Ardea Resources Limited

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ASX Symbol

ARL

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Issued Capital

Fully Paid Ordinary Shares
169,737,772

Performance Rights
7,167,000

Options
4,000,000

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Eastern Goldfields Projects Exploration Update

Ardea Resources Limited (**Ardea** or the **Company**) is pleased to provide an update on exploration activities within its Kalgoorlie Nickel Project (**KNP**), Perrinvale Project and Bedonia Project in the Eastern Goldfields of Western Australia.

The Company tenement portfolio covers 4,200km^2 and is one of the largest land holdings over nickel-hosting komatiite ultramafic stratigraphy in Australia. The significant land holding is also prospective for other economic mineralisation including Critical Minerals such as Lithium-Caesium-Tantalum (**LCT**) elements and Rare Earth Elements (**REE**). These compelling magmatic nickel sulphide and Critical Mineral opportunities are being evaluated for their exploration potential.

Of particular significance, exploration over the last 12 months has identified REE and LCT settings in association with nickel laterite occurrences.

The ongoing KNP Goongarrie Hub feasibility work streams continue to be the Company priority. The current focus being the plant site sterilisation drilling, open pit mine design, resource optimisation to define an updated Ore Reserve, detailed engineering design, plant layout, defining capital and operating costs and quantifying the development sequence for process water bore fields.

However compelling Critical Mineral and nickel sulphide exploration opportunities will also continue to be evaluated.

Managing Director and CEO Andrew Penkethman noted:

"Ardea's strategic tenement portfolio in the Eastern Goldfields of Western Australia remains underexplored, due to the historic focus on the globally significant KNP nickel-cobalt laterite resource.

With Ardea's multi-element analysis of all exploration and project development samples, we are consistently seeing LCT and REE exploration opportunities. With the expansion of the technical team during 2022, we are now able to give these opportunities the exploration effort they warrant. The initial step has been to retain highly regarded consultants CSA to complete a review of our full Eastern Goldfields tenement portfolio for LCT and REE opportunities, in conjunction with internal assessments of nickel sulphide potential.

Whilst KNP feasibility study work and advancing the Goongarrie Hub towards development as a major source of sustainable and ethical nickel-cobalt battery mineral supply is the main priority, Ardea is mindful of the significant value that exploration success can generate for the Company. On this basis, both feasibility study work and exploration on compelling targets will continue.

In striking this balance, Ardea will maximise both development and exploration of Critical Mineral opportunities from its entire tenement portfolio and looks forward to keeping all stake holders informed on Company progress."

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1 Critical Minerals

Ardea's strategic Eastern Goldfields Western Australia tenement package, focussed on ultramafic komatiite belts, is shown in Figure 1.

Ardea has just conducted an initial assessment of pegmatite hosted Lithium-Caesium-Tantalum (**LCT**) potential across all the Company's Eastern Goldfields and KNP tenements using consulting firm CSA Global. Any rare earth element (**REE**) potential was also reviewed. The assessment of the KNP tenement package included a ranking for rare-element LCT pegmatite potential based on geological setting and known pegmatites. The highest ranked target is the Perrinvale Project (Figure 2), where multiple pegmatites have previously been mapped and several reconnaissance rock chip samples recently taken and submitted for assay (results awaited). Ardea also notes the ongoing rare-element LCT pegmatite exploration from several other ASX listed companies around the Company's Perrinvale tenure.

Other priority areas were the Ghost Rocks, Highway and Goongarrie project areas (Figure 1, 2). Follow-up reviews were also recommended over tenements in the Yerilla Hub and Kalpini Hub including Bulong.

Essentially any tenement located over an Archaean greenstone belt and within 10 km of an interpreted or known rare-element LCT pegmatite source granite (or in an area where potential source granites are likely to occur) was considered as having some potential for rare-element LCT pegmatites. The priority areas were selected due to the presence of interpreted source granites proximal to these tenements and any known LCT pegmatites in the region (notably south of Perrinvale). The next steps for the priority areas are to review internal and open-file data for previous recorded pegmatites, assessing if they are prospective for LCT mineralisation and completing on-ground mapping and sampling.

