

For personal use only

# Rare Earths & Future Metals Forum

Perth, Western Australia  
29 March 2010



La	Ce	Pr	Nd	Pm	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu
Lanthanum 138.905	Cerium 140.12	Praseodymium 140.908	Niodymium 140.908	Promethium 144.913	Samarium 150.36	Europium 151.964	Gadolinium 157.25	Terbium 158.925	Dysprosium 162.5	Holmium 164.930	Erbium 167.259	Thulium 168.934	Ytterbium 173.04	Lutetium 174.967

# Disclaimer

## Important Notice

This presentation contains certain statements which may constitute “forward-looking statements.” Such statements are only predictions and are subject to inherent risks and uncertainties which could cause actual values, results, performance achievements to differ materially from those expressed, implied or projected in any forward-looking statements.

No representation or warranty, express or implied is made by Arafura Resources Limited that the material contained in this presentation will be achieved or prove to be correct. Except for statutory liability which cannot be excluded, each of Arafura Resources’ directors, its 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 or omission there from.

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 is not for USA investor distribution.

The information in this release that relates to exploration results and geological interpretation has been compiled by Mr Richard Brescianini BSc (Hons), and the information in this release that relates to metallurgical results and interpretation has been compiled by Mr Steve Mackowski BAppSc, both full-time employees of Arafura Resources. Mr Brescianini is a Member of the Australian Institute of Geoscientists and he has sufficient experience with the style of mineralisation being reported 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)” for reporting the exploration results. Mr Brescianini consents to the inclusion in this report of the contained technical information in the form and context in which it appears.

Mr Mackowski is a Fellow of the Australian Institute of Mining and Metallurgy and he has sufficient experience with the style of mineralisation being reported 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)” for reporting these metallurgical results. Mr Mackowski consents to the inclusion in this report of the contained technical information in the form and context in which it appears.

# Arafura Resources Limited

For personal use only

**Arafura** is an Australian-based mineral exploration and development company which listed on the Australian Securities Exchange in 2003

**Our Vision is to be the pre-eminent supplier of rare earths to the world and we will do this by:**

- developing the Nolans Rare Earths-Phosphate-Uranium Project; and
- pursuing long-term strategic growth opportunities through exploration success and strategic partnerships

***We will relentlessly pursue growth in shareholder value in a sustainable way***

# Corporate Structure (ASX: ARU)

For personal use only

## As at 8 March 2010

### Capital

287.4m shares; 15.5m Board/Employee options

### Market capitalisation (ASX:ARU closing price @ 8 March 2010)

@ A\$0.60 = ~A\$175 million

### Cash (@ 8 March 2010)

A\$25.2 million

### Top shareholders

ANZ Nominees <sup>1</sup>	30.2%
ECE <sup>2</sup>	22.4%
Citicorp Nominees	3.3%
Board & Management	3.0%

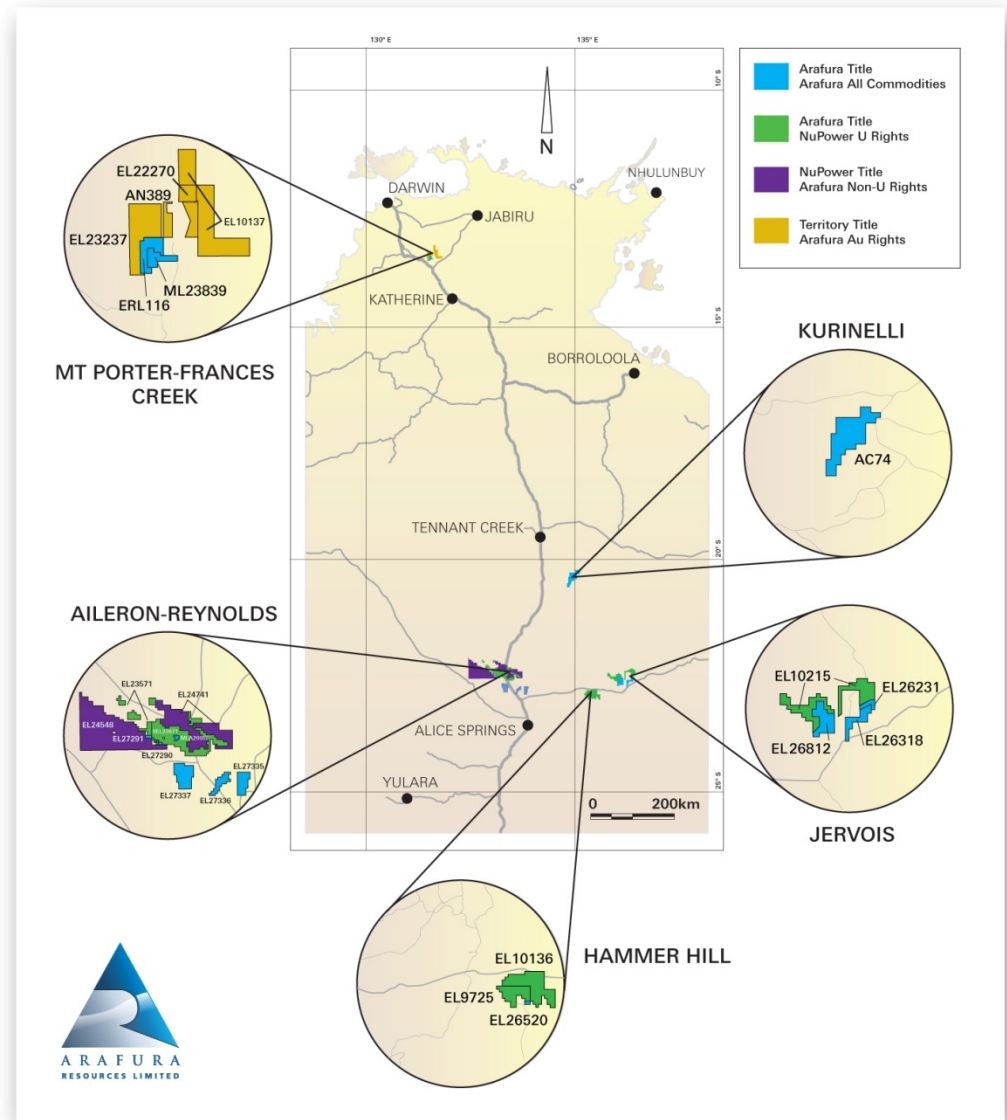
1. Substantial German-based shareholding amongst many shareholders
2. East China Mineral Exploration & Development Bureau

