



Message from the chief executive

Our approach to business at Northam is articulated in our company's vision statement: "to grow into a significant, long-life PGM producer with a reliable and independent supply of quality metals to a geographically-diversified customer base, while continuing to deliver value to all our stakeholders".

In this report on our sustainable development initiatives, we have attempted to disclose transparently, comprehensively and as accurately as possible our performance with regard to the environment and our stakeholders – employees, local communities, unions, government, suppliers, contractors and customers, and critically of course, our shareholders – without whom we would have no business.

The nature and geographic footprint of our business dictates two crucial areas of social impact which are illustrated in further detail in the report which follows:

- > sustaining employment opportunities in a fairly remote area of the country. In the past five years Northam has maintained a relatively stable employee complement of some 7 000 people.
- > as a deep-level mining operation the safety and health of employees will remain a primary focus area.

Our sustainable development reporting process has been informed by the requirements of the South African Mining Charter (against which we have reported fully in the past) and by the Global Reporting Initiative (GRI) guidelines as recommended by King 2. In essence, the method we have

employed is that of a baseline self-assessment, creating a platform from which we can progress to enhance both the systems we use to gather data, to measure our performance against the aforementioned criteria, and to set targets going forward. As in all other areas of our business our efforts will be underpinned by the company's underlying commitment to 'continuous improvement'.

Glyn Lewis
Chief executive
9 September 2005

Scope of reporting

This report provides an assessment of sustainable development impacts arising from Northam Platinum's deep-level mining, concentrating, smelting and base metal removal processing plants within the mining lease area near Thabazimbi in South Africa's Limpopo Province. With regard to responsibility for our PGM products we have included information from Heraeus, the company's precious metals refining partner.

Disclosure focuses primarily on the 2005 financial year with comparisons for 2004, and where possible we have provided this within a historical operational context. No external verification agency was appointed to audit the systems from which we have derived our information. Where possible and appropriate however, we have indicated third party verification of our processes, achievements and shortcomings.

VALUE ADDED STATEMENT
for the year ended 30 june 2005

	Notes*	2005		2004	
		%	R 000	%	R 000
Value added					
Sales revenue	23		1 554 501		1 720 399
Less: Purchase of goods and services in order to operate mine and produce refined metal	11		(672 538)		(782 580)
Value added by operations		89.4	881 963	99.8	937 819
Add: Investment income	13	3.0	29 269	4.1	38 174
Net sundry revenue/(expenditure)	14	7.6	75 367	(3.9)	(36 392)
Total value added		100.0	986 599	100.0	939 601
Value distributed					
Employees	11	46.0	453 911	43.2	406 294
Salaries and wages		43.5	429 332	40.6	381 833
Contributions to retirement funds		4.2	41 227	4.1	38 401
Contributions to health-care funds		3.1	30 805	3.1	29 034
Employees' tax deducted		(4.8)	(47 453)	(4.6)	(42 974)
Government		18.1	177 803	19.4	182 374
Mining and non-mining tax	15	11.2	110 063	13.0	121 773
Deferred tax	15	(0.7)	(7 097)	0.2	2 072
Secondary tax on companies	15	2.5	24 603	1.4	13 024
Royalties		0.3	2 781	0.3	2 531
Employee taxes		4.8	47 453	4.5	42 974
Providers of capital					
Dividends		19.9	196 822	11.1	104 194
Total value distributed		84.0	828 536	73.7	692 862
Retained by company		16.0	158 063	26.3	246 739
Depreciation	11	10.5	103 646	10.4	97 527
Decommissioning provision to meet statutory obligations	11	0.3	2 726	0.4	3 311
Retained income		5.2	51 691	15.5	145 901
		100.0	986 599	100.0	939 601

* Notes to the annual financial statements

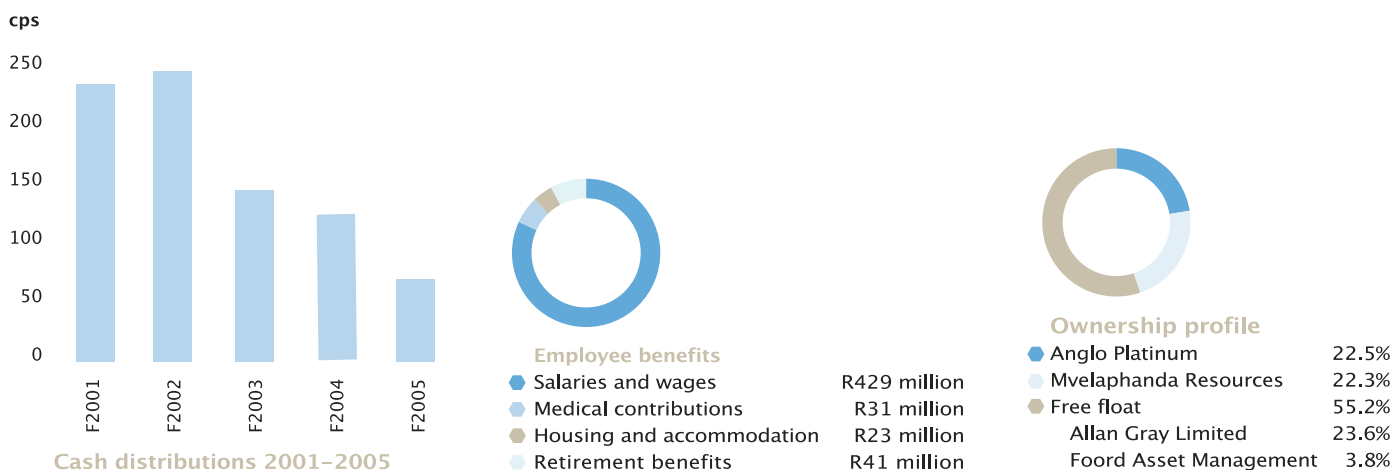
ECONOMIC IMPACTS

Shaft sinking at Northam began in 1986, with first metal sales in 1993. After a dividend drought of more than 11 years, the company paid its first distributions to shareholders in 1999, and to date Northam has continued to pay excess cash to shareholders, after having made provision for growth and operational requirements. The lower dividend in the current reporting year is a clear demonstration of this commitment. To date Northam has distributed R2 billion to shareholders.

In 2000, additional mineral-bearing ground was acquired from Anglo Platinum, adding 23 years to the mine's life. Currently the mine's life is 17 years. This was followed by the R580 million BEE transaction with Mvelaphanda when it

acquired a 22.5% stake in Northam, providing a vehicle for a previously excluded shareholder base to participate in the platinum sector. With the soon to be concluded Booysendal transaction, Mvelaphanda Resources will increase its BEE stake in Northam to approximately 34%.

Continued investment in the business is crucial to sustain its future viability. Major capital expenditure items in the past five years have been the accelerated development programme, the expansion into the UG2 reef and the associated construction of a new concentrator plant at a cost of R138 million, rebuilding the smelter plant at R33 million, shaft and skip upgrades and additional refrigeration capacity.



Northam receives certain rebates from government on its investment in human resource development. The total benefit received for the 2005 financial year was R3.2 million for the following items:

Skills grant	R1.2 million
Student grants	R1.7 million
Tax allowance	R0.3 million

The requirements of the Mining Charter have however since been amplified by the DTI's Code of Practice on Empowerment, a draft of which has been circulated. Northam has submitted its comments on the draft through the SAMPPF and is currently converting its systems to achieve alignment with the new standards.



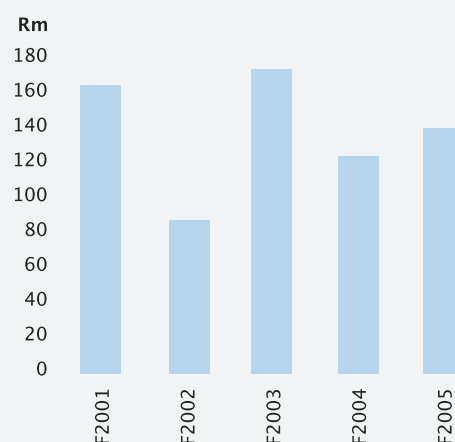
Revenue by geographic market segment 2005 (R000)

Europe	588 167 (37.8%)
Japan	430 965 (27.7%)
North America	364 440 (23.5%)
South Africa	170 929 (11.0%)



Revenue by geographic market segment 2004 (R000)

Europe	716 271 (41.6%)
Japan	309 041 (18.0%)
North America	509 396 (29.6%)
South Africa	185 691 (10.8%)



Capital expenditure 2001–2005

Procurement

The company's supplier base is diverse; none of Northam's suppliers represents 10% or more of the company's total procurement expenditure. Good progress has been made in establishing systems to evaluate its supplier database in terms of HDSA compliance as required by the South African Mining Charter. Northam is a member of the South African Mining Preferential Procurement Forum (SAMPPF) which was tasked by the Department of Trade and Industry (DTI) to compile a list of HDSA companies as defined by the Mining Charter.

