



# WORKING FOR A SUSTAINABLE FUTURE

BHP BILLITON HEALTH SAFETY ENVIRONMENT AND COMMUNITY REPORT  
FULL REPORT 2004



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Front cover photo: BHP Billiton Iron Ore employees Ryan Cassidy (front) and Jesse Oxenham at Port Hedland, Western Australia. See our case study 33.

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# ABOUT THIS REPORT

## Explanation of Company terms

BHP Billiton is a Dual Listed Company comprising BHP Billiton Limited and BHP Billiton Plc and their subsidiaries. The two entities continue to exist as separate companies but operate as a combined group known as BHP Billiton.

Throughout this Report, the terms BHP Billiton, the Company and the Group refer to the combined group, including both BHP Billiton Limited and subsidiary companies and BHP Billiton Plc and subsidiary companies.

For further explanation of the terms used throughout this Report, refer to our [Glossary](#).

## Transparency and feedback

Our aim is to provide a balanced and reasonable presentation of the Company's economic, health, safety, environmental and community performance.

We are continuously improving our reporting systems and endeavour to present useful and accurate information. While every effort has been made to ensure the accuracy of the information, including the figures, in this Report, the data are derived from our many operations around the world and, in some cases, grouped data are not strictly comparable.

Anyone seeking to rely on information in this Report or seeking to draw detailed conclusions from the data should contact the Company for verification and assistance.

Your comments on the contents of our HSEC Report would be greatly appreciated and can be noted on the [Feedback Form](#).

Our 2001, 2002 and 2003 HSEC Reports are also available on our website at [www.bhpbilliton.com/bb/sustainableDevelopment/reports.jsp](http://www.bhpbilliton.com/bb/sustainableDevelopment/reports.jsp)

BHP Billiton Limited. ABN 49 004 028 077.

Registered in Australia.

Registered Office: BHP Billiton Centre,  
180 Lonsdale Street, Melbourne, Victoria 3000, Australia.

BHP Billiton Plc. Registration Number 3196209.

Registered in England and Wales.

Registered Office: Neathouse Place,  
London SW1V 1LH, United Kingdom.

# MESSAGE FROM THE CHIEF EXECUTIVE OFFICER



*Chip Goodyear, Chief Executive Officer*

At BHP Billiton, we take our commitment to sustainable development seriously. The BHP Billiton Charter states, 'Our purpose is to create long-term value through the discovery, development and conversion of natural resources . . .'.

However, value is not limited to financial returns. The Charter recognises that, 'We are successful in creating value when:

- our shareholders are realising a superior return on their investment
- our customers and suppliers are benefiting from our business relationships
- the communities in which we operate value our citizenship
- every employee starts each day with a sense of purpose and ends each day with a sense of accomplishment'.

While we recently announced a record profit that has been recognised by the financial market and reflected in our share price, it saddens me to report that in terms of one of our key measures of success, that of zero fatalities, we have failed. Seventeen of our work colleagues have lost their lives during this fiscal year. This toll on human life and the impact on family, friends and associates is profound, enduring and extremely concerning for myself, our senior executives, our fellow employees, the Board and the entire BHP Billiton family.

Our commitment to the Charter remains as strong as the day it was created. When we demonstrate the creation of value across all facets of our business and confidently provide a workplace that delivers Zero Harm, we will be truly successful.

We are constantly working on determining what causes harm and what needs to be done to create a hazard-free workplace. It is vital that we go back to the fundamentals of safety management and that we continue to explore all of the assumptions and learnings on which we base our safety protocols and standards. The entire management team understands this imperative and their personal commitment and performance is being taken into account in their performance reviews. I look forward to reporting strong progress in this area in our future reports.

On a positive note, I am pleased to report that we have continued to progress soundly in the other dimensions of sustainable development. I encourage you to read our case studies, which provide some concrete examples of how we are putting policy into practice. Our internal HSEC Awards program has again been highly successful in promoting and recognising outstanding HSEC performance and innovation across the Group. It provides a strong indicator of the extent to which individuals within our operations are contributing to our sustainability aspirations.

We have been delighted over the past year to again receive external recognition for our performance in public reporting, community relationships and sustainable development. This recognition reflects the tremendous efforts of a great many people from both within the Company and our host communities who have helped us progress in these areas.

The Full HSEC Report on our website has been prepared in accordance with the Global Reporting Initiative 2002 Sustainability Reporting Guidelines and represents a balanced and reasonable presentation of our organisation's economic, environmental and social performance. A printed summary report has also been made available due to the strong support we received from our stakeholders for this initiative last year.

At BHP Billiton, the long-term, stable nature of our business means we have the capacity to plan for and meet the challenges that will arise as we contribute to sustainable development at the local, regional and global level. We have made significant progress towards sustainability, and we will continue to focus on the creation of value for our shareholders and our stakeholders.

A handwritten signature in black ink, appearing to read "Chip W. Goodyear".

Chip Goodyear  
Chief Executive Officer

# ABOUT US

BHP Billiton is the world's largest diversified resources company, with a portfolio of high-quality, long-life assets and a significant pipeline of growth projects. We have around 35 000 employees working in more than 100 operations and offices in 26 countries (see [BHP Billiton Locations](#)).

The Company was created in 2001 through the Dual Listed Companies (DLC) merger of BHP Limited (now BHP Billiton Limited) and Billiton Plc (now BHP Billiton Plc). Headquartered in Melbourne, the Group has primary listings on the Australian and London stock exchanges.

We have adopted a business model based on customer-oriented groupings called Customer Sector Groups (CSGs). This structure reflects our focus on the needs of our customers. In March 2004, we announced that we had modified our organisation structure to streamline reporting and maximise the operational effectiveness of the Company. As a result, the existing CSGs were brought together under three broadly related business areas of Non-Ferrous Materials, Carbon Steel Materials and Energy. The existing CSG structure has been very effective and will be continued within the new structure.

Each of the CSGs is a substantial business in its own right, and several are leaders in their respective fields. They have autonomy to optimise their businesses, with clear accountabilities.

The CSGs are:

- Aluminium (mining of bauxite, refining to alumina and smelting to produce aluminium)
- Base Metals (mining of copper, lead, zinc, gold and silver, processing of copper)
- Carbon Steel Materials (mining and processing of iron ore, mining of metallurgical coal and mining and smelting of manganese)
- Diamonds and Specialty Products (mining and processing of diamonds and titanium minerals, metals distribution, Exploration and Technology)
- Energy Coal (mining of thermal coal)
- Petroleum (onshore and offshore processing of oil, gas, liquefied natural gas, liquefied petroleum gas)
- Stainless Steel Materials (mining and processing of nickel, cobalt and chrome).

The CSGs are supported by marketing 'hubs' located in The Hague and Singapore.

Annual attributable volumes of production for some of our most significant commodities have been in the order of:

- 1 million tonnes of aluminium and 4 million tonnes of alumina
- 0.9 million tonnes of copper
- 80 million tonnes of iron ore
- 35 million tonnes of metallurgical coal
- 80 million tonnes of thermal coal
- 5 million carats of diamonds
- 60 million barrels of crude oil and condensate
- 300 billion cubic feet of natural gas
- 0.1 million tonnes of nickel.

Our key markets downstream are refiners and processors of raw materials, for example, steelworks, smelters, petroleum refiners, thermal power stations, diamond cutters and so on.

During the year, there were no mergers or acquisitions that have materially affected our results. The only site that was closed during the year was our Selbaie zinc and copper operation located in Canada.

BHP Billiton has an annual turnover of US\$24.9 billion, attributable profit (excluding exceptional items) of approximately US\$3.5 billion and net operating assets of US\$21.5 billion (at 30 June 2004). Summary financial information for the Group is presented in the following table.

**Summary financial information for the BHP Billiton Group**

<b>US\$ million (Year ending 30 June)</b>	<b>2003/04</b>	<b>2002/03</b>	<b>2001/02</b>
Turnover 1	24 943	17 506	15 228
EBIT 1,2,3	5 488	3 481	3 102
Earnings before tax 1,2	4 986	2 944	2 866
Attributable profit 1,2	3 510	1 920	1 866
Net operating assets 1	21 510	20 656	20 160
Taxation paid (net of refunds)	1 337	1 002	515
Government royalties paid or payable	421	352	294
Dividends paid or payable	1 617	900	784
R&D expenditure	19	40	30
EBITDA to interest cover (times) 1,2,3,4	21.1	13.3	11.2
Debt to equity or gearing ratio 5	24.9%	31.7%	35.0%
Profit and loss account at end of year 6	10 461	8 580	7 475

1. From continuing operations, including the Group's share of joint ventures and associates.

2. Excluding exceptional items.

3. EBIT is earnings before interest and tax. EBITDA is EBIT before depreciation, impairments and amortisation of both Group companies and Joint Ventures and Associates.

4. For this purpose, net interest includes capitalised interest and excludes the effect of discounting on provisions and exchange differences arising from net debt.

5. Gearing as at 30 June 2002 includes the Group's Steel business which was demerged in July 2002.

6. Movement in retained earnings is represented by movement in cumulative profit and loss accounts.

Our shareholder base is widely diversified, with approximately 60 per cent of shares held in Australia and Asia, 29 per cent in the UK and Europe, and 11 per cent in Africa.

The diversification extends to our markets and countries of operation, enhancing the stability of our cash flows and capacity to invest and grow throughout the business cycles. This stability also enables us to take a longer-term approach to all aspects of our business, including financial, social and environmental perspectives, improving our ability to deliver value for all our key stakeholders.

# PERFORMANCE AT A GLANCE

For a quick overview of our HSEC performance over this reporting period, refer to the following sections:

- [HSEC targets scorecard](#)
- [Executive summary](#)

For a more detailed understanding of our performance, refer to the [Performance summaries](#) and our [Case studies](#).

## HSEC TARGETS SCORECARD

(Baseline 1 July 2001 to 30 June 2002 for reduction targets except where stated otherwise)

Overall performance against target:			
Target exceeded or ahead of schedule	Target achieved (≥95%) or on track	Target behind schedule	Target not achieved
<b>Performance change since last reporting period:</b>			
→ Performance tracking steadily	↑ Performance has improved	↓ Performance has declined	
MANAGEMENT SYSTEMS			
All sites to undertake annual self-assessments against the BHP Billiton HSEC Management Standards and have plans to achieve conformance with the Standards by 30 June 2005.	● ↑	Audits or self-assessments completed at 100 per cent of operating sites. Audits were also conducted at three non-operated sites (not required by the target). An overall conformance of 3.7 out of 5 has been achieved to date.	2003/04
All sites <sup>1</sup> to maintain ISO 14001 Certification.	● →	All sites requiring ISO 14001 are certified or have been recommended for certification by their ISO auditor.	
<b>Legal compliance</b> Zero fines and prosecutions.	● ↓	Eleven fines totalling US\$209 420.	
<b>Risk management</b> Risk registers to be in place and maintained at all sites <sup>1</sup> and within BHP Billiton businesses and Corporate.	● →	Risk registers are in place at all required sites, businesses and Corporate.	
SAFETY			
Zero fatalities.	● ↓	Seventeen fatalities in controlled activities. <sup>2</sup>	
50 per cent reduction in Classified Injury Frequency Rate <sup>3</sup> (excluding first aid treatments) at sites by 30 June 2007.	● ↑	During the year our Classified Injury Frequency Rate reduced, resulting in an overall reduction to date of 26 per cent against the baseline.	
HEALTH			
All sites <sup>1</sup> to implement a baseline survey on occupational exposure hazards and establish occupational hygiene monitoring and health surveillance programs.	● →	98 per cent of required sites implemented baseline surveys.	
Annual reduction in percentage of people potentially exposed above occupational exposure limits. <sup>4</sup>	● ↓	Potential occupational exposure to noise, if not for the use of personal protective equipment, increased by 4 per cent. The 2004 financial year was the baseline year in determining other exposures (excluding noise) above occupational exposure limits.	
20 per cent reduction in incidence of occupational disease by 30 June 2007.	● ↑	During the year the incidence of occupational illness reduced, resulting in an overall reduction to date of 15 per cent against the baseline.	
COMMUNITY			
All sites <sup>5</sup> to prepare public HSEC reports at a local level (including incidents, community complaints and relevant site-specific emissions) on an annual basis.	● →	HSEC reports were prepared by 98 per cent of required sites or businesses.	
All sites <sup>5</sup> to have and maintain a community relations plan.	● →	Community relations plans in place at 98 per cent of required sites and at 24 sites that were not required to meet this target.	
No transgressions within the Group's activities of the principles embodied within the United Nations Universal Declaration of Human Rights.	● →	None identified.	
Aggregate contribution to community programs, including in-kind support, of a target of 1 per cent of pre-tax profits, calculated on a three-year rolling average.	● →	Expenditure totalled US\$46.5 million, equivalent to 1.3 per cent of pre-tax profits on a three-year rolling average.	

## HSEC TARGETS SCORECARD continued

<b>Overall performance against target:</b>	
<span style="color: blue;">●</span> Target exceeded or ahead of schedule	<span style="color: green;">●</span> Target achieved ( $\geq 95\%$ ) or on track
<span style="color: orange;">●</span> Target behind schedule	<span style="color: red;">●</span> Target not achieved
<b>Performance change since last reporting period:</b>	
→ Performance tracking steadily	↑ Performance has improved
	↓ Performance has declined
<b>ENVIRONMENT</b>	2003/04
Zero significant incidents (i.e., rated 3 and above on the <a href="#">BHP Billiton Consequence Severity Table</a> ).	<span style="color: red;">●</span> ↓ Two Level 3 environmental incidents.
<b>Energy and Greenhouse</b> All sites with emissions greater than 100 000 tonnes per year of carbon dioxide equivalent <sup>6</sup> are required to have and maintain energy conservation plans with specific targets.	<span style="color: green;">●</span> ↑ Energy conservation plans in place at all required sites and at 11 sites that were below the emissions threshold.
All sites with emissions greater than 100 000 tonnes per year of carbon dioxide equivalent <sup>6</sup> are required to have and maintain greenhouse gas management programs.	<span style="color: green;">●</span> ↑ Greenhouse gas management programs in place at all required sites and at 11 sites that were below the emissions threshold.
Aggregate Group target for reduction in greenhouse gas emissions per unit of production of 5 per cent by 30 June 2007.	<span style="color: blue;">●</span> ↑ During the year our greenhouse gas intensity reduced, resulting in an overall reduction to date of 9 per cent against the baseline.
<b>Water</b> All sites with fresh water consumption greater than 500 ML per annum <sup>7</sup> to have and maintain water management plans.	<span style="color: green;">●</span> → Water management plans in place at 98 per cent of required sites and at 23 sites that were below the usage threshold.
Aggregate Group target of 10 per cent reduction in fresh water consumption per unit of production by 30 June 2007.	<span style="color: orange;">●</span> ↓ During the year our water intensity increased, resulting in an overall increase to date of 10 per cent against the baseline.
<b>Waste</b> All sites <sup>1</sup> to have and maintain waste minimisation programs.	<span style="color: green;">●</span> → Waste minimisation programs in place at 97 per cent of required sites and at 10 sites that were not required to meet this target.
Aggregate Group target of 20 per cent reduction in waste (excluding recycled and mining-related materials, such as waste rock, tailings, coal reject and slag) per unit of production by 30 June 2007.	<span style="color: orange;">●</span> ↓ During the year our general waste intensity increased, resulting in an overall increase to date of 25 per cent against the baseline.
<b>Land management</b> All sites <sup>5</sup> to have and maintain land management plans to protect and enhance agreed beneficial uses.	<span style="color: green;">●</span> ↑ During the year our hazardous waste intensity reduced, resulting in an overall reduction to date of 12 per cent against the baseline.
<b>Product stewardship</b> Life cycle assessments prepared for all major BHP Billiton minerals products <sup>8</sup> by 30 June 2004 (incorporating participation in industry programs as appropriate).	<span style="color: green;">●</span> → Land management plans in place at 98 per cent of required sites and at 19 sites that were not required to meet this target.
	<span style="color: green;">●</span> ↑ Life cycle assessments have been completed for all major minerals products.

**Notes**

- Includes 60 sites in total, excludes exploration and development projects, sites being divested, closed sites, and offices.
- Controlled activities are work-related activities where BHP Billiton directly supervises and enforces HSEC standards.
- A classified injury is any workplace injury that has resulted in the person not returning to their unrestricted normal duties after the day on which the injury was received.
- Target modified to reflect adoption of BHP Billiton exposure standards (see [Health performance summary](#)).
- Excludes petroleum platforms, exploration and development projects, closed sites, and offices with no significant community or land management issues.
- Forty sites have emissions greater than 100 000 tpa carbon dioxide equivalent and, combined, account for 98 per cent of the Group's greenhouse gas emissions.
- Forty-one sites have fresh water consumption greater than 500 ML per annum and, combined, account for greater than 91 per cent of the Group's consumption.
- Excludes petroleum and diamonds.

## EXECUTIVE SUMMARY

Creating value is a concept that is central to our Charter and therefore our business at BHP Billiton. Value in the purely financial sense is not our only measure of success. As our Charter states, we also have an 'overriding commitment to health, safety, environmental responsibility and sustainable development'. Thus to be truly successful we need to deliver value across all our business facets.

Efforts made to pursue Zero Harm in our organisation have been extensive and in many instances successful; however, we are deeply saddened to report that 17 fatalities occurred at our controlled operations and activities. The impact of these incidents on our people, their families and friends is deep and profound, and we offer our sincere condolences to all impacted by these tragic events. We are determined to eliminate fatalities from all our operations, and we will not be satisfied until this is achieved. These incidents have increased our resolve and reinforced our dedication to the work and challenges before us. During the year, we made further progress in preparing and revising our HSEC protocols and guidelines, the content of which supports our detailed HSEC Management Standards and most importantly our aspiration to achieve Zero Harm. Through these protocols and guidelines, and supported by our HSEC audit process, all our operations can access leading thinking and practices.

The implementation of our Fatal Risk Control Protocols, introduced in April 2003, continued across the organisation. An additional Protocol is to be implemented early in the new financial year. This covers lifting activities with cranes and was developed following further analysis of the fatal risks. It is planned that full compliance with the requirements of the Protocols will be achieved throughout the Group by 30 June 2005. The implementation of the Protocols has resulted in some benefits already and there are documented instances of people surviving accidents due to the insistence on minimum standards for light vehicles. Another positive sign is that during the year our Classified Injury Frequency Rate reduced, resulting in an overall reduction of 26 per cent against the baseline.

To help us better understand and manage HSEC risks that are critical to our business, risk registers are in place and being maintained at all sites and at Customer Sector Group and Corporate levels of the Company, in line with our HSEC target. Work was also undertaken to better align HSEC risk assessment processes with our Enterprise-Wide Risk Management processes to improve the efficiency of assessments.

Employee health and associated occupational illness remain key focus areas. The control of employee exposures to and a reduction of occupational illnesses are the thrust of our Company health targets. Baseline health surveys were completed at 98 per cent of required sites, incorporating the establishment of occupational hygiene monitoring and health surveillance programs. While we have seen an increase in measured occupational exposure to noise during the year, this is largely an outcome of better systems being implemented for determining and monitoring employee exposures. It should be noted that the measure of occupational exposure does not take into account the wearing of personal protective equipment to mitigate against any potential exposures. We also introduced Company-wide exposure standards during the reporting period, many of which are more stringent than those required by local legislation. The targets will be revised during the coming year to further focus on reductions in employee exposure. Recognising the

importance of the health of the communities in which we operate, we are also now supporting the Medicines for Malaria Venture, which has been established through the World Health Organisation with the aim of developing affordable anti-malarial drugs for people in the disease-endemic countries.

While environmental performance across the Company generally continued to be sound, regrettably two significant environmental incidents (i.e., incidents rated 3 or above on the BHP Billiton Consequence Severity Table) were reported. These related to acid water seepage that resulted in the release of poor-quality water outside the containment system at our now closed Selbaie base metals mine in Canada. An action plan has been put in place to fully contain subsequent seepage.

In line with our target, all required sites have retained ISO 14001 certification for environmental management systems. Energy conservation plans and greenhouse gas management programs are in place at all required sites. Water management plans and land management plans are in place at 98 per cent of required sites, and waste minimisation programs are in place at 97 per cent of required sites. Life cycle assessments have been completed for all our major minerals products.

In addition, during the reporting period, we developed a Company-wide Closure Standard. The Standard has been designed to provide a clear, systematic and consistent set of requirements to ensure that closure plans achieve Company standards, that cost estimates reflect risks and opportunities, and that plans are regularly reviewed. The principles set out in the Closure Standard will be an integral part of our investment and governance processes.

Because we operate in a diverse range of countries and cultures around the world, working effectively with these different communities is a task that requires time, resources and expertise. We are increasingly aware that we must build our people's capacity within the Company so that they have the skills to build strong relationships with the different community groups with which they interact. To this end, community relations plans are in place at 98 per cent of required sites. Also, for the third consecutive year, we participated in Oxfam Community Aid Abroad's Corporate Community Leadership Program (CCLP) in Orissa, India. We have a growing number of CCLP graduates who can directly influence the Company's practices and improve our community performance. Our community contributions of 1.3 per cent of our pre-tax profit, based on a rolling three-year average, once again exceeded the target of 1 per cent. Many of these contributions support programs that focus on delivering sustained benefits in areas such as community welfare, education and health. No transgressions of the principles embodied within the United Nations Universal Declaration of Human Rights were identified within the Group during the year.

Some of our improvements in HSEC performance have been realised through the application of the Operating Excellence business improvement methodology. Many of these applications have not only demonstrated HSEC gains but have also delivered sustainable business outcomes. For example, our Yabulu nickel refinery in Australia has identified and prioritised projects that offer potential environmental and economic benefits. Under their Yabulu Optimisation Initiative, three projects, specifically aimed at energy and water re-use with the added benefit of increased cobalt recovery, have been commissioned.

## EXECUTIVE SUMMARY continued

During the year, we have been active in the International Council on Mining and Metals (ICMM) work program. The ICMM was established in 2001 as a global leadership body on sustainable development. The focus has been on establishing a minerals sector supplement to the Global Reporting Initiative's Sustainability Reporting Guidelines. The process has been one of multi-stakeholder engagement, with the sector supplement expected to be finalised in the coming year.

We have again included within our Full HSEC Report a progress assessment against the principles contained in the United Nations Global Compact. While fully recognising the right of our employees to freely associate and join trade unions, we have a number of locations where we have a mix of collective and individual arrangements. Prospective employees are made aware of employment arrangements prior to joining the Company. At all times, our businesses comply with local employment law requirements and treat employees in accordance with the values expressed in our Charter.

Over the year, we received recognition for our performance in a number of areas. We received an award recognising Business Excellence for Innovation from the Global Business Coalition on HIV/AIDS, the pre-eminent organisation leading the business fight against the AIDS pandemic. Our work in Australia with indigenous, environmental, health and cultural organisations was recognised with a Special Award in the Australian Prime Minister's 2003 Awards for Excellence in Community Business Partnerships. At the Australasian Reporting Awards we received the Best Occupational Health and Safety Award, and the Association of Certified Chartered Accountants (Australia and New Zealand) awarded us for Best Environment Report. Other notable events included being judged Sector Leader in the UK Business in the Environment Index and maintaining our inclusion in the Dow Jones Sustainability Index and the FTSE4Good Index.

Our internal HSEC Awards program has again been highly successful in recognising outstanding HSEC performance and innovation. The program, which attracted an increased number of applications from across the Company, provides a strong indicator of the extent to which individuals within our operations are contributing to our sustainability aspirations.

This Full HSEC Report was prepared in accordance with the Global Reporting Initiative (GRI) 2002 Sustainability Reporting Guidelines. It should be recognised that, due to the size and complexity of our business, judgements have had to be made regarding the extent of the information that can be presented in relation to each GRI indicator. A GRI navigator is available in the Full HSEC Report website to assist in accessing specific information.

One of our great strengths is our diversity and the commitment of our people to continuously look for ways to improve all aspects of our business. Looking ahead, we aim to continue improving our HSEC performance, working together for a sustainable future for the benefit of our shareholders and other stakeholders.

# SUSTAINABILITY AT BHP BILLITON

The most commonly stated definition of sustainable development is that of the World Commission on Environment and Development (Brundtland Commission) of 1987. In the Commission's report, Our Common Future, sustainable development is defined as 'development that meets the needs of the present without compromising the ability of future generations to meet their own needs'.

The longevity and popularity of the Brundtland definition reflects the fact that most people can subscribe to a concept that suggests that, as a global society, we should live our lives in a way that leaves the planet in a state that provides our children with at least the same lifestyle and opportunities we enjoyed.

The Brundtland definition does not, however, provide much in the way of guidance to companies seeking to understand how their business activities may or may not fit within a sustainable development framework. There have been many attempts to further define the notion and provide greater practical guidance. The Triple Bottom Line (TBL) concept developed by [SustainAbility](http://www.sustainability.com/home.asp) ([www.sustainability.com/home.asp](http://www.sustainability.com/home.asp)) in the UK has struck a chord with many in business as a logical framework within which to assess their businesses. The TBL concept argues that, to be sustainable, a company must perform against three bottom lines rather than focusing only on the traditional financial bottom line. That is, the company must be on the positive side of the ledger in relation to financial performance, environmental protection and social development. The concept has led to the emergence of the TBL (non-financial) performance reports produced by many large companies.

The three elements of the triple bottom line are also frequently referred to as the three pillars of sustainable development. Governance is often added to this model as the foundation on which the pillars stand, underpinning the integrity and ultimate success of any attempt to achieve sustainability.

Clearly, the elements are interlinked and need to be managed in an integrated manner. Companies that operate in a way that enhances social and environmental performance while destroying shareholder value will not be sustainable. Similarly, companies that generate outstanding returns to shareholders but leave the community to bear the costs of significant environmental and social degradation will not be sustainable in the long term.

While the TBL concept has helped people think about sustainable development in a business context, the reality is that businesses are still valued by the sharemarket on the basis of their performance against traditional financial metrics – the single financial bottom line – and this is likely to remain the case for the foreseeable future. The markets are, however, increasingly taking non-financial factors into account in their assessment of companies' ability to continue to generate financial returns. The effective management of non-financial issues is recognised as an increasingly critical part of effective risk management. For a company to effectively enhance shareholder returns over the long term, it must effectively manage non-financial issues as well. There is increasing evidence that companies that manage the environmental and social performance of their business well also outperform the general market in terms of traditional financial metrics.

Resource extraction is often considered to be an unsustainable industry because the resources that it exploits are non-renewable and are undeniably depleted by the activity. While this is certainly true at present, advances in technologies required to find, develop and process resources are outstripping the rate of exploitation.

More importantly, however, sustainable development should also be considered in the context of society as a whole. For example, while a particular mine site will not be sustainable because the ore-body will be depleted over time, the mine can still make a valuable contribution to a society's overall pursuit of sustainable development. The mine creates employment, provides the opportunity for training and skills enhancement, pays taxes and royalties that can be contributed to government services such as education and health care and provides the opportunity for support and spin-off industries. Mining also contributes products that are essential to all modern societies and economies. Without materials generated by the mining industry, basic needs such as shelter, transportation and energy would not be met. The mining process can therefore be seen as transforming a form of natural capital (mineral resources) into social capital (infrastructure, skills etc.) that can then contribute to further development.

We recognise, however, that simply arguing that the value of our products outweighs any environmental or social impacts is not acceptable, and hence we have been progressing a number of initiatives to better understand how we can minimise our impacts while maximising our broader contributions to society.

To this end, in 1998 we joined with a number of other mining companies to establish the Global Mining Initiative, a major component of which was the [Mining, Minerals and Sustainable Development \(MMSD\) study](http://www.iied.org/mmsd/) ([www.iied.org/mmsd/](http://www.iied.org/mmsd/)).

The MMSD study was a major independent study aimed at better understanding the role of the mining industry in a sustainable future.

MMSD considered that, in the context of the minerals sector, the goal for sustainable development should be 'to maximise the contribution to the well-being of the current generation in a way that ensures an equitable distribution of its costs and benefits, without reducing the potential for future generations to meet their own needs'. To facilitate this, the MMSD study developed the following key principles of sustainable development:

## Economic sphere

- Maximise human well-being.
- Ensure efficient use of all resources, natural and otherwise, by maximising rents.
- Seek to identify and internalise environmental and social costs.
- Maintain and enhance the conditions for viable enterprise.

## Social sphere

- Ensure fair distribution of the costs and benefits of development for all those alive today.
- Respect and reinforce the fundamental rights of human beings, including civil and political liberties, cultural autonomy, social and economic freedoms, and personal security.
- Seek to sustain improvements over time; ensure that depletion of natural resources will not deprive future generations through replacement with other forms of capital.

### **Environmental sphere**

- Promote responsible stewardship of natural resources and the environment, including remediation of past damage.
- Minimise waste and environmental damage along the whole of the supply chain.
- Exercise prudence where impacts are unknown or uncertain.
- Operate within ecological limits and protect critical natural capital.

### **Governance sphere**

- Support representative democracy, including participatory decision-making.
- Encourage free enterprise within a system of clear and fair rules and incentives.
- Avoid excessive concentration of power through appropriate checks and balances.
- Ensure transparency through providing all stakeholders with access to relevant and accurate information.
- Ensure accountability for decision and actions, which are based on comprehensive and reliable analysis.
- Encourage cooperation in order to build trust and shared goals and values.
- Ensure that decisions are made at the appropriate level, adhering to the principle of subsidiarity where possible.

While the principles outlined above are organised in different spheres, it should be recognised that they are all interdependent. Individual sites can therefore be operated in a manner consistent with these principles while contributing more broadly to society's overall pursuit of sustainable development.

We have clearly articulated our commitment to sustainable development in the Company Charter, HSEC Policy and HSEC Management Standards. As outlined in the section on [Our approach to sustainable development](#), this commitment provides a consistent framework aligned to the principles above, designed to reduce the environmental impact of our businesses, enhance the societal benefit of our operations and produce superior returns for our shareholders. (For further details on the business case for sustainable development, refer to the section on [The business case](#).)

There are, however, significant challenges that we must address as we progress. Refer to the section on our [Sustainability challenges](#) for further details.

The journey towards sustainable development is not ours alone. It is about partnerships and engagement with all our stakeholders. Only through the cooperative efforts of many will society be able to pursue sustainable development.

## OUR APPROACH TO SUSTAINABLE DEVELOPMENT

The Company's commitment to sustainable development has evolved over our long history of operational experience and through lessons learned along the way. Working through complex issues associated with our operations has highlighted environmental and social performance as a critical success factor for the Company. We are well aware of the costs of getting it wrong but, more importantly, we recognise the value that can be created by getting it right. Consequently, we adopt a holistic approach to business strategy, seeking to realise value for all our stakeholders through sustainable business philosophy.

To this end, we have established a number of Group-wide processes to manage dimensions of sustainability at BHP Billiton. These are outlined in the chart below. Refer to our section on [Governance](#) for a more detailed discussion on these processes.

### BHP Billiton key sustainability processes

	Key BHP Billiton Management Systems	Sustainability Dimension Addressed				
		Governance	Socio-Economic	Environmental	Health and Safety	Community
Policies	Charter	●		●	●	●
	Health, Safety, Environment and Community Policy	●		●	●	●
	Independence of Directors Policy	●				
	Enterprise-Wide Risk Management Policy	●	●	●	●	●
	Guide to Business Conduct	●	●	●	●	●
	Employment Principles		●			
Group-wide Standards	Health, Safety, Environment and Community Management Standards	●	●	●	●	●
	Fatal Risk Control Protocols				●	
	Carbon Pricing Protocol	●		●		
	Closure Standard	●	●	●	●	●
	Investment Process Manual and Standards	●	●	●	●	●
Committees	HSE Committee of the Board	●		●	●	
	Forum on Corporate Responsibility		●	●	●	●
	Risk Management and Audit Committee	●				
Key Processes	Annual HSEC Reporting	●	●	●	●	●
	Annual Financial Reporting	●	●	●	●	●

## OUR APPROACH TO SUSTAINABLE DEVELOPMENT continued

**The business case**

At BHP Billiton, our vision is to earn superior returns for shareholders as the world's premier supplier of natural resources and related products and services. This vision implies the primacy of our shareholders' interests (through the word **superior**), our commitment to excellence (through the word **premier**) and our aim to go far beyond the 'dig-and-deliver' blinkers of the traditional mining company (through the word **related**).

We know, however, that our bottom line performance is enhanced by excellence in health, safety and environmental performance and by addressing community, employee and stakeholder expectations. Each of these non-financial aspects is clearly capable of having a financial impact, either directly, through operating costs or litigation, or indirectly, by affecting our access to capital, 'licence to operate' and retention of quality people. Maximising the bottom line is therefore also about recognising the value protection and value add that can be achieved through enhanced performance in the non-financial dimensions of our business. The diagram below provides an indication of value drivers that may be delivered through effective management of our sustainability impacts.

**BHP Billiton sustainability value add***If we get management of these right ...*

Fatalities/Injuries
Employee Relations
Short and Long-term Costs of Injuries/Illnesses
Occupational Health Exposures
Employee Skills and Morale
Human Rights
Community Health Impacts
Access to Land and Resources
Community Development
Cultural Heritage
Product Stewardship
Depletion of Natural Resources
Ambient Pollution
Greenhouse Gases
Water
Biodiversity
Land
National Economic Impacts
Global Economic Impacts
Liabilities Post Closure (Environmental/Social)
Local Economic Impacts
Business Ethics

*We can then deliver ...*

- Increased long-term shareholder returns
- Improved attraction to and retention of workforce
- Improved workforce morale and productivity
- Security of operations
- Improved licence to operate and grow
- Enhanced brand recognition/reputation
- Enhanced stakeholder trust
- Self-sustaining communities
- Improved standards of living
- Improved operational performance and efficiency
- Enhancement of biodiversity
- Reduced business risk
- Improved access to and lower cost of capital
- Better ability to strategically plan for the longer term
- Enhanced economic contribution

## SUSTAINABILITY CHALLENGES

Our sustainability challenges are those issues that may have a significant impact on our business.

We have determined our top five sustainability challenges to be:

- [Fatal risks](#)
- [Greenhouse gas emissions](#)
- [Access to resources](#)
- [Sustainable community development and closure](#)
- [Occupational and community health](#)

Refer to the following sections to better understand our challenges and the management approaches we have taken. Members from our Forum on Corporate Responsibility have provided their own comments on the nature of our challenges to help bring an external perspective to the dilemmas we face.

### Fatal risks

The safety of our employees and the communities in which we operate is integral to our business. Our goal is Zero Harm.

Despite implementation of safety standards and systems being mandatory at our operations, significant incidents and, in some instances, fatal accidents continue to occur. This is a cause of major concern to us, and we are totally committed to eliminating these incidents from our businesses.

Our challenge is to fully implement and optimise the safety management standards we have developed. We need to ensure that all our employees and contractors understand, apply rigorously, and fully comply with these standards.

Refer to the following sections on:

- details on [Our approach](#) to this challenge
- an understanding of [Our drivers](#).

#### *Our approach*

Across the organisation we manage safety risks through our risk-based [HSEC Management Standards](#) and other dedicated safety systems.

Our safety strategy is based on three principles:

- leadership effectiveness
- behaviours and awareness
- rigorous standards and systems for managing risks and ensuring full compliance.

These all focus on our people and systems, with two key objectives:

- ensuring that our practices, procedures, conditions, equipment and behaviour all contribute towards creating a workplace where it is possible to work without adverse impact on people, the environment or the community
- developing our people to make the right decisions as they go about their day-to-day work.

Since April 2003, a suite of activities with the potential for causing fatalities has been identified, documented and formalised in

[Fatal Risk Control Protocols](#), a key component of our safety strategy.

Implementation of the Protocols at all our operations is to be completed by 30 June 2005.

Workshops to review implementation of the Protocols have been held in Australia, South Africa and South America. The gathered information will guide us towards improving the contents of the Protocols, creating clear understanding of the requirements and assisting operations that express concerns with their full implementation by the due date.

The tracking of the Fatal Risk Control Protocols audit results is key to ensuring that any identified at-risk practice is discontinued.

However, analyses of past safety performance in the operations are not adequate indicators of future performance. For this reason, new leading indicators are being developed.

These will consider the effect of increased activity on the overall risk profile of an operation. The indicators may show that an operation may need to address certain safety requirements, despite having an historically good safety performance.

Following one of our recent fatal accidents, our Chief Executive Officer, Chip Goodyear, sent a message to all staff, which included the following: 'Each one of us must take ownership of safety. We know the types of activities that injure and kill people and we have procedures to deal with these risks. Yet, in certain cases, these appear to have been ignored. Often we think we are doing the right thing by moving fast and not following our safe work-practices fully. We are not. Stop and think about risks associated with the task at hand and stop any action that you believe may not be safe before someone is injured or killed. We simply must do this. It is the best way to maximise our long-term performance.'

#### *Our drivers*

We recognise that our employees and contractors have a right to a safe work environment and that they have families and dependants whose lives can be devastated by losing a loved one. As well as doing the right thing by our workforce, our mission of achieving Zero Harm is simply good business. We need to be able to attract and retain talented people to work with us, and good people are attracted by high standards and performance.

To obtain and maintain a licence to operate, we must be seen by our host communities as a company that protects and cares for its people. We must also be able to continue operating within increasingly stringent regulatory frameworks.

In financial terms we are a very successful organisation, but until we eliminate fatalities from our operations we will not achieve our objective of being the best company. We recognise that it is the best companies that people want to welcome into their communities and work with, buy from and invest in.

## SUSTAINABILITY CHALLENGES continued

**Greenhouse gas emissions**

The Company is both a user and producer of fossil fuel energy products that create greenhouse gas emissions. Fossil fuels are an important source of energy globally, and the use of these fuels underpins economic growth and development globally.

Looking forward over the next two decades, global demand for energy will continue to grow, with the strongest growth in developing countries. Access to affordable energy is a critical component of poverty alleviation and social and economic development and, therefore, will remain central to society.

The concept of climate change suggests that greenhouse gas emissions associated with human activity are contributing to global warming and that steps must be taken to mitigate this. Our challenge as a member of global society is to help meet the world's energy needs while mitigating the potential impact of greenhouse gas emissions on the climate.

Refer to the following sections on:

- details on [Our approach](#) to this challenge
- an understanding of [Our drivers](#)
- [An external view](#) on the challenge from members of our [Forum on Corporate Responsibility](#).

***Our approach***

Back in 1995, we were one of the first participants in the Australian Greenhouse Challenge program, which was designed to encourage reductions in greenhouse gas emissions. We started measuring our greenhouse gas emissions in 1993 and have publicly reported our greenhouse gas emissions data since then. Our philosophy is that what we measure we can improve, and so we set ourselves a target of reducing the greenhouse intensity of our operations by 10 per cent between 1995 and 2000.

We exceeded our original target, achieving a 12 per cent improvement, and in 2002 we extended the target to a further 5 per cent over the years 2002 to 2007. Greenhouse gas intensity is measured by emissions per unit of production, including the purchase of electricity, at operated sites.

Refer to our [Climate Change Position Statement](#) (see [www.bhpbilliton.com/bbContentRepository/Policies/ClimateChange.pdf](http://www.bhpbilliton.com/bbContentRepository/Policies/ClimateChange.pdf)) for details on our climate change policy. Our approach includes:

- site-level greenhouse gas and energy conservation management plans
- assessment of emissions over a product's life cycle
- the development of knowledge and skills in emissions trading
- pricing carbon into our investment decisions
- research into geological sequestration and low-emission technologies.

For internal purposes, we estimate the level of emissions emitted by our customers when they use our products. Unlike companies that generate and distribute energy, we are not in a position to report this data with the same accuracy (nor are we able to verify this figure) given our position in the supply chain. This being said, it is important to understand emissions over the life cycle of our products. We use these internal estimates so that we can prioritise areas where we need to work most closely with our customers.

***Our drivers***

There are a number of drivers of our climate change policy and actions.

The communities in which we operate and where we sell our products are concerned about the impacts of climate change within their national borders and globally. To earn their respect and attract and retain employees, we must be a responsible company.

To deliver long-term growth in shareholder value, we must continue to strategically plan for market shifts, threats and opportunities. An impetus for these can be climate change and the debate that surrounds it. For example, we expect that the market share for gas as a fuel for power generation will grow, given its lower greenhouse gas intensity, its proximity to markets and the desire of our customers to diversify their fuel supplies.

We must continue to be proactive in setting and achieving emission intensity reduction targets, in order to respond constructively to community expectations and government regulations regarding climate change. Failure to do so will ultimately impact on the costs of doing business and affect the demand for our products.

***An external view***

*'Given BHP Billiton's large fossil fuel reserves, particularly coal, the Company must work with customers to ensure its most efficient transport and use, with the goal of eliminating greenhouse gas pollution as quickly as possible. WWF believes BHP Billiton should report on the emissions and the emission intensity of the transport and use of its fossil fuel energy products by customers, to provide a transparent account of their full life cycle, not simply their production.'*

[David Butcher, Chief Executive Officer, WWF – Australia](#)

*'It is clear BHP Billiton has an intelligent and proactive approach towards GHG [greenhouse gas] climate effect mitigation. From a business viewpoint, I would encourage BHP Billiton to consider, while the profits from fossil fuels are available, strategically investing in cleaner energy sources, preparing the Company to replace fossil fuels with newer, cleaner, renewable and cost-effective forms of energy.'*

*'Trading in greenhouse gas credits has begun and will gather momentum over the next two to five years. It is likely to be a significant market and BHP Billiton must gather as much intelligence as possible and continue to be as proactive as it has been.'*

[Dr Marcelo de Andrade, Chairman, Pró-Natura](#)

Refer to the section on [Our approach](#) to understand how we address some of these concerns.

## SUSTAINABILITY CHALLENGES continued

**Access to resources**

Access to resources is fundamental to the sustainability of our business. Our challenge is to achieve access to the resources relevant to our scope of operations while addressing heightened political and societal expectations related to obtaining and maintaining a 'licence to operate'.

We must identify, understand and manage requirements associated with the fact that prospective developments are increasingly in developing and/or sensitive regions where there are competing environmental, social, racial, political and economic pressures.

Resource extraction often competes with agriculture and other human activities for access to areas of land and water resources. The mineral resources we seek are often located in developing countries where land is the basis of subsistence agricultural activities for already marginalised communities. They also are often in desert countries where water is critical to the survival of communities. These needs must be recognised and managed appropriately.

In addition, we must be cognisant of the environmental values of potential resource developments. We must systematically identify, assess and manage the biodiversity values that may be potentially affected by our activities.

Refer to the following sections on:

- details on [Our approach](#) to this challenge
- an understanding of [Our drivers](#)
- [An external view](#) on the challenge from members of our [Forum on Corporate Responsibility](#).

***Our approach***

Internal tollgating and assessment tools, including formal risk and impact assessments, are utilised to identify environmental and social risks and issues associated with accessing resources, and to ensure they are appropriately managed.

Our HSEC Policy and HSEC Management Standards are structured around establishing systems and processes to manage these risks and issues. Our [HSEC targets scorecard](#) provides a measure of how we are progressing in this regard. An important target is that our operations must develop and implement a community relations plan that has an objective of ensuring important stakeholder issues are identified and managed.

In the past, we have largely relied on detecting and managing these aspects through formal government processes, such as those required during project approvals processes (and which were compliance driven).

We are now moving beyond a compliance-driven approach and being proactive in involving external stakeholders and working in partnership with them to identify and manage these issues. Specifically, we have publicly committed to a number of policy positions in conjunction with our key stakeholders. These have included:

- In conjunction with the International Council on Mining and Metals and the World Conservation Union, an undertaking not to explore or mine in World Heritage properties and a commitment to take all possible steps to ensure that operations are not incompatible with the outstanding universal values of World Heritage properties.
- Our policy on riverine tailings developed in conjunction with our Forum on Corporate Responsibility states we will not commit to a new mining project that disposes of waste rock or tailings into a river.
- A decision taken this year, in conjunction with our [Gag Island nickel project](#) and our Forum on Corporate Responsibility (see our case study) states that 'BHP Billiton has decided not to pursue Deep Sea Tailings Placement (DSTP) as a potential tailing disposal option for any of its current prospects. The Company also believes that given the very specific circumstances where DSTP could be considered appropriate, it is unlikely that the technology will be pursued in any of our future developments.'
- Our Black Economic Empowerment and Employment Equity policies underpin our commitment to accelerating development and fostering entrepreneurship of historically disadvantaged groups in South Africa.

Overall, our operations are progressively and more comprehensively engaging key stakeholders (especially non-government groups and organisations) in addressing issues of mutual concern and are doing it at an earlier stage of the project-planning process.

***Our drivers***

There are two important reasons for our proactive approach. Firstly, governments are expecting companies to manage external issues themselves and increasingly will not issue formal approvals, or will amend or revoke them, if major issues with communities and other external stakeholders arise and are not properly managed by the Company.

Secondly, communities and non-government organisations (NGOs) are increasingly better connected nationally and internationally. They realise that they are influential with governments and companies and are prepared to use this influence to highlight and resolve issues.

Appropriately and effectively managing issues around access to resources is essential if we are to:

- obtain and maintain a licence to operate
- improve access to new business opportunities
- keep ahead of regulations and reduce regulatory intervention
- enhance and protect our reputation
- differentiate ourselves from our competitors.

These are all key to our sustainability as a business and our ability to deliver long-term share growth and shareholder value.

***An external view***

*'BHP Billiton could do much to safeguard its reputation by further articulating environmentally damaging practices it rejects. The Company's current commitments spurning riverine tailings dumping and declaring it would not seek to mine World Heritage sites are positive steps. As examples, WWF believes the Company would enhance its reputation with the community by ruling out both ocean dumping of mine waste and seeking to mine IUCN Categories I to IV Protected Areas. BHP Billiton could then clearly differentiate itself from those mining companies that use such damaging practices.'*

*Michael Rae, Senior Policy Officer – Business and Industry,  
WWF – Australia*

*'Gaining access to new resources will increasingly be a result of how much the sponsor company is perceived as a valuable partner in the regions in which it intends to operate.'*

*'As extractive industries compete with other economic uses of land and water by local communities, the company seeking a licence to operate must manage its investments in a way that guarantees and induces a new, sustainable economic model within the area of influence of its project.'*

*'This economic model must be structured in a way that it can become independent and sustainable beyond the project. There must be strategies to build the capacity of the target communities to manage their own development process in the future; to leverage funds to continue the social development investments after the company leaves the region; to be scalable and replicable regionally; and to engage all relevant and interested stakeholders.'*

*'Within the criteria for granting future sites and licences to operate, and for financing future projects, among the most important items are the capacity of the candidate company to deliver or induce a sustainable development process within the area of influence of its projects, and its industrial and operational track record.'*

*Dr Marcelo de Andrade, Chairman, Pró-Natura*

Refer to the section on [Our approach](#) to understand how we address some of these concerns.

## SUSTAINABILITY CHALLENGES continued

**Sustainable community development and closure**

Resource companies contribute to the community in many ways, through employment, use of local suppliers and contractors, disbursements to governments, including taxes and royalties, and by providing support, both financial and non-financial, for community development programs and local community organisations.

Although the lifespans of our operations vary, all reach a point where the majority of the natural resource has been extracted and it is no longer economic to run them. The social and environmental impacts of closing an operation are complex, especially when it has been a major contributor to a local economy or when a community has essentially been built around the operation.

Our challenge is to maximise the benefits to communities so that we leave a lasting positive legacy.

The resources industry has had a chequered history in relation to creating a sustainable positive legacy. It has tended to take a paternalistic approach with limited community consultation and has been inclined towards technical solutions such as the building of infrastructure (schools and hospitals) without focusing on the need to engage communities in the process or to train and develop local people to manage these facilities.

We recognise a need to more actively involve communities in our development programs if the programs are to achieve truly sustainable long-term outcomes, and to do this effectively we must increase the relevant skills and expertise of people within the Company. It is only by building human and social capacities within the community that we will leave a valuable legacy that outlasts the operation itself and ensures a positive future for communities beyond resource extraction.

Refer to the following sections on:

- details on [Our approach](#) to this challenge
- an understanding of [Our drivers](#)
- [An external view](#) on the challenge from a member of our [Forum on Corporate Responsibility](#).

***Our approach****Communities*

Our businesses all operate programs to create medium to long-term benefits for the communities in which they operate. In 2002, the Company introduced a target to spend 1 per cent of pre-tax profits (on a rolling three-year average) on community programs. In each year since then, this target has been met.

Company-wide guidelines provide a set of principles that facilitate a consistent approach to community development and support for community activities. Principles include valuing the knowledge and opinion that resides within communities and working with them to develop meaningful programs; investing in programs where our contribution can be leveraged through support from other bodies; and building local capacities so that community members are empowered to take control of their own development processes. Within this framework, each business operates its own community programs to ensure we respond to local needs and concerns.

To improve understanding of community development methodologies within the Company, more than 40 of our community relations professionals have participated in the Oxfam Community Aid Abroad Corporate Community Leadership Program over the past three years. The program provides an opportunity for our employees to participate in a study tour in India where they see first-hand the challenges of community development through the eyes of local communities and the NGOs that work with them.

*Employees*

There has been much discussion within the resources sector as to whether it is better to establish a community around a minesite or to create a fly-in, fly-out operation. There are advantages and disadvantages in both approaches. Establishing a town or community offers employees and their families stability for the life of the mine, but the disruption on closure is substantial. Fly-in, fly-out operations mean that the impact on families is reduced on mine closure but that employees are away from their families for extended periods of time during operation.

Across our operations there are examples of both situations. Our approach is to continue to look for the best solution for employees and the business and to train and develop our people to ensure they are well equipped, on closure of an operation, to apply for other jobs either within or outside the Company.

*Environment*

The very nature of our business is such that some level of environmental disturbance is inevitable in the short term. In line with our commitment to Zero Harm, we set targets to progressively reduce our impact on the natural environment during the operations phase. We also require all our

operations to develop detailed closure plans that address both the environmental and social aspects of closure. Stakeholder engagement, particularly with regulators and local communities, is a critical dimension to this process. A very important aspect of the planning process is the development of a post-mining plan. Mining practices can then be developed with the final land use in mind, in line with our Closure Standard. The plans must also be fully costed and appropriate provisions incorporated in the Company accounts.

***Our drivers***

In the BHP Billiton Charter, one of the indicators of success is that the communities in which we operate value our presence. Sustainable community development will ensure communities continue to benefit after mine closure.

A stable, healthy and supportive society enables businesses to operate effectively. By contributing to the social fabric of the communities where we operate, we are also creating an environment in which the Company can grow.

With many new projects located in developing countries, it is increasingly important for us to be able to demonstrate to key stakeholders, including governments, that we have a good track record in making a sustainable contribution to the environment and community, in addition to providing economic benefits.

An increasingly important aspect for consideration by prospective employees is the social responsibility credentials of a company. In order to attract and retain the best employees, we need to be able to engage employees in our community efforts and provide opportunities for them to be proud of their Company.

***An external view***

*'BHP Billiton understands that the intrinsic characteristics of an extractive industry cause a regional development boom wherever it operates. This boom can have a negative or positive impact, depending on how it is managed.'*

*'There is a great opportunity to channel this boom activity towards sustainably developing the region in the area of influence of the project, almost like the jiu-jitsu theory, channelling the energy of a given challenge in favour of the region's community and environment and, ultimately, of the company and the project itself. This will assure the sustainability of the region when the company leaves at the end of the project.'*

*Dr Marcelo de Andrade, Chairman, Pró-Natura*

Refer to the section on [Our approach](#) to understand how we address some of these concerns.

## SUSTAINABILITY CHALLENGES continued

**Occupational and community health**

People are essential to the success of our business. Understanding and mitigating the impact of occupational exposures on our workforce is integral to our journey towards Zero Harm.

This means we must promote an environment that contributes to our employees being fit for work and fit for life. We also have a responsibility to work with the communities in which we operate in setting up programs focused on significant community health issues that may also impact on our workforce and their dependants.

At a broader level, we must consider our role in addressing community health issues of global significance and how we may assist in supporting management programs that extend beyond the communities in which we operate.

Refer to the following sections on:

- details on [Our approach](#) to this challenge
- an understanding of [Our drivers](#)
- [An external view](#) on the challenge from a member of our [Forum on Corporate Responsibility](#).

***Our approach****Employee exposure*

Throughout the Company we have introduced standardised procedures for managing occupational exposure levels and for measuring and reporting exposures.

Targets to reduce exposure and occupational illness are being established.

Specific initiatives are under way to develop and apply best practice exposure reduction measures, such as a project aimed at [reducing diesel particulate exposure in underground mines](#) (see our case study).

*Fit for work/Fit for life*

A core global group has been established to focus on this area. Company-wide guidelines have been developed for the management of issues such as drug and alcohol abuse, fatigue management, occupational rehabilitation, health promotion, job and task analysis and stress management.

*Community health*

Our [HSEC Management Standards](#) outline the need to adequately manage community health issues that affect the workforce and to address worksite exposures that may also impact on the community.

Health is a key focus of our community programs. Many of our operations are in regions where the three most significant global infectious diseases (HIV/AIDS, malaria and tuberculosis) have significant impact.

*Global involvement*

The support we provide through our involvement in locally focused health programs often has benefits that extend beyond the communities in which we operate. We are also increasingly supporting health initiatives that are developed with global goals, such as the [Medicines for Malaria Venture](#) and a [TB screening program initiated at our EKATI operation](#) in Canada (see our case studies).

***Our drivers***

We operate in regions where significant health issues impact on our workforce and surrounding communities and also have a considerable impact on the local economy and development.

We have a global network and therefore the capability to connect high-level health programs and research to regions that would otherwise not be considered for involvement in such initiatives.

A measure of the success for our operations located in developing nations should be an improvement in the health of their host communities.

***An external view***

*'An important characteristic of the resources industry is the differences within the regions and cultures in which it operates.'*

*A resources company's approach to its workforce and its host communities must be tailored to each project and must be flexible and able to dynamically change according to the capacity of the local community.'*

*'The timeframe of a resources project usually covers decades, which implies that the nature of the affected community will change over time. The approach to the project's social investment in its workforce and the local communities must include systematic reviews of the region's level of development. The results of each review must be reflected in changes to the original strategy of sustainable development investments in all sectors, including health.'*

[Dr Marcelo de Andrade, Chairman, Pró-Natura](#)

Refer to the section on [Our approach](#) to understand how we address some of these concerns.

## GOVERNANCE

It is clear that strong governance in both the financial and non-financial arenas is a critical aspect of running a successful corporation. This is reflected in the continuing interest in the non-financial aspects of our performance from traditional stakeholders and also from those in the investment community who have begun to assess more thoroughly the social and environmental aspects of our business.

Our approach to corporate governance is detailed in the [Corporate governance](#) section on our website (see [www.bhpbilliton.com/bb/aboutUs/governance.jsp](http://www.bhpbilliton.com/bb/aboutUs/governance.jsp)) and also within our financial [Annual Report](#) (see [www.bhpbilliton.com/bb/investorCentre/annualReports.jsp](http://www.bhpbilliton.com/bb/investorCentre/annualReports.jsp)).

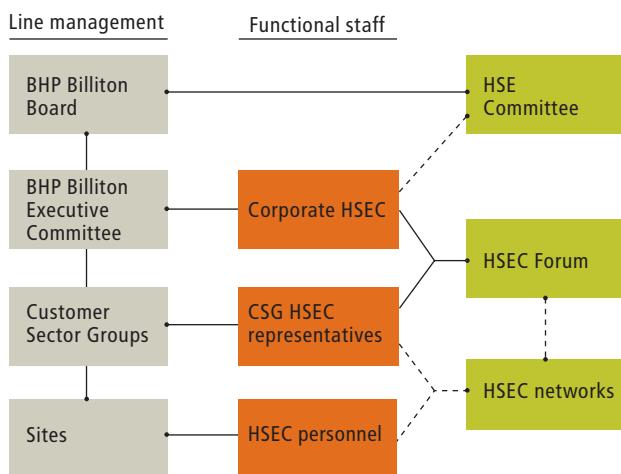
This section outlines our approach to HSEC governance.

### HSEC governance

#### *Structure and responsibilities*

At every level of the organisation, our line managers are responsible for HSEC matters. Although they are supported by functional personnel who provide specialist advice and support in managing all aspects of HSEC, ultimate responsibility rests with the general and senior management teams. Executive remuneration is also directly linked to the financial and non-financial performance of the Company. Non-financial performance indicators include health, safety, environment and community targets.

#### *HSEC organisation structure*



As shown in the diagram, the Company's peak HSE governance body is the HSE Committee, which is a subcommittee of the Board. Current membership of the Committee comprises two executive Directors; a non-executive Director (who is Committee Chair); the Vice President Health, Safety and Environment (HSE); and recognised international experts in the fields of health, safety and the environment. The non-executive Director member is proposed by the Chair of the BHP Billiton Board and approved by the Directors. See [HSE Committee of the Board membership](#) for profiles of HSE Committee members. The current reporting period saw a slight change in membership of the HSE Committee, with Colin Bloomfield leaving the role of Vice President HSE to take up the role of President of our Illawarra Coal business. Tony Lennox has replaced Colin as our Vice President HSE. Tony brings with him a wealth of operational knowledge. Additionally, Ben Alberts left and was replaced by Jim Galvin, bringing expertise in mining engineering and risk management.

For further detail on how the HSE Committee functions, see their [Terms of Reference](#) ([www.bhpbilliton.com/bbContentRepository/AboutUs/Governance/HSETermsofReference.pdf](http://www.bhpbilliton.com/bbContentRepository/AboutUs/Governance/HSETermsofReference.pdf)).

HSEC standards across the Company are coordinated and monitored through the BHP Billiton Executive Committee, with HSEC issues included in the agenda for each meeting. This Committee includes the heads of the CSGs, legal, marketing and human resources. The peak functional group is the HSEC Forum, comprising Corporate representatives and HSEC functional heads from each of the CSGs. The Forum is involved in setting direction for the HSEC function, identifying priority issues, monitoring HSEC performance and building consensus for the way forward. Development of HSEC practices and the response to issues of Company-wide significance are managed through specialist networks.

Our HSEC audit program is a critical component of the HSEC governance program, which has been specifically designed to ensure that our Charter, HSEC Policy and HSEC Management Standards are being effectively implemented across the Group.

## GOVERNANCE continued



David Brink

Jim Galvin

Charles (Chip) Goodyear

Tony Lennox

*HSE Committee of the Board membership*

**David Brink** – Chair of the HSE Committee of the Board  
MSc Eng (Mining), DCom (hc)

David is a Director of BHP Billiton and, prior to the DLC merger, was a Director of Billiton Plc. He holds an RSA Mine Managers' Certificate of Competency (Metalliferous) and an RSA Mine Surveyors' Certificate of Competency. David started his career in deep-level mining in 1962 and moved on to manage a shaft sinking, tunneling and exploration contracting company in 1970, with operations mainly in South Africa and Australasia. Since 1983, David has been involved in construction and heavy engineering and, from 1994, in pulp and paper, life assurance and banking as a non-executive Director.

**Jim Galvin**

BSc, BE, PhD, CPEng, CPMin, FIEA, FAusIMM

Jim graduated from the University of Sydney before joining the South African Chamber of Mines Research Organisation where he obtained his PhD in Rock Mechanics and headed up the Strata Control group. Upon returning to Australia, he worked in a range of operational roles from miner to mine manager. In 1988, he was awarded a Churchill Fellowship related to motivating and managing change in traditional industries. Jim has been Professor of Mining Engineering at the University of New South Wales since 1992 and was Head of School from 1995 to 2002 before undertaking a strategic review of minerals tertiary education for the Minerals Council of Australia. He is a member of a range of industry and government bodies and consults internationally in areas that include mine design and stability, risk management, accident investigation, environment and education, training and research.

**Charles (Chip) Goodyear**

BSc, MBA, FCPA

Chip was appointed Chief Executive Officer of BHP Billiton Limited and BHP Billiton Plc in January 2003. He has been a Director since November 2001. He previously held the positions of Chief Development Officer and Chief Financial Officer of BHP Billiton Limited and BHP Billiton Plc. Chip joined the Company as Chief Financial Officer in 1999, prior to which he had extensive financial, corporate restructuring and merger and acquisition experience in the United States, including roles as President of Goodyear Capital Corporation and Executive Vice President and Chief Financial Officer of Freeport-McMoRan Inc.

**Tony Lennox**

BE Mining (Hons)

Tony is BHP Billiton's Corporate Vice President Health, Safety and Environment. He was appointed to the role in January 2004 and prior to this was President of the Company's Cannington operation, known as the world's largest and lowest-cost mine producer of silver. Tony joined BHP Billiton in 1994 with extensive project development and operating experience and has up until his current role been in operational line management roles. He has extensive knowledge of the coal and base metals mining industry and experience in operational safety leadership.

## GOVERNANCE continued



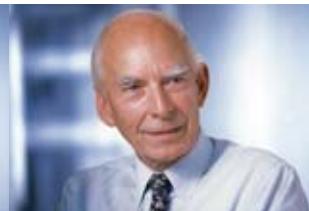
Jimmy L Perkins



Miklos (Mike) Salamon



Dr David Slater



Ed Spence

*HSE Committee of the Board membership continued***Jimmy L Perkins**

BA, PhD, CIH

Jimmy has been in academia since 1981 and is currently Professor at the University of Texas School of Public Health. He has taught health and hygiene courses for universities, private corporations and government agencies. In addition, Jimmy has had consulting agreements with a wide range of industries, including aluminium, iron, specialty metal products, petrochemicals and educational facilities. His research has involved assessment of worker exposures, protection of workers from skin exposures to chemicals, and a wide range of environmental health issues.

**Miklos (Mike) Salamon**

BSc (Mining Eng), MBA

Mike is Group President, Non-Ferrous Metals (consisting of Aluminium, Base Metals and Stainless Steel Materials), BHP Billiton Group and has been an executive Director of BHP Billiton Limited and BHP Billiton Plc since February 2003. He is also a member of the Office of the Chief Executive and Executive Committee, and Chairman of the Operating Committee. He is Chairman of Samancor and a Director of Richards Bay Minerals, Cerro Matoso and Escondida. From July 2001 to March 2004, Mike was Chief Minerals Executive and President & CEO, Aluminium. From July 1997 to June 2001, Mike was an executive Director of Billiton Plc with responsibilities for nickel, chrome, manganese, stainless steel and titanium. He is former Executive Chairman of Samancor, Managing Director of Trans-Natal Coal Corporation and Chairman of Columbus.

**Dr David Slater**

CB, BSc, PhD, CChem, CEng, FRSC, FIChemE

David was educated at the University College of Wales and Ohio State University and initially taught chemical engineering at Imperial College, London. Following that, he has had extensive experience in safety and environmental risk management, both in consultancy and in UK regulatory agencies. Through the 1970s and 1980s, as founder of Technica, he led the pioneering application of risk assessment techniques to the offshore and petrochemical industries. As Her Majesty's Chief Inspector of Pollution and Director of the Environment Agency, he had a leading role, through the 1990s, in developing and implementing risk-based pollution control legislation in the UK and Europe. He is currently a Principal Partner of the Anglo Norwegian Acona Group and a Director of the regulatory strategy organisation Cambrensis and holds a Royal Academy of Engineering Professorship at the University of Manchester. David advises Cardiff University and, as an adjunct Professor at King's College, London, is involved with the Kings Risk Forum.

**Ed Spence**

CEng, FIEE

Ed is Managing Director of Integral Safety Ltd in the UK. His clients include the UK Health and Safety Executive and the federal Australian and Norwegian equivalents as well as several major oil and minerals companies. He retired as HSE Manager for BP Exploration (Europe) some seven years ago to start his own consultancy. Ed was previously Engineering Development Manager for BP Exploration. He is a chartered engineer and a Fellow of the Institution of Electrical Engineers and lectures part-time to the MSc course in Safety Engineering at Aberdeen (Scotland) University. Ed's focuses are inherently safer design and regression of incident causation to the deep ultimate causes rather than the more obvious ones.

## GOVERNANCE continued

### ***Policy, standards and systems***

Central to our business is our [Company Charter](#), which states our 'overriding commitment to health, safety, environmental responsibility and sustainable development'. Honesty and transparency are core to this commitment and, importantly, the Charter also recognises that 'to prosper and achieve real growth we must ... earn the trust of employees, customers, suppliers, communities and shareholders by being forthright in our communications and consistently delivering on commitments'.

Supporting these principles is [Working Responsibly at BHP Billiton: Our Health, Safety, Environment and Community Policy](#) (HSEC Policy), providing the framework for our commitment to sustainable development and our aspiration towards Zero Harm.

Knowing that much of our success as a global company depends on how effectively we work with our employees, contractors and the communities in which we operate, we see the HSEC Policy as being central to our future success. While our Policy broadly aligns with a number of international conventions such as the United Nations Universal Declaration of Human Rights, it also requires that we meet and, where appropriate, exceed legal and other requirements. As such, the Policy recognises that where governments implement international conventions, such as those of the International Labour Organisation, we will comply. The Policy underpins our management systems worldwide and sets the foundation from which we operate. Wherever we operate, HSEC aspects are addressed in our decision-making processes, alongside other business considerations. The HSEC Policy has been designed to support the principles contained in our Charter. This means that, while we strive to deliver strong financial returns to shareholders, we fully recognise and deliver on our wider responsibilities to our stakeholders – good HSEC is good business.

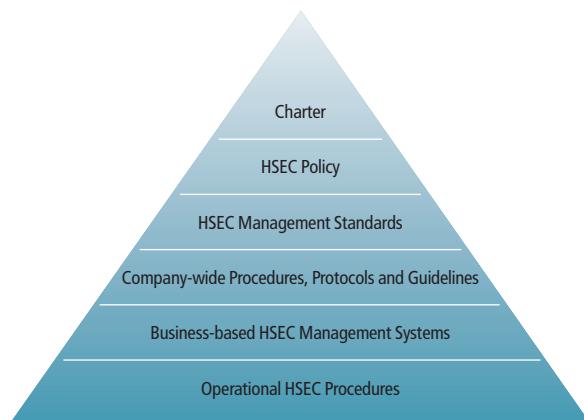
See our [Policy Guide](#) (see [www.bhpbilliton.com/bbContentRepository/Policies/HSEC Policy Guide.pdf](http://www.bhpbilliton.com/bbContentRepository/Policies/HSEC Policy Guide.pdf)) for a more detailed explanation on the rationale behind our Policy values.

