not to adopt the ISO 14001 standard will need to consider:

- the value that certification brings, in the form of development and maintenance costs versus external recognition, assessment of the company's sustainability rating and other intangibles;
- its contribution to corporate governance and public reporting requirements;
- its use in the identification, prioritisation and management of company-related environmental issues, including the conformity of internal management systems;
- internal and external verification processes and the frequency at which audits are carried out; and
- practical issues such as personnel and budget requirements and realistic certification target dates.

### Environmental reporting protocols

Environmental incidents can represent a significant risk and cost to the company. AngloGold Ashanti has developed a reporting protocol that allows the company to effectively identify and manage these risks and associated costs. The protocol aims to streamline operational reporting requirements yet provide the appropriate level of information necessary to advise the executive and the board of the nature and occurrence of important incidents and developments and management response.

In line with this protocol, the major incident reports must be made within 24 hours. On a quarterly basis, a summarised report of incidents and major developments within each region is presented at the board safety, health and sustainable development committee meeting.

**Prompt major incident reports:**

Major environmental incidents are reported to the regional management, as well as the corporate environmental office, within 24 hours of the time that operational management becomes aware of the incident. For purposes of this reporting an environmental incident is defined as 'an event, action or non-conformance with a procedure that results, or has the potential to result, in an adverse impact on the surrounding environment; or any event, action or occurrence which is contrary to the AngloGold Ashanti business principles'.

Different regions may have slightly different definitions for these levels of reporting. What they have in common is that a 'major' incident is one which is:

- likely to attract public (or media) attention, or
- result in a cost to the company exceeding \$500,000 (approximately R4 million), including fines, compensation, clean-up, loss of production, anticipated litigation costs, etc.

In line with this, 16 high-level incidents were reported to the board during the year. (See table on page E11.) All these were reported in line with the first parameter. Other 'lower level' incident reporting systems remain in place at an operational level depending on the EMS in place.

Two of these incidents are elaborated on below:

- **Ghana** is host to one of the world's largest arsenopyritic gold-bearing orebodies, and, in fact, the Obuasi region has a higher than normal natural arsenic background level. Until the mid-1990s arsenic trioxide (as a by-product of gold mining) was precipitated, recovered, placed in bags, and sold into Europe for commercial applications (such as for the preservation of wood and for use as pesticides). Following a decline in this market, however, bags of arsenic were accumulated on site, creating a stockpile of some 10,000 tons. The production of arsenic trioxide ceased when the Pompora Treatment Plant (PTP) roaster facility was shut down in 2000.

The storage of this arsenic was recognised to be inadequate, and in consultation with the Ghanaian Environmental Protection Agency (EPA), a plan was developed to address the situation while longer term disposal issues are considered.

The Ghanaian EPA has approved the movement of the bagged arsenic from the storage site at the PTP to a High Density Polyethylene (HDPE) lined area which has been purposely constructed at the south end of the mine adjacent to the new STP Plant. This is a secure area where trained personnel with the appropriate protective equipment and handling facilities will supervise the storage to meet both the regulations of the EPA and AngloGold Ashanti's level of practice. Once the stockpile is moved to the impoundment, the storage of the arsenic by-product of the mine's operation will no longer pose an uncontrolled hazard.

One of the alternatives to disposing of the arsenic trioxide into a lined hazardous waste land-fill facility, which will require indefinite management, is to convert the arsenic into a more stable complex and dispose of it onto the conventional tailings storage facility. This approach continues to be evaluated.

The Biox (biological oxidation) treatment plant which was introduced at the Sansu Sulphide Treatment Plant (STP) in 1992 is capable of converting arsenic trioxide into a more chemically stable arsenic complex. From the HDPE-lined storage pond, arsenic trioxide could be blended into the Biox process and disposed of onto the Sansu tailings storage facility, over a period of approximately six years.

These are some of the options that AngloGold Ashanti, and the Ghanaian EPA have been jointly evaluating, together with the initiatives that the former Ashanti Goldfields had already embarked upon.

In June 2004, arsenic levels exceeding 0.2 parts per million were detected in the Nyam River. Investigations showed that flow from the tailings dam were regularly exceeding the discharge standard, but through dilution, were below the 0.2 parts per million level by the time this water entered the Nyam River. The underlying cause was that in a cost-saving exercise, the arsenic fixation method had been changed. Previously, dissolved arsenic was fixed into a stable form by reaction with limestone prior to entry into the tailings stream. It was hoped to achieve this same level of fixation by reacting these waters with the carbon-in-leach (CIL) tails.

**Environmental incidents reported during 2004 – high level or major incident\***

Country	Operation	Nature of incident	Date of incident
Brazil	Serra Grande	Community complaints drew attention to contamination of groundwater at Crixas by drilling fluids	12 November
Ghana	Obuasi	Arsenic trioxide contamination of the Nyam River. A 10,000 tons arsenic trioxide store is being moved from the PTP Plant to a lined storage facility at the old heap leach site at the south end of the mine. This will gradually be disposed of through the Biox process at the STP, where it will be chemically stabilised and then placed on the Sansu tailings dam. (See case study: Arsenic remediation at Obuasi on page E31 and discussion on page E10)	3 June
		The containment wall of the Kokotesua south sump failed, resulting in spillage of slurry materials downstream of the dam and the inundation of several residential houses	12 October
		A rupture in the Sansu STP pipeline to the Dokyiwa Tailings Dam resulted in a slimes spill affecting vegetation and water bodies. It is suspected that this was caused by illegal miners	20 December
Mali	Morila	An imbalance in the plant water following industrial action and high rainfall led to overflow of cyanide-bearing waters from the Morila pollution control dam	25 June
	Sadiola	About 100 bird fatalities recorded in the return water dam area were attributed to high sodium levels in the water. Sodium metabisulphate is used to detoxify cyanide. (See discussion on page E12.)	23 May
		Small tailings spill (containing cyanide) due to pipeline leak	17 November
	Yatela	Two dead birds found adjacent to water pond on heap-leach pads	20 November
South Africa	TauTona	Refrigerant gases were released into the atmosphere during pump maintenance	28 April
		Oil and waste spilled into stream just off the boundary of TauTona	30 April
	Metallurgy	Bokkamp return water dam overflowed its containment	12 to 21 March
	Vaal River	Tailings spillage due to pipeline failure	10 October
	Ergo	A pipeline burst resulted in 1,800m <sup>3</sup> of slurry spilling into Elsburgspruit	9 March
		A pipeline burst resulted in the spillage of 300m <sup>3</sup> of slurry, with about 50m <sup>3</sup> flowing into the Cinderella Dam	13 August
Complaint received about excessive dust from rehabilitation work at 7L15 tailings dam		7 October	
	Pipeline burst resulted in spillage of slurry next to N17 highway	26 November	

\* The AngloGold Ashanti definition of 'major' or 'high level' incident is one which is likely to attract public (or media) attention; or result in a cost to the company exceeding \$500,000, including fines, compensation, clean-up, loss of production, anticipated litigation costs etc.

Because of the large volumes of CIL tails, the residence time in the arsenic stabilisation tanks was drastically reduced thereby compromising the effectiveness of the arsenic stabilisation method. Modifications have been made to the STP circuit to achieve the discharge standard. An improved monitoring and alert system has also since been put in place to prevent a re-occurrence of this incident.

- Most of the environmental incidents reported at Sadiola in **Mali** are related to the animal life. This problem is exacerbated during the dry season when the lack of grass and surface water outside the mining areas causes the livestock to force their way through the fences into the mining areas where they then remain. The mine has doubled the number of people patrolling the fences (from six to 12) with some reported success.

On 23 May 2004, approximately 100 bird carcasses were discovered around the edge of the return water dam located adjacent to the Sadiola tailing storage facility (TSF). An immediate investigation was conducted by on-mine personnel with the assistance of two Australian scientists (who were on site at the time) from the Australian Centre for Minerals Extension and Research (ACMER). Autopsies carried out by the Onderstepoort Veterinary Institute in South Africa attributed the cause of death to a high concentration of sodium in the brain. Environmental analyses also showed a concentration of copper and other metal salts in the sediments and water. Of note was that there was no evidence of cyanide, which had previously been the cause of a number of other bird fatalities a year prior to this. (See *Report to Society 2003*)

The elevated levels of sodium and other salts were a result of efforts to detoxify cyanide, using both sodium metabisulphate and prior to this, copper sulphate. As a result of this incident, the mine has all but decommissioned the use of the return water dam and is circulating decant water from the tailings dam direct to the process plant. The mine is also participating in a multi-year study carried out by ACMER to investigate the interactions between wildlife and tailings storage facilities. Preliminary indications of this study are that the design of these facilities has a significant effect on the extent to which wildlife are able to use them. At Sadiola the shallow waters surrounded by natural bush are ideal wildlife habitat, especially in hot, dry summers when temperatures above 45°C are experienced.

### Quarterly incident summaries and major development reports

Each regional environmental office also submits to the Corporate Environmental Office a quarterly report summarising the status of all important environmental incidents and developments in their regions during the preceding quarter.

### Audits

The following audits were undertaken during the year:

- in the **South Africa** region a total of 72 audits were performed by members of the region's environmental management department in 2003 – the majority of legal non-compliances were associated with water management and waste management. Attention during 2004 was focused on addressing the findings of these audits. A new auditing protocol to evaluate legal compliance has been developed for introduction at the business sections next year.



An international environmental review of the South Africa region is planned for 2005. A similar review conducted in 2002 identified 27 major areas for improvement. The new review will examine progress on these 27 issues, as well as comparing the region against present international standards.

- a formal ISO 14001 re-certification audit was undertaken in July 2004 by the Australian DLIQ Certification Services at Geita in **Tanzania**. In addition, the mine's systems were verified by senior government officials for Geita's entry into the Tanzanian President's Award for Environmental Management. The mine also achieved a four star rating in its annual integrated Nosa audit (which includes environmental as well as safety and health parameters).
- as a signatory to the Australian Minerals Industry Code for Environmental Management (Code 2000), the **Australia** region is committed to annual site audits against the Code. Audits are performed by both external (RISKMIN) and internal auditors, with the most recent audit indicating a level of 72% implementation of the code. (This result is consistent with most of the larger mining companies in Australia.)

Annual audits of the region's TSFs are performed both internally and by specialist external consultants. Annual statutory audits are performed across the region by government bodies – Department of Industry & Resources (DoIR) and Department of Environment (DoE) in Western Australia and the Department of Business, Industry and Resource Development (DBIRD) in the Northern Territory.

- in the **USA**, environmental audits were conducted of solid, liquid, and hazardous waste disposal and recycling facilities utilised by the operations. The refineries utilised by the operations have also been audited.
- the assessment of the **group's** adherence to the international Cyanide Protocol follows a novel approach of creating expert teams drawn from different regions to work with a local team in undertaking what is essentially a detailed risk assessment and audit. Internal audits of compliance have been completed in **Mali, Tanzania, Namibia, South Africa, the USA, Brazil** and **Argentina**. The audit of the Australia region was completed at the end of January 2005, and the Ghana/Guinea area is scheduled for March to April 2005. (See case study: *Developing and implementing best practice for cyanide management on page E33 of this report.*)

## Financial provision

In all the jurisdictions in which the group operates the company is required to provide financial assurance – in a form prescribed by law – to cover some, or all of the cost, of the anticipated closure and rehabilitation costs for the operation. (Rehabilitation refers to the process of reclaiming or restoring mined land to a similar use to before mining or a pre-determined, agreed use post-mining.) These amounts are derived from the mine closure plans, which are also regulated by law. Closure plans are devised prior to the commencement of operation and are regularly updated based on life-of-mine projections. Although the final cost that will be incurred at closure is not definite, ample provision is thus made during mine life and reflected in the company's Annual Report 2004 and in the environmental rehabilitation obligations table on page E14. Total estimated environmental liability (rehabilitation and mine closure costs) amounted to \$350.1 million as at 31 December 2004 (2003: \$248.6 million). This increase principally relates to the business combination with Ashanti and additional assessed liabilities in South Africa.

South African law requires that AngloGold Ashanti calculate its estimated environmental closure and final rehabilitation costs for operations which are subject to the requirements of the law. The law also requires that this estimate be used by AngloGold Ashanti to make periodic cash contributions to an environmental trust fund (or use some other approved funding mechanism), created in accordance with rehabilitation obligations of those operations. The monies in this trust are invested primarily in interest-bearing debt securities.

The South Africa region intends to finance the ultimate rehabilitation costs from the monies invested with the rehabilitation trust fund, from the proceeds on sale of assets and gold from plant clean-up at the time of mine closure as well as from internally generated funds. Provisions are made annually from the operations' cash flows. It is anticipated that these estimates are likely to change as additional, operation-specific information is gained and if, and as, closure and final rehabilitation requirements change.

### Continuous improvement in the USA

An important part of the company's environmental policy is upholding the principle of continuous improvement. Continuous improvement is central to the pollution prevention P2 programmes implemented at CC&V and corporate offices of AngloGold Ashanti USA. Opportunities and ideas for improved chemical and container management as well as additional recycling, reuse, and conservation are regularly considered. (See case study: *Awards for contribution to pollution prevention on page E51.*)

The decision to bury the drip lines on the CC&V Valley Leach Facility which will reduce evaporation, thereby conserving valuable water resources especially during seasonal droughts, is another example. Yet another example is the boiler system at the new CC&V truck shop designed to burn used oil.

A final example is the recycling and clean-up of residual scrap iron that had accumulated in the vicinity of an inactive underground mining operation at no cost to CC&V due to the increased market value of these materials and a partnership developed with a local contractor.

Region /Operations	Total estimated liability 2003 (\$ millions)	Total estimated liability 2004 (\$ millions)	Form of financial assurance
South Africa	97.6	133.2	Trust Fund – Balance as at 31 December 2004 was \$79 million
East & West Africa	25.4	45.3	Obligations funded from existing cash resources and future cash flows
USA	55.0	55.0	Reclamation bonds lodged with regulators
South America	38.9	38.9	Obligations funded from existing cash resources and future cash flows
Australia	31.7	38.3	Unconditional guarantee from the bank or financial institution
Former Ashanti operations		39.5	10% cash deposit or as agreed with regulators
<b>Total</b>	<b>248.6</b>	<b>350.1</b>	

The Department of Minerals and Energy (DME) is currently developing a guideline document for the estimation of closure costs and this final method of estimation may further alter the closure estimate. The company's comprehensive methods of determining closure costs have been referred to in the development of the guideline. Currently, the calculation of environmental liabilities is such that there is a shortfall between the presently declared environmental liabilities and the current balance in the Trust Fund. This issue is being addressed.

Rehabilitation Trust for South African operations	2004 contributions (\$ million)	Balance (\$ million) as at 31 December 2004
Vaal River	6.06	33.33
West Wits	3.38	17.8
Ergo	1.8	23.21
Fair value adjustment		4.34
<b>Total</b>	<b>11.24</b>	<b>78.68</b>

In **Mali, Tanzania and Namibia**, mine closure costs and their associated provisions are reviewed on an annual basis. The region is working towards standardising the approach and assumptions used for closure provision estimation at the various operations. Estimates are revised as the understanding of site-based issues that influence closure provision evolve based on technical studies undertaken in the previous year. The dynamic nature of the operations and ongoing rehabilitation means that closure costs can be revised either up or down.



The total estimated liability for the **USA** is based on the amounts agreed with the Colorado Division of Minerals and Energy. The company has posted reclamation bonds of some \$44.5 million to cover current rehabilitation obligations and has provided a guarantee for these obligations. One of the main reasons for the difference between bonds posted versus estimated liability is that the state of Colorado allows bonds to be posted incrementally based on the amount of activities that have occurred and are proposed for that particular year whereas the company's estimate is based on complete build-out.

Closure of the Big Springs Project in north-eastern Nevada is nearly complete with minor activities needing to be completed in 2005. The mine and mill areas are being returned to their prior land use of cattle grazing and wildlife habitat. In 2005 AngloGold Ashanti plans to submit release requests to the applicable state and federal agencies to obtain release of majority of the posted reclamation bonds in light of the completed work.

The South American operations (**Argentina** and **Brazil**) were subjected to environmental inspections by state environmental authorities during 2004 and were found in compliance with local, state and federal environmental regulations. The total anticipated environmental rehabilitation and closure costs for these operations is estimated at \$42.2 million, of which AngloGold Ashanti's attributable share is estimated at \$38.9 million.

In terms of the West Australian law, mining companies are required to file an unconditional guarantee from a bank or financial institution with the regulator. Mine closure cost estimates for the **Australian** operations are calculated on the basis of a guideline, which provides for a minimum amount, which is then supplemented according to specific project risk factors.

Estimated closure costs for former Ashanti operations	Total closure cost (\$ million)	AngloGold Ashanti shareholding	Attributable (\$ million)
Obuasi – Ghana	23.00	100%	23.0
Bibiani – Ghana	4.0	100%	4.0
Iduapriem – Ghana	5.7	85%	4.8
Siguiri – Guinea	9.0	85%	7.7
<b>Total</b>	<b>41.7</b>		<b>39.5</b>

The total estimated closure cost for former Ashanti operations in **Ghana** and **Guinea** is \$39.5 million. These estimates are based on studies carried out for each operation and will likely change as further technical investigations, that may influence the closure provisions, are carried out. They represent the best current estimate of amounts that are expected to be incurred when the remediation work is performed within current laws and regulations or the terms of the respective mining licenses. The dynamic nature of the operations and ongoing rehabilitation means that closure costs can be revised either up or down.

#### Communicating about environmental issues with employees in the USA

Environmental awareness at the operations is accomplished through bulletins, posters, the company intranet, annual refresher training, the quarterly Gold Connection, weekly managers meeting minutes, and during general manager informational meetings. Informational meetings are also held in the early stages of major permitting actions (e.g. Amendment No. 8, East Cresson Mine Extension, etc).

#### Communicating about environmental issues with employees in South Africa

Most operational business sections have included environmental policy issues into their induction programmes – all employees participate in induction programmes on an annual basis. Several business units also run their own environmental awareness campaigns. A regional awareness campaign was launched during the year – including the launch of a quarterly brief on the environment from the regional head, as well as a campaign on alien weeds and invader plants. This is being developed further in 2005.

Nonetheless, training has not yet reached the level where all employees are aware of their individual responsibilities and efforts in this regard will be progressed in 2005.



### Communication and awareness, and public participation

AngloGold Ashanti is committed to communicating and consulting with interested and affected parties (IAPs) on environmental aspects of its activities. This is done through a range of mechanisms. Much of this is dealt with under the community section of this report which can be found from pages C1 to C36.

The **Australia region**, for example, has an extensive communication and interaction programme in place with both internal (see box) and external audiences. The latter includes consultation on a regular basis with stakeholder groups such as the Chamber of Minerals and Energy (Western Australia), the Department of Industry and Resources (Western Australia), the Department of Environment (WA), the Department of Industry and Resource Development (Northern Territory) and the Laverton Leonora Cross-Cultural Association (LLCCA). The regional corporate office also engages with educational institutions in activities such as participation in the delivery of lectures/seminars to the mentoring of students. Site-sponsored visits are also regularly arranged for various stakeholder groups, including school teachers and students, NGOs, government agencies and members of the general public through open days.

In the **USA**, community and other outreach and education programmes regarding the operations are routinely conducted. This is accomplished through site tours, formal and informal presentations, meetings, fact sheets, brochures, and other written materials addressing a range of subjects.

The Sadiola, Morila and Yatela mines in **Mali**, the Geita mine in **Tanzania**, the Siguiri mine in **Guinea** and the Obuasi, Iduapriem and Bibiani mines in **Ghana**, have dedicated personnel tasked with ensuring open dialogue between the operations and local communities.

Sadiola is currently implementing an Integrated Development Action Plan (IDAP), which seeks both to mitigate mine impacts and meet the needs of the surrounding communities. An autonomous foundation is in the process of being established, aimed at local economic development. (See case study: *Integrated development action plan for Sadiola and Yatela in the Community section of this report on page C24.*)

Personnel from Geita mine in **Tanzania** currently chair the Tanzanian Chamber of Mines and Energy's Health Safety and Environment Sub-committee. The mine is also represented in the Tanzanian national task force formed in 2003 to take further the Global Mining Initiative/International Council on Mining & Metals (GMI/ICMM) Mining, Minerals and Sustainable Development (MMSD) programme.

The Navachab mine in **Namibia** met with IAPs on 18 November 2004 to discuss plans for compliance with the International Cyanide Protocol and the mine closure plans. The mine's environmental incident register was available for scrutiny.

The South America region (**Argentina** and **Brazil**) has well-developed and long-standing relations with national and regional government on environmental issues, as well as community groups and communities themselves. In addition to ongoing communication with IAPs, the region has developed a model for environmental communication and preservation through its environmental education centres, which combine educational centres, with places of leisure and conservation areas for the benefit of local communities. These are located at Nova Lima (Report to Society 2003) and at Serra Grande. A new Environmental Education Centre was inaugurated at Santa Barbara in June 2004. The centre is being operated by a local NGO co-ordinated by AngloGold Ashanti.

In the **South Africa** region the company is represented on several environmental government forums, established by the DME and the Department of Water Affairs and Forestry. Community forums have also been established by Ergo to provide a means of consulting on aspects related to the winding down and closure of its operations and Ergo has quarterly meetings with the various government departments to discuss both environmental performance and incidents. (See case study: *Stakeholder involvement in closure planning progress at Ergo on page E45.*)

#### Communicating with employees in Australia

Environmental awareness with respect to employees and contractors is addressed through tailored inductions held both within the regional corporate office and on site, as required. In addition to the induction process, environmental information is communicated to employees and contractors through a variety of media including internally developed environmental handbooks, noticeboards, seminars and site specific intranet sites. Sunrise Dam conducts regular cross-cultural and heritage-related inductions for site employees and contractors.

## Performance during 2004

The primary environmental concerns for the company have been the use and management of cyanide, mine closures, water use and management, the use of other resources (such as energy), biodiversity issues, surface and land rehabilitation during mining operations.

### Cyanide management

The use of cyanide for the recovery of gold is a core issue for the gold mining industry and is critical to its viability. Yet, its potential impact on the environment is one of the most controversial and debated issues for legislators, environmentalists and other groups.

AngloGold Ashanti has been actively involved in the development of the International Cyanide Management Code (Code) and has adopted published protocols and standards of practice for cyanide management. The Code, which is available at [www.cyanidecode.org](http://www.cyanidecode.org), is a voluntary industry initiative developed under the auspices of the United Nations Environment Programme (UNEP) and finalised in May 2002. The Code has two major parts:

- a commitment by signatories to manage cyanide in a responsible manner (AngloGold Ashanti has indicated it will be a signatory once the board of the ICMI adopts the remaining critical administrative documents); and
- the practices that must be followed to implement this.

AngloGold Ashanti is well on its way to compliance with the Code and internal audits are currently being concluded at all operations in anticipation of external auditing. (See case study: *Developing and implementing best practices for cyanide management* on page E33 of this document.)

### Mine closure

As new operations are developed and commissioned on a regular basis, some older mines cease operations and are closed. In an environmental sense, true closure may often only be achieved long after the operation has ceased and involves extensive planning, and close collaboration with the regulatory authorities in order to obviate any unwanted environmental consequences and satisfy regulatory requirements.

A number of closures are currently in progress:

- the **Ergo** operation, a tailings retreatment company, which was established in February 1978 is due to cease operating in March 2005. (Several case studies on Ergo appear in this document.)
- the Federal Mining Department (DNPM) issued a partial closure certificate for surface infrastructure and the mining operation at Mina Velha in **Brazil** following a technical visit in late May 2004 and final de-commissioning is underway. The State Environmental Agency (FEAM) is still evaluating the closure from an environmental perspective. Mina Velha is the first mine to be officially decommissioned in Brazil.
- also in the South America region, the Engenho d'Água Mine in **Brazil** ceased operations at the end of June. The environmental rehabilitation programme is in progress.
- rehabilitation of the Morro de Galo arsenic plant was finalised in March 2004. As agreed with

Cyanide use*	kg
Australia	1,535,842
South Africa	16,851,000
South America	1,478,000
North America	2,189,254
East and West Africa	10,157,000
Total**	32,211,096

\* Not reported for former Ashanti operations

\*\* Total cyanide usage, (not attributable)



FEAM, rehabilitation is only conducted during the dry season (May to November) to avoid the risk of environmental contamination. Rehabilitation of the nearby tailings dams is continuing and is in the final stages. The entire project, undertaken at a cost of some \$4 million, should be completed by May 2006. (See case study: *Rehabilitation of old tailings deposits at Nova Lima on page E28.*)

- closure of the Big Springs project in north-eastern Nevada, in the **USA** is nearly complete, with minor activities needing to be completed in 2005. The mine and mill areas are being returned to their prior land use of cattle grazing and wildlife habitat. AngloGold Ashanti plans to submit release requests to the relevant state and federal agencies to obtain release of a majority of the posted reclamation bonds in light of the completed work. (See case study: *Screening level risk assessment – a tool for optimising closure and mitigating strategies at the Big Springs Mill site on page E49.*)
- a detailed closure plan, including quality surveys, was undertaken for the Alamoutala Pit at **Yatela** in the 1st quarter of 2004. Mining of the pit is expected to cease in February 2005 to be followed immediately by the implementation of the plan.

### Resource use and waste generation

The AngloGold Ashanti group is committed to reducing the use of, and improving the efficient use of scarce environmental resources such as energy, water, timber and other materials. Apart from the environmental advantages of reducing the use of such raw materials, the group can also potentially achieve significant cost savings. (See box on page E19: *Used oil fuels boilers at the new truckshop.*)

Environmental targets are set by the individual operating mines or business units as they apply to their own EMSs and reflect the priorities unique to those operations. Information on resource use and waste generation is collected and recorded at site level.

### Water usage

Varying site conditions, mining and treatment processes, and the availability of water dictate to a large degree the use of water and the level of efficiency achieved.

Examples of programmes in place at an operational level:

- at AngloGold Ashanti Mineração in **Brazil**, a programme to recycle water from the Cocoruto Dam in the Queiroz Plant was approved by the State Water Agency (Igam). This initiative will see a reduction in the fresh water intake of 38% (some 1.4 million litres of water per annum).
- at CC&V, in the **USA**, the decision to bury the drip lines on the valley leach facility will reduce evaporation, thereby conserving valuable water resources especially during seasonal droughts. Moreover, CC&V specifically decided against initially using sprayers, and instead went with drip lines, as an initial means of reducing use of water.

### Energy usage

Energy is a major cost driver, particularly in underground mining. In its efforts to conserve energy, the group is focusing on ensuring the efficient use of energy and on developing and implementing renewable energy sources.

During 2004, AngloGold Ashanti together with Anglo American plc completed a technology strategy in respect of the energy platform which has as its objective the reduction of the group's energy intensity year-on-year.

At the **South African** operations, for example, hydro-power is used to generate sufficient energy for rockdrills and other equipment at the Tau Lekoa mine in the Vaal River region. This is one of the few gold mines in the country to operate on this system, which also has a number of occupational health advantages (such as reduced noise and dust levels). Other applications include the powering of pumps at a number of other mines in the area. The Moab Khotsonq mine in the Vaal River area is participating in the National Electricity Regulator's demand side management programme, with significant cost savings expected. (See case study: *Energy conservation gains renewed impetus in the South Africa region page E41.*)

Total water use*	m <sup>3</sup> /y
Australia	3,025,041
South Africa	49,629,937
South America	3,628,164
North America	1,638,830
East and West Africa (Mali, Tanzania, Namibia)	32,440,460
Total	90,363,232

\* Not reported for former Ashanti operations

Direct energy use*	GJ
Australia	2,294,075
South Africa	17,099,157
South America	3,115,907
North America	1,241,179
East and West Africa (Mali, Tanzania, Namibia)	7,453,150
Total	31,203,528

\* Not reported for former Ashanti operations

### Pollution prevention

The prevention of pollution, particularly of the air and water resources is generally also considered in the operational EMS.

In the **USA**, Denver office and the CC&V mine both received Pollution Prevention (P2) awards in February 2004. (See case study: *Awards for contribution to pollution prevention on page E51.*)

A technical report concerning water management at the Cerro Vanguardia mine in **Argentina** was presented to the mining authorities of the Santa Cruz Province. The document includes different alternatives for the final placement of excess water. A final report was issued in mid 2004. A detailed ground magnetometer survey (GMAG) was conducted by the AngloGold Ashanti geophysical team in South America, covering the West side of the Tailings Storage Facility (TSF). The survey was designed to map bedrock structures to facilitate the monitoring of preferential flow paths to groundwater movements.

In **South Africa**, action plans are being put into place to address the 16 identified near-surface polluted aquifers. The Department of Water Affairs and Forestry has recommended that companies involved in mining areas, such as Klerksdorp and Carletonville, collectively design a water management closure plan for that regional area, in addition to the normal mine closure plans. Water management agreements will be negotiated with the relevant mining parties in the two operational areas to address potentially elevated constituent concentrations in ground water.

### Surface disturbance and land rehabilitation

The disturbance of land remains one of the most visible impacts of mining operations, particularly open cast mining, through the creation of pits, surface infrastructure and rock and TSFs. EIAs conducted prior to the commencement of mining have, as their aim, the identification and minimisation of these and other impacts.

Mitigating measures identified are then incorporated within the operations' EMSs and the operation is then bound to undertake these as mining progresses. Where possible, rehabilitation of disturbed areas is carried out concurrently with mining operations so as to minimise the amount of disturbance at any one time. Rehabilitation standards are usually regulated by the relevant national and regional authorities.

At Geita mine in **Tanzania**, for example, the mine's rehabilitation programme was expanded to match the growth in the waste rock storage facilities, to plant 120,000 tree seedlings and rehabilitate 90 hectares of land. Tree seedlings were sourced from the local nurseries, each supplying 40,000 trees. This has given local species an economic value over and above that of charcoal and timber, promoting conservation and creating a viable economic activity for host communities. (See case study: *Rehabilitation at Geita in the Community section on page C34.*)

The process of rehabilitating TSFs is not simple and success is varied. The Navachab mine in **Namibia** recently spent some N\$2.5 million for rock storage facilities and top soil cladding during the decommissioning of the old TSF. Indigenous plants are grown at the mine's nursery and used for rock storage facilities' revegetation programmes.

### Used oil fuels boilers at the new truck shop

A part of AngloGold Ashanti's Cresson Expansion Project undertaken at Cripple Creek & Victor (CC&V) between 2001 and 2004, was the construction of a new truck shop to allow for maintaining and repairing 300-ton trucks. During the planning phase, it was determined that the site's used crankcase oil production was going to increase owing to the new and larger truck fleet. In line with the company's waste minimisation approach, a used oil system was installed to fuel the boilers at the new truck shop. This system allows CC&V to burn the used oil generated on site, providing another fuel source (such as propane, natural gas) for the boilers and eliminating the cost of having the used oil taken off site for proper disposal.

The system comprises 14 used oil boilers (in essence, hot water heaters) installed in series. The particular boilers were chosen based on their minimal air emission characteristics, their low maintenance requirements, and because they were compatible with the hydronic or hot antifreeze/water radiant floor heating system that also was to be installed in the new shop. These boilers, as all emission sources at the site, are operated in compliance with the site's air quality permit as issued by the Colorado Air Pollution Control Division (APCD). The boilers' emissions are sufficiently low that they can be run continuously; however, in practice they are operated only seasonally, as needed.

Says Mark Tidquist, senior environmental coordinator, "The used oil system has successfully eliminated the need to purchase fossil fuel to heat the truck shop, reduced used oil disposal costs, provided a comfortable working environment, and contributed to overall cost savings. This is just one example of CC&V's continuing efforts at applying technology to provide a net environmental benefit while addressing the project's needs in an efficient and cost effective manner."



