

**Metal Bulletin**  
Events

INDUSTRIAL MINERALS  
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# 4th Asian Bauxite & Alumina Conference

29 - 30 October 2014

Grand Copthorne Waterfront Hotel, Singapore



**Peter Canterbury, Bauxite Resources Limited**

Opportunities & Challenges in  
Developing a New Bauxite Project



### **Forward Looking Statements**

These materials include forward looking statements. Often, but not always, forward looking statements can generally be identified by the use of forward looking words such as “may”, “will”, “expect”, “intend”, “plan”, “estimate”, “anticipate”, “continue”, or other similar words and may include, without limitation, statements regarding plans, strategies, and objectives of management. Forward looking statements inherently involve known and unknown risks, uncertainties and other factors that may cause the company’s actual results, performance and achievements to differ materially from any future results, performance or achievements. Relevant factors may include, but are not limited to, changes in commodity prices, foreign exchange fluctuations and general economic conditions, increased costs, the speculative nature of exploration and project development, including the risks of obtaining necessary licenses and permits, political and social risks, changes to the regulatory framework within which the Company operates or may in the future operate, environmental conditions including extreme weather conditions, recruitment and retention of personnel, industrial relations issues and litigation.

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### **Competent Person’s Statement**

The information in this presentation that relates to **Cardea1&2, Juturna, Minerva and Rusina** Mineral Resources is based on information compiled by Peter Senini who is a member of the Australian Institute of Geoscientists. Mr Senini was an employee of the Company at the time of resource estimation and remains competent person for the above mentioned resources. He has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2012 Edition of the ‘Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves’. Mr Senini consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

The information in this presentation that relates to **Felicitas, Cardea3, Aurora, Ceres, Cronus, Fortuna, Dionysus and Athena** Mineral Resources is based on information compiled by Graham de la Mare who is a Member of the Australian Institute of Geoscientists. Mr de la Mare is employed by RungePincocKMinarco (RPM). Mr de la Mare has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2012 Edition of the ‘Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves’. Mr de la Mare consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

The information in this presentation that relates to **Exploration results** is based on information compiled by Mark Menzies, who is a member of the Australian Institute of Geoscientists. Mr Menzies is a qualified geologist and a full time employee, and has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2012 Edition of the ‘Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves’. Mr Menzies has consented to the inclusion in this announcement of the Exploration Information in the form and context in which it appears.

### **JORC Code Compliant Public Reports**

The Company advises that material contains summaries of Exploration Results and Mineral Resources as defined in the 2012 Edition of the ‘Australian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves’ (JORC Code). The JORC compliant Public Reports released to the ASX declaring the exploration results or JORC resources referred to can be viewed on both the ASX and the Company websites, free of charge.

The company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcement and, in the case of estimates of Mineral Resources that all material assumptions and technical parameters underpinning the estimate in the relevant market announcement continue to apply and have not materially changed. The company confirms that the form and context in which the Competent Person’s findings are presented have not materially modified from the original market announcement.

# Developing a New Bauxite Project - Opportunities & Challenges

- How will current bauxite supply/demand dynamic impact new developers?
- Barriers to entry - why BRL is well positioned
- Constraints on growth - infrastructure challenges and environmental concerns. How are the new projects affected?
- Customer demand/sentiment toward new bauxite operations
- Capex and securing financing - do the projects look commercially viable in the current market conditions?





# Company Profile




ROB NASH



LUKE ATKINS



NEIL LITHGOW

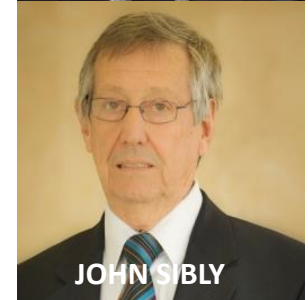


CUNDONG LAI

Ordinary Shares	231m
Market Cap	\$29m (at 0.125c)
Bank Debt	\$ 0
Current cash	\$30.5m (30/09/2014)
Resource	396.5Mt bauxite
Chair	Rob Nash
CEO	Peter Canterbury
Major Shareholders	%
HD Mining & Inv PL	8.5%
Yankuang Res PL	8.5%
Big Fish Nom PL	7.6%
Tailrain PL	7.3%
Dilkara Nom PL	5.2%



