

# WORLD TITANIUM RESOURCES



**The Year in Review**

**Bruce Griffin CEO – AGM Perth November 2012**

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*Ian Ransome, B.Sc. (Hons) Geology, Pr.Sci.Nat., a Director of the Company, who is a registered geological scientist with the South African Council for Natural Scientific Professions (SACNASP), and has sufficient experience which is relevant to the styles of mineralisation and types of deposits under consideration, and is thus a Qualified Person in terms of the JORC Code, has reviewed and consented to the inclusion of the scientific and technical information contained in this presentation.*

# 2012: The Year In Review

- Merger with Bondi, including \$3 million share placement
- Ranobe Mining licences granted
- Ranobe Definitive Engineering Study Completed
- Ranobe Mineral Resource increased by 36%
- Maiden Ore Reserve at Ranobe
- ESIA Scoping phase completed
- Key management recruited
- Continued support for the community
- Trial mine and sample program commenced

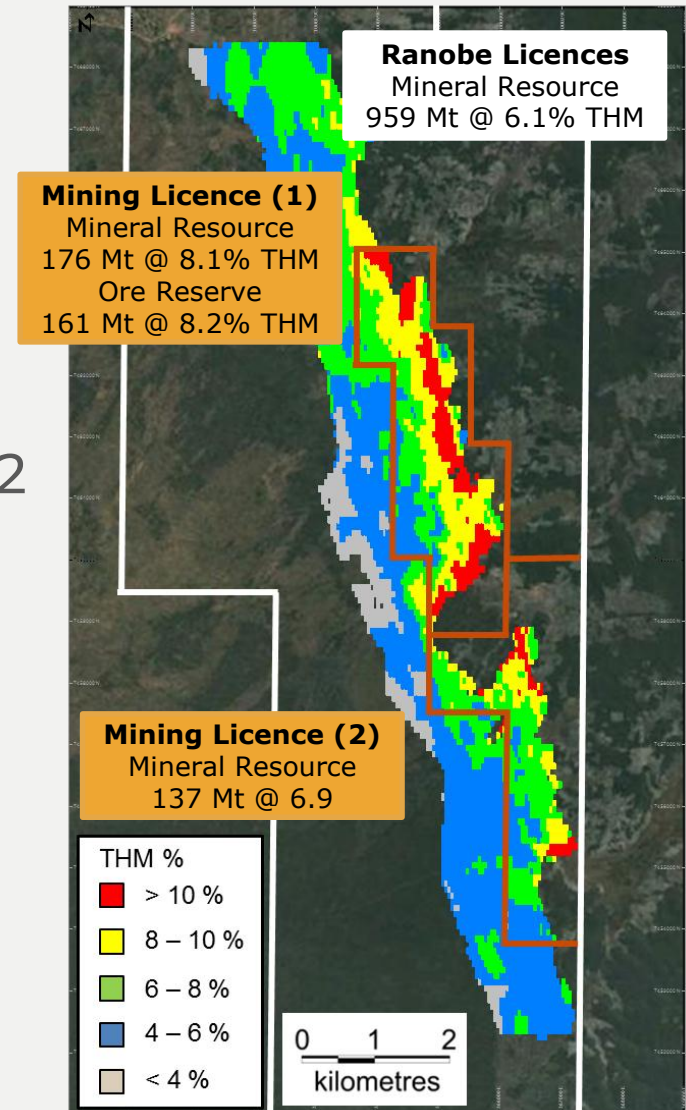
# Secured Ranobe Mining Licences

Mining licences granted April 2012

- 40 year licences, renewable
- 313 million tonne Mineral Resource
- Average grade 7.6% THM

Exploration licence renewed April 2012

- 3 year licence
- Convertible into a mining licence
- Covers rest of the Mineral Resource
- 959 million tonnes at 6.1% THM



