



Ghana Obuasi

Message from Nigel Trevarthen

2004 was a challenging year for Obuasi and its people. The business combination between Ashanti Goldfields and AngloGold at the end of April 2004 and the integration of our systems and reporting has taken up much time and has, in many instances, changed the way we do things. At the same time we have had a difficult period operationally as we faced the challenge of overcoming the legacy of many years of undercapitalisation. We acknowledge too that integration has introduced a degree of uncertainty for many employees and their families, and appreciate their effort and patience in bringing the two companies together.

On the positive side though, we have seen significant investment in infrastructure, in training and in a range of other systems. In all, capital expenditure at Obuasi was \$32 million in 2004, significantly up on the previous year. This is set to increase again to \$71 million mainly on underground equipment, infrastructure and environmental and planning systems for existing operations. Going forward, we at AngloGold Ashanti are committed to:

- continued significant capital expenditure to optimise exploitation of the Obuasi orebody;
- evaluating and bringing to account Obuasi Deeps and, in so doing, extending the life of the mine to 2040;
- remaining a significant and fair employer; and
- contributing meaningfully to the communities surrounding our operations and to the country as a whole.

Some of the ways in which we have and will continue to have an impact on our communities are discussed in this report. These include:

- the Obuasi apprenticeship programme;
- the upgrade of the Edwin Cade Memorial hospital;
- the malaria prevention programme that has been embarked upon; and
- the way we are dealing with the disposal of naturally-occurring arsenic.

While this is not an exhaustive account of our efforts, they do provide some indication of the way we conduct our business.

With our capital programme now well under way, I believe that we are better placed to meet the expectations of both our shareholders on the one hand and our stakeholders – employees and their communities – on the other.

Nigel Trevarthen
General manager, Obuasi



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About this report:

AngloGold Ashanti is committed to reporting to a broad range of stakeholders. In addition to its operational and financial performance reports, the company also reports on its economic, social and environmental performance – the so-called triple bottom line.

This country profile forms part of a broader group Report to Society which is available on the company's website, or from the contacts detailed below.

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2 | Introduction

On 4 August 2003, AngloGold Limited (based in South Africa) and Ashanti Goldfields Limited (based in Ghana) announced that they had agreed the terms of a recommended business combination. The Ashanti board announced on 14 October 2003 that it was recommending the final offer from AngloGold and, on 28 October 2003, the government of Ghana, which held 16.8% of Ashanti's issued share capital, announced its support for the AngloGold offer, as well as the principal terms of a Stability Agreement which the government of Ghana intended to enter into with AngloGold. (See box).

The business combination was effected by means of a scheme of arrangement under Ghanaian law, which required and obtained the

approval of Ashanti shareholders and the confirmation by the High Court of Ghana. The business combination became effective on 26 April 2004 after the Court Order from the High Court of Ghana was lodged with the Ghana Registrar of Companies. From the effective date, Ashanti became a private company and AngloGold changed its name to AngloGold Ashanti Limited.

AngloGold Ashanti has three operations in Ghana: the Obuasi mine (which comprises both surface and underground operations), the Iduapriem mine (open-pit) and the Bibiani mine (open-pit with underground development).



Obuasi

Ownership: Wholly-owned by AngloGold Ashanti

Location: The Obuasi mine is located in the Ashanti region of Ghana, some 80 kilometres from Kumasi.

Geology: The gold deposits at Obuasi are part of a prominent gold belt of Proterozoic (Birimian) volcano-sedimentary and igneous formations which extend for a distance of approximately 300 kilometres in a north-east south-west trend in south-western Ghana. Obuasi mineralisation is shear zone related and there are three main structural trends hosting gold mineralisation: the Obuasi trend, the Gyabunsu trend and the Binsere trend. Two main ore types are mined:

- quartz veins which consist mainly of quartz with free gold in association with lesser amounts of various metal sulphides such as iron, zinc, lead and copper. The gold particles are generally fine grained and occasionally are visible to the naked eye. This ore type is generally non-refractory; and
- sulphide ore which is characterised by the inclusion of gold in the crystal structure of a sulphide material. The gold in these ores is fine grained and often locked in arsenopyrite. Higher gold grades tend to be associated with finer grained arsenopyrite crystals. Other prominent minerals include quartz, chlorite and sericite. Sulphide ore is generally refractory.

Mining and processing: Historically, Obuasi has been an underground mine, although there was large-scale surface mining between 1990 and 2000. The mine normally has two active treatment plants: the sulphide treatment plant to process underground ore and the tailings treatment plant to handle tailings reclamation operations. A third plant, the oxide treatment plant, which is used occasionally to batch treat remnant open-pit ore and stockpiles, will be shut down at the end of 2006 following completion of oxide open-pit operations.