At the Bedonia Project it was recommended to assess for ionic clay REE deposits in paleochannels or local lacustrine basins. The presence of lignite previously identified at Bedonia may indicate prospective basins in which REE may have accumulated, with REE mineralisation associated with these deposits elsewhere. A review of internal and external data will be completed to assess this prospectivity.

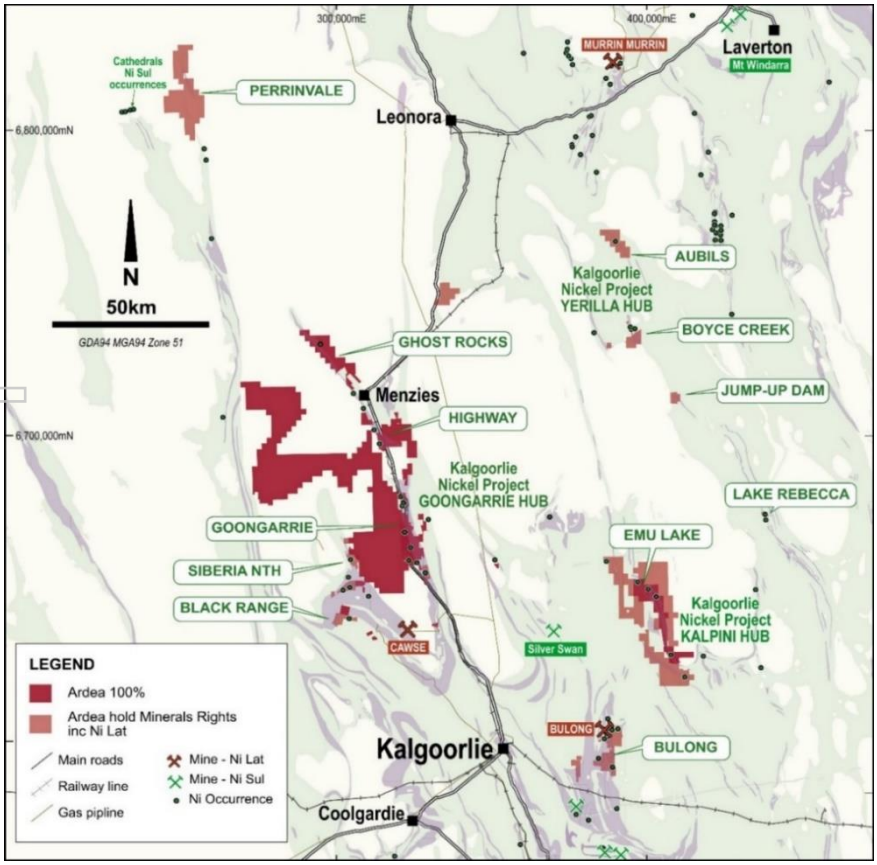

Figure 1: Tenements and projects in the Kalgoorlie Nickel Project over interpreted bedrock geology (purple – ultramafics, green – greenstones, light yellow – granites). Projection GDA94-51.

