

MOUNT ISA  
MINES

# Mount Isa Mines Sustainability Report 2005



  
xstrata

## SCOPE OF THIS REPORT

This report details the health, safety, environment and community performance of Xstrata's copper and zinc-lead operations in Mount Isa from 1 January 2005 to 31 December 2005.

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For a comprehensive review of Xstrata's HSEC performance at its north Queensland operations please also refer to the following reports:

- Xstrata Copper North Queensland Division Sustainability Report 2005;
- Xstrata Copper Ernest Henry Mining Sustainability Report 2005; and
- Xstrata Townsville/Bowen Sustainability Report 2005.





## Chief Operating Officer's Message

The business strategy of Xstrata Copper's north Queensland Division is to maximise value for Xstrata's shareholders by successfully managing a sustainable, integrated copper business that produces 300,000 tonnes of copper cathode a year.

We are passionate about improving our safety and environmental performance and increasing the level of social involvement in our local communities. We know this is possible only by using business practices that are socially, environmentally and economically sustainable and transparent. We also know that to be successful in our objectives we must work in partnership with our employees, local communities and other stakeholders.

In this sustainability report we have provided details on our performance against our 2005 targets, which are progressing towards our strategic objectives. We have expanded our sustainability reporting to include three site reports: Mount Isa, Ernest Henry and Townsville, in addition to an overall north Queensland report.

In 2005 we achieved a record copper in concentrate production of 306,492 tonnes at our north Queensland operations.

Our sustainability highlights for 2005 include:

- A 30% improvement in our safety performance, with no fatalities.
- The undertaking of the Xstrata plc health, safety, environment and community (HSEC) internal audit review which achieved encouraging results, supporting the development direction of our safety and health management system and ensuring our systems and performance meet the expectations of a resources company operating in a world market.
- Mount Isa Mines received the Metalliferous Employer of the Year Award at the annual Mining Industry Skills Centre Training Awards for its application of the Xstrata north Queensland Operations Training Management System. This system also won the coveted 2005 Queensland Mining Industry Excellence in Training Award.

- A total waste management system was established which enabled Mount Isa Mines to manage wastes generated on site to industry best practice standard. All waste streams are tracked, enabling better separation and recovery of scrap metal.
- The fluo solids roaster (FSR) at Mount Isa was decommissioned in 1997 after almost 30 years of service. To ensure a progressive approach to site rehabilitation, the demolition of the FSR commenced in 2005, and is scheduled for completion in early 2006. About 3,500 tonnes of steel will be recovered for recycling.
- In line with Xstrata's commitment to corporate social involvement, we launched the Xstrata Community Partnership Program in north Queensland in December 2004. The program is contributing more than \$4 million to vital community initiatives. We have achieved many successes with Xstrata's partners across north Queensland in the first year of the program.
- In 2005 the decision was taken to create a step change in the already high quality of our apprenticeship training by building a custom designed Xstrata Skills Centre. Xstrata's north Queensland operation runs the largest apprenticeship program in north-west Queensland with 60 new apprentices recruited in 2005 and projected total apprentice numbers to exceed 300 from 2007.

In 2006 we will continue execution of our best practice approach to performance in safety, environment and community partnerships as we work towards recognition as an industry leader in these areas. Among a number of improvements, we will further reduce our injury rates, improve capture of emissions and increase our corporate social involvement commitment.

Our sustainability reports are designed to share our progress with you and we would welcome any feedback about the reports. Please email your comments to [nqsustainability@xstratacopper.com.au](mailto:nqsustainability@xstratacopper.com.au) or write to me at Xstrata Copper, PMB 6, Mount Isa, QLD, 4825.

**Barry Grant**  
Chief Operating Officer  
Xstrata Copper North Queensland



## General Manager's Message

Xstrata Zinc's strategy in north Queensland is to be a strong performer in health, safety, environment and community (HSEC) and provide a viable, profitable, long-term operation for shareholders.

Together with the support of the local community and our workforce, the operations in Mount Isa have performed well in achieving our HSEC and financial targets in 2005.

The 2005 year marked many milestones for the zinc-lead business in Mount Isa. Underground operations in the lead mine ceased on a high note after 82 years. The mine achieved record tonnages with improved safety performance, and the employees moved into new roles within the organisation. The Black Star open-cut moved from project status to operational status in 2005 by mining the lead mine ore body from the surface.

The Mount Isa community benefited from the strategic growth of the zinc-lead business through the creation of jobs sourced from the local residential community. The Xstrata Zinc operations employed an additional 33 apprentices in 2005 and increased the permanent workforce by 168.

To ensure long-term sustainability of the Mount Isa zinc-lead operation, \$42.5 million was spent on:

- increasing the ore reserves at George Fisher mine from 23 million to 42.2 million tonnes;
- establishing a paste fill plant at George Fisher mine;
- constructing a zinc concentrate filter plant; and
- installing a concentrator independent ore feed system.

We plan to further improve our health, safety, environment and community performance in 2006 by:

- improving the contractor HSEC management system;
- commissioning the lead ISASMELT feasibility project; and
- introducing the green lead initiative.

Xstrata Zinc is well positioned to continue to be a responsible corporate leader in the region. With the support that we have received in 2005 I am sure that a sustainable future within the community will be achieved as we continue to implement the 17 Xstrata HSEC Management Standards.

Our sustainability reports are designed to share our progress with you and we would welcome any feedback about the reports.

**Kevin Hendry**  
*General Manager Zinc-Lead Operations*  
North Queensland Zinc



## Our approach to sustainable development

For Xstrata, sustainability is about caring for the environment in all stages of mining and metal production; efficient and responsible use of resources, including energy, water and land; keeping our employees safe and healthy; improving services and facilities in communities where our employees and their families live; helping these communities to build the capacity to sustain themselves as vibrant, self-reliant centres; and providing our shareholders with a highly profitable return on their investment in our business over the long term.

### Our global perspective

Xstrata plc maintains a meaningful position in six major international commodity markets – copper, coking coal, thermal coal, ferrochrome, zinc and lead – under four commodity businesses: Xstrata Copper, Xstrata Zinc, Xstrata Coal and Xstrata Alloys. The Group's operations and development projects span five continents and nine countries: Australia, South Africa, Spain, Germany, Argentina, Peru, Columbia, United Kingdom and Canada.

### Enduring Value – A Framework for Sustainable Development

Xstrata Copper and Xstrata Zinc are signatories to *Enduring Value – the Australian Mineral Industry Framework for Sustainable Development*. This framework was developed and launched by the Minerals Council of Australia (MCA) in October 2004 to give practical effect to the International Council on Mining and Metals' (ICMM) sustainable development principles.

The key role of *Enduring Value* is to translate the principles of sustainable development into practices that ensure industry operates in a way that meets community expectations and maximises the long-term benefits to society by effectively managing Australia's natural resources.

As a signatory to *Enduring Value*, Xstrata Copper and Xstrata Zinc have obligations to include progressive implementation of the ICMM Principles and Elements, public reporting of site level performance at least annually and assessment of the systems used to manage key operational risks (using either internal or external assessment as appropriate).



## Contributing to our economy

Since acquiring MIM Holdings Ltd in June 2003, Xstrata has demonstrated its commitment to maintaining the proud history of this mining and metals processing operation and providing an exciting future for the communities in which it operates.

The Mount Isa community is reaping the rewards from more employment opportunities, our support of local businesses, our ongoing funding of community projects and our contribution to government taxes and charges.

### OUR PRODUCTION

Mount Isa Mines' world class underground ore bodies have the capacity to produce 5.1 million tonnes of zinc-lead and 6.2 million tonnes of copper ore, using state-of-the-art mining and processing technology.

The Mount Isa Mines complex includes crushing plants, mills, concentrators and two smelters. All of these operations contribute to the process of separating waste rock from the ore and then removing impurities. These plants use technology developed in Mount Isa that has revolutionised metals processing, such as the IsaMills for the fine grinding of ores, ISASMELT for super-efficient copper smelting and Jameson Cells for maximum ore recovery during flotation.

Copper ore is sourced from two underground mines at Mount Isa. After being crushed and hauled to the surface, the copper undergoes a concentration process before being smelted at Mount Isa Mines' copper smelter. Copper anodes containing 99.7% pure copper are then railed to Xstrata's Townsville operations for further refinement into copper cathodes.

Zinc-lead-silver ore is sourced from Xstrata's lead mine at Mount Isa and the George Fisher mine complex, located 20 km from the city. The zinc-lead-silver ore is mined, crushed and hauled to the surface. Crushed ore from the George Fisher mine is transported via an off highway haulage road for processing at the Mount Isa processing facility.