Awards and recognition

In 2004 Northam took first place in the Financial Mail's most empowered company awards for the resources sector. Overall Northam achieved fourth place.

Procurement from HDSA suppliers for the 12 months ending 30 June 2005

	5% – 25% HDSA status	25% – 50% HDSA status	Greater than 50% HDSA status	Total HDSA procurement	Total possible procurement
Consumable stores and capital procurement	23 841 324	132 221 859	7 294 852	163 358 035	458 652 715
Percentage of total	5.2%	28.8%	1.6%	35.6%	100.0%
Contractors	5 435 860	550 545	3 988 694	9 975 099	124 241 221
Percentage of total	4.4%	0.4%	3.2%	8.0%	100.0%
Services	11 320 755	42 574 038	3 326 064	57 220 857	121 143 221
Percentage of total	9.3%	35.1%	2.7%	47.2%	100.0%
Total procurement	40 597 939	175 346 442	14 609 610	230 553 991	704 037 157
Percentage of total	5.8%	24.9%	2.1%	32.7%	100.0%

Product value add

Northam's mining and metallurgical processes produce metals in concentrate, which, before being delivered to customers, is further refined to a minimum purity level of 99.95% by Heraeus, an internationally renowned organisation of refiners and manufacturers based in Germany. As from 2006, and as a result of a strategic partnership with Heraeus, Northam's platinum and palladium output will be refined at a new refinery currently

being developed by Heraeus in South Africa's Eastern Cape Province near Port Elizabeth, representing a significant direct foreign investment into the country.

The close proximity of various PGM manufacturing facilities for autocatalysts and chemicals in the area will provide opportunities for a percentage of local beneficiation uptake of Northam's platinum and palladium.

Sustaining the market for jewellery

The Platinum Guild International (PGI) was established in 1975 in Japan to stimulate and develop markets for platinum jewellery, a sector which currently accounts for about 38% of global platinum demand. Funded by the world's leading platinum producers in order to ensure sustainable markets for their products, the PGI has achieved considerable successes, particularly in China in the 1990s, by growing the uptake of platinum in China's jewellery manufacturing sector.

From its head office in the United Kingdom, and with offices extending across the world's major jewellery markets – China, the United States, India, Japan, Germany and Italy – the PGI's major role is the provision of advertising and promotional support to the platinum jewellery market.

Northam has been a sponsor of the PGI since 1999.



CASE STUDY Success in reducing chromite in UG2 ore

Extensive investment in research and development (R&D) has made a meaningful contribution in increasing efficiencies in Northam's metallurgical plants. The introduction of an external sparger column cell as a final concentrate cleaner in the company's UG2 concentrator plant has been a successful innovation resulting in improved concentrate upgrade ratios, higher PGM recoveries, and ultimately reducing the total chromite (Cr_2O_3) content in the feed to the smelter plant and avoiding the associated build-up of chrome in the smelter.

The relatively high incidence of chromite in UG2 ore has for a long time presented a number of metallurgical challenges in the PGM industry, as it has an impact on PGM recovery in the concentrator circuit, and chrome content higher than 1.6% in concentrate will build up in the furnace at a temperature of 1 485°C. It could, and often does have an economic impact on the producers of concentrate as most mineral processing plants will impose penalties for chrome content above 1%.

Spearheading this innovation at Northam were metallurgical manager Danie Minnaar, and senior metallurgist Danie Smit, by running a series of rigorous tests and pilot plant trials at the Northam UG2 plant, where the traditional processing circuit had been unable to achieve the required Cr_2O_3 grades as indicated in laboratory tests in the plant design phase.

The trials involved the installation of a pilot plant flotation column as a re-cleaner on the final concentrate stream of the UG2 plant. The pilot flotation column, 0.6 metres in diameter and 6.1 metres high, was tested over a four-day period to compare the effectiveness of the internal and external sparger in these key performance areas:

- Overall PGM recovery
- Overall PGM upgrade ratio (head grade to final concentrate grade)
- PGM/ Cr_2O_3 ratio in concentrate

To ensure consistency, all comparative tests were done three times. Results from the trials showed that the external sparger column (a static mixer situated on a slurry circulation stream at the base of the column) was more effective than the internal sparger:

- PGM recovery improved by 23%
- PGM upgrade ratio improved by 19%
- Cr_2O_3 reduction improved by 29%

Based on these results it was decided to install an industrial-sized flotation column measuring 1.42 metres in diameter and 9.5 metres high as a re-cleaner. During this next phase of optimisation trials lasting 31 days, normal concentrate was fed through the circuit under different conditions.

Three operating conditions were tested, namely air addition rate, pulp level and slurry feed rate, and 315 composite samples were taken at each setting within the pilot plant circuit to determine PGM and Cr_2O_3 content. The standard settings for the trials were a plant feed rate of 115 tons per hour (t/hr) at a constant feed grade (this represented an increase in current throughput from 105 t/hr); an air flow rate of 65 Normal metres³ per hour (Nm^3/hr); pulp level of 700 millimetres (mm); and sparger pressure of 2.0 bar.

Equally pleasing results were recorded:

- PGM recovery improved by more than 2%
- PGM upgrade ratio improved by more than 9% (from 78 to 85 and 105 achieved on a number of occasions)
- Cr_2O_3 content in final concentrate reduced by 38%

After the installation of the flotation column PGM recoveries exceeded 81%. Before the installation of the external sparger column PGM recovery in excess of 81% could only be achieved with an upgrade ratio of 60. After the installation, the PGM upgrade ratio, at a PGM recovery of 81%, increased to 85.

In commercial metallurgical applications this innovation does not only provide the opportunity for additional revenue, but, by avoiding the penalties associated with Cr_2O_3 in concentrate, will result in additional savings.

Against the background of potential expansion into the Bushveld Complex's eastern limb, where UG2 reef is more prevalent than Merensky, this development is likely to hold significant future metallurgical benefits. Northam has since filed a patent on the external sparger column cell technology.

Payback

	Before	After	Comments
Plant feed	100 000	100,000	@ 4.0 g/t 3PGE + Au
Recovery	80.0%	81.6%	2% increase
Concentrate grade	340 g/t	375 g/t	10% improvement
Cr_2O_3	4.5%	2.8%	38% reduction
Penalty	ZAR50 000	ZAR16 100	Per ton Cr_2O_3 in concentrate
Additional income	ZAR832 000		At ZAR130 000/kg 3PGE + Au
Penalty saving	ZAR1 757 120		Including smelting saving Excluding transportation saving
Profit	ZAR2 589 120		
Capital expenditure	ZAR1 700 000		

SOCIAL IMPACTS

Labour

Northam Platinum is committed to the following employment principles which are incorporated in the company's human resources policy and included in its code of ethics, which is available on the company website and is distributed to all employees:

- All employees are entitled to fair employment practices which include fair remuneration and the opportunity for advancement based on knowledge, competence, experience and performance
- The company is committed to equal opportunity, based on merit and ability
- The company respects and defends the right of employees to a working environment free of discrimination on the basis of race, gender, religious belief, political affiliation, age or disability
- All employees have the right to freedom of association and to act out this freedom within the bounds of the law, collective agreements and the rights of others

The company operates within a sophisticated South African labour relations regime. Northam does not employ children and also excludes the practice of forced labour. This is in terms of its compliance with national labour legislation, which is informed by the South African government's ratification of the ILO Conventions on child labour and compulsory labour. In addition the company maintains a human resource management system which would be able

to identify cases of non-compliance should these come to the fore.

As at end June 2005, Northam employed a total of 8 098 people (6 788 permanent employees and 1 310 contractors (2004: total 8 308 – 6 844 permanent and 1 464 contractors). Employees are drawn from across South Africa and from neighbouring Swaziland, Lesotho, Botswana and Mozambique.

A total of 45% of employees are migrants from neighbouring countries. Working teams are integrated to avoid any potential for discrimination and/or harassment. Such practices are discouraged and are subject to disciplinary action.

Labour/management relations

All employees have the right to freedom of association, and to apply this freedom within the bounds of the laws of the land. The company's relationship with employee associations and trade unions is regulated by collective bargaining agreements. For recognition purposes unions are required to demonstrate representivity of 33% amongst their bargaining units.

Wages and conditions of employment are the subject of annual negotiations with the trade unions and associations. In an effort to encourage participative management, employee and union members are included on a number of

joint forums and committees including the health and safety committee, the housing forum and the employment equity committee. Monthly grading forum meetings are currently held between management and union representatives on planning and managing the job description process. Unions are also represented on an HIV/AIDS forum, which also meets on a monthly basis.

