



# Dawson Mine Report 2006

## Message from the General Manager



Dawson mine produced 6.9 million tonnes (Mt) of saleable coal in 2006, our second highest production figure on record. The Dawson project, which involves the expansion of the existing Dawson operations to include a Dawson north and south mine, is progressing well. When fully completed, the site's current annual production output will double to almost 13 Mt of thermal and coking coal per year. It is expected that the first coal from the expansion will be loaded in mid 2007.

Our safety performance in 2006 was mixed. Although our Lost Time Injury Frequency Rate (LTIFR) was on target our Total Recordable Case Frequency Rate (TRCFR) was 18, well above the target of four.

We were pleased that the seam gas operation achieved 1,301 days Lost Time Injury (LTI) free.

To emphasise how importantly we view safety we shut the mine down for 48 hours to raise awareness about a number of safety issues. Approximately 1,500 people, the entire workforce, including contractors and construction workers, attended safety sessions during the period. Surveillance by external auditors confirmed the continued certification of our Safety, Health, Environment and Community Management System (SHECMS) to Australian Standard AS 4801.

During the year, we introduced an occupational health framework to help the workforce identify and treat problems caused by drug, alcohol, fatigue and other causes. We also introduced nursing and physiotherapy services on site with a team of nursing staff offering 12-hour coverage to ensure that preventative measures are taken on all work related injuries before they become critical.

After surveillance audits in 2006, Dawson mine successfully maintained certification of its Environmental Management System (EMS) to the ISO 14001 standard. A Sustainable Minerals Institute (SMI) Sustainability Opportunity and Threat Analysis (SOTA) study was conducted in 2006 to identify the opportunities and threats to biodiversity at the mine and we will address the issues that were identified. The Fitzroy River turtle species is classed as vulnerable and at risk and as such we will sponsor Greening Australia to assist in a project to conserve it.

Because of our expansion requirements we used 43% more raw water than last year. To reduce this impost on our

natural resources we are constructing a pipeline that will take water from our inactive mining voids for use in the new Coal Handling and Preparation Plant.

In March, we hosted a forum where key stakeholders raised a number of issues including requirements for housing, employment, social and community activities, and the development of infrastructure and services. Management will work with the community to address these issues. Our Community Engagement Plan (CEP) was distributed to all our stakeholders in October.

We continue to be involved with the Woorabinda community through the Shared Responsibility Agreement (SRA) and helped the community lay the concrete slab for the furniture factory sheds. We have finalised a training program which will commence in early 2007, aiming to prepare indigenous participants, primarily from the Woorabinda community, for employment in the mining industry.

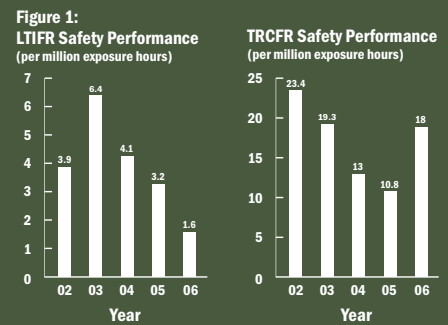
This Report and Anglo Coal Australia's (ACA) 2006 Sustainability Report (available on [www.anglocoal.com.au](http://www.anglocoal.com.au)) provide a summary of the way this site and the business manages its responsibilities in these areas. Your feedback on any aspect of our performance and reporting is welcome.

**David O'Rourke**  
General Manager





Wade Hagerty, Commercial Graduate, with examples of the safety messages on work shirts.



## About the mine

Dawson is an open-cut coal mine located on the south eastern flank of Queensland's Bowen Basin coalfield 200 kilometres south west of Rockhampton. Dawson mine produced 6.9 Mt of saleable coal in 2006.

## Safety

In 2006, we recorded four LTIs resulting in a Lost Time Injury Frequency Rate (LTIFR) of 1.6, on target for the year. The 2006 TRCFR was 18, well above the target of four.