The Black Star open-cut zinc-lead mine, which began full operation at the beginning of 2005, is providing an extra 2.38 million tonnes of ore production per year. Zinc concentrate, containing about 51% zinc, is railed to Townsville for delivery to the Sun Metals Zinc Refinery, and for shipment to overseas customers.

Lead concentrate contains between 50% and 60% lead and about one kilogram of silver per tonne. After processing, the metal is cast into four tonne blocks, each containing about 3,984 kg of lead and about 10 kg of silver. These blocks are railed to Townsville for shipment to Xstrata Zinc's lead-silver refinery in the United Kingdom.

Through Xstrata's vision to create a secure future for Mount Isa, we have invested more than \$115 million in new projects in north Queensland.

The development of the Northern 3500 underground copper ore body will provide an additional high grade mining zone in the Enterprise mine. Copper production is also being boosted through a copper leaching project and planned improvements to the copper smelter.

### Production facts

Copper Stream	
2005 production	177,000 tonnes of copper in concentrate from the underground mines 220,000 tonnes of copper in anode from the smelter
Mines	5.6 million tonnes per annum of ore mined at two underground copper mines: Enterprise and X41 mines
Plants	1 concentrator – 7 million tonnes per annum capacity; 1 copper smelter
Zinc-lead-silver Stream	
2005 production	231,000 tonnes of zinc in concentrate 160,000 tonnes of lead in lead bullion 353 tonnes of silver in silver bullion
Mines	4.4 million tonnes of ore per annum mined from Isa underground zinc-lead mine (ceased mining 31/12/05), George Fisher mine and Black Star open-cut
Plants	1 concentrator – 4.5 million tonnes per annum capacity; 1 lead smelter



# Caring for our people

The health and safety of our employees is critical to the business success of Xstrata Copper and Xstrata Zinc. We believe that all work-related incidents, illnesses and injuries are preventable.

## HEALTH AND SAFETY

### Overcoming challenges

One of the key challenges faced during the year was the number of new people entering the company and the mining industry. Our north Queensland operations employed an additional 520 people including contractors in 2005, bringing the total number of people employed to about 4,500.

One of our strategies for overcoming these risks was providing clear training requirements for each and every role within our business to ensure our people are provided with the skills to work both safely and productively, with a focus on identifying potential hazards and managing risks at all times.

For this purpose we developed the Xstrata North Queensland Operations Training Management System. This system was implemented across all of Xstrata's north Queensland operations and was recognised at the 2005 Annual Mining Industry Skills Centre Training Awards.

To assist to improve safety performance across its north Queensland operations, Xstrata has introduced the Positive Attitude Safety System (PASS). PASS is a communications tool developed to improve the flow of safety information through the workforce and to encourage safety improvement at the front line.

Employees, contractors and visitors participate in daily PASS meetings where the performance of the previous shift is rated. Below-par performance and safety improvements are discussed openly to ensure that everyone understands how to improve safety in the workplace. The performance of all participating groups is discussed with the most senior person on site each day and, if required, feedback and assistance is provided to ensure issues are resolved in a timely manner. The system also allows staff to consider and plan for the tasks to be completed in



Medical Laboratory Analyst Kara Mayocchi analysing drinking water samples from various community localities. Samples are routinely tested in the laboratory.

« (Previous page) Maintenance Team following safe practices while relining No.5 Ball Mill at the Copper Concentrator.

## HEALTH AND SAFETY PERFORMANCE

2005 Targets	Performance
<b>Mount Isa copper operations (including mining and metallurgical)</b>	
Zero fatalities	✓
LTIFR < 2.7	✓ (2.3)
DIFR < 13.3	✗ (18.4)
TRIFR < 24.5	✓ (20.0)
<b>Mount Isa zinc-lead operations (including Bowen coke works)</b>	
Zero fatalities	✓
LTIFR of 2.8 for zinc operations	✓ (2.8)
DIFR < 23.1 combined lead operations and lead smelter	✓ (17.8)
TRIFR of 30 for zinc operations	✓ (17.6)

✓ Achieved    ✗ Not achieved    → Action continues into 2006

the coming shift and to report any hazards identified during the day and document their controls.

The need for a sustainable and consistent occupational health and safety management system (OHSMS) was also identified. Our OHSMS has been updated and structured around the Xstrata plc HSEC Standards and HSEC Policy, Australian Standards AS:4801, AS:4804 and AS:4360, and the *Queensland Mining and Quarrying Safety and Health Act (1999)* and Regulations (2001) and is progressively being implemented across all of our business.

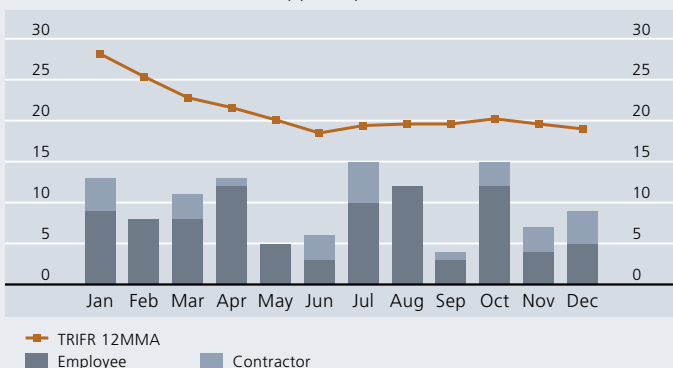
### Performing safely

Overall, Mount Isa Mines achieved significant improvements in their safety performance in 2005, achieving most of their safety targets (see the safety table). No fatalities were recorded during the year.

Safety performance is tracked using three measures – total recordable injury frequency rate (TRIFR), lost time injury frequency rate (LTIFR) and disabling injury frequency rate (DIFR) which record the number of injuries per million hours worked. TRIFR measures all injuries except first aid cases and includes the impact of significant injuries on employees who may be able to perform alternative duties, but not their normal

### Total recordable injury performance

Xstrata north Queensland Copper Operations – 2005



2006 Targets
Zero fatalities
< 2
< 8
< 16
Zero fatalities
LTIFR lead operations 3
DISR lead operations 160
TRIFR lead operations 15

function, and who would not be captured by indicators based on lost time injuries alone.

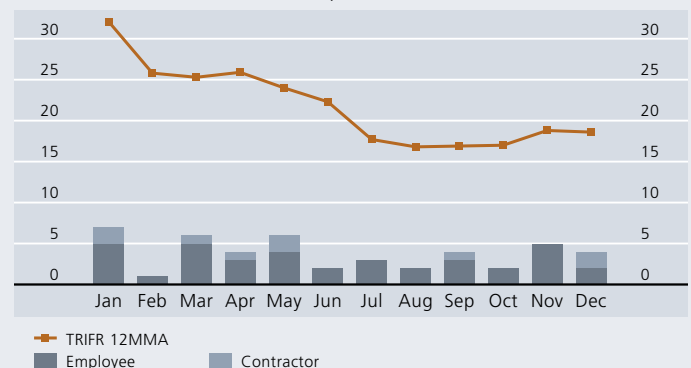
Since 2003 significant improvements against these measures have been achieved.

Xstrata's zinc-lead operations achieved all their safety targets in 2005. The DIFR reduced by 40%, the LTIFR by 9% and the TRIFR by 50% on 2004 figures. The Mount Isa copper operations achieved a 44% improvement in TRIFR and 26% improvement in LTIFR compared with 2004. Although the copper operations did not achieve their DIFR target of less than 13.3%, they did improve performance by 38% compared with 2004.

Safety incidents in 2005 were again influenced by over period of time injuries and injuries involving sprain and strain. In 2006 progress will be made in these areas to reduce the risks associated with these injuries.

Positive performance indicators have been implemented in many areas to proactively measure safety performance against OHSMS elements such as training compliance, workplace observations completed, inspections completed, health assessment compliance, blood-lead testing compliance, closure of actions and incident investigations.

Xstrata north Queensland Zinc Operations – 2005



All of Xstrata's north Queensland operations achieved Total Recordable Injury Frequency Rates that were lower than those targeted for 2005.



By identifying our critical tasks and developing a task analysis and risk assessment for each task we were able to:

- improve the efficiency of the task;
- encourage employees to take a fresh look at the hazards associated with each task and provide them with the knowledge and skills to control these hazards;
- identify where additional controls were required, highlighting the need for procedures and assessment tools; and
- determine the type and level of training and assessment appropriate for each task.

