Ardea Resources Limited

Nickel Sulphide Targets within the Ardea Tenement Portfolio including KNP

- **Ardea controls one of the largest holdings of ultramafic stratigraphy in Australia**
- **Drill ready, high grade nickel sulphide targets identified at Emu Lake**
- **Geophysical and geochemical signatures on several regional targets are being reviewed to add to the project pipeline**
- **Leveraging off modern "state-of-the-art" geophysical techniques to more effectively generate and explore compelling drill targets**

Ardea Resources Limited (**Ardea** or the **Company**) is pleased to report high priority nickel sulphide targets at its Emu Lake Prospect. In addition, several nickel-copper sulphide and PGE targets have been identified elsewhere in Ardea's extensive Eastern Goldfields of Western Australia ground holding (Figure 1).

The Emu Lake Project, located 70km north-east of Kalgoorlie has been the subject of a recent detailed review by Newexco Exploration Consultants (Newexco) who have identified several compelling targets. In particular, the area directly south of Binti gossan is a high priority target with a number of down hole electromagnetic (DHEM) anomalies warranting drill testing. Previous drilling in the Binti Gossan area has demonstrated nickel sulphide prospectivity and returned several high-grade intercepts including[1]:

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

The large number of nickel-copper intercepts come mostly from an area of drilling below and immediately along strike form the Binti Gossan covering only 1.3km. Field work is underway and further work planned along the 20km strike length of this fertile and underexplored ultramafic horizon, along with several other quality targets within Ardea tenure that are being identified within the Kalgoorlie Nickel Project (KNP) database.

Ardea's Managing Director, Andrew Penkethman, said:

"Ardea has an extensive holding of ultramafic stratigraphy in the Eastern Goldfields of Western Australia which host our Kalgoorlie Nickel Project laterite resources. We are leveraging off this strategic position by opening up a new nickel sulphide search space. With the modern DHEM geophysical technology we are generating exciting drill targets at several known nickel sulphide prospects.

The current priority nickel sulphide targets are at Emu Lake, where Newexco have done a thorough job in compiling the extensive historic geophysical and geochemical data. This work has highlighted several compelling DHEM targets at Binti South, in an area known for hosting high grade nickel sulphides. Additional nickel sulphide target generation continues at other project areas, with a strong pipeline of targets being defined and ranked for follow-up exploration."

[1] Source – DMIRS, WAMEX Open File reports. See Appendix 1.

ASX & Media Release
30 September 2020

ASX Symbol
ARL

Ardea Resources Limited
Suite 2 / 45 Ord St
West Perth WA 6005

PO Box 1433
West Perth WA 6872

Telephone
+61 8 6244 5136

Email
ardea@ardearesources.com.au

Website
www.ardearesources.com.au

Directors
Mat Longworth
Non-Executive Chair

Andrew Penkethman
Managing Director & CEO

Ian Buchhorn
Technical Executive Director

Executive Management
Sam Middlemas
Company Secretary & CFO

Matt Painter
General Manager Exploration

Issued Capital
Fully Paid Ordinary Shares
124,747,246

Directors/Employee Performance Rights
3,711,000

ABN 30 614 289 342

LODGED ASX

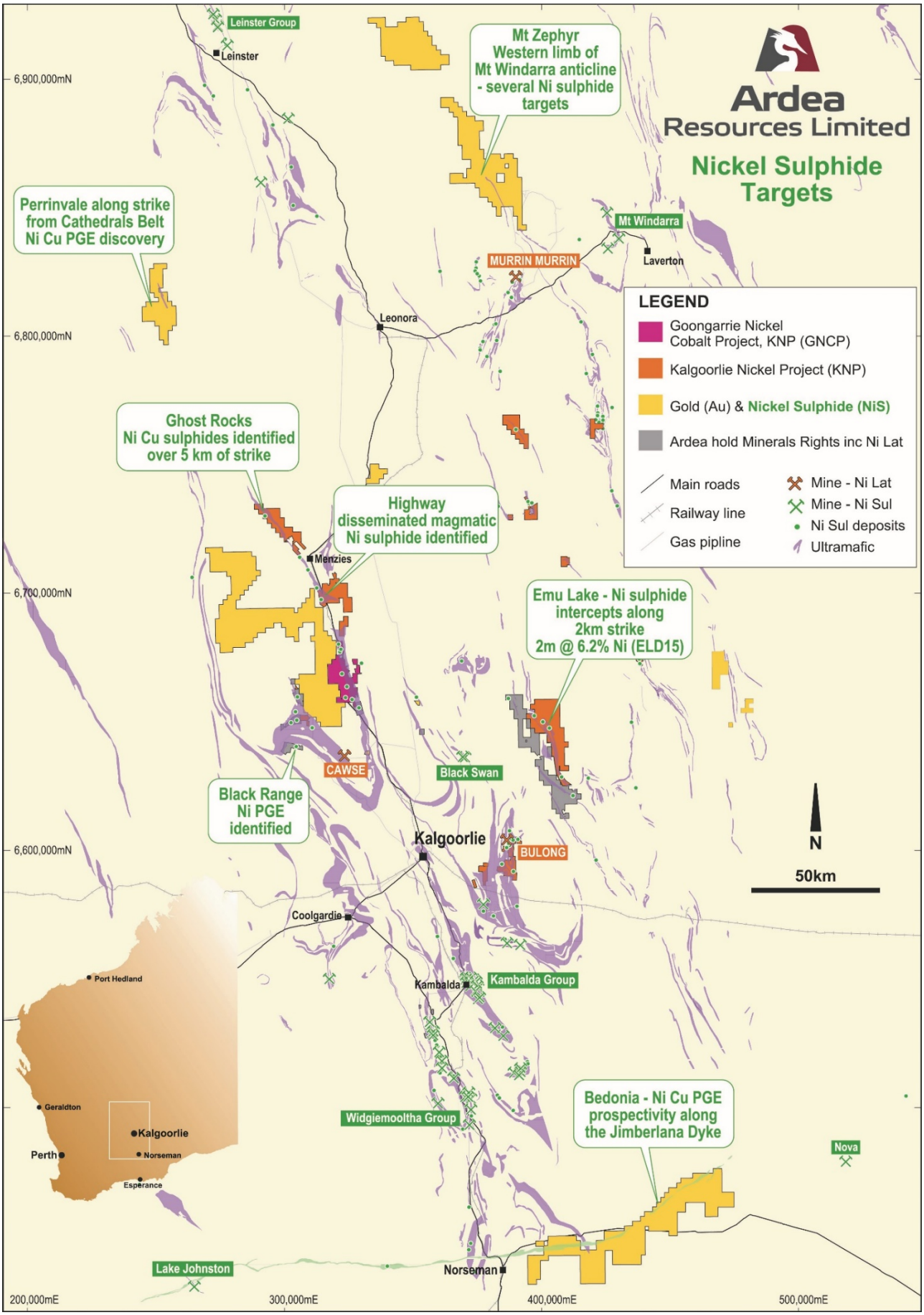


Figure 1: Ardea's ground holding and key nickel sulphide and PGE targets, Eastern Goldfields, Western Australia. Projection: GDA94 MGA Zone 51.