Our trend analysis indicated a number of reoccurring incidents, with hand injuries contributing to a significant proportion of Total Recordable Cases (TRC). In order to address this a number of programs were introduced during the second half of the year. These included:

- Implementation of contractor breach notices for LTIs, Medical Treatment Cases and other material safety breaches;
- Implementation of a yellow card system for minor safety breaches;
- Having a standing commitment from management to 'Stop the Job' if unsafe;
- Introduction of preventative services onsite such as nurses and a physiotherapist; and
- Implementation of a safety award scheme, of which the first milestone was reached on 14 December 2006: 50 days TRC injury free (best performance achieved was 63 days).

Our trend since the introduction of these programs shows significant improvement in our TRCs. Our First Aid Cases remain

stagnant due to some injuries requiring onsite physiotherapy. However, this intervention is preventing these injuries from requiring further medical treatment.

The mine is pleased to report that the seam gas operation achieved over 1,300 days LTI free.

Our Occupational Health and Safety Committee of 18 members meets every five weeks. This Committee addresses various issues, including health and safety risks, assessment and mitigation strategies, hazard identification, safety program review and implementation, and incident review and investigation.

Our major risks have been identified as vehicle interaction, control of energy, strata management, working at heights, hydraulics failure, equipment and manual handling, working in confined space and the use of explosives.

We employ a number of strategies to mitigate these major risks, including enforcing strict standards, increasing the awareness of the mine's 'Golden Rules', and training. Haul and access roads are being redesigned to separate light and heavy vehicles, and improvements in highwall bunding to restrict access to the edge of the voids has also been implemented.

Following an external surveillance audit in 2006, we maintained certification of our SHECMS to Australian Standard AS 4801. Only three minor non-conformances were identified during the audit. No significant findings were recorded during 14 internal audits on high risk areas during the year. We also implemented a new site auditing standard, which meets the international auditing standard.

There were no fatalities, permanent disabling injuries, safety related fines, breaches or prosecutions recorded in 2006.

Our commitment to safety was illustrated by the various safety training initiatives we implemented in 2006, including;

- Risk register awareness training;
- Manual handling;
- DuPont/Anglo American Safety Leadership training for managers and supervisors;
- Apollo root cause incident investigation technique;
- Standard operating procedures; and
- Emergency management plan training.

To help lower incident rates, we now require all employees and contractors to wear gloves when conducting manual handling tasks. The workforce is also required to wear long sleeve shirts, long trousers and high visibility clothing.

In 2006, as part of the 'Enough is Enough' program, the mine was shut down for 48 hours to raise awareness on safety, hazards, vehicle interaction, High Potential Incidents and communication. The entire workforce, including contractors and construction workers, approximately 1,500 people, attended the awareness sessions.

To improve our interaction with emergency response personnel from Queensland Health, Queensland Fire and Rescue and the Queensland Police, we implemented a new support system and standard aligned with the Australasian Inter-Service Incident Management System framework. The emergency response team attended a Queensland Fire and Rescue training exercise at Whyte Island on specialist internal fire fighting. This exercise was attended by onsite rescue personnel, who act as community fire fighters in the town of Moura.

**Table 1: Safety Performance** PER MILLION EXPOSURE HOURS

	2006 Target	2006 Actual	2007 Target
Lost Time Injury Frequency Rate	1.6	1.6	0.6
Total Recordable Case Frequency Rate	4	18	8.9





Left: Luke Warden, Fitter Apprentice, on 797 truck.

Below: David O'Rourke, General Manager, undergoes a routine health assessment from David Brown, Registered Nurse.



	2004	2005	2006
Number of employees	463	497	594
Number of contractors	236	368	544
Number of trainees	1	2	2
Number of apprentices	17	17	25
Graduate Development Program	16	12	16
Employee turnover	10.2%	7.8%	10.7%

## Sustainable Development

### PEOPLE

To deliver the expansion of the mine, we increased our workforce to 594 employees and 544 full time equivalent contractors in 2006.