PETER CANTERBURY



JOHN SIBLY



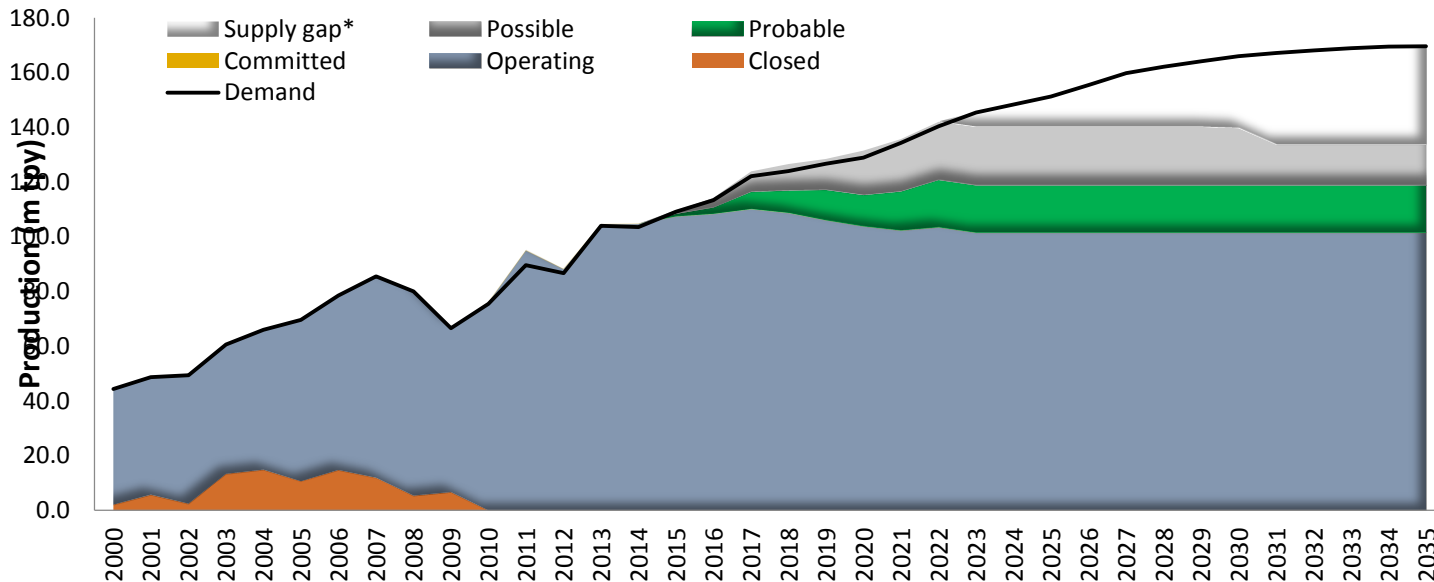
ZHAOZHONG WANG

Board with extensive Bauxite, Alumina, Mining, Geological, Commercial and Legal experience in the bulk commodity industry  
 JV Partners both Shandong based – Largest bauxite import region of China

# Favourable bauxite market

- Long Term outlook for aluminium market very positive – driven by demand
- Bauxite supply constraints due to Indonesian bauxite export ban
- Health and Infrastructure issues in West Africa
- However combination of built up inventories and new sources has resulted in a balanced market in the short term
- Long term requirement for additional sources of bauxite
- Most prospective bauxite source areas have infrastructure challenges
- General perception that bauxite supply will be short over the medium-long term leading to increasing prices.

**Third party bauxite demand and supply, 2000 to 2035 – Source CRU**



\*Note: Supply gap will be filled by the possible and speculative project which are expected to come on stream after

# New Projects - Barriers to Entry

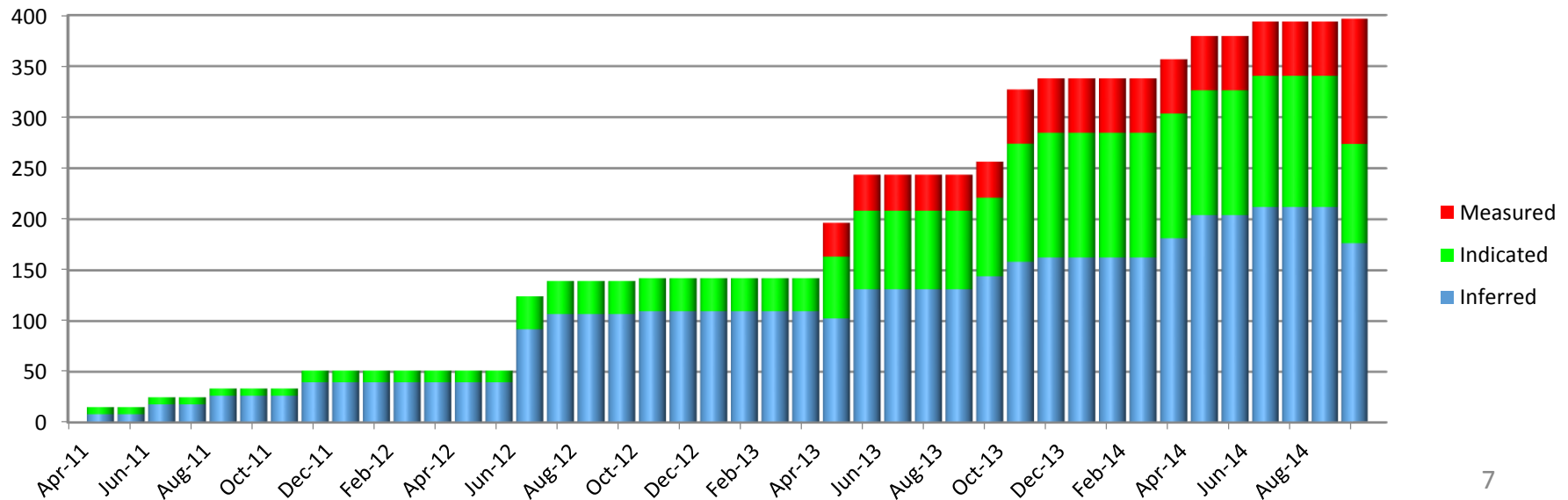
- Need Large Scale Resource – Customers want a long term bauxite source to plan alumina production around
- Efficient Logistics – Majority of bauxite costs is freight
- Suitable bauxite – Gibbsite/Boehmite - Energy and Caustic considerations
- Capital & Infrastructure Requirements
- Sovereign Conditions or Requirements
- Risk Perception
- Funding Options



# Large Scale Resources

- Each Bauxite is different and will require technical modification to a refinery if bauxite is different to the one the refinery was built around.
- Customers want a secure source of long term bauxite
- BRL and Joint Venture Partners have current resources of 396.5Mt with potential to grow further
- Some 268Mt resource in one area close to existing rail
- High level of resource confidence with over 50% of total resources in Measured/Indicated category