For personal use only

For personal use only

Nickel sulphides to complement the GNCP

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 on the Goldfields Highway north of Kalgoorlie. Ardea's strategic tenure in the heart of the Eastern Goldfields of Western Australia is also highly prospective for both nickel sulphides and gold, which are mined extensively throughout the region. Ardea's gold and nickel sulphide strategies complement the development of the GNCP (and indeed the entire KNP) and aim to maximise return for shareholders.

It is important to note that any nickel sulphide discovery has the potential to be processed through the High Pressure Acid Leach (HPAL) autoclave planned for Ardea's GNCP. It has the added benefit of helping control autoclave oxidising potential and typically improving recoveries.

Kalpini - Emu Lake Project

The Kalpini Project extends over 240km^2, with the leading nickel sulphide project, Emu Lake, located 70km north-east of Kalgoorlie. This strategic tenement package contains 20km of strike of prospective ultramafic stratigraphy held 100% by Ardea and mostly within granted mining leases. The project is 35km east of the Black Swan Nickel Project, operated by Poseidon Nickel Ltd, within a parallel komatiite volcanic belt.

The Kalpini ultramafic belts are divided into the Eastern Ultramafic, which hosts Ardea's Kalpini nickel laterite resource (75Mt at 0.73% Ni and 0.04% Co, for 549.7kt Ni and 32.6kt Co)[2], and the Western Ultramafic, where several high grade nickel sulphide intercepts have been recorded at the Binti Gossan area. Table 1 lists the high-grade nickel intercepts at Binti Gossan[3]. The entire Kalpini tenement package is also the subject of thorough geological reinterpretation and gold targeting, which commenced recently.

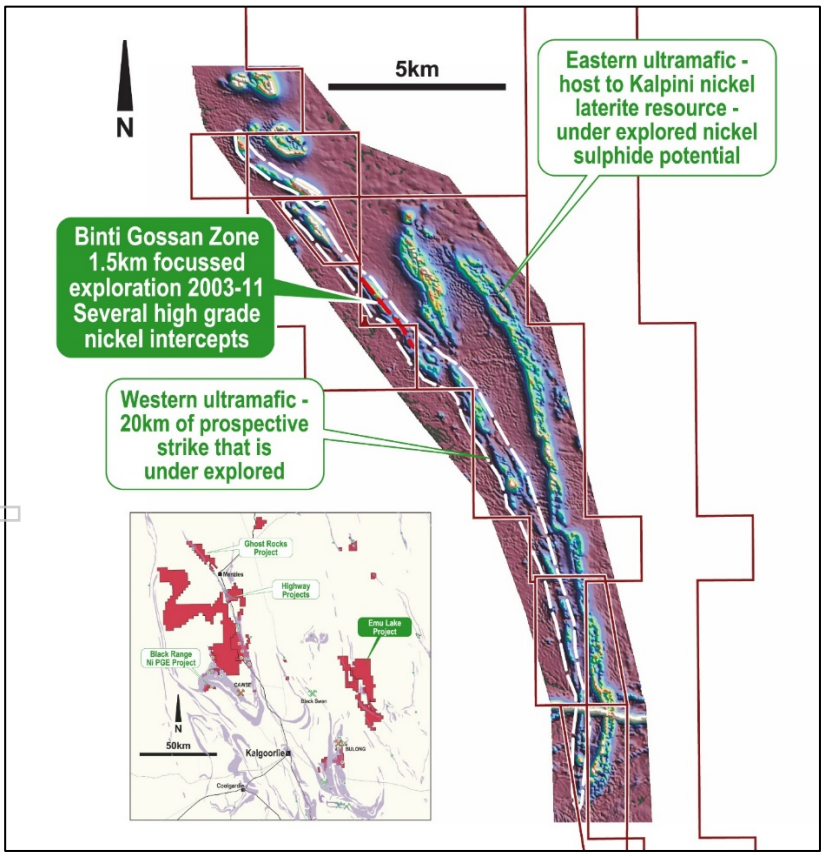


Figure 2: Ardea's tenement holding at Emu Lake shown with aeromagnetic background and key prospects highlighted.

[2] Ardea Annual Report 2019 (24 October 2019)

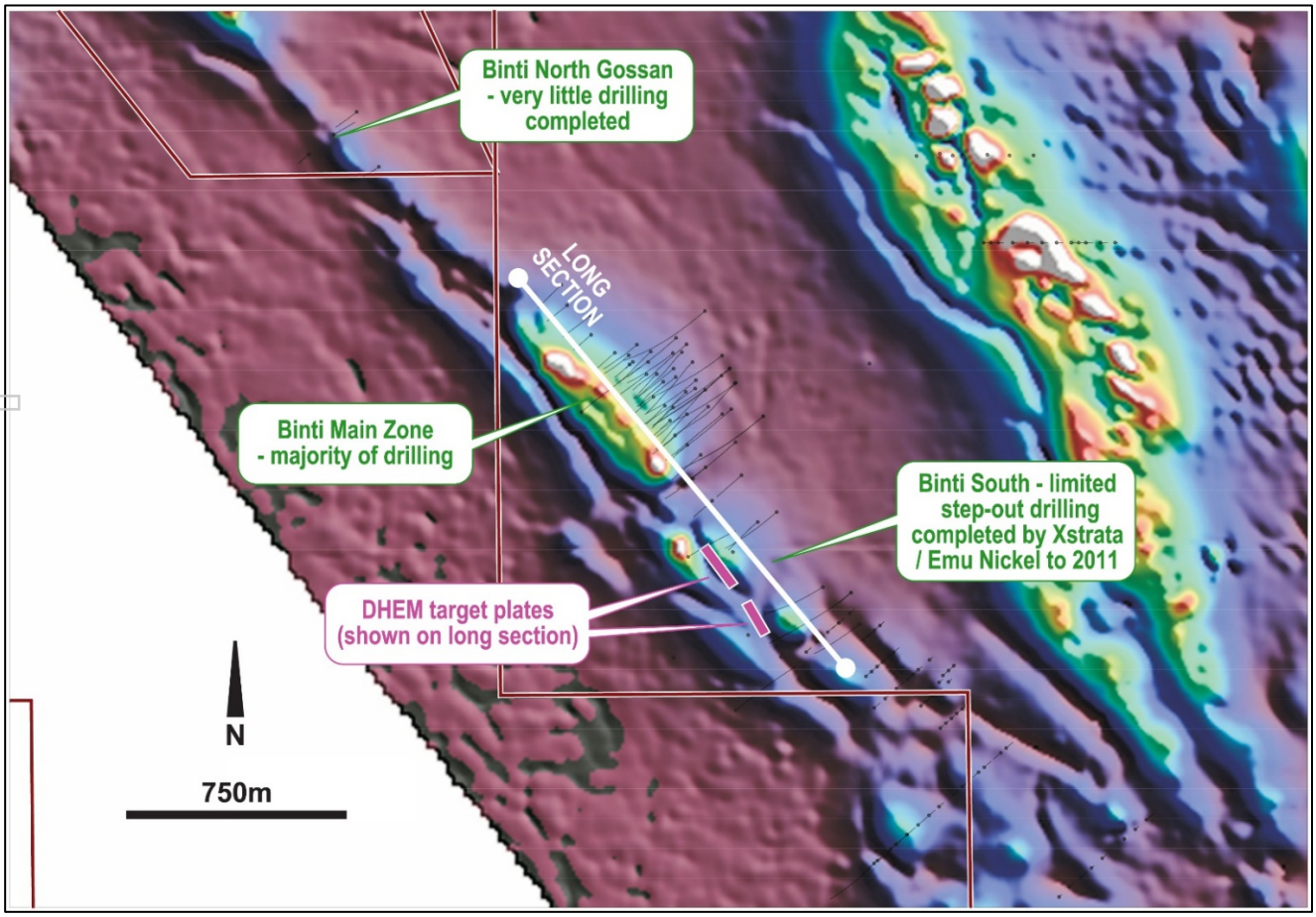
[3] Details and sources of information and technical data in this release are provided in the JORC Table 1, Appendix 1. Data has been collated from open-file sources and includes information from previous owners of the projects.

