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RARE EARTHS  
PRODUCER  
FOR USERS  
WORLDWIDE**

## **NOLANS RARE EARTHS PROJECT: MAIDEN JORC ORE RESERVE**

- **Independently prepared JORC Ore Reserve for Nolans Bore to support a 22 year mine life;**
- **95% of Measured and Indicated Resources convert to Ore Reserves;**
- **Another key milestone towards commercialisation – further validates advanced stage of Nolans Project;**
- **Continues positive news flow for Arafura following recent cash inflow of \$32.5 million.**

Australian Rare Earths company **Arafura Resources Limited (ASX: ARU)** (“Arafura” or the “**Company**”) is pleased to announce a maiden JORC Ore Reserve for its 100 per cent-owned Nolans Rare Earths Project.

The Ore Reserve has been independently prepared by AMC Consultants Pty Ltd (“AMC”) of Perth, Australia, and is based on Measured and Indicated Mineral Resources estimated for the Nolans Bore deposit by AMC earlier this year (ASX: ARU 08/06/2012).

Ore Reserves at Nolans Bore are estimated to be:

RESERVES	TONNES (million)	RARE EARTHS REO %	TONNES REO	PHOSPHATE P <sub>2</sub> O <sub>5</sub> %	TONNES P <sub>2</sub> O <sub>5</sub>	URANIUM U <sub>3</sub> O <sub>8</sub> lb/t	TONNES U <sub>3</sub> O <sub>8</sub>
Probable	24	2.8	672,000	12	2,976,000	0.45	4,900

Numbers may not compute exactly due to rounding

The Ore Reserve represents that part of the Nolans Bore Mineral Resource that can be economically mined by open pit methods. Based on a maximum beneficiation throughput of 1.1 million tonnes per annum, the Ore Reserve supports a mine life of 22 years.

This key milestone brings the Nolans Project one step closer to commercialisation and highlights its advanced stage.

Arafura has also outlined 21 million tonnes of Inferred Resources at Nolans Bore that could be converted to additional Ore Reserves with further drilling to improve the confidence in these resources. Large parts of the resource remain open at depth.

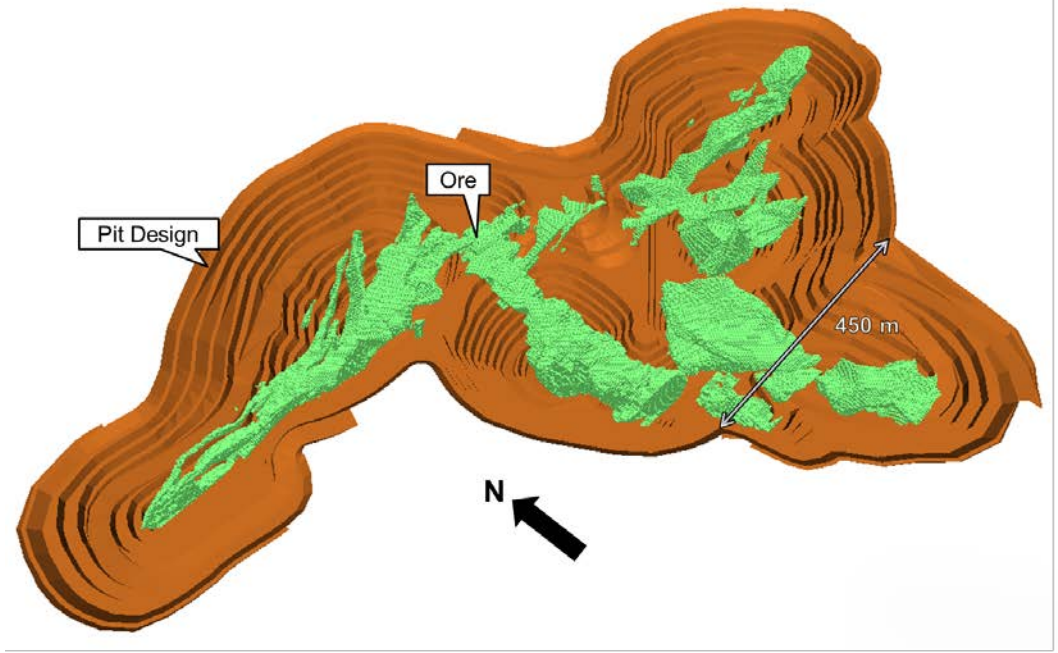
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**Figure 1: Overview of pit design for Nolans Bore Ore Reserve. View from south-west.**

Arafura’s Chief Executive Officer, Mr Chris Tonkin said, “This is a landmark achievement for the Company. The establishment of a world-scale JORC Ore Reserve further validates the commercial appeal of the Nolans Project.

