

# A NEW WORLD FORCE IN MINERAL SANDS

World Titanium Resources (WTR) will invest \$US150 million developing the Toliara mineral sands project in Madagascar, with an initial 20-year mine at Ranobe aiming for first production by mid-2014.

**W**TR WAS, AT THE time of writing, expected to list on the Australian Securities Exchange in January 2012.

It follows the acquisition of unlisted WTR by ASX-listed Bondi Mining via a scheme of arrangement that offered 3.5 Bondi shares (following a Bondi four-for-one consolidation) for each WTR share.

The company recently completed a \$A3 million raising, so the newly listed WTR starts out with more than \$12 million in cash.

The company's flagship asset is the Toliara sands project, centred on the proposed Ranobe mine, about 50km north of the port of Toliara in southwest Madagascar.

The project was discovered by founding WTR director and geologist Peter Woods, who has been exploring Madagascar since 1994.

Ranobe, just one of four identified mineral sands exploration targets in the Toliara project, is one of the largest and highest grade mineral sands deposits in the world.

WTR chief executive officer Bruce Griffin told *RESOURCESTOCKS* the project was one of those rare assets – “low cost, no overburden, high value ore, good margins, easy conventional mining and processing, readily expandable with good access to markets. Not something you find very often”.

Although Griffin has only been with WTR a few months, he knows of what he speaks.

He was previously BHP Billiton's titanium vice-president, responsible for the company's worldwide titanium business, including the Richards Bay minerals joint venture with Rio Tinto in South Africa and the

Corridor Sands and Tigen projects in Mozambique.

The first stage of the Toliara sands project will involve development of the Ranobe mine by way of an initial high-grade “starter pit”.

The starter pit will comprise 145 million tonnes at 8.1% total heavy mineral, just part of the estimated exploration target of 1475Mt at about 5% THM at Ranobe.

The overall Toliara sands project has a defined exploration target of 4.7 billion tonnes in four exploration targets, including Ranobe.

The total JORC resource in the Ranobe upper sand unit is 707Mt at 6.5% HM containing around 30Mt of ilmenite, 2.5Mt of zircon and 0.85Mt of rutile.

WTR plans to start mining in the first half of 2014 at a rate of 7Mt per annum for the first 10 years, then at 9.4Mtpa for another 10 years to produce an annual 400,000t of ilmenite and 43,000t of rutile/zircon concentrate.

The initial capital investment is expected to be approximately \$US130 million, with another \$20 million to be invested in year 10 to fund the increased mining rate.

The “starter pit” is calculated to deliver an internal rate of return after tax of 45%, a net present value after

tax of \$323 million and annual after tax cash flows of about \$51 million (payback in 2-3 years).

The values are based on average prices over the initial mine life of \$151 a tonne for ilmenite and \$1108/t for the non-magnetic concentrate, both considerably below current spot prices of \$200/t to \$300/t for ilmenite and around \$1600/t for the concentrate.

A scoping study completed in July 2011 by TZ Minerals International described the project as a world-class asset by industry standards, with value per tonne of ore and heavy mineral grade well above the industry average, capital intensity (the ratio of capital expenditure to annual revenue) and cash costs per tonne of product well below the industry average.

Other important advantages of the proposed Ranobe mine include the low slimes content in the ore of less than 5%, the complete absence of barren overburden and good grades down to 40m.

Griffin said the mining process would be conventional and straightforward – site clearance, conventional excavator and hopper dry mining, trucking concentrate via a new dedicated 40km haul road then pumping to a mineral separation plant at the port via a 14km slurry pipeline. ▶

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**BRUCE GRIFFIN**  
WORLD TITANIUM RESOURCES



The existing port facility at Toliara has a 15,000t wharf capacity and a reef-protected deep water channel with capacity for 35,000t ships for barge transfer.

“The great attraction of this project is that it is very scalable,” Griffin said.

“We are able to start this operation utilising a simple mining method, with low risk processing technology and make a very good return.

“Over time it should be easy enough to increase the mining rate, the level of processing and greatly enhance the return from this operation, all with low technical risk.”

The company is currently finalising the mining licences required for the project and verifying capital and operating cost estimates.

It is also upgrading the scoping study to a definitive feasibility study and determining the funding strategy for the initial development.

The mining licences were applied for two years ago but have been delayed in the aftermath of the deterioration of the political situation in 2009.

However, a recently agreed roadmap has provided a transitional government framework and a clear path to new elections.

The political situation does not bother Griffin. Nor does it seem to concern the likes of big Canadian Sherritt International and Rio Tinto.

Sherritt, Sumitomo and Korea Resources are developing the \$5.5 billion Ambatovy nickel project in Madagascar, with a forecast

start-up in early 2012 and mooted to become the world’s biggest lateritic nickel mine by 2013-14, producing 60,000t of refined nickel and 5600t refined cobalt a year for the next three decades.

Rio Tinto’s 80%-owned \$1.2 billion ilmenite project began production at the end of 2008 and is ramping up capacity to 750,000tpa.

Griffin admits to being surprised by the immediate and long-term potential of the Toliara sands project.

“It is a world-class project by any standard, with plenty of room for expansion. It is the type of large, low-cost, expandable asset that any major would like to own.”

To that end, Griffin said WTR has the money to get to a decision to mine and there were a number of options being considered for the development capital, including a strategic partner.

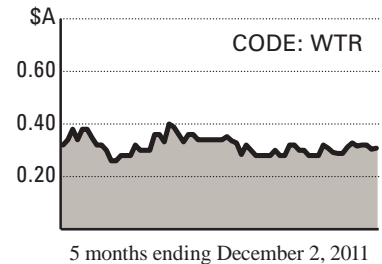
The company also enjoys the support of two cornerstone investors, Boule Titanium – part of the Boule Mining Group – and Mineral Deposits Limited.

Boule Titanium has supported WTR throughout its unlisted phase and has significant experience in developing mineral sands assets from exploration through to production.

2012 should be an exciting year for WTR, including the granting of its mining licences, completion of the definitive engineering study and raising \$150 million to develop the Ranobe mine being among the first steps to building a new mineral sands company. – **Mark Mentiplay**

WTR examines surface extensions of its \$US150 million Ranobe mineral sands project in Madagascar

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### DIRECTORS

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### MARKET CAPITALISATION

\$A9.27 million (at press time)

### QUOTED SHARES ON ISSUE

30,103,200

### MAJOR SHAREHOLDERS

Boule Titanium 20.7%  
Mineral Deposits Limited 14.9%  
Guy LeClezio 6.4%  
Peter Woods 4.0%