

# **SUSTAINABILTY REPORT 2012 Chatree Gold Mine**



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# **Our Operations Need Our Stakeholders**

Chatree Gold Mine is located 280km north of Bangkok on the provincial border between Phichit and Phetchabun provinces. As we are situated in a rural area of Thailand, it is essential that we work together with our neighbours to our mutual benefit. The many villages around Chatree still live a predominantly agrarian lifestyle, with rice growing as the main activity. It is important, therefore, that we are a good corporate citizen for our immediate neighbours and in Thailand generally. Chatree has as a primary goal to minimise the impact of mining operations on those nearby. We seek to achieve this through regular meetings and consultation with local government and village groups and through assisting the community in times of need.

Our employees and contractors are vital to our success and we strive for their continued wellbeing. Vocational and safety training, as well as regular meetings between employee representatives and management, are essential to this effort.

Water availability and quality, dust and cyanide management are the areas of most concern to our immediate neighbours. The need to maintain high quality water for agricultural use is imperative. Dust and noise generation have the potential to cause disturbance in neighbouring villages. Because many of our employees live nearby, any mining related nuisance can create difficulties at home for those employees. Correct cyanide management is of concern to all involved with mining, from transport through to operations and particularly the potential to adversely affect local communities.

While rainfall is generally high in this tropical area, it is concentrated in the annual monsoon. The responsible management of water is therefore of utmost importance to Chatree Mine and to the surrounding area. Chatree operates on a nil-release basis; all rain water on the mine lease is harvested and no water leaves the site. This water policy requires continuous management of usage, quality and storage. Twenty-four surface water and eighty-three groundwater quality sampling sites have been established, all of which are regularly monitored and sampled. To date, no results from any of these sites have caused concern.

To gauge any potential drawdown impact on local groundwater, we regularly monitor eighty water table measuring stations, located on the mine site and in surrounding villages. Water levels rise and fall seasonally but no long term adverse trends have been identified.

We aim to produce minimal dust and noise and thereby reduce neighbouring concerns by maintaining all our roadways in good order, by regular gravel sheeting and watering. We have developed effective noise bunds around operations and, in some circumstances, restrict operations to daylight hours. Dust monitoring stations have been established in nine surrounding villages. No results from the regular monitoring and sampling program have exceeded quality standards.

Chatree has been free of lost time injuries for the ninth year in a row. This exemplary safety record safety would be difficult to achieve without management support. It is, however, our employees and contractors who, by ensuring a safe environment for themselves and their workmates, have made a safe workplace a reality. The Chatree employees and contractors have excelled in this regard and Kingsgate congratulates and thanks them for their unstinting efforts. A Zero Alcohol policy has been maintained to assist our safety culture, together with implementation of regular but unscheduled drug testing.

As a first rate workforce is essential to our success, we continue to offer comprehensive training in relevant safety and job related areas to all our people. We also assist our employees to obtain tertiary education qualifications.

This year Kingsgate sponsored 5 employees to graduate and obtain Masters level degrees. Thus far, 33 employees have been sponsored for Masters level degrees, 8 employees for bachelor level degrees and 8 employees for Diploma Certificates.



# **Kingsgate's Sustainability Policy**

Chatree adheres to Kingsgate's Sustainability Policy, a copy of which may be obtained from the website www.kingsgate.com.au. We aim to manage the Chatree asset ethically, so the people of Thailand and the company prosper together, enjoying safe, fair and rewarding work relationships and a healthy living environment. The implementation of this policy is supported by suitable systems and by sustainability actions relevant to each position that are part of the agreed duties for each employee and contractor.

# **Addressing the Major Issues**

To make this sustainability policy relevant to Chatree's stakeholders to adapt it to suit local conditions we consult with stakeholders to ensure that management action and systems best address their concerns. These important issues are:

Water management;

water management,

Cyanide management;

Workplace safety and training;

Enhancing local capacity; and

Continuing economic growth for both

Chatree and Thailand.



