

**ARAFURA** ADDING VALUE IN AUSTRALIA  
TO PRODUCE RARE EARTHS  
FOR USERS WORLDWIDE



## NT Mineral Investment Seminar

Dr Steve Ward  
Managing Director & CEO  
Tokyo, Japan  
12 October 2011

## Important Notice

This presentation contains certain statements which may constitute “forward-looking statements”. Such statements are only expectations or beliefs and are subject to inherent risks and uncertainties which could cause actual values, results or performance achievements to differ materially from those expressed or implied in this presentation. No representation or warranty, express or implied is made by Arafura Resources Limited (“**Arafura Resources**”) that any forward-looking statement contained in this presentation will occur, be achieved or prove to be correct. You are cautioned against relying upon any forward looking statement.

Except for statutory liability which cannot be excluded, each of Arafura Resources and its related body corporates and their officers, employees and advisers expressly disclaims any responsibility for the accuracy or completeness of the material contained in this presentation and excludes all liability whatsoever (including in negligence) for any loss or damage which may be suffered by any person as a consequence of any information in this presentation or any error in it or omission from it. Arafura Resources accepts no responsibility to update any person regarding any inaccuracy, omission or change in information in this presentation or any other information made available to a person, nor any obligation to furnish the person with any further information.

This presentation does not constitute an offer of securities in Arafura Resources, nor an invitation to apply for such securities. This presentation does not provide investment advice or financial product advice. You should obtain professional advice and carry out your own independent investigations and assessment of the information in this presentation (including any assumptions) before acting.

Information in this presentation which is attributed to a third party source has not been checked or verified by Arafura Resources.

The information in this presentation that relates to exploration results, mineral resources or ore reserves is based on information compiled by Mr Richard Brescianini BSc(Hons). Mr Brescianini is a Member of the Australian Institute of Geoscientists and 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 2004 Edition of the “Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (The JORC Code)”. Mr Brescianini consents to the inclusion in this presentation of the matters based on his information in the form and context in which it appears.

Mr Brescianini is a full-time employee of Arafura Resources.

- Rare Earths
- Introduction to Arafura
- The Nolans Project
- Arafura and the Northern Territory
- Investment Opportunities in Arafura
- Summary

# Rare Earths - Introduction

***An exciting market outlook in new high technology applications and clean and efficient energy uses, with increasing demand driven by consumers, society & regulators .....***



The infographic displays various applications of rare earth elements and a central periodic table of these elements. Applications include:

- New Generation Vehicles:** Nd, Sm, La
- Colour Screen LCDs/PDPs:** Eu, Tb, Y
- Medical Services:** Nd, Gd, Ce
- Rechargeable Batteries:** La
- Energy-Efficient Lighting:** Eu
- High-Powered Electric Motors:** Nd, Dy, Pr

**AN EMERGING RARE EARTH PRODUCER FOR USERS WORLD WIDE**

39	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71
Y	La	Ce	Pr	Nd	Pm	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu
Yttrium 88.9058	Lanthanum 138.9055	Cerium 140.116	Praseodymium 140.9077	Neodymium 144.24	Promethium (145)	Samarium 150.36	Europium 151.964	Gadolinium 157.25	Terbium 158.9253	Dysprosium 162.5	Holmium 164.9303	Erbium 167.259	Thulium 168.9342	Ytterbium 173.04	Lutetium 174.967

- Specialty chemicals
- Critical components of end products
- Small cost item
- No substitutes
- Limited recycling
- Global market 130kt
- Annual value US\$20B
- Major markets China and Japan
- Demand growth forecast at multiples of GDP

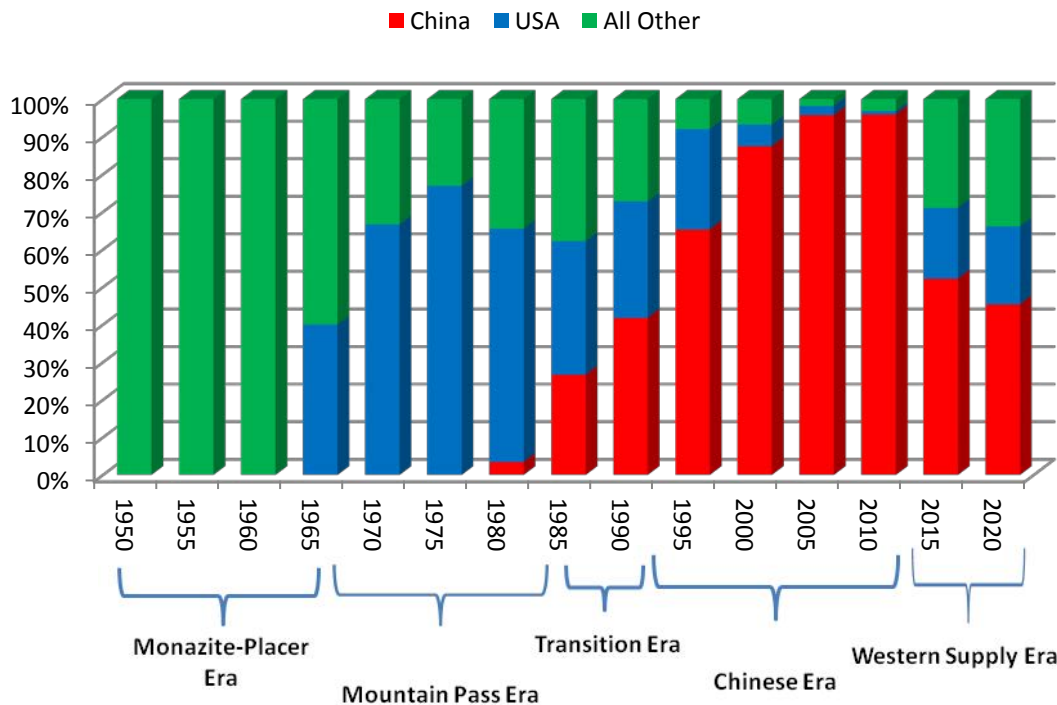




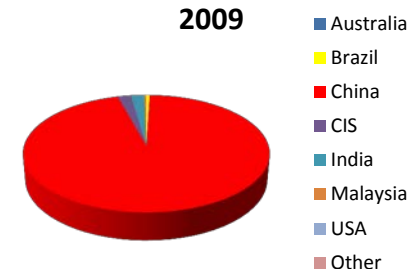
# Global Strategic Importance - A New Supply Era

