

The Nolans Project

Mining The Territory Conference & Exhibition
Darwin
23 September 2010

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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). The information in this presentation that relates to mineral resources or ore reserves is also based on metallurgical results and interpretation complied by Mr Steven Mackowski BAppSc. Both are full-time employees of Arafura Resources.

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 Mackowski is a Fellow of the Australasian Institute of Mining and Metallurgy 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 Mackowski consents to the inclusion in this presentation of the matters based on his metallurgical results and interpretation in the form and context in which it appears.



Strategy & vision

Arafura Resources is an ASX-listed emerging Rare Earths producer.

Our annual strategic review of the business confirmed the following:

- Our focus on Rare Earths;
- The outlook for Rare Earths continues to improve; and
- Nolans Bore is one of the few truly world-class near-term supply sources, providing Arafura with the means to generate significant value for shareholders.

Our vision is to be the pre-eminent supplier of Rare Earths to the world



Corporate structure (ASX: ARU)

As at 22 September 2010

Capital

290m shares; 15m Board/Employee options

Market capitalisation (ASX:ARU closing price @ 22 September 2010)

@ A\$0.98 = ~A\$284 million

Cash (@ 30 June 2010 ASX Quarterly report)

A\$23.5 million

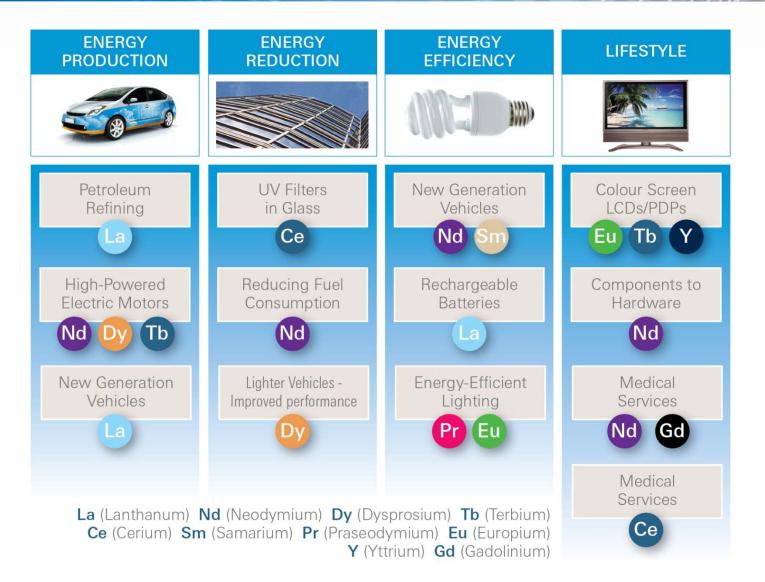
Top shareholders

ANZ Nominees¹ 30.2% ECE² 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



Rare Earths: applications





Rare Earths: outlook continues to improve

- Excellent growth prospects fuelled by consumer demand for new high technology products, and society and regulator drives for clean and efficient energy;
- Very low future demand risks due to substitution or more efficient use/recycling;
- Greater focus on future supply sources by non-Chinese users;
- High capital and technology development different for each ore body – are significant barriers to entry for new suppliers;
- Supply side shortages are forecast. Industry challenge is very much about bringing new supplies to market;
- Considerable potential new supplier 'hype'. Very few projects will make it to production. Long lead times – 10 to 15 years – for successful projects.