Capital raising via Renounceable Rights Issue (1 for 10) in progress

# Business Plan

To create shareholder value by:

- focusing on the Nolans Rare Earths-Phosphate-Uranium Project
- identifying other rare earth projects
- JV or explore current projects in gold, base metals and iron-vanadium (ongoing JV discussions)

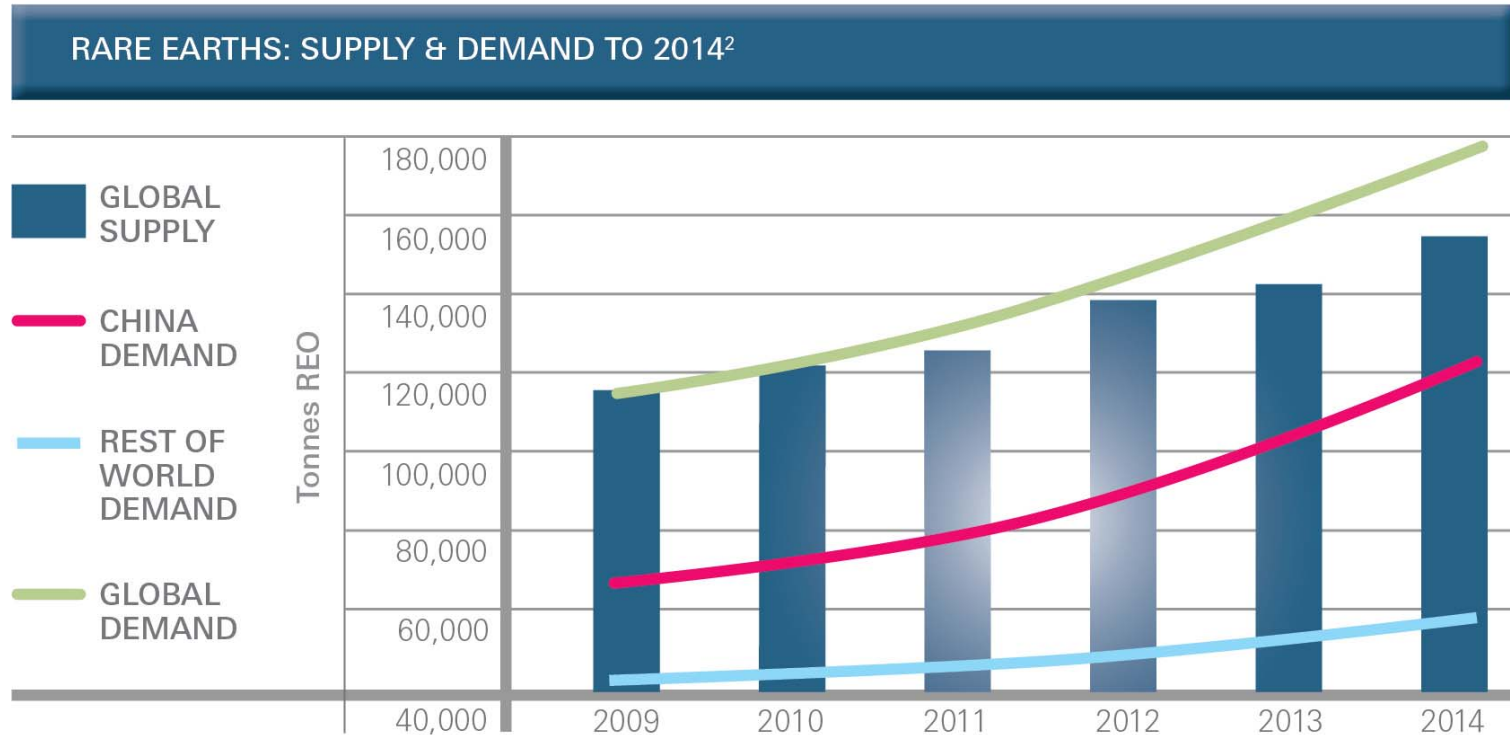


# Rare earths - global supply restricted

- China currently supplies 95% of rare earths
- China restricting supply through industry consolidation, closing old and environmentally unfriendly operations, export quotas and tariffs.
- Each RE deposit is geologically unique and requires its own metallurgy to be developed. (i.e. long lead time to production and return on investment)
- New significant resources with proven technology are extremely limited.
- Users worldwide are seeking to secure future supplies. Industry commentators predict very tight markets
- Arafura is well positioned to meet global growing demand and importantly, can supply users located anywhere in the world.