***The industry challenge is for the supply side to keep up with demand growth creating an opportunity for a new supply era involving new western suppliers .....***

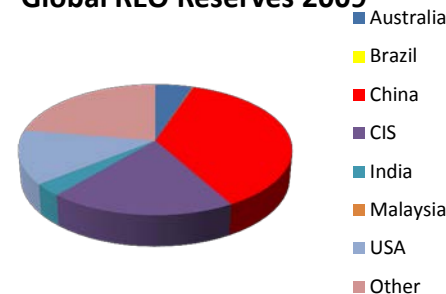
**REO Supply by Era**



**Global REO Production 2009**

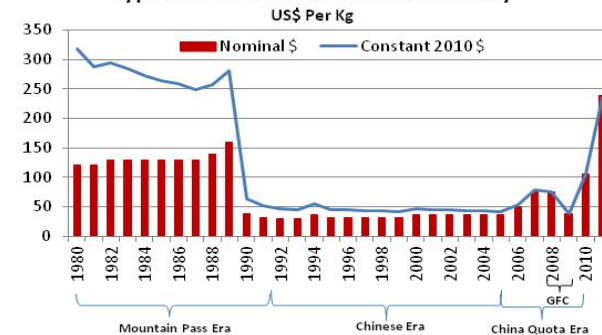


**Global REO Reserves 2009**



- Geochemistry of each deposit is different
- Unique separation technology for each deposit
- Production is high technology and capital intensive
- Chinese production has reduced and maxed out
- Opportunity for new supply Western sources – few
- ***Great opportunity for Arafura***

**Typical Rare Earth Oxide Price History**



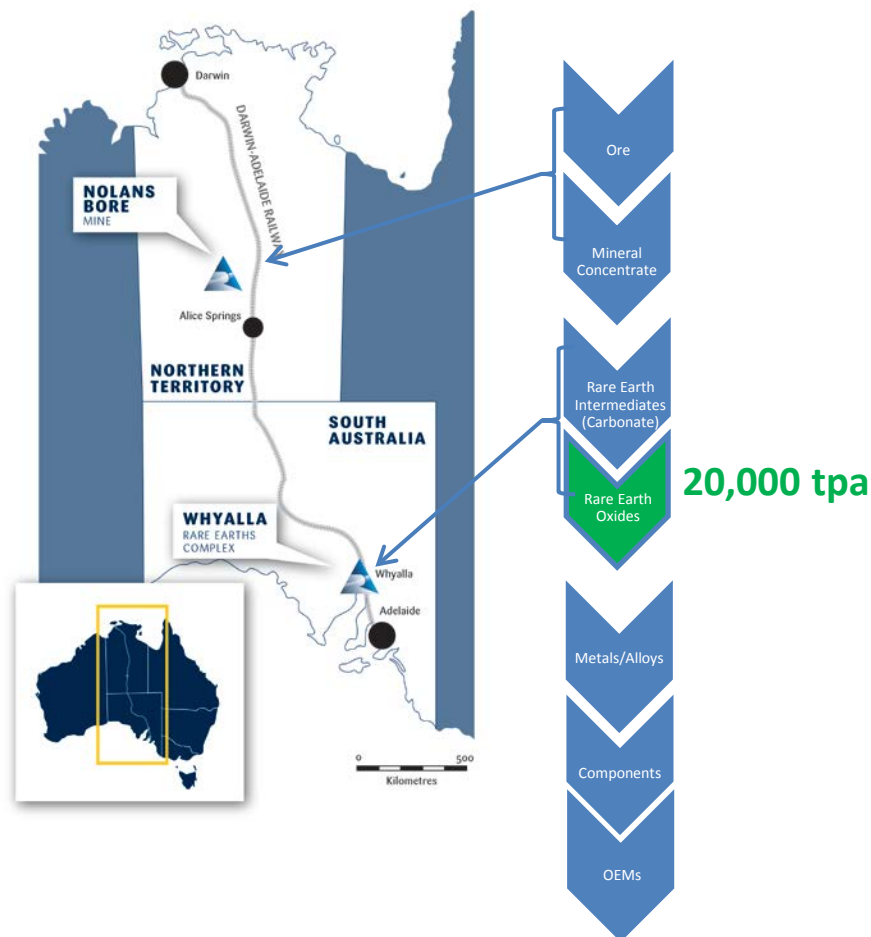
Note: Prices represent purities of 99.90% and 96.0% for the periods 1980-1989 and 1990-June 2011 respectively

# Introduction to Arafura

## Corporate Summary

- Australian Public Company – formed 1997
- Listed on ASX in 2003 (code ARU)
- Nolans Project for Rare Earths
- Own technology developed
- **Bankable Feasibility Study due H2 2012**
- **Project Financing sought by end 2012**
- **First production by end 2014 subject to BFS**