Table 1: Significant nickel intercepts from diamond drilling at the Binti Gossan prospect between 2000 and 2011. na = not assayed.

Hole No	From (m)	To (m)	Interval (m)	Ni (%)	Cu (%)	Pt (ppb)	Pd (ppb)	Pt+Pd (g/t)
ELD005	256.40	256.70	0.30	**7.6**	0.35	1015	1726	2.7
ELD005	277.06	277.23	0.17	**7.1**	**6.46**	1092	2315	**3.4**
ELD011	364.05	364.10	0.05	**3.6**	0.01	205	745	1.0
ELD014	194.52	194.65	0.13	**5.6**	0.18	940	3230	**4.2**
ELD015	336.00	338.00	2.00	**6.2**	**1.78**	749	1424	2.2
ELD016	377.07	377.35	0.28	**6.7**	0.24	423	226	0.7
ELD016	302.57	302.68	0.11	**4.0**	0.18	632	723	1.4
ELD021	366.50	366.65	0.15	**7.5**	0.11	928	1310	2.2
ELD023	292.79	293.07	0.28	**5.4**	0.40	na	na	na
ELD025	346.60	346.70	0.10	**10.9**	0.07	na	na	**4.2**
ELD029	551.05	551.55	0.50	**3.8**	0.23	na	na	na
ELD036	320.56	322.14	1.58	**3.7**	**1.33**	na	na	na
ELD037	476.83	477.00	0.17	**3.8**	0.91	31	3096	**3.1**
ELD042A	282.28	282.49	0.21	**6.3**	0.39	na	na	na
ELD047	447.35	447.60	0.25	**5.5**	0.21	na	na	na

The existing intercepts demonstrate the fertility of the ultramafic horizon, with only a small portion having been effectively explored. Ardea's approach is to view the 20km western ultramafic as a whole and identify where the most likely zones for economic nickel sulphide accumulations are located.

Figure 3: Emu Lake - Binti Gossan Prospect on aeromagnetic image showing drill hole traces and target EM plates.

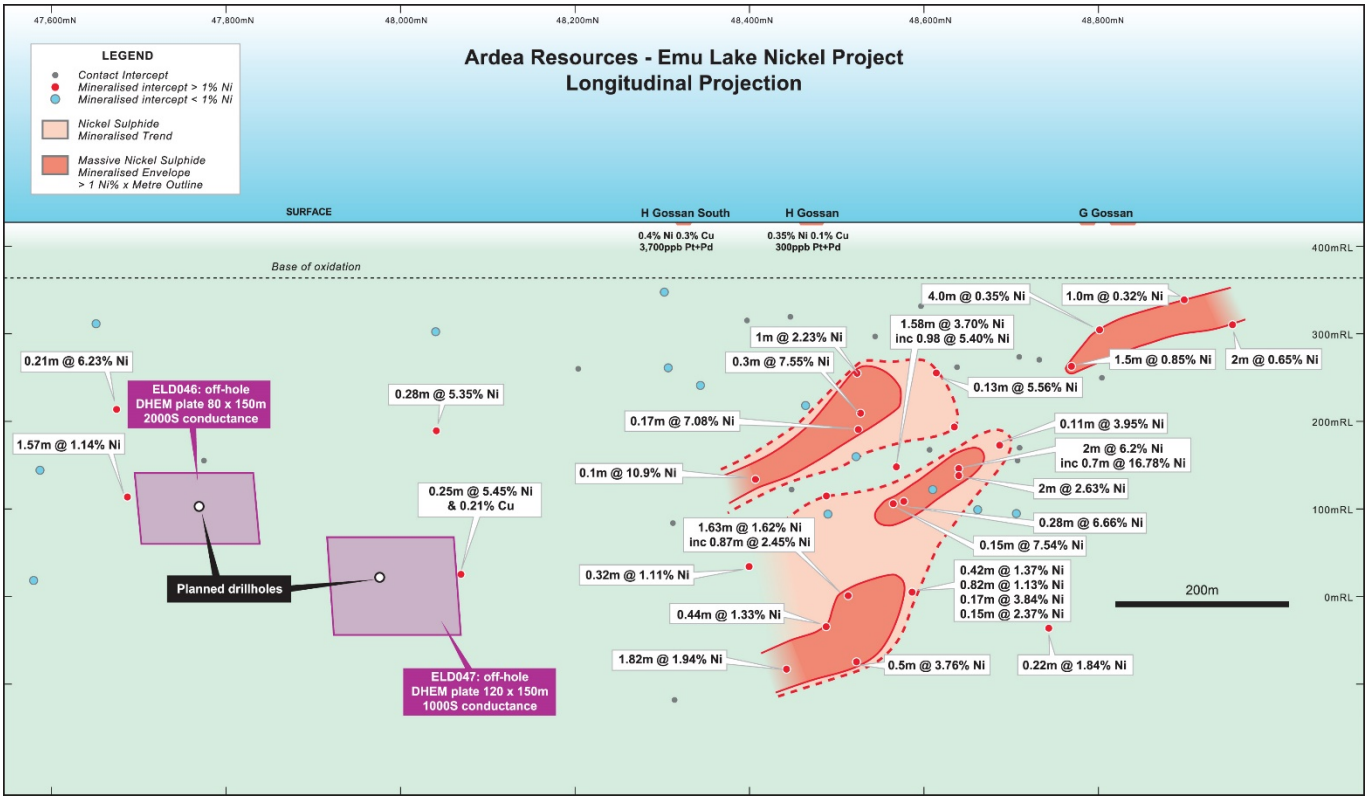


For personal use only

Compelling targets include:

1. Immediate targets present at Binti South (directly south of Binti Gossan) where DHEM plates related to bedrock conductors occur (Figure 3 and 4). Ardea is currently assessing these EM anomalies to refine compelling nickel sulphide drill targets. Most previous DHEM in the area was completed with a Crone system, and modern Atlantis-type systems will have significantly better capability to detect high conductivity nickel sulphides.

Figure 4: Binti Gossan Long Section, looking west – showing existing drilling pierce points and modelled DHEM plates south of the main gossan zone.