“Nolans is one of a very small number of rare earth projects anywhere in the world that has established an Ore Reserve.

“Importantly, today’s announcement continues the recent positive news flow momentum for the Company, following the significant tax refund received in October and, more recently, the support of our major shareholder ECE, which together have secured Arafura’s short- to medium-term funding needs.

“Arafura remains well positioned to become a one of the world’s leading rare earths producers this decade.”

- ENDS -

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### Competent Person's Statement

The information in this report relating to Ore Reserves was compiled by Mr Mark Chesher who is a Fellow of the Australasian Institute of Mining and Metallurgy. Mr Chesher is a full time employee of AMC Consultants Pty Ltd and has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration in open pit mining activities 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 Chesher consents to the inclusion of this information in the form and context in which it appears.





TABLE 1: ESTIMATION AND REPORTING OF NOLANS BORE ORE RESERVES	
CRITERIA	EXPLANATION
<b>Mineral Resource estimate for conversion to Ore Reserves</b>	<p>The estimate of Mineral Resources used as the basis for conversion to Ore Reserves was reported by Arafura to the ASX on 8 June 2012. All assumptions relating to these Mineral Resources are published on Arafura's website at <a href="http://www.arafuraresources.com.au/images/media/files/Reports/AMC_Resource_Estimate_and_ARU_DD-QAQC_120907.pdf">http://www.arafuraresources.com.au/images/media/files/Reports/AMC_Resource_Estimate_and_ARU_DD-QAQC_120907.pdf</a>.</p> <p>The Ore Reserves are inclusive of the Mineral Resources.</p>
<b>Study status</b>	<p>Arafura is continuing with the completion of a Feasibility Study for the Nolans Project. Sufficient development of the Project's Base Case configuration has been completed to support the development of Modifying Factors for an Ore Reserve.</p> <p>A number of specialists (both Arafura employees and external consultants) acted as responsible persons to assess the Modifying Factors. This process was supported by the completion of a gap analysis by AMC to ensure sufficient detail was collated to support each of the Modifying Factors used in the optimisation and mine design.</p>
<b>Cut-off parameters</b>	<p>No specific cut-off grade can be applied to the Mineral Resources to determine the Ore Reserves due to the phosphate dependent metallurgical recoveries and REE dependent processing costs. Consequently, each model block value was determined as the revenue derived from processing less the cost of processing. Ore blocks with positive values were classified as plant feed.</p>
<b>Mining factors or assumptions</b>	<p>Dilution of the mineral resource model and an allowance for ore loss are included in the Ore Reserve estimate, and were introduced through reblocking of the model. Reblocking resulted in 3.9% dilution and 3.3% ore loss for ore tonnes, and 0% dilution and 2.5% loss for REO content.</p> <p>Pit slope design parameters were based on core logging and material property data collected from geotechnical drilling. The overall pit slope angles in the final stage of pit design vary between 34° and 45°, including allowances for pit access ramps.</p> <p>Pit optimisation considered Measured and Indicated Resources only, and pit limits for the open pit were selected using Gemcom Whittle Four-X implementation of the Lerchs Grossman algorithm. Pit designs were based on pit optimisation results.</p>
<b>Metallurgical factors or assumptions</b>	<p>The metallurgical process used in estimating Ore Reserves is described in the Nolans Project Base Case, published on Arafura's website at <a href="http://www.arafuraresources.com.au/images/media/files/NolansProjectUpdate_FINAL_Iow.pdf">http://www.arafuraresources.com.au/images/media/files/NolansProjectUpdate_FINAL_Iow.pdf</a>.</p> <p>Development of the flowsheet follows several years of detailed bench-, pilot- and demonstration-scale testwork of a number of unit processes since 2005, using material types acquired from bulk and drill samples representative of the initial years of development of the orebody.</p> <p>The flowsheet can be summarised as follows:</p> <p><b>Concentrator</b></p> <ul style="list-style-type: none"> <li>Ore beneficiation, comprising 3-stage crushing, scrubbing, dense media separation, milling, wet high intensity magnetic separation, and flotation, to produce a mineral concentrate;</li> </ul> <p><b>Rare Earths Complex</b></p> <ul style="list-style-type: none"> <li>Hydrochloric acid pre-leach and rare earths recovery, to produce a pre-leach residue and precipitate;</li> </ul>