Recently, improvements have been effected at a Vaal River TSF in **South Africa**, following concerns raised by local residents relating to airborne dust. (See case study: *Dust management at Vaal River – response to local community concerns on page E44.*) AngloGold Ashanti and the industry as a whole has invested significant funds into research over the years in ways of best rehabilitating TSFs. Such research is continuing under the auspices of the University of the Witwatersrand. (See case study: *Woodlands project – good progress being made with phytoremediation project on page E36.*)

Budgetary constraints in recent years have hampered environmental remediation efforts in the South Africa region. In an effort to remedy this, some R19 million (\$2.96 million) has been spent on the so-called 'legacy projects' in 2004 and an additional R9 million (\$1.40 million) is budgeted for 2005. (See case study: *Three year project to fast-track environmental management plans in South Africa on page E35.*)

**Biodiversity**

The loss of biodiversity and ongoing threats to habitat is a subject of global debate. AngloGold Ashanti, through its participation in the ICMM's Biodiversity Taskforce, is engaged with the IUCN (World Water Conservation Union) in a dialogue on mining and biodiversity. It is the group's belief that mining need not pose a threat to biodiversity but can offer opportunities to enhance biodiversity conservation. Mineral exploration projects, for example, frequently take place in remote locations and work undertaken in support of mining ventures can yield valuable baseline scientific information for conservation purposes. Revegetation activities can also provide the opportunity for reintroducing plant species into environments where they may have been threatened.

The preservation of Brazilian Atlantic rainforest around the company's **Brazilian** operations is a case in point. These forests have been significantly reduced over the last century as cities have grown, and large farms, cattle ranches and coffee and sugar plantations have replaced the natural habitat. However, the areas owned by mining companies such as AngloGold Ashanti have been relatively well protected from both illegal mining and hunting. AngloGold Ashanti has set aside an area of 147 hectares of native forest, much of which is Brazilian Atlantic rainforest. This area has been designated as a RPPN (Private Natural Forest Reserve) by the State Forest Institute (IEF). (See case study: *Preserving natural forests – Mata Samuel de Paula at Nova Lima page E29.*)

Another example is the Blesbokspruit wetlands adjacent to the Ergo operation in South Africa. Ironically, this Ramsar-designated wetland developed as a result of significant mining activity in the region over the past 100 years, which silted up the Blesbokspruit. Ergo's activities in the area – of reprocessing and cleaning up old tailings dams – has improved the quality of the water flowing into the wetland. The proximity of the wetland to the Ergo operation is also the subject of intense planning to ensure that it is unaffected as a result of Ergo's closure in 2005. (See case study: *The Blesbokspruit Ramsar wetlands site on page E47.*)

Yet another example of the contribution made by the industry is the research undertaken at Lake Carey in Australia following intensive rainfall during March/April 2004. Wildlife surveys (principally waterbird and aquatic invertebrates) were conducted to monitor a change in the environmental response. (See case study: *Biodiversity research at Lake Carey on page E27.*)

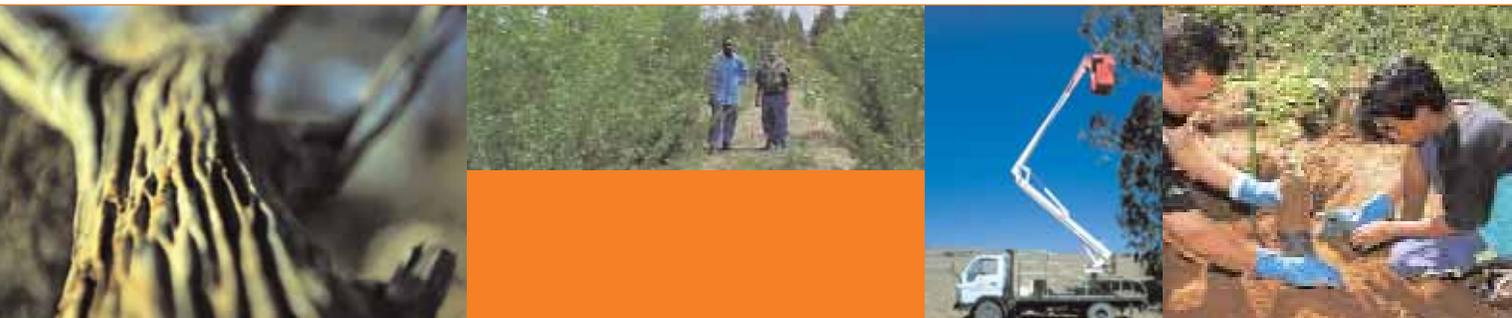
**AngloGold Ashanti and the international biodiversity dialogue**

The loss of biodiversity and ongoing threats to habitat is a subject of global debate. AngloGold Ashanti, through its participation in the International Council on Mining & Metals (ICMM) Biodiversity Taskforce, and its membership of the South African Chamber of Mines, is engaged with both the international and regional offices of the IUCN (The World Conservation Union) in a dialogue on mining and biodiversity.

Bobby Godsell attended the World Conservation Forum, held in Bangkok in November 2004, and participated in a CEO Panel Discussion on **Corporate Responses to the Challenge of the World Conservation Forum** and in a high-level round table on business and the environment with the theme **Who Cares? Exploring the Business Case for Biodiversity Conservation.**

He also presented a keynote address at the first workshop of the South African biodiversity and mining forum. This dialogue, hosted by the South African Chamber of Mines and the IUCN's South African office, is a natural extension of the international dialogue. The seeds of this were sown at the World Parks Congress, held in Durban in September 2003, at which South African representatives, alarmed by the adversarial atmosphere plaguing the international dialogue, recognised an opportunity to address the substantive issues in a more constructive manner.

AngloGold Ashanti believes that mining need not pose a threat to biodiversity but can offer opportunities to enhance biodiversity conservation. (For a comprehensive exposition of AngloGold Ashanti's position on the biodiversity debate, see the online Report to Society 2004.)



## Participation in international and national debate

AngloGold Ashanti is committed to participating in debate on environmental matters at international, national and local levels. Some of the contributions the group has made at this level include membership of, and active participation in, the ICMM, and the Global Reporting Initiative (GRI) as organisational stakeholders.

As part of its environmental strategy, AngloGold Ashanti actively participates in law-making processes in the countries in which it operates. This is often facilitated through participation in mining associations (for example, the Chamber of Mines of South Africa and the Minerals Council of Australia). Public consultation processes are generally more sophisticated in developed world situations (for example, USA and Australia) than in developing world situations (for example, Mali and Tanzania). Particularly in the developing countries the company has a role in making available technical skills and resources in developing good practice. Similarly, the company has a role to play in the development of international standards where, through its membership of the ICMM, AngloGold Ashanti is engaged in the review of the International Finance Corporation, safeguard policies, the development of GRI and other benchmarking initiatives.

In addition to its participation in development of the International Cyanide Management Code itself, at the beginning of 2004, AngloGold Ashanti – along with several other mining companies and cyanide manufacturers – reconstituted the Industry Advisory Group (IAG). The IAG was initially formed to provide input to the Steering Committee during Code development and was reconstituted to give impetus to the global adoption and implementation of the Code. (See case study on *Developing and implementing best practice for cyanide management* on page E33.)

## Awards

AngloGold Ashanti's environmental performance has been recognised at a number of levels and in different regions during the year. Some of these are:

- in recognition of significant achievement, best practice and innovation in the Northern Territory Mining and Petroleum Industries and Associated Supply and Service Sectors, Union Reefs Gold mine in **Australia** received the 2003 Minister's Recognition Award in Resource Development for Environmental Management. (See case study: *Awards-winning closure and rehabilitation at Union Reefs* on page E26.)
- the **USA's** Denver office and Cripple Creek & Victor Gold Mining Company (CC&V) both received 'Pollution Prevention Awards' in February 2004 as special recognition for the development of an effective pollution prevention programme in accordance with the Colorado Mining Association's Pollution Prevention Code of Practice. The award is endorsed by the Colorado Department of Public Health and Environment and has been recognised by the US Environmental Protection Agency through a 2003 Friend of EPA award. (See case study: *Awards for contribution to pollution prevention* on page E51.)
- AngloGold Ashanti Mineração in **Brazil** was awarded the Civil Defence Medal by the governor's office of the Minas Gerais state. This was in recognition of the company's partnership with the State's Civil Defence Unit and Fire Department. The company's fire and emergency brigades were called upon to help extinguish forest fires and help with chemical spillage clean-ups on local roads.

E22 | 5 Reporting in line with GRI

A more detailed response to the environmental performance indicators is provided on the company's website at [www.anglogoldashanti.com](http://www.anglogoldashanti.com)

Environmental performance indicators	
Core indicators	Additional indicators
<b>Materials</b>	
<b>EN1. Total materials use other than water, by type</b>	
Information provided, where available, on the website	
<b>EN2. Percentage of materials used that are wastes (processed or unprocessed) from sources external to the reporting organisation</b>	
Ergo operation, located in South Africa retreats gold from old tailings deposits distributed across the East Rand. These tailings have been purchased from now defunct operations	
<b>Energy</b>	
<b>EN3. Direct energy use segmented by primary source</b>	<b>EN17. Initiatives to use renewable energy sources and to increase energy efficiency</b>
Information provided, where available, on the website	Energy is a key component of the company's cash cost structure. Efforts to reduce energy consumption and improve efficiencies form an integral part of the group's cost saving initiatives. Alternative renewable energy sources are regularly reviewed. See website
<b>EN4. Direct energy use</b>	<b>EN18. Energy consumption footprint of major products</b>
Information provided, where available, on the website	Not available
	<b>EN19. Other indirect (upstream/downstream) energy use and implications, such as organisational travel, product lifecycle management, and use of energy-intensive materials</b>
	Not quantified
<b>Water</b>	
<b>EN5. Total water use.</b>	<b>EN20. Water sources and related ecosystems/habitats significantly affected by use of water</b>
	Not quantified
Information provided, where available, on the website	<b>EN21. Annual withdrawals of ground and surface water as a percent of annual renewable quantity of water available from the sources</b>
	Information provided, where available, on the website
	<b>EN22. Total recycling and re-use of water</b>
	Information provided, where available, on the website

<b>Environmental performance indicators</b>	
<b>Core indicators</b>	<b>Additional indicators</b>
Biodiversity	
<b>EN6. Location and size of land owned, leased or managed in biodiversity-rich habitats</b>	<b>EN23. Total amount of land owned, leased or managed for production activities or extractive use</b>
Not quantified	Information provided, where available, on the website
<b>EN7. Description of the major impacts on biodiversity associated with activities and/or products and services in terrestrial, fresh water and marine environments</b>	<b>EN24. Amount of impermeable surface as a percentage of land purchased or leased</b>
Not quantified	Information provided, where available, on the website
	<b>EN25. Impacts of activities and operations on protected and sensitive areas</b>
	Not quantified
	<b>EN26. Changes to natural habitats resulting from activities and operations and percentage of habitat protected or restored</b>
	Not quantified
	<b>EN27. Objectives, programmes, and targets for protecting and restoring native ecosystems and species in degraded areas</b>
	Information available on website
	<b>EN28. Number of IUCN Red List species with habitats in areas affected by operations</b>
	Information available on website
	<b>EN29. Business units currently operating or planning operations in or around protected or sensitive areas</b>
	Information available on website

<b>Social performance indicators: Labour practices and decent work</b>	
<b>Core indicators</b>	<b>Additional indicators</b>
<b>Emissions, effluents and waste</b>	
<b>EN8. Greenhouse gas emissions</b>	<b>EN30. Other relevant indirect greenhouse gas emissions</b>
Information available on website	Not quantified beyond EN8
<b>EN9. Use and emission of ozone depleting substances</b>	<b>EN31. All production, transport, import of any waste deemed hazardous under the terms of the Basel convention.</b>
Information available on website	Not quantified
<b>EN10. NOx, SOx and other significant emissions by type</b>	<b>EN32. Water sources and related ecosystems/habitats significantly affected by discharges of water and runoff</b>
Information available on website	Not quantified
<b>EN11. Total amount of waste by type and destination</b>	
Information available on website	
<b>EN12. Significant discharges to water by type</b>	
Information available on website	
<b>EN13. Significant spills of chemicals, oils, and fuels in terms of total number and volume</b>	
Information available on website	
<b>Suppliers</b>	
	<b>EN33. Performance of suppliers relative to environmental components of programmes and procedures described in response to Governance Structure and Management Systems section</b>
	Not quantified
<b>Suppliers</b>	
<b>EN14. Significant environmental impacts of principal products and services</b>	
Not applicable	
<b>EN15. Percentage of the weight of products sold that is reclaimable at the end of the products' useful life and percentage that is actually reclaimed</b>	
Gold is not consumed by its end user. Rather, because of its rarity and value, the product is cherished and re-used. Almost all gold that has ever been mined is potentially available for re-use	
<b>Compliance</b>	
<b>EN16. Incidents and fines for non-compliance with all applicable international declarations/conventions/treaties, and national, sub-national, regional and local regulations associated with environmental issues</b>	
Not quantified	
<b>Transport</b>	
	<b>EN34. Significant environmental impacts of transportation used for logistical purposes</b>
	Not quantified
<b>Compliance</b>	
	<b>EN35. Total environmental expenditure by type</b>
	Not available

Objectives for 2004	Review of 2004	Objectives for 2005
Implement refined environmental incident reporting system	'High level' environmental incident reporting system in place.	Continued implementation
Improve data gathering systems to ensure consistency across the group	Environmental reporting formalised with a quarterly report provided by all regions, which is fed through the Sustainable Development Committee of the board.	Improve environmental data gathering systems in accordance with stakeholder and GRI reporting requirements
Fully implement EMS across the group <ul style="list-style-type: none"> <li>● Complete ISO14001 certification of South American operations</li> <li>● Fully implement electronic EMS in SA</li> </ul>	EMS in place at all operations except South Africa region. A gap analysis was undertaken in 2005 to assess gap between current systems and ISO 14001. <ul style="list-style-type: none"> <li>● All existing operations certified. Córrego do Sítio project to be certified in 2005</li> <li>● In progress</li> </ul>	Consider the adoption of ISO 14001 as the groupwide EMS

### Additional objectives for 2005:

- review mine closure plans and associated costs across the group
- improve environmental awareness across the group
- develop criteria for company environmental award, and
- continue with integration of former Ashanti operations, and seeking supporting synergies in environmental function.

E26 | **7.1 Award-winning closure planning and rehabilitation at Union Reefs**

The annual Northern Territory Ministerial Recognition Awards in Resource Development are aimed at recognising significant achievement, best practice and innovation in the Northern Territory's minerals and petroleum industries. There are three categories of awards: Workplace Safety, Environmental Management, and Local Content and Community Relations.

In a ceremony at the Northern Territory Minerals Council Safety Conference in April 2004, Union Reefs mine won first place in the Environmental Management category. The award, presented by Mines and Energy Minister Kon Vatskalis, was made for 'commitment, planning and implementation of best practice rehabilitation throughout all stages of design, operation and closure at Union Reefs Mine'. The mine also received a commendation in the Workplace Safety category. *(See press release issued by the Northern Territory Minerals Council on the Report to Society 2004 website.)*

Faye Lawton (Environmental Superintendent at Union Reefs) received the award on behalf of AngloGold Ashanti. Says Mike LeRoy, Australia's health, safety and environmental manager, "This was a commendable achievement for the mine, operational personnel and particularly for Faye who has received strong recognition for environmental management and rehabilitation from the Northern Territory Government."

Mining commenced at Union Reefs in December 1994 and continued uninterrupted until operations ceased in September 2003. But from the start of operations, closure was already being planned.

In 2000, Union Reefs committed to developing a detailed mine closure plan with steps taken to define appropriate rehabilitation objectives and stakeholder requirements. In November 2001, a decommissioning and closure plan was developed, which outlined the activities required to meet end land use and mine closure objectives for the site. This plan was aligned with the regional environmental and community guide for decommissioning and closure. Key stakeholders were given the opportunity to review the decommissioning and closure plan and to provide input and comment. Their suggestions were reviewed and incorporated into the final plan.

Says Mike LeRoy, "The total area disturbed during the operation of the mine was 527 hectares. By September 2003, progressive rehabilitation had accounted for 90% of this area. The remainder of the rehabilitation work includes areas associated with mining infrastructure, processing, water management and camp facilities."

Union Reefs has been on care-and-maintenance since operations ceased and was recently sold to a local consortium, so the mine will continue to provide work and revenues for the Pine Creek community.



## 7.2 Biodiversity research at Lake Carey

Sunrise Dam Gold Mine is situated on the edge of Lake Carey in Western Australia's Northern Goldfields, approximately 220 kilometres north-east of Kalgoorlie. The lake covers approximately 75,000 hectares with islands totalling 10,000 hectares spread across its surface. Like many lakes across arid and semi-arid Australia, it supports both terrestrial and aquatic ecosystems. For months at a time, Lake Carey forms a dry, hypersaline lake-bed which occasionally forms localised pools after seasonal rains.

To facilitate mining, the water table around the open pit is maintained at a level below that of the mining operations by pumping water out of a series of bores around the perimeter of the pit. This water, which is also hypersaline, is predominantly used for operational purposes, with the remainder being released into the lake. To ensure that this activity does not impact on lake ecology, mining companies operating on the edge of Lake Carey, jointly conduct research to improve their understanding of salt lake ecosystems.

During the 2003/04 wet season, three significant rainfall events had a dramatic effect on the local landscape. In November 2003, the Lake Carey catchment received over 100 millimetres of rainfall following a single storm event. Shortly afterwards, another 280 millimetres fell over the period of a month (38% of which fell in 24 hours). These combined rainfall events saturated the catchment, re-establishing numerous ephemeral freshwater and brackish wetlands and filling the 90 kilometre length of Lake Carey. This spectacular wetland feature in an otherwise arid landscape provided a magnet for wildlife and, in particular, resulted in an influx of water birds to take advantage of the favourable conditions for breeding.

Recognising the significance of this natural phenomenon, a number of studies were endorsed by the company including an ornithological survey and water/sediment quality assessments as well as investigations into invertebrate populations and microflora communities. In March 2004, an aquatic and terrestrial avifauna survey recorded 29 water bird species and 79 terrestrial species of birds. Water bird diversity was higher on the temporary wetlands (fresh and brackish), with 25 species compared to 11 species on the hypersaline Lake Carey. Ten bird species were confirmed as breeding.

The invertebrate survey was conducted on Lake Carey (five sites) and 11 surrounding wetlands. In a previous survey in 2003, 102 species were collected. During this study, an additional 14 littoral and 12 planktonic species were added to the 2003 survey results. Over time, it is anticipated that 250-plus species will be identified. So far, the freshwater wetlands have exhibited the greatest species diversity, while Lake Carey attracts a greater concentration of individual organisms.

From this study it is expected that, during the more common seasonal rainfall events when ponding on Lake Carey is hypersaline, the major aquatic species are likely to include Brine Shrimp, Fairy Shrimp, and Clam Shrimp.

The results of the recent studies on Lake Carey and its catchment suggest that the catchment wetlands provide an important ecological niche for a variety of aquatic species, which are then able to re-populate Lake Carey during periods of unusually high rainfall. The flooding of the lake could also provide a dispersal mechanism for the wider distribution of many species leading to a colonisation, or re-colonisation, of suitable habitat. This opportunistic 'migration' of species may account for the fact that a few of the invertebrates identified in the recent studies were previously unrecorded within the Lake Carey catchment.

What Lake Carey clearly demonstrates is that, even within landscapes that appear quite inhospitable to life, there can exist delicately balanced ecosystems of incredible diversity moulded by the fickle seasons of Australia's outback.



## E28 | 7.3 Rehabilitation of old tailings deposit at Nova Lima

AngloGold Ashanti operates a number of mines in old mining districts where environmental controls were not what they are today. In these areas, the group is actively engaged in finding cost-effective ways to deal with problem pollution sites, often going beyond the strict definitions of legal liability and addressing legacy issues. Examples of this can be found in Brazil, Ghana and in the Witwatersrand Basin in South Africa.

A major environmental project currently being undertaken by AngloGold Ashanti Mineração is the rehabilitation of old tailings dams and the site of the Morro do Galo arsenic plant at a cost of some \$4 million. As agreed with the Environmental Agency – FEAM – rehabilitation is only carried out during the dry season (May to November) to avoid the risk of environmental contamination.

### History

The town of Nova Lima, in the Minas Gerais province of Brazil, has been a gold mining centre since 1834, when large-scale mining first began. At that time, the tailings (which are the residues left over once the gold has been extracted from its host rock) were dumped directly into local rivers and streams. Included in these tailings was arsenic in an inorganic form, including arsenic trioxide. Arsenic is present in many gold-bearing ores (such as arsenopyrite) and is common in the Nova Lima region, the home of the old Morro Velho operations.

From the 1930s, tailings at the Morro Velho operations were no longer dumped in the rivers, but deposited along the banks of the Cardoso River and an arsenic recovery plant was constructed. At the time, this was considered the best available technology for arsenic treatment. Today, much more is understood about the potential impact of concentrated arsenic on human health, and completely different disposal technology is used. Currently, arsenic trioxide is buried in lined hazardous waste cells.

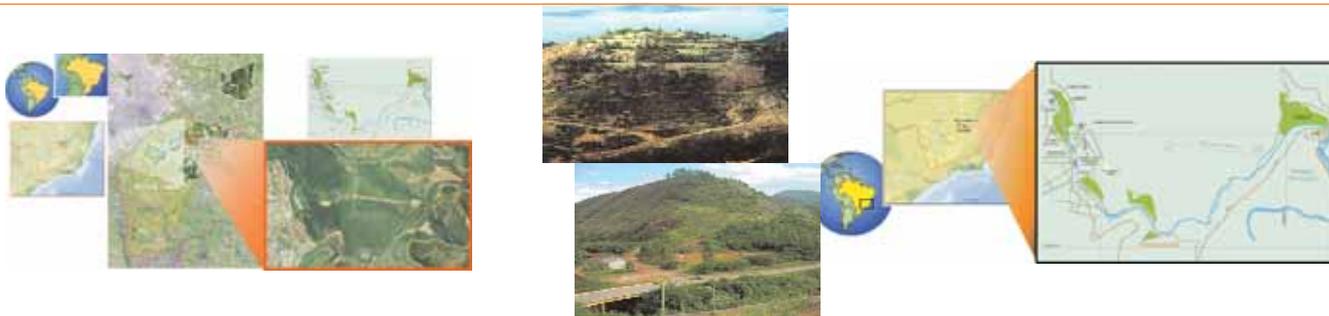
### Rehabilitation initiated

To address the potential hazard associated with the historic tailings disposal practices, AngloGold Ashanti Mineração initiated a rehabilitation project in 1995 covering the old tailings dumps and the arsenic recovery plant site. This included a massive re-vegetation programme at a cost of \$500,000.

In 2002, a group of risk assessment specialists were brought in to re-evaluate the site – the team included tailings disposal specialists and scientists familiar with arsenic biogeochemistry. Their findings indicated that tailings encapsulation would be required to avoid future risk of human exposure. FEAM, also aware of the possible contamination of the area, performed an independent review of the tailings deposits and came up with the same recommendations.

As a result, rehabilitation of the site began in May 2004 with the full agreement of the environmental authorities, and under the leadership of Dr Willer Pos, Head of Environmental Affairs in AngloGold Ashanti's South America Region. Initially, the programme focused on the complete removal of topsoil and tailings from the Morro do Galo old arsenic trioxide recovery plant. The Morro do Galo hillside has now been completely rehabilitated and the Galo tailings deposit is in its final stage of recovery. Starting in May 2005, rehabilitation is planned for the old tailings deposits at Resende, Matadouro and Fabrica de Balas. Rehabilitation will be concluded in May 2006.

An extensive communications programme has been undertaken with the local residents (some 40 families – approximately 160 people – surrounding the Morro do Galo and Galo tailings deposits). This has included personal visits from AngloGold Ashanti Mineração representatives and the provision of informational material to create awareness of what the company has planned. As part of these efforts, a 'Leisure Street Day' was sponsored by the company on 17 October 2004.



## 7.4 Preserving natural forests – Mata Samuel de Paula at Nova Lima

An issue of international concern and debate is the loss of rainforest ecosystems, and their associated biodiversity. Consequently, preserving the Brazilian Atlantic rainforest around its operations is a significant biodiversity issue for the AngloGold Ashanti South American operations. AngloGold Ashanti Mineração, Cuiabá and Corrêgo do Sítio are all situated within the state of Minas Gerais, where large tracts of land have been classified as protected Atlantic Forest.

In 1991, the entire Brazilian Atlantic Forest ecosystem was designated a World Biosphere Reserve by UNEP. (These are not to be confused with the Amazonian rainforest much further to the north.) These forests have been decimated over the last century as cities have grown, and large farms, cattle ranches and coffee and sugar plantations have replaced the natural habitat. However, the areas owned by mining companies such as AngloGold Ashanti have been relatively well protected from both illegal mining and hunting.

Conservation of the fragments of the remaining Atlantic Forest, and its associated flora and fauna, is being promoted by Brazilian Atlantic Forest Preservation law (which was promulgated in 2002). In support of these efforts, AngloGold Ashanti has set aside an area of 147 hectares of native forest, much of which is Brazilian Atlantic Forest. This area has been designated as a RPPN (Private Natural Forest Reserve) by the State Forest Institute (IEF). The reserve has been named Mata Samuel de Paula, honouring a man who dedicated more than 30 years to Morro Velho, promoting conservation in the area.

The reserve is integrated with the Harry Oppenheimer Centre for Environmental Education which is located on its border, thus providing constant administrative and surveillance support to the RPPN by the Centre. (See case study in *Report to Society 2003*.)

A research partnership was signed with the Federal University of Minas Gerais (UFMG) in May 2004, establishing a five-year project to study the fauna and flora of the reserve. This will include a detailed study of water quality of all sources inside the reserve and a complete description of the mammals, birds and reptiles inhabiting the area. Ecology professors Francisco Barbosa and Marcos Callisto of the Biology Department at UFMG are the project co-ordinators and a series of master and doctoral theses are being generated from the project.

During the course of the project, a reserve management guide will be published. This will include the identification of areas of special interest, walking trails, and bird watching areas within the reserve. The document will provide a useful masterplan for use by the reserve managers in the sustainable management and conservation of the reserve.



### E30 7.5 Preservation and education at Mineração Serra Grande

Mineração Serra Grande's Ecology Preservation Centre is an important link between the company and the community. Set within the more than 5,000 hectares of native woodland neighbouring its metallurgical plant near the town of Crixás, in the State of Goiás, in Brazil, the centre conserves both indigenous fauna and flora species, and promotes and provides environmental education.

Both adults and children drawn from the company, private and public schools and the local community are able to experience the company's Environmental Education Programme, with more than 1,400 people having visited during 2004. The programme incorporates guest lectures by environmental specialists, theatrical group presentations and the distribution of textbooks. Besides watching educational videos and visiting plant nurseries, visitors can learn how to grow indigenous plant species and learn about the conservation of animal and bird life.

It is the only environmental centre in the region certified by the Environmental Federal Regulator Agency – IBAMA (Brazilian Institute of Environment and Natural Resources) for raising birds native to Brazilian fauna. An on-site veterinarian is responsible for caring for the birds housed in seven aviaries, and which include among them toucans, macaws of several different plumages and parakeets. The centre also has a plant nursery, a feeding place for wildlife and an exhibition hall for sculptures made from recycled materials.

The plant nursery has produced more than 35,000 indigenous plants within 10 years for rehabilitating land disturbed by company operations and as donations to the local community. Amongst the specimens grown are rare trees such as *jatobá*, purple and *yellow ipê*, *sete copas*, *acacia*, *sibipuruna*, *jambo* and *pau pombo*, besides many other different species. Natural fertiliser, such as humus and manure, is also produced on site.

More projects are planned for the future. Among them is increasing the number of wild fauna species at the centre, and the development of new environmental education activities.

The Crixás local authorities frequently request that seedlings be donated for use in the local township. During the Environmental Week celebrations, which took place in June 2004, the company donated and planted (with the help of local schoolchildren) about 300 seedlings within the local community.



#### Celebrating Tree Day

National Tree Day – celebrated in Brazil on 21 September 2004, was a highlight of the annual events calendar for the Serra Grande Environmental Preservation Centre.

"We invited 45 4th year pupils from nine local private and public schools within Crixás to form the Tree of Unity," says Luiz Bento, a Safety Technician at Serra Grande, and a member of the Motivation Committee, the group responsible for organising the event. (The Motivation Committee is a voluntary group of employees who organise events and activities to promote safety and environmental awareness both amongst employees and in the community.)

"The Tree of Unity was selected as an icon to represent the day as it symbolises that each individual must play a part in preserving the environment. Each school had to compile information on a native tree species found in the Crixás region. The results were presented on Tree Day. Each company department sent two or three representatives to the event."

The work done by the youths has become a textbook with information on *ipê*, *tamboril*, *jatobá*, *angá*, *angico*, *jang-ada*, *jequitibá*, *manguba* and *flamboyant*.



## 7.6 Arsenic remediation at Obuasi

In many parts of the world, gold and base metals are associated with naturally-occurring deposits of arsenic in what are commonly referred to as arsenopyritic orebodies. When this host rock is crushed and treated to release gold, arsenic may also be released into the tailings or waste residues.

Ghana is host to one of the world's largest arsenopyritic gold-bearing orebodies, and the orebody at Obuasi mine – where mining has been conducted in some form for hundreds of years – is no exception. In fact, because of its geology, the Obuasi region has a higher than normal natural arsenic background level.

In the early 1990s an arsenic precipitation plant was installed at the Pompora Treatment Plant (PTP) in Obuasi for the commercial recovery of arsenic from the roaster flue gases. The arsenic trioxide was precipitated, recovered, placed in bags, and initially sold into Europe for commercial applications. (arsenic trioxide is used for preserving wood and as a pesticide.) However, the market for arsenic declined and this ultimately led to the cessation of sales in the mid-1990s. With no markets, or alternative disposal methods, bags of arsenic were accumulated on site at Obuasi, creating a large stockpile of approximately 10,000 tons of unusable product. The PTP roaster facility was shut down in 2000 and arsenic generation ceased.

In the interim, the Biox treatment process was introduced at the Sansu Sulphide Treatment Plant (STP). During this process, arsenic trioxide is converted to arsenic pentoxide (and other more stable compounds) and deposited onto the tailings dams. It appears, however, that over the years, the Pompora stream has been polluted by arsenic from Obuasi as a result of inadequate storage of the stockpiled bags. This issue was identified as a significant concern during the AngloGold due diligence study, prior to the business combination with Ashanti. Subsequently, AngloGold Ashanti has set about addressing the problem.

As a short-term remediation step, a lined storage dam has been constructed at the old heap leach site, at the south end of the mine adjacent to the new STP plant. This is a secure area where, with all the appropriate personnel protective equipment and handling facilities, it will no longer pose an uncontrolled hazard. The bagged arsenic is being moved to this new facility where it will be stored and gradually disposed of by blending it into the Biox process circuit (at a pre-determined rate) where it will be chemically stabilised. From the STP it will be deposited as a component of the tailings residue onto the Sansu Tailings Storage Facility. At current production rates, it will take approximately six years to dispose of in this fashion. One of the alternatives to disposing of the arsenic trioxide into a lined hazardous waste land-fill facility, which will require indefinite management, is to convert the arsenic into a more stable complex and dispose of it onto the conventional tailings storage facility. This approach continues to be evaluated.

The Ghanaian Environmental Protection Agency (EPA) has given its permission for the arsenic to be moved to the new holding pond where it will be stored until the EPA is satisfied that the Biox treatment process is a reliable method of disposal. The Ghanaian EPA has recently indicated that effluent discharged into the Nyam River, should not exceed 0.2 parts per million (ppm). Following the incident in June 2004 (see box) sampling systems have been improved to monitor the process more rigorously and an improved alert system has been put in place in the event of higher-than-permitted arsenic levels being founded in tailings dam discharge.



### Elevated arsenic levels in the Nyam River being addressed

The STP Biox plant at Obuasi was commissioned in 1993 with an arsenic stabilisation plant, specifically to address the safe disposal of naturally-occurring arsenic. As part of the process, dissolved arsenic was initially fixed into a stabilised form by a reaction with limestone prior to discharge into the tailings stream. A cost-saving exercise initiated in 1996/1997 saw the replacement of limestone with carbon-in-leach (CIL) tailings for the stabilisation of the arsenic. As the volumes of CIL tailings have increased, so the residence time in the arsenic stabilisation tanks has reduced, resulting in reduced effectiveness of the stabilisation process.

The Ghanaian EPA has as a guideline that arsenic discharge should not exceed 0.2ppm. While arsenic levels in the tailings in the dam have exceeded EPA guidelines for some time, the levels of arsenic in the nearby Nyam River have been within EPA limits after dilution. However, an accidental spillage in June 2004, resulted in a discharge in excess of this limit.



