Newly listed Australian Rare Earths Limited is off to a flying start

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Rare earth permanent magnets are so powerful they are the heart of modern 'efficient' motors that drive many electric vehicles, wind turbines and electrical appliances. Their advantage is that they achieve stronger output and therefore reduce power consumption and boost efficiency compared to other electric motors with no rare earth permanent magnets. These magnets contribute 30% of the market by volume and >90% by value.

Key magnet rare earth material prices such as Neodymium (Nd), Praseodymium (Pr) and Dysprosium (Dy) have been rising the past 2 years, partly due to the surge in electric vehicle (EV) sales and also due to supply concerns out of China.

Australian Rare Earths Limited (ASX: AR3) ("AREL") is a newly listed Australian company focused on the valuable magnet rare earths at their Koppamurra Project in Australia. The Company listed at A$0.30 on July 1, 2021 raising A$12 million. The stock tripled in the first five days after listing reaching A$0.90, and is currently trading at A$1.08.

Australian Rare Earths Limited stock price chart (IPO at A$0.30 on July 1, 2021)

Source

The Koppamurra Project

AREL is progressing the exploration of a significant deposit of valuable ‘clay-hosted’ rare earth elements, located at their Koppamurra Project spread over tenements in South Australia and Victoria. Past exploration of the Koppamurra region has shown it contains mineralization containing the rare earth elements neodymium, praseodymium, dysprosium and terbium as revealed from reviewing historic drilling data and samples available from State core repositories. The rare earths were found to accumulate in the shallow clay layer deposited onto a limestone base (Gambier Limestone).

The Koppamurra Project is a frontier ‘ionic clay’ rare earth opportunity in South Australia and Victoria, Australia, spread over a massive ~4,000km². Clay hosted rare earth mining is shallow-excavation mining involving progressive rehabilitation and is much lower impact than many other forms of mining. The deposits of interest are non-radioactive, which is a significant advantage over other mineral sand and hard rock rare earth element deposits.

Ionic clay projects have significant advantages over mineral sand and hard rock rare earth projects

	Ionic Clays	Hard Rock
Location	• Currently mined in China and Myanmar, but resources are depleting	• China still dominates but mines in production and under development in USA, Australia etc
REE Assemblage	• Supply virtually all heavy REEs (>80%) and a significant portion of light (La-Eu) REE globally	• Monazite or Bastnaesite ores which are typically higher in light REE assemblage
Scale	• Scalable development – lower initial capex requirements	• Typically require significant scale for economic viability given higher capex requirements
Exploration	• Quick and inexpensive to define resources given shallow drilling using aircore, auger, push-tube core	• Similar to other hard rock base metals requiring substantial drilling, geochemistry, geophysics etc
Mining	• Shallow free digging material with low strip ratio • Progressive rehabilitation	• Drill and blast with large mining fleet • Deep open pits or underground mining
Processing	• Simple metallurgy; screen then heap or tank leach • No toxic chemicals nor radioactive waste streams	• High temperature +/- pressure leaching • Radioactive tailings
Risk / Economics	Fast to drill and develop, low capex and high value product	Significant time and cost to develop, complex processing, radioactivity issues, lower product value

Source: Company presentation

Current news and next steps

Prior to AREL listing on the ASX, 470 aircore, auger and push tube drill holes were completed in January 2021 and a JORC 2021 **Inferred Mineral Resource of 39.9Mt @ 725ppm TREO** was announced. A feature of the Koppamurra Mineral Resource is low radioactivity. Preliminary testwork at ANSTO has demonstrated that recovery improves at lower pH levels and this will be investigated further to improve optimization of metallurgical recoveries, currently around 50% to 70%.