Arafura is ideally positioned through our 100 percent-owned Nolans Project



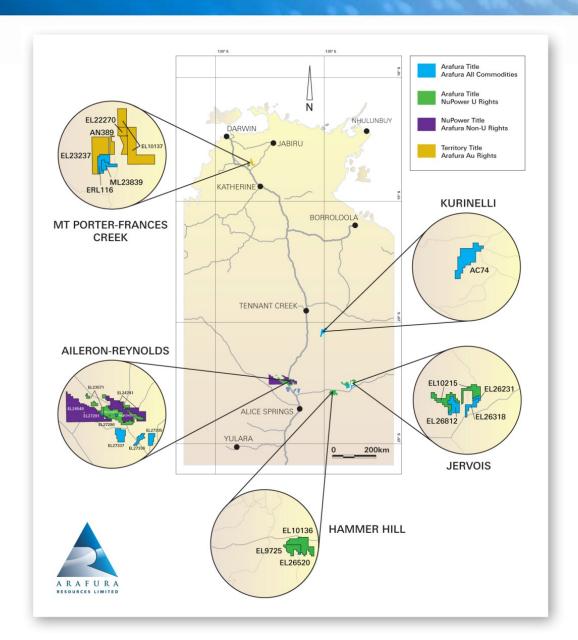
Nolans Project value proposition

Rare Earth Element	% REO contained	Volume (tonnes)	REO Price (US\$/kg)	Projected Revenue (US\$ millions) p.a.	% Revenue			
Lanthanum	19.74%	3,948	\$41.50	\$164	16.4%			
Cerium	47.53%	9,506	\$36.00	\$342	34.2%			
Praseodymium *	5.82%	1,164	\$68.50	\$80	8.0%			
Neodymium *	21.20%	4,240	\$71.50	\$303	30.3%			
Samarium	2.37%	474	\$33.25	\$16	1.6%			
Europium *	0.40%	80	\$605.00	\$48	4.8%			
Gadolinium	1.00%	200	\$40.00	\$8	0.8%			
Dysprosium*	0.33%	66	\$295.00	\$19	1.9%			
Terbium*	0.08%	16	\$605.00	\$10	1.0%			
Yttrium*	1.32%	264	\$39.00	\$10	1.0%			
Others	0.21%	42						
	100.00%	20,000	\$50.03	\$1000	100.0%			
PLUS Nolans has the benefit of other revenue streams								
Phosphoric Acid (P ₂ O ₅) tonnes		80,000	\$1040	\$83				
Uranium (U₃O ₈) lbs		330,000	\$43	\$14				
Total Revenue (US\$ millions) p.a.				\$1097				

Co-products of Phosphoric Acid and Uranium turn potential waste costs into additional revenues and enhanced returns.

^{*}Strategically Emerging Markets: Magnets & Phosphors = 29% by volume = 47% by revenue

Arafura's exploration portfolio



Arafura's exploration focus remains on Rare Earths in the Aileron-Reynolds region of the Northern Territory.

We will add value to our non-Rare Earth assets through joint ventures.





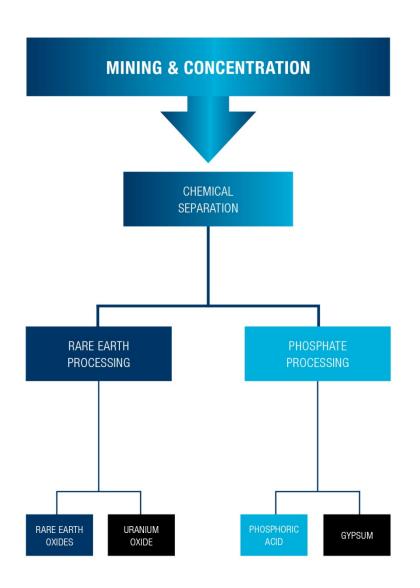
Nolans Project update

Nolans Project scope

The scope of the Nolans Project is confirmed as follows:

- Mine and ore beneficiation at Nolans Bore, NT
 - Supplementary drill program to establish full extent of resource and expansion capability beyond first production phase of 20,000 t p.a. Rare Earth Oxides (REO)
- Critical unique technology components to be piloted and demonstrated
- Chemical and separation facility at Whyalla, SA
 - REO production;
 - Calcium chloride recycle;
 - Across the fence supply from chlor-alkali and sulphuric acid plants;
 - Products for sale are REO, Phosphoric Acid, Uranium Oxide and Gypsum
- On schedule for first production in 2013

Nolans Project scope



Phase 1 Annual Production REO Rare Earths Oxides P₂O₅ as 61% Phosphoric Acid U₃O₈ 150 t

Uranium Oxide

CaSO₄

Gypsum

150 t

500,000 t



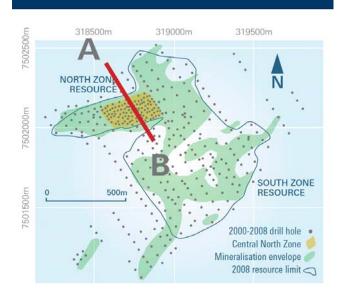
Nolans Bore is already a globally significant resource

