



# A RARE DISCOVERY

Arafura Resources is currently working on its flagship, Nolans Project, a rare earths and phosphate deposit that will soon be in production.

Operating in the Northern Territory since the mid-1990s, Arafura Resources is a Perth-based rare-earths explorer and emerging producer. The company commenced with small beginnings – when it was listed on the Australian Stock Exchange in 2003, it had only three employees. However, through previous smart land acquisitions in geologically potential areas, the company was able to present a balanced and prospective suite of tenements to seed capital investors.

Continuing on with the company's wise business moves, Arafura has grown and diversified its asset portfolio by targeting projects that will deliver long-term and sustainable value and growth. Arafura's current focus is its flagship, Nolans Project. Identified in 1995 by a previous explorer from government geological survey data, Nolans Bore is a medium-grade, phosphate-hosted rare earths-uranium deposit.

In 1999, Arafura applied for the exploration

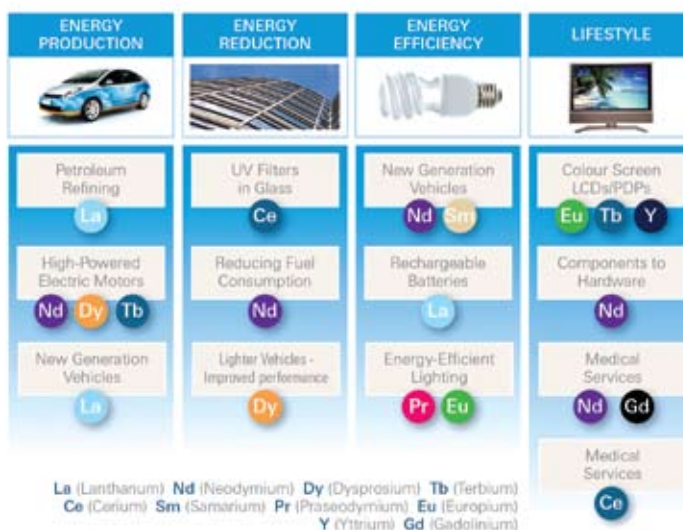
rights over the Nolans Bore area. Assays had indicated that low-grade uranium at the site was not economic in its own right. However, advances in phosphate recovery led Arafura to explore the potential of the site for rare earths and phosphate.

A relatively small mine, the Nolans Project will produce rare-earth oxides, as well as phosphoric acid, small quantities of uranium oxide, and gypsum. With identified resources of 30.3 million tonnes, the life of the mine is expected to be at least 20 years. Once mining commences, about one million tonnes of ore each year will be mined in an open pit to a maximum depth of about 100 metres. Of this, around 300,000 tonnes a year will be separated as waste during primary treatment at the mine site.

"Arafura has been involved in the Nolans Project since we took over the exploration leases," says Steve Mackowski, General Manager of Technology at Arafura. "At that stage, the area had only been looked at as

a phosphate and uranium opportunity. Arafura, however, identified it as a rare-earths opportunity, and we have been working along that line ever since. Floating the company in 2003, we raised \$2.5 million and now have a working staff of around 25 people and a market capitalisation of approximately \$200 million."

Due to the rare earths' nature in this type of mine, much research needs to be done into the type of deposit before mining can commence. "Rare-earth opportunities such as this, like any around the world, require a significant investment in chemistry development because they are not standard types of ore deposits," explains Steve. "Each deposit tends to be unique, so each needs its own specialty chemistry designed for it. In 2007, after researching and designing the best technology, we built a pilot plant to test all the processes. While we've had some funding help from AusIndustry and the government, we've



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spent most of our funding on exploration and development.”

With the project’s preliminary work running smoothly, Steve reports that the mine should be operating within a few years. “We’re looking to be in production during 2013. At this point, we’re 80 per cent through the final feasibility study, where we’ve been estimating our capital and operating costs to get into detailed design and purchasing,” he says. “We plan to be in a position towards the end of next year where we can go to the market for project finance, which will be \$700 million for our part in the project, allowing us to start construction in 2012 and commissioning in 2013. The project itself is in two components. The ore body is in the Northern Territory, 135 kilometres north-west of Alice Springs and around 60 or 70 kilometres away from the railway system. Our plan is to have our mine site there with a beneficiation plant, and we will then transport to a processing facility elsewhere in Australia, close to necessary infrastructure and chemical supplies.”