In 2006, 14 new occupational illness cases were recorded. We focused on the management of fitness for duty and better management of injury and illness in 2006. To lower the potential for the transmission of disease during emergency situations, the mine rescue team was vaccinated against tetanus and Hepatitis A and B during the year. The workforce was also offered flu vaccinations. In late 2006, the mine introduced nursing and physiotherapy services on site with a team of nursing staff offering 12-hour coverage. This initiative was implemented to ensure that preventative measures are taken on all work related injuries before they become critical.

In 2006, an occupational health framework was developed and a training system was implemented to help the workforce identify and treat impairments from drug, alcohol, fatigue and other physical and psychological causes. Following some significant incidents on site we also carried out eye injury prevention training and are currently rolling out heat stress training.

	2006
Level 1	27
Level 2	1
Level 3	0

### ENVIRONMENT

Surveillance audits by external auditors in 2006 confirmed Dawson mine's certification of its EMS to the ISO 14001 standard. No non-conformances were identified in the surveillance audits.

In 2006, the mine recorded 27 level 1 environmental incidents and one level 2 incident. Of these, the majority of incidents occurred in three areas: hydrocarbon spills, blast overpressure and unauthorised land disturbances on the mine site.

The level 2 environmental incident was a cultural heritage breach associated with exploration activities. Dawson mine did not attract any environmental related fines, breaches or prosecutions during 2006.



In 2006, Dawson mine continued an Environmental Impact Study (EIS) process for its expansion, Dawson South mine. The EIS and Environmental Management Plan (EMP) were submitted for public review in December 2006.

Public comments are expected, with a Supplementary Report to be prepared based on these comments. This will assist the Environmental Protection Agency in finalising the EIS and the EIS Assessment Report in accordance with Section 57 of the *Environmental Protection Act 1994*.

### Rehabilitation and Land Management

In 2006, of the 95 hectares of rehabilitation targeted, approximately 20 hectares was prepared for ripping and seeding, whilst 51 hectares of final landform was completed. Over the last two years, the total rehabilitated area was 140 hectares, close to the commitment of 149 hectares. The rehabilitation target for 2007 is 70 hectares.

We continued to participate in the Australian Coal Association Research Program (ACARP) highwall rehabilitation project investigating the mechanisms driving instability and sustainability of open-cut highwalls.



Christopher Chiang, Graduate Environmental Engineer, inspecting a feral cat trap.



## Biodiversity

Recommendations from the 2005 Post-Mining Rehabilitation Monitoring Program for soils, vegetation and vertebrate fauna continue to be implemented. These include the use of local provenance tree and shrub seed on rehabilitation areas, the reduction of the proportion of acacia species in the seed mix, and the continued maintenance of the microbat roost sites.

The apparent decline in the abundance of microbats roosting within the disused dump station is thought to be directly linked to the clearance of much of the surrounding feeding habitat and potential disturbance to roosting bats. This could be caused by noise and vibration from current mining and transport operations nearby. A 50-metre exclusion zone has been placed around the disused dump station to ensure the integrity of the structure. Once spoil dumping operations have ceased in the vicinity, rehabilitation operations will commence to improve the suitability of the habitat for roosting microbats.

A SOTA study was conducted in 2006 to identify opportunities and threats to biodiversity at the mine. The identified opportunities and threats will be progressively addressed. A flora and fauna survey was also carried out to assess the potential impacts of mining.

A research team from Central Queensland University carried out an aquatic macroinvertebrate study in late 2006. This investigation will continue into 2007. Dawson mine also sponsored Greening Australia's Fitzroy River Turtle Conservation Project. The Fitzroy River turtle species is classed as vulnerable and at risk from feral animals, declining water quality and siltation of its stream habitat.

Through a specific EMP, Dawson mine continued to protect remnant vegetation that could be impacted by the construction of a new conveyor system through the Malakoff Range Area.

Rehabilitation areas are not protected by law but the mine has policies and directives to improve management and restrict access to these sensitive areas. We continue to work with the Queensland

**Table 4: Types of Waste**

	2005 Disposed	2005 Recycled	2006 Disposed	2006 Recycled
Hazardous Waste (t)	158	300	146	420
Non-hazardous Waste (t)	296	681	407	1417

Parks and Wildlife Service to establish and care for the Willawa Nature Refuge, which was officially declared by the state's Executive Council in 2005.

