

ARGYLE
DIAMONDS

From Mine to Market





The Argyle diamond mine is situated in the isolated East Kimberley region of Western Australia.



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The glittering crystals of carbon we know as diamonds have enthralled people for thousands of years. These crystals of light, formed billions of years ago deep beneath the earth's surface, are an elusive prize. There are only a few producing diamond mines in the world

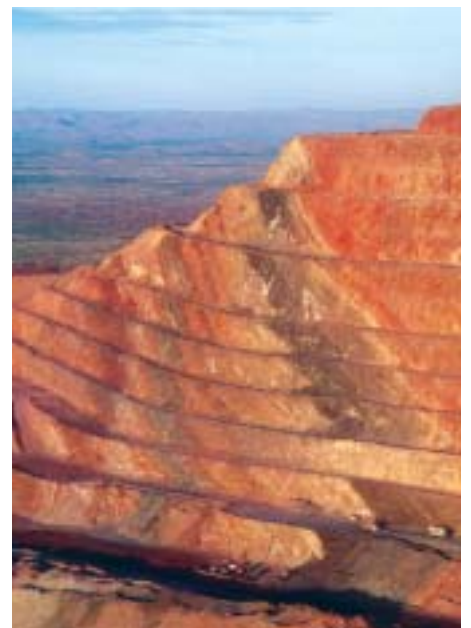
and the gem quality stones, mined each year from tens of millions of tonnes of rock, would hardly fill a room.

The Argyle diamond mine is one of the world's most successful diamond mining operations and tells its own unique story of the quest for this most precious of gems.

The Argyle diamond mine produces on average about 30 million carats of diamonds a year. This volume represents about twenty percent of the world's total rough diamond production and constitutes a range of naturally coloured diamonds unrivalled anywhere in the world. Since the mine commenced in 1985 more than 600 million carats of diamonds have been produced.

Regionally Argyle is a significant contributor to the East Kimberley in employment, infrastructure, tourism and flow-on business. Since the mine commenced, royalties paid to the State government exceed A\$720 million. Argyle also contributes a significant amount to the Commonwealth government by way of income tax. In addition Argyle contributes funds to charities, educational, cultural and community based programmes and special projects.

The Argyle diamond mine is 100% owned, controlled and managed by Rio Tinto Limited.





Finding the Gems

The story of the discovery of the Argyle diamond deposit is one of innovation, patience, foresight and meticulous attention to detail in an extremely remote area. The search for diamonds in the Kimberley region began in 1972 when Ashton Mining Limited and a number of other companies formed the Kalumburu Joint Venture, the name is borrowed from an Aboriginal settlement in the region.

In 1976 Rio Tinto Limited joined Ashton in its quest for Kimberley diamonds, accelerating the exploration effort. Exciting finds were made which subsequently proved to be uneconomic, but in October 1979 diamonds were found at Smoke Creek in the East Kimberley.

In a classic exploration exercise early discoveries led to what is now known as the AK1 pipe, the remnant of an ancient volcano and the site of the vast Argyle deposit.

Geologists exploring the region expected to find diamonds in the traditional diamond-bearing ore, kimberlite. However to their surprise, diamonds recovered in this region were found in lamproite ore, a phenomenon unique to diamond mines at the time.

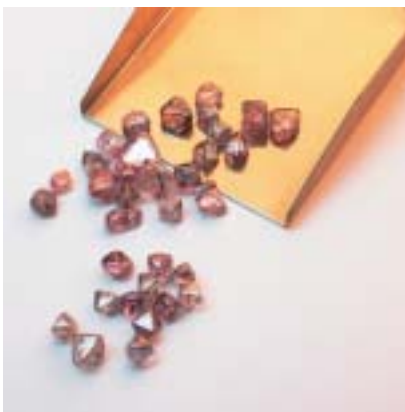
The quantities of diamonds found at Argyle were significant relative to any other diamond mine in the world.