Grievances and discipline

The company's code of ethics (available in print and on the website) encourages employees to use established grievance procedures to alert management to any dissatisfaction or feelings of injustice arising out of their employment. The company is committed to giving due attention to such grievances and where necessary, implementing remedial action.

Diversity and opportunity

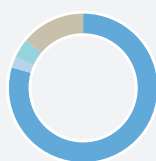
In terms of its employment policies and practices and in line with the Skills Development and Employment Equity Acts, the company has developed a process to attract appropriately qualified individuals from HDSA backgrounds, and provides opportunities for them for development and growth.

Some modest progress has been made in creating employment opportunities for women, and by the end of June 2005 the company employed a total of 103 women (1.44%). This has required the provision of an additional industrial change house and other facilities. Codes of practice on the employment of women have been drafted and submitted to the authorities.



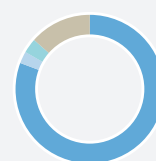
Employee geographic profile 2005

● Limpopo	25.3%
● North West	9.3%
● Eastern Cape	13.9%
● Lesotho	15.7%
● Botswana	8.9%
● Swaziland	6.9%
● Mozambique	18.3%
● Other provinces	1.7%



Union and association membership 2005

● NUM	79.4%
● UASA	2.4%
● Solidarity	4.3%
● Non-unionised	13.9%



Union and association membership 2004

● NUM	80.7%
● UASA	2.6%
● Solidarity	3.2%
● Non-unionised	13.5%

In certain circumstances the company will resort to disciplinary action which is both fair and lawful. The objective of such action is not punitive, but attempts rather to bring employees into line with required standards of work behaviour and performance as indicated in employees' contracts of employment. The company's procedure is documented in a code of conduct which is subject to the Code of Good Practice of the Labour Relations Act.

The company is committed to fair and lawful disciplinary action in terms of South African labour legislation and will protect employees against any arbitrary action which could lead to their dismissal. In terms of the company's disciplinary procedure employees may avail themselves of an established appeal process.

Bribery and corruption

Both directors and employees are to ensure that they are independent, and seen to be independent from any business organisation which has a contractual relationship with the company for the supply or purchase of goods and/or services. Directors and employees alike are required to disclose the nature and extent of any financial interest in customers or suppliers they may be negotiating with. If necessary the individual concerned must recuse him/herself from any decision-making process in this regard. The company's views and policies are articulated in the code of ethics and in the board charter.

In efforts to further encourage diversity, the employment equity forum monitors compliance with targets. Furthermore the company, in terms of its policy of non-discrimination, has the right to institute disciplinary action in instances of discrimination based on gender, race and a number of other criteria.

Security

Northam's security function is outsourced to a recognised South African private security company which operates within defined parameters as established by the Private Security Industry Regulatory Authority (PSIRA). Security companies' practices and conventions are subject to the PSIRA Code of Practice and the Bill of Rights as contained in the Constitution of the Republic of South Africa of 1996, which reflects the country being a signatory to the Universal Declaration of Human Rights. During the year inspectors appointed by PSIRA conducted an evaluation of security processes to ensure compliance with regulations.

Training and development

The company's training and development programmes are aligned with the Mining Charter Scorecard and focus primarily on literacy programmes with the objective of all employees achieving functional literacy; the implementation of career paths and skills development plans for HDSAs; mentorship programmes for empowerment groups; and achieving and maintaining a talent pool as required to sustain its business.

Training expenditure in 2005 totalled R26.5 million, or 5.1% of total labour costs. An additional R5.3 million was allocated to safety training. (2004: R16.5 million, equivalent to 3.7% of total labour costs)

CASE STUDY Raising literacy levels through ABET

Northam's ISO 9001-accredited Adult Basic Education and Training (ABET) centre is recognized by the Mines Qualification Authority (MQA) and the National Department of Education as an educational provider to the equivalent of grade 9 level. The programme, which was launched in 1994, at that stage offered only English communication up to level 3. In 2002 e-learning was introduced and classes became more interactive, with teachers assuming the role of facilitators.

The ABET centre now boasts a total of 65 computers with five facilitators who all hold tertiary qualifications as ABET facilitators. The number of classes has also increased to accommodate a growing demand among employees. In 2005 R1.2 million was spent on ABET, with a total of 932 learners attending classes, and a pass rate of 90%.

A variety of programmes are offered including numeracy and literacy (language and communication). These are basics and commence from level 1. At level 3 learners should have mastered the basics of English reading and writing skills. The learners are then introduced to technology, natural, human and social sciences.

Johannes Malei is a training instructor at Northam Platinum. He started ABET level 1 in 1996 and has just done level 4 fundamentals which has enabled him to apply for a certificate as a miner. He will be writing his exam and hopefully qualify before the end of the year. "ABET has helped in giving me choices. It is a gateway to success and different opportunities," says the father of eight.

Nevertheless functional literacy tests as measured at the company's Development Centre, using national Department of Education tests have indicated average literacy levels at the mine of 59%, and much work remains to be done in this area.

Northam is currently engaged in talks with the national educational authorities to improve its educational offering so that employees will be able to obtain grade 12 (equivalent to matric) certificates, which will allow them to progress into other career opportunities beyond mining.

In April 2005 the board approved a study assistance scheme which is available to all employees studying towards an appropriate school qualification (Grade 10 or 12) or a recognised, job-related undergraduate tertiary qualification. The granting of study loans will be aligned with the results of a national educational department training needs analysis. The scheme comprises an interest-free study loan component; the refund of tuition fees on passing courses or modules; and study leave.

Learnerships are currently provided for 59 employees in engineering, metallurgy and junior/middle management.

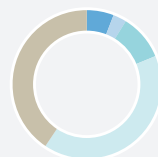
A total of 22 learner miners have been identified as a talent pool for the year 2006 and are on an appropriately designed fast-track training and development programme in mining skills.

In the past two years Northam has accommodated 23 MQA learners. In the first six months of the 2005 calendar year 12 students completed practical training at the mine.

Progress in training and development is measured against targets set by the Mining Charter and the Social and Labour Plan. The company submits an annual training report in line with the Work Skills Development Plan and the Employment Equity Plan.

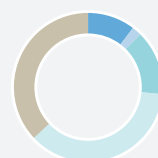
Community development

Northam's community development programme is aligned with the objectives and vision of the provincial and local authorities' local economic development (LED) and



HDSA employment 2004 (actual)

Senior management	14.3%
Professional and middle management	7.1%
Technically skilled and academically qualified junior management and supervisors	24.2%
Semi-skilled and discretionary decisionmaking	98.5%
Unskilled and defined decisionmaking	98.5%



HDSA employment 2005 (actual)

Senior management	27.3%
Professional and middle management	5.6%
Technically skilled and academically qualified junior management and supervisors	37.2%
Semi-skilled and discretionary decisionmaking	96.5%
Unskilled and defined decisionmaking	97.8%

integrated development plan (IDP) to work towards poverty eradication and upliftment of communities. Representatives from the company attend monthly and extraordinary meetings of the Local Development Forum represented by local government and businesses.

The company has recently appointed a social responsibility and development manager with the objective of more effective management of funding proposals and projects and to prioritise and coordinate projects more closely with regional development objectives. A corporate social investment (CSI) committee provides guidelines, budgets

and approves expenditure. The committee is scheduled to meet on a quarterly basis and is representative of management and the major unions. Plans are being put in place to further formalise the CSI process and to develop a longer term social development and investment strategy going forward.

Projects are evaluated on their sustainability and their potential to make a real difference to people's lives in the areas surrounding the company's operation. In the more remote labour-sending areas, the company contributes to rural upliftment through the TEBA Development Agency. TEBA has a long association with the mining industry and has the requisite infrastructure to reach communities in these outlying areas.

The company's social development programme has in the past focused largely on primary education needs in the surrounding area:

the community. Management participates in the Waterberg District Health Council which was launched by the MEC for Health and Social Development in Limpopo Province. In Thabazimbi Northam has contributed towards the establishment of the Thabang Children's Project. The Project integrates the provision of accommodation for juvenile offenders, creating a place of safety for needy and abused children. At the same time, through a home-based care facility, medical and psychological counselling is available to affected families to help them in creating functioning and supportive family structures.