Refer to the following sections for further details on our standards and systems.

- [Hierarchy of systems and documents](#)
- [HSEC Management Standards](#)
- [Risk management](#)
- [Investment processes](#)
- [Business conduct](#)
- [Audit](#)

### *Hierarchy of systems and documents*

The BHP Billiton Charter, HSEC Policy and HSEC Management Standards are mandatory at all our sites and operations, under a hierarchical management system where systems and documents must meet and support the requirements of those of higher levels, as shown in the diagram below.



We are aiming for some of our management systems to be certified. For example, we have achieved our target for ISO 14001 certification of our environmental management systems at all of our major operating sites. Additionally, some of our sites are now working towards certification of their safety management systems to OHSAS 18001. A number of our sites are also certified to the ISO 9000 standards for quality management.

# BHP BILLITON CHARTER

WE ARE BHP BILLITON, A LEADING GLOBAL RESOURCES COMPANY.

**Our purpose is to create long-term value through the discovery, development and conversion of natural resources, and the provision of innovative customer and market-focused solutions.**

**To prosper and achieve real growth, we must:**

- actively manage and build our portfolio of high-quality assets and services,
- continue the drive towards a high-performance organisation in which every individual accepts responsibility and is rewarded for results,
- earn the trust of employees, customers, suppliers, communities and shareholders by being forthright in our communications and consistently delivering on commitments.

**We value:**

- **Safety and the Environment** – An overriding commitment to health, safety, environmental responsibility and sustainable development.
- **Integrity** – Doing what we say we will do.
- **High Performance** – The excitement and fulfilment of achieving superior business results and stretching our capabilities.
- **Win-Win Relationships** – Having relationships which focus on the creation of value for all parties.
- **The Courage to Lead Change** – Accepting the responsibility to inspire and deliver positive change in the face of adversity.
- **Respect for Each Other** – The embracing of diversity, enriched by openness, sharing, trust, teamwork and involvement.

**We are successful in creating value when:**

- our shareholders are realising a superior return on their investment
- our customers and suppliers are benefiting from our business relationships
- the communities in which we operate value our citizenship
- every employee starts each day with a sense of purpose and ends each day with a sense of accomplishment.



Chip Goodyear  
Chief Executive Officer

August 2004



## WORKING RESPONSIBLY AT BHP BILLITON: OUR HEALTH, SAFETY, ENVIRONMENT AND COMMUNITY POLICY

**At BHP Billiton, we are committed to sustainable development. Health, safety, environment and community responsibilities are integral to the way we do business.**

**We commit to continual improvement in our performance, efficient use of natural resources and aspire to Zero Harm to people and the environment.**

### **Wherever we operate we will:**

**Develop, implement and maintain management systems for health, safety, environment and the community that are consistent with internationally recognised standards and enable us to:**

- identify, assess and manage risks to employees, contractors, the environment and communities
- strive to achieve leading industry practice
- meet and, where appropriate, exceed applicable legal and other requirements
- set and achieve targets that include reducing and preventing pollution
- develop our people and provide resources to meet our targets
- support the fundamental human rights of employees, contractors and the communities in which we operate
- respect the traditional rights of indigenous peoples
- care for the environment and value cultural heritage
- advise on the responsible use of our products.

### **Seek opportunities to share our success by:**

- working with communities to contribute to social infrastructure needs through the development and use of appropriate skills and technologies
- developing partnerships that focus on creating sustainable value for everyone.

**Communicate with, and engage, employees, contractors, business partners, suppliers, customers, visitors and communities to:**

- build relationships based on honesty, openness, mutual trust and involvement
- share responsibility for meeting the requirements of this Policy.

**We will review regularly and report publicly our progress and ensure this Policy remains relevant to the needs of our stakeholders. We will be successful when we achieve our targets towards our goal of Zero Harm and we are valued by the communities in which we work.**



Chip Goodyear  
**Chief Executive Officer**

January 2003



## GOVERNANCE continued

### *HSEC Management Standards*

The 15 HSEC Management Standards are well established, providing a strong basis for continual improvement in performance. The Standards, listed below, were developed to ensure consistent interpretation and implementation of the HSEC Policy. They form the basis for the development and application of HSEC management systems at all levels in the Company.

---

#### **Standard 1. Leadership and Accountability**

Intent: BHP Billiton Directors, managers, employees and contractors understand their accountabilities and demonstrate leadership and commitment to HSEC.

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#### **Standard 2. Legal Requirements and Document Control**

Intent: Relevant legal, regulatory and other HSEC requirements are identified, accessible, understood and complied with and an effective HSEC document control system is in place.

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#### **Standard 3. Risk and Change Management**

Intent: HSEC hazards are identified and associated risks assessed, classified, documented and managed. New or proposed changes to processes, products or services are assessed for potential HSEC risks and managed to ensure HSEC performance is maintained at an acceptable level.

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#### **Standard 4. Planning, Goals and Targets**

Intent: HSEC is an integral part of business planning with goals and targets established to drive continuous improvement in performance.  
(This Standard also requires that closure, decommissioning, remediation and rehabilitation plans are costed, documented and reviewed.)

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#### **Standard 5. Awareness, Competence and Behaviour**

Intent: Employees, contractors and visitors are aware of relevant HSEC hazards, risks and controls and are competent to conduct their activities and behave in a responsible manner.

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#### **Standard 6. Health and Hygiene**

Intent: Employees and contractors are assessed for their fitness for work and protected from health hazards associated with their work.  
Community health issues associated with BHP Billiton operations are identified and effectively managed.

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#### **Standard 7. Communication, Consultation and Participation**

Intent: Effective communication and consultation is maintained with stakeholders associated with BHP Billiton activities, and they are encouraged to participate in and commit to HSEC performance improvement initiatives.

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#### **Standard 8. Business Conduct, Human Rights and Indigenous Affairs**

Intent: Activities and operations are conducted in an ethical manner that supports fundamental human rights, respects the traditional rights of indigenous peoples and values their cultural heritage.

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#### **Standard 9. Design, Construction and Commissioning**

Intent: Management of HSEC risk is an integral part of all projects through design, approval, procurement, construction and commissioning.

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#### **Standard 10. Operations and Maintenance**

Intent: All plant and equipment is operated, maintained, inspected and tested using systems and procedures that manage HSEC risks.

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#### **Standard 11. Suppliers, Contractors and Partners**

Intent: The contracting of services; the purchase, hire or lease of equipment and materials; and activities with partners are carried out so as to minimise any adverse HSEC consequences and, where possible, to enhance community development opportunities.

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#### **Standard 12. Product Stewardship**

Intent: The responsible production, transport, storage, use, recycling and disposal of BHP Billiton products and by-products is promoted to minimise their life-cycle HSEC impacts.

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#### **Standard 13. Incident Reporting and Investigation**

Intent: Incidents are reported, investigated and analysed. Corrective and preventive actions are taken and lessons shared.

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#### **Standard 14. Crisis and Emergency Management**

Intent: Procedures and resources are in place to effectively respond to crisis and emergency situations.

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#### **Standard 15. Monitoring, Audit and Review**

Intent: HSEC performance and systems are monitored, audited and reviewed to identify trends, measure progress, assess compliance and drive continuous improvement.

## GOVERNANCE continued

The objectives of the HSEC Management Standards are to:

- support the implementation of the Charter and the HSEC Policy across the Group
- provide a risk-based HSEC management system framework, broadly consistent with international standards, such as ISO 14001, OHSAS 18001 and SA 8000
- set out the expectations of the Group for the progressive development and implementation of more specific HSEC management systems at all levels of the Group
- provide consistent auditable criteria against which HSEC management systems across the Group can be measured
- provide a basis from which to drive continuous improvement.

The scope of the Standards covers all operational aspects and activities that have the potential to affect, positively or negatively, the health and safety of people, the environment or the community. They cover the entire life cycle of our assets, from exploration through to construction, commissioning, operation, decommissioning, closure and rehabilitation.

Our occupational accident and disease reporting processes are designed to comply with the relevant laws in the regions where we operate. All sites are also required to have consultation and communication processes, comprising management and worker representation, to address HSEC issues.

All aspects of performance are incorporated in the Management Standards, including accountabilities; risk assessment and management; business planning and target setting for improvement; communication, training and awareness; and performance monitoring, auditing, and management review.

The requirements of the Standards apply to all BHP Billiton sites and operations throughout the world. These include facilities that are owned or operated by us, development projects and major activities by contractors on our sites or under our management.

Where we have no operational responsibility but have an equity stake or significant BHP Billiton assets are involved, the Standards are made available to the operator so that comparable HSEC standards can be applied.

In addition, the Standards require operations to evaluate the social and environmental performance of our contractors and suppliers, including such issues as human rights records and previous environmental incidents.

Through Management Standard 12 on Product Stewardship, we also cover the consumption end of our material life cycle. Material safety data sheets (MSDSs) are available for our products, identifying potential health, safety and environmental aspects associated with their use. Please contact the Company if you would like a copy of an MSDS for any of our products.

Our HSEC Management Standards include a requirement for an auditing process to check that our Charter, HSEC Policy and Standards are being applied and to verify performance. The audits are designed to address the degree of implementation of our HSEC management systems and their effectiveness in meeting the Group's needs and those of the business being audited. During any year, those sites not scheduled for a Corporate HSEC audit must complete a self-assessment against the Standards and prepare performance improvement plans to progress to full conformance with the Standards. Conformance against the HSEC Management Standards is reported in the [Audit and self-assessment](#) section.

To ensure that our HSEC (including human rights) management requirements are embedded into significant investment decisions, we have established an investment process that covers a range of investment types and establishes the policy by which all investments are to be reviewed and authorised. The process also outlines key participants and includes the incorporation of independent peer reviews.

The Standards are reviewed at least every three years and, if required, revised and reissued.

View our full [HSEC Management Standards](#) (see [www.bhpbilliton.com/bbContentRepository/Policies/HSECManagementStandardsIssue2.pdf](http://www.bhpbilliton.com/bbContentRepository/Policies/HSECManagementStandardsIssue2.pdf)) and their associated performance requirements.

### *Risk management*

Supporting the risk basis of the Management Standards is our Enterprise-Wide Risk Management (EWRM) strategy, which is embedding risk management processes into all our critical business systems, allowing us to adopt a precautionary approach to business management. When critical decisions are being made, managers are required to look beyond the obvious risks and recognise all sources of uncertainty, including issues related to health, safety, environment and community.

The embedding of risk management processes is taking place at all levels of the organisation, so that risks associated with changes or investments can be systematically identified and managed in a comprehensive and integrated way. Particularly, EWRM requires managers to understand the risks associated with the activities under their control and to manage them accordingly; and this acts to stimulate and reinforce accountability. The context of all our risk management activities is always the achievement of our business plan and strategic objectives. Because there is a continuous focus on the events and issues that might affect how and when those strategic objectives are achieved, we are building resilience into our business at all levels.

To steer the implementation, an advanced EWRM framework has been developed, comprising policy, standards and guidelines that set exacting standards for management. The HSEC Risk Management Guidelines are consistent with this framework. Each asset and business has gone through an objective process of risk assessment and has evaluated its current risk management approach and systems against a standard. The risk assessments have highlighted where further control action is required, and this is now being taken. Where gaps in the system of risk management were identified, a risk management plan has been prepared and is being implemented.

Corporate governance requirements are satisfied by the assessment of progress in risk management plans and in improvements in risk control, which is reported to business-level risk management and audit committees that in turn report to the Risk Management and Audit Committee of the Board. For further details on the Risk Management and Audit Committee of the Board, refer to the [Corporate Governance](#) section on our Company website (see [www.bhpbilliton.com/bb/aboutUs/governance.jsp](http://www.bhpbilliton.com/bb/aboutUs/governance.jsp)).

To coordinate all risk management activities, risk management 'champions' have been appointed at each operational location or function. They work as a community of practice, sharing information about initiatives and best practice.

## GOVERNANCE continued

*Risk management continued*

A central element of the EWRM strategy is leveraging risk management information. The Company-adopted system assigns risks, controls and actions to accountable managers and enables management to track and report progress on all risk control activity. This system is also being used to 'roll-up' risk issues so that the Company can see all its major residual risks, along with opportunities for greater value creation through strategic risk management. The system is being used specifically to roll-up HSEC risks to obtain such a Company-wide perspective.

The ultimate aim of the Company's EWRM strategy is to embed risk management in all we do so that it truly becomes everyone's responsibility.

View our [Enterprise-Wide Risk Management Policy](#) (see [www.bhpbilliton.com/bbContentRepository/AboutUs/Governance/EWRMPolicyStatement.pdf](http://www.bhpbilliton.com/bbContentRepository/AboutUs/Governance/EWRMPolicyStatement.pdf)).

See our [BHP Billiton HSEC Consequence Severity Table](#) which is part of the tool kit utilised in determining the level of significance of actual or potential HSEC incidents and risk.

*BHP Billiton HSEC Consequence Severity Table*

Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Level 7
<b>Injury and disease</b>						
Low-level short-term subjective inconvenience or symptoms. No measurable physical effects. No medical treatment.	Objective but reversible disability/ impairment and/or medical treatment injuries requiring hospitalisation.	Moderate irreversible disability or impairment (<30%) to one or more persons.	Single fatality and/or severe irreversible disability or impairment (>30%) to one or more persons.	Short- or long-term health effects leading to multiple fatalities, or significant irreversible human health effects to >50 persons.	Short- or long-term health effects leading to >50 fatalities, or very serious irreversible human health effects to >500 persons.	Short- or long-term health effects leading to >500 fatalities, or very severe irreversible human health effects to >5000 persons.
<b>Environmental effects</b>						
No lasting effect. Low-level impacts on biological or physical environment. Limited damage to minimal area of low significance.	Minor effects on biological or physical environment. Minor short/medium-term damage to small area of limited significance.	Moderate effects on biological or physical environment but not affecting ecosystem function. Moderate short/medium-term widespread impacts (e.g., oil spill causing impacts on shoreline).	Serious environmental effects with some impairment of ecosystem function (e.g., displacement of a species). Relatively widespread medium/ long-term impacts.	Very serious environmental effects with impairment of ecosystem function. Long-term, widespread effects on significant environment (e.g., unique habitat, National Park).	Significant impact on highly valued species, habitat, or ecosystem to the point of eradication.	Eradication or very significant effects on highly valued species/ habitat, especially endangered species. Long-term destruction of highly valued land/ecosystem (e.g., World Heritage Area).
<b>Social/cultural heritage</b>						
Low-level social or cultural impacts. Low-level repairable damage to commonplace structures.	Minor medium-term social impacts on local population. Minor damage to structures/ items of some significance. Minor infringement of cultural heritage. Mostly repairable.	Ongoing social issues. Permanent damage to structures/items of cultural significance, or significant infringement of cultural heritage/ sacred locations.	Ongoing serious social issues. Significant damage to structures/items of cultural significance, or significant infringement and disregard of cultural heritage.	Very serious widespread social impacts. Irreparable damage to highly valued structures/ items/locations of cultural significance. Highly offensive infringements of cultural heritage.	Irreparable damage to highly valued structures/items/ locations of cultural significance or sacred value. Destabilisation and breakdown of social order in a community.	Destruction of multiple very highly valued and significant cultural heritage (e.g., National Parks and monuments). Destruction of social fabric of communities.
<b>Community/government/media/reputation</b>						
Public concern restricted to local public or media attention and complaints. Significant hardship from regulator. Reputation is adversely affected with a small number of site-focused people.	Minor, adverse local public or media attention and complaints. Significant hardship from regulator. Reputation is adversely affected with a small number of site-focused people.	Attention from media and/or heightened concern by local community. Criticism by NGOs. Significant difficulties in gaining approvals. Environment credentials moderately affected.	Significant adverse national media/ public/NGO attention. May lose licence to operate or not gain approval. Environment/ management credentials are significantly tarnished.	Serious public or media outcry (international coverage). Damaging NGO campaign. Licence to operate threatened. Reputation severely tarnished. Share price may be affected.	International multi-NGO and media condemnation. NGOs target BHP Billiton. Several licences to operate revoked. Banned from operating in a few countries.	Shareholder revolt. Product boycotts, mass demonstrations. International media/NGO campaign. Multiple licences to operate revoked. Banned from operating in multiple countries.
<b>Legal</b>						
Low-level legal issue. On-the-spot fine. Technical non-compliance. Prosecution unlikely.	Minor legal issues, non-compliances and breaches of regulation. Minor prosecution or litigation possible.	Serious breach of regulation with investigation or report to authority with prosecution and/or moderate fine possible.	Major breach of regulation with potential major fine and/or investigation and prosecution by authority. Major litigation.	Investigation by authority with significant prosecution and fines. Very serious litigation, including class actions.	Very significant fines and prosecutions. Multiple litigation, including significant class actions.	Very significant legal actions, e.g., Directors/BHP Billiton officers jailed on criminal charges. Legal closures of operations.

## GOVERNANCE continued

### *Investment processes*

New investments are essential for the Company to deliver on its strategic and financial objectives and to shape the organisation to best respond to the changing external environment.

This requires new types of investments, relationships and innovative value-chain solutions.

In pursuing the best investment opportunities, stringent performance measures have been established to drive operational and capital efficiency. Prior to committing to an investment, we will assess the investment risk and develop strategies and capabilities to ensure an optimal outcome. The consideration of a plausible range of outcomes – both upside and downside – is central to our understanding of the investment risks.

Our investment system is based on a common approach across the organisation, using consistent processes, terminology, standards, tools and techniques. The system structure is sufficiently flexible to allow individual CSGs to deal with their specific circumstances and dovetail into the specific requirements of our investment process.

Any investment proposal must be supported by a detailed risk assessment and management strategy before it will be approved. During the execution phase of a project, it must be shown that all risks, including HSEC risks, are being controlled. When a project is in the operation phase, it must be shown that the operation is being managed in conformance with Company policies and standards, including the HSEC Management Standards.

Independent Peer Reviews are integral to the assessment and approval of investments. They are undertaken by a cross-functional team of experts, independent of the investment proponents and generally from within the Company, who review the investment prior to the required tollgates. They provide assurance that investment opportunities are robust and have undergone independent, rigorous and consistent reviews. These reviews are essential, not only for satisfying our governance requirements, but also for providing the opportunity to add further value by drawing on the experience of the Independent Peer Review team.

The Investment Review Committee (IRC) operates under powers delegated by the Office of the Chief Executive. The role of the IRC is to oversee the management approval processes for major investments. Those processes are designed to ensure that investments are aligned to the Group's agreed strategies and values; that risks are identified and evaluated; that investments are fully optimised to produce the maximum shareholder value within an acceptable risk framework; and that appropriate risk management strategies are pursued. The IRC oversees investment processes across the organisation and coordinates the Independent Peer Review and endorsement of major investments.

### *Business conduct*

The [BHP Billiton Guide to Business Conduct](#) (see [www.bhpbilliton.com/bb/peopleAndEmployment/globalBusinessConductGuide.jsp](http://www.bhpbilliton.com/bb/peopleAndEmployment/globalBusinessConductGuide.jsp)) is founded on our Charter.

The Charter states that the Company cares as much about how results are obtained as it does about delivering good results.

How the Company achieves results is important because:

- good behaviour enhances the Company's 'licence to operate' and facilitates the sustainable expansion of our business
- communities value companies who value them
- suppliers value customers who honour commitments
- customers value honesty and integrity
- shareholders value companies that set and live up to high standards
- employees value companies where they trust the integrity of their colleagues and management.

The Guide to Business Conduct applies to all our workforce regardless of their specific job or location. It provides employees and contractors with direction and advice on carrying out business and interacting with governments, communities and business partners. This includes clear guidelines on general workplace behaviour as well as our policies, standards and guidelines on a wide range of ethical issues including conflict of interest, financial inducements and bribery, insider trading and political contributions.

The Guide and its principles are cascaded through the organisation, with managers and supervisors held accountable for not only their actions but also the actions of their staff. This starts at the most senior level of the Company, with the CEO requesting annual confirmation from his direct reports that they and their direct reports have read the Guide and have discussed its contents.

Internal performance requirements regarding business conduct are included in our HSEC Management Standards. Distribution of the Guide to employees and contractors, as well as presentation and discussion of its principles, is monitored and reported through the Company's HSEC audit program. In addition to the English version, the Guide is available in seven other languages commonly used at our sites around the world.

The Board approved several changes to the Guide in April 2004. These changes include revisions to reflect changes to the BHP Billiton policy on the public release of Company information, extension of the guidance on insider trading to trade in the securities of non-BHP Billiton companies, and questions and answers on putting policy into practice.

Resolution of business conduct issues is encouraged at the local level. If this is not possible, the issue can be raised with regional points of contact or telephone helplines based in southern Africa (Johannesburg), Europe (London), Australasia (Melbourne) and North and South America (Tintaya, Peru). A confidential email address is also increasingly used. For issues related to fraud or bribery, the fraud hotline is contacted. Employees can escalate issues to the Global Ethics Panel. For further details, see [Global Ethics Panel](#).

## GOVERNANCE continued

### Global Ethics Panel

The Global Ethics Panel comprises business representatives and corporate representatives from relevant functional areas (i.e., Group Audit Services, Human Resources and Legal) and two external representatives. John Fast, Chief Legal Counsel and Head of External Affairs, holds the position of Chairman. Our external representatives are Dr Simon Longstaff, Executive Director, St James Ethics Centre, and Graham Evans (now retired), former chairman of the Global Ethics Panel and former Head of External Affairs at BHP Billiton.

In addition to providing a high-level point of contact for employees, the Global Ethics Panel reviews on a quarterly basis all business conduct cases that have been raised through the helpline or email system. It also assesses emerging policy issues and recommends to the Board appropriate changes to the Guide.

### *Audit*

Our HSEC Management Standards include a requirement for an auditing process to check that our Charter, HSEC Policy and HSEC Management Standards are being applied and to verify performance. The audits are designed to address the degree of implementation of our HSEC management systems and their effectiveness in meeting the Group's needs and those of the business being audited. Recommendations for improvement are made as required.

The HSEC Audit Protocol is based on the HSEC Management Standards and systems and performance management principles. The audit program is a triennial peer review process, with audit teams drawn from the HSEC function, operations personnel and external sources. It provides an objective view of site activities and systems and assists site managers through the identification of gaps in HSEC management programs. These gaps are addressed through monitored Performance Improvement Programs. The process provides assurance to the Group and the Board that the HSEC Management Standards are being implemented and identifies leading practices that can be shared across the Company.

The audit process is proving invaluable in accelerating the rate of improvement in all aspects of HSEC management through the identification and communication of leading practices.

The review of the operation of the Company's internal control systems, including the HSEC auditing process, is one of the roles of the Risk Management and Audit Committee, which is a committee of the Board. The Committee's responsibilities also include overseeing the appointment of the Vice President Risk Assessment and Assurance, who is responsible for the Company's risk assessment, internal audit and insurance activities, and evaluating his or her performance. For further details on the Risk Management and Audit Committee of the Board refer to the [Corporate Governance](#) section on our Company website (see [www.bhpbilliton.com/bb/aboutUs/governance.jsp](http://www.bhpbilliton.com/bb/aboutUs/governance.jsp)).

## PART OF THE GLOBAL COMMUNITY

We are committed to maintaining and promoting dialogue with stakeholders in the resources industry and remaining responsive to the global community's concerns and aspirations. The Company recognises the importance of accountability to stakeholders, and we seek to be transparent in relation to our communications and documentation. We are aiming for a higher level of engagement and interaction with stakeholders, particularly with the communities in which we operate.

Our Charter, HSEC Policy, Management Standards and Guide to Business Conduct all promote a commitment to acting with honesty, integrity and fairness in our interactions with all our stakeholders. We have progressed our efforts in this area over the past year through our individual actions and in collaboration with others.

The following sections provide details on:

- [Our stakeholders](#) – who they are and the nature of our relationships
- [Dialogue](#) – key mechanisms and outcomes.

### Our stakeholders

Key stakeholders are generally identified as people who are adversely or positively impacted by our operations, those who have an interest in what we do or those who have an influence on what we do. The diagram below illustrates our key stakeholders, while the table outlines the nature of our relationships with those stakeholders. Maintaining constructive stakeholder relationships is a critical part of our journey towards sustainable development.

The relationships we build can be compared to the crafting of a rope. The core consists of those stakeholders with whom we engage regularly, while the sheath comprises those who are important influencers but with whom we do not have such regular contact. Building our relationships through engagement and interaction in effect strengthens each strand, thus enhancing the integrity of the rope, helping us to jointly travel the journey to sustainability.

The information we receive from stakeholders helps refine the management of our activities and their potential impacts, in line with the goals set out in our Charter.

Refer to our section on [Dialogue](#) for a more detailed understanding of our key engagement mechanisms and outcomes.

**BHP Billiton stakeholders**



## PART OF THE GLOBAL COMMUNITY continued

**BHP Billiton's stakeholder relationships**

STAKEHOLDER	WHO ARE THEY	INTERESTS AND CONCERNS	ENGAGEMENT METHODS
<b>Employees and Contractors</b>	Our workforce is large and diverse with around 35 000 employees and a similar number of contractors in over 26 countries.	<p>Employees and contractors have a broad range of interests and concerns, commencing with the health and safety of themselves and their fellow workers, to more general working conditions.</p> <p>Career opportunities and aspirations as well as learning and training opportunities are also central to maintaining satisfied employees and contractors.</p> <p>As many of our workforce live in towns near to our operations, many of their broader concerns are directly aligned with those of neighbouring communities. These include such aspects as local employment, business creation and social infrastructure and such programs as schooling and health care. Additionally, in many remote communities quality of housing is an aspect key to employee attraction and retention.</p>	<ul style="list-style-type: none"> <li>• In line with HSEC Management Standard 7, sites are required to ensure processes are in place to enable stakeholders, including employees and contractors, to participate in and commit to HSEC performance improvement initiatives.</li> <li>• Regular performance reviews/ employee surveys.</li> <li>• Direct communication with immediate supervision and management.</li> <li>• Site-based and corporate newsletters and general communications.</li> <li>• BHP Billiton Intranet.</li> <li>• Site-based and Corporate HSEC Reports.</li> <li>• Business conduct helplines.</li> </ul>
<b>Local and Indigenous Communities</b>	Most of our operations are located in rural and remote areas of the countries in which we operate; hence, we have a broad spectrum of local and indigenous community concerns of which we need to be cognisant.	<p>The impact our business has on local communities varies considerably depending on the location, size and nature of the operation. For example, our offshore petroleum platforms have minimal direct impact on people, whereas the existence of larger land-based minerals operations can result in changes to economies, culture, population, employment opportunities, infrastructure and noise and traffic levels. All of these have the potential to change people's lives in some way.</p> <p>A study of recent stakeholder perception surveys showed that the issues that communities consider to be important are local employment and business creation, support for social infrastructure and programs, a desire for improved community engagement mechanisms and improved environmental performance.</p>	<ul style="list-style-type: none"> <li>• In conjunction with the development of community relations plans, sites are required to develop suitable engagement mechanisms with their host communities.</li> <li>• Community consultation and engagement groups.</li> <li>• Participation in Company activities.</li> <li>• Newsletters and targeted communications.</li> <li>• Site-based and Corporate HSEC Reports.</li> <li>• Community perception surveys.</li> </ul>
<b>Shareholders</b>	Our shareholder base is diverse. Majority holdings are predominantly in Australia, Europe and North America, with other significant holdings in South Africa.	Shareholders are broadly interested in ensuring that financial returns occur as a result of suitable Company performance and governance. Increasingly, long-term performance is becoming more of a focus, hence a greater desire to better understand governance mechanisms and the non-financial risks and mitigation measures of the organisation.	<ul style="list-style-type: none"> <li>• Regular printed and electronic communications.</li> <li>• Investor pages on our Company website.</li> <li>• Annual General Meetings whereby shareholders can question directors on matters relating to the Company's performance.</li> </ul>
<b>Customers</b>	Our customers are typically other large organisations.	Our customers are largely interested in product quality, cost and delivery. We offer technical support on occasion to assist with product utilisation, either in terms of process efficiency or product handling.	<ul style="list-style-type: none"> <li>• Regular communications with our Marketing group.</li> <li>• Product information brochures, including material safety data sheets.</li> <li>• Visits to our operating sites.</li> <li>• Technology exchanges with our operating sites.</li> </ul>

## PART OF THE GLOBAL COMMUNITY continued

***BHP Billiton's stakeholder relationships continued***

STAKEHOLDER	WHO ARE THEY	INTERESTS AND CONCERNS	ENGAGEMENT METHODS
<b>Investment Community</b>	These stakeholders include both mainstream financial analysts and socially responsible investment (SRI) analysts. These analysts are located globally.	The interests of our investment community are closely aligned to those of our shareholders in that they are broadly interested in ensuring that financial returns occur as a result of suitable Company performance and governance. Increasingly, long-term performance is becoming more of a focus, hence a greater desire to better understand governance mechanisms and the non-financial risks and mitigation measures of the organisation.	<ul style="list-style-type: none"> <li>Regular communications from our Investor Relations &amp; Communications group to mainstream investment organisations.</li> <li>Analyst briefings on key issues.</li> <li>Regular communications from our Sustainable Development group to SRI analysts, including publication of the HSEC Report.</li> </ul>
<b>Business Partners</b>	Our business partners include those organisations with which we have joint ventures.	Our business partners are generally interested in being assured that suitable governance mechanisms are in place to ensure financial returns are delivered while mitigating non-financial risks sufficiently.	<ul style="list-style-type: none"> <li>We communicate with our business partners and regularly share knowledge and programs through joint venture boards and operating committees.</li> <li>Joint Venture Partners have participated in our HSEC audit programs.</li> <li>Annual financial and HSEC reports.</li> </ul>
<b>Community Organisations</b>	Community organisations generally are established to represent the local and indigenous communities near our operations.	Community organisations are generally interested in being assured that any potential environmental and social impacts associated with our operations are mitigated and that any opportunities that our operations may bring are optimised, for example, ensuring sustainable community development opportunities can be maintained post mine closure.	<ul style="list-style-type: none"> <li>In conjunction with the development of community relations plans, sites are required to develop suitable engagement mechanisms with their host communities.</li> <li>Community consultation and engagement groups.</li> <li>The majority of our community support is through local foundations, which currently exist in Chile, Peru, South Africa, Colombia and Mozambique. We also have a Corporate Community Program that focuses on Australian and international partnerships and projects.</li> </ul>
<b>Unions</b>	Workers unions are present at many of our operating sites and are represented at local, national and international levels.	Unions within our businesses are interested in upholding workers rights and interests.	<ul style="list-style-type: none"> <li>We recognise the right of employees at all our operations to freely choose to join labour unions.</li> <li>We communicate with unions as required on topical and general issues, such as changes to Company policies.</li> <li>We have a mix of collective and individual arrangements at our sites. Prospective employees are made aware of employment arrangements prior to joining the Company.</li> </ul>
<b>Non-Government Organisations</b>	Non-government organisations with which we typically engage include environmental, social and human rights organisations. They range from the local to the international level.	Non-government organisations have a broad-ranging interest in our operations and their performance. This may include social and environmental performance of existing operations, proposed operations or closed operations. Additionally there is increasing interest in our broader policy positions on issues such as climate change and human rights.	<ul style="list-style-type: none"> <li>Each of our operations is required to identify its relevant local non-government organisations and include mechanisms for engagement with them within the site's community relations plan.</li> <li>At the Corporate level, we regularly engage with relevant national and international organisations. A number of major international non-government organisations are represented on our Forum on Corporate Responsibility.</li> </ul>

## PART OF THE GLOBAL COMMUNITY continued

***BHP Billiton's stakeholder relationships continued***

STAKEHOLDER	WHO ARE THEY	INTERESTS AND CONCERNS	ENGAGEMENT METHODS
<b>Suppliers</b>	Our suppliers include businesses local to our operations as well as large international suppliers in specialised equipment.	Our suppliers are interested in our supply agreements and payment processes as well as the standards we require of our suppliers.	<ul style="list-style-type: none"> <li>Central contacts within our organisation are generally assigned to manage supplier relationships at local and regional levels to ensure that regular reporting and communications are maintained between the Company and our suppliers.</li> <li>Through our HSEC Management Standards we require our suppliers to identify potential HSEC risks associated with their operations and minimise any adverse consequences of these risks.</li> <li>Where possible, we seek to utilise local suppliers and support these suppliers in enhancing community development opportunities.</li> </ul>
<b>Governments (including regulators)</b>	We engage with governments across local, national and international levels.	Governments are interested in our operations from a number of angles. We will work with host governments that participate in the Extractive Industries Transparency Initiative regarding disclosure of payments of taxes and policies. Policy formulation often intersects with aspects of our operations. Governments have mechanisms of regulation that cover a range of aspects within our operations, namely environmental and social aspects.	<ul style="list-style-type: none"> <li>We respect the authority of governments. Our operations are required to work within relevant legislative frameworks at the local, national and international levels.</li> <li>We seek to have an open and constructive relationship with governments and regularly share information and opinions on issues that affect the Company. This communication is essential to informed decision-making by both government officials and BHP Billiton.</li> </ul>
<b>Media</b>	The media include representatives of print, radio and visual media.	Generally, media are interested in newsworthy items associated with our financial or non-financial performance.	<ul style="list-style-type: none"> <li>Through our Investor Relations &amp; Communications group, we communicate with the media via releases, presentations, briefings and interviews.</li> </ul>
<b>Industry Associations</b>	Industry associations include commodity specific associations as well as sector specific associations at national and international levels.	Industry associations are generally interested in a broad range of issues relating to the sector or a specific commodity. For example, they may advocate on key policy aspects with the sector, which may be as diverse as environmental legislation, and establishing common safety standards through to promotion of leading practice.	<ul style="list-style-type: none"> <li>Representatives from BHP Billiton are members of many specific committees and engaged through specific projects with industry associations both nationally and globally, such as the Minerals Council of Australia and the International Council on Mining and Metals.</li> </ul>

**Dialogue**

There are a number of processes across the business that encourage dialogue with our stakeholders. Our approach is to ensure these processes occur on a number of levels, thereby providing sufficient flexibility to meet the needs of our local communities while facilitating broader communications.

The following sections provide an outline of some of the key mechanisms we utilise for dialogue and their associated outcomes.

- [Forum on Corporate Responsibility](#)
- [Employees and contractors](#)
- [Local communities](#)
- [Report dialogue](#)
- [Public policy](#)
- [Socially responsible investors](#)

## PART OF THE GLOBAL COMMUNITY continued

***Forum on Corporate Responsibility***

The BHP Billiton Forum on Corporate Responsibility (FCR) brings together representatives of our senior management team, the leaders of several key non-government organisations and community opinion leaders to discuss and debate social and environmental matters relevant to the Company. Members of the Forum, which meets twice a year, have an opportunity to provide advice and to challenge the views of our senior management on broad sustainable development issues. The Company is not bound by the advice of the FCR, and the FCR does not necessarily endorse the Company's decisions. The Forum provides a means for direct and open dialogue about issues of interest to the wider community.

The Company has undertaken to widen the international membership of the Forum and, to this end, Dr Marcelo de Andrade, Chairman of Pró-Natura (an international environmental non-government organisation founded in Brazil) has joined. Mike Salomon, an Executive Director of BHP Billiton, is Chairman and Holly Lindsay, BHP Billiton's Vice President Public Policy and Business Conduct, is Secretary.

See our [Forum on Corporate Responsibility member profiles](#).

*Forum on Corporate Responsibility member profiles*

Dr Marcelo de Andrade

David Butcher

Tricia Caswell

James Ensor

External members**Dr Marcelo de Andrade** Doctor of Medicine

Chairman, Pró-Natura

Marcelo founded Pró-Natura, the first international environmental organisation based in the Southern Hemisphere that manages sustainable development and conservation projects funded by international organisations, governments and the private sector in South and Central America, Africa and Asia. Pró-Natura was founded in Brazil and is active in 36 countries. Marcelo also founded the Pioneer Society, a communications group dedicated to innovative promotion of the successes of sustainable development, and the Social Capital Group, a consulting company dedicated to managing social and environmental issues and impacts brought about by large oil/gas, mining, forestry and infrastructure projects. He co-founded Terra Capital Fund, the first venture capital fund dedicated to investing exclusively in private sector biodiversity businesses; Axial Bank/Azial Par, the first financial institution in South America dedicated to invest and promote investments in the sustainable development sector; and Eco Carbon, the first company to specialise in engineering aspects of forestry and agricultural carbon sinks. Marcelo is also involved with International Sustainable Finance and Sustainable Development Holdings and remains active in rowing, mountaineering and running following his eight-year membership of Brazil's Olympic rowing team and his leadership of the first expedition to the top of Mount Aconcagua in the Andeans in 1985.

**David Butcher** BVSc, MRCVS

Chief Executive Officer, WWF – Australia

David was appointed to his current position with World Wide Fund for Nature (WWF) Australia in 1994. He is a practising veterinarian and has worked in many fields of veterinary science. He was responsible for the construction and operation of the Western Plains Zoo, while working for the Zoological Parks Board of NSW. He became Assistant Director of Taronga Zoo, joined the RSPCA NSW as Director and then became CEO of WWF – Australia.

The organisation is crucially involved in many important issues, including the protection and conservation of Australian wildlife and the prevention of wildlife trafficking.

**Tricia Caswell** BA, BEd

Executive Director, Global Sustainability @ RMIT University, Melbourne, Australia

Tricia was appointed to her current position at RMIT University in October 2000, with responsibility for establishing the institute and creating its vision, mission and strategy. Tricia began her working life as a teacher at secondary, TAFE and tertiary levels. She became one of the nation's first female trade union leaders, secretary of the Teachers Trade Union of Victoria, an elected industrial officer at the Victorian Trades Hall Council, and a member of the ACTU Executive. From 1992 to 1995, Tricia held the position of Executive Director of the Australian Conservation Foundation. From there she went on to be the Executive Director of PLAN International Australia, an aid and development organisation. Tricia has been a representative on many public and private organisations, including UNESCO, the Australia Council and RMIT University Council, and was Chair of Circus Oz.

**James Ensor** BEc, BAppSc, GradDipJournalism

Director of Public Policy & Outreach, Oxfam Community Aid Abroad

James has responsibility for the national and global advocacy and community outreach programs of Oxfam Community Aid Abroad (OCAA). These programs include the agency's Community Leadership Program and Corporate Community Leadership Program and its International Youth Parliament. Since joining the organisation in 1997, James has also had responsibility for the management of a range of Oxfam's overseas development projects. Prior to joining OCAA, James spent seven years with the Central Land Council in the Northern Territory, a statutory authority established under the Aboriginal Land Rights (Northern Territory) Act, representing the interests of the indigenous landowners of Central Australia.

## PART OF THE GLOBAL COMMUNITY continued

*Forum on Corporate Responsibility member profiles continued*

Andrew Hewett



Mokhethi Moshoeshoe



Michael Rae



The Rt Hon Sir Ninian Stephen

External members continued**Andrew Hewett**

Executive Director, Oxfam Community Aid Abroad

Andrew was appointed to his current position with Oxfam Community Aid Abroad (OCAA) in October 2001, having worked with OCAA since 1991. He initially established the agency's advocacy program, with increasing focus on lobbying governments, public education and campaigning on social justice and development issues. Over the years, his responsibilities expanded to include OCAA's domestic program and the coordination of Oxfam International's response to the crisis in Timor from 1999 to 2001. Andrew is a member of the Executive Committee of the Australian Council for Overseas Aid (ACFOA), the peak council of non-government overseas development agencies. He has visited OCAA programs in East Timor, Mozambique, El Salvador, India, Cambodia, Bangladesh, South Africa and Sri Lanka.

**Mokhethi Moshoeshoe BA (Law)**

Director, African Institute of Corporate Citizenship

Mokhethi is founding director of the African Institute of Corporate Citizenship (AICC) and co-founder of the Institute for Social and Ethical Accounting and Auditing South Africa. Before founding the AICC, Mokhethi was the Executive Director of the Southern African Grantmakers' Association from June 1997. He pioneered the first community foundations in South Africa. He developed the Prodder NGO directory and Prodder Newsletter for the Human Sciences Research Council. Mokhethi serves on a number of governing boards, including PetroSA Development Trust, Desmond Tutu Education Trust, PLANACT and Boys Town. He is a member of the USAID regional advisory panel for the Southern African Development Community and of the International Learning Forum on the United Nations Global Compact.

**Michael Rae BSc**

Senior Policy Officer – Business and Industry, WWF – Australia

Michael is employed in the conservation department of World Wide Fund for Nature (WWF) and is involved in sustainability policy development and advocacy, both in Australia and globally. He has been a WWF advocate at a number of international conferences, including mining, climate change, international trade and forests. Michael heads the WWF Mineral Resources Unit, charged with leading WWF's international work on mining. He has worked for Australian non-government environment organisations for the past 20 years, first for the Total Environment Centre, then the Wilderness Society in Sydney, Brisbane and Melbourne, then the Australian Conservation Foundation and, since 1989, WWF.

**The Rt Hon Sir Ninian Stephen LLB**

Sir Ninian served as Governor-General of Australia from 1982 to 1989. He began practising as a solicitor in 1949 and from 1952 was a barrister, principally in commercial, equity, taxation and constitutional areas. He was appointed Queen's Counsel in 1966, appointed to the Victorian Supreme Court bench in 1970, and in March 1972 appointed a Justice of the High Court of Australia. He retired from the High Court in 1982 to take up the appointment as Governor-General. He has been Special Ambassador for the Environment 1989–92 and Chairman of the Constitutional Centenary Foundation, the Antarctic Foundation, the National Library of Australia, the Australian Citizenship Council, the Australian Blood and Blood Products Review and the Australian Banking Industry Ombudsman Council. In 1992, Sir Ninian was appointed as Chairman of the Talks on Northern Ireland. He was Judge of the International Criminal Tribunal for the former Yugoslavia 1993–97, Commonwealth of Nations Special Envoy to Bangladesh 1994, Chairman of the UN Expert Group on Cambodia 1998–99, Chairman of the Gene Technology Community Consultative Committee and is a member of the Ethics Commission of the International Olympic Committee.

## PART OF THE GLOBAL COMMUNITY continued

*Forum on Corporate Responsibility member profiles continued*

Philip Aiken



Charles (Chip) Goodyear



Robert (Bob) Kirkby



Tony Lennox



Miklos (Mike) Salamon



Ian Wood

**BHP Billiton members**

**Philip Aiken** BE (Chemical), Harvard Business School Advanced Management Program  
Group President, Energy, BHP Billiton

Philip was appointed to his current position as Group President Energy (consisting of Energy Coal and Petroleum) with BHP Billiton in March 2004. Prior to this appointment, he was President and Chief Executive Officer, BHP Billiton Petroleum. Before joining the Company in 1997, he was the Managing Director of BTR Nylex and prior to that held a number of senior positions with the BOC Group. In addition to his responsibilities as Group President, Energy, Philip is a member of the BHP Billiton Office of the Chief Executive and the Executive Committee. He is also a Director of Robert Walters Plc, Chairman of the Organising Committee of the 2004 Sydney World Energy Congress and Vice Chairman of the World Energy Council.

**Charles (Chip) Goodyear** BSc, MBA, FCPA  
Chief Executive Officer, BHP Billiton

Chip was appointed Chief Executive Officer of BHP Billiton Limited and BHP Billiton Plc in January 2003. He has been a Director since November 2001. He previously held the positions of Chief Development Officer and Chief Financial Officer of BHP Billiton Limited and BHP Billiton Plc. Chip joined the Company as Chief Financial Officer in 1999, prior to which he had extensive financial, corporate restructuring and merger and acquisition experience in the United States, including roles as President of Goodyear Capital Corporation and Executive Vice President and Chief Financial Officer of Freeport-McMoRan Inc.

**Robert (Bob) Kirkby** BE Civil (Hons)  
Group President, Carbon Steel Materials, BHP Billiton

Bob is Group President of BHP Billiton's Carbon Steel Materials Customer Sector Group, an industry leader in the supply of raw materials to the global steel industry. He is a member of the BHP Billiton Office of the Chief Executive, BHP Billiton Executive Committee and the Operating Committee. Bob is Chairman of Samarco, a BHP Billiton/CVRD Brazilian-based Company; a Director of Samancor, a BHP Billiton/Anglo American South African-based Company; Chairman of BHP Mitsui Coal; and alternating Chairman of the BHP Billiton Mitsubishi Alliance. He joined Utah Development Corporation's Bowen Basin Coal operations as a Mining Engineer in 1978 and has worked extensively in the iron ore, coal and steel industries.

**Tony Lennox** BE Mining (Hons)

Vice President Health, Safety and Environment, BHP Billiton

Tony is BHP Billiton's Corporate Vice President Health, Safety and Environment. He was appointed to the role in January 2004 and prior to this was President of the Company's Cannington operation, known as the world's largest and lowest-cost mine producer of silver. Tony joined BHP Billiton in 1994 with extensive project development and operating experience and has up until his current role been in operational line management roles. He has extensive knowledge of the coal and base metals mining industry and experience in operational safety leadership.

**Miklos (Mike) Salamon** BSc (Mining Eng), MBA

Chair of the FCR  
Group President, Non-Ferrous Metals, BHP Billiton

Mike is Group President, Non-Ferrous Metals (consisting of Aluminium, Base Metals and Stainless Steel Materials), BHP Billiton Group and has been an executive Director of BHP Billiton Limited and BHP Billiton Plc since February 2003. He is also a member of the Office of the Chief Executive and Executive Committee, and Chairman of the Operating Committee. He is Chairman of Samancor and a Director of Richards Bay Minerals, Cerro Matoso and Escondida. From July 2001 to March 2004, Mike was Chief Minerals Executive and President & CEO, Aluminium. From July 1997 to June 2001, Mike was an executive Director of Billiton Plc with responsibilities for nickel, chrome, manganese, stainless steel and titanium. He is former Executive Chairman of Samancor, Managing Director of Trans-Natal Coal Corporation and Chairman of Columbus.

**Ian Wood** BSc (Env Sc) (Hons)

Vice President Sustainable Development and Community Relations, BHP Billiton

In his current role, Ian manages BHP Billiton's department responsible for developing the Company's strategic response to global community relations issues, including the sustainable development agenda, corporate social responsibility, and public reporting on the Company's HSEC performance. In September 2002, he attended the World Summit on Sustainable Development as a member of the Australian Government delegation. Prior to taking on his current role, he was responsible for the provision of technical support to the Company's minerals businesses with particular emphasis on the Asia Pacific region. From 1992 to 1995, he held the position of Manager Environment with Ok Tedi Mining Limited in Papua New Guinea. Before joining BHP Billiton, Ian had extensive site-based experience in the minerals industry.

## PART OF THE GLOBAL COMMUNITY continued

### ***Employees and contractors***

Our approach to internal communication aims to inform employees of, and share with them, the Company's business strategy, objectives, policies, cultures and values; enhance the sharing of information across the business; provide consistency and avoid duplication; and provide a framework for all Company communication to protect and strengthen the BHP Billiton brand with all stakeholders.

A centralised communications resource (Investor Relations & Communications) provides global communication on areas of Company-wide importance and significance; appropriate resources and tools for other communication areas, to be used and tailored at the discretion of each CSG, operation or office's communication and management team; and facilitation of cross-sharing of information between CSGs and offices.

Each CSG and operation is responsible for communications at a localised level. This results in messages targeted to the relevant audiences, reduced email through cascading of information rather than an 'everyone gets everything' approach and cost savings as the onus moves to the operations/offices to implement communication strategies in the most suitable manner available.

At the site level, in line with HSEC Management Standard 7, sites are required to ensure processes are in place to enable stakeholders, including employees and contractors, to participate in and commit to HSEC performance improvement initiatives. This may include processes such as committees representing both worker and management interests in HSEC matters.

We are committed to effective performance management, through regular formal and informal feedback and review, and open communication. Performance management involves:

- recognising and acknowledging excellent performance to motivate employees and encourage further achievement
- identifying the cause of poor performance and taking appropriate corrective action
- eliminating inappropriate behaviours from the workplace.

Each employee should receive a formal performance appraisal from his/her manager at least annually. Incentive awards paid by the Company are aligned to the relative performance of the business, assets and individuals.

### ***Local communities***

Our strategy is to engage our communities in our business where possible and establish an open communication channel where all parties feel they have the right to participate in discussions.

Our HSEC Management Standard 7 requires all operations to have systems in place to identify and work with stakeholders and to develop strategies to address their concerns and expectations. Sites are also required to record, register and address any complaints/concerns lodged by stakeholders.

Our operations are each required to have a community relations plan, a component of which must be a formal mechanism to engage with people in their local communities.

In some instances, members of the community are invited to participate in HSEC audits of their local operations, such as at the Minerva Gasfield Development in Victoria, Australia.

We are continually trying to improve the processes we use to engage people so that we are fully aware of their concerns and so that our communities understand the way we do business. One method our Tintaya operation is using to address their neighbours' fears about possible environmental damage is to involve community members in our environmental monitoring. Through training, they are gaining a better understanding of the mining operation and our environmental procedures; and they are assisting us to ensure the mine maintains its environmental integrity (see [HSEC Awards – Community](#)).

Stakeholder perception surveys are tools that provide us with a valuable insight into how key stakeholders view us. The surveys enable us to gain a greater understanding about community priorities and concerns and also provide a means to track performance against one of our Charter success measures – that 'communities in which we operate value our citizenship'.

As with society in general, we have become more sensitive to loss of culture and heritage and take great care in preserving traditional culture in areas around the world where we operate. An example of the type of project we undertake is the ongoing 'Pirmal' Project in Western Australia, a purpose-built place for the storage, management and protection of sacred Aboriginal cultural artefacts (see [HSEC Awards – Community](#)).

### ***Report dialogue***

In early 2003, we commissioned an independent survey to find out in which formats our stakeholders would prefer to receive our HSEC Report. In response to the feedback received, we now provide an expanded Full HSEC Report on our website and a printed summary report. This year we undertook a similar engagement exercise on our 2003 HSEC Report. Representatives of our various stakeholder groups were contacted and engaged in a structured conversation to provide feedback on how changes to the Report had been received and how the Report might be improved or further developed in future years.

At the end of the process, impressions both of the Report in general and the changes made in 2003 were overwhelmingly positive. A number of those surveyed commented that they had an increasingly positive view of the Company's commitment to reporting, not only because of the reporting or performance, but because they were impressed by the commitment to understanding stakeholder needs in regards to non-financial reporting and they could see that we had made changes to our reporting in response to the feedback received.

The engagement exercise also identified a number of opportunities for us to continue to develop the Report to address issues that were seen as current areas of weakness. The key recommendations included the following:

- *Improve reporting on key risks and liabilities.* Use of the Report to explore key liabilities and risks was seen as one of the most important roles for the Report by many of the stakeholders. Stakeholders rated the Company's performance in this aspect of reporting less positively than the other categories.
- *Reflect more on dilemmas and learnings.* Many stakeholders felt that the detached reporting style, and use only of a management voice, detracted from the Report's ability to show directly how the Company has engaged its stakeholders, what key learnings from that process has been and what challenges remain.

## PART OF THE GLOBAL COMMUNITY continued

**Report dialogue continued**

- *Develop a vision for a sustainable future.* Many stakeholders saw declaring a vision for a sustainable future as pivotal to achieving excellence in sustainability.
- *Consider improvements to transparency and to the verification process.* Numerous stakeholders felt that there was still room to improve the Report's transparency, with many considering further advances in verification processes contributing in this regard.

We look forward to further stakeholder feedback on our [Feedback Form](#) to see how we have progressed against these recommendations.

**Public policy**

The Company maintains a position of impartiality with respect to party politics. Accordingly, we do not contribute funds to any political party, politician or candidate for public office in any country. We do, however, attend selected events such as political party conventions for the purpose of better understanding the implications of policy development on business operations. Employees are free to participate in political activities as individuals and, if there is any doubt, they are asked to ensure that it is clear they are representing their personal views and not those of the Company.

The Company participates in public debate of policy issues that affect us in the countries in which we operate. Relevant issues are discussed with government officials, and we sometimes provide written advice about the likely impact of proposed policies on the Company. For example, in the last year we have provided information on the potential impacts of royalty regimes in Chile and South Africa and alternative policy settings regarding energy-related issues in Australia.

**Socially responsible investors**

During the year, we continued to participate in key external benchmarking initiatives by the socially responsible investment (SRI) sector that seek to measure the Company's sustainable development performance against others in our sector. Participation in such programs has a dual benefit. Not only do they enable fund managers to screen funds on the basis of Company systems and performance that support sustainability but they also provide an external opinion on our sustainability performance in relation to others in our sector. They provide a useful tool internally to demonstrate where we are performing well and where we need to improve and, furthermore, they assist with supporting the business case for sustainability. The premise is that companies that manage their non-financial risks well also perform better in the long term.

The following sections outline our performance over the period in some of the key benchmarking programs.

- [FTSE4Good Index](#)
- [Dow Jones Sustainability Index](#)
- [Business in the Community – Corporate Responsibility Index](#)
- [Business in the Environment](#)
- [Corp Rate](#)
- [Johannesburg Stock Exchange SRI Index](#)
- [Carbon Disclosure Project](#)

**FTSE4Good Index**

Launched in 2001, [the FTSE4Good Index series](#) ([www.ftse.com/indices\\_marketdata/FTSE4Good/index\\_home.jsp](http://www.ftse.com/indices_marketdata/FTSE4Good/index_home.jsp)) has been designed to reflect the performance of socially responsible equities. The series covers four markets: US, Global, UK and Europe. Each market covered consists of both a benchmark and tradable index. Over the period, we maintained our inclusion in the UK FTSE4Good Index, after passing the strengthened criteria on human rights in the extractive sector.

**Dow Jones Sustainability Index**

The [Dow Jones Sustainability World Indexes](#) ([www.sustainability-index.com/](http://www.sustainability-index.com/)) (DJSI) consist of more than 300 companies that represent the top 10 per cent of the leading sustainability companies in 60 industry groups in the 34 countries covered by the biggest 2500 companies in the Dow Jones Global Indexes. We are included within the DJSI and ranked second within our sector following the 2003 assessment; this is an improvement from the previous year when we were ranked third.

**Business in the Community – Corporate Responsibility Index**

Established in 2002 in the UK by [Business in the Community](#) ([www.bitc.org.uk/index.html](http://www.bitc.org.uk/index.html)), the Corporate Responsibility Index has been developed to ensure a systematic approach to managing, measuring and reporting upon the various impacts that companies have upon society and their environment. The Index works as a management tool for companies to see how their corporate responsibility activities are integrated into their mainstream business operations. Of 139 participating companies in 2003, we ranked 20th overall with a score of 92.77 per cent.

**Business in the Environment**

Established in 1996, the [Business in the Environment Index](#) ([www.bitc.org.uk/programmes/programme\\_directory/business\\_in\\_the\\_environment/](http://www.bitc.org.uk/programmes/programme_directory/business_in_the_environment/)) is an indicator of corporate environment engagement produced by Business in the Environment in the UK. It operates in conjunction with the Corporate Responsibility Index. In 2003, 176 companies participated. We were ranked as sector leader in 2003 with a score of 96.64 per cent.

**Corp Rate**

The [Corp Rate project](#) ([www.acfonline.org.au/corp\\_rate/intro.asp](http://www.acfonline.org.au/corp_rate/intro.asp)), which commenced in 2003, brings together the expert opinions of three Australian organisations to assess the corporate governance, social and environmental performance of Australia's top 50 listed companies. The Australian Consumers' Association, Oxfam Community Aid Abroad and the Australian Conservation Foundation were respectively responsible for the corporate governance, social and environmental performance assessments. We were ranked third overall with scores of 100 per cent for Governance, 33 per cent for Environment and 57 per cent for Social aspects.

**Johannesburg Stock Exchange SRI Index**

The [JSE Socially Responsible Investment Index](#) ([www.ftse.jse.co.za](http://www.ftse.jse.co.za)) was launched in 2004. This was the culmination of an extensive consultation and development process, which the JSE has guided over the past year as a means of helping to focus the debate on triple bottom line practices in South Africa. We are included within the index.

## PART OF THE GLOBAL COMMUNITY continued

### **Socially responsible investors continued**

#### *Carbon Disclosure Project*

The Carbon Disclosure Project is an institutional investors' survey of FT500 Global Index companies regarding risks and opportunities presented by climate change. We were included in the 2004 Climate Leadership Index, comprising the 50 'best in-class' responses. The Carbon Disclosure Project report noted that we were the sole company in the metals and mining sector to be actively integrating carbon shadow prices into investment decisions involving investments with emissions over 100 000 tonnes of CO<sub>2</sub> equivalent per year.

#### **Building global links**

We are committed to proactive involvement in a number of initiatives that contribute to improving the sustainability of the industry. Our individual businesses are also actively engaged through their sectoral organisations at national and international levels.

Some of the principal industry associations we are involved in at the commodity level include:

- International Aluminium Institute and Australian Aluminium Council
- International Nickel Development Institute, International Nickel Study Group, Nickel Producers Environmental Research Association, Cobalt Development Institute, International Chrome Development Association and European Metals Association
- International Petroleum Industry Environmental Conservation Association Exploration and Production Forum, Australian Petroleum Production and Exploration Association, Australian Gas Association and UK Offshore Operators Association
- World Coal Institute, Coal Institute Advisory Board and Australian Coal Association
- International Lead Zinc Study Group, International Lead and Zinc Research Organisation, International Lead Management Centre, Global Forum for the Lead Producing Industry, Lead Development Association International, Silver Research Consortium, and Advanced Lead Acid Battery Consortium
- Asian Copper Council, European Copper Institute, Copper Development Association, International Copper Association, and International Copper Study Group.

The major externally developed voluntary initiatives that we are involved in or are progressively implementing (the date in brackets indicates the year in which we commenced our involvement) include:

- Australian Minerals Industry Code for Environmental Management (1996), now Code 2000
- Global Reporting Initiative (2002) and the Minerals Sector Supplement
- International Council on Mining and Metals Sustainable Development Framework (2003)
- ISO 14001 Environmental Management Systems (2002)
- Mining Certification Evaluation Project – Australian Regional Initiative (2002)
- United Nations Global Compact (2002)
- United Nations Universal Declaration of Human Rights (2001)
- US-UK Voluntary Principles on Security and Human Rights (2003)
- World Bank Operational Directive on Involuntary Resettlement (2003).

We are actively involved in the Mining Certification Evaluation Project to evaluate whether an independent certification process of environmental and social performance can be applied to the mining sector. The research and development exercise is led by World Wide Fund for Nature with participation from a Working Group comprising representatives of mining companies, NGOs, trade unions, government agencies, financial and accounting organisations and research institutions. The aim of the project is to build consensus on measurable and auditable standards for site-based performance. See our case study on the [Mining Certification Evaluation Project](#) for further details.

We also collaborate with governments, NGOs and academic institutions worldwide to undertake and support research on improving HSEC performance. Examples are the case studies on our [HIV/AIDS programs in South Africa and Mozambique](#), the [Medicines for Malaria Venture](#), the [TB screening program at EKATI Diamond Mine in Canada](#), the [diesel emission project at Illawarra Coal in Australia](#), the [Centre for Sustainability in Mining and Industry in South Africa](#), and [coal bed methane studies](#).

Refer to the following sections for further details on our activities with the following organisations:

- [International Council on Mining and Metals](#)
- [UN Global Compact](#)
- [Global Reporting Initiative](#)
- [World Business Council for Sustainable Development](#).

#### **International Council on Mining and Metals**

We have continued to be active in the work program of the [International Council on Mining and Metals \(ICMM\)](#) (see [www.icmm.com/index.php](http://www.icmm.com/index.php)). The ICMM was established in 2001 as a global leadership body on sustainable development. ICMM members believe that the mining, minerals and metals industry acting collectively can best ensure continued access to land, capital and markets as well as build trust and respect by demonstrating the ability to contribute successfully to sustainable development. ICMM members offer strategic industry leadership towards achieving continuous improvements in sustainable development performance in the industry. ICMM provides a common platform for the industry to share challenges and responsibilities as well as to engage key constituencies on issues of common concern at the international level, based on the science and principles of sustainable development. ICMM's mission is underpinned by a commitment to good governance and transparent decision-making processes within the organisation.

An important part of the establishment process of the ICMM has been the development of the Sustainable Development Framework, a guiding set of principles endorsed by all member companies. Through the ICMM, we also participate in joint programs in the area of mining and biodiversity, including the development of principles and related reporting criteria.

One of the ICMM's current projects is the ICMM/GRI Minerals Sector Supplement, which is a multi-stakeholder project to develop additional guidelines on sustainability reporting for the mining and minerals industry. In addition to mining industry representatives, the working group includes NGOs, SRI fund managers, and World Bank, union and indigenous peoples representatives.

## PART OF THE GLOBAL COMMUNITY continued

**Building global links *continued******UN Global Compact***

The UN Global Compact (see [www.unglobalcompact.org/Portal/Default.asp](http://www.unglobalcompact.org/Portal/Default.asp)) was introduced on 31 January 1999, when UN Secretary General Kofi Annan challenged business leaders to join an international initiative that would bring companies together with UN agencies, labour and civil society to support nine principles in the areas of human rights, labour and the environment. A tenth principle, anti-corruption, was added when the Global Compact's operational phase was launched on 24 June 2004. Through the power of collective action, the Global Compact seeks to advance responsible corporate citizenship so that business can be part of the solution to the challenges of globalisation. In this way, the private sector can help realise the Secretary General's vision for a more sustainable and inclusive global economy.

With regard to the Global Compact's core values in the area of labour standards, while we fully recognise the right of our employees to freely associate and join trade unions, at a number of locations we have a mix of collective and individual arrangements. Prospective employees are made aware of employment arrangements prior to joining the Company. At all times, our businesses comply with local employment law requirements and treat employees in accordance with the values expressed in our Charter. Refer to our section on [Freedom of association](#) for further details in this regard.

To see how we are progressing against the principles outlined in the Global Compact, refer to our [Global Compact progress assessment](#).

A copy of our [letter to the United Nations](#) is available on our website (see [www.bhpbilliton.com/bb/sustainableDevelopment/policiesAndKeyDocuments.jsp](http://www.bhpbilliton.com/bb/sustainableDevelopment/policiesAndKeyDocuments.jsp)).

***Global Compact progress assessment***

This progress assessment represents our judgement of how the principles of the Global Compact have been progressed through our policy and actions during the year. Refer to the items highlighted below for the particular document or a more detailed description of our performance in relation to the related Global Compact principle. Please contact the Company if you would like further information in relation to this assessment.

