Ardea Resources Limited

Ardea commences nickel sulphide core drilling at Emu Lake

- Diamond core drilling commences at Emu Lake on compelling nickel sulphide target south of the Binti Gossan zone.
  - Reassessed EM targets are untested by previous drilling.
  - Known high grade nickel sulphide mineralisation along strike.
  - Silver Swan/Kambalda-style target to be assessed.
- Further drill targets expected to follow from new DHEM surveys.
  - New surveys are significantly more powerful than historic surveys, capable of DHEM anomaly detection further off-hole.
- Nickel sulphide targets are advancing toward drill testing at several projects within Ardea's extensive ultramafic holdings.
- Nickel sulphide exploration complementing Ardea gold exploration and KNP Critical Minerals focus to maximise return for shareholders

Ardea Resources Limited (**Ardea** or the **Company**) is pleased to report drilling has commenced to test high priority conductor nickel sulphide drill targets at Emu Lake (Figure 1).

The Emu Lake Prospect, 70km north-east of Kalgoorlie (Figure 2), contains a sequence of ultramafic flows with proven, Silver Swan/Kambalda-style basal flow nickel sulphide potential. Previous drilling intersected several thin massive nickel-sulphide horizons over 400m of strike, including[1]:

ELD015	**2.0m @ 6.2% Ni and 1.78% Cu** from 336.0m
ELD036	**1.6m @ 3.7% Ni and 1.33% Cu** from 320.6m

Figure 1 – Drilling underway at Emu Lake.

These high-grade results demonstrate significant nickel sulphide fertility and highlight project prospectivity.

The current drilling will test a strong (2,000S) down-hole electromagnetic (DHEM) anomaly, 300m below the surface, remodelled from surveys conducted by previous operators in 2010. The rig will then move to Ardea's recent gold discoveries at Zeus and Lily Albany before returning to Emu Lake after DHEM surveys have been completed.

[1] For further details and information sources please refer to Ardea's ASX Announcement 30 September 2020, Nickel Sulphide Targets within the Ardea Tenement Portfolio including KNP.

ASX & Media Release
30 November 2020

ASX Symbol
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Ardea's main focus continues to be the development of the Goongarrie Nickel Cobalt Project (GNCP), the 25km long series of nickel-cobalt laterite deposits within the Kalgoorlie Nickel Project (KNP) on the Goldfields Highway 70km northwest of Kalgoorlie. However, Ardea's strategic tenure in the heart of the Eastern Goldfields of Western Australia is also highly prospective for both nickel sulphide and gold with active exploration complementing the development of the GNCP (and indeed the entire KNP).

Ardea's Managing Director, Andrew Penkethman, said:

"It is exciting to be drilling a high priority Silver Swan/Kambalda-style nickel sulphide target at Emu Lake associated with a strong DHEM anomaly. Discovery of extensive zones of high-grade nickel sulphide is the primary objective. DHEM surveys will also be completed to generate additional targets along this fertile belt, as Silver Swan/Kambalda-style nickel sulphide deposits tend to occur in clusters. The nickel sulphide exploration complements Ardea's gold exploration and we are hoping to repeat the recent exploration success we have had at the Zeus and Lily Albany gold discoveries.

As well as standalone sulphide concentrator operations, nickel sulphide feed additions have the ability to improve the KNP hydrometallurgical nickel laterite flow-sheet."