# Stakeholders and major material issues

	Employees	Community	Supply Chain	Governments	Investors
Water quality and water efficiency		The potential impact of mining on farmland and local communities.		Compliance with "Licence to Operate" conditions.	
Cyanide management		Ensure that tailings cyanide levels are lower than permitted. Maintain all outputs within the site and avoid any contamination.	Monitor and maintain safe transport and storage at all stages of supply and use.		No long term operational issues. Maintain the "Licence to Operate".
Safe workplace and investing in people	Opportunity to thrive and grow at work in a fair, diverse and healthy workplace.	Ensuring the safe return of employees to their families.		Meet or exceed government requirements for treatment & development of employees.	Low turnover of workforce.
Local investment and capacity building		Opportunity to build skills and wealth in communities where the Company operates.	Participate in the economic development of the region. Build partnerships with local and Thai suppliers.	Investment in Thai goods and services, commitments to contribute to infrastructure and compliance with "Licence to Operate".	
Profitable and generating returns				Royalties and foreign exchange.	Managing risk and future issues so that future growth, reputation and profit are secured.

# **REALISATIONS IN 2011/2012**

#### For our Employees:

- Thai citizens comprise 99% of the Chatree workforce.
- 75% of the workforce are local residents.
- 40% of management positions are held by women.
- A further twelve months without a Lost Time Injury, meaning we have now enjoyed nine years since our last, and only, LTI.
- Received the Prime Minister's Best Labour Relations and Welfare Award 2011 for being an outstanding establishment for achievement in labour relations and welfare.
- Being awarded the Thai National Occupational Safety and Health Award for the sixth year in succession. In order to qualify for this award, a recipient must achieve greater than 90% in each of the assessment criteria.
- Akara was also one of nineteen companies in Thailand to receive the Gold Zero Accident Award.

### For our Communities

- Maintaining our SA8000 accreditation, one of the few miners in the world to achieve this social accountability standard. SA8000 is a voluntary, universal standard for those interested in auditing and certifying their and their suppliers' labour relations
- 60% of the \$US19.2m mining royalties paid to the Thai government during the year is destined for local provinces and village councils.
- \$A538,000 was spent on local communities on infrastructure and culture.
- We ensured a clean regular drinking water supply to nine neighbouring villages during a time of severe water shortage.
- Investment was made in fostering tertiary education through 7 employee scholarships.
- Kingsgate, with Akara Mining, was a major sponsor, of Operation Smile 2011, a charity raising funds to perform cranio-facial surgery on children with congenital cleft palate and hare lip \$20,000.







#### **Environment**

There were no reportable incidents but we did have 54 minor incidents. Road maintenance, rehabilitation and crusher control programmes maintained dust levels below threshold requirements.

A total of \$A1.9m is held in the Environmental Levy Fund. This is accumulated by means of a \$A1.56 per ounce levy for mine closure and \$A2.96 per ounce levy for ongoing environmental remediation.

# **Cyanide Management**

At no time during the year did cyanide discharged to the tailings storage facility exceed allowable levels.

Average monthly cyanide in tailings concentration for the year was 7.2 mg/L CN<sub>TOT</sub>. This level is 36% of the allowable standard of 20 mg/L CN<sub>TOT</sub>.

# Water Management

Our ongoing programme to capture, store and manage all surface water ensures that we have minimal impact on local water sources. Due to excessive monsoon rainfall and flooding in late 2011 a limited controlled release was undertaken.

#### **Supply Chain**

During the past year, 93% of all normal purchases have been sourced from within Thailand. Plant expansion items have been excluded from this calculation.

#### Government

We have maintained our status of achieving 100% compliance with all Thai laws that deal with mining and mineral processing.

# **Employees**

While it is an often stated aim, our low turnover of 5.4% in the past year attests to our belief in the essential role our employees play in our success. We strive to use their skills and expertise wherever possible and encourage their ideas and plans for safer and more efficient work practices. Employee feedback is important to us and we foster communication up and down the company hierarchy.