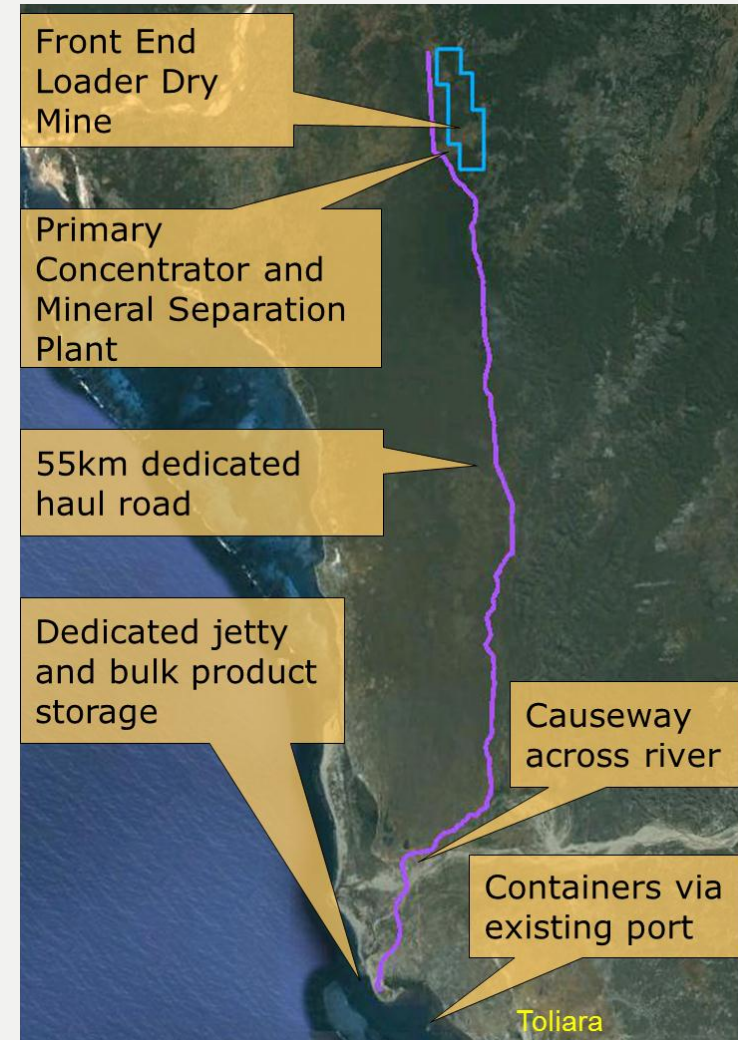
# Definitive Engineering Study Completed

## Input from experts

- TZMI – process and overall study management
- EPMS – engineering
- JFA BMT – port design
- McDonald Speijers – Resource and Reserve
- Mining contractors – mining
- Haul road operator – haul road truck design
- COLAS – In country costs and civil engineering

## Simple mining, processing and logistics

- Single dry mine with 2 Front End Loaders
- Pump slurry to Primary Concentrator
- Mineral Separation Plant at mine site
- Sulphate and chloride ilmenite
- Zircon/rutile concentrate
- 55km haul road to storage and jetty
- Direct load vessels in reef sheltered water