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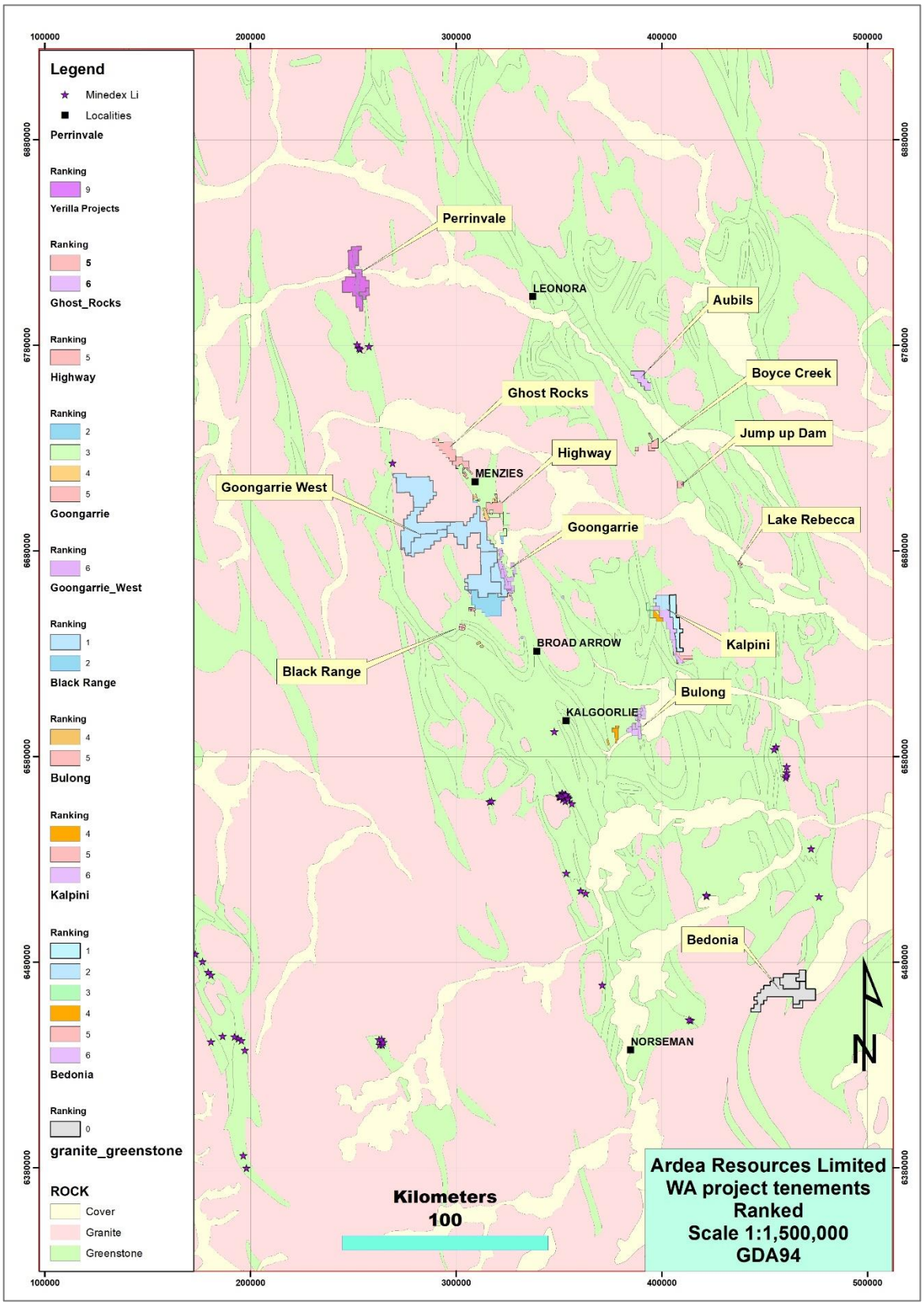

Figure 2: Project locations assessed by CSA Global for LCT pegmatites exploration potential. Prospectivity ranking for rare-element LCT pegmatites is shown. A ranking of 1 is low and 10 is high prospectivity. Mindex lithium occurrences are shown by stars.

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2 Nickel Sulphide

The current focus for nickel sulphide exploration is Emu Lake in the Kalpini Hub where Type 1 massive nickel-copper-PGE sulphides (Figure 3) were discovered by Ardea at the Binti Prospect. Recent follow-up drilling has intersected additional magmatic nickel sulphides (ASX release 14 October 2022). The significance of this discovery is that it occurs in the Kurnalpi Terrane in which there are only a few other Type 1 nickel sulphide deposits (notably Windarra). At the Kalpini Project Ardea hold approximately 20km strike of the prospective Western Komatiite Belt and more particularly the Western Ultramafic sequence (Figure 4). Though demonstrably fertile, the Western Komatiite Belt historically is largely unexplored for primary magmatic nickel sulphide mineralisation. Ardea believe there is significant potential to make additional high-grade nickel-copper-PGE discoveries in the Kalpini Project.