### E32 | 7.7 Bibiani's role in the debate on protected forests

Bibiani gold mine is located in western Ghana, 250 kilometres north-west of Accra. The open-pit mine, which was commissioned in 1998, is in the Sefwi-Bibiani belt, host to over 17 million ounces of gold, and the second-most significant gold-bearing belt in Ghana after the Ashanti Belt to the east.

Owning some of the world's largest gold deposits, Ghana's gold mining industry has more than doubled in the past decade. However, there are concerns that the forests, beneath which lie the valuable gold deposits, are in danger of disappearing. Opponents claim that much of Ghana's formerly forested areas has been lost, and that existing forest reserves are progressively being converted into other forms of land-use, in this case, surface mining. Mining is blamed not only for deforestation, but also for altering entire physical ecosystems. However, it is the view of AngloGold Ashanti that mineral development can alleviate deforestation pressures and contribute to the reforestation of disturbed areas.

An example of how this can be realistically achieved is AngloGold Ashanti's Bibiani mine; this operation also begins to dispel the myth that mining operations in developing countries operate to lower standards than their counterparts in developed countries.

Bibiani mine is an ISO 14001 certified operation and has received significant recognition for both its environmental and safety performance. In 2001, it was cited by the Ghanaian Environmental Protection Agency as an Environmentally Committed Company (Mining Sector).

Bibiani has a policy of progressive rehabilitation; this means that instead of leaving its rehabilitation obligations till the end of operations, mined-out areas and associated waste are reforested as they become available. Standard methods of rehabilitation are used (including flattening of dump slopes, the application of topsoil and tree-planting of these areas, the last of which is carried out by local contractors and casual labour).

Bibiani also runs a nursery which produces a wide range of indigenous species for its rehabilitation efforts. Some of these plants are donated for local community purposes. The environmental monitoring programme includes measuring the growth performance of a selected number of timber species on the revegetated areas.

The mine's rehabilitation practices have been refined over time, to the extent that the success of these rehabilitated mining areas have become the subject of both significant national scientific and political interest. (See box.)

The former Minister of Mines, Mrs Cecilia Bannerman, an entourage of senior government and party representatives visited Bibiani to view the rehabilitation results in May 2004. It is claimed that the success of these efforts played an important role in the decision to grant permits to mine and explore in Protected Forest areas.



#### AngloGold Ashanti's view on designated protected areas.

As a member of the International Council of Mining and Metals (ICMM), AngloGold Ashanti respects legally designated protected areas, and recognises that there are areas which should be regarded as 'no go' zones. It also seeks to engage with interested parties in questioning the sense of restricting mineral development in so-called 'protected areas' that have either been mismanaged, or stripped of their inherent conservation value. There should be ways of extracting economic value, while at the same time rehabilitating such areas to either their former state or some agreed alternative land-use.

#### Research at Bibiani

A team from the Forestry Research Institute of Ghana (FORIG) is carrying out research work on:

- the soil properties of the rehabilitated sites in comparison with that of the original forest site;
- the growth rate of the planted species; and
- the rate of recruitment of other plant species and animals into the site.



## 7.8 Developing and implementing best practice for cyanide management

The discovery of the use of cyanide in the extraction of gold was hailed as a breakthrough at the end of the 19th century. Miners could recover lower concentrations of gold in ore that could not otherwise easily be extracted using the more conventional recovery methods of that time. This process involves a leaching step during which the gold is extracted from the host rock via an aqueous medium (cyanide), followed by the separation of the gold from the solution and recovery by precipitation or electro-deposition.

While its users respect the potential impact of cyanide on both people and the environment, high profile spillages and accidents have caused public concern during the last decade. Probably the most significant of these was the accidental spill in 2000 of cyanide to the Tisza River in Romania that, between the spill and corrective actions, resulted in significant fish deaths and the water pollution affecting downstream communities. In 2001 two cyanide-related incidents at AngloGold Ashanti's Ergo operation in South Africa, resulted in the death of an employee, while two others sustained serious injuries.

AngloGold Ashanti is acutely aware of the importance of the correct management of cyanide and was actively involved in the development of the adoption of the International Cyanide Management Code (Code) as the standard for cyanide management. This code is a voluntary industry initiative developed by a multi-stakeholder steering committee formed under the auspices of the United Nations Environment Programme (UNEP) and what is now the International Council on Mining and Metals (ICMM). The committee included participants from government, non-governmental organisations, cyanide producers, labour, financial institutions, and the gold mining industry. After an intense work programme, the committee finalised the technical aspects of the code in May 2002 and, in many cases, these technical aspects reach beyond the requirements of most governments and regulatory agencies. The code has two major elements:

- a principles section that commits signatories to manage cyanide in a responsible manner and covers the areas of production, transportation, handling and storage, operations, decommissioning of facilities, worker safety, emergency response training, and communications with the public.
- the second element establishes the practice that must be followed to implement each principle.

At the beginning of 2004, AngloGold Ashanti – along with several other mining companies and cyanide manufacturers – reconstituted the Industry Advisory Group (IAG) to give impetus to the global adoption and implementation of the code. The IAG met on numerous occasions during 2004 to assist in developing the administrative elements of the code. It also has engaged with the International Cyanide Management Institute (ICMI) – the entity that is the home for the code – on issues regarding future implementation of the code.

With regards to Code implementation, AngloGold Ashanti has taken a very structured approach during the past two years. Its various operations have been charged with it ensuring stricter measures are adhered to during the usage, maintenance, and transportation of cyanide. A corporate office team – headed by Bill Lethlean, head of metallurgy – is responsible for its oversight and ensuring that the company achieves compliance with the code by 2007. This process started with the regions and individual operations conducting gap analyses to determine compliance or deficiencies with the code. Then at the start of 2004, a group audit team was established to determine the level of each active mine's compliance with the Code.

Audit leader Drew Noble, coordinator, cyanide code audits, from AngloGold Ashanti Australia, heads the team, which effectively acts as an 'independent auditor' reporting its results to regional management and corporate centre. In an effort to transfer technology, the team composition changes from region to region, by including two or three different experienced personnel from other regions within the group.

"The auditing process is different from a straightforward audit in that the team takes with them the positive features that they have been identified at the various mines and shares these with the operations they visit," says Bill Lethlean. "This method also allows the team to identify common themes of compliance and non-compliance, and in so doing gives them a clear indication of areas where more work is required to attain the goals of the code."



### For further information

For more information on cyanide use in the mining industry and the effects of cyanide on people and the environment, see the electronic version of the Report to Society, or go to [www.cyanidecode.net](http://www.cyanidecode.net). This website is the location of the 'International Cyanide Management Code For The Manufacture, Transport and Use of Cyanide In The Production of Gold' (Code) which is a voluntary industry code developed by a multi-stakeholder committee formed under the auspices of the United Nations Environment Programme (UNEP) and the International Council on Metals and the Environment (ICME) (now the ICMM). The site contains information about the International Cyanide Management Institute, which administers the Code and the administrative procedures used by the Institute as well as references and other information to assist in the responsible management of cyanide in gold mining. The site also includes information and application forms for potential signatories and certified operations and Code auditors.



E34 7.9 The use of ‘bird balls’ at Yatela gold mine

The area around Yatela mine is home to about 800 species of birds. Although the region once supported a diverse range of large mammal species, these are now relatively scarce due to subsistence hunting. Large expanses of open water, as are common in mining operations, are particularly attractive to both wildlife and domestic animals during the dry season and have to be fenced to keep animals out.

In accordance with company policy, and Malian legislation, an Environmental Impact Assessment (EIA) was carried out for the project. In addition to a description of the existing baseline environmental conditions, the EIA details the likely impact of the various activities. Experiences from the operation of the Sadiola gold mine possibly provided an enhanced confidence in the prediction of the environmental impacts of the Yatela project, but one impact that was clearly not adequately predicted was the effect on birdlife. Soon after the commissioning of Yatela, a number of environmental incidents were recorded at the site. In the first dry season (primarily May and June of 2001), 554 bird fatalities were recorded. This included swifts, swallows, nightjars, buzzards, goshawks and hobbys. Since then a number of measures have been implemented to protect wildlife. The number of bird fatalities decreased to 40 in 2002, 16 in 2003 and to 2 in 2004.

The number of incidents was particularly significant in the dry season, with relatively few incidents in the wet season, when surface water is freely available in natural streams and ponds. As a result of these incidents, a number of measures were put in place to deter birds from frequenting these areas and to reduce their potential exposure to cyanide-bearing waters:

- alternative watering points were provided. A series of shallow drinking ponds were constructed around the periphery of the heap leach facility;
- noise deterrents, including the use of propane cannons to emit regular loud bangs, recorded bird alarm calls, and regular patrols were employed to scare away birds;
- to ensure that cyanide-bearing ponding did not occur on top of the heaps, staff were employed to cover ponded areas with shade-cloth, whilst puncturing these surface ponds with long metal rods, to allow the solution to infiltrate into the heap; and
- the solution trenches on either side of the leach pads were covered with shade-cloth, again to prevent birds from accessing this stream of process solution.

On the open water process ponds the most effective solution was found to be the use of ‘bird balls’. This technology, which involves floating a large number of HDPE balls on the surface of a pond, effectively covering all exposed water, prevents birds from landing on the water, or perching on the balls. It also disguises the surface of the water ponds, thereby masking the features which birds use to identify water bodies.

Yatela has installed bird balls on its main process solution ponds at a cost of \$750,000. A significant contribution to the cost of this solution was due to the remoteness of the operation. Although the mine investigated the on-site manufacture of bird-balls, it was decided to import these with approximately 40 container loads required to provide the number of balls necessary to cover the surface of the process solution ponds.



**Gold extraction**

In the heap leach gold extraction process, cyanide-bearing solution is dripped onto a heap of stacked ore. The solution then percolates through the heap, dissolving and extracting gold as it flows. The solution collects on a HDPE-lined leach pad, and flows into a series of under-drains which flow into solution trenches (on the sides of the heap leach pads) and is ultimately collected in a series of process solution ponds (the barren, intermediate and pregnant solution ponds). The pads and the ponds have been designed and constructed in such a manner to ensure that all cyanide solution is contained within these areas and is not released to the environment. Most of the bird deaths were associated with ponding on the ore heaps, drinking from the solution trenches alongside the heaps and in the open-water process ponds.

The International Cyanide Code in its Standard of Practice 4.4 recommends that measures to protect birds, other wildlife and livestock from adverse effects of cyanide process solutions are implemented for ‘all open waters where WAD (weak acid dissociable) cyanide exceeds 50 milligrammes per litre, such as solution ponded on leach heaps, in leach solution collection ditches and ponds, or in some tailing impoundments’. It stipulates that ‘these measures include fencing, filling in collection ditches with gravel, and covering or netting solution in ponds and impoundments. Fencing is also appropriate in most cases to prevent unauthorised access and potential exposure to humans’.

AngloGold Ashanti is sponsoring and participating in a multi-year project led by the Australian Centre for Mining Extension and Research to investigate the issue of wildlife deaths associated with cyanide-bearing tailings dams and heap leach operations.



## 7.10 Three-year project to fast track environmental management plans in South Africa

The environmental management department attached to the South African operations has been tasked with fast tracking some of the major environmental remediation initiatives identified by the group over the next three years. Says project manager, Tony Da Cruz, "When pressures mount to reduce the funding requirements, particularly during periods in which the margins are being squeezed, inevitably the environmental components of the operational budget are cut because they are deemed non-essential to production. The role of the Environmental Management Department is to ensure that the appropriate levels of resources are applied to meet the environmental commitments of the South Africa region in a timely manner and to ensure legal compliance at all times."

Historically, the South African operations were required to compile detailed Environmental Management Programme Reports (EMPR) as prescribed by the Minerals Act, Act No 50 of 1991 and to file these for approval by the Department of Minerals and Energy (DME). Based on this, and other factors, the operation would then receive – or have renewed – its mining authorisation. The South Africa region has 26 DME-approved EMPRs to which it is committed, not only until the cessation of operations but until a closure certificate is issued by the DME. This authorisation effectively gives it the right to operate. The Environmental Management Plan (EMP) that forms part of the EMPR is legally binding and regular reviews must be undertaken to monitor compliance with the EMP.

The status and role of the EMPR were reinforced when the Mineral and Petroleum Resources Development Act, No 28 of 2002 (MPRDA), was enacted on 1 May 2004. This legislation requires the application for conversion of 'old order' to 'new order' mining rights. The company's performance and plans in terms of a range of socio-economic and development issues, including environmental compliance according to the approved EMPRs, will determine whether this conversion is achieved.

An important part of the current conversion process has been the submission of 'compliance reports' for each EMPR. While the commitments made in terms of the EMPRs have always been important, they have now become even more significant. In accordance with Regulation 55 of the MPRDA, every two years a company must submit performance assessments indicating progress in implementing the EMPR. Whilst this is no different from past requirements, it is evident that this will now be increasingly stringently monitored.

To meet these requirements, the environmental management department is now working far more closely with the business units than in the past to ensure delivery in line with the EMPRs. Says Tony, "While funding for the various projects is applied for and obtained on behalf of the business unit, the responsibility lies with the business unit to project manage the work to completion and a project manager is usually assigned to all major projects. The environmental management department provides a governance role in respect of the allocation of funds. The department needs to sign off on all orders and invoices associated with the projects, provide specialist environmental input and perspectives where needed and guarantee the funds are spent on bona fide environmental requirements (as opposed to spending them on other priorities)."

The South Africa region environmental management department, which employs 31 permanent and contract staff members, including environmental specialists and support staff, provides the skills and resources base to prioritise, plan and monitor these projects



### Environmental remediation projects in South Africa include:

- monitoring boreholes at TauTona;
- construction of oil and grease separation systems at the TauTona workshops;
- construction of a decontamination bay at Savuka;
- lining the pollution control dam at the Mponeng plant;
- concreting the area next to the CIP tanks at the Kopanang plant;
- stripping and stockpiling topsoil ahead of rockdump advance at Moab Khotsoeng;
- remediation of hydrocarbon spillages at Tau Lekoa;
- new repair and salvage bay at Great Nologwa; and
- construction of oil and chemical storage area at Great Nologwa.



## E36 7.11 Woodlands project – good progress being made with phytoremediation project

Good progress is being made with the Mine Woodlands and Sustainable Vegetation of Slimes Dam projects being conducted by the University of the Witwatersrand, Johannesburg (Wits) and AngloGold Ashanti South Africa. This research programme, for which the initial work began in 1996, combines ecological engineering with a phytoremediation approach to reduce environmental impact and liability.

AngloGold Ashanti has championed this programme since its inception, and between 1996 and 2005, contributed a total of R9.1 million (\$1.42 million) for slimes dam slope reduction, the planting of trials, infrastructure and R&D. (See box on project partners).

The programme is overseen by Wits, under the leadership of Isabel Weiersbye of the School of Animal, Plant and Environmental Sciences. According to Weiersbye, "This is one of the largest R&D programmes into gold mine pollution containment ever undertaken in terms of the extent of affected land and water to be rehabilitated, the diversity of landscapes and species that need to be taken into account, and the requirement for sustainable livelihoods across an entire region after mining."

### Background

South Africa produces around 450 million tonnes of waste annually, with 70% of this generated by the mining industry. Gold mines on the Witwatersrand Basin alone produce 105 million tonnes per annum (23% of the total) with about 200,000 tonnes of waste generated for every tonne of gold produced. Much of this waste is deposited into tailings dams, of which there are more than 270 on the Witwatersrand Basin, covering some 400 km<sup>2</sup>. These dams are all unlined and many are unvegetated, and can be a source of extensive dust, as well as soil and water pollution.

Environmental planning of waste disposal by the South African gold mining industry in the past, although legal and recommended by government at the time, has since been proven environmentally unsound. Among common practice was the location of unlined tailings dams on natural pans, wetlands, water courses and catchment areas, and the disposal of mine process water into pans and unlined evaporation dams. Consequently there has been poor containment of pollution. Research has shown that erosion from steep slopes of tailings dams in South Africa can reach 500 tonnes per hectare annually, compared to losses of 15 tonnes per hectare annually from agricultural land<sup>1</sup>. In addition, around 400MI of water passes through the major South African gold mines every day: Of this, 260MI goes into groundwater and 130MI to surface water<sup>2</sup>. Approximately 600,000 tonnes of salts are discharged into the Vaal and Orange rivers each year by the gold mines<sup>3</sup>. It has been estimated that there is more than 6,000 km<sup>2</sup> of polluted soil in the Witwatersrand Basin, a consequence of gold mining, and more than 30,000km<sup>2</sup> of land overlying polluted groundwater<sup>4</sup>.

The production of mining waste on such a large-scale waste has serious consequences for the environment. It causes dysfunctional hydrology, as well as acidification and salinisation of soils, groundwater and surface water bodies, resulting in breakdowns in nutrient cycling and environmental degradation. This can lead to losses in biodiversity and ecosystem services, and, therefore, both tailings and contaminated water can be expected to eventually contribute to negative health impacts in humans if mitigation measures are not put in place.

Added to this is the historical exploitation of South Africa's indigenous woodlands to meet demands associated with mining in the last century. By 1917, 250,000 tonnes per year of indigenous timber was being consumed by the Rand gold mines alone. The exotic forestry industry in South Africa now meets the demands of the mining and other industries, and this helped to prevent the destruction of the remnant indigenous timber, albeit at the cost of extensive afforestation of virgin lands. Currently, AngloGold Ashanti requires about 70,000 tonnes of timber per year, which is approximately 2% of the total South African timber market.

Given the improved state of environmental knowledge, and the changes in legislative emphasis (see legislative background), there is now potential for significant long-term liability on the part of land owners and users. The AngloGold Ashanti-Wits programme is pioneering methods to prevent pollution, remediate polluted soils and water, and convert tailings dams to safe and sustainable land uses.

### History of programme

The current programme began in 1996 when Anglo American's Gold and Uranium Division initiated research with Professor Ed Witkowski and Weiersbye at Wits to determine the feasibility of an ecological engineering and phytoremediation approach to the rehabilitation of tailings dams. The project's aims were to determine which indigenous plants and micro-organisms were naturally colonising tailings dams and polluted soils, and then to develop 'designer' ecosystems from this naturally selected flora to remediate polluted soils, rehabilitate tailings and even produce novel crops on tailings dams.



### Working with partners

AngloGold Ashanti has championed the Woodlands programme since its inception. Between 1996 and 2005, the company contributed a total of R9.1 million for slimes dam slope reduction, the planting of trials, infrastructure and R&D. After the sale of AngloGold's Free State mines to FreeGold in 2002, FreeGold contributed an additional R1.3 million to the project. A further R3.6 million has been contributed to capacity building by the THRIP human resources development programme of the Department of Trade & Industry, Wits University, the National Research Foundation, the Colin Cowling Foundation and the Council for Scientific & Industrial Research (CSIR). This funding has purchased state-of-the-art equipment, built capacity at community nurseries, and supported 18 postgraduate students and 20 student trainees on AngloGold Ashanti projects. By 2005, approximately 300 men and women from local communities had also been trained in plant production, planting and basic silviculture. The planting programme is carried out by EMPR Services, and provides employment for 60 people on AngloGold Ashanti properties, most of whom are ex-mine workers. Wits is involved in this project on a non-profit basis and subcontracts additional expertise from the CSIR Environmentek (hydrology), the Australian Geomechanical Centre (AGC), Fractal Forest Africa (silviculture), the AGES Group (geohydrology), Aquisim Ltd (radiological risk modelling) and community nurseries.

The mining industry's approach to reducing erosion and dust from tailings dams largely involves the planting and irrigation of pasture grasses. Pasture grassing costs on average R90,000 per hectare for slopes and R30,000 per hectare for tops, utilises up to three times annual rainfall for irrigation, and prevents surface erosion (i.e. dust control) for less than 10 years. Although grassing prevents dust emissions for some years, it is rarely effective in containing erosion in the longer term, and does not prevent seepage and water pollution, or achieve ecological sustainability<sup>6,6</sup>. Since the pasture-grassing approach has proven unsustainable for mine closure purposes, there is a need to determine what type of vegetation would prevent pollution emissions from tailings dams, and so lead to rehabilitation.

Surveys of tailings dams and polluted soils were carried out between 1996 and 2002, to characterise biological and chemical status in relation to region, climate, geochemistry and vegetation practices. Constraints to current vegetation practices on tailings dams were identified, as well as the practices and flora that have a higher probability of contributing to sustainable rehabilitation. Key findings of the project were that over a century of pollution from gold mining has resulted in the development of a tolerant flora, and that pasture grasses are not the most suitable form of vegetation<sup>7</sup>. In addition, the steep slope angle of tailings dams was found to be more detrimental to vegetation persistence than the actual chemistry of slimes. Most naturally-colonising plant species are indigenous small bushes, shrubs and even trees, and dependent on symbioses with soil microbes such as mycorrhizal fungi and nitrogen-fixing bacteria<sup>8,9</sup>. There was a need to lower tailings dam slopes, reduce dependency on irrigation and fertilisers, increase biodiversity and use vegetation structure to provide better erosion control and prevent seepage.

Tolerant plants and micro-organisms were isolated and screened, and bulk production commenced. Slimes dam trials were initiated in 1998 with the grassing of a tailings dam slope that had been reduced from 30 to 18°, and the establishment of 'pseudo'-savanna, tree-trials and refuse trials on the top of tailings dams at Welkom.

By 2005, the studies had demonstrated that:

- reducing the slopes of tailings dams from about 30° to less than 16° reduces the cost of grassing, significantly improves the longevity of grassing and erosion control, and significantly reduces irrigation requirements;
- the use of compost, domestic kitchen waste, sewage sludge, garden refuse, clays, gravels and various rubbles on the tops of tailings dams instead of the traditional lime, fertilizer and irrigation approach prevents erosion, kick-starts nutrient-cycling and results in vegetation establishment at a cost of less than R2,000 hectare;
- the effects of acid mine drainage and polluted groundwater on plant growth and reproduction extend well beyond tailings dams, resulting in strong selection pressures and the development of tolerant plant 'land races' and micro-organisms<sup>10</sup>;
- there is DNA evidence for the evolution of genetically distinct and tolerant varieties of some plants on old tailings-polluted soils<sup>11</sup>;
- the growth in acidic tailings of tolerant plants from polluted soils is significantly better than that of plants from normal soils;
- a range of indigenous species (trees, shrubs, forbs and grasses) from polluted sites were found to be extremely tolerant of growth in acid and saline slimes, and could maintain productivity and viable seed production equivalent to the same species in unpolluted veld<sup>12,13</sup>;

**Legislative background**

The Atmospheric Pollution Prevention Act 45 of 1965, due to be superseded by the National Environmental Management Air Quality Act during 2005, (See case study on page E43) obliges mines to prevent dust emissions from tailings dams. Other, more stringent legislation to protect the environment has recently been introduced:

- The Constitution of South Africa of 1996 elevates the right to an environment not harmful to health or well-being to a basic human right.
  - The National Environmental Management Act 107 of 1998 and Amendments;
  - The National Water Act 36 of 1998;
  - The Mineral and Petroleum Resources Development Act 28 of 2002; and
  - The National Biodiversity Act of 2004.
- The Acts all stress the responsibility of industry to prevent environmental damage.

The new regulatory framework means that industry pays for water use, and will soon also pay for the discharge of water-borne pollutants on a per kilogram of mass basis. There is also an increased risk of criminal and civil liability, with new environmental laws being guided by the principle that the polluter pays, with accountability for land users and land owners.

Provisions within both the National Environmental Management Act and the National Water Act appear to indicate that the issuing of a Closure Certificate to a mine by the Department of Minerals and

*See next page*



- the use of 'designer' combinations of tolerant plants, together with nitrogen-fixing bacteria and arbuscular mycorrhizal fungi, also isolated from slimes-polluted soils, greatly improves the condition of vegetation on tailings dams<sup>14,15</sup>; and
- some indigenous plant species have high commercial potential and low radiological risk when grown on slimes dams.

Between 2001 and mid-2004, approximately 30,000 indigenous trees and shrubs were planted on the top of a tailing dam at Welkom. These trials, and a tailings dam that has been wooded since the 1960s, are being assessed for rehabilitation processes, the impact of vegetation on slimes dam water balances, and economic potential. In 2005, planting will start on the top of AngloGold Ashanti's Old North Tailings dam at West Wits operations. The findings of the project have also been incorporated into AngloGold Ashanti's closure plan for the Brakpan tailings dam (at 560 hectares, the largest gold tailings dam in the world).

The Mine Woodlands Research Project (2001-2008) was initiated to assess the feasibility of encapsulating tailings dams within a system of woodlands, to prevent water-borne pollution and dust emissions<sup>16,17</sup>. The project also assesses the ability of other vegetation types (wetlands, grasslands, savannas and riparian woodlands) to naturally attenuate pollution.

The three primary objectives of the Mine Woodlands Project are to:

- prevent pollution at the source by planting vegetation on the tops of tailings dams that will evaporate all incoming rain water, and abstract water from within the slimes dam itself;
- decontaminate and rehabilitate polluted soil and groundwater, and foster ecosystem processes; and
- provide a sustainable solution, (i.e. an environmentally, socially and economically acceptable solution), to the problem of tailings dam waste through the use of vegetation. This includes the transfer of technology to small businesses, such as community-based nurseries and planters. (See case study 'Community nurseries – based solution' on page E39).

Trees and shrubs have several advantages over grasses for the purposes of pollution control. Many trees are evergreen, in contrast to grasses, which are dormant in winter,. The more extensive root systems of trees can therefore abstract seepage all year-round, and from greater depths. The fine root and leaf litter of trees is more effective than that of grasses in fostering the formation of top soil, and fine roots can also take-up or immobilise some pollutants. Woodlands can remove organics, nitrates, phosphates, sulphates, various heavy metals and radionuclides from soil and groundwater, and internationally, phytoremediation is gaining acceptance as the technology of choice for landfills, mining waste and contaminated land.

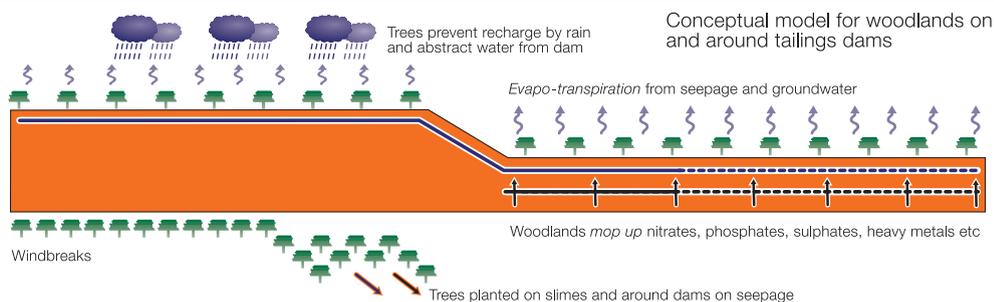
The planning of land use on mines is essential in order to foster existing ecosystem services, and ensure that tree planting is strategic. Thus the role of existing natural vegetation in pollutant control is being characterised at AngloGold Ashanti's Vaal River and West Wits operations, and on the Free State mines. Reedbeds, wetlands, grasslands, savanna, indigenous woodlands and exotic plantations are being assessed<sup>18</sup>. Networks of trees are also being used in combination with remote sensing to identify the extent, history and sources of groundwater contamination – the chemistry of tree leaves and annual growth rings in wood is a reflection of groundwater quality. Optimisation of the remote sensing techniques for tree canopies will allow for the more precise siting of pollution control measures at vastly reduced cost, and have international applications<sup>19</sup>.

Between 2002 and 2008, a series of woodland trials are being planted on and around two tailings dam complexes at AngloGold Ashanti's Vaal River and West Wits operations. A few hundred indigenous tree and shrub species are being assessed, as well as 12 exotic tree species, provided permission for the latter is

*Continued from page E37*

Energy will not negate the mine's long-term responsibility if sites are insufficiently protected and cause environmental damage in the future. Potential costs to the mining industry are significant and include both direct costs (such as the cost of water use, mass discharge costs, cleaner production, pollution containment and rehabilitation) and latent costs (the costs of maintaining rehabilitation, the costs of loss of ecosystem services and biodiversity, the negative consequences for health and agriculture, non-compliance fines and the costs of defending – or losing - a civil or class action).

This all means that novel, ecologically sound and sustainable methods of containing pollution from tailings dams must be found; something that AngloGold Ashanti has been working on in partnership with the University of the Witwatersrand, Johannesburg (Wits) since 1996. The methods being tested are themselves also subject to legislation and sometimes licensing, such as the planting of trees to abstract polluted water. Annual project workshops are held by Wits to update government and mining regarding the scientific direction and findings, and a cooperative governance forum was set up in 2004 by Government, AngloGold Ashanti and Wits to ensure the emerging technologies for pollution containment are compatible with current and planned legislation in South Africa.



granted by government. In the 2004/5 season, 67,000 trees were planted on polluted soils and seepage from tailings dams at the West Wits operations and almost 250,000 at the Vaal River operations. The aims of the trials are, to determine which are the most suitable tree species and soil micro-organisms to use on each site, which are best at decontaminating and rehabilitating soils and groundwater, how much water the trees use, where the best place to plant them would be, how the tree plantings will affect the local ecology, geohydrology and chemistry, how to optimise tree growth for both pollution control and economic return from timber, biofuels, medicinals and other chemicals, and whether such woodlands can be sustainable on tailings dams and polluted soils, and thus contribute to job creation.

In the intensive 'site-species' matching trials, approximately 30 tree species and land-races are planted in a 5 hectare area each year. The aim of these trials is to optimise the technology for local conditions, and determine which trees are more suited to each set of conditions in terms of:

- the size and growth rate of the tree – a fast growing tree will consume more water, whereas a large canopy will create a dust windbreak and the leaves will generate compost;
- the amount of water a tree consumes in relation to pollutants, identify which species immobilise or remove the most pollutants for the least amount of water consumed;
- which species are good growers, easy to maintain and regenerate naturally. Such a selection would remediate the soil and produce compost and help to establish ecosystem services;
- which species and woodland products are radiologically safe, i.e. do not contain radionuclides or heavy metals, as these could enter the food chain. In some cases, species that are found to take up radionuclides and metals are being tested for their ability to 'mine', or clean, polluted soils and water. Litter from these 'accumulating' plants would be disposed of safely in a hazardous waste disposal site; and
- which species have commercial potential when grown on slimes dams and polluted lands, i.e. from timber, biofuels, pharmaceutical chemicals, fibres and other natural products. Secondary industries could then be set up to harvest, process and market 'rehabilitation plant products'.

The impacts of large blocks of trees on local geohydrology and ecosystem processes, are assessed in the parallel woodland 'block' trials, where large areas of the best-performing trees are being planted on polluted soil and seepage at the West Wits and Vaal River operations.

The planting and care of woodlands is labour intensive. Between 2000 and February 2005, approximately 300 people have been trained in site preparation, and the planting and care of trees. In 2003, Wits entered into a partnership with DWAF's Directorate of Participatory Forestry. The aim of the partnership is to empower community nurseries so that they can acquire the niche market for 'designer' plants for gold mine rehabilitation. Technology transfer to community-based nurseries started in 2003 and 2004. AngloGold Ashanti is fostering the nurseries through business skills, and the provision of guaranteed orders for plants.

As results of this study are also to be used as an approach for mine closure, every effort is made to ensure that the technology being developed is in line with government requirements. South Africa is a water-poor country with strict environmental legislation. The disturbance of virgin land, changes in land-use, and the planting of exotic trees, or any trees for commercial purposes or water abstraction, is subject to government legislation. The programme therefore focuses mainly on the use of indigenous trees, and plantings on historically disturbed or polluted soils and tailings dams, with government approvals being sought for the trial planting of any exotic trees. Scientific workshops for government and mining are held regularly, and in 2004, Government formed the Woodlands Authorisation Forum with AngloGold Ashanti and Wits to ensure the solutions being developed are in accordance with current and planned legislation.

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E40 | 7.12 Community-based nurseries  
– a broad-based solution

An integral part of the research programme into the rehabilitation of polluted soil and water in South Africa is the transfer of project technology to community-based nurseries. This is being done via a partnership between the University of the Witwatersrand (Wits) and the Directorate of Participatory Forestry of the Department of Water Affairs and Forestry (DWAF). AngloGold Ashanti is providing assistance with business plan development, and guaranteed orders for 'designer' plants. The focus of the partnership is capacity-building and extension support for community nurseries, to enable them to acquire a niche market for the mine phytoremediation and rehabilitation industry.