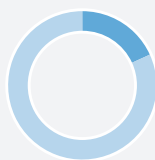
Housing and living conditions

Some progress has been made towards the establishment of affordable housing for employees and in a move to reduce employees' dependence on hostel accommodation. Various funding mechanisms are being explored. Discussions are in progress with the Thabazimbi municipality with a view to acquiring a number of building sites. Parallel to the



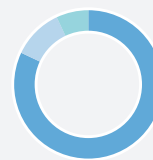
Board HDSA representivity

● HDSA	36.3%
● Other	63.7%



Board gender profile

● Women	18.2%
● Other	81.8%



Company contributions to social investment

July 2004 to June 2005

● Education	82%
● Health	11%
● Welfare	7%

- At Naletsane School the company has in the past provided resources and materials to upgrade the home technology centre and supplied computer desks. In a further development the building of additional classrooms at the Naletsane School has been approved. The building plans have been completed and a building contractor is currently being engaged. The Naletsane School provides technical and vocational training up to Grade 10 level to some 500 learners from the local farming community, where parents also have been engaged in the upgrading of the school's facilities.
- Indicative of its ongoing support to the Northam Comprehensive School (part of the Mandela Schools project which construction Northam supported by way of a R1.1 million grant), the company has contributed to expanding the school's capacity by supplying 15 computer terminals.
- Providing resources to upgrade the ablution facilities at the Koedoeskop Primary School
- Additional classrooms are currently being constructed at the neighbouring Krause Primary School.

Other projects focused on health and community welfare, with feeding schemes introduced at three schools; a community centre and a reception centre for families visiting employees.

In response to local health needs and a request from the local council, in June 2005 Northam supplied a satellite park home clinic in the neighbouring Chromite village for use by

company-assisted housing project Northam is investigating ways of assisting employees to qualify for government housing subsidies. This is being pursued in conjunction with the Limpopo Provincial Government's Department of Housing.

The majority of employees still live in the company-provided hostel accommodation in the Madiba Village. Improvements in standards of nutrition at the canteen in the Village are strictly monitored by Platinum Health on a monthly basis, with additional inspections by the Department of Health. Living out allowances are provided to employees to relieve the pressure on hostel accommodation. Currently only some 800 employees make use of this facility. Ways of making this facility more attractive are currently being explored.

Supporting small business

In an initiative to support local small business the company recently awarded a tender of R1.3 million to repaint part of the company's hostel block. The company has also built stalls for local vendors and informal businesses to run their enterprises on mine property. This venture is run in association with the mine hostel residents' committee. (further information on HDSA procurement is available on page 21)

Agreement was reached during the year with a local HDSA entrepreneur on the construction of a plant on the mine's property to extract chromite from the tailings emanating from the Northam UG2 concentrator plant. In the planning phase the company has provided metallurgical and technical

CASE STUDY Northam Life Centre

In recognition of its role in the community, and to promote job creation and skills training, the Northam Community Life Centre was established in October 2004, and has in a short space of time become a hub of activity and industry on the mine property.

This self-help centre, previously known as the Bliksaal project, offers a number of activities including a soup kitchen, vegetable garden, sewing and handcrafts, control of alien plants, and recycling initiatives. Ingrid Knoetze, a volunteer in the community who has passionately driven the establishment of the centre, explains that a primary focus of the project is its ability to sustain itself. "At the same time, it is very humbling to see how an initiative which really has few bells and whistles, can make such an immediate difference to people's lives, and their self-esteem."

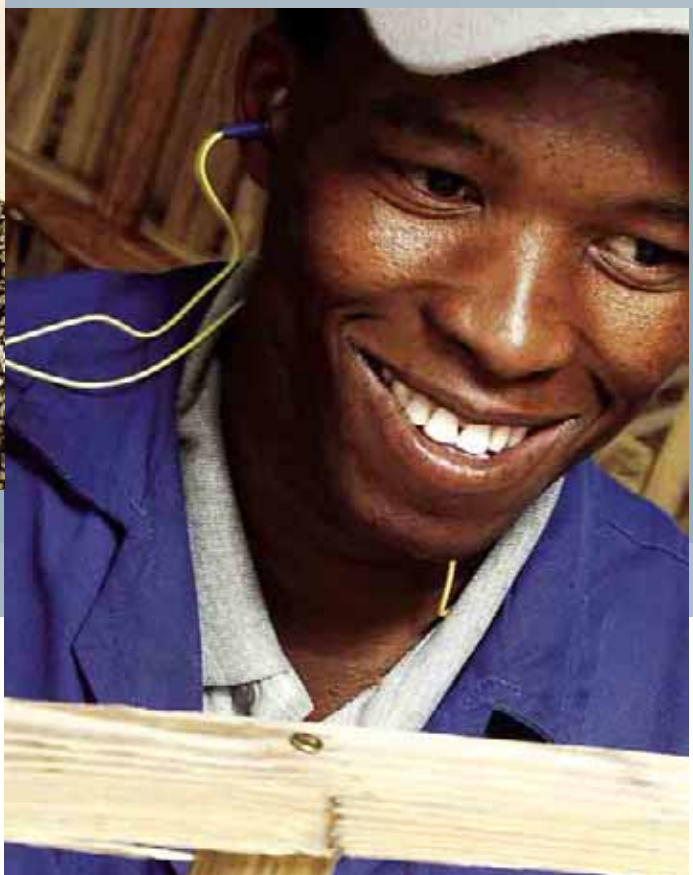
The centre currently employs 18 people, 14 of whom are volunteers. Also provided by the centre is an HIV/AIDS counselling service and a platform to exchange information, so that both infected and affected people have access to a support base. Counselling is provided by the mine's peer educators who are in the process of organizing a choir group to spread their message through song and dance. In the pipeline are campaigns, rallies and competitions aimed for the surrounding farming communities, informal settlements as well as mine employees.

Vegetable and herb farming form an important nucleus for the Life Centre – teaching people skills to cultivate their own produce, while the pickings are used in the soup kitchen as a means to provide nutrition for those infected and affected by HIV and AIDS, an important component of any treatment regimen.

The remaining vegetables are distributed through the farming network to the neighbouring community and farmworkers, with a particular focus on providing fresh food to the children. The Jabulani informal settlement, in close proximity to the centre will in the near future get the soup from the centre directly depending on the quantity of vegetables available. One of the challenges faced by the project is the great need in the area, and the difficulty in keeping up with growing demand.

The sewing and handcrafts project provides skills training for women from the local community. The intention is that these women will, in turn, transfer their knowledge to other women in the community, with the objective of empowering these people, who frequently have few or no life choices at all. Ultimately these women should be in a position to start their own small businesses.

Recycling activities are encouraged at the centre, with people from the local community being taught to make timber trellising and gates from scrap wood from the mine. With the growing building of capacity and sustainability, projects like the Northam Community Life Centre may well point the way towards more co-operative, constructive and mutually beneficial relationships with neighbouring communities.



support and has made the necessary amendments to the Environmental Management Programme Report (EMPR).

CSI and development in the year ahead

One of the projects identified for the year ahead has emerged following a challenge from the Limpopo Provincial Premier Mr Sello Moloto to the private sector to sustain the provincial premier's bursary fund. The company has made land available for a farming project, with the intention of it being jointly managed by the company and the Limpopo provincial government to train local communities in agricultural practices, with the proceeds of the farm to be utilised to sustain the provincial premier's bursary fund.

Safety and health

The company's commitment to ensuring a safe working environment for employees is articulated in its values statement, and states: The company defends employees' rights to a safe working environment. This sentiment is extrapolated in the safety and health policy, which is endorsed by all employee representative bodies and associations.

Legislative compliance

Health and safety in the mining environment is governed by the South African Mine Health and Safety Act 1996 (MHSA), the Basic Conditions of Employment Act 1997, the Occupational Health and Safety Act 1993, the Compensation for Occupational Injuries and Diseases Act 1993, and the Mineral and Petroleum Resources Development Act 2002, which seek to regulate health and safety and minimise hazards in the workplace.

Northam's compliance with legislation is monitored by self-assessments and audits from third parties. In addition the company regularly receives inspections from the relevant inspectorate of the DME. During the year the updated code of practice for medical surveillance as required by the MHSA, was drafted and approved by the DME.

Recording, notification and investigation of occupational accidents and diseases

The conventions of the ILO promote the improvement of people's working lives throughout the world. Through the South African government's ratification of all the core ILO conventions, including Convention 176 on safety and health in mines, and Convention 155 on occupational health and safety, government is committed to ensuring that national legislation is in accordance with the principles of the conventions.

Northam complies substantially with the ILO Code of Practice on Recording and Notification of Occupational Accidents and Diseases and has systems in place for recording all accidents, classified as lost time (between one and 13 days), reportable (14 days or more) and fatal accidents. In addition accidents which do not result in injury or any lost time are also recorded. Codes of practice, accident records and investigations are forwarded to the DME as required in terms of legislation. The same practice applies to occupational diseases.

