



South Africa Ergo

Message from Alan Muir

2005 will be a very significant year for Ergo as operations cease and move into formal closure mode. Since Ergo formally came into production on 25 February 1978, it has recorded a profit of R2.2 billion (\$349 million) and has paid company tax of R334 million (\$52.2 million) into the national fiscus – both in money-of-the-day terms. At the end of 2004, the operation employed 1,870 people – 770 employees and 1,100 contractors. Many of its employees and their dependents live in the local communities of Tsakane (34%) and Kwa-Thema (33%).

Ergo has played an important role and made a significant contribution towards sustaining a number of public and private companies – through the purchase of commodities and utilities, including power and water, from the local municipalities.

Ergo's closure has been expected for some time and will not come as a surprise for any of these stakeholders. In fact, the operation was expected to close on several occasions previously but has enjoyed a number of life extensions as the dollar gold price improved or process improvements were developed. During this time, the mine has engaged in extensive consultation and discussions with employees, unions, business partners, suppliers, national and local government structures, non-governmental organisations and community-based organisations among others.

This report details some of the processes and interactions we have had over the past few years in preparing for closure as well as what the likely impact is going to be on some of our stakeholders. It also outlines an initiative which we believe will provide a valuable ongoing contribution to the local community through the Ergo programme. This programme was developed following consultation between management, employees and local stakeholders, and identified three development needs in the area, namely skills development, education, welfare and community care.

Ergo has addressed skills development through its social plan training programme aimed at providing marketable skills to employees prior to closure. The latter elements – education, welfare and community development – are being handled by the AngloGold Ashanti Fund in partnership with a range of stakeholders through the Ergo programme. Expenditure of R6 million has been committed to this programme and is to be spread over a period of three years.

While operations will cease in March 2005, formal closure is a process rather than an event and much work remains to be done at Ergo over the next three to four years as the operation continues to honour its commitment to sustainable environmental rehabilitation and strives to fulfil its closure obligations.

Alan Muir
General manager, Ergo



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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

The East Rand Gold and Uranium Company (Ergo) was originally established to re-treat old gold mine slimes and sands so as to recover residual gold and uranium as well as pyrite for the production of sulphuric acid using technology pioneered by Anglo American Corporation of South Africa Limited. Ergo listed on the Johannesburg Stock Exchange in 1977 and subsequently merged into the then AngloGold in June 1998.

Ergo can only profitably treat tailings dams if it yields a sufficiently high grade of gold. After being in production for over 27 years, plans are currently underway for the closure of the operation. Closure is scheduled to begin in March 2005 and closure activities will be completed by 2009.

Ergo

Ownership: 100% owned by AngloGold Ashanti

Location: Ergo initially acquired the rights to 19 slime dams containing around 378 million tonnes of material on the east of Johannesburg on the East Rand of the Witwatersrand (Gauteng). The Ergo plant, outside Springs in Gauteng, was commissioned in 1977 and the production of gold, uranium and sulphuric acid began in early 1978.

Processing: The Ergo plant initially had a treatment capacity of over 1.5 million tonnes of slime per month, which was subsequently increased to 3 million tonnes per month. In 1985, a new carbon-in leach (CIL) plant, then the largest of its kind in the world, was completed. Ergo has reclaimed slimes from dumps dispersed over an area of 50 kilometres from west to east and 30 kilometres from north to south.

Ergo's treatment plant is a CIL plant in which gold is leached into solution using cyanide and is then adsorbed onto carbon. Gold is removed from the carbon by an elution process, which produces a gold-rich solution; the carbon is then regenerated for future use. Reclaimed slimes still containing sulphur were treated at the flotation plant until October 2004 with 550 tonnes per day of pyrite, containing about 30% sulphur by mass, being produced. The pyrite was thickened and pumped to the acid plant where it was roasted to produce sulphuric acid.

Around 8-10% of Ergo's total gold output was derived from the roasted pyrite or calcine. The calcine was thickened and pumped to the gold plant where the gold in calcine was leached with cyanide. The calcine was then filtered and the gold-rich filtrate joined the 'gold-rich' solution from the CIL plant which together reported to the final gold recovery section.

The flotation and gold plant residues, together with most of the reclaimed slime, then move on to the CIL plant after being thickened. The CIL and gold plant solutions are treated to remove the gold using zinc precipitation in the final gold recovery section. The zinc/gold sludge is treated with sulphuric acid and then filtered. This filtered cake is smelted to produce gold bullion.

Performance in 2004: Gold production rose by 9% to 222,000 ounces. Total cash costs rose by 11% to \$389 per ounce, although in local currency total cash costs decreased by 4% to R80,695 per kilogram.

Outlook: Ergo is expected to cease operations during 2005.