# **Safety**

Safety systems have been integral to our workplace since we commenced operations. These systems are supplemented by independent standards, in particular OHSAS18001. The most important and effective safety system we have, however, is each employee's commitment to his or her own and to fellow employees' safety. By embedding safety awareness and safe practices in our daily tasks, we have been able to ensure that our employees return uninjured to their families at the end of each shift.

Mining and ore processing does present special challenges in maintaining the safety of our people. The commitment to safe practices is amply demonstrated by a zero lost time injury (LTI) statistic over nine and one half years. We have worked 20.7 million manhours since our last and only LTI and, based on published data, Chatree has maintained its position as the world's safest gold mine.

#### **Development and Growth**

Most of our employees are sourced from local areas and come to us with little industrial experience. We provide them with the appropriate training so that they may continue to develop and grow.

99% of our workforce is Thai. Some have been able to develop their skills to such an extent that they have been offered positions in mines in Australia, Laos and other countries.

342 attendances by employees at training courses and seminars were recorded in 2011/12.

40% of management positions are held by women, achieved through our merit based system of promotion.

Safety Statistics	2012	2011	2010	2009	2008	2007	2006	
Lost time injuries	0	0	0	0	0	0	0	
Total recordable injuries	4	0	5	5	4	8	4	
Total injuries	14	11	10	12	29	23	24	
LTIFR*	0	0	0	0	0	0	0	
TRIFR*	1.3	0	2	2.5	2.2	3.9	2	
TIFR*	4.5	2.9	4	6	15.7	11.3	12	



#### **COMMUNITY**

We operate in an agricultural area with many villages in close proximity. As such, we have always undertaken to work closely with our neighbours so that we earn a "right to operate". We have made it a normal business practice to engage with stakeholders from the local community and government. This has enabled us to seamlessly enter into the government initiative of Corporate Social Responsibility which was introduced last year.

Responsibility for engagement rests with our Chatree General Manager, ably assisted by our Corporate Social Responsibility Manager who is the first point of contact for stakeholders and those who wish to learn more about our operations. They are assisted by our Environmental Manager, Human Resources Manager and Administration and Systems Manager.

#### We engage with stakeholders through five main areas:

#### **Community involvement**

ensuring that the community is heard and that it has the chance to understand our business.

#### **Education and culture**

engaging in the many cultural events within the local area either through direct employee commitment or through donations to assist with staging such occasions.

#### Health

assisting with the development of health and sports services where required.

# Wealth and income creation

using our ability to assist the community in business that will provide long term, sustainable benefits.

#### **Social investment**

contributing to community facilities and the development of education and assisting with flood relief.

The two students who earned scholarships to attend university last year have progressed well in their chosen fields. One more scholarship was awarded this year.

The agricultural demonstration farm continues to provide valuable support to the local farming sector. Its main aim is to increase productivity but it also creates employment and an opportunity for the cross flow of ideas.

A core group of 25 to 30 employees donates blood to the Phichit Red Cross Blood Bank each quarter. This continues a nine year relationship with the Blood Bank.

We were able to provide 450 ration parcels with a total cost of \$A10,000 to assist flood victims in nearby areas.

The pig husbandry project which commenced last year has continued to operate well. With our provision of seed capital, farmers can increase their pig herds and, with an increased income, repay those initial loans. We have commenced mushroom farming, initially only with interested employees. The initial harvest of 150kg was insufficient to meet demand and the size has been increased for our second crop. Once an established procedure, we hope to extend the project to our communities although some villagers have commenced their own mushroom farms after seeing the demand for our product.

The Thep Nimnitr drinking water factory that we supported in previous years paid a 60% dividend to shareholders this year, a most admirable result for the hard work and dedication shown by all those involved.

Our Maintenance Department undertakes daily checks of all village water pumps and effects repairs as necessary. This is done as a service to our neighbours.

We have joined with Sukhotai Thammathirat Open University to promote His Majesty The King's concept of a Sufficiency Economy, whereby the "middle path" of action is chosen so as to protect the environment and economy from adverse effects of our endeavours. We have commenced with 16 villagers producing environmentally friendly cleaning products. Training is being provided to additional interested people.