Global Compact Principle	BHP Billiton Policies, Systems and Commitments	BHP Billiton progress outlined in HSEC Report (2003/04)
<b>1. Businesses should support and respect the protection of internationally proclaimed human rights</b>	<p><a href="#">HSEC Policy</a>  <a href="#">Guide to Business Conduct</a>  <a href="#">HSEC Management Standards</a>          HSEC Management Standard 8          United Nations Universal Declaration of Human Rights          US-UK Voluntary Principles on Security and Human Rights          World Bank Operational Directive on Involuntary Resettlement</p>	<p><a href="#">HSEC targets scorecard</a>          'No transgressions (encompasses transgressions of employee rights) within the Group's activities of the principles embodied within the United Nations Universal Declaration of Human Rights.'          None identified.  <a href="#">Management systems performance summary – HSEC Management protocols and guidelines</a>          We made further progress preparing and revising our detailed protocols and guidelines.  <a href="#">Management systems performance summary – Audit and self-assessment</a>          A total of 24 HSEC audits were conducted during the reporting period.  <a href="#">Community performance summary – Human rights</a>          A Human Rights Self-Assessment Toolkit was developed and distributed to all Company sites. Since its implementation, 44 per cent of sites have completed the self-assessment.  <a href="#">Socio-economic performance summary – Business conduct</a>          There were 80 substantive enquiries to the business conduct helpline and fraud hotline systems.</p> <ul style="list-style-type: none"> <li>• <a href="#">Case study 25 – Dialogue Table meetings provide a forum for resolving community issues at Tintaya</a></li> <li>• <a href="#">Case study 28 – Process of resolving Tabaco land acquisition issues continues</a></li> <li>• <a href="#">Socio-economic case studies 30–38</a></li> </ul>

## PART OF THE GLOBAL COMMUNITY continued

**Building global links continued***Global Compact progress assessment continued*

Global Compact Principle	BHP Billiton Policies, Systems and Commitments	BHP Billiton progress outlined in HSEC Report (2003/04)
<b>2. Businesses should make sure their own corporations are not complicit in human rights abuses</b>	<p><a href="#">HSEC Policy</a>  <a href="#">Guide to Business Conduct</a>  <a href="#">HSEC Management Standards</a></p> <p>HSEC Management Standard 8  Human Rights Self Assessment Toolkit  United Nations Universal Declaration of Human Rights  US-UK Voluntary Principles on Security and Human Rights  World Bank Operational Directive on Involuntary Resettlement</p>	<p><a href="#">HSEC targets scorecard</a>  'No transgressions (encompasses transgressions of employee rights) within the Group's activities of the principles embodied within the United Nations Universal Declaration of Human Rights.'</p> <p>None identified.</p> <p><a href="#">Management systems performance summary – Audit and self-assessment</a>  A total of 24 HSEC audits were conducted during the reporting period.</p> <p><a href="#">Community performances summary – Human rights</a>  A Human Rights Self-Assessment Toolkit was developed and distributed to all Company sites. Since its implementation, 44 per cent of sites have completed the self-assessment.</p> <p><a href="#">Socio-economic performance summary – Business conduct</a>  There were 80 substantive enquiries to the business conduct helpline and fraud hotline systems.</p> <ul style="list-style-type: none"> <li>• <a href="#">Case study 25 – Dialogue Table meetings provide a forum for resolving community issues at Tintaya</a></li> <li>• <a href="#">Case study 28 – Process of resolving Tabaco land acquisition issues continues</a></li> </ul>
<b>3. Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining</b>	<p><a href="#">Employment Principles</a>  <a href="#">Guide to Business Conduct</a>  <a href="#">Letter to UN Secretary General from Chip Goodyear (June 2003)</a></p>	<p><a href="#">Socio-economic performance summary – Employee relations</a>  Employee relations arrangements at individual workplaces are required to respect local legislative requirements and other local standards and circumstances.</p> <p><a href="#">Socio-economic performance summary – Freedom of association</a>  Over 60 per cent of the workforce was covered by collective bargaining agreements at operated sites and offices.</p> <p><a href="#">Socio-economic performance summary – Remuneration</a>  All Company employees earned greater than the stipulated minimum wage in the countries in which they worked.</p>
<b>4. Businesses should uphold the elimination of all forms of forced and compulsory labour</b>	<p><a href="#">HSEC Policy</a>  <a href="#">Guide to Business Conduct</a></p> <p>United Nations Universal Declaration of Human Rights</p>	<p><a href="#">Socio-economic performance summary – Child and forced labour</a>  We exclude the use of child labour and prohibit forced labour at our operations.</p> <p><a href="#">Socio-economic performance summary – Work/life balance</a>  Several options are available to assist employees in balancing the competing demands of their work and personal lives.</p> <p><a href="#">Socio-economic performance summary – Remuneration</a>  All Company employees earned greater than the stipulated minimum wage in the countries in which they worked.</p>
<b>5. Businesses should uphold the effective abolition of child labour</b>	<p><a href="#">HSEC Policy</a>  <a href="#">Guide to Business Conduct</a></p> <p>United Nations Universal Declaration of Human Rights</p>	<p><a href="#">Socio-economic performance summary – Child and forced labour</a>  The youngest employees were 16 years of age, working as apprentices/administrative trainees in our Australian operations.</p>

## PART OF THE GLOBAL COMMUNITY continued

**Building global links continued***Global Compact progress assessment continued*

Global Compact Principle	BHP Billiton Policies, Systems and Commitments	BHP Billiton progress outlined in HSEC Report (2003/04)
<b>6. Businesses should uphold the elimination of discrimination in respect of employment and occupation</b>	<p><a href="#">Employment Principles</a>  <a href="#">Guide to Business Conduct</a></p> <p>United Nations Universal Declaration of Human Rights</p>	<p><a href="#">Socio-economic performance summary – Employee profile</a>  A breakdown of employee numbers by region is presented in the chart.</p> <p><a href="#">Socio-economic performance summary – Diversity</a>  Approximately 9 per cent of full-time employees at operated sites and offices were women.</p> <p><a href="#">Socio-economic performance summary – Employment equity in South Africa</a>  To address historical issues of South Africa, which resulted in the majority of South Africans being excluded from participating in the mainstream economy, BHP Billiton South Africa adopted an empowerment strategy of change.</p> <p><a href="#">Socio-economic performance summary – Indigenous employment and training</a>  Various initiatives have been introduced and reported in previous years, which have been supplemented at some operations by new programs aimed to further consolidate and increase indigenous employment levels.</p> <ul style="list-style-type: none"> <li>• <a href="#">Case study 30 – EKATI agreements aim to provide sustainable employment, training and business opportunities for indigenous communities</a></li> <li>• <a href="#">Case study 31 – Black Economic Empowerment Supply Unit established to promote BEE supply initiatives in the southern African region</a></li> <li>• <a href="#">Case study 33 – BHP Billiton Iron Ore initiatives provide educational and employment opportunities for our indigenous stakeholders in the Pilbara</a></li> </ul>
<b>7. Businesses should support a precautionary approach to environmental challenges</b>	<p><a href="#">HSEC Policy</a>  <a href="#">HSEC Management Standards</a></p> <p>HSEC Management Standard 3</p> <p><a href="#">Enterprise-Wide Risk Management Policy</a></p>	<p><a href="#">HSEC targets scorecard</a>  ‘Risk registers in place at all sites and within BHP Billiton businesses and Corporate.’</p> <p>Risk registers in place at all required sites, Customer Sector Groups and Corporate levels.</p> <p><a href="#">Management systems performance summary – Risk management</a>  Work was undertaken during the year to better align HSEC risk assessment processes with our Enterprise-Wide Risk Management processes.</p> <ul style="list-style-type: none"> <li>• <a href="#">Case study 13 – Coal bed methane offers a fuel source with the potential to deliver zero greenhouse gas emission power</a></li> <li>• <a href="#">Case study 16 – Conserving biodiversity at the Ravensthorpe Nickel Project</a></li> <li>• <a href="#">Case study 17 – Engineering a sustainable future at Yabulu Refinery</a></li> </ul>

## PART OF THE GLOBAL COMMUNITY continued

**Building global links continued***Global Compact progress assessment continued*

Global Compact Principle	BHP Billiton Policies, Systems and Commitments	BHP Billiton progress outlined in HSEC Report (2003/04)
<b>8. Businesses should undertake initiatives to promote greater environmental responsibility</b>	<p><a href="#">HSEC Policy</a>  <a href="#">HSEC Management Standards</a></p> <p>HSEC Management Standard 5  HSEC Management Standard 12</p>	<p><a href="#">HSEC targets scorecard</a></p> <ul style="list-style-type: none"> <li>Two Level 3 environmental incidents.</li> <li>Systems in place and audits or self-assessments completed at 100 per cent of operating sites.</li> <li>All sites requiring ISO 14001 are certified or have been recommended for certification by their ISO auditor.</li> <li>Energy conservation plans in place at all required sites and at 11 sites that were below the emissions threshold.</li> <li>Greenhouse gas management programs in place at all required sites and at 11 sites that were below the emissions threshold.</li> <li>Water management plans in place at 98 per cent of required sites and at 23 sites that were below the usage threshold.</li> <li>Waste minimisation programs in place at 97 per cent of required sites and at 10 sites that were not required to meet this target.</li> <li>Land management plans in place at 98 per cent of required sites and at 19 sites that were not required to meet this target.</li> <li>Life cycle assessments completed for all major minerals products.</li> </ul> <p><a href="#">Environmental performance summary – Closure planning</a>  We developed a Company-wide Closure Standard.</p> <p><a href="#">Environmental performance summary – Climate change</a>  We are working on activities related to climate change risks and opportunities in a number of ways.</p> <p><a href="#">Environmental performance summary – Biodiversity</a>  We researched relevant biodiversity metrics that can be used to monitor and measure the success of our land management and rehabilitation strategies.</p> <ul style="list-style-type: none"> <li><a href="#">Case study 13 – Coal bed methane offers a fuel source with the potential to deliver zero greenhouse gas emission power</a></li> <li><a href="#">Case study 16 – Conserving biodiversity at the Ravensthorpe Nickel Project</a></li> <li><a href="#">Case study 17 – Engineering a sustainable future at Yabulu Refinery</a></li> <li><a href="#">Case study 19 – Innovative approach to reclamation at La Plata Mine is producing positive results</a></li> <li><a href="#">Case study 20 – Mt Arthur Coal trucks and excavators designed to meet stringent noise limits</a></li> </ul>

## PART OF THE GLOBAL COMMUNITY continued

**Building global links continued***Global Compact progress assessment continued*

Global Compact Principle	BHP Billiton Policies, Systems and Commitments	BHP Billiton progress outlined in HSEC Report (2003/04)
<b>9. Businesses should encourage the development and diffusion of environmentally friendly technologies</b>	<p><a href="#">HSEC Policy</a>  <a href="#">HSEC Management Standards</a></p> <p>HSEC Management Standard 9  HSEC Management Standard 12</p>	<p><a href="#">HSEC targets scorecard</a></p> <ul style="list-style-type: none"> <li>Energy conservation plans in place at all required sites and at 11 sites that were below the emissions threshold.</li> <li>Greenhouse gas management programs in place at all required sites and at 11 sites that were below the emissions threshold.</li> <li>Water management plans in place at 98 per cent of required sites and at 23 sites that were below the usage threshold.</li> <li>Waste minimisation programs in place at 97 per cent of required sites and at 10 sites that were not required to meet this target.</li> <li>Land management plans in place at 98 per cent of required sites and at 19 sites that were not required to meet this target.</li> <li>Life cycle assessments completed for all major minerals products.</li> <li><a href="#">Case study 13 – Coal bed methane offers a fuel source with the potential to deliver zero greenhouse gas emission power</a></li> <li><a href="#">Case study 16 – Conserving biodiversity at the Ravensthorpe Nickel Project</a></li> <li><a href="#">Case study 17 – Engineering a sustainable future at Yabulu Refinery</a></li> <li><a href="#">Case study 18 – Waste management practices at Cannington are delivering benefits for the operation and other stakeholders</a></li> <li><a href="#">Case study 38 – We support establishment of first Centre for Sustainability in Mining and Industry in Africa</a></li> </ul>
<b>10. Businesses should work against all forms of corruption, including extortion and bribery</b>	<p><a href="#">Guide to Business Conduct</a>  Extractive Industries Transparency Initiative</p>	<p><a href="#">Socio-economic performance summary – Business conduct</a>  There were 80 substantive enquiries to the business conduct helpline and fraud hotline systems.  The Guide to Business Conduct was updated to enhance guidance on specific issues.</p> <p><a href="#">Socio-economic performance summary – Our economic footprint</a>  Our economic contribution to society includes the value that flows from the broader contributions of our operations, such as payments to our employees and suppliers and disbursements to governments, including taxes and royalties.  Refer to our table on <a href="#">Expenditure by region</a> for disclosure of regional tax payments.</p> <ul style="list-style-type: none"> <li><a href="#">Case study 35 – Implementing the Guide to Business Conduct at Worsley and Hillside</a></li> </ul>

## PART OF THE GLOBAL COMMUNITY continued

### ***Global Reporting Initiative***

This year we have again produced our Full HSEC Report in accordance with the [Global Reporting Initiative \(GRI\) 2002 Sustainability Reporting Guidelines](#) (see [www.global-reporting.org/](http://www.global-reporting.org/)). We are also an organisational stakeholder of the GRI. The GRI is a multi-stakeholder process developing and disseminating sustainability reporting guidelines that are globally applicable. These guidelines are for voluntary use by organisations for reporting on the economic, environmental and social dimensions of their activities, products and services. The GRI incorporates the active participation of representatives from business, accountancy, investment, environmental, human rights, research and labour organisations from around the world. Established in 1997, GRI became an independent institution in 2002 and is an official collaborating centre of the United Nations Environment Programme (UNEP) and works in collaboration with the United Nations Global Compact. We are involved with the Global Reporting Initiative Stakeholder Council, which is helping to advance the GRI.

Reporting in accordance with the GRI guidelines is an evolving process, as our reporting systems continue to enhance the information reported. Due to the size and complexity of our business, judgements have had to be made regarding the extent of the information that can be presented in relation to each GRI indicator.

To see how and where we have addressed the GRI Indicators, refer to our [GRI navigator](#).

### ***World Business Council for Sustainable Development***

We have maintained our membership of the [World Business Council for Sustainable Development \(WBCSD\)](#) (see [www.wbcsd.org](http://www.wbcsd.org)). The WBCSD is a coalition of 170 international companies set up in 1991 and united by a shared commitment to sustainable development. The WBCSD has a network of 45 national and regional business councils and partner organisations located in 40 countries. Its mission is to provide business leadership as a catalyst for change towards sustainable development and to promote the role of eco-efficiency, innovation and corporate social responsibility.

# PERFORMANCE SUMMARIES

The Company's performance in the areas of health, safety, environment and community (HSEC) is driven by our commitment to people, the environment, our host communities and our commitment to create value for our shareholders.

The following sections present the key aspects of the Company's HSEC performance in 2003/04 with comments on performance trends and initiatives.

- [Management systems](#)
- [Health](#)
- [Safety](#)
- [Environment](#)
- [Community](#)
- [Socio-Economic](#)

For a summary of our performance against our HSEC targets for the year, please refer to the [HSEC targets scorecard](#).

## MANAGEMENT SYSTEMS

### Background

The HSEC Management Standards form the basis for the development and application of HSEC management systems at all levels in the Company. The objectives of the Standards are to:

- support the implementation of the Charter and the HSEC Policy across the Group
- provide a risk-based HSEC management system framework, broadly consistent with international standards, such as ISO 14001, OHSAS 18001 and SA 8000
- set out the expectations of the Group for the progressive development and implementation of more specific HSEC management systems at all levels
- provide consistent, auditable criteria against which HSEC management systems can be measured
- provide a basis from which to drive continuous improvement.

The scope of the Standards covers all operational aspects and activities that have the potential to affect, positively or negatively, the health and safety of people, the environment and the community. They cover the entire life cycle of our assets, from exploration through to construction, commissioning, operation, decommissioning, closure and rehabilitation.

Refer to the following sections for a discussion on our management system performance over the year and our key initiatives.

- [HSEC management protocols and guidelines](#)
- [Audit and self-assessment](#)
- [Risk management](#)
- [Product stewardship](#)

For further details on the structure of our management systems, refer to our section on [HSEC governance](#).

### HSEC management protocols and guidelines

During the year, we made further progress preparing and revising our detailed protocols and guidelines, based on knowledge and leading practices from around the Group. All our operations can access these protocols and guidelines, accelerating their rate of improvement in HSEC performance. The following documents have been prepared or revised:

- High Voltage Isolation and Switching Guideline
- Health Exposure Assessment Guideline – revised
- Hearing Conservation Guideline – revised
- Light Vehicles Guideline
- Guide to Business Conduct – revised
- Personal Protective Equipment Compliance Auditing Guideline
- Medical Preparation for International Movement of Employees and Dependents Guideline
- Malaria Prevention Guideline
- Occupational Exposure Limits Procedure
- HSEC Reporting Manual and Significant Incident Report Form (replaces Significant Incident Reporting and Distribution, Classification of Activities for HSEC Performance Purposes, and Monthly Statistical and Performance Data Reporting Procedures).
- Closure Standard

### Audit and self-assessment

Twenty-four HSEC audits were conducted during the reporting period to assess the level of implementation of the HSEC Management Standards. The program involved 76 personnel from both HSEC functional roles and operational roles and two external auditors. This brings to 79 the number of sites audited since the program commenced in September 2001, with 208 BHP Billiton and 16 external auditors involved. Four sites remain to be audited by December to complete the first three-year cycle.

The audit process is assisting sites to accelerate the rate of implementation of the HSEC Management Standards through the identification and communication of leading practices. The average level and range of conformance for each of the Standards is presented in the diagram below, which shows an overall conformance of 3.7 out of 5 (compared to 3.4 out of 5 for the last reporting period) against our target of full conformance (a score of greater than 4 out of 5) with the Standards by 30 June 2005.

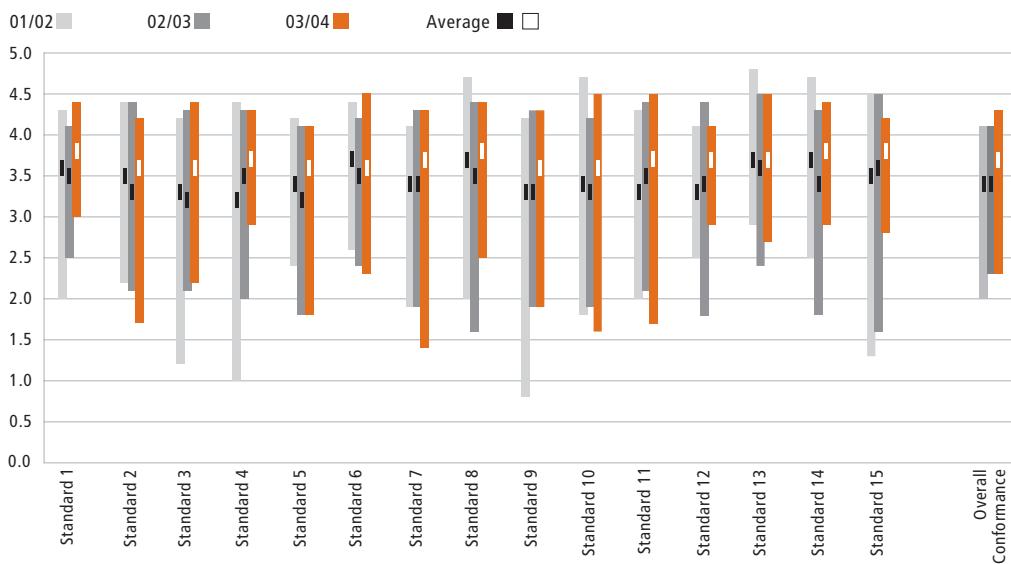
Operating sites not audited during the year were required to undertake self-assessments against the Standards. The results from these 49 self-assessments have been combined with the audit results to give an overall conformance of 3.7 out of 5.

In the coming year, sites with lower Standards conformance levels will be revisited to help identify remaining areas for improvement in the lead up to our June 2005 target date. Additionally, the learnings from the first triennial audit cycle will be reviewed, the program updated and a new risk-based approach to HSEC audits initiated for the start of the 2006 fiscal year.

## MANAGEMENT SYSTEMS continued

***Audited conformance scores against each of the HSEC Management Standards***

2001/02 to 2003/04



The Minerals Council of Australia is currently developing an Operational Framework for Sustainable Development Implementation that will underpin the ICMM Sustainable Development Framework and will, in time, replace the Code for Environmental Management, which we have reported against in previous years. To assist in the transition to the Operational Framework for Sustainable Development, the Board of the Minerals Council of Australia no longer requires reporting of conformance against the Code and instead have replaced it with a series of indicators drawn from the Global Reporting Initiative. Refer to our [GRI navigator](#) to see how these have been addressed.

**Risk management**

We are pleased to report that risk registers are in place and being maintained at all sites, CSG and Corporate levels, in line with our HSEC target. Work was also undertaken during the year to better align HSEC risk assessment processes with our Enterprise-Wide Risk Management (EWRM) processes to improve efficiency of assessments.

For further information on our approach to risk, refer to our [Risk management](#) section in HSEC Governance.

**Product stewardship**

Product stewardship is a principle that suggests that all involved in the life cycle of a product should take responsibility for the impacts to human health and the natural environment that result from the production, use and disposal of the product. Those primarily involved in the life cycle of a minerals product typically include the mining operation, the primary and secondary minerals processing facilities, manufacturers, retailers, consumers and governments. While the physical and chemical nature of metals ensures their infinite recyclability, we are working with commodity organisations to address life-cycle and product-stewardship considerations.

Material safety data sheets (MSDSs) are required for our products, identifying potential health, safety and environmental aspects associated with their use. Please contact the Company if you would like a copy of an MSDS for any of our products.

The Company has had an HSEC Management Standard dealing with product stewardship since the establishment of the Standards in 2001. The intent, as stated in Management Standard 12, is to promote 'The responsible production, transport, storage, use, recycling, and disposal of BHP Billiton

products and by-products ... to minimise their life cycle HSEC impacts'. This intent statement is supported by seven performance requirements. To this end, we set a Company-wide target that life cycle assessments (LCA) be prepared for all major minerals products by 30 June 2004.

During the reporting period, in line with this target, LCAs were completed for copper, nickel, iron ore, aluminium, metallurgical coal, manganese and thermal coal. The LCA studies were conducted through research institutes and academia and in conjunction with commodity and industry associations such as the [International Aluminium Institute](#) (see [www.world-aluminium.org/iai/publications/documents/lca.pdf](http://www.world-aluminium.org/iai/publications/documents/lca.pdf)), the International Copper Association and the [Nickel Development Institute](#) (see [www.nickelinstitute.org/index.cfm/ci\\_id/114.htm](http://www.nickelinstitute.org/index.cfm/ci_id/114.htm)).

The global [Green Lead™ project](#) (see [www.greenlead.com](http://www.greenlead.com)), as reported in our 2002 and 2003 HSEC Reports, is an initiative of the lead industry. Our Base Metals CSG is actively involved, primarily through the Cannington silver/lead/zinc operation in north Queensland, which initiated the project. The vision of the Green Lead™ project is to independently certify that producers are applying best practice to all aspects of the product life cycle – mining, processing, transporting, treating, manufacturing, storing, using and recycling. A group of foundation project partners, representing industry stakeholders involved in mining, smelting, manufacturing and recycling, is involved in implementing the project.

In addition, our Diamonds business is a member of the Kimberley Process Certification Scheme, an international diamond certification scheme aimed at halting the trade in 'conflict diamonds'.

Consumer health is also of growing importance to us, and we are involved with industry associations in progressing initiatives in this area. For example, we are currently working with the Nickel Development Institute in relation to the proposed EU Chemical Policy, which will require industry to demonstrate that 'chemicals' (which includes metal in this context) are safely produced and managed through their life cycles.

There is a need to better understand the product stewardship agenda, its key drivers and its implications for the resources sector and our key businesses. Within this context, we need to better define product stewardship, determine the status of our products and begin a discussion as to what the appropriate positioning for the Company and our core businesses should be. This will be a focus for the coming year.

## HEALTH



► HIV/AIDS blood testing at the Phola clinic in South Africa. See case study 5 for further information.

### Background

People are central to the success of our business and, accordingly, understanding the potential for health risks and establishing suitable mitigation measures are integral to our journey towards Zero Harm.

Some of the potential health risks present in the organisation include:

- inherent occupational health risks associated with the nature of our operations, such as noise, dust, hazardous materials and gases, and vibration
- communicable diseases present in some of the countries in which we operate, including HIV/AIDS and mosquito-borne diseases
- travel-related risks
- ergonomic exposures relating to work requirements
- general suitability for job criteria and fitness for work.

The following sections discuss our [Health performance](#) and [Health management](#) initiatives over the reporting period.

For a better understanding of our challenges in this area, refer to our sustainability challenge on [Occupational and community health](#).

### Health performance

Please refer to the following sections for details on our health performance during this reporting period.

- [Occupational exposures](#)
- [Occupational illnesses](#)
- [Personal protective equipment compliance](#)

To understand the systems we put in place to manage our performance, refer to the [Health management](#) section.

### Occupational exposures

Employee health and associated occupational illness remains a key focus of our health management. The control of employee exposures and a reduction of occupational illnesses are the thrust of our Company health targets, which will be revised during the coming year to further focus on reduction in these areas.

We have continued to focus on three distinct areas for our exposure measurement data. These are:

- potential exposure of employees above the occupational exposure limit (OEL) for noise (85 dBA 8-hour time-weighted average)
- potential exposure of employees above action levels (50 per cent of the occupational exposure limit) but below the OEL for other exposures
- potential exposure of employees above the OEL for other exposures.

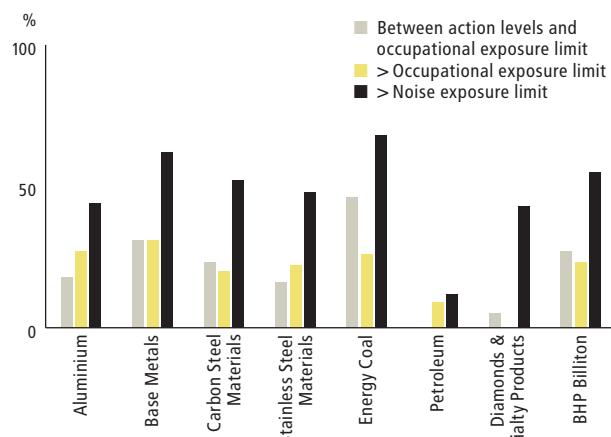
It should be noted that all exposures monitored are potential exposures and do not take into consideration the use of personal protective equipment (PPE) where it is utilised to mitigate exposure. Having said this, our aim, consistent with the 'hierarchy of control' approach, is to remove or avoid hazards through engineering or design solutions wherever possible.

The 'hierarchy of control' approach involves methods to decrease the exposure source itself or to minimise the potential amount of employee contact. PPE is utilised where this approach is yet to be implemented or is not currently feasible.

The requirement for reporting potential exposures above action levels but below occupational exposure limits has been established to give us an understanding of the potential for harm and enable us to establish proactive plans to mitigate exposures. At levels greater than the occupational exposure limits, it is understood that harmful effects on health may eventually occur in a proportion of individuals if they are not adequately protected. While all operations provide PPE and other measures to reduce exposure, the reporting on employees in this group gives the Company a clear understanding of the exposures that need to be reduced to further minimise the chance of adverse health outcomes. The reporting of these two categories allows the tracking of our efforts to reduce on-site exposures over time and consequently reduce the incidence of occupational illness.

### Percentage of employees in potential exposures\*

2003/04



\* i.e., would be exposed if not wearing PPE.

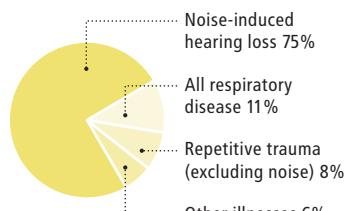
## HEALTH continued

While every effort is made to protect all employees potentially exposed from any adverse health effect through the use of PPE, the drive within the Company will be to progressively reduce exposures over time. The graph above illustrates potential employee exposures, if not for the use of PPE, recorded during the reporting period. When compared to the previous period, potential exposures for noise have increased. For other exposures, the exposure data is set against newly introduced Company-wide exposure standards. Our exposure standards in many cases are more stringent than local regulations and reporting processes and set a lower baseline target throughout the Company.

As a consequence of this standardised process of reporting, it has been decided to review our target for exposure for the full year 2004 under these more stringent limits and require that all operations achieve an annual reduction in the number of people potentially exposed above the occupational exposure limit.

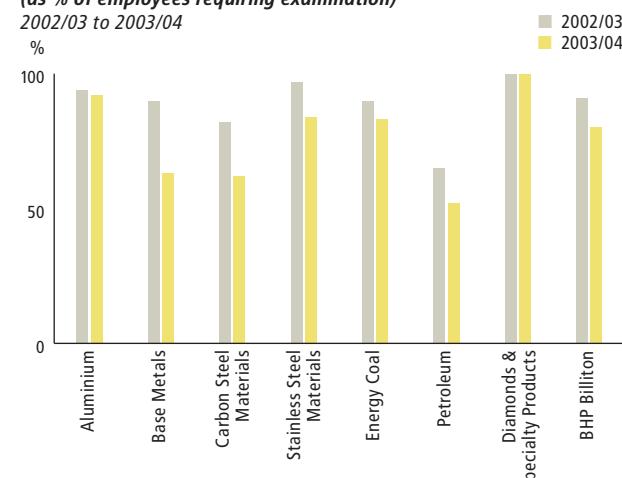
### **Occupational illnesses**

**New illnesses by type**  
2003/04



As the graph above illustrates, occupational illnesses continue to be recorded. During the year, 197 new cases of occupational illness were reported throughout the Company, a reduction from 226 last year, resulting in an overall reduction to date of 15 per cent against the baseline. There has been an increase in noise-induced hearing loss being diagnosed across the Company, primarily associated with the detection of cases through enhanced medical surveillance and more stringent diagnostic parameters through use of the US Occupational Safety and Health Administration guidelines for noise-induced hearing loss. The medical surveillance program requires a standardised approach to diagnosis and consequently has resulted in an increased awareness of conditions and therefore better diagnostic programs. As shown in the graph below, 80 per cent of employees requiring medical examinations completed those examinations during the period.

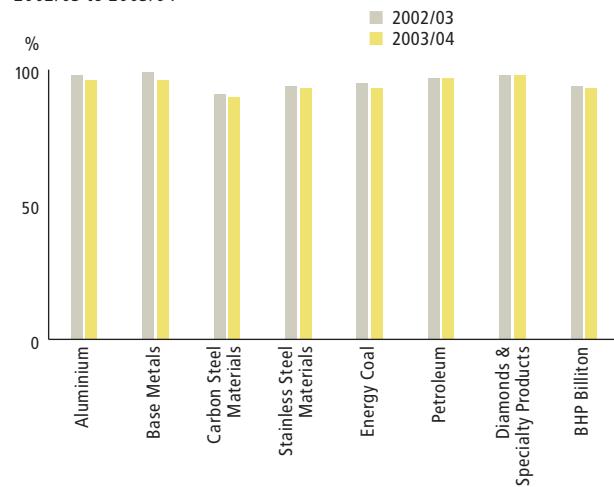
**Employees who completed medical examination**  
(as % of employees requiring examination)



### **Personal protective equipment compliance**

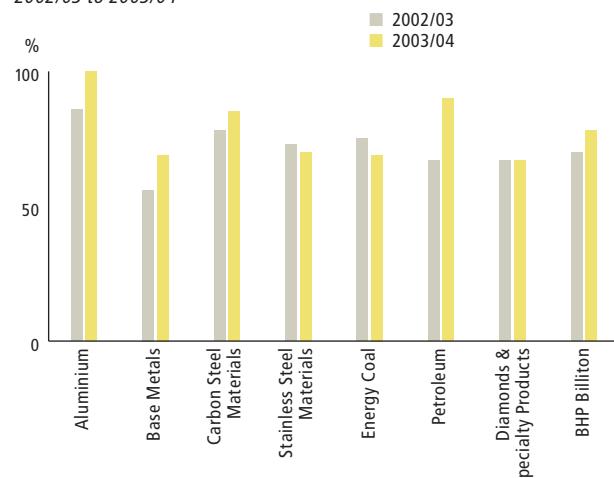
While the elimination of exposure risks is our key driver, often this is not readily possible or feasible and personal protective equipment (PPE) is utilised. At the end of the reporting period, the status of overall PPE compliance in the Company was 93 per cent, as shown in the graph below. This is an area where we continually seek improvement and are encouraging operations to implement formal audit programs of PPE compliance. To read about some of our initiatives, refer to the PPE discussion in the section on [Health management](#).

**PPE compliance**  
2002/03 to 2003/04



While there was a slight decrease in PPE compliance compared to 94 per cent last year, there was an improvement in the number of operations that have formal audit programs in place for PPE compliance. This increased from 70 per cent in the previous period to 78 per cent, as shown in the graph below.

**Formal audit programs for PPE compliance**  
2002/03 to 2003/04



## HEALTH continued

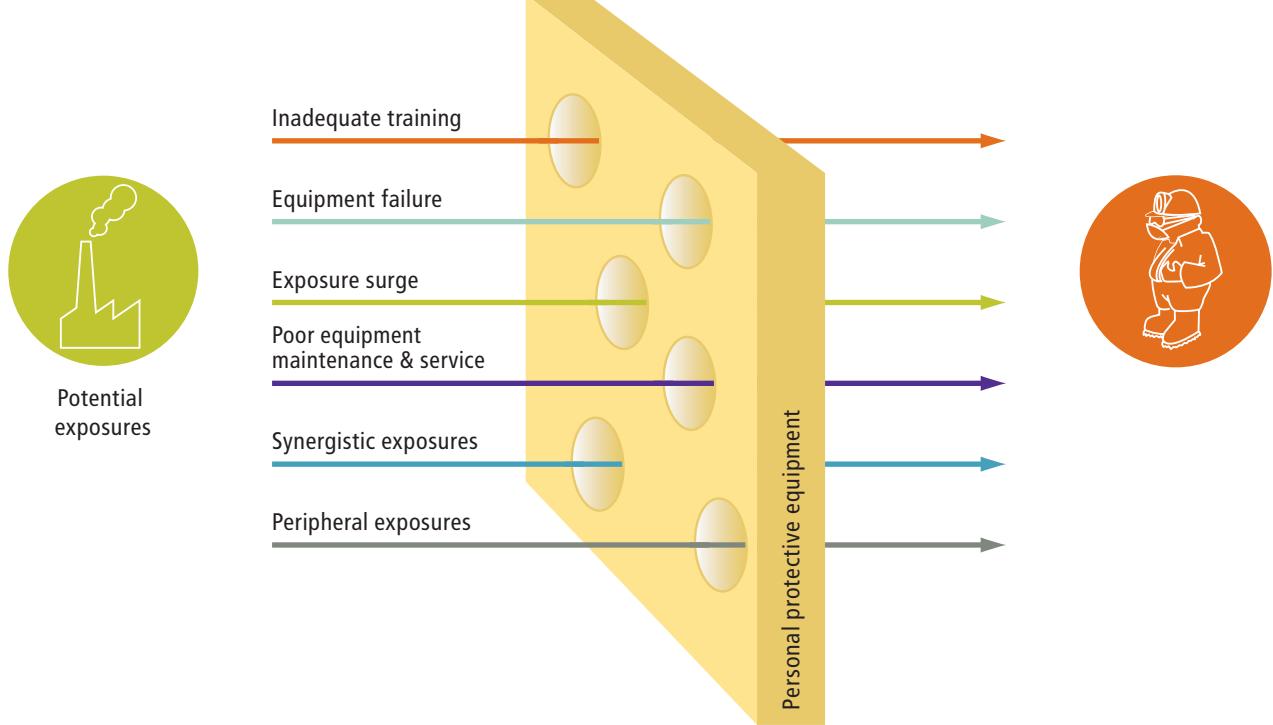
### Health management

Please refer to the following sections for details on our health management initiatives during this reporting period.

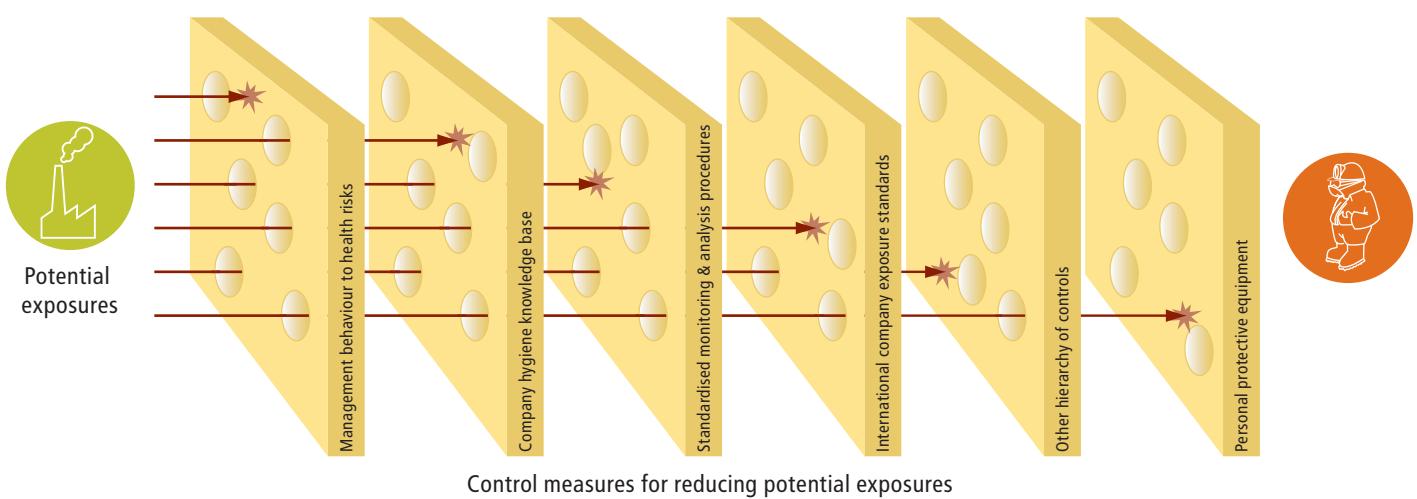
- [Employee health](#)
- [Community health](#)

### Employee health

#### *Swiss Cheese Model – reducing employee health exposures*



There may be many reasons why personal protective equipment alone may not be sufficient to protect against potential exposures.



The Swiss Cheese Model, derived from the original concept coined by James Reason and illustrated in the diagram above, is a useful tool to assist us in illustrating that more than PPE is required for adequate employee protection. Each hole in the cheese is symbolic of a potential pathway of employee exposure. We therefore need to establish a number of measures to reduce any potential for exposure. Use of PPE without the associated knowledge and expertise will create an environment where many potential exposures could occur. Consequently, our health initiatives are aimed at a number of areas of health management.

Refer to the following sections to review our progress in employee health management.

- [Personal protective equipment](#)
- [Exposure standards](#)
- [Hygiene knowledge base](#)

## HEALTH continued

### *Personal protective equipment*

Continued improvement in our PPE program is still very important, and we are seeking to standardise our approach across the Company. For example, we have developed a Personal Protective Equipment Compliance Auditing Guideline to ensure there are standard processes for measuring PPE compliance across the organisation. We are also in the process of developing a respiratory protection guideline to standardise respiratory protection across the Company.

To further reduce our reliance on PPE, we are progressing work in a number of areas. We have commenced an alliance with Caterpillar, one of our major suppliers of earthmoving equipment, to pursue opportunities to reduce noise and vibration exposures of machinery operators. Read more about this in our case study: [Alliance with Caterpillar aims to improve HSEC aspects of earthmoving equipment while reducing costs](#). Along similar lines, we have also made significant reductions in noise levels associated with trucks at our Mt Arthur Coal operations. See our case study: [Mt Arthur Coal trucks and excavators designed to meet stringent noise limits](#).

### *Exposure standards*

Occupational exposure limits are now standardised across the Company. Monitoring of exposure through the Company has also been improved through the updating of the health exposure assessment guideline and the provision of a standard statistical analysis package for all our operations. This process has been further supported by the development of a number of position statements on substances of particular importance to the organisation. Position statements will be developed for substances where there is significant variation in the occupational exposure limits being recommended by leading authorities and/or the exposure is of significance within our businesses.

Position statements have been established for:

- carbon monoxide
- coal tar pitch volatiles
- diesel particulate
- nickel.

### *Hygiene knowledge base*

The need to continually drive quality in occupational hygiene practice has been further supported by the development of a graduate training program with Deakin University. The university is recognised as one of the leaders in occupational hygiene training in Australia. Through our involvement in the graduate program, we are seeking not only to ensure course work is reflective of leading developments in hygiene practice, but also to expose graduates to our operations with the intent of attracting appropriately qualified occupational hygienists in the future.

We have also established an internal occupational hygiene network to facilitate learning by sharing across the organisation. We have now had face-to-face meetings in all regions with members from our occupational hygiene network. Over 50 employees from across the Company are members of this network. The engagement of the network will be critical as we roll out specific initiatives that will be required across our global operations. One example of this is the diesel particulate initiative, where we will be undertaking site-specific assessments to understand how best to reduce potential exposures. Further details on this particular initiative can be read in our case study: [Diesel emission project at Illawarra Coal aims to limit employee exposure to diesel particulates](#).

### *Community health*

We recognise that, as members of the community, our employees and contractors can be impacted significantly by communicable diseases. Our main programs in community health have therefore been focused on the three major infectious diseases, which also impact many of our operations. These are malaria, tuberculosis (TB) and HIV/AIDS.

For examples of how our programs are progressing in these areas refer to the case studies:

- [Seeking ways to help manage the impact of HIV/AIDS on a broader scale](#) – In the communities where our operations are located in South Africa and Mozambique, the incidence of HIV/AIDS is among the highest in the world. We have a responsibility to manage the impact of the disease in order to care for our employees, protect the viability of our operations and support the well-being and development of our host communities.
- [Medicines for Malaria Venture aims to develop effective, affordable anti-malarial drugs](#) – Along with TB and HIV, malaria is one of the major infectious diseases responsible for significant illness and mortality around the world. We are supporting the Medicines for Malaria Venture, which has been established through the World Health Organisation with the aim of developing affordable anti-malarial drugs for people in the disease-endemic countries.
- [EKATI launches screening program to limit development of TB in the local Inuit population](#) – In the Northwest Territories of Canada, TB is a significant issue among the Inuit population, which, as a consequence, has an impact on our EKATI Diamond Mine operation. In an effort to limit development of the disease, we have embarked on a screening program to detect latent TB infection in our workforce and the local community.

We have also undertaken a number of broader community health initiatives that provide basic community health care facilities.

Examples of these can be found in our case studies: [Khutala Colliery supports development of medical clinic to provide health services to surrounding communities](#) and [Metalloys converts disused employee hostel to a centre offering care to an HIV/AIDS affected community](#).

On another aspect of community health, we have progressed a number of initiatives in relation to better understanding the impacts of our operations on neighbouring communities. At our Iron Ore operations in Western Australia, we have undertaken extensive community consultation and research to better understand and engage communities around dust impacts from these operations. At our Worsley Alumina facility, also in Western Australia, we have developed a new approach to emissions impact assessment and management. Further details on this initiative are available in our [HSEC Awards – Environment](#).

Consumer health is also a growing area of importance to us and we are involved with industry associations in progressing initiatives. For example, we are currently working with the Nickel Development Institute in relation to the proposed EU Chemical Policy, which will require industry to demonstrate that 'chemicals' (which includes metals in this context) are safely produced and managed through their life cycles.

## SAFETY



► Caterpillar 797 truck operating at the Escondida copper mine, Chile. See case study 12 for further information.

### Background

The safety of our employees, contractors and the communities in which we operate is an integral part of our business. Our goal is Zero Harm. To this end, we are seeking to create a mindset and an environment where people believe it is possible to work injury free – regardless of where they are in the world, what role they undertake or in which business they work.

Across the organisation we manage safety risks through our risk-based HSEC Management Standards and other dedicated systems. Our line managers are responsible for the implementation of these systems. The key priority safety issues we seek to manage include:

- mobile equipment and related interactions, including light vehicles and surface and underground mobile equipment
- underground ground control, encompassing ground stability and ground support
- hazardous materials storage, handling, production, transport, recycling and disposal
- handling and processing of molten materials
- plant and equipment safeguarding and isolation
- lifting and slinging
- working at heights
- contractor management.

The following sections discuss our [Safety performance](#) and [Safety management](#) initiatives over the reporting period.

### Safety performance

Please refer to the following sections for details on our safety performance during this reporting period.

- [Fatalities](#)
- [HSEC reporting systems](#)
- [Classified Injury Frequency Rate](#)
- [Safety incidents](#)
- [Safety fines](#)

To understand the systems we put in place to manage our performance, refer to the [Safety management](#) section.

### Fatalities

Safety efforts made to pursue Zero Harm in our organisation have been extensive and in many instances successful; however, we are deeply saddened to report that 17 fatalities occurred at our controlled operations and activities. The impact of these incidents on our people, their families and friends is deep and profound and we offer our sincere condolences to all impacted by these tragic events. We are determined to eliminate fatalities from all our operations and we will not be satisfied until this is achieved. These incidents have increased our resolve and reinforced our dedication to the work and challenges before us.

The investigations of these fatal incidents revealed some clear focus areas for the sites concerned and the broader organisation. Improvement opportunities were identified in contractor management approaches (12 of the 17 fatalities were contractors), safety leadership effectiveness, consistent and rigorous application of standards and systems, near miss reporting standards, compliance with procedures, change management, risk awareness, and drug and alcohol testing programs.

Specific actions taken in response to these incidents included:

- At our Samancor Chrome operations in South Africa, unprecedented actions were taken to address the safety concerns and accelerate engagement of all levels of the workforce. The sites at Eastern Chrome Mines, Tubatse Ferrochrome, Middelburg Technochrome, Middelburg Ferrochrome and Ferrometals were shut down entirely for periods of up to three weeks, so that safety issues could be identified and addressed without any pressure from production activities. For further details, see our case study: [Samancor Chrome shuts down operations to implement intensive safety program in response to workplace fatalities](#).
- The Koornfontein/Douglas operations of our South African Ingwe Coal operations were shut down for over a week in order to enable a refocus on safety of the operations.
- The Suriname operations were shut down for up to a week while the entire workforce underwent a complete review of activities and processes in place. Operations were not recommenced until all immediate issues identified were addressed.
- The BHP Billiton Iron Ore operations in Western Australia suspended operations across all sites to brief employees on the incidents and lessons learned. As of the date of reporting, the Boodarie Iron operation remains shut down pending the results of safety investigations into the incident there.

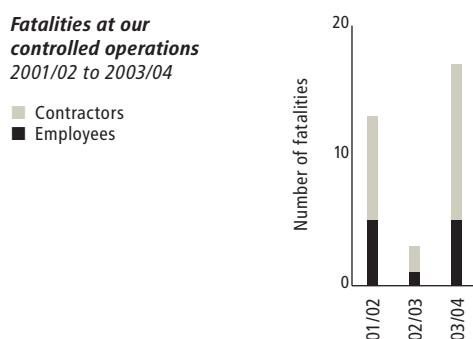
## SAFETY continued

Each of these incidents has been thoroughly investigated, utilising our Incident Cause and Analysis Methodology (ICAM) with lessons learned being shared across the organisation. The relevant Customer Sector Group President personally visited the site concerned after the incident and then reported, together with site leadership, the findings and actions of the investigation direct to the HSE Committee of the Board.

We also monitor significant incidents that result from activities related to our business but not directly within our management control. Included in this category are, for example, incidents that occur at operations we have an interest in but do not manage, injuries suffered by an employee travelling from their residence to work, or an injury that is solely the result of an employee undertaking personal activities. During the reporting period, six fatalities within this category were reported, down from 16 in the previous period. Of these, two were at joint venture operations managed by our partners and four occurred at or around our sites but were not associated with our work activities.

The elimination of fatalities from our operations remains our highest immediate issue, and we are determined to relentlessly pursue this in accord with our Charter values.

The graph below presents the fatalities at our controlled operations and activities from 2001/02 to 2003/04.



One of our great strengths is our diversity and the commitment of our people to continuously look for ways to improve all aspects of our business. Through the efforts of our people, we have many businesses operating in all regions of the world, including developing nations, where excellence in safety has been and is being consistently achieved. A key part of our improvement strategy is to identify and share the key success factors at these operations and incorporate them in our global standards and practices. For a better understanding of our challenges in this area, refer to our sustainability challenge on [Fatal risks](#).

### HSEC reporting system

Over the reporting period, a Company-wide central HSEC reporting and storage system was introduced. The system, a module of our First Priority HSEC information system, has provided additional rigour and consistency to our overall HSEC performance reporting.

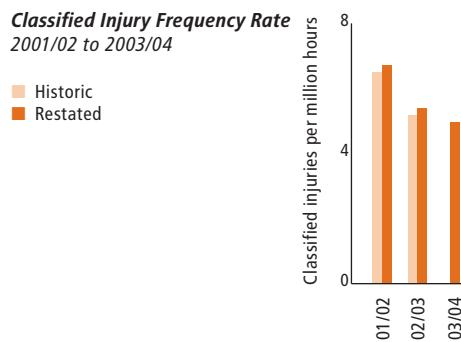
The introduction of the new HSEC reporting system coincided with a review of our safety definitions, resulting in a slightly adverse impact on both current and historical safety data. Specifically, the changes made included the following:

- Data for the past three years are now stored in the central auditable database. These data are entered directly by site safety administrators and go through a site verification process before being transferred to the central database.
- The definition of a classified injury was modified to align it with the internationally recognised US Occupational Safety and Health Administration (OSHA) standards. The definition now includes any injury where calendar days are lost, as opposed to rostered workdays under the previous definition. This has caused an increase in the number of classified injuries reported under the new definition.

An HSEC Reporting Manual was also developed during the period to assist with the common application of reporting standards across the organisation.

### Classified Injury Frequency Rate

Classified injury, a broader injury indicator, was introduced as the principal safety outcome indicator last year. A classified injury is any workplace injury that has resulted in the person not returning to their unrestricted normal duties after the day on which the injury was received. The Classified Injury Frequency Rate (CIFR) is the number of classified injuries per million workhours. The CIFR for the reporting period was 4.95 compared with 5.38 for 2002/03 (adjusted following definitional alignment with OSHA as mentioned above). This represents an 8 per cent decrease during the reporting period, and an overall 26 per cent decrease to date against our baseline, and is in line with our target for a 50 per cent reduction in our Classified Injury Frequency Rate by 30 June 2007.



The graph above presents our Classified Injury Frequency Rate (employees and contractors) from 2001/02 to 2003/04.

For details on our strategies to improve our performance in this area, refer to the discussion on [Safety management](#).

### Safety incidents

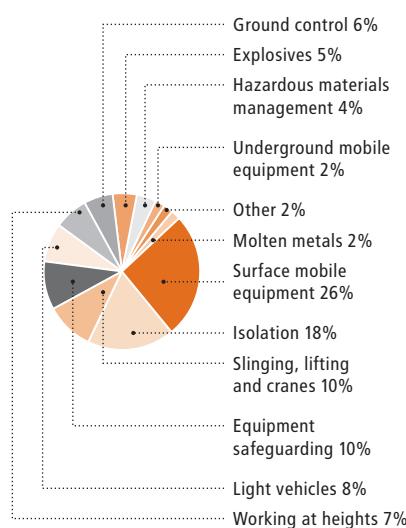
The [BHP Billiton HSEC Consequence Severity Table](#) is the key tool utilised in determining the level of significance of actual or potential incidents. Significant safety incidents are those incidents ranked four or above in the table. Across the Company, we seek to encourage the reporting of near miss or potential incidents in order to understand our areas of risk and assist with the implementation of preventative measures before actual outcomes occur.

## SAFETY continued

The graph below provides an analysis of the significant safety incidents reported across the organisation since the merger, aligned with our major risk categories, further emphasising the importance of our Fatal Risk Control Protocols.

During the year, a key focus has been to raise awareness of, and further encourage, near miss reporting. This has resulted in a substantial increase in the number of potential significant incidents reported, enabling us to identify early components of potentially fatal risks, raise awareness and put in place actions aimed at preventing these risks from manifesting into serious outcomes.

**Significant safety incidents by fatal risk control protocol and incident type**  
2001/02 to 2003/04



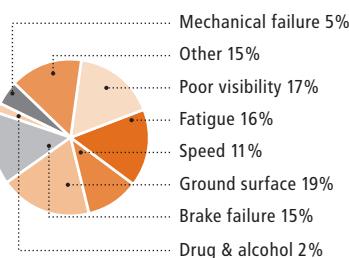
This is indicative of an increasing level of reporting maturity across the organisation that will continue to be encouraged.

Details of all significant incidents and their investigation findings are collated and circulated to relevant line managers and HSEC personnel on a weekly basis. The incidents are then stored on our Significant Incident intranet site for reference.

During the year, enhancements were made to this website, providing the ability to drill down and analyse the underlying causes and contributing factors in each risk category.

The graph below provides an example of a cause and contributing factor analysis for surface mobile equipment, which represents 26 per cent of the significant incidents reported over the past three years. This type of analysis enables focus areas to be identified and targeted.

**Basic cause categories – surface mobile equipment significant incidents**  
2001/02 to 2003/04

**Safety fines**

Regrettably, we did not meet our goal this year of zero safety fines or prosecutions. The table below outlines the safety fines for this period.

**Safety fines 2003/04**

SITE	CUSTOMER SECTOR GROUP	DESCRIPTION	FINE (US\$)
Worsley	Aluminium	Fined AUD\$10 000 due to a breach of the Mines Safety and Inspection Act associated with an incident on 14 April 2002 that resulted in an employee sustaining arm and chest injuries while attempting to jump-start a truck.	6 863
Robinson	Base Metals	Fined US\$540 due to nine safety citations received from the US Mine Safety and Health Administration.	540
Boodarie Iron	Carbon Steel Materials	Fined AUD\$15 000 due to a breach of the Mines Safety and Inspection Act associated with an incident on 27 February 2002 that resulted in burns to an employee.	10 295
Navajo Mine	Energy Coal	Fined US\$3956 due to 26 safety citations received from the US Mine Safety and Health Administration.	3 956
Navajo Mine	Energy Coal	Fined US\$795 due to 54 safety citations received from the US Mine Safety and Health Administration.	795
San Juan Mine	Energy Coal	Fined US\$2186 due to 79 safety citations received from the US Mine Safety and Health Administration.	2 186
San Juan Mine	Energy Coal	Fined US\$5226 due to 93 safety citations received from the US Mine Safety and Health Administration.	5 226
Escondida	Base Metals	Fined 3 119 655 Chilean pesos due to a transgression associated with food handling.	4 654
Newcastle Steelworks	Not applicable – closed site	Fined AUD\$250 000 due to a fatal incident at the former Steelworks site in 1999.	171 575
		<b>Total</b>	<b>206 090</b>

## SAFETY continued

### Safety management

Our Future State directs the decision-making and thinking for safety in the organisation.

See the poster on [Our Future State](#) to see what our vision entails.



Learnings from our significant incidents have identified gaps in the consistent application of the Future State principles across the organisation. A substantial review was undertaken to assess what priorities are appropriate to re-establish a stable progression towards Zero Harm.

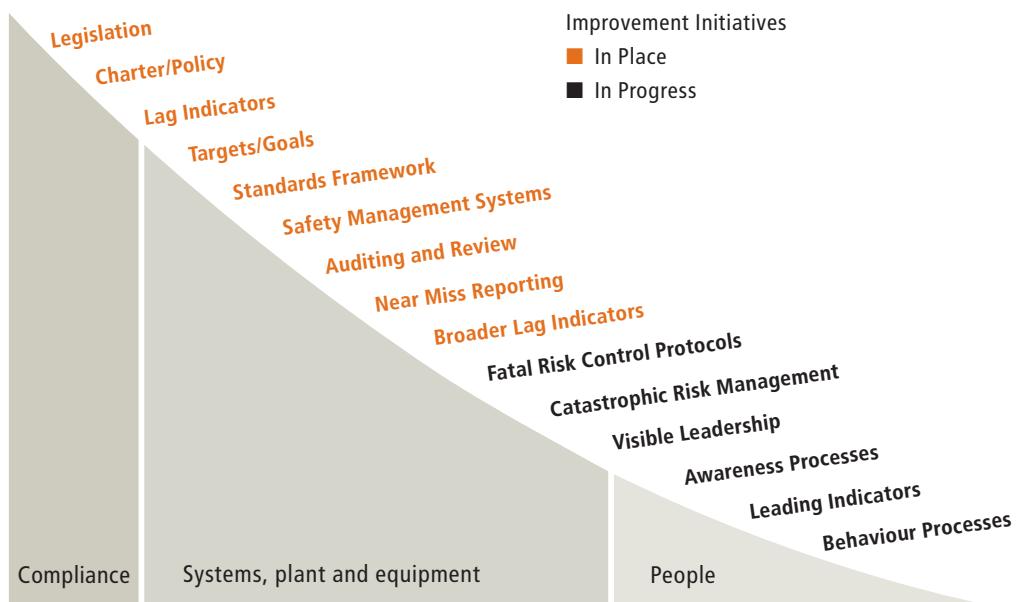
Deeper analysis of the fatalities that have occurred since the merger have provided the following key strategic learnings for the organisation:

1. Low injury frequency rates do not mean low fatality rates – we cannot and should not draw any comfort from low injury rates in terms of our capacity to eliminate fatalities.
2. Injury reduction programs alone will not prevent fatalities – a complementary focused effort is required on fatal risk. This is why we have implemented the Fatal Risk Control Protocols.
3. Our fatalities often have similar underlying causes.
4. High near miss reporting often correlates with declining injuries or fatalities – our ability to take heed of the 'signals' from near miss events is crucial to our efforts in eliminating fatalities.
5. Leadership visibility in the field is crucial – our current state of safety maturity relies heavily on leadership energy to deliver improved performance.
6. Effective contractor management is essential.
7. Hazard identification and risk awareness are fundamental for success.

The Safety Improvement Road Map (see below) remains our guide to safety excellence.

The diagram illustrates that, as the maturity of our organisation increases, our safety improvement initiatives become all-encompassing. The most mature organisations understand that the behaviours of their people are the key to their success.

### Safety Improvement Road Map



## SAFETY continued

We are confident that our HSEC systems are comprehensive and the initiatives identified in the Safety Improvement Road Map have the right focus to deliver Zero Harm. Our efforts are directed towards the effective and consistent implementation of these across the organisation. To support this drive, some detailed analysis was undertaken during the reporting period of the safety cultures and climates that exist within our organisation. Specifically this work included:

- a review by DuPont of our overall organisational safety climate
- a comprehensive analysis of the South African safety situation and a subsequent action plan developed and implemented
- an Operational Excellence analysis of the Australian safety culture to assist with understanding and addressing underlying issues inimical to achieving Zero Harm.

Refer to the following sections to review our progress in safety management.

- [Fatal Risk Control Protocols](#)
- [Leadership, behaviour and awareness](#)
- [Leading indicators](#)
- [Contractor management](#)

### **Fatal Risk Control Protocols**

A significant effort is being made to implement the requirements of the Fatal Risk Control Protocols across the organisation. There is clear evidence that their implementation, particularly in relation to light vehicle usage, has already delivered more effective protective barriers, preventing significant incidents and serious outcomes.

To support the successful implementation of the Fatal Risk Control Protocols, the following initiatives have been undertaken:

- development of an assessment and tracking tool
- establishment of a dedicated Fatal Risk Control intranet site
- allocation of dedicated resources to support selected protocols
- workshops conducted in key regional operating areas and involving site and business representatives.

These workshops addressed issues such as what had gone well, what needed clarification or resolution, and any barriers or threats to meeting the target of full implementation of the Protocols by 30 June 2005.

An additional Fatal Risk Control Protocol on Lifting was developed as a result of further analysis of our fatal risks. It was decided that the potential risks associated with lifting activities merited a protocol to cover this aspect specifically. Refer to our case study: [Improvements to lifting and slinging practices by our Petroleum drilling team](#) to understand how this is being implemented.

For details on the progress of the implementation of our Fatal Risk Control Protocols, refer to our case study: [Implementation of Fatal Risk Control Protocols under way at all our operations](#).

### **Leadership, behaviour and awareness**

The need to address at-risk behaviours and increase safety awareness is integral to achieving Zero Harm in safety, as outlined in Our Future State. Effective safety leadership is crucial to the success of our safety programs. We therefore hold line management accountable for the safety of our operations.

Behavioural-based safety is the process of involving our people in defining the ways they are most likely to be injured and asking them to observe co-workers and engage them in a discussion that reinforces safe behaviours and identifies ways the job can be done more safely.

The behavioural-based safety process has greatest impact when everyone on site conducts safety observations. Research has proven that the observer develops a far greater awareness of hazards and risks than those being observed. The other critical factor is that a positive discussion occurs on the job as part of every safety observation and that management uses the feedback from these discussions to eliminate barriers to safe behaviour.

We recommend that our sites employ the following principles in developing behavioural-based safety programs:

- Sustainable behaviour (and subsequent culture) change requires change in employee behaviour at all levels.
- Behaviours are markers of attitudes and beliefs and are amenable to change through observation, feedback and the removal of barriers to safe behaviour.
- The changes sought for safety culture improvement are often those that are required for general Company cultural change.
- Employee participation and ownership of the process is essential.

Our approach aims to increase safe behaviour and decrease at-risk behaviour by involving our leadership, employees and contractors. We seek to understand where and why at-risk behaviours occur, and blame has no place in a behavioural-based safety program.

A number of behavioural-based safety programs are being implemented across our operations. For a detailed example, refer to our case study: [Behavioural-based safety leadership training program implemented at New Mexico Coal](#).

We have also progressed a number of initiatives over the reporting period to increase safety awareness across the organisation and improve the sharing of lessons learned.

When a trend of similar incidents, whether internal or external to the Company, is identified and common learning points are evident, a 'Repeat Significant Incident Alert' is compiled. These alerts provide a succinct summary of the events and the common learnings, which are distributed widely within the organisation. They contain links for ease of reference and act as good catalysts to toolbox talks while raising general safety awareness. An example is shown below.

**Health Safety Environment**



**REPEAT SIGNIFICANT INCIDENTS – NO. 5 UNPLANNED MOVEMENT AND BRAKE FAILURES ON MOBILE EQUIPMENT**

Below are brief details of 4 incidents, all involving the failure of braking systems. Please review these incidents for similar potential at your site.

**Rein Dumper Truck Collided With A Tractor**

A Rein dumper truck was climbing up a gently sloped ramp (10°) when the engine cut off. A fly-laden haul truck was climbing up a gently sloped ramp (10°) when the engine cut off. The driver of the haul truck was unable to stop the truck and it stopped behind the wheels. The brakes and the two stop blocks did not hold the truck and it slipped down the ramp. The haul truck then hit and ran over a tractor, which was making its way up the ramp. Basic causes included:

- Inadequate design - no fail-safe braking system.
- Inadequate maintenance.
- Inadequate checking devices.

<http://bhpbillitonincidents.bhphub.net/enhanced/reports/reports.aspx?incidentid=704731&Type=incident>

**Haul Truck Accident**

The operator of a Haul Pac truck drove the vehicle into a rubble pile to avoid a possible collision with a loader or another truck, when both the quercher and service brake systems failed. Basic causes included:

- Failure of the quercher and service brake.
- Inadequate maintenance.

<http://bhpbillitonincidents.bhphub.net/enhanced/reports/reports.aspx?incidentid=704732&Type=incident>

**Truck Collision**

An operator left a truck unattended in a parking lot whilst he went to pick up a key. The truck was parked with the engine running and the emergency brake was not engaged. The truck rolled down the hill and struck another truck, which was parked on a hydraulic jack, which was the impact due to external forces. Basic causes included:

- Failure of the quercher and service brake.
- Failure to engage the emergency brake.
- Violating standard parking procedures.

<http://bhpbillitonincidents.bhphub.net/enhanced/reports/reports.aspx?incidentid=704733&Type=incident>

**Run Away Utility Vehicle**

A utility vehicle transporting Explosives ran out of control when both the fail-safe brakes and the emergency brakes failed and the vehicle ran into a dam where it stopped. Basic causes included:

- Vehicle fail-safe brakes did not stop the vehicle.
- Emergency brakes did not stop the vehicle.
- Steering did not work due to hydraulic failure.
- Driver did not take appropriate action for correction.
- Safety belts will help save your life. Fatalities can occur from low impact collisions.

**LEARNINGS FOR MANAGEMENT INCLUDE:**

- Inadequate and ineffective maintenance of brake systems.
- Parking standards shall include requirements for the immobilisation of surface mobile equipment (e.g. chocking or trenching) and consideration for the use of emergency brakes.

**LEARNINGS FOR OPERATORS INCLUDE:**

- Ensure checks and/or retaining devices are adequate. It does not cost when required as per site standards.
- Never leave a vehicle unattended until all brakes have been tested and work to specification.
- Safety belts will help save your life. Fatalities can occur from low impact collisions.

*Unplanned movement of mobile equipment safety alert*

## SAFETY continued

A number of posters have also been developed to assist with increasing awareness across the Company. See the [Road to Zero Harm](#) and [Safety Awareness](#) posters.



### **Lead indicators**

The majority of sites have introduced lead indicators that support the measurement and tracking of their critical safety interventions.

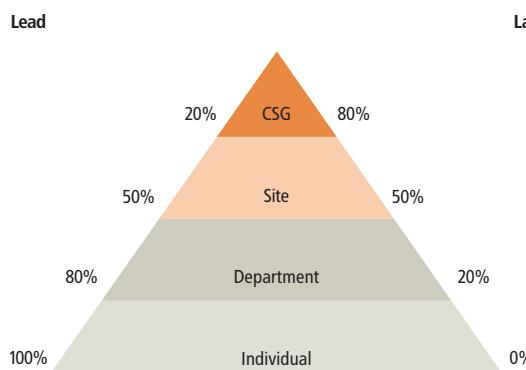
A lead indicator is a metric used to drive and measure activities carried out to control and prevent injury, damage or loss. When measured and monitored effectively, they provide data to enable effective intervention to address or reverse a negative trend before it results in injury, damage or loss.

A guideline document and presentation were developed to increase knowledge, create discussion and promote the wider use of lead indicators as a driver to safety improvement across the Company.

Injury statistics or other lag indicators provide an overall estimate of the progress required to achieve our vision of Zero Harm but do not measure the effective implementation of safety programs, proactive action plans and preventative activities in place. If lag indicators are used as the only index of safety achievement (or failure), they can do more harm than good from the perspective of empowering people to take control of safety and to develop an effective organisational safety climate. It is therefore important that a mix of lead and lag indicators are used to measure overall safety effectiveness and performance.

The diagram below illustrates an indicative breakdown of lead and lag indicators being promoted at various levels of the organisation. The ratios indicated are only a guide to illustrate the concept and can be modified to suit circumstances.

### **Breakdown of lead and lag indicators being promoted across the Company**



The use of a greater proportion of lead indicators at individual and department levels, as illustrated by the diagram, reinforces personal involvement and improves the perceptions individuals and work teams have about their control and management of injuries.

### **Contractor management**

Managing contractors and their activities more effectively at our operations has been identified as a significant improvement opportunity for the Company. Our objective is to ensure that standards and procedures adopted by the contractors are consistent with the BHP Billiton standards. Some of the steps we have taken to move towards improved consistency in this area are:

- The contract work is to be assigned a BHP Billiton manager or supervisor as the single point of accountability.
- BHP Billiton line management is to allocate adequate time and resources to manage the day-to-day activities of the contract.
- Line management is to sign off on the work standards and how they are to be carried out and shall ensure via timely workplace inspections that the work is being carried out according to the agreed standards.
- Line management is to ensure that BHP Billiton's expectations are clearly and effectively communicated to all contractors and their respective organisation's leadership.
- Line management is to ensure that each contractor's on-site manager is introduced to the responsible BHP Billiton supervisor who has single-point accountability and that effective systems of communication are in place.

This issue is further being addressed through the development of a Contracting Checklist that will be added to the requirements of our HSEC Management Standard 11 – Suppliers, Contractors and Partners.

To understand how some of our sites are addressing the challenge of contractor management, refer to our case study: [Initiatives at Hillside and Worsley aim to improve contractor safety performance](#).

## ENVIRONMENT



► Growth in the Sahara desert. See case study 21 for further information.

### Background

Our approach to environmental management is incorporated in our Charter, which states that we have an overriding commitment to health, safety, environmental responsibility and sustainable development. This is expressed further in our HSEC Policy, which states that we will:

- strive to achieve leading industry practice
- meet and, where appropriate, exceed applicable legal and other requirements
- set and achieve targets that include reducing and preventing pollution.

In addition, we adhere to the [HSEC Management Standards](#) that form the basis for our management systems at all levels. They cover the entire life cycle of operations, including decommissioning, closure and rehabilitation.

We own and operate a diverse range of businesses in different countries and ecosystems around the world. These businesses, by their nature, have the potential to affect the environment.

This can occur in a variety of ways, including:

- emissions of greenhouse and other gases, such as carbon dioxide and oxides of sulphur and nitrogen associated with combustion and smelting processes; fluorides from aluminium smelting; and particulates from ore handling
- reductions in water quality as a result of acid rock drainage due to the particular ore body characteristics at some of our sites or from the handling, use and production of hazardous materials
- impacts on land associated with land disturbance, land use changes and habitat removal
- alterations to biodiversity within terrestrial, fresh water and marine environments either directly or indirectly as a result of our operations
- indirect impacts encompassing any of the above as a result of the products and services we purchase, lease or provide.

The following sections discuss our [Environmental performance](#) and [Environmental management](#) initiatives over the reporting period.

For a breakdown of our environmental performance data refer to the [Environmental data summary](#).

### Environmental performance

Please refer to the following sections for details on our environmental performance during this reporting period.