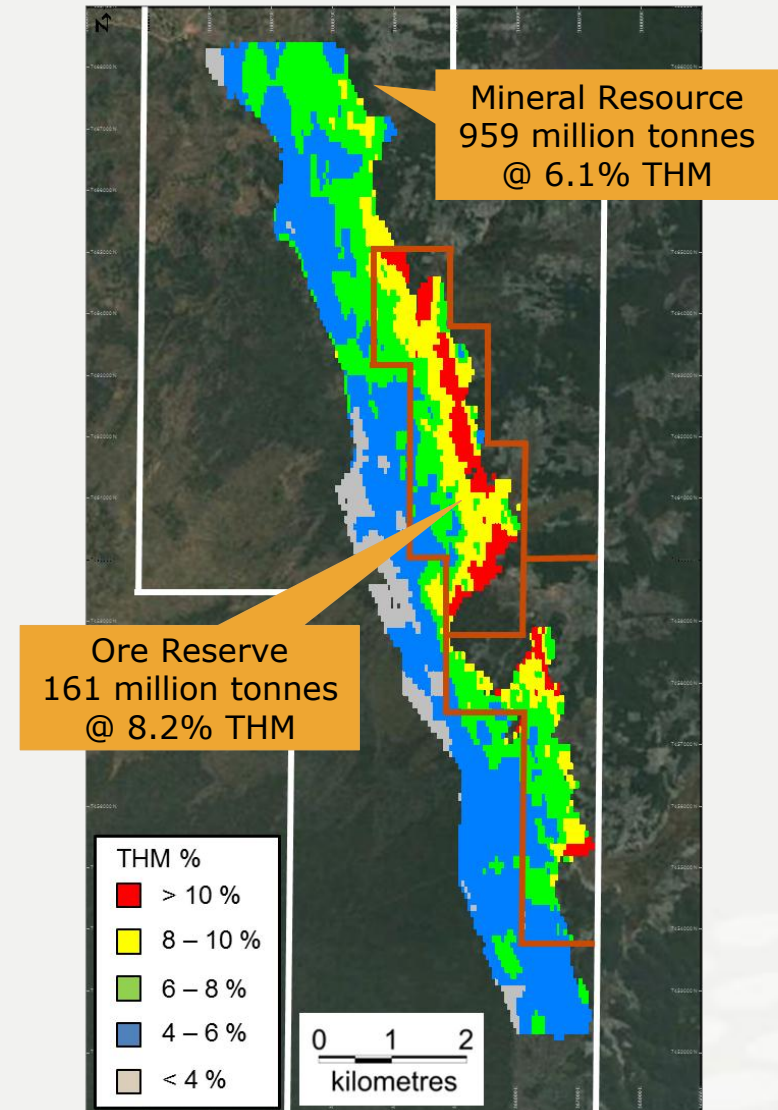
# Increased Resource, Maiden Reserve

## 36% Increase in Mineral Resource

- 959 million tonnes at 6.1% THM
- One continuous deposit
- Cut off grade of 3%

## Maiden Ore Reserve

- 161 million tonnes at 8.2% THM
- 21 year LOM
- Just 17% of current Mineral Resource
- >100 years at initial production rate



# ESIA Scoping Completed

## ESIA Scoping Phase Completed

- Coastal Environmental Services
- Updated previous ESIA work
- Extensive community consultation

## Final ESIA/ESMP Commenced

- Specialist studies commissioned
- Final submission to ONE early 2013
- Approval by March 2013 based on legislated waiting periods



One of several well attended community forums

# Key Management Recruited

## Strong additions

- Les Michalik                      Project Director
- Mahen Sookun                      CFO
- Eric Gagnon                      GM Community Relations

## Existing team

- Bruce Griffin                      CEO
- Wayne Malouf                      Executive Chairman
- Jules LeClezio                      Country Manager Madagascar
- Supported by an experienced Board