## Business Model - Adding Value in Australia



As at 4 October 2011

### Capital

368 million shares  
16.5 million Board/Employee options

### Market capitalisation

@ A\$0.52 = ~A\$191 million

### Top shareholders

JP Morgan Nominees <sup>1</sup>	31.5%
ECE <sup>2</sup>	17.51%
Board & Management	2.5%

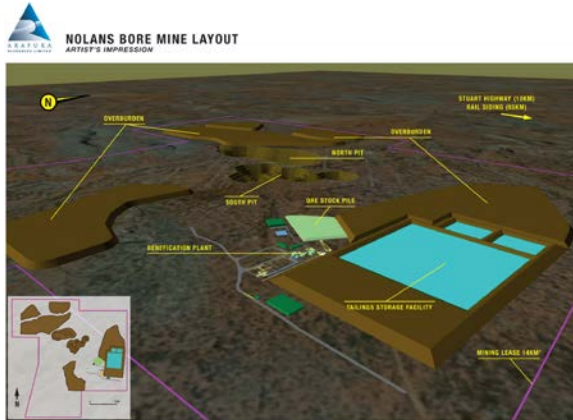
**Debt** - zero

**Cash** A\$60 million (31 August 2011)

1. Substantial German-based shareholding amongst many shareholders  
2. East China Mineral Exploration & Development Bureau

# Nolans Project

*A world scale, long life, valuable, globally significant and strategic rare earth resource .....*



Total resources for Nolans Project

RESOURCES	TONNES <sup>1</sup> (million)	RARE EARTHS REO %	PHOSPHATE P <sub>2</sub> O <sub>5</sub> %	URANIUM U <sub>3</sub> O <sub>8</sub> lb/t
Measured	5.1	3.2	13.5	0.57
Indicated	12.3	2.8	13.4	0.43
Inferred	12.8	2.6	12.2	0.40
TOTAL	30.3	2.8	12.9	0.44
<b>CONTAINED METAL</b>		<b>848,000 t</b>	<b>3.9 Mt</b>	<b>13.3 Mlb</b>

1. Using 1% REE cut-off grade

## Annual Production

REO Rare Earths Oxides	Phosphate Product (approximately as P <sub>2</sub> O <sub>5</sub> )	UO <sub>4</sub> Uranium Oxide	CaSO <sub>4</sub> Gypsum
20,000 t	80,000 t	150 t	500,000 t

Capital Costs @ 0.95

A\$950 million

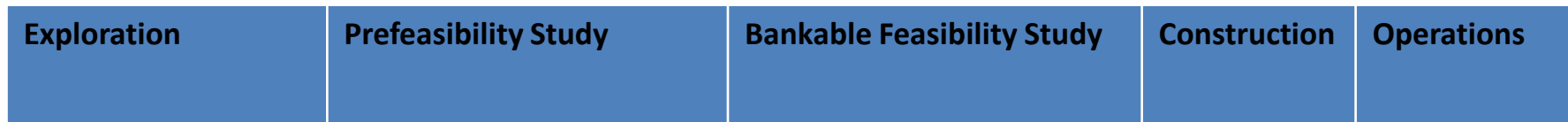
	Low	Mid	High
Rare earth oxides US\$/kg	\$22.00	\$38.00	\$54.00
Rare earth oxides 20,000t US\$	\$440	\$760	\$1,080
Phosphoric Acid 80,000t US\$1,250/t		\$100	
Gypsum 500,000t US\$25/t		\$12	
Uranium 150t US\$40/lb		\$13	
Total Revenue p.a. US\$M	\$565	\$885	\$1,205

# Where are we now?

***Significant progress through a lengthy project timeline which is a characteristic of the rare earths industry.....***

We are here

***Completed with project finance in place by end 2012***



← ***Approx 15 years for a rare earths project*** →

- Exploration began 1999
- Maiden JORC resource 2003

- Technology Program began 2004
- Prefeasibility study issued 2007

## **At time of completed BFS:**

- **Approx 100km of drilling completed at Nolans Bore**
- **Approx total project expenditure A\$250M**

- Current JORC resource 2008
- Technology piloting 2008/09
- Whyalla site announced 2010
- Technology demonstration 2010 & 2011
- Appointment of specialist engineering contractor early 2011
- Expanded BFS Rare Earth focus 2011
- First Customer LOI 2011
- Expansion drilling program
- ***Complete optimization***
- ***Finalize detailed design***
- ***Secure regulatory approvals***
- ***Obtain Project Finance***