- [Environmental incidents](#)
- [Accidental discharges](#)
- [Environmental fines](#)
- [Environmental spending](#)
- [Rehabilitation, remediation and closure](#)
- [Biodiversity](#)
- [Resource use](#)
- [Emissions](#)

During the reporting year, we experienced an increase in natural resource consumption as well as increases in several environmental parameters due to expansions or restarting of certain operations. For a complete breakdown of all our environmental performance data, refer to the [Environmental data summary](#).

To understand the systems we put in place to manage our performance, refer to the [Environmental management](#) section.

### Environmental incidents

The [BHP Billiton HSEC Consequence Severity Table](#) is the key tool utilised in determining the level of significance of actual or potential incidents. Significant environmental incidents are those incidents ranked three or above in the consequence severity table.

Regrettably, we had two Level 3 incidents during the reporting period. These related to acid water seepage that resulted in the release of poor-quality water outside the designed containment system at our now closed Selbaie base metals mine in Canada (refer to our case study: [Selbaie Mine develops environmental program to contain acidic waters during snow-melting season](#)).

An action plan has been put in place to fully contain all subsequent seepage. Lessons learned from this incident and other potential incidents have been shared across the Company and measures are being put in place to prevent recurrence.

### Accidental discharges

Accidental discharges of hydrocarbons to land and water that may impact the environment increased from 104 595 litres to 129 230 litres. The increase was mostly due to spill incidents that occurred at Jimblebar (Australia) and EKATI (Canada). A pipeline leakage, ruptured hydraulic hoses, and spills from haul trucks while refuelling were the most common causes of these accidental discharges. Containment and remediation plans are being implemented in line with the nature of the accidental discharge.

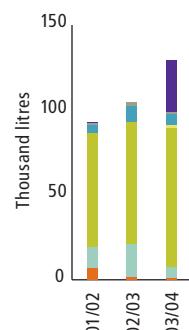
## ENVIRONMENT continued

During the coming year, we will be placing more focus on hydrocarbon management and the prevention of spills through the development of hydrocarbon storage guidelines and fuel storage audits of suppliers. Details of accidental discharges are presented in the graph below.

**Accidental discharges of hydrocarbons**

2001/02 to 2003/04

- Diamonds & Specialty Products
- Petroleum
- Energy Coal
- Stainless Steel Materials
- Carbon Steel Materials
- Base Metals
- Aluminium

**Environmental fines 2003/04**

SITE	CUSTOMER SECTOR GROUP	DESCRIPTION	FINE (US\$)
Appin Colliery	Carbon Steel Materials	(a) Penalty Infringement Notice (AUD\$1500) issued by New South Wales Environment Protection Authority (NSW EPA) for operation of spray irrigation area during wet weather. (b) Penalty Infringement Notice (AUD\$1500) issued by NSW EPA for non-compliance with monitoring requirements for mine water discharge to aquifer field.	2 220
Yabulu Refinery	Stainless Steel Materials	Penalty Infringement Notice (AUD\$1500) issued by Queensland Environmental Protection Agency for non-compliance with licence conditions relating to water management.	1 110
<b>Total</b>			<b>3 330</b>

**Environmental spending**

Environmental spending for the reporting period totalled US\$207 million, up from US\$134 million, up last year (this is thought to reflect better definition and data gathering efforts). Environmental spending by CSGs is presented in the table below, broken down into the expenditure categories of research and development, site rehabilitation, environmental monitoring and other environmental management costs such as baseline studies. The expenditure for research and development includes collaboration with institutions and academia to minimise environmental impact of our operations or to improve environmental performance of our products, for example through recycling initiatives.

These costs exclude expenditure associated with the capital cost, operation and maintenance of pollution control equipment and the like.

**Environmental spending estimates 2003/04 (US\$'000)**

	Aluminium	Base Metals	Carbon Steel Materials	Stainless Steel Materials	Energy Coal	Petroleum	Diamonds & Specialty Products	BHP Billiton Total <sup>4</sup>
Research and Development	120	1 179	3 420	500	940	301	1 008	7 468
Site Rehabilitation <sup>1</sup>	1 932	39 306	19 453	1 483	62 466	206	418	125 682
Environmental Monitoring <sup>2</sup>	819	7 761	4 639	741	1 720	935	3 435	20 494
Other <sup>3</sup>	3 596	7 924	10 950	8 060	13 939	8 352	292	53 613
<b>Total</b>	<b>6 467</b>	<b>56 170</b>	<b>38 462</b>	<b>10 784</b>	<b>79 066</b>	<b>9 793</b>	<b>5 152</b>	<b>207 256</b>

Note: These data have not been audited.

1. Spending associated with ongoing current or progressive rehabilitation, excluding provisions for closure.

2. Spending associated with environmental monitoring activities such as air and water monitoring.

3. Other spending including costs related to environmental management such as environmental impact assessment and training.

4. The BHP Billiton Total figure is inclusive of data from our closed Beenup site in Western Australia.

## ENVIRONMENT continued

***Rehabilitation, remediation and closure***

We recognised that closure-related activities have the potential to impact on free cash flow forecasts for assets and incremental investments, accounting provisions, residual liabilities and access to future resources. Our Closure Standard has been developed in response to these issues. The Standard comprises mandatory requirements including estimating expected cost and financial provisioning for closure. Provisioning is made for the reclamation and closure of the Group's mining and processing facilities along with the decommissioning of offshore oil platforms and infrastructure associated with petroleum activities.

At 30 June 2004, US\$1702 million (2003: US\$1622 million) was provided for reclamation and decommissioning costs relating to the provision for site rehabilitation at current operations. These reclamation and decommissioning expenditures generally are mostly expected to be paid over the next 30 years. Our provisions for reclamation and decommissioning are discounted to their net present value using a discount rate that approximates the appropriate risk-free rate. The estimated total site rehabilitation cost (undiscounted and in today's dollars) to be incurred in the future arising from operations to date, and including amounts already provided for, is US\$5402 million (2003: US\$3391 million).

In addition, we have certain obligations associated with maintaining and or remediating several closed sites. At 30 June 2004, US\$1081 million (2003: US\$403 million) was provided for closed properties. Adjustments to the provisions in relation to these closed sites are recognised in the profit and loss account during the period in which the adjustments are made. Certain remediation activities are subject to legal dispute and, depending on the ultimate resolution of these matters, the final liability for these matters could vary. The amounts provided for these matters are reviewed periodically based upon the facts and circumstances available at the time, and the provisions are updated accordingly. We believe that it is reasonably possible that, due to the nature of the closed sites' liabilities and the degree of uncertainty that surrounds them, the liabilities in relation to closed sites could be in the order of 35 per cent (2003: 50 per cent) greater or in the order of 20 per cent lower than the US\$1081 million provided at year-end. The main closed asset to which this total amount relates is Southwest Copper in the US; and this is discussed in further detail below, together with a brief discussion of other closed sites.

***Southwest Copper, Arizona, US***

During the year ended 30 June 2004, the Company has carried out further work in relation to the Southwest Copper sites, which has led to an increase in closure provisions resulting from a re-estimation of short-term closure costs and the inclusion of residual risks, longer-term water management and other costs, and an increase in the residual value of certain assets. Despite the work carried out during the current period, uncertainty remains over the extent and costs of the required short-term closure activities, and the extent, cost and timing of post-closure monitoring and longer-term water management. We anticipate that future changes in the closure provisions for Southwest Copper may be required as the necessary site characterisation and engineering work is progressed. The closure provisions for Southwest Copper total US\$771 million at 30 June 2004 (2003: US\$297 million).

***Other closed sites***

The closure provisions for other closed sites totalled US\$310 million at 30 June 2004 (2003: US\$116 million). The key sites covered by this amount are described briefly below:

- Newcastle steelworks – the Company closed the Newcastle steelworks in 1999 and retains responsibility for certain sediment in the Hunter River adjacent to the steelworks site, together with certain other site reclamation activities.
- Island Copper – the Company ceased operations at the Island Copper mine in December 1995 and has responsibility for various site reclamation activities, including the long-term treatment of the pit lake and water management.
- Selbaie copper mine – the Company closed the Selbaie copper mine in January 2004 and has responsibility for short-term site reclamation and remediation activities.
- Rio Algom – the Company has responsibility for long-term remediation costs for various mines and processing facilities in Canada and the US operated by Rio Algom Ltd prior to its acquisition by BHP Billiton in October 2000.

***Biodiversity***

The reporting of biodiversity information has been refined over the year in line with the Global Reporting Initiative reporting requirements and our desire to better understand performance in this regard. To this end, our key biodiversity data are as follows:

- Eight sites reported operating adjacent to areas designated as protected areas by government authorities or national legislation. These sites include the Coermotibo operations at Billiton Maatschappij Suriname (Wane Reserve, Suriname), Cerro Colorado (Lagunillas Lagoon, Chile) and Minerva (Port Campbell National Park, Australia).
- Thirty-nine sites reported having specific activities related to biodiversity conservation. For example, biomonitoring of aquatic biota in the Olifants River Catchment at Douglas (South Africa) and re-establishment of Natterjack toads on Talacre Dunes at Liverpool Bay (United Kingdom).
- Thirty-four sites reported having biodiversity aspects included in their closure plans. For example, at Beenup in Australia, the development of self-sustained wetland systems includes native revegetation and fauna habitat creation as part of the Beenup rehabilitation plan and completion criteria. At Petangis in Indonesia, post-mining land use objectives include secondary forestry, a lake for fishery and agro-tourism activities.

Our spending on biodiversity initiatives amounted to US\$1.3 million, including contributions to the Waterways Conservation Program (platypus research and waterways conservation) conducted with Zoos Victoria, Australia; the Revive our Wetlands program conducted with Conservation Volunteers Australia; research projects investigating flora development and fauna return in disturbed areas at Worsley in Australia; and research on the habitat of the Andean Flamingo at Escondida in Chile. See our section on [Biodiversity](#) in environmental management for a broader discussion on our approach.

## ENVIRONMENT continued

**Resource use***Land*

Decisions on land use have always been part of our activities. Rehabilitation of land disturbed for mining and other uses is an important land use aspect. To this end, we require our sites to have land management plans in place to guide decisions on land use to protect other beneficial uses. Our sites are actively seeking the best options to rehabilitate disturbed land as well as ascertaining the most feasible alternatives for post-mining land use. Such initiatives include cattle grazing trials at our Queensland coal operations in Australia and at our Ingwe coal mines in South Africa.

For another example, refer to our case study: [Innovative approach to reclamation at La Plata Mine is producing positive results](#).

As demonstrated in the graphs below, we continued to disturb more land during the reporting period than we rehabilitated, mainly due to increased mining activities at our coal, bauxite, copper and diamond operations. The area of land rehabilitated increased by 15 per cent compared to the previous year. While the trend shows a decline in land requiring rehabilitation, there remain significant areas of land to be rehabilitated in the Carbon Steel Materials and Energy Coal CSGs for coal mining operations. Of the land requiring rehabilitation (during operations, not the total area that will require rehabilitation at closure), 22 per cent is available to be rehabilitated.

**Land newly disturbed**  
2001/02 to 2003/04



**Land rehabilitated**  
2001/02 to 2003/04



**Land requiring rehabilitation**  
2001/02 to 2003/04



The total footprint of land owned, leased and/or managed by our operations was 1.76 million hectares, of which 1 per cent was for infrastructure (buildings and offices, processing plants, roads and rails), 3 per cent for mining, 3 per cent for supporting infrastructure, and 4 per cent for exploration. Approximately 24 per cent of land is intended for future operation/expansion, 38 per cent is designated as buffer zones and areas not intended/planned for operation, and the remaining 27 per cent is for other purposes.

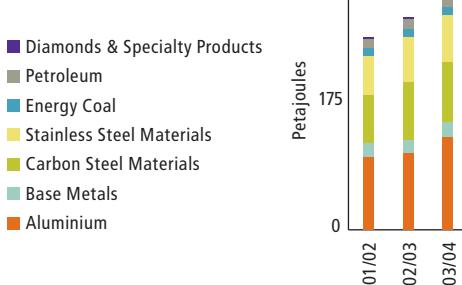
Details of land use performance by the CSGs are presented in the [Environmental data summary](#).

*Energy*

We achieved our target for all sites with greenhouse gas emissions greater than 100 000 tonnes carbon dioxide equivalent per annum to have energy conservation plans with specific targets.

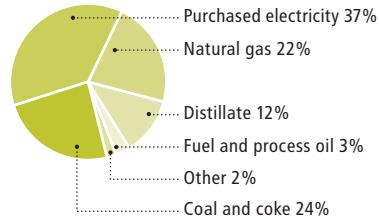
Our energy consumption increased from 292 petajoules in the previous reporting period to 327 petajoules. The Aluminium and Carbon Steel Materials CSGs are the major consumers of energy, as presented in the graph below. Details of energy performance by the CSGs are presented in the [Environmental data summary](#). The increase in energy consumption was mainly due to increased production in our aluminium smelting operations and, to a lesser extent, an increase of production at our iron ore operations.

**Total energy use**  
2001/02 to 2003/04



The graph below shows a breakdown of the Company's energy use by fuel type. Purchased electricity and coal and coke are the major energy types used, with natural gas the next most used fuel.

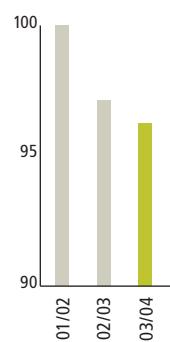
**Energy use by type**  
2003/04



## ENVIRONMENT continued

The energy intensity index<sup>1</sup> is used to track our energy consumption performance. There has been consistent improvement in the Company's overall energy intensity index. During the year, our energy intensity reduced, resulting in an overall reduction of our intensity index to date of 4 per cent against the baseline, as shown in the graph below. Energy conservation initiatives across the Company contributed to the reduction in the energy intensity index.

**BHP Billiton  
energy intensity index  
2001/02 to 2003/04**

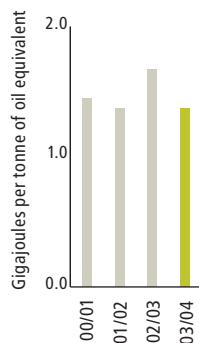


For details on energy consumption of some of our products, see our [Energy intensity of selected products](#).

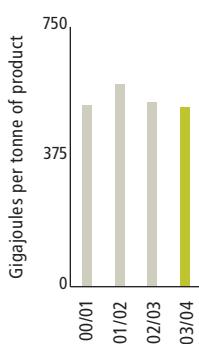
#### Energy intensity of selected products

As the graphs below show, there has been a reduction in energy intensity at our nickel operations in Queensland, Australia, and aluminium smelters in southern Africa, mainly due to efficiency and operational improvement. Energy intensity in our Queensland coal operations has increased, due to the mines operating in progressively deeper coal seams that in turn require more energy per unit production. This is the first year we have reported the energy intensity of our copper products.

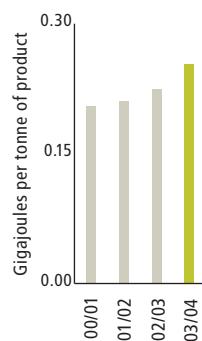
**Energy intensity  
of selected products  
– Petroleum products  
2000/01 to 2003/04**



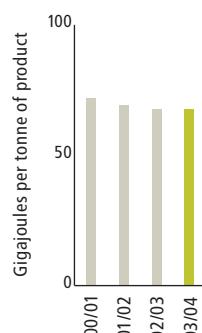
**Energy intensity  
of selected products  
– Queensland nickel  
2000/01 to 2003/04**



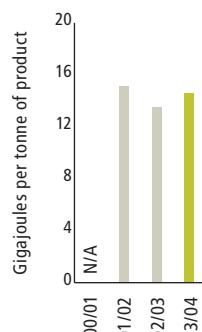
**Energy intensity  
of selected products  
– Queensland coal  
2000/01 to 2003/04**



**Energy intensity  
of selected products  
– Aluminium  
2000/01 to 2003/04**



**Energy intensity  
of selected products  
– Copper  
2000/01 to 2003/04**



1. The intensity index has been developed as a Company-wide performance indicator on environmental parameters, such as energy use, greenhouse gas emissions and fresh water consumption. The 'index' concept allows performance from different business groups or sites, all of which may have different operating conditions and product mixes, to be added together to form an overall indicator per unit of production. The baseline year for the intensity indices is BHP Billiton's Fiscal Year 2001/02 and, as such, has a value of 100 for that year.

## ENVIRONMENT continued

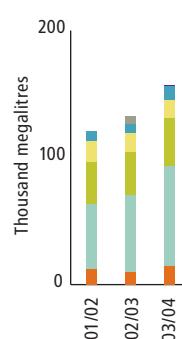
**Water**

Use of water resources is of increasing importance to many of our facilities. Water management plans are in place at all of our sites with fresh water consumption greater than 500 megalitres per annum. Many sites with consumption below this threshold also reported having water management plans in place. Initiatives to effectively manage fresh water consumption range from increasing water recycling in coal wash plants, to modifications of process water reticulation circuits to establish a closed-loop system, to setting water efficiency targets as part of an Operational Excellence improvement project. Water conservation campaigns also extend to the community for some of our operations. Worsley Alumina in Australia, for example, assisted the local shire and schools around the refinery to develop water conservation programs.

For more examples, see our case study: [Engineering a sustainable future at Yabulu Refinery](#).

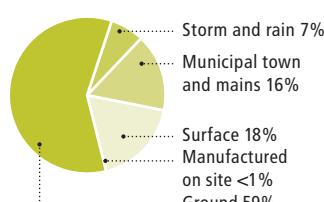
Total fresh water consumption increased from 132 630 megalitres in the previous reporting period to 154 540 megalitres, as shown in the graph below. The increase was mainly due to increased production at our base metals operations, in particular copper production at Escondida in Chile, and less than expected water recovery rates from the new Escondida Phase IV tailings dam. The amounts consumed by the CSGs are presented in the [Environmental data summary](#).

**Fresh water consumption**  
2001/02 to 2003/04



Sources of fresh water for our operations are mainly ground and surface water, as shown in the graph below.

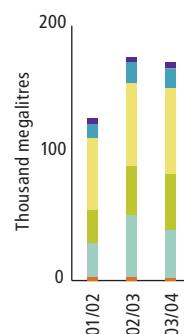
**Sources of fresh water**  
2003/04



We encourage our sites to use natural resources efficiently. To this end, the use of recycled water has been maintained at a similar level to last year, as presented in the graph below.

**Recycled water use**

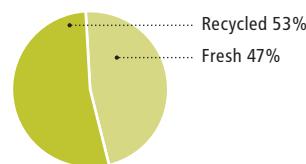
2001/02 to 2003/04



Major contributors to the use of recycled water are Cerro Matoso in Colombia, Escondida in Chile, and GEMCO in Australia.

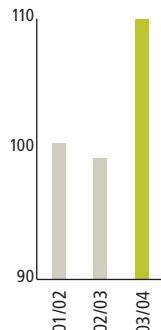
The ratio of fresh water to recycled water used in 2003/04 increased from the previous year, as shown in the following graph.

**Fresh and recycled water use**  
2003/04



Our fresh water intensity index<sup>1</sup> is shown in the graph below. During the year, our water intensity increased, resulting in an overall increase of our index to date of 10 per cent against the baseline, mainly due to higher water use per unit of production in some of our base metals operations, as previously discussed.

**BHP Billiton**  
**fresh water intensity index**  
2001/02 to 2003/04



For the coming year, we will be developing a water strategy to better understand our risks relating to water quantity and quality and how we can plan for further minimisation and recycling efforts.

See our [Water intensity of selected products](#) for further details on water intensity by product type.

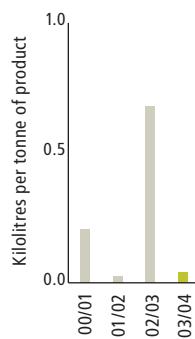
1. The intensity index has been developed as a Company-wide performance indicator on environmental parameters, such as energy use, greenhouse gas emissions and fresh water consumption. The 'index' concept allows performance from different business groups or sites, all of which may have different operating conditions and product mixes, to be added together to form an overall indicator per unit of production. The baseline year for the intensity indices is BHP Billiton's Fiscal Year 2001/02 and, as such, has a value of 100 for that year.

## ENVIRONMENT continued

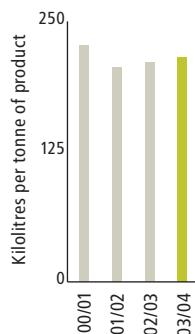
Water intensity of selected products

As the graphs below show, there has been consistent reduction in fresh water intensity for aluminium smelting, mainly due to increased production while maintaining similar overall (base load) fresh water consumption. The decline in the water intensity in Petroleum was due to the completion of drilling and development activities. This is the first year we have reported the water intensity of our copper products.

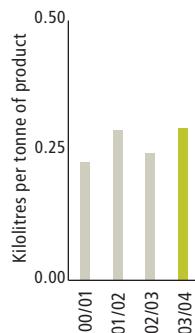
**Water intensity  
of selected products  
– Petroleum products  
2000/01 to 2003/04**



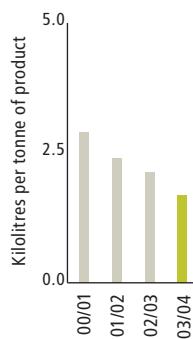
**Water intensity  
of selected products  
– Queensland nickel  
2000/01 to 2003/04**



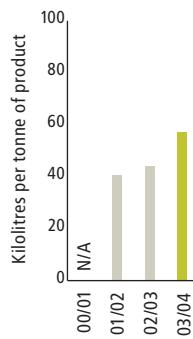
**Water intensity  
of selected products  
– Queensland coal  
2000/01 to 2003/04**



**Water intensity  
of selected products  
– Aluminium  
2000/01 to 2003/04**



**Water intensity  
of selected products  
– Copper  
2000/01 to 2003/04**



## ENVIRONMENT continued

**Waste**

We achieved our target for sites to have waste minimisation programs in place. Sites are actively putting initiatives in place to better manage waste materials. For example, Whaleback (iron ore operation in Western Australia) has programs in place to recycle packaging material, aluminium cans and plastic bottles. Ingwe sites (South Africa) implement programs to recycle general waste as well as operational waste such as scrap metals and conveyor belts.

For another example, refer to our case study: [Waste management practices at Cannington are delivering benefits for the operation and other stakeholders](#).

The graph below shows the different types of wastes disposed by the Company.

**Waste disposed (excluding mineral processing waste) 2003/04**



The following sections provide further details on:

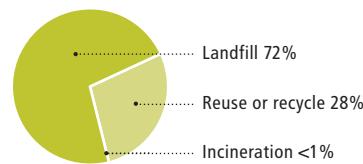
- [General waste](#)
- [Hazardous waste](#)
- [Mineral waste](#)
- [Wastewater and effluent discharge](#)

For details on waste generation by the CSGs, see the [Environmental data summary](#).

**General waste**

General waste or domestic waste types include paper, cardboard and building and construction material. Our operations generated 173 940 tonnes of general waste in the reporting period, of which 28 per cent was recycled/reused/composted and 72 per cent was disposed to landfill; only 460 tonnes was incinerated. The graph below shows the general waste disposal methods.

**General waste disposal methods 2003/04**

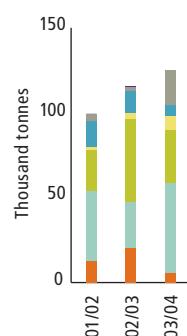


Our general waste disposed to landfill increased from 115 280 tonnes in the previous reporting period to 124 990 tonnes, as shown in the graph below. This increase was due to higher operational activities at Escondida (Chile), Yabulu Refinery (Australia) and Petroleum assets in Algeria.

**General waste disposed to landfill**

2001/02 to 2003/04

- Diamonds & Specialty Products
- Petroleum
- Energy Coal
- Stainless Steel Materials
- Carbon Steel Materials
- Base Metals
- Aluminium



As a result, during the period our general waste intensity increased, resulting in an overall increase of our intensity index (not shown) to date of 25 per cent against the baseline.

**Hazardous waste**

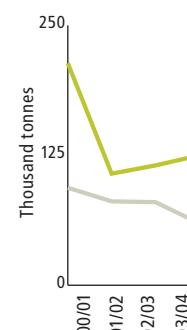
We categorise hazardous waste into waste oil and other hazardous waste, which includes chemical waste, spent pot linings and hazardous baghouse dust.

Of the waste oil disposed, the majority was either burned as fuel for energy recovery on site or sent for recycle/reuse/burning off site.

During the period, our hazardous waste intensity reduced, resulting in an overall reduction of our intensity index (not shown) to date of 12 per cent against our baseline. Indicative trends of waste disposed by the Company are presented in the graph below.

**Waste disposal 2000/01 to 2003/04**

- General waste to landfill
- Hazardous waste



## ENVIRONMENT continued

Mineral waste

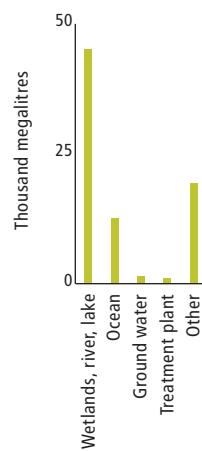
This year, we initiated the collection of data on mineral hazardous waste that is disposed. This is classified as those mineral wastes deemed to be hazardous in some jurisdictions (e.g., due to their leaching characteristics) and includes certain tailings, sludges and slags.

During the reporting period, 16 million tonnes of mineral hazardous waste was disposed. We will endeavour to broaden these data in the future.

Wastewater and effluent discharge

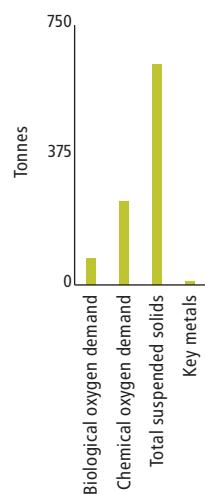
This year we have enhanced our reporting of wastewater and effluent discharge, consistent with GRI requirements. The amount of wastewater and effluent discharge by the CSGs is presented in the graph below and in the [Environmental data summary](#). The total amount of wastewater and effluent discharged to various end points was 83 630 megalitres.

**Wastewater and effluent discharged  
2003/04**



In addition to reporting the quantity, we also require our sites to report on key constituents discharged with wastewater and effluent. The reportable key constituents include biological oxygen demand, chemical oxygen demand, total suspended solids and key metals discharged. The amount of key constituents in the wastewater and effluent discharge is presented in the graph below.

**Key constituents in the wastewater and effluent discharged  
2003/04**



As this is our first year reporting these data, no trends as to the quantity and quality of the wastewater and effluent discharge are available.

*Other consumables*

This year, we have introduced the reporting of consumables used on a Company-wide basis. Because of the diversity of our operations, only consumables of significant quantities were reported. These include acids (800 110 tonnes), caustic soda (459 200 tonnes), explosives (498 360 tonnes), purchased gas other than natural gas (47 400 tonnes) and 230 000 tonnes of other materials (lime, stone dust, magnetite and others).

*Supply chain management*

In line with our HSEC Management Standards, we require sites to minimise any adverse HSEC consequences associated with the contracting of services and the purchase, hire or lease of equipment and materials. Of operated sites, the majority reported having policies and/or systems for assessing our suppliers' environmental performance.

## ENVIRONMENT continued

**Emissions**

Refer to the following sections for details on our environmental emissions.

- [Greenhouse gases](#)
- [Ozone-depleting substances](#)
- [Oxides of sulphur](#)
- [Oxides of nitrogen](#)
- [Fluoride](#)

For a breakdown of our environmental emission data, refer to the [Environmental data summary](#).

**Greenhouse gases**

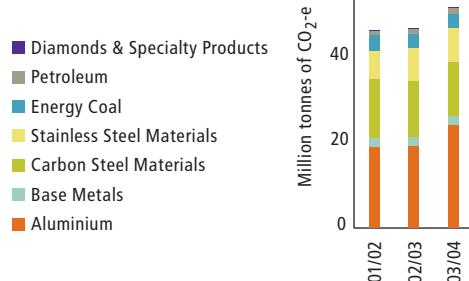
We achieved our target for all sites with greenhouse gas emissions greater than 100 000 tonnes carbon dioxide equivalent per annum to have greenhouse gas management programs.

The main greenhouse gases of concern to us are carbon dioxide (a product of energy use and the use of fluxes) and methane (which occurs at coal mines and from oil and gas production facilities). Emissions of perfluorocarbons associated with our Aluminium CSG also contribute to our greenhouse gas emissions; however, as a proportion of our total emissions, these are not as significant.

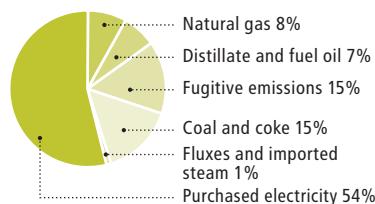
Our total greenhouse gas emissions increased from 47 million tonnes of carbon dioxide equivalent in the previous reporting period to 52 million tonnes. Higher production and associated energy use contributed to the increase of greenhouse gas emissions.

The graph below shows the Company's greenhouse gas emissions trend over three years by CSGs. The sources of these emissions are presented in the subsequent graph.

**Greenhouse gas emissions**  
2001/02 to 2003/04

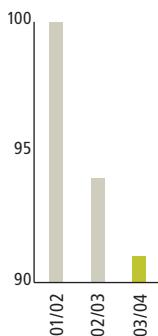


**Sources of greenhouse gas emissions**  
2003/04



The greenhouse intensity<sup>1</sup> index is used to monitor our performance against our target. The graph below shows our greenhouse intensity index for the past three years. During the year our greenhouse gas intensity reduced, resulting in an overall reduction of our intensity index to date of 9 per cent against the baseline. Our performance is ahead of schedule to achieve our greenhouse gas target of an aggregate Group reduction in greenhouse gas emissions per unit of production of 5 per cent by 30 June 2007.

**BHP Billiton**  
**greenhouse gas intensity index**  
2001/02 to 2003/04



See our [Greenhouse gas intensity of selected products](#) for details on greenhouse gas intensity by product.

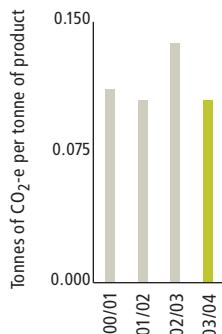
1. The intensity index has been developed as a Company-wide performance indicator on environmental parameters, such as energy use, greenhouse gas emissions and fresh water consumption. The 'index' concept allows performance from different business groups or sites, all of which may have different operating conditions and product mixes, to be added together to form an overall indicator per unit of production. The baseline year for the intensity indices is BHP Billiton's Fiscal Year 2001/02 and, as such, has a value of 100 for that year.

## ENVIRONMENT continued

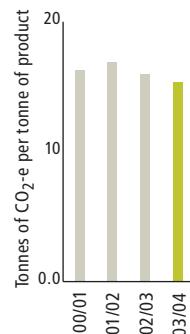
Greenhouse gas intensity of selected products

As the graphs below show, there has been a reduction in greenhouse intensities for both aluminium smelting and nickel refining. This was mainly due to improved energy efficiency and process control. Greenhouse intensity for Queensland coal continued to increase, due to the progressive mining of deeper seams requiring more energy per unit of production. This is the first year we have reported the greenhouse intensity of our copper products.

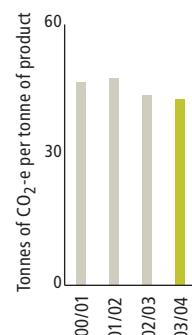
**Greenhouse intensity  
of selected products  
– Petroleum products**  
2000/01 to 2003/04



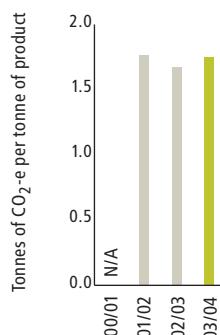
**Greenhouse intensity  
of selected products  
– Aluminium**  
2000/01 to 2003/04



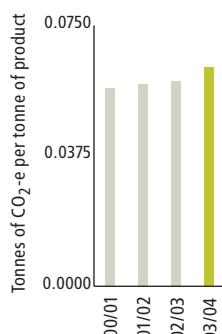
**Greenhouse intensity  
of selected products  
– Queensland nickel**  
2000/01 to 2003/04



**Greenhouse intensity  
of selected products  
– Copper**  
2000/01 to 2003/04



**Greenhouse intensity  
of selected products  
– Queensland coal**  
2000/01 to 2003/04



## ENVIRONMENT continued

*Ozone-depleting substances*

The amount of ozone-depleting substances discharged or leaked to air increased from 160 kilograms chlorofluorocarbons (CFC) equivalent in the previous reporting period to 353 kilograms CFC equivalent. This was mainly due to our Petroleum businesses contracting transport vessels that have CFCs in their air-conditioning systems. We are striving to phase out the use of ozone-depleting substances across our operations.

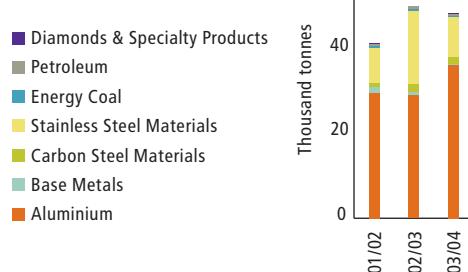
*Oxides of sulphur*

The graph below shows that emissions of oxides of sulphur ( $\text{SO}_x$ ) to air decreased from 50 020 tonnes in the previous reporting period to 48 230 tonnes. The reduction was due to a number of factors such as the move to lower sulphur fossil fuels across the Company and the revision of the emission factor used to calculate  $\text{SO}_x$  emissions at one of our Stainless Steel Materials CSG operations.

As shown in the graph below,  $\text{SO}_x$  emissions for the Aluminium CSG increased compared to the previous year, mainly as a result of higher production.

A breakdown of  $\text{SO}_x$  emissions by the CSGs is presented in the [Environmental data summary](#).

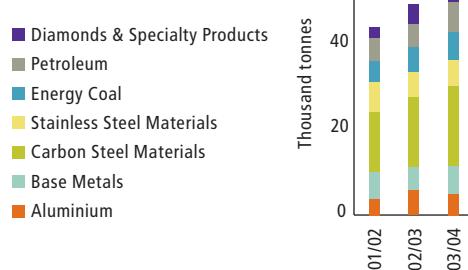
**$\text{SO}_x$  emissions to air  
2001/02 to 2003/04**

*Oxides of nitrogen*

Oxides of nitrogen ( $\text{NO}_x$ ) emissions are produced by the combustion of fuels that potentially can have an adverse impact on the environment.  $\text{NO}_x$  emissions increased from 49 640 tonnes in the previous reporting period to 54 590 tonnes, as shown in the graph below. The increase was due to higher fossil fuel consumption across the Company associated with higher production levels.

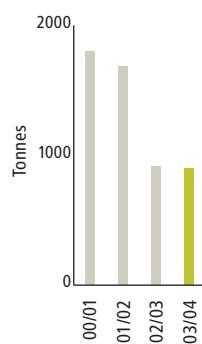
A breakdown of  $\text{NO}_x$  emissions by the CSGs is presented in the [Environmental data summary](#).

**$\text{NO}_x$  emissions to air  
2001/02 to 2003/04**

*Fluoride*

Fluoride emissions from our aluminium smelters decreased from 909 tonnes in the previous reporting period to 900 tonnes, as shown in the graph below. While there has only been a slight reduction in total emissions, fluoride emissions have significantly reduced per unit of production due to process improvements.

**Fluoride emissions to air  
2000/01 to 2003/04**

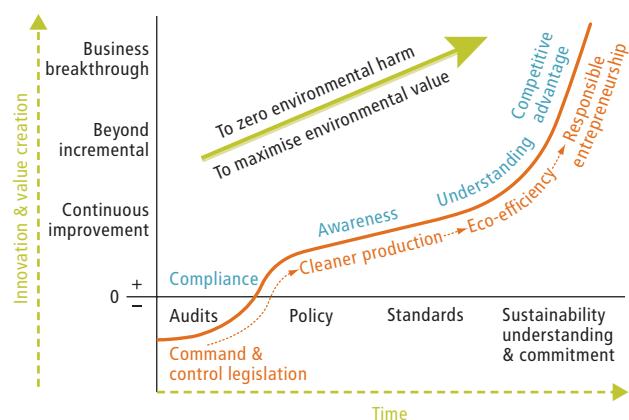
**Environmental management**

We place great emphasis on continually improving our environmental management practices and performance.

There is little doubt that our activities may unavoidably impact the environment. A key component in understanding the potential impacts is to systematically assess significant environmental risks and issues. As part of this, potential environmental risks and issues are taken into full consideration in our [Investment processes](#) for approving new ventures and expansion of current operations.

The key driver for environmental management in the Company is our aspirational goal of Zero Harm to the environment. Our efforts in this regard form the basis of the environmental component of our 'triple bottom line' and thus contribute to our commitment to sustainable development. The strategy we have developed to meet our environmental goals and objectives is illustrated in the diagram below.

**Environment strategy map**



## ENVIRONMENT continued

Embedding environmental considerations in our businesses through the appropriate valuation of environmental costs and benefits is fundamental to our environmental strategy. Hence we are seeking to raise the organisation's awareness and understanding of the economic and competitive opportunities presented by good environmental performance. Central to this journey are improvements in eco-efficiency and product stewardship. The environment strategy map illustrates that, as we move up the curve, our environmental footprint is reduced, allowing for competitive advantage through the establishment of responsible entrepreneurship. This may involve engaging our customers and suppliers in ways to reduce their environmental footprint, thereby strengthening our business partnerships and consequently improving business performance across our value chain.

Our environmental management during the reporting year remained focused on three main areas:

- Management processes and programs. See our section on [Environmental management systems](#).
- External environmental issues, which often have implications as drivers of change in the internal management programs and processes. These issues include emerging new regulation (in particular in the European Union), land access and climate change.
- Operation-level environmental issues, such as tailings and hydrocarbon management, which could have a significant effect on the Company because of their potential to impact the environment, to adversely affect the Company's reputation or to substantially increase the cost required to address the issues.

Refer to the following sections to review our progress in environmental management.

- [Environmental management systems](#)
- [Closure planning](#)
- [Emergency preparedness and response](#)
- [Climate change](#)
- [Biodiversity](#)

Also refer to our progress with regards to the [Product stewardship](#) target across our businesses.

### ***Environmental management systems***

Significant progress has been made in the implementation of environmental management systems across our sites. All our operations are accredited to the ISO 14001 Environmental Management System (note that accreditation is not required at exploration and development projects, sites being divested, closed sites and offices). Company-wide professional networks have been established to deal with critical areas of environmental management practice including greenhouse gases and closure.

During the year, we improved our environmental incident reporting intranet site. This enables us to better capture information related to environmental incidents, to provide relevant and timely learnings and to better track trends in performance over time.

The key issues that will drive our strategic priorities for the coming year include increasing our focus on the process of identifying and dealing with environmental risks and liabilities (such as tailings management), development of a Company-wide water strategy, implementation of the Company-wide Closure Standard and establishment of the next set of Company-wide environmental targets. We will also place greater emphasis on assessing significant impacts on the natural environment and biodiversity arising from our activities.

### ***Closure planning***

Closure of an operation poses risks and opportunities that need to be identified, assessed and managed. During the reporting period, we developed a Company-wide Closure Standard. The Closure Standard presents a set of consistent principles and procedures to formally recognise and coordinate the Company's approach to planning for, providing for and executing closure. The Standard provides a clear, systematic and consistent set of requirements to ensure that closure plans achieve Company standards, that cost estimates reflect risks and opportunities, and that plans are regularly reviewed. The principles set out in the Closure Standard will be an integral part of our investment and governance processes.

For a better understanding of our challenges in this area, refer to our sustainability challenge on [Sustainable community development and closure](#).

### ***Emergency preparedness and response***

In line with the requirements of our HSEC Management Standard 14 (Crisis and Emergency Management), our businesses and sites have emergency response procedures in place to deal with a wide range of possible crisis and emergency scenarios, such as oil spills, failure of water pond dams, fires and explosion, chemical spills and other potential environmental incidents. The procedures describe the actions to be taken and the allocation of responsibilities in relation to these actions, and typically contain communication protocols, control procedures and media and stakeholder management procedures, including escalation communication requirements. Sites and businesses periodically conduct emergency scenario simulations and drills. Emergency preparedness and response are coordinated and maintained at a Company-wide level through our Crisis Management Group.

### ***Climate change***

We are working on activities related to climate change risks and opportunities in a number of ways. These include reducing the greenhouse gas (GHG) intensity of our operations in line with a target, requiring sites to develop GHG management and energy conservation plans, pricing carbon in investment decision-making, funding research and development activities and collaborating with customers.

Greenhouse gas management programs and energy conservation plans have been developed at all of our sites with annual emissions greater than 100 000 tonnes of CO<sub>2</sub> equivalent.

In 2002, we set a target to achieve an improvement in the greenhouse gas intensity of our operations' emissions (including emissions from purchased electricity) per unit of production of 5 per cent over the period to 30 June 2007. To date, we are ahead of schedule on this target.

## ENVIRONMENT continued

We are developing relationships with counterparts in the emerging carbon credit market in Europe that will facilitate the inclusion of carbon credits in our future sales of greenhouse gas intensive products into Europe and Japan.

We are working with our customers to improve energy efficiency in the downstream consumption of our Energy Coal products as well as promoting activities to help deliver low or zero-emission coal technologies. This is mainly through institutions such as the World Coal Institute and the Australian Coal Association.

Carbon pricing sensitivity analysis is considered in our decisions on new projects and investments that would emit more than 100 000 tonnes of CO<sub>2</sub> equivalent per annum. This analysis includes a range of prices for developed and developing countries over an extended period of time. In addition, our Energy Coal CSG has included the potential implications of greenhouse gas emissions regulation in its base case supply and demand forecasts and in its business strategy. This is due to the potential importance of such regulation in relation to the future demand for coal.

For a better understanding of our challenges in this area, refer to our sustainability challenge on [Greenhouse gas emissions](#).

### ***Biodiversity***

The intent of our biodiversity management is to recognise and manage the values of biodiversity that may be adversely affected by our activities. During the year, we researched relevant biodiversity metrics that can be used to monitor and measure the success of our land management and rehabilitation strategies. Following an extensive review of literature and current industry practice, it was found that indicators specific to the resource sector are still in the early stages of development. Thus, development of readily measurable indicators that accurately reflect trends in complex and dynamic ecological systems is a major challenge to us. During the coming year, we will continue refining our approach to biodiversity management, including development of appropriate biodiversity management plans.

Without systematic assessment and management, there are potential risks that biodiversity values and impacts will not be recognised. To this end, the majority of our sites incorporate biodiversity considerations into their overall environmental management system. For example, our Yabulu Refinery in Queensland, Australia, includes an ecological health monitoring program as part of its overall environmental management plan. At Zululand Anthracite Colliery, South Africa, biodiversity monitoring and assessment of wetlands within the vicinity of the site are regularly conducted.

Additionally, some operations, such as at Mineração Rio do Norte in Brazil, form partnerships with academia and research institutes to preserve and quantify the generic variability of species of economic, social and environmental importance. Saraji, our coal operation in Queensland, Australia, participated in the ACARP (Australian Coal Association Research Program) project for research into the construction of roosting structures for threatened bat species.

For another example, refer to our case study: [Conserving biodiversity at the Ravensthorpe Nickel Project](#).

For a better understanding of our challenges in this area, refer to our sustainability challenge on [Access to resources](#).

## ENVIRONMENT continued

**Environmental data summary**

Data in these tables are aggregate figures based on site data reported by BHP Billiton's managed businesses for the financial year 2003/04. Totals may differ due to rounding of data.

	<u>Aluminium</u>	<u>Base Metals</u>	<u>Carbon Steel Materials</u>	<u>Stainless Steel Materials</u>	<u>Energy Coal</u>	<u>Petroleum</u>	<u>Diamonds &amp; Specialty Products</u>	<u>BHP Billiton Total<sup>8</sup></u>
<b>Accidental Discharges (litres)</b>								
Hydrocarbons <sup>1</sup>	814	6 686	81 587	1 470	6 997	821	30 700	129 080
Other materials	255 085	202 280	1 804 976	105 500	469 680 600	478 244	10 478	472 537 160
<b>Land (hectares)</b>								
Total footprint <sup>2</sup>	577 940	118 780	494 490	61 250	169 020	530	332 440	1 758 440
Newly disturbed in the reporting period	700	590	1 480	170	1 900	20	760	5 630
Rehabilitated in the reporting period	200	210	720	50	820	20	40	2 060
Land requiring rehabilitation <sup>3</sup>	3 170	9 210	36 190	1 440	13 360	120	1 760	65 240
Land available for rehabilitation	40	5 570	2 170	20	6 240	40	70	14 150
<b>Water Consumption (megalitres<sup>4</sup>)</b>								
Fresh water	14 490	76 430	38 320	13 680	10 910	560	140	154 540
Recycled water	1 960	37 280	44 130	67 340	15 470	10	4 970	171 150
<b>Energy Use (petajoules<sup>5</sup>)</b>								
Coal and coke	34.1	0.0	15.9	27.2	0.0	0.0	0.0	77.2
Purchased electricity	69.0	11.4	16.8	19.2	3.7	0.0	0.0	120.1
Natural gas	18.6	2.0	32.9	7.5	0.0	11.5	0.0	72.6
Distillate & Others	5.6	7.5	17.7	9.4	7.2	6.6	2.8	56.9
Total	127.3	20.9	83.2	63.3	11.0	18.1	2.8	326.7
<b>Greenhouse Gas Emissions ('000 tonnes CO<sub>2</sub>-e<sup>6</sup>)</b>								
Carbon dioxide	23 140	2 330	8 270	8 000	1 520	1 250	200	44 710
Methane	0	0	4 450	0	1 725	192	0	6 370
Perfluorocarbons (PFCs)	890	0	0	0	0	0	0	890
Total	24 030	2 330	12 720	8 000	3 240	1 440	200	51 960
<b>Other Gaseous Emissions (tonnes)</b>								
Oxides of sulphur	36 110	210	1 660	9 240	270	610	140	48 230
Oxides of nitrogen	4 960	7 010	18 680	6 270	6 440	7 110	4 130	54 590
Fluoride	900	0	0	0	0	0	0	900
<b>Waste (various units)</b>								
Waste water & effluent discharged (megalitres)	5 690	33 600	16 070	6 750	11 590	2 440	7 490	79 570
Waste oil discharged to landfills (kilolitres <sup>7</sup> )	610	50	0	40	230	0	0	940
Mineral hazardous waste disposed (tonnes)	6 849 180	1 791 460	6 953 150	442 990	635 160	1 170	20	16 673 130
Other hazardous waste disposed to landfill (tonnes)	16 260	570	8 680	27 410	1 460	3 850	20	58 250
General waste disposed to landfill (tonnes)	5 340	53 470	31 080	8 070	6 110	20 770	140	124 990

## Notes:

1. Includes hydrocarbons released to secondary containment facilities and subsequently recovered.
2. Includes onshore exploration leases, but excludes offshore exploration leases.
3. Assumes immediate closure of all operations.
4. One megalitre is equal to one million litres.
5. One petajoule is equal to 10<sup>15</sup> joules.
6. Carbon dioxide equivalent (CO<sub>2</sub>-e) is the basis of comparing the warming effect of greenhouse gases such as carbon dioxide, methane, perfluorocarbons, etc.
7. One kilolitre is equal to one thousand litres.
8. The BHP Billiton Total figure is inclusive of data from our closed Beenup site in Western Australia.

## COMMUNITY



► CCLP participants meet with a tribal forest community in Orissa, India. See case study 26 for further information.

### Background

Because we operate in a diverse range of countries and cultures around the world, working effectively with these different communities is a task that requires time, resources and expertise.

We are becoming increasingly aware that we must build our people's capacity within the Company so that they have the skills that will enable them to build strong relationships with the different community groups with which they interact.

Priority community relations issues are:

- upholding the human rights of our employees and contractors, our suppliers and the people in the communities in which we operate
- implementing responsible and sustainable community development, where the challenge is to assist people to achieve an enhanced quality of life without compromising their values, culture or heritage and without creating dependency on our activities
- acknowledging and respecting indigenous communities that own the land impacted by our operations or live nearby
- conducting all international business ethically, including interactions with governments, communities and business partners, as well as issues of workplace behaviour, equal employment opportunity, conflict of interest, financial inducements and bribery, insider trading and political contributions (see also [HSEC governance](#)).

The following sections discuss our [Community performance](#) and [Community management](#) initiatives over the reporting period.

### Community performance

Please refer to the following sections for details on our community performance during this reporting period.

- [Human rights](#) – including security and human rights
- [Community relations](#)
- [Community contributions](#)

### **Human rights**

During 2003, a Human Rights Self-Assessment Toolkit was developed and distributed to all Company sites to assist them in appraising their potential exposure to human rights issues. Use of the toolkit is consistent with the Company's target of ensuring there are no transgressions of the principles contained within the United Nations Universal Declaration of Human Rights.

The toolkit enables sites to assess their level of impact on or exposure to human rights (encompassing child labour and forced labour) in nine aspects relevant to our operations: country, community, land acquisition, indigenous and minority groups, environment, security, employees, contractors and suppliers, and systems. Since its implementation, 44 per cent of sites have completed the self-assessment.

Human Rights Guides for managers and employees and a presentation for employees have also been developed and are available to our sites to assist them in educating our people about their roles and responsibilities. During 2003, 18 sites undertook human rights training with their employees and contractors.

In instances where resettlement is unavoidable, we require our sites to abide by the World Bank's Operational Directive on Involuntary Resettlement. Resettlement cases occurred at four of our sites during 2003. At our Tintaya mine in Peru, there are four ongoing cases of resettlement. The solutions to these cases have been identified in the Dialogue Table process and are in progress. The resettlement of families to new lands with farming potential is an agreement developed with input from the Dialogue Table and the surrounding communities that were affected by the expropriation processes during the 1980s when the Peruvian Government was the owner of Tintaya. At Cerro Matoso in Colombia, there were 26 families resettled due to exploration activities. At Middelburg mine in South Africa, two families of former farm workers, who are currently residing on mine property following purchase of the land from the farm owner, are being relocated to more suitable land. During the pipeline construction phase of the Trinidad and Tobago Petroleum asset, two families were temporarily relocated. An agreement was signed between the Company and the families for a period of one year, initially.

For further details on the progress of issues that have been raised at two of our operations, refer to our case studies: [Process of resolving Tabaco land acquisition issues continues](#) and [Dialogue Table meetings provide a forum for resolving community issues at Tintaya](#).

### **Community relations**

In line with our HSEC target, 98 per cent of the sites required to have community relations plans in place now have operational plans or were covered by a regional development plan developed by the business group.

A total of 77 of our sites have a formal stakeholder consultation process in place. These processes range from site visits and open public meetings to the involvement of representatives on advisory groups.

## COMMUNITY continued

The range of topics discussed during these stakeholder consultation processes covers all areas of sustainable development – health, safety, environment and community related issues as shown in the graph below.

**Topics discussed during stakeholder consultations  
2003/04**



During the year, 26 operations undertook stakeholder perception surveys to better understand their performance from their stakeholders' perspective.

A number of these stakeholder perception surveys were also reviewed to determine whether there were any consistent or emerging themes that could be applied across the organisation. An analysis of the surveys identified the following commonalities:

- Surveys generally contained a mix of qualitative and quantitative data, with a trend towards quantitative data for the purposes of establishing reputation baselines.
- The main stakeholder groups identified for surveys were primarily broad groupings of regional and local communities. In some instances this was further divided into key categories such as employees, businesses, suppliers, NGOs and government.
- When broadly classified, some common themes emerged with respect to key issues that local stakeholders consider to be material. Generally, the social aspects that appeared most frequently included local employment and business creation, support for social infrastructure and programs, a desire for improved community engagement mechanisms and improved environmental performance.
- External, specialised consultants were commonly used for the design, administration and analysis of surveys.
- A number of surveys utilised telemarketing techniques for questionnaire development and analysis, further improving the robustness of the quantitative results for future comparisons.

### External reporting

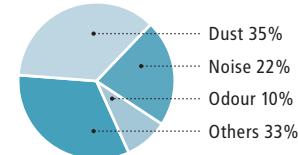
This year, 98 per cent of sites required to prepare public HSEC reports have produced them or they are included in business level reports, which meets our target. These reports are available on our website at [www.bhpbilliton.com/bb/sustainableDevelopment/operationsHSECReports.jsp](http://www.bhpbilliton.com/bb/sustainableDevelopment/operationsHSECReports.jsp).

### Community complaints

All sites are required to have community complaints registers in place to record and track the management of community concerns. During the year, 45 (or 52 per cent) of our sites received a total of 511 complaints. This is a significant increase from 2003 (361 complaints) and is a result of some sites ramping up production. For example, in Australia at the Dendrobium mine, the rail line has become operational in the past six months; and at Hunter Valley Energy Coal, production has increased from 3 million tonnes of coal to 11 million tonnes of coal and the mining area is much closer to residential areas. In these instances, we are working to address stakeholders' concerns and

limit the impact we have on their lives. In Port Hedland, Western Australia, the increase is due to the introduction of a new 'Alert' phone service. Community members and employees are encouraged to use this service to advise the operation of any changes they notice in our facilities in Port Hedland. The categories of complaints are shown in the graph below.

**Community complaints by category  
2003/04**

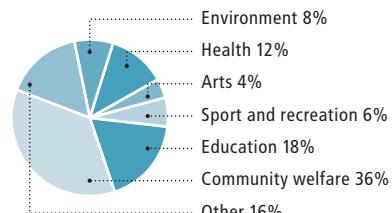


### Community contributions

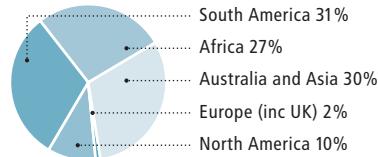
The Company supports community initiatives in the locations where it operates. During 2004, our voluntary contributions to community programs totalled US\$46.5 million, comprising cash, in-kind support and management time. This amount equates to 1.3 per cent of pre-tax profit (three-year rolling average), which exceeds our target of 1 per cent.

The amount includes our contribution to community programs at joint venture operations but does not include payments to communities that form part of mandatory licensing agreements. The distribution of our funding by category and by geographic region is presented in the graphs below.

**Community contributions by program category  
2003/04**



**Community contributions by geographic region  
2003/04**



### Community management

Refer to the following sections to review our progress in environmental management.

- [Corporate community leadership](#)
- [Employee Matched Giving Program](#)
- [Indigenous culture and heritage](#)
- [Community Relations Network](#)
- [Corporate foundations](#)
- [Ok Tedi](#)

For a better understanding of our challenges in this area, refer to our sustainability challenge on [Sustainable community development and closure](#).

## COMMUNITY continued

### **Corporate community leadership**

In January 2004, the Company participated in Oxfam Community Aid Abroad's third Corporate Community Leadership Program (CCLP) in Orissa, India. Aiming to increase understanding of social issues relating to large-scale infrastructure projects, the program involved ten employees from across the Company, and for the first time also involved three participants from Newmont Mining.

Over a two-week period, participants were exposed to various development projects and the impact they have had on local communities. For further details refer to our case study:

[Corporate Community Leadership Program aims to further our understanding of issues.](#)

Now that the CCLP has been operating for three years, Oxfam Community Aid Abroad will undertake an independent review and evaluation of the program and determine whether it will continue to be offered in the future.

### **Employee Matched Giving Program**

The second pilot phase of the Employee Matched Giving Program was implemented in South Africa, the United Kingdom, Canada and Australia. The program aims to strengthen local communities by supporting and encouraging employees who volunteer, fundraise or donate to not-for-profit organisations. During 2004, the company contributed over US\$220 000 to 140 not-for-profit organisations as part of this program.

### **Indigenous culture and heritage**

The Company recognises and respects the importance of indigenous people's culture, heritage and traditional rights and supports the identification, recording, management and protection of indigenous cultural heritage sites.

Indigenous cultural heritage is broadly defined to include matters that are significant to either indigenous people or under legislation, such as dreaming, ceremonial, sacred and burial sites; archaeological sites where evidence of the past occupation and use by indigenous people can be found; more contemporary historic sites; and traditional knowledge. We recognise that indigenous people have a vital role to play in identifying and properly managing cultural heritage, especially where it could be affected by our activities.

Our management systems and standards require that operations and projects undertake early consultations and assessments with indigenous people to ascertain whether proposed activities are likely to impact cultural heritage values and, in conjunction with indigenous people, how best to plan and undertake those activities to avoid or minimise such impacts.

Once a site, place or area is identified as significant, it is recorded so as to facilitate long-term planning and to ensure that it is not interfered with in a way that is contrary to the agreed management regime.

Examples of how we work with indigenous communities where cultural heritage is involved can be found in [Yesterday, Today, Tomorrow – Our Community Programs Report](#) (see [www.bhpbilliton.com/bbContentRepository/Reports/CommunityReport.pdf](http://www.bhpbilliton.com/bbContentRepository/Reports/CommunityReport.pdf)).

### **Community Relations Network**

A Community Relations Network has been established within the Company to facilitate and encourage communication between professionals with community responsibilities. Within our smaller businesses, there is usually only one community relations professional. These employees can feel isolated. The Community Relations Network addresses this issue and provides each person with easy access to 180 people across the Company with whom questions can be raised, experiences shared and advice and opinions sought. All members are encouraged to actively use the network to ensure that the information flow is multi-directional rather than one-way from the Corporate centre. An electronic newsletter alerting the network of the latest social responsibility news, articles and resources is distributed every two months as a professional development tool and to help build the capacity of the community relations discipline.

### **Corporate foundations**

Our operations manage their community support on a local level, using the HSEC management system as the framework for their program implementation. Many of our operations have chosen to manage their community contributions through a corporate foundation structure. These foundations vary in their maturity; some have been functioning for over ten years, and others have only been recently established. We are undertaking a study of these foundations in an attempt to determine whether it is the most effective way to deliver community programs, keeping in mind the diversity of countries and cultures in which we operate. The information will be available to all our businesses to assist them to make informed decisions about the local management of their own community programs. The intent is to produce an HSEC Guideline that will:

- identify advantages and disadvantages of operating community programs through a foundation structure
- provide guidance to businesses on the considerations that should be taken into account when deciding whether to establish a foundation
- outline best practices and lessons learned from existing foundations.

### **Ok Tedi**

In February 2002, BHP Billiton divested its 52 per cent shareholding in Ok Tedi Mining Limited (OTML) into PNG Sustainable Development Program (PNGSDP) Ltd. All of the dividends from the divested shareholding now go to PNGSDP Ltd, a Singapore-based company which is independent of OTML and the PNG Government and whose purpose is to fund short-term and long-term sustainable development projects in Papua New Guinea, enabling a direct return of the funds to the people of Papua New Guinea and the Western Province.

At the end of December 2003, PNGSDP Ltd completed the first full year of operation, and its three funds – the Long Term Fund, the Development Fund and the General Fund – totalled US\$64.4 million.

PNGSDP Ltd's first sustainable development projects are expected to begin before the end of 2004. Substantial progress should also be made in finalising the scope of development projects in rubber, palm oil, power, micro-finance, road infrastructure rehabilitation and communications within Western Province and other parts of Papua New Guinea. For further details, see our case study: [PNG Sustainable Development Program Ltd completes first full year of operation](#).

## SOCIO-ECONOMIC



► A local company, Flor Real, has been established to maintain green areas at our Moza aluminium operation in Mozambique. See case study 32 for further information.

### Background

The socio-economic aspects of our operations relate to how we manage our people, how we govern our business and how we contribute to the economies within which we operate. Our priority issues in this area therefore include:

- the human rights of our employees and contractors – our relationships with our employees, development of our leaders, diversity including indigenous employment, training, remuneration and other benefits of our employees
- ethics and business conduct incorporating issues related to conducting business internationally and interacting with governments, communities and business partners, as well as workplace behaviour, adherence to values and policies, conflict of interest, financial inducements and bribery, insider trading and political contributions (see also [HSEC governance](#))
- our economic contribution to society, which incorporates the payments we make to governments, including taxes and royalties, and the added value we provide as a result of our operations and their broader contributions through aspects such as payments to suppliers and employees.

The following sections discuss our [Socio-economic performance](#) and initiatives over the reporting period.

### Socio-economic performance

Please refer to the following sections for details on our community performance during this reporting period.

- [Employee relations](#)
- [Business conduct](#)
- [Economic contributions](#)

### Employee relations

Employee relations are the responsibility of local and business unit management. Each business is required to:

- put in place employment arrangements that deliver outcomes consistent with the BHP Billiton Charter, HSEC Policy and Guide to Business Conduct
- build open and productive relationships with employees and provide processes to assist in equitably addressing workplace issues
- ensure that employees have the opportunity to develop skills that allow them to contribute to business success and be recognised and rewarded for those results
- support fundamental human rights and freedom of association and ensure legal requirements governing employment are fully met.

Employee relations arrangements at individual workplaces are required to respect local legislative requirements and other local standards and circumstances. During the year, 23 operations reported conducting employee surveys to better understand employees' needs and concerns.

Further details on our approach to employment and our policies with regard to equality, recruitment, remuneration, performance management and employee development can be found in our [Employment Principles](#) (see [www.bhpbilliton.com/bb/peopleAndEmployment/employmentPrinciples.jsp](http://www.bhpbilliton.com/bb/peopleAndEmployment/employmentPrinciples.jsp)).

Our [Guide to Business Conduct](#) also outlines our policies with regard to equality in employment.

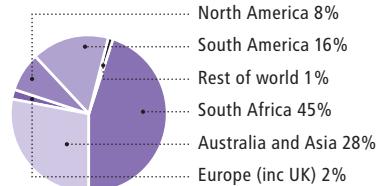
The following sections detail our performance in this area over the reporting period.

- [Employee profile](#)
- [Freedom of association](#)
- [Diversity](#)
- [Child and forced labour](#)
- [Indigenous employment and training](#)
- [Work/life balance](#)
- [Remuneration](#)

### Employee profile

During the year, the average number of permanent employees across the Company (including our owned and operated facilities as well as our share of unincorporated joint ventures) was 35 070, compared to 34 800 reported in the previous period. A breakdown of employee numbers by region is presented in the graph below.

*Regional geographic breakdown of total number of employees  
2003/04*



Approximately 5 per cent of employees were engaged on a part-time or casual basis.

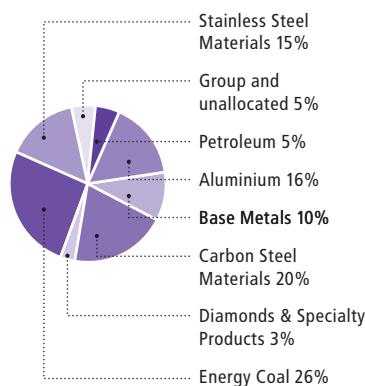
The average turnover rate of employees who were engaged at operated sites and corporate offices was 6 per cent.

A total of around 38 000 contractors were engaged at operated sites compared with 32 000 in the previous reporting period.

## SOCIO-ECONOMIC continued

A breakdown of employment by Customer Sector Group is presented below.

**Employment by CSG  
(Average) in 2003/04**



#### *Freedom of association*

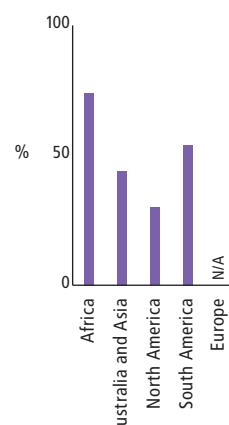
We fully recognise the right of our employees to freely associate and join trade unions. We have a number of locations where we have a mix of collective and individually regulated employment arrangements, but this does not affect the rights of those employees to choose to belong to trade unions. Prospective employees are made aware of employment arrangements prior to joining the Company.

The Company's policy is to consult with employees on major organisational changes and ensure processes are in place at all locations to address any issues.

In line with our Policy, wherever we operate we will 'meet and, where appropriate, exceed applicable legal and other requirements' and work within the values of our Charter. Hence we will 'continue the drive towards a high performance organisation in which every individual accepts responsibility and is rewarded for results' in order to create value for all our stakeholders.

The graph below presents a breakdown of the reported percentage of employees at operated sites and offices in each region who are covered by collective bargaining agreements.

**Reported percentage of employees covered by collective bargaining agreements by region  
2003/04**



Over the reporting period, we have received some criticism from unions that our approach to collective bargaining is not consistent with our commitment to the UN Global Compact's Principle 3 that, 'Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining'. With regards to these comments, we make the following clarifications:

- The Company's policies and practices are consistent with this principle. Over 60 per cent of our workforce globally is covered by collective agreements, clearly illustrating effective recognition of collective bargaining.
- All our employees have the right to elect whether or not to join trade unions.
- We have consulted on a number of occasions with the United Nations on our position with regard to collective bargaining and the Compact requirements. We received support from the Compact Office on all occasions, including:
  - initially prior to signing
  - upon reconfirmation of our commitment with the appointment of Chip Goodyear as CEO in June 2003
  - in December 2003 as a result of concerns raised by the Australian Council of Trade Unions
- With regard to our Western Australian Iron Ore operations, individual contracts were offered to employees in 1999 in order to ensure the business remained internationally competitive. This was already the standard approach to employment in the minerals industry in Western Australia. The process has been as follows:
  - Current employees were provided with the option of staying on collective arrangements or moving to Australian Workplace Agreements. At the end of the three-year term of the contract, individuals have the option of staying on the contract or moving to a collective arrangement. A majority of employees chose to move to Australian Workplace Agreements.
  - New employees are offered individual contracts and are advised that this is our method of employment in this business unit. At the end of three years, they also have the option of staying on this type of contract or moving to a collective arrangement.

It should also be noted that, under Australian law, a requirement when offering Australian Workplace Agreements is to ensure that no individual suffers any net disadvantage compared to the relevant collective agreement. Over the period since 1999, all employees have received increased remuneration, which has been supported by excellent productivity achievements.

## SOCIO-ECONOMIC continued

### Diversity

The Company is committed to developing a diverse workforce and to providing a work environment in which everyone is treated fairly and with respect and has the opportunity to contribute to business success and realise their potential. In real terms, this means harnessing the unique skills, experience and perspectives that each individual brings and recognising that these differences are important to our success.

Employment with the Company is offered and provided on the basis of merit. All employees and applicants for employment are treated and evaluated according to their job-related skills, qualifications, abilities and aptitudes only. Employment decisions based on attributes other than a person's qualification to perform a job are prohibited, e.g., race, colour, gender, religion, personal associations, national origin, age, disability, political beliefs, HIV status, marital status, pregnancy, sexual orientation or family responsibilities. Harassment in any form is unacceptable.