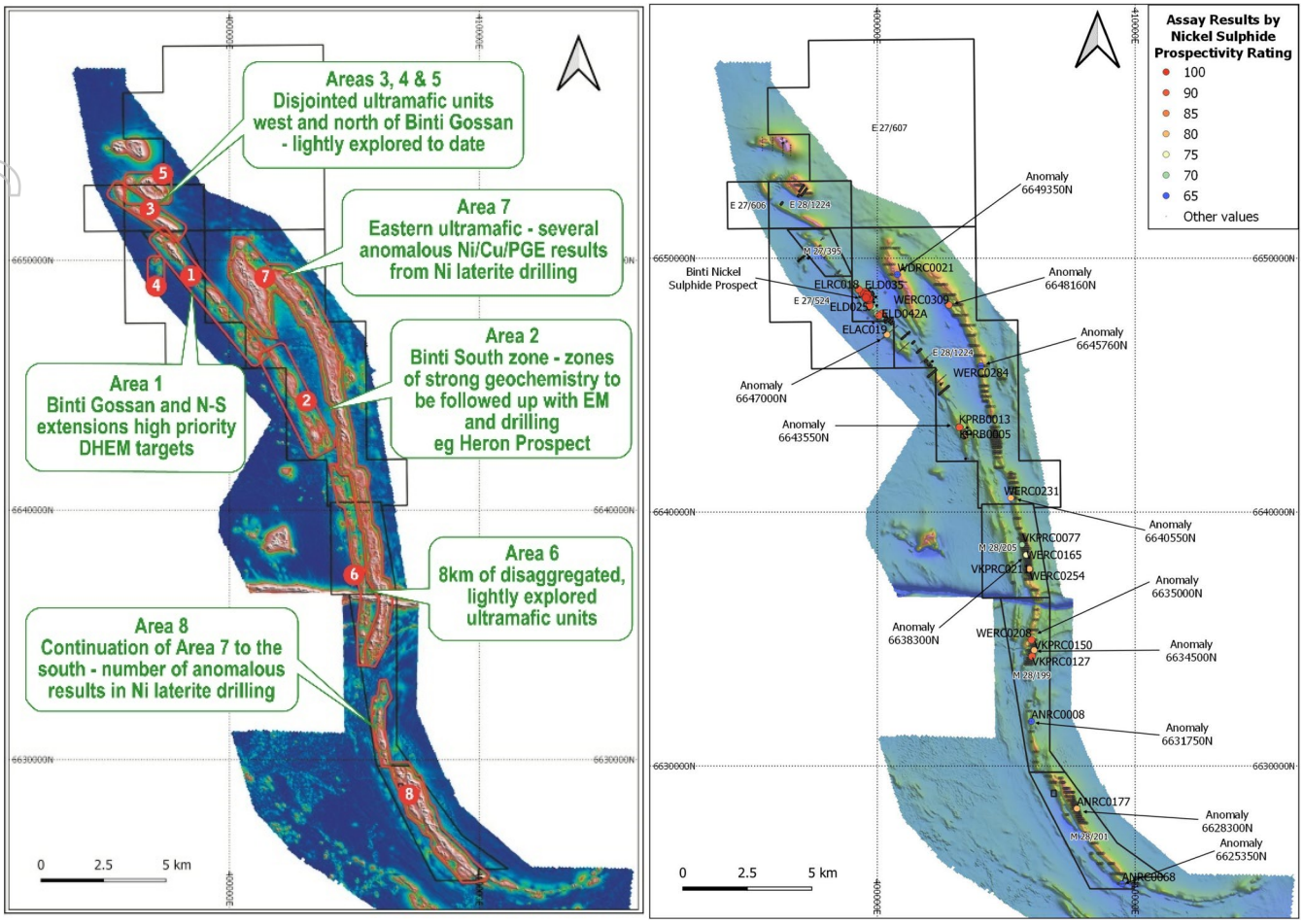


2. Binti North – 1.5km north of Binti Gossan, a gossan thinly crops out with rock chip results of 5680ppm Ni, 862ppm Cu, 364ppb Pt and 674ppb Pd. Drilling by Heron Resources Ltd (Heron) in 2014 intersected 8m of disseminated pentlandite and pyrrhotite in the target ultramafic but no massive sulphides. DHEM is proposed on two holes to broaden the search ellipse for massive nickel sulphides associated with this zone of disseminated sulphides.
3. 4.5km south of the Binti Gossan is the Heron prospect, RC drilled to 258m in 2014 beneath strong Ni/Cu/PGE geochemistry, a zone of disseminated nickel sulphides was intersected in meso-cumulate ultramafic rocks. Applying DHEM to this hole will provide vectors to massive sulphide mineralisation. High priority target.
4. Regional targets – several targets removed from the Binti Gossan prospect have also been identified, including a number of anomalous Cu/Ni results within the Kalpini nickel laterite drilling database (Figure 5).

Other project work being undertaken at the Kalpini Project includes detailed assessment of drill hole geochemical data to determine where zones of 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.

For personal use only

Figure 5: Regional Targets - Newexco study 2020. Magnetic images with anomalous zones (RHS) and priority ranked areas for follow-up (LHS)



Highway Project

The Highway Project, located 110km north of Kalgoorlie, is within a wholly owned and granted mining lease which hosts the Company's Highway resource (87.0Mt at 0.65% Ni and 0.04% Co, for 567.2kt Ni and 35.1kt Co)[4].

Magmatic nickel sulphide has been identified in RC drilling near the basal contact of the Walter Williams Formation (Figures 6 and 7). A Moving Loop EM (MLEM) survey in 2009 identified two subtle conductors along strike from the disseminated sulphide occurrence, however, drilling did not intersect massive sulphides. The fact that this portion of the Walter Williams Formation is fertile for nickel sulphides is significant with little or no focus on such occurrences over the last 20 years. It also raises the possibility of nickel sulphide occurrences beneath the GNCP to the south.

With modern geophysical techniques, such as induced polarisation (IP), it is possible to map disseminated sulphides to extensive depths (>800m) and this approach is proposed to be applied at Highway. Using IP to firstly map the broader disseminated sulphides and use this as a vector to massive sulphide zones. The prize of finding economic nickel sulphides in the Walter Williams Formation is significant as it immediately opens up a large new search space, of which Ardea is the major ground holder, controlling 40km of strike.

In addition, at Yunndaga immediately east of the Highway project, historical drilling has reportedly intersected fine disseminated pyrrhotite, chalcopyrite and violarite (nickel sulphide) in a talc-carbonate komatiite unit. This area is also being reviewed for IP and MLEM follow up.