The application of the Xstrata North Queensland Operations Training Management System (which supports the national competency standards) and the use of consistent forms and templates ensured our review process was sustainable and auditable.

New standards for the safe use and handling of ammonia have now been written into the R67 ammonia plant's safe operating procedures and training and assessment materials, and these standards will be submitted for inclusion in the next review of the Mining Industry Skills Centre's Metalliferous Package.

The development of assessment tools means that our winder drivers can undergo on-the-job assessment under standard mine operating conditions, which leads to increased productivity and the transportability of training across all mine sites.

The newly created electronic version of our winder driver training package enables our maintenance personnel to access reference material from remote areas at any time of day or night, thus reducing down-time and ensuring consistent maintenance standards are met. To ease learning, our upgraded training material can also be presented as a one-on-one training module or in a hands-on format.

Because our finished training and assessment model supports the introduction of new technology, such as Palm Pilots and notebook computers, we expect to create significant cost savings by reducing paper use.

The ore handling department's outstanding commitment to building a sustainable training and assessment system was recognised with a Metalliferous Employer of the Year Award at the 2005 Annual Mining Industry Skills Centre Training Awards. The quality of the Xstrata North Queensland Operations Training Management System was also acknowledged, the system winning the coveted Queensland Mining Industry Excellence in Training Award.

## DEVELOPING AWARD WINNING TRAINING

In 2005 the ore handling department at the Mount Isa copper operations invested significant time and resources to develop a training management system that would deliver nationally recognised and transportable competencies and skills.

The ore handling department's previous training system had mainly focused on legislative compliance; its documents were not controlled and its training tools often varied in content, quality and delivery.

Through our involvement in the Mining Industry Skills Centre network meetings we were able to benchmark our performance against industry peers and we identified a significant gap between our practices and industry best practice. This was most evident in the R67 ammonia plant and the winders section, which were nominated as high risk and critical task areas.

As part of a detailed review process, each section in the ore handling department was asked to identify all the tasks that were performed for each position. This information was then transferred onto a training plan and we developed a role description for each grade structure, supported by the development of job description performance indicators.

An Xstrata plc health, safety, environment and community (HSEC) internal audit (Assurance Program) of the Mount Isa copper operations, zinc operations and metallurgical operations in 2005 showed encouraging results. These results have supported the development direction of the OHSMS and reassured us that our health and safety systems and performance meets the expectations of a resources company operating in a world market.

Our good planning and development of risk registers at a profit centre level have provided an avenue to ensure the effects of similar collective risks to our business are carefully considered. Control strategies are now routinely reviewed and considered during the business planning cycle.

## Occupational health and wellbeing

The health and wellbeing of employees is a high priority at Xstrata. We have comprehensive occupational health and hygiene monitoring programs in place across our north Queensland operations and

invest more than \$500,000 a year in managing this process. Environmental sampling (workplace and personal) and biological sampling are conducted for inspirable dust, respirable dust, noise, lead in blood and arsenic in urine. Where sampling results identify an occupational hygiene risk above the relevant exposure standard, it is addressed immediately.

Xstrata runs a number of education and awareness programs to encourage employees and their families to maintain healthy lifestyles, optimise long-term working life and income generating capacity, and reduce short-term absences from work due to sickness. These programs address obesity, nutrition, sleep apnoea, shift work, fatigue management, alcohol abuse, smoking and mental health. We also engage external specialists such as medical practitioners, occupational health nurses and counsellors to assist our people.

During the year our health promotion campaigns linked in with state and federal health initiatives such as Quit, 10,000 Steps,

# Caring for our people

Diabetes Awareness Week, Beyond Blue Depression Campaign and Lifestyle Prescription.

The Mount Isa operations commenced two new projects in 2005 with the aim of reducing the impact of musculoskeletal injuries in the work environment. One project was a review of over period of time (OPT) injuries, and the other was a job role criteria project that detailed the physical, environmental and cognitive requirements of each role.

In addition, the Risk Management of Manual Tasks project continued during 2005. Through identifying, examining and risk ranking the manual tasks that are performed in the operations, the safety, health and environment committees participating in the project were able to identify their higher-risk tasks. At George Fisher mine, the combined production and maintenance safety, health and environment committee progressed well with the project, reviewing all of their tasks performed and beginning to implement controls for their agreed high priority tasks. Separate reviews were also conducted on new equipment purchased during 2005 so that required modifications could be completed prior to the equipment being commissioned. By installing measures to prevent strains and sprains at the equipment purchase phase, we prevent risks to operators for the entire life of the machine.

## ■ Prepared for emergency

In 2005 we developed the North Queensland Response and Recovery Plan and delivered supporting training to the key stakeholders during the process. The response and recovery plan ensures we can respond to and recover from a range of operational and reputation challenges quickly and effectively, thereby minimising the impact on our employees, operations, environment and reputation.

With support from operational areas during 2005 we were able to increase the number of the mines rescue team members, including many employees from the zinc-lead operations. Volunteers assisted with the internal competition held at the Mount Isa Hard Times mine in October 2005. The event was open to the public, and for many this was their first opportunity to see the dedication to training and commitment of the competitors first hand.

Work has commenced on mapping the assessment packages used by the Mines Rescue Team to the National Competency Standards MNM05 – Certificate III in Mine Emergency Response and Rescue. This will allow formal certification of this competency through the use of a third party registered training organisation.

The working relationship between the site management and the Queensland Fire and Rescue Service (QFRS) was enhanced during 2005 through initiatives to familiarise QFRS operational and service personnel with the activities and layout of the Mount Isa Mines surface operations, the Black Star open-cut and the surface infrastructure in the lead smelter, zinc-lead concentrator and George Fisher mine.

## ■ Filling the voids

During 2005 the Black Star open-cut began mining into the existing lead mine. Mining from the surface into the underground lead mine exposes a significant challenge due to the presence of voids from previous mining and filling activities in the upper section of the lead mine. Void management procedures and specialised training were introduced to ensure that the voids were identified, probe drilled, filled, and procedures were adhered to for work around the void. Void management will remain a continual risk to mining activities in the Black Star open-cut and controls will continue to be upgraded as new ideas and technology assist in the further minimisation of risk.



Mine Rescue Team members Steven Woodroffe, Robbie Ryan and Matt Cain, 'E' Crew Mine Rescue Captain (in stretcher) undertaking a simulated rescue and recovery exercise.

## ■ Managing lead

Xstrata operates two zinc-lead mines in north Queensland – George Fisher and Black Star. With the lead mine at Mount Isa ceasing operation in 2005, production was ramped up at the George Fisher and Black Star mines. Workplaces that have a risk of lead exposure have strict work protocols to reduce occupational risks to employees and the risk of lead being taken into the community. These measures include mandatory showering on completion of shift, work clothes being laundered by the company rather than at home (a clean in, clean out policy), mandatory washing before meal breaks, bans on facial hair and no smoking policies.

We collect and analyse employee blood samples to determine lead concentration, which is measured in micrograms per decilitre ( $\mu\text{g}/\text{dL}$ ). Alterations in blood levels can indicate a change in exposure, which is immediately addressed with the exposed person. At Mount Isa, biological and workplace monitoring is conducted in accordance with the National Occupational Health and Safety Commission (NOHSC) standard. However, Xstrata sets its medical removal limit below this standard of  $50 \mu\text{g}/\text{dL}$ . Employees with blood-lead concentration levels of  $40 \mu\text{g}/\text{dL}$  or greater must be removed from the workplace until concentrations are below  $30 \mu\text{g}/\text{dL}$ . In the lead smelter, the limit is  $45 \mu\text{g}/\text{dL}$  or greater. Pregnant employees should not have a blood-lead concentration that exceeds the national standard of  $10 \mu\text{g}/\text{dL}$ .

In 2005, there were three instances of people exceeding the national medical removal limit – an employee and a contractor at the copper operations and a contractor at the zinc-lead operations.

A review of Mount Isa's lead management system commenced in late 2005 and will be completed in late 2006, with the aim of further reducing blood-lead levels among employees at the zinc-lead operations.

In 2006 improvements will be made to ventilation in the lead smelter and process changes in the zinc-lead concentrator to reduce the handling of dry material.

We also continued our free venipuncture program to take blood samples from Mount Isa residents to test for lead levels in the blood. The test is available on request from the Queensland Medical Laboratories located in the town centre and funded by Xstrata Copper. The results of the blood-lead test are forwarded to a general practitioner nominated by the community member being tested.

The general practitioners are required to explain the test results to their patient and any actions required.