# Rare earths: demand growth, constrained supply

For personal use only

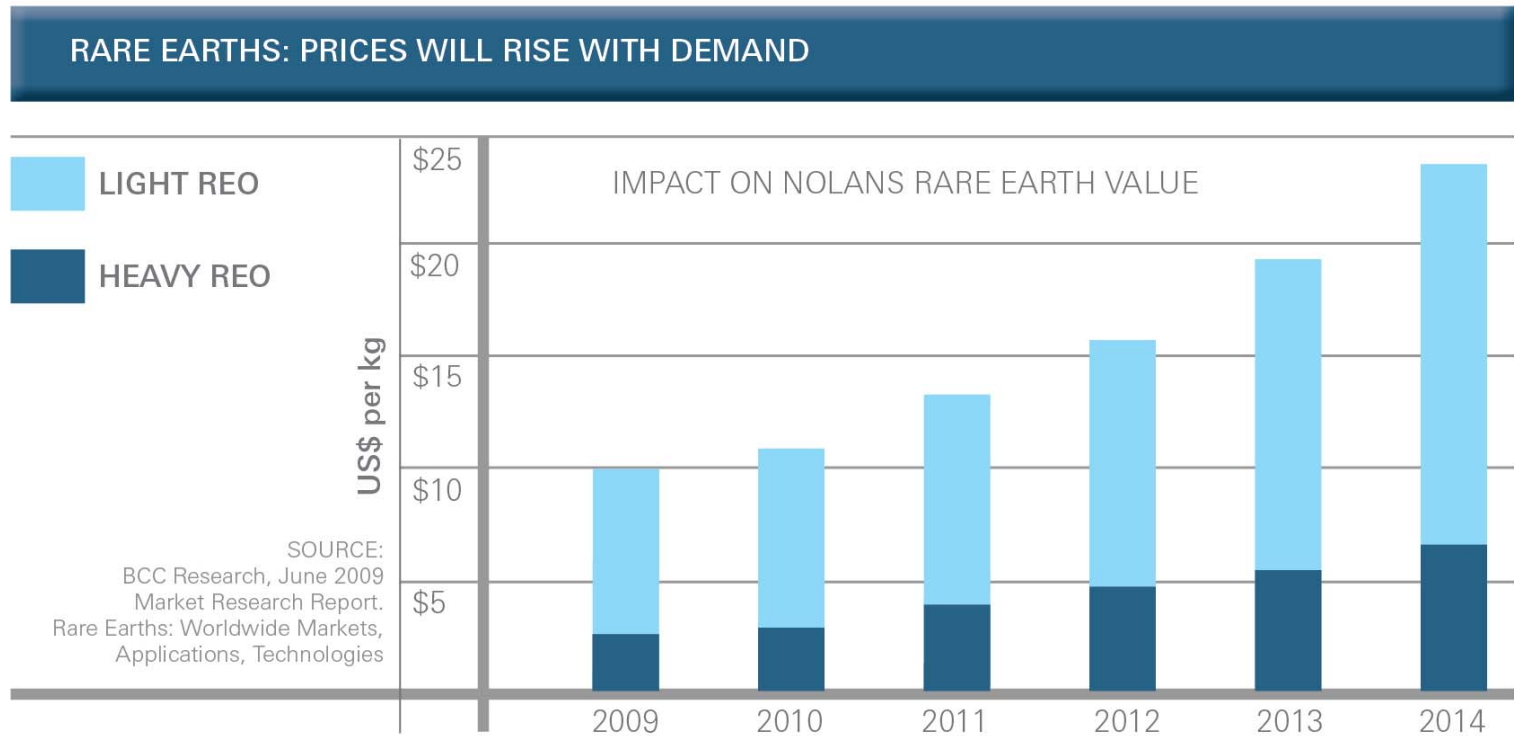


1,2: BCC Research, June 2009 Market Research Report. Rare Earths: Worldwide Markets, Applications, Technologies

The Nolans resource is well positioned to become a substantial supply source to the world market far into the future

# Rare earths – prices forecast to rise significantly

For personal use only

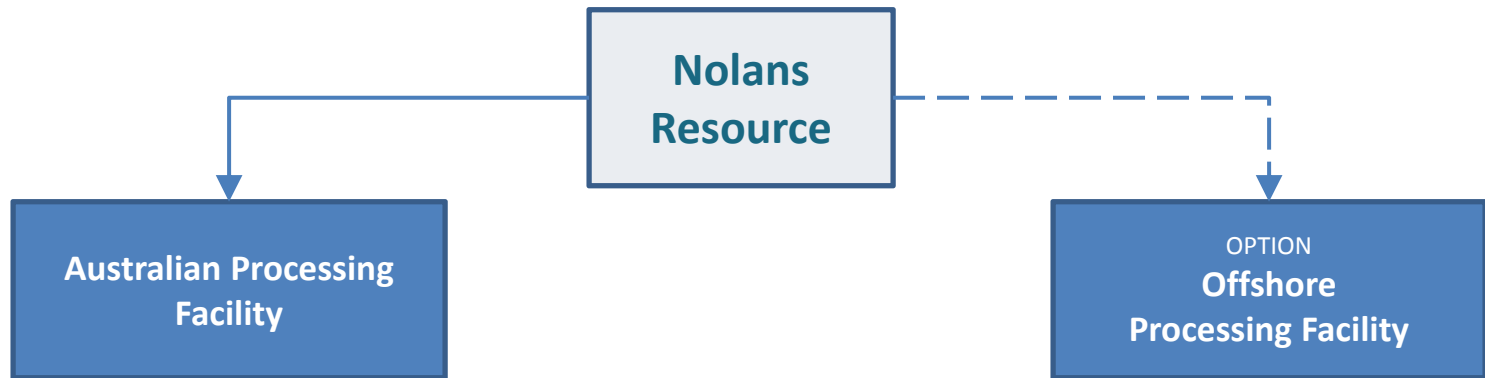


BCC Research forecasts 20-30% Compound Annual Growth Rate increase in rare earth prices over the next five years