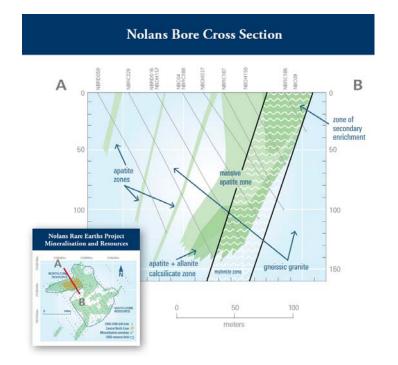
Total resources for Nolans Project

RESOURCES	TONNES¹ (million)	RARE EARTHS REO %	PHOSPHATE P ₂ O ₅ %	URANIUM U ₃ O ₈ 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
CONTAINED METAL		848,000 t	3.9 Mt	13.3 Mlb

- Exposed at surface;
- Size extent unknown;
- Only drilled to 130 m below surface.

Nolans Rare Earths Project Mineralisation and Resources







^{1.} Using 1% REE cut-off grade

Nolans Project update: Mine

Mine site

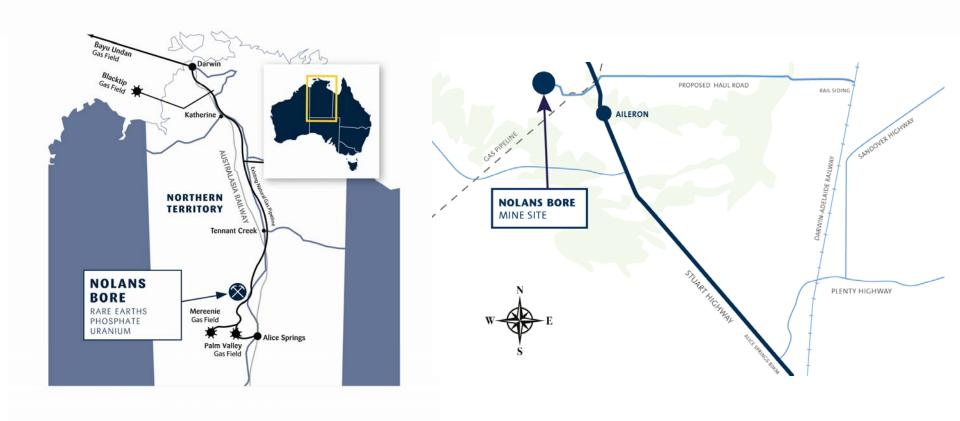
- Drilling for EIS hydrology studies completed;
- Transport study completed;
- Optimisation in progress with Whittle Consulting;
- Final engineering feasibility in progress with Lycopodium.

Technology

- Final pilot, demonstration and optimisation work programs for new technology in progress
 - REO separation through ANSTO major success for middle and heavy REO
 - Calcium chloride (CaCl₂) recycle
 - Acid bake equipment optimisation at demonstration scale –
 Bauer "Big Bertha" acquiring source feed from Nolans Bore.



Nolans Bore Mine: location

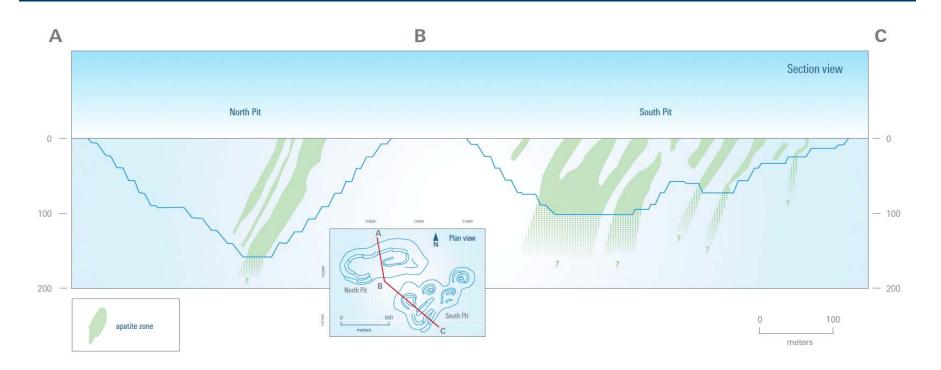


- 5 km to gas pipeline; 10 km to Stuart Highway; 135 km to Alice Springs;
- Mineral concentrate to be transported by road train 65 km along dedicated haul road to rail siding on Darwin-Adelaide rail line.