Due to a high density of snakes and reptiles on the lease, the environmental department conducted snake handling and other reptile awareness training for mine personnel.

## Water

The water we use on site is either extracted from the Dawson River via a 19 kilometre pipeline or sourced from stored pits across the operation. Due to increased requirements during the mine's expansion, we used 2,705 mega litres (ML) of water in 2006, a 43% increase over the previous year. This increase was significantly affected by improved monitoring of water consumption across the operation. Despite an increase in saleable tonnes of coal during 2006 our water efficiency of 392 litres per tonne (L/tonne) of saleable coal failed to meet our target of 278 L/tonne of saleable coal. No water was discharged in 2006 given the dry conditions experienced throughout the region.

We continue to use the operational simulation (OPSIM) water management model to monitor the amount and quality of water consumed on site. The program is increasingly being used as a means of analysing scenarios and keeping a record of changes in water management on site. As part of the Dawson Expansion project, construction of an arterial pipeline linking inactive mining voids to a central waterline commenced in September 2006 and is expected to be completed by late January 2007. The pipeline will ensure a reliable supply of water to the new Coal Handling and Preparation Plant and reduce reliance on water from the Dawson River.

Dawson mine, in collaboration with a team from Central Queensland University and the Australian Water Quality Centre is

undertaking research to better identify and manage blue green algae and understand under what conditions it produces the toxin cylindrospermopsin. It is envisaged that this research will lead to the development and delivery of improved technical resources to significantly reduce the risks associated with this algae, by ensuring they are rapidly detected and identified.

Environmental personnel undertook further training on the OPSIM computer based water balance model.

## National Pollutant Inventory

Dawson mine is required to report in accordance with the National Pollutant Inventory, Australia's national database of pollutant emissions. To obtain further detail on Dawson mine's emissions data please refer to [www.npi.gov.au](http://www.npi.gov.au).

## Waste

In 2006, Dawson mine recycled 77% of the non-mineral waste generated on site. The 9% increase in recycled material in 2006 is due to a number of factors including:

- The expansion of the mine leading to more waste being produced and therefore increased total waste volumes;
- Ongoing education and a better understanding across the workforce of what can be recycled; and
- Increased recycling options.

## Noise

We exceeded the current Australian standard for blast overpressure a number of times during the year and, in response, purchased two additional monitors to measure ground vibration and blast overpressure levels. These monitors provide feedback to mining engineers and blast supervisors on improvements made to blast design so as to reduce the mine's impact on the surrounding community.



Left: Truck fleet at Dawson North project.

Below left: Paul Wood, Safety and Sustainable Development Manager at Dawson mine, accepting the first table constructed by Woorie Wood from Jason Smith, Manager. Looking on are Woorie Wood employees Archie R Sullivan, Steven J Williams, Joel Cameron, Colin Watson and Maurie Cameron.

## COMMUNITY

Our CEP has been developed using the Anglo American publicly listed corporation Socio-Economic Assessment Toolbox (SEAT) process. The process included several workshops, surveys and one-on-one interviews with a broad range of stakeholders. A number of issues were raised, including requirements for:

- Housing;
- Employment;
- Social and community activities; and
- The development of infrastructure and services.

Mine management's views are an important part of stakeholder engagement and their issues included building a vibrant business community and developing an indigenous training program. (See the SEAT Report on [www.anglocoal.com.au](http://www.anglocoal.com.au).) Our CEP and SEAT Summary Report were distributed to all stakeholders in October and can be obtained as a hard copy by emailing [dawson.community@anglocoal.com.au](mailto:dawson.community@anglocoal.com.au).

Community engagement took place through membership of community group committees and attendance at meetings, information sharing at community forums and the establishment of a community email address

([dawson.community@anglocoal.com.au](mailto:dawson.community@anglocoal.com.au)).

A partnership was set up between the community, Queensland Health and industry, including Dawson mine, to help solve the shortage of medical doctors in the town of Moura.