# Arafura's rare earths business structure

- Nolans current resource is sufficient to sustain production of 20,000 t of REO p.a. for more than 20 years
- With further drilling, Arafura is confident Nolans has geological potential to expand to support increased production beyond 20,000 tpa.



(if value creating for shareholders)

Annual production	
REO	20,000t
P <sub>2</sub> O <sub>5</sub>	80,000t
CaCl <sub>2</sub>	400kt
U <sub>3</sub> O <sub>8</sub>	150t

# Nolans location

For personal use only



- Central Australian location
- No competing land use
- Not too remote from infrastructure
  - 5 km to gas line
  - 10 km to Stuart Highway
  - 60 km to rail line
  - 135 km north of Alice Springs
  - 1200 km north to Darwin
  - 1300 km south to Port Pirie

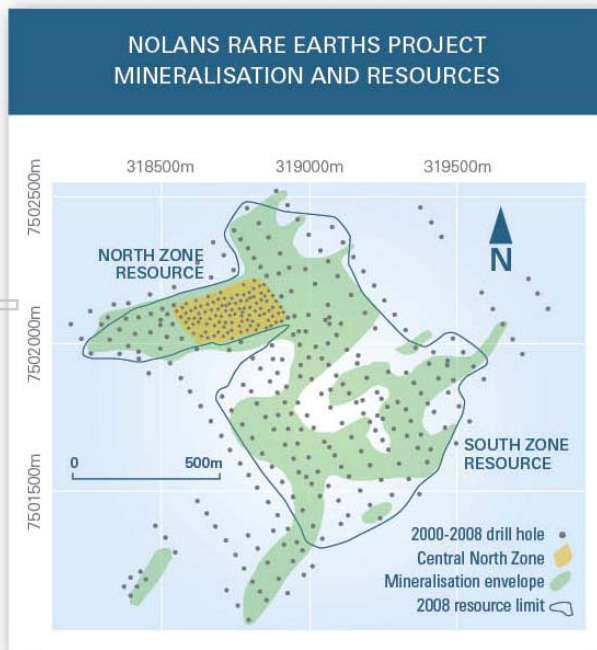
# Nolans is a globally significant resource

For personal use only

## Total resources for Nolans Project

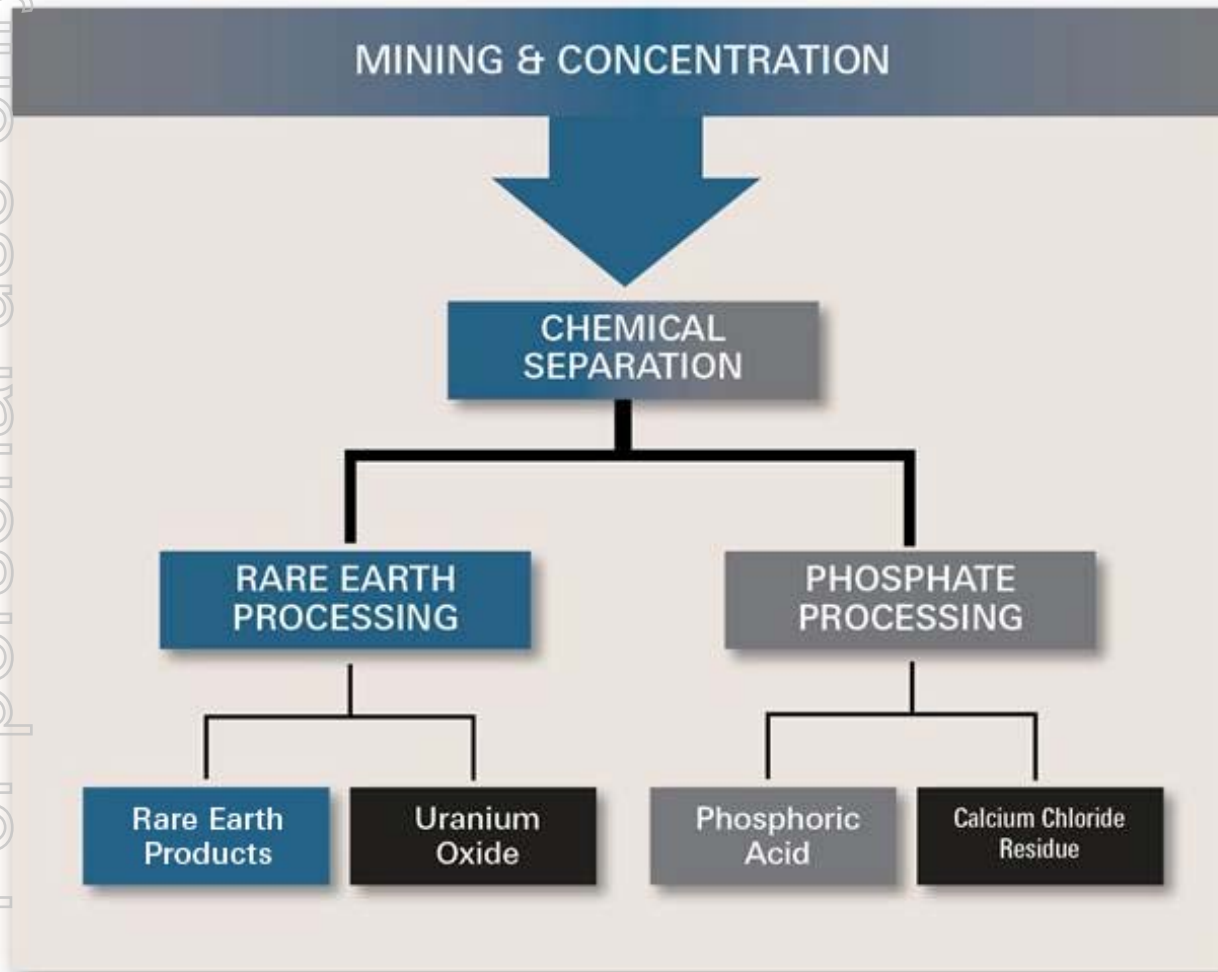
RESOURCES	TONNES <sup>1</sup> (million)	RARE EARTHS REO %	PHOSPHATE P <sub>2</sub> O <sub>5</sub> %	URANIUM U <sub>3</sub> O <sub>8</sub> lb/t
Measured	5.1	3.2	13.5	0.57
Indicated	12.3	2.8	13.4	0.43
Inferred	12.8	2.6	12.2	0.40
TOTAL	30.3	2.8	12.9	0.44
<b>CONTAINED METAL</b>		<b>848,000 t</b>	<b>3.9 Mt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