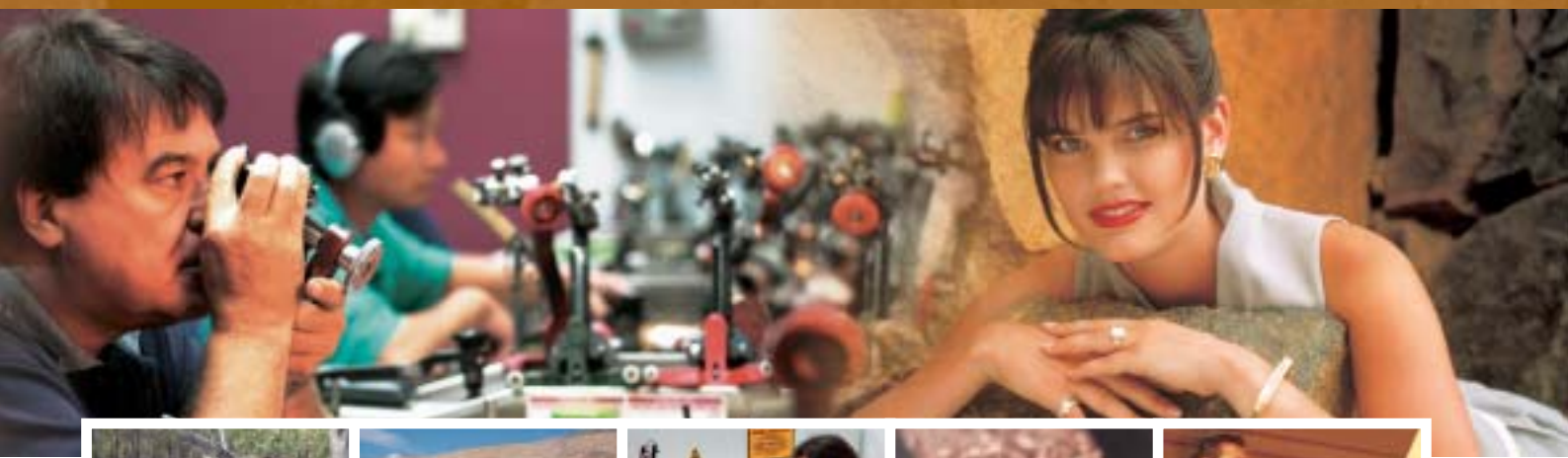
Developing the Mine

With the confirmation of the incredible richness of the pipe in 1980 came the beginning of a great adventure. In 1983 construction began on the open-pit and process plant. The process plant was commissioned in 1985, bringing the total cost of the project to A\$430 million.

The building and mechanical infrastructure is immense and while the technology in place to support the mine is less visible, it is equally remarkable. Telecommunications, security surveillance systems and parts of the extraction process involve highly technical equipment and processes that are in sharp contrast to the remoteness of Argyle's location. The requirements of the mine were so different to any other diamond mine in existence at the time that new technologies had to be developed to manage the volume of production.

The enormity of the challenge may be gauged from the remote nature of the Kimberley region. This is an area several times larger than many countries, with a population less than most Australian suburbs. The mine is two hours drive from Kununurra, the nearest town.





Capturing the Crystals

There are many pipes of ancient volcanoes around the world, but only a few bear diamonds in sufficient quantities to justify mining.

The Argyle mine is characterised by a high level of efficiency, safety and productivity coupled with a skilled workforce and state-of-the-art technology. Argyle is committed to sound environmental management practices that include a range of programs to prevent, minimise, mitigate or remediate environmental impacts.

Using open pit benching techniques, experienced operators engage giant sized machinery to move millions of tonnes of diamond bearing rock from the heart of the AK1 pipe. Each year some 80 million tonnes of earth is extracted which contains 10 million tonnes of diamond bearing ore.

The mined material is crushed, scrubbed and screened. A gravity separation phase then separates the diamonds from the ore, though

still with some waste material accompanying them. Finally, x-ray technology identifies the diamonds and removes them from the stream of ore concentrate.