[4] Ardea Annual Report 2019 (24 October 2019)

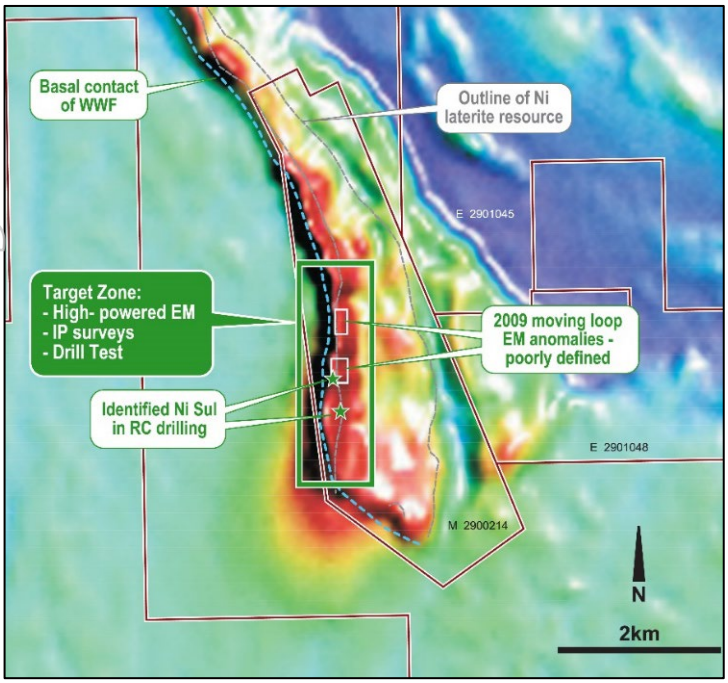
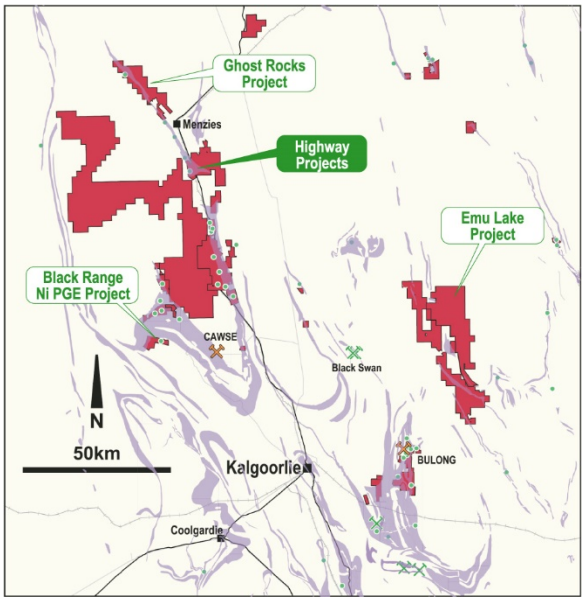
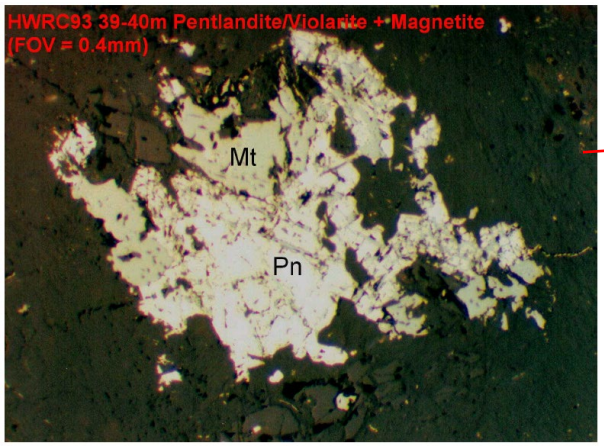


Figure 6: Highway Project – aeromagnetic image showing location of magmatic nickel sulphide and EM anomalies.





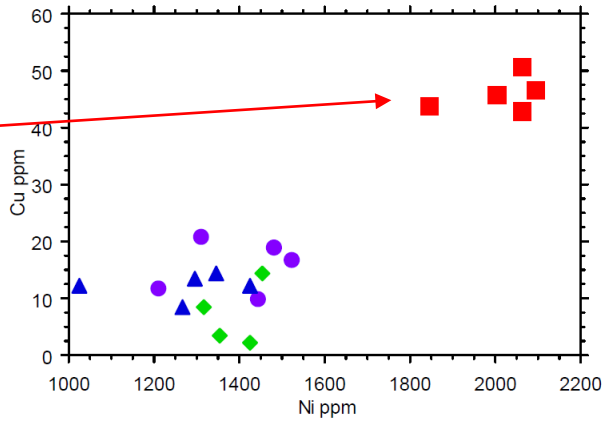


Figure 7: Photomicrograph of nickel sulphides in RC chips at the Highway project, with nickel-copper geochemistry of the sulphide bearing sample in comparison to non-sulphide samples from the same area. Mt = Magnetite and Pn = Pentlandite, which is the most common nickel bearing mineral.

Black Range Project

The Black Range Project is located 65km north-west of Kalgoorlie and contains a 5km zone of the Ora Banda mafic/ultramafic sill enriched in nickel, cobalt, copper, scandium and PGE metals (Figures 8). The Black Range resource comprises 19.2Mt at 0.68% Ni and 0.09% Co, for 130.7kt Ni and 17.8kt Co, as well as 8.70Mt at 65.6g/t Sc for 570,000kg Sc, and 6.55Mt at 0.33g/t Pt and 0.21g/t Pd for 70,300oz Pt and 44,000oz Pd[5],

A number of drilling campaigns have been completed with the most recent in 2017 which delineated a zoned lateritic distribution of nickel, cobalt, copper, scandium and PGE metals, as shown in the cross section below (Figure 9). High copper-PGE zones include:

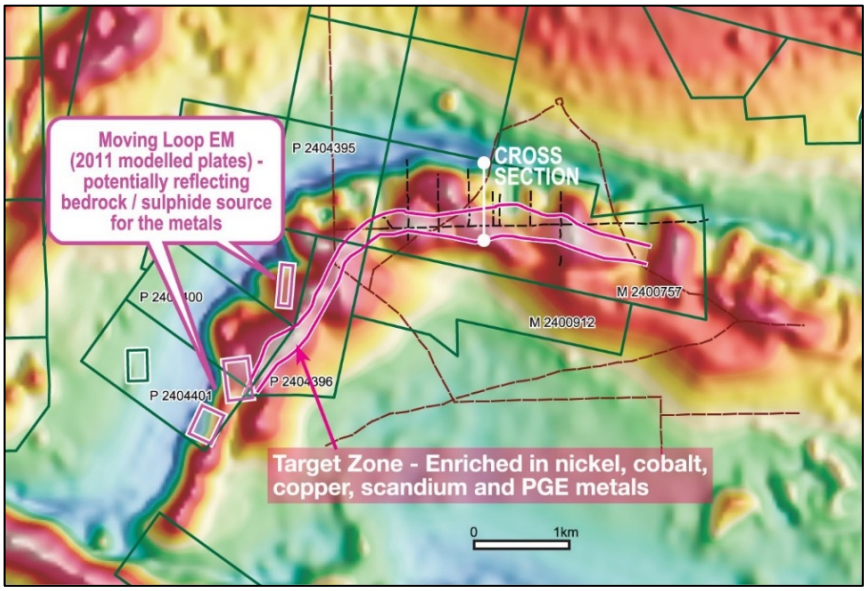
- ABR0001/4-20m 16m at 0.24% Ni, 0.11% Cu, 0.29g/t Pd, 0.38g/t Pt
- ABR0016/2-18m 16m at 0.45% Ni, 0.17% Cu, 0.15g/t Pd, 0.26g/t Pt
- ABR0021/4-24m 20m at 0.18% Ni, 0.09% Cu, 0.29g/t Pd, 0.36g/t Pt

[5] Ardea ASX announcement "Black Range cobalt, nickel, scandium and platinum/palladium resources" (31 October 2017).