Our donations are directed mostly to infrastructure. These include Community Funds in two villages, mandated by lease conditions. Our 2011/2012 donations comprised:



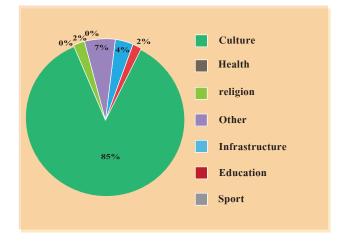


# **Community Development Expenditure**

	2012 AUD	2011 AUD
Religion	18,961	24,314
Education	8,262	22,238
Infrastructure	455,788	290,898
Health	623	5,434
Culture	12,921	23,243
Sport	1,683	41,701
Other	39,793	296,814
Total	538,031	704,642



#### **Community Development Expenditure 2011-2012**



#### **ENVIRONMENT**

# Water Quality,

# Water Efficiency and Dust Control

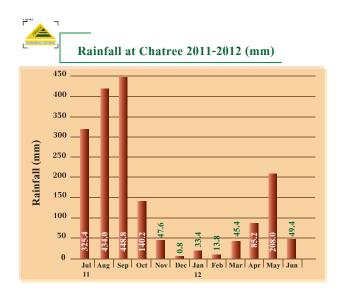
As no other long-term solution has been found to a chronic water shortage from the recent droughts, we have continued to support local villages by supplying drinking water.

We maintain a regular monitoring programme for water and dust and all measurements to date indicate that mining has had no deleterious effects. We monitor surface water quality at 24 stations, groundwater quality at 83 stations on the mine site and regional area, plus a further 14 stations in neighbouring villages.

Water usage is higher than any prior year, due to the plant expansion. Efficiency, as measured on a litres per tonne basis, is the best we have ever achieved.

This substantial improvement in water efficiency during the past year is due to the installation of a thickener in the expanded plant. The thickener removes water from the tails slurry prior to its discharge to the tailings storage facility. This increases tails density from approximately 35% to over 45% contained solids. An additional benefit flowing from installation of the thickener is that more reagents are returned to the circuit than previously.





Water Usage	2012	2011	2010	2009	2008	2007	2006
Throughput ('000 tonnes)	5,116	2,533	2,705	1,878	2,474	2,405	2,000
Water use ('000 litres)	6,404	4,397	4,400	3,294	3,873	4,075	2,619
Litres/tonne ore milled	1,252	1,736	1,627	1,754	1,566	1,694	1,309

#### Dust

Air quality at Chatree varies and is the seasonal, with respirable dust and total suspended particles increasing during the dry season and decreasing in the wet. Nine dust monitoring stations are reviewed quarterly by independent consultants. No readings to date have been higher than permissible threshold levels. We are confident that the road maintenance programmes, comprising gravel surfacing and watering, together with rock crusher spray, are keeping dust under control on site. All disturbed areas are revegetated as soon as practical, both to reduce dust during the dry and to prevent erosion in the wet season.

#### Noise and Vibration

Noise monitoring is undertaken at nine sites near the mine while vibration measurements are taken at the three nearest villages. Results are measured by an independent consultant and reported to Akara quarterly. All noise results were within the guidelines issued by the Thai Ministry of Natural Resources and Environment, while vibration measurements were less than those suggested by the Ministry of Science's Control Standards for Rock Crushing Plant.

#### Rehabilitation

No contaminated land issues arose during the period.

Our rehabilitation programme is ongoing with areas contoured and planted as soon as is practicable. Trials of

various species are undertaken to ensure the optimal results for each location. Many species of trees and grass have been sown successfully across the site. Some 17.4 hectares were rehabilitated last year and 31.4 hectares of rehabilitation is planned for the present year.

