

UPDATE ON DEVELOPMENT STATUS OF NOLANS RARE EARTH PROJECT

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ABSTRACT

Arafura Resources' flagship project and key focus is the Nolans Rare Earth Project, one of the world's largest and most intensively explored rare earth deposits, located in the Northern Territory of Australia, close to the Stuart Highway and about 130 km by road from Alice Springs. The rare earths are associated mainly with apatite (a calcium phosphate mineral), monazite (a rare earth phosphate), and allanite (a calcium and rare earth silicate mineral).

The detail and logic behind the selection of the optimised flowsheet was presented at ALTA in 2019. At that point, the technical viability of the flowsheet had been tested in various laboratories at bench and pilot scale. The project is now advancing through front-end engineering where the current focus is to convert the pilot testwork results and insights into a reliable, and operable, engineering design.

The flowsheet commences with flotation beneficiation followed by a complex hydrometallurgical process to produce high quality NdPr oxide and SEG/HRE oxide products. The plan to do the entirety of the processing on the one site makes the Nolans project a rare technical operation. Importantly, with so much of the value adding process completed on-site, the project retains complete control of the environmental and safety management of all products and by-products that are generated throughout the process of creating the final products.

Execution of the project will require the development of a unique combination of professional skills at a single operation, even if the individual skills are well established in the mining and processing industry in Australia.

This presentation provides an overview of the status of the Nolans Rare Earth Project including a brief history of development and a recap on the benefits of the selected flowsheet for Nolans orebody. It will then discuss some of the attributes of the project that make it one of the more unique technical opportunities, not just in the Northern Territory, but nationally. Finally, the presentation will conclude with a description of the planned Project activities aiming for production from the Nolans Project in the near future.

Keywords: Rare Earths, NdPr, Didymium, Phosphoric Acid, Beneficiation, Hydrometallurgy, Project Development