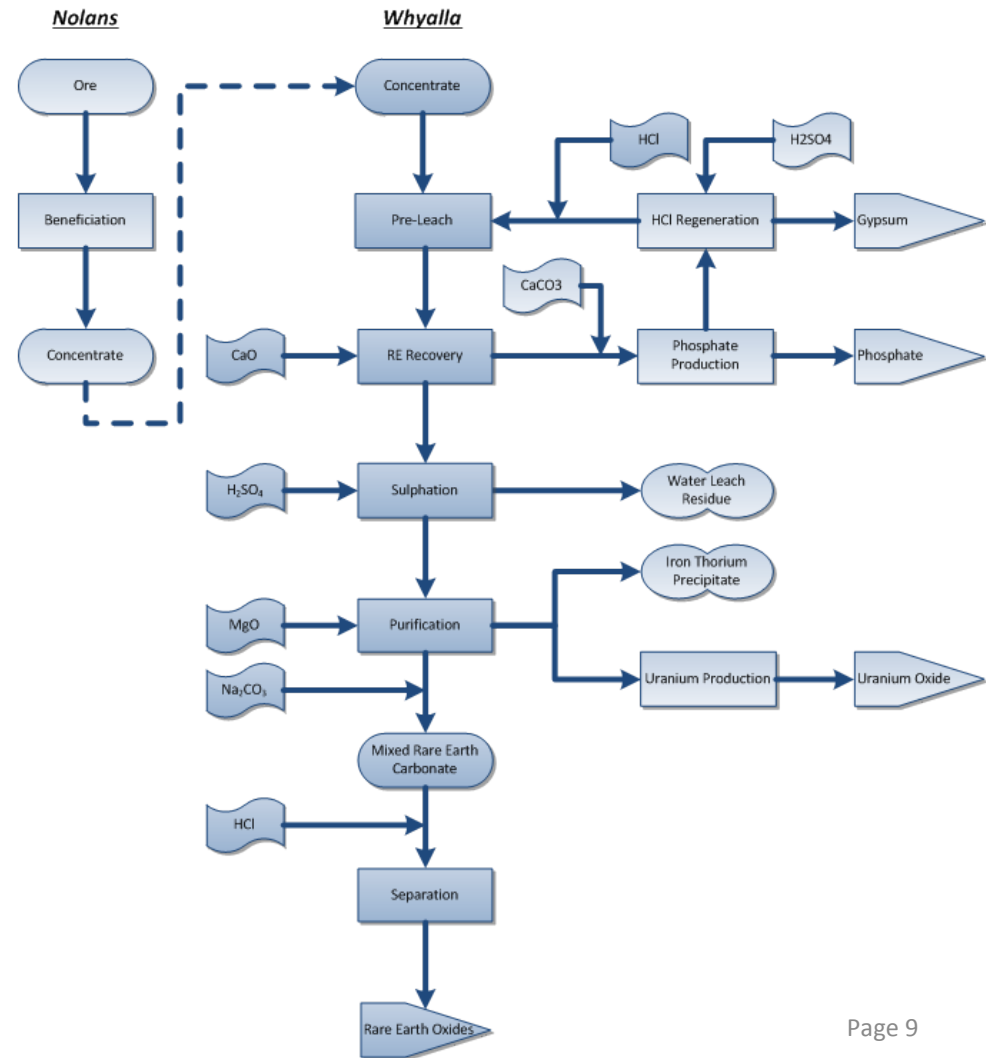


# Building a Sustainable Business for the Future

***Large scale operations will put the Northern Territory on the world Rare Earths industry map.  
Ongoing sustainability crucial for all stakeholders .....***

- Australian-based business model
  - low sovereign risk
  - highest environmental regulatory standards
- Long life deposit
  - 20 years + resource with expansion possibility
- Australian developed & proven flow sheet
  - not dependant on others
  - world class experts have assisted
- 'Going the extra mile' with front end loading to de-risk , optimize design, achieve quick start up and secure ongoing operational performance
  - process simplification
  - scale demonstration programs
  - tailoring high quality products for customers
  - value creating features pursued
  - verification of EH&S performance
- Significant capital investment and ongoing operating costs. Vital to 'get it right' first time.

Nolans Project Flow Diagram



# Technology

*The flow sheet has been proven at pilot scale and is now undergoing final demonstration .....*



Mixed REO Carbonate Production 2009  
ANSTO Sydney



Water Leach Piloting 2009  
ANSTO Sydney



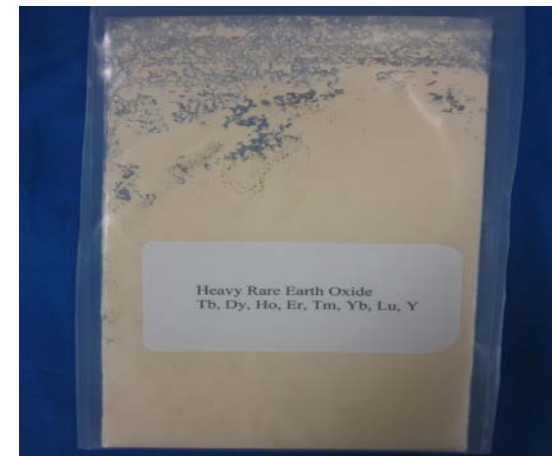
Sulphation Baking 2009  
ANSAC Bunbury



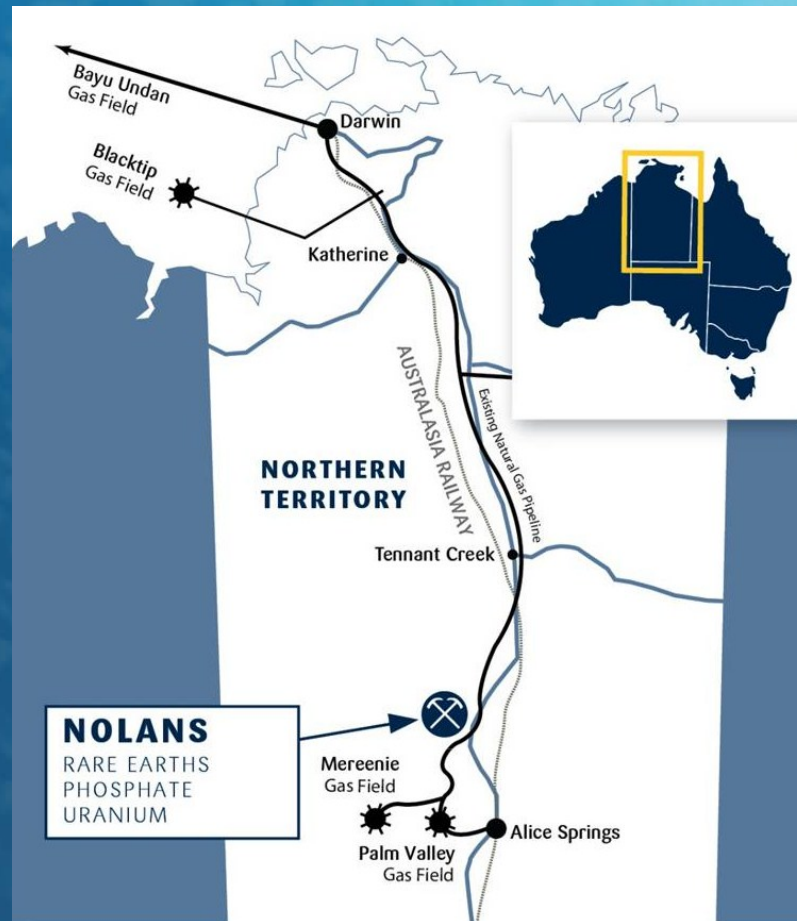
Gypsum from HCl Regeneration Demonstration  
Plant 2011 ALS-Ammtec Perth