The effective recording, notification and investigation of all occupational accidents, occupational diseases and

dangerous occurrences are of utmost importance to Northam Platinum in the drive for continuous improvement in health and safety.

After the conveyor belt fire in September 2004, the DME imposed a Section 54 order, requiring the cessation of all mining activities at Northam until the authorities were satisfied with conditions before operations resumed.

Structures, training and communication

Safety and health is accorded priority amongst all disciplines and activities. Overall coordination of the safety function vests with the services manager who reports directly to the general manager. Quarterly safety reports are made to the board committee on safety, health and environment (SHE). The board SHE committee, which comprises three non-executive directors, is ultimately responsible for ensuring that the company complies with legislation and performs an advisory function related thereto.

A joint health and safety committee, represented by management, employees and unions is responsible for overseeing and reviewing policy, agreeing and implementing strategy and planning safety training in response to requirements and performance. In July 2005 the joint safety and health committee agreed and endorsed the adherence to mine standards and procedures and committed itself to eradicating non-compliance.

The focus on communicating safety issues is reflected in the structures in place for full-time health and safety representatives to meet on a monthly basis with workplace safety representatives, while divisional health and safety meetings with workplace representatives, shift-bosses, miners, team leaders, section safety officers and the mine overseers, are held twice monthly.

A risk manager and chief safety officer, seven additional safety officers and three risk officers fulfil safety functions across the mine, while safety and training coaches/instructors are involved in cross-auditing working areas for hazard identification. The company also makes use of the services of an external consultant for safety management audits and risk assessments.

Safety training is a critical component of the entire safety initiative. The Northam training centre is ISO 9001 accredited, and was subject to an annual compliance audit in June 2005. In the same month the training centre was audited for MQA accreditation by a tripartite DME/organised labour and MQA accrediting body.

To counter falls of ground in the South African underground mining environment, the DME formulated new Fall of Ground Regulations in July 2002, which are in accordance with the provisions of Chapter 14 of the MHSA. The provisions came into effect in January 2003. The training of employees was completed during the year and assessments were performed to ensure competence in line with MQA standards and qualifications.

Health and safety policy

Northam Platinum Limited is a deep level platinum mine, with underground workings between 1 200 and 2 200 metres below surface. Platinum ore is extracted from different reefs, and backfill, packs and elongates are used for support. Hydropower is used to clean stope faces and to power rock drills and mechanical loaders. The ore is treated on surface in the processing plants to release the intrinsic metal values.

TO CARRY OUT THE ABOVE MINING OPERATIONS EFFECTIVELY, THE HEALTH AND SAFETY OF ALL EMPLOYEES IS OF PARAMOUNT IMPORTANCE AND IS A BUSINESS PRIORITY FOR THE COMPANY IN RESPECT OF ITS OPERATIONS

THE MANAGEMENT AND EMPLOYEES OF NORTHAM PLATINUM AGREE AND DECLARE THAT:

- 1 Injuries and accidents can be prevented and health and safety risks can be controlled. We commit ourselves to achieving this.
- 2 We are all equally responsible for implementing health and safety measures. Every employee must take reasonable care to protect his/her own health and safety, and ensure adherence to standards and conditions to provide for a safe working environment without undue risk to the health of any employee. Adherence to health and safety measures and this policy is a condition of employment. Both management and employees acknowledge that non-adherence will not and must not be tolerated.

- 3 Employees must be trained to identify the hazards associated with their jobs and must report any hazards so as to ensure work can take place in a safe and healthy environment. Employees must use and take proper care of protective equipment.
- 4 Audits are very important to identify sub-standard health and safety practices, conditions and deficiencies, and all the non-compliances must be corrected promptly.
- 5 The health and safety of contractors and suppliers who could be affected by mining operations is equally important.
- 6 This health and safety policy must be adhered to. The joint health and safety committee must review the policy at intervals determined by it in the interests of the company and its stakeholders.

THE PERSONAL INVOLVEMENT OF EACH AND EVERY EMPLOYEE IS ESSENTIAL TO ACHIEVE THE SUCCESSFUL IMPLEMENTATION OF THIS POLICY. THE EFFORT OF EACH EMPLOYEE IS WORTHWHILE AS IT WILL NOT ONLY ACHIEVE A REDUCTION IN INJURIES, ACCIDENTS AND HEALTH AND SAFETY RISKS, BUT WILL ALSO IMPROVE THE QUALITY OF LIFE FOR EVERY EMPLOYEE BOTH AT WORK AND IN THE COMMUNITY.

Average hours of training per category of employee

Occupational level	Total employees	Total training hours	Average training hours/person
Senior management	84	3 024	36
Middle management	126	4 536	36
Technical / production	5 278	253 344	48
Engineering / maintenance	994	35 784	36
Administration	283	2 264	8
Total	6 765	298 952	44

In terms of the provisions two categories of competent people are required to ensure the following safe practices:

- Declaring a working area to be safe – Competent Person A
- To install, maintain, or remove any support unit – Competent Person B

Employees and employee representatives participate in various health and safety structures on at least a monthly basis. The involvement is from the work team level up to the head of department (Manager: Production) level at various forums (Joint Health & Safety Committee, Divisional Health and Safety Committee and Health and Safety representatives meetings).

Mine overseers each convene a monthly divisional health and safety meeting with all the safety representatives, work team leaders and line supervisors within their sections, where health and safety issues are discussed and action plans agreed on to address accidents and high risks within their sections. The full time health and safety representative also convene monthly safety representatives meetings for review purposes and to discuss proposals for further

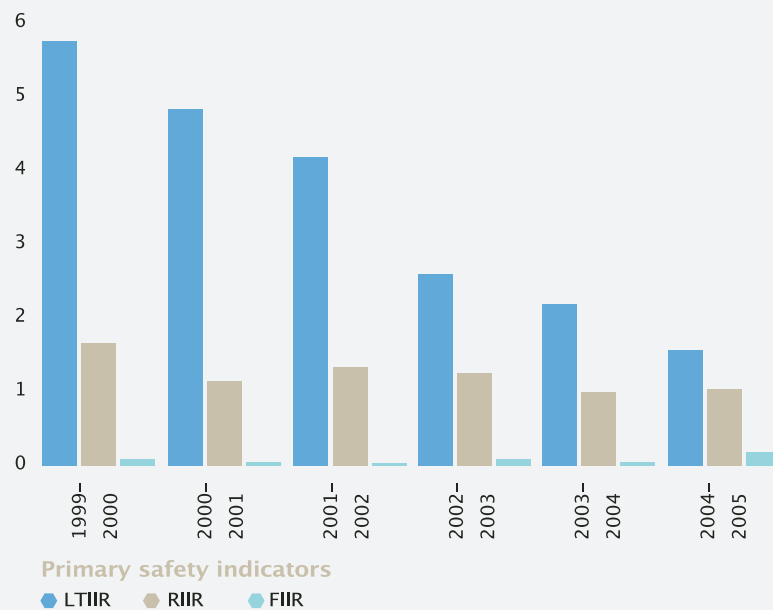
Performance

The death of nine employees after a fire between 13 and 14 levels on 20 September 2004 was an enormous and deeply regrettable human tragedy. At the time of the fire a total of 1 136 people were working underground, 55 of them in the ventilation district affected by the fire resulting from a burning conveyor belt. The incident is currently the subject of an inquiry by the DME.

A further five mining-related deaths during the year under review contributed to a fatal injury incidence rate (FIIR) of 0.18 which is of enormous concern to management.

During the closure phase after the fire a number of additional risk assessments were performed and all employees were subject to intensive safety refresher training which included hazard identification and risk assessment skills training.

This had an impact during the start-up phase (traditionally a time considered to be more hazardous as a result of degradation of ground conditions during a shut-down) and for a couple of months thereafter safety performance improved, as evidenced in the continuing downward trend in



improvements. Proposals to address health and safety on the mine are also discussed at this meeting.

The joint health and safety committee meets on a monthly basis to address issues which could not be resolved at lower levels, and also to review overall performance and to put plans in place to address any identified risks.

the lost time injury incidence rate (LTIR) and the reportable injury incidence rate (RIIR).

The main contributing causes of injuries still appear to be falls of ground, although, with the ongoing focus on support standards, there is some indication that these are declining.

A drive to improve support densities has resulted in a 44% improvement over the past three years, with some 20% achieved in the second half of this financial year. Elongate support density has been increased and the use of temporary supports such as camlock props is compulsory. In addition the distance between backfill and the working face has been reduced to a maximum of 5 metres after blasting.

Other activities contributing to injury are materials handling and tramming and transport, indicating that standards are not always complied with.

Successes were registered with the metallurgical plants recording 3 million fatality-free shifts this year – not having recorded a single death in the mine's 17 year history. On surface overall a total of 10 million fatality-free shifts were achieved. Furthermore, the mine has a three star safety status as indicated in the latest audit by NOSA.

