

6 September 2023

AR3 expands tenure in emerging Queensland rare earths province

- AR3 has increased its landholding in the Kennedy Province, North Queensland, an emerging highly prospective ionic clay hosted rare earths region
- Applications lodged for another 800 km² of exploration tenure, hosting the Forty Mile Scrub, Sandy Tate and Oaky Valley prospects, complementing existing tenements at the Massie Creek and Dalrymple prospects
- The ionic clay hosted rare earths targets selected by AR3 are underpinned by extensive prospective host rock sequences
- Regional exploration by others in the sector has identified clay hosted rare earth mineral intersections of significance with positive metallurgical recoveries¹
- AR3 is utilising the substantial experience and knowledge it has developed through exploration and evaluation of the Koppamurra rare earths project in South Australia to create value in prospective Queensland acreage
- Follow-up sampling and metallurgical test work is planned for the coming quarter on the Massie Creek and Dalrymple prospects

Australian Rare Earths Limited (ASX: AR3) is pleased to announce that it has moved to significantly increase its landholding in the Kennedy Province in North Queensland, which is emerging as a highly prospective area of ionic-clay hosted rare earths. The Company is also preparing to step up exploration activity on its existing North Queensland prospects, Massie Creek and Dalrymple, through follow-up sampling and metallurgical test work in the coming quarter.

AR3 Chief Executive Travis Beinke said: *“The experience gained through exploration of our flagship project, the Koppamurra ionic clay-hosted rare earths project, has built a team with the technical expertise to identify and rapidly evaluate new project areas prospective for clay hosted rare earth mineralisation.*

“The Kennedy Province is clearly highly prospective and hence we have moved quickly to expand our tenure in what is fast emerging as a new rare earths province. Recent work by others nearby has identified significant clay-hosted rare earth element (REE) intersections displaying encouraging metallurgical recovery

¹ Refer to DevEx Resources ASX release 22 August 2023

characteristics. In our view, these results have validated the region as prospective for ion-adsorption type REE deposits.

“The new prospects within our latest tenure application complement our existing Massie Creek and Dalrymple projects in Queensland. Surface sampling, rare earth element concentration determinations and metallurgical recovery characteristics test work to rapidly test the prospectivity of the Massie Creek and Dalrymple projects is planned for the coming quarter.

“These are important early steps in our ambition to grow an Australian portfolio of critical rare earth minerals projects, in particular the strategically important heavy rare earth elements with which ionic clay hosted rare earth resources are endowed”.

Kennedy Province Exploration Projects:

Massie Creek, Forty Mile Scrub, Sandy Tate and Oaky Valley Projects (Figure 1)

The Kennedy Province, is an emerging new clay hosted rare earth mineral province in North Queensland. The area is host to intrusive and extrusive, predominantly felsic, magmatism generated during the Carboniferous and Permian geological periods which comprises the most widespread and voluminous magmatic event in the region - known as the Kennedy Igneous Association (KIA). It is the Heberton and Tate subprovinces of the KIA that have been the focus of recent clay hosted rare earth exploration by AR3 and others.

The Heberton and Tate subprovinces represent the largest occurrence of Kennedy Igneous Association magmatism, with >8,000km² of granatoids and >5500 km² of volcanics. The Heberton and Tate subprovinces contain the O’Briens Creek Supersuite, one of the most highly mineralised granite groups in the KIA. The O’Briens Creek Supersuite is the most chemically evolved I-type magmatism within the KIA, and along with members of the Ootan Supersuite is strongly fractionated throughout. These extrusive and intrusive rocks have close spatial and temporal links to Tin (Sn), Tungsten (W) and Molybdenum (Mo) mineralisation in one of the world's best-known Sn–W–Mo districts: the Heberton Mineral Field.

These types of rock suites and their exposure in tropical or subtropical regions where chemical weathering actively occurs, have previously been identified as important to the discovery of promising ion-adsorption type REE mineralisation².