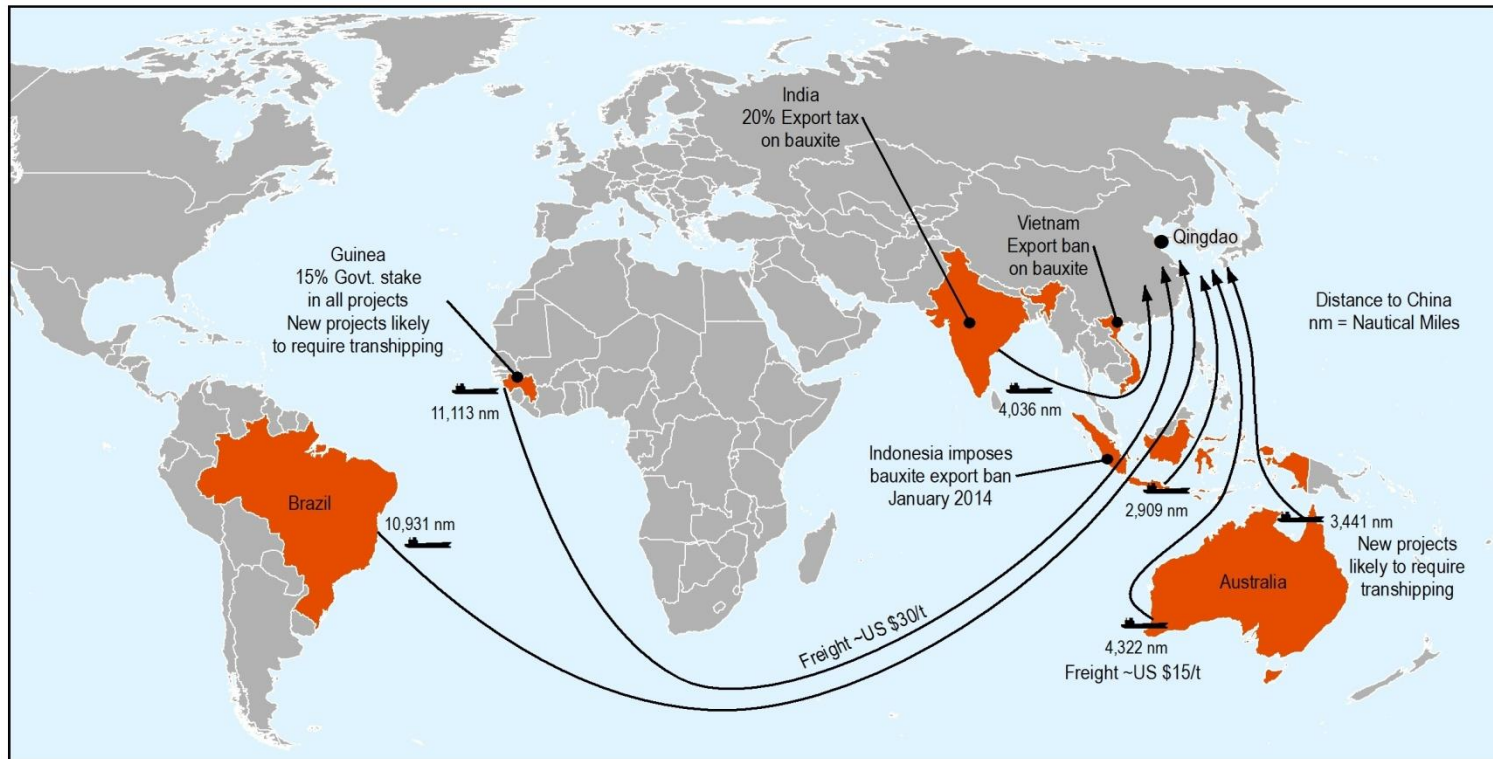
**BRL & JV Partner Current Joint Bauxite Resource of 396.5 million tonnes**



# Efficient Logistics

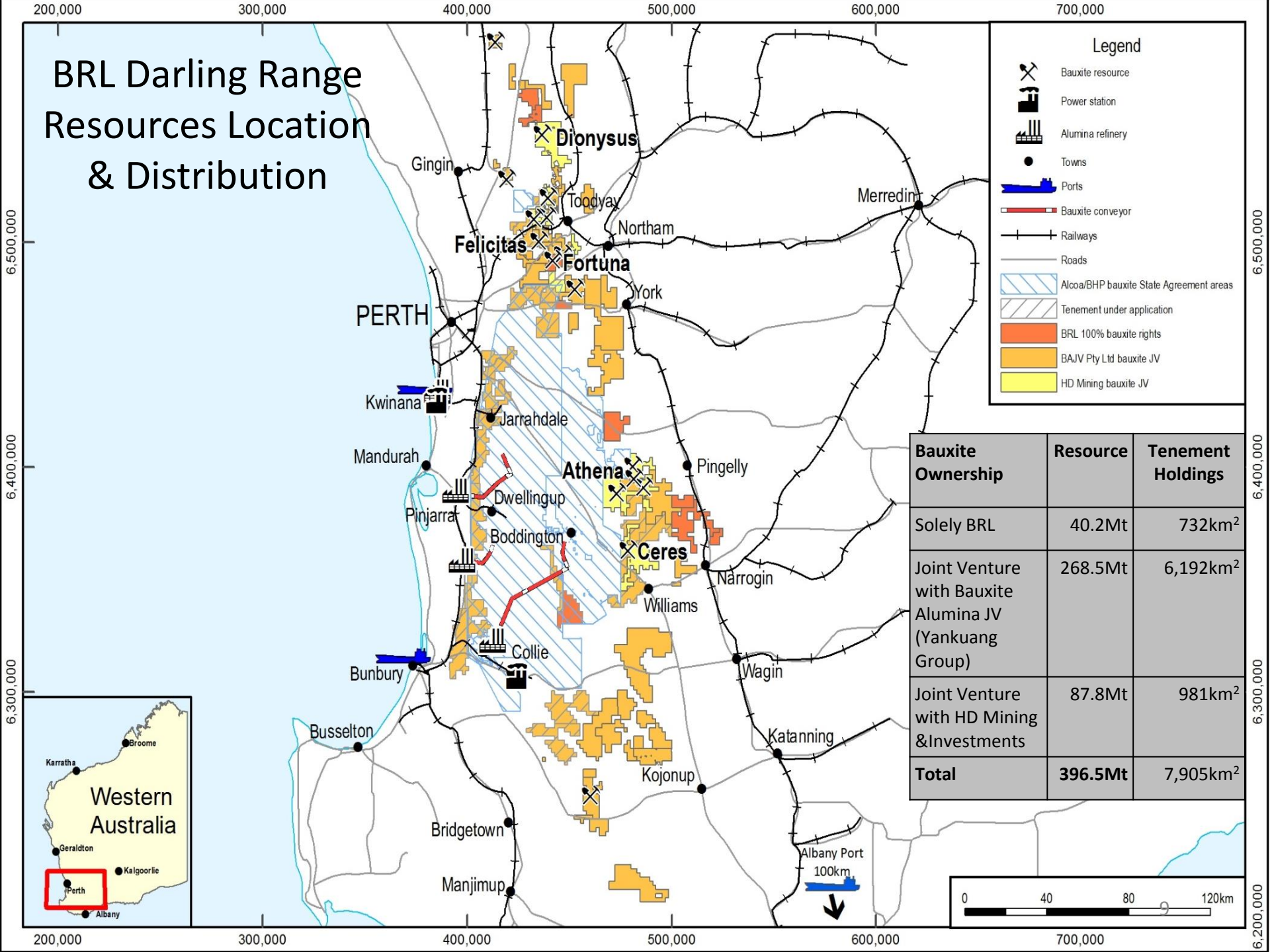
- Typical Bauxite Project >70% logistics cost
  - Mining Costs US\$5-10/t
  - Local Transportation US\$5-20
  - Port/Shipping Costs US\$10-40
- Distance to market, vessel size and availability on route key to shipping costs
- Australian projects has significant logistics advantage over African/Atlantic bauxite options