# Continued Support for the Community

## Grievance mechanism

- Confidential community feedback
- Designed and being implemented

## Water supply for 3 villages

- Restored wells and installed foot pumps

## Australian Doctors For Africa

- Supported 2 visits to Toliara

## Support Local Community Sport

- Improved sport facilities

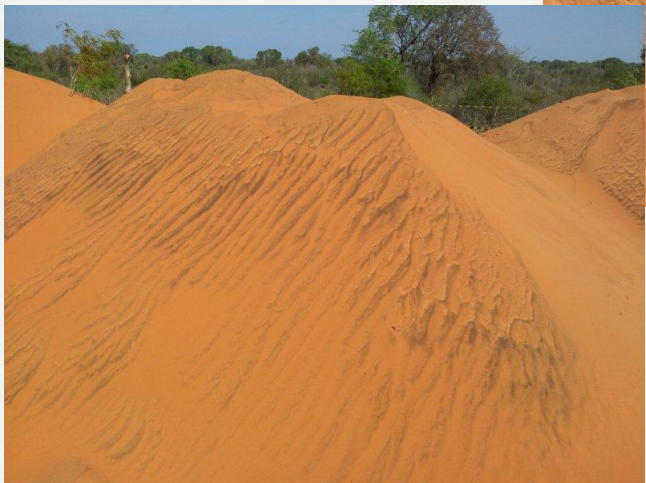


# Trial Mine and Sample Program

- Commenced in November
- Initial feedback positive



# Trial Mine and Sample Program

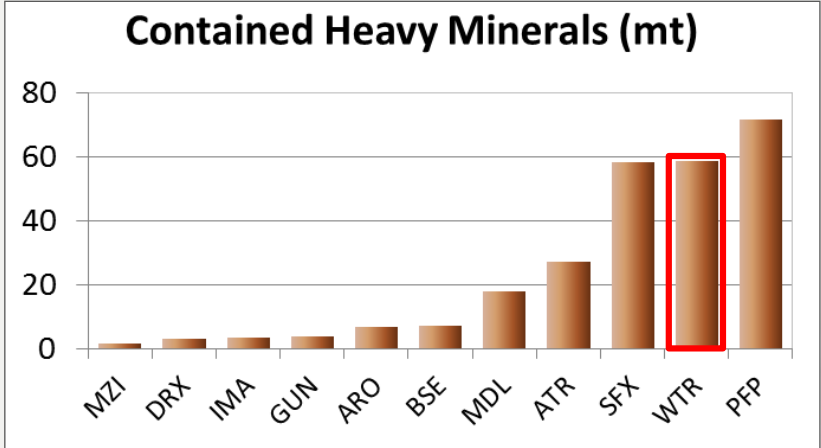
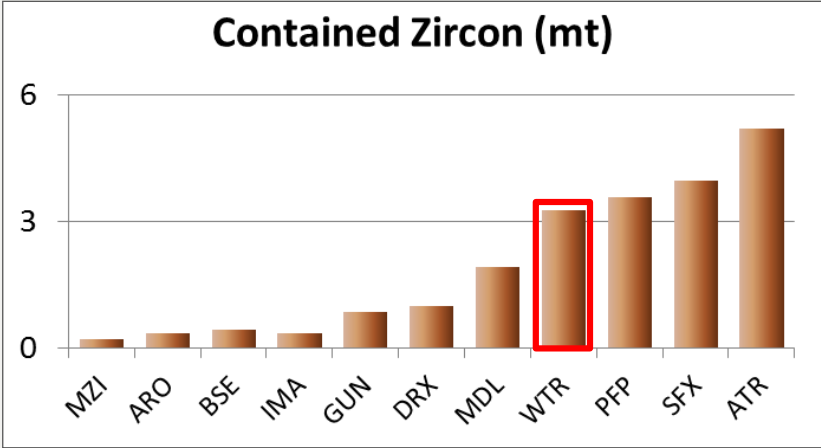
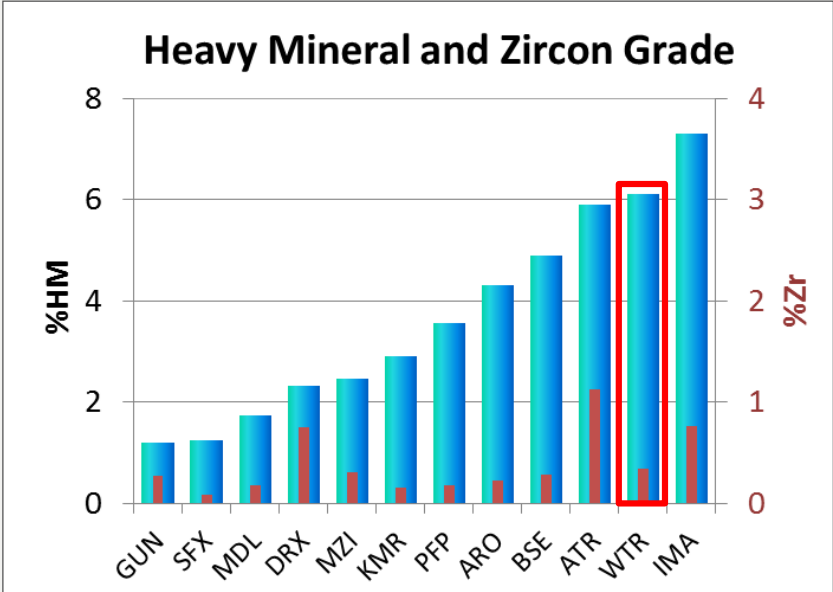