Nolans Bore Mine: feasibility

Nolans Bore Mine Design

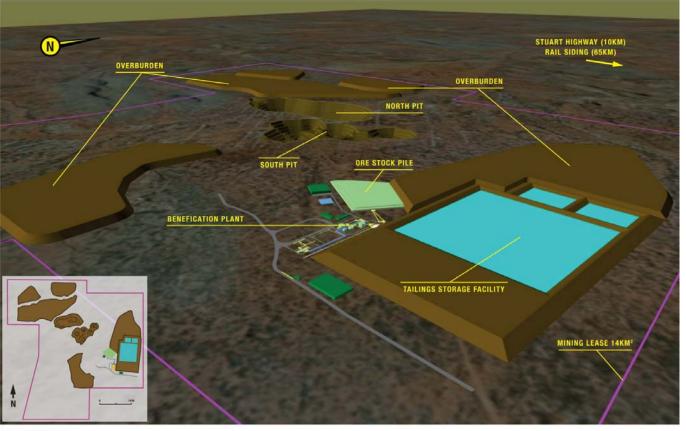


- Open cut mining to a depth of 150 m on current resources;
- 6 million t p.a. mined;
- 1 million t p.a. upgraded to a mineral concentrate.



Nolans Bore Mine





- Beneficiation
 circuit comprises
 crushing,
 screening, gravity
 separation,
 flotation;
- 700,000 t p.a. of mineral concentrate;
- 300,000 t p.a. of tailings.

Version 1 - August 2010

The Nolans Bore Mine and its supporting infrastructure will act as a catalyst for business opportunities throughout Central Australia.

Nolans Project update: technology

Mine site

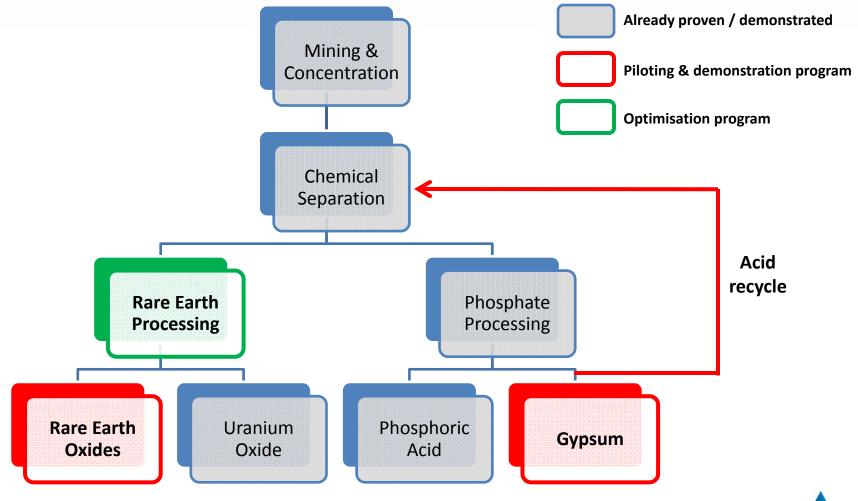
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Final technology programs underway



De-risking novel technology will facilitate project financing and enable nameplate production rate to be achieved quickly.



Nolans Project update: Rare Earths Complex

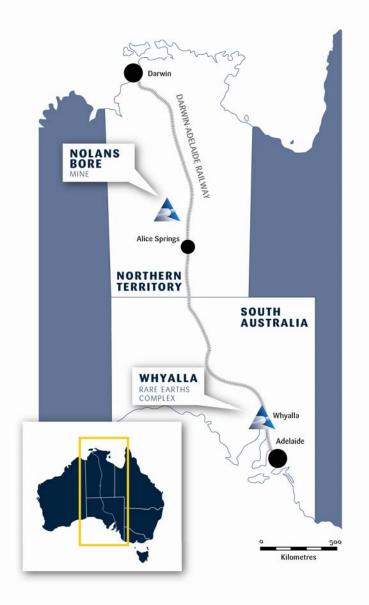
Rare Earths Complex

- Design studies ongoing;
- Site selection work complete
 - Whyalla confirmed as location for Rare Earths Complex
 - Immediate site access for engineering and environmental studies
 - Working towards finalising land purchase from OneSteel;
- Stakeholder engagement
 - Positive response from local community
 - SA Government intends making a Major Project declaration.