## Global bauxite supply logistics



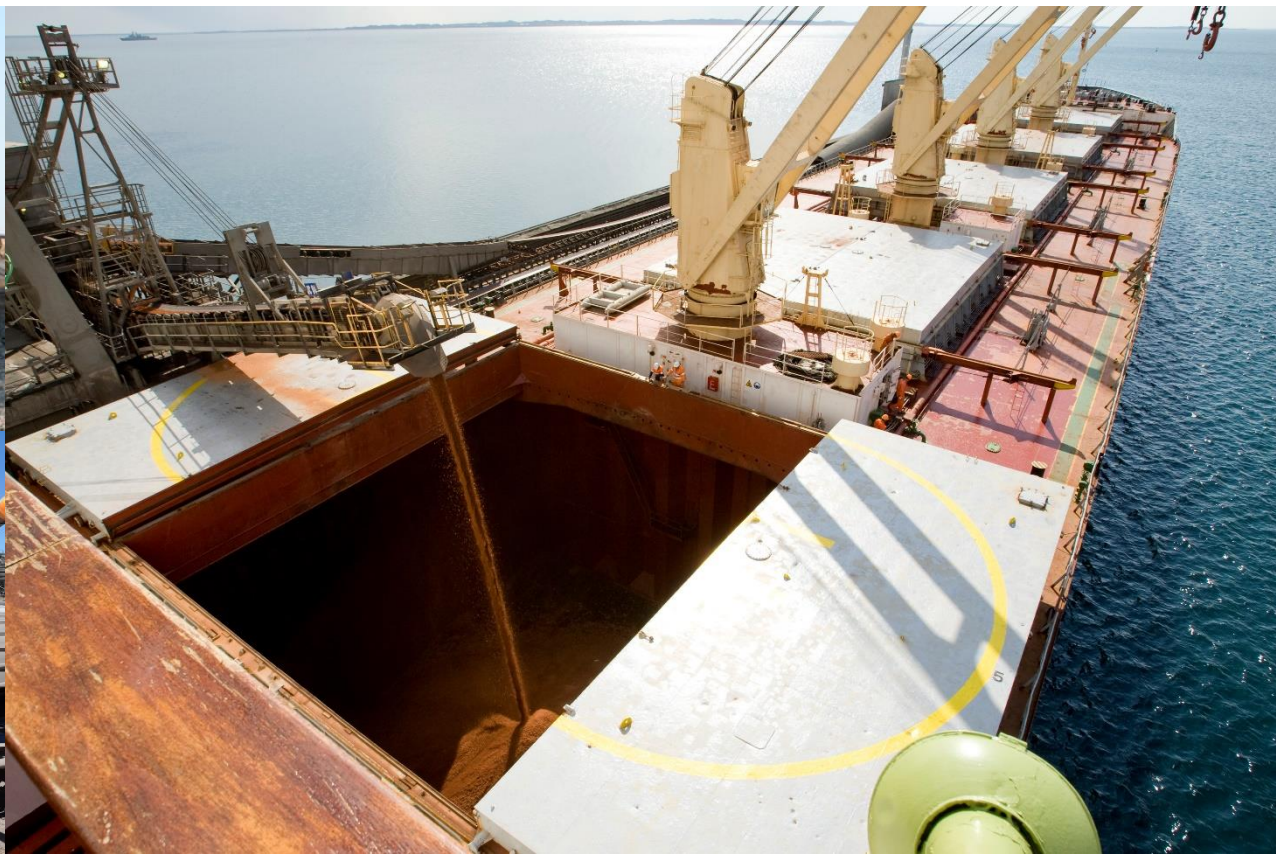


# BRL Darling Range Resources Location & Distribution



# Logistics – BRL

- Distance from Chinese Market – BRL 4,300 nautical miles
- BRL close to existing rail facilities to deep water ports
- Felicitas and Fortuna located very close (2-15km) from existing rail siding
- Dual gauge/dual track rail line to Kwinana Port





# Suitable Bauxite

- What makes a bauxite suitable - Cost to refine - Determined by:
  - Low/High Temperature Digestion
  - Gibbsite/Boehmite/Diaspore
  - Energy and Caustic considerations
  - Logistics Costs
- Environment and energy considerations likely gain increased focus globally - especially in China
- Darling Range Bauxite – efficient bauxite to process with 3 existing WA refineries in lowest 1/3 of producers
- BRL Bauxite
  - Gibbsite
  - Low Temperature Digestion with low Reactive Silica
  - At low end of available alumina levels compared to other export bauxites however has favourable logistics and close to infrastructure
  - Fortuna deposit also suitable for sweetening in HT refineries
  - Interest from China in this bauxite for both LT and sweetening – compares favourable to local bauxites in China