1. Using 1% REE cut-off grade



- Exposed at surface
- Size extent unknown
- Only drilled to 130m below surface
- Estimated initial mine life 20+ years; nevertheless .....
- Further drilling planned to expand resource base and reduce resource risk

# Nolans process



Processing technology makes a successful rare earths company

Arafura intellectual property developed to specifically exploit the Nolans deposit

Proven process from mine site to product through Demonstration Plant

# Nolans demonstration plant

For personal use only



Heavy Media Separation



Froth Flotation

Utilising the expertise of ANSTO

Utilising the expertise of Bateman Litwin



Rare Earth Processing



Acid Bake



Phosphoric Acid SX



Rare Earth Products



Uranium



Phosphoric Acid & CaCl<sub>2</sub>

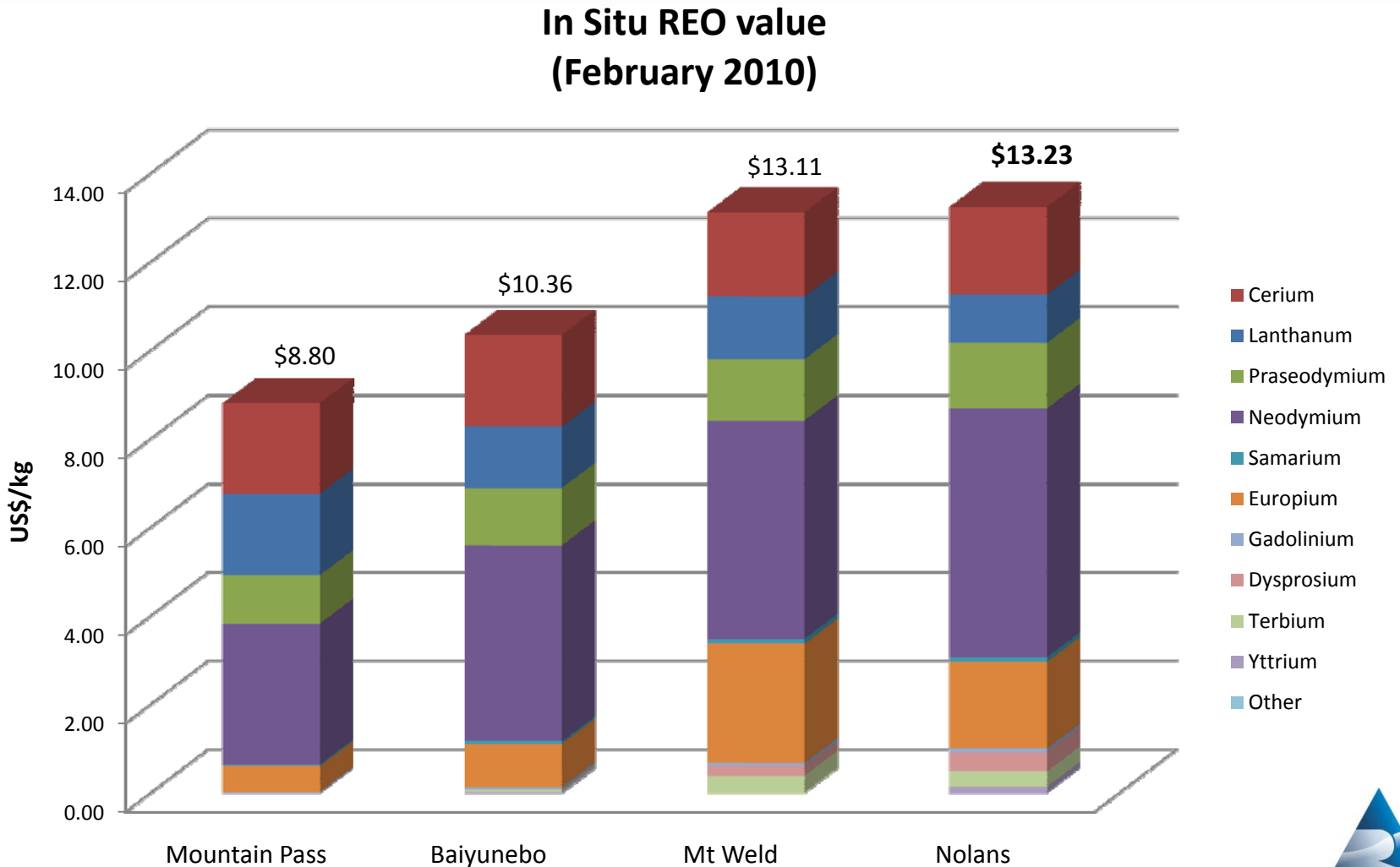