Off-take / project finance

- Credit markets increasingly sensitive to risk; however
- Interest in Arafura financing and product sales remains high; but
- We are resisting an 'early easy' deal which would not provide sufficient value going forward; and
- Requirements for project finance are still changing.

Whyalla Rare Earths Complex: location





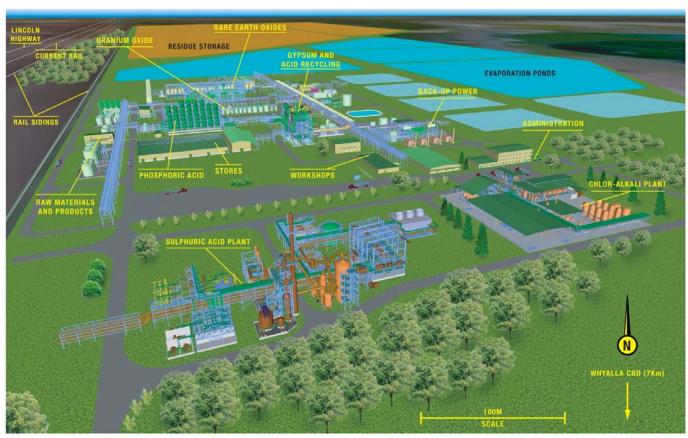
- 800 ha of industrial land;
- Adjacent to rail, road, port, salt producer;
- 1,400 km rail distance from Nolans Bore;
- 7 km from Whyalla CBD.



Whyalla Rare Earths Complex



ARAFURA RARE EARTHS COMPLEX



- Comprises facilities for production of feed chemicals, and final products;
- Arafura will consider partners in, or third party owners of, major feed chemical plants.

Version 1 - August 2010

The Whyalla Rare Earths Complex will be a very substantial chemical processing operation by Australian standards.



Nolans Project update: project finance

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Nolans Project: the next steps

2010 - 2013

- Refine technology and, where necessary, demonstrate at scale;
- EIS, site studies, regulatory approvals Nolans Bore & Whyalla;
- Extensive drilling program to increase resource base and reduce resource risk;
- Refine the debt/equity structure;
- Actively seek appropriate strategic partners and financiers;
- Construction;
- Production





Summary

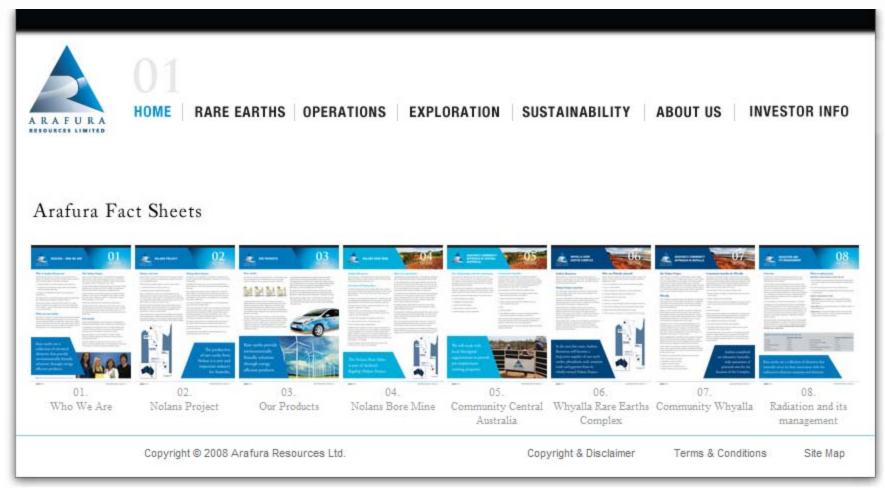
Summary

Rare Earths and the Nolans Project – excellent prospects for value generation for Arafura shareholders, and for the communities within which Arafura will operate:

- Good market growth fundamentals with very small risks;
- Market is supply side constrained. Nolans represents one of the very few new rare earth supplies for users worldwide;
- The Nolans Bore resource can potentially support expanded output beyond the initial project phase, allowing Arafura to capture a substantial market opportunity in the second half of this decade;
- Rare Earths production from Nolans is a new and important industry to Australia, with a substantial value-added component;
- We are currently on track to meet first production of REO in 2013 – from operations wholly within Australia.



For more information.....



Nolans Project Fact Sheets at www.arafuraresources.com.au





Thank You

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