Three community nurseries are heavily involved in the programme as suppliers of indigenous plants (Modula-Qhowa at Botshabelo, Mphakathi at Orange Farm, and Lesedi in Welkom), providing employment for up to 30 people. The Mphakathi Nursery is part of Amsai community complex, and income raised by the nursery contributes to the school and clinic.

DWAF oversees the development of and capacity-building at many community-based nurseries in South Africa, and provides training and extension support. Wits University is responsible for transferring the technologies developed in the research programme to the nurseries, and for obtaining orders from the mines. Wits supplies the nurseries with equipment, tolerant seed and training through funding obtained from the Department of Trade & Industry's THRIP programme, levered as a result of AngloGold Ashanti's funding to Wits. The nurseries are responsible for the production of tolerant inoculated\* plants and seed (trees, shrubs, forbs, grasses etc) which are then supplied to AngloGold Ashanti's West Wits and Vaal River mines. In 2005, some of the community nurseries will also start producing compost from municipal waste for use in the plantings on tailings dams, and new community nurseries are planned.

The nurseries are based on the principle of sweat equity. That means they are owned by members of the community, and grow plants to order (being paid once an order is collected). In some cases a mine will provide the nursery premises. The nurseries provide livelihoods for previously unemployed people, and are trained by DWAF in nursery practice, and by Wits in the production of tolerant inoculated plants for mines.

An intensive training course is being set up by DWAF for community nurseries across South Africa in 2005. This will include training by Wits in the production and marketing of designer plants for mine rehabilitation. Business skills training will cover topics such as how to register a business and open a bank account. Wits and AngloGold Ashanti Small Business Development Unit have co-operated with DWAF on a community empowerment and nursery business plan. The Lesedi nursery was established by DWAF in this way, and together with the other community nurseries servicing the programme, is now a formal registered business.

Regular extension visits and nursery-based workshops help to ensure that best practice is followed. They also promote the socio-economic development of skills and raise the level of environmental awareness among communities surrounding the operations.

\* Young plants are inoculated with micro-organisms (mycorrhizal fungi and nitrogen-fixing bacteria) which research has shown aid the rehabilitation of polluted soil.



**Research findings**

The most significant findings of the R&D programme have been made in the Welkom region (on what was AngloGold's Freegold mine and, from 2002 to 2003). Trials planted between 1998 and 2003 have shown that indigenous vegetation can be established cost-effectively on slimes dams. Whereas grassing costs range from R20,000 to R40,000 per hectare on the tops of slimes dams, indigenous woodland costs are between R2,000 and R7,000 per hectare, depending on method and species.

Wits and AngloGold Ashanti Small Business Development Unit have co-operated with DWAF on a community empowerment and nursery business plan, which formed the basis for the establishment of the Lesedi nursery (established by DWAF and Freegold).



## 7.13 Energy conservation gains renewed impetus in the South Africa region

In its drive to conserve energy – primarily from a cost and environmental perspective – the South Africa region’s engineering department has focused on two areas: developing and implementing renewable energy sources on the one hand and ensuring efficient use of energy on the other.

Renewable energy relies on natural resources such as the sun, the wind, water, the earth’s heat, and plants. Renewable energy technologies turn these fuels into usable forms of energy – most often electricity.

Says Keith Arnold, energy engineer, “The South African operations make use of the depth (up to 3,800 metres) at which we operate to generate power from the water used for our mining process. Water is already gravitated underground for cooling the working areas, for dust suppression and used in some underground equipment.”

At Mponeng mine in the West Wits area electricity is generated underground via Pelton Wheel turbines. These produce about 6% of the mine’s power requirement. The generators are synchronised with the power system so other loads operating on the distribution network absorb the energy generated. At times the generation is more than that part of the mine can absorb, in which case it is exported into the national network and the utility passes a credit to AngloGold Ashanti.

At the Kopanang mine, in the Vaal River area, the Pelton Wheel turbines are coupled to pumps. The pumps are then used to transport ‘hot’ used water to surface for re-cooling through the surface refrigeration plant for re-use underground as a cooling medium.

Tau Lekoa mine, also in the Vaal River area, uses its depth to drive hydro-powered drills and other equipment in the stopes. Tau Lekoa is the only gold mine in the country to be powered largely by water.

Moab Khotsong will implement a demand side management project in late 2005/early 2006 whereby water supply down the mine will be used to displace the water coming out of the mine through a three chamber pipe feeder system. The only power required will be to overcome the friction losses in the system. Studies are being undertaken to indicate expected savings, but previous figures suggested that 32 MW of pumping would be replaced by only 10 MW using the chamber pipe feeder system. Four systems will come into operation and each system will have the capacity to displace 318 litres per second.

Says Keith, “We are also active in the Demand Side Management initiative implemented by the National Electricity Regulator, and which is managed by Eskom DSM and funded by all consumers of electricity. The overall aim of the initiative is to reduce the national system peak demand, which occurs in the evening between 18:00 and 20:00. Projects are focused on shifting load out of this time into other times of the day. This will result in delaying Eskom’s capital expenditure for new Peak Generating plants, which will in turn escalate the cost of power. These projects also save AngloGold Ashanti money as the cost of energy in these peak hours is more per unit than other hours of the day.”

As from the 2005/2006 business planning cycle, each business unit will be required to submit life-of-mine energy plans. While energy consumption has always been part of the budgetary process, energy conservation objectives has now given it added emphasis.



### Energy efficiency:

During 2004, AngloGold Ashanti together with Anglo American plc completed a technology strategy with the objective of reducing the group’s energy intensity year-on-year. AngloGold Ashanti has selected TauTona at West Wits as the pilot operation. A number of projects have been identified and are being investigated.

Another aspect addressed is the monitoring of pump efficiency through special pump coatings, achieving sustained efficiency over longer periods

One of the challenges is to ensure that such worthy efficiency initiatives are shared by other operating regions to the benefit of the entire company.



## E42 | 7.14 Yellowfish project – a partnership with concerned fishermen

Of the nine so-called species of freshwater Yellowfish in South Africa, two major ones – the Smallmouth and Largemouth – are found in the Vaal River. AngloGold Ashanti's Vaal River operations cover a 32 kilometre stretch of this river.

These are both popular angling species, but they are also important indicators of river health, a significant consideration given the water quality impacts from the numerous mining and agricultural operations alongside the river. The Vaal Orange Largemouth is regarded as a 'red data' or endangered species, currently classified as 'vulnerable', and is a prime focus of the Yellowfish Working Group (YWG), formed in 1997 by the Federation of Southern African Flyfishers (FOSAF).

Although FOSAF was keen to encourage yellowfish flyfishing, they were also concerned that anglers and riparian owners, for their own convenience, may translocate the fish outside of their natural catchment area, resulting possibly in genetic interference of the species.

AngloGold Ashanti has contributed R105,000 to genetic research and mapping, which will assist in the formulation of a plan to ensure correct management and stocking of this species. When this research was first initiated, AngloGold Ashanti's properties were already included within the YWG's river conservation area, but it was only in 2001 that the group formally approached John Amis, manager of the South Africa Region's Environmental Department, to request sponsorship of critical research on the development, migration and distinctive attributes of the Yellowfish.

"AngloGold Ashanti saw an opportunity to make a difference," says Amanda Fritz, environmental co-ordinator (Water) at Vaal River and a member of the YWG. "The company has sponsored two genetic studies of the Yellowfish, which have been conducted by researchers from Rand Afrikaans University, Pretoria University and Rhodes University."

At the beginning of 2003, the company donated R45,000 towards Phase 1, which looked at the genetic differences between the Largemouth and Smallmouth Yellowfish species. The results showed there was no clear distinction between the species. Either the two species are very closely related or there are instances of hybridisation between them.

"The AngloGold Ashanti study was important in that it created angler and riparian owner awareness that one shouldn't move fish out of their natural catchment. In doing so one can interfere with hundreds of thousands of years of evolution," says Bill Mincher, Vice President of FOSAF and Chairman of the YWG.

To create awareness of the plight of the Yellowfish, AngloGold Ashanti has provided the YWG with the use of its Geographic Information System, which identifies farms and owners in affected areas. The company also supports education and awareness efforts by FOSAF who encourage angling sportsmen to 'catch and release' the endangered fish.

Patrols have been formed by farmers and officials from the Free State Department of Tourism, Environment and Economic Affairs to guard against disturbance of yellowfish spawning grounds and to prohibit illegal Yellowfish angling. The fish is a popular source of protein for rural communities, but the legal limit for Smallmouth is only two per day, while the Largemouth must be released if caught.

To determine whether the two species are cross-breeding, a follow-up investigation was proposed, to study the morphology (or features) of each species, for example, mouth size and shape of the fish. At the beginning of 2004, AngloGold Ashanti donated R60,000 to Phase 2, in which samples were taken for genetic analysis. Several distinct lineages have now also been identified in both species. This genetic mapping will assist in the formulation of a holistic management plan. The findings of the study are due early in 2005.



## 7.15 New legislation to impact on air quality management

Air quality management, which is currently governed by the Atmospheric Pollution Prevention Act of 1965, is to fall under the new Air Quality Bill, when it is promulgated in 2005.

Directed at a number of industries, including mining, the new Bill aims to establish a more effective regulatory regime, including the establishment of national norms and standards; a framework for air quality management planning and reporting; and regulatory instruments for the control of air pollution, compliance and enforcement. The Bill was arrived at through a process of consultation with a wide range of stakeholders, of which the Department of Minerals and Energy was one.

Kobus Dekker – occupational, environmental, safety and health manager of AngloGold Ashanti's South African region – describes air quality management at the company as the elimination or control of “all pollutants generated from the metallurgical plants (the main potential source of pollutants), tailings storage facilities and ore piles, as well as any other sources, for example, refrigeration plants, vehicles and ventilation fans”. The Bill's priority areas are specifically the ambient concentration of ozone, nitrogen oxide (NO), oxides of nitrogen (NO<sub>x</sub>), sulphur dioxide (SO<sub>2</sub>), carbon monoxide (CO), lead, and amount and size of particulate matter (PM10) and total suspended solids (TSS).

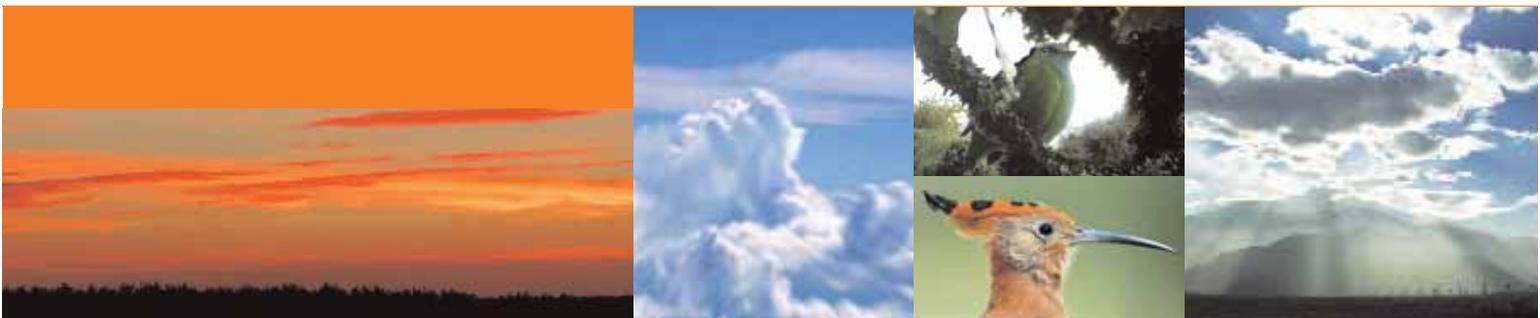
Since the Bill also aims to meet international standards, it is expected to either contain or refer to stringent limits on all pollutants. To prepare for compliance, AngloGold Ashanti formed an Air Quality Management Task Team at the beginning of 2004. Kobus, as project coordinator, heads a six-member team of experts and advisors, who are responsible for drawing up an Air Quality Management Plan and identifying areas of responsibility to ensure correct implementation.

A group of consultants were first engaged to perform an Air Quality Impact Assessment, as part of a Baseline Risk Assessment, to identify the sources and extent of pollution in order to establish the necessary remediation equipment. The company's existing scheduled processes and controls to comply with current legislation were evaluated to determine discrepancies with possible new legal requirements. As a result, action plans have been developed to improve areas where compliance may be problematic. Any existing processes previously not recognised as 'scheduled' processes were also identified, and plans made to have these either registered under the old legislation or licensed under the new legislation. At the same time, any new processes which may have to be implemented after promulgation of the Act, have been identified.

Major concerns arising from the assessment are dust levels, which pose a potential health risk to fauna, flora and humans; and SO<sub>2</sub> emissions from the metallurgical acid plant stacks. In 2004 AngloGold Ashanti focused on monitoring and reducing dust levels and has purchased two weather stations which measure temperature, rainfall, wind speed and direction; dust fall-out buckets for monthly monitoring at West Wits and Vaal River; and two PM10 dust monitors to monitor human inhalation (particles smaller than 10 microns are known to pose a health risk). In 2005, the focus is on the monitoring and reduction of SO<sub>2</sub> and sulphur trioxide (SO<sub>3</sub>) emissions.

The Task Team is currently working on the Air Quality Management Plan which comprises additional planning controls; installation of instruments for continuous monitoring of emissions; formulating stack monitoring frequencies; calibrating the atmospheric dispersion modelling system; and establishing an emissions inventory, which will be updated monthly.

Once approved by management, AngloGold Ashanti's Air Quality Management Plan will be forwarded to each of the South African operations for incorporation into their mine-specific Environmental Management Implementation Plan. Regulatory bodies for the Air Quality Bill will be the Department of Environmental Affairs and Tourism, and municipalities, the latter of which are to employ emission control officers. The licensing authority will issue an 'atmospheric emission licence' (previously called a registration certificate), which will be inspected at regular intervals. Penalties will be imposed for non-compliance in terms of the Bill.



## E44 | 7.16 Dust management at Vaal River – response to local community concerns

The West Extension Tailings Storage Facility (TSF) was commissioned in 1985 as one of the repositories for tailings from AngloGold Ashanti's Vaal River operations, with approximately 22 million tonnes of tailings having been deposited here to date. The TSF is currently 32 metres in height, and is expected to increase to 60 metres over its remaining lifespan of 12 years. During the dry season (August and September) strong winds can transport fine sandy material from the outer walls and beaches on the side walls of the TSF into the surrounding environment resulting in high dust depositions. This was the subject of community concern and debate in late 2003, and which has been addressed by AngloGold Ashanti in 2004.

A public complaint about TSFs in the area was made in 2002 to the manager of tailings and land at AngloGold Ashanti's Vaal River operations and an article also appeared in the local newspaper the 'Klerksdorp Record.' These complaints were followed by further complaints a year later, specifically about the West Extension TSF, and which were recorded in the Klerksdorp Record on 11 September 2003. The report referred to "serious pollution as a result of fresh winds blowing dust off slimes dams at a number of mines, including AngloGold mines at Vaal Reefs". AngloGold Ashanti responded to the publication and also installed a large water tank to spray down the driving surfaces on the TSF. Despite this, a subsequent article was published on 16 September 2003 stating that "large amounts of dust from mine dumps were blown across residential areas, causing extensive pollution". The company then gave a comprehensive response, which was published in full in the Klerksdorp Record on 23 September 2003, accepting responsibility for the problem and explaining that changes in the method of tailings deposition on the West Extension TSF had led to a temporary major increase in dust levels, but explained that when complete "will make a substantial contribution to dust control". The article also restated the company's commitment to conducting its activities in accordance with the law, and outlined various measures that were already being taken to resolve the problem.

AngloGold Ashanti records all major environmental incidents and institutes immediate remedial action. As a result of this process, in late 2003, a remediation strategy was formulated and implemented in 2004:

- wetting of the bench (an elevated road surface) and side slopes on a daily basis. (The bench materials include a gravel mixture to enhance dust suppression);
- limiting access of vehicles onto the TSF;
- dust suppression trials for a three-month period, by way of immediate and effective, but temporary, measures prior to vegetation. They included a polymer weather cap mix for covering the side walls and a bitumen-based product for bench hardening;
- implementation of a slope irrigation system;
- vegetation of approximately 8 hectares of slopes ;
- upgrading of cyclone system to suppress dust liberation (the using of additional cyclones to deposit tailings keeps the deposition area continuously wet); and
- reclamation of sites that are at high risk to dust liberation.

In addition, in 2004, a dust monitoring programme was established to monitor public exposure to tailings dust. Apart from addressing public concerns, one of the main aims of the project is to measure compliance with future legislation on Air Quality, which will set new dust exposure limits for the public. This data will be submitted to the regulator and summarised annually in a report. AngloGold Ashanti is currently drafting an Air Quality Management Plan to cover all the requirements of the draft legislation, including public reporting. (See case study 'New legislation to impact on air quality management in South Africa' on page E43.)

Since implementation, no further complaints have been received from the public regarding dust emissions. This issue will, however, require ongoing vigilance over the operational life of these TSFs.



## 7.17 Stakeholder involvement in the closure planning process at Ergo

AngloGold Ashanti continues to involve a range of stakeholders in the closure planning process in accordance with environmental legislation requirements. The Ergo operation was commissioned in 1977 to extract gold by reprocessing material from about 50 old residue deposits. These residue deposits were produced by the many historical mining operations in Gauteng.

Once processed, Ergo residue materials were then deposited on the Withok Tailings Storage Facility (TSF). In 1985 the introduction of new technology in the recovery process led to the construction and commissioning of a new repository for tailings residue – the Brakpan TSF. This innovation in processing technology improved recovery to the point that reclamation of the material from the Withok TSF was profitable and, as a result, this material was also re-processed. Given that the Withok material, as well as payable material from other reclamation sites is almost depleted, Ergo is scheduled to close by the end of March 2005.

The Brakpan TSF is believed to be the largest gold tailings storage facility in the world. It covers an area of 860 hectares (equivalent to 866 rugby fields) and stands about 90 metres high (as high as a 30-storey building). The Brakpan TSF holds around 560 million tons of material.

In terms of the Ergo Environmental Management Plan, the Brakpan TSF and adjoining Withok footprint (the area where the original Withok dam stood) are to be rehabilitated when the operation closes. In accordance with the Mineral and Petroleum Resources Development Act (MPRDA), AngloGold Ashanti has prepared a formal Closure Plan which will be submitted to government for approval. Project leader Pieter Swart, currently acting environmental manager of land management, heads a team representing Environmental Management – South Africa Region, Ergo and AngloGold Ashanti Corporate Office, as well as eight external consultants to compile the plan. The plan provides detailed information regarding the environmental remediation of the Brakpan TSF and its surrounding infrastructure.

The plan includes methods for:

- drying the surface and main body of the Brakpan TSF to ensure that any future impact on groundwater is minimised;
- ensuring that the TSF final landform is stable and rehabilitated according to environmental performance criteria;
- returning the Withok footprint to its natural state for potential agricultural grazing land use and also meeting environmental performance criteria; and
- ensuring that dust deposits and air quality emissions are within acceptable limits.

Several technical and scientific studies were conducted during preparation of the plan. This was compiled in consultation with national and provincial government departments as well as interested and affected parties (I&APs). The Department of Minerals and Energy (DME), acting as the lead agency in terms of mining legislation, obtained additional input from four other government departments, namely the Department of Water Affairs and Forestry (DWAF), the National Department of Agriculture (NDA); the Gauteng Department of Agriculture, Conservation, Environment and Land Affairs (GDACEL) and the National Nuclear Regulator (NNR). I&APs included both individuals and communities, many of whom were represented by the Ekurhuleni Metropolitan council, the Ergo Community Forum, the Klipriver Forum (comprising local government, private industry and other mining companies) and local farmers.



The technical and scientific studies served two purposes: the first was to identify and quantify the environmental risks posed by the closure of the Brakpan TSF. These evaluations included a dust generation and dispersal assessment; a radiation survey (gold ore in the area contains radioactive uranium); a surface and ground water quality impact assessment; and a study into vegetation methods for the side slopes and top surface of the TSF.

The second objective of the studies was to evaluate whether rehabilitation and mitigation methods which had been proposed would meet the required closure standards, and address issues raised by all stakeholders.

A number of concerns were raised during discussions with the various governmental bodies. For example, the DME raised issues related to the long-term environmental impact of closure; the adequacy of the risk assessment process that had been followed; how the final land use had been determined and how closure costs had been calculated. The DWAF expressed concern about possible future contamination of ground and surface water while the NDA addressed issues related to vegetation, soil and general land conditions. GDACEL expressed concern about biodiversity issues.

Interested and affected parties were primarily concerned about the management of windblown dust, the possible safety risk posed by the central water pond (which will remain on the dam for a period) and the stability of the dam. Other concerns related to the TSF's surrounding infrastructure such as the return water pumping system. Farmers were particularly worried about the status of leased land after final closure. Regular stakeholder meetings, which are documented in the Closure Plan, addressed these concerns and how they would be handled.

Now that the consultation process is complete, the Closure Plan will be submitted to government for final approval. Once approved, a two-year rehabilitation programme will commence, followed by a regular maintenance and monitoring programme, until environmental performance objectives are achieved and a Closure Certificate granted – a process which could take up to 10 years. Until such time, AngloGold Ashanti will be required to conduct ongoing performance assessments in consultation with the aforementioned government departments, and, in the interests of transparency and accountability, will continue to include I&APs in future discussions.

The closure plan for Ergo's other TSF (the Daggafontein TSF) has already been accepted by the regulators and is currently being implemented.



## 7.18 The Blesbokspruit Ramsar wetland site

Situated close to Ergo is one of southern Africa's larger wetlands in the highveld region. Indeed, the once small stream that is the Blesbokspruit developed into a wetland area as a result of the development of mining operations in early years, whose discharge of excess underground water caused localised flooding and created vast stretches of shallow water. In 1986, the catchment was designated as a site for inclusion in the Ramsar 'List of Wetlands of International Importance'.

Ironic as it is that mining operations were responsible for the creation of the Blesbokspruit wetland, they have also been largely responsible, along with industrial development and human habitation, for the subsequent pollution, which threatens the wetland today. Ergo has, however, played a significant role in reducing the level of pollution through its clean-up of surrounding tailings dams, together with its own spillage management programme. However, even if all mining and industry-related impacts were to be mitigated, the wetland will still be affected by the impact of human habitation and the discharge of treated sewage. For this reason monitoring of the Blesbokspruit wetland will continue through the management forum long after Ergo closes.

### Background

The Blesbokspruit Ramsar wetland, which is approximately 1,858 hectares, lies adjacent to Ergo's Daggafontein Tailings Storage Facility (TSF) and is habitat to a significant number of waterfowl, including the yellowbilled duck, spurwinged goose and flamingo.

Wetlands are classified as areas where water is the primary factor controlling the environment and the associated plant and animal life. The Blesbokspruit wetland is a high conservation priority because it forms an important component of one of the tributaries of the Vaal River, which provides water to one of South Africa's largest provinces, Gauteng. Besides being home to many waterbird species, it also has a natural purification capacity for mining, industrial and domestic effluent discharged into the Blesbokspruit River before entering the Vaal River.

However, in 1996, Blesbokspruit was placed on the Montreux Record, Ramsar's monitoring tool, which alerts the Convention to any changes in the ecological character of wetlands. It was classified as an area requiring priority conservation attention since its ecosystem functions were at risk, primarily from pollution and flooding as a result of the closure of the adjacent Grootvlei Proprietary Mines.

As a result, a Blesbokspruit catchment management forum, comprising key stakeholders – mining companies including Ergo, government departments (environmental affairs and nature conservation), an advisory committee chaired by the provincial authority responsible for managing the Ramsar site and interested and affected parties – has formulated a management plan for the area.

Prior to the Montreux Record and stricter environmental legislation, serious spillages occurred from a number of disused tailings dams from the many mining operations dotted on the East Rand. However, these spillages have largely been eliminated since Ergo removed these dams to retreat the tailings, in a process which allowed further extraction of gold. The tailings from this process were deposited in the Daggafontein TSF. A one-kilometre stretch of agricultural land separates the western edge of the TSF and the Blesbokspruit wetland and an unnamed tributary of the Blesbokspruit is located to the south of the TSF. Some tailings reclaimed higher up in the Blesbokspruit catchment also ended up on Ergo's Brakpan TSF.



### What is a Ramsar wetland?

The Convention on Wetlands, signed in Ramsar, Iran, in 1971, is an 'inter-governmental treaty which provides the framework for national action and international cooperation for the conservation and wise use of wetlands and their resources'. There are presently 142 Contracting Parties to the Convention, with 1,393 wetland sites, totalling 122.7 million hectares.



Although spillages occurred while Ergo was in full operation, they had no detectable impact on the Blesbokspruit Ramsar site. This is due to a spillage management procedure introduced by Ergo, resulting in prompt action to prevent spreading of spillage, cleaning up of the affected land and control measures to prevent re-occurrence of a spillage incident. Now in closure phase, a comprehensive Ergo Closure Plan has been drawn up, detailing mitigation measures where impacts of moderate and high significance are predicted in the vicinity of the Daggafontein TSF including the Ramsar site. The plan takes into account the findings of GHT Consulting, which was commissioned in 2002 by AngloGold Ashanti to assess the current and future impacts of the Daggafontein TSF on groundwater and surface water quality.

A detailed technical report was compiled covering many aspects of the impacts of closure. One point was that, without intervention and appropriate management controls, surface water quality may be affected in water bodies close to the TSF, including the Blesbokspruit, due to wash down of tailings or seepage. This, however, would be resolved after decommissioning of the operation when no more water and tailings material will be pumped into the tailings dam, and the implementation of measures to address further potential damage caused by rainfall and erosion. High salt concentrations, into the Blesbokspruit and its southern tributary, are expected to decrease by as late as 2105.

Following comprehensive technical studies to quantify the environmental risk of the TSF, a Closure Plan for the TSF was submitted to, and accepted by, the Department of Minerals and Energy during 2004. The Closure Plan development process involved consultation with all stakeholders including relevant government departments, neighbouring farmers and landowners, mining industry representatives, Ergo and AngloGold Ashanti representatives, and interested and affected parties. Concerns relating to the Blesbokspruit were noted and acted on. For example, a causeway across the Blesbokspruit will be left intact on Ergo closure as it has become an excellent platform from where to observe birds in the wetland. Other issues were dealt with through Ergo's participation in the Blesbokspruit catchment management forum.

The Daggafontein TSF Closure Plan notes that although the water quality, as monitored in the Blesbokspruit, has improved over the years, it is still generally poor, as a result of industry, abandoned mining infrastructure and dispersed sources of water pollution due to human habitation. Even if all mining and industry-related impacts were to be mitigated, the wetland will still be affected by the impact of human habitation and the discharge of treated sewage. For this reason monitoring of the Blesbokspruit wetland will continue through the management forum long after Ergo closes.



## 7.19 Screening level risk assessment – a tool for optimising closure and mitigation strategies at the Big Springs Mill Site

Throughout the world, regulators are reluctant to grant certificates of closure for mining operations. The main concern centres on the uncertainty about the development of any potential future impacts from the site and who then carries the responsibility, and financial liability, for addressing these. By undertaking a risk assessment methodology to identify and predict the likelihood and consequences of any future impact, and thereby provide an improved level of risk assurance, AngloGold Ashanti USA aims to address these concerns in respect of the Big Springs Mill Site.

Part of the USA's operations, the Big Springs project was situated near Elko in Nevada, where operations began in 1988 and ended in 1999. Two gold recovery processes were used during the life of the Big Springs project: one was a conventional CIL (carbon-in-leach) circuit (with associated tailings storage facility) and the other a heap leach process.

Mill site closure and reclamation activities began soon after the cessation of operations, and included the construction and operation of two evapo-transpiration basins (and associated drainfields) to manage the process water associated with the leach facility. Both the basins and the drainfields were constructed as part of final reclamation activities to manage the near-term drain-down (0-3 years) and long-term flow from the reclaimed heap leach pad and tailing storage facility (TSF) (See *Diagram 1*). To address concerns about the long-term risks to the plant communities, livestock, avian and terrestrial wildlife, a screening-level ecological risk assessment (SLERA) was carried out. The aim of this was to provide assurance about the long-term effectiveness of the closure activities and to achieve closure of the project in 2004.

Jonathan Gorman, environmental manager at AngloGold Ashanti (Nevada) Corporation explains the main objectives of the risk assessment:

- to identify the constituents (metals and salts such as antimony, selenium, cobalt, molybdenum, manganese, sulphate, and nitrate) and their concentration in the heap pad and TSF water, as well as the heap pad solids, that could affect vegetation, livestock, and terrestrial or avian wildlife;
- to identify and establish a plant community that would grow (and possibly thrive) if exposed to these metals or salts in the water or soil; and
- to quantitatively and/or qualitatively assess the risks to the vegetation, livestock, or terrestrial or avian wildlife exposed to metals or salts in the water.

The SLERA incorporated site-specific data from five sources, namely process water quality analyses; chemistry of the soils, heap, and tail material; leaching and attenuation testing of the soils, heap, and tail materials; vegetation chemistry and metals bioavailability assessment; and baseline soils, vegetation, and wildlife inventories.

To inform the study, data from risk and closure studies carried out at similar mining sites and agricultural studies with elevated metals and/or salts were used.

The potential impacts to ground water, from the near-term drain-down and long-term flow, from heap pads and TSF had previously been analysed by the company and a consulting firm. This had found that there would be no impairment to potable water supply uses. Attenuation (the process by which metals and salts are adsorbed by the unsaturated soils) and dilution processes (such as seasonal rainfall) in the vadose zone (the unsaturated soils above the ground water table) below the basins (and



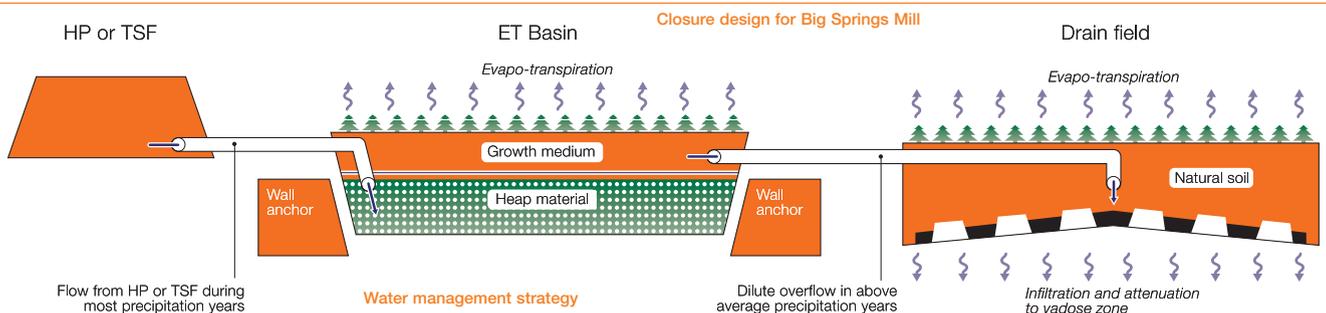
### Definitions:

A **heap leach pad** is a lined facility, with an impervious base, on which a heap of gold-bearing ore is stacked. A high pH cyanide-based leaching solution is then sprayed (or dripped) over the heaped ore dissolving the precious metals as it drains down through the pile. The gold-bearing solution is then collected in drainage sumps and pumped to a gold treatment plant for further processing.

A **tailings storage facility (TSF)** is an engineered dam, designed and constructed as a repository for the ground rock after gold has been extracted in the treatment process. TSFs are usually associated with conventional gold processing plants employing carbon-in-leach, carbon-in-pulp or biox treatment processes. Although the precious metals have been removed, a concentration of other metals and salts can remain in the material.

An **evapo-transpiration basin** is a facility, constructed at closure, which receives water from the reclaimed heap pad or TSF. The basin is typically constructed from an existing plastic-lined pond that is then backfilled with soil and rock. The upper one metre of the basin is constructed with top soil in which a plant community is established. The plants absorb water through their roots and "transpire" water from their leaves, thereby reducing the total volume of water on the heap pads or in the TSF during closure.

Diagram 1



associated drainfields) would reduce all chemical constituents in the drain-down water to drinking water standards, or better.