## ■ Award winning innovations

The Mount Isa copper operations called for nominations from employees for the 2005 Innovations Awards, which aim to encourage innovation and to develop practical workplace solutions to safety, health and operation issues throughout the business. Some of the ingenious entries in 2005 included:

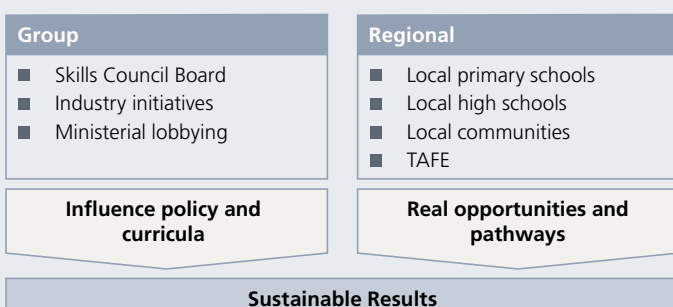
- **Grease system trouble shooter:** Timo Metsala, a fitter in the rebuild workshop of Mine Maintenance and Engineering Services, won an award for his grease system trouble shooter. It reduces the time taken to troubleshoot faults in the grease system on a variety of underground loaders and trucks. This has resulted in a measurable reduction in downtime for equipment and has cut down significantly on the number of misdiagnoses of system faults.
- **Shotcrete cable protection:** A Certificate of Commendation was presented to Robert Van Der Veen and his D Crew in the drilling section of the copper mine for their shotcrete cable protection innovation. Their innovative idea uses current shotcrete technology to protect electrical and other services from fly rock and blast damage during underground, hardrock blasting operations. Previous protection methods were very labour intensive, time consuming and prone to failure.
- **Waste ammonia gas decanter:** Ian Coles, Vent Fans and Ammonia Refrigeration Plant Supervisor in Ore Handling Services, received a Certificate of Commendation for his innovation in decanting waste ammonia gas from the U62 chilled water refrigeration plant. His ingenious solution ensures no ammonia contaminated water travels to the anti-pollution pond.
- **Vortex finder removal device:** The copper team, headed by Senior Metallurgist in the copper concentrator, Matt Magee, received a Certificate of Commendation for their vortex finder removal device. It allows the vortex finders to be removed using a chain block, which keeps the movement of the vortex finder controlled and eliminates the risk of back strain from manual handling.

## MANAGING OUR HUMAN RESOURCES

The key to the ongoing success and sustainability of our business is the alignment, commitment and capability of our employees. The Xstrata North Queensland Operations Human Resources (HR) Strategy, and accompanying initiatives, supports this requirement through the development of individual capabilities and organisational culture.

In the year ending December 2005 we provided jobs for 3,579 employees and 711 contractors in our north Queensland operations.

The vast majority of our employees and their families reside in north-west Queensland.



## Developing vocational skills

Xstrata north Queensland works closely with key stakeholders in the community to provide real and meaningful vocational career pathways for individuals, in careers that reflect the needs of our business. Our vocational skills development program aligns a number of key initiatives and focuses on partnering at both community and State level.

### ■ Training school students

Our close involvement with secondary schools in the region introduces senior students to opportunities within the mining sector and provides on-the-job training which contributes directly to a recognised qualification (Certificate III or trade). These initiatives include a structured work experience and readiness program, traineeships, school based apprenticeships, lead involvement in the Queensland Academy of Minerals and Energy, and school based apprenticeships.

In 2005 we awarded 10 bursaries worth \$1000 each to high performing secondary students involved in this program. A further 14 bursaries will be awarded in 2006.

### ■ Fostering apprentices

Xstrata's north Queensland operations spend close to \$5 million a year on apprentice salaries, running the largest apprenticeship program in north-west Queensland. With 48 new apprentices recruited in 2005, and a further 72 coming into the business in 2006, projected total apprentice numbers will exceed 300 from 2007.

In addition to new apprentices, Xstrata north Queensland offers up to 10 adult apprenticeships each year to current employees wishing to move into a vocational career path.

Our apprenticeship program focuses on providing real employment and skills opportunities for people living in the region and currently targets more than eight key trades.

The recent opening of the custom designed Xstrata Skills Centre will take the already high level of apprenticeship training to an even higher level.

### ■ Developing professional skills

We recognise that the ongoing development of technical and leadership skills is critical, not only for our own ongoing success but for the sustainability of our industry. As such, we invest a great deal of time, effort and resources into professional skills development.

In 2005 we awarded eight scholarships to engineering undergraduates; a further 77 graduates completed vacation employment in the business, and 47 graduates were recruited.

### ■ Building leadership

Close to 800 employees were involved in our Leadership Development Program (LDP) in 2005. The LDP sets out to articulate the role of a leader within the business and provide the required skills.

The LDP is designed and delivered internally and focuses on the real needs of the business and its leaders. The full program consists of four separate modules: leadership, coaching for performance, planning and communication.



# Caring for our environment

We believe that superior environmental performance results in increased efficiency, lower risk and higher overall performance of our operations and is critical in maintaining our licence to operate.

Xstrata is committed to the highest standards of environmental management and performance. We limit the environmental impacts of our operations through the efficient use of natural resources and the reduction of input materials and waste, and through contributing to the conservation of biodiversity.

## Overcoming challenges

Xstrata's key environmental management challenges at Mount Isa Mines are:

- reducing fresh water consumption through improvements in processes and management practices;
- more efficient use of energy as Mount Isa Mines' processing and smelting activities expand and mine depths, and therefore haul distances, increase;
- defining better mine closure criteria to enable effective long-term plans for progressive rehabilitation to be implemented;
- minimising emissions from the Mount Isa smelters and dust from open-cut mining operations; and
- managing stormwater runoff at Mount Isa Mines.

## Environmental compliance

Mount Isa Mines received approval for a mine plan variation submitted to the Queensland Government's Department of Natural Resources, Mines and Water. The variation related to encasing the Upper Star Gully evaporation pond with benign waste rock from the Black Star open-cut, which will result in the diversion of stormwater from the Star Gully catchment to the disused Kennedy siltstone open-cut quarry. Significantly, this means that all stormwater from the Star Gully site will be contained on site, with no future risk of water going off-site.

The tailings dam inspection report and regulatory noise, dust and blast vibration monitoring reports were provided, as required by Mount Isa Mines' operating licences.

There were 14 Category 3 (significant) environmental incidents reported at Mount Isa in 2005. All but two of these incidents were caused by tropical storm events which led to six uncontrolled stormwater releases off-site, five storage pond overflows and one uncontrolled off-site release of sewerage. Two cases of process water going off-site were caused by water cart leakage.

« Environmental Engineer Nick Learoyd lays fauna traps as part of a program to monitor the diversity of flora and fauna on the mine lease.

## ENVIRONMENTAL PERFORMANCE

2005 Targets	Performance	2006 Targets
<b>All copper and zinc operations in north Queensland</b>		
Prepare a Greenhouse Challenge Agreement and complete energy audits	➔ 'Energy Breakthrough Team' established for improved energy management and greenhouse reporting.	Establish Greenhouse Challenge Agreement
<b>Mount Isa Mines</b>		
Complete implementation of Panel Assessment Study recommendations	➔ Flora and Fauna Survey and AQC Review completed	Complete Community Health and Perceptions Study
Environmental Management System to be compliant with ISO14001	➔ EMS is well progressed towards compliance	Implement EMS compliant to ISO14001
Update closure planning and liability estimation	✓ Report produced	Implement Lawlex Compliance Management System
Implement total waste management strategy	✓ Waste system implemented	
		Develop surface water catchment models
		Commission ESP dust leaching plant
		Progress towards 95% capture of sulphur dioxide in the copper smelter
		Install stormwater collection and recycling system at George Fisher mine
		Establish field trials for final capping of waste rock dumps

✓ Achieved    ✗ Not achieved    ➔ Action continues into 2006

## Emissions to air

The monitoring, control and reduction of the impact of emissions from our mining, minerals processing and smelting operations on the community and environment of Mount Isa are a major aspect of environmental management at Xstrata's north Queensland operations.

In 2005 our total annual sulphur dioxide emissions fell to 14 µg/m<sup>3</sup>, compared with 17.6 µg/m<sup>3</sup> in 2004, and the annual average ground level sulphur dioxide concentrations in the Mount Isa community remained well within the licence limit. Ambient dust (PM<sub>10</sub>)

concentrations in the Mount Isa community remained below the EPP air standard for 90 day average in 2005.