The work schedule for the Kalpini Project is:

- Currently completing 3D modelling for further exploration targeting at the Binti Prospect based on results from the recent drilling and DHEM, with current interpretation indicating prospective mineralised channels are open both up and down plunge
- Regional technical assessment in Q1 2023 using detailed geochemical ratios, geophysical data, geological and structural interpretation to generate a pipeline of nickel sulphide exploration targets. Initial review has identified multiple untested moving loop electromagnetic (MLEM) plates associated with the Western Ultramafic komatiite flow which is currently the priority target for primary nickel sulphide mineralisation
- Recommence on-ground exploration in Q1 2023.

An aircore drill program of twenty-four holes was recently completed at Emu Lake. The program aimed to infill previous nickel laterite drilling and as a first-pass assessment of nickel sulphide potential in selected areas of the Western Ultramafic on E27/524 along the western boundary of the Emu Lake mining leases. The holes are currently being logged and the samples dispatched for assay.

During 2023 Ardea will commence assessment for nickel sulphide potential at other projects in the KNP including the Goongarrie Hub (Highway, Ghost Rocks and Moriaty), Yerilla Hub (prospective komatiite facies at Lake Rebecca and Jump-Up Dam), Bulong and Perrinvale. All projects comprise significant volumes of komatiite ultramafic flows that are either underexplored or unexplored for magmatic nickel sulphides, providing a longer-term exploration strategy and workflow for the Company.

Additional external project opportunities consistent with the strategy of the Company are also being reviewed.

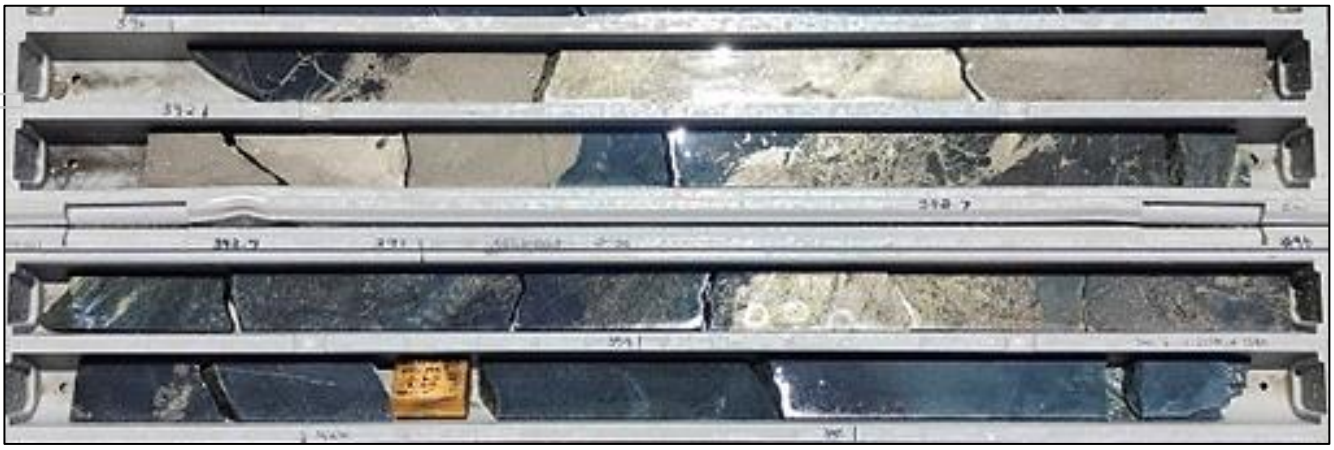

Figure 3: Nickel sulphide mineralisation intersected in AELD0003 (2.72m @ 5.42% Ni, 0.85% Co, 0.15% Co, 0.85g/t PGEs from 391.04m)