Three potential exposure pathways (conservative 100% exposure) to the vegetation community were considered (see *diagram 2*), namely: direct contact between heap leach solids and vegetation (via roots); indirect contact between heap leach solids and vegetation (via pore water interaction with roots); and direct contact between heap leach and TSF water and vegetation (through irrigation).

Three potential exposure pathways to wildlife/livestock were also considered (see *diagram 2*), namely: direct ingestion of water by livestock, and avian and terrestrial wildlife; consumption of vegetation (forage/diet) over the basins and drainfields by the livestock or wildlife, where the vegetation has been exposed to the drain-down water; and ingestion of heap material by the selected livestock and wildlife.

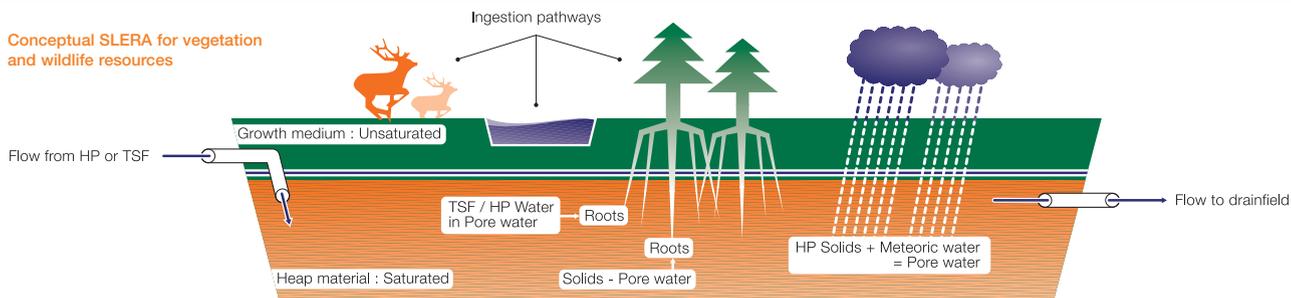
The SLERA concluded that concentrations of arsenic, antimony, selenium, cobalt, molybdenum, and manganese could exceed one or more relevant ecological screening-level benchmark criteria for vegetation for either the water or the solids; and concentrations of arsenic and selenium were the only trace element constituents that could exceed one or more ecological screening-level benchmark criteria for wildlife or livestock for either the water or the solids. Based on the realistic exposure assessment (water and vegetation from the evapotranspiration basins would constitute significantly less than 100% of the exposure) and site-specific data, the risks posed by these constituents under the implemented closure water management strategy were judged to be negligible.

Thus, the SLERA methodologies applied at the Big Springs mill site provide a powerful tool to identify and evaluate ecological risks at mining operations. Based on this realistic risk identification and prioritisation process, AngloGold Ashanti can optimise closure and mitigation strategies, maintain biodiversity, and protect local beneficial uses of the land and water.

Says Andrew Mackenzie, manager, corporate environmental affairs, "This application of the risk assessment methodology does not guarantee that a closure certificate will be granted or that the company will be released from any future liabilities arising at this site. However, it provides significant additional information that will greatly assist in obtaining final site closure. The mining industry will need to continue its negotiations with government in an attempt to develop mutually acceptable mechanisms that provide an acceptable degree of risk assurance and at the same time release shareholders from indefinite future liabilities".

Diagram 2

Conceptual SLERA for vegetation and wildlife resources



## 7.20 Awards for the USA's contribution to pollution prevention

The USA's Denver office and Cripple Creek & Victor Gold Mining Company (CC&V) both received Pollution Prevention (P2) Awards in February 2004 as special recognition for the development of an effective pollution prevention programme in accordance with the Colorado Mining Association's (CMA) Pollution Prevention Code of Practice. The award is endorsed by the Colorado Department of Public Health and Environment (CDPHE) and has been recognised by the US Environmental Protection (EPA) Agency through a 2003 Friend of EPA award .

The award-winning P2 programmes instituted by both the Denver office and CC&V were designed to exceed the requirements of the CMA P2 protocols that deal with chemical management, container (packaging) management, and conservation, recycling, and re-use of waste materials.

The prevention of environmental pollution is of considerable interest in the United States. In 1998, the EPA expanded the Toxic Release Inventory (TRI) programme to include mining and six other industrial sectors. Facilities in the TRI programme are required to report annually on the type and quantities of over 640 different chemicals 'released' to the environment. The TRI program has been used to encourage the reduction in releases and advise the public of potentially hazardous chemicals in their communities.

Says Scott Lewis, (manager environment, USA), "Although these are laudable objectives, the TRI programme was not created with mining in mind. The programme requires that mines quantify and publish reports on 'releases' of TRI-listed chemicals, including those naturally occurring metals in rock (for example, copper, manganese, zinc) that is excavated and moved. The inclusion of even small quantities of naturally occurring TRI-listed metals in rock results in significantly large 'release' numbers at a typical surface mine given the large tonnage of material that is moved. For simplicity and accounting purposes, the TRI programme also assumes that the rock disintegrates and releases all of its metals in the year of placement and we know from observation and experience that this weathering process typically requires decades or centuries, or longer, to release the elemental constituents in rock, if it actually occurs at all.

"The inclusion of naturally occurring metals in rock in the TRI programme has resulted in CC&V being at or near the top of the list of reported 'releases' in Colorado since entering the programme in 1998.

"Applying standard pollution prevention at mines to reduce these 'releases' is difficult at best. The only real way to reduce reported 'releases' associated with waste rock is either to modify the mining methodology from surface to underground or to stop mining. Obviously, neither option is appropriate or feasible. As such, CMA worked with CDPHE to develop a P2 program that takes into account the excellent work being done at mines to reduce or prevent pollution."

The P2 Code developed by CMA and the programmes implemented by the USA operations highlight the many positive features of the initiatives that have been voluntarily adopted and helps to put TRI reporting into perspective.



positive impact • life cycle • social investment • participation • consensus  
• sustainable economic development



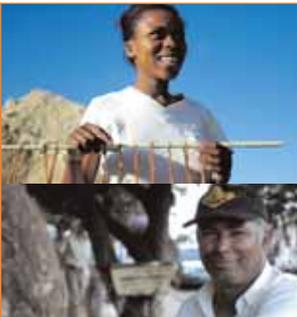
# Community

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## C2 | 1 AngloGold Ashanti in the community

- AngloGold Ashanti's aim is to have a **positive impact on the people, cultures and communities** in which it operates. Accordingly, AngloGold Ashanti will be respectful of local and indigenous people, their values, traditions, culture and the environment.
- We will strive to ensure that surrounding **communities are informed** timeously of, and where possible, are involved in developments which affect them, throughout the lifecycle of our operations.
- We will undertake **social investment initiatives** in the areas of need where we can make a practical and meaningful contribution. In particular, we will contribute to those areas of education and health care which are relevant to our business activities, and those most likely to be sustainable once our operations have come to a conclusion in that community.
- The company will encourage its employees to make themselves available for **participatory and leadership roles in community** activities.
- We will seek to acquire and **use land in a way which promotes the broadest possible consensus** among interested people. Where involuntary resettlement is unavoidable, we will abide by appropriate guidelines for resettlement, where they exist, and in any event will work with the local communities to develop workable plans for any resettlement which may be necessary.
- We will strive to **contribute to the sustainable economic development of host communities** through procurement activities; the contribution of redundant assets to the community; assistance in the establishment and growth of small- to medium-sized sustainable enterprises; and the outsourcing of goods and services from local vendors where appropriate.



## 2 Key indicators:

- Formal social investment/community development programmes are in place at all operations. These are overseen by a group social development manager, and reported to the board committee on safety, health and sustainable development on a quarterly basis.
- Social investment and community expenditure amounted to \$7.429 million in 2004. Since social investment and community initiatives often also form part of the operating budgets, expenditure may be under-reported.
- The board committee on safety, health and sustainable development ratified the adoption of the International Finance Corporation's (IFC) Resettlement Policies, Guidelines and Standards for implementation at all managed operations and joint ventures. (See *resettlement policy statement alongside*).

### Social investment spending per region in 2004

Region	(\$ 000)
South Africa	
Corporate office	1,143
AngloGold Ashanti Fund	2,519
Operational expenditure	146
Ghana	635
Tanzania	808
Mali	622
Guinea	199
Namibia	257
South America (Brazil and Argentina)	727
USA	245
Australia	128
<b>Total</b>	<b>7,429</b>

**Note:** Community issues form an integral part of the responsibility of the safety, health and sustainable development committee of the board. While the group's social investment initiatives stretch back over many years, the group is in the process of more effectively integrating the management of these activities. While the Board committee receives a formal update of activities on a quarterly basis, the requisite systems are not yet in place that allow for a meaningful level of assurance of these activities. This was exacerbated by the integration of the Ashanti operations during the year. It should be noted though that the expenditure at an operational level forms part of an annual financial audit of operations and that the AngloGold Ashanti Fund (which represents the majority of social responsibility spending by the group) is independently audited. Also, many of the projects supported are themselves audited on an individual basis.

### Resettlement policy for AngloGold Ashanti

#### Policy objective

The objective of the policy is to provide good practice operational guidance with regard to the resettlement of involuntary displaced communities in line with our existing business principles.

AngloGold Ashanti's existing Business Principle on land usage states:

*We will seek to acquire and use land in a way which promotes the broadest possible consensus amongst interested people. Where involuntary resettlement is unavoidable, we will abide by appropriate guidelines for resettlement, where they exist, and in any event will work with the local communities to develop workable plans for any resettlement which may be necessary.*

#### Policy approval, applicability and review

The International Finance Corporation's Resettlement Policies, Guidelines and Standards

Our aim is to avoid involuntary resettlement to the extent feasible, or to minimise and mitigate its adverse social and economic impacts, where no other options exist. The IFC's policies, guidelines and standards on Involuntary Resettlement promote participation of displaced people in resettlement planning and implementation, and its key economic objective is to assist displaced persons in their efforts to improve or at least restore their incomes and standards of living after displacement. It goes on to prescribe compensation and other resettlement measures to achieve its objectives.

Accordingly, these policies, guidelines and standards have been formally adopted for implementation at all managed operations, including joint ventures.

The policy will be reviewed as necessary, including any time that the IFC makes changes.

#### Actions stemming from the policy

In line with the spirit of our business principles and in keeping with best practice, AngloGold Ashanti will seek to avoid relocation where possible. And where evidence that relocation is unavoidably required by a project, it will take place in accordance with our business principles, local legislation and the IFC's policies, guidelines and standards on Involuntary Resettlement. Where such resettlement takes place under specific, current, local legislation, the local legislation will take precedence.



## C4 | 3 Milestones 2004

**Australia**

- During 2004, Sunrise Dam commenced an indigenous supply initiative, aimed at encouraging indigenous business from the local area to get involved in tendering for services associated with the mine.

**Group**

- Alignment of the social investment and community policies of AngloGold and Ashanti following the business combination in April 2004. A workshop was held in November 2004, in Ghana, for social investment and community managers from the developing countries within the group to improve knowledge-sharing and facilitate the integration of the operations in Ghana and Guinea.
- Launch of 'Social Development Toolbox', a guide to AngloGold Ashanti's community practices.

**South Africa**

- In South Africa and its traditional labour-sending areas, where the majority (69%) of employees are based or originate from, the AngloGold Ashanti Fund and Trust has invested R16.148 million (\$2.59 million) (2003: R15.5 million or \$2.42 million) in a vast range of projects/institutions. (This includes the management fee.)
- Businesses supported by the Small and Medium Enterprise Development Initiative (SMEDI) achieved a turnover of R696 million (\$93 million) in 2004 (2003: R15.5 million). SMEDI has set up 172 businesses since its formation in 1998, with an accumulated turnover of more than R500 million (\$78 million). The initiative has facilitated the creation of more than 3,000 jobs.
- The Masakhisane Fund, which provides capital to SMEDI supported-businesses, disbursed R1 million largely to HDSA ventures during the year, providing them with access to seed funding for commercial ventures.
- Give-as-you-earn and employee volunteering programmes were implemented at the corporate office, with plans to extend this to the South Africa region being put in place.
- The South Africa region submitted its social and labour plans for all its South African operations (excluding Ergo, which will cease operations in March 2005), in line with the Mineral and Petroleum Resources Development Act (MPRDA).
- The Masifunde Fund, which is an Education Trust established for the children of employees and contractors fatally injured at AngloGold Ashanti operations in South Africa, disbursed some R262,000 in 2004.
- Good progress has been made with both consultation and social-impact mitigating initiatives surrounding the closure of the Ergo operations. Located in Gauteng, this 25 year-old operation is due to cease operations in March 2005.



### Brazil

- An employee volunteer programme – Holding Hands – was launched at AngloGold Ashanti Mineração in 2004. (See case study: *Holding hands – the volunteer programme in South America on page C21.*)

### Ghana

- The three-year \$1.162 million malaria prevention programme that is being implemented at Obuasi is likely to have a significant impact on the region. Currently, an average of 6,000 new malaria cases are treated every month at the mine hospital – some 40% of new admissions; 27% of these are employees, 40% their dependents and 33% community members.
- \$87,000 (50% spent in 2004) for an alternative livelihood project undertaken in conjunction with the Centre for Biodiversity Utilisation and Development at the Kwame Nkrumah University of Science and Technology.

### Guinea

- In Guinea, AngloGold Ashanti's Sigiri mine allocates 0.04% of the mine's revenue for social investment and community relations projects, amounting to \$199,000 in 2004.

### Mali

- An Integrated Development Action Plan (IDAP) is being implemented at the Sadiola and Yatela operations in Mali. Some \$1.22 million has been budgeted for the implementation plan over the next three years. (See case study: *Integrated Development Action Plan for Sadiola and Yatela on page C24.*)
- A multi-stakeholder workshop was held at the Sadiola/Yatela operations in Mali in October 2004.

### Tanzania

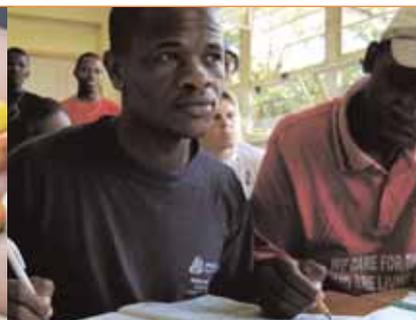
- In June 2004, Geita mine in Tanzania once again undertook the Geita Gold Mine Kilimanjaro Challenge Climb Against HIV/AIDS, with employees, suppliers and community members climbing the highest mountain in Africa to raise funds for, and awareness of, people with HIV/AIDS. A total of \$150,000 was collected from this year's climb and donated to eight different HIV/AIDS organisations.

### United States

- The North America region continues to run one of the most successful volunteering programmes in the group, with employees donating some 2,500 hours to the community during the year.

### Relationship with the Government of Guinea

Government embargoes on the sale of gold and the import of fuel implemented during the second quarter of the year had a significant impact on production. The embargoes were subsequently lifted and discussions with government relating to certain disputed claims and the renegotiation of the Convention de Base continue. Further information relating to this can be found on the company's website at [www.anglogoldashanti.com](http://www.anglogoldashanti.com).



### Structure and governance

The safety, health and sustainable development committee of the board has as its brief the evaluation of social, economic, environmental and health impacts of the company's operations on communities globally. The committee comprises two non-executive directors, Bill Nairn (chairman) and Dr James Mottlasi, and the chief executive officer, Bobby Godsell. Members of management, including the chief operating officer, Dave Hodgson, are invited to participate, as well as John McEndoo (safety), Dr Dave Barnes and Dr Brian Chicksen (health), Andrew Mackenzie (environment) and Paul Hollesen (community).

The management of community issues at an operational level falls under the auspices of the chief operating officer, who is supported by line management. In many cases, particularly in Africa, initiatives are undertaken collaboratively with non-governmental organisations (NGOs).

In **South Africa**, the largest part of AngloGold Ashanti's corporate social investment programme is undertaken by the AngloGold Ashanti Fund and Trust. Overseen by a board of Trustees, the fund is managed by Tshikululu Social Investments (TSI), a non-profit organisation, which also manages the Anglo American, De Beers and a number of other companies' social investment funds. Increasingly, the Trustees are supported by local area committees at the operations, which are closer to and can be more responsive to the more immediate needs of the community. Mine management has oversight of social investment spending.

### Impact on people and communities – policies and procedures

AngloGold Ashanti is committed to having a positive impact on the people, cultures and communities in which it operates. It is the group's philosophy to be respectful of local and indigenous people, their values and traditions, culture and the environment, and this is demonstrated in many of the case studies in this document.

Because exploration and mining frequently occurs in remote areas, or regions where there is very little other economic activity, its relative impact is often heightened. These impacts need to be considered at the exploration stage, right through to operation and eventual closure. A range of potential impacts and mitigating measures are identified during the Environmental Impact Assessment (EIA), and mitigating measures are then incorporated into the Environmental Management Plans (EMPs) over the operation's life-of-mine. Case studies that demonstrate this are as follows:

- During exploration:  
*Generating new ounces – doing business in new places in the Economic Performance section on page EP9.*
- During operation:  
*Local community development a key issue for sustainable development on page C22.*
- During downscaling:  
*Reducing the trauma of retrenchment at Savuka in the Labour section on page L32.*
- During closure:  
*Closure consultation with communities at Ergo on page C29 and Ergo programme focuses on maths and science education on page C30.*

AngloGold Ashanti's values and business principles guide the group's relationships with communities. In addition, a number of operations may have specific community policies in place developed for their particular circumstances and in collaboration with employees and/or interested parties, but these are never in conflict with the overriding group policy. An example of this is the Community Policy in place in the Australia region. This policy was reviewed by a group of key external stakeholders in July 2003, and will be reviewed again in 2005.

Particularly during exploration activities, employees and contractors in the **Australia** region deal with diverse cultures. Many legal requirements exist which dictate minimum standards for exploration and mining activity and are reflected in standard operating practices. Together with the safety, health and environment policy, a number of community programmes and practices have been put in place to support these activities (see box).

#### Dealing with different cultures in Australia

- Cross-cultural training for new AngloGold Ashanti employees and contractors (both in Perth and at Sunrise Dam) as part of their normal induction. The course is aimed at demonstrating the links between Aboriginal culture and the local environment, as well as at demystifying some of the differences between Western and Aboriginal cultures.
- Project and specific induction for field staff and relevant mine site personnel, highlighting safety, environmental and community aspects that may be impacted upon by the company's exploration and mine site activities.
- Field staff are trained to recognise Aboriginal archaeological sites, flora, fauna, and geomorphologic features that have a higher probability of being areas of cultural significance.
- Ethnographic and anthropological consultation is carried out with local indigenous people prior to commencement of significant exploration and mining activities. This practice is designed to mitigate any damage to potentially significant sites.
- Compliance with voluntary codes of practice for the exploration industry, such as activities on pastoral leases, on Aboriginal lands and in environmentally sensitive areas; and
- Local community capabilities are assessed to identify opportunities for supply of services.

In **North America**, AngloGold Ashanti operates in a highly regulated environment where the legal regime encompasses, among others, indigenous people, archaeological and cultural resources. Permitting procedures for any new developments or expansions are rigorous and no specific country-specific community policy exists. In addition to compliance with these policies, the mine participates in local initiatives and debate, such as the Southern Teller County Focus Group, which aims to bring tourism to the district.

The Mineral and Petroleum Resources Development Act (MPRDA) which came into effect in **South Africa** in May 2004, requires that all mining operations submit and adhere to a social and labour plan, including work programmes, as a pre-requisite to the granting of new order mining rights. (All mining operations have to apply for conversion of so-called old order mining rights into new order mining rights.)

The East and West Africa region, which comprises the Morila, Yatela and Sadiola mines in **Mali**, the Geita mine in **Tanzania**, and the Navachab mine in **Namibia**, has developed a regional strategic plan and environmental operating practices manual to guide social investment and community initiatives. The manual covers aspects such as legal and corporate governance, sustainable development, social investment, partnerships, procurement, stakeholder planning, land management and rehabilitation, media strategy and reporting, among others. In addition to the internal monitoring of compliance with these guidelines, regular socio-economic impact studies are conducted by independent consultants.

The **Ghana and Guinea** operations have adopted the AngloGold Ashanti group policy on community relations. The region abides by the guidelines set by the local Environmental Protection Agency (EPA) and the Mines Inspectors' Department. The EPA approves all Environmental Management Plans and Environmental Impact Statements after consultation with stakeholders. Close contact is maintained with the chiefs and traditional authorities, showing respect for local norms and customs. In Ghana, this includes paying homage – particularly to the Asantehene, the king of the Asante – at significant events. Good relationships are maintained with the District Heads in Ghana and the Prefecture in Sigiri. Structures are also in place for members of the community to lay complaints and air grievances. These are then investigated by community development managers and appropriate action taken.

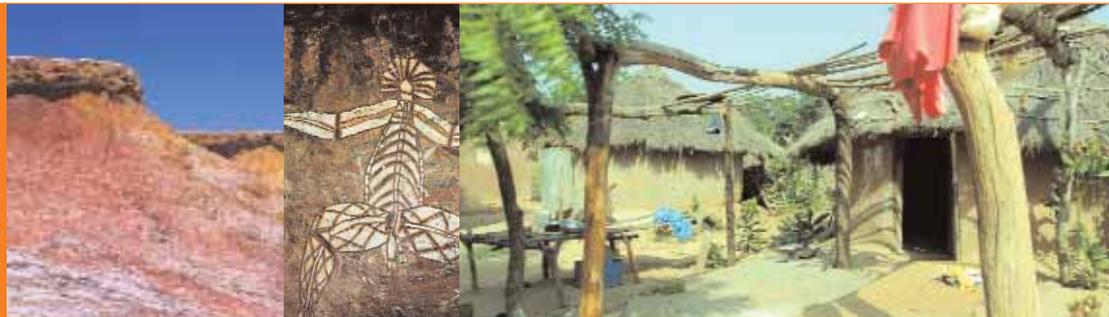
### Involvement of communities

The need to, and the process of, informing communities timeously of any potential impacts and maintaining their involvement throughout the operational life cycle is enshrined in the law of many of the countries in which the group operates, and is another fundamental commitment made by the group.

In the **North America** region, for example, stakeholder identification and engagement is formalised under the National Environmental Policy Act when public lands or federal permits or approvals are involved. When not triggered, other community outreach processes may be followed such as local land use planning and state permit hearing processes. These processes were used in part to explain the recent Cresson mine expansion project to local community stakeholders as well as to engage government agencies. The company also engages with the community informally by encouraging employees to actively participate in community affairs, both in terms of time and leadership roles. Presentations on mining activities and impact mitigating measures are also presented regularly at both informal meetings and visits and formal public gatherings.

#### Aims of community relations policy in Ghana

- To conduct our affairs with a high sense of responsibility towards the environment and to manage our activities with prudence as we increasingly pursue the amelioration of the negative impact of our activities on the respective communities.
- To strive to ensure peaceful co-habitation and a relationship of trust with the communities through the recognition of each community's peculiarities, and a creative relationship between the mine and the employees on the one side and the people of the communities on the other.
- To seek to support relevant programmes and initiatives to develop and improve the living standards of employees and communities around our operations by identifying community expectations of our activities and integrating these into our broad management processes and objectives.



In the **South Africa** region, community involvement and interaction with local, regional and national authorities is extensive and ongoing. This was particularly so during 2004 as the company prepared its submission for new order mining rights. As an example, during the year, company representatives participated in a series of workshops with the West Rand District Council regarding alignment with the MPRDA, and requirements relating to the development of service delivery focus areas in accordance with regional Integrated Development Plans (IDPs) as required by the Mining Charter. Other councils with which the company interacted are the Southern District Council (Klerksdorp), the Mqohaka District Council (Viljoenskroon/Kroonstad) and the Ekurhuleni Mining Forum (near Ergo). The process surrounding the closure of Ergo in March 2005, which is covered extensively in this document, is also an example of this.

Business unit personnel also engage regularly with community stakeholders through local chambers of business, AngloGold Ashanti Fund Local Area Committees and various community and charity forums. More formally, the company communicates with local communities at large in open briefings on the company's quarterly results and other issues. This is hosted in the three regions by the executive officer responsible for the South Africa region and the relevant general managers. Community members then have the opportunity to ask questions.

In **South America**, there are a number of programmes in place for interaction with community representatives, local development agencies, other companies, municipal authorities, district associations and others. A call centre is available to register community complaints and requests. Surrounding communities are kept informed about operational developments, particularly life-of-mine plans, through frequent meetings and other forms of communication such as bulletins.

Extensive stakeholder engagement structures exist at the African operations in **Mali, Tanzania and Namibia**. Stakeholder engagement, including relations with government, media, organised business and the communities themselves, is the responsibility of the business unit manager in the region. Mine management plans to meet formally with the local community structures at least once per month and briefing of local media takes place at least twice a year.

A Public Consultation and Disclosure Plan (PCDP) was developed for the Sadiola and Yatela mines in **Mali** to manage community development projects and to ensure their implementation in a sustainable fashion. The process followed in the development of an IDAP being put in place at Sadiola in **Mali** is an example of the engagement process being adopted in these regions.

The Annual Stakeholders Consultation Workshop held at the Sadiola mine in September 2004 brought together 120 participants from the local communities, regional and national government representatives, national and international NGOs, representatives of the media, mine management and representatives from AngloGold Ashanti and the International Finance Corporation. The main objectives of the workshop, which were largely achieved, were the review of progress since the last stakeholder workshop in 2003, the presentation of the findings of the IDAP and the identification of closure issues.

#### Klerksdorp Methodist Primary School

The Klerksdorp Methodist Primary School, which began as an after-care centre for disadvantaged children 17 years ago, celebrated a milestone in March 2004 with the official opening of new facilities provided by the AngloGold Ashanti Fund. Built at a cost of R1.34 million (\$210,000), the new facilities include five classrooms with accommodation for 150 pupils, a computer centre and an administration block.

When the after-care centre was started in a private home in Klerksdorp in 1987, extra lessons were offered. Such was the success of this venture that in time it led to the establishment of a primary school on the premises of the Methodist Church in the town. Buildings belonging to the church were used until 1998 when the first three classrooms were constructed. Further classrooms were added in 2000 and 2001.

Given the rapid growth in enrolments over the last few years – from 254 pupils in 2000 to 420 this year – the school needed to expand once again and approached the AngloGold Ashanti Fund for assistance. Pupils from the school are accepted by leading high schools in the area. Apart from the academic standards it sets, the Klerksdorp Methodist Primary School encourages extra-mural activities. The school has two choirs and offers piano and flute lessons with pupils participating in Eisteddfods and other cultural events. It also boasts a chess team that competes at school and provincial level. All the children are given the opportunity to learn basic computer skills while remedial classes are available for those who struggle with competency in the English language.



Another example of this relationship has been the ongoing involvement of communities in water management at the Sadiola and Yatela mines. An inclusive water committee that will oversee regular water testing and the development of plans in conjunction with the mine, for the sustainable provision of water, will be introduced. In this regard a dedicated epidemiological study has been undertaken.

At Geita in **Tanzania**, community workshops were held in six villages surrounding the mine – Nyakabale, Saragulwa, Mgusu, Samena, Mpomvu and Nyankumbu – with the aim of improving relationships, establishing a community profile and developing an understanding of the mine's business. The mine also hosted stakeholder orientation visits from Geita-based secondary and primary schools, religious organisations, engineers from the Mwanza regional and Geita district offices and the Tanzanian Commissioner for Mineral Resources. In August, Geita participated in an Investors' Forum held in Mwanza, hosted by the Tanzanian Vice President and which was well attended by foreign and local investors, representatives of international institutions, distinguished public figures, members of the diplomatic corps and media. The Forum deliberated on issues affecting the investment climate in the lake zone and in the country in general.

In **Ghana**, public consultation and disclosure guidelines underpin the community relations process. Monthly meetings are held with consultative committees comprising the traditional chief or head of the community, two community elders, a female community leader, a youth representative, representatives from NGOs and a representative from the district authority. The region is also an active member of the Chambers of Mines in Ghana and Guinea.

In **Australia**, AngloGold Ashanti has developed communication strategies for managing and consulting with key stakeholders. Local government and relevant state government departments are kept apprised of activities through normal mining activity processes. Sunrise Dam is an active member of the Laverton shire and regularly hosts shire council meetings on site. For aboriginal lands, it is standard practice to conduct annual community meetings to discuss current and planned mining activities.

### Social investment initiatives and expenditure

In line with its business principles, social investment initiatives are aimed at making both a practical and meaningful contribution in those areas of greatest need. This varies from region to region, and operation to operation. In **South Africa**, there is a focus on education and health care, particularly HIV/AIDS; in East and West Africa, education, health care and economic development are priorities, while in North America community initiatives take priority.

In the **USA**, funds are made available at both a corporate and operational level. Specific initiatives during 2004 at the corporate level included support for political organisations, ballot education initiatives, and mining-related educational causes; at CC&V specifically, initiatives included health and safety projects, environmental projects, projects related to arts, culture and heritage, youth and education projects and general community projects.



In **South America**, social investment initiatives are mainly undertaken in the communities surrounding current and past operations. These include the following:

- *Education*: this includes 60 annual scholarships for intermediate level schooling and courses in administration at SEBRAE Technical Management School, particularly for underprivileged students; investment to date in this initiative amounts to some \$21,200.
- *Community development*: this includes the building, equipping and management of an environmental centre in Santa Bárbara, near the Córrego do Sítio project, at a cost of some \$115,000. The centre was completed in June 2004 and aims to provide environmental education for school children and the local community. Similar centres have been established at Nova Lima and Serra Grande. During the year the company also participated in the restoration of the old municipal theatre in Nova Lima at a cost of some \$126,000. A project to restore the old Gold Museum in Sabará was also funded.
- *Health care*: projects included financial support to the health department in the town of Raposos, equipping and furnishing a new paediatric centre in Minas Gerais, Brazil. In Argentina the San Julian hospital was rehabilitated and a refrigerator for the storage of vaccines was purchased.
- *Socio-economic development*: this included support for the dressmakers' co-operative in Raposos (see box on page C16) and contributions to Carnival festivities to promote tourism in the State of Minas Gerais. Other initiatives included the funding of various development agencies (See case study on *Local community development a key issue for sustainable development on page C22*) and the partnership with Micromina – FIEMG, Minas Gerais Industry Federation, which finances local small-scale entrepreneurs.
- *Sports*: supporting participation in sports included sponsorship of the Villa Nova Athletic Club football team and sponsorship of 30 children at the Crixás football school, amongst others.
- *Environment*: contributions to funding of the environmental rehabilitation of the Rio da Velhas basin, along with other companies.

In **Australia**, management of funds and programmes is primarily undertaken at a local level, with each area managing its local community and indigenous relations, with funding and support budgeted for in advance.

- *Social* investment initiatives are concentrated on communities surrounding the exploration activities and the mining site.
- *Education*: support for Mt Margaret mission school facilities, All Saints College and local Laverton school administration.
- *Health*: a variety of projects are supported around Laverton and Sunrise Dam. These include Royal Flying Doctor service, medical support to local doctor, Laverton volunteer fire and rescue service and the Princess Margaret Children's Hospital
- *Social/Sport*: support for local Laverton aboriginal sport teams and the Laverton Leonora Cross Cultural Association group.

In **South Africa**, social investment initiatives are undertaken in the areas of need where the group can make a practical and meaningful contribution at two levels:

- first, the AngloGold Ashanti Fund and Trust disbursed some R16.148 million (\$2.59 million) in 2004 to about 100 projects across southern Africa. (This amount includes the Fund's management fee.) The fund is managed by TSI, which studies and makes recommendations to a board of trustees on social giving. (See case study on *Making a difference – the AngloGold Ashanti Fund and Trust on page C28.*) TSI is supported in its endeavours by local area committees which also make grants and recommendations to the Trustees.
- second, the various operations have their own social investment budgets to respond to more immediate local community needs that are spent independently of the Fund. Collectively these amounted to R933,667 (\$145,658) in 2004.

The corporate office also funded a number of initiatives and organisations at a cost of some \$1.1 million (R7.05 million). These included:

- contributions towards Business Against Crime;
- sponsorship of the Tall Horse project (see box overleaf);
- sponsorship of the Aardklop festival;
- contributions to the SA Business Coalition on HIV/AIDS;
- support for the Centre for Sustainability in Mining and Industry at the University of the Witwatersrand; and
- various political donations.

The focus in the African operations continues to be education, health care and agriculture.