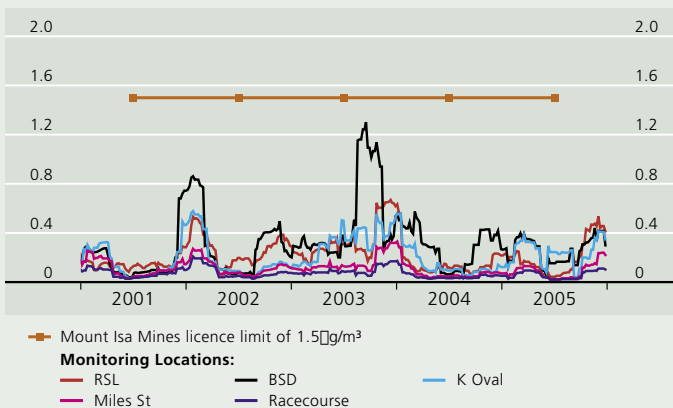
## Managing emissions to air

At Mount Isa Mines, a comprehensive sulphur dioxide and dust monitoring network exists to measure and manage the impact of emissions on the community.

There are 10 sulphur dioxide real-time monitoring stations located in the community to ensure that the smelters operate within accepted

### Ambient lead-in-air concentrations

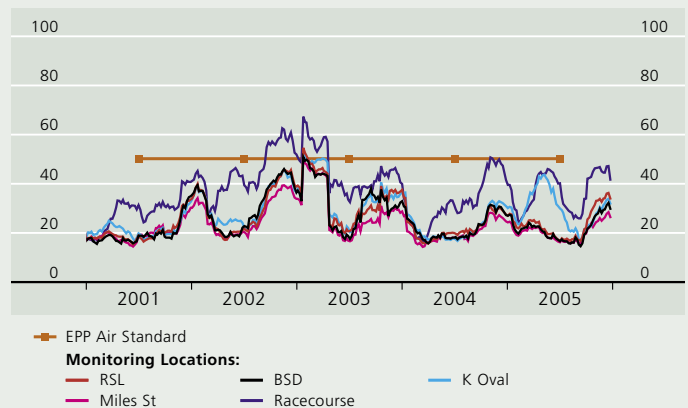
µg/m<sup>3</sup> Pb – measured in the Mount Isa community



The ambient lead-in-air concentrations in Mount Isa remained stable, which is consistent with increased capture of lead emissions from the copper smelter by the Southern Cross Fertilisers' acid plant.

### Ambient PM<sub>10</sub> dust-in-air concentrations

µg/m<sup>3</sup> PM<sub>10</sub> – 90 day average measured in the Mount Isa community



Ambient dust (PM<sub>10</sub>) concentrations measured in the Mount Isa community remained below the EPP air standard for 90 day average in 2005. The higher trend shown for the Racecourse monitor is due to localised dust rather than through mining activities.

# Caring for our environment



Graham Milligan, Environmental Sampler undertaking particulate (dust) monitoring at one of several monitoring stations located in the Mount Isa community.

regulatory limits. Each resident of Mount Isa lives no more than 1,200 metres from one of these sulphur dioxide analysers.

Overall, the copper smelter has achieved a 425,543 tonne per annum (80%) decrease in emissions over the 2000 baseline level. Xstrata Copper is targeting an increase from 80% to 95% capture of sulphur dioxide emissions from the Mount Isa copper smelter against the 2000 baseline level. Commencing in 2006, the program includes installing copper smelter converter hoods to capture fugitive emissions, using software to identify air entry points into the copper smelter, resulting in greater process control, improved acid plant efficiency and improving co-ordination between copper smelter and acid plant operations.

The lead smelter achieved a 13,447 tonne per annum (10%) decrease in emissions since 2000. In 2006 a feasibility study is being undertaken

to determine the potential to implement Xstrata's ISASMELT technology at the zinc-lead smelter at Mount Isa, to achieve further reductions in emissions.

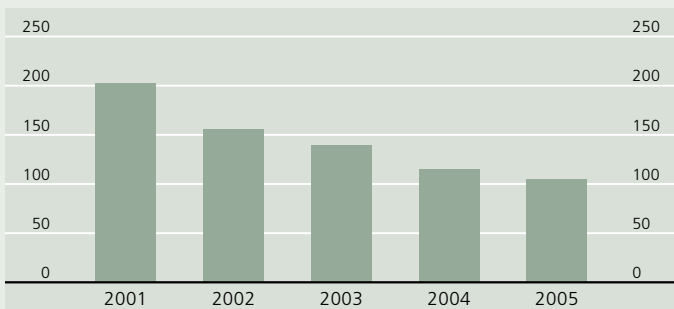
Regular watering of unsealed roads around Mount Isa Mines ensures that dust emitted by vehicle traffic is kept to a minimum.

Zinc operations at the Black Star open-cut use a dust suppressant to ensure that road surfaces will stay damp for an extended period.

The upgrading of the zinc filter plant, located adjacent to the Barkly Highway at Mount Isa, will include the construction of a shed to enclose all operations. This measure is expected to reduce dust emissions to a very minimal level.

## Total annual sulphur dioxide emissions

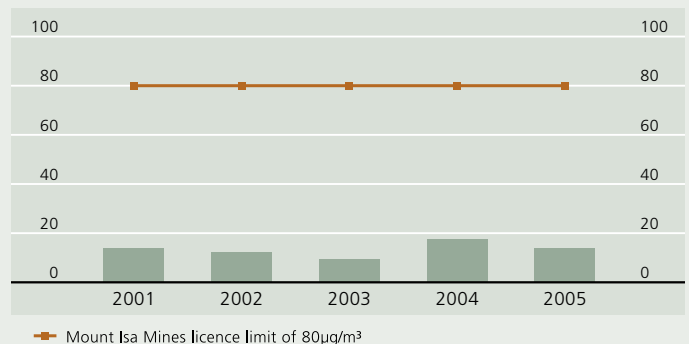
Tonnes ( 000s) — Mount Isa Mines operations



Increased capture of copper smelter gases by the Southern Cross Fertilisers' acid plant reduced total sulphur dioxide emissions from the Mount Isa Mines operations for the fifth consecutive year.

## Annual average ground level sulphur dioxide concentrations

µg/m<sup>3</sup> Sulphur dioxide – measured in the Mount Isa community



Annual average ground level sulphur dioxide concentrations in the Mount Isa community remained well within the licensed limit.



Mount Isa Mines tailings management system.

## ■ Panel Assessment Study

The Panel Assessment Study was established in 1997 to assess the likely impacts of expected releases of sulphur dioxide at Mount Isa following the installation of Southern Cross Fertilisers' acid plant (formerly WMC). In particular, the study set out to identify the likely atmospheric dispersion and ultimate fate of the sulphur dioxide emissions and the likely economic, environmental and social impacts of these emissions.

The final report of the panel was submitted to the Minister for Environment in February 2001 and outlined several recommendations for further research following at least one year's operation of the acid plant at or near design production rates. While some of the recommendations have been ongoing, the remaining projects recommended by the original report were commenced in 2005 and are expected to be completed in 2006. These included:

- a flora and fauna study to look for signs of recovery in affected species;
- a community health and perceptions study;
- a personal exposure study to measure exposure of individuals to sulphur dioxide and the effects of that exposure;
- an independent review into the commercial feasibility of various process options for further emission control; and
- an investigation of ways to further improve the effectiveness of the existing air quality control system.

## Managing surface and groundwater

During 2005 there were 12 discharges of stormwater or process water off-site at Mount Isa, most due to tropical storm events. Greater ownership of discharge points is now evident and it is anticipated that this will result in significantly fewer discharges. A significant development within the Death Adder Gully catchment at Mount Isa was the construction of a stormwater dam.

## Water use

### ■ Conserving our fresh water

Fresh water is a limited commodity for our north Queensland mines. Total fresh water usage for Mount Isa Mines in 2005 was 24 ML/day, up from 21 ML/day in 2004. This resulted mainly from increased production levels.

To optimise water use on site, a team was formed by the Utilities Department to:

- minimise potable water use;
- maximise water reuse from process and Rosehill Sewage Treatment Plant; and
- prevent uncontrolled losses from the system.