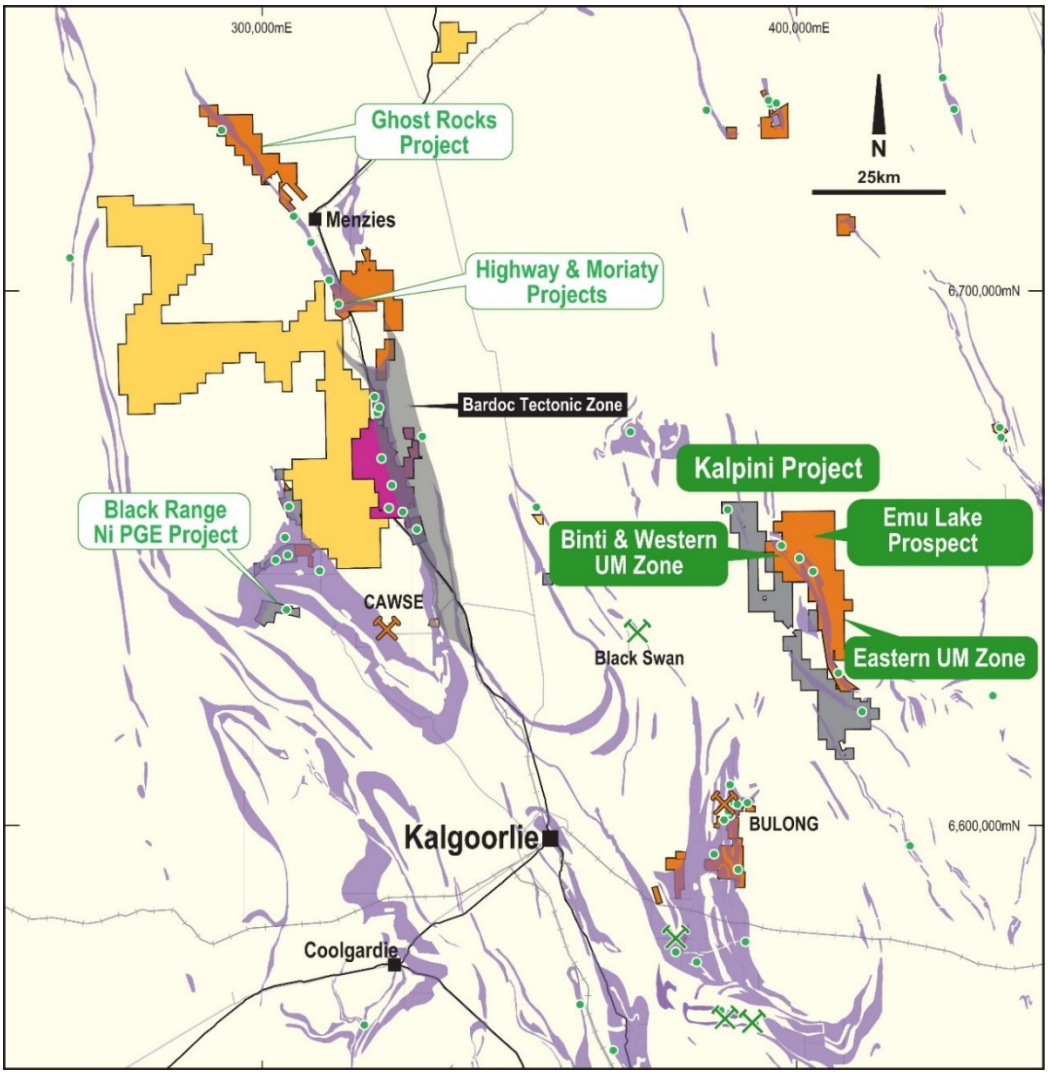

Figure 2 – Emu Lake Prospect location, with other Ardea nickel sulphide projects shown. Projection: GDA94 MGA94 Zone 51.

Emu Lake prospect

The Emu Lake Prospect (part of the broader Kalpini Nickel Project) tenure covers 240km^2 and contains over 20km of prospective ultramafic stratigraphy strike, held 100% by Ardea and mostly within granted mining leases (Figure 2

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and 3). The area is 35km east of the Silver Swan Nickel Mine, operated by Poseidon Nickel Ltd (Poseidon), within a parallel komatiite volcanic belt.