Historically fires have not been prevalent at Northam. Nevertheless, after a few suspicious incidences of fire in the first half of the 2005 calendar year, and a comprehensive risk assessment, further significant improvements have been effected to the overall fire detection and fire-fighting equipment. These include:

- High pressure automatic water sprays along the length of decline conveyor belts, dispensing 0.5 litres of water per second on every 2 metres of belting
- Fully pressurised hand held watering down guns dispensing 0.5 litres per second with 40 metres of hose at 40 metre intervals
- Each head and tail unit has a dousing dry powder system
- Carbon monoxide monitors at the head and tail of each conveyor are linked to the surface control room with audio visual alarms on site underground
- Additional hand held fire extinguishers
- Alarms for compressed air supply failure in the 14 level decline
- Automatic tripping belt alignment units and speed monitors
- Audio-visual automatically tripping bearing temperature monitors linked to the surface control room
- Enforcing the use of self rescuers
- Self dousing systems for all mini substations
- An upgraded fire detection system underground with additional CO detector heads and velocity metres, monitored on surface in a centralised control room which is manned 24 hours a day.

The way forward – back to basics

After the September 2004 mine accident, management embarked on a rigorous review of the mine's safety programmes and training. A decision was taken to refocus on the basics of safety in all training and communication campaigns going forward.

The back to basics approach has resulted in a renewed emphasis on the tenets of 'the four pillars of safety', the cornerstone of Northam's safety management programme, and which had in the past served the mine well:

- Communication
- Planned inspections
- Planned task observations – observing how activities are performed and adhering to safety procedures
- Risk assessments

Targets for the year ahead

- Zero fatalities
- 10% reduction in the RIIR
- 25% lower LTIIR
- OHSAS 18000 accreditation for safety management
- External audit of the entire health and safety management system

Health services

Northam's occupational health and medical services are provided on a contract basis by Platinum Health, a division of Anglo Platinum. A medical staff complement of 35 (three doctors and 18 nurses, paramedics, physiotherapists and radiographers, one audiometrist) provides primary health care, health education and wellness promotion, employee assistance and mental health services, dentistry, occupational health and medical surveillance, emergency medicine, transport and transfer of the sick and injured.

Medical facilities and systems were recently upgraded at a cost of R300 000 to improve functionality and to keep abreast of amendments made by the Department of Health and other regulatory authorities. New audio testing machines and modules, aligned with those of Rand Mutual (an industry-funded compensation body), were installed. During the year the medical facility was audited by an external consultant, and was inspected by the Department of Health in December 2004.

Medical surveillance

The company performs a number of occupational health services, in line with the provisions of the Mine Health and Safety Act.

- During the year the medical station performed 1 541 initial, 7 029 periodic, 964 exit and 510 pre-promotion medical examinations for full-time and contract employees. In addition 28 medical examinations were performed on members of proto teams.
- Regular lead tests (30 in the year) have not indicated any dangerous levels among employees.
- A total of 107 patients were submitted for compensation for occupational hearing loss.
- Heat tolerance testing (HTT) is performed on all new recruits and employees returning from leave prior to them going underground. HTT has been proven to be an excellent screening instrument to highlight dormant medical conditions.
- A monthly average of 44.8 people (including contractors) received treatment for pulmonary tuberculosis (TB) during the year. A total of 124 patients were referred for compensation.

Progress review

A number of improvements in health services were implemented during the year, notably in the Hosp-Solit (the employee management system) interface. This has resulted in more effective management of employees' leave times and therefore their medical treatment regimens.

In the case of TB the Direct Observed Treatment (DOT) programme needs to be administered correctly until its completion to prevent the disease reactivating. Nevertheless,

some reactivations persist, and indicate the effect of the progress of HIV infection. Patients who contract TB for a second time are subject to an eight-month treatment regimen compared to six months for new onset cases. Pre-leave medical examinations have recently also been instituted.

More effective management has also resulted in improved administration of compensation claims, better record-keeping and accident notification. In addition an agreement was concluded in December 2004 with all contractors for them to assume the same responsibility as the mine and follow agreed procedures for reporting mine accidents.

The medical department has been instrumental in setting up a task team comprising management, organised labour and medical staff to participate in the DME's initiative to eradicate silicosis and noise induced hearing loss (NIHL) in the industry. Although employees are not exposed to silica at Northam, the company will participate in this initiative, with a focus specifically on NIHL. Target dates have been set for the implementation programme, with quarterly meetings at all mine sites. The drive at Northam to educate employees in the use of personal protective equipment (PPE) is ongoing, and during the year all outstanding baseline hearing tests were updated and brought into line with Rand Mutual Assurance requirements.

An employee assistance programme (EAP) was introduced during the year and provides comprehensive counselling, social, psychological and psychiatric services. This was a particularly helpful tool used to treat employees suffering from post-traumatic stress following the fire in September last year, and the six-week closure of the mine.

Environmental monitoring, food handling surveys and health and wellness education are an integral part of the services provided by Platinum Health. Plans are in place to bring in an external consultancy to perform an audit on the kitchen following some instances of inadequate hygiene standards. Monthly cholera and water surveillance tests are performed to prevent contamination from water-borne pathogens (contaminated water in hydro-powered equipment could pose a threat to underground employees in a closely contained environment). Fresh potable water is supplied to underground areas for human consumption.

Other services introduced during the year were improved control over standards and practices of first aid training, with Platinum Health acting as external auditors for the programme. In addition, the company provides malaria prophylactic treatment for employees who live in affected areas.

HIV/AIDS

The prevalence of HIV among Northam's workforce is estimated to be between 20 and 25%, in line with the national average.

A weekly HIV training module has been included in the training centre's courses with a reciprocal arrangement with the mine's HIV counsellor at the medical station.

Awareness programmes continue with the use of peer educators, and the voluntary counselling and testing programme (VCT) has been extended to the Northam Life Centre (see case study on page 28). Nevertheless employees remain reluctant to present for testing.

Through a working group represented by management and Anglo Platinum's Platinum Health the company is investigating the feasibility of making anti-retroviral treatment (ART) available to HIV positive employees. However, since Limpopo Province is the last province to roll out the treatment, difficulties are still being encountered in partnering with an external agency.

Customer health and safety

Currently Northam's precious metals are refined by Heraeus in Hanau, Germany. The Heraeus refinery operates within strict EU guidelines which regulate its performance in terms of social and environmental responsibility. Refined metal, sponges, ingots, and powders are packaged in accordance with international standards and each numbered lot of metal to customers is accompanied by a unique Certificate of Assay as issued by Heraeus, with material safety data sheets made available to customers.

Refined PGMs are sold on a contract basis to a well-established customer base in Japan, North America and Europe. Platinum and palladium are guaranteed to be of London-Zurich Good Delivery Status at a minimum purity level of 99.95%.

Nickel sulphate, a by-product which emanates from the BMR process at Northam's mine site, is sold to a customer base in South Africa, and is accompanied by safety data sheets for the information of transporters, handlers and customers.

Instances of non-compliance with regulations concerning customer health and safety have been rare, with the most recent occurrence reported in 2003, when friable ingots were reported from customers in Japan. The ingots posed no risk to the users, but were timeously returned to Heraeus and replaced. Any occurrences of this nature or other concerns are reported to the Northam marketing department.

Northam's marketing department maintains regular weekly contact with its customers, with at least annual customer meetings and hosting customer visits to the company's plants.



ENVIRONMENTAL IMPACTS

Scope of potential impact

Northam's current mining property covers an area of 5 183 hectares in the Thabazimbi municipal area in South Africa's Limpopo Province. Underground mining activities are conducted via a twin shaft system at depths of between 1 200m – 2 200m below surface. Virgin rock temperatures vary between 45°C and 75°C and have necessitated the extensive use of backfill and hydropower technologies. Chilled water is sent underground to the workings at 5°C and is used to provide positional cooling and to power the equipment. This results in approximately half the water required for cooling purposes compared to a conventionally cooled mine. Hydropower application has been proven to minimise the use of electricity as a result of reduced compressed air consumption and lower overall water consumption leading to lower pumping requirements.

Processing and treatment of ore takes place on surface at two concentrator plants through crushing, milling and flotation in order to separate the waste from the precious minerals which are released in concentrate form. Concentrate is then dried, smelted and converted in the smelter plant, and the gangue is separated from the matte in the furnace. On-mine processing infrastructure includes a base metals removal plant where further leaching, copper electrowinning, pressure acid leaching, iron precipitation, counter current decantation (CCD), platinum and other PGE precipitation processes further separate the base metal by-

products from the PGMs. Enhanced precious metals refining currently takes place at Northam's offshore partner Heraeus's refinery in Hanau, Germany.