The project will identify:

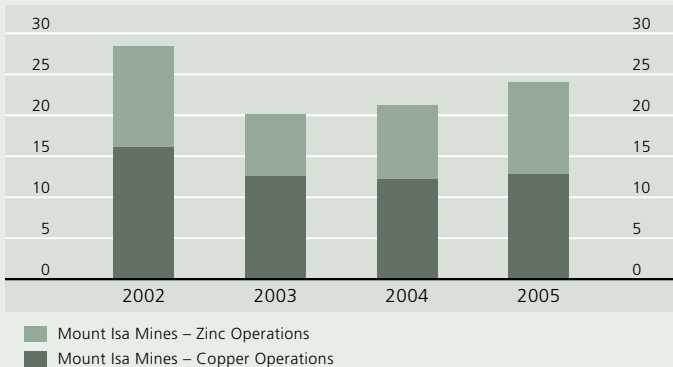
- unrecorded water losses in the system (both unmetered use and leakage);
- processes in which recycled water can be used instead of, or in combination with, potable water, to minimise potable water use;
- alternative sources of recycled water; and
- initiatives for improved tracking and controlling water use.

The team aims to have controls and initiatives arising out of the project implemented and in place by the end of 2006.

# Caring for our environment

## Mount Isa Mines fresh water usage

ML/day Fresh water usage



### ■ Reducing fresh water consumption

At Mount Isa Mines a cutting was constructed by the Final Products section. This will release a large volume of tailings water, which was formerly trapped in low areas of the tailings dams, making it available for reprocessing through the tailings system. This tailings water was previously not utilised and was lost through evaporation, requiring the Final Products section to top up the tailings system from the fresh water supply at significant cost.

## Energy and greenhouse

### ■ Conserving energy takes teamwork

In 2006 Mount Isa Mines will form an **Energy Breakthrough Team** dedicated to developing energy conservation initiatives.

The goals are to reduce energy consumption and smooth out demand peaks, creating a predictable energy demand, to reduce the costs to plant, and to develop new site projects within the existing energy budget.

The project will involve the development of an energy management system designed to give accurate feedback about consumption to plant operators, introduce new technologies such as fly wheel generation, investigate inefficiencies and identify opportunities for participating in a carbon credit system.

During 2006 Mount Isa Mines will also develop an agreement with the Federal Government to become part of the **Greenhouse Challenge Plus**. By doing so, Mount Isa Mines will be committing to identifying opportunities and implementing action plans to abate greenhouse gas generation from its operations. The Energy Breakthrough Team will be fundamental in supporting these activities.

Through our Xstrata Community Partnership Program North Queensland we are supporting energy saving projects in local schools, helping spread the sustainability message to students, their families and the wider community.



Department of primary Industries staff conducting electro-fishing at Lake Moondarra.

### ■ Producing emission-free electricity

In mid-2005 the Mount Isa copper operations successfully recommissioned the Pelton Wheel, allowing the copper mine to generate emission-free electricity. The process involves high-pressure water under gravity force passing through a nozzle in the Pelton turbine, which moves 22 buckets that are fitted on spokes, equally spaced around a wheel (known as the Pelton Wheel) as it is sent underground. As the wheel turns it rotates a shaft that is directly coupled to an electrical generator, reducing the temperature of the water to 2.25°C and generating 1MW at 11,000 volts. The electricity is generated without the emission of any further greenhouse gases.

## Biodiversity

An aquatic ecosystem monitoring program in the Mount Isa region is providing Xstrata with a measure of the current biodiversity of water bodies located within the region. The program monitors fish and macro-invertebrates during both the wet and dry seasons. The fish monitoring component of the program was conducted by the Queensland Department of Primary Industries and Fisheries, using electrofishing techniques to collect and sample fish from Rifle Creek, Lake Julius, Lake Moondarra and the Leichhardt River. To measure the diversity of the macro habitat, macro-invertebrate sampling was conducted in accordance with the Queensland AusRivAs sampling techniques. Information gathered from this program will be utilised by Xstrata to form a regular aquatic ecosystem monitoring program and will contribute significantly to other biodiversity projects currently being undertaken.



Members of Mount Isa's Environment team meet to map out environmental rehabilitation on the lease.

## Safe mine closure and rehabilitation

In 2005 Xstrata completed materials characterisation on run-of-mine waste rock from the Black Star open-cut mine at Mount Isa. This information will be combined with materials data collected from final mined landforms and mathematical modelling will be used to assess the technical feasibility of using run-of-mine material to construct a final moisture store and release cover. The objective of final cover is to minimise the infiltration of rainfall through the mined material, preventing the generation of leachate of environmental significance.

In 2006, once final cover thicknesses have been determined, engineers will be able to plan the movement of benign waste rock to close historic final mined landforms.

A revision of the current closure estimation was completed in 2005. It was found that there have been improvements in estimations through refinements to closure criteria of tailings dams and other final mined landforms, however some remaining assumptions require additional assessment.

In an industry leading initiative, George Fisher mine is using tailings material that is being mined from an historic tailings dam as a paste fill option for underground operations. This initiative has the potential to reduce closure liability relating to tailings dams and to decrease the demand for new resources. Further recovery methods are also continuing to be explored.

## Managing waste

In 2005 a total waste management system was established which enabled Mount Isa Mines to manage wastes generated on site to industry best practice standard. All waste streams are tracked, allowing better separation and recovery of scrap metal. Each month about 3,000 cubic metres of general waste and 100 tonnes of scrap metal are collected. An additional 15 to 20 tonnes of scrap metal that would otherwise have been buried is also recovered from the landfill each month.

At Mount Isa the fluo solids roaster (FSR) was decommissioned in 1997 after almost 30 years of service. Previously, the FSR formed the initial stages of the copper smelter process but it became redundant after the commissioning of the ISASMELT. Demolition of the FSR commenced in 2005 and is expected to be completed by early 2006. It is estimated that more than 3,500 tonnes of steel will be recovered for recycling.



Light gauge scrap metal being compacted into bales for recycling off-site.



## Caring for our community

Xstrata believes that the wellbeing of our employees, their families and the communities in which we operate is crucial to maintaining our social licence to operate our business.

While recognising the need for ongoing development of the skills of current and potential employees in north Queensland, we acknowledge that enterprise and job creation is just one part of the success equation.

Our ongoing funding of educational, environmental, social, community, health, arts and cultural initiatives is also a key part of our social responsibility.

The development of the Xstrata Community Partnership Program North Queensland is the cornerstone of our commitment to engaging with local communities and fostering opportunities to ensure their wellbeing.

### Xstrata Community Partnership Program North Queensland



### XSTRATA COMMUNITY PARTNERSHIP PROGRAM

The Xstrata Community Partnership Program North Queensland, launched in December 2004, is contributing more than \$4 million to vital community initiatives. In addition, it was announced in March 2006 that the program's funding would be increased to \$1.22 million for 2006.

The program provides support within six key areas in response to the needs and issues of our community and in keeping with Xstrata's Corporate Social Involvement Policy and guidelines.

Our initiatives focus on the following areas and seek to actively promote partnerships with the communities; training, welfare and education organisations; and state and local governments, for the betterment of our community:

- enterprise and job creation;
- education;
- environment;
- social and community;
- health; and
- arts and culture.

The Xstrata Community Partnership Program North Queensland will continue to build on its many successes in 2006. Following is an overview of the progress of the partnership programs in Mount Isa during 2005:

« Centacare Training Manager Brad Eggmolesse takes trainees Allen Punch and Peter Dempsey underground in a program designed to prepare people for working in the mining industry. In partnership with Xstrata Centacare employment has expanded its indigenous employment initiative to improve opportunities for indigenous job seekers within the mining industry.

## SOCIAL RESPONSIBILITY PERFORMANCE

2005 Targets	Performance	2006 Targets
<b>All copper operations in north Queensland</b>		
Achieve Xstrata Community Partnership Program in north Queensland objectives	✓	Continue to expand the benefits of the Xstrata Community Partnership Program in north Queensland
Publish site sustainability reports in 2006	✓	Publish site sustainability reports in 2007
Conduct community attitude survey in Mount Isa, Cloncurry, Townsville and Bowen	✓	Continue implementation of initiatives arising from 2005 community attitude survey
<b>Mount Isa Mines</b>		
95% of indigenous trainees to complete training modules	✓	
Introduction to boiler making to be added to indigenous training program	→	
Award first round of scholarships and bursaries	✓	Continue our commitment to the existing scholarship and bursary program and award an additional 10 scholarships and bursaries
Further expand apprentice intake to 60 in 2006	✓	Further expand apprentice intake to 70 in 2007
Develop a system to stream suitable indigenous trainees into apprenticeships	→	Continue to develop systems to encourage indigenous trainees into apprenticeships
		Develop cultural awareness training course for Xstrata staff

✓ Achieved    ✗ Not achieved    → Action continues into 2006

### Enterprise and job creation

We aim to create a fair and supportive workplace, to foster the skills of current and future employees, and to address the skills shortage in the region through a raft of initiatives. Our apprenticeship program, school-based workplace training, graduate recruitment and development, vacation employment, and scholarship programs are vital for building a stable workforce that will grow in line with Xstrata's long-term sustainable business strategies.