Performance in 2004: For the period May to December 2004, gold production was 255,000 ounces with total cash costs of \$305 per ounce. Capital expenditure in 2004 amounted to \$32 million. The underground mine was the major area of capital expenditure, specifically on mining

Obuasi*		
		2004
Gold production	000oz	255
Total cash costs	\$/oz	305
Total production costs	\$/oz	426
Capital expenditure	\$ million	32
Total number of employees		6,747
Employees		6,029
Contractors		718

* For eight months from May 2004

equipment, the BSVS shaft, primary development and exploration. Other significant areas of capital expenditure included smaller engineering and processing projects such as equipment replacement and the mill processing optimisation system control project.

Growth prospects: A key aspect of the rationale for the business combination between AngloGold and Ashanti is the development of the deep-level ore deposits at the Obuasi mine currently referred to as Obuasi Deeps. This development could potentially extend the life-of-mine to well beyond 2040. However, this requires an investment of \$44 million over the next five years on further exploration and the necessary feasibility studies.

Depending upon the results, the full development of Obuasi Deeps may proceed at the end of this five-year period but could take several years to complete. Initial scoping studies have indicated that the development of Obuasi Deeps will require an estimated capital expenditure of \$570 million (at 2004 prices) over the anticipated life-of-mine.

Outlook: During 2005, AngloGold Ashanti will continue to work towards improving the mine's gold production to an annualised rate of 500,000 ounces and targeted total cash costs of around \$253 per ounce. Capital expenditure is expected to be \$71 million.

Stability agreement indicates commitment to Ghana



As part of the business combination between AngloGold and Ashanti which became effective in April 2004, AngloGold committed to:

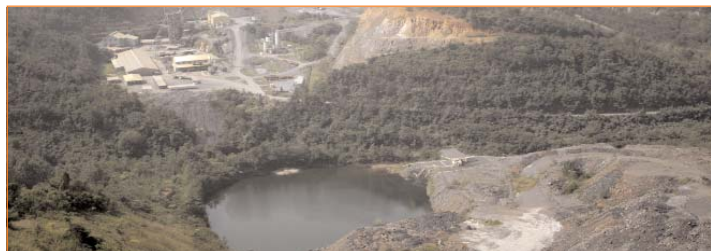
- the recapitalisation of the existing Obuasi mine as well as to undertake further exploration of Obuasi Deeps;
- expenditure of \$220 million (at 2004 prices) on the existing Obuasi mine over the five-year period commencing 1 January 2004, which includes an amount of \$110 million, to be spent on underground equipment, infrastructure and environmental and planning systems for the existing Obuasi mine;
- conclude by 31 December 2008 the required exploration programme and feasibility studies with regard to Obuasi Deeps, at an estimated cost of \$44 million;
- for a period of two years, to not implement any new retrenchment programme in Ghana (excluding individual dismissals made from time-to-time) and to continue to apply Ashanti's existing and approved retrenchment programmes;
- establish and/or maintain a community trust in Ghana to which the group will contribute a total amount of 1% of profits generated in Ghana; and
- implement programmes pertaining to training, malaria control and improvement of health, safety and working conditions.

Mineral resources and ore reserves

Mineral resources and ore reserves are reported in accordance with the Australasian Code for Reporting of Mineral Resources and Ore Reserves (the JORC Code), together with the South African Code for the Reporting of Mineral Resources and Mineral Reserves (the SAMREC Code). Mineral resources include the ore reserve component.

AngloGold Ashanti had mineral resources of 218.2 million ounces and ore reserves of 78.9 million ounces as of 31 December 2004. Of these, the Ghana operations accounted for mineral resources of 34.3 million ounces and ore reserves of 11.9 million ounces. Obuasi in particular accounts for 12.2% and 13.4% of the group's ore reserves and mineral resources.

Mine	Category	Metric			Imperial		
		Tonnes million	Grade g/t	Contained gold tonnes	Tons million	Grade oz/t	Contained gold million oz
Mineral Resources (as at 31 December 2004)							
Obuasi	Measured	44.6	6.34	282.3	49.1	0.185	9.1
	Indicated	38.7	8.46	327.1	42.6	0.247	10.5
	Inferred	25.4	11.85	300.7	28.0	0.346	9.7
	Total	108.6	8.38	910.0	119.7	0.244	29.3
Ore Reserves (as at 31 December 2004)							
Obuasi	Proved	14.2	2.95	41.9	15.7	0.086	1.3
	Probable	36.3	7.05	255.6	40.0	0.206	8.2
	Total	50.5	5.89	297.5	55.7	0.172	9.6





Occupational safety and health

In 2004, Obuasi achieved a lost time injury frequency rate of 2.53 per million man hours. The mine achieved one million fatality-free shifts on 17 June 2004 and two million fatality-free shifts on 30 October 2004.

Article 16 of the collective bargaining agreement between the company and the Ghana Mineworkers 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 co-ordinated by the safety, health and environment department.

As at all mining operations, a primary challenge 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. This issue is being addressed.

Upgrade planned for the Edwin Cade Memorial Hospital at Obuasi



Obuasi's Edwin Cade Memorial Hospital, 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 records 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 currently drawn from the community. 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. 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 led to 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). 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.