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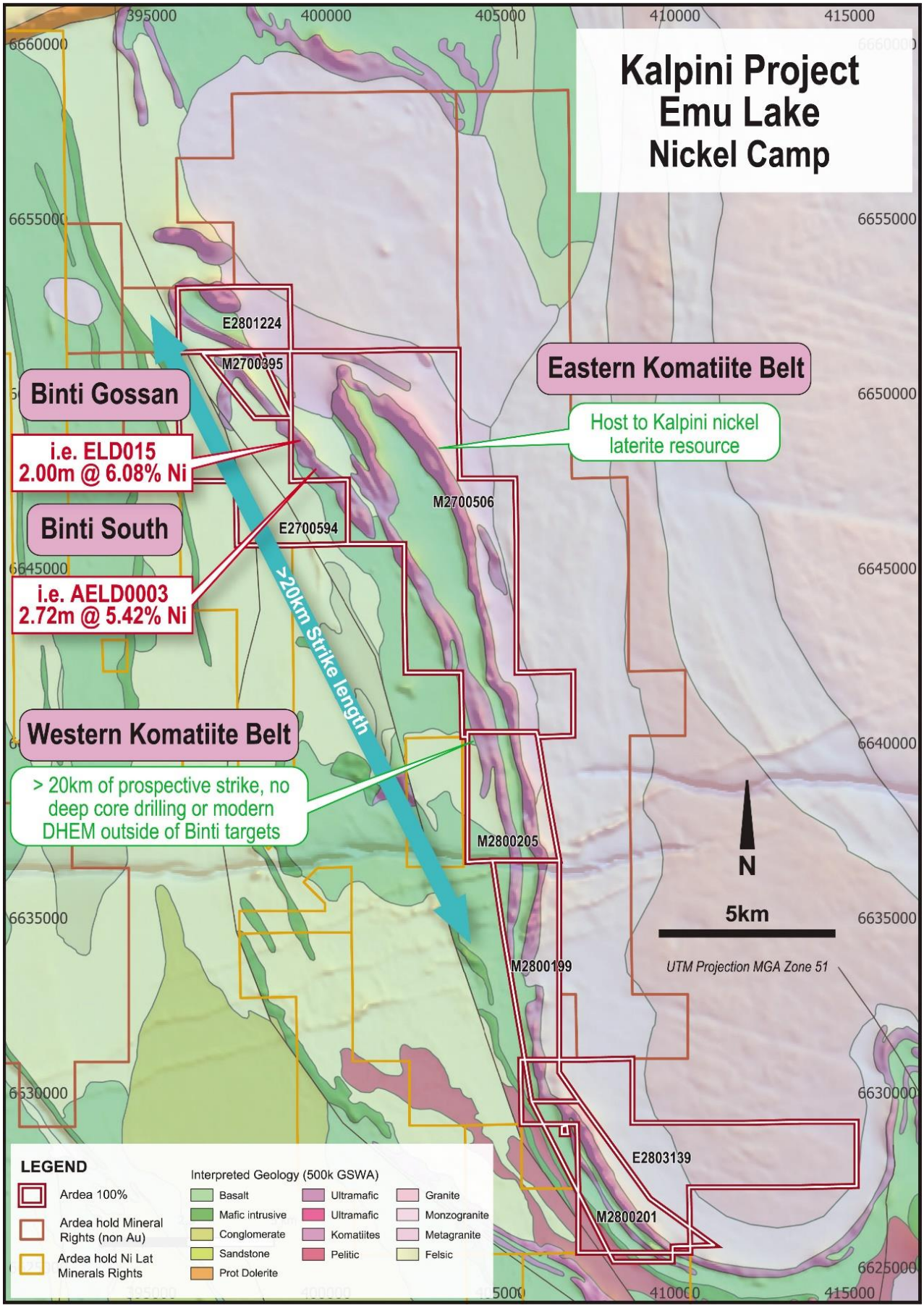

Figure 4. Map of the Kalpini Nickel project showing tenements over interpreted geology. Projection GDA94 Zone 51.