Pre leach Demonstration Plant 2011  
ALS-Ammtec Perth



HREO sample produced from Nolans Bore 2010  
ANSTO Sydney



# Arafura's presence in the Northern Territory



# Arafura in the Northern Territory

***Arafura has been active in the Northern Territory for almost 15 years .....***

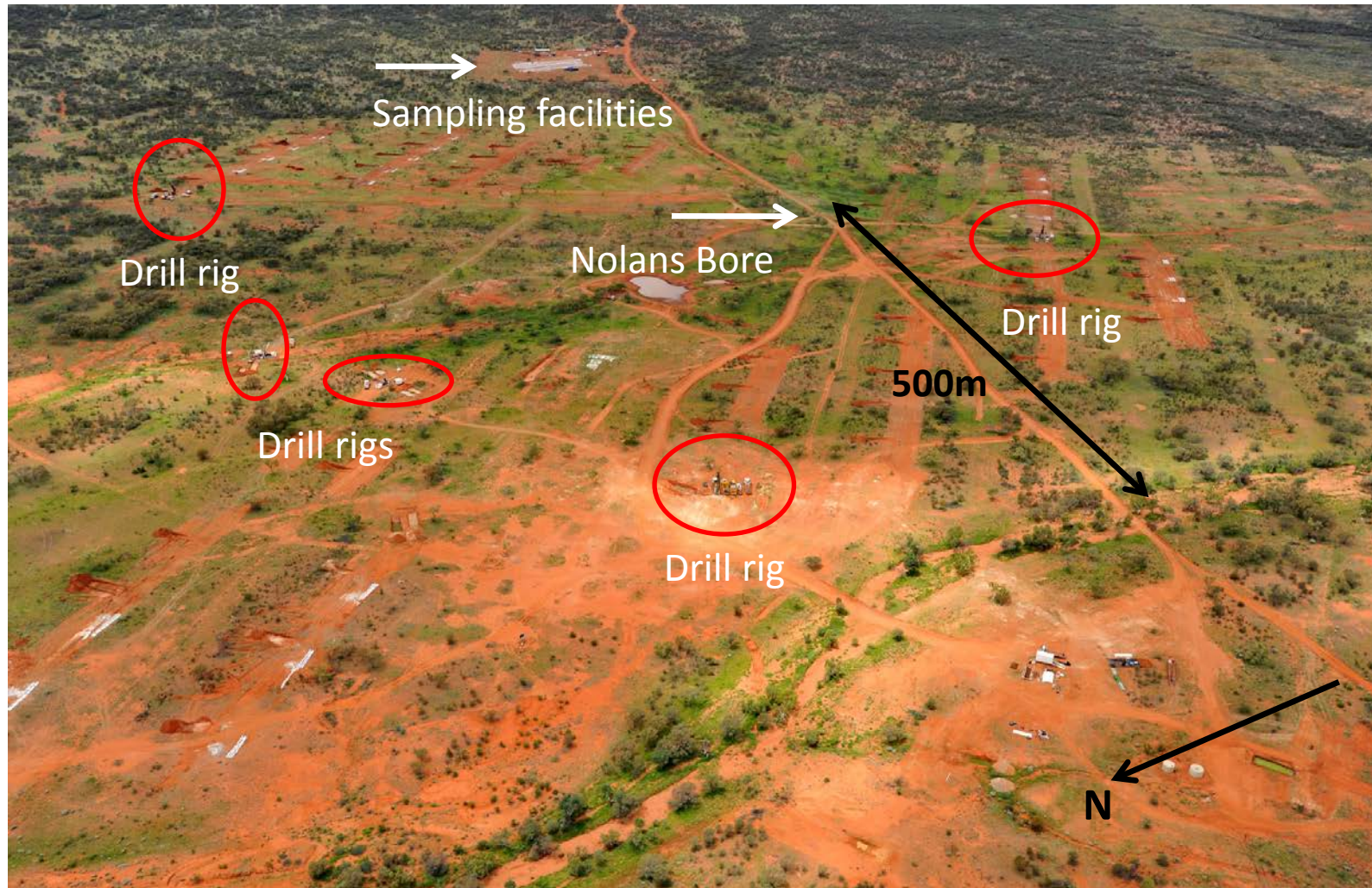


- Tenements obtained in 1997
- Exploration for rare earths began in 1999
- Continuous presence in NT since 2006
- Current office and exploration sample store is base for 4 full time employees
- Approximately A\$40M expenditure to date
- Provided local employment opportunities where possible
- Sought to use local contractors and services where available and competitive
- Strong relationships with and excellent support from NT Government and local communities
- EIS guidelines for Nolans Bore issued in 2008
- ***Arafura is proud of its long association with the Northern Territory***