#### ■ Supporting apprentices and trainees

At Mount Isa Mines we created 72 new apprenticeships in 2006, with a further 70 apprentices to commence in 2007, a significant increase compared with the 2005 intake of 59 apprentices.

Through our school work experience program, 20 students completed at least one week of work experience at Mount Isa Mines during 2005. We granted Xstrata scholarships to 10 local high school students during the year and three of these students undertook work experience at Mount Isa Mines.

We are also a major employer of university graduates, with 42 university graduates recruited in 2005, and 41 university students choosing Xstrata for vacation employment.

### Education

#### ■ Supporting school students

Through our partnership with Mount Isa's **Spinifex State College** and **Good Shepherd Catholic College**, we awarded 14 students with school-based bursaries at the beginning of 2005. A further 14 bursaries were presented in November 2005, to be used for the 2006 school year. The school-based bursary program enables young people

in our community to experience work in the mining industry as well as offering practical financial assistance in the final high school years.

The program starts with students in Year 8 and Year 9 being introduced to the mining industry. Work experience begins in Year 10 and involves:

- a work shadowing program where students spend time in up to five work areas;
- an on-the-job work experience program of two to six weeks at work, plus one day a week at TAFE for job competency training; and
- mentoring and career guidance.

Work experience continues in Year 11 and Year 12 with the aim of signing up students into school-based apprenticeships or traineeships. In 2005, 80 students joined Xstrata's workplace training program, which was expanded to include **Cloncurry State High School**.

#### ■ High tech learning

The Xstrata Community Partnership Program North Queensland provided \$160,000 in funding over three years to the **Townview State School Multimedia Learning Development Centre** in Mount Isa, which opened its doors to students and teachers in 2005. Students had the opportunity to showcase their first major multimedia production in August 2005 at the school's anniversary dinner.

#### Classrooms of the future

The **Future Classroom** at the **Spinifex State College** in Mount Isa is up and running, with impressive state-of-the-art digital equipment offering students the chance to learn about multimedia in a comfortable and modern learning environment. In addition to setting up the Future Classroom, Xstrata's \$250,000 in funding over three years has allowed Spinifex State College to start a school-based program to assist students at risk of disengaging from the education system. There were 55 students enrolled in the program in 2005 and

## Caring for our community



Teacher Aide Carlene Parker works with Townview State School students in the new Multimedia Learning Development Centre. The new Centre is helping students and teachers to learn a range of technological and IT skills.



Diabetes Health worker Marg Body treats client Lester Booth at the Diabetes Health Centre – a partnership between Queensland Health and Xstrata as part of the Xstrata Community Partnership Program North Queensland.

a further 31 students are enrolled in 2006. The program incorporates an alternative curriculum that includes a range of community-based agencies and organisations, such as TAFE, Arilla Paper, Turning Point, Outback Arts and the Police Citizens Youth Club (PCYC).

### Social and community

#### ■ More fun for everyone

Xstrata is contributing \$1 million to the **Buchanan Park redevelopment project**, which commenced at the end of 2005. This important upgrade will transform Buchanan Park into a premier outdoor venue to host Mount Isa's major drawcard events such as the annual rodeo, race meetings, agricultural show and campdraft. The Federal and State governments have also committed significant funding to this multi-million dollar project.

#### ■ Fostering life skills

Our involvement, in partnership with the Mount Isa Community Development Association, in the **Mount Isa Home Skills Support Development Project** has the long term goal of providing education and training programs and other important life skills services to tenants in the community.

Our funding enabled the association to successfully complete its first phase undertaking of a needs analysis survey of clients in the Community Rent Scheme and Community Housing Program. The survey was undertaken by newly appointed Coordinator, Lydia Gah-Bell, and identified and investigated issues (such as ethnicity, language, education needs, income sources and the financial situation of clients) that may be contributing to problems being experienced by clients of these community programs. Using this survey data, the home skills project will develop relevant education and training resource materials to support clients' training needs in 2006.

Because of the importance of this work in the Mount Isa community, Xstrata has agreed to increase funding for this project, with the possibility of expanding the project to ensure it meets its short-term objectives and long-term goals.

#### ■ Helping at-risk youth

Xstrata's \$60,000 contribution to **Centacare Mount Isa**, provided over three years, has allowed this welfare organisation to conduct support programs for children who are in care, are victims of sexual abuse, domestic violence, or are living in less than ideal family situations. Since their commencement in 2005, these valuable support programs have been offered to numerous groups of four to six children.

### Health

#### ■ Battling diabetes

In partnership with Queensland Health, Xstrata provided \$150,000 over three years to establish the **Diabetes Centre at Mount Isa Hospital**. Diabetes is a growing problem in our community and the new centre is providing consistent, modern diabetes management while encouraging client autonomy and self-care through a timely, publicly accessible service.

#### ■ Emergency equipment

Xstrata provides \$15,000 a year to the **Royal Flying Doctor Service (RFDS)** for the purchase of new and vital equipment for the Mount Isa base. In 2005 the local base purchased an Oxylog 3000, which is a safe and portable ventilator suitable for use on anyone from a six-month-old baby to an elderly patient.

The Oxylog 3000 is carried on the RFDS's evacuation aircraft, ready for use in an emergency. The Mount Isa RFDS Base covers a region of 500,000 km<sup>2</sup>, assisting more than 10,000 patients annually and flying in excess of 730,000 km a year.

## Arts and culture

### ■ Playing with music

In 2005 Xstrata and the **Queensland Arts Council** joined forces to bring an exciting musical theatre event to Mount Isa and Cloncurry. The play, *Voices*, with music by Mary Morris, was based on the movie *Paradise Road*, a World War II drama about a vocal orchestra started by a group of women imprisoned in labour camps by the Japanese. The *Voices* production brought in a team of professional performers to work with women and children in the region. The performances were well attended and participants gained the opportunity to develop their performance and professional production skills.

In another very successful partnership with the QAC, regional arts forums were held in Mount Isa and Bowen. The forums connected a broad cross section of volunteer and professional arts workers, local government councillors, mayors and staff, as well as practising artists and representatives from the QAC and Arts Queensland. Discussion topics encompassed the themes of isolation, access, partnerships and the effective use of resources. The forums were very well attended and prompted extremely positive feedback from all participants.

During 2006 and 2007 Xstrata will provide ongoing funding for QAC projects in north Queensland communities, our commitment totalling \$225,000 over three years.

### ■ Creative genius

In 2006, teachers and other interested members of the Mount Isa community will be able to fulfil their creative ambitions by attending professional dance and drama workshops. The Xstrata Community Partnership Program has provided \$30,000 to the **Barkly Highway State School** to bring dance and drama workshops to Mount Isa.

## New life-saving projects

Two new potentially life-saving projects that the Xstrata Community Partnership Program North Queensland is contributing to in 2006 are:

### **Mount Isa Teaching Medical Centre –** \$350,000 over the next three years.

Xstrata is funding this project in partnership with the Mount Isa City Council, North West Queensland Primary Health Care, the Mount Isa Centre of Rural and Remote Health (MICRRH) and the Mount Isa District Health Service. One of the aims of the centre is to increase the number of full-time equivalent general practitioners from four to 9.5 to service a local population of about 21,000.

### **James Cook University's MICRRH SimBaby program –** \$110,000 over three years.

Xstrata's Community Partnership Program initially funded the \$135,000 purchase of a medical mannequin known as SimMan. SimMan assists with training in advanced procedural and emergency situations by simulating a range of medical conditions, symptoms and physical reactions. This further funding of \$110,000 over the next three years will allow the purchase of a SimBaby, a medical mannequin of a baby. SimBaby will be used to train MICRRH staff in a range of medical conditions, symptoms and physical reactions that are specific to infants.

Hazel Munro of Arilla Indigenous Women's Paper Mill prepares equipment for use in the paper making process.



## RESPECTING TRADITION

Xstrata is party to a number of agreements with indigenous groups, including the Kalkadoon, Mitakoodi, Waluwarra, Waanyi and Indjilandji-Dithannoi people.

We work closely with traditional owners throughout all stages of our operations and maintain an open dialogue with the indigenous people of north Queensland on a range of issues relating to mining activities and employment.

We are also continuing our engagement with the indigenous community through a number of Xstrata Community Partnership Program North Queensland projects.