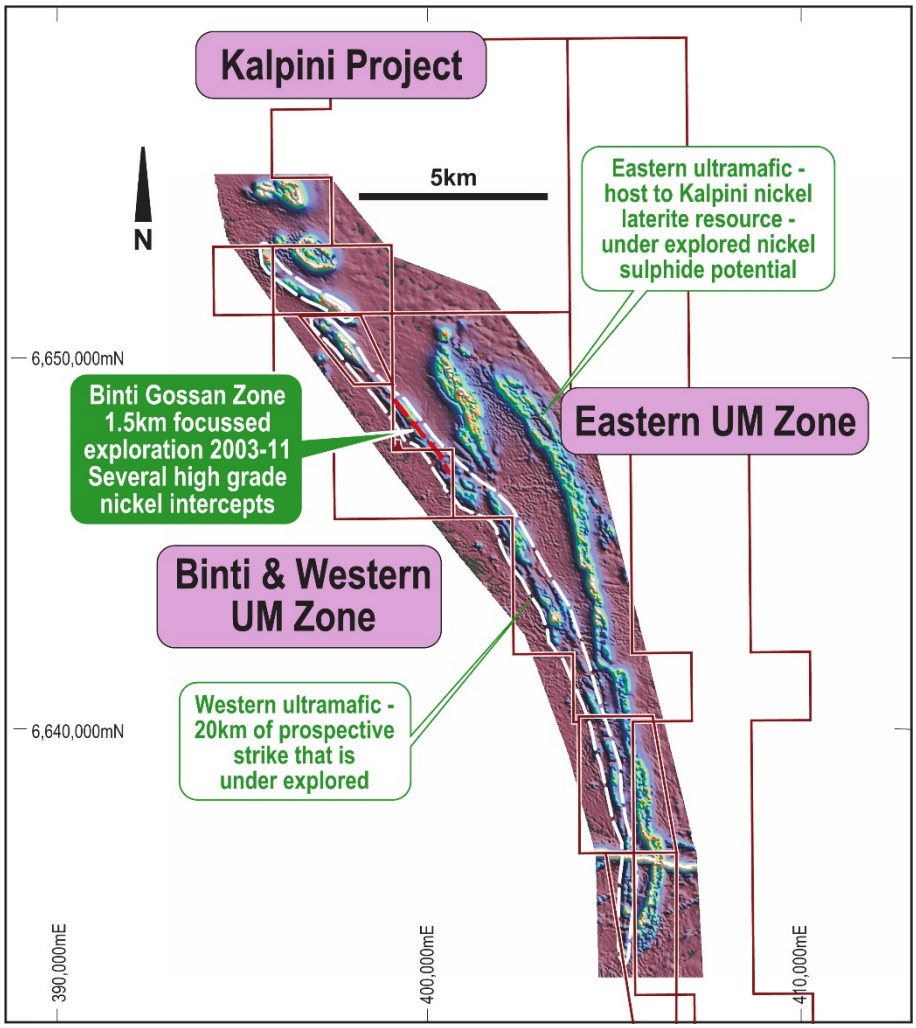

Figure 3 – Ardea's tenement holding at Emu Lake shown with aeromagnetic background and key prospects highlighted. Projection: GDA94 MGA94 Zone 51.

The Kalpini ultramafic belts are divided into the Eastern Ultramafic, which hosts Ardea's Kalpini nickel laterite resource (75Mt at 0.73% nickel and 0.04% cobalt, for 549.7kt nickel and 32.6kt cobalt[2]) , and the Western Ultramafic, where the high grade nickel sulphide intercepts have been recorded at the Binti Gossan area.

Previous work at Emu Lake by Xstrata Nickel up to 2010 culminated in a number of holes being drilled directly to the south of the Binti Gossan zone (see plan and long-section, Figures 4 and 5) which intersected thin massive sulphide horizons such as:

ELD047	0.25m @ 5.5% Ni and 0.21% Cu from 447.4m
ELD042a	0.54m @ 2.7% Ni and 0.56% Cu from 282.0m[3]

Data reappraisal generates new targets

A comprehensive re-appraisal of DHEM data from historic Xstrata holes south of the Binti Gossan zone has highlighted an anomaly directly west of ELD046. This is the target for the current drill program.

[2] Ardea ASX Announcement 24 October 2019, Ardea Annual Report 2019.

[3] Ardea ASX Announcement 30 September 2020, Nickel Sulphide Targets within the Ardea Tenement Portfolio including KNP.

The anomaly is defined by an EM plate with modelled dimensions of 80m x 150m, with a conductance of 2,000S. A single diamond core drill hole angled from the east will target the centre of the plate approximately 300m below surface.

As shown in Figure 5, a Silver Swan style nickel sulphide lens can have a 20-50m strike length and readily fit within the current drilling pattern at the Binti Gossan. Such a model shows limited strike extent, but the high-grade Silver Swan shoot extended down plunge for over 1,000m, proving to be a very profitable orebody.