# Nolans Bore - Major Drilling Program 2011

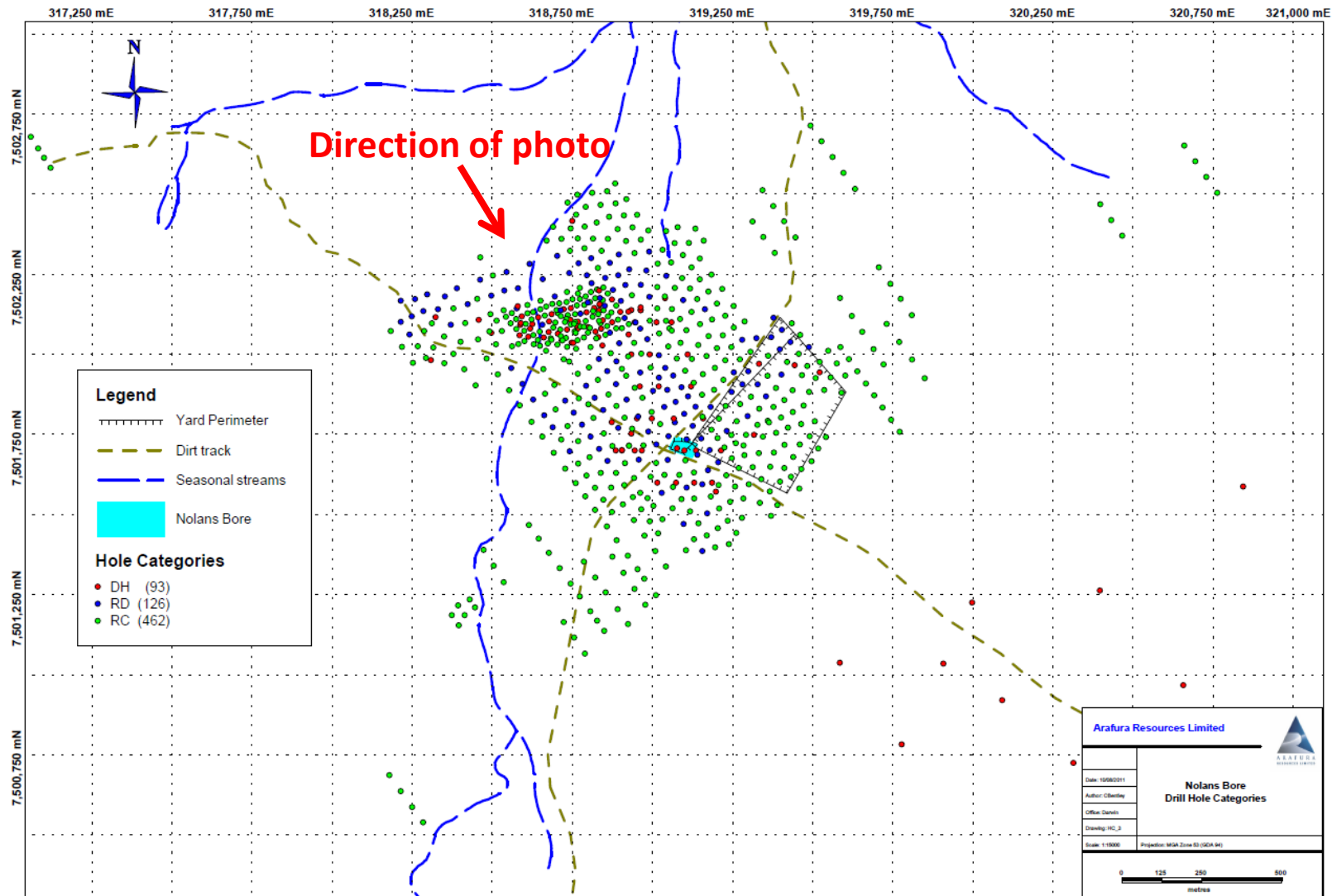
*Major drilling program (52km) to upgrade resource confidence and investigate expansion potential ....*