Recent announcements regarding exploration for clay hosted rare earth mineralisation and identification of significant clay hosted REE intersections displaying encouraging metallurgical recovery characteristics in this region¹ have validated the Heberton and Tate subprovinces of the KIA as prospective for ion-adsorption type REE deposits.

Forty Mile Scrub, Sandy Tate and Oaky Valley (**Figure 1**) exploration license applications lodged by AR3 have identified, through airborne geophysics surveys, areas displaying weathering profiles over the prospective geology of the extrusive and intrusive rocks the Kennedy Igneous Association. Grant of the newly applied for

² Enrichment of rare earth elements (REE) in granitic rocks and their weathered crusts in central and southern Laos Kenzo Sanematsu¹, Hiroyasu Murakami, Yasushi Watanabe, Sixomxeun Duangsurigna and Siphandone Vilayhack, Bulletin of the Geological Survey of Japan, vol.60 (11/12), 2009

tenure will allow rapid initial surface sampling, rare earth element concentration determinations and metallurgical recovery characteristics test work via the existing public road network of this easily accessible tenure.

Follow up geological sampling at AR3's granted Massie Creek (**Figure 1**) tenure in the coming quarter will facilitate the timely advance of that project through rare earth element concentration determinations and metallurgical recovery characteristics test work.