# Resources Summary

Resource Summary	Size Mt	Al <sub>2</sub> O <sub>3</sub> %	Available Al <sub>2</sub> O <sub>3</sub> %	Reactive SiO <sub>2</sub> %	Al <sub>2</sub> O <sub>3</sub> avail:SiO <sub>2</sub> reactive	Depth of overburden (m)	Max Bauxite Thickness (m)	Bulk Density
<b>BRL 100%</b>								
Fortuna	40.2	38.8	32.1	1.8	18	2	13	2.17
<b>BRL 100% Sub total</b>	<b>40.2</b>	<b>38.8</b>	<b>32.1</b>	<b>1.8</b>				
<b>JV with Bauxite Alumina JV (Yankuang Group)</b>								
Felicitas	227.9	39.7	31.1	2.0	15.6	2	16	2.17
Cardea3 BAJV	14.2	41.5	30.5	3.4	9.0	1	10	2.17
Minerva	2.2	38.7	28.9	3.9	7.4	3	6	1.6*
Aurora	9.4	44.1	32.6	3.9	8.4	1	5	2.17
Rusina	3.7	40.3	29.1	5.3	5.5	1	5	1.6*
Juturna	8.2	40.2	29.9	3.9	7.7	3	6	1.6*
Cronus	2.8	39.3	28.3	2.8	10.1	2	11	1.6*
<b>BAJV Sub total</b>	<b>268.5</b>	<b>39.9</b>	<b>31.1</b>	<b>2.2</b>				<b>1.6*</b>
<b>JV with HD Mining &amp; Investments</b>								
Ceres	15.0	40.9	31.7	3.0	10.6	3	7	1.6*
Cardea1&2	6.4	41.8	29.3	4.3	6.8	3	6	1.6*
Cardea3	9.9	40.7	29.1	4.3	6.8	1	10	2.17
Dionysus	20.3	42.1	32.6	3.4	9.6	1.5	8.5	2.17
Athena	36.2	41.8	32.8	2.8	11.7	1	13	2.17
<b>HDM Sub total</b>	<b>87.8</b>	<b>41.6</b>	<b>31.9</b>	<b>3.3</b>				

- Gibbsite ore with low reactive silica ratios to available alumina
- Limited overburden, close to surface, low mining costs
- Only <10% of exploration licence areas drilled

*\* Potential of likely increase subsequent to further core drilling and density determination*



# Capital/Infrastructure Constraints

- Infrastructure is largest challenge to all new bauxite projects
- Funding of large scale capital projects very difficult under current market conditions
- Tonnage of bauxite shipped generally lower than other bulk commodities such as iron ore
- Therefore capital intensity far higher than other bulks => harder to finance
- Stability and Sovereign Risk critical to funding developments

BRL's deposits are all within close proximity to existing rail facilities on established routes to bulk commodity ports – will result in significant reduction in CAPEX requirements



# Development Constraints

## ➤ New Projects Development Constraints

- Land Security
- Environmental Considerations
- Agreement with landowners
- Building Infrastructure – Approvals
- Policy framework in place in jurisdiction the Company is intending to operate

## ➤ BRL Projects

- All resources on large private landholdings
- Existing Key Exploration Agreements in place - Mining Landowner Compensation Agreements subject to ongoing negotiation
- Predominantly cleared land (60-80% cleared farmland)
- Environmental Constraints studies revealed no significant issues – Baseline studies commenced on Fortuna and Felicitas
- Minerals to Crown resources of BRL are governed by well establish Mining Act in large mining jurisdiction with a government supportive to mining.





# BRL's Competitive Advantage

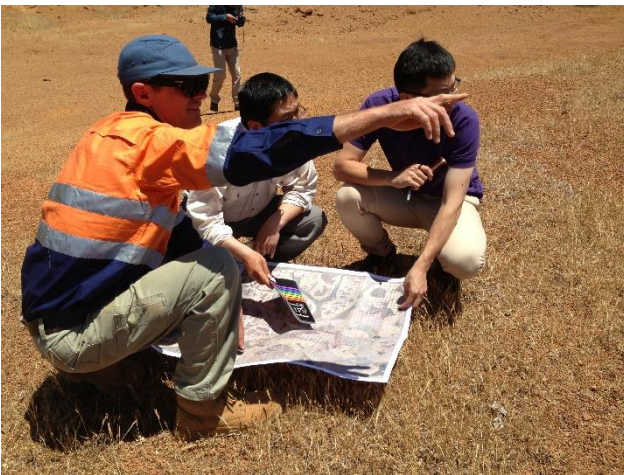
- ✓ Resources on private cleared farmland (native title extinguished)
- ✓ Tenements close to existing infrastructure, roads and rail
- ✓ With good access to bulk handling ports
- ✓ Established export routes with significant freight distance advantage to China
- ✓ Located close to mining centre of excellence with access to experienced mining labour force
- ✓ Low Capital start-up due to location and existing infrastructure