A development foundation is being established at the Sadiola and Yatela mines in Mali to manage community development projects and to ensure their implementation in a sustainable fashion. A bursary scheme implemented in Mali in 2004 will fund the studies of 10 top school leavers at South African tertiary education institutions in 2005 in mining, engineering, environmental studies and geology. (See case study in labour section of the Report to Society 2004). Some of the projects that the operations supported include training of newly elected Sadiola district councillors; assistance with polio inoculation by the Sadiola Commune Health Centre; a locust-fighting campaign; and sponsorship of a tourism day in Mali.

At the end of 2002, the Morila mine in **Mali** established a development foundation, donating \$500,000 as initial seed funding. A local NGO, Aserni (Association d'Etude et de Mise en Valeur des Ressources Naturelles et des Institutions), completed a socio-economic review of the region and community around the mine. The report will form the basis for the mine's community development strategy. These social aspects will be incorporated into the mine's closure plan which is to be compiled with the assistance of Aserni. Social investment initiatives during the year include contributions to schools in Sanso and Domba, the sponsorship of a health awareness programme in Sanso, support for International Women's Day celebrations, various Sanso traditional ceremonies and independence day celebrations and local economic development projects including a market garden and rice fields at Fingola and Morila.

Also during the year, malaria control spraying was completed at Sanso village, as well as at the Morila mine prior to the commencement of the rainy season. The Morila mine community health educator joined the spray teams, giving malaria education as the teams went through the village. Unfortunately the use of impregnated mosquito nets by the community remains poor, despite an awareness campaign to promote them.

In **Namibia**, the focus of funding continues to be the Karabib Private School, which is a centre of educational excellence in the area, alongside other, smaller donations. In addition, two agricultural projects have been identified at Karabib and Usakos.

### Victor City Hall renovation – CC&V adds the finishing touch

The historic city of Victor is near one of the areas where gold was first found in the 1890s and is the location of the North America region's CC&V administration offices in a building renovated for this purpose. So it was no wonder that when the current mayor of Victor, Kathy Justice, needed assistance in completing the renovation of the City Hall and inclusion of a visitors' centre, that she turned to CC&V.

The remodelling and renovation project was started in February 2003 with funding from a variety of sources. In a unique touch, Mayor Justice hired local artist Noel Wallace to complete decorative painting inside the building. After seeing Mr. Wallace's work, Mayor Justice wanted to include a mural of Bison Reservoir, Victor's water supply source, on the otherwise blank but highly visible wall of the fire station next door to the City Hall. The mural, however, was not included in the renovation budget, nor Victor's annual budget and so Mayor Justice appealed to CC&V for help. Says Ron Largent, VP and general manager, "CC&V considered it an honour to be involved in such an important project for the City of Victor and gladly contributed the approximately \$7,500 for the mural."

Renovations were completed in 2004 and a dedication of the renovated building was held on June 14, 2004. The beautiful representation of Bison Reservoir has been popular, and the 104-year old City Hall is now a destination for tourists interested in the history of the area.



At the Geita mine in **Tanzania**, contributions to health care and education make up the bulk of social investment spending. These include:

- *education and training*: facilities were constructed at the Bukwimba Secondary School, Kamena Secondary School and the Katoro Secondary School.
- *health*: This includes the flagship annual voluntary initiative by the company, the Kilimanjaro Challenge Climb against HIV/AIDS. Geita also supports the local NGO AMREF, the AIDS centre in Geita Town and contributed to the mercy mission by Australian plastic surgeons who operated on 11 Geita children. (See case study: *Geita community benefits from Australian surgical mission to Tanzania on page C32.*)
- *donations* include assistance given to the Media Council of Tanzania to assist in meeting the expenses in hosting the International Media Councils Conference.
- *local economic development* projects include the Nyakabale agro forestry project – which has now been extended to chicken farming – and the Nyankumbu brick-making project. (See *Report to Society 2003*).

In **Ghana**, community relations efforts are focused on education, health care/sanitation and agricultural projects.

At Iduapriem in Ghana, some of the major projects undertaken during the year include:

- *health care/sanitation*: provision of primary health care and care for the community of some 7,400 people continues. The construction of two toilet blocks for the Mile 7 and Nkwantakrom, Acheampong, Domebra and Kofi Ahantakrom communities at a cost of \$15,000 will benefit about 700 people.
- *electricity*: the first phase in providing electricity to about 500 local rural residents at the Wassa West – Mile 7 village has been completed at a cost \$19,000.
- *water*: the design and installation of filters to remove naturally-occurring manganese and iron from borehole water at the Mile 7, Adieyie, Nkwantakrom, Teberobie and Adisakrom villages to the benefit of some 4,000 residents.
- *education*: the construction of a new six-classroom school building (to accommodate 240 learners) at Abompuniso (at a cost of some \$41,000) will replace the existing dilapidated structure.
- *agriculture*: a snail farming venture is being piloted in the Iduapriem area.

Obuasi's role in its community is all-encompassing and it is difficult to separate community initiatives from the 'normal' operation of the mine. Two significant developments that were initiated during the year are:

- the \$1.235 million upgrade being planned for the Edwin Cade Memorial Hospital. (See case study: *Upgrade planned for the Edwin Cade Memorial Hospital at Obuasi in safety and health section on page SH25.*) The hospital currently provides health care to more than 70,000 people within the community. Going forward the hospital's priority will be to preferentially care for employees and their dependents, although members of the community may use the facilities for a nominal fee.
- the three-year \$1.162 million malaria prevention programme that is being implemented at Obuasi is likely to have a significant impact on the region. Currently, an average of 6,000 new malaria cases are treated every month at the mine hospital – some 40% of new admissions; 27% of these are employees, 40% their dependents and 33% community members.

### Tall Horse project

From September to October 2004, South Africa's Handspring Puppet Company, in collaboration with the Sogolon Puppet Troupe of Mali, dancer and choreographer Koffi Kôkô of Benin, New York-based playwright Khephra Burns and South African director Marthinus Basson produced a new play called Tall Horse, which was funded by AngloGold Ashanti and the National Arts Council of South Africa.

The play showcases one of Africa's oldest puppetry traditions – the Bambara puppetry of Mali – which was given a contemporary interpretation in Tall Horse, the story of an African giraffe captured in Sudan and delivered as a gift to the King of France. Tall Horse is a multi-media production with a combination of puppets, live actors, costumes, music, video projection as well as dance and is the product of a long and rich interaction between Handspring Puppet Company in South Africa and Mali's Sogolon Puppet Troupe. Both countries are home to extensive AngloGold Ashanti operations.

Says Steve Lenahan, Executive Officer, AngloGold Ashanti: "We learned about the project at an early stage, and our interest was immediately piqued. This was not only because the production arises out of artistic collaboration between the South and West of Africa, but also because it tells the story of how an African 'native' – the giraffe – captured the imagination of Europe. AngloGold Ashanti is a company rooted in Africa, but with global aspirations. This exciting collaboration between African countries, with the potential to show the world what riches are contained here, excites us and mirrors much of how we see and conduct ourselves as a business."



One of the main social investment projects at Obuasi this year was the alternative livelihood project undertaken in conjunction with the Centre for Biodiversity Utilisation and Development at the Kwame Nkrumah University of Science and Technology. The project involves the provision of training and financial support for the cultivation of grasscutters, snails, mushrooms and vegetables primarily at the village of Ayunfuri. The group is spending \$5.6 million over a five year period on community development initiatives and in the fostering of alternative livelihoods. The construction of the Adubirem Junior Secondary School was completed in July 2004 at a cost of some \$32,000, while the water supply well provided for the people of Okyerekrom, near the Gyanbunso pit, was also completed during the year.

In respect of health care/sanitation, Bibiani mine has financed the construction of public toilet facilities for the people of the Bibiani old town at a cost of some \$15,000. Three boreholes have also been provided – two at Mpasatia and one at Bibiani old town – which will benefit more than 600 people, mainly farmers.

The mine's community farms at Bibiani and Anwhiaso have employed 28 young trainees who were previously involved in artisanal mining activities, as part of the group's alternative livelihood programme. Some \$14,000 was spent on similar youth programmes in 2004.

In **Guinea**, AngloGold Ashanti's Sigiri mine allocates 0.04% of the mine's revenue for social investment and community relations projects, amounting to \$199,000 in 2004. Some of the main projects in 2004 are listed below.

- The mine is currently financing the construction of the Boukaria mosque in the predominantly Muslim district of Kintinian. Work started early in 2004 and the \$50,000 project is expected to be completed in 2005. In addition to being a place of worship, the mosque is also the main Koranic school in the region.
- As part of a project to reconstruct the district capital, the mine is funding the development of a public cemetery in Sigiri Town at a cost of some \$45,000.
- Sigiri is also funding the establishment of a community radio station – including the construction of a studio and offices at a cost of \$35,000. The radio station is to be used to create awareness among the community of diseases and their prevention (such as malaria, HIV/AIDS, tuberculosis (TB), sexually transmitted diseases (STDs), etc) and other issues that have an impact on the lives of the community.
- The mine also spent \$32,000 in 2004 on the expansion and modernisation of the Sigiri Sports Stadium.



### Participatory and leadership roles in communities

AngloGold Ashanti actively encourages employees to make themselves available for participatory and leadership roles in their communities.

The **North America** region has a long-standing volunteer programme in place where 31 employees (10% of eligible workforce) volunteered a total of 2,500 hours of community service during the year. Employees are rewarded with one hour of paid time off for each three hours volunteered for community groups, and one hour off for each two hours volunteered for governmental positions, up to a maximum of 40 hours paid leave per year. Activities ranged from Little League coaching to assisting in local nursing homes and blood drives by the volunteer fire departments. Since inception in 1996, CC&V employees have donated over 5,000 hours per annum.

In June 2004, Geita mine in **Tanzania** once again undertook the Geita Gold Mine Kilimanjaro Challenge Climb Against HIV/AIDS, with some 48 people climbing the highest mountain in Africa to raise funds for and awareness of people with HIV/AIDS. A total of \$150,000 was collected from this year's climb and donated to eight different HIV/AIDS organisations.

In **South Africa**, a 'give-as-you-earn' and matched volunteerism programme was piloted at the corporate office during the year. (See case study: *Hearts of Gold programme launched in South Africa on page C23.*) The programme is currently being rolled out at an operational level.

The Holding Hands initiative was launched in **South America** in October 2004. (See case study: *Holding Hands – a volunteer programme in South America on page C21 of this report.*)

The **Australia** region has policies and practices that encourage its employees to participate in leadership roles in their local communities. Making this work at Sunrise Dam is challenging, owing to the fly-in, fly-out working arrangements, but efforts are made to support employee involvement in volunteering activities. Nonetheless, Sunrise Dam employees have played an active role in supporting the Laverton Fire and Emergency Services group, Lake Carey Catchment Management Group and the Asian Rhino Project at the Perth Zoo.

### Land use and resettlement

AngloGold Ashanti is committed to acquiring and using land in such a way that promotes best consensus among interested parties. Where resettlement is unavoidable, the group is committed to following best practice and to working with local communities in developing a workable solution in the interests of all parties.

The board committee on safety, health and sustainable development ratified the International Finance Corporation's Resettlement Policies, Guidelines and Standards on Involuntary Resettlement for all resettlements undertaken in future. Specifically, the board committee resolved to "seek to avoid relocation where possible. And where evidence that relocation is unavoidably required by a project, this will take place in accordance with AngloGold Ashanti's business principles, local legislation and the IFC's policies, guidelines and standards on involuntary resettlement. Where such resettlement takes place under specific, current, local legislation, the local legislation will take precedence."

The policy is intended for all managed operations, including joint ventures, and will be reviewed as necessary, including any time that the IFC makes changes.

- No resettlement was undertaken or is planned in **South Africa**, the **USA**, **Australia**, **Tanzania**, **Mali** or **Namibia**.
- Although no resettlement of communities took place at Geita in **Tanzania**, on occasion the mine has compensated informal farmers for the loss of farming land due to mining activity. Local legislation was followed.
- Resettlement of three communities has been and is being undertaken in **Brazil**. Those mainly affected are families living around the tailings dam and those perceived to be at risk. In all cases, the families' existing homes are valued, new land is identified and financed, and assistance is

given in both purchasing building materials and in construction. The aim is to ensure that the families are no worse off than prior to the commencement of the resettlement. In fact, they are frequently better off.

- At Mina D'Água, 23 families living in areas adjacent to the tailings dam were resettled as the level of the dam was raised. This resettlement was completed over a three year period at a cost to the company of \$300,000.
- 22 families living too close to the tailings dam at Galo are being resettled at a cost to the company of some \$145,000 to date.
- 23 families living at Vista Alegre were resettled by AngloGold Ashanti Mineração, despite the fact that the land was sold more than 50 years ago. The resettlement became necessary as the families were considered to be at risk. Following consultation, they are being resettled at a single location at Banqueta do Bananal in Nova Lima at a cost to the company \$280,000. The process will be completed in 2005.

In **Ghana** resettlement has, in the past, been based entirely on Ghana's Mining Law (L154) which places emphasis on monetary compensation, rather than physical compensation for the loss of surface rights. The most recent exercise, which is being conducted in accordance with IFC policy, involves a compensation process of the Teberebie farmers in the Wassa West District for the loss of farmlands due to mining activity. The compensation process has presented new challenges to Iduapriem, with valuable lessons being learnt by both principal parties. Due to a number of issues and events, the process itself has become complex, and in this case the farmers rejected the Land Valuation Board's price per crop compensation guide and demanded an independent assessment, which the company has accepted. The mine has also undertaken to make alternative farmland available to the affected farmers.

### Contribution to sustainable development through local economic development

A fundamental philosophy of the group is that its operations and activities should contribute towards the long-term sustainable development of its host communities. This is particularly challenging for sometimes short-lived mining operations or exploration projects, particularly when there is a short window of opportunity to make an impact. A number of ways in which that be achieved, however, are:

- support through local procurement activities;
- the contribution of redundant assets to the community;
- assistance with the establishment and development of small to medium-sized sustainable enterprises; and
- the outsourcing of the provision of goods and services to local vendors where appropriate.

In the **North America** region, a specific policy has been developed to ensure that corporate social investment initiatives are indeed sustainable. This includes:

- ensuring that corporate donations are made to projects that will either promote the long-term economic and social benefits of the area, or creating a favourable, long-term socio-political environment in support of the company's activities;



- directing corporate donations towards those areas where these donations act as seed money for matching grants, resulting in a multiplier effect for its donations. (See case study: *Getting the Pikes Peak Regional Medical Center off the ground on page C36*);
- identifying opportunities in local communities for the development of sustainable ventures where the group's relationship with vendors, company expertise or peer companies' activities can be substantially leveraged; and
- avoiding situations where donations become a continuing, annual expectation.

The **South America** region has adopted a formal, integrated approach to the development of economic activities other than mining, based on lessons learnt following the Morro Velho mine closure in 1995. Together with a number of other partners, AngloGold Ashanti Mineração set up the Nova Lima Development Agency, one of the company's first formal community development initiatives. The agency aims to create economic and socio-development networks that draw and then facilitate new investment in the region. The efforts of the agency in Nova Lima have resulted in attracting 6,000 new jobs and 84 new companies into the region. In Sabará, where currently the company's primary operation – the Cuiabá Mine – is located, a similar development agency was formed in November 2003. The group has also initiated a development agency in San Julián in southern Patagonia, **Argentina**, home of the Cerro Vanguardia mine. In the towns of Crixás and Santa Bárbara, where the Serra Grande and Córrego do Sítio mines are situated, talks are underway to set up similar initiatives. (See case study: *Local community development a key issue for sustainable development on page C22*.)

In the **South Africa** region, the view is taken that its socio-economic activities should build on existing relationships with relevant stakeholders to stimulate entrepreneurship and sustainable economic activity, including infrastructural development, and to diminish the economic dependency of local and labour-sending communities on the mining industry over time. A second area of attention is poverty alleviation.

Examples of projects in local and labour-sending communities are:

- Lesotho water project. AngloGold Ashanti has contributed (\$70,300) R450,000 to the Lesotho Water Project, which is managed by Teba Development. This involves fully restoring boreholes and hand pumps in order to reinstate access to water for at least 35 villages in what has traditionally been a 'labour-sending area'. (See case study: *Lesotho Water Project – bringing a much-needed resource to employees' families on page C27*.)
- The group's Small and Medium Enterprise Development Initiative (SMEDI), which identifies people, mainly from an historically disadvantaged background, who have ability and potential, to enter into partnership to provide education, capacity-building and funding with the long-term aim of creating self-sustaining businesses. The raising of venture capital is managed through a fund called Masakhisane (which means 'Come let's build each other together' in Zulu), which was established in 1998 with an initial capital outlay of R10 million. (See case study: *Outsourced health care at Ergo on page EP15*.) In 2004, R603,000 was allocated for investment in new Black Economic Empowerment (BEE) companies that will add value to the local community.

The operations in **Mali, Namibia and Tanzania** have programmes in place to support local procurement as far as this is possible.

- At Morila mine, 45% of funds accumulated through the sale of redundant material from the salvage yard is redistributed to a local community fund which is used for the establishment of local small business initiatives. The fund has established a food (cereal) bank in Sanso, which is of particular benefit to the community during times of drought. Also, at Morila, market gardens were established at Sanso (1 hectare) and Domba (2 hectares) in June 2004 under the supervision of a monitoring and training committee. A community rice field was also established during the year.
- A micro-credit scheme implemented at Sadiola in 1999 for the development of small business has granted 83 loans, amounting to \$72,000, to date, of which, 30% have been fully repaid. A micro-credit scheme at Yatela was established in 2000. To date the scheme has granted 20 loans to a value of \$20,571, of which 50% have been fully repaid. Both schemes were suspended in 2004 pending the outcome of the IDAP study. (See box on page C17.)
- The Nyakabale agro project at Geita, established in 2001, now has 60 registered members. (See *Report to Society 2003*.) More recently, chicken farming has been introduced. Communities are also involved in nurseries which provide seedlings for mine rehabilitation and in brick-making ventures. (See case study on C34 on *Rehabilitation at Geita*.)

### Dressmaking follows mining – developing new livelihoods at Raposos

From 1899 to 1998 the local economy of Raposos, a small town in the Brazilian state of Minas Gerais with a population of 14,300 inhabitants, depended almost entirely on gold mining for its livelihood. With the closure of the Raposos mine, the economy of the region was substantially affected with very little alternative economic activity in the area.

In an effort to develop alternative livelihoods, AngloGold Ashanti embarked on a range of initiatives to stimulate economic activity in the town. One of these was the formation of a Seamstresses' Cooperative, tapping into the skills and availability of women in the area. In 1999 AngloGold Ashanti donated a building to the local township to be used to house the seamstress and work began. It closed the next year due to lack of knowledge and simple managerial skills within the group.

In 2002, in light of the financial difficulties of the town, AngloGold Ashanti proposed that the Seamstresses' Cooperative reopen once more to generate work and income. Thirty women registered and the existing machinery was restored. AngloGold Ashanti expanded the business infrastructure by leasing new machines and other equipment required for the job, as well as donating raw materials for the first production items.

The company placed a purchase order with the Seamstresses Cooperative to manufacture uniforms for the mine employees, giving them their first major client. The company also supplied the services of a designer to assist with garment design, and an AngloGold Ashanti social worker assists the cooperative with various social problems they may experience.

The Cooperative now has 20 women producing working clothes and uniforms for several small businesses in the region, such as bus companies, hospitals, maintenance and upkeep organisations, timber merchants, amongst others. Based on their efforts these women are able to earn an income for their families – on average about \$98 per month per person; the current minimum wage in Brazil is \$91.

In **Australia**, Sunrise Dam supports and encourages local economic development and, in particular, the development of business initiatives by local indigenous people. The mine promotes the use of businesses from the local town of Laverton for site activities and encourages its suppliers and contractors to do the same; this has resulted in contractors from Laverton supplying water to Roche, AngloGold Ashanti using Laverton-based car hire companies and local vehicle servicing. During 2004, Sunrise Dam began an indigenous supply initiative aimed at encouraging indigenous business from the local area to get involved in tendering for services associated with the site. A further initiative is to expand the indigenous seed-collecting activities around the region. Sunrise Dam works with Indigenous People in Mining, an industry and government network support group fostering contracting opportunities for Aboriginal business. A significant initiative by the company has been with Carey Mining, an indigenous contracting company, working on site.

About 24% of the all purchases made in **Ghana** and **Guinea** are procured locally (Obuasi – 20%, Iduapriem – 20%, Bibiani – 25% and Siguiiri – 30%). This is made more difficult by the nature of the purchases required to run extensive underground mining operations (including equipment, machinery, consumables such as explosives and chemicals), and which have traditionally been sourced from other more industrialised regions. This is extended to the provision of services, such as the services of security companies to support the in-house security department.

An integral part of the region's social investment programme is the Alternative Livelihoods Programme aimed at providing skills for generating employment for local, illegal artisanal miners on the one hand, and to developing alternative opportunities for communities in advance of mine/pit closures.

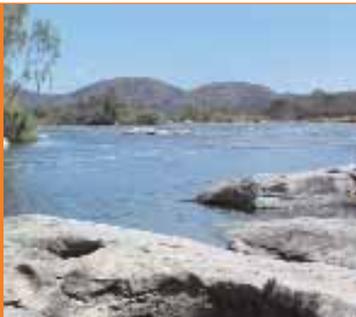
At the Geita mine in **Tanzania** a micro-finance credit scheme has granted loans to 145 groups in the local community for small business development. About 82% of the loans have been repaid. Just over \$16,000 has been donated to this project in total. At the Nyakabale Community Agro-Forestry project, 60 farmers from the local community are engaged in supplying 65% of the fresh fruit and vegetable supplies to the mine, while at the same time developing a cash crop that will sustain them once mining has ceased. Some 300 day-old chicks were added to this initiative in an effort to diversify this project into chicken farming.

As in Ghana, the Lake Victoria Goldfields in the Geita district in Tanzania attract artisanal and small-scale miners owing to the rich mineral endowment in the region, particularly of gold. The informal mining sector has provided an often meagre livelihood for many people and has persisted, despite the presence of a large-scale mining operation. Following research conducted in the area, Geita has developed a strategy aimed at offering socially, environmentally and economically sustainable alternatives to these miners. (See case study: *Geita formulates policy to assist artisanal miners on page C33.*)

#### **IDAP being developed and implemented at Sadiola and Yatela**

Following a multi-stakeholder workshop in June 2003, the International Finance Corporation (a partner in Sadiola and Yatela) commissioned the preparation of an Integrated Development Action Plan for the region with funding from the Government of Luxembourg and SEMOS SA, Sadiola's holding company. The main objective of the IDAP is to "create an overall strategy for promoting socio-economic development within beneficiary communities, in order to improve livelihoods and employment opportunities, and to establish new initiatives to lessen the communities' reliance upon the mine in the closure period".

The boards have approved expenditure of \$1.3 million over the next three years for the implementation of the IDAP. (See case study: *Integrated Development Action plan for Sadiola and Yatela on page C24.*)



**Awards**

- In the **North America** region, CC&V and the Southern Teller County Focus Group (which was assisted in its formation by CC&V) were awarded the Wirth Chair Community Award recognising sustainable community development projects.
- The Denver office and the CC&V mine in **North America** were recipients of awards for their involvement in the Colorado Mining Association Pollution Prevention Program. *(See case study: Awards for North America region's contribution to pollution prevention on page E51 of the Environment section.)*
- The **South America** region has received a number of awards, namely:
  - One of 40 best companies in 'people management' in 2004, awarded by Hay do Brasil in conjunction with the newspaper Valor Econômico.
  - Best mining company – 2004. awarded by the Valor Econômico newspaper. The 1,000 largest Brazilian companies were entered for the awards, which were made by the economic sector.
  - First place in the mining sector – 2004 awarded by the 'Isto É Dinheiro magazine'. AngloGold Ashanti Mineração earned first place in the Innovation section, first place in the Socio-Economic Management section and second place in financial management.



## 5 Reporting in line with GRI

<b>Social performance indicators:</b>	
<b>Labour practices and decent work</b>	
<i>Core indicators</i>	<i>Additional indicators</i>
<b>Community</b>	
<b>SO1. Description of policies to manage impacts on communities in areas affected by activities, as well as description of procedures/programmes to address this issue, including monitoring systems and results of monitoring</b>	<b>SO4. Awards received relevant to social, ethical, and environmental performance</b>
See discussion on pages C3 to C18 of this report	See discussion on page C18

Performance indicators relating to bribery and corruption are dealt with in the ethics and governance section, and performance indicators relating to political contributions and competition and pricing are dealt with in the economic performance of the Report to Society 2004.

## C20 | 6 Scorecard

Objectives for 2004	Review of 2004	Objectives for 2005
Further implementation and monitoring of social development initiatives in line with business principles.	Systems for reporting social development performance in line with business principles have been established.	Further refinement of social and community development performance planned.
Development of common basis for reporting in line with principles.	Alignment of reporting between regions, including the former Ashanti operations.	Development of a common, auditable base for reporting.

**New objectives for 2005:**

- addressing the issues arising from small scale and artisanal mining including human rights concerns;
- increasing emphasis on economic development activities (including setting of targets);
- ensuring community and stakeholder engagement processes are in place at all the operations; and
- capacity-building, support and the development of practical tools for practitioners at site level.

## 7.1 'Holding Hands' – the volunteer programme in Brazil

AngloGold Ashanti's South America's Volunteer programme – called in Portuguese 'Holding Hands' – was set up at the end of 2003 following a survey where employees indicated that they would like to proceed with the development of such an initiative. A strategy for the programme was developed with involvement of employees and the assistance of group representing different economic sectors, known as "Voluntários das Gerais" (Volunteers from Minas Gerais) which was formed by FIEMG, the Minas Gerais State Federation of Industries.

A group comprising 18 employee representatives meet on a weekly basis to plan the activities of the 'Holding Hands' venture. Although most of the work is done behind the scenes, a 'Volunteer Show' was held on 16 October 2004 to officially launch the programme. At this event eight employees – who are computer specialists, equipment operators, miners, technicians, engineers and buyers by day – entertained other employees and their families and, in so doing, collected almost 2,000 kilograms of non-perishable foodstuffs in lieu of entrance fees for those in need in local communities.

AngloGold Ashanti Mineração currently has 106 registered volunteers. Most of the volunteers' work is done after working hours. But, in the case of helping at day care centres, schools and other institutions that do not operate at night or on weekends, the work may be done during normal working hours.

A further step in the programme is the provision of training for registered volunteers to better understand the reasons for corporate volunteer work, the rights and duties of a volunteer, and more details on the 'Holding Hands' Programme. Some 40 volunteers underwent training in November 2004, while a further 40 will receive training in March 2005.

The Holding Hands initiative participated in 'V Day' on 5 December 2004, a day dedicated to volunteerism within the state of Minas Gerais.



### AngloGold Ashanti Mineração supports V Day

On 5 December 2004, the state of Minas Gerais, where AngloGold Ashanti Mineração is located, called a Volunteers Day – or V Day – in an effort to mobilise as many people as possible to volunteer time for community initiatives.

Over 150 people – employees, family members, friends and members of the community – took part of the activities spread over the towns of Raposos, Sabará, Nova Lima, and Caeté.

"The Volunteer Day is an example of what we can do for our communities," says AngloGold Ashanti's president and CEO of the region, Roberto Carvalho Silva, who visited the hospital Nossa Senhora de Lourdes in Nova Lima.

More than 1,000 people benefited from the initiative. In Raposos alone, a group of over 60 people got together to clean the river banks of the Ribeirão da Prata. Adults and children helped plant 336 plant seedlings and collected over 20 tons of trash. Two groups dedicated themselves to the aged in the Sabará and Caeté homes.

At the Environmental Educational Centre, around 20 children from the Maria Magalhães Pinto Educational Centre had fun with the volunteers. "It was an extremely gratifying day that left us with a very important lesson: we can contribute a lot for a better world," says Ely da Conceição Souza, a mining engineer.



## C22 | 7.2 Local community development a key issue for sustainable development

Formed in 1995, following the closure of the Ashanti Morro Velho lower level operation, the Nova Lima Development Agency was one of AngloGold Mineração's first formal community development initiatives. The partnership was formed with the town authorities, the local Commercial Association, SEBRAE (Support to small size business, a non-governmental entity sponsored by the Industry Federation) and two mining companies, AngloGold Ashanti Mineração and Minerações Brasileiras Reunidas (MBR). Management was entrusted to the town authorities.

At the time of its closure, the Morro Velho mine in Nova Lima had been in operation for more than 170 years, employing 7,000 people at its peak in 1975, and some 289 people at its closure in 2003.

The first step in the process was a thorough analysis to identify potential business opportunities in the region. The results showed Nova Lima had the potential to develop services such as hospitals, universities and hotels owing to its proximity to the provincial capital Belo Horizonte. This presented business opportunities for local inhabitants after mining ceased. Another area highlighted by the study was the need for computer skills among the local population to be able to create a thriving services sector. Out of this was born the SEBRAE Technical School of Management, which AngloGold Ashanti Mineração supports with several scholarships for underprivileged schools aimed at preparing local students for business.

This joint effort has yielded positive results. Since the start of the project, Nova Lima has managed to attract more than 84 new companies, such as hospitals, hotels, food service enterprises and university facilities, which have generated 6,000 new jobs. A local Peoples Bank was also formed for the purpose of offering credit to small businesses. As a result, more jobs have been created, reinvigorating the local economy. The construction of a highway leading to town is nearing completion, again improving its prospects of attracting new investors .

In Sabará, where currently the company's primary operation – the Cuiabá Mine – is located, a similar development agency was formed in November 2003. Although still in its infancy, the Agency Council has been set up and is jointly managed. An analysis of the business sector needs – similar to the one undertaken at Nova Lima – is currently being completed. Similarly, based on its Brazilian experience, the group has initiated a development agency in southern Patagonia in Argentina, home of the Cerro Vanguardia mine. A partnership has been formed in that region with the local provincial authorities to create the San Julian Development Agency. San Julian is the closest town to the mine and its economy is greatly influenced by mining, with the declining fishing industry as a secondary source of income.

In the towns of Crixás and Santa Bárbara in Brazil where Serra Grande and Córrego do Sítio are situated, talks have been initiated with the authorities and like-minded companies and agencies to implement development agencies in these regions.

What is very different about these latter initiatives is that the planning for the replacement of economic activity (post mining) is being done at an early stage so that the mining operations may act as a catalyst for economic growth. Based on the experiences gained at Nova Lima, the training and development of local people is an important imperative.



## 7.3 Hearts of Gold programme launched at corporate office

AngloGold Ashanti launched the Hearts of Gold programme at its corporate office in Johannesburg in July 2004 to support and encourage staff members to contribute to their community.

Launched as a pilot programme to test staff response, the programme aims to demonstrate visible support for AngloGold Ashanti's employees' interest in their community, to encourage employees to make a contribution to the social development of their communities and to reward those employees already involved in such activities.

Within Hearts of Gold, employees can choose between the 'Give As You Earn' or 'Matched Volunteering' options. The former allows staff members to donate money, on a monthly basis, directly from their salary to a charitable non-profit organisation (NPO) either of their choice or from a list of pre-selected NPOs. This pre-selected list was compiled based on results of a staff e-mail survey, conducted in January 2004, to identify the most popular charitable causes. These were identified as helping people living with HIV/AIDS, children, the elderly and caring for the disabled. All nominated NPOs are strictly assessed by the Charities Aids Foundation South Africa (CAFSA) and the AngloGold Ashanti team.

AngloGold Ashanti agreed to match the monthly employee contributions on a Rand-for-Rand basis, in effect doubling the donation to the NPO. Participation rates increased from 2% in launch month to just under 13% at the end of December, based on 400 employees in the corporate office. The average donation to a NPO is R264 per employee and the average amount being donated in total per employee is R453 per month, a consequence of many employees donating to more than one NPO. Both figures are significantly higher than averages seen in other company 'Give As You Earn' schemes, as documented in the Charities Aids Foundation South Africa (CAFSA) report. On average, supported, NPOs receive about R17,500 every month in donations from AngloGold Ashanti and its employees at the corporate office.

The Matched Volunteering option operates on the basis that for every eight hours an employee assists at a NPO, AngloGold Ashanti donates R500 to that organisation. If four employees volunteer their services as a team, then the company donates R2,500 to the NPO for every eight hours served by that team. As an example of this, staff members participated in a pancake flipping event to raise funds for The St Vincent School for the Deaf, where about eight AngloGold Ashanti staffers participated.