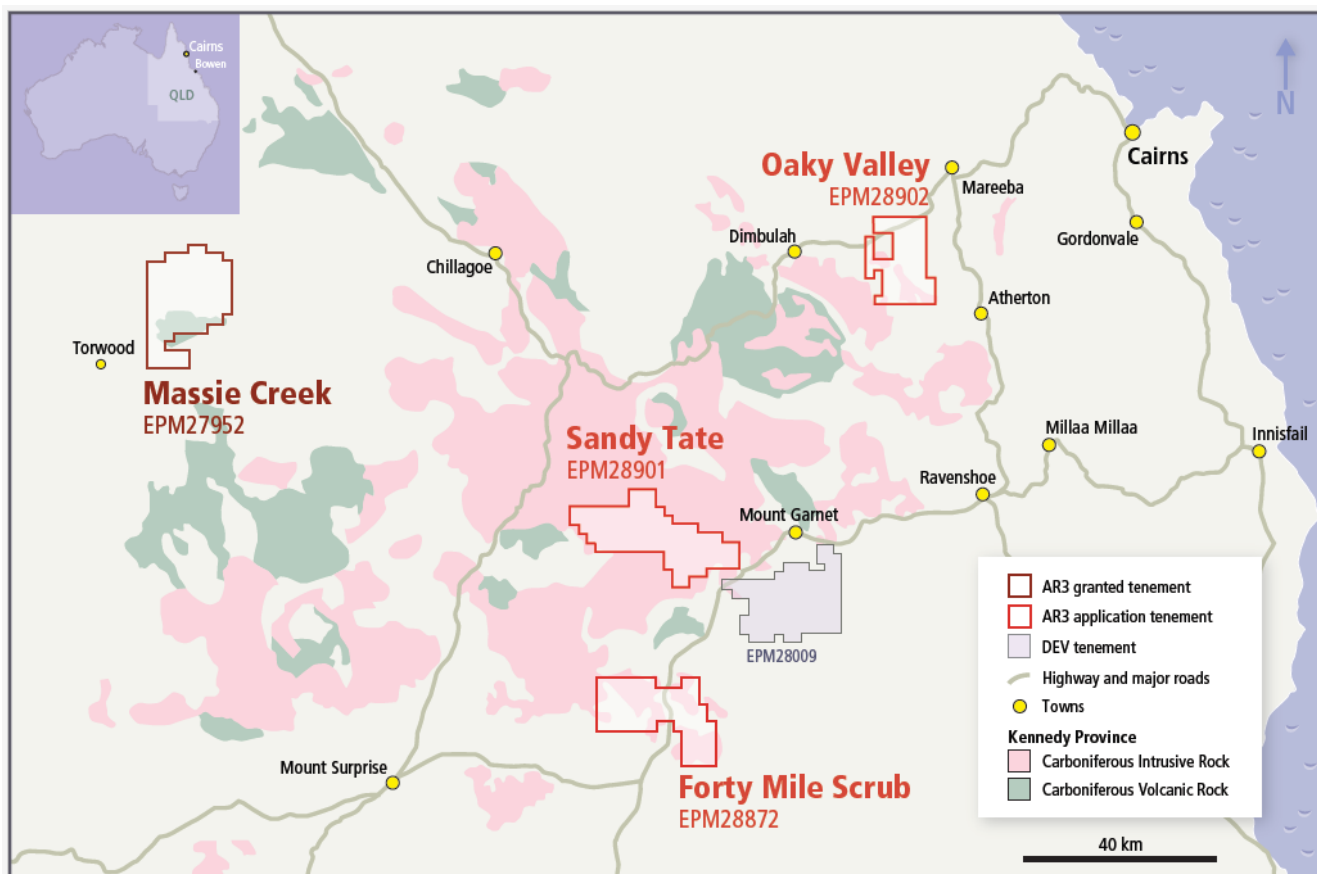


Figure 1– Project locations in Kennedy Province, North Queensland

Dalrymple Project (Figure 2)

The Dalrymple Project is located ~100km southwest from Bowen, Queensland (**Figure 2**). A preliminary geological assessment of the region by AR3 identified the presence of Kennedy Province, felsic volcanics and large-scale alkali granites/granitoids, which are considered prospective for hosting REE. The minerals within these rocks are susceptible to weathering in tropical environments and could potentially mobilise REEs into the developing regolith profile.

The exploration tenure is dominated by rock suites containing high value prospective rare earth minerals, including Allanite. There is ~1,200km² of highly accessible ground near existing road and rail infrastructure. To date, three of five exploration license applications have been granted.

Some of the targeted Kennedy Province sequences detailed below are expected to have significant weathering profiles, as follows;

- Marlborough Pocket Granodiorite, a pale pink hornblende, an Intrusive “Caldera” type magmatic chamber with identified Alanite mineralisation presenting as Priority target.
- Expedition Pass Granite, a pale pink leucocratic biotite monzogranite, containing rare pegmatitic lenses, an Intrusive “Caldera” type magmatic chamber presenting as Priority target.
- Leichhardt Range Granite, a pale pink to pink/grey granite, a Permo-Carboniferous leucocratic muscovite granite
- The Bulgonunna Volcanics Suite, Felsites (Lavas, Clastic and Intrusive)
- Pine Creek Granite, a pale pink/grey Monzogranite, Permo-Carboniferous

Mapping and targeted geochemical sampling will provide insight to the potential for regolith hosted REE mineralisation. Surface sampling, rare earth element concentration determinations and metallurgical recovery characteristics test work to rapidly test the prospectivity of the Dalrymple project is planned for the coming quarter.