# **Cyanide Management**

We continue to meet all requirements of the International Cyanide Code for Gold Mining Operations. The Code mandates strict protocols for the manufacture, transport, storage and use of cyanide. As part of the plant expansion, we will move to the use of ISOtainers, whereby there is an automatic dissolving system for cyanide. Minimal boxed, solid, cyanide will be retained on site as backup. No Code audit was required this year, the next being due in 2014.

Readings of our discharge to the tailings storage facility are taken every 20 minutes. Our discharge of cyanide is not to exceed the 20mg/L CN<sub>TOT</sub> standard. The highest monthly reading obtained was 10.2mg/L CN<sub>TOT</sub> with an annual average of 7.2mg/L CN<sub>TOT</sub>.

Birds continue to settle on the tailings storage facility, confirming that our cyanide discharge presents no environmental hazard. Ongoing cyanide destruction is also assisted by numerous introduced micro-organisms which are able to degrade free cyanide to carbon dioxide and ammonia.

#### **Environmental Incidents**

There were 54 environmental events during the year. All were minor and there were no reportable incidents.

The increase in the number of spills in 2012 is due to a change in our environmental policy, whereby all spills are reported, regardless of size. In prior years, only oil spills more than 20 litres were reported.

Year 2011 saw the worst floods in 60 years in Thailand. Chatree mine site, with an average annual rainfall of 1.4 metres, had a recorded total rainfall of 2.3 metres. Most of this rain fell in the months of July (325mm), August (448mm) and September (450mm). These record rainfalls, unprecedented in the history of Chatree mine, had a strong negative impact on the site water storage facilities and water was released from D Pit onto Akara property to the east of TSF#1. This controlled discharge from D Pit during the monsoonal floods had no adverse environmental impacts.



#### **Environmental Incidents**

Category	Definition	2012	2011	2010	2009	2008	2007	2006
1	Low severity (includes oil spills less than 10 litres). (Other spills <20 litres included 2012 onwards)	53	14	19	16	4	20	15
2	Minor severity (one off occurrence)	1	0	0	0	0	0	0
3	Minor severity (repeated occurrence)	0	0	0	0	0	0	0
4	Medium occurrence (Effects can be reversed)	0	0	0	0	0	0	0
5	High severity (non reversible, serious impact)	0	0	0	0	0	0	0









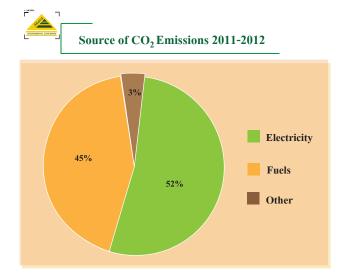
# **Climate Change**

Thailand has signed the Kyoto Protocol, requiring it to reduce emissions. As a responsible corporate citizen, Chatree works hard to reduce our energy consumption and emissions.

# CO<sub>2</sub> Emissions

Electricity is our major contributor to  $\mathrm{CO_2}$  emissions, contributing 52% of our total discharge. We are fortunate that much of Thailand's power is generated from indigenous energy sources such as natural gas and hydro power. Diesel fuel, used by our mining equipment, generates a further 45% of our carbon releases.

Our CO<sub>2</sub> efficiency had been declining in past years as it is measured against tonnes of ore mined. With current mining conditions, much of the ore for processing was sourced from stockpiles thereby reducing ore mined and so contributed to poorer nominal efficiencies in 2012 than in previous years.





CO <sub>2</sub> Emissions	2012	2011	2010	2009	2008	2007	2006
From electricity use (tonnes)	75,878	37,089	35,980	30,359	44,198	45,516	35,899
From mobile equipment (tonnes)	42,071	31,578	30,459	18,848	13,709	20,089	23,697
From LPG (tonnes)	2,680	1,142	436	866	833	873	849
From explosives (tonnes)	1,049	869	883	492	197	259	340
TOTAL (tonnes)	121,678	70,678	67,758	50,565	58,937	66,737	60,785
CO <sub>2</sub> Emissions per 1,000 tonnes of ore	2012	2011	2010	2009	2008	2007	2006
Ore mined ('000tonnes)	4,986	5,301	6,583	3,874	977	1,523	1,951
CO <sub>2</sub> Total (tonnes)	121,678	70,678	67,758	50,565	58,937	66,737	60,785