Providing training, employment and business opportunities for local indigenous people is a high priority for Xstrata.

Our funding of \$150,000 over three years has enabled **Centacare Employment's Mount Isa branch** to extend its indigenous employment program to improve opportunities within the mining industry for indigenous job seekers.

Brad Eggmoss was appointed as Indigenous Support Worker for the program and in his first year Brad's extensive training experience and network of contacts within the mining and training industries has resulted in many trainees finding work in the mining industry.

Another initiative was the **Arilla Indigenous Women's Paper Mill**. The women of the Arilla Paper Mill continue to build on their early artistic success with the development of a sustainable business plan that will enable their business to expand and develop in coming years. Xstrata's \$45,000 contribution over three years is assisting these local indigenous women to develop a higher quality grade of paper and a high quality final product, through the provision of updated equipment and training opportunities.

# Caring for our community



Xstrata Senior Advisor for Community Relations and Indigenous Affairs Deirdre Finter meets with teachers and students of Spinifex State College.

## DONATIONS AND SPONSORSHIPS

In addition to the Xstrata Community Partnership Program in north Queensland, Xstrata spent more than \$460,000 in 2005 on sponsorships, donations and other community support initiatives.

Projects supported during the year included:

- major sponsor of the Mount Isa Rotary Rodeo;
- major sponsor of the Outback at Isa tourism attraction and the contribution of working and heritage equipment such as an historic headframe and underground drill rigs formerly used at the Hard Times Mine;
- major sponsor of the Mount Isa Mining Expo; and
- donations to various welfare, health care, education, sporting, cultural, environmental, indigenous and arts initiatives.

## COMMUNITY ENGAGEMENT AND COMMUNICATION

As an integral part of the local community, we like to keep abreast with the relevant regional issues and to share clear, open and honest information on Xstrata's activities in north Queensland with employees, contractors, stakeholders, local organisations, community members, visitors and other interested parties.

Some of the methods used for disseminating this information in 2005 were:

- three community information sessions to share information on Xstrata's operations and allow questions from community members;
- holding regular meetings with key local stakeholders to discuss emerging issues, facilitate cooperation between the company and the community and resolve any issues;
- celebrating with long-term employees at anniversary dinners that commemorated 20, 30 and 40 years of service;
- keeping in regular contact with partners in the Xstrata Community Partnership Program North Queensland to discuss the progress of programs and offer advice and assistance when sought;
- conducting regular surface tours of Mount Isa Mines run in conjunction with community tourism organisations;
- representation on local committees and membership of community development organisations;

- producing the revamped company newsletter, Mine to Market, and delivering it to all employees and throughout the local community; and
- completing the first Xstrata North Queensland Sustainability Report for distribution throughout the north Queensland communities in which we operate.

## Listening to feedback

To gain vital feedback, in May 2005 we carried out a community perception survey in the north Queensland communities where we operate and where our employees and their families live.

Residents were surveyed on their views about the major issues facing Xstrata and the local communities, including their opinions on environmental issues, community support programs and the dissemination of information from Xstrata.

The survey has enabled Xstrata to develop an action plan to address issues of concern to the community.

Surveyed Mount Isa residents felt employment issues and the long-term future of Mount Isa Mines were the two biggest issues facing the local community. Xstrata is addressing these issues through its Xstrata Community Partnership Program and through plans to potentially extend the life of Mount Isa Mines by conducting further exploration and investigating other third party arrangements.

A follow-up survey will be conducted during 2007 to allow Xstrata to determine where our efforts have been successful and identify any areas where extra action may be needed.

## Handling complaints and enquiries

Mount Isa Mines operates a 24-hour community information telephone line from its Air Quality Control (AQC) centre to manage complaints and enquiries and to provide feedback to callers. The centre monitors ambient sulphur dioxide levels in the town and directs operations at Mount Isa Mines' smelters and Southern Cross Fertilisers' acid plant.

In 2005 the number of complaints received by Mount Isa Mines fell by 40%. All complaints are handled by community relations advisers and complainants are responded to promptly. Most commonly, Mount Isa complaints are associated with sulphur dioxide emissions and callers are advised of current AQC status. To control sulphur dioxide levels in town Xstrata reduced its copper smelting operations by 1250 hours in 2005.

Mount Isa community complaints		
No.	Description	Action taken
66	Sulphur dioxide levels in the community	Complainants advised of AQC status and any action being taken
1	Resident's fence collapsed after work on adjacent greenbelt project	Re-erected the complainant's fence

# Glossary

## **AQC – Air Quality Control centre**

The centre monitors sulphur dioxide emissions and weather conditions and directs the operations of the Mount Isa Mines smelters and the Southern Cross Fertilisers Acid Plant to control sulphur dioxide concentrations within licence limits.

## **Biodiversity**

An abbreviation of “biological diversity” that means the variability among living organisms from all sources, including land based and aquatic ecosystems of which they are a part. These include diversity within species, and of ecosystems.

## **Closure Plan**

A formal document detailing a costed conceptual outline of how the operation will be closed, taking into account the options available to deal with prevailing social and environmental issues.

## **DI – Disabling Injury**

Calculated as lost time injuries plus restricted work injuries (LTI + RWI).

## **DIFR – Disabling Injury Frequency Rate**

Disabling injury frequency rate = DI x 1,000,000/hours worked.

## **DISR – Disabling Injury Severity Rate**

Disabling injury severity rate = (LTI days lost + RWI days lost) x 1,000,000/hours worked.

## **EMS**

Environmental Management Systems.

## **EPA**

Environmental Protection Agency.

## **EPP air goal**

Maximum levels for air quality indicators to be progressively achieved as part of achieving overall Environmental Protection Policy objectives.

## **Fatality**

A death resulting from an occupational injury or disease/illness and identified within the reporting period.

## **Gj**

Gigajoules (a thousand million joules).

## **Greenhouse gas**

Any gas that absorbs infra-red radiation in the atmosphere, causing the warming of the earth's atmosphere.

## **HSEC**

Health, safety, environment and community.

## **ISO**

International Standardisation Organisation.

## **ISO14001**

The International Standardisation Organisation's standard for environmental management systems.

## **LTI – Lost Time Injury**

An occupational injury or disease that results in days away from work on any rostered shift subsequent to that on which the injury occurred. A fatality is also recorded as an LTI.

## **LTIFR – Lost Time Injury Frequency Rate**

Lost time injury frequency Rate = LTI x 1,000,000/hours worked.

## **ML**

Megalitres (1 megalitre = 1,000,000 litres or 1,000 kilolitres).

## **µg/dl**

Micrograms per decilitre.

## **µg/m<sup>2</sup>/day**

Micrograms per square metre per day.

## **NOHSEC**

National Occupational Health and Safety Commission.

## **Particulate emissions**

Controlled discharges from stacks containing microscopic solids in the form of dust or smoke.

## **PAS**

The Panel Assessment Study into the impact of sulphur dioxide emissions from the Mount Isa Mines smelters – established by Mount Isa Mines in cooperation with the Queensland EPA in 1997.

## **PASS**

Positive Attitude Safety System.

## **PM<sub>10</sub>**

Particulate matter less than 10 microns in size.

## **Raw water**

Untreated water extracted from groundwater, dams or rivers.

## **Recycled water**

Recycled water is water:

- that has been used at least once in a process within the operation or at another operation; and
- that would otherwise be part of a waste stream; and
- if not re-used, would require the input of raw water.

## **Rehabilitation**

In this report, rehabilitation is defined as disturbed areas that have been prepared for environmental rehabilitation and seeded.

## **RWI – Restricted Work Injury**

An occupational injury or disease that results in a person being physically or mentally unable to perform all or any part of his/her normal assignment during any rostered shift subsequent to that on which the event occurred.

## **Social Involvement Plan**

A plan produced by each Xstrata commodity business to set out engagement with local communities detailing the range of initiatives to be undertaken and the resources, financial and otherwise, dedicated to this area of the business.

## **Tailings and tailings dams**

The fine fraction of waste rock remaining after the mining and on-site processing of mineral resources. This consists of finely ground particles and traces of process reagents and chemical residues. Tailings are piped into engineered impoundments known as tailings dams, which are developed, operated, monitored and maintained to prevent seepage and water contamination both during and after mining operations.

## **TRI – Total Recordable Injuries**

A measure that includes:

- lost time injuries (including fatalities)
- restricted work injuries (RWI); and
- medical treatment injuries (MTI).

## **TRIFR – Total Recordable Injury Frequency Rate**

Total recordable injury frequency rate = (LTI + RWI + MTI) x 1,000,000/hours worked.



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