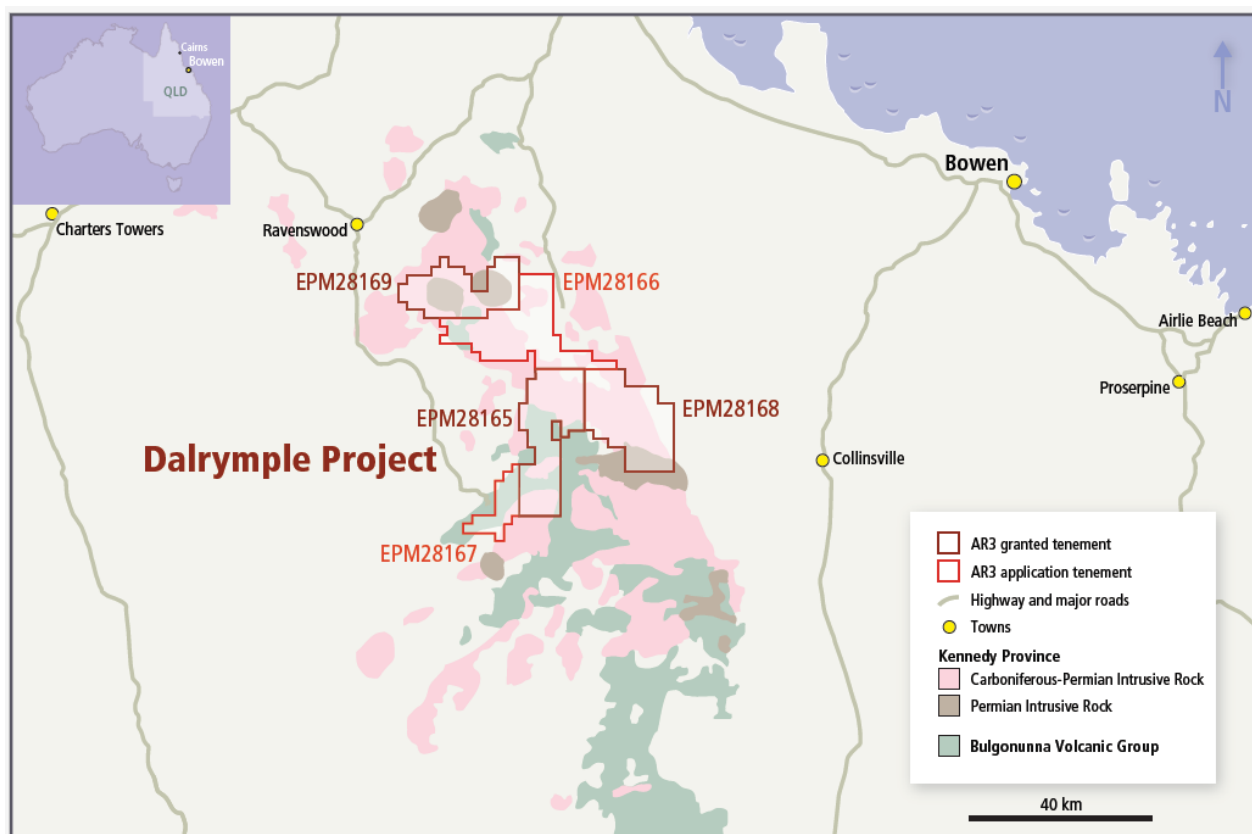


Figure 2– Dalrymple Project Location Plan

The announcement has been authorised for release by the Board of AR3.

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Competent Person Statement

The information in this report that relates to Exploration results is based on information compiled by Australian Rare Earths Limited and reviewed by Mr Rick Pobjoy who is the Technical Director of the Company and a member of the Australian Institute of Mining and Metallurgy (AusIMM). Mr Pobjoy has sufficient experience that is relevant to the style of mineralisation, the type of deposit under consideration and to the activities undertaken to qualify as a Competent person as defined in the 2012 edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". Mr Pobjoy consents to the inclusion in this report of the matters based on this information in the form and context in which it appears.

About Australian Rare Earths Limited

Australian Rare Earths is committed to the timely exploration and development of its 100% owned, flagship Koppamurra Project, located in the Koppamurra rare earths Province in southeastern South Australia and western Victoria. Koppamurra is a prospective ionic clay hosted rare earth deposit, uniquely rich in all the elements required in the manufacture of rare earth permanent magnets which are essential components in electric vehicles, wind turbines and domestic appliances. In addition AR3 is actively reviewing other potential prospective areas which may also host ionic clay hosted rare earth deposits throughout Australia.

The Company is focused on executing a growth strategy that will ensure AR3 is positioned to become an independent and sustainable source of rare earths, playing a pivotal role in the global transition to a green economy.