# Nolans has a superior rare earth mix

For personal use only

Rare Earth Oxide	Applications	Nolans Australia	Mt Weld Australia	Mountain Pass USA	Baiyunebo China
Lanthanum	Petroleum cracking catalysts; Batteries (NiMH)	19.74%	25.6%	33.2%	27.1%
Cerium	Autocatalysts; Glass; Polishing	47.53%	45.74%	49.1%	49.86%
Praseodymium	Magnets; Glass	5.82%	5.42%	4.34%	5.15%
Neodymium	Magnets (NdFeB)	21.2%	18.62%	12.0%	15.4%
Samarium	Magnets (SmCo)	2.37%	2.44%	0.8%	1.15%
Europium	Phosphors; Nuclear control applications	0.4%	0.55%	0.12%	0.19%
Gadolinium	Intravenous contrast agents; Phosphors	1.0%	0.97%	0.17%	0.4%
Terbium	Phosphors	0.08%	0.09%		
Dysprosium	Magnets (NdFeB); Lasers	0.33%	0.16%		0.3%
Yttrium	Phosphors; Metal alloys	1.32%	0.37%	0.1%	0.2%
Other		0.21%	0.04%	0.16%	0.03%

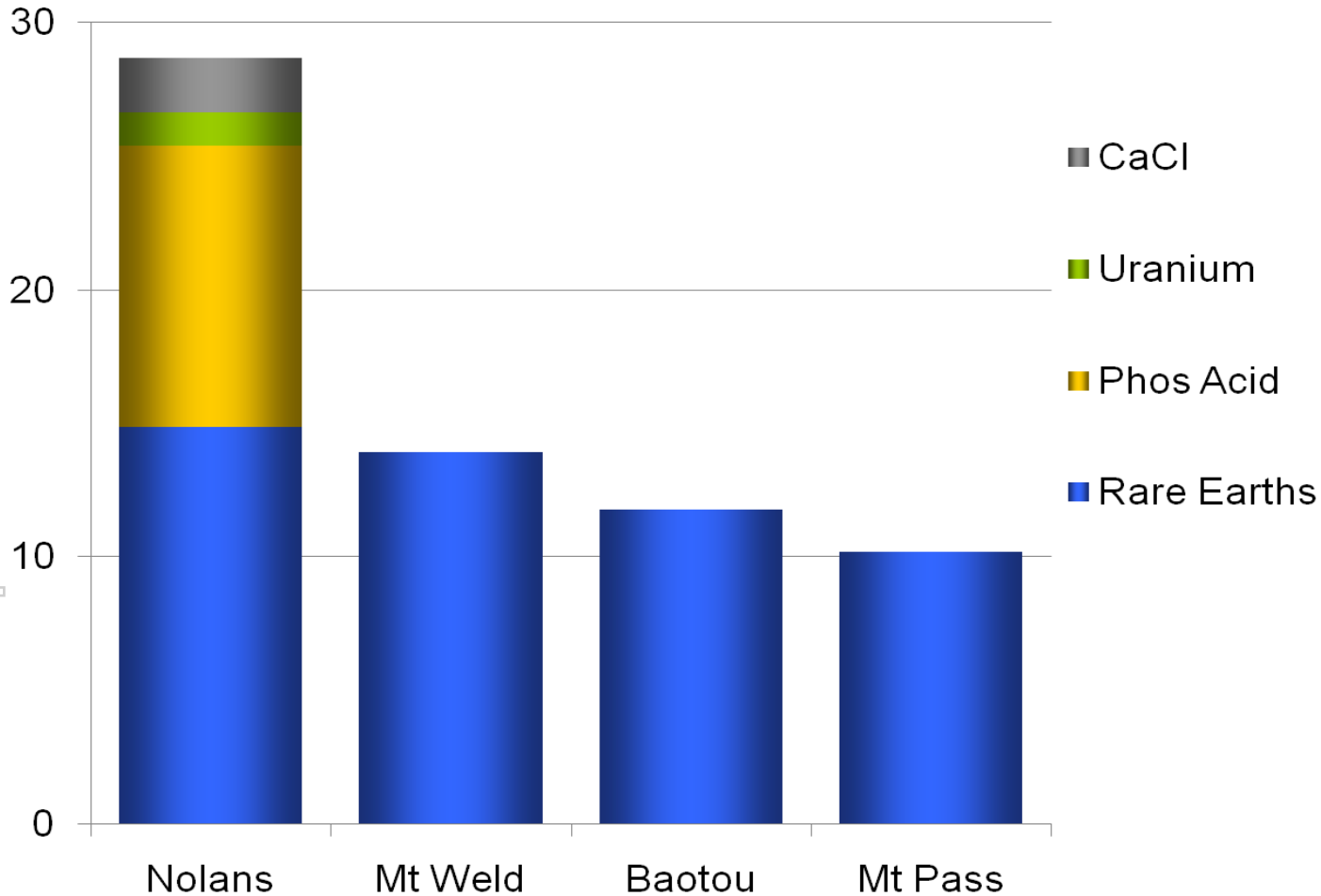
# Nolans rare earth mix: a competitive advantage