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This announcement is authorised for release by the Board of Ardea Resources Limited.

For further information regarding Ardea, please visit https://ardearesources.com.au/ or contact:

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About Ardea Resources

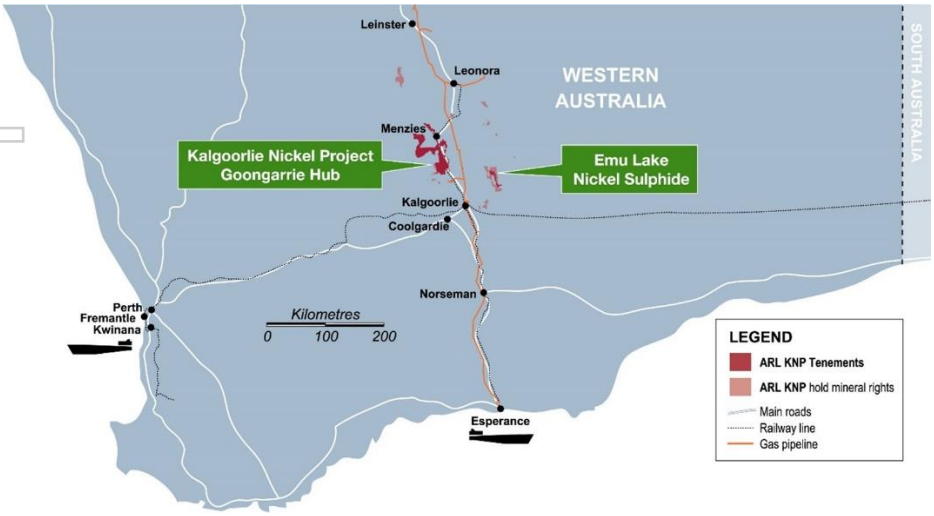
Ardea Resources Limited (ASX:ARL) is an ASX-listed nickel resources company, with a large portfolio of 100%-controlled West Australian-based projects, focussed on:

- Development of the Kalgoorlie Nickel Project (**KNP**) and its sub-set the Goongarrie Hub, a globally significant series of nickel-cobalt and Critical Mineral deposits which host the largest nickel-cobalt resource in the developed world at **830Mt at 0.71% nickel and 0.046% cobalt for 5.9Mt of contained nickel and 380kt of contained cobalt** (Ardea ASX releases 15 February, 16 June 2021), located in a jurisdiction with exemplary Environmental Social and Governance (**ESG**) credentials, notably environment.
- Advanced-stage exploration at compelling nickel sulphide targets, such as Emu Lake, and Critical Minerals targets including scandium and Rare Earth Elements throughout the KNP Eastern Goldfields world-class nickel-gold province, with all exploration targets aimed at complementing the KNP nickel development strategy.

Ardea's KNP development with its 5.9 million tonnes of contained nickel is the foundation of the Company, with the nickel sulphide exploration, such as Emu Lake, as an evolving contribution to Ardea's building of a green, forward-facing integrated nickel company.

Put simply, in the Lithium Ion Battery sector, the Electric Vehicle and Energy Storage System battery customers demand an ESG-compliant, sustainable, and ethical supply chain for nickel and other inputs. In the wet tropics, with their signature HPAL submarine tailings disposal and rain forest habitat destruction, an acceptable ESG regime is problematic. In contrast, the world-class semi-arid, temperate KNP Great Western Woodlands with its benign environmental setting is likely the single greatest asset of the KNP.

The KNP is located in a well established mining jurisdiction with absolute geopolitical acceptance and none of the land-use and societal conflicts that commonly characterise nickel laterite proposals elsewhere. All KNP Goongarrie Hub production tenure is on granted Mining Leases with Native Title Agreement in place.