The company’s suppliers and subcontractors will play an integral role in building and running the mine, so ensuring that Arafura partners with companies with proven reputations is vital. “For projects of this size, it’s imperative to have subcontractors and suppliers that we trust and that add value, because we’re dealing with shareholders’ funds and we have to spend them diligently,” notes Steve. “This is a world-scale project, so the reputation and abilities of the contractors we’re choosing play a very important role in the status of the project itself. People will see that the Nolans Project has what we call the ‘A-group’ designers involved in the project, and that’s a measurement of the mutual trust we share, both in terms of engineering abilities of each partner and having both parties benefit from the association.”

Steve reports that when sourcing suppliers and subcontractors for Arafura, he uses a strategy he heard of used by the American investor Warren Buffett. “When choosing business partners, Warren Buffett reportedly uses the one-glass-of-wine dinner technique,” explains Steve. “He would take them out to dinner, have one glass of wine with them, not talking business at all, just being social and discussing wives and children and all the normal things. If the person bringing the business proposal passed that, he would bring them to a three-wine dinner and they would get a bit closer but still not talk any business. Then, if they passed that, he would ask himself two questions: would I trust my money with this person? If they were male, he would ask: would I trust them to marry my daughter? Then, if the answers were yes, he would have them come in and discuss the business proposal. So what he’s really doing there is that he’s sussing out if he likes, trusts and can have some sort of working relationship with the person. I think this strategy is really important to implement before any business is conducted on such a long project. You have to get to know the people and see if you can get along with them. If you don’t like them, it’s very difficult to spend three years working together.”

Developing strong relationships with people that are trusted and easy to work with is essential, and Arafura recognises and promotes this. “Companies’ personnel move around all the time, and organisations can often only have around 50–60 per cent permanent staff and the rest are contractors,” says Steve. “This means that on the shop floor – the detail level – you rarely see the same people from year to year. It is the people at the mid level and up, the senior engineers and the project managers, that you develop a relationship with, because they are usually



more tied to each particular business.”

The recent global financial crisis (GFC) has impacted on most businesses, and mining is the same. While the opportunities have not been affected, Steve notes that financing has been the biggest problem. “The GFC hasn’t changed the opportunities – a good project is always a good project,” claims Steve. “The GFC limited access to finance. Even though you’ve got a good project, getting finance for it has been much more difficult. Our travels around the world have highlighted to us that potential financiers were very restrictive on funds, whereas previously they weren’t. They have been confused as to what’s happening in the mining industry of late, and it’s most certainly stalled a lot of capital raising around our industry. But I think the situation is alleviating somewhat now.”

Looking ahead, Steve notes that there will be a lot of hard work on the cards for Arafura. “A project is a series of hurdles,” he says. “There’s the excitement of exploration when you find things, and the chemistry when you design your flow sheet. There’s also excitement when all the numbers start to add up and show a successful project. However, that is then followed by two or three years of hard work which is laborious, time consuming and detailed, but it will be worthwhile when the project begins and everything works perfectly. So we still have some significant tasks that are progressed concurrently: around two years of detailed design efforts, 18 months of environmental impact assessment, with 12 months of government and social interactions. Then, when that all comes to fruition, we will have an 18 months to two-year construction period, followed by some successful commissioning in 2013.”

As the company moves steadily towards its goal of bringing the Nolans Project into production, the relationships Arafura has formed with its suppliers and subcontractors will play an integral role. By choosing contractors who are trusted and share a desire to succeed for the project, the end result is set to be spectacular. 



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**ARAFURA**

Arafura Resources derives its name from the Arafura Sea, the body of water which lies to Australia’s north between the Northern Territory and New Guinea. ‘Arafura Sea’ comes from the Portuguese ‘mare aurifera’, meaning ‘sea of gold’. The name dates back to 1623, when shipwrecked Portuguese were said to have seen gold-studded quartz on the coast of Arnhem Land.