Approximately 7 per cent of our Company's management are women. In the year ending 30 June 2004, about 9 per cent of full-time employees at operated sites and offices were women. There were significant regional differences, with women representing about 33 per cent, 18 per cent and 12 per cent of full-time employees in Europe, North America and Australia respectively. While there are no female members of the Board currently, the Company Secretary is a woman, as is the recently appointed President of Gas and Power.

The Company has identified some specific sites and countries where diversity issues are particularly sensitive. Examples of ongoing policies or programs undertaken to address employment diversity issues include [Employment equity in South Africa](#), which ultimately aims to achieve representation at all levels in our businesses consistent with the demographic profile of South Africa, and targeted indigenous employment programs in the Pilbara region of Australia (Iron Ore), the Northwest Territories in Canada (EKATI), and New Mexico in the United States (New Mexico Coal). Further detail on our indigenous employment strategies is provided in [Indigenous employment and training](#).

### Employment equity in South Africa

To address historical issues of South Africa, which resulted in the majority of South Africans being excluded from participating in the mainstream economy, BHP Billiton South Africa adopted an empowerment strategy of change. This empowerment strategy covers transformation at the levels of ownership, management, sustainable socio-economic development, procurement and employment equity. The Employment Equity Policy is aimed at redressing previous disadvantages, disempowerment and employment imbalances through accelerated development, training and education programs.

We have set targets to increase representation of those people who are included in what are classified as 'designated groups' by the South African Employment Equity Act. Designated groups include African, coloured, Indian and disabled males and females and white females. Our target is to have 40 per cent representation of designated groups in positions ranging from Chief Operating Officer down to middle management level.

Current designated group representation across our South African management levels is as follows:

- 43 per cent representation at top management level
- 18 per cent representation at senior management level
- 32 per cent representation at middle management level.

For details of other work we are undertaking to address historical inequalities in South Africa, refer to our case study: [Black Economic Empowerment Supply Unit established to promote BEE supply initiatives in the southern African region](#).

### Indigenous employment and training

Indigenous employment is an important issue. Various initiatives have been introduced and reported in previous years, which have been supplemented at some operations by new programs aimed at further consolidating and increasing indigenous employment levels.

In Australia, BHP Billiton Iron Ore's employment and training program continues to progress well. Direct indigenous employment has grown to nearly 6 per cent, with the target being 12 per cent by 2010. New initiatives over the last 12 months include:

- extension in the town of Newman of the high school educational partnership with education authorities, indigenous students and their families and the Graham (Polly) Farmer Foundation. (This program has been working successfully for three years at Port Hedland, and it was considered important that indigenous students at Newman were also provided with an opportunity to benefit from it.)
- participation in the Local Employment Strategy Group, comprising community groups, government agencies and local industry leaders, to establish partnerships with outside organisations to develop and support recruitment pools and training opportunities for indigenous candidates.

In addition, a group of senior Iron Ore people and Pilbara indigenous leaders visited the EKATI operation to share experiences and bring back ideas to further improve the programs at our Pilbara Iron Ore operations. Arising out of the visit were the following initiatives:

- Four indigenous employment liaison officers, two at Port Hedland and two at Newman, have been appointed to actively assist with the continuing development of existing programs and provide greater support to potential indigenous job and trainee applicants, current indigenous employees and trainees, and Company people working with them.
- The Company has committed to give indigenous people first priority for employment for entry-level positions. In Port Hedland, significant progress has been made to define and identify these entry-level positions.
- The mining operations around Newman are currently undergoing a significant growth phase, and the focus has been on maximising indigenous employment. The current target for these new positions is to achieve 30 per cent indigenous employment.

Indirect (contractor) indigenous employment at BHP Billiton Iron Ore's operations has also been a focus for furthering indigenous employment, and all new major contracts have provisions setting minimum required percentages of indigenous employees. For example, the mining contract for Area C, which was let in 2003, had a minimum requirement of 6 per cent with a 1 per cent per annum increase. Currently their requirements have been exceeded, with 9 per cent indigenous employees.

## SOCIO-ECONOMIC continued

For further details on BHP Billiton Iron Ore initiatives, refer to our case study: [BHP Billiton Iron Ore initiatives provide educational and employment opportunities for our indigenous stakeholders in the Pilbara](#).

At Groote Eylandt Mining Company (GEMCO) in the Northern Territory, Australia, 42 full-time employees of the company's direct workforce of 201 are of indigenous descent, a total of 21 per cent. This number includes 24 full-time participants in GEMCO's Aboriginal employment strategy, which combines employment and training with activities undertaken by GEMCO's Rehabilitation and Mine Services department.

Our EKATI operation in Canada and our New Mexico operation in the USA undertake a range of indigenous employment and training programs. The EKATI operation currently has 30 per cent Northern Aboriginal people employed directly and indirectly and has almost reached its target of 31 per cent. The New Mexico operation has 64 per cent Native American employees, including 87 per cent at the Navajo Mine.

### *Child and forced labour*

In line with our Policy commitment to the UN Universal Declaration of Human Rights, we exclude the use of child labour and prohibit the use of forced labour at our operations. All sites are required to report the age of their youngest worker and the corresponding minimum working age in their jurisdiction. Over the reporting period, the youngest employees were 16 years of age, working as apprentices/administrative trainees in our Australian operations.

### *Work/life balance*

Particular challenges arise from the global nature of our operations, which span all major time zones. Several options are available to assist employees in balancing the competing demands of their work and personal lives. By implementing policies and practices that help employees to balance these demands, we aim to achieve the goals of:

- increased productivity
- improved employee morale
- enhanced corporate image and positive public relations
- heightened employee commitment to work and to the organisation
- increased ability to attract and recruit the best employees
- achievement of workforce diversity objectives
- improved health and safety record due to fewer work-related incidents/accidents
- reductions in tardiness and absenteeism
- decreased turnover and, as a result, increased return on training and development investments.

At a regional level in Australia, we have been working on a number of initiatives to promote an improved work/life balance for our employees. These have included:

- guidelines for flexible work options
- elder care information kit
- employee assistance program.

### *Remuneration*

When developing and reviewing remuneration and rewards policies and practices, we recognise the need to ensure that:

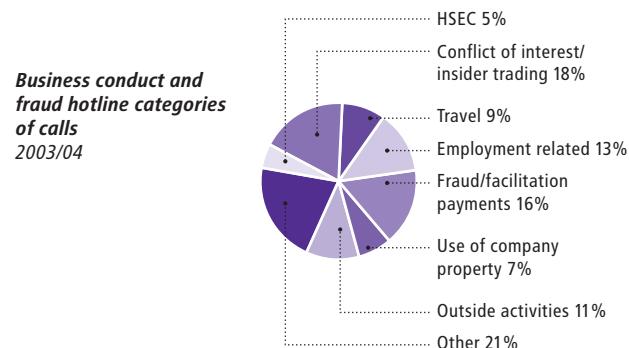
- our total remuneration practices are aligned with the market conditions in the industries, countries and regions in which we operate
- our practices comply with any relevant law and the Company's standards of business conduct
- distinguishable differences in remuneration are aligned to the relative performance of the business, assets and individuals
- our employees see the link between the results they produce and the level of reward they achieve.

All Company employees earned greater than the stipulated minimum wage in the countries in which they worked.

### *Business conduct*

There were 80 substantive enquiries to the business conduct helpline and fraud hotline systems in the year to 30 June 2004. Of the 80 enquiries, 25 were on the same specific issue.

In order to ensure that the scope of enquires would be representative, the 25 enquiries on the same topic are treated as one enquiry. A breakdown of the enquiries is presented in the graph below. The most common issues related to conflict of interest, fraud, employment-related matters (such as disciplinary action, termination or hiring) and outside activities. All cases and the responses were reported (with appropriate management of confidential information) to the Global Ethics Panel. The management of several cases involved one or more members of the panel in the resolution process.



Following on from a report covering activities related to business conduct that was presented to the BHP Billiton Board in August 2003, and in light of international developments regarding corporate governance, there was a request by the Risk Management and Audit Committee of the Board for an assessment of an external and independent ethics helpline system. A 12-month trial of an external helpline system was established in October in South Africa. It was later extended to include Mozambique. The system provides staff with an external freecall phone number to call as an alternative to our internal business conduct helpline and fraud hotline. The external service provider reports any calls requiring follow-up immediately to our business conduct representative for action. In the first nine months of the trial, there were six calls requiring follow-up. After the trial has run its 12-month course, a decision will be made on whether to continue with the service in South Africa and Mozambique, to widen the service to other countries or to cease offering the service and revert to our internal system.

## SOCIO-ECONOMIC continued

Internal performance requirements for business conduct are fully integrated in the HSEC Management Standards. Questions regarding business conduct are included in the HSEC audit and self-assessment, which has helped to quantify the extent to which employees and contractors have been aware of the Guide to Business Conduct. In addition, an effort has been made to assess the effectiveness of the roll-out in offices. This has indicated a substantive level of roll-out activity in our offices around the world. The Guide has been rolled out to all sites and functions. An effort was made over the course of the year to improve the communication of the Guide with posters, a printed summary version of the Guide, electronic information and other communication tools.

It is recognised that there is a continuous need to reinforce and refresh business conduct principles. This is supported by a strong commitment from the most senior management levels of the Company to ensure the principles of the Guide are understood and practised. This commitment is evidenced in part by an address by the Company CEO, Chip Goodyear, on the topic of ethics (including our approach to business conduct) to the third International Society of Business, Economics and Ethics World Congress in July 2004. The Company was a sponsor of the World Congress, lending support for debate on topics such as corporate ethics and governance. During the year, the Company also contributed to a report on whistle-blowing and corporate ethics systems written by ISIS Asset Management (a UK-based institutional investor), TRACE (an international non-profit business association active in the field of ethics) and the International Business Leaders Forum (a non-government organisation promoting socially responsible business practices).

### **Economic contributions**

The economic contribution we make to society is much more than the financial profits we derive. More specifically, our contribution includes the value that flows from the broader contributions of our operations, such as payments to our employees and suppliers and disbursements to governments, including taxes and royalties.

Refer to the following sections for further details on:

- [Our economic footprint](#)
- [Our suppliers](#).

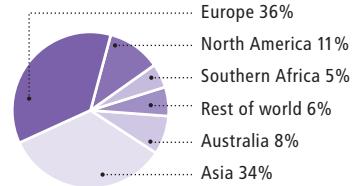
### *Our economic footprint*

The data in this section deal with the economic affairs of the BHP Billiton Group and cover both operated assets and our share of unincorporated joint ventures. Details on the financial definitions and additional performance information are available in the financial [Annual Reports](#) (see [www.bhpbilliton.com/bb/aboutUs/annualReports.jsp](http://www.bhpbilliton.com/bb/aboutUs/annualReports.jsp)). In our capacity as a member of the International Council on Mining and Metals and a signatory to the Global Compact, and with our primary listings on the Australian and London stock exchanges, we are keenly aware of the various voluntary codes covering practices in sustainable development and governance more generally.

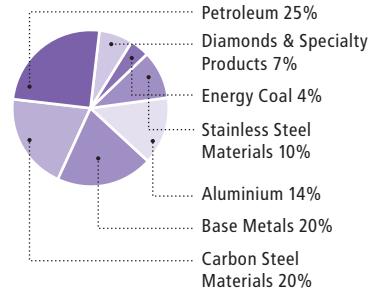
In formulating the governance principles that guide our operations, the Company's Directors have taken into account the various regulatory requirements, together with standards of best practice. Where governance principles vary across jurisdictions, the Directors have resolved to adopt those principles that they consider to be the better of the prevailing standards.

Refer to the graphs below for the Company's diversification by operating assets and by market (turnover) across geographic regions and a breakdown of earnings by Customer Sector Group.

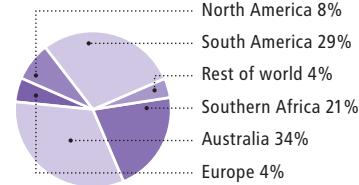
**Diversification  
by market (turnover)**  
At 30 June 2004



**CSG earnings  
before interest  
and tax (EBIT)  
excluding  
exceptional items**  
At 30 June 2004

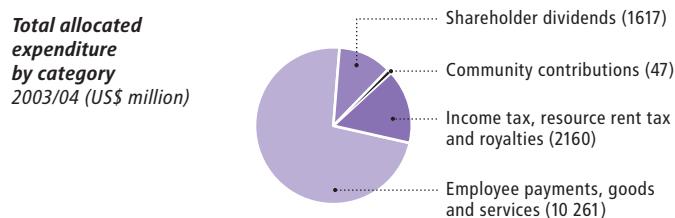


**Diversification by  
geographic region  
(net operating assets)**  
At 30 June 2004

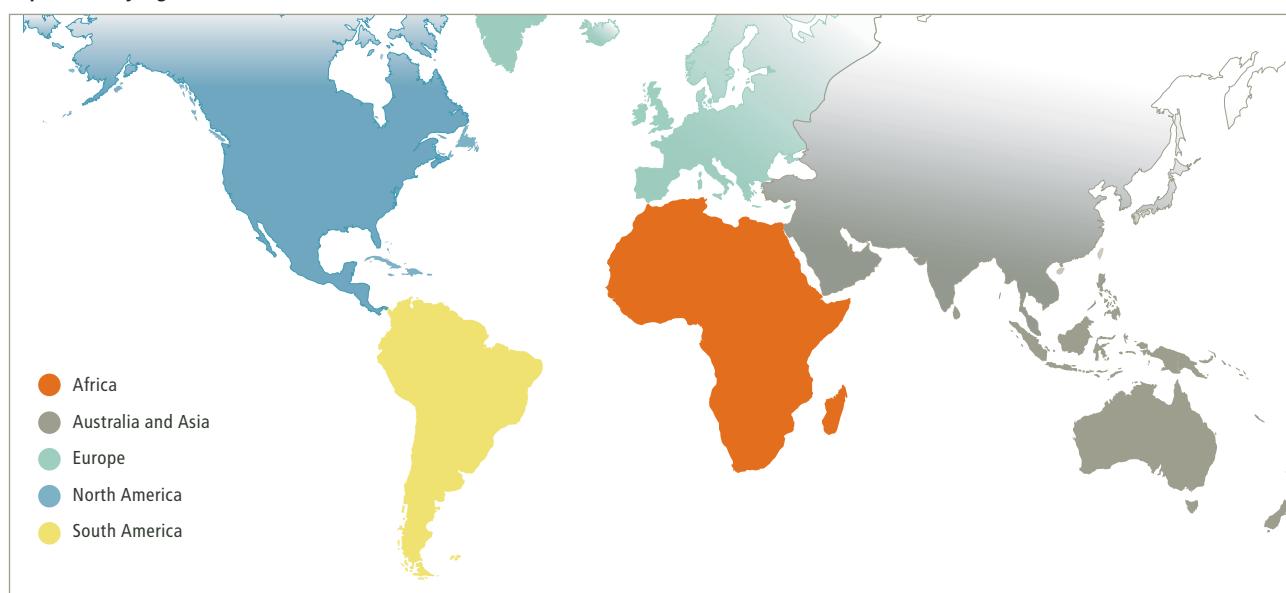


## SOCIO-ECONOMIC continued

Globally, in 2003/04 the Company spent in the order of US\$14 billion sustaining its businesses. The breakdown of this amount by category is presented below and shows expenditure by region to help to quantify the regional economic contributions of the Group.



**Expenditure by region (US\$ million) 2003/04**



**Expenditure by region (US\$ million)<sup>1</sup> 2003/04**

	Income Tax Resource Rent Tax and Royalties	Employee Payments, Goods and Services <sup>2</sup>	Community Contributions <sup>3</sup>	Shareholder Dividends <sup>4</sup>	Regional Totals
Africa	59	2 129	12	178	2 378
Australia and Asia	1 354	5 529	15	964	7 861
Europe	167	627	1	473	1 268
North America	199	1 134	5	2	1 339
South America	381	843	14	<1	1 238
<b>Total</b>	<b>2 160</b>	<b>10 261</b>	<b>47</b>	<b>1 617</b>	<b>14 085</b>

1. The data in this table have been rounded. Unless otherwise stated the data cover operated assets and the Group's share of unincorporated joint ventures.

2. Goods and Services data only cover operated assets. Due to the way that we currently document the sourcing of all imported materials and services, we have not been able to allocate all expenditure on goods and services. Additional unallocated expenditure on goods and services totalled US\$155 million globally. (Note: these data have not been audited.)

3. Data cover both operated assets and our share of joint ventures.

4. Shareholder dividends are based on the location of shareholders as per the share register of members dated 30 June 2004 and total dividends payable in FY04.

We also continue our support for the Extractive Industries Transparency Initiative regarding disclosure of payments of taxes and royalties. We will work with our host governments that participate in this process to ensure public reporting of these payments. In the interim, we have presented these data on a regional basis in the chart above.

## SOCIO-ECONOMIC continued

### *Suppliers*

Participating effectively in local economies is a key means of contributing to sustainable business creation and economic development. To this end, as outlined in our HSEC Management Standard 11, we seek to ensure that 'consideration is given to creating business opportunities for local suppliers and contractors'. We have progressed a number of initiatives on this front and have detailed three in the case studies below:

- [EKATI agreements aim to provide sustainable employment, training and business opportunities for indigenous communities](#)
- [Black Economic Empowerment Supply Unit established to promote BEE supply initiatives in the southern African region](#)
- [Mozal assists growth and development of local suppliers through collaboration and capacity-building programs.](#)

The diagram below provides an indication of the distribution of our supply spend at a local, national or international level by our businesses.

**Distribution of supply spend**  
2003/04



# POLICY IN ACTION – CASE STUDIES

The following case studies present examples of HSEC issues, initiatives, projects and programs across the Group and highlight some of the sustainability challenges faced by our operations.

HEALTH	COMMUNITY		
1. Seeking ways to help manage the impact of HIV/AIDS on a broader scale	87	22. Illawarra Coal develops process to address community issues and improve communication with stakeholders	119
2. Medicines for Malaria Venture aims to develop effective, affordable anti-malarial drugs	88	23. Antamina's support of environmental committees provides key lessons about the community consultation process	121
3. EKATI launches screening program to limit development of TB in the local Inuit population	89	24. PNG Sustainable Development Program Ltd completes first full year of operation	124
4. Diesel emission project at Illawarra Coal aims to limit employee exposure to diesel particulates	90	25. Dialogue Table meetings provide a forum for resolving community issues at Tintaya	126
5. Khutala Colliery supports development of medical clinic to provide health services to surrounding communities	92	26. Corporate Community Leadership Program aims to further our understanding of social issues	129
6. Metalloys converts disused employee hostel to a centre offering care to an HIV/AIDS affected community	93	27. Operations remain suspended on Gag Island nickel project	130
SAFETY		28. Process of resolving Tabaco land acquisition issues continues	131
7. Implementation of Fatal Risk Control Protocols under way at all our operations	95	29. Cerro Colorado incorporates community participation and consultation into project planning	133
8. Behavioural-based safety leadership training program implemented at New Mexico Coal	97	SOCIO-ECONOMIC	
9. Initiatives at Hillside and Worsley aim to improve contractor safety performance	98	30. EKATI agreements aim to provide sustainable employment, training and business opportunities for indigenous communities	135
10. Improvements to lifting and slinging practices by our Petroleum drilling team	101	31. Black Economic Empowerment Supply Unit established to promote BEE supply initiatives in the southern African region	137
11. Samancor Chrome shuts down operations to implement intensive safety program in response to workplace fatalities	103	32. Mozal assists growth and development of local suppliers through collaboration and capacity-building programs	139
12. Alliance with Caterpillar aims to improve HSEC aspects of earthmoving equipment while reducing costs	104	33. BHP Billiton Iron Ore initiatives provide educational and employment opportunities for our indigenous stakeholders in the Pilbara	141
ENVIRONMENT		34. Petroleum projects in Trinidad and Tobago and Pakistan aim to maximise the employment of local people and enterprises in our operations	144
13. Coal bed methane offers a fuel source with the potential to deliver zero greenhouse gas emission power	105	35. Implementing the Guide to Business Conduct at Worsley and Hillside	146
14. Closure program at San Manuel copper mine addresses environmental issues	107	36. Mining Certification Evaluation Project adopts draft criteria for certification and protocol for mine audits	148
15. Selbaie Mine develops environmental program to contain acidic waters during the snow-melting season	109	37. Escondida launches program to help its goods and services suppliers raise their HSEC standards	149
16. Conserving biodiversity at the Ravensthorpe Nickel Project	110	38. We support establishment of first Centre for Sustainability in Mining and Industry in Africa	150
17. Engineering a sustainable future at Yabulu Refinery	111		
18. Waste management practices at Cannington are delivering benefits for the operation and other stakeholders	112		
19. Innovative approach to reclamation at La Plata Mine is producing positive results	114		
20. Mt Arthur Coal trucks and excavators designed to meet stringent noise limits	116		
21. Documentary film series highlights the environmental richness and fragility of the Sahara	118		

## SEEKING WAYS TO HELP MANAGE THE IMPACT OF HIV/AIDS ON A BROADER SCALE

*HIV/AIDS is a significant issue for our businesses in South Africa and Mozambique. The Company for many years has promoted a proactive environment in our workplaces with respect to management of the disease. This has included conducting education programs, ensuring employees and dependants have appropriate access to medical care, and reducing hostel-type accommodation for employees, which is known to be a risk factor for the disease. We have also made significant inroads in terms of supporting community facilities that assist in managing the disease and its consequences. We are now seeking ways to support initiatives that will help manage the disease in the wider population.*

In the communities where our operations are located in South Africa and Mozambique, the incidence of HIV/AIDS is among the highest in the world. We have a responsibility to manage the impact of the disease in order to care for our employees, protect the viability of our operations and support the well-being and development of our host communities.

In managing the disease within our workforce, there has been a strong emphasis on prevention through on-site education. This has included promoting healthy lifestyles and supporting awareness programs, including industrial theatre presentations in which the issues are conveyed in a manner that overcomes many of the language and cultural barriers.

As our worksites do not have medical facilities for providing extensive medical care, our approach to ensuring employees and dependants have appropriate access to medical care is to provide universal health insurance to all our employees in South Africa and Mozambique. This insurance has the capacity to provide the necessary treatment for all phases of HIV-related illness. In association with this initiative, many of our operations are developing links with external providers who will ensure that those registered for HIV management with their health insurer receive timely coordinated care, optimising the benefits available through the insurance scheme.



► Caring for HIV/AIDS patients is a major issue

A large number of our operations, in collaboration with trade unions, have performed anonymous saliva-based workforce screening to determine the level of HIV existent throughout the workforce. The results in general have shown that our directly employed workforce has an HIV prevalence that is lower than that in the surrounding community, and this has stabilised over recent years. However, our contractor workforce has shown an HIV rate that is significantly higher and more reflective of that in the local community.

### Seeking effective new treatment methods

While much has been done within the BHP Billiton network to assist in managing the HIV/AIDS issue in our workforce and surrounding community, we believe that as a global organisation we can support initiatives to confront this disease more widely. As a consequence, we have been working with a selected health organisation in seeking opportunities to develop treatment methods that will extend the influence of our efforts beyond our employees, their families and communities and into the broader populations that have been affected by this disease.

We have recently initiated discussions with the selected health organisation in an attempt to collaborate in a significant research project to further advance HIV/AIDS treatment.

## MEDICINES FOR MALARIA VENTURE AIMS TO DEVELOP EFFECTIVE, AFFORDABLE ANTI-MALARIAL DRUGS



*Along with tuberculosis and HIV/AIDS, malaria is one of the major infectious diseases responsible for significant illness and mortality around the world. Malaria is a public health problem today in more than 90 countries inhabited by a total of 2400 million people – 40 per cent of the world's population. Worldwide prevalence of the disease is estimated to be in the order of 300 to 500 million clinical cases each year. For some years, we have been involved in malaria control programs through our operations in Africa and Brazil, two areas where the disease has a devastating impact. We are now also supporting the Medicines for Malaria Venture, which has been established through the World Health Organisation with the aim of developing affordable anti-malarial drugs for people in the disease-endemic countries.*

Malaria, which has reached epidemic proportions in many regions of the world, continues to spread unchecked. Although it is a curable disease if promptly diagnosed and properly treated, malaria still kills more than one million people every year and causes developmental problems in many more. In absolute numbers, malaria kills 3000 children under five years of age per day. One child dies from malaria every 30 seconds.

### The tragic effect of malaria in Africa

In Africa today, there are more cases of malaria than at any time in recorded history. Fighting the disease accounts for about 40 per cent of public health spending and is one of the main factors retarding the continent's economic growth; it costs more than US\$12 billion in lost GDP every year. The morbidity and mortality associated with malaria make it difficult for people to overcome poverty. Malaria-related expenses claim up to 30 per cent of the entire household expenditure among the very poor.

African children under five years of age are chronic victims of malaria, suffering an average of six bouts a year. If untreated, malaria can kill children within 24 hours after symptoms develop. In those children who survive, malaria also drains vital nutrients, impairing their physical and intellectual development. Malarial sickness is one of the principal reasons for poor school attendance.

### A threat to sustainable development

For the Company, malaria is a significant health issue in southern Mozambique and northern Brazil where our operations are located. The disease can impact on the ability of these regions to provide sustainable workforces. The health of employees can also affect productivity and safety.

To maintain an adequate and healthy workforce for our operations, and to assist in the development and general well-being of our host communities, we have a strong history of involvement in malaria control programs. Not the least of these is our collaboration in the extensive spraying program conducted throughout Mozambique, Swaziland and South Africa, which has helped to dramatically reduce the local incidence of malaria.

The biggest challenge facing malaria control is widespread drug resistance. The cheap, widely available drugs such as chloroquine and sulfadoxine-pyrimethamine are now ineffective. While the malaria parasite was making a quiet comeback beginning in the late 1970s, funds for malaria research and development dried up. During the past 30 years, only three anti-malarial drugs have been developed, and they are all prophylactics designed for the military and wealthy travellers, not the rural poor.



► Early diagnosis is emphasised in malaria control programs

There is an urgent need for the development of new anti-malarial drugs that are effective against the growing tide of resistant malaria and are also cost-effective to produce in numbers sufficient to service underprivileged communities.

### Medicines for Malaria Venture

The Medicines for Malaria Venture (MMV) is an organisation set up in 1999 to develop safe, effective and affordable drugs to treat malaria and reduce the burden of the disease. A non-profit organisation linked to the World Health Organisation, MMV is currently managing the largest-ever portfolio of anti-malarial drug research. The rapid progress of its projects can be attributed to MMV's pioneering collaborations with nearly 40 public and private institutions around the world. Pharmaceutical, biotech and research institute partners contribute their know-how, staff and facilities to individual projects, while MMV's Expert Scientific Advisory Committee helps the MMV staff to manage the portfolio as a whole. Thanks to this pooling of knowledge, talent and resources, the costs of developing new malaria treatments are being significantly reduced. MMV is bringing the goal of effective and affordable treatments for all one step closer to becoming a reality. Commenting on our partnership program, Dr Chris Hentschel, Chief Executive Officer of MMV, said, 'BHP Billiton is already making a significant difference in the communities they operate in by supporting malaria control programs. Now with their support for MMV to develop new anti-malarial drugs, they are in fact making a major investment in the future. Without a continuous stream of new drugs, we will have no hope of controlling malaria'.

At an MMV stakeholders meeting in May 2004, His Excellency Joaquim Chissano, President of Mozambique, stated, 'I am pleased to know that BHP Billiton will become a partner and financier of MMV. BHPB is the biggest economic partner of Mozambique. They are already very active in supporting programs such as the Lubombo Spatial Development Initiative (LSDI), which was established to control malaria infections in local communities of Mozambique, South Africa and Swaziland. In many areas of LSDI, malaria infections have already been reduced by 50 per cent . . . One day our children will be born free from malaria. With our determination and perseverance, that future is attainable'.

We are among the first small group of global transnational companies invited to become corporate supporters of the Medicines for Malaria Venture. Our plan to provide financial support to this worthwhile initiative over the next three years further extends our involvement in the fight against malaria on a global scale.

## EKATI LAUNCHES SCREENING PROGRAM TO LIMIT DEVELOPMENT OF TB IN THE LOCAL INUIT POPULATION



*Tuberculosis (TB), along with malaria and HIV/AIDS, is one of the major infectious diseases that has a wide-ranging impact on mortality and morbidity. Globally, TB is the leading cause of death associated with infectious diseases. The incidence of TB is expected to increase substantially worldwide during the next ten years because of the interaction between the TB and HIV epidemics. In the Northwest Territories of Canada, TB is a significant issue among the Inuit population, which as a consequence has an impact on our EKATI Diamond Mine operation. In an effort to limit development of the disease, we have embarked on a screening program to detect latent TB infection in our workforce and the local community.*

The following statistics demonstrate the tragic impact of TB.

- TB is the leading killer of women, outranking all causes of maternal mortality.
- TB creates more orphans than any other infectious disease.
- TB is the leading cause of death among HIV-positive individuals.
- As many as eight million people become infected with TB every year.
- Someone is newly infected with TB every second of the day.
- One third of the world's population is infected with TB, and 5 to 10 per cent of these people will develop the disease.
- TB accounts for more than one quarter of all preventable adult deaths in the developing world.

### Screening program implementation

The initiative at EKATI is an attempt to limit the development of the disease in our employees and their dependants and in the local Inuit population generally. The screening program, which is aimed at detecting latent TB infection, will begin in the workforce and then be taken into the community.

By detecting the infection in a person before it becomes active, it is possible that a course of treatment will reduce the chances of active TB developing and infection occurring to others. This will have the benefit over time of reducing the incidence of TB in the community.

The screening program has the potential to set a precedent for the management of high levels of TB within communities. It may also be applicable in communities where TB/HIV co-infection occurs and where active TB is the first sign of deteriorating HIV status. The early treatment of latent TB in this group would be a significant factor in preserving good health in patients while they are in an immuno-compromised state.

In the past, screening for latent TB has been difficult, as there have not been tests available that offer a clear indication of those who are infected as distinct from those who have been vaccinated against the disease. The availability of a new test that is able to separate these two categories of individuals, and thus allow potential treatment of those who are truly infected, has made this program possible.

The screening program at EKATI is being set up in collaboration with Canadian Public Health authorities and will be overseen by local specialists in TB. We will be the first company to sponsor such a program involving this new form of testing to assist in the eradication of TB from a community.

## DIESEL EMISSION PROJECT AT ILLAWARRA COAL AIMS TO LIMIT EMPLOYEE EXPOSURE TO DIESEL PARTICULATES

*Our Illawarra Coal operation is located near Wollongong in New South Wales, Australia, about 80 kilometres south of Sydney. The operation comprises four underground coal mines – Appin, Dendrobium, Elouera and West Cliff – together with two coal preparation plants and logistical services. Diesel vehicles are used in the operation of the coal mines. Since it became known that exposure to diesel exhaust particulate has the potential to cause serious health effects, we have been undertaking extensive research and have developed a strategy to effectively manage diesel particulate levels within our mines.*



► Raw exhaust analyser at Elouera Colliery

In 1988, the United States National Institute for Occupational Safety & Health (NIOSH) released a Current Intelligence Bulletin on diesel particulate, which proposed that occupational exposure to this contaminant could lead to lung cancer. At that time, Illawarra Coal was in the process of changing to rubber-tyred diesel vehicles for mining operations. Workforce concern about the increased use of diesel equipment was high. The NIOSH findings posed a potential threat to the future use of diesel vehicles at Illawarra Coal operations and at other mines within our Carbon Steel Materials division.

### Initial research

A research project commenced in May 1990 and was originally based at Tower Colliery, which was part of the Illawarra Coal operation until it closed in 2002. Tower was chosen as it had the largest proportion of rubber-tyred diesel vehicles within the division. A project committee was formed, consisting of mine management, workforce representatives, engineering personnel and external specialists in aerosol sampling, fuel quality and occupational hygiene.

As its first task, the committee conducted a workplace monitoring exercise to establish the level of worker exposure to diesel particulate and so quantify the extent of the problem. Between August 1990 and February 1993, some 204 personal diesel aerosol particulate samples were collected at Tower Colliery, covering all job descriptions associated with diesel activity. These results indicated lower exposures than those reported in US coal mines, but they were still considered significant.

Funding was obtained from the Australian Coal Association Research Program to extend the sampling program to eight collieries in New South Wales to establish whether the levels of worker exposure were consistent across the underground coal mining industry. At the same time, a range of control technologies had been identified and evaluation commenced. The control technologies evaluated included fuel quality, ventilation, engine design, disposable exhaust filters, engine decoking and water conditioner cleanliness. In total, over the period from 1993 to 1997, a total of 558 diesel particulate samples were collected in the evaluation of various control techniques for operational use.

### Improving control techniques

In the period from 1997 to the present, work has continued on improving those control techniques that have been found to be suitable, resulting in reduced operating costs and an improved work environment. More recently, maintenance practices have been targeted, using raw exhaust diesel particulate monitoring techniques developed by the research group. The exhausts of 66 engines within the diesel fleet of the four Illawarra Coal mines were analysed, with seven engines found to be abnormal. Subsequent investigation found issues with exhaust systems and fuel injectors. Testing after repairs indicated significant reductions in raw exhaust diesel particulate levels.

### Implementing a diesel particulate management strategy

As a result of this project, Illawarra Coal has developed a strategy to effectively manage diesel particulate levels within its operations. This strategy is based on the following conclusions;

- There is no one simple solution to the problem.
- A multi-faceted approach is necessary, with the focus being on restricting particulate release to the working environment. This includes the use of good-quality fuel, the use of raw exhaust monitoring to highlight maintenance issues and the use of disposable exhaust filters.
- Limitation of vehicle numbers in mine production panels reduces exposure and does not affect production if appropriately managed.
- The use of underground diesel test stations to monitor gaseous emissions provides a means of identifying engines requiring maintenance and improves employee confidence.
- There is a need to continue to liaise with original equipment manufacturers (OEMs) to supply low-emission engines in the future (albeit that it is anticipated that particulate filters will still be required for some time to come).

The strategy has been effective in controlling employee exposure to diesel particulates. Monitoring over a 12-month period at Elouera Colliery, using the approach outlined above, indicated that employee exposures averaged less than half the recommended exposure standard proposed by a committee convened by the NSW Minerals Council. The tripartite committee comprised representatives from government, trade unions and mine operators.

(Continued over)

## DIESEL EMISSION PROJECT AT ILLAWARRA COAL continued

Operators at Elouera Colliery, particularly those involved in long-distance driving, have recently commented that 'fume taste doesn't appear to exist'; 'convoy travel is not a problem like it used to be'; 'the sore eyes and throats don't pop up as often'; and 'blue haze doesn't appear as much in panels'. Summing up, Victor Borg, mechanical services leading hand at Elouera, says, 'It was not uncommon for operators to regularly complain about excessive diesel fumes. As we have gradually introduced new technologies into Elouera, it seems that complaints are rare. I'm sure that if we reverted back to standard street fuel and removed the exhaust canisters that our problems would reoccur'.

The procedures developed for our four underground mines at Illawarra Coal have applications at other mining operations; however, experience has demonstrated that an appropriate solution must be identified for each organisation and there must be substantial management input and commitment to the improvement process.

## HEALTH

## 5

**KHUTALA COLLERY SUPPORTS  
DEVELOPMENT OF MEDICAL CLINIC  
TO PROVIDE HEALTH SERVICES TO  
SURROUNDING COMMUNITIES**

*Our Khutala Colliery is situated approximately 60 kilometres west of Witbank in the Mpumalanga Province of South Africa. Khutala, which is one of the biggest underground coal mines in the world, has been operating since 1986. A large portion of its workforce live in the residential area of Phola, which lies about 38 kilometres from central Witbank and eight kilometres from Ogies. In the past, neither Phola, nor Ogies had a clinic to render health care services to its residents. The Department of Health, becoming concerned about the high level of ill health in the area, planned to build a clinic in Phola but adequate funding was not available. Once aware of the situation, Khutala management quickly stepped in and offered a helping hand.*

Khutala provided the funding and sponsored the equipment necessary for the construction of the Phola clinic. With this support, what was planned to be a one-room clinic in Phola has been revamped into a facility big enough to support the various health needs of the community. Currently more than 3400 patients per month receive treatment at the clinic.

The clinic is now playing a significant role in offering primary healthcare, GP consultations, rehabilitation, maternity, diagnostic and curative services to support and enhance the health and well-being of people in and around the colliery. Many residents from both Ogies and Phola are provided with free healthcare. In addition, the clinic has the facilities to offer home-based care, with links to Direct Observation and Treatment (DOT) for TB patients, and also to cater for terminally ill patients in the area, including those infected by HIV/AIDS. The clinic is managed and operated by the Department of Health, but Khutala continues to take a keen interest in the services it provides to the community and offers further support where appropriate.



► HIV/AIDS blood testing at the Phola clinic

For example, in February 2004, the Department of Health and Khutala again joined forces to organise a series of community education presentations in Phola to raise awareness about HIV/AIDS and other sexually transmitted diseases. Phola has been identified by the Department as having one of the highest rates of sexually transmitted disease infections in the Mpumalanga region. With free entertainment to attract people to the presentations, audiences were provided with pamphlets, information brochures and condoms.



► Community health education program

By supporting initiatives such as development of the Phola clinic and community health education programs, Khutala Colliery is helping to limit the devastating impact of HIV/AIDS on our workforce and others in the local community.

## HEALTH

## 6

## METALLOYS CONVERTS DISUSED EMPLOYEE HOSTEL TO A CENTRE OFFERING CARE TO AN HIV/AIDS AFFECTED COMMUNITY

*Samancor Manganese's Metalloys plant is located at Meyerton in the Gauteng Province of South Africa, a region where the HIV/AIDS infection rate in the community is as high as 30 per cent. When the plant's accommodation hostel was vacated in 2000, an opportunity arose to transform the complex into a facility to serve the community, particularly those who are infected and affected by the HIV/AIDS epidemic. Following extensive consultation and planning with a broad cross-section of the community, the Kotulong Community Centre was developed and opened in January 2004.*

Sub-Saharan Africa is the region of the world that is most affected by HIV/AIDS. The human toll and suffering due to the disease is enormous. It is now by far the leading cause of death in the region, claiming over 2.4 million lives in 2002 alone. According to World Health Organisation and UNAIDS figures, approximately 3.5 million new infections occurred in the region in 2002, bringing to 29.4 million the number of people presently living with HIV/AIDS. Ten million young people aged 15 to 24 and 2.8 million children under 15 are infected. An estimated 7 million children have been orphaned by the disease in Sub-Saharan Africa.

### Background to the concept

Over the last decade, the practice of recruiting migrant labourers and housing them in single-sex, mine-style hostel accommodation became increasingly unacceptable. At the peak of this practice, Metalloys housed more than 600 employees in its hostel facility. Metalloys also moved away from this concept, with the result that the hostel became vacant.

An idea grew within Metalloys management that the hostel facility could be converted to a centre that served the community. To discuss the concept and determine the best use for the complex, a community meeting was held in March 2001. It was attended by community leaders and representatives from community-based organisations, non-profit organisations, service clubs, government departments, trade unions and religious organisations.



► Kotulong Community Centre

The meeting wholeheartedly endorsed a proposal that a family care centre be created to help relieve the health, social and economic impact of HIV/AIDS on the local Sedibeng District, home to approximately 850 000 people. The facility would operate as a non-profit organisation, caring for sick and terminally ill community members as well as orphaned children. It was also determined that the centre should be environmentally sound, socially just and economically viable.

### Realising the vision

After numerous planning meetings, in August 2001 a board of directors, comprising community members and Metalloys representatives, was appointed to manage the centre. Kotulong, meaning 'place of harvest', was chosen as a name for the centre, with the vision of it being a place of 'harvest' that brings help to the people of Sedibeng whose lives have been affected by HIV/AIDS.

To ensure that the centre would meet the needs of the community, 40 volunteers were trained to visit 1500 homes in the region and obtain information on which decisions about facilities and services could be based.

In December 2002, the BHP Billiton Development Trust approved funding of US\$600 000 to convert the hostel to a community centre. Architects were selected, with a brief that included a requirement for the conversion to be environmentally responsible, including recycling existing building materials, using local materials and labour and choosing solar energy for heating.

(Continued over)

## METALLOYS CONVERTS DISUSED EMPLOYEE HOSTEL continued



► World Aids Day at the centre



► Skills development programs are among the community services provided at Kotulong

### Answering the need

The Kotulong Community Centre gradually became a reality and opened in January 2004 with a range of much-needed facilities including:

- a 15-bed hospice unit (that will expand to 18 beds)
- seven foster care units providing accommodation for 42 orphans aged from 1 to 13 years (with potential capacity for 70 children)
- an after-care centre with library and toy centre
- workrooms for sewing, beadwork and seminars
- accommodation for 60 young people for sports and youth training weekends
- administration offices
- a kitchen and community hall
- laundry and storage facilities
- permaculture gardens
- a floodlit soccer field (with an all-purpose sports court to come).

The centre also conducts a program for training designated caregivers to support home-based care initiatives. Additional facilities planned for the future include a paediatric ward, a testing facility and laboratory, and counselling rooms for patients and their families.

In addition to offering this extensive range of facilities and services, the centre provides permanent employment for 60 people and is actively involved in delivering skills development programs.

### Overcoming challenges

While the community benefits associated with the centre are widely acknowledged, the process of converting a concept into reality presented many challenges. These included:

- building the trust and involvement of the local community
- securing the support of local and provincial governments
- gaining acceptance from local NGOs
- converting a hostel complex to a functional hospice and community centre
- applying environmentally responsible standards to the construction
- appointing a community-based board of directors to manage the project
- staffing and operating the centre.

The vision and drive of the Metalloys management team, in particular the successive human resources and HSEC managers, contributed to the realisation of the project.

The Kotulong Community Centre has been embraced by the community and operates with the support of local and provincial authorities, local NGOs and UNAIDS. It is seen as an important contributor to the government's Integrated Development Plan for the region and a model for participative involvement of community stakeholders in regional development initiatives.



► Garden project at the centre

## IMPLEMENTATION OF FATAL RISK CONTROL PROTOCOLS UNDER WAY AT ALL OUR OPERATIONS



*Fatal Risk Control Protocols were developed by the Company and introduced in April 2003 as a response to a review of fatalities and significant incidents over the last ten years. The review identified nine key fatal risks, which required the development of sound practices to eliminate fatalities and also accidents that, in slightly different circumstances, could have caused fatalities. Workgroups, made up of individuals from across the Company with extensive experience in operations, developed the Protocols, which establish minimum performance expectations for managing fatal risks at a level that is leading practice. It is planned that full compliance with the requirements of the Protocols will be achieved throughout the Group by the end of June 2005.*

Introduction of the Fatal Risk Control Protocols is in line with our Charter, which states that we value safety and the environment through an overriding commitment to health, safety, environmental responsibility and sustainable development. Application of the Protocols supports our HSEC Policy, which requires that we develop, implement and maintain management systems for health, safety, environment and community development that are consistent with internationally recognised standards. The HSEC Policy also states that we commit to continual improvement in our performance, efficient use of natural resources and aspiration to Zero Harm to people.

### Current Fatal Risk Control Protocols

There are nine current Protocols, which set requirements for:

- Light vehicles
- Surface mobile equipment
- Underground mobile equipment
- Underground ground control
- Hazardous materials management
- Molten materials management
- Equipment safeguarding
- Isolation
- Working at heights.

The requirements for each Protocol are structured to cover three areas in which controls are to be in place to comprehensively manage the risks. These areas are:

- Plant and equipment requirements
- Procedural requirements
- People requirements.



► Fatal Risk Control Protocols

### Additional Protocol to cover lifting loads with cranes

An additional Fatal Risk Control Protocol is due to be implemented early in the new financial year. This Protocol covers lifting activities with cranes and was developed following further analysis of the fatal risks. While lifting activities are covered in the current Protocols, they relate to fixed plant and equipment and mobile machinery. It was decided that the potential risks associated with the lifting, suspending or lowering of a load with a crane merited a separate Protocol.

### Tracking implementation of the Protocols

During the year, a self-assessment toolkit was made available to the operating sites. Virtually all the sites have conducted self-assessments on their compliance with the requirements of the Fatal Risk Control Protocols and the adequacy of their controls. Integral to the auditing of these sites is the verification of actions arising from previous audits.

It is our mission to ensure that any learning points arising from audits, inspections or investigations are actioned and shared throughout the organisation. This will maximise learning and avoid reinventing possible solutions to existing problems.

### Workshops review implementation process

Since implementation of the Protocols commenced, there have been queries and interpretation issues from the operations. To address these and to reflect on the results of the audits, a series of Fatal Risk Control Protocols workshops were run in Australia (March 16–18), South Africa (May 3–7) and Chile (June 15–18).

These workshops were attended by Company representatives from the continents where we operate and addressed issues such as what had gone well with the implementation process, what aspects of the Protocols needed clarification or resolution, and any barriers or threats to meeting the full implementation target of June 2005.

Some of the salient points arising from the workshops were the need for common definitions of certain jargon, coupled with requests that the Protocols be translated into local languages for simpler presentation and understanding.

(Continued over)

## IMPLEMENTATION OF FATAL RISK CONTROL PROTOCOLS continued

### Achieving Zero Harm requires unwavering commitment

Progress with implementation of the Protocols has brought some benefits already. There are documented instances of people surviving accidents due to the insistence on minimum standards for light vehicles, such as roll-over protection for driver and passengers.

Despite this, there have been 17 fatalities at Company operations this financial year. This has led to further analysis and new learnings from these tragic events. The frustration of knowing that we have been introducing excellent systems but not achieving Zero Harm needs to be tempered with the knowledge that there is a period of lag between system implementation and tangible results.

To assist our operations in determining where the potential for significant incidents might be manifested, a mix of lagging indicators and new leading indicators are being highlighted to enable management to identify and mitigate the potential hazards.

Lagging indicators include historical data on accidents and incidents, HSEC Standards audit results and Fatal Risk Control Protocol audit results. Some of the leading indicators being considered as triggers to alert operations to heightened potential risks are safety behaviour observation results and trends, newly approved greenfield and brownfield projects and labour turnover rates.

It is inevitable that an increase in production activities at an operation has a concomitant increase in potential exposure to risks. The evolution of new leading indicators is designed to act as a precursor to heightened awareness and focused attention at those operations fitting the criteria for such increased risk.

In terms of our commitment to Zero Harm, the Fatal Risk Control Protocols are an important additional tool in our HSEC armoury to ensure that our operations have the best chance of continuing to grow and share prosperity in their communities, without people being injured in the process.

#### ► Safety Improvement Road Map



*The Fatal Risk Control Protocols are a key part of our journey to Zero Harm*

## SAFETY

**BEHAVIOURAL-BASED SAFETY  
LEADERSHIP TRAINING PROGRAM  
IMPLEMENTED AT NEW MEXICO COAL**

New Mexico Coal has been operated by BHP Billiton and its predecessor companies for over 40 years. Located in San Juan County in northern New Mexico, the business operates one underground and three surface coal operations that supply fuel to two mine-mouth power plants. In the early years, four fatalities occurred at one of the mines, Navajo Mine, but after intense efforts, the safety record improved. All mines have been recognised in the state and nationally for good safety performance. Over time, other operations in the US and abroad caught up with and passed the level of performance achieved at New Mexico Coal. Deciding that improvement was required, the management team assembled a cross-sectional group to determine the distinctive behaviours required to bring about a steep change in safety performance.

The cross-sectional group at New Mexico Coal, comprising approximately 60 employees and an external consultant, identified and defined the following five distinctive behaviours that can drive improvement in safety performance:



*Walk the talk* – This applies to everyone. Every employee must be a leader in safety, not just management.

*Work as a team* – All work groups must be good listeners, seek mutual understanding on all undertakings and care about one another by coaching everyone to do the safe and right thing all of the time. This attitude is embodied in the safety leadership logo shown.

*Plan all work* – An informal planning process called SLAM (Stop, Look, Assess the risk and Manage the risk) has been taught to all employees, and all are issued pocket cards to assist the process. Job safety analyses, work procedures and risk management plans are developed and utilised for more complex tasks.

*Accept accountabilities* – All employees are expected to follow accepted practices of safe work. They will be coached if unsafe practices are observed. Counselling and then disciplinary action follows if work outside the accepted practices continues after a reasonable amount of coaching is done. If cardinal rules (which if broken could lead to fatal or other severe results) are violated, disciplinary action including termination could result.

*Active involvement* – A Zero Harm environment requires the active participation of every employee. This includes following accepted practices of safe work, active participation in safety meetings, coaching other employees who may slip outside the boundaries and full use of all of the safety tools all of the time.

These five behaviours formed the basis of a new safety leadership training program. To gain commitment of the 928 employees to a more intense program, a video was produced in which volunteer employees related their experiences, and those of their families, with accidents including fatalities. With the assistance of a consultant who had previously worked with



► New Mexico Coal employees use one-to-one coaching as a Safe Production tool to foster teamwork and to look out and care for one another

DuPont, which is widely recognised as a leader in safety management, a program of instruction for all employees was developed.

In the second year of this safety leadership program, refresher instruction was presented to every employee. As well as the five distinctive behaviours, the program focused on Safe Production, Zero Harm, Zero Tolerance and Felt Leadership.

Important in the delivery of the instruction were two methods. Firstly, the supervisor and one-up supervisor of each work group delivered the training. No formal instructors were utilised. This allowed every supervisor to master the material by having to teach it and to show commitment by having to directly discuss the principles with his or her team. Secondly, learning was through active participation. During the training, students worked in table groups of usually three to six to complete tasks designed for them to understand the concept being taught. For instance, in a task to develop good listening skills, they undertook an exercise in relating back not only verbal content but also feelings.

Commenting on the importance of implementing the five behaviours in the safety leadership program, Nick Chavez, Shift Foreman at San Juan Underground Mine, said, 'It has been a big change for me from my previous job. Prior to coming here [New Mexico Coal], it was all about coming out with numbers and that's all that mattered. Now, we've got to believe it's the right way to do things'.

The safety leadership program has been introduced at a time when the number of employees has increased to support ramped-up production at San Juan Underground Mine. The injury numbers at New Mexico Coal are still above zero, but some crews and departments are consistently achieving zero accidents.

With the continuance of an attitude of caring about one another, we believe that Zero Harm for all employees every day can be achieved.

## INITIATIVES AT HILLSIDE AND WORSLEY AIM TO IMPROVE CONTRACTOR SAFETY PERFORMANCE



*The historically poor safety performance of contractors at some of our operations has led the Company to focus on developing specific safety management programs for contractor companies. Two such programs have been implemented at the Hillside aluminium smelter in South Africa and the Worsley alumina refinery in Western Australia. The early results are striking, with a twenty-fold improvement in the Classified Injury Frequency Rate (CIFR) at Hillside.*

Among the values expressed in our Charter is an overriding commitment to safety. Supporting this value is our HSEC Policy, which provides the framework for achieving our aspirational goal of Zero Harm. A further guide to safety excellence is our Safety Improvement Road Map, a vital step of which was the introduction of Fatal Risk Control Protocols that are now being implemented throughout the Company. However, as well as having the most stringent systems in place, behavioural change is ultimately the key to improved safety performance.

In a message to all employees during this year, our Chief Executive Officer, Chip Goodyear, stated, 'Despite our major focus on safety we continue to experience a number of significant incidents. In the last year, a number of these incidents have had catastrophic outcomes. We know the activities that injure and kill people and we have procedures to deal with these risks'. He went on, 'Our contractors, who represent most of our fatalities this year, do not, in some cases, seem to have implemented our safety initiatives to the same extent that we have done. They too are critical members of our family and we must bring them along'.

Each of our operations must now implement an effective Contractor Management Procedure that ensures the following is in place for all relevant contractor work where there is a risk of serious injury:

- The contract work is to be assigned a BHP Billiton manager or supervisor as the single point of accountability.
- BHP Billiton line management is to allocate adequate time and resources to manage the day-to-day activities of the contract.
- Line management is to sign off on the work standards and how they are to be carried out and shall ensure via timely workplace inspections that the work is being carried out according to the agreed standards.
- Line management is to ensure that BHP Billiton's expectations are clearly and effectively communicated to all contractors and the leadership of their respective organisations.
- Line management is to ensure that each contractor's on-site manager is introduced to the responsible BHP Billiton supervisor who has single point accountability and that effective systems of communication are in place.

This focus on contractor safety performance is illustrated in these reports from our Hillside aluminium smelter in South Africa and the Worsley alumina refinery in Western Australia.

### The safety challenge at Hillside

The Hillside aluminium smelter is located in Richards Bay, South Africa, about 150 kilometres north of Durban. The smelter came on stream in 1995. Hillside has 1171 employees and uses 115 main contractor companies that employ over 1100 contractors.

In March 2002, a contractor at Hillside was fatally injured when he fell from scaffolding. This led to an analysis of contractor safety, which revealed a Classified Injury Frequency Rate (CIFR) of 9.5. This was very poor compared with the CIFR for employees, which was below 1.0, indicating our need to focus more on contractor safety. In response, a contractor safety task team was established, comprising superintendents from different plant areas and disciplines to analyse the contractor safety situation.

### Safety management program developed

A contractor safety management program was developed, and implementation commenced in July 2002. Key components of the safety program are summarised in the diagram on the next page.

A licensing and accreditation system for contractors has been introduced, and each approved contractor company is now mentored and coached by a Hillside superintendent. Specific contractor safety inductions were introduced. The permit procedure was simplified, and risk assessments became part of the permit system. Both Hillside employees and contractors were trained in the new permit procedure and risk assessments.

As part of the incident review process, the Hillside general manager meets each injured contract worker. Monthly contractor meetings have been reintroduced, together with more informal meetings in the form of monthly safety breakfasts. Awards for 'contractor of the month' have been introduced in recognition of good safety performance. At the same time, contractors who commit serious breaches of safety are suspended. Those who commit less-serious breaches of safety are named as 'lemon of the month'. Those who receive three 'lemon' nominations are suspended.

Since the contractor safety management program was introduced, a significant improvement in contractor safety performance is evident. From July 2002 to June 2004, the CIFR fell from 9.5 to 0.42, a twenty-fold improvement.

Commenting on the improvement, Tienie Fereira from Zululand Safety Specialists, itself a contractor company to Hillside, says, 'In 2002, the contractor CI rate was a very high 9.5, and between the contractors and Hillside management it was decided to do something drastic to turn this situation around. After all the changes and a lot of hard work from everyone concerned, the CI rate for the contractors came down to a mere 0.42, a major achievement in my books'.

(Continued over)

## INITIATIVES AT HILLSIDE AND WORSLEY

continued

**Problem statement:** Hillside does not have an effective process in place for managing its contractors

### TRANSITION METHODOLOGY

VENDOR BASE	SERVICE REQUEST	CONTRACTOR ACCESS	WORK PREPARATION	WORK EXECUTION	WORK COMPLETION
COMMERCIAL PROCESS	<b>Key Initiatives:</b> <ul style="list-style-type: none"> <li>• Vendor selection evaluation</li> <li>• Vendor base reduction</li> <li>• Contractor ownership</li> <li>• Mentorship program</li> </ul>	CENTRAL SHEQ PROCESS	<b>Key initiatives:</b> <ul style="list-style-type: none"> <li>• Induction</li> <li>• Risk assessment</li> <li>• Contractor licensing</li> <li>• Contractor meetings</li> <li>• HEART</li> </ul>	PRODUCTION, TECHNOLOGY SERVICES, MAINTENANCE PROCESS	<b>Key initiatives:</b> <ul style="list-style-type: none"> <li>• New permit system</li> <li>• Risk assessments</li> <li>• Onsite management</li> </ul>

**To be:** To develop and implement a single, all-encompassing system for contractor management at Hillside with the key objective of Zero Harm to all

### Future initiatives

Major future initiatives aimed at further improving safety performance include the implementation of the BHP Billiton Fatal Risk Control Protocols. Specialised programs such as defensive driving training are being introduced, and contractors are also becoming involved in Hillside's HEART program, which is an acronym for Hillsiders Eliminating Accidents and Risks Together.

The program, which was implemented for Hillside employees in January 2000, has helped achieve a step change in safety improvement. A behavioural-based safety system, it involves peer-on-peer observations and a 'no name, no blame' approach. All risks and unsafe behaviours are analysed and action plans are drawn up by the HEART steering committee at meetings attended by operations and maintenance personnel and a management sponsor.

### The safety challenge at Worsley

The Worsley alumina refinery is located near Collie in the southwest corner of Western Australia. Construction of the mine site and refinery began in 1980, and the first alumina was produced in April 1984. More than 1100 people are employed at the mine site and refinery. Worsley uses around 20 main contractor companies that employ over 300 contractors. The company is commencing a major development program that could see this number increase by about 500 contractors.

Effectively managing such a large and diverse group of people requires a strict management regime that includes measuring safety performance against a set of specific key performance indicators. This means that the performance of each contractor can be objectively assessed and appropriate corrective action taken for those not complying with the requirements. It is believed that managing safety 'lead' activities will prevent incidents, and this has formed the major focus of the implemented performance measurement process.

### Safety processes put in place

In the past, contractor companies basically did what they were told and had little or no ownership of their own safety programs. Many did not have the required culture, expertise, people skills and focus to undertake effective safety management. For example, some companies had apparently excellent safety management systems or plans, but there was little evidence of these being fully utilised. This highlighted a major risk that needed to be managed. The solution was to develop and implement a simple process for measuring the safety performance of all contractor companies.

To many contractors, the processes required to effectively manage safety are confusing and unclear. To overcome this, Worsley has selected a set of lead and lag indicators that it considers will have the maximum impact on effective safety management.

The *lead* indicators are:

- safety visits
- workshop and field safety inspections (quantitative – the number performed)
- workshop and field safety inspections (qualitative – the quality of what was found)
- training matrix of competencies against a predefined list of skills required (to be in place and current at all times)
- safety tool box meetings
- contractor monthly safety meetings
- principal/manager attends the monthly contractor meetings
- monthly safety reports (copy to be sent on the first working day of the month).

The *lag* indicators are:

- number of classified injuries
- number of environmental incidents.

(Continued over)

## INITIATIVES AT HILLSIDE AND WORSLEY

continued

The importance of compliance with the leading indicators in terms of preventing injury cannot be overstated. Rigorous adherence is therefore fundamental to Worsley's success in contractor safety.

Each of these indicators is given a weighting as to their importance in determining the overall performance rating. Contractor compliance with these key performance measures is reviewed monthly and action taken when any non-compliance is identified. Positive reinforcement is also provided to contractors who are performing well.

Mike went on to say that in the early days Bunbury's aim was to simply conform to Worsley's requirements, but then certain incidents and pressures from other clients caused him to reassess the situation. He now realises good safety management is good business and if they don't manage it well they won't be around for the long term. Mike has embraced the concept of setting and measuring key performance indicators for safety management and is in the process of extending it into all facets of the business. Early indications are that his management team is very receptive to this approach.

<b>Contractor XYZ Performance Score – Month 2004</b>					
<b>HSEC (100%)</b>					
	<b>Weighting</b>	<b>Actual Performance</b>	<b>Rating</b>	<b>Score</b>	<b>Comments</b>
Safety Visits	15%	90%	Stretch	105	9 out of 10 completed
Workshop & Field Inspections – Quantitative	5%	80%	Stretch	105	4 out of 5 completed
Workshop & Field Inspections – Qualitative	10%	90%	Stretch	105	Score: 40 out of 44
Safety/Tool Box Meetings	10%	80%	BAU	100	4 out of 5 completed
Training Matrix	15%	90%	Outstanding	110	90 out of 100 units completed
Classified Injuries	15%	1	Fail	90	1 Classified Injury this month
Environmental Incidents	15%	0	BAU	100	0 Environmental Incidents this month
Monthly Safety Report	5%	1	BAU	100	Monthly Report submitted
Contractor Monthly Safety Meeting	5%	0	Fail	90	Did not attend
Contractor Principal Monthly Safety Meeting	5%	1	BAU	100	Meeting attended
<b>Subtotal</b>		<b>100%</b>		<b>101.0</b>	
				<b>BAU</b>	
<b>Score</b>		90	95	100	105 110
		<b>Fail</b>	<b>Poor</b>	<b>BAU</b>	<b>Stretch Outstanding</b>

BAU = Business As Usual

A rating system has been established to assist contractors in reporting where their performance sits against Worsley's expectations.

All contractors use the same monthly report layout, which is a combination of tables, graphs and text. Compliance against the agreed key performance indicators is colour coded and graphically represented. This allows management to easily see where improvement actions need to be initiated.

An example of how the report layout is used is shown above.

The initial reaction to this initiative from most contractors is summed up by Mike Hogan, Manager of Bunbury Industrial Controls. Mike says, 'When we were first informed of what we had to do, I thought it would be a pain in the neck. I thought it would be cost restrictive, productivity inhibitive and would mean additional demands will be imposed on our management resources that we can ill afford'.

### **A benchmark contractor safety management system**

Many companies may be familiar with the above leading and lagging indicators but do not put them into a structure that can help them manage the risks associated with using contractors. The process has several strengths. It can be easily applied to all contractors; it is simple to implement and manage; reporting is graphical and easy to understand; non-compliance can be quickly identified; and any necessary corrective action can be put in place.

This process has strengthened the relationship between Worsley and its contractors. Compliance is seen as a major driver of improved safety performance. Principals and managers of contractor companies are beginning to take responsibility for managing the safety of their employees, who in turn are getting into the habit of performing their safety activities. As a result, Worsley is heading towards a joint culture of Zero Harm.

Worsley now has a direct way to measure contractor safety performance that can be reviewed and fed back to the contractor for appropriate action. The process has been in place for over six months, with positive results in performance, culture and cooperation.

## IMPROVEMENTS TO LIFTING AND SLINGING PRACTICES BY OUR PETROLEUM DRILLING TEAM



In June 2003, a tragic incident occurred at our Rhourde Oulad Djemma (ROD) oil and gas development site in Algeria, resulting in one fatality and two injuries. The incident occurred during the assembly of an onshore drilling rig. A large section of the rig was being lifted when a lifting chain failed. The BHP Billiton team investigating the incident subsequently made a number of recommendations to improve lifting and slinging practices in our petroleum drilling operations and Company-wide.

The basic cause of the incident was the use of an underrated chain sling combined with incorrect slinging and lifting techniques. The crane hook was positioned off-centre, resulting in the load path being out of alignment. Combined with a hinged load, this prevented the sling from equalising on all chain legs when raised. Consequently, the entire load of 23.1 tonnes was placed on one chain leg that had a breaking load of 18.9 tonnes, resulting in failure of the chain.

### Investigation team recommendations

Following the investigation, the team made the following recommendations specific to the ROD Site, BHP Billiton Petroleum and the Company generally.

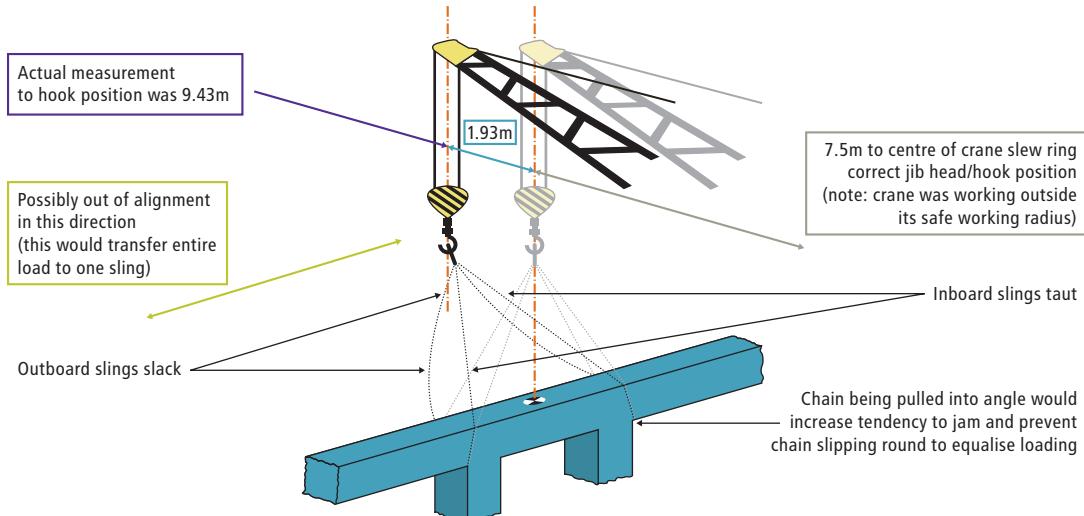
#### Improvements at the ROD site

As part of the improvements at the ROD site, the drilling contractor identified the following measures, which have improved the safety and efficiency of the site and removed a number of hazards. These initiatives are referred to as 'positive' and 'negative' lifting techniques.

##### Positive lifting:

- improves the time for lifting operations
- simplifies lifting pad eyes access for inspection
- increases safety during installation of lifting gear
- minimises risk of objects falling
- increases productivity and safety of drilling-associated operations.

#### Geometry of lift



► Sketch of out-of-alignment load path during lift, resulting in lifting chain failure

(Continued over)

## IMPROVEMENTS TO LIFTING AND SLINGING PRACTICES continued

### Negative lifting:

- increases the associated hazards and risks of working at heights
- increases the downtime for rig move operations
- increases the risk of personnel and objects falling
- increases the risk of failure of lifting gear material.

### ***Improvements Petroleum-wide***

The Petroleum drilling team appointed a specialist contractor, North Sea Lifting (NSL) to undertake a review of its lifting and slinging practices worldwide. NSL's scope of work was aimed at achieving improvements in lifting and slinging practices by drilling contractors, including:

- contracted drilling rig activities both onshore and offshore
- supply chain activities on land operations and on supply vessels in the offshore environment
- activities at the supply and logistics bases.

Examples of improvements identified by NSL included raising the awareness of supply-base crew through training in lifting and slinging practices.

Another area addressed concerned the competency and training of supply-boat crews. The measures taken here included:

- adoption of the United Kingdom Lifting Operations and Lifting Equipment Regulations (LOLER) as best practice for all lifting operations
- use of dedicated rigging and slinging crews on the supply boats
- training of deck crews in loading of cargo to improve safety of handling offshore
- development of a bridging document between our worldwide drilling team and the supply vessel operators
- adoption of the International Maritime Organisation (IMO) rules for the handling, storage and transportation of any dangerous goods offshore (IMO rules are seen as best practice worldwide and are accepted by all signatories to the UN Charter)
- adoption of the Australian requirements for containers throughout the world, which are also seen as best practice.