Custodian of the Hearts of Gold project, Rian Raghavjee, attributes this success to the willingness of the company's employees to give towards worthy causes. The 'champions' of the project also play a significant role since they provide a point of contact. This group of eight people from various departments meet regularly and market the project within their divisions.

Although in South Africa, the project has only been launched in the corporate office, the intention is to implement it in some form in the South Africa region. However, Raghavjee recognises that since certain communications media are not as easily accessible to the group as a whole, the current method of intranet marketing, for example, might not be as successful as it has been in the corporate office. Also, all the marketing thus far has been in English, which might not be the language of choice for many outside the corporate office.



## C24 | 7.4 Integrated development action plan for Sadiola and Yatela

Following a multi-stakeholder workshop in June 2003, the International Finance Corporation (IFC) commissioned the preparation of an Integrated Development Action Plan (IDAP) for the Sadiola Commune (the communities surrounding Sadiola and Yatela) with funding from the Government of Luxembourg and SEMOS S.A. (The Sadiola and Yatela mines are owned in a partnership between AngloGold Ashanti and lamgold (through Semos SA), the Malian government and the IFC).

The main objective of the IDAP is to create an overall strategy for promoting socio-economic development within beneficiary communities to improve livelihoods and employment opportunities and to establish new initiatives to lessen communities' reliance upon the mine. Despite significant funds (\$2.85 million) being set aside by the Sadiola and Yatela mines between 1997 and 2003 for development in the Sadiola Commune, a lack of clear development priorities, involvement of the community, and overall strategy, necessitated the need for an IDAP.

The IDAP preparation process incorporated a total of 15 villages and two hamlets, accounting for almost 60% of the commune's population, as per an agreement with key stakeholders. The IDAP implementation process will focus on local development activities prioritised by stakeholders and target groups during the IDAP preparation process, and that other institutions are not effectively dealing with already. Three programmes have been proposed:

- **training and capacity building:** the lack of local development planning and implementation poses a significant constraint to local development. Training and development will ameliorate this.
- **agricultural assistance:** agriculture remains the cornerstone of the area and will be especially important to the livelihoods of local communities after mine closure and thus forms an important and natural focus area for local development efforts. The programme aims to provide extension and support to the local agricultural sector to improve productivity, thus contributing to improved food security and the possibility of additional income-generation. The agricultural programme will not attempt to introduce or promote large-scale commercial agriculture in the study area, but will instead aim to assist smallholders to obtain better yields from the limited area of arable land available.
- **enterprise development:** artisanal and commercial activities have a significant role to play in the sustainable socio-economic development of Sadiola commune. A programme has been developed to enable local entrepreneurs and economic interest groups to enter and succeed within the cash economy, as well as increasing the number and importance of small enterprises in the local economy.

Responsibility for IDAP implementation needs to involve multiple stakeholders. An important part of this process is the involvement of the community – one such example is the stakeholder communication and consultation meetings held at Sadiola. (See accompanying box). This target will be achieved through the creation in the mid-term (after a two to three year transition period) of a stand-alone IDAP Foundation based in Sadiola and administered by a Board and General Assembly reflecting the range of stakeholders in Sadiola Commune with a direct interest in local economic development. Costs for the IDAP implementation are expected to amount to \$1.2 million over the three years of implementation.



The IDAP General assembly met for the first time on 27 November 2004 and constituted the 'Integrated Development Foundation within Sadiola Commune'. The general assembly also elected seven members to act as the foundation board. The first meeting was held on 13 December 2004 where the International Finance Corporation (IFC) was incorporated into the Board. The immediate tasks of the board are to:

- appoint officers for the foundation
- select a site/s where an office will be constituted, and
- draft internal regulations for the foundation and general assembly.



### Stakeholder communication and consultation meetings at Sadiola

The Sadiola and Yatela operations held a three-day Stakeholders' Communication and Consultation Workshop at Sadiola between 23 and 25 September 2004. Topics covered included an overview of the year's activities at the Sadiola and Yatela mines; progress regarding the Integrated Development Action Plan (IDAP); progress on recommendations made at the previous workshop held in June 2003; and identification of key issues regarding mine closure.

Represented at the workshop was the Ministry of Mines, Water and Energy; the central authorities of Bamako; the local administration authorities of Kayes and Sadiola; local communities of Sadiola Commune; NGOs (non-government organisations); associations; SEMOS and Yatela SA; the International Finance Corporation (IFC); AngloGold Ashanti; and members of the public and the media.

It was reported that much had been achieved between the June 2003 and September 2004 meetings. Notable were:

- the establishment of a Stakeholders Committee (comprising current members of the workshop, representatives of the national, regional and local authorities, local communities, and Semos management) to monitor progress on recommendations emanating from the June 2003 meeting
- the initiation of a Code of Conduct to improve stakeholder relationships between the two mining operations; the establishment of a water management committee to ensure sustainability after mine closure
- appointment of the services of the National Institute of Research in Public Health (INRSP) to assess public health risks
- dust management initiatives
- an education programme to improve the level of English, and
- a malaria and STI/AIDS prevention programme.

The forum was reminded of the Malian government's expectations of the mines' responsibilities towards vocational training, the development of villages impacted by mining operations and their environmental obligations.

Feedback on progress thus far was encouraging, for example:

- the INRSP health survey began on the 14 September 2004
- an awareness programme on STDs (Sexually Transmitted Diseases) and HIV/AIDS has been conducted
- an 'open-door' policy is now in operation to encourage interaction between the local community and the mines
- women are being trained in small business activities like cloth-dyeing, soap manufacture and plastic re-cycling
- 16 wells and a number of small dams have been constructed in some villages
- a dust suppression programme is to be implemented after initial trials
- a current tree-planting initiative is being expanded, and
- efforts are underway to provide electricity through the installation of solar panels.

Much discussion was given to an IDAP study that had recently been conducted. Although stakeholders at the workshop were in agreement on the objectives of the IDAP document, concerns were raised regarding content and form of the document. These concerns include:

- too much focus on training and development rather than on the funding of projects
- operating costs are too high compared to investments
- too little involvement of recipient communities, and
- the absence of an IDAP monitoring tool.

Another worrying aspect, which became evident during the workshop discussions, was the realisation that many participants did not fully understand what the IDAP project is about. This was an issue that was addressed before embarking on the final day of the workshop, which concerned issues of sustainability on mine closure. These related primarily to health, employment, communication, women promotion and the preservation of natural resources. Suggestions on a range of issues were volunteered, for example:

- ongoing health care provision
- the promotion of women in mining
- job creation
- education and training
- the development of tourism
- water management, especially quality and availability of potable water
- agriculture and livestock breeding
- protection of flora and fauna
- rehabilitation of mine sites
- road infrastructure and maintenance, and
- clarity of Malian legislation laws regarding mine closure.

The next annual Stakeholders' Communication and Consultation Workshop, which will once again provide a platform for feedback on recommendations suggested at this forum, as well as a review of the year's activities, will take place during the latter part of 2005.

## C26 | 7.5 Yatela fish farm – sustainable use of the pits post closure

In anticipation of the closure of the Yatela mine in 2006, a number of initiatives have been explored to promote the sustainable development of the region after mining ceases. One of these initiatives is the Yatela Fish Farm, located in a quarry that was used to provide aggregate for the base of the leach pads at the mine. The trial project began in early 2002 and is driven and managed by the on-site environmentalist Emma Bamforth and the mine management team, with support provided by the corporate office in Johannesburg. The quarry trial provides an ideal opportunity to both breed up a stock of fish to be introduced into the main Yatela pit at closure and to be used as a training facility in the interim.

Water is supplied to the quarry from an overflow pipe which feeds the mine water supply and, because of the nature of the host rock – which is diorite – there is very little seepage. This means that water accumulated here during the rainy season would remain for a couple of months, causing a stagnant malaria-breeding area.

About 150 fish and 30 eels were initially introduced into the quarry after having been captured in the nearby Senegal River. The species which are breeding highly successfully are the Banded Jewel Fish, Nile Tilapia, Banded Tilapia and Catfish – all of which are hardy and have good tolerances regarding pH and salinity levels.

The fish are fed on insects attracted to light that are suspended a few feet above the water. Bi-weekly two buckets of sorghum husks are thrown into the water for the smaller fish to feed from. (These husks are commonly used by local fishermen.) An added benefit of the fish breeding project is that they also feed off mosquito larvae (reducing the prevalence of malaria in the area), breed extremely quickly and provide high levels of protein. They are also indigenous to the area.

Recently some of the fish were netted to check species and sizes and it is estimated that harvesting can begin from 2005 onwards. A suitable Malian operator is being sought in association with the Small Business Development Foundation and will be guided in good aquaculture practices – the frequency of harvests, seasons, size limits etc. This has the potential to become a large scale operation once these fish species are introduced into the pit-lake at mine closure. In the best case scenario individuals could farm and sell the fish to local communities; at worst case they would have a resource to use on an individual basis that also reduces malaria in the area.

A number of different fish traps have been experimented with, although it has been found that a small mesh size must be used or the outside of the trap effectively becomes a gill net for the smaller species trying to feed from the bait inside the trap. The advantage of this system is that fish are caught live and undersized ones can be returned.



## 7.6 Lesotho water project – bringing a much needed resource to employees' families

TEBA has been engaged in the development and maintenance of village water supplies in Lesotho since 2001, working in close co-operation with the Lesotho Department of Rural Water Supply (RWS). (TEBA, which was the mining industry's recruitment agent, formed TEBA Development in 2001, as a not-for-profit company to undertake development in rural labour sending areas on behalf of the mining industry. Lesotho is a major labour-sending area, with 60,000 mineworkers – including contractors – working on South African mines.) The work of the RWS has been restricted by limited funding and by challenges in the supporting water distribution network to support the dam building project put in place.

Research undertaken by AngloGold Ashanti in 1998 showed that communities in southern Lesotho regarded the supply of water as their main priority. This project, based in the Mafeteng District of Lesotho, involves repairing and refurbishing 180 boreholes and hand pumps across at least 50 villages. Most of the pumps in the villages are in extremely bad condition having been neglected and vandalised. On average about 40 households use one water pump and with the average number of people per household estimated at six people, about 240 people benefit from each pump.

The job is being done by so-called 'water teams' consisting of specialists (mentors) and trainees, with a fully equipped trailer carrying tools and equipment. Former AngloGold Ashanti mineworkers living in the area were identified and trained by an experienced mentor in all aspects of repair, maintenance and installation of water equipment (including hand pumps, electrical and mechanical pumps, boreholes, water tanks and other storage mechanisms and windmills). By the end of 2004, the trainees had taken over as local contractors.

Says David Cooper, managing director TEBA Development, "We developed the concept of trainers and mentors in an attempt to build local capacity. Initially, TEBA attempted to promote engagement by local service providers (in water equipment installation, repair and maintenance) but this experience was not positive. The tenders submitted by local service providers were unrealistically priced and show little understanding of the nature and fair cost of services to be provided and, when engaged, the renovation was not done to the level required.

"Eventually, all of the specialist service providers came from the capital Maseru, as opposed to local district towns and villages, so there was little contribution to local enterprise development. But we knew that there was little prospect of continued reliable and ready support on maintenance from Maseru-based operators. TEBA has therefore looked for alternative approaches that overcome these challenges."

The first phase of the project started in 2003 and, in addition to AngloGold Ashanti, is supported by platinum companies, Lonmin and Implats. The project costs about R65,000 per month, of which AngloGold Ashanti provides R50,000.

Discussions are being held with the Lesotho government to ensure that the project is integrated with other government programmes.



C28 | **7.7 Making a difference**  
**– the AngloGold Ashanti Fund and Trust**

The AngloGold Ashanti Fund is the primary vehicle for the group's social initiatives in southern Africa. During 2004, the Fund distributed R16.148 million (\$2.59 million) to a wide range of projects across the region – primarily in those areas where the company operates and the regions from which it draws its employees and where many employees families reside. The Fund's primary areas of activity are:

- education
- health care
- skills training and job creation
- welfare and development
- HIV/AIDS

The AngloGold Ashanti Fund has a responsive philosophy to community-initiated projects, and a belief that development works best where people are empowered to work towards their own advancement and where ownership of the initiatives rests either with the individuals or with the communities responsible for those initiatives. The Fund aims to provide constructive support for sustainable projects which contribute to the region's longer-term well-being and development. Successful projects do far more than simply identify a need – they assign resources and people to address that need. It is also important that they are rooted in the communities they serve, providing for practical interventions of a scale and at a pace that beneficiaries can absorb and utilise.

The AngloGold Ashanti Fund is managed by Tshikululu Social Investments with a professional management team at the helm.

An important change for the Fund in the past year has been the increasing emphasis placed on the Local Area committees. These comprise operational personnel who are in close contact with the regions and communities in which they operate and are able to better advise on local needs. A concern has been that the Fund is not close enough to the communities and people that it is contributing to and it is hoped that the role of the local area committees will grow and achieve this. In addition, in South Africa, relationships with local authorities have been strengthened by the appointment of a Corporate Social Responsibility (CSR) manager, Butiki Loliwe. He works with a small team whose duties include ensuring a closer alignment between the fund's activities and the local authorities' Integrated Development Plans.

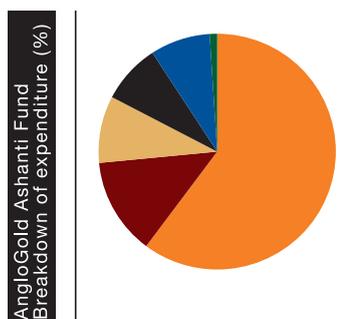
Some of the major projects that received approval by the Trustees during the year include:

- The Ergo programme. (See case study: *Ergo programme focuses on maths and science education on page C30.*) The fund has committed R2 million (\$310,000) per year over three years.
- Inyatelo Public School, located in Kanana in North West. The school services a large residential area near a number of AngloGold Ashanti operations in the Klerksdorp area. The funds (some R2.5 million or \$390,000) have been allocated for the building of additional classrooms and toilet facilities.
- Hospice North West cares for community members who are terminally ill in the areas surrounding the company's operations near Carletonville and Klerksdorp. The fund has awarded R300,000 per year for three years
- A number of "Special Relationship Schools", located close to company operations in the Carletonville and Klerksdorp area have been supported with funds amounting to R1 million (\$160,000).

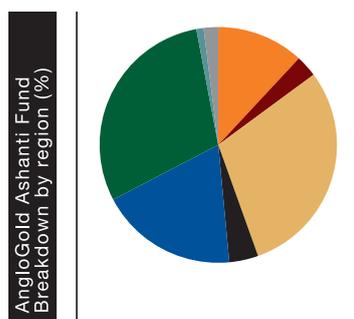


**Boiteko Special Needs School**

The Boiteko Special Needs School, located in Khutsong in North West Province is one of those institutions with which the AngloGold Ashanti Fund has had a long and special relationship. The name means "We are trying hard" and it is because of the initiative and persistence shown by the community and the school leadership that the fund has continued to support this school for severely challenged children. The company funded the construction of the school in 1994 at a cost of R1.8 million, but the need in the area has been so great that the school recently approached the Fund to assist in building an additional eight classrooms, a therapy centre and a facility to cater for profoundly handicapped children on the school premises. The Fund has agreed, committing R2.8 million (\$440,000) to this worthy cause.



Education	59
Welfare and development	13
HIV/AIDS	9
Health	8
Skills training and job creation	8
Arts and culture	1



Eastern Cape	12
Free State	3
Gauteng	30
Kwazulu-Natal	4
National	19
North West Province	30
Outside South Africa	1
Western Cape	2

## 7.8 Closure consultation with communities at Ergo

Consultation with local communities, local government and non-governmental organisations on the impending closure of the Ergo operation has taken place at numerous levels and over an extended period of time. The following discussion captures some of these.

Ergo has been an active member of the community of the East Rand since it opened 25 years ago – this through its close association with the local municipalities as well as its membership of the Springs Chamber of Commerce. As far back as the year 2000, Ergo informed the Ekurhuleni Metropolitan Municipality that closure was rapidly approaching and that this would have significant impact on the local community. These discussions moved to a more formal basis in 2003 when the Ekurhuleni Mining Forum was initiated for interested and affected parties (I&APs), informal miners, community members and the Local Economic Development (LED) department of the Ekurhuleni Metropolitan Municipality. One of the Ekurhuleni Mining Forum's focus areas is sustainable development.

The Mining Forum, which also discusses general Mining Charter issues and the activities of mining companies within the Ekurhuleni district, meets once a quarter; it was at this forum that the so called 'Project Hloekisa' initiative was first raised with the Ekurhuleni Metropolitan Municipality.

The objective of this project is to remove all remaining gold residue dumps on the East Rand, thereby removing potential future environmental problems, making land available for urban development as well as providing ongoing employment for many people in a depressed labour market. The project would make use of Ergo's reclamation and pumping infrastructure and would possibly utilise Ergo's Brakpan plant to extract any residual gold. Though still in the conceptual phase, a preliminary study concluded that the project would require funding of more than R5 billion (\$800 million) over a 20 year period and, although offset to some extent by available gold recovery, would still result in a net loss of some R3.5 billion (\$550 million). However, it has the backing of the Ekurhuleni's department of LED, from a land rehabilitation point of view – land which the Metro foresees as having potential for future business and commercial development. Karuna Mohan, Executive Director of LED, said that she is impressed with Ergo's responsible handling of the closure and that the Hloekisa Project is seen as a priority project by the Executive Mayor of the Ekurhuleni Metropolitan

"Because much of the land is privately-owned, it needs a partnership with government to successfully integrate into the municipality's Spatial Development Framework. In the meantime, we are talking to property owners to unlock the potential of land already recovered by Ergo," says Mohan. "It positions the local economy for take-off with regards to economic investment," she adds.

Reports concerning Ergo's impending closure are also given to the Springs Chamber of Commerce and Industry by Ergo's general manager, Alan Muir, who is a member of the Industrial Committee. The Chamber's main project is a Business Linkage Centre to empower small enterprises by linking them with bigger businesses. Ergo's Chris Wiseman sits on the Steering Committee of this initiative.

Consultation with the community at a direct level started in 2001 following a report from the Legal Resources Centre which criticised Ergo for not having an arena for community discussion around issues that affected them. The two surrounding townships which had grievances were those of Tsakane/Kwa-Thema and Kingsway Lindelani, both of which had complaints about windblown dust from adjacent tailings dumps. The Community Forum, which was subsequently established, allows Ergo to engage with these communities on topics of interest such as the measures that the operation is taking to minimise dust levels; ongoing tests to establish health risks associated with the dust; and to conduct site visits to affected areas. Ergo also used the Community Forum as a platform to discuss the impending closure of the operation. Although there was initial interest from both parties, attendance by the Kwa-Thema group tapered off, after it became apparent that jobs were not on offer.

Another means of interaction with the community has been the Local Area Committee of the AngloGold Ashanti Fund. Since September 2000, this committee disburses R50,000 per year in response to requests from local communities to support deserving charities, for example, soup kitchens and HIV/AIDS organisations, and to support sustainable projects like vegetable gardens.

Another initiative currently being undertaken by the Fund will continue well after closure. Aimed at uplifting education and community care over a three-year period, the R6 million (\$940,000) donation will be used for maths and science capacity-building for both learners and tutors at a number of primary and secondary schools. (See case study: *Ergo programme focuses on maths and science education on page C30.*)



## C30 | 7.9 Ergo programme focuses on maths and science education

In keeping with its commitment to mining communities and sustainability, during operations and after closure, AngloGold Ashanti felt it fitting that it should leave the communities surrounding Ergo with a lasting legacy when the plant is decommissioned in 2005.

The AngloGold Ashanti Fund makes available a budget of R16,148 million (\$2,159 million) a year for corporate social investment, to focus on health care, HIV/AIDS, welfare, education, skills development and training and job creation. (This includes the Fund's management fee.) The Fund's board of trustees gave the go-ahead in 2004 for a sum of R6 million (\$0,936 million) to be invested in the township communities of Tsakane and Kwa-Thema over a period of three years.

In February 2004, the Fund invited a number of key stakeholders from the area to take part in a consultative process to jointly prioritise interventions which would be sustainable into the future. A number of workshops were held, bringing together NGOs (non-governmental organisations), government departments, Ergo employees, service providers, and Fund Management in order to fully understand the social dynamics and specific needs of the area.

Three important areas were identified – education, skills development, welfare and community care development. The education and community care components are being directed by the Fund and skills development is the responsibility of the Ergo operation through its social plan training programme, aimed at providing marketable skills to employees. (See case study: *Closure consultation with communities at Ergo on page C29.*)

The Ergo Programme commenced in January 2005 and will run for a three-year period, ending in December 2007.

### Education development component

The main aim of the education component is the upliftment of educators and learners in mathematics, science and technology, with a view to improving and enhancing the teaching skills of educators, many of whom are under-resourced, and encouraging more learner interest in these subjects, particularly at higher grade level. The focus though is on the educators, as they will be able to make a sustainable difference for many years to come. Siphohle Mhlangu, programme manager of the Fund, says, "In order to achieve this goal, the levels of Mathematics, Science, Technology and Literacy at Primary School and Secondary School level need to be addressed as these are areas where teachers are under qualified and learners are not performing".

The Ergo programme will include a selection of 20 primary schools and all 14 secondary schools in these two areas. The programme is aligned with the National Curriculum 2005 – outcomes-based education (OBE), which favours a pupil-centred rather than a teacher-centred approach to learning and will thus assist teachers in the transition from traditional teaching methods to the new OBE approach. Mhlangu says the Fund's vision is to demystify mathematics and science teaching and learning. "Many children today make subject choices at school, based on the fear of mathematics and science, rather than on their personal aspirations. We hope to change this attitude," he explains.

Programme for Technological Careers (PROTEC) is the preferred service provider for the implementation of a Mathematics and Science intervention in Secondary Schools. PROTEC has excellent experience in implementing Mathematics, Science and Technology interventions in Secondary Schools. Although the focus again is on improving teaching skills in mathematics and science, PROTEC will also provide



### Why Tsakane and Kwa-Thema?

AngloGold Ashanti is spending R6 million (\$0.436 million) in the township community of Tsakane and Kwa-Thema.

These two areas are the largest sources of labour for the operation and are likely to be hardest hit by the withdrawal of a major source of revenue and employment from the area. Ergo's current staff complement is 843 of which 273 (33%) and 283 (34%) are drawn from Kwa-Thema and Tsakane respectively. In common with many urban townships in Gauteng, Kwa-Thema and Tsakane face a number of social problems particularly unemployment, crime, HIV/AIDS, a growing number of orphans and vulnerable children, and poverty. AngloGold Ashanti is acutely aware of the impact that the Ergo closure will have on local communities.



coaching to learners. The high school programme will start with Grade 10 educators and learners, who will benefit from the intervention up to matriculation (grade 12) level.

The primary schools programme will also include basic technology and literacy, the latter of which is to be supplied by the Read Educational Trust, which serves 1,600 schools in South Africa and develops materials and books for students and teachers. Mathematics, science and technology teaching will be supplied by the Mathematics Centre for Professional Teachers (MCPT), which provides training materials, workshops and classroom visits to enhance teachers' competency in teaching mathematics.

A Management Committee has been formed comprising the Ekurhuleni East Department of Education (under which Tsakane and Kwa-Thema fall), including its curriculum, mathematics, science and technology (MST) and institutional development divisions; the service providers – PROTEC, Read Educational Trust and MCPT; a Principals Forum (comprising representatives from primary and secondary schools); Chris Wiseman, senior human resources manager Ergo; and Siphoh Mahlangu from the AngloGold Ashanti Fund.

All parties are accountable to the Ergo Programme and will meet regularly during the three-year period. Service providers will be required to submit quarterly progress reports as part of monitoring and evaluation. The high school programme is expected to yield tangible matric results only at the end of the programme in 2007.

#### Community care component

The community care component of the programme is to be run by St George's Home through its 'Rearabilwe Programme' (Sotho for 'we are answered'). This programme aims to develop and implement community-based models of care for orphan and vulnerable children, and to facilitate the co-ordination of services by existing service providers in order to limit the impact of HIV/AIDS on the social fabric of society. Mahlangu says, "The purpose of this component is to uplift the communities' social standing. The growing number of orphans and vulnerable children resulting from HIV/AIDS is a much neglected area and requires attention and resources. Children are falling out of the system due to uncoordinated efforts from current service providers dealing with only elements of care and support for children. There is a general lack of holistic programmes which ensure that all the needs of children are addressed."

Aimed at long-term social sustainability, 'Rearabilwe's' planning methodology is to support and strengthen existing community initiatives; to facilitate access to available resources; to bridge the gaps in service provision; and to ensure access to state support.

The project brings together major stakeholders, who are committed to meeting key objectives through crucial interventions for children in need. Intervention strategies, aimed at establishing efficient systems and ensuring sufficient resources through which to provide immediate and on-going child care, include a networking and partnership programme; a governance and management programme; a main programme (which comprises identification, registration, referral and placement of needy children); continuous care; screening of potential care-givers; a foster care recruitment programme; school-based support teams (SBST); and training and support. Equally important is the establishment of a reporting tool, by way of committees and forums, both to monitor and support all interventions. Stakeholders are expected to assume full responsibility for its running and monitoring.

St George's Home already runs a successful 'Rearabilwe' programme in the Etwata/Daveyton community and this is to be replicated in Tsakane and KwaThema. A pre-feasibility study has already been conducted to identify areas of need.

A separate Steering Committee has been formed, comprising St George's Home and representation from other service providers and/or NGOs; the Ekurhuleni East Department of Social Development; Chris Wiseman from Ergo and Siphoh Mahlangu from the Fund.

#### Way forward

The Ergo Programme is a pilot project which, if successful, will pave the way for similar projects in other communities surrounding AngloGold Ashanti's operations. Recent experience has shown, however, that any interventions should preferably start at a much earlier stage than the Ergo Programme, ideally while the operation is still running.

#### Maths education needed

Recent research by the Centre for Development and Enterprise (CDE) showed that, although enrolment for senior certificate (SC) mathematics nearly doubled between 1991 and 2003, enrolment in higher grade mathematics – a tertiary education entrance requirement – had plummeted.

"Only 4,637 African candidates matriculated with HG mathematics in 2002. This reality undermines all our ambitions for the country, for expanded economic growth, for black economic empowerment, for community development," said CDE executive director Ann Bernstein, in a study commissioned on the two communities earmarked by the Fund for the programme. "Think what this means by looking at two townships, Tsakane and Kwa-Thema, situated at the heart of the national economy in Gauteng. In 2003, they had 1,600 senior certificate passes but only 12 of these included higher grade mathematics."

## C32 | 7.10 Geita community benefits from Australian surgical mission to Tanzania

For thousands of children around the world – particularly in rural areas and developing countries – unilateral cleft lip and palate deformities, an inborn disease that leaves a child without some parts of the lips, means untold misery and ostracisation. Unfortunately, this affliction is relatively commonplace around Lake Victoria, where Geita Gold Mine is located.

Faida Matogoro, 12, was one of those born with such a deformity. His story is sorrowful: his parents permitted him to leave their house only during night time. Children of his age who met him during his night sojourn ran away from him shouting the 'ghost'. He was never enrolled into primary school as his parents were ashamed to expose him to the world. His misery ended on 14 October 2004, thanks to Geita's efforts to take him and 10 other affected children to undergo surgery by a team of doctors from Australia in an hour-long procedure at the Comprehensive Community-Based Rehabilitation Tanzania (CCBRT) Disability Hospital in Dar es Salaam. Faida can now smile for the first time.

Says Geita corporate affairs manager, Clement Msalangi, "The outcome of the operations was pretty amazing. We were really proud to be associated with the first ever 'operation smile' carried out by an Australian doctors' surgical mission to Tanzania. The company is committed towards seeing that such a mission is repeated regularly in the future.

"Geita was involved in the surgical mission right from the start of fundraising conducted in Perth, Australia when the Australian team first visited the Tanzanian Consulate in that country. The Consul, Mr. Didier Murcia, himself contacted Geita Gold Mine management and since then, we fully supported the initiative."

Doctors from the mine visited surrounding villages where unilateral cleft lip and palate deformities are prevalent. Eleven children were identified as needing urgent plastic surgery – seven girls and four boys. Many other children with similar problems could not be reached in time for this first mission.

The company funded the transportation of the 11 patients – two of whom had to be accompanied by their mothers – and two nurses (one from the Geita District Hospital and the other from the Mine Clinic).

The beneficiaries from Geita include an 11-month child Rahel Paulo, five-year old Edna Moshi, and six-year olds Regina Selemani and Abel Moshi. Others are Masumbuko Manyandizi (12), Faida Matogoro (12), Nyaswa Mashauri (12), Levina Richard (14), Alice Joachim (19), Hoja Kazalabanu (20) and Chausiku William (30).

Geita managing director, Peter Turner, extended the company's heartfelt thanks to the eight-person mission from Australia and to the two voluntary bodies of plastic surgeons (Interplast – Australia and Operation Rainbow – Australia) for choosing Tanzania as their first destination in Africa. Those who made up the mission were Dr. Tony Connel (head of the team), Dr. Anthony Baker, Dr. Ross Boulter, Dr. Tim Mann and four nurses, Wilma Dunne, Michelle Carthew, Margaret Twine and Natasha Haines.



## 7.11 Geita formulates policy to assist artisanal miners

Artisanal mining activity has been taking place for centuries within Tanzania. (See information box on the website on the role of artisanal miners in sustainable development). The Lake Victoria Goldfields in the Geita District provide a great attraction for artisanal and small-scale miners (ASM) owing to the rich mineral endowment in the region, particularly with gold. The informal mining sector has provided a livelihood for many people and has persisted, irrespective with the presence of a large-scale mining operation.

The informal nature of ASM activities promotes unsafe mining practices and adverse environmental impacts, creating a legacy of liability that is often assumed by the nearest large scale operator. In addition to the safety and environmental issues, the nature of the settlements that arise from ASM activities brings a host of social consequences such as HIV/AIDS, child labour, prostitution and substance abuse.

Through research undertaken by AngloGold Ashanti, stakeholder workshops and site visits, Geita has developed a strategy for its interaction with artisanal miners surrounding the mine. The study provided an in-depth understanding of the nature of the ASM sector in the Geita District. It also identified other stakeholders involved in these issues and what work had been carried out to date. The study also highlighted the legal and financial liabilities which may arise for Geita Gold Mine with artisanal workings on its lease area.

Geita believes that it can have a positive impact on this sector of the industry through raising awareness of the destructive and dangerous practices that are commonplace and, through forming alliances with other stakeholders, improve the working conditions of these miners. Exact figures on the number of artisanal miners in the area are not easily obtainable owing to the informal and dynamic nature of the sector and the ad hoc basis on which mining is carried out; operations can spring up overnight and then disappear. The Tanzanian Chamber of Minerals and Energy estimates that there are between 500,000 and 1 million artisanal miners in Tanzania today. These artisanal miners come from all over Tanzania and neighbouring countries. It is estimated that 26% of artisanal miners are women; accurate statistics on children involved in mining activities are not available, but their involvement is clearly evident.

Says Carolyn Brayshaw, community development coordinator at Geita, “The approach we have adopted is a holistic one, and will be incorporated into the wider community development initiatives and engagement processes already in existence. We understand our limitations in effectively solving the artisanal problem, and have identified areas in which we can have a positive contribution. Using various methods we aim at offering socially, environmentally and economically sustainable alternatives to these miners, particularly in educating them on mercury contamination risk, shaft ventilation, wearing protective equipment and child labour.

“Part of our policy has already been put into action, as Geita has employed three artisanal miners as full time members of the mines rescue team. They receive world class rescue and first aid training, and have participated in rescue operations in and around the region. These three miners will play a crucial role in awareness campaigns in the surrounding communities, as well as assisting with rescue operations should this become necessary.”



## C34 | 7.12 Rehabilitation at Geita

The Geita Gold Mine in Tanzania is situated within the Geita Forest Reserve. This reserve falls under the control of the central government of Tanzania and comprises an area of 477km<sup>2</sup>. Geita owns approximately 144 km<sup>2</sup> of land within the reserve. This reserve is rich in floral diversity (about 400 species) comprising the important Miombo woodland (47%), Combretum/Terminalia/Lateraite grasslands (51%) and riverine vegetation (2%). Unfortunately, illegal logging and charcoal-making activities by local communities who are driven by the growing demand in Geita town, Mwanza and further afield, is threatening the survival or existence of some of these species, and has had a significant impact on these resources. Some of the important species in the vegetation types include *Pterocarpus Angolensis* (Mninga), *Dalbergia melanoxylon* (Mpingo or African black wood), *Brachystegia boehmii* (Myenze), *Brachystegia speciformis* (Mtundu), *Julbernardia globiflora* and *Pterocarpus angolensis* (mbanga).