Labour

The group aspires to be a responsible and fair employer. On average, during 2004, 8,712 people were employed in Ghana – 5,927 of them at Obuasi.

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. 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 time local staff should be trained to take over their roles.

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 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.

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. The Ghana Mineworkers' Union represents about 87% of the total labour force in Ghana, and all non-supervisory employees. 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. 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.

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.

Training and development is a primary focus area for the group. In line with AngloGold Ashanti's belief 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.

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 in these has been poor.

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 in Ghana during 2004 at a cost of some c1.2 million per person. Health care services are provided to the employee, his or her spouse and six dependents at the Edwin Cade Memorial Hospital at Obuasi.

Apprenticeship programme at Obuasi



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 Sigiri 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 – totaling 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 Sigiri). About 40 entrants are anticipated for the 2005 year.

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. 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.

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.

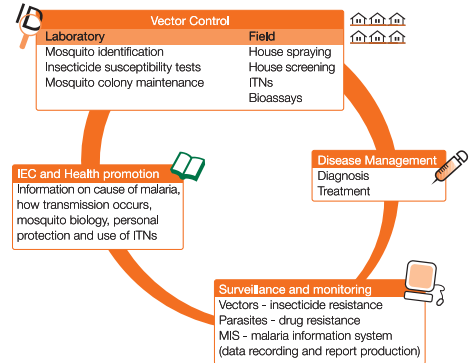
As a starting point, the group needed to establish a scientific foundation on which to approach the problem, so a baseline study was initiated to identify resident mosquito vector species and possible insecticide resistance patterns in these populations. Professor Richard Hunt of the National Institute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

The aim is 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 almost 6,000 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 Edwin Cade Hospital 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.

Community

While the Ghana operations have adopted the AngloGold Ashanti group policy on community relations, these operations have had long-standing relationships with the communities of which they are a part. 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.

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.

Community relations efforts are focused on education, health care/sanitation and agricultural projects. Obuasi's role in its community is all-encompassing and it is difficult to separate community initiatives from the 'normal' operation of the mine.

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.

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 can 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.

About 20% of all purchases made by Obuasi are procured locally. 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.

Watreso market comes alive



Prior to 1940, the village of Watreso was a medium-sized community in the Amansie West District of the Ashanti Region of Ghana where subsistence farming of indigenous food and cash crops was the mainstay of the local people. Villagers lived in interspersed hamlets and the village had no feeder roads linking to market centres where the farmers could sell their farm produce.

In the early 1940s, Obuasi mine acquired a timber concession near the village, which transformed the village into a vibrant community. Almost immediately Watreso grew into a big town as the mine's presence accelerated population growth and infrastructure development.

The "loco shed", (as the workshop was referred to) was purposely built to maintain and repair locomotive engines and coaches and the storage of spare parts. The railway line system, also constructed by the company, served as means to transport timber and firewood from the forest to the Obuasi mine sawmill and gold smelting plant. It also served to transport traders and their wares (farm produce etc) to and from market centres and the big towns.

The "loco shed" together with its rail transport system became the nucleus of commercial activities during the company's presence at Watreso. In the early 1970s, following changes in gold smelting technology, the loco system gradually outlived its usefulness as dependency on fuel wood faded away.

However, the old "loco shed" has recently returned to a vibrant hub of activity thanks to its conversion in 2004 into a market facility for the people of Watreso.

At the cost of some €70 million to the company, materials were provided for erecting 40 market stalls and the re-roofing of the entire shed structure. The project was completed in July 2004.

New School Complex for the Adubrim community



AngloGold Ashanti recently contributed €400 million towards a new school complex at Adubrim; Adubrim is one of the three local communities at the Homase Mining area in the Bekwai district of Ashanti.

Prior to this, young children of school-going age walked some four kilometres to nearby schools. The new facility includes a workshop, an ablution block, two offices and a store and benefits about 120 children from three other communities as well as Adubrim, namely Krodua, Heman and Donkoase.

8 | Environment

In 2004, a group environmental policy was adopted having taken cognisance of both the AngloGold and Ashanti policies and values. In line with this, environmental management systems are in place at all operations.

Major environmental incidents are reported 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'. 16 high-level incidents were reported to the AngloGold Ashanti board during the year, one of which took place at Obuasi.

Provision is made for closure and rehabilitation during the life-of-mine. The total estimated closure cost for Obuasi is \$23 million. Estimates are based on studies for each operation and are likely to change as further technical investigations, that may influence the closure provisions, are carried out. They represent the best current estimate of amounts expected to be incurred when the remediation work is performed within current laws and regulations or the terms of the respective mining licences. The dynamic nature of the operations and ongoing rehabilitation means that closure costs can be revised either up or down.

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. 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.) The market for arsenic declined, leading 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

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. 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.

The AngloGold Ashanti group is committed to reducing 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.

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.

Environmental reporting for the former Ashanti operations, including Obuasi, is being integrated and it is expected that more detailed reporting will be available in 2005.



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 personal 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 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.