# Ranobe: A World Class Project

- Ranobe Mine
  - Large, scalable mineral sands asset
  - Simple & low-risk development concept
  - Low capital, high margin, robust NPV
- Growth options
- First production – target 2014



# A Large, High Grade Deposit



APG - Austpac; ARO - Astro; ATR - Astron; BSE - Base; DRX - Diatreme; GUN - Gunson; IMA - Image Resources; KMR - Kenmare Resources; MDL - Mineral Deposits; MZI - Matilda Zircon; PFP - Pathfinder; SFX - Sheffield Source: Company websites, TZMI

# Simple, Low Risk Development Concept

To view the animation of the project please go to:

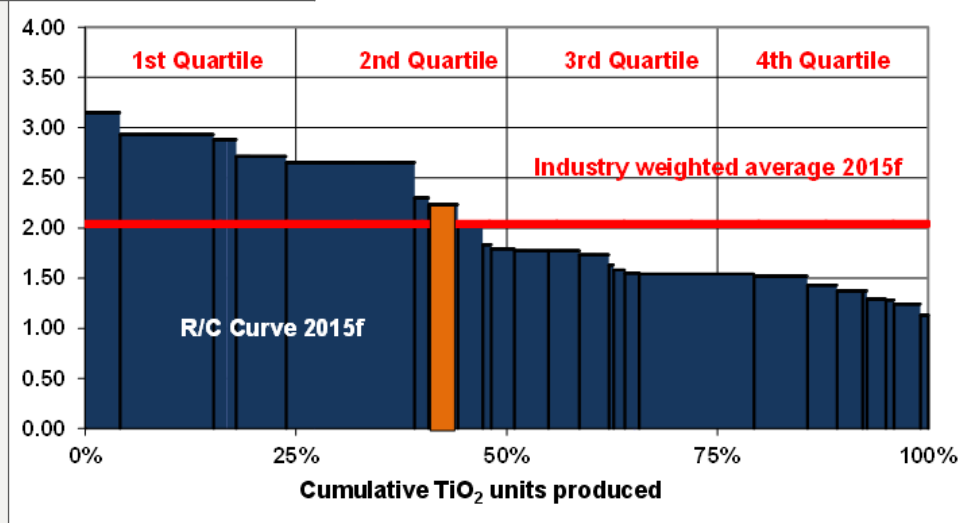
<http://www.worldtitaniumresources.com/investors/video/>



# Competitive Cost Structure

Area	Annual Average Operating Cost	
	Total US\$m	Per Tonne Product \$US/t
Mining	16.2	36
Concentrator	8.9	20
Mineral Separation Plant	10.4	23
Product transport and Handling	8.9	20
Admin and Marketing	5.0	11
Royalties	2.3	5
<b>Total</b>	<b>51.7</b>	<b>116</b>
<b>Revenue</b>	<b>115.1</b>	<b>271</b>