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CAUTIONARY NOTE REGARDING FORWARD-LOOKING INFORMATION

This news release contains forward-looking statements and forward-looking information within the meaning of applicable Australian securities laws, which are based on expectations, estimates and projections as of the date of this news release.

This forward-looking information includes, or may be based upon, without limitation, estimates, forecasts and statements as to management's expectations with respect to, among other things, the timing and amount of funding required to execute the Company's exploration, development and business plans, capital and exploration expenditures, the effect on the Company of any changes to existing legislation or policy, government regulation of mining operations, the length of time required to obtain permits, certifications and approvals, the success of exploration, development and mining activities, the geology of the Company's properties, environmental risks, the availability of labour, the focus of the Company in the future, demand and market outlook for precious metals and the prices thereof, progress in development of mineral properties, the Company's ability to raise funding privately or on a public market in the future, the Company's future growth, results of operations, performance, and business prospects and opportunities. Wherever possible, words such as "anticipate", "believe", "expect", "intend", "may" and similar expressions have been used to identify such forward-looking information. Forward-looking information is based on the opinions and estimates of management at the date the information is given, and on information available to management at such time.

Forward-looking information involves significant risks, uncertainties, assumptions, and other factors that could cause actual results, performance, or achievements to differ materially from the results discussed or implied in the forward-looking information. These factors, including, but not limited to, the ability to create and spin-out a gold focussed Company, fluctuations in currency markets, fluctuations in commodity prices, the ability of the Company to access sufficient capital on favourable terms or at all, changes in national and local government legislation, taxation, controls, regulations, political or economic developments in Australia or other countries in which the Company does business or may carry on business in the future, operational or technical difficulties in connection with exploration or development activities, employee relations, the speculative nature of mineral exploration and development, obtaining necessary licenses and permits, diminishing quantities and grades of mineral reserves, contests over title to properties, especially title to undeveloped properties, the inherent risks involved in the exploration and development of mineral properties, the uncertainties involved in interpreting drill results and other geological data, environmental hazards, industrial accidents, unusual or unexpected formations, pressures, cave-ins and flooding, limitations of insurance coverage and the possibility of project cost overruns or unanticipated costs and expenses, and should be considered carefully. Many of these uncertainties and contingencies can affect the Company's actual results and could cause actual results to differ materially from those expressed or implied in any forward-looking statements made by, or on behalf of, the Company. Prospective investors should not place undue reliance on any forward-looking information.

Although the forward-looking information contained in this news release is based upon what management believes, or believed at the time, to be reasonable assumptions, the Company cannot assure prospective purchasers that actual results will be consistent with such forward-looking information, as there may be other factors that cause results not to be as anticipated, estimated or intended, and neither the Company nor any other person assumes responsibility for the accuracy and completeness of any such forward-looking information. The Company does not undertake, and assumes no obligation, to update or revise any such forward-looking statements or forward-looking information contained herein to reflect new events or circumstances, except as may be required by law.

No stock exchange, regulation services provider, securities commission or other regulatory authority has approved or disapproved the information contained in this news release.

Competent Persons statement

The information in this report that relates to planning and results for nickel sulphide exploration is based on information reviewed or compiled by Matthew McCarthy, who is a Member of the Australian Institute of Geoscientists. Mr McCarthy is a full-time employee of Ardea Resources Limited and has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration, and to the activities undertaken, to qualify as a Competent Person as defined in the 2012 Edition of the Joint Ore Reserves Committee (JORC) Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Mr McCarthy consents to the inclusion in this report of the information in the form and context in which it appears.

The information in this report that relates to planning and results for LCT pegmatite and REE exploration is based on information reviewed or compiled by Ralph Porter, who is a Member of the Australian Institute of Geoscientists. Mr Porter is a full-time employee of CSA Global and a consultant to Ardea Resources Limited and has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration, and to the activities undertaken, to qualify as a Competent Person as defined in the 2012 Edition of the Joint Ore Reserves Committee (JORC) Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Mr Porter consents to the inclusion in this report of the information in the form and context in which it appears.