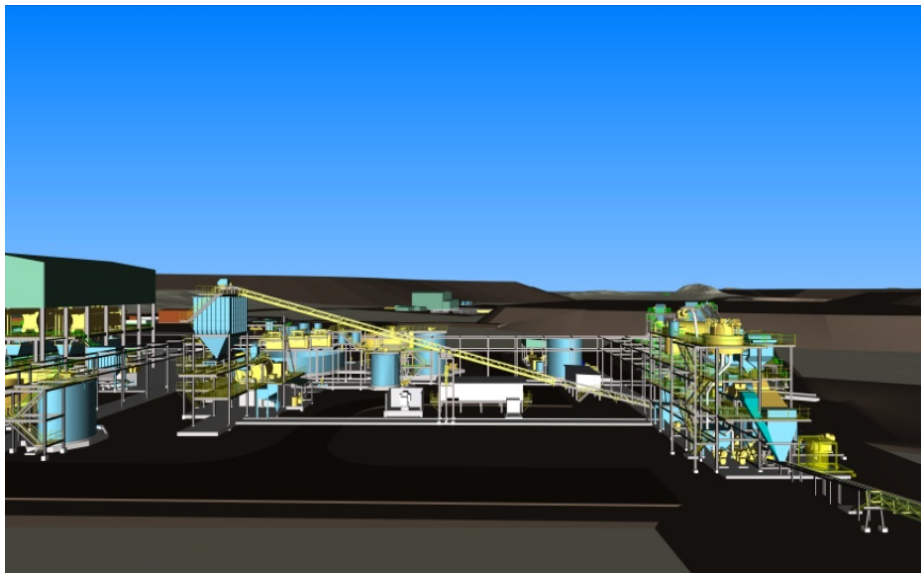
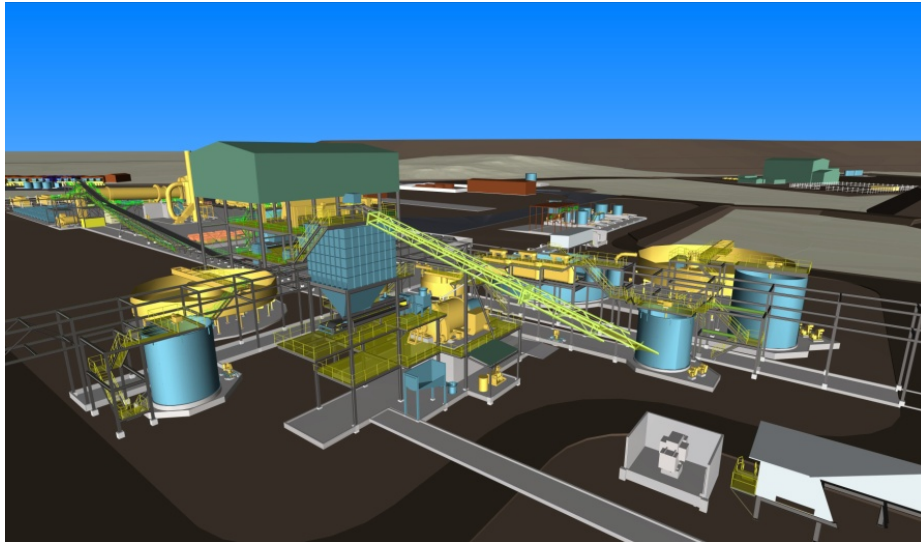
# Nolans Bore drilling (including 2011 program)

**Updated resource statement due by end 2011 .....**



# Nolans Bore Mine

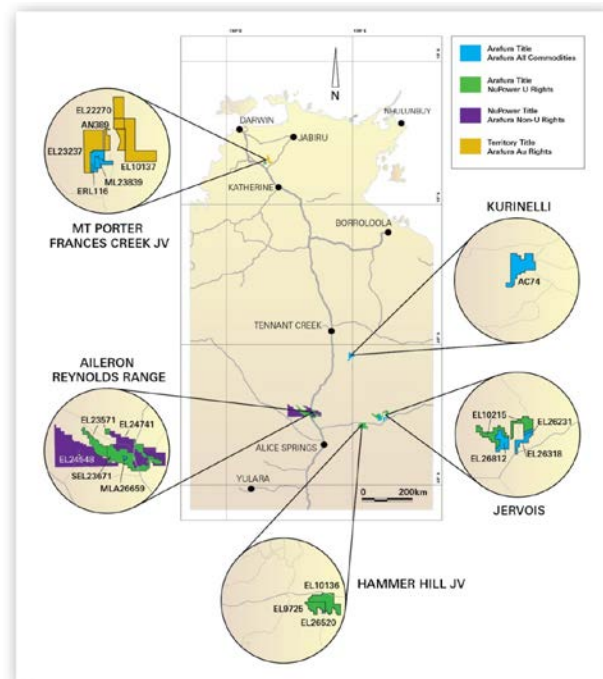
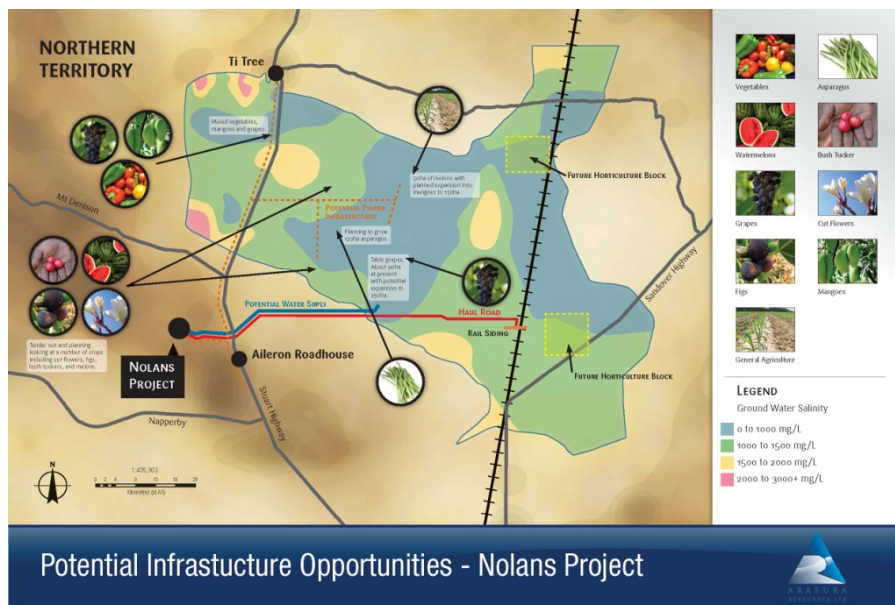
***Long life open cut mine and comprehensive beneficiation plant creating value locally .....***



- A substantial investment and operation
- Drive in/drive out operation with camp
- Site remote, but not isolated. Good access to main highway (10km) and railway line (60km). Close to gas supply.
- Operations to highest EH&S standards
- Significant initial capital investment of approximately A\$200M (Arafura and others)
- Around 300 jobs during construction
- Approximately 150 jobs during operations
- Around A\$25M value created locally when in operation
- Royalties and taxes for NT Government
- Planned Native Title agreement with local Anmatjere indigenous people
- Significant regional development aligned with NT Government objectives