The Argyle processing plant is one of the most efficient in the world. Over time it has undergone several upgrades so that it can now process up to 11 million tonnes of ore a year, a notable increase since the mine's first full year of production when 3.3 million tonnes of ore were processed.

Argyle is currently undertaking a full feasibility study for an underground mine. An underground mine would complement possible further expansions of the AK1 open pit and extend mine life from 2007 to 2020. The feasibility study will prepare Argyle to make a decision in 2005 to proceed with the underground mine, investigate other options, or decommission the mine.

Preparing for Market

The specialised process of selling Argyle diamonds begins in the company's headquarters based in Perth, the capital of Western Australia. The mine's entire production passes through Argyle's Perth facilities where the diamonds are graded into categories for sale. Skilled diamond sorters assisted by sophisticated machines grade the diamonds according to these categories based on the clarity, colour, shape and size of the diamonds.

Argyle's rough (uncut) production is sold direct to the world market by Rio Tinto Diamonds as an agent for Argyle Diamonds, located in the international diamond trading centre of Antwerp, Belgium.

Of the diamonds extracted from the mine, 5% are gem quality, 25% industrial and the remainder are termed "near gem".

Almost all the diamonds produced by Argyle are cut and polished in India and destined for use in the jewellery industry. Argyle has developed strong partnerships with the Indian diamond industry.

Rio Tinto Diamonds has a representative office in Mumbai to provide its customer base of diamond traders, manufacturers and exporters with sales and technical support. Argyle has also worked closely with the Indian diamond and jewellery industry through the Indo Argyle Diamond Council, a joint marketing organisation to assist Indian jewellery companies entering the competitive US market.



Traditional Land Ownership



The Argyle lease occupies the traditional land owned by the Gidja and Mirriuwung speaking people and neighbouring language groups.

Aboriginal people with traditional links to the Argyle lease area believe that the land and their people were created by the Ngarranggarni (sometimes referred to as The Dreaming). Ancestors of the Ngarranggarni have left a religious and philosophical framework for understanding the world of humans. This includes their relationship to the environment, the land and its formation and flora and fauna.

There are a number of Aboriginal sacred sites on the Argyle lease. One in particular, Barramundi Gap, the location of the AKI open pit, has special significance to Aboriginal women. There are many other sites on the lease area including Devil Devil Springs, which have Ngarranggarni stories and ceremonies, associated with them. They are all profoundly important to the culture and belief system of local Aboriginal people.



Pinks - the Signature Gem

A tiny portion of Argyle's production - a fraction of one percent - is the highly prized pink diamond, the "signature" stone of the Argyle diamond mine. Argyle is the world's only reliable source of these much sought after gems and they are recovered in a range of shades from light rose to full-bodied purple-reds.

Argyle retains its pink rough diamonds to be cut and polished both in the company's Perth facilities and overseas, where some of the world's most skilled craftspeople fashion the gems to reveal their true brilliance. While many traditional

techniques continue to be used, advanced technology including lasers is applied to the production process.

Once a year Argyle issues a special release of outstanding pink diamonds which are displayed in Perth, Tokyo, New York, London, Geneva and Antwerp and sold by private tender to an exclusive clientele of diamond dealers and fine jewellers. This Pink Tender has become an annual appointment for the world's leading diamantaires. Prices of the pink diamonds are dictated by the intensity of their colour and at the annual Tender are regularly in excess of US\$100,000 per carat.

Building a Sustainable Future

For centuries, local Aboriginal people have used resources in the Kimberley wisely... Argyle is continuing this tradition with its approach to creating a sustainable future.

The world Argyle wants to create is one that ensures sustainable outcomes for all stakeholders. "Sustainable outcomes" mean different things to different people. For some it will mean jobs and new skills, improved health and education and local community self-sufficiency. For others it will mean business

development and personal growth opportunities. For the shareholders it means improved returns on their investment and enhanced reputation, whilst for the Traditional Owners it includes access to and continual custodianship of their land.

For Argyle, sustainability means working in a partnership with all other stakeholders to create these 'beyond profit' benefits that can be passed on to future generations to leave a lasting and positive effect.

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