**Revenue-to-cash  
cost ratio: 2015**

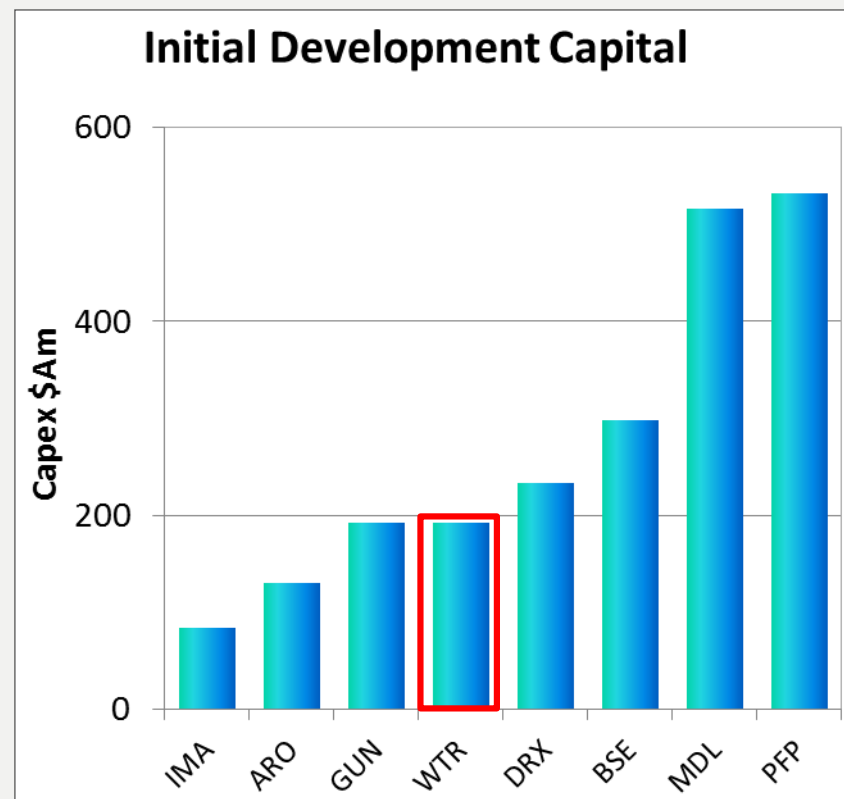


Data in 2015 RC curve is based on TZMI's long term zircon and titanium feedstock price forecasts and production forecasts of existing and newly approved operations. Source: TZMI

# Relatively Low Development Capital

## Pre-production capital expenditure

Area		Capital
Mine + Primary Concentrator		19
Mineral Separation Plant		26
Road + Port		71
Other Infrastructure		13
Indirect + Other		7
<b>Process Plant and Infrastructure</b>		<b>136</b>
EPCM (17%)		23
Contingency (20%)		32
<b>Total – Base Case</b>		<b>192</b>
Total (jetty piling cost range)	Low	188
	High	200





# Significant Shareholder Value Creation

‘Starter Pit’	
Mine life	21 years
Average annual production rate	
Ilmenite	407,000 tpa
Zircon/rutile concentrate	44,000 tps
Ore mined	161 million tonnes
Average grade	8.2%
Ore mined per annum	8 million tonnes
Capital Investment	US\$192 million development capital US\$24 million working capital
Forecast project financial (November 2012)	
IRR (after tax)	29%
NPV (after tax, 10% real)	US\$310 million
Payback	2.7 years
Average annual after tax cash flow	US\$55 million
Life of Mine Free Cash Flow (post-tax real)	US\$1,147 million