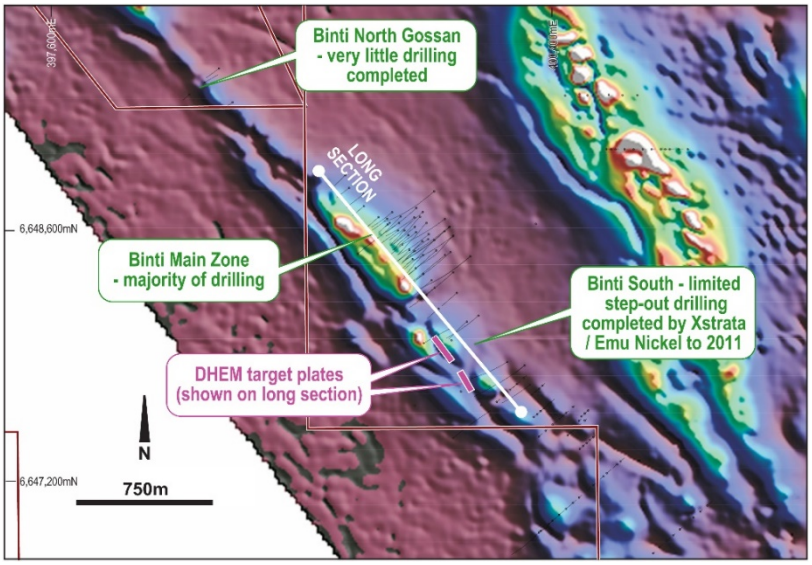

Figure 4 – The Binti Gossan zone at Emu Lake, aeromagnetic image showing drill hole traces and the newly generated target EM plates. Projection: GDA94 MGA94 Zone 51.