# 3 Key Company Projects

## ➤ THREE PROJECT GROUPS

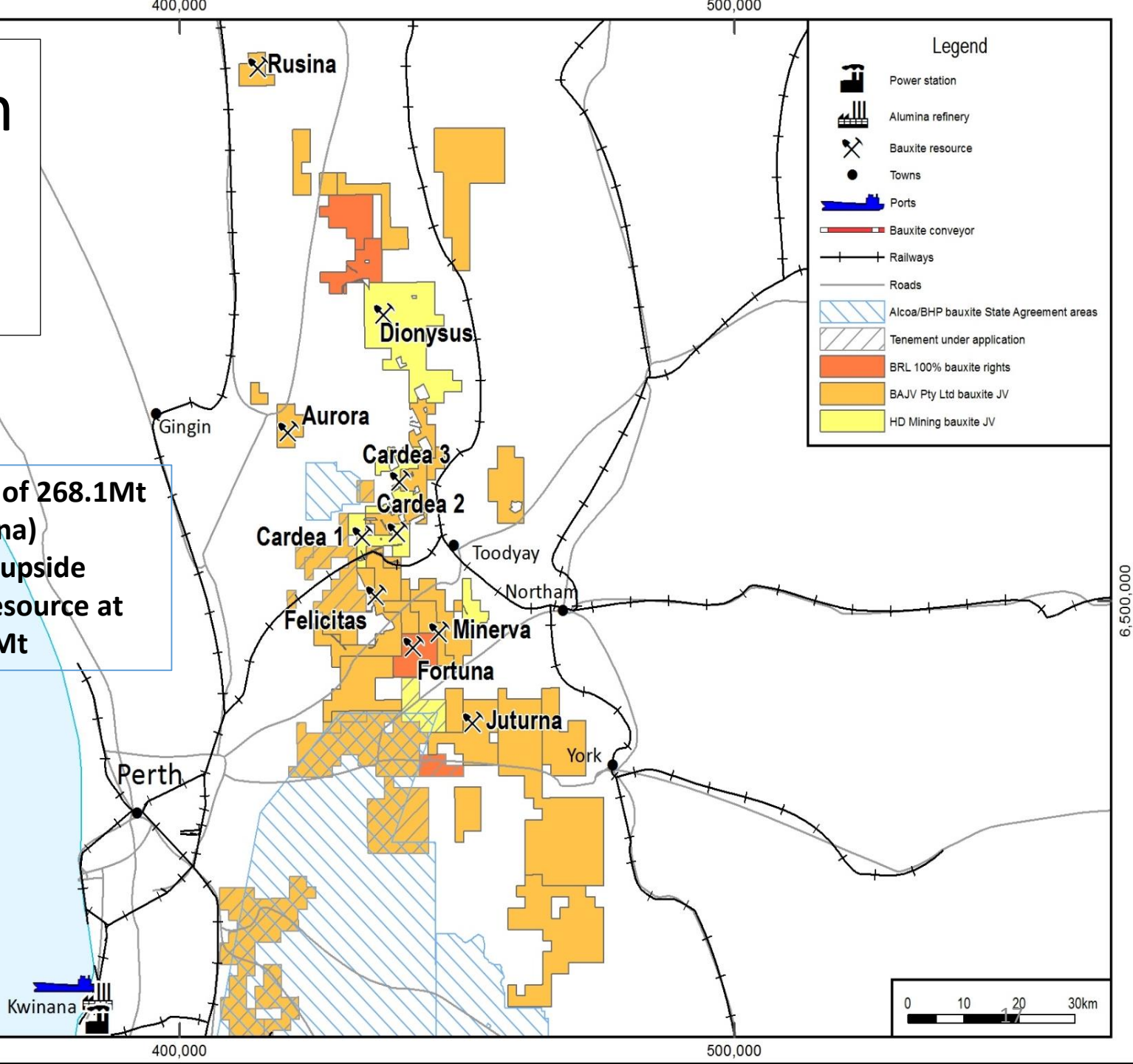
1. Bauxite Resources own 100% resource development
2. Joint Venture with Yankuang Group – Bauxite Alumina Joint Venture (BAJV)
3. Joint Venture with HD Mining and Investments PL (HD Mining)





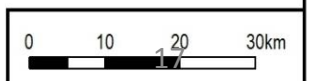
# Northern Darling Range

- Existing resource of 268.1Mt (Felicitas & Fortuna)
- Further resource upside
- Recent maiden resource at Dionysus of 20.3Mt



### Legend

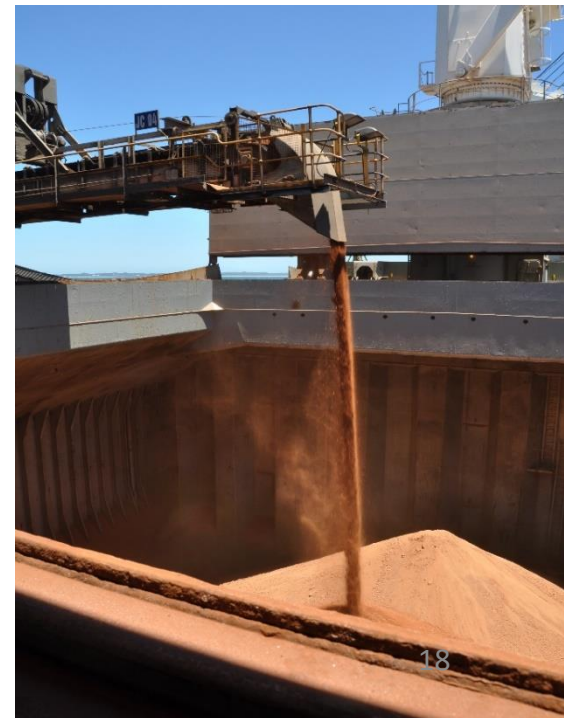
- Power station
- Alumina refinery
- Bauxite resource
- Towns
- Ports
- Bauxite conveyor
- Railways
- Roads
- Alcoa/BHP bauxite State Agreement areas
- Tenement under application
- BRL 100% bauxite rights
- BAJV Pty Ltd bauxite JV
- HD Mining bauxite JV



# BRL's Bauxite Projects - Fortuna

## BRL 100% Tenement

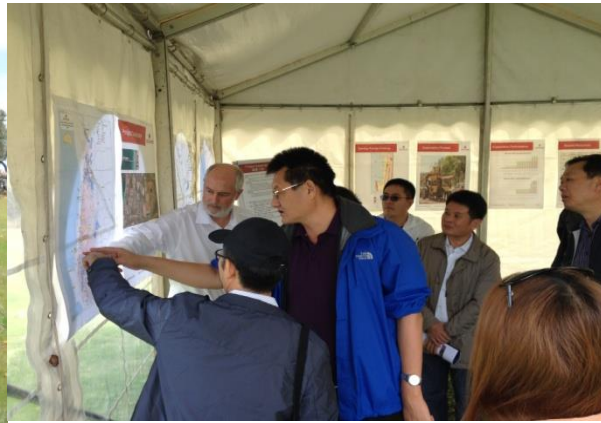
- Focus area is the Fortuna deposit – 40.2Mt resource located on 2 private farms
- Upside potential with a number of additional properties targeted
- 15 km from existing rail siding ~ 100km by existing rail to Kwinana bulk port
- Fortuna Concept Study being undertaken by AMC covering the geology, mining, processing, infrastructure and economics of the Fortuna Bauxite Project based on a 2-4Mtpa DSO operation – To be completed shortly
- Technical market evaluation involving a technical bauxite market evaluation of the Fortuna bauxite to target specific Chinese refineries on a value in use basis is being undertaken
- Metallurgy evaluation has shown low Boehmite levels (<1% on total product level)
- Targeted timings for development of Fortuna (subject to economics and regulatory approvals) are:
  - Environmental Baseline studies – Q4 2014
  - Commence Offtake discussions – Q4 2014
  - Infill/Expansion drilling at Fortuna – Q1 2015
  - Community Consultation – Commence Q1 2015
  - Preparation and submission of Mining Proposal – Q1-Q2 2015
  - Feasibility Study to support final investment decision – Q3-Q4 2015