# Starter Pit is JUST THE START

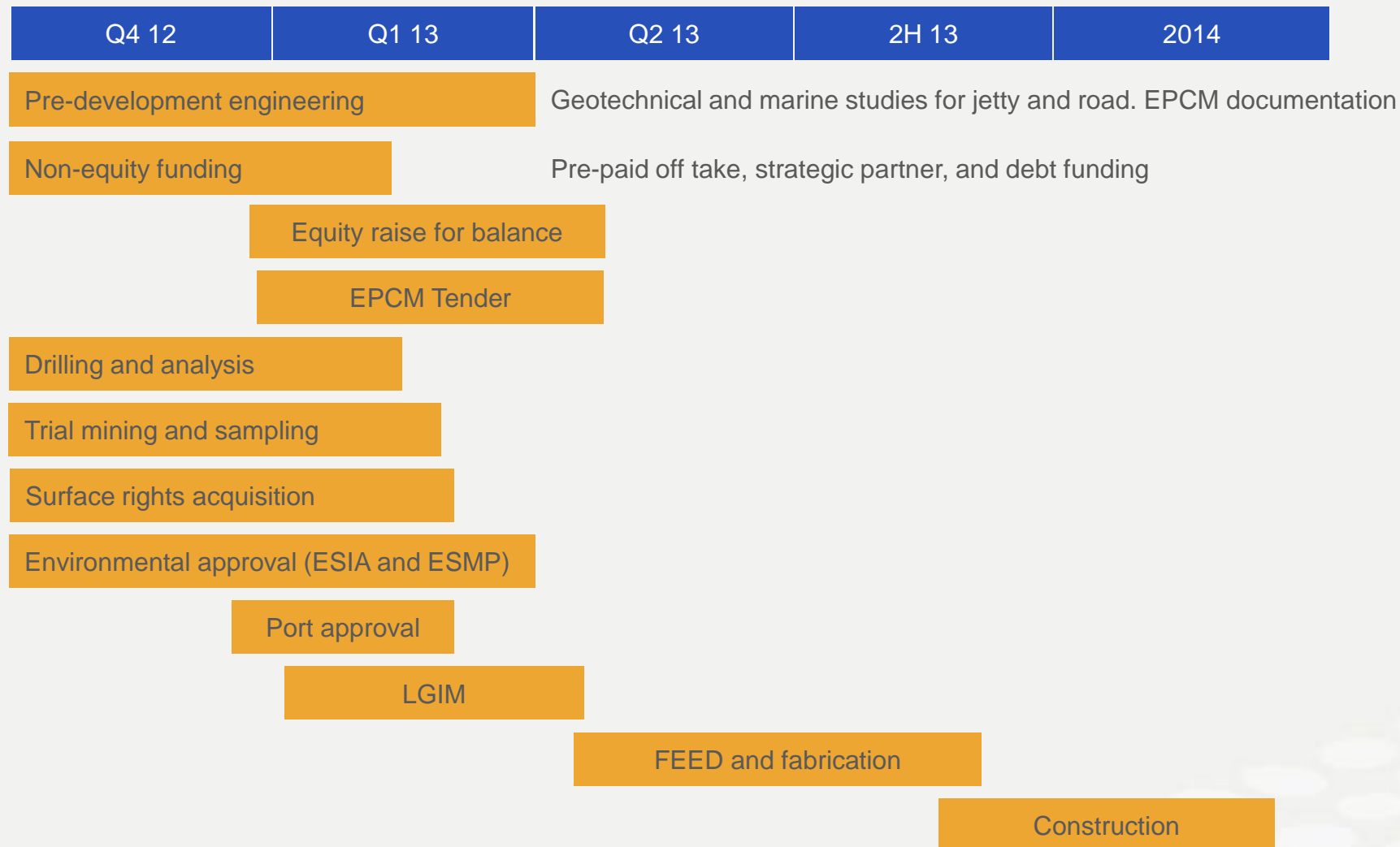
'Starter Pit' – US\$310m NPV<sub>10</sub>, LoM cash flow \$1.147b

## THE MAIN GAME

- Design capacity Port and Road is +3 times starter pit production
- Double mining, processing and works = 2 times throughput
- DES capital for these items was \$85m
- Starter pit is  $\frac{1}{5}$  of the 959 Mt resource, equates to LOM +100yrs
- 30 year LOM implies 3 times increase in production
- 3 times mining rate is achieved with less than 10 loaders
- Potential mineralisation is 5 times resource and 29 times reserve<sup>1</sup>

<sup>1</sup>Total Toliara Sands Project exploration target of 4.7 billion tonnes. Ranobe ~1,400Mt @ 6-7% THM, including 959Mt @ 6.1% Mineral Resource, Ankililoaka ~365 @ 5-6% THM, Basibasy ~445Mt @ 4.5-5.5% THM and Morombe 2500Mt @ 1-3% THM  
These Exploration Targets are at an early stage of evaluation, and the potential quantity and grade remain conceptual in nature. At this stage there has been insufficient exploration to define Mineral Resources and it is uncertain if further exploration will result in the determination of Mineral Resources greater than that already defined.

# First Production in 2014



EPCM – Engineering, Procurement Construction Management; ESIA - Environmental and Social Impact Assessment;  
EMP - Environmental Management Plan; LGIM – Large Investment In Mining; FEED - Front-End Engineering and Design