Legislative compliance

In terms of the Minerals and Petroleum Resources Development Act (MPRDA) of 2002, Northam's potential and existing environmental impacts and management systems are documented in the mine's Environmental Management Programme Report (EMPR), which is approved by the Department of Minerals and Energy (DME) and the Department of Water Affairs and Forestry (DWAF). Compliance with the EMPR is monitored by self-assessment, third party auditors and by the relevant authorities. Self-audits are conducted annually by independent third party specialists.

In 1999 Northam was granted an exemption in terms of Section 21(4)(a)(i) of the now repealed Water Act, No 54 of 1956 by the DWAF, which expires in December 2005. This exemption allowed the mine to discharge excess industrial water subject to compliance with the conditions of the exemption. Northam is however in the process of applying for a water use licence as required in terms of the National Water Act 1998, which will replace the Section 21(4) exemption. The water management strategy is also governed by the National Environmental Management Act 1998 and the MPRDA. A water use licence application was

submitted to the DWAF in July 2005. A groundwater flow model is being developed, and once this has been refined, a contaminant flow and transport model will be generated as part of the water use licence conditions.

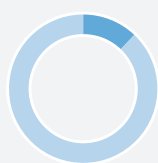
Northam manages its emissions of sulphur dioxide (SO₂) and particulate emissions within permit requirements. Registration in terms of the Atmospheric Pollution Prevention Act No 45 of 1965 has been completed for scheduled processes – the selenium process and the roasting process.

The most recent external audit on the mine's EMP has indicated some areas requiring improvement, with recommendations for revising the ground water monitoring

Water consumption is monitored at all the strategic consumer points. Residential water usage was calculated to be 22m³ per capita annually, on a par with middle to high income residential consumption in Johannesburg. Industrial water consumption for the year increased to 12.2 million m³ due to an increase in the number of coolers required to maintain ambient underground temperatures owing to the increased distance of mining activities from the shaft infrastructure.

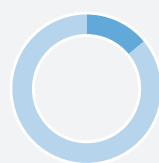
Performance

A recent independent audit by Jarrod Ball & Associates has identified an improvement in the results of the water management strategy with an increase in areas of compliance.



2005 – Water consumption 000m³

● Potable water from external source for domestic and occupational hygiene only	1 942
● Recycled water used for primary activities	12 175
Underground service water	8 927
Concentrator	2 077
Smelter	487
Irrigation	684



2004 – Water consumption 000m³

● Potable water from external source for domestic and occupational hygiene only	2 081
● Recycled water used for primary activities	10 668
Underground service water	7 562
Concentrator	1 841
Smelter	530
Irrigation	732

requirements. Some of the parameters as well as the frequency of sampling do not correlate with the latest requirements outlined in the water use application. The mine is planning to implement the recommendations by updating the EMPR to ensure correlation with latest regulation.

Management and reporting structures

Environmental management vests with the engineering manager at Northam. He is assisted in the implementation of strategy, monitoring of processes and systems and proactive management of potential and existing impacts by the Engineering, Metallurgical, Technical Services and Ventilation departments. Quarterly environmental progress reports are submitted to the CEO for review at the quarterly meetings of the safety, health and environment (SHE) board committee which comprises four non-executive directors who are tasked with overseeing overall compliance with legislation in terms of safety, health and environment. The SHE committee makes recommendations to the board on issues relating to these matters.

Water management

Northam's water management strategy is based on the principles of adhering to relevant national legislation; optimising the use of water from supply authorities to minimise demand; and preventing discharge of polluted industrial water into adjacent watercourses.

Improvements manifested in the following examples:

- A weather station has been installed to improve the management of the impact of surface water to achieve the target of zero discharge of process water and by containing and settling out polluted run-off;
- Recording all water usage;
- Improved ground water monitoring with 11 additional boreholes bringing the total to 24;
- Limiting the consumption of water from Magalies Water. This has reduced from 2 081 megalitres to 1 942 megalitres in the year under review;
- Extensions to and improved ongoing maintenance of the toe paddocks at the waste rock dump, the slag dump and the tailings dam to accommodate a 1:24 hr 1:100 year storm event;
- Improved management of the waste rock dump.

The total lease area of the mine is 5 183 hectares. Leasing of land for farming purposes has declined, mainly as a result of snaring of animals and overgrazing in some areas. The leased farm land now comprises 276 hectares, or 3.6% of the total area and overgrazing has decreased. A further area of 808 hectares (10.6% of the total area) is leased to Anglo Platinum and forms part of a game/nature reserve, externally managed and monitored by professional rangers. The leased area covers 14% of total land and 50% remains as natural habitat.

CASE STUDY Preserving the Crocodile River and Bierspruit

In terms of the water management strategy surface process water is contained and recycled at the various infrastructural points. The target is zero discharge. The exemption provides for water and/or effluent discharge into the surrounding Crocodile and Bierspruit watercourses only in cases of emergency.

JBA's audit indicated that Northam's activities do not significantly affect the integrity of the Crocodile River. The river's water already exceeds the DWAF's in-stream quality requirements at the point where it enters the zone that can be impacted by Northam's operations in terms of conductivity, hardness, calcium and the SAR.

Water overflow measures		Treated sewage effluent				Evaporation dam		
	Permit requirements	Oct	Dec	Jan	Feb	Dec	Jan	Feb
pH	6.0<pH<9.0	7.3	7.0	7.2	7.2	7.3	7.3	7.3
Cl	≤1200 mg/l	171.4	175.2	309.5	251.9	524.8	535.1	530.5
EC	≤500 mS/m	96.4	101.8	105.2	95.8	286.0	196.5	246.1
N	≤30 mg/l	2.7	22.5	9.7	2.6	77.4	68.4	81.0
F	≤1.5 mg/l	7.6	8.0	6.9	5.5	10.5	13.6	3.9
SO ₄	≤600mg/l	88.9	84.2	109.9	99.9	183.4	184.5	214.4

During the year (notably in October and December 2004 and January and February 2005) some overflows occurred from the sewage works' maturation ponds and the evaporation dam into the Bierspruit catchment. This was largely as a result of the Section 54 shutdown for six weeks from end September to early November when the concentrator's water consumption was nil, and at the Christmas break, and increased rainfall during January and February.

An external audit by Jarrod Ball & Associates (JBA) of the mine's EMPR in February 2005 has indicated that, in general, the water quality discharged to the Bierspruit was within the parameters of the permit requirements except for fluorides and nitrates in the evaporation dam water. The JBA audit also highlights that there are periods where the Department of Water Affairs and Forestry's (DWAF) instream water quality requirements are not being met, but this is due to a number of reasons such as poor quality at the inlet to the zone of influence as well as potential impacts from neighbouring mines. For this reason further steps are being taken to prevent any discharge of mine industrial water to the Bierspruit.

Management is nevertheless concerned about the preservation of the sustained integrity of the Bierspruit and Crocodile watercourses and participates in the Thabazimbi Water Management Forum, represented by the mining sector and the DWAF which is working towards the development and implementation of an integrated catchment monitoring programme for the Crocodile River and Bierspruit.

Priorities for the ensuing year:

- Minimising discharge from the evaporation dam and the sewage plant maturation ponds.
- Construction of additional stormwater cut-off drains to divert water from the evaporation dam and settling pond catchments.
- Developing an improved groundwater flow model to facilitate the development of a contaminant flow and transport model.
- An integrated water management plan to be reviewed annually.

None of the company's activities are situated in IUCN (World Conservation Union) protected area and heritage sites or biosphere reserves. Furthermore, no red data species (the IUCN's system of identifying species at high risk of global extinction) have been identified on or adjacent to mine property by the EIA process associated with the compilation of the EMPR.

Emissions and particulates

The mine's objective is to manage its emissions of SO₂ and particulates (dust) to the atmosphere within the required legal parameters. Northam's monitoring system to gauge SO₂ levels comprises 12 sulphation plate monitoring stations on the property and three in the neighbouring towns of Koedoeskop, Northam and Thabazimbi.

Monitoring station results indicate that SO₂ emission levels are well within the South African limit of 50 parts per billion (ppb). The highest value was recorded at the plant from August to September 2004, at the level of 19 ppb.

Northam's total daily SO₂ emissions varied between 3.1 and 24.8 tonnes per day, well within the permitted limit of 32 tonnes per day. Emissions were also independently measured and reviewed by external consultancy Levego.