# **Energy Reduction Programme**

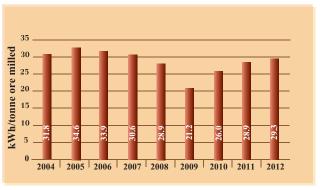
Chatree has procedures in place that meet the laws requiring large businesses to implement energy saving measures and report annually to government. Our Power Smart Committee, which has been in operation for many years, has arranged the following energy saving measures during the year:

- All portable water pumps have low level stop systems
- Gas appliances have been tuned for combustion efficiency
- Monitoring devices have been installed for electricity, LPG, diesel and compressed air leakages Annual reports are made to the Ministry of Energy Department of Alternative Energy Development and Efficiency.









#### **Environmental Audits**

- 1. In December 2011 the tenth annual Tailings Storage Facility audit was undertaken by Knight Piésold Pty Ltd, an international company providing engineering and environmental services to mining and other industries. Their review covered the tailings pipeline, decant, underdrainage and seepage tower systems as well as our regular monitoring systems and practices. They found that the tailings facility continues to be operated well and that the Processing Department demonstrates a good understanding of the facility. They expressed concern about the steepness of two access ramps and remediation has now been completed.
- 2. In February 2012, Environ Australia Pty Ltd. undertook the eleventh "whole of site" environmental audit of the Chatree Mine on behalf of the Kingsgate Consolidated Limited and Akara Mining Limited boards. The audit is designed to assess our compliance with conditions in our leases, our commitments made in the current Environmental Impact Assessment, our adherence to Board environmental policy, observance of the Australian Minerals Industry Code for Environmental Management and Enduring Value and our environmental performance overall. The audit concluded that, with the exception of the controlled discharge from D Pit during the extreme rainy season, Chatree's operations "comply with most statutory requirements as well as voluntary environmental commitments made".



#### **GOVERNMENT**

#### **Royalties and Taxes**

Royalties paid to the Thai government are distributed between the Provincial governments and local village councils (60%) and the central government (40%). In 2011/12, we paid \$A18.9 million, a 212% increase on last year. This is due to the progressive nature of the royalty scheme and our increased production.

Chatree's tax holiday, granted when operations commenced, expired last year and for the first time we paid income tax to the central government of \$A12.3 million.

On an ounces-poured basis, royalties were \$A156 and taxes \$A102.

#### Certification

Chatree was the first, and for several years, the only mine in the world to be certified to the SA8000:2008 standard for social accountability. SA8000 is based on the principles of international human rights norms as described in International Labour Organisation conventions, the United Nations Convention on the Rights of the Child and the Universal Declaration of Human Rights. Chatree has also attained TLS 8001, the Thai Labour Standard 8001 certification.

Our management systems are certified to ISO9001:2008 (for quality), ISO14001:2004 (standards) and OHSAS18001:2007 (environment and occupational health and safety). Our laboratory is certified to ISO17025 for fire and bullion assaying.

Through Kingsgate, Chatree is a signatory to the International Cyanide Management Code for Gold Mining Operations, supervised by the International Cyanide Management Institute.

Kingsgate Consolidated Limited is also a signatory to EITI, the Extractive Industries Transparency Initiative. This is a coalition of governments, companies, civil society groups, investors and international organisations that sets a global standard for transparency in oil, gas and mining industries. Its aim is to promote transparency in the extractive sector so as to strengthen good governance.

### **Suppliers and Buyers**

It is incumbent upon us to support the country in which we operate and, to this end, Chatree has always supported a "buy Thai" policy. During the past year 92.7% of our parts and supplies expenditure was undertaken within Thailand. This figure excludes overseas purchases for the plant expansion, with most capital equipment not available locally.

We continue to have over 95% of our warehouse stock items obtained from Thai sources.



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