### ***Improvements Company-wide***

A new Fatal Risk Control Protocol for lifting activities and dropped objects has been developed for implementation throughout the Company.

These initiatives have already resulted in a number of positive comments from contractors and have heightened the awareness of the hazards and risks associated with lifting and slinging operations.

Pasquale Calcagne is Operations Manager with drilling contractor Saipem in Algeria. He says, 'Raising the standard of HSE in the work place has been a high priority with both Saipem and BHP Billiton. By working together, improvements have been achieved across many areas of the operation. The serious incident that occurred at the drill site reminded us all that we must always be improving. The improvement in the safety standards associated with lifting and slinging have also resulted in improvements in our operational performance, in particular a reduction in the time it now takes us to move a drilling rig. This is an excellent example of improvements in safety resulting in increased efficiency'.

## SAMANCOR CHROME SHUTS DOWN OPERATIONS TO IMPLEMENT INTENSIVE SAFETY PROGRAM IN RESPONSE TO WORKPLACE FATALITIES



*Tragically, six people died at work in separate incidents at our Samancor Chrome operations during the year in review. These individual tragedies are a grave cause for concern for everyone in the organisation. A comprehensive action plan has been put into place to address safety issues and drive a safe production culture throughout the chrome operations. The first step included shutting down five sites in the business in order to review the root causes of the deaths and provide all employees with intensive training in safe working and hazard awareness.*

Samancor Chrome in South Africa, is one of the two independent operating divisions of Samancor, which is an incorporated joint venture between BHP Billiton (60 per cent) and Anglo American (40 per cent). Samancor Chrome produces three grades of ferrochrome for use in different areas of the stainless steel smelting process. The company has five business units:

- Western Chrome Mines, located in Rustenburg, North West Province
- Eastern Chrome Mines and Tubatse Ferrochrome Smelter, located in Steelport, Mpumalanga Province
- Ferrometals, located in Witbank, Mpumalanga Province
- Middelburg Ferrochrome and Middelburg Technochrome located in Middelburg, Mpumalanga Province.

The six fatalities occurred at Eastern Chrome Mines (2), Tubatse Ferrochrome, Ferrometals, Middelburg Ferrochrome and Middelburg Technochrome.

We have been pursuing a carefully planned restructuring of HSE plans, systems and engagement with people at Samancor Chrome, introducing BHP Billiton's HSEC values, standards and systems. Over the last two years, the key step in this process has been active engagement with DuPont, a world leader in safety systems and management, to implement a safety improvement strategy. The core elements of the strategy are founded on ensuring that safe behaviours in the workplace are the norm and that safety risks are recognised and managed appropriately.

Initiatives based on the safety improvement strategy have been reflected in the Total Injury Frequency Rate (Classified Injuries plus Medical Treatment cases), which has reduced from 35.7 in 2001 to 16.1 in 2004, but unfortunately not in the fatal injury incidence rate, which has remained at an average of three per year. In 2004, there was some deterioration in the severity of classified injuries, which rose during the year. A reducing injury rate does not mean a reduction in fatality risk, and such a situation is at odds with our commitment to employees and families and to safe working.

In order to accelerate engagement of all levels of the workforce, we implemented actions that may be unprecedented in the South African mining industry. The sites at Eastern Chrome Mines, Tubatse Ferrochrome, Middelburg Technochrome, Middelburg Ferrochrome and Ferrometals were shut down entirely for periods of between two days and three weeks, so that safety issues could be identified and addressed without any pressure from production activities.

The shutdowns drove home the message of 'Zero Harm or Zero Production'. A number of immediate actions were implemented at the sites, the most significant of which included:

- communicating the message of 'Zero Harm through Safe Production' to all personnel at every site (this has since also been reiterated more broadly across the entire BHP Billiton organisation)
- introducing red stop (safety risk identification) cards and refreshing the pre-job check list (four steps to safety)
- regularly reinforcing the safety theme
- ensuring all contractors have a single point of accountability
- ensuring each person on site reports to a supervisor every shift
- minimising non-essential work
- ensuring immediate communications are in a form understandable at all levels
- limiting organisational changes to build stability
- increasing the visibility of management at the plant.

While these immediate actions were occurring, an investigation team reviewed a wide range of aspects throughout the sites including:

- task/environmental conditions
- hardware and design
- training
- organisation
- communication
- incompatible goals
- procedures
- maintenance and project management
- risk management
- contractor management
- management of change
- reinforcement of the change process.

Following the review, further sets of actions are being implemented at all sites with the aim of embedding the Zero Harm culture throughout the organisation. Key among these are initiatives to improve hazard awareness and safe behaviour observation skills. Early indications over the four months since February 2004 suggest that the strategy is successfully changing attitudes throughout the workforce.

An independent review of the Samancor Chrome HSEC strategy found it to be sound and valid. The key gap identified relates to a need for faster implementation, particularly at the front line supervisor and shop floor employee level. This is being addressed in the action plan.

The employee safety training that took place during the shutdowns will continue to be reinforced and reviewed in order to assess whether fundamental values in the workplace are changing.

The dedication of all managers, supervisors, employees, contractors and unions to make and sustain a radical improvement in safety performance is evidence of the great importance each and every one places on the attainment of a workplace that is safe for all.

## ALLIANCE WITH CATERPILLAR AIMS TO IMPROVE HSEC ASPECTS OF EARTHMOVING EQUIPMENT WHILE REDUCING COSTS

*Following the BHP Billiton merger in mid 2001, significant business opportunities were identified, one of which was to reduce the total cost of ownership of the earthmoving equipment (EME) fleet at our operations around the world. Following an intensive process that investigated all major international EME suppliers, Caterpillar was selected as the primary supplier to meet our needs for the global sourcing of earthmoving equipment and related parts and services. In early 2003, BHP Billiton and Caterpillar committed to an initial five-year strategic alliance, which aims not only to save costs but also to reduce HSEC risks associated with the operation of earthmoving equipment.*

In developing a long-term alliance with Caterpillar and their dealers, our common aim is to work together to deliver increased value by reducing the total cost of ownership of our earthmoving equipment fleet through continuous improvement process projects. These will also lead to mechanical and operational enhancements that comply with the BHP Billiton Fatal Risk Control Protocols, decrease HSEC risks associated with the earthmoving equipment and help us achieve our goal of Zero Harm.

We aspire to deliver breakthrough HSEC performance and lower operating costs through more effective capital expenditure, improved parts pricing and product support. This will be achieved by utilising the resources of both alliance partners in a collaborative drive to facilitate achievement of our cost reduction, productivity and HSEC enhancement objectives.

### HSEC and sustainable development benefits arising from the alliance

With the support of the Company's HSEC and asset management teams, focus areas were identified that enabled the implementation of projects and initiatives. These include:

- developing and evaluating vehicle collision avoidance systems, which generically include the use of closed circuit television cameras and radar detectors mounted on the equipment; in addition the use of radio frequency tagging of equipment using the haul roads is under review
- reducing and monitoring operator fatigue
- improving ergonomic issues such as whole body vibration, visibility, comfort and noise affecting both operators and those nearby
- improving the access systems on the machines, including the ability to maintain three-point contact and the development of powered access systems
- reducing fuel burn, lubricant consumption and engine emissions
- developing equipment lockout systems, improving fire prevention systems and improving operator visibility on the machines.

Specific enhancements to ensure compliance with the BHP Billiton Fatal Risk Control Protocols include:

- the use of tie-off points on the equipment for maintenance crews when working at height



► Caterpillar 797 truck operating at the Escondida copper mine, Chile

- provision of high intensity discharge lighting to improve visibility during hours of darkness
- improvement in access systems such as angled stairways and fenders over the wheels to reduce the risk of slippery surfaces
- heated rear-view mirrors in arctic conditions to prevent the build up of snow and ice
- the use of training simulators to develop operator skills without risking the health and safety of operators.

The use of three-point seat belts for additional operator restraint and neck support is also currently on trial.

These initiatives and others aim to reduce risk to the Company and our employees, and improve the environment, relative to earthmoving equipment, in which we work.

### Project example – reducing whole body vibration

Working at our Goonyella Riverside open-cut coal mine in the Bowen Basin of central Queensland, Australia, a team comprising representatives from the mine, Caterpillar and Hastings Deering (a Caterpillar dealer) has commenced a pilot project – the D11R Whole Body Vibration Project – looking at reducing vibrations on a Caterpillar D11R track dozer.

An early outcome of this project is the trialling of two new semi-active suspension seats developed to reduce vertical vibrations experienced by the operator. These seats have been designed to vary their damping characteristics according to changing ground conditions. The team is also looking for other sources of vibration to reduce the total vibration exposure of the operator. Measured vibration levels on site have demonstrated some clear gains can be made.

Phil Kelliher, Caterpillar's Global Manager for the BHP Billiton Alliance, believes that the close working relationship formed through the alliance will benefit all participants. He says, 'The Whole Body Vibration project is a good example of cross-functional teamwork, empowered by the Operational Excellence process, delivering solutions to some of BHP Billiton's major EME challenges while at the same time helping Caterpillar and our dealers design and maintain a safer product offering'.

## COAL BED METHANE OFFERS A FUEL SOURCE WITH THE POTENTIAL TO DELIVER ZERO GREENHOUSE GAS EMISSION POWER



*Coal bed methane (CBM) is natural gas extracted from coal seams. Innovative drilling methods have been successfully developed to the extent that CBM is now a proven and reliable source of competitively priced natural gas for power generation or for supply to industrial and residential markets. Where the CBM is used for electricity generation, the carbon dioxide (CO<sub>2</sub>) produced by the combustion of the gas may be captured and sequestered into the same coal seams from which the CBM was extracted. Theoretically, coal seams can absorb more than twice as much CO<sub>2</sub> (by volume) as the methane extracted from them, offering a unique way of reducing greenhouse gas emissions from electricity production.*

We are investigating the prospects for CBM-fired power generation to become a significant low greenhouse gas emissions energy source, with potential application in Australia, the United States, Europe and China.

Power is generated from CBM in much the same way it is from natural gas. When the methane is combusted in the power plant, CO<sub>2</sub> and water are produced. The unique concept we are proposing uses a process known as sequestration, which means reinjecting the CO<sub>2</sub> back into the seam from which the methane was extracted initially – thereby essentially having a form of power generation with zero greenhouse gas emissions.

The potential application of CBM-fired power generation has several dimensions:

- The development of new techniques for drilling methane-rich coal seams, in which BHP Billiton has played a leading role, has meant that CBM has become a competitive alternative to conventional natural gas in North America and Australia.
- In these countries, existing electricity transmission infrastructure extends into the coalfields where a number of existing coal-fired power stations are located. The same infrastructure could service new power stations situated on top of CBM fields and fuelled by CBM.
- The CO<sub>2</sub> from CBM-fired power stations could be 'captured' and sequestered into the same coal seams from which the CBM was extracted.

In Australia, CBM is expected to supply 15 per cent of eastern Australia's expected gas demand in 2005, a significant proportion of which will go into power generation. The potential recoverable CBM from eastern Australian coal basins has been estimated to be 100 trillion cubic feet, representing 200 years of current gas demand in Australia.

BHP Billiton is a part owner of a major CBM project called the Moranbah Gas Project that will supply gas for use in a high-efficiency power station in Townsville, Australia, by 2005. The power station will produce up to 1.5 million megawatt-hours annually, equivalent to the energy needs of a town of 200 000 people

Research has been undertaken to find suitable locations for carbon dioxide sequestration. In Australia, the research<sup>1</sup> suggests that the CO<sub>2</sub> storage potential of major coal basins – including the Bowen and Galilee Basins in Queensland, the Cooper Basin in South Australia, and the Sydney, Gunnedah and Clarence-Moreton Basins in New South Wales – is equivalent to 45 years of current CO<sub>2</sub> emissions from electricity generation. Importantly for the permanence of sequestration, the study focused on coal seams that are too deep or too high in ash content to be economic for coal mining. It is estimated that coal basins in North America and China also have a significant sequestration potential.

The injection of CO<sub>2</sub> into coal seams is being trialled, both as a means of enhancing the recovery of CBM and for permanent CO<sub>2</sub> storage. Research suggests that CO<sub>2</sub> injected into coal seam reservoirs can displace the methane embedded in the coal and thereby enhance its extraction, theoretically allowing recovery of all of the methane in place. Early results from the first multi-well pilot test in the San Juan basin of New Mexico indicate that such CO<sub>2</sub>-enhanced CBM recovery is technically feasible.

In another project, permanent underground CO<sub>2</sub> storage is being trialled by Consol Energy, a large US coal mining company with significant coal seam gas operations. In conjunction with the US Department of Energy, Consol embarked in 2002 on a seven-year project to demonstrate drilling techniques to permanently sequester CO<sub>2</sub> into unminable coal seams. US\$9.2 million is being invested in the project.

While the technology exists to sequester CO<sub>2</sub> in coal seams, there are major technical issues to be addressed. First, the ability of the coal to adsorb the CO<sub>2</sub> without swelling and becoming impermeable needs to be demonstrated in the field with injection tests; permeability is important to enable the CO<sub>2</sub> adsorption potential of the coal seam to be fully realised.

Second, the long-term integrity of the sequestration process needs to be demonstrated; that is, that the same geological mechanisms that trapped the methane in the coal seams will ensure permanent sequestration of the injected CO<sub>2</sub>.

These issues could be addressed within two years (with monitoring over a longer period), and a full-size demonstration project of a CBM-fuelled power station with sequestration of the captured CO<sub>2</sub> could be operational within five years.

The economic outlook for CBM-related sequestration also seems positive. Research<sup>2</sup> suggests that this technology has the scope to deliver sequestration at a cost of less than US\$8 per tonne of CO<sub>2</sub>. This compares with an average price per tonne of CO<sub>2</sub> of US\$10 for carbon credits traded in Europe over the six months to May 2004. The difference suggests that it makes business sense to pursue CO<sub>2</sub> sequestration options.

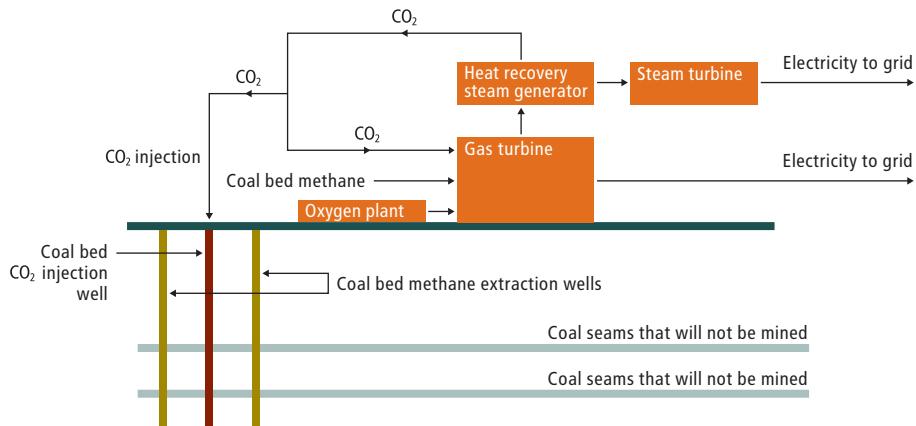
For further information, the Company's Position Statement on Climate Change is available on our website at [www.bhpbilliton.com/bb/sustainableDevelopment/environment.jsp](http://www.bhpbilliton.com/bb/sustainableDevelopment/environment.jsp).

<sup>1</sup> Australian Petroleum CRC's GEODISC research paper entitled Carbon Dioxide Sequestration Potential of Australia's Coal Basins (Sept 2000).

<sup>2</sup> CO<sub>2</sub> Injection for Enhanced Coal bed Methane Recovery: Project Screening and Design by Scott H. Stevens, Advanced Resources International. Presented at the International Coal Bed Methane Symposium, University of Alabama, Tuscaloosa, May 3–7, 1999.

(Continued over)

## COAL BED METHANE continued

***Coal bed methane and zero carbon power***

With coal bed methane mixed with oxygen as fuel for the gas turbine, the flue gas becomes pure carbon dioxide (plus water and NO<sub>x</sub>)

## CLOSURE PROGRAM AT SAN MANUEL COPPER MINE ADDRESSES ENVIRONMENTAL ISSUES

*Following closure of our San Manuel copper operation in Arizona, USA, reclamation of the mine sites has commenced. All mining ceased in August 1999, following which the operations were managed on a care and maintenance basis until the mine site was closed in January 2002 and the plant site in October 2003. Decommissioning and reclamation of the sites will be completed over the next five to seven years. A significant environmental challenge will be management of the future pit lake that will form at the mine site, due to acidity from spent process solutions that remain in the former open pit mine. Reclamation strategies include a number of options to reduce the residual risk. Our commitment to protection of the environment will be central to the reclamation process.*

The San Manuel mine and plant operation is located in the arid south-west of Arizona, approximately 48 kilometres north-west of Tucson. The ore body is one of several large copper deposits that were discovered in the area in the early 1900s. Mining commenced in 1948, and in 1952 Magma Copper Company constructed an underground mine, plant and railroads and started developing the community of San Manuel. Development of open pit mining operations on top of the subsidence area of the underground mine began in 1985. BHP Billiton acquired the property through the purchase of Magma Copper Company in 1996.

The mine site included the underground block cave mine that supplied sulphide ore via a dedicated railway to the mill located at the plant site, as well as the open pit mine operation that extracted and processed the copper contained in the oxide cap over the block cave mine. There was also an in situ leach operation within the open pit area. The mine site covers approximately 2000 hectares, of which approximately 1200 hectares have been disturbed by mining.

The plant site is located about 11 kilometres miles south of the mine. Operations there included a concentrator, smelter and refining facilities as well as a tailings dam that covers approximately 1450 hectares. The plant site is bordered by the town of San Manuel to the west and the San Pedro River to the east.

### Planning for the future pit lake

A significant environmental challenge associated with the reclamation of San Manuel is the management of the future pit lake at the mine site.

When the mine was placed under care and maintenance in 1999, groundwater continued to be pumped from the underground mine to sustain operations until closure was announced. Upon closure, the pumping ceased, allowing groundwater to begin flowing into the underground mine. In approximately ten years the groundwater will reach up into the open pit and a lake will begin to form. A network of groundwater monitoring wells is in place and groundwater level readings and samples have been collected over time, from which baseline measurements have been developed.



► Aerial view of the San Manuel mine site

Our reclamation project team has applied the Company's HSEC management standards as well as Enterprise-Wide Risk Management standards to identify and manage environmental issues. By applying this decision-making methodology, it was determined that well-timed implementation of closure activities can provide significant cost savings over time. Therefore, the project schedule is driven by a desire to realistically compress the reclamation program while adequately addressing the environmental challenges associated with formation of the pit lake.

The water quality of the future lake is expected to be affected by spent process solutions that remain in the former open pit mine as a result of in situ mining on the benches. Acidity in the spent process solutions and pit slopes will be partially offset by acid neutralisation due to rock composition in the former underground mine; however, the pit lake pH is expected to approach 5.0, and dissolved metals will still be present in the water. Planning contingencies include treatment of the pit lake water to adjust the pH to approximately 7.0, which will ensure that migratory birds and groundwater will be further protected from impacted pit lake water quality.

Computer models of groundwater movement and pit lake formation suggest that that groundwater will move very slowly through the rock and soil, and any remaining solutions will naturally degrade over time; however, evaporation from the pit lake surface will be insufficient for the lake area to passively contain all the groundwater that will rise into the lake over time.

### Exploring options for managing residual risk of the pit lake

A number of proactive management options to reduce the residual risk of the pit lake have been identified. These include:

- segregating affected and non-affected groundwater inflow for potential treatment or beneficial use off site, such as for drinking water, agricultural use or industrial purposes
- water treatment methods that involve in-situ or pre-emptive measures to improve water quality in the pit lake

(Continued over)

## CLOSURE PROGRAM AT SAN MANUEL COPPER MINE continued

- promoting neutralisation of acidity in the spent process solutions in the former underground mine by treating them with acid-neutralising materials such as from the San Manuel Formation, which contains a considerable amount of carbonate that neutralises acid and precipitates metals out of the water.

Various technical studies and regulatory assessments will be carried out during the next three to five years of groundwater recovery. At the same time, it is anticipated that public awareness of the value of the water resources at the mine site will increase. The processes we have put in place to identify issues and manage residual risk recognise the importance of the closure and reclamation process to the community and the local environment.

## SELBAIE MINE DEVELOPS ENVIRONMENTAL PROGRAM TO CONTAIN ACIDIC WATERS DURING THE SNOW-MELTING SEASON

The Selbaie base metals mine, located about 140 kilometres north of La Sarre in Quebec, northern Canada, operated from 1981 to January 2004. The mine site consists of 575 hectares of disturbed area, which includes environmental control systems to manage water impacted by the 33 million tonnes of mineralised waste rock that was created during operations. Concurrent rehabilitation of the waste rock pile and the mine site has been progressing since 2000. In 2003, in an area east of the waste rock pile, water containing dissolved zinc, iron and copper was discovered escaping to a fresh water diversion and to the environment. An action plan has been put in place to fully contain all seepage from the waste rock pile.

### Background

Acid water seepage resulted in the release of poor-quality water outside the containment system. This seepage condition went undetected until a characterisation study of the area was carried out for the reclamation planning. Verbal and written reports were then filed with the Quebec government. The Ministry of Environment issued two notices of infractions: failure to report the spill without delay; and the release of contaminants to the environment. The two notices have not as yet resulted in the laying of formal complaints.

The escape of acid water is believed to have occurred over a number of years during spring snowmelt, when the release was not visible under the snow and ice, and in heavy rainstorms. During the latter years of the operation, there was no monitoring in the area as the ditching systems for the acid waters were considered adequate. Once the site was sampled, the delay in reporting resulted from a lack of understanding of the significance of the data for what was considered a minor stream.

### The action plan for prevention

The area east of the waste rock pile is a flat, 60-hectare tract of peat bog. The objective was to design a system to prevent the further escape of acid water and metals, to clean up the affected area and to provide treatment for acidity that could not be contained.

An action plan was presented to the government and included construction of an expanded acid water collection pond; peat and ice excavation in an affected area to the south; improved pumping and acid water collection; and in situ treatment of the drainage ditch to increase the pH and precipitate metals before the water leaves the mine site.

### Implementation of the plan

The acid spill containment program was successfully completed over winter and in time for the spring melt from March to April. The collection and pumping systems will be able to handle normal flows. A major concern was the ability to contain high flows that will arise during the ten-week warming period and retain solids in the treated water. Additional steps were taken that included in situ treatment of the drainage stream using



► Waste rock pile at Selbaie Mine with acid collection pond in the foreground. The area of release from ditches is in the top right corner.

sodium hydroxide, addition of ferric sulphate to improve settling of fine particles, and hay bales used as baffles to improve settling of solids. These measures will continue for as long as necessary, even after the permanent collection facilities have been installed.

### Monitoring the recovery

Environmental effects monitoring is needed to understand the effects of the acid release and the recovery of the system. Sampling carried out in July and August on and off site will evaluate the biological effects and recovery of the situation on the land and water surrounding the mine site. Soils, water quality, sediments, fish and macroinvertebrates have been sampled.

The objectives throughout the clean-up project are to maintain good communication and transparency with the government, to take all reasonable measures to contain or treat acidity in the stream and, finally, to study the effects and recovery in the environment.

### New collection system

As part of the long-term site reclamation program, a new acid water collection system is being constructed that will fully contain all seepage from the mine waste pile and replace those measures installed over winter. However, allowance has been made to maintain the current facilities for up to five years as a backup measure.

### Action following site-wide review

As a result of discovering the seepage from the waste rock pile, a site-wide monitoring program to check other areas of the plant site was performed. Sampling in April 2004 identified a new area of concern in the west sector. Acid seepage escaped the west sector containment ditch, resulting in environmental effects beyond the Selbaie boundary, which are currently being investigated. An action program similar to that for the waste rock pile containment system is being established.

## CONSERVING BIODIVERSITY AT THE RAVENSTHORPE NICKEL PROJECT



*In March this year, the Company approved the Ravensthorpe Nickel Project in Western Australia. One of the challenges facing the project is to construct and operate a significant nickel laterite processing plant and open-cut mining operation while minimising disturbance in an environmentally sensitive area. Detailed environmental planning and research as part of mine planning and design has been undertaken, and programs are being implemented to conserve biodiversity in the area.*

The Ravensthorpe Nickel Project (RNP) is located 155 kilometres west of Esperance along the South Coast Highway, approximately 35 kilometres east of the town of Ravensthorpe. The project is within an agricultural region with an established network of small towns.

The project consists of three nickel laterite deposits with an expected mine life of 25 years. Open-cut mining operations will produce ore for a hydro-metallurgical atmospheric and pressure acid leach process to produce an intermediate nickel-cobalt hydroxide.

The main project area includes the ore deposits, plant site, accommodation village, tailings storage and evaporation pond facilities.

### Environmental management

The RNP is located within the Bandalup Corridor, a band of remnant vegetation in an agricultural region adjacent to the Fitzgerald River National Park, and falls within the buffer zone of the Fitzgerald River Biosphere, a world-renowned biodiversity area. The Western Australian Department of Conservation and Land Management (CALM) manages both the National Park and the Biosphere. One of the allowable activities within the buffer zone of a Biosphere is mining, subject to responsible environmental management.

The project's ore deposits are located in areas covered by remnant vegetation. The clearing of this vegetation associated with project development has two main impacts on biodiversity, including loss of habitat for fauna and, to a lesser extent, direct fauna impact from road traffic. The loss of fauna habitat has been compensated through the purchase of an adjacent

650-hectare 'bush block' as a conservation offset, together with the revegetation of approximately 600 hectares of existing cleared farmland to allow its incorporation back into the Bandalup Corridor.

At the completion of these revegetation activities and subsequent mine rehabilitation, the width of the Bandalup Corridor will actually be increased. Significantly, Ravensthorpe Nickel Operations (RNO), the management company 100 per cent owned by BHP Billiton, believes that the effective area for fauna habitat post mine closure will be greater than currently exists.

### Additional research and conservation initiatives

The project team has also sponsored a PhD research project studying the environment preferences and life cycle of the heath mouse, *Pseudomys shortridgei*, an Australian Commonwealth endangered species that is principally resident in the Fitzgerald River National Park. The outcomes of this research project will assist CALM in developing a recovery plan for the heath mouse to hopefully allow its removal from the endangered species list.

During the feasibility study, detailed ecological survey work has identified over 700 individual flora species within the project leases, a number of which are endemic to the project leases and in some cases have been identified for the first time.

The project team has focused on reducing clearing of remnant vegetation by locating as much infrastructure as practicable on adjacent historically cleared land. Where clearing is unavoidable, progressive rehabilitation including backfilling of mined areas has been included in the mine development schedule.

Additionally, four mining exclusion zones have been established to preserve restricted species. Results from large-scale rehabilitation trials, translocation trials for priority species, genetic studies and seed propagation studies led to the development of rehabilitation and priority species management plans. These plans were subsequently approved by CALM, allowing construction to commence this year.

RNO believes extensive rehabilitation programs will effectively reverse any potential loss of biodiversity associated with land clearing.



► View from Bandalup Hill, Ravensthorpe



► Heath mouse in the Ravensthorpe area



► Local wildflower species *Kunzea similis*

Heath mouse photograph by Jiri Lockman

## ENGINEERING A SUSTAINABLE FUTURE AT YABULU REFINERY

BHP Billiton subsidiary QNI operates a nickel refinery at Yabulu, 25 kilometres north of Townsville in Queensland, Australia. Three projects, part of an all-encompassing Yabulu Optimisation Initiative, have specifically targeted energy and water use efficiencies, with significant results.

QNI refines over 3.5 million wet tonnes of imported nickel laterite ores each year, using a complex hydrometallurgical process to produce high-quality nickel and cobalt products for sale into world markets.

Celebrating 30 years of operation on the north Queensland coast this year, QNI's Yabulu Refinery has been working for many years on improving the efficiency of its operations. The impetus is a major expansion project now approved and being readied for commencement in 2005.

### **Yabulu Optimisation Initiative**

The strategy to improve efficiencies, known as the Yabulu Optimisation Initiative, provides the operation with a sustainable future through increased cobalt and nickel recoveries, increased throughput and decreased unit costs. The optimisation projects commenced with employee workshops aimed at identifying viable projects. Some 550 projects were proposed, with further study reducing this number to 33.

QNI undertook a step-by-step process to identify and prioritise projects that offer potential environmental and economic benefits. Three projects from this initiative, specifically aimed at energy and water reuse with the added benefit of increased cobalt recovery, were effectively commissioned in 2003. Many more are on the way.

The three projects are:

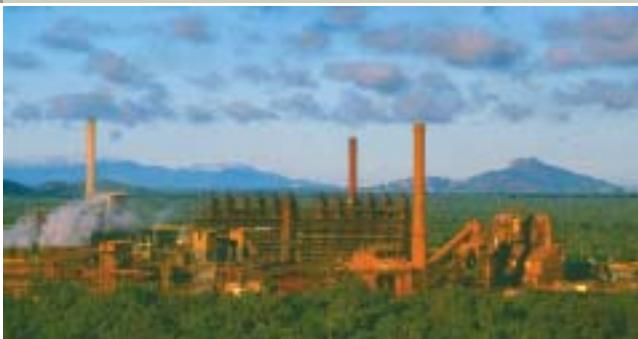
- the Boiler Feed Water Preheat Project
- the Green Water Re-Use Project
- the Cobalt Plant Water Re-Use Project.

Positive results from these projects, including water and energy usage efficiencies together with greenhouse gas reductions per tonne of product, have so far justified the extensive efforts expended. The initiatives also represent a breakthrough in engineering design and implementation and an outstanding achievement in the refinery's quest for a more sustainable minerals processing operation.

The projects are already contributing efficiencies in direct water and coal savings and increased product sales, with a total value of over AUD\$3.8 million per year.

*The Boiler Feed Water Preheat Project* has resulted in a new boiler feedwater system that utilises heat energy available from distillation columns in the area to preheat water prior to it being fed to the powerhouse turbines. Utilising the available heat energy reduces the requirement to consume steam in the powerhouse to preheat the water. The significant benefits from this project are energy savings and increased production.

*The Green Water Re-Use Project* recovers water, nickel and heat energy from 85°C basic nickel carbonate slurry. The old process resulted in a loss of nickel and valuable hot water to the tailings dam. The reuse of water from this project has a direct impact on



► Efficiency initiatives at Yabulu Refinery have specifically targeted energy and water use

the quantity of new water used in the plant. Approximately one million litres of water per day is saved as a result of this process, together with increased nickel recoveries.

*The Cobalt Plant Water Re-Use Project* recovers heat and water, saving over 350 000 litres of new water every day together with energy savings.



► Environmental technician John Weatherly monitors water resources at Yabulu Refinery

In combination, these projects have reduced the quantity of new water used in the production process from 206 kilolitres per tonne of final product to 185.7 kilolitres per tonne of final product, a saving of 20.3 kilolitres per tonne. The quantity of energy used per tonne of final product has been reduced from 583 gigajoules per tonne to 567 gigajoules per tonne.

Greenhouse gas emissions from the plant have been reduced from 46.5 tonnes of carbon dioxide per tonne of final product to 45.5 tonnes.

Specifically, these projects have reduced materials and energy intensity in two ways. Firstly, by increasing cobalt recovery, they have increased the quantity of product produced per tonne of ore processed in the plant. One of the projects also reduces the amount of nickel lost to tailings, thereby increasing the amount of nickel product obtained from the ore. Secondly, the projects have reduced the amount of new water and energy (coal) used to produce the final products.

These successes at Yabulu Refinery confirm, once again, that projects that benefit the environment can also return a sound economic benefit.

## WASTE MANAGEMENT PRACTICES AT CANNINGTON ARE DELIVERING BENEFITS FOR THE OPERATION AND OTHER STAKEHOLDERS

*From the commencement of our Cannington silver-lead-zinc operation in northwest Queensland, Australia, in the late 1990s, the leadership team has worked hard at developing a workplace culture where every individual strives for excellence. In pursuing this goal, and in line with BHP Billiton's overriding commitment to environmental responsibility and sustainable development, a key focus at Cannington is waste management. The strategies developed are producing significant benefits, for the operation and the broader community.*



► An old 20-litre plastic container of drilling mud      ► The new cardboard box and 20-litre plastic bladder

In the early stages of the Cannington operation, caring for the environment presented many challenges, not the least of which was apprehension by some of the local pastoral community that their heritage values, water supply and income might be threatened by the mining operation. Compliance with environmental protection laws alone was not enough to allay their concerns; initiatives needed to be visible and measurable and show that stewardship of the environment would be in good hands. A further challenge was that management strategies needed to cope with the remoteness of the area and the lack of waste management services and disposal facilities.

### Waste management strategies

As far back as 1992, Cannington began to develop strategies that would enable responsible waste management. As well as being innovative, these strategies have been simple and achievable and directed towards:

- avoiding, where practical, products that could not be reused or recycled
- reducing the volume of waste
- ensuring disposal was an option only if no other treatment was available.

From those early days, products have been purchased in bulk to minimise packaging. Waste oils, batteries, scrap metal, construction scrap and marketable recyclables have been stockpiled until quantities are sufficient for transport to Mt Isa or Townsville. Colour-coded waste segregation has been introduced to ensure that recyclable and general waste products are not contaminated by lead and zinc. Specifically coloured wheelie bins are used for the separate collection of general waste, recyclables, hydrocarbon and lead and zinc contaminated products.

Lola Sexton from Eurest Support Services, who is crib room and laundry coordinator at Cannington, says, 'Properly separating everything is the key to successful waste management with my job. Encouraging people to do the right thing with the waste being thrown out in the crib room increases the amount we recycle. I also try to repair and recycle as much as I can as it comes through the laundry; this not only helps the environment it also helps to reduce our costs'.

In addition, cardboard and aluminium cans are compacted prior to transport offsite, village kitchen vegetable scraps are broken down by a large worm farm, combustible hydrocarbon products such as oily rags and filters are eliminated in a high-temperature incinerator, and rubber and leather gloves are washed and dried in the site laundry and redistributed.

Recycling initiatives and minimisation processes have extended the life of the mine landfill facility from one year to three years. Reduced landfill development and management costs have resulted in savings of around AUD\$200 000 every three years. Impacts on the environmental values within the mining leases have been reduced through less disturbance and fewer landfill sites.

Employee education and involvement has improved the overall understanding of environmental stewardship, resulting in fewer environmental incidents and helping to fulfil the drive towards sustainable development.

'We're in a remote location,' states Cannington process plant operator Martin Belsey. 'When we finally leave here it has to be as close as possible to the state it was in when we arrived. We recycle our gloves, including leather and rubber; we sort our waste and send it off site for responsible disposal. We always have a mind to minimise the impact we have here. That's the way it is, as it should be'.

### Extending the benefits

Beyond the operation, recent initiatives have included encouraging the on-site drilling contractor to negotiate with their supplier to change the container in which drilling mud is supplied. Instead of a hard plastic 20-litre container, which is difficult to recycle because of its bulk, they have agreed to use a 20-litre plastic bladder encased in a cardboard box with a reusable spout (like a big wine cask). Storing the flat pack cardboard boxes and plastic bladders saves the supplier space, the driller receives more products per pallet, and the new pack is easily recycled – a win-win situation for all.

Phil Lonie, Project Manager at Major Pontil Contractors, agrees. He has reported that 'the new containers have reduced our waste by 95 per cent, enabled us to transport 50 per cent more product per pallet and made manual handling easier'.

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## WASTE MANAGEMENT PRACTICES AT CANNINGTON continued

Pialba State School at Hervey Bay in Queensland has emulated Cannington's waste management strategies in its School Environmental Management Plan. The school was chosen as the 2002 national winner of the Minerals Council of Australia's EnviroSmart Award, an annual event for schools.

The children at Pialba have implemented a program to rehabilitate their school grounds and gardens and reduce power and water consumption. They have also involved the wider community by seeking facilities from their local government authority for the recycling of plastics, aluminium and paper from classrooms and eating areas and, in school newsletters, promoting a reduction in plastic wrappings for school lunches.



► *Pialba State School representatives with Queensland Premier Peter Beattie*

Today at Cannington, waste management is considered to be a fundamental part of the mining operation. With the ongoing influence that its own employees have when they take home their learnings from the workplace, and through examples such as the changed drilling mud packaging and Pialba State School's EnviroSmart initiatives, Cannington is also helping the community to adopt sustainable practices.

## INNOVATIVE APPROACH TO RECLAMATION AT LA PLATA MINE IS PRODUCING POSITIVE RESULTS

*Our La Plata Mine in New Mexico, USA, began producing coal in 1986. The coal was hauled to the San Juan Mine, where it was stockpiled for supply to the San Juan Generating Station. Coal production ceased in December 2002 and the coal haul was completed three months later, enabling full-time reclamation of the site to commence. In 2001, it had been determined that the reclamation program faced challenges that required more than the conventional practices. An innovative approach was initiated, involving the computer-generation of topographical designs that simulate natural landforms and create a landscape similar to that which naturally would have formed over time. Reclamation using these principles is now well under way, with positive results.*

The main reason for initiating a more comprehensive approach to reclamation at La Plata is that the terrain is steeply sloping and highly erosional. The landscape is dominated by mesas with their steep rock walls topped by flat sandstone caps. Some of these caps, which control headcutting from moving upstream, were removed when the mine was constructed. Without them, the terrain will erode upstream and eventually create a landform quite different to the pre-mine landscape.

There were other challenges. For example, the conventional approach is to develop terraced slopes with rock chutes for draining water down the slopes. If this approach were used as part of the reclamation process, long-term maintenance would be required. Terraces would not provide the desired topographic diversity, and minimal precipitation and high evaporation rates would limit the amount of available water.

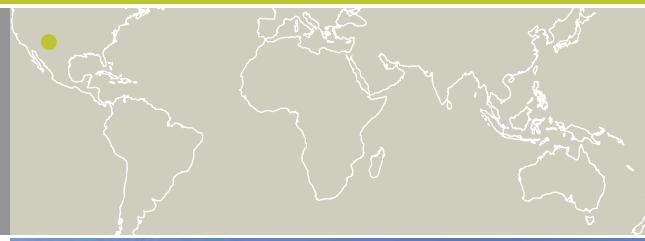
Additionally, during mining, the overburden rock was broken. As the broken overburden occupies a greater volume than the unmined rock, it all could not fit in the mined-out pit. The excess had to be reclaimed as a permanent out-of-pit spoil dump, which was developed with approval from the State of New Mexico authorities. Existence of the dump provided another challenge to the reclamation program.

It was considered essential that, as well as reclaiming the landscape, the final landforms must harmonise with the surrounding natural terrain and provide habitat for wildlife, in particular the deer that are abundant in the area.

This is extremely important for the people who live in La Plata and for those who use the La Plata valley for recreation such as hunting and hiking.

### Fluvial geomorphic principles

Fluvial geomorphic principles involve recontouring of reclaimed surfaces and simulating natural stream configurations to create a landscape similar to that which naturally would have formed over time. Landform shaping and grading plans are based on computer-generated topographical designs. In addition, the principles are used to provide slopes and drainage channels that are stable over the long term.



► Reclaimed southern slope of the McDermott Dump located at the east end of La Plata Mine. The dump was reclaimed in 2001 using fluvial geomorphic principles to design the size, shape and features of the watershed.

Application of the principles takes into account the creation of landforms together with the processes by which those landforms would be created naturally over time. Soil, slope and weather are all considered. The objective is to create functional landforms that blend with the surrounding natural terrain and are stable, ensuring long-term, maintenance-free reclamation.

To shape the land according to the computer-generated topographical designs, global positioning system (GPS) technologies are utilised in the earthmoving equipment. The GPS units provide real-time data, allowing the bulldozer operators to monitor their work in the field. This improves productivity and efficiency in materials handling and helps accomplish the required surface configuration designs.



► Reclaimed northern slope of the McDermott Dump (background) with partially filled Younger Pit and topsoil stockpile in the foreground

The application of fluvial geomorphic principles in reclamation at La Plata Mine has many long-term benefits. During reclamation, topdressing to varying depths and using multiple seed mixes provides topographic diversity and also promotes plant community diversity. Wildlife habitats are improved by the grading of slopes to re-create natural landforms, which establishes windbreaks and security areas. The resulting landscape is in harmony with the natural surrounding terrain.

(Continued over)

## INNOVATIVE APPROACH TO RECLAMATION AT LA PLATA MINE

continued



- Active reclamation of the Northgate watershed awaiting topsoil placement and seeding. The rocks have been stacked for future placement in the watershed ridges and drainages.

### Positive results

Around 100 people from the La Plata Mine team and San Juan Coal Company environmental department are involved in the reclamation phase, which is expected to continue until 2007 when major earthwork should be completed and the land returned to wildlife habitat.

A target had been set to regrade 142 hectares by June 2004. At the time of reporting, 255 hectares have been regraded, including 31 hectares that were completed in the calendar year 2003. A total of 34 hectares have so far been reclaimed through regrading, topdressing and seeding.

Based on research involving on-site inspections undertaken in 2001, 2002 and 2003 after periods of significant rainfall, all of the constructed drainage channels are stable, with minor scouring and deposition as predicted. No repair work has been necessary. The test area has stood up well to erosion. It is much more visually appealing and, as vegetation takes hold, is blending well with the natural terrain.

For the innovative approach to reclamation work, La Plata Mine was recognised in 2001 for achieving 'Excellence in Reclamation' by the New Mexico Energy, Minerals and Natural Resource Department, Mining and Minerals Division.

Mr Willis L. Gainer, Director of the Albuquerque Field Office of the Department of Interior, Office of Surface Mining, stated in a letter to San Juan Coal Company, 'Everyone was extremely impressed by your success at geomorphic restoration of the reclaimed topography. In my view, the innovative backfilling, grading, and drainage restoration work that you . . . have implemented at your mines has set a new standard for reclamation technology'.

The La Plata Mine project has demonstrated that reclamation grading using fluvial geomorphic principles can be successfully implemented in conjunction with surface mining and truck-and-shovel open-pit operations.

## MT ARTHUR COAL TRUCKS AND EXCAVATORS DESIGNED TO MEET STRINGENT NOISE LIMITS

*At our Mt Arthur Coal open-cut operation in the Hunter Valley in New South Wales, Australia, adherence to stringent environmental noise limits is essential. The mine is located close to residential areas of the nearby town of Muswellbrook. With the operation needing to increase production levels in response to customer demand, the noise limits could only be met with significant reductions in the operating noise of mining equipment. Mt Arthur Coal has collaborated with equipment manufacturer Liebherr to achieve the lower noise levels. New excavators and haul trucks – claimed to be the quietest of their type in the world – are now being delivered.*

To meet its obligations to the Muswellbrook community, Mt Arthur Coal developed a noise specification that prescribes the maximum noise limits that can be emitted from mining equipment under a range of test conditions. This required excavators and haul trucks to become up to 15 dB(A) quieter in their noise emissions. At maximum attenuation, this equates to a 32-fold reduction in noise output from the machine. The ability of equipment to meet the requirements of the noise specification is a critical factor in the selection process.

Mt Arthur Coal formed a team to work closely with equipment supplier Liebherr to achieve the required noise level reductions. The project team utilised expertise from the production engineering departments of the manufacturer's truck factory in Newport News, Virginia, USA, and their excavator factory in Colmar, France. The team also took advantage of Liebherr's experience in the manufacture of noise suppression packages for smaller equipment designed to operate in inner-city areas of Europe.

The new excavators and haul trucks being supplied by Liebherr are designed to meet Mt Arthur Coal's stringent noise standards. Importantly, they do so in a manner that minimises negative operational or performance effects. This has established a new benchmark for mining equipment noise levels, with the excavator and truck models being the quietest in their respective equipment classes.

Mt Arthur Coal has designed and constructed a noise test facility, the first of its kind in the world, to test equipment noise levels on a regular basis. The facility tests the majority of the operation's mining equipment under a range of operating conditions in accordance with the site noise specification. All excavators and trucks are subject to a noise management program that is designed to ensure both new and existing equipment stays within accepted noise limits.

Testing is incorporated into equipment maintenance programs to ensure new equipment is complying with noise limits and that existing modified equipment is performing to design during the entire life of the machinery.



► One of the new quiet Liebherr T282 ultra class haul trucks at Mt Arthur Coal

### Meeting specified noise limits

Mt Arthur Coal's noise limits are some of the most stringent of any operating mine in Australia. These limits are set by government and based on noise levels considered acceptable in the surrounding community. From noise modelling (prediction of impacts), Mt Arthur Coal has determined the maximum noise levels allowable from each type of equipment to achieve compliance against these limits. These equipment limits are specified in the site noise specification and relate to both stationary and dynamic test conditions that simulate the equipment working.

The specification was recently reviewed to reflect new learnings and achievements gained from the equipment attenuation process to date. This review resulted in lower noise limits being specified for new equipment and the introduction of a new 'drive-by' test as part of compliance acceptance. Ongoing compliance with the noise specification remains the primary responsibility of the equipment supplier.

The noise emission target for excavators was required by Mt Arthur Coal, under both stationary and operational test conditions, to simulate all phases of the digging cycle. Liebherr achieved 113 dB(A) under stationary conditions and 115 dB(A) when measured at one metre from the source under operational conditions, both of which are below the specification.

Each Liebherr haul truck was tested against the noise specification for overall sound power and frequency targets; while stationary, loaded, driven up a ramp under full power; and unloaded and driven down a 10 per cent ramp under retard. The overall sound power achieved the target of 113 dB(A) and complied with limits across all frequency ranges. The operator noise exposure was less than the target level of 75 dB(A).

Tim Haig, Mt Arthur Coal Open Cut Examiner, says, 'The Liebherr trucks are so quiet that when I'm inspecting a shovel dig (operating) on shift, the first I hear is the Liebherr braking as it pulls right up to the shovel. With the Liebherrs, you can certainly see them long before hearing them'.

(Continued over)

## MT ARTHUR COAL TRUCKS AND EXCAVATORS DESIGNED TO MEET STRINGENT NOISE LIMITS continued

Bruce Folpp, the operation's Mobile Equipment Maintenance Superintendent, agrees. 'These trucks are so quiet, you can hardly hear one come into the workshop. This result has been achieved by factory involvement as opposed to retrofitting sound components to standard equipment'.

### **Technical details – excavators**

The new R996 Liebherr Litronic excavators are fitted with sound suppression packages, designed as a series of suppression modules that work together to reduce the overall sound power of each machine. The sound attenuating devices include sound absorbing panels throughout the engine bay, under the deck area and inside the counterweight. Substantial enclosures, lined with further sound absorbing panels are placed around the power packs and the hydraulic cooler house. Access to these areas is available via modified catwalks and ladders.

Noise reduction from the engine fans is achieved by using multiple hydrostatically controlled units instead of a single belt-driven fan. The engine fans are also electronically speed controlled to provide cooling only when required, reducing noise emissions further. Exhaust system noise emission reduction is achieved using primary and secondary mufflers tuned to reduce engine output noise.

### **Technical details – haul trucks**

The new T282 ultra class diesel electric haul trucks are assembled at Mt Arthur Coal with comprehensive sound suppression packages. The noise reduction features include an aerodynamically designed fan coupled with a larger capacity radiator, ensuring ample cooling capacity at lower fan speeds. Fan noise is further muted by a specially baffled grille, while still maintaining a similar profile to a conventional truck. Both the access stairway and the grille have been engineered to allow easy maintenance access. To reduce noise associated with retarding, a high-volume, low-noise radial fan delivers the cooling air to stainless steel 'quiet' grids. This reduces both grid blower noise and the electrical humming often associated with retard resistors.

The truck's engine area is enclosed by a variety of baffles and enclosures. Fire-resistant blankets have also been installed for their acoustical properties and durability. Access to the engine area is provided through doors on each side of the engine bay and from below through double-opening belly pans. A reduction in exhaust noise is achieved by utilising specially designed mufflers. Chain mesh mud-flaps have also been installed, which absorb noise rather than reflecting it to the side of the trucks, helping meet the directionality requirements of the noise specification.

**DOCUMENTARY FILM SERIES  
HIGHLIGHTS THE ENVIRONMENTAL  
RICHNESS AND FRAGILITY OF  
THE SAHARA**



*In the southern Sahara in Algeria, we are involved in the Ohanet and Rhourde Oulad Djemma (ROD) hydrocarbon developments. The Sahara is one of the world's most important and fragile ecosystems, comparable in importance to Antarctica and the world's tropical rainforests. Over the last two decades, the Sahara's natural resources have been subjected to increasing pressure from commercial exploitation, including tourism, population growth, climatic variability and the unfortunate looting of cultural resources. To contribute to its conservation, we have supported the production of a series of documentary films highlighting the cultural heritage of the Sahara.*

We have been working in the Sahara for some 15 years. In 2003, together with our joint venture partners and SONATRACH, the Algerian state-owned oil and gas production company, we commissioned the Ohanet development. Standing in the typical landscape of the southern Sahara – a barren, flat and stony desert surrounded by the steep rock walls of flat-topped mesas – the Ohanet central processing facility (CPF) is capable of processing 20 million standard cubic metres of gas per day through its two processing trains. The CPF is fed by a gas-gathering system comprising 150 kilometres of flowlines that will connect the 47 wells required to develop the reserves.

We are also involved in the Rhourde Oulad Djemma (ROD) integrated oil development in the southern Sahara. The project involves the development of six oil fields and comprises 34 development wells and a CPF capable of processing 80 000 barrels of oil per day and reinjecting gas back into the underground reservoirs.

Throughout the development phase of both these projects, careful consideration was given to minimising the impacts of our operations on the environment, improving opportunities for local indigenous peoples and protecting and enhancing the safety and well-being of our large workforce.

It seemed appropriate for us to look at how we could contribute to the conservation of the Sahara by raising awareness in a range of stakeholders, both within Algeria and across the global community.



► Dr Jeremy Keenan (3rd from right) and documentary film crew on location

**Capturing the Sahara's attributes on film**

Through collaboration with Dr Jeremy Keenan, an acknowledged expert in Saharan social anthropology and development studies, we agreed to fund a series of three documentary films that focus on the cultural heritage of Sahara, its archaeology, ethnology and ecology. The area is, for instance, famous for its rock art sites. The major aim of this initiative is to highlight the Sahara as a World Heritage site, increasing global awareness of its rich heritage, attracting investment, enhancing research and assisting environmental conservation.

A challenge is to make such an initiative as this sustainable. To this end we have arranged for the proceeds from the sale of the three documentaries to go to the Centre for Saharan Studies in the UK. This money will be used to fund training in areas such as environmental conservation and resource management; collaboration with local communities, Algerian academic and government institutions; specific field projects and research; and, perhaps most importantly, to provide for scholarships to cover Algerian students attending higher degree programs at the Centre for Saharan Studies in the UK.

The documentary films are now complete, and marketing of the programs to broadcasters around the globe has commenced. Dr Keenan has stated, 'These documentary programs are a "first for the Sahara". They will make a major contribution to raising awareness about sustainable development issues in the Sahara, both locally and globally. Raising awareness of the Sahara's unique but threatened environmental and cultural heritage in this way is a major step towards its long-term conservation'.



► Growth in the desert



► Rock art site

## COMMUNITY

22

## ILLAWARRA COAL DEVELOPS PROCESS TO ADDRESS COMMUNITY ISSUES AND IMPROVE COMMUNICATION WITH STAKEHOLDERS

*Our Illawarra Coal operations in New South Wales, Australia, are located within areas that contain a diverse range of land uses, including residential areas, and major infrastructure features. Greater environmental awareness in the region, together with increasing stakeholder expectations and a more demanding legislative framework pose significant challenges for Illawarra Coal. To address these complex issues, the Company has developed an Integrated Mine Planning Process, which facilitates communication with all stakeholders about the planning of sustainable mining in the region.*

The Illawarra region where our underground coal mines are located includes residential areas (large suburban areas, towns and villages), water supply and other catchment areas, bushland, agriculture, recreational land and industrial centres. There are also infrastructure features such as gas pipelines, powerlines, highways, railways, roads, bridges and water supply facilities.

While coal mining has been a feature of the region for more than 150 years, the profile of the population and the expectations of the local communities and regulators have altered dramatically in recent times. People are more aware of environmental issues and have a greater interest and role in their outcomes. At the same time, the legislative framework is more demanding in relation to the impacts of underground coal mining.

### The Integrated Mine Planning Process

Illawarra Coal recognises the importance of working closely with government and communities to address stakeholder issues in the planning and management of mining activities. To facilitate this, the Integrated Mine Planning Process (IMPP) has been developed.

The IMPP is designed to integrate stakeholder engagement and environmental impact assessment into the mine planning process. This will enable future mine plans to be developed on the balanced consideration of all relevant factors, including the expectations of stakeholders, the impact on the environment, geology, the use of the resources, operational constraints and economics.

Development of the IMPP has been in train for some years. Since 1998, to assess attitudes towards mining, extensive stakeholder consultation programs have been undertaken, including individual interviews, surveys and community working groups.

Key findings of these consultative programs have included the need for:

- greater consultation and participation
- comprehensive environmental impact assessment
- the Company to build community trust in its ability to address issues



► Marhnyes Waterhole on the Georges River

- sensitive planning in relation to mining under natural features
- improved monitoring and management of river subsidence impacts
- improved consultation in relation to subsidence impacts on private property and the process for impact mitigation.

Workshops have been conducted within the Company to discuss stakeholder issues and to develop strategies to address them. These workshops identified the development and implementation of an IMPP as a key strategy to address stakeholder issues. The views of people both within and outside the Company were gathered in order to develop a process in which all stakeholders have some ownership.

The key elements of the IMPP include:

- continuing stakeholder consultation and participation
- comprehensive baseline environmental assessment
- consideration of environmental impacts and mitigation measures during the assessment of alternate mine plan options
- consideration of monitoring results from past mining activities
- monitoring and stakeholder reporting programs.

### The benefits of consultation

There are important logistical reasons why an effective consultation process can be of benefit to all stakeholders. Mining of coal by underground longwall methods involves considerable expenditure and lead-time of up to three years before mining can commence. It is difficult, and potentially not economically feasible, to make significant changes to longwall mining plans at short notice after the mining of a panel has commenced.

This is highlighted by issues that arose around mining under Georges River and particularly Marhnyes Waterhole, which is of cultural and historical significance to the local Illawarra community. Following several years of planning, mining commenced in September 2002. As reported in our 2003 HSEC Report, the location could not have been modified without significant risk to the viability of Illawarra Coal's West Cliff mine.

(Continued over)

## ILLAWARRA COAL DEVELOPS PROCESS TO ADDRESS COMMUNITY ISSUES

continued

Underground mining can cause subsidence, which can cause cracking in the base of sandstone-bedded rivers and streams, redirecting water flow from the surface to the substrate. At Marhnyes Waterhole, a strain-relieving slot was drilled ahead of mining to reduce cracking of the rock bar that creates the waterhole. This was successful in limiting fracturing to the rock bar. However, some cracking did occur, with surface water redirected to the shallow substrata. Environmental flows were provided to supplement the river during the period of mining effects and to provide water for aquatic life.

Since the completion of mining, remediation has been undertaken, including filling any surface fractures and grouting of the strain-relieving slot and riverbed to reinstate the integrity of the pools. Response from the community to the remediation work has been positive.

Some of the areas proposed for future mining also intersect rivers and creeks across the Illawarra region, and there are lingering concerns in parts of the community about possible impacts to homes and property from cracking. The IMPP now in place involves an overall approach to the development of a 'sensitive mine plan' for the total minable resource area. This approach ensures a greater level of awareness of issues, an ability to plan mitigating strategies, and also minimises business risks associated with potential changes to mine plans.

The IMPP is divided into five sequential steps as follows:

### *1. Preliminary sensitivity assessment*

This step is the initial assessment of options for mine planning. It includes a review of geological information, mine layout, development requirements and access to the coal resource. It also includes the preliminary assessment of the sensitivity of the surface features to underground mining.

### *2. Preliminary mine planning assessment*

This step involves the preliminary evaluation of alternative mine plans to determine the preferred plan/s. The alternative plans utilise proven mitigation or remediation of subsidence impacts on sensitive features and/or avoid undermining sensitive surface features identified in Step 1. The evaluation involves a balanced consideration of economic, environmental and social issues.

### *3. Detailed sensitivity assessment*

This step involves a detailed sensitivity assessment of surface features and mining constraints. It includes the collection of baseline data on surface features, subsidence impacts and mitigation measures and seeks to identify any mine planning constraints. Baseline assessment is undertaken in consultation with relevant stakeholders, leading to a revision of the sensitivity assessment from Step 1.

### *4. Detailed mine planning*

This step involves a detailed re-evaluation of alternative mine plans based on the results of Step 3. It involves a balanced consideration of economic, environmental and social issues. It results in the selection of a final preferred mine plan and associated mitigation measures.

### *5. Preparation of mining approval application*

This step involves the preparation of a Subsidence Management Plan (SMP) to support the subsequent longwall mining approval application. The SMP will include impact assessments and proposed mitigation measures for natural features; Infrastructure Management Plans (IMPs) for major infrastructure; and Property Subsidence Management Plans (PSMPs) for private properties.

With regard to subsidence effects on infrastructure and private property, the Mine Subsidence Board (MSB), an independent government organisation, is responsible for the management of subsidence impacts on man-made structures under the Mine Subsidence Compensation Act (1961).

Consultation with the MSB will be conducted where necessary during the development of IMPs. For private properties, owners will be consulted on the role of the MSB in managing subsidence effects. For non-residential properties, PSMPs will address the management of subsidence effects that are not the responsibility of the MSB, such as impacts on agricultural productivity or business use of the property.

Step 5 will be repeated for each longwall mining application required over the life of each mining operation.

### **Implementing the IMPP**

The IMPP is consistent with the key requirements of the Government's process for longwall mining approvals. The new subsidence management plan process administered by the Department of Mineral Resources has been in place since early 2004 and involves rigorous environmental impact assessment and comprehensive community consultation requirements.

Responses to date indicate that our stakeholders feel the IMPP needs to be thoroughly tested before they express their final judgment on its validity as a consultation process. To implement the IMPP, a centralised mine planning team has been assembled, incorporating expertise from exploration, operational, environmental, community and mine planning areas. The team will ensure consistency of approach in implementing the IMPP across Illawarra Coal's operations.

## COMMUNITY

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**ANTAMINA'S SUPPORT OF ENVIRONMENTAL COMMITTEES PROVIDES KEY LESSONS ABOUT THE COMMUNITY CONSULTATION PROCESS**



*The Antamina copper and zinc operation operated by Compañía Minera Antamina (CMA) in Peru has from the beginning faced community challenges emanating from the country's mining history, which is marred by environmental liabilities associated with past land use. Such issues have been a source of ongoing concern for local communities. While CMA implemented stringent environmental standards and policies, appropriate channels did not exist for communicating this to communities. In turn, communities had no avenues for airing their concerns and grievances. A solution has been to establish local environmental committees for building consensus and resolving conflicts.*

Antamina is located in the district of San Marcos, Department of Ancash, in the central Andes of Peru. The mine lies 270 kilometres directly north of Lima (473 kilometres by road) and 45 kilometres north-west of Huánuco at an elevation of between 4200 and 4800 metres above sea level. The operation includes an employee housing complex in Huaraz, the capital of Ancash, and a 302-kilometre pipeline that runs from the mine site to the port of Punta Lobitos in the municipality of Huarmey.

Mining projects in Peru, as elsewhere in the world, are typically in remote areas, and surrounding communities are characterised by extreme poverty and limited services. Many historic environmental liabilities, mostly associated with land and water contamination, have been left unattended. There is a lingering perception among communities that mining projects have significant impacts upon people's health and their surrounding environment.

In the 1990s, the introduction by government of the Code on the Environment and Natural Resources and the Private Investment Growth Law, together with mandatory Environmental Impact Assessments for every new mining project, created the conditions to attract reputable mining companies to the country. New mining projects have included stringent environmental policies and standards intended to have the least possible negative impact on the environment.

#### **The challenge for Antamina**

Since the beginning of the Antamina operation in 2001, CMA's range of stakeholders have included employees and contractors; the Peruvian government and its relevant authorities; municipalities; agrarian communities; private landholders; local environmental committees; community associations; non-government organisations (NGOs); groups entrusted with developing environmental management proposals and policies for the region; the National Agreement to Fight Poverty, which includes an environmental consensus-building sub group; and the media.

CMA recognised that stakeholders should be kept informed of project development and also have avenues for the communication and resolution of grievances. There also needed to be ongoing

interaction with government authorities. There were, however, no mechanisms in place to facilitate interaction with stakeholders. CMA saw the establishment of such mechanisms as an opportunity to generate synergies among its stakeholders and earn the confidence of its host communities on a sustained basis.

#### **The solution – environmental committees**

CMA has promoted and supported the formation of environmental committees as consensus-building and conflict resolution mechanisms. The following organisations have been created to date.

##### ***San Marcos Environmental Conservation Committee***

This committee was the first group formed, in 1999, with the objective of being an official intermediary in environmental issues between Antamina and the community. Its aim was to strengthen the mechanisms of conflict resolution through initiatives such as joint environmental monitoring, public presentations and monthly information sharing meetings.

Over time, the committee has become more involved in internal environmental issues and forestry development, participating in different worktables and regional groups in Ancash. The committee also manages the Environmental Committees Network in Ancash, which includes the environmental committees of Huallanca, Huarmey and Jangas.

##### ***San Marcos Environmental Association – Huari***

The association was established in June 2001 with a mission to 'help preserve the environment by leading the concerted effort of the different stakeholders involved to achieve the harmonious and sustainable development of San Marcos'.

Félix Chávez, President of the association, says it was formed because 'a real concern exists about the social and environmental impact of Antamina's mining operations'. The association's main function is to monitor the environmental impacts of CMA. Its strategic objectives include preventing environmental damage and facilitating the handling of conflicts; helping create environmental sensitivity and awareness among the population; and seeking the conservation of the region's environment and natural resources.

##### ***Environmental Protection Association in and for the Ayash Watershed***

The association was established in 2001 to represent the communities located within the watershed area where CMA's tailings dam is located. Its role is to oversee CMA's environmental monitoring program and to report to CMA any concerns about environmental issues.

The association was created to give a voice to the watershed communities and to gain their confidence. It operates as a workgroup where people can learn about issues and express their concerns and is being legally incorporated as part of the community's organisational system.

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## ANTAMINA'S SUPPORT OF ENVIRONMENTAL COMMITTEES

continued

### ***Environmental Management Committee of Huallanca***

The committee was established in August 2001 in response to the community's concern about environmental liabilities and environmental impacts created by neighbouring mines. It was legally incorporated in early 2003.

Huallanca is located in the province of Bolognesi, which neighbours the CMA mine site. It serves as a dormitory town for people travelling from Huánuco to the coast or to Huaraz and is impacted by commercial and mining activities. The committee focuses its efforts on environmental training and improving basic health conditions, with a view to raising the standard of living of the Huallanca people.

### ***Environmental Monitoring, Surveillance and Audit Committee in and for Huarmey***

The committee commenced in April 2002 with the power to:

- manage the multi-sector process for building consensus on local environmental issues
- facilitate people's access to environmental information
- act as a channel of communication between the community, the authorities and CMA
- participate in environmental monitoring, surveillance and audit programs and involve the community and local institutions in these programs
- facilitate the resolution of conflicts that are exclusively related to the environment
- enforce compliance with the commitments assumed by public and private institutions in relation to environmental responsibilities in the Huarmey area.

Martín Farromeque is President of the committee. He says, 'We are working on this committee to take better care of our environment and, through the members of the different institutions that make up this committee, propose alternatives to better resolve the environmental problems. We will keep a watchful eye on the activities carried out by Antamina and the fishing industries located at Puerto Huarmey, as well as other industries that could damage the environment in the province of Huarmey'.



► Martín Farromeque (second from left) at a signing ceremony with the Mayor of Huarmey, Alcalde Carlos Pajuelo (centre)

### **Public consultation process and communication channels**

The consultation process carried out by these environmental committees is based on an open-door policy and on the people's right to gain access to environmental information.

Consultation processes are being carried out through:

- public meetings to discuss environmental issues
- distribution of quarterly reports on CMA's environmental monitoring program
- delivery of the Environmental Impact Assessment (EIA) and the Sustainability Report
- joint monitoring work with the participation of the community, local entities, government authorities, NGOs and other stakeholders
- resolution of environmental grievances and claims
- guided visits by stakeholders to CMA's operations
- involvement by CMA in regional environmental work groups, sponsoring the participation of the environmental committees and assisting in the development of local environmental policies.

### **Lessons from the consultative process**

As in any participative process, many lessons have been learned by CMA, as summarised below.

*Standards are not enough* – Having high environmental, health and safety standards is not enough to prove that environmental impacts generated by the operation are being managed responsibly. The application of environmental standards does not in itself help CMA earn the confidence of the communities.

*Consider cultural diversity* – Not all projects can apply the same strategy in order to be accepted by and earn the confidence of local communities. It is important to understand each community's views of the world, their organisational structure, their internal relations, and their perceptions about the project in order to design an appropriate consultative strategy.

*Transparency is essential* – Acknowledging that communities have an intrinsic right to learn about the operations to be carried out within their regions, it is essential to be transparent and provide stakeholders with adequate environmental information. It is also important to define the Company's position on community relations and sustainable development.

*Earning people's confidence* – Holding regular discussions and promoting community awareness through the environmental committees is one of the foundations of a process of earning people's trust and confidence.

*Making information available* – Based on CMA's experience, it is essential to use simple language to communicate environmental information and to provide easy access to the information. The challenge consists in developing an information disclosure culture where environmental information is delivered to the community on an open and timely basis.

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## ANTAMINA'S SUPPORT OF ENVIRONMENTAL COMMITTEES

continued

*Establishing appropriate mechanisms* – It is important to develop consultative mechanisms collaboratively in order to earn the people's confidence and strengthen the channels of communication through the environmental committees.

A collaborative approach also facilitates the undertaking of joint monitoring work, organising public meetings and resolving environmental conflicts and claims to the benefit of all parties.

*Consultation* – Consultation should be encouraged from the moment a project is conceived. After identifying the stakeholders, consultation can help to effectively provide information about the Company and its environmental management and sustainable development programs.

Consultation also facilitates gaining the necessary community input to improve environmental management programs.