Ergo			
		2004	2003
Gold production	000 oz	222	203
Total cash costs	\$/oz	389	349
Total cash costs	R/kg	80,695	84,455
Total production costs	\$/oz	436	373
Total production costs	R/kg	90,405	90,202
Total number of employees			
Total		1,850	1,950
Employees		767	846
Contractors		1,083	1,104



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 at 31 December 2004. The Ergo operation had mineral resources of 0.8 million ounces and ore reserves of 0.1 million ounces at the end of December 2004.

Mine	Category	Tonnes million	Metric		Imperial		
			Grade g/t	Contained gold tonnes	Tons million	Grade oz/t	Contained gold million oz
Mineral resources (as at 31 December 2004)							
ERGO	Measured	60.7	0.41	24.8	66.9	0.012	0.8
	Indicated	0.0	0.00	0.0	0.0	0.000	0.0
	Inferred	0.0	0.00	0.0	0.0	0.000	0.0
	Total	60.7	0.41	24.8	66.9	0.012	0.8
Ore reserves (as at 31 December 2004)							
ERGO	Proved	4.5	0.36	1.6	5.0	0.011	0.1
	Probable	–	–	–	–	–	–
	Total	4.5	0.36	1.6	5.0	0.011	0.1

Economic performance

Government remittances: AngloGold Ashanti's operations in South Africa paid an amount of US\$6 million (R39 million) in corporate taxes in the 2004 financial year.

Ergo moves towards closure after 27 years

Since Ergo formally came into production on 25 February 1978, the operation has recorded a profit before tax of R2.2 billion (\$349 million) and a company tax contribution of R334 million (\$52.2 million) to the national fiscus – both in money-of-the-day terms. However, in the lead-up to closure, the operation has begun to make a loss, given the combined decline in gold production (arising from lower tonnage and reduced head grade) and increase in costs associated with the environmental rehabilitation process which is required to achieve final closure. For the two-year period 2003/4, a total loss of R63 million (\$9.8 million) was recorded and an additional operating loss of R170 million (\$29.7 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, while 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 has contributed to sustaining a number of private and public companies, as well as local municipalities, by 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.

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, the largest consumer of cyanide in the world. So high is the demand that Sasol Polymers has historically had a factory dedicated to the production of Ergo's calcium cyanide supplies which had 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 has also discussed Ergo's closure and the expected economic impact on Sasol Polymers, which is now switching production from calcium cyanide to sodium cyanide, 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 Fraser Alexander and West Rand Plant Hire, whose services at the sites in the 1,500 km² 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.

4 **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 R4.3 million (\$0.7 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.

Communication with customers

Ergo's two main customers are Rand Refinery, to whom it sells all gold produced for refining; 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 sulphonation source for its process.

Longer than intended

Ergo was originally developed on the basis of an operational life of 15 years. This was extended to 25 years, largely as a result of the installation of a CIL 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.

Labour

Orderly closure at Ergo – social plan for employees

Ergo's labour complement at 2004 year-end numbered 770 employees and 1,100 contractors. The lost time injury frequency rate (LTIFR) per million manhours at Ergo for 2004 was 1.93 as compared with 1.75 in 2003.

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. Some 220 employees still have to be trained by closure. 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."

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 Ephraim Ralesekele, National Union of Mineworkers (NUM) branch chairman.

From the counselling sessions, financial problems have emerged as the most pressing issue." To counter this, Ergo has 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.





Community

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.

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.

A Community Forum, which was established in 2001, allows Ergo to engage with two surrounding townships Tskana / Kwa-Thema and Kingsway Lindelane 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. 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.

Ergo 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 box).

Ergo programme focuses on maths and science education and community care



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.

Acutely aware of the impact that the Ergo closure will have on local communities, 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. 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. Siphoh Mahlangu, 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. Mahlangu 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.

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 - Programme for Technological Careers (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.

Environment

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. This includes rehabilitation of the Withok Tailings Storage Facility (TSF) and the Brakpan TSF, 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. These included concerns about water contamination, biodiversity issues, windblown dust, and the stability of the dam. 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.

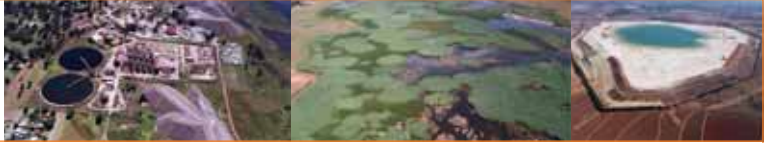
The closure plan for Ergo's other TSF (the Daggafontein TSF) has already been accepted by the regulators and is currently being implemented.



Environmental liability

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. Closure liabilities for Ergo currently amount to \$23 million on trust fund activities.

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.

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 Convention on Wetlands, signed in Ramsar, Iran, in 1971, is an 'intergovernmental 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.

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.

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.