- Sulphuric acid bake and purification, to produce an intermediate rare earth carbonate;
- Solvent extraction and calcination, to produce final separated REO products.

Recoveries used in estimating Ore Reserves are as follows:

**Concentrator** (dependent on contained P<sub>2</sub>O<sub>5</sub> grade)

- 55-90% for REEs
- 60-90% for Phosphate
- 55-85% for Uranium

**Rare Earths Complex**

- 63% for Lanthanum Oxide
- 78% for Cerium Oxide
- 78% for Didymium (Neodymium-Praseodymium) Oxide
- 67% for SEG Oxide
- 58% for HRE Oxide
- 85% for Phosphate
- 38% for Uranium

Production schedules based on a ramp-up to 88% of the Rare Earths Complex nameplate capacity of 20,000 tpa REO have been used to determine revenues for financial analysis, in line with industry experience for commissioning and operation of similar complex and novel processes.

**Cost and revenue factors**

Process, administration and ore related costs that averaged A\$470/t processed, assuming a maximum beneficiation plant processing rate of 1.1 Mtpa over a 22 year mine life. The average A\$470/t includes transport, logistics and downstream processing costs.

A weighted average price of approximately US\$71.60/kg REO was used for the optimisation, at a foreign exchange rate of A\$1.00=US\$1.00. This is based on the average of Arafura's forward price forecast from 2012 to 2025. The average price used for each REO product and co-products is shown in the table below:

Product	Average Sales Price (US\$/kg)
<b>REO</b>	
Lanthanum Oxide	\$16.90
Cerium Oxide	\$16.40
Didymium (Neodymium-Praseodymium) Oxide	\$155.00
SEG Oxide	\$355.70
HRE Oxide	\$364.60
<b>Other</b>	
Phosphate	\$0
Uranium	\$106.00



<b>Market assessment</b>	<p>Global economic softness, de-stocking and recycling of rare earths has contributed to subdued demand in 2012. However, strong double-digit growth for rare earth magnets used in hybrid electric vehicles, wind turbine generation and further growth of green energy technologies is expected in the medium- to long-term. Strong increases in rare earth prices are expected to coincide with this growth outlook and also lead to supply shortages for some rare earths, supporting Arafura's average price forecast of US\$71.60/kg (2012 to 2025) used in the optimisation.</p> <p>Financial modelling in real terms, including sensitivity analysis, was also completed. This shows that Nolans Bore remains economically viable at US\$56/kg, which represents the average Nolans REO product price (in real terms and adjusted to 2012 dollars) over the 22-year period from 1990 to the present day. The sensitivity analysis was completed based on Arafura's long term foreign exchange rate outlook of A\$1.00=US\$0.85.</p>
<b>Other</b>	<p>All relevant mineral titles are in good standing and Arafura has an exclusive agreement in place to purchase the required land for the Rare Earths Complex.</p> <p>Based on the current level of development there are no known issues from a natural risk, infrastructure, environmental, legal, social or governmental perspective that cannot be managed or mitigated as the development of the Nolans Project continues.</p>
<b>Classification</b>	<p>There are Measured, Indicated and Inferred Resources within the Mineral Resource model. Measured Resources have been converted to Probable Ore Reserves to reflect a reduced level of confidence in the Modifying Factors than the level of confidence in the geological knowledge of the deposit. Indicated Resources have been converted to Probable Ore Reserves.</p>