

Nolans Pilot Program Update

13 December 2017



- **Nolans pilot program continues to progress ahead of expectations**
- **High rare earth extraction achieved in Phase 4 acid bake trials**
- **Planning for an expanded scale acid bake pilot well advanced and scheduled for commencement in January 2018**

Arafura Resources Limited (ASX: ARU) (Arafura or the Company) is pleased to provide an update on recent progress on flowsheet piloting for its 100 per cent-owned Nolans Neodymium-Praseodymium (NdPr) project in the Northern Territory.

Phase 4 Acid Bake trials – rare earth extraction results

The first stage trials of sulfuric acid bake piloting were successfully concluded in October (*refer to ASX announcement 19 October 2017*). These trials produced NdPr-rich sulfated material from pre-leach residue (PLR) generated by the Phase 2 Phosphate Extraction pilot plant.

Arafura has now received preliminary metallurgical mass balance results and can report that rare earth extraction resulting from the dynamic acid bake trials using the Gouda paddle dryer exceeded that from concurrent static acid bake testwork.

<i>Rare Earths</i>	Static Testwork Extraction	Dynamic Acid Bake Extraction
<i>LRE (including NdPr)</i>	96.6%	98.5%
<i>SEG</i>	86.0%	91.3%
<i>HRE</i>	72.0%	80.6%

LRE includes La, Ce, Pr and Nd. SEG includes Sm, Eu and Gd. HRE includes Tb, Dy, Ho, Er, Tm, Yb, Lu and Y.

The Company expects to confirm the dynamic acid bake extraction results in the final acid bake pilot plant.

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Phase 4 Acid Bake pilot – final planning in full swing

Arafura's extraction plant flowsheet achieves optimal hydrometallurgical performance using a low temperature bake (< 300°C) and therefore is able to use paddle dryer equipment rather than kiln-based equipment used by other rare earth projects, which operate at higher temperatures.

Discussions with equity financiers familiar with kiln-based equipment used by other rare earth projects indicated a preference to see Arafura further de-risk possible commissioning and operation of the acid bake process through an expanded program.

Following consultation between Arafura, equipment vendors and engineering groups, it was agreed to expand the Phase 4 program to acquire additional operational and design data for the project's Definitive Feasibility Study (DFS) and provide the opportunity to test alternative equipment to diversify supplier reliance.

The Company is pleased to advise that a second-hand paddle dryer has now been procured and delivered to Perth (see attached photos). It is currently being refurbished and is expected to be tested in January in advance of its use in the final acid bake pilot. A larger Gouda unit to the one successfully used in the first stage trials is also expected to arrive from Europe around the same time.

Arafura is targeting completion of all pilot programs by the middle of 2018 which, together with the DFS, will put the Company in a position to make a final investment decision on the project by the end of 2018.

The strength of Arafura's development program lies in the quality and quantity of engineering data collected from the pilot plant operation. This ensures that all key engineering and operational considerations are addressed prior to commissioning of the commercial facility.

To further reduce execution risk, the Company has and will continue to draw on independent expert advice and oversight of all pilot activities by specialist consultants and equipment vendors including SNC-Lavalin, Prayon Technologies, and ANDRITZ Gouda.

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Paddle dryer pilot skid with oil heater



Paddle dryer pilot skid at Bossong Engineering in Perth for maintenance and modifications



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