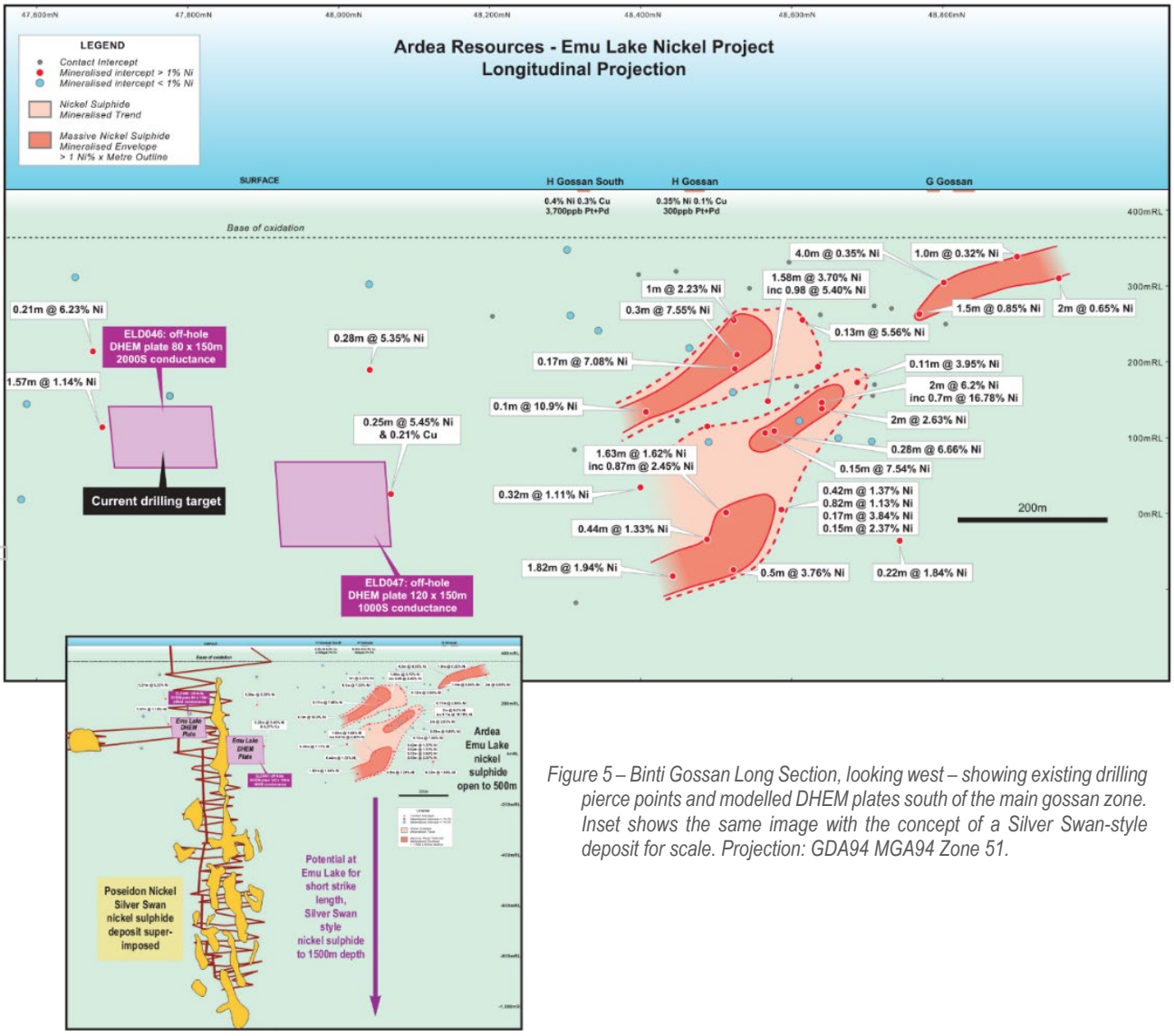

Figure 5 – Binti Gossan Long Section, looking west – showing existing drilling pierce points and modelled DHEM plates south of the main gossan zone. Inset shows the same image with the concept of a Silver Swan-style deposit for scale. Projection: GDA94 MGA94 Zone 51.

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Ongoing work at Emu Lake and the greater Kalpini Project area

Further DHEM surveys will be conducted on drill holes south and below the Binti Gossan zone as part of a larger program of work in this area, aiming to generate additional drill targets for near-term testing. As part of this program, Ardea was recently awarded a WA State Government Exploration Incentive Scheme (EIS) grant of up to $76,000, which will be put towards the drilling cost of one core hole in this area in 2021.

Other nickel sulphide exploration being undertaken at the Kalpini Project includes detailed assessment of drill hole geochemical data to determine where zones of nickel sulphide anomalism are located and if additional assay data is required. Where the original drill hole pulps are still available at Ardea's West Kalgoorlie Operations Office, these are being sourced and sent for assay. Following the receipt of assay results, detailed data review will be undertaken with additional targets for nickel sulphides, Critical Minerals, REE and gold expected to be defined.

The recent discovery, by Poseidon of the high-grade Golden Swan nickel sulphide lens, 300m south of the mined Silver Swan lens, demonstrates the potential for multiple discoveries within a nickel sulphide system and the importance of diligent and comprehensive assessment of these mineralised systems.

Nickel sulphide strategy developments

Ardea will continue to rank and prioritise fit-for-purpose exploration for nickel sulphides on its high-quality portfolio of Eastern Goldfields of Western Australia tenements. Ardea has had recent exploration success applying a similar approach to ranking and prioritising gold targets, as shown by the recent gold discoveries at Lily Albany and Zeus within the GNCP tenements. Any drilling as part of the nickel sulphide programs will also be assessed for nickel/cobalt laterite, Critical Minerals and gold mineralisation.

Advancement of Bardoc Tectonic Zone gold programs at GNCP in parallel to the nickel sulphide strategy

Recent RC drill programs successfully resulted in the discovery of primary, coherent, orogenic gold mineralisation at the Lily Albany and Zeus prospects. **A second phase of RC drilling is ready to drill at Zeus**, with all regulatory approvals, ground works and site preparation completed. The program aims to follow and further confirm the plunge of the main Lode 1 gold mineralisation, as well as to confirm and define the up-plunge, near-surface supergene extents of the less well defined Lode 2. Drilling is scheduled to commence in December 2020.