The mine has an existing Cultural Heritage Investigation and Management Agreement with the Gangulu and Palmtree Wutaru people in the northern areas with whom meetings are held regularly to discuss cultural heritage clearance survey issues. For the southern areas, there is a Cultural Heritage Management Plan with the Wulli Wulli people.

As part of its community engagement, Dawson mine is heavily involved in the Woorabinda community. ACA signed an SRA with the Woorabinda community and the Federal Government, and is continuing its implementation. The work has extended beyond the scope of the SRA wood working business into arts, crafts, sport and nursery development.

To involve the community in sustainability issues, the mine held an artwork competition for local primary schools titled 'What does Safety, Health, Environment and the Community mean to you?'. Thirteen winning drawings were chosen and are displayed in the Dawson

Mine Community Calendar 2007, which can be obtained by emailing [dawson.community@anglocoal.com.au](mailto:dawson.community@anglocoal.com.au).

The mine has also contributed to the development of the local community through various donations, which included, but were not limited to, the bituminising of the last 7 kilometres of gravel on the Moura to Theodore roadway, upgrading the sewerage works in the Moura township, sponsoring the local Moura Coal and Country Festival, and donating to numerous local charities, sporting clubs and functions, and emergency services. Over 100 post-lease computers were also donated to local schools and community groups.

Dawson mine has finalised a pilot pre-employment indigenous training program which will commence on 15 January 2007. The aim of the program is to prepare indigenous participants, primarily from the Woorabinda community, for employment in the mining industry. Government representatives will be involved in the program, which will be conducted on site at Dawson mine over three weeks. Two complaints were recorded in 2006, relating to blasting near the Queensland Nitrate Plant.





An excavator loading coal.



## CLIMATE

In 2006, the amount of energy used by Dawson mine increased by 52% due to expansion activities and the introduction of new haul trucks with higher diesel consumption rates. A 25% increase in tonnes mined also contributed to an increase in electricity consumption and also led to a 46% increase in greenhouse gas emissions with a subsequent decline in efficiency.

ACA is a signatory to the Greenhouse Challenge Plus Program which includes a commitment to report annual greenhouse gas emissions and progress with abatement actions.

6.5 petajoules of energy were sold to the grid as methane from seam gas operations. This equates to approximately 150 million m<sup>3</sup> of methane. If this methane was released to the atmosphere, it would have a global warming potential equivalent to 2.2 Mt of carbon dioxide.

## CONTACT

This Safety, Health, Environment and Community Report covers the period of 1 January to 31 December 2006. Further details on the content of this Report can be obtained by contacting Paul Wood on 07 4990 9717 (email: [dawson.community@anglocoal.com.au](mailto:dawson.community@anglocoal.com.au)). This Report, links to web-based supplementary material and an electronic feedback form can be viewed at [www.anglocoal.com.au](http://www.anglocoal.com.au).

Table 5: Performance Summary

Parameter	Indicator	2006
Safety	Fatalities	0
	Lost Time Injury Frequency Rate	1.6
People	Total Recordable Case Frequency Rate	18
	New occupational illnesses	14
	Average number of employees	594
Environmental	Average number of FTE contractors	544
	Water used for primary activities (ML)	2,705
	Water use efficiency (L/saleable tonne)	392
	Area of land remaining disturbed end 2006 (ha)	6,349
Community	Rehabilitated land end 2006	679
	Incidents (Level 1)	27
	Incidents (Level 2)	1
Climate	Complaints (Level 1)	2
	Community Cash Donations (AUD)	823,000
Economic	Energy Use (Gj)	3,265,882
	CO <sub>2</sub> equivalent emissions (tonnes)	412,629
	Saleable Coal (tonnes)	6,902,635



	2004	2005	2006
Energy use (GJ)	1,710,784	2,149,069	3,265,882
Energy efficiency (GJ/t saleable coal)	0.243	0.354	0.473
Greenhouse gas emissions (kt CO <sub>2</sub> -e)	290	282	413
Greenhouse gas efficiency (tCO <sub>2</sub> -e/t saleable coal)	0.041	0.046	0.06
Methane (t)	1284	382	2,314

