

24 January 2013



**AN EMERGING  
RARE EARTHS  
PRODUCER  
FOR USERS  
WORLDWIDE**

## **FIFTH RARE EARTH OXIDE PRODUCT AVAILABLE FOR CUSTOMER EVALUATION**

### **ARAFURA ADDS LANTHANUM OXIDE TO SEPARATED RARE EARTH OXIDE PRODUCT RANGE**

Australian Rare Earths company **Arafura Resources Limited** (ASX: ARU) (**Arafura** or **the Company**) is pleased to announce the achievement of another major milestone by producing a separated Lanthanum Oxide (**Lanthanum** or **La<sub>2</sub>O<sub>3</sub>**) product.



**Ce Oxide**



**HRE Oxide**



**La Oxide**



**Nd/Pr Oxide**



**SEG Oxide**

*Separated Rare Earth Oxide samples from Arafura's product development program*

The successful separation of Lanthanum completes Arafura's goal of developing five individual separated oxide products for initial commercialisation of the Nolans Project. This novel separation of lanthanum follows the successful production of samples of four other Rare Earth Oxide (REO) products from the Nolans Bore resource in 2012 (ARU: ASX 17/01/12 and ASX 6/6/12):

- Cerium Oxide
- Nd/Pr Oxide: Didymium Oxide (Nd+Pr);
- SEG Oxide: 'Mids' Rare Earth Oxide (Sm+Eu+Gd); and
- HRE Oxide: 'Heavy' Rare Earth Oxide (Tb+Dy+Ho+Er+Tm+Yb+Lu+Y).

***Initial customer feedback confirms that these products are to the defined specifications.***

**ARAFURA RESOURCES LIMITED**

arafura@arafuraresources.com.au www.arafuraresources.com.au ABN 22 080 933 455

**PERTH:** Level 5/16 St Georges Tce, Perth WA 6000 | PO Box 5773, St Georges Terrace, Perth WA 6831 T: +618 6210 7666 F: +618 9221 7966

**DARWIN:** 18 Menmuir St, Winnellie NT 0820 | PO Box 37220, Winnellie NT 0821 T: +618 8947 5588 F: +618 8947 5599

**WHYALLA:** Unit 18, 11 Darling Tce, Whyalla SA 5600 | PO Box 511, Whyalla SA 5600 T: +618 8645 5509 F: +618 8645 1856

All products have been produced at pilot scale and demonstrate a further stage of Arafura's development and the intrinsic opportunity within the Nolans Project.

Arafura's CEO, Chris Tonkin, said, "Arafura's downstream technology program continues to deliver excellent outcomes in the form of final separated REO product samples from our Nolans Bore resource. The production of the fifth and final product at pilot scale, not only proves Arafura's processes and provides valuable engineering data, but will also provide further opportunity to engage potential customers for this high volume product.

Our demonstrated ability to produce separated oxide products is a major point of difference between Arafura and other rare earth projects currently being considered for development in Australia and elsewhere around the world," he added.

– ENDS –



**For further information contact:**

Chris Tonkin  
Chief Executive Officer  
T: +61 8 6210 7666



### About Arafura's Rare Earth Oxide Products:

Arafura is unique in producing and offering separated REO products to key customers for evaluation. Product testing by key end users in Japan, Korea and Europe validated Arafura's products for application in major end use sectors.

Rare Earths are essential to products with significant growth potential in markets associated with the electronics and clean technology industries and they positively contribute to energy efficiency and greenhouse gas reduction.

REOs are fundamental in clean energy technologies such as electric and hybrid vehicles, energy efficient lighting, wind turbine generators, and automotive catalytic converters. Rare Earths are critical and strategic components in defence applications, advanced communications, medical equipment and computing and mobile applications such as tablets and smart phones.

Arafura's Lanthanum product is targeting the nickel metal hydride (NiMH) batteries market which powers electric and hybrid vehicles and the fluid cracking catalyst (FCC) market for processing of crude oil.

Magnets, catalysts, and metal alloys account for the largest global consumption of REO and a global clean energy future will drive the expected strong growth of rare earths in the magnets and phosphors markets. Arafura's product suite is designed to feed into major end use sectors with significant forecast growth rates in demand:

| Application          | Arafura's Oxide Products    | Annual Average Growth Rate (2013-2020) | Arafura's Annual Production (tonnes) | 2016 Global Demand Forecast (tonnes) |
|----------------------|-----------------------------|----------------------------------------|--------------------------------------|--------------------------------------|
| Magnets              | Didymium Oxide & HRE Oxide  | 10%                                    | 5,300                                | 44,000                               |
| Catalysts            | Lanthanum & Cerium Oxide    | 5%                                     | 3,200                                | 39,000                               |
| Phosphors            | SEG & HRE Oxide             | 9%                                     | 1,000                                | 10,000                               |
| Polishing Powders    | Cerium                      | 5%                                     | 4,000                                | 19,000                               |
| Metallurgical Alloys | Cerium, Didymium, HRE Oxide | 4%                                     | 3,000                                | 26,000                               |
| Batteries/Energy     | Lanthanum                   | 6%                                     | 1,500                                | 16,000                               |
| Glass Additives      | Cerium                      | 1%                                     | 2,000                                | 11,000                               |
| <b>TOTAL</b>         |                             | <b>6-7%</b>                            | <b>20,000</b>                        | <b>165,000</b>                       |