### Going forward

Through the creation of the environmental committees, CMA has found a valid and transparent mechanism to earn the people's confidence and deliver environmental information. This is supported by a constant feedback process that can further improve collaboration with the communities. In turn, the government has a mechanism to disclose information, strengthen its role as managing entity, and receive the people's input on its environmental policies related to the mining sector.

The environmental committees have become a formal channel of communication between CMA, the government and the community. However, additional mechanisms are required to formalise, institutionalise and strengthen the committees' right of representation and legitimacy in order to foster a culture of environmental awareness and sustainable development. The mining industry, government and communities need to work together on this task, with the understanding that it is a long-term, step-by-step process.

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## PNG SUSTAINABLE DEVELOPMENT PROGRAM LTD COMPLETES FIRST FULL YEAR OF OPERATION



*At the end of December 2003, PNG Sustainable Development Program (PNGSDP) Ltd completed the first full year of operation. As previously reported, PNGSDP Ltd was established in February 2002 following the transfer to that company of our entire 52 per cent equity in Ok Tedi Mining Limited in Papua New Guinea. All of the dividends from Ok Tedi Mining Limited that would have gone to BHP Billiton now go to PNGSDP Ltd. Through the year, PNGSDP Ltd made solid progress in each of its areas of responsibility.*



► The Board of Directors of PNGSDP Ltd. Back row L to R: Dr Jakob Weiss, Mr Jim Carlton, Mr Lim How Teck, Mr Donald Manoa. Front row L to R: Sir Ebia Olewale, Dr Ross Garnaut (Chairman), Ms Tricia Caswell.

The central function of PNGSDP Ltd is to promote sustainable development in Western Province and Papua New Guinea more generally. PNGSDP Ltd has formed the view that it can make its most valuable contribution through support for sustainable income-generating activities in Western Province and in rural Papua New Guinea. Sustainability is understood to have governance, management, financial, environmental and social dimensions. Projects in agriculture, agro-forestry, economic infrastructure (including sustainable power generation) and micro-finance are at an advanced stage of preparation.

Decisions on the allocation of development funds among income-generating activities will be guided by the number of sustainable minimum family income units that are generated for each thousand kina spent. A common model for income-generating projects will be the 'nucleus estate – outgrower model', where an established business with appropriate experience manages a commercial enterprise and receives payments from PNGSDP Ltd development funds for delivering services for associated rural communities.

### Funds activities

At 31 December 2003, the three funds of PNGSDP Ltd – the Long Term Fund, the Development Fund and the General Fund – totalled US\$64.4 million. The Long Term Fund represents two-thirds of the income received from Ok Tedi Mining Limited and the Development Fund represents one-third of the income received from Ok Tedi Mining Limited (after deducting operating expenses and all other legal contractual obligations). The General Fund allows for an allocation to fund the administration costs of PNGSDP Ltd.

A main function of PNGSDP Ltd is to manage the Long Term Fund so that it can support a high level of development expenditure in Western Province in particular and Papua New Guinea in general for at least 40 years after the closure of the mine. Through 2003, the Long Term Fund generated an average return of 8.06 per cent and increased from US\$3.6 million to US\$42.1 million, including additions to the corpus from dividends. Part of the Long Term Fund will be invested in Papua New Guinea, where low-risk investments with satisfactory expected returns are identified. Evaluation of low-risk investments in companies that are

operating commercial 'nucleus estates' and also supplying development services will be given priority.

Significant work has been devoted to several strategic initiatives that could be supported by PNGSDP Ltd under the Development Fund (which totalled US\$20.9 million at 31 December 2003) and where they fulfill the 'low-risk' investment criteria of the Long Term Fund. A Sustainable Community Development Program Fund has been established to support the delivery of a wide range of services, not necessarily related to income growth, through community organisations. PNGSDP Ltd will work through specialised service delivery entities rather than develop its own delivery capacity. To this end, PNGSDP Ltd is establishing cooperative relations with a range of commercial and development organisations with service delivery capacity or with experience that can assist in the identification of suitable partners. The World Bank and its associate, the International Finance Corporation, have shown positive interest in working with PNGSDP Ltd on several substantial projects.

Under a Sustainable Community Development Program Fund, PNGSDP Ltd will provide a minimum of 50 000 kina and maximum of 250 000 kina per project in partnership with community organisations and development partners to support community-level development initiatives. It has committed 15 million kina over five years, consisting of one million kina a year for Western Province and two million kina a year for the rest of Papua New Guinea. PNGSDP Ltd also undertook feasibility studies of the expansion of the Western Province Micro-Finance Scheme into other parts of the province and nationally.

For Western Province programs, 11 million kina has been committed towards a rubber project in the Lake Murray area of the province. Agreement has been reached with a potential partner to undertake a feasibility study of a possible estate and village rubber project, which will cover the Lower Middle and South Fly areas of the province. A field study was conducted of the communications infrastructure in the province as the basis for a proposed rural communications system, preferably under a partnership agreement.

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## PNG SUSTAINABLE DEVELOPMENT PROGRAM LTD continued

For national programs, PNGSDP Ltd has investigated possible support for village and smallholder oil palm expansions under partnership arrangements. A study of the Highlands Highway Rehabilitation Project was completed, which identified a section for possible co-financing with other development partners.

Further discussions with the Government will take place before progress can be made.

### **Annual Report Meeting**

PNGSDP Ltd convened its first Annual Report Meeting with stakeholders in Port Moresby on 12 June 2003. Representatives of the Government of Papua New Guinea, the Western Provincial Government, Ok Tedi Mining Limited, international development partners and communities attended. A seminar on palm oil industry opportunities was held in conjunction with the meeting. The PNGSDP Ltd Advisory Council was appointed, consisting of seven Papua New Guineans with extensive experience in government, church and community organisations. The Council held its first meeting on 28 October 2003.

### **Looking ahead**

PNGSDP Ltd's first sustainable development projects are expected to begin before the end of 2004. Substantial progress should also be made in finalising the scope of development projects in rubber, palm oil, power, micro-finance, road infrastructure rehabilitation and communications within Western Province and other parts of Papua New Guinea. PNGSDP Ltd will further strengthen relationships with stakeholders in Papua New Guinea and partnerships established with key international development and business partners.

PNGSDP Ltd is ready to take its place as a substantial participant in Papua New Guinea development, especially Western Province development.

## DIALOGUE TABLE MEETINGS PROVIDE A FORUM FOR RESOLVING COMMUNITY ISSUES AT TINTAYA

*In our 2003 HSEC Report, we reported on the development of the Dialogue Table as a formal process for reviewing and resolving social and environmental issues associated with the operation of the Tintaya copper mine, located in the Espinar province of Peru. This case study provides additional background to the issues and the consultative process and subsequent development of a Framework Agreement that specifies the Company's environmental and social commitments in the region.*

Peru has a population of nearly 28 million inhabitants. The country is divided into three natural regions: coast, highlands and jungle. The Department of Cuzco includes the provinces of Acomayo, Anta, Calca, Canas, Canchis, La Convención, Cuzco, Chumbivilcas, Espinar, Paruro and Paucartambo.

Espinar province is located 260 kilometres from the cities of Cuzco and Arequipa. It is one of the country's poorest provinces, with 84 per cent of the population living under the poverty line. Almost 60 per cent of the inhabitants reside in rural areas and 80 per cent of them are native people who speak Quechua, one of the original languages spoken by indigenous people in Peru.

### Tintaya mine

Tintaya was established in 1980 when the Peruvian government expropriated 2368 hectares of land from the local communities to develop the Tintaya copper mine in the Yauri district of Espinar. The mine began operating as a government corporation in 1985.

In November 1994, under the privatisation process being carried out in the country, the American firm Magma Copper Company acquired the Company. The mine was purchased by BHP Billiton in January 1996.

### Local communities

Within the scope of influence of Tintaya's operations are the peasant communities of Tintaya Marquiri, Alto Huancané, Huano Huano, Alto Huarca and Bajo Huancané.

In 1982, 2368 hectares were expropriated from the Tintaya Marquiri community by the Peruvian government. In 1996, Tintaya purchased 1263 additional hectares from the community for expansion purposes, together with 246 hectares from the Alto Huancané peasant community and 400 hectares from the Huano Huano community. In 2001, the Alto Huarca community sold 477 hectares of their property to the Company.

### Lingering issues

Over the years, there have been ongoing concerns amongst some community members who felt they were being affected by the mine's operations and policies. Since 2000, latent grievances from previous years have been brought to the surface as a result of the support the communities have received from local community groups and domestic and international NGOs.



Some of the complaints are as follows:

- The purchases and expropriations of the land were conducted under unfair conditions for the communities, since previous information was lacking and the monetary compensation was not adequate.
- Some women have complained of being forcefully and violently evicted by the mine's security staff.
- People and cattle in the area have suffered ailments due to alleged contamination of waters and air by the mine and the Alto Huancané tailings dam.
- There is a lack of job opportunities at the mine for some community members.
- Local community members have lost their traditional lifestyle.

### The Dialogue Table

In February 2002, as the result of a meeting facilitated by the Ombudsman from Oxfam Community Aid Abroad of Australia, the parties involved in the disputes agreed to establish a Dialogue Table for the purpose of dealing with issues raised by the communities. The Dialogue Table was defined as follows:

*'A voluntary cooperative process, of dialogue and free participation, opened by diverse stakeholders, to find solutions to the existing problems and development opportunities in the area of influence of BHP Billiton Tintaya's operations, i.e., the Espinar province.'*

Four joint working commissions were instituted to identify the key issues and review possible solutions:

*Land Commission* – to discuss, analyse and propose issues related to land holdings and previous purchase/sale agreements.

*Human Rights Commission* – to deal with alleged violations of human rights.

*Sustainable Development Commission* – to discuss, analyse and submit proposals related to community development.

*Environment Commission* – to discuss, analyse and propose issues related to pollution, its prevention and control.

The work done by the commissions formed by the Dialogue Table made it possible to get results that have favoured community members. The Land Commission reviewed the expropriation processes and the subsequent land purchase negotiations, and it was jointly decided to relocate those families who were affected during the expropriation and purchase process undertaken by administrations prior to the current company. The Company has acquired three plots of land, one of 1000 hectares, one of 1200 hectares and, most recently, another of 1800 hectares, on which to relocate those community members who had lost their land.

The Human Rights Commission carried out a joint study with the Instituto de Defensa Legal (IDL) to investigate the claims submitted by community members. IDL worked jointly with Sicuani's Vicariate of Solidarity to investigate the facts and to verify results. The commission, with the Vicariate acting as an advisor, assumed responsibility for seeking specific alternatives

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## DIALOGUE TABLE MEETINGS continued

for each of the cases. IDL considered that violations had occurred in three cases when the mine was owned by the Peruvian government and in one case, in 1996, after its acquisition by BHP Billiton. All four cases have been satisfactorily resolved with the participation of the members of the Dialogue Table. In one of the cases, the solution is currently being implemented. The other cases, in which no responsibility on the part of BHP Billiton Tintaya was found, are being discussed to provide support mechanisms and adequate guidance.

The Sustainable Development Commission has worked on developing a process of community training through workshops to promote sustainable development of the communities. A report has been prepared on the concerns of community members about pollution and its effect on local cattle grazing. With NGO assistance, the communities have prepared strategic development plans, on the basis of which sustainable development programs are currently being developed.

The Environment Commission has conducted a joint monitoring program with communities that are mostly affected by mining activities. The program has focused on measuring the quality of water, soils, flora, fauna and air. Prior training was provided for community members so that they could participate in the program, and the results have been presented to the people.

Currently, in collaboration with community officials, a plan of action is being prepared for each community in order to expedite the implementation of solutions resulting from the dialogue process.

#### **Concerns regarding the new tailings dam**

During 2003, community groups were formed to oppose the opening of the new Hunipampa tailings dam in the Río Cañipía area, mainly because of concerns about possible contamination of local grazing lands and cattle. After numerous meetings with community officials, at which details of the dam design, construction and operation were discussed, additional controls were proposed to ensure there would be no negative impact on community agricultural and cattle-grazing activities. The controls include a permanent communal surveillance system, the collection and pumping back of seepage under the dam, an additional program of underground water monitoring, and relocation of the community's water intake system. These proposals were accepted, and were a start to the process of working collaboratively with these communities.

Additionally, the communities and FREDERMICE, the most representative group in this area, participated in the execution of a Framework Agreement. Specific cooperation agreements have been signed for two projects: improvement of the water intake system at the Cañipía river and development of a potable water system for the local communities.

#### **The Framework Agreement**

All the provincial organisations of Espinar, represented by the Provincial Mayor, wished to establish dialogue with BHP Billiton Tintaya in order to formalise the Company's commitment to help develop the province. This led to the creation of the Coordination Committee of Espinar, which was formed to review community issues and needs and suggest how best to channel the support of the Company, which is also a member of the Committee. Through this collaborative approach, a Framework Agreement between the Company and Espinar's people was approved. This included an undertaking by the Company to contribute 3 per cent of its profits before taxes to the sustainable development of Espinar province. Further, the Company indicated that, following the re-opening of operations, this support would result in a guaranteed yearly sum equivalent to US\$1.5 million in support of sustainable projects and infrastructure in Espinar.

In September 2003, the Framework Agreement was executed in the presence of provincial authorities, a representative of the Ministry of Energy and Mines, members of the Peruvian Congress and the NGO Oxfam America, who were acting as guarantors of the agreement. This event marked an important precedent in the process of consolidating the social responsibility of companies towards the communities in which their operations are located.

The Coordination Committee operates through an Administrative Committee, responsible for evaluating sustainable development projects submitted by provincial organisations. Currently, there are 22 approved projects ready for implementation within the communities and districts of Espinar.

#### **Conclusions**

- Sustainable development projects implemented with the Company's participation will be self-managed by communities, because they are within the framework of ethical, efficient and sustainable models and a self-development approach.
- The cost of dealing with the social, environmental and economic problems and concerns of neighbouring communities has a qualitative value in the sense that this formal process can enhance the Company's reputation for social and environmental performance, issues that have special relevance within the country and at a global level.
- These dialogue processes allow each solution or innovation developed with the participation of the community members to have, implicitly, the satisfaction or consent of all involved. This ensures that, going forward, the Company will not have to get into new processes of discussion and rehashing of problems of the past.
- The dialogue processes engender good relations, with integrity on the part of the participants, with actions of mutual benefit and outcomes validated by all the participants. This affords Tintaya a good corporate image in Peru and globally.

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## DIALOGUE TABLE MEETINGS continued



► Dr Javier Aroca of Oxfam America addresses a Dialogue Table meeting

Dr Javier Aroca is Regional Advocacy Officer of Oxfam America, based in Lima, Peru. Having reviewed the Dialogue Table process and participated in the execution of the Framework Agreement, he reported, 'I believe that it would be useful to reflect on possible improvements to the dialogue processes in Tintaya. Although the processes have been notable and demonstrate the Company's commitment to execute the best corporate practices, I think we can find ways to improve the dialogue. Dialogue and direct contact are very important to establish and maintain efficient communications between people, responding to differing viewpoints and sometimes even to differing positions and interests. I believe that it would be useful to review, in the case of the Tintaya Dialogue Table, the intensity of the work of the four commissions (land, human rights, sustainable development and environment); not to increase it but to rationalise it. In the last few months there is a noticeable level of tiredness on the part of the participants due to the number of meetings without arriving at something more concrete and tangible; in this sense, the signing of an agreement will be seen as an important achievement of the process.

'Another aspect to consider has to do with the methodology, the type and the frequency of the meetings. It is very difficult to change the format under which we have been working in the Dialogue Table. I believe, however, that we need to consider that the search for consensus needs additional time and resources so that the protagonists of the dialogue have the opportunity to consult with their bases, in this case the representatives of the communities, to explain the new ideas and come back to the Dialogue Table with updated information about the interests and positions of the group.

'I believe that formalising the agreement between the Company and the five communities of the Dialogue Table, in order to proceed with implementing it operationally, will be of enormous benefit to all. This would help to consolidate the dialogue processes in Tintaya.

'I congratulate you for this effort to present the advances in the dialogue process in which BHP Billiton Tintaya is involved'.

## CORPORATE COMMUNITY LEADERSHIP PROGRAM AIMS TO FURTHER OUR UNDERSTANDING OF SOCIAL ISSUES

*Many of the Company's future projects will be located in developing regions of the world, given that these areas are believed to contain the most promising prospects and undiscovered resources. This provides significant operational challenges and also raises questions about the Company's role and responsibility in community development, social upliftment and the introduction or expansion of cash economies. Our participation in Oxfam Community Aid Abroad's Corporate Community Leadership Program (CCLP) is helping to enhance our understanding of these issues and improve our community performance generally.*

Community development is a complex task. It requires time, expertise and consideration of human rights issues that rarely have clear-cut answers. For example, is it right to introduce a cash economy to a tribal community that has survived for generations without it? How do you balance quality of life, including improved health and education, with the loss of traditional cultures?

### CCLP participants visit Orissa, India

In 2004, the third year of the CCLP, ten BHP Billiton employees from eight different countries and representing all Customer Sector Groups participated in the program. They joined the Oxfam Community Aid Abroad team and representatives from their partner agencies in India to have open and frank discussions about such matters.

To add richness to the discussion, participants were exposed to a wide range of experiences in the eastern state of Orissa, India. The group viewed best practice examples of development work, were educated about the characteristics of effective community development methodologies, saw the negative impact that poorly managed minerals operations can have on impoverished communities, and were given the opportunity to improve their community dialogue technique with community groups.

2004 CCLP participant Gaston Moya, Human Resources and Communication Manager, Cerro Colorado, Chile said, 'For me, the most important learning was about direct dialogue with the people of the community. Dialogue is not the same as talk; dialogue provides a deeper understanding of the values, passions, beliefs and paradigms that are at the core of a culture. It is the most important aspect of working with communities. Effective community projects are the consequence of honest and direct dialogue'.

Oxfam recommended Orissa on the basis of their long-standing experience in working with organisations and communities affected by large-scale infrastructure projects. BHP Billiton does not have operations in India at present; however, it is a very important country for the Company, both as a customer for our products and as a possible source of materials for export. We also have potential development opportunities in the country.

### Program has wide-ranging benefits

The diversity of BHP Billiton people participating in the CCLP will help to ensure that the value of the program is transferred to all corners of the Company. Although every person on the program



► Gaston Moya (seated left) and other CCLP participants meet with a tribal forest community in Orissa

had specific community responsibilities either at a corporate policy level or directly at a site level, individuals came from very different areas including business development, corporate social responsibility, exploration, external affairs and community relations.

While the learnings for each individual varied, the whole group achieved a greater appreciation of a number of aspects of the community development process. These included:

- the importance of earning respect and building relationships with community members to allow robust dialogue to occur prior to implementation of programs
- the need to understand local issues from the local source rather than through a third party's interpretation of those issues
- the time it takes for a community to reach consensus about a preferred community development strategy
- the need to involve experienced people with expertise in development techniques and methodologies if the community program is to be sustainable.

The inherent value of the program to the Company is that there is now a group of more than 40 CCLP graduates in positions where they can directly influence the Company's practices and improve our community performance. It is also hoped that the CCLP will enhance our contribution to the longer-term development of social capacities and improve the well-being of individual people in communities where we operate.

Commenting on our involvement in the CCLP, James Ensor, Director of Public Policy at Oxfam Community Aid Abroad, says, 'This cutting-edge exposure program provides a unique opportunity for BHP Billiton staff to further their understanding of community development and of the impacts of large-scale infrastructure projects on communities. The challenge for BHP Billiton is to apply these learnings to Company-wide policy and practice'.

For Oxfam Community Aid Abroad, the program is designed to influence the corporate sector to adopt policies and practices that enhance the rights and livelihoods of the poorest and most marginalised men and women in the developing world. Now that the program has been operating for three years, Oxfam Community Aid Abroad is planning a formal independent evaluation of the program to ensure it is also meeting their objectives.

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## OPERATIONS REMAIN SUSPENDED ON GAG ISLAND NICKEL PROJECT



*Gag Island is situated in the Raja Ampat archipelago in the province of West Irian Jaya in Indonesia. PT Gag Nickel, an Indonesian company, was formed in 1996 following the signing of a joint venture agreement between BHP Billiton (75 per cent) and Indonesia's state-owned mining company, PT Aneka Tambang (25 per cent). A Contract of Work was awarded in February 1998, and a program of exploration and preliminary evaluation was conducted. In late 1999, the Indonesian Government enacted forestry law (Law 41/1999) prohibiting open cast mining in 'Protection Forest' areas. The forest on Gag Island was subsequently reclassified as 'Protection Forest', rendering any mineral deposits on the island unmineable. Subsequent to these events, the Contract of Work for Gag Island was suspended. No exploration work on the island has been undertaken since late 1999.*

Gag Island lies 2400 kilometres east of Jakarta, Indonesia, and 150 kilometres west of Sorong, Papua. Since 2002, nine local people have continued routine environmental monitoring and maintained the small exploration camp. In March 2004, the Indonesian Government published a Decree (Perpu) intended to reinstate the rights of holders of Contracts of Work and, in May 2004, the Implementing Regulation (Keppres) was passed by the Parliament. During the year, it was also reported that the Raja Ampat archipelago, possibly including Gag Island, was under consideration for classification as a World Heritage site.

PT Gag Nickel is seeking clarification of the situation under the new regulations, and exploration activity remains suspended. We have also publicly stated that BHP Billiton would not seek to progress the project if it is classified as a World Heritage site.

Prior to the suspension of the Contract of Work, conceptual mining studies considered three possible alternatives for disposal of tailings from an eventual mining operation, including deep sea tailings placement (DSTP), as well as land-based options. BHP Billiton has subsequently ruled out DSTP as a potential tailings disposal option for Gag Island. BHP Billiton has recently issued a general policy statement which states 'BHP Billiton has decided not to pursue DSTP as a potential tailing disposal option for any of its current prospects. The Company also believes that given the very specific circumstances where DSTP could be considered appropriate, it is unlikely that the technology will be pursued in any of our future developments.'

The Gag Island community consists of approximately 450 people living at Gambier Bay, which is adjacent to PT Gag Nickel's former exploration camp. The community was established in the early 1960s by people moving to the island in the hope of finding work with nickel exploration ventures at that time. As reported last year, the years of suspended operations and the diminishing prospect of employment have been a major disappointment for the community.

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## PROCESS OF RESOLVING TABACO LAND ACQUISITION ISSUES CONTINUES



*BHP Billiton and its joint venture partners, Anglo American and Glencore, are the equal owners of the Cerrejón Coal Company in La Guajira department, Colombia. Cerrejón was formed in 2002 when the operations of the Cerrejón Zona Norte (CZN) and Carbones del Cerrejón coal mines were combined. This followed the acquisition by the joint venturers of International Colombia Resources Corporation (Intercor) from ExxonMobil. Intercor was operator and 50 per cent shareholder of CZN. Situated within the mining lease in the municipal area of Hatonuevo was the village of Tabaco. In 1997, Intercor began the process, in accordance with Colombian law, for acquiring Tabaco to enable future expansion of the mine's operations.*

In our 2003 HSEC Report, a case study presented details of issues with landholders that had arisen following commencement of the acquisition process. This article provides an update on the situation, which is moving closer to resolution.

**Background**

When Intercor began the acquisition process in 1997, a survey was conducted to determine whether the people of Tabaco wanted to sell their possession rights or be relocated. The survey established that there were 213 possession rights (175 possessors), of which 8 were municipal public properties, 151 were unoccupied lands or empty houses and 54 were occupied houses.

Acquisition of the eight public properties was negotiated with Hatonuevo. Of the other possessors, 95 per cent did not agree to a resettlement option and said they wanted to sell their possession rights individually through direct negotiations with the company. Subsequently, the company acquired 192 possessions through agreement and three others were acquired through the legal 'mining right of way' process.

In August 2001, the remaining 18 possession rights (14 possessors) were expropriated in accordance with the Mining Law. The settlement sums were determined by two independent valuers, one appointed by the court and the other by the Colombian institute in charge of assessing land value. They have visited Cerrejón, discussed the negotiations and viewed documents and photographs of the village. The valuers have also spoken at length with Tabaco property owners. The 14 former possessors have since tried to reverse the expropriation process, using different administrative and legal instruments. Government ministries and the courts have consistently ruled against all the actions filed, however the dispute is continuing.

**Assistance with education and housing**

In 2001, Cerrejón approached the former possessors of Tabaco and offered to contribute to the schooling expenses of the 22 children involved. Funding has been allocated to schools in La Guajira department and the children have received support in the form of tuition grants, schoolbooks and other educational materials. Four of the children have been awarded Cerrejón scholarships to study at public schools in the La Guajira town of Albania, while another four have received assistance to study in the coastal city of Barranquilla.

In May 2002, the Colombian Supreme Court ordered that the municipality of Hatonuevo provide primary education and housing for the children of the 14 former possessors.

In response to the housing order, Hatonuevo has designed a social housing plan and is in the process of obtaining co-financing from the national government for its construction. To assist this process, Cerrejón has donated three parcels of land totalling approximately 10 hectares to Hatonuevo. The land, which had originally been acquired by Cerrejón for an employee housing project, contains 300 new residences and services infrastructure. The land is within the municipality's public services area and is therefore suitable for residential purposes. It is hoped this housing will be of benefit to the affected Tabaco families.

**Moving forward**

According to a recent survey, the living conditions of Tabaco's former possessors have improved and, in 95 per cent of cases, they have adapted to their new places of residence. All the children are attending school, either in La Guajira department or the city of Barranquilla. In addition, through the Cerrejón Foundation, the company has provided former possessors with training and advice on investment alternatives and the creation of small businesses. Support will be provided to selected small businesses through the provision of start-up capital.

**'Sarahita' occupation**

A separate incident has arisen that has been the subject of significant misinformation. In March of this year, a group of approximately 40 squatters occupied an area of land near the Cerrejón operation and constructed 31 simple shelters in the area known as 'Sarahita'. It was later reported that members of the 'Sarahita community' had been forcibly evicted and their homes bulldozed to allow expansion of the mine.

(Continued over)

## PROCESS OF RESOLVING TABACO LAND ACQUISITION ISSUES continued

Reference to the 'Sarahita community' implies a long-established community with legitimate land-ownership rights. In fact, the squatters had illegally entered the area and constructed simple shelters from bush materials on land that has been owned by the mine for 12 years. There have been no legitimate settlements in the area during this time. The land is located between a permanent overburden storage area and open pits and would not be safe for residential use.

Cerrejon immediately sought a meeting with the squatters and asked them to leave, noting that the mining-related uses of the site placed people in an unsafe situation. This and subsequent requests to leave were ignored, making legal action inevitable. The Chief of Police of Barancas decreed an official protection order over Cerrejon's ownership rights and ordered the dismantling of the shelters. Expert evidence was recorded that the structures had been erected within the previous 20 days and each would have been built in a matter of hours.

The squatters left the site peacefully and voluntarily, but some returned in the succeeding days. The Chief of Police and the representative of the Public Defender visited the site but were unable to persuade the group to leave. In accordance with the law, the police requested the assistance of the National Police, which has officers trained in public order issues. When the operation was carried out, five of the occupiers were present and three structures were dismantled. The Public Defender's representative was present to monitor proper observance of human rights. There was no opposition from the occupiers and they left the area calmly.

In summary, the 'Sarahita community' was not a genuine settlement but a recent illegal occupation of land from which people were removed without violence. Extensive video footage shows the people were treated with respect at all times and moved from the area peacefully.

### **Best practice guidelines on resettlement, security and human rights**

To guide its interactions with communities, Cerrejon has developed a Resettlement Policy that reflects World Bank Involuntary Resettlement Guidelines. These call for the consideration of organisational responsibilities, community participation and integration with host populations, socio-economic surveys, the legal framework, valuation and compensation for assets, land tenure, acquisition and transfer points.

The US-UK Voluntary Principles on Security and Human Rights have also been adopted. Cerrejon's security policy is based on those principles, which cover respect for communities, for human rights, for the Constitution and for the law. They also require rigorous control over security expenditure to assure that it is only allocated to the defence and protection of the company's people and infrastructure.

Cerrejon employees, contractors and the military have been made aware of this policy. Contracts with private security contractors include specific clauses relating to human rights and appropriate use of force. This year, security staff are to receive training in human rights from the International Red Cross.

## COMMUNITY

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## CERRO COLORADO INCORPORATES COMMUNITY PARTICIPATION AND CONSULTATION INTO PROJECT PLANNING

The Cerro Colorado copper project is located in an extensive arid zone in the First Region of northern Chile, 120 kilometres east of the port of Iquique and 2600 meters above sea level. The operation began its productive life a decade ago in an area populated by an urban centre and small rural villages. We are aiming to establish a long-term, focused relationship with these communities, oriented towards developing the skills of the people. It is within this context that we implemented a community consultation and participation process to review investment projects that may have an impact upon our neighbouring communities and to identify and address concerns and issues.

The model for the consultation and participation process incorporates community relations' considerations into all stages of investment projects, including design, approval, execution and commissioning. This process allows for the identification of any risks for nearby communities, or any impact upon them at all, and allows for appropriate control measures to be taken. Further, it promotes the direct participation of communities in any Company actions or decisions that involve them.

### Coverage

The community consultation and participation process applies to the ten townships existing within Cerro Colorado's area of influence and participating in our Community Relations Plan (CRP), which was implemented in May 2002.

These are all rural villages established in the high Andean plateaus and gullies, inhabited mainly by families of Aymara and Quechua origin who retain their original traditions and dialects. They are llama and alpaca herdsman and practise small-scale agriculture, moving frequently among their villages of origin and urban centres.

Pozo Almonte is the communal capital where almost two-thirds of the inhabitants of the area of influence live. This township and the village of La Tirana are our only two neighbouring urban centres. They are located on an extensive plain, known as 'pampa', and their economies revolve around commerce and mining.

### Methodology

The following are the three questions that our team must answer when they begin to plan an investment project. What are the changes we intend to bring about with this project? Whom may the changes impact? And how may they impact them? These questions are applied to all stages of an investment project, from design to commissioning. Our community relations team and engineering and project management offices, or the function acting as project leader, participate jointly in this questioning process.

Should there be a potential for impact on one or more communities, this factor is incorporated into the project's general planning. A working plan to communicate and collaborate with the townships identified for participation and consultation is then prepared.



► Sikuris performing on pan flutes at the Andean carnival in Cancosa

Given the geographic, social and cultural characteristics of these townships, the methodology the team uses is based mainly on engaging with the people through collective and individual meetings and interviews. During group gatherings, we encourage direct dialogue among all parties.

This process is supported by the collaboration that exists between the Company and our neighbours through the CRP. Every three months, Dialogue Table meetings are conducted, attended by the elected representatives of each township together with our community relations team. During those CRP meetings, the community representatives submit proposals to promote local development from a sustainable perspective, in order for them to be evaluated and funded.

Sigisfredo Moscoso is from the community of Cancosa and is in charge of a project to cultivate quinua (an Andean cereal crop), which the Company is supporting. He says, 'This relationship with Cerro Colorado is good. It has allowed us to make some of our dreams real, which we could not have been able to do by ourselves. For example, (being provided with) a motor tractor to increase the quinua cultivation. I appreciate the transparency of the meetings; we evaluate each other, we see how we have advanced in our projects and how we have managed the resources. The consulting is good. On our side, people are now familiar with this type of collaboration'.

Significantly, each township defines and formulates its proposals through internal meetings with social organisations such as native communities, neighbourhood associations and sporting clubs. This approach facilitates the consultation and participation process.

Whenever risk factors are identified in a proposed investment project, these are incorporated into its design stage and prevention and control measures are defined. As part of the same work procedure, the stakeholder group is informed of these measures. If necessary, the measures are modified until community support is attained. Once approved by the community, they are incorporated into the project.

As the investment project's design and execution proceed, the participation and consultation process requires us to maintain periodic communication with our stakeholder group in order to receive their feedback and, if applicable, to respond to any new concerns.

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## CERRO COLORADO PLANNING continued

The overall objective of the consultation and participation process is that project development is based on collaborative engagement between the Company and our neighbouring communities, with a view to securing the sustainability of the Cerro Colorado operation and the communities.

**Application**

The largest Cerro Colorado investment project in recent years is an example of how the participation and consultation model is being applied. The project is a financing agreement with the Chilean Public Works Ministry's regional administration for road improvements along the Duplijza slope. The investment is estimated at US\$4.2 million.

The slope connects not only the mining site to the region's main road, but also to the townships of Mamiña, Parca, Iquiúca and Quipisca, all located on the neighbouring gullies. The safety standard of the existing slope was poor, due mainly to its narrow unpaved layout, short-radius curves and unstable hillsides. For this reason, we decided to fund the road improvement project, to be carried out between April and December 2004.

During the first stage, the community relations and engineering and projects teams identified that the four townships would be the groups directly impacted by the works. Meetings were held with each of them, with the support of their respective representatives.

A number of concerns and petitions were gathered, such as for the protection of nearby rock carvings and a community mud oven, the environmental control of earth movement and blasting, the fitting out of an alternative road, and the authorised removal of two animitas (small religious altars) that are commonly erected on the roadside in memory of victims of traffic accidents. Further, through the Regional Tourism Administration, we were requested to evaluate the possibility of building two lookouts at the slope in order to promote tourism in the area, which has periodic influxes of visitors mainly attracted by Mamiña's thermal waters and mud baths.



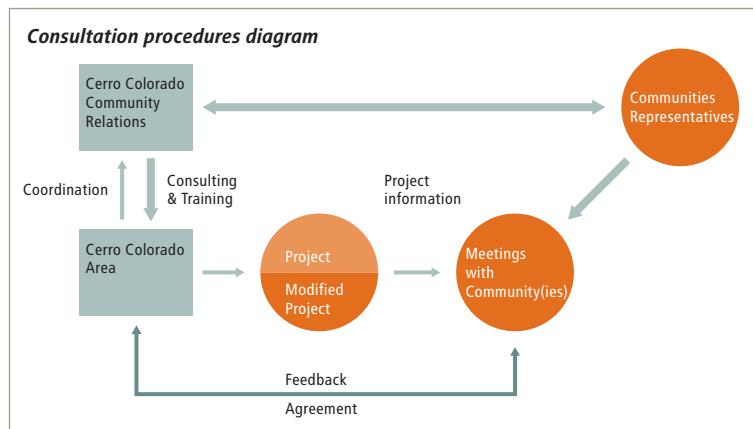
► Community meeting in Mamiña about the Duplijza road project

These requests were evaluated, approved and incorporated into the project's design and the Environmental Impact Statement submitted to the relevant government authority.

The project subsequently obtained government authorisation and the support of the participating communities.

Since the beginning of the works, our community relations team has held meetings with representatives of the affected communities and Pozo Almonte. All other stakeholder communities are also being kept informed, through the quarterly Dialogue Table meetings. Additionally, information has been forwarded to the local authorities and tourism, transport and hospitality companies about vehicle transit restrictions during the work, and public announcements have been made in the local media.

Commenting on the Duplijza road improvement project, Patricio Zapata, Regional Intendent with the local government, says, 'This is an outstanding agreement protocol, which we have been promoting as a government in relation to how we can make the contribution from a private company compatible with the needs of the community in which it is immersed, in terms of production and the creation of jobs. It is a good initiative, which we support completely. From the point of view of the number of communities involved, and their participation, it is innovative and provides a good model for other similar companies to apply'.



## EKATI AGREEMENTS AIM TO PROVIDE SUSTAINABLE EMPLOYMENT, TRAINING AND BUSINESS OPPORTUNITIES FOR INDIGENOUS COMMUNITIES



*The EKATI Diamond Mine is situated in the Lac de Gras region of Canada's Northwest Territories, 300 kilometres north-east of Yellowknife and 200 kilometres south of the Arctic Circle. It is in one of the harshest climates in the world, ranging from 30° Celsius in summer with 24 hours of sunlight to minus 60° Celsius in winter and almost total darkness. To operate effectively and efficiently in this environment, and to ensure a sustainable future for the business, we need to work in collaboration with the indigenous Aboriginal people, various government departments, our suppliers and our workforce.*

In establishing the EKATI operation, one of our first steps was to conclude our Socio-Economic Agreement (SEA) with the government of the Northwest Territories (NWT). The SEA outlines responsibilities for both the Government of the NWT and BHP Billiton Diamonds Inc. These include targets for hiring (both Northern and Northern Aboriginal people) and business spend (Northern businesses). Then we concluded mutual Impact and Benefit Agreements (IBAs) with four different indigenous First Nations, utilising the SEA as a basis to conclude those Agreements. Each of the IBAs is voluntary and confidential and establishes a mechanism for priority hiring, employee training and preferential business opportunities. In addition, cash payments and scholarships are provided to the impacted Aboriginal groups.

### Akaitcho Treaty 8

In November 1996, BHP Billiton Diamonds Inc and the leadership of the local Akaitcho people signed an IBA known as Akaitcho Treaty 8. The IBA is a partnership agreement that covers employment, training, business and social programs that would benefit the Akaitcho Treaty 8 IBA benefactors through the life of the mine.

We were mindful that when people are involved in a new and different work environment, such as setting up a business to supply a major diamond mine in a remote area, there is a process of learning that can present significant challenges. These include ensuring the business will survive in the longer term, setting times for starting and stopping work, utilising proper safety equipment, living away from home in a remote camp, leaving the family and coping with the social impact.

In the business world, the smallest change can have a big impact on indigenous people's personal lives and their way of life at home and in the community. It is our commitment to respect and help protect their cultural heritage while offering opportunities to enrich their lives.

### Meeting the challenge

When we started discussing business opportunities under the IBA, there was neither infrastructure nor existing goods or services businesses within the Akaitcho Treaty 8 group to support the potentially vast business opportunities associated with diamond mining. They wanted to know how they could help us become successful in order for them to become successful

through training, employment and business opportunities. Collectively, we rose to the challenge to make our commitments become a reality.

In line with the IBA, we established a local procurement office and conducted seminars and workshops about our procurement guidelines. Our purchasing strategy was based on assisting Aboriginal suppliers to attain joint ventures and business partnerships, to tender IBA suppliers first where practical, and to provide opportunities for local suppliers to deliver goods and services that have only been available from the south.

Wherever practicable, contracts were unbundled into smaller work packages. Our training programs focused on helping emerging IBA enterprises to become skilled and competitive. We also encouraged our contractor companies to identify opportunities for IBA suppliers and to provide training. This was facilitated through the compilation of a directory of local businesses specifying the types of goods and services they can provide to EKATI.

The range of projects identified for IBA suppliers included air support, ore haulage, construction, mining support services, maintenance of the winter road, catering and accommodation services.

We commenced slowly with small service contracts such as supplying labour to fish out lakes and conducting traditional knowledge study programs in order to initiate some business volume, earn the trust and respect of each other and to set up companies for the future. This led to other opportunities, such as making stakes for use in our surveying activities. First Nations people from an outlying community now supply these stakes. The contract provides jobs and training for those people who do not want to leave their communities to work, while allowing them to maintain their cultural activities day to day.

Charlie DeLuca, Asset Supply Manager at EKATI says, 'It generally took three years to slowly build capacity among local suppliers and set the successful direction for the future. Infrastructure, trained personnel, equipment, computer operating systems, cultural barriers, communicating, and understanding what we wanted, are all challenges we've faced to various degrees with our suppliers'.

### Focusing on sustainability

Through 1999 and 2000, EKATI promoted the idea of having all four IBA groups form a single company to supply services to the operation. This would mean that all business and employment opportunities could be directed through one company rather than to each of the four IBA partners separately, ensuring the interests of all parties were considered. It was also thought that a single company would have a greater possibility of being sustainable into the future. Such a ground-breaking arrangement presented a major challenge, not only for the four First Nations but for us as well; however, it had the potential to provide benefits for all involved.

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## EKATI AGREEMENTS continued



► Kete Whii tractor trailer unit with water tanks for dust suppression on roads in front of main facility entrance

The vision of a single company has already been partly realised. Understanding the concept offered numerous advantages, representatives of the two largest First Nations – Yellowknives Dene and Lutsel K'e Dogrib Treaty 11 – met, concluded business and formed a company, Kete Whii Ltd (KWL).



► Kete Whii grader clearing a snow-covered road for safe travel



► Kete Whii ore haulers side dumping

An ongoing on-site project at EKATI is the haulage of ore from one of the surface mines to the processing plant. This was identified as an appropriate contract of work for KWL, which would provide for numerous jobs, equipment and infrastructure. Associated training would lead to employees gaining certification for operating Class 1 highway equipment. This would allow them to also operate on-highway semi-trailers during their two weeks off. While the company was responsible for hauling ore for us, it made sense that KWL also maintained the haul road on which their trucks were operating. This expanded their role on our site to operating graders and water trucks.

Training for KWL employees commenced, both off site and on site. We also assisted the company in meeting with their financial institutions to fast-track the project, as equipment had to be brought in via the ice road, which is mainly built on top of frozen lakes and ponds and is open for just 78 days each year.

KWL has since been presented with other opportunities – through the introduction of our underground mining operations – and has risen to the challenge. To gain the required expertise, they arranged a joint venture with an experienced Canadian

underground mining company. The joint venture has set targets to hire Aboriginal people, conduct training programs and ensure their cultural heritage is maintained. The company mines with state-of-the-art underground equipment, utilising remote control devices, and maintains the equipment. Many training opportunities exist through this joint venture arrangement.

The business corporation of the Yellowknives Dene First Nation, Deton'Cho Corporation (DCC), is charged with managing Kete Whii Ltd on behalf of the Aboriginal partners. The Chief Executive Officer of DCC, Neil McFadden, states, 'Our relationship with BHP Billiton concerning KWL has been both progressive and rewarding. Working together, we have overcome the trials and tribulations of bringing a concept to reality. KWL is all about building . . . human resources, assets, capacity'.

#### Meeting spending commitments

As the chart below shows, in 2003 BHP Billiton Diamonds spent US\$318 million to support operations at EKATI. Of this, 85.4 per cent went to Northern businesses and 29.7 per cent to Northern Aboriginal businesses. The total cumulative spending through Northern and Northern Aboriginal businesses, from the beginning of construction, exceeds US\$1.37 billion.

#### Total business history spend 1999 to 2003 – US\$

Category	1999	2000	2001	2002	2003
Northern Aboriginal	\$39m	\$51m	\$81m	\$93m	\$94m
Overall Northern	\$213m	\$198m	\$250m	\$271m	\$272m
Other	\$58m	\$42m	\$44m	\$45m	\$46m
Total	\$271m	\$240m	\$294m	\$316m	\$318m

Charlie DeLuca says, 'These are win-win relationships that manage risk, develop people, assist communities and respect traditional rights. Are we valued in the communities? Yes we are, we've been named one of the 100 best employers in Canada in each of the last three years (Mediacorp Canada Inc survey). Can we do better? Of course, that is what continuous improvement is all about'.

## BLACK ECONOMIC EMPOWERMENT SUPPLY UNIT ESTABLISHED TO PROMOTE BEE SUPPLY INITIATIVES IN THE SOUTHERN AFRICAN REGION

*Black Economic Empowerment (BEE) legislation has been introduced in South Africa to address inequalities created by past history, particularly the exclusion of black people from participating in the country's economy. The legislation attempts to address this imbalance by increasing the participation of previously disadvantaged groups. The BEE Supply Unit we have established will work closely with and support supply initiatives by the Company and our individual operations such as Samancor Chrome, Samancor Manganese, Ingwe Coal and BHP Billiton Aluminium.*

In early 2003, the Company implemented a Black Economic Empowerment Procurement Policy for the southern African region, which confers preferential status on BEE suppliers and has the explicit purpose of increasing procurement spending with legitimate BEE suppliers. The full BHP Billiton Black Economic Empowerment Procurement Policy is available on our website at [bhpbilliton.com/bb/sustainableDevelopment/policiesAndKeyDocuments.jsp](http://bhpbilliton.com/bb/sustainableDevelopment/policiesAndKeyDocuments.jsp).

Our objectives are to provide access by black suppliers to the Company's procurement activities, with a resultant greater participation in resource-related industries, and to ensure that all buying organisations within the Group have the support to successfully achieve legislated procurement targets. In addition, the Policy ensures that a standard set of BEE definitions and classifications are applied in the region and details how BEE spending will be calculated.

### The BHP Billiton BEE supply approach

The Company promotes BEE spend principally in three ways:  
*Supplier transformation* – We initiate forums with existing suppliers in order to make them aware of the imperatives of the BHP Billiton BEE Procurement Policy and gauge their plans for transformation to BEE supplier status.

*Targeting of existing and new BEE suppliers* – We identify specific opportunities for the entry of BEE suppliers, and where necessary and appropriate assist and develop these suppliers through our capacity building program outlined below.

*Building capacity* – To promote BEE spend with a local flavour, we have become directly involved in establishing Business Development Centres close to our mining and smelting operations. These centres seek to promote local supply opportunities to small and medium enterprises and to provide enterprise development support to emerging and aspirant BEE suppliers.

The developmental assistance may encompass, among other things:

- provision of mentoring and training on the BHP Billiton tendering process
- assistance with negotiating financing arrangements with financial institutions



► L to R: Nick Saunders, BEE Supply Manager; Celiwe Mosoane, Business Development Centre Manager, Witbank; M'ampho Sumbulu, BEE Supply Specialist

- providing early payment and assistance in acquiring materials
- splitting contracts into smaller components in order to provide opportunities for black suppliers.

Two Business Development Centres have begun operating. The Steelpoort centre was established on 1 July 2003, and the Witbank centre (a joint initiative between Samancor Chrome and Ingwe) was established on 1 November 2003.

Establishment of the centres will be the primary driver behind capacity development as:

- they enhance the likelihood of identifying and promoting local BEEs and small and medium enterprises and create linkages to purchase opportunities
- their focus on local economic development will enhance our commitment to the local community
- they provide a vehicle to assist and develop local emerging entrepreneurs.

### Key enablers

A standardised report will be used by all the Company's CSGs for reporting BEE spend. All definitions used will be as per our latest BEE policy document.

Given the need for access to accredited BEEs, we are collaborating with other mining companies to maintain an online BEE supplier database and to accredit potential BEE companies. This is facilitated through our membership of the South African Mining Preferential Procurement Forum. In order to be conferred BEE supplier status, the supplier must go through a rigorous accreditation process. To ensure the process is impartial and independent, accreditation is carried out by a third party. This, in turn, ensures that we achieve BEE reporting credibility.

Recognition of the BEE database as the accepted vehicle from which the major mining houses will source supply, coupled with the benefit of independent and aligned BEE accreditation, should encourage the transformation of suppliers in our industry sector. Initiatives by the Forum to identify and advise those key common vendors currently not satisfying assessment criteria are expected to further stimulate transformation.

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## BLACK ECONOMIC EMPOWERMENT SUPPLY UNIT continued



► Maduka Construction employee working on stonedust barrier



► Mashidi employees loading broken ingots into front-end loaders

### **Maduka Construction**

Robert Maduka is a former employee of Ingwe Coal's Khutala Colliery in Mpumalanga Province. After four years of employment at the mine, Robert seized the opportunity to start his own business servicing the mine and formed Maduka Construction.

Currently, Maduka Construction's responsibilities at Khutala include:

- moving of stonedust barriers in nine sections
- stonedust sampling on two seams
- underground concrete work such as building of workshops, ventilation walls, dams and pump station dams
- supervising general cleaning of the on-surface shaft area and cleaning of the stores and workshops.

To support the stonedust sampling work undertaken by Robert and his team, Khutala Colliery donated a computer to Maduka Construction to assist in generating reports for the mine management.

### **Mashidi Metal Picking and Cleaning Services**

For more than 30 years, Phineas Mashidi was an employee of Ferrometals, a chrome ore smelter for Samancor Chrome in Mpumalanga Province. In 2001, Phineas chose to accept a retrenchment package and start his own company, Mashidi Metal Picking and Cleaning Services. The company now has 52 employees.

At the smelter, molten chrome ore is poured onto casting floors and allowed to cool. It is then mechanically broken and metal is separated from slag. Mashidi Metal Picking is contracted to load the broken chrome ingots into front-end loaders for further crushing and stockpiling.

As some safety issues have been identified with this work, namely back and finger injuries, Ferrometals is looking into mechanising part of the process and training Mashidi staff with new skills.

## MOZAL ASSISTS GROWTH AND DEVELOPMENT OF LOCAL SUPPLIERS THROUGH COLLABORATION AND CAPACITY-BUILDING PROGRAMS



*Located in Maputo in southern Mozambique, our Mozal aluminium operation, which commenced production in 2000, was the first major development in the country in the past 30 years. The operation now accounts for more than 50 per cent of Mozambique's exports, over 45 per cent of imports and 7 per cent of gross domestic product<sup>1</sup>. After two decades of unrest in the country, there were few local businesses that could provide the smelter with essential goods and services; development of a local supply chain has been an imperative. Commencing with a commitment to award as much work as possible to local suppliers, the focus of development support programs has moved to helping them improve their skills and capacity, with a view to building a local base of strong, competitive and sustainable supplier companies.*

During the start-up of Mozal, the operation faced a number of logistical and planning challenges. A 17-year civil war had devastated Mozambique and its economic infrastructure. There were few local suppliers, which meant that a substantial inventory of operational goods and maintenance spares had to be held on site. Maintaining production therefore required a substantial investment of working capital.

The harbour estuary was regarded as difficult to navigate for the shipping of sea-bound raw materials and the road to the plant from Komatipoort on the South African border was in a bad state of repair. As the 80-kilometre journey took up to five hours, many trucking companies refused to transport loads to the site. A new road was opened in 2000, reducing the travel time to around one and a half hours.

A vibrant mix of African and Portuguese people largely populates the country. The official language is Portuguese and a large number of people had been trained in former Soviet bloc countries such as Russia, Hungary, East Germany and Bulgaria. In the early stages of start-up, virtually no English was spoken in the area around the Mozal site. This posed a number of challenges in the ordering of materials from English-speaking suppliers and in the interpretation of the description of materials required for production and plant maintenance.

As Mozal has developed, these issues have generally been overcome. The last four years have seen remarkable changes in the geographic infrastructure of the region of Maputo and Matola and in the abilities of Mozambican people to adapt to the requirements of Mozal's high-performance, results-driven business culture.

### Implementing a program to develop local supplier companies

From the beginning of the Mozal start-up, there has been a drive to identify and develop local companies and make them competitive in a completely new business environment, that of aluminium production.

A program was developed to educate and train the newly formed small and medium enterprises (SMEs) on a world-class tendering package, allowing them to compete with foreign companies. Work packages were exclusively allocated to local companies so

<sup>1</sup>2002 figures

as to enhance their development. This was done without compromising the principles of competitive pricing, compliance to specifications, timely delivery and safety.

The materials and services identified to be procured exclusively from local companies are stationery; transport labour; vehicle rental; signage; labour rate agreements; minor civil work; equipment surveys; manufacturing; small tool repairs; lifting services; hardware and software services; vehicle service and maintenance; laboratory consumables; and hand tools. The process followed was to begin with services that could be undertaken with low risk to the operation and then expand the range as local capabilities developed.

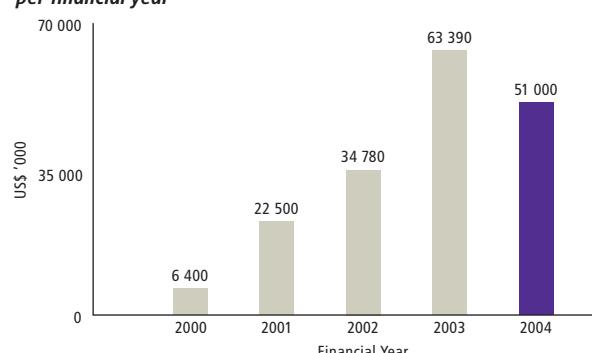
Local enterprises were included on lists of companies tendering for work, from which followed the progressive awarding of contracts for site works and materials supply. The drive was then to undertake HSE assessments and audits with all on-site suppliers, so as to develop and enhance the interactivity between Mozal and the suppliers.

Each company is required to have HSE management plans and processes in place. Those without adequate plans are provided with coaching or training to help them meet the requirements. There has also always been strong emphasis on business conduct at Mozal and workshops are conducted to introduce SMEs to the BHP Billiton Guide to Business Conduct. The goal is to sustain the local enterprises by achieving a high level of business ethics and HSE performance in their maintenance, operations and management practices.

Since the beginning of operations at Mozal, the number of packages awarded to local companies has progressively grown. A significant number of companies have been exposed to the new working environment of aluminium production, highly sophisticated plant operations and maintenance, and very high demands in materials supply.

This strategy has shown positive results, with around US\$4 million on average per month being spent with Mozambican registered companies. The graph below shows the history of the spend with local companies over the last four years.

**Total Mozambican spend (excluding water and electricity)  
per financial year<sup>2</sup>**



<sup>2</sup> Note: Substantial increase in FY '03 due to the Mozal expansion project phase II

(Continued over)

## MOZAL ASSISTS GROWTH AND DEVELOPMENT OF LOCAL SUPPLIERS

continued

### Mozlink – focusing on building quantity and capacity

To further build on the successes, it was considered important to shift the focus from dollar spend towards real growth in terms of the quantity and capacity of companies dealing with Mozal. This meant that some leeway on the competitive pricing principle was required.

The Mozlink program has been set up and, as part of the program, an SME Development Centre has been established. Through the program, Mozal builds SME capacity, shortens the supply chain, minimises cross-border complexities and reduces lead times, which in turn leads to lower stock levels.

The Mozlink process is to:

- identify, introduce and develop suitable suppliers
- create a Mozambican supplier database
- identify materials and services to be procured exclusively from Mozambican companies
- implement training and development programs for SMEs
- build cooperative relationships.

One-day workshops are held with each of the SMEs to formulate a development program that will guide them through training and coaching to improve on the baseline. The baselines are designed to enable the companies to establish benchmarks in their own areas of business and learn from each other. It further enables the Mozlink steering committee to develop training in the areas most required. The companies can follow their progress by using the graph.

Tendering training has been given to 12 companies and an additional 13 have been included in the program. An assessment has been undertaken to establish baselines in the areas of safety, maintenance and operations, quality, and management practices such as human resources and finance.

Among other services provided, major packages, in terms of spend per year and criticality to the operations, have been awarded to these Mozambican companies:

- Agro-Alfa – pot superstructure removal and replacement
- Zulmet Projectos – basement cleaning, pot de-lining and pot preparation
- Dickinson Mozambique – pot re-lining, pot sealing and ladle workshop repairs
- Tubex – small tools repairs
- Duys Engineers – potshell repairs.

The Mozlink program is in line with the Mozambique Government's focus on industry growth. While there is no legislation to enforce expenditure, supporting the government's plans will reinforce relationships and enhance the standing of the Company as a good corporate citizen in Mozambique.

The program has been developed in collaboration with the government's Centre for Promotion of Investment (CPI) and the World Bank, specifically the Africa Project Development Facility (APDF) of the International Finance Corporation and Projeto Para O Desenvolvimento Empresarial (PoDE).



► A local company, Flor Real, has been established to maintain green areas

Mr Issufo Caba, Business Development Advisor at the Maputo Office of the APDF, has stated, 'In Maputo, Mozal is a live example of how a Corporate can work with SMEs. This is a win-win-win situation that we started developing in Mozambique, where Mozal, the SMEs and the community benefit from the business linkage model. Mozal has consistently demonstrated its commitment towards developing local supply chains and is closely working with APDF and other local partners in the implementation of SME empowerment programs, which enables and strengthens local SMEs to be Mozal suppliers'.

Mr Caba also pointed out, 'The first program – SME Empowerment and Linkages Program (SMEELP), which was designed and implemented for the construction phase of the expansion of the Mozal smelter – linked 14 local SMEs that successfully delivered contracts to Mozal. The current program, Mozlink, is now linking 25 local SMEs'.

The key change to the materials management strategy is a shift from quantity to quality, with a focus on safety and safety systems, lead-time and reliability, aimed at developing sustained growth and excellence. Underpinning the approach is greater collaboration with suppliers and the sharing of benefits and risks.

This provides SMEs with opportunities for information sharing that can extend their marketplace, facilitate access to useful data, accelerate growth, introduce best practice information systems and bring demand and supply together.

**BHP BILLITON IRON ORE INITIATIVES  
PROVIDE EDUCATIONAL AND EMPLOYMENT  
OPPORTUNITIES FOR OUR INDIGENOUS  
STAKEHOLDERS IN THE PILBARA**

*Our BHP Billiton Iron Ore operation in the Pilbara region of Western Australia recognises that, for the business to be sustainable, local communities must share in and benefit from the Company's success. We also acknowledge that addressing deep-seated problems such as the under-representation of indigenous people in the workforce is a complex matter requiring partnership and engagement with a range of stakeholders.*

Developing relationships with our host indigenous communities and other partners has been slow but steady. Commencing in 1992, a dedicated Aboriginal Affairs Department was established at BHP Billiton Iron Ore.

**'Investment in Aboriginal Relationships' program**

In 2000, we instigated the 'Investment in Aboriginal Relationships' program, a key initiative driven by the Aboriginal Affairs Department to ensure a spread of benefits to the indigenous people of the Pilbara and further improve and develop relationships with them.

This is a long-term program aimed at benefiting the Company, indigenous people and the community through activities focusing on increasing opportunities for education, training and employment as well as assisting with indigenous enterprise and community development and cultural heritage management.

Many aspects of the program, such as those concerned with increasing indigenous employment, are long-term projects and, in order to be successful and sustainable, need Corporate endorsement and support. In this case, the opportunity was realised when BHP Billiton signed the Corporate Leaders for Indigenous Employment statement in October 1999 and later when BHP Billiton Iron Ore signed a Memorandum of Understanding with the then Commonwealth Department of Employment, Workplace Relations and Small Business.

We also decided as part of the launch of the 'Investment in Aboriginal Relationships' program to publicly commit the business to a target of achieving 12 per cent indigenous employment within our Pilbara operations by 2010, reflecting the proportion of indigenous people in the region.

Recognising that there is no easy solution to the challenge of increasing indigenous employment, the program's strategies and actions are diverse and the scope all-encompassing. The program takes in all operational areas: mining, port, railway and Boodarie Iron. It includes a raft of associated initiatives in the areas of education and direct and indirect (contractor-based) employment. Contractors represent around 50 per cent of our workforce and the biggest opportunity for increasing indigenous employment is at the entry-level skill area. Other initiatives focus on developing indigenous businesses and improving their contracting opportunities with us.



► Port Hedland employees Ryan Cassidy (front) and Jesse Oxenham

We also recognised that for any of these actions and initiatives to get off the ground and be successful, they would require a significant cultural change in the business. Dealing with this was part and parcel of the overall program.

**Employment programs**

While realising that long-term strategies would be needed if success was to be sustainable, we also looked at opportunities where we could gain some positive outcomes quickly. For example, when the program was rolled out in 2000 it was estimated that just one Aboriginal apprentice and one Aboriginal trainee were employed across the entire business. Today, BHP Billiton Iron Ore employs 55 Aboriginal and Torres Strait Islander apprentices in engineering, mechanical and electrical trades and trainees in clerical and mine production roles.

David Stock, Nyiyaparli Elder and Native Title Claimant, says 'I like our young fellas getting jobs and going to school and learn this and that. [For] Aboriginal people, that will be much better. Well, you know, work together with them. We like to see that happening, our young fellas getting jobs and going to school and learning stuff and that will be much better'.

Prior to the program, Aboriginal and Torres Strait Islanders appeared not to be applying for apprenticeships and traineeships. The Company made the incorrect assumption that local indigenous people were either not interested in applying for positions or thought they would not be able to pass the initial selection process.

That assumption was turned on its head in the first year of the program as a number of local indigenous applicants were successful in gaining apprenticeships in their own right, without recourse to the support designed as part of the program. The support, if required, enables those apprenticeship applicants who don't quite make the grade to be taken on for one-year pre-apprentice traineeships. The aim during this tenure is to help them develop their ability to be successful in the following year's intake.

**Educational programs**

The importance of education initiatives to the overall success of the program cannot be underestimated. BHP Billiton Iron Ore is now the primary sponsor of two education programs that we

(Continued over)

## BHP BILLITON IRON ORE INITIATIVES

continued

conduct in partnership with the Western Australian Department of Education & Training, the Commonwealth Department of Employment & Workplace Relations, the Commonwealth Department of Education, Science & Training, the local indigenous community and the Graham (Polly) Farmer Foundation. One of the programs is at Port Hedland and another recently commenced at Newman.

The Port Hedland Partnership program is now into its third year. Through mentoring, homework supervision and work experience, the program aims to assist indigenous children to achieve their full potential. Students attending school in Years 8 to 12 can apply to be selected. A compact is established with the selected students, their families and the partners, which includes a commitment to work towards set educational and personal growth goals. A dedicated coordinator is jointly funded by the partners. In addition, we have provided a building that is available for student use after school. It contains computer equipment and facilities for tutoring, homework, recreation and dining. A bus is available for student pick up and drop off as well as for excursion activities.



► Students participating in the Port Hedland Partnership program

Applying for positions in the partnership program is highly competitive; for example, in 2003 there were 32 applicants for the five vacant positions. The students selected are those who show promise, are committed to their education and have family support and encouragement. Overall, there has been a noted improvement in grades and school attendance by the participating students and they are becoming role models among their colleagues, family and the broader community.

### Supporting local businesses

Our commitment to developing and supporting local indigenous businesses has seen some real success. An example is the support provided to Ngarda Civil and Mining, a partnership between mining contractor Henry Walker Eltin, Indigenous Business Australia and the Ngarda Ngarli Yarndu Foundation, which represents all indigenous groups in the ATSIC Ngarda Ngarli Yarndu Regional Council region. The partnership agreement stipulated that Ngarda had to employ local people for local jobs but that it also had to be commercially successful.



► Ngarda machine operators Tamara Jose and Jason Aubrey at Boodarie Iron

After initially providing a number of small miscellaneous housing maintenance contracts to Ngarda, in 2003 BHP Billiton Iron Ore awarded two significant and long-term 'open book' contracts at the Boodarie Iron mine and on Finucane Island, with a collective worth of over AUD\$10 million per year.

The aim of this support is to enable Ngarda to develop and demonstrate efficiencies over the duration and become competitive in the mainstream marketplace. All contracts awarded to Ngarda have a minimum requirement for 85 per cent indigenous employment. Ngarda's performance has been remarkable; for example, at Finucane Island where it has a mobile plant and equipment contract, the business continues to achieve very satisfactory loading rates and demonstrate a high level of compliance with occupational health and safety standards and has received a BHP Billiton Iron Ore Audit Safety Award and a 2003 Industrial Foundation for Accident Prevention Award for six months without a lost time injury.

Ngarda manager Brian Hughey says retention rates are good and unexplained absenteeism is low. 'In a work environment, indigenous people are a lot more comfortable when they are in the majority', Mr Hughey said. 'In organisations that are predominantly non-indigenous, people don't tend to get the support they need and often last only six months then move on. Where we employ them in big numbers and they are the majority, they tend to support each other and keep each other going'. According to Mr Hughey, Ngarda has work contracts worth AUD\$60 million on its books and in 2003/04 would pay AUD\$4.8 million in wages to its 86 Aboriginal employees in the district.

We have been working hard to bring our contractors in line with our vision and goals for increased indigenous employment, and, as a result, all major mining contracts, as they come up for renewal, have minimum percentages for indigenous employment. For example, the mining contract at Area C when awarded in 2003 had a minimum first year requirement of 6 per cent with a 1 per cent per annum increase up to its conclusion in 2006.

(Continued over)

**BHP BILLITON IRON ORE INITIATIVES**

continued

The company that was awarded the Area C contract, HWE, has exceeded this and their indigenous employment level is currently at 9 per cent. Service contracts awarded by BHP Billiton Iron Ore also have provisions for minimum percentages of indigenous employment.

Partnerships have been crucial in achieving higher levels of indigenous employment. One of the most significant has been a partnership that developed out of the Memorandum of Understanding with the Department of Workplace Relations. In 2003, we signed a Structure Training and Employment Program contract with the provision of AUD\$1.2 million for subsidising our indigenous employment programs.

The subsidies have enabled us to invest in further indigenous employment, training and education initiatives, the overall success of which led to BHP Billiton Iron Ore being a finalist in the 2003 Corporate Leaders For Indigenous Employment awards.

## PETROLEUM PROJECTS IN TRINIDAD AND TOBAGO AND PAKISTAN AIM TO MAXIMISE THE EMPLOYMENT OF LOCAL PEOPLE AND ENTERPRISES IN OUR OPERATIONS

*Our licence to operate and grow as a company depends on the responsible operation of all aspects of our business, which includes our ability to work effectively with the communities in which we work. Our businesses interact with communities on a number of levels. For example, we initiate programs that help to build the capabilities of local people and enterprises so that they can benefit from our operations, through direct employment or as suppliers to the Company. The effectiveness of this approach is illustrated by the engagement of local communities in our Petroleum operations in Trinidad and Tobago and Pakistan.*

### Angostura integrated oil and gas development, Trinidad and Tobago

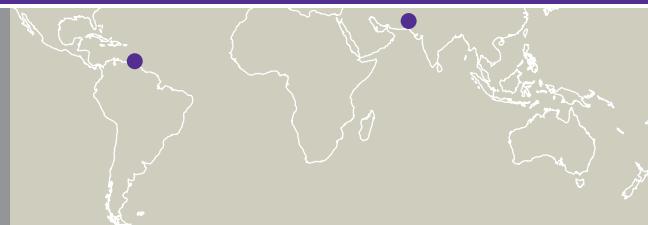
The Angostura integrated oil and gas development commenced production this year. The Greater Angostura Field is located due south from Tobago and due east from the Toco District in north-eastern Trinidad. The oil will be transported via pipeline to onshore storage and marine loading facilities near Guayaguayare Bay in south-east Trinidad, for export to market.

Based on our analysis of local needs, undertaken with feedback from the community, our community programs focus on three 'E's – education, the environment and entrepreneurship. We are committed to maximising local involvement in development of the Greater Angostura Field, encouraging the establishment of partnerships and other collaborations between international suppliers and resident organisations to support infrastructure development, and enhancing opportunities for local Trinidad and Tobago enterprises. The following are examples of projects aimed at building local capacity.