Following directly from Zeus, a third phase of RC drilling will infill the discovery area at **Lily Albany** to define the extent of supergene gold mineralisation beneath transported cover. The aim of the program is to assess the **potential for an initial supergene gold resource** through drilling of the discovery area on a 40m x 40m pattern. Subsequent drilling will test strong demagnetisation anomalies immediately south of the discovery area that have yet to be drilled.

First-pass **diamond drill programs will also be undertaken at Zeus, Lily Albany, Big Four Gold,** and possibly some other prospects to provide critical oriented structural data that will allow definition of controls on gold mineralisation. This will facilitate optimisation of drill direction(s), determination of mineralisation orientations, and ongoing assessment of the projects.

Assay results are still being returned for the recent RC drill programs from throughout Ardea's tenure in the Bardoc Tectonic Zone. Assay turnaround times have more than tripled in recent months across the industry in Western Australia. Results will be assessed as they come to hand and where appropriate further drill programs will be implemented.

With the current WA-wide high demand for deep RC and diamond drill rigs, being able to schedule between targets at GNCP and Kalpini has proved beneficial for the Ardea exploration teams.

Authorised for lodgement by the Board of Ardea Resources Limited.

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Ardea Resources Limited

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

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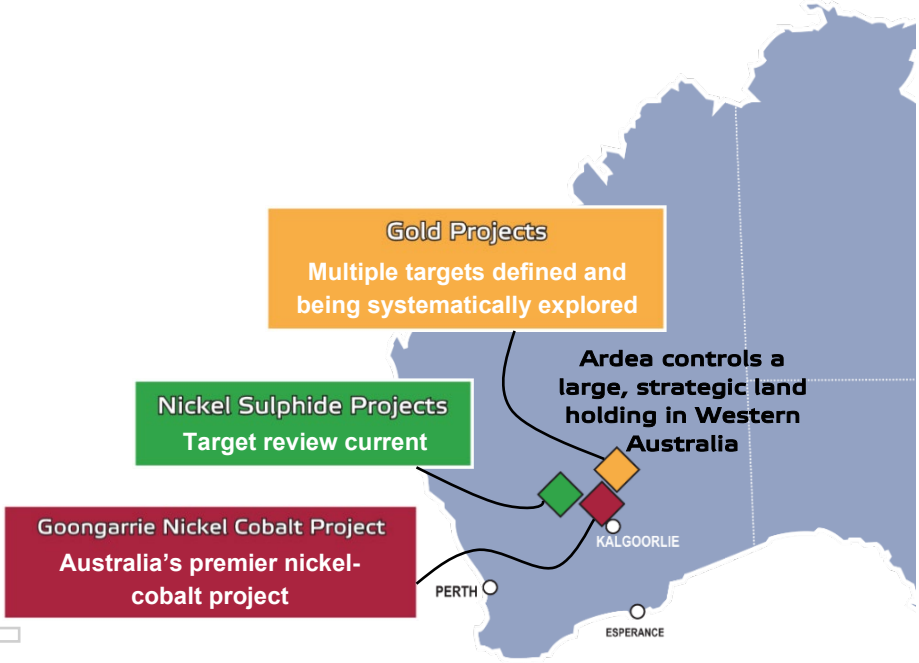
About Ardea Resources

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

- Development of the Goongarrie Nickel Cobalt Project, which is part of the Kalgoorlie Nickel Project, a globally significant series of nickel-cobalt and Critical Mineral deposits which host the largest nickel-cobalt resource in the developed world, coincidentally located as a cover sequence overlying fertile orogenic gold targets; and
- Advanced-stage exploration within its WA nickel sulphide and gold exploration tenure located on crustal-scale Tectonic Zone structures in lake settings within the Eastern Goldfields world-class nickel-gold province.



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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 Person Statement

The technical information in this report relating to Exploration Targets and Exploration Results is based on information compiled by Mr. David von Perger, who is a Member of the Australian Institute of Mining and Metallurgy (Chartered Professional – Geology). Mr. von Perger is an independent geological consultant providing services to Ardea and has sufficient experience, which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2012 edition of the Australasian Code for Reporting of Exploration Results. Mr. von Perger consents to the inclusion in the report of the matters based on his information in the form and context in which it appears. Mr. von Perger owns shares in Ardea.