For personal use only

This geochemical signature, particularly the high copper and PGE values, is entirely consistent with a sulphidic nickel metal source and is quite different to the usual KNP nickel laterite geochemistry. The target zone is located at a specific rock unit contact within the layered complex.

A moving loop EM survey from 2011 identified a number of second order conductors on the western side of the package and these are being reviewed and will be possibly re-surveyed with modern higher-powered EM systems. Concentration of PGEs and related metals is clearly happening in the lateritic regolith and is an economic target in its own right, however, finding the bedrock sulphide source of the nickel-copper PGE metals is the current focus.



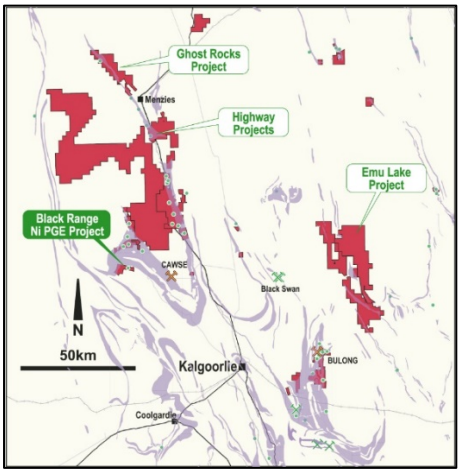


Figure 8: Black Range project, Ardea tenements over TMI aeromagnetic image showing the outline of the zone enriched in nickel, cobalt, copper, scandium and PGE metals, Ardea ASX announcements 13 June 2017, 28 August 2017, 31 October 2017.

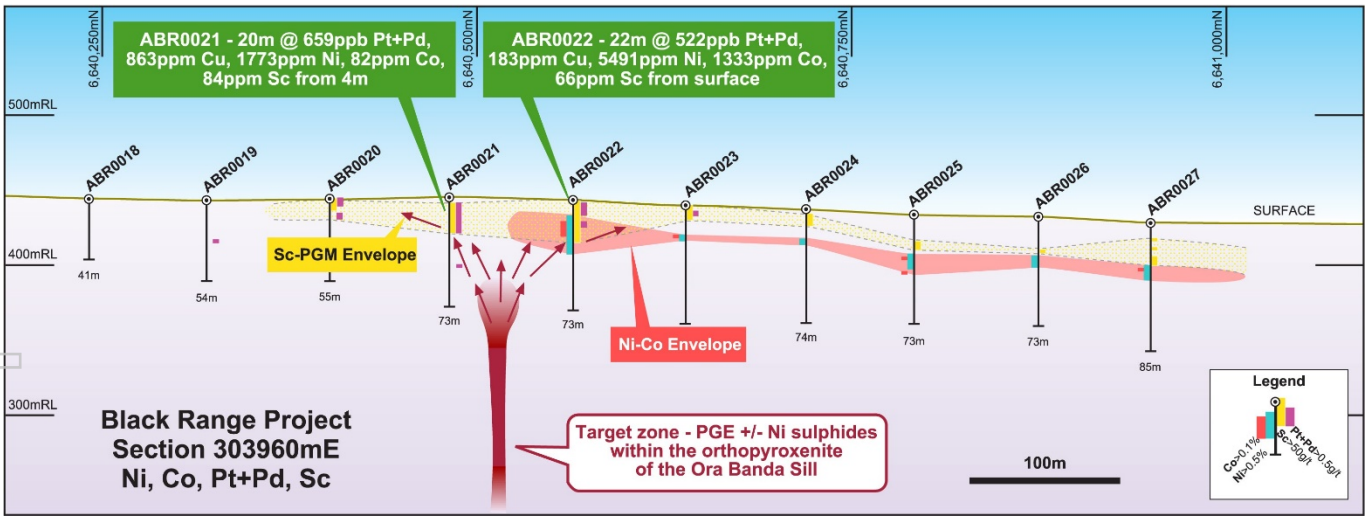


Figure 9: Black Range Cross Section looking west. Zone of enriched PGEs and Sc in the laterite regolith are potentially derived from a narrow source within the Ora Banda sill, Ardea ASX announcements 13 June 2017, 28 August 2017, 31 October 2017.

For personal use only

Ghost Rocks Project

The Ghost Rocks Project, located 140km north of Kalgoorlie contains a mixed package of mafic and ultramafic stratigraphy not part of the Walter Williams Formation (Figure 10) and hosts Ardea's Ghost Rocks laterite resource (47.3Mt at 0.66% Ni and 0.04% Co, for 312.9kt Ni and 19.9kt Co)[6]. It was extensively prospected for nickel and copper sulphide deposits in the late 1960's and early 1970's where copper gossan zones were mapped in the mafic/ultramafic package. Drilling of these gossan zones by Newmont in the early 1970's returned a best result in the oxide zone of 3.3m (10 foot) grading 2.14% copper to end of hole from 12m depth.

Work by Heron Resources in 2008/09 identified a number of MLEM anomalies that were drilled and intersected broad zones of "cloud nickel sulphides" in ultramafic rocks. But no follow-up was completed as massive sulphides were not intersected during the campaign.

Re-assessing the MLEM anomalies and effectiveness of the drilling is a priority at Ghost Rocks. There is potential to complete DHEM on the existing drilling to vector towards massive sulphides. The broad zone of copper mineralisation is also of significant interest and an IP survey is being considered to map out this sulphide zone which extends for some 4km along strike.