Geita is not only intent on rehabilitating the area within its lease area after mining activities have ceased, but believes that its rehabilitation programmes offer an ideal opportunity to promote the value of conservation in neighbouring communities, while offering them an economic alternative to the environmentally destructive practices which are often the only form of income for these communities.

Geita's environmental policy and management plan prohibits any activities on site that could damage the environment, and clearing of any vegetation on site is not allowed without the written permission of the environmental manager. A comprehensive rehabilitation programme is in place: all cleared areas are rehabilitated and revegetated once mining activities have been concluded using species similar to those that existed before clearing. Three zones of rehabilitation have therefore been established – Miombo woodland, Mbuga and grassland use in rehabilitation of different areas.

Since the start of operations \$3 million (Tsh. 3,315 million) has been spent on land rehabilitation, planting trees, the nursery, and the herbarium. To date, 180,000 trees have been planted, and 713 kilograms of seed broadcasted, resulting in 230 hectares of land being restored. Another 120,000 trees from Geita's own five-acre tree nursery were planted into the 90 hectares of land disturbed during 2004. 2,326 hectares have been disturbed to date, most of this in the pits and waste dump areas. The initial area to be rehabilitated has seen the vegetation stabilise and firmly combine with other areas of land. Of 60,000 trees planted in 2003, 88% have survived.

"At Geita we view the environment in its totality," says Carolyn Brayshaw community development co-ordinator for the mine, "which includes the involvement of people. Local communities are involved in all levels of rehabilitation – from seed collection, seed cleaning and preparation, growing seedlings through to transplantation and landscape and erosion control. By involving them in this process communities can see trees as an economic resource beyond that of charcoal or timber. After mine closure we hope we will leave behind a conservation ethic, and a sustainable timber industry. These issues will be dealt with in mine closure planning which addresses vision for the local community development and thus sustainability.

"At present Geita supports three local nurseries that produce saplings for transplantation. Two of these nurseries, Bukoli and Geita Town nurseries, were existing commercial nurseries, but in the past there was never a market for indigenous trees. The third nursery developed out of the existing Nyakabale Agro forestry project, which is supported by the mine and which came about as a result of the financial assistance and training provided. Seeds were originally supplied to all three nurseries; now, however, the owners of the nursery organise the collection themselves."



Geita's environmental management is verified externally: 2004 saw the company retain its ISO 14001 certification with a 97% rating; together with its four platinum star Nosa rating.



The species required are identified by the Health, Safety and Environment (HSE) team who, through research, trial and error and consultation with local communities have identified the most suitable species. They are selected taking the following into account:

- seed germinability;
- seed availability;
- species distribution and /or dormancy; and
- historical landscape species relationship and abundance for example grassland species, mbuga species and highland species.

The species growth response is monitored constantly by HSE staff. Growth response assessment is conducted on an annual basis by experts from Tanzania Forest Tree Agency. Local communities have benefited from experts from within Tanzania and beyond, who have worked with these communities in the identification, seed collection and optimum planting and germination practices.

The HSE department has set the target for each of these nurseries to have 40,000 trees ready for transplanting for the 2004 rainy season. This stretched target was exceeded as all three nurseries have produced in excess of 60,000 trees each.

Geita (in conjunction with the District Forest Office) also takes part in Forest Reserve management by fighting unsustainable activities. Six people have been employed by the mine on a permanent basis to patrol around the forest reserve and prevent those conducting illegal activities within the forest.

"We also work with the community and the district leadership in a number of environmental projects. For instance, we sponsored the National Environmental Day in the district by purchasing seedlings from different suppliers in the district worth Tsh1 million (5,000 trees). These were distributed to schools and villages to be planted when commemorating the day."

**Can environmental projects be sustainable?**

Sustainability of local communities is a complex and difficult objective, particularly in respect of a non-renewable resource such as mining. Some commentators claim that the involvement of local communities in rehabilitation is not sustainable, because the market for the trees/plants will disappear when mining operations cease. The view taken by Geita mine in Tanzania is that by placing a value on indigenous trees it will promote both the concepts of conservation and entrepreneurship. Two of the nurseries that Geita is working with were in existence prior to the mine's operation, but they were cultivating and selling non-indigenous plants. The mine encourages the nurseries to expand their markets outside of the mine. As hardwood species become more of a scarce resource, their demand may well increase in the future, and the Geita area has the potential to become a valuable producer. With the encouragement of Geita, the Tanzanian Forestry department is forming alliances with local communities in the management of forest reserves and to encourage planting of indigenous species, creating yet another market.



## C36 | 7.13 Getting the Pikes Peak Regional Medical Center off the ground

The North American region's Cripple Creek & Victor Gold Mining Company (CC&V) is located in the rural area of southern Teller County in the state of Colorado, in between the small communities of Victor and Cripple Creek. The nearest city of some significant population is about 25 miles away in Woodland Park.

The Woodland Park area and Teller County region have struggled for many years to secure reliable health care for the community.

The Langstaff-Brown Medical Center, opened in 1982, provides office space for doctors and limited urgent care facilities. Although it was originally planned as a 24-hour emergency facility, it was unable to support the demands from the increase in traffic largely attributable to casino gaming in Cripple Creek, and its hours of operation have since been reduced.

The growing and aging population has placed increased pressure on the existing health care system in the region, to the detriment of AngloGold Ashanti employees, their families and the community as a whole. To address this need, the Pikes Peak Regional Medical Center Association was formed in 1999 with the aim of establishing a comprehensive health care delivery system to serve the primary needs of the region. Land for the facility was donated and site improvements to bring sewer and water systems to the site were completed in 2001.

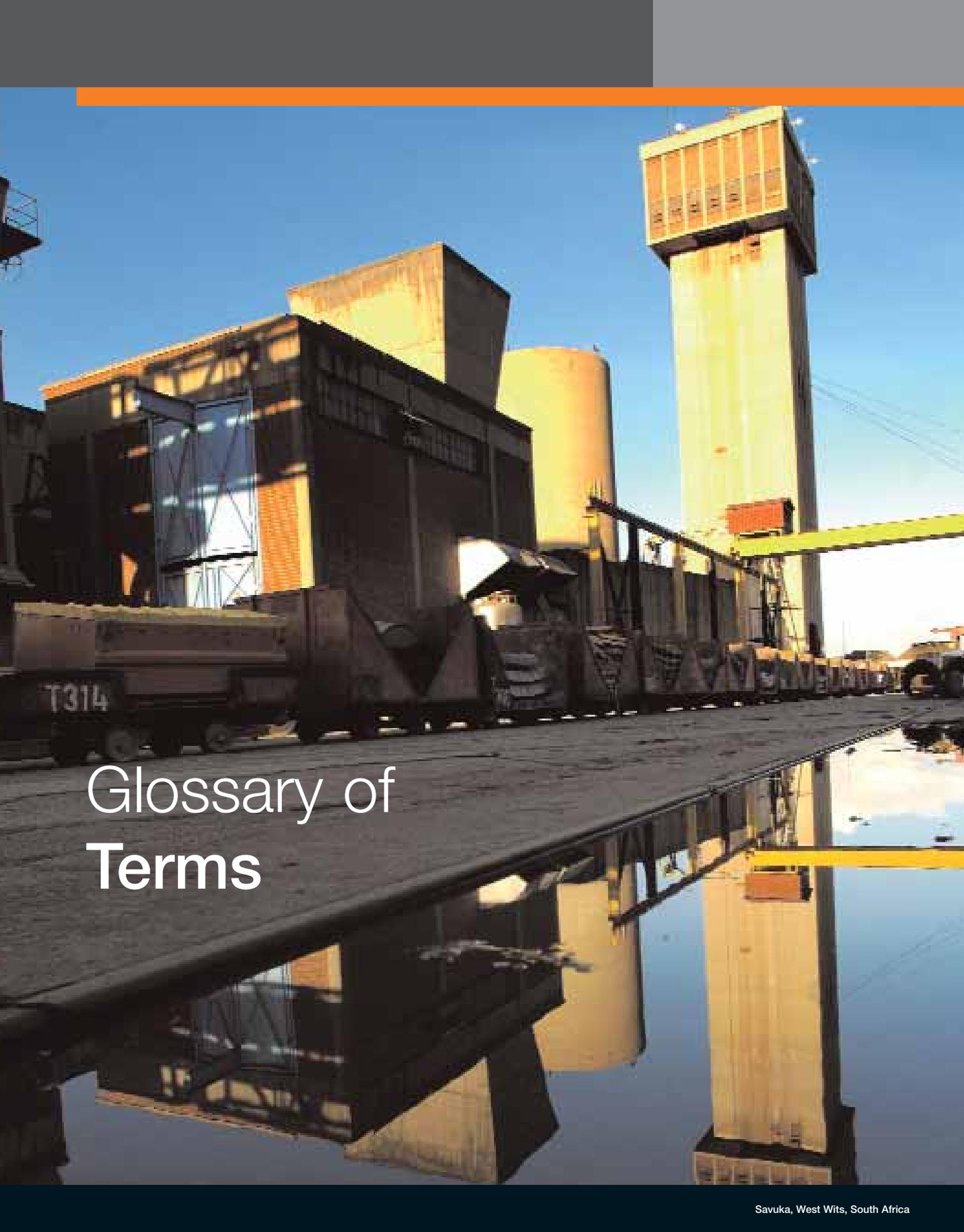
CC&V has been involved in the Medical Center from its inception. Current VP/general manager Ron Largent says, "We are involved for two reasons: a full service medical center is clearly needed in the community and such a facility would be very beneficial to CC&V employees and their families."

From the beginning of the capital campaign in 2000, CC&V has donated \$25,000 per year each year. These funds were used as matching funds to obtain grants from the State of Colorado – totalling \$750,000 – from the Energy Mineral Impact Assistance Fund. This fund was established by the State to support communities that may be impacted by mining activities. CC&V pays taxes into this fund each year; for example, CC&V paid nearly \$285,000 in 2003. Largent and Jane Mannon, CC&V's manager of community affairs, attended the grant hearings to testify to CC&V's support of the Medical Center and its value to CC&V and the entire region.

CC&V also has supported the Medical Center's other fundraising activities by providing booth space at Victor's Gold Rush Days and assisting with the annual raffle fundraiser. The Medical Center staff meet CC&V employees at the annual safety refresher training sessions, and these opportunities for distributing information have increased the profile of the Medical Center in the community.

During 2004, road improvements, which is the first step in the construction of the full facility, were completed. The association hopes to have full funding in place in 2005 and begin facility construction soon thereafter.



A photograph of an industrial facility, likely a steel mill, during sunset. The scene is dominated by large, dark industrial buildings and a tall, slender tower. In the foreground, a train of covered wagons is visible on a track. The sky is a clear, deep blue, and the sun is low on the horizon, casting a warm, golden glow on the structures. A large, dark, rectangular object is in the immediate foreground, partially obscuring the view. The overall atmosphere is industrial and serene.

# Glossary of Terms

## Glossary of terms and acronyms:

### A

<b>A\$</b>	Australian dollars
<b>ABET:</b>	Adult Basic Education and Training
<b>ADS:</b>	American Depository Share
<b>Agency shop agreement:</b>	exists in South Africa across the non-supervisory bargaining unit within the company. In terms of this, subscriptions are deducted from non-union members and paid directly into a Human and Industrial Relations Fund (HIRF).
<b>AHS:</b>	AngloGold Health Service, a wholly-owned subsidiary of AngloGold Ashanti, engaged in the provision of health care services
<b>AMREF:</b>	African Medical and Research Foundation - an independent non-profit, non-governmental organisation whose mission it is to improve the health of disadvantaged people in Africa
<b>AngloGold Ashanti Fund:</b>	vehicle for social investment initiatives in southern Africa
<b>APCD:</b>	Colorado Air Pollution Control Division
<b>ART:</b>	anti-retroviral therapy - treatment regimen for the treatment of people with HIV/AIDS, with anti-retroviral drugs
<b>Aserni:</b>	Association d'Etude pour la Mise en Valeur des Ressources Naturelles et des Institutions - Malian association for the promotion of sustainable development
<b>ASM:</b>	artisanal and small scale mining
<b>Aurum:</b>	Aurum Health Research, a wholly-owned subsidiary of AngloGold Health Service, that undertakes research into HIV/AIDS and TB. As from February 2005, Aurum has become an independent section 21 company
<b>Average number of employees:</b>	average attributable number of both employees and contractors employed during the year, where contractors are defined as workers in employment for longer than one year

### B

<b>Backfill:</b>	method of underground support: refers to the use of waste material or rock integrated with timber props to support the hanging wall after the removal of ore from a stope
<b>BEE:</b>	Black Economic Empowerment, referring specifically to the empowerment of Historically Disadvantaged South Africans (HDSAs); initiatives aimed at eliminating the economic legacy of apartheid in South Africa
<b>BIOX:</b>	bacterial oxidation process through which gold is liberated from sulphide minerals. Used at Obuasi in Ghana.
<b>BSI:</b>	British Standards International
<b>By-products:</b>	any products that arise from the core process of producing gold, including silver, uranium and sulphuric acid

### C

<b>CAFS:</b>	Charity AIDS Foundation South Africa
<b>Capital expenditure:</b>	total capital expenditure on mining assets to both maintain and expand operations
<b>CBOs:</b>	community-based organisations
<b>CC&amp;V:</b>	Cripple Creek & Victor
<b>CDE:</b>	Centre for Development and Enterprise, South Africa
<b>CEO:</b>	chief executive officer
<b>CFO:</b>	chief financial officer
<b>Charter:</b>	Broad-Based Socio-Economic Charter for the South African mining industry
<b>CIL:</b>	carbon-in-leach. Gold recovery process
<b>CIP:</b>	carbon-in-pulp. Gold recovery process
<b>CMA:</b>	Colorado Mining Association

<b>COIDA:</b>	Compensation for Occupational and Industrial Diseases Act, South Africa. Provides for medical cover and compensation in respect of occupational injury and disease in all workplaces in South Africa. The Rand Mutual Association administers the Act in respect of the mining industry. Compensation in respect of occupational lung disease among miners is dealt with under the Occupational Diseases and Mines and Works Act (ODMWA)
<b>Comminution:</b>	breaking up of ore to make gold available for treatment
<b>COO:</b>	chief operating officer
<b>CREATE:</b>	Consortium to Respond Effectively to the AIDS/TB Epidemic
<b>CSIR:</b>	Council for Scientific and Industrial Research, South Africa
<b>Cyanide Code:</b>	International Cyanide Management Code

## D

<b>dba:</b>	decibels: unit of sound measurement
<b>DBIRD:</b>	Department of Business, Industry and Resource Development (Australia)
<b>DDR:</b>	Digital Diagnostic Radiography, used for the early detection of TB
<b>Decent work:</b>	Productive work in which rights (specifically those contained in the ILO Declaration of Fundamental Rights at Work) are protected, which generates an adequate income, with adequate social protection. It also means sufficient work, in the sense that all should have full access to income-earning opportunities.
<b>Dick Fisher Global Safety Award:</b>	An internal AngloGold Ashanti award intended as an incentive for outstanding safety performance, that recognises both actual safety performance and well as improvements year-on-year
<b>DME:</b>	Department of Minerals and Energy, South Africa
<b>DOIR:</b>	Department of Industry and Resources (Australia)
<b>DPOAE:</b>	Distortion Product Otoacoustic Emission, for audio testing
<b>DWAF:</b>	Department of Water Affairs and Forestry (South Africa)

## E

<b>EBITDA:</b>	profit before taxation, net interest, growth in the Environmental Rehabilitation Trust Fund, amortisation of tangible and intangible assets, impairment of tangible assets, profit (loss) on disposal of assets and subsidiaries, profit (loss) on disposal of investments; foreign exchange gain (loss) on transactions other than sales, unwinding of the decommissioning obligation, unrealised non-hedge derivatives, and fair value gains (losses) on interest rate swaps
<b>EDP:</b>	Executive Development Programme
<b>Effective tax rate:</b>	current and deferred taxation as a percentage of profit on ordinary activities before taxation
<b>EIA:</b>	Environmental Impact Assessment.
<b>Elution:</b>	process of re-dissolving gold from activated carbon
<b>EMP:</b>	Environmental Management Programme
<b>EMPR:</b>	Environmental Management Programme Report
<b>EMS:</b>	Environmental Management System
<b>EPA:</b>	US or Ghanaian Environmental Protection Agency, depending on the context in which it is used
<b>Equity:</b>	shareholders' equity adjusted for other comprehensive income and deferred taxation. Where average equity is referred to, this is calculated by averaging the figures at the beginning and the end of the financial year
<b>FWC:</b>	functional work capacity
<b>EROS:</b>	East Rand Occupational Health Surveillance

<b>Evapo-transpiration basin:</b>	facility constructed at closure, which receives water from the reclaimed heap pad or Tailings Storage Facility (TSF)
<b>Exco:</b>	executive committee

## F

<b>FICA:</b>	Financial Intelligence Centre Act, introduced in South Africa to eliminate money laundering and fraud at international level
<b>FIFR:</b>	Fatal Injury Frequency Rate. The number of fatal injuries per million hours worked
<b>FOSAF:</b>	Federation of Southern African Flyfishers, South Africa
<b>Free cash flow:</b>	net cash inflow from operating activities less capital expenditure to maintain operations
<b>Fundamental Human Rights Conventions of the ILO:</b>	International Labour Standards covered in the Declaration on Fundamental Principles and Rights at Work (adopted by the International Labour Conference at its 86th session, Geneva 1998)
<b>Convention No. 29:</b>	Forced Labour, 1930
<b>Convention No. 87:</b>	Freedom of Association and Protection of the Right to Organise, 1948
<b>Convention No. 98:</b>	Right to Organise and Collective Bargaining, 1949
<b>Convention No. 100:</b>	Equal Remuneration, 1951
<b>Convention No. 105:</b>	Abolition of Forced Labour, 1957
<b>Convention No. 111:</b>	Discrimination (Employment and Occupation), 1958
<b>Convention No. 138:</b>	Minimum Age, 1973
<b>Convention No. 182:</b>	Worst Forms of Child Labour, 2000
<b>FWC:</b>	IFunctional work capacity

## G

<b>GGM:</b>	Geita Gold Mine
<b>GhDS:</b>	Ghanaian Depository Share
<b>Global Compact:</b>	United Nations Global Compact
<b>Grade:</b>	the quantity of gold contained within a unit weight of gold-bearing material generally expressed in ounces per short ton of ore (oz/t), or grams per metric ton (g/t)
<b>GRB:</b>	Geotechnical Review Board
<b>Greenhouse gas emissions:</b>	gaseous pollutants released into the atmosphere through the burning of fossil fuels and through other avenues, that amplify the greenhouse effect. The greenhouse effect is widely accepted as the cause of global climate change. Gases include CO <sub>2</sub> , CH <sub>4</sub> , N <sub>2</sub> O, HFCs, PFCs, SF <sub>6</sub> , and other CO <sub>2</sub> equivalents
<b>GRI:</b>	Global Reporting Initiative. A multi-stakeholder process and independent institution whose mission is to develop and disseminate globally applicable sustainability reporting guidelines

## H

<b>HAART:</b>	Highly active anti-retroviral therapy. A cocktail of three or more drugs which in combination are strong enough to reduce viral loads to very low levels
<b>Hay system:</b>	well-known job classification system used at a number of AngloGold Ashanti operations
<b>HDSAs:</b>	Historically Disadvantaged South Africans. This term refers to any persons or communities disadvantaged by unfair discrimination before the new South African Constitution came into effect. Includes those from the Southern African Customs Union and Mozambique.
<b>Heap leach pad:</b>	heap-leach facility in which gold-bearing ore is stacked. A high pH cyanide-based solution is sprayed or dripped over the heap leach dissolving the precious metals as it drains through the stack
<b>Hearts of Gold:</b>	employee volunteer programme in South Africa
<b>HEG:</b>	homogeneous exposure group
<b>HIRAs:</b>	Hazard Identification and Risk Assessments

<b>HIRF:</b>	Human and Industrial Relations Fund. In South Africa, the fund into which amounts equivalent to union subscriptions are paid by non-union members in terms of the agency shop agreement in place with the National Union of Mineworkers (NUM)
<b>HEG:</b>	homogeneous exposure group
<b>Holding Hands:</b>	volunteer programme in South Africa
<b>HPDs:</b>	hearing protection devices
<b>HSE:</b>	health, safety and environment
<b>HSM:</b>	Heat Stress Management - means of detecting and excluding individuals with heat intolerance through of a screening procedure.
<b>HTS</b>	Heat Tolerance Screening. HTS involves a step test at controlled temperatures, as part of HSM.

## I

<b>IAPs:</b>	Interested and Affected Parties
<b>ICEM:</b>	International Federation of Chemical, Energy, Mine and General Workers' unions
<b>ICME:</b>	International Council on Metals and the Environment, the forerunner of ICMM.
<b>ICMI:</b>	International Cyanide Management Institute
<b>ICMM:</b>	International Council on Mining and Metals
<b>IDAP:</b>	Integrated Development Action Plan
<b>IDP:</b>	Integrated Development Plan
<b>IFC:</b>	International Finance Corporation
<b>ILO:</b>	International Labour Organization, a UN agency for the promotion of social justice and human and labour rights
<b>IMDP:</b>	Intermediate Management Development Programme
<b>Interest cover:</b>	EBITDA divided by finance costs
<b>International Cyanide Management Code:</b>	industry standard for cyanide management. Developed under the auspices of UNEP
<b>IRMS:</b>	Integrated Risk Management System
<b>ISO:</b>	International Standards Organization, a voluntary not-for-profit network of national standards institutes from 146 countries.
<b>ISO 4001:</b>	ISO standard relating to environmental management systems.
<b>ISO 14001 certification:</b>	certification based on regular auditing by an accredited external body.
<b>ISSI:</b>	subsidiary of AngloGold Ashanti that develops and implements seismic monitoring management systems
<b>IUCN:</b>	International Union for the Conservation of Nature

## J

<b>JSE:</b>	JSE Securities Exchange South Africa
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## K

<b>King Report:</b>	King Report on Corporate Governance, 2002
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## L

<b>LED:</b>	local economic development
<b>Life-of-mine (LOM):</b>	number of years that the operation is planning to mine and treat ore, and is taken from the current mine plan
<b>LLCA:</b>	Laverton Leonora Cross Cultural Association

**LTIFR:** Lost Time Injury Frequency Rate per million hours worked. Note that AngloGold Ashanti utilises the strictest definition in reporting Lost Time Injuries in that it includes all Disabling Injuries (where an individual is unable to return to his place of regular work the next calendar day after the injury) and Restricted Work Cases (where the individual may be at work, but unable to perform full or regular duties on the next calendar day after the injury) within this definition.

## M

**Managerial employees:** defined as those in supervisory and management roles in Paterson job grades C-upper and above

**Masakhisane:** venture company set up by AngloGold Ashanti to invest in small businesses. Works in conjunction with SMEDI.

**Masifunde Fund:** (means 'Let us learn' in Zulu and Xhosa) - A fund established by AngloGold in 1999 to fund the education for the children of those who have died in mine-related accidents on the South African operations

**MDA:** Mineworkers Development Agency. Established by the National Union of Mineworkers in South Africa to retrain retrenched mineworkers and undertake development projects

**MDP:** Management Development Programme

**Milling:** a process of reducing broken ore to a size at which concentrating can be undertaken

**Mineral resources:** A mineral resource is a concentration or occurrence of material of economic interest in or on the earth's crust in such form, quality and quantity that there are reasonable and realistic prospects for eventual economic extraction. The location, quantity, grade, continuity and other geological characteristics of a mineral resource are known, estimated from specific geological evidence and knowledge, or interpreted from a well-constrained and portrayed geological model. Mineral resources are sub-divided, in order of increasing geological confidence, into Inferred, Indicated and Measured categories. The mineral resources are inclusive of those resources which have been modified to produce ore reserves

**Mining Charter or the Charter:** Broad-based Socio-Economic Empowerment Charter

**Mining-induced seismicity:** failure of the earth's crust or rock mass as a result of mining-induced changes in rock stress levels.

**MPCT:** Mathematics Centre for Professional Teachers

**MPRDA:** Mineral and Petroleum Resources Development Act, 28 of 2002, which came into effect in South Africa on 11 May 2004. Regulates the granting of mining authorisations and prospecting permits

**MQA:** Mine Qualifications Authority. A South African government body charged with developing standards and qualifications for the country's mining sector; maintaining the quality of standards, qualifications and learning provision; developing and implementing a sector skills plan; disbursing grants from the Skills Development Levy; and establishing, registering, administering and promoting learnerships and apprenticeship administration

**MRS:** Mine Rescue Services, South Africa. A private sector non-profit organisation that trains volunteer brigadesman who work in the industry and find and recover fellow employees in the event of an underground accident or incident

**MUN:** Mineworkers Union of Namibia

## N

**N\$:** Namibian dollar

**NDA:** National Department of Agriculture, South Africa

**NEMA:** National Environmental Management Act, 1998, South Africa

**NGO:** non-governmental organisation

**NIHL:** noise-induced hearing loss. Compensable cases reported per 1,000 employees

**NIOSH:** National Institute of Occupational Health and Safety - health and safety organisation based in Washington DC

**NNR:** National Nuclear Regulator, South Africa

**Nosa:** National Occupational Safety Association. Provides auditing and certification services, based in South Africa

**NPO:** non-profit organisation

**NQF:** National Qualifications Framework

<b>NUM:</b>	National Union of Mineworkers (South Africa)
<b>NYSE:</b>	New York Stock Exchange

## O

<b>ODMWA:</b>	Occupational Diseases in Mines and Works Act of 1973 (South Africa)
<b>OEL:</b>	occupational exposure limit
<b>OLD:</b>	occupational lung disease. Compensable cases reported per 1,000 employees.
<b>Open-pit:</b>	where top layers of soil are removed to uncover the reef
<b>Operating margin:</b>	adjusted operating profit as a percentage of gold income including realised non-hedge derivatives
<b>Ore reserves:</b>	an ore reserve is the economically mineable material derived from a measured and/or indicated mineral resource. It is inclusive of diluting materials and allows for losses that may occur when the material is mined. Appropriate assessments have been carried out, including consideration of, and modification by, realistically assumed mining, metallurgical, economic, marketing, legal, environmental, social and governmental factors. These assessments demonstrate at the time of reporting that extraction is reasonably justified. Ore reserves are sub-divided in order of increasing confidence into probable ore reserves and proved ore reserves
<b>Ounces (oz) (troy):</b>	used in imperial statistics. A kilogram is equal to 32.1507 ounces

## P

<b>Paterson grading system:</b>	well-known job classification system used at a number of AngloGold Ashanti operations
<b>PCAOB:</b>	Public Company Accounting Oversight Board. Established in the US to oversee and regulate a public company's auditors in terms of the Sarbanes-Oxley Act
<b>PCDP:</b>	Public Consultation and Disclosure Plan
<b>PLH:</b>	percentage loss of hearing
<b>Preconditioning:</b>	drilling of holes ahead of the face to be blasted and detonating these with a light charge. To mitigate against mining-induced seismicity.
<b>Price received</b>	attributable gold income including realised non-hedge derivatives divided by attributable ounces/kilograms sold.
<b>PROTEC:</b>	Programme for Technical Careers service provider for implementation of mathematics and science in secondary schools
<b>PTP:</b>	Pompura Treatment Plant, at Obuasi, Ghana
<b>PTS:</b>	permanent threshold shift, a measure of permanent hearing loss.
<b>PWC:</b>	independent auditors PricewaterhouseCoopers

## R

<b>R:</b>	South African rand
<b>Ramsar convention:</b>	international treaty governing the conservation and sustainable development of wetlands of international importance. Such wetlands are known as Ramsar sites
<b>Rehabilitation:</b>	the process of restoring mined land to allow an appropriate post-mining use. Rehabilitation standards are determined amongst others by the South African Department of Minerals and Energy, the US Bureau of Land Management, the US Environmental Protection Agency, and the Australian Minerals Industry Code for Environmental Management, and address ground and surface water, topsoil, final slope gradient, waste handling and re-vegetation issues
<b>Resettlement policy for AngloGold Ashanti:</b>	based on the IFC's Resettlement Policies, Guidelines and Standards
<b>Return on equity:</b>	adjusted headline earnings expressed as a percentage of the average equity, adjusted for the timing of acquisitions and disposals

<b>Rockburst:</b>	seismic release of energy, similar to an earthquake, that results in obvious damage to mining excavations
<b>RPL:</b>	Recognition of Prior Learning. Employees' current level of education is established and acknowledged.

## S

<b>SACU:</b>	Southern African Customs Union
<b>SAQA:</b>	South African Qualifications Authority
<b>Sarbanes-Oxley:</b>	Sarbanes-Oxley Act of 2002. Introduced into law in the US to set new corporate governance standards for corporate boards and accountability standards and penalties for corporate management
<b>SARS:</b>	Severe Acute Respiratory Syndrome
<b>SECNAMI:</b>	Section Nationale des Mines et des Industries (Malian trade union)
<b>Seismic event:</b>	the transient motion and release of kinetic energy caused by sudden failure of the earth's crust, usually felt as shaking or tremors in the rock mass. Seismic events range in size from barely perceptible tremors to major earthquakes
<b>SETA:</b>	Sector Education Training Authority
<b>Shaft:</b>	vertical or decline - means of transporting men and materials
<b>Silicosis:</b>	occupational lung disease caused by the inhalation of free silica dust which is present in mining where quartz concentrations are high
<b>SIMRAC:</b>	Safety in Mines Research Advisory Council
<b>SLERA:</b>	Screening Level Risk Assessment
<b>SMAT:</b>	Safety Management Auditing Technique
<b>SMEDI:</b>	Small and Medium-sized Enterprise Development Initiative. Set up by AngloGold Ashanti in South Africa to stimulate economic growth by developing small businesses.
<b>Social Development Toolbox:</b>	Guide to AngloGold Ashanti's community practices
<b>SRI:</b>	Socially Responsible Investment Index, launched in 2004 by the JSE to identify those companies that integrate the principles of sustainability into their business activities, and to facilitate investment into those companies
<b>STD:</b>	Sexual Transmitted Disease
<b>STI:</b>	Sexually Transmitted Infection
<b>STP:</b>	Sansu Treatment Plant, at Obuasi, Ghana

## T

<b>TACAIDS:</b>	Tanzanian Commission for AIDS
<b>Tailings:</b>	the rejected material from mining and screening operations
<b>TB:</b>	pulmonary tuberculosis
<b>TEBA:</b>	The Employment Bureau of Africa. An institution owned by the South African mining industry, through which the industry has historically recruited labour but which now fulfills a broader social role in addition to its recruitment function
<b>TEBA Development:</b>	Not-for-profit company that undertakes development in rural labour-sending areas
<b>Total cash costs:</b>	total cash costs include site costs for all mining, processing and administration, as well as contributions from by-products and are inclusive of royalties and production taxes. Amortisation, rehabilitation, corporate administration, retrenchment, capital and exploration costs are excluded. Total cash costs per ounce are the attributable total cash costs divided by the attributable ounces of gold produced
<b>Total production costs:</b>	total cash costs including amortisation, retrenchment, rehabilitation and other non-cash costs. Corporate administration, capital and exploration costs are excluded. Total production costs per ounce are the attributable total production costs divided by the attributable ounces of gold produced

**TSF:** tailings storage facility. An engineered dam, designed and constructed as a repository for the ground rock or tailings after gold has been extracted.

**TSI:** Tshikululu Social Investments. Non-profit organisation. Specialist managers of social investment – managers of the AngloGold Ashanti Fund

**TSS:** total suspended solids

**U**

**Uasa:** United Association of South Africa (South African trade union)

**UNDP:** United Nations Development Programme

**UNEP:** United Nations Environment Programme

**V**

**VCR:** Ventersdorp Contact Reef

**VCT:** Voluntary Counselling and Testing

**VP:** vice president

**W**

**WHO:** World Health Organization

**Y**

**YWG:** Yellowfish Working Group (South Africa)

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