For personal use only



# Nolans total product value

Product value including co-product and by-product credits in US\$/kg as REO equivalent

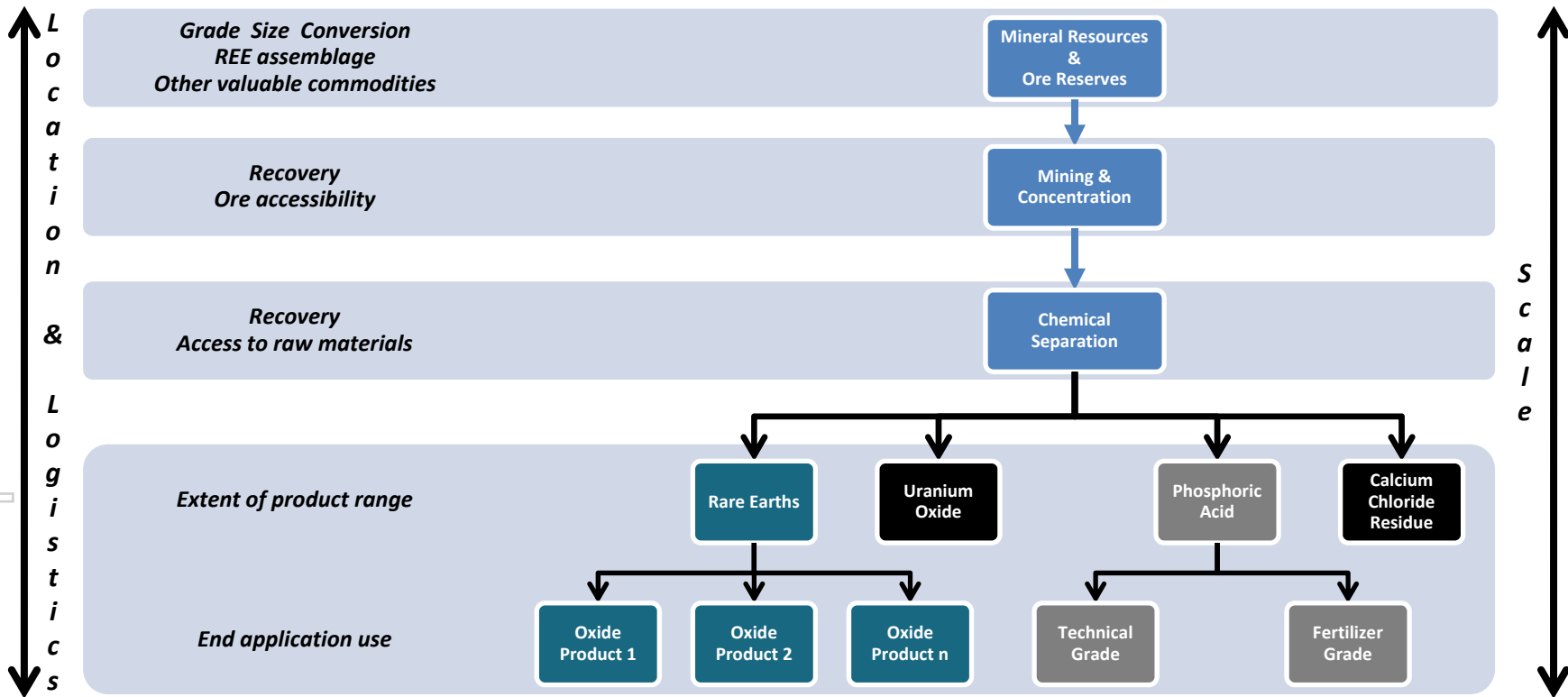




# Value creation: pit to customer across all products

Rare earths are much more complex than some other commodities.  
There are many *value drivers* to consider.