# BRL's Bauxite Projects - Felicitas

## Bauxite Alumina Joint Venture (BAJV) with Yankuang Resources (YK)

- Bauxite and Alumina rights
- YK to fund 70% of all bauxite exploration costs for 70% bauxite resource
- Felicitas Resource of 228Mt of which over 50% in measured category with further exploration upside
- Rail facilities located ~2km from Northern end of deposit
- JV currently undertaking Rail studies, Environmental baseline studies and mine planning activities to have resource ready for development within 2-3 years

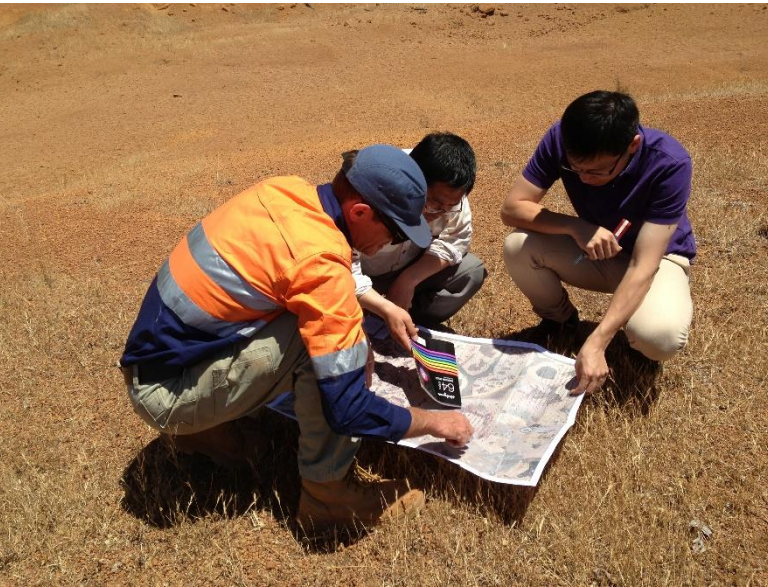




# BRL's Bauxite Projects – Athena & Dionysus

## HD Mining Joint Venture

- JV with Shandong Geological Institute
- HD fund 100% of exploration and feasibility works to earn up to 60% interest
- Identified 87.8Mt of refinery grade bauxite resource with further exploration resource upside
- Two distinct projects Athena and Dionysus as part of a project pipeline
- Projects are favourably located near rail infrastructure



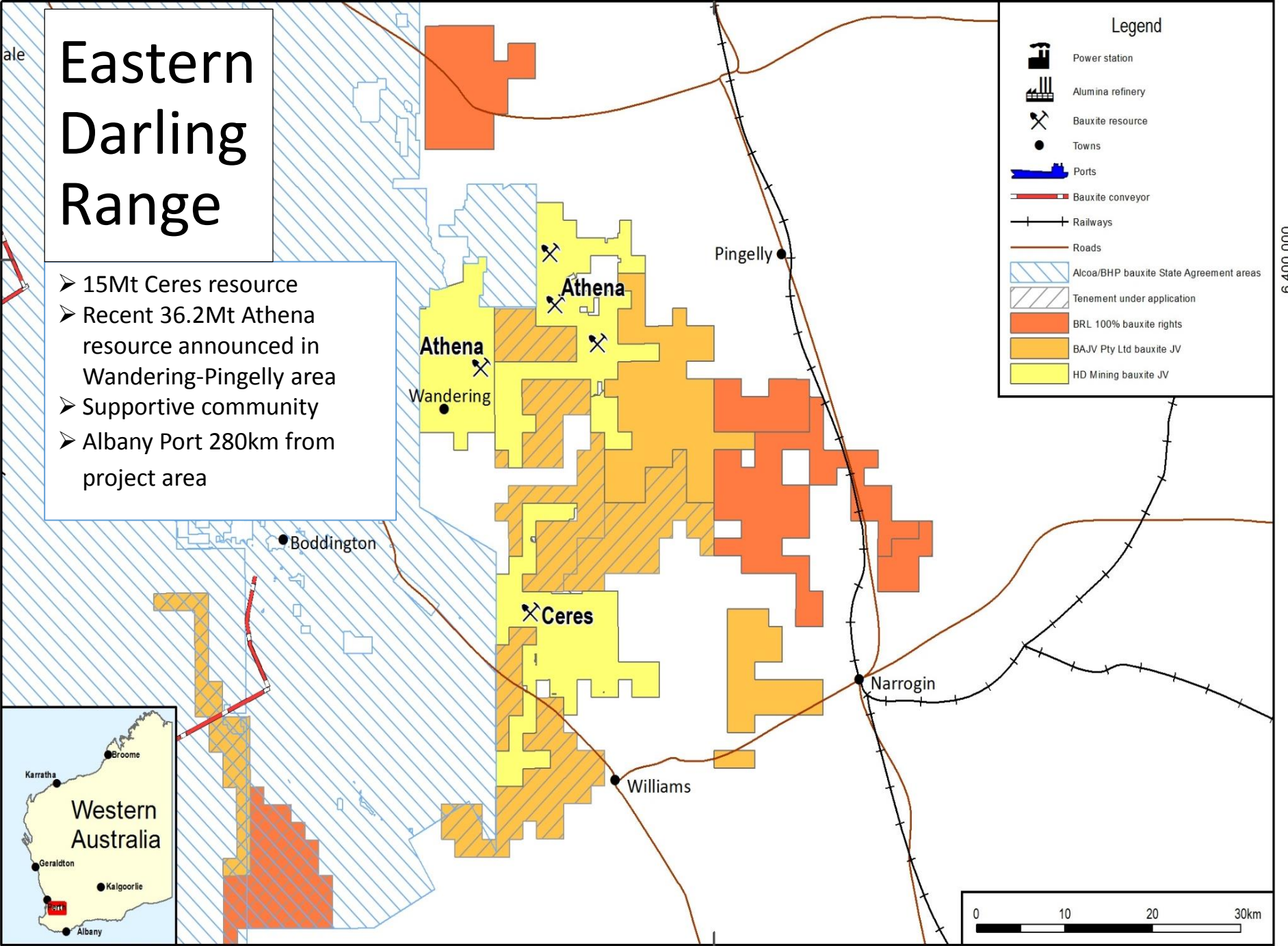
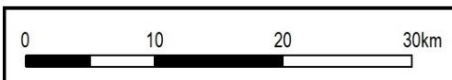