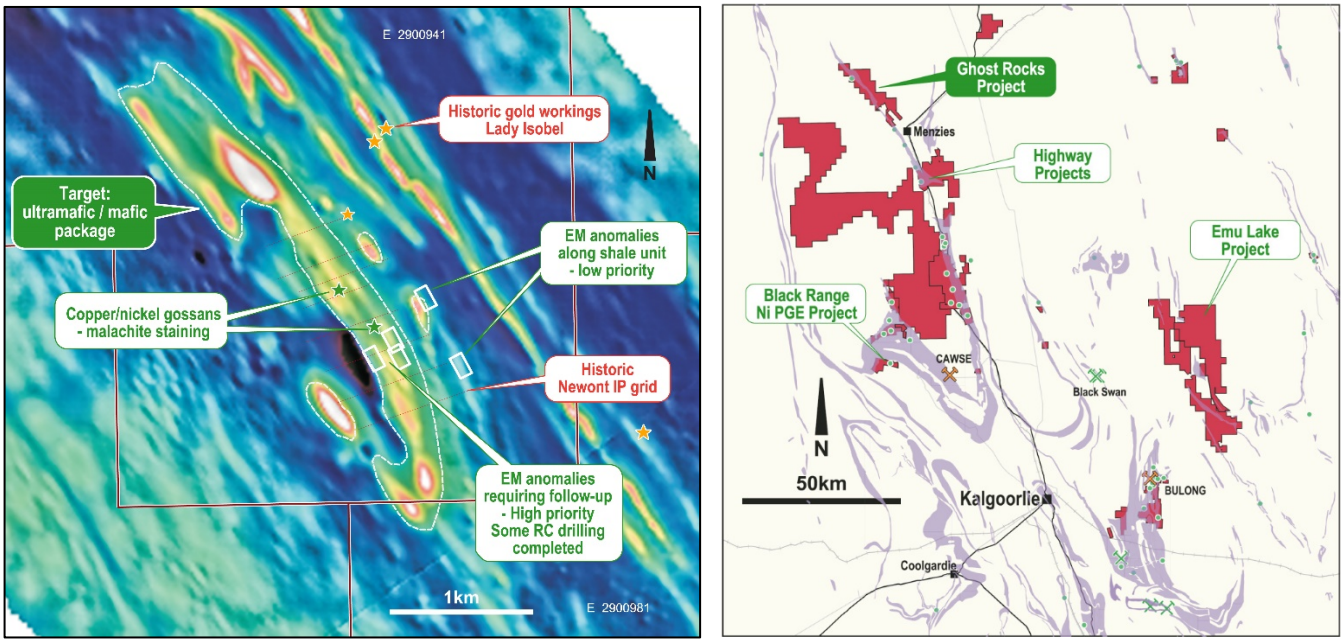


Figure 10: Ghost Rocks Project – aeromagnetic image showing target package of mafic and ultramafic rocks and key EM targets.

Bedonia Project

The Bedonia Project, covers 900km^2 extending from 15km to 80km east north-east from Norseman and covers a large portion of the Proterozoic Jimberlana Dyke, prospective for differentiated mafic/ultramafic nickel/copper/PGE sulphide deposits (Figure 11). The tenements lie over the southern margin of the Archaean Yilgarn Craton with the Cundeelee Fault separating the geological provinces. To the south of this fault the Northern Foreland comprises highly deformed, greenschist to granulite facies Archean granite and greenstones with multiple intrusion events including Gnowangerup Fraser dyke suite and Paleoproterozoic granites. The Jimberlana Dyke has, in part, been emplaced along this major crustal suture zone and is believed to be a highly prospective structure for base and precious metals.

[6] Ardea Annual Report 2019 (24 October 2019)

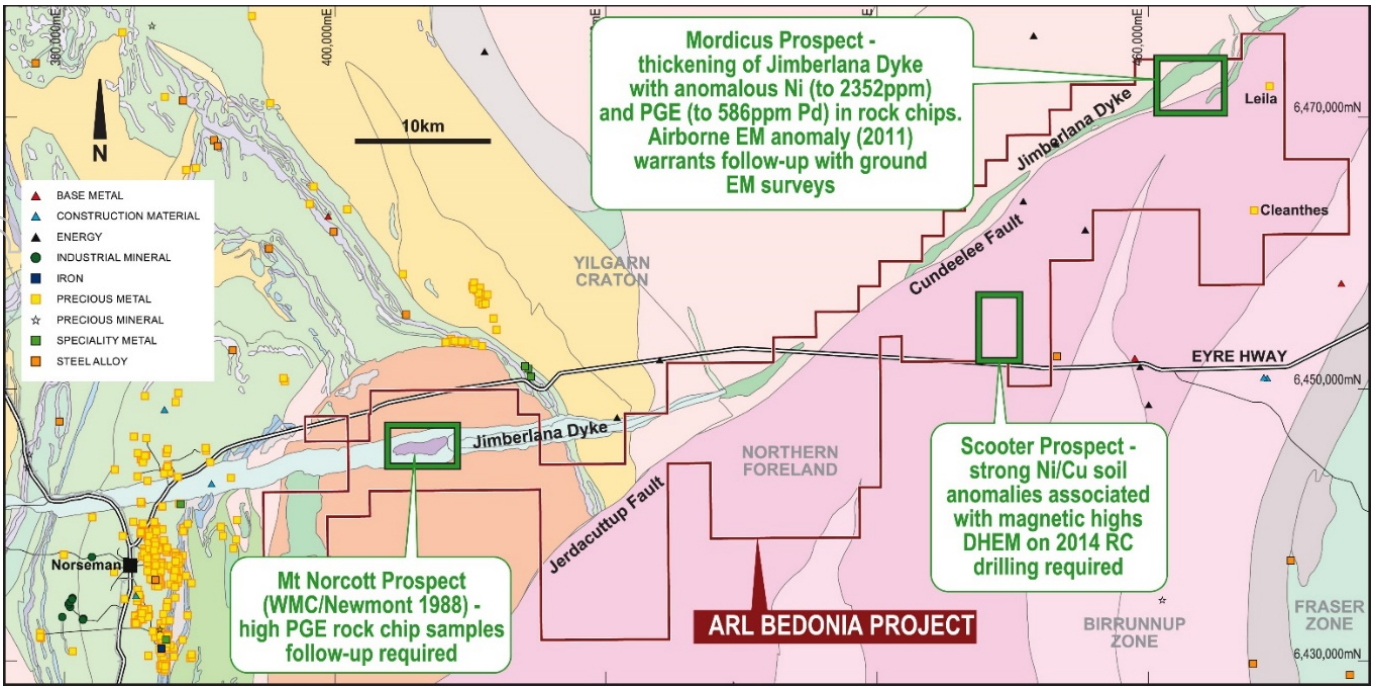


Figure 11: Bedonia project tenements on interpreted bedrock geology, showing main prospects and mineral occurrences with nickel sulphide targets highlighted. A number of gold targets have also been defined, including Leila and Cleanthes.

Mordicus Prospect

The Mordicus prospect in the far north east of the Bedonia project occurs where the Jimberlana Dyke has thickened to approximately 1km across and the intrusive package has differentiated to dunite, norite, pyroxenite and dolerite/gabbro units (Figure 12). Reconnaissance surface rock chip samples returned up to 0.59g/t Pd, 0.12g/t Pt and 2352ppm Ni with anomalous Ni, Cu and PGEs being recorded in soil sampling programs. An airborne EM (Sampson) survey flown by AngloGold in 2011 returned a subtle near surface anomaly that may be related to disseminated sulphides or weathering effects rather than massive sulphides, however, given the shallow penetration of the airborne EM systems, Ardea is looking to follow this up with a ground based EM survey.