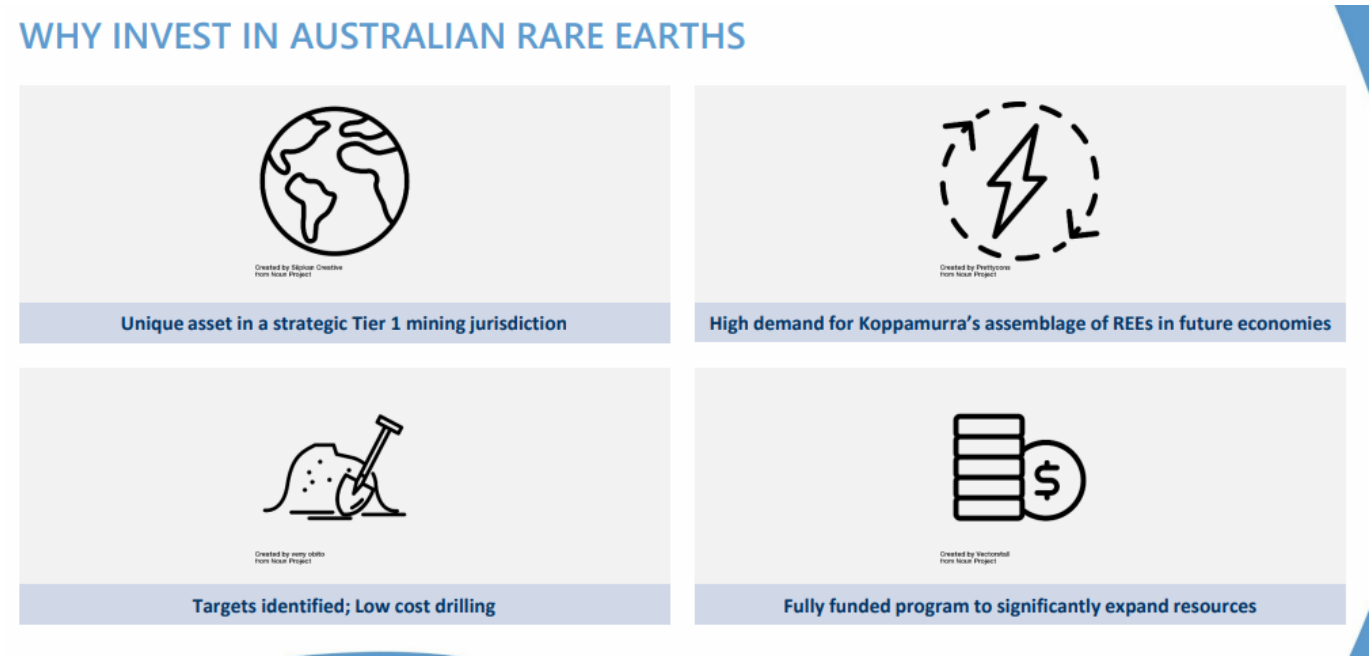
More recently a further 79 hole drill campaign was completed with assay results pending and expected by mid to late August. Further field exploration will begin in October.

In July AREL announced that they had acquired new tenements and expanded the Koppamurra project by greater than 40%.

Board and management are highly regarded

The AREL board consists of renowned metallurgist Dudley Kingsnorth. He is an internationally recognized expert in the rare earths industry, providing advice to producers, end-users and government entities. He has over 50 years of experience in operations, project development and marketing.

Australian Rare Earths Limited reasons to invest summary



Source: Company presentation

Closing remarks

It is still very early days for Australian Rare Earths Limited and their ionic clay rare earths Koppamurra Project in Australia, already with an Inferred Mineral Resource of 39.9Mt @ 725ppm TREO. The IPO raised A$12 million which will largely be used for exploring their tenements with drill assays due out shortly in August, to be followed by a further exploration program starting in October. Ionic clay projects have several

advantages including lower CapEx, faster and easier development and processing, and no radioactive waste streams.

The Board and Management are highly experienced and include renowned rare earths expert Dudley Kingsnorth. The stock price has already taken off given the excitement behind the Company’s potential. Despite this, the market cap is still reasonable at A$122 million. One to follow closely.