**Capacity building projects in Mayaro and Guayaguayare**  
The Mayaro/Guayaguayare region where our onshore terminal site is located has an unemployment rate of 24 per cent, the highest in the land. Programs have been initiated to ease unemployment and build capabilities in the local communities. Fortnightly community meetings have been held to hear the concerns of the communities, keep them abreast of our plans and find ways for them to meaningfully participate in the benefits of the project.

By working with some of our contractors, we have been able to ensure that local residents are not only employed but trained in sustainable skills such as welding, fabrication, mechanics and plumbing – and are given the chance to practise those skills. Just recently we reached a significant milestone when wages earned by local residents passed TT\$1 million, and we expect that this figure will triple by the end of the project.

In addition, one of our major contractors, Carillion, has announced a new program to draw more people from the community into the workforce and provide them with industry-recognised trade qualifications.



► Company-sponsored workshop for teachers at Mayaro

The Company is also supporting agricultural projects that can provide sustainable benefits for the community. For example, 25 local farmers are each being provided with nearly half a hectare of land to cultivate cassava, a root crop that yields nutritious starch, the source of tapioca. The Company is assisting the project by funding the land preparation, fertilisers and training for the farmers. The aim is for the farmers to become self-sufficient in producing and marketing their own local brand of cassava. Another program supported by the Company is the livestock farming of goats and sheep, also in Double Bridge Village.

Gregory Galera, head of the Guaya Branch of the Mayaro/Guayaguayare Unemployed Organisation says, 'BHP Billiton came in March 2003 and hasn't looked back; this is the first company to come down and meet so regularly with the people. They are doing yeoman service for the future of our entire community'.

### Fabrication of the Kairi 1 platform

In planning for development of the Angostura project, invitations to tender for the well protector platforms, jackets and decks were sent to fabrication firms including four from Trinidad and Tobago. The contract to fabricate the Kairi 1 offshore platform was awarded to local company Damus Ltd in a joint venture with the US-based Gulf Island.

At six storeys high and weighing 550 tonnes, the massive structure is the largest platform fabricated in Trinidad and Tobago and the first at the La Brea Industrial Development



► The Kairi 1 offshore platform constructed by local company Damus Ltd

(Continued over)

## PETROLEUM PROJECTS IN TRINIDAD AND TOBAGO AND PAKISTAN continued

Company industrial estate, which has a fabrication yard for the construction of large offshore structures. The contract also called for the transfer of technology and Damus engineers have travelled to Gulf Island's facility in the US to be trained in specific areas of platform management.

Additionally, we have made a significant investment in new welding equipment and in the training of Damus welders in flux-core welding techniques. This is the first utilisation of semi-automatic welding in Trinidad and Tobago. The acquisition of these skills will make local welders more productive and can be transferred outside the oil and gas industry.

All told, this contract translated into 110 000 work-hours for Damus and a peak workforce of 104, including project management. Most importantly, we hope that the success of this venture will pave the way for other operators to build similar topsides in Trinidad and Tobago.

### *The re-introduction of design engineering into the energy industry in Trinidad and Tobago*

We recognised in 2002 that the re-introduction of design engineering within Trinidad and Tobago's petroleum industry was a worthy goal. Engineering capability can attract fabrication capability, and engineering skills can potentially be transferred to other parts of the economy. This industry had been absent from the economy for decades.

At the same time, based on the availability of capable engineers within Trinidad and Tobago's petroleum sector, the Company decided that invitations to tender for design engineering should dictate that such work must be done locally. We received four bids for this work. Worley International provided the lowest-cost solution that also included the best approach to building local capability, and won the contract. Subsequently, the design for the Aripo deck and jacket was added to their scope of work.

Since this contract was awarded more than a year ago, 31 Trinidad and Tobago engineers and technical staff have been employed in the design effort, expending more than 50 000 work-hours in the process. This has provided an unusually rich learning experience, since the engineers have designed an offshore structure, an onshore terminal, a marine loading system and associated pipelines. Furthermore, they have learned to work with engineering support systems installed by Worley and have been exposed to Safety Case and quantitative risk assessment technology. Perhaps most importantly, it has demonstrated that upstream design engineering work can be undertaken in Trinidad and Tobago.

### Zamzama Gas Project, Pakistan

Our Zamzama gas project in Pakistan is located in the district of Dadu, approximately 500 kilometres north of Karachi in Sindh Province. During the construction phase for the extended well test at Zamzama, labour and materials-related contracts totalling US\$5.6 million were placed with Pakistani companies including Descon Engineering Ltd, Associated Constructors Ltd, Allied Engineering, NESPAK, Alstom Pakistan and Siemens Pakistan.



► Community school supported by Zamzama

The engagement of local people and enterprises was also a priority in the execution of the full field development, which was completed in mid 2003. Some 3275 workers were employed at Zamzama during the peak of construction activities, with about 40 per cent being from the local area. This provided a major employment opportunity for the communities living around the plant site. On average, about 2000 local workers were employed over the total construction period of 14 months. A significant proportion of the major plant equipment was also built in local fabrication yards. It is estimated that the total Pakistani content stands at about 34 per cent of the budget for the gas processing plant and associated facilities, probably the highest ever achieved for such a development in the country.

Now that it is in the operation phase, the facility requires relatively few workers. However, at present, some 65 per cent of staff at the plant are either Dadu or Sindh residents. These people are employed in a variety of roles, from the installation manager, who is a Sindhi, to other vital roles such as operations staff (40 per cent are from Sindh), community relations officers, land officers, drivers, maintenance staff and security guards. Looking to the future, we are supporting five of our local trainee technicians in their education at the Dadu college.



► Local health clinic supported by Zamzama

Furthermore, more than 100 local people are employed through community development projects that we sponsor. Of these, nearly one third are fulfilling the vital role of being teachers at local schools. There are also doctors, health workers, instructors and support staff, all working in programs that are bringing real benefits to the people of the area.

## IMPLEMENTING THE GUIDE TO BUSINESS CONDUCT AT WORSLEY AND HILLSIDE

*The BHP Billiton Guide to Business Conduct is founded on our Charter; it establishes a set of principles to assist employees in making decisions that are consistent with the Company's corporate values and represent good business practice. Post merger, the roll-out of the Guide (published in eight languages) commenced in 2001. This case study outlines how effectively the Guide has been implemented at two sites – Worsley alumina refinery in Western Australia and Hillside aluminium smelter in South Africa. The information is based on an independent review carried out by the consulting firm Deloitte Touche Tohmatsu at the request of BHP Billiton Aluminium.*

Our Charter requires a high standard of business conduct, honesty and integrity. Why is such behaviour important? The Company cares not only about delivering good results but also how those results are obtained, because:

- employees value companies where they are confident that they can trust the integrity of their colleagues and employer
- communities value companies who value them
- shareholders value companies that set and live up to high standards
- suppliers value customers who honour commitments
- customers value honesty and integrity.

Our HSEC Management Standards require all Company sites to implement the Guide to Business Conduct. It is the responsibility of site management to decide how best to implement the Guide at their operation. To assist them, extensive roll-out materials (including posters, power point presentations, case studies, wallet-sized cards and a Guide summary) have been developed at the Corporate level and are readily available. The materials most relevant to the site can be chosen and the presentation material can be adapted to cover the issues most relevant to the operation and region.

Free-call numbers for the Business Conduct helpline service are made available in all countries where the Company has major operations, including South Africa and Australia. Employees can call these numbers to seek help with dilemmas that they may face or issues that they may wish to raise. In all cases, confidentiality for 'whistle-blowers' will be maintained to the highest degree possible.

Claudia Kruse is a Senior Analyst, Governance and Socially Responsible Investment, with ISIS Asset Management. Claudia says, 'As a global company, BHP Billiton faces a real challenge, not just in terms of delivering the message about whistle-blowing to over 50 000 staff (employees and contractors), but also to get it "culturally" right with such a diverse workforce. In order to assess how well the system works, it is important not only to monitor the frequency and nature of reports, but also to track the professional development of employees who have reported incidents over the long term. Guaranteeing adequate protection is essential in order for whistle-blowing to become an accepted and valued feature of corporate culture'.



► Guide to Business Conduct and roll-out materials

(ISIS Asset Management is a UK-based institutional investment manager with approximately US\$112 billion under management. ISIS believes that the management of social, environmental and ethical risks as well as good governance is key to long-term business success. Note: From October 2004, ISIS will be renamed F&C.)

BHP Billiton commits to ensuring that employees or contractors who raise genuine concerns will not be subject to retribution or disciplinary action.

To assess how effectively the Guide is being implemented at their sites, in November 2003 BHP Billiton Aluminium commissioned Deloitte Touche Tohmatsu (Deloitte) to undertake a review at Worsley and Hillside. The results of the audit provide a benchmark of good implementation practice. It is important to note that sites are not required or encouraged to initiate such external audits, as BHP Billiton has an audit system in place to test whether and how the Guide is being rolled out.

### Worsley alumina refinery: background and key findings

Our Worsley alumina refinery is located in the south-west of Western Australia, near the town of Collie. Construction of the mine site (located at Boddington) and refinery began in 1980 and the first alumina was produced in 1984. A significant expansion of the operation was completed in 2000 and a project to further expand capacity received approval this year. Over 1100 people are employed at the mine site and refinery together with more than 300 contractors.

The Deloitte review found that before the BHP Billiton merger in June 2001, no written code of ethics existed at Worsley. When the Guide to Business Conduct was examined by the site, it reflected the broad ethical framework within which Worsley had been operating. The review found that the Guide is viewed positively, providing clarity, a detailed reference point and enhanced transparency.

There were several other key findings. Major existing and new contracts for both people and services include compliance with the Guide as a key condition. All employees have attended roll-out presentations and information about the Guide and its importance is included in induction procedures for new staff. The employee training program, which is also used for contractor

(Continued over)

## IMPLEMENTING THE GUIDE TO BUSINESS CONDUCT continued

training, includes presentations on the Guide and has been recorded in the business-wide system used for tracking training. Further evidence of effective implementation of the Guide to Business Conduct, and the principles it espouses, is that ethical behaviour has been integrated into the core values in Worsley's 2004 strategic plan.

### **Hillside aluminium smelter: background and key findings**

Our Hillside aluminium smelter is located in Richards Bay, South Africa, about 150 kilometres north of Durban. The smelter came on stream in 1995. Plans to significantly expand capacity are well advanced. Approximately 1200 people are employed at Hillside, together with about 1000 contractors.

Hillside had in place a code of ethics that was replaced by the Guide to Business Conduct.

Deloitte found that Hillside demonstrated a well-organised process of roll-out of the Guide to Business Conduct, and that implementation has been supported by senior management. The Guide has been adopted at the highest level and has been included as part of the leadership agenda; the Chief Operating Officer met with the general manager, agreed a process for implementation and established a team to carry it out.

Conditions of employment at Hillside now include agreement to adhere to the content of the Guide. All employees have attended presentations to introduce the Guide, which included opportunities to discuss the content. Every employee has also had the opportunity to discuss the Guide with their line manager to confirm they understand the contents, including signing a declaration of understanding and compliance with the Guide, which is placed on their personnel file.

Hillside also has a declaration system regarding the giving and receiving of gifts (which must never be of sufficient value to influence a business decision); all gifts must be recorded and agreed by the line manager.

As a result of the Guide being introduced, several changes have been made to procurement policies and processes at Hillside. The Guide is enshrined in supplier terms and conditions. All suppliers are issued with the Guide and must endorse that they are in agreement with its policies and standards as a condition of entering into a contract or business agreement.

### **Review conclusions and recommendations**

Deloitte found that both Worsley and Hillside demonstrated a well-organised process of roll-out of the Guide to Business Conduct, and that implementation has been supported by senior management. Neither site considered it necessary to offer rewards for compliance with the principles in the Guide. It was felt this would send the wrong message, as the Guide establishes principles for 'doing business as usual'.

It was recommended that sites should ensure that awareness of the Guide is maintained over time; this may include regular self-certification regarding employees agreeing with and working to the principles of the Guide. Specialist ethics training should be considered for employees in 'high-risk' functions such as Finance, Human Resources, Marketing and the Commercial Department.

The Deloitte review concluded that the Guide to Business Conduct, rather than being considered a compliance document, should be seen as a living document and a starting point for making values-based decisions. This is very much the spirit with which the Guide was first established and accords with the desire for high ethical standards and excellence in business performance.

## MINING CERTIFICATION EVALUATION PROJECT ADOPTS DRAFT CRITERIA FOR CERTIFICATION AND PROTOCOL FOR MINE AUDITS



*As reported in last year's HSEC Report, we are actively involved in the Mining Certification Evaluation Project (MCEP), which aims to evaluate whether independent third-party certification of performance can be applied to the mining sector. The research and development exercise is led by the World Wide Fund for Nature with participation from a Working Group comprising representatives of mining companies, NGOs, trade unions, government agencies, financial and accounting organisations and research institutions. During the year, the project took further steps towards achieving its objective.*

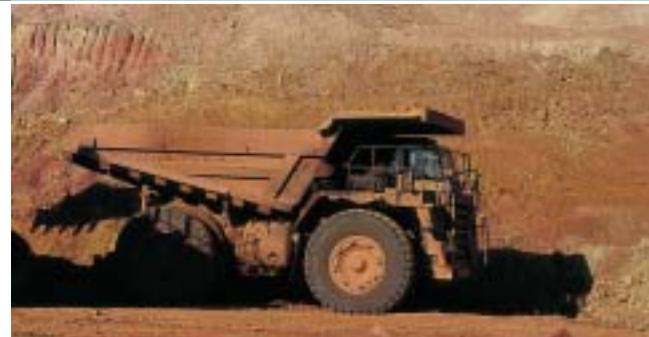
Independent third-party certification of environmental and social performance is proposed as a mechanism to enable mining companies to operate to an agreed level of on-ground environmental and social performance and to be able to credibly demonstrate this to stakeholders.

The project is facilitating:

- structured and focused debate among the participants on issues of environmental and social performance
- publication of a series of reports detailing the views of the participants on the issues and identifying points of agreement and conflict and any options identified for a certification system
- an assessment as to whether a system with broad stakeholder support for the independent certification of the on-ground performance of individual mining companies may be feasible.

The project Working Group initially developed a paper that introduced the MCEP, discussed some background concepts and proposed draft working principles and criteria for mine site certification. This paper was presented in November 2003 for stakeholder comment. Planning then commenced for a series of field trials to test the MCEP concepts, with an emphasis on research and learning.

The Working Group met again in May 2004 to finalise the principles and criteria, taking into account some of the stakeholder suggestions received. These principles and criteria will form the basis of an audit protocol to be developed by an independent auditor to guide the judgement of performance against the MCEP criteria. Preparation of the protocol is currently under way.



► *The MCEP ultimately hopes to enable differentiation of minerals operations on the basis of environmental and social performance*

Field trials at five mine sites around Australia commenced in July 2004. The trials are focusing on evaluating the applicability and relevance of the principles and criteria and on identifying any gaps. They are also evaluating methods for assessment of the principles and criteria and processes for local stakeholder engagement. The trials will be conducted through to December 2004.

Should this initial evaluation project succeed in developing a model that has the broad support of the Working Group participants, it is hoped that the project's scope will be broadened to include a wider debate with other members of the Australian and international community.

If successful, the broader international consensus could lead to the development of a global system for the independent certification of the on-ground environmental and social performance of individual mining companies. This would allow mining companies to credibly demonstrate their performance, thereby attaining the competitive advantage available to those able to prove their commitment to sustainable development.

## ESCONDIDA LAUNCHES PROGRAM TO HELP ITS GOODS AND SERVICES SUPPLIERS RAISE THEIR HSEC STANDARDS

*Minera Escondida Limitada (MEL) in northern Chile is the world's largest supplier of copper. BHP Billiton is the major shareholder and operator of the mine, which is located in the remote Atacama Desert in the Second Region, 170 kilometres south-east of the coastal city of Antofagasta. Copper concentrate is carried by a slurry pipeline to a company-built port at Coloso, 14 kilometres south of Antofagasta. MEL has recognised that its ability to operate is, in part, dependent on its health, safety, environment and community (HSEC) performance, as managed through highly demanding international standards, the scope of which covers goods and service suppliers. Since 2003, MEL has been promoting the organisation and participation of these companies in a Supplier Development Program aimed at helping them gain ISO 14001 certification.*

Having achieved ISO 14001 certification for the environmental management systems at all its operations, during 2003 MEL collaborated in a Supplier Development Program to support the certification of five of its service provider companies. As a result, the companies have developed and implemented their own environmental management systems, enhanced their productivity and improved control of associated environmental risks.

Following certification, Patricio Mora, General Manager of SALFA Arrendadora de Vehiculos Ltda, a supplier to MEL, said his company participated in the initiative because, 'We want to be leading actors rather than simple spectators in environmental issues'. Andrés Jensen, General Manager of Jensen Ingeniería Ltda, agreed, stating, 'If we can avoid harming the environment we ought to do it'. Noting that the benefits of the certification process extended to employee behaviour, Patricio Mora added, 'This enterprise has changed since certification; we are not the same any more. People are relating in a different way'.

### Supplier Development Program with an HSEC focus

Following the success of the initial collaboration, MEL has extended the initiative to its other supplier companies, through a second Supplier Development Program focusing on HSEC issues. The program, which is being supported and administered by the Chilean Production Development Corporation (CORFO) for the Second Region, encourages the companies to foster a Zero Harm culture, which is a priority for MEL. For that purpose, MEL, among other activities, is providing the participating companies with training to develop internal audit procedures, HSEC risk evaluation methodologies, instruction manuals and processes for coordinating with relevant government entities.



► ISO 14001 certification presentation. L to R: Gabriel Galleguillos, General Manager, G&A; Pablo Daud, Deputy Director, National Environment Commission; Jorge Molina, Governor, Second Region of Chile; Andrés Jensen, General Manager, Jensen Ingeniería Ltda; Bruce Turner, former President, Minera Escondida Ltda; Patricio Mora, General Manager, SALFA Arrendadora de Vehículos Ltda; Oscar Pina, General Manager, AMFFAL Ltda; Cristian Figueroa, Regional Director, CORFO; Rodolfo Kunstrmann, General Manager, Vulco

Currently, 36 of MEL's supplier companies are taking part in the Supplier Development Program with the objective of implementing a comprehensive HSEC management system based on the 15 BHP Billiton HSEC Management Standards. These cover areas such as Leadership and Accountability; Risk and Change Management; Planning, Goals and Targets; and Product Stewardship. Of the 36 companies, ten are small and medium-size companies and the remainder are large enterprises. Implementation of an HSEC management system will help these companies to prepare for ISO 14001/OHSAS 18001 certification during 2004.

The Supplier Development Program, developed through the joint efforts of CORFO, Corporación de Desarrollo Productivo de Antofagasta (Second Region – Chile) and MEL, is aimed at significantly improving HSEC risk control at the participating companies, which in turn will provide benefits for the local community and for MEL, particularly in helping to minimise HSEC incidents and liabilities.

## WE SUPPORT ESTABLISHMENT OF FIRST CENTRE FOR SUSTAINABILITY IN MINING AND INDUSTRY IN AFRICA

*A Centre for Sustainability in Mining and Industry has been established at the University of Witwatersrand (Wits) in Johannesburg, South Africa. Founded through a partnership between the university's School of Mining Engineering, BHP Billiton and two other mining companies, Lonmin and Anglogold, the Centre began operating on 1 April 2004. The Centre focuses on providing education and training in the fields of health, safety, environment and community (HSEC) in mining and related industries.*



► Great Hall, Witwatersrand University, Johannesburg, South Africa

The concept of establishing the Centre arose from the recommendations of the Global Mining Initiative and the international Mining, Minerals and Sustainable Development (MMSD) project, both of which stressed the importance of sustainable development in the mining industry.

The recommendations were reaffirmed at the 2002 World Summit for Sustainable Development held in Johannesburg.

The director of the Centre, Dr Daniel Limpitlaw, says the facility aspires to gain recognition as a global leader in providing education and training in the fields of health, safety, environment and community matters.

The Centre is located on the Wits campus and offers a range of courses conducted by academics at the university and other South African institutions, together with other respected academics and practitioners from around the world. The courses are enriched by incorporating experience from a variety of disciplines such as social sciences, medicine and natural science. The Centre will also access areas of excellence within South African industry. While the primary focus is on teaching, the scope of services at the Centre is expected to include relevant research.

The Centre can play a key role in the sustainability of the mining industry, because excellence in the area of HSEC is primarily achieved by investing in the competency development of management and the workforce. The courses offered fill a gap in this development process. There are no local university degrees in safety science or HSEC management and, until recently, business schools did not offer courses in health management or the management of HIV/AIDS.

The Department of Minerals and Energy Chief Inspector of Mines, May Hermanus, says the Centre will no doubt contribute to improvements in practice, policy, legislation and compliance as well as to the development of local expertise in dealing with sustainability issues in the mining industry.

Of the initial funding of about US\$140 000 a year for five years, BHP Billiton is contributing US\$120 000. André van der Berg, our Communities Adviser in South Africa, is chairman of the Centre's steering committee. He points out that the BHP Billiton Charter commits the Company to adopt good practice standards wherever we operate and the Centre plays an important role for stakeholders to share, learn and disseminate these lessons.

An industry journal, *Mining Mirror*, concurs, describing the establishment of the Centre as an environmental and safety management initiative that is unparalleled in the history of the local mining industry, in that, for the first time, competitors have joined hands in reconfiguring the mining landscape for the benefit of all stakeholders.

# RECOGNITION

## EMPLOYEE HSEC AWARDS

The BHP Billiton Employee HSEC Awards encourage and recognise those employees and their teams who openly embody the values expressed in our Charter and go beyond what is required in their day-to-day jobs to care for their fellow employees, the community and the environment.

Awards are presented in the four categories of Health, Safety, Environment and Community, together with an award for Individual Excellence, the recipient of which is personally selected by the Chair of the Judging Panel, The Rt Hon Sir Ninian Stephen (former Governor General of Australia). Each category of nominations is assessed by a separate judging panel for each category, comprising one representative from the Company and four experts from the non-government, government and academic sectors.

This year, more than 200 nominations were received from around the world. The judges selected a shortlist of finalists in each category. From these, the recipients of Excellence, Highly Commended and Merit awards were chosen. In recognition of their initiative, each Excellence award and Highly Commended award recipient will be presented with a specially designed sculpture, and each Merit award recipient will receive a certificate. The finalists each nominated a charity or not-for-profit organisation to share in their award. These organisations will receive a donation of US\$7500 (Excellence Award), US\$3750 (Highly Commended) or US\$1500 (Merit). The judges this year also awarded an Honorable Mention for Fundraising, in recognition of an outstanding series of campaigns to raise funds for local community projects. The recipient's nominated charity will receive a donation of US\$1500.

All the recipients are to be congratulated for the high standard of their contributions.

We wish to thank the judges who participated in the assessment of entries and acknowledge their contribution to the awards process.

The finalists in this year's awards are presented below. The award recipients, with a description of their projects, will be listed following their announcement at the HSEC Awards presentation to take place on 20 October 2004.

For details on award recipients refer to the following sections:

- [Individual Award](#)
- [Health Awards](#)
- [Safety Awards](#)
- [Environment Awards](#)
- [Community Awards](#).

## INDIVIDUAL EXCELLENCE AWARD SHORT-LISTED NOMINEES

To be personally selected by the Chair of the Judging Panel, The Rt Hon Sir Ninian Stephen

### **Pieter Boyd**

*Energy Coal, Zululand Anthracite Colliery, Kwa-Zulu Natal,  
South Africa*

### **Luci Davis**

*Energy Coal, New Mexico Coal, New Mexico, USA*

### **Charlie DeLuca**

*Diamonds and Specialty Products, EKATI Diamond Mine,  
Northwest Territories, Canada*

### **Akemi Fukushi Mandiola**

*Base Metals, Minera Escondida, Second Region, Chile*

### **Tom Raleigh**

*Carbon Steel Materials, Norwich Park Mine, Queensland,  
Australia*

## HEALTH AWARDS FINALISTS

### **José Flávio Alves** (team representative)

*Aluminium, Mineração Rio do Norte (MRN), Oriximiná, Brazil*

### **Colin Glover** (team representative)

*Petroleum, Liverpool Bay Oil and Gas Project, Wales,  
United Kingdom*

### **Dr Salvador Janne** (team representative)

*Energy Coal, Cerrejón Coal Company, La Guajira, Colombia*

### **Julie Kershaw** (team representative)

*Carbon Steel Materials, BHP Billiton Iron Ore – Nelson Point,  
Western Australia*

### **Humera Malik** (team representative)

*Petroleum, Zamzama Gas Project, Islamabad, Pakistan*

### **Mfundo Mngadi** (team representative)

*Aluminium, Hillside Aluminium Smelter, Kwa-Zulu Natal,  
South Africa*

### **Liz Sanderson** (team representative)

*Energy Coal, Mt Arthur Coal, New South Wales, Australia*

### **Phillip Sinel** (team representative)

*Petroleum, Griffin Venture FPSO, Western Australia*

### **Ben van Wyk** (team representative)

*Energy Coal, Khutala Colliery, Mpumalanga, South Africa*

### **Kellie Wallis** (team representative)

*Carbon Steel Materials, Goonyella Riverside Mine, Queensland,  
Australia*

## SAFETY AWARDS FINALISTS

**Jonathan Deegan** (team representative)  
*Petroleum, Worldwide Drilling, Texas, USA*

**Robert Guilbault** (team representative)  
*Aluminium, Hillside Aluminium, Kwa-Zulu Natal, South Africa*

**Tony Kneuker** (team representative)  
*Aluminium, Worsley Alumina, Western Australia*

**Julie MacDonald** (team representative)  
*Carbon Steel Materials, Goonyella Riverside Mine, Queensland, Australia*

**Dr Jorge Medina** (team representative)  
*Base Metals, Tintaya Copper Mine, Arequipa, Peru*

**Edward Routledge** (team representative)  
*Diamonds and Specialty Products, Global Exploration, British Columbia, Canada*

**Gary Shields**  
*Carbon Steel Materials, Goonyella Riverside Mine, Queensland, Australia*

**David Trenberth** (team representative)  
*Carbon Steel Materials, Goonyella Riverside Mine, Queensland, Australia*

**Lydia van der Merwe** (team representative)  
*Energy Coal, Rietspruit Plant, Mpumalanga, South Africa*

**Ben van Wyk** (team representative)  
*Energy Coal, Khutala Colliery, Mpumalanga, South Africa*

## ENVIRONMENT AWARDS FINALISTS

**Kerry Abbott** (team representative)  
*Aluminium, Boddington Bauxite Mine, Western Australia*

**Antônio Barros** (team representative)  
*Aluminium, Mineração Rio do Norte (MRN), Para, Brazil*

**Gary Brassington** (team representative)  
*Carbon Steel Materials, Illawarra Coal, New South Wales, Australia*

**Gordon Bryant** (team representative)  
*Petroleum, Worldwide Drilling Group, Louisiana, USA*

**Eduardo Arenas Cortes** (team representative)  
*Base Metals, Minera Escondida, Second Region, Chile*

**Dr Stephen Grocott** (team representative)  
*Aluminium, Worsley Alumina, Western Australia*

**Ramón Gualdrón** (team representative)  
*Energy Coal, Cerrejón, La Guajira, Colombia*

**Carlyle Kalloo** (team representative)  
*Petroleum, Trinidad and Tobago Asset, Trinidad, West Indies*

**Bob Kotmel** (team representative)  
*Carbon Steel Materials, BMA Coal – Hay Point Services, Queensland, Australia*

**Ricardo Sarmento** (team representative)  
*Aluminium, Mineração Rio do Norte, Para, Brazil*

## COMMUNITY AWARDS FINALISTS

**José Flávio Alves** (team representative)  
*Aluminium, Mineração Rio do Norte (MRN), Oriximiná, Brazil*

**Ivete Arão** (team representative)  
*Aluminium, Mozal Community Development Trust, Maputo Province, Mozambique*

**Eduardo Becerra** (team representative)  
*Base Metals, Minera Escondida, Second Region, Chile*

**Philip Hechter** (team representative)  
*Carbon Steel Materials, Metalloys, Meyerton, South Africa*

**Lulu Khumalo** (team representative)  
*Aluminium, Hillside and Bayside Aluminium Smelters, Kwa-Zulu Natal, South Africa*

**Sean Milfull** (team representative)  
*Carbon Steel Materials, Goonyella Riverside Mine, Queensland, Australia*

**Earl Moore** (team representative)  
*Shared Business Services, Houston Office, USA*  
*Special Award for outstanding fundraising effort*

**Sheldon Narine** (team representative)  
*Petroleum, Trinidad and Tobago Asset, Trinidad, West Indies*

**Lucio Rios** (team representative)  
*Base Metals, Tintaya, Cusco, Peru*

**Gastón Moya Rodríguez** (team representative)  
*Base Metals, Minera Cerro Colorado, Iquique, Chile*

**Louis Warren** (team representative)  
*Carbon Steel Materials, BHP Billiton Iron Ore, Western Australia*

## EXTERNAL RECOGNITION

The table below summarises the external recognition we have received at a Corporate level over the reporting period 2003/04. It should be noted that, in addition, many of our operations received recognition for excellence at a local or regional level.

RECOGNITION	DESCRIPTION
Global Business Coalition on HIV/AIDS award – Business Excellence for Innovation	The Global Business Coalition (GBC) on HIV/AIDS is the pre-eminent business organisation leading the business fight against HIV/AIDS. Over 130 leading international companies are members of the GBC and are committed to harnessing the power of the international business community to fight the AIDS pandemic. The award was judged from over 40 global company programs.
Association of Certified Chartered Accountants (Australia and New Zealand) award for Best Environment Report	The awards aim to: <ul style="list-style-type: none"> <li>• reward and recognise organisations that report and disclose environmental, social or full sustainability information</li> <li>• encourage the uptake of environmental, social and sustainability reporting</li> <li>• raise awareness about corporate transparency.</li> </ul>
Australasian Reporting Awards – Best Occupational Health and Safety Report. The Company was also listed as a finalist in the Environment category.	The Australasian Reporting Awards have been held continuously since they were first introduced in 1951 to encourage organisations to strive for excellence in reporting to their stakeholders.
Special Award for Impact on a Community in the Australian Prime Minister's 2003 Awards for Excellence in Community Business Partnerships	The award was presented for the Company's work nationally with 25 indigenous, environmental, health and cultural organisations. Our programs' achievements include: <ul style="list-style-type: none"> <li>• 100 wetlands revived</li> <li>• 15 000 people isolated by distance provided with Internet and email skills</li> <li>• 60 leaders of not-for-profit organisations trained in volunteer management</li> <li>• 1200 financially disadvantaged people received educational support</li> <li>• young people in eight indigenous communities given professional and financial support to address community issues</li> <li>• 40 indigenous people with leadership potential have learned new skills and developed new networks.</li> </ul>

# BASIS OF REPORTING



Corporate Sustainable Solutions



## Assurance Statement

URS Australia Pty Ltd (URS) was commissioned by BHP Billiton to provide an independent review of their 2004 Health Safety Environment and Community Report ("Report"). The Report covers the global operations of BHP Billiton for sites over which it has operational control. The Report relates to the 12 months to 30 June 2004.

### Objectives

The objectives of the independent review were to provide an opinion on:

- a) data accuracy, capture processes and controls
- b) the corporate processes and mechanisms in place for the preparation and delivery of the Report
- c) adequacy and relevance of information contained in the Report
- d) compliance of the Report against the Global Reporting Initiative (GRI) Sustainability Reporting Guidelines 2002.

### Scope of Work

URS reviewed BHP Billiton sites' HSEC performance for the period ending 30 June 2004. We addressed this by:

- ◆ visits to 10 sites located in North America, South America, Australia and South Africa as a representative sample of commodities and regions . The sites visited included Escondida, Ferrometals, Gulf of Mexico, Mineral Exploration, MMC Nelspruit, Mount Arthur, Mount Whaleback, Optimum, Selbaie and Worsley. Please refer to [BHP Billiton Locations](#) for customer sector and commodity details for these sites
- ◆ review of case studies contained in the Report pertaining to the sites visited by URS
- ◆ review of the understanding by operations of BHP Billiton's Sustainability Challenges
- ◆ interviews with relevant BHP Billiton and contractor personnel.

URS reviewed the corporate processes and mechanisms in place for the preparation and delivery of the 2004 HSEC Report, in accordance with the AA1000 Assurance Standard. We addressed this by:

- ◆ review of data collation, transcription and reporting processes at corporate headquarters in Melbourne
- ◆ cross-checking of a selection of reported data from site questionnaires for approximately 30% of sites
- ◆ review of data trails from site retrieval to final report for selected parameters
- ◆ review of report drafts and the final Report for significant anomalies.

Where we have reviewed data and information it has been assessed on the basis of the three AA 1000 principles of completeness, materiality and responsiveness.

URS assessed the 2004 HSEC Report against the GRI Sustainability Reporting Guidelines 2002 and to confirm that the Report has been prepared in accordance with these Guidelines.

Whilst the URS scope of work did not allow detailed review of all data sets contained in the Report, it was designed to provide a representative sample. However, the scope specifically excluded verification of data relating to site ownership, commodity production and group-wide financial information.

Our review process has also referenced internally developed [URS Assurance Principles](#) for such work.

### URS Independence and Impartiality

The data and information in the Report reviewed by URS does not include any work with which URS has had substantial involvement. URS has not been involved in the design or compilation of the Report or decisions regarding its content (except by way of this review). URS, its parent companies and related companies (collectively the "URS Group") have previously been engaged by BHP Billiton and its subsidiary companies and anticipates further engagements in relation to the provision of consultancy advice.

### DISCLAIMER

It should be noted that the veracity of the information summarised in the Report is dependent upon the uniformity, consistency and thoroughness of site/operational staff reporting all relevant matters. Whilst URS identified a good appreciation of BHP Billiton's Sustainability Challenges and site specific initiatives at site level, URS did not and can not determine precisely the uniformity, consistency and thoroughness of reporting. URS has prepared this Statement for the use of BHP Billiton in accordance with the usual care and thoroughness of the consulting profession. The opinions provided are based on generally accepted practices and standards at the time they were prepared. No other warranty, expressed or implied, is made as to the professional advice included in this Statement. To the extent permitted by law, URS excludes all liability that may arise from the professional advice contained in this Statement. This Statement must be read in conjunction with the supporting document prepared by URS. No responsibility is accepted for use of any part or all of this Statement in any other context or for any other purpose or by third parties. No third party is entitled to rely on any matter contained in this Statement without URS's prior consent in writing. Neither URS's name nor the material submitted in this Statement may be included in any prospectus or use in offering or representations in connection with the sale of securities or participation interest to the public without URS's prior consent in writing. URS owes no duty of performance to any party other than our contracted client.

The average annual value of work carried out by URS globally on behalf of BHP Billiton over the 3 year period to June 2004 is approximately US\$ 1.3 million per year. This represents less than 0.1% of annual URS gross revenue based on our 2003 reporting year.

URS does not make any direct investment in any member of the BHP Billiton Group or their business interests and has no commercial interests or its securities other than as a service provider to BHP Billiton.

All team members were deemed competent in accordance with the URS' Assurance Principles, and their expertise and qualifications have been communicated to BHP Billiton.

### Findings – Overall

Overall URS is of the opinion that the Report fairly represents the health, safety, environment and community performance of BHP Billiton within the context of our review.

URS is also of the opinion that the Report has been prepared in accordance with Part C of the GRI Sustainability Reporting Guidelines 2002.

In conjunction with this Statement, URS will be providing a supporting document to BHP Billiton that provides details of the corporate data review and the site reviews.

In reviewing information prepared for the Report, URS has identified a number of areas that BHP Billiton should consider as improvements to future Reports. These include greater clarity and understanding of definitions relating to some health and environment data; an increased appreciation at site level of the HSEC questionnaire's role and importance in the development of the Report; and reduction, where possible, of manual transcription processes at corporate level.

### Findings – Materiality

During these reviews some inconsistencies were noted in data results affecting less than 1% of data reviewed. These inconsistencies were corrected by BHP Billiton prior to publication of the Report. We did not identify any inconsistencies that would have a material impact on items contained in the Report.

### Findings – Completeness

Based on our review URS believes that BHP Billiton has an adequate process for identifying issues, impacts and stakeholder views considering the size and complexity of the organisation. However, we have identified some areas for improvement to data management. During our review we have seen evidence of the ongoing introduction and implementation of improved company wide systems, standards and policies to enhance consistency across the organisation.

### Findings – Responsiveness

During our review process we observed a good appreciation of BHP Billiton's Sustainability Challenges and site specific initiatives at both corporate and site levels.

Based on our scope of work we conclude that the organisation has an effective process for responding to significant health, safety, environmental and community issues and for stakeholder engagement.

### Disclaimer

See below.

18 August 2004

URS Australia Pty Ltd

## URS ASSURANCE STATEMENT continued



Corporate Sustainable Solutions



## Assurance Principles

These principles have been adopted to:

- provide a consistent approach to public report verification/assurance projects throughout the region
- maintain the independence and integrity of the verification/assurance process.

The following activities will be regarded as a conflict to the verification/assurance process:

- Participation in the design, development or implementation of the client reporting and monitoring systems.
- Review of work and/or data that has been substantially prepared by URS or is fundamentally based on URS data or design.
- Participation in an active creative manner in the development of the client public report, including:
  - participating in the decision making process regarding its production/preparation
  - giving specific advice towards its development and implementation that does not directly relate to the verification/assurance or clarification resulting from the verification/assurance process, e.g., advice on layout and content
  - preparing text (other than the verification/assurance statement or GRI content reviews) for inclusion in it.
- Promotion of other URS services or activities.

All verification/assurance projects will:

- prior to commencement have review carried out through the standard URS Conflict of Interest procedure to ensure an appropriate level of impartiality
- define a scope of the verification/assurance (including limitations and qualifications) with the client at the start of the project
- document all data reviews and site visit interviews through a project specific protocol
- provide a supporting document to the client as back-up to the verification/assurance statement; this may take the form of a Verification/Assurance Report, potentially made available by the client to the public.

The URS verification/assurance team will:

- comprise individuals who are experienced in the verification/assurance of public reports and accredited by the Asia Pacific Peer Review Panel
- be led by an experienced professional approved by the Asia Pacific Peer Review Panel
- comprise URS employees who have completed the standard URS Conflict of Interest training and contractors who have been counselled on URS Conflict of Interest principles; as such the URS team will be able to demonstrate a level of impartiality with respect to the organisation being reviewed
- be able to add value during assessments by identifying opportunities for improvement to future reports
- explain the verification/assurance findings without giving prescriptive advice or consultancy
- keep the client informed throughout the verification/assurance process, in particular through introduction and close-out meetings during site inspections.

The verification/assurance statement will:

- only be finalised after review of the final draft of the public report
- be peer reviewed by an independent member of the Asia Pacific Peer Review Panel prior to release
- include a description of the scope of the verification/assurance process including areas or subjects that have been excluded
- include a description of the independence from the data being verified
- confirm that URS has no conflict of interest in carrying out the verification/assurance work, including a declaration of the extent of other work carried out for the client including the financial value of that work for the previous three years
- include the verifier's/assurance provider's findings including an opinion on the accuracy, completeness, reliability and balance of the report as required by the URS brief
- be verification/assurance standards referenced
- include the date of the verification/assurance, which should be post the reporting period.

## DATA COLLECTION AND BASIS

Our aim is to provide a balanced and reasonable presentation of the Company's economic, health, safety, environmental and community performance.

The statistics in this Report cover the facilities owned and operated by BHP Billiton during the 12-month period to 30 June 2004. Data are reported on a 100 per cent basis for facilities operated by BHP Billiton irrespective of our equity share, unless otherwise stated. Joint venture projects where we are not the operator are excluded unless expressly stated.

The Report identifies where information has been provided to facilitate year-to-year comparison of our performance without BHP Steel, which commenced trading on the Australian Stock Exchange as a separate listed company in July 2002.

All dollar figures in the Report are US unless otherwise indicated.

Over the reporting period, a number of changes have been introduced to improve the method of safety data collection and storage and clarify the definition of reporting terms. This has had an impact both on current and historical safety data. While improving the robustness and auditability of safety data, this has had a slight impact on the figures presented. Please refer to the section on our [HSEC reporting system](#) in the Safety Performance Summary for further information on this adjustment.

We are continuously improving our reporting systems and endeavour to present useful and accurate information. While every effort has been made to ensure the accuracy of the information, including the figures, in this Report, the data are derived from our many operations around the world and, in some cases, grouped data are not strictly comparable.

Anyone seeking to rely on information in this Report or seeking to draw detailed conclusions from the data should contact the Company for verification and assistance.

## GLOSSARY OF TERMS

Assurance	An evaluation method that uses a specified set of principles and standards to assess the quality of a Report and the underlying systems, processes and competencies that underpin performance as specified in the Report. Assurance includes the communication of the results of this evaluation to provide credibility to the subject matter for its users.
BHP Billiton	The Dual Listed Company comprising BHP Billiton Limited and BHP Billiton Plc and their subsidiary companies.
BHP Billiton Group	The whole BHP Billiton organisation.
Biodiversity	A diversity of species of plants and animals.
The Company	BHP Billiton
Charter	A set of clearly defined values applicable to each employee of the BHP Billiton Group.
CIFR	Classified Injury Frequency Rate – the number of classified injuries per million workhours (a classified injury is any workplace injury that has resulted in the person not returning to their unrestricted normal duties after the day on which the injury was received).
Controlled site	A site owned and operated wholly by BHP Billiton or managed by the Company in a joint venture operation.
Controlled activities	These are work-related activities where BHP Billiton is the operator and can set HSEC standards and directly supervise and enforce their application. Incidents arising from controlled activities are reported, investigated and included in HSEC performance measures in accordance with BHP Billiton requirements.
Customer Sector Group (CSG)	A primary operating division of the Company that groups together commodities for a common customer sector.
EWRM	Enterprise-Wide Risk Management – a structured and consistent approach that aligns strategy, processes, people, technology and knowledge with the purpose of evaluating and managing the uncertainties the Company faces to create shareholder value.
Extractive Industries Transparency Initiative	A multi-stakeholder initiative launched at the World Summit on Sustainable Development in Johannesburg, September 2002. Its aim is to increase transparency over payments and revenues to governments by companies in the extractive industries.
Fatal Risk Control Protocols	A set of regulations, mandatory at all our sites and operations, that prescribe requirements applicable to identified key risk areas with a view to eliminating fatalities from our operations.
Forum on Corporate Responsibility (FCR)	A forum that brings together representatives of our senior management team, the leaders of several key non-government organisations and community opinion leaders to discuss and debate social and environmental matters relevant to the Company.
Greenhouse gases (GHG)	Gaseous emissions to the atmosphere that can contribute to global warming.
Global Reporting Initiative (GRI)	A multi-stakeholder process developing and disseminating globally applicable sustainability reporting guidelines for organisations to report on the economic, environmental and social dimensions of their activities, products and services.
Guide to Business Conduct	A set of guidelines, published in eight languages, that provide all our employees and contractors with direction and advice on carrying out business and interacting with governments, communities and business partners.
Global Ethics Panel	A panel of representatives from our Corporate functions and businesses that reviews all business conduct cases raised throughout the Company.
HIV/AIDS	AIDS is a disease, caused by the human immunodeficiency virus (HIV), that destroys the body's white cells, causing illness and, ultimately, death.
HSE Committee	Health, Safety and Environment Committee – a subcommittee of the Board and the Company's peak HSE governance body.
HSEC	Health, Safety, Environment and Community
HSEC Management Standards	A set of 15 management standards, mandatory at all our sites and operations, that form the basis for the development and application of HSEC management systems at all levels of the Company.

## GLOSSARY OF TERMS continued

HSEC Policy	The Company's primary statement of principles applicable to health, safety, environment and community matters. The Policy is implemented via the HSEC Management Standards and Protocols.
HSEC targets	A set of goals and requirements specified for our sites and operations to achieve, covering management systems, health, safety, environment and community performance measures. A scorecard on performance against the targets is included in our HSEC Report.
Indigenous	Originating in a particular region or country.
ISO 9000	International standard for quality management. It is intended to help an organisation to enhance customer satisfaction by meeting customer and applicable regulatory requirements and to improve its performance in this regard.
ISO 14001	International standard for environmental management. It is intended to help an organisation to minimise harmful effects on the environment caused by its activities and to improve its environmental performance.
IUCN protected area categories	The World Conservation Union (IUCN) defines a protected area as, 'an area of land and/or sea especially dedicated to the protection and maintenance of biological diversity, and of natural and associated cultural resources, and managed through legal or other effective means'. IUCN categorises protected areas by management objective and has identified six distinct categories of protected areas. (See <a href="http://www.iucn.org">www.iucn.org</a> )
Licence to operate	Securing and maintaining the trust and confidence of a community and regulators in order to set up and conduct business.
Life Cycle Assessment/Analysis	A detailed examination of the full life cycle of a product, process, system or function.
Monitored activities	These are activities where BHP Billiton can influence but cannot set HSEC standards and cannot directly supervise and enforce their application. Monitored activities include all situations where BHP Billiton is involved, excluding controlled activities. Incidents arising from monitored activities are, where possible, reported and investigated in accordance with Company requirements but are not included in BHP Billiton HSEC performance measures.
MMSD	Mining, Minerals and Sustainable Development study of the global mining industry's current and potential contribution to sustainable development.
MSDS	Material safety data sheet – prepared for each of our products and which identifies potential health, safety and environmental aspects associated with their use.
NGO	Non-government organisation
OHSAS 18001	An international occupational health and safety management system specification. It is intended to help an organisation to control occupational health and safety risks.
PPE	Personal protective equipment
Precautionary approach	The principle emerged from Article 15 of the Rio Principles, which states, 'In order to protect the environment, the precautionary approach shall be widely applied by States according to their capabilities. Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation'. (See <a href="http://www.unep.org/unep/rio.htm">www.unep.org/unep/rio.htm</a> )
Product stewardship	Measures taken to eliminate, offset or minimise any adverse consequences of a product and to maximise its benefits – applied through the product's life cycle including mining, processing, transporting, treating, manufacturing, storing, using and disposal or recycling.
Risk	Exposure to the consequences of uncertainty – risk has two dimensions, the likelihood of something happening and the consequences if it were to happen.
SA 8000	An international standard for socially responsible employment practices, covering child labour, forced labour, health and safety, freedom of association and collective bargaining, discrimination, disciplinary practices, working hours, compensation and management systems.
Significant incident	An environmental incident classified as level 3 or above or a safety incident classified 4 or above in the <a href="#">BHP Billiton Consequence Severity Table</a> .

## GLOSSARY OF TERMS continued

SRI	Socially Responsible Investment – a sector of the financial community that takes an organisation's environmental and social performance into account when judging its investment rating.
Stakeholders	People and organisations who are positively or adversely impacted by our operations, those who have an interest in what we do and those who have an influence on what we do.
Sustainable development	Development that meets the needs of the present without compromising the ability of future generations to meet their own needs – as defined by the World Commission on Environment and Development (Brundtland Commission) 1987.
Tollgate	A key decision point in a process.
UN	United Nations
WRI-WBCSD Greenhouse Gas Protocol	A measurement protocol developed jointly by the World Resources Institute and World Business Council Greenhouse Gas Protocol for Sustainable Development. (See <a href="http://www.ghgprotocol.org">www.ghgprotocol.org</a> )
Zero Harm	Our aspirational goal, expressed in our HSEC Policy, that our activities will cause no harm to people or the environment.

## FEEDBACK FORM

WE VALUE YOUR FEEDBACK. PLEASE LET US KNOW WHAT YOU THINK, SO WE CAN CONTINUE TO IMPROVE THE WAY WE INFORM YOU ABOUT OUR HSEC PERFORMANCE.

**1. I am interested in BHP Billiton's HSEC performance as an:**

(Please tick)

- Employee
- Shareholder
- Customer
- Member of the same industry
- Regulatory body
- Media representative
- Community or environmental group
- Financial analyst
- Socially Responsible Investment (SRI) analyst
- Resident near a BHP Billiton operation
- Academic/Student
- Other, please specify

**2. Please rank the three sections you found most useful.**

(1 = best, 2 = second, 3 = third)

- \_\_\_\_\_ About this Report
- \_\_\_\_\_ Performance at a Glance
- \_\_\_\_\_ Sustainability at BHP Billiton
- \_\_\_\_\_ Performance Summaries
- \_\_\_\_\_ Policy in Action – Case Studies
- \_\_\_\_\_ Recognition
- \_\_\_\_\_ Feedback, Downloads & Directory
- \_\_\_\_\_ GRI Navigator

**3. Please indicate your view of the following features of the Report.** (Please tick your choice)

- a. Openness and honesty
  - very good
  - good
  - fair
  - poor
  - very poor
- b. Layout and design
  - very good
  - good
  - fair
  - poor
  - very poor
- c. Writing style
  - very good
  - good
  - fair
  - poor
  - very poor
- d. Amount of information provided
  - very good
  - good
  - fair
  - poor
  - very poor
- e. Verification Statement
  - very good
  - good
  - fair
  - poor
  - very poor
- f. Overall rating
  - very good
  - good
  - fair
  - poor
  - very poor

**4. If you could change something about this Report, what would you change?** (Please tick)

- More data
- Less data
- More case studies
- More photos
- More health emphasis
- More safety emphasis
- More environmental emphasis
- More community emphasis
- Shorter report
- Other, please specify

**5. In your opinion how could BHP Billiton improve its health, safety, environmental and/or community performance?**

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**6. Any other comments?**

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Thank you for your feedback.

Please email this form to: [hsec@bhpbilliton.com](mailto:hsec@bhpbilliton.com)

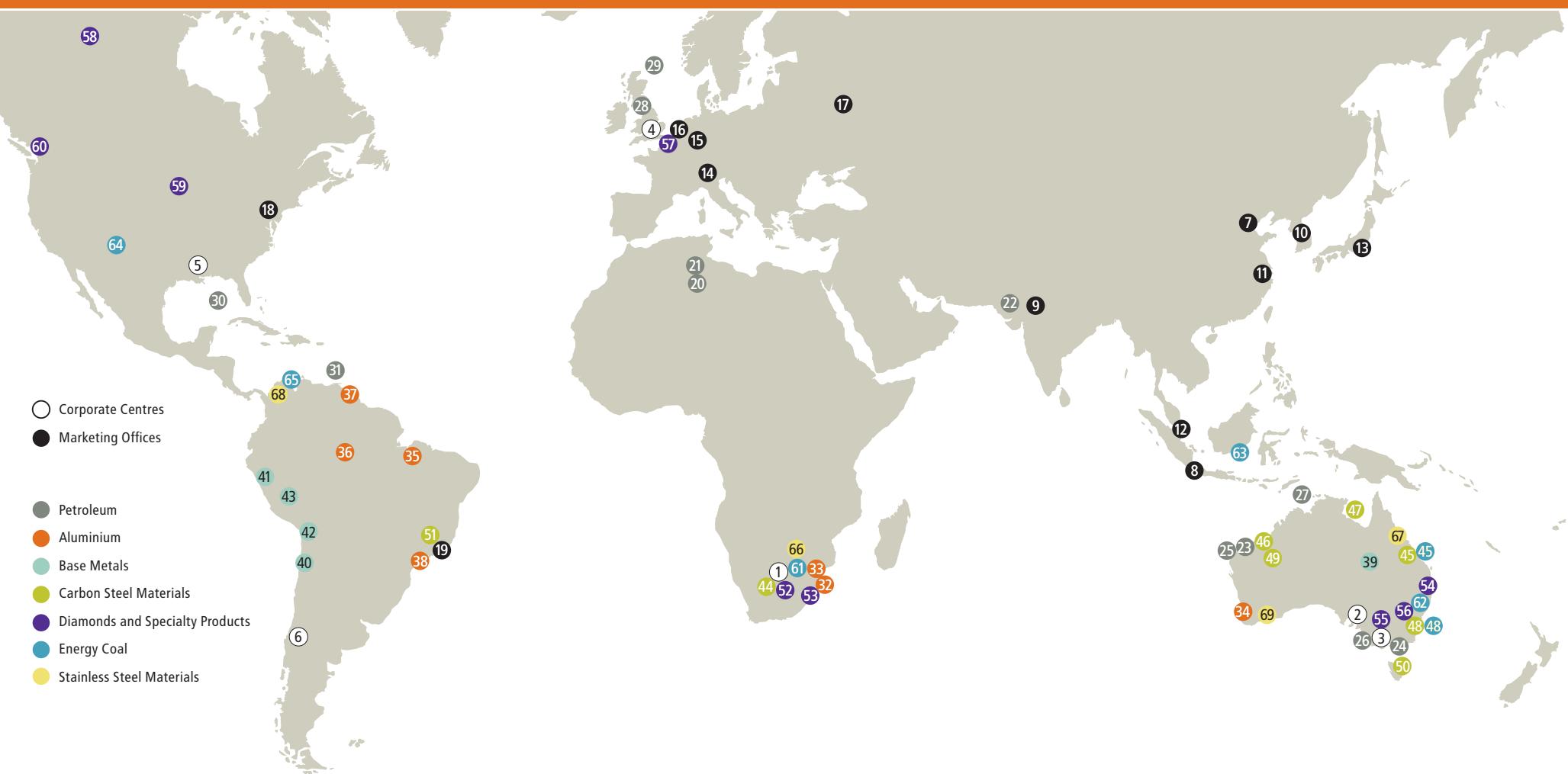
Or fax to: +61 3 9609 3015

Or post to: Reply Paid  
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## OUR RESOURCES AT WORK

Customer Sector Group	Petroleum	Aluminium	Base Metals						Carbon Steel Materials			Diamonds and Specialty Products		Energy Coal	Stainless Steel Materials		
	Commodity	Oil and Natural Gas	Aluminium	Copper	Gold	Zinc	Silver	Lead	Manganese	Iron Ore	Coking Coal	Diamonds	Titanium	Thermal Coal	Chrome	Nickel	Cobalt
	Energy	Fuel, heating, electricity generation	High-tension power lines, wires and cables	Wire and cables, electrical wiring in buildings, electrical generators and motors		Zinc carbon batteries		Lead-acid storage batteries (car batteries), remote area power storage	Dry cell batteries					Electricity generation, heating		Electricity generation turbines, batteries	Rechargeable lithium batteries for mobile telephones and laptop computers, jet engine turbines
	Construction	Carpets, paints, plastics	Door and window frames, wall cladding, roofing, awnings	Electrical wiring, plumbing pipes and tanks, roofing, light fixtures, treated timbers	Gold leaf for decoration	Roofing, fences, doors, handles, paints, plumbing, nuts and bolts	Solder	Roofing, plumbing, soundproofing, stained glass windows		Steelmaking, buildings, bridges, tools, cranes		Diamond grit and powder impregnated rock drilling bits, masonry drilling, machine tool tips and cutting discs	Pigment for paints, fabric, plastics, paper		Treated timbers, street furniture, building cladding, stainless steel	Street furniture, building cladding, stainless steel	Tyre adhesives, magnets, carbide cutting tools
	Industry	Electricity generation, transport, furnace fuel	Propellers, body sheet (for ships, aeroplanes, vehicles), gearboxes, motor parts, wires, cables, packaging	Wires and cables, electrical wiring in buildings and vehicles, robotics, airconditioning and refrigeration units, scientific instruments	Electronics for computers, industrial equipment, aerospace technology, tinted-glass windows	Galvanising and corrosion protection, car bodies, carburettors, tyres	Photographic paper and film, medicines, super conductors	Lead foil, radiation shields, toxic waste storage containers, dyes, solder	Steel alloys	Steelmaking, transport equipment, motor vehicles, farm machinery	Steelmaking	Polishing compounds in fine optical surfaces, jewel bearings, wire drawing dies	Titanium metal for aerospace equipment, engines, abrasives, ceramics, robotics	Electricity generation, heating, cement	Pigments for paints, food and beverage equipment, vehicles	Computer hard disks, surgical implants and implants, jet engines, food and beverage equipment, pharmaceutical equipment, vehicles, metal hardening	Paints, enamels, glazes
	Household appliances	Plastic components, packaging	Components for TV sets, radios, refrigerators and airconditioners	Electrical appliances, telephone cables, microwave equipment, radio and TV sets	Electronic technology	Door handles and other household components, brass fittings		Electronic and electrical appliances such as radios and TV sets (soldered connections)		Refrigerators, washing machines, ovens		Knife 'sharpeners'	Paper products, computer and TV screens		Electrical appliances	Colour TV tubes, kitchen sinks, whitegoods	Videotape coatings, heating elements on electric stoves
	Personal use	Electricity, fuel for vehicles, fuel for cooking and heating, clothing fabric, plastic toys, pens	Beverage cans, bottle tops, foil wrap, foil semi-rigid containers, kettles and saucepans, cutlery, tennis racquets, softball bats, indoor and outdoor furniture, bicycles, vehicles	Ornaments, telephones, cooking utensils, home heating systems, decorative applications, coins	Jewellery, watches, currency, dentistry, decoration for dinnerware and ornaments	Medications, zinc cream, TV sets, computer parts, toys	Jewellery, watches, dinnerware and ornaments, mirrors, cutlery, currency, medallions	Computers, leadlight windows, glass in TV and computer screens for radiation protection	Glass, ceramics, dry cell batteries	Food cans, vehicles, tools, cutlery, jewellery, watches		Jewellery	Cosmetics and sunscreens, fabric, clothing, jewellery, heart pacemakers, hip replacements, food colouring	Electricity, fuel for cooking and heating	Bathroom and kitchen fittings	Kitchen utensils, coins, mobile telephones, bathroom and kitchen fittings and fixtures	

## BHP BILLITON LOCATIONS



### CORPORATE CENTRES

Ref	Continent	Location
1	Africa	Johannesburg
2	Australia	Adelaide
3	Australia	Melbourne (Global Headquarters)
4	Europe	London
5	North America	Houston
6	South America	Santiago

### MARKETING OFFICES

Ref	Continent	Location
7	Asia	Beijing
8	Asia	Jakarta
9	Asia	New Delhi
10	Asia	Seoul
11	Asia	Shanghai
12	Asia	Singapore
13	Asia	Tokyo
14	Europe	Baar
15	Europe	Essen
16	Europe	The Hague
17	Europe	Moscow
18	North America	Pittsburgh
19	South America	Rio de Janeiro

### PETROLEUM

Ref	Continent	Site/Asset	Description	Ownership
20	Africa	Ohanet, Algeria	Joint operator with Sonatrach of wet gas development	45%
21	Africa	ROD Integrated Development, Algeria	Onshore oil project	36.04%
22	Asia	Zamzama, Pakistan	Operator of onshore gas development	38.5%
23	Australia	North West Shelf, Australia	One of Australia's largest resource projects, producing liquids, LNG and domestic gas	8.33–16.67%
24	Australia	Bass Strait, Australia	The Bass Strait operations produce oil, condensate, LPG, natural gas and ethane	50%
25	Australia	Griffin, Australia	Operator of oil and gas project offshore WA	45%
26	Australia	Minerva, Australia	Gas field under development in the Otway Basin	90%
27	Australia	Laminaria/Corallina, Australia	Oil production in the Timor Sea	25–32.6%
28	Europe	Liverpool Bay, UK	Operator of oil and gas development in the Irish Sea	46.1%
29	Europe	Bruce/Keith, UK	Oil and gas production in the UK North Sea	16–31.83%
30	North America	Gulf of Mexico, US	Interests in five producing assets, the Mad Dog and Atlantis developments, and exploration interests	4.95–100%
31	South America	Trinidad and Tobago	Operator of the Angostura oil field, under development	45%
–	Various	Exploration	Exploration interests in South Africa, Brunei, Brazil, Australia, US, Trinidad and the UK	–

### ALUMINIUM

Ref	Continent	Site/Asset	Description	Ownership
32	Africa	Hillside/Bayside, South Africa	Two aluminium smelters	100%
33	Africa	Mozal, Mozambique	Aluminium smelter	47.1%
34	Australia	Worsley, Australia	Integrated alumina refinery/bauxite mine	86%
35	South America	Alumar, Brazil	Alumina refinery and aluminium smelter	36–46.3%
36	South America	MRN, Brazil	Bauxite mine	14.8%
37	South America	Paranam, Suriname	Alumina refinery and bauxite mines	45%
38	South America	Valesul Aluminio, Brazil	Aluminium smelter	45.5%

### BASE METALS

Ref	Continent	Site/Asset	Description	Ownership
39	Australia	Cannington, Australia	Silver, lead and zinc mine in north-west Queensland	100%
40	South America	Escondida, Chile	The world's largest copper mine, located in northern Chile	57.5%
41	South America	Antamina, Peru	Large copper-zinc mine	33.75%
42	South America	Cerro Colorado, Chile	Copper mine in northern Chile, producing cathode copper through a SX-EW leach operation	100%
43	South America	Tintaya, Peru	Produces copper concentrate and copper cathode within the 'Skarn Belt' of south-eastern Peru	99.95%

### CARBON STEEL MATERIALS

Ref	Continent	Site/Asset	Description	Ownership
44	Africa	Samancor Manganese, South Africa	Integrated producer of manganese alloys and ferroalloys	60%
45	Australia	Queensland Coal, Australia	World's largest supplier of high-quality metallurgical coal for steel production	50–80%
46	Australia	Boodarie Iron, Australia	Hot briquetted iron plant	100%
47	Australia	GEMCO, Australia	Producer of manganese ore (part of Samancor)	60%
48	Australia	Illawarra Coal, Australia	Four underground coal mines	100%
49	Australia	WA Iron Ore, Australia	The Pilbara iron ore mines rank among the world's best long-life iron ore assets	85–100%
50	Australia	TEMCO, Australia	Producer of manganese alloys (part of Samancor)	60%
51	South America	Samarco, Brazil	An efficient low-cost producer of iron ore pellets	50%

### DIAMONDS AND SPECIALTY PRODUCTS

Ref	Continent	Site/Asset	Description	Ownership
52	Africa	Johannesburg, South Africa	Technology Centre	100%
53	Africa	Richards Bay Minerals, South Africa	World's largest producer of titanium slag	50%
54	Australia	Brisbane, Australia	Mineral Exploration Office	–
55	Australia	Melbourne, Australia	Mineral Exploration Office	–
56	Australia	Newcastle, Australia	Technology Centre	100%
57	Europe	Antwerp, Belgium	Diamonds marketing	100%
58	North America	EKATI, Canada	Diamond mine in the Northwest Territories of Canada	80%
59	North America	Integris Metals, US	Metals distribution	50%
60	North America	Vancouver, Canada	Mineral Exploration Office	–

### ENERGY COAL

Ref	Continent	Site/Asset	Description	Ownership
45	Australia	Queensland Coal, Australia	Marketing agent for energy coal output	–
48	Australia	Illawarra Coal, Australia	Marketing agent for energy coal output	–
61	Africa	Ingwe, South Africa	Largest coal producer in South Africa	100%
62	Australia	Hunter Valley Energy Coal, Australia	New 12mtpa mine (Mt Arthur Coal) ramping up	100%
63	Asia	PT Arutmin, Indonesia	Exclusive agent for coal output	–
64	North America	New Mexico Coal, US	Mine-mouth operations	100%
65	South America	Cerrejón, Colombia	Largest coal producer in Colombia	33.3%

### STAINLESS STEEL MATERIALS

Ref	Continent	Site/Asset	Description	Ownership
66	Africa	Samancor Chrome, South Africa	Integrated producer of chrome ores and ferrochrome comprising mines and chrome alloy plants in South Africa	60%
67	Australia	QNI Yabulu Refinery, Australia	The Yabulu refinery is one of the world's major laterite nickel-cobalt processing plants	100%
68	South America	Cerro Matoso, Colombia	Integrated ferronickel mining and smelting complex in north Colombia	99.8%
69	Australia	Ravensthorpe, Australia	Nickel mine and processing facility currently in development	100%

# DIRECTORY

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**Website:** [www.bhpbilliton.com](http://www.bhpbilliton.com)

## EXTERNAL LINKS

The following websites provide additional information relevant to this Report.

### *Industry Initiatives and Organisations*

Business in the Community	<a href="http://www.bitc.org.uk">www.bitc.org.uk</a>
Global Mining Initiative	<a href="http://www.globalmining.com">www.globalmining.com</a>
Green Lead™ Project	<a href="http://www.greenlead.com">www.greenlead.com</a>
International Aluminium Institute	<a href="http://www.world-aluminium.org">www.world-aluminium.org</a>
International Chromium Development Association	<a href="http://www.chromium-asoc.com">www.chromium-asoc.com</a>
International Council on Mining and Metals	<a href="http://www.icmm.com">www.icmm.com</a>
Minerals Council of Australia	<a href="http://www.minerals.org.au">www.minerals.org.au</a>
Mining, Minerals and Sustainable Development	<a href="http://www.iied.org/mmsd">www.iied.org/mmsd</a>
Nickel Development Institute	<a href="http://www.nidi.org">www.nidi.org</a>

### *International Standards, Agreements and Activities*

Global Reporting Initiative	<a href="http://www.globalreporting.org">www.globalreporting.org</a>
ISO 14001 – Environmental Management Systems	<a href="http://www.iso.org">www.iso.org</a>
IUCN – World Conservation Union	<a href="http://www.iucn.org">www.iucn.org</a>
OHSAS 18001 – Occupational Health and Safety Management Systems	<a href="http://www.bsi-global.com">www.bsi-global.com</a>
SA 8000 – Social Accountability Standard	<a href="http://www.cepaa.org">www.cepaa.org</a>
United Nations Environment Program	<a href="http://www.unep-wcmc.org">www.unep-wcmc.org</a>
United Nations Global Compact	<a href="http://www.unglobalcompact.org">www.unglobalcompact.org</a>
United Nations Universal Declaration of Human Rights	<a href="http://www.un.org/rights">www.un.org/rights</a>
World Business Council for Sustainable Development	<a href="http://www.wbcsd.ch">www.wbcsd.ch</a>
World Health Organisation	<a href="http://www.who.int">www.who.int</a>

### *Socially Responsible Investment*

Corp Rate	<a href="http://www.acfonline.org.au/corp_rate">www.acfonline.org.au/corp_rate</a>
Dow Jones Sustainability Indexes	<a href="http://www.sustainability-index.com">www.sustainability-index.com</a>
FTSE4GOOD	<a href="http://www.ftse4good.com">www.ftse4good.com</a>
Johannesburg Stock Exchange SRI Index	<a href="http://www.ftse.jse.co.za/">www.ftse.jse.co.za/</a>
Storebrand	<a href="http://www.storebrand.com">www.storebrand.com</a>