The surface tailings dam, a potential source of dust, is progressively vegetated, thereby minimising the mobilisation of dust. In the plant dust emissions are reduced through the use of electrostatic precipitators and a Dyna Jet Scrubber. For the selenium process, off-gases from the roasters are vented to the scrubber where volatilised selenium is removed. Selenium concentrations are regularly measured at the fences. The JBA audit has verified the results which have consistently been below the required concentration of 0.004mg/m³.

Currently, four of the mine's eight refrigeration plants use the environmentally acceptable R134A, while the other four use R22. The consumption of refrigerants is carefully monitored to minimise usage.

Some CFCs may still be emitted by domestic appliances, but these are considered to be at low levels and are not monitored.

Non-mineral waste

Redundant radio-active nuclides used in measuring devices at the process plants are disposed of via accredited service providers (Secony) at Pelindaba. Quantities are limited to measuring devices only. The use of the nuclides is registered in terms of the Hazardous Substances Act (Act 15 of 1973).

Mineral waste

Northam operates a tailings dam with two compartments, a waste rock dump and a slag dump. In total these waste disposal facilities cover some 161.4 ha. Tailings are deposited at a rate of 140 000 tons per month with the balance of approximately 60 000 tonnes per month pumped

underground as backfill for regional support. The tailings dam is largely vegetated to minimise aesthetic impact and to reduce dust levels. Some patches of inadequate vegetation remain on the tailings dam, but these have not resulted in significant dust levels. Grassing is continuing on the tailings dam.

Waste rock is being dumped at a rate of approximately 25 000 tonnes per month. Natural vegetation is currently establishing itself on the old portion of the waste dump. The extension to the dump has an extended footprint, to allow for a slope of less than 20° on the sides and to reduce the final height and hence visual impact.

A slag dump treatment plant is currently being constructed and the dump is expected to be depleted within five years. This has a major environmental benefit in that a potential pollution source will be removed. Any new slag generated during life of mine (approximately 6 800 tonnes per month) will be treated on a batch process. Tailings from this plant will be mixed with current run of mine tailings and will be placed on the tailings dam.

Biodiversity

An objective of the EMP is to minimise any impact on endemic animal and plant life. Strategically situated signposts on mine property help to discourage hunting and trapping. This is monitored by security personnel and has in some instances resulted in arrest and prosecution. From January 2004 until the end of January 2005 a total of 70 snares and eight fishing nets were removed and one arrest was made. Kudu, reedbuck and jackal were found in three of the snares. The establishment of the Anglo Platinum game reserve has had a positive impact on preserving animal life, with a number of species introduced.

Invasive alien vegetation species were identified and categorised by an external consultancy in a 2004 study. The study also provides comment on the extent of invasion and guidelines for eradicating the species. In a project using local community people, good progress has been made in eradicating syringa trees from the Crocodile River frontage. Some 1 600 trees have been removed. This programme is being augmented to include other invasive species.

In terms of the mine's water permit exemption it has been conducting a biomonitoring programme with the Clean Stream Environmental Services/University of Johannesburg consortium since 2001. Both the Crocodile River and the Bierspruit are monitored on a quarterly basis. Results have indicated no impact from mining activities on the macro-invertebrate community. The fish communities however manifested a downstream degradation in biotic integrity in both watercourses. It is unlikely though that these were caused by Northam since there were no discharges into the Crocodile River (see accompanying case study on page 36).

Environmental awareness

Employees and community

The company's code of ethics states: "The company recognises that the environment represents a strategic resource for both current and future generations, and is committed to minimising the impact its operations have on the environment by applying appropriate, cost effective measures to foster environmentally sustainable development.

"The company expects all its employees to assist in this regard by both minimising the impact their activities have on the environment and by reporting both existing environmental degradation and any situation which may potentially be environmentally damaging, to management."

Management acknowledges that this is an area which requires further work and has compiled a draft training module to be incorporated into both induction and review training at the training centre. Some progress has been made with environmental awareness at the Northam Life Centre, an integrated community project which offers HIV treatment and counselling, vegetable gardening, removing alien vegetation, and materials recycling. (see case study on page 28.)

Contractors and suppliers

Contractors are required to comply with the company's environmental standards and procedures.

Land usage	2005 ha	2004 ha
Land used for current mining and related activities	1 242	1 242
Total tailings dam area	149	149
Total waste rock dump area	12	12
Total slag dump area	1	1
Leased farm land	276	276
Land leased to Anglo Platinum for reserve area	808	808
Natural habitat	2 696	2 696
Total land under mine charge	5 183	5 183

Energy usage		
Energy consumption	2005 Gw/h	2004 Gw/h
Energy from electricity purchased – shafts	413	385
Energy from electricity purchased – plants	126	123
No use has been made of renewable energy sources		

Environmental incidents

A minor incident was reported during the period under review:

Date	Type of incident	Cause	Remediation
Feb 2005	Overflow of the evaporation dam	Interruption of operations and high rainfall	Improved monitoring of the water levels to maintain half capacity

Public participation and stakeholder engagement

Good relationships are sought with the mine's neighbours. Open days are held regularly and advertised in local media. An open day planned in October 2004 was however postponed to February 2005 as a result of the interruption of operations following the September 2004 fire, and as required by the DME. No incidents were raised at the meeting. Further engagement was pursued in March 2005 when an external consultancy was contracted to make individual contact with surrounding farmers to elicit any concerns. Again, no concerns were raised although most of the respondents requested that they be consulted in the event of any on-site expansion of activities.

Closure liabilities

The Northam Platinum Restoration Trust Fund was established in 1996 to provide for rehabilitation costs. These costs are reviewed annually and are approved by the DME.

Rehabilitation and pricing schedules are reviewed by an external consultancy, Thuthuka Project Managers.

Summary of closure liabilities 2005

Provision to date	Balance in trust fund	Required closure costs
R22 556 000	R14 443 000	R51 536 000

Emissions

	2005	2004
SO ₂ (tonnes)	5 424	5 458

The highest daily emissions measured 24.8 tonnes, well within the 32 tonne limit.

Materials consumed

	2005	2004
Coal (tonnes)	4 873	4 861
Grease (tonnes)	44	43
Fuels (litres)	810 585	927 373
Lubricating and hydraulic oils (litres)	139 275	219 660

Areas identified for further improvement in 2006

- Constructing more step-ins on the tailings dam and increase the grassing
- Amendment of the EMP to reflect a more up to date ground water monitoring system
- Development of a contaminant flow and transport model and a groundwater management plan stating appropriate action regarding pollution plumes
- Further environmental training for employees

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Economic performance indicators

Core		Additional	
Customers			
EC1	pg 65		
EC2	pg 21		
Suppliers			
EC3	pg 65	EC11	pg 21
Employees			
EC5	pg 20		
Providers of capital			
EC6	pg 20		
EC7	pg 66, 19		
Public sector			
EC8	pg 19		
EC9	pg 21		
EC10	pg 27		

Environmental performance indicators

Core		Additional	
Materials			
EN1	pg 39		
Energy			
EN3	pg 38		
Water			
EN5	pg 35		
Biodiversity			
		EN22	pg 35
EN6	pg 37	EN23	pg 38
EN7	pg 36		
		EN25	pg 37
		EN28	pg 37
Emissions, effluents and waste			
EN9	pg 37		
EN10	pg 39		
EN11	pg 37		
EN12	pg 36		
Suppliers			
Products and services			
EN14	pg 8		

Social performance indicators: Labour practices and decent work

Core		Additional	
Employment			
LA1	pg 25	LA12	pg 20
LA2	pg 24		
Labour/management relations			
LA3	pg 25	LA13	pg 24,
25			
LA4	pg 25		
Health and safety			

LA5	pg 29	LA14	pg 29
LA6	pg 29	LA15	pg 29
LA7	pg 31		
LA8	pg 33		
Training and education			
LA9	pg 30	LA16	pg 28
Diversity and opportunity			
LA10	pg 25		
LA11	pg 26, 27, 41–44		

Social performance indicators: Human rights

Core		Additional	
Strategy and management			
HR1	pg 24, 25		
HR2	pg 21		
Non-discrimination			
HR4	pg 24, 25		
Freedom of association and collective bargaining			
HR5	pg 24		
Child Labour			
HR6	pg 25		
Forced and compulsory labour			
HR7	pg 24		
Disciplinary practices			
		HR9	pg 25
		HR10	pg 25

Social performance indicators: Society

Core		Additional	
Community			
SO1	pg 26		
Bribery and corruption			
SO2	pg 25		
Political contributions			

Social performance indicators: Product responsibility

Core		Additional	
Customer health and safety			
PR1	pg 33	PR4	pg 33
		PR6	pg 33
Products and services			
PR2	pg 33		
		PR8	pg 33

Core indicators not available: EC4; EN2; EN8; EN15; HR3

Core indicators not applicable: EN4; EN13; EN16; SO3; PR3