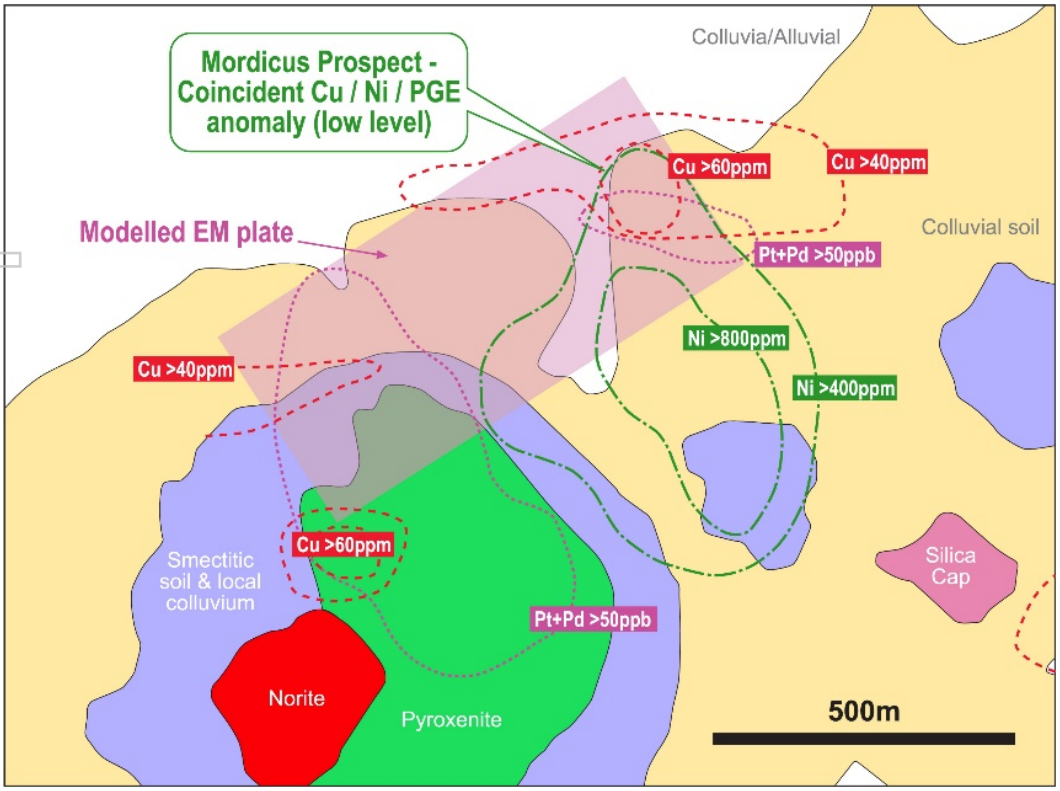


Figure 12: Mordicus Prospect with surface geology mapping, geochemistry contours and modelled airborne EM plate.

For personal use only

For personal use only

Perrinvale Project

The Perrinvale Project, located 235km north east of Kalgoorlie covers 175km² along the eastern strike continuation of the "Cathedrals" Proterozoic Dyke complex (Figure 13). The Ardea exploration model is based on recent nickel sulphide discoveries immediately west of Perrinvale made by St George Mining. Regional magnetic data highlights that the feature which hosts the St George Mining nickel sulphide discoveries within the Cathedrals Belt, has an east-northeast strike and extends into Perrinvale.

An MLEM survey was completed over three separate zones at Perrinvale in late 2019. Proposed follow-up exploration includes shallow aircore drilling beneath transported cover to determine basement geology and whether there is a geochemical signature associated with the three EM anomalies defined.

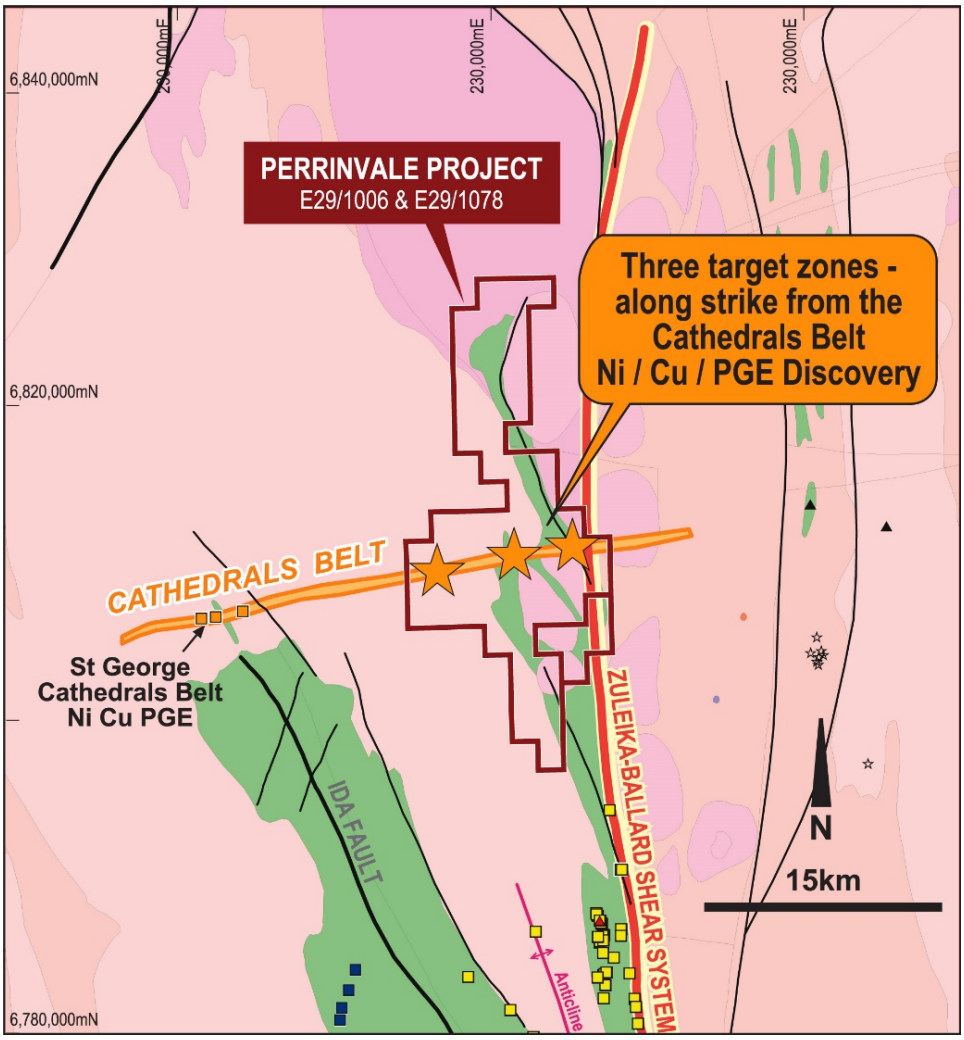


Figure 13: Perrinvale Project – Ardea tenure over interpreted Archaean geology.

Next Steps

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. Follow-up exploration has already been planned and is underway at Emu Lake targeting a high grade, Silver Swan type, nickel sulphide discovery. Initial work underway includes:

- Locating historic drill hole collars and checking if the holes are open, so that DHEM surveys can be completed utilising modern day, high-powered systems to detect nickel sulphide bodies;
- Moving Loop EM surveys over areas of anomalous geochemistry; and
- Following up with RC and/or diamond core drilling of specific targets.

Ardea has had recent exploration success applying a similar approach to ranking and prioritising gold targets, as shown by the emerging gold discoveries at the Aphrodite North and Grafter areas within the Goongarrie Nickel Cobalt Project tenements. Any drilling as part of the nickel sulphide programs will also be assessed for nickel laterite and gold mineralisation.

Work continues apace as Western Australian exploration and mining accelerates as a result of the State remaining closed to the rest of Australia and thereby being largely unaffected by the COVID-19 pandemic. Exploration updates will continue as Ardea continues to comprehensively unlock the full value of its strategic tenement portfolio.

Authorised for lodgement by the Board of Ardea Resources Limited.