# Eastern Darling Range

- 15Mt Ceres resource
- Recent 36.2Mt Athena resource announced in Wandering-Pingelly area
- Supportive community
- Albany Port 280km from project area

### Legend

- Power station
- Alumina refinery
- Bauxite resource
- Towns
- Ports
- Bauxite conveyor
- Railways
- Roads
- Alcoa/BHP bauxite State Agreement areas
- Tenement under application
- BRL 100% bauxite rights
- BAJV Pty Ltd bauxite JV
- HD Mining bauxite JV



# Customer demand/sentiment toward new bauxite operations

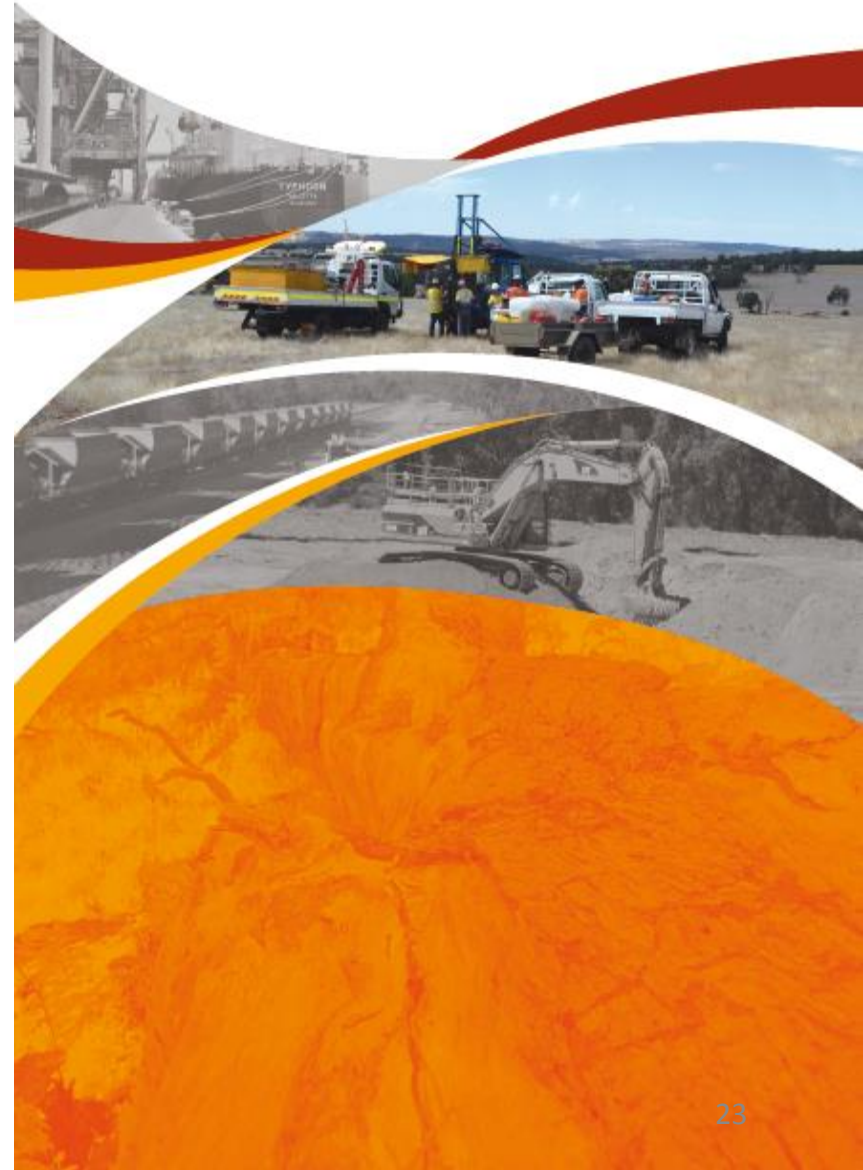
- Customers looking for long term resource security
- Some refineries can be adjusted for different bauxites
- Value in Use (VIU) critical to evaluation of bauxites – what is a source of bauxite worth in an individual refinery
- Logistics security
- Low cost entry into bauxite ownership
- Energy and caustic usage will become more critical over coming years





# BRL – Why we are positioned favourably

- ✓ Demand from China will require multiple new bauxite sources
- ✓ Australia is logical supply source
- ✓ BRL has large resource of efficient bauxite
- ✓ Infrastructure – Use of existing infrastructure means low capital entry with near term potential
- ✓ Location – Large Bauxite/Alumina producing region with great logistics and close to mining centre of excellence
- ✓ Product – Gibbsite with low reactive silica and low Boehmite
- ✓ Company – Large tenement area, large resource and well funded





# BRL – Strategy

- ✓ Develop pipeline of projects to supply demand from China for both bauxite and alumina
- ✓ Fast tracking development (subject to further studies, approvals and FID) of Fortuna project for the supply of DSO bauxite to China within 3 years
- ✓ Resolve the proposed development options under the BAJV with Yankuang with a view of moving this world scale bauxite project ahead in the near term.
- ✓ Continue the evaluation and development of the HD Mining Joint move the Athena and Dionysus deposits into pipeline bauxite projects.
- ✓ Undertake discussions with various bauxite/alumina users on potential equity, project and off-take participation