# Arafura Creating Economic Benefits Beyond Rare Earths

***Arafura can generate additional economic benefits .....***



- The Nolans Bore mine can provide 'critical mass' and act as a 'hub' for other neighboring local regional developments, e.g. horticulture
- Arafura can catalyze the development of service providers in general
- Arafura can act as a conduit for investments by others in the Northern Territory, e.g. ECE
- Arafura is seeking investment partners for its non rare earth exploration in the Northern Territory

# Investment Opportunity in Arafura



- Arafura will be a large world scale rare earths producer
- Arafura is 'undervalued' compared to its industry peers
- Recent analyst reports recommend Arafura
- Funding requirements:

Requirements for next 12 months are approximately A\$60 million to complete BFS  
Approximately 25% relates to costs brought forward, previously included in Project Finance

**Expected position in 12 months leading to Project Finance:**

Less than 500 million shares on issue &

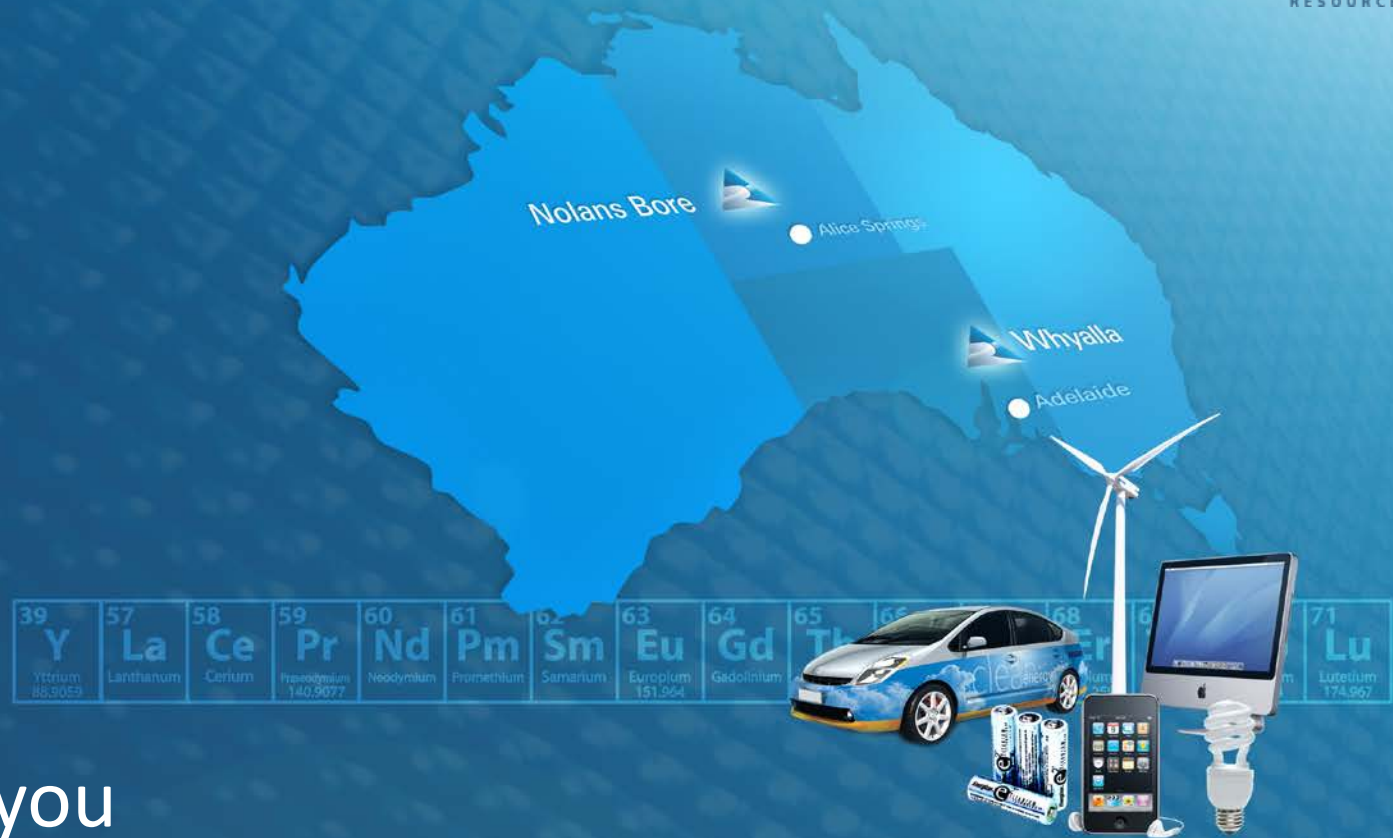
No debt

## **Project Finance (approximately A\$1 billion):**

- Consideration will be given to funding from all possible sources:
  - Customers (forward sales)
  - Suppliers
  - Debt & equity markets
  - Sovereign debt markets
  - Other (PIPES, Mezzanine, etc.)

- A high tech industry with exciting outlook – strategic materials
- Applications in clean green energy and energy efficiency
- Arafura will put the Northern Territory on the global rare earths map
- Nolans Bore Mine development is aligned with Northern Territory Regional Development program
- Nolans Project will be a significant capital investment, will be world scale and have long life – significant ongoing value creation
- Technology designed to meet highest environmental standards – EIS guidelines issued and studies underway
- BFS well advanced
- Catalyst for development of other ventures
- Opportunities for investment in Arafura exist
- Significant NT Government and community support





# Thank you

Dr Steve Ward  
Managing Director & CEO  
Tokyo, Japan  
12 October 2011