For personal use only



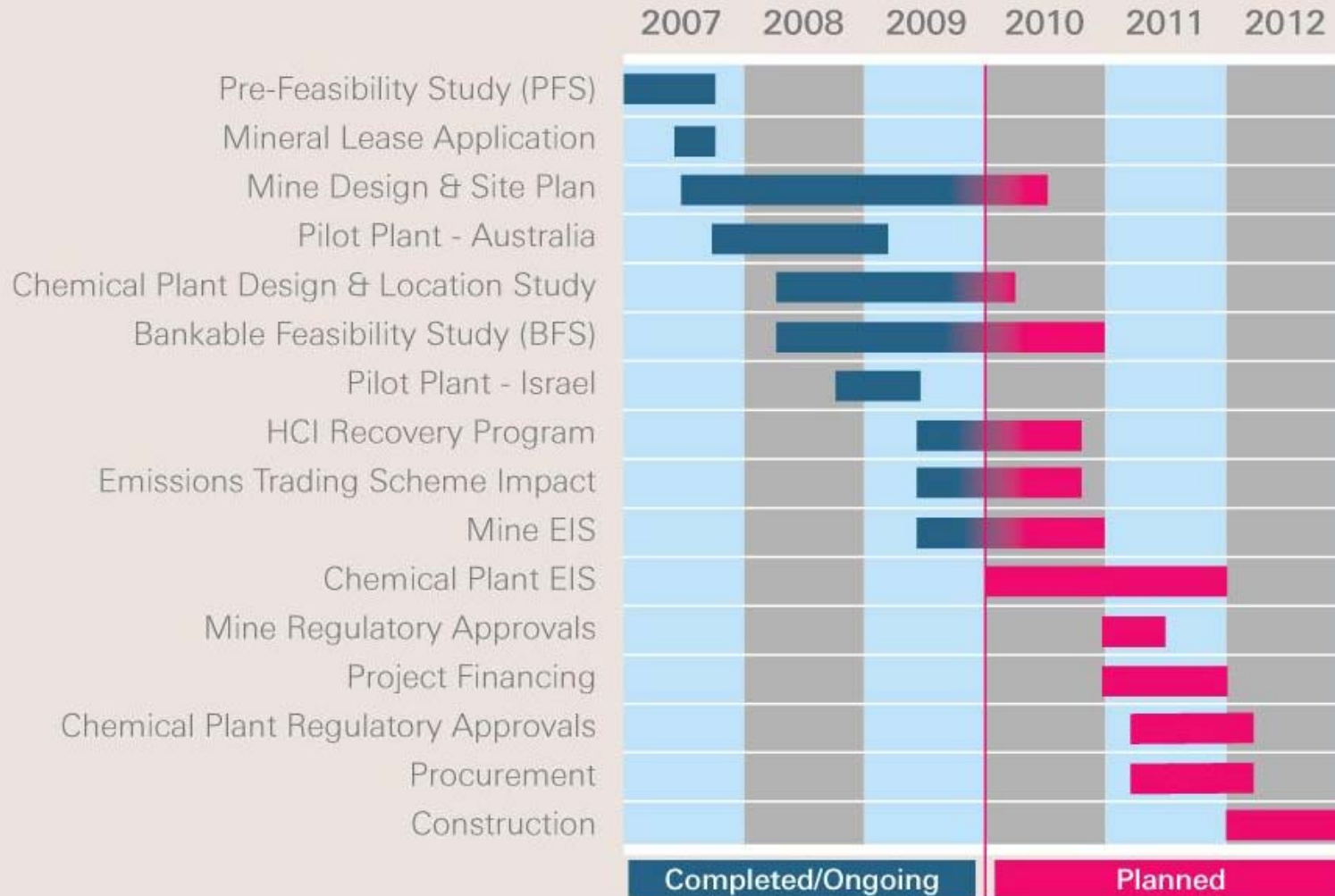
# Nolans valuation as at November 2009

For personal use only

Project valuation (estimated costs)	US\$ million
Capital Cost	\$420m
<b>Sales Revenue</b>	
Rare Earths separated products @ US\$10,000 per tonne	\$200m
Phosphoric Acid @ US\$750 per tonne	\$60m
Calcium Chloride @ US\$100 per tonne	\$40m
Uranium @ US\$50 per pound	\$15m
<b>Total Revenue</b>	<b>\$315m</b>
<b>Annual Operating Costs</b>	<b>\$150m</b>
<b>EBITDA</b>	<b>\$165m</b>
<b>Net Present Value @10% after tax and capital payback</b>	<b>\$1.1 billion</b>
<b>Capital Payback</b>	<b>6 years</b>
<b>Production output per annum of:</b> 20,000 tonnes of REO (@ 86% recovery) 80,000 tonnes of P <sub>2</sub> O <sub>5</sub> (@ 85% recovery) 330,000 pounds of U <sub>3</sub> O <sub>8</sub> (@ 80% recovery) 400,000 tonnes of CaCl <sub>2</sub> (as residue)	

# Nolans development timeline – looking forward

For personal use only



For personal use only



Thank You

# Corporate Information

For personal use only

## Registered Office

Arafura Resources Ltd  
Level 5, 16 St Georges Terrace  
Perth WA 6000  
Telephone +61 8 6210 7666  
Facsimile +61 8 9221 7966

## Share Registry

Security Transfer Registrars  
770 Canning Highway  
Applecross WA 6153  
Telephone +61 8 9315 2333  
Facsimile +61 8 9315 2233

For a copy of the 2009 Financial report  
or further information please visit  
[www.arafuraresources.com.au](http://www.arafuraresources.com.au)



ARAFURA  
RESOURCES LIMITED

Level 5, 16 St Georges Tce  
Perth WA 6000  
PO Box 3047, Adelaide Tce  
Perth WA 6832

Web: arafuraresources.com.au

**Steve Ward** PhD  
Managing Director  
& Chief Executive Officer

Telephone: +61 8 6210 7666  
Facsimile: +61 8 9221 7966  
Mobile: +61 407 985 553

Email: sw@arafuraresources.com.au



ARAFURA  
RESOURCES LIMITED

Level 5, 16 St Georges Tce  
Perth WA 6000  
PO Box 3047, Adelaide Tce  
Perth WA 6832

Web: arafuraresources.com.au

**Gavin Lockyer**  
CFO/Company Secretary

Telephone: +61 8 6210 7666  
Facsimile: +61 8 9221 7966  
Mobile: +61 419 914 072

Email: gjl@arafuraresources.com.au



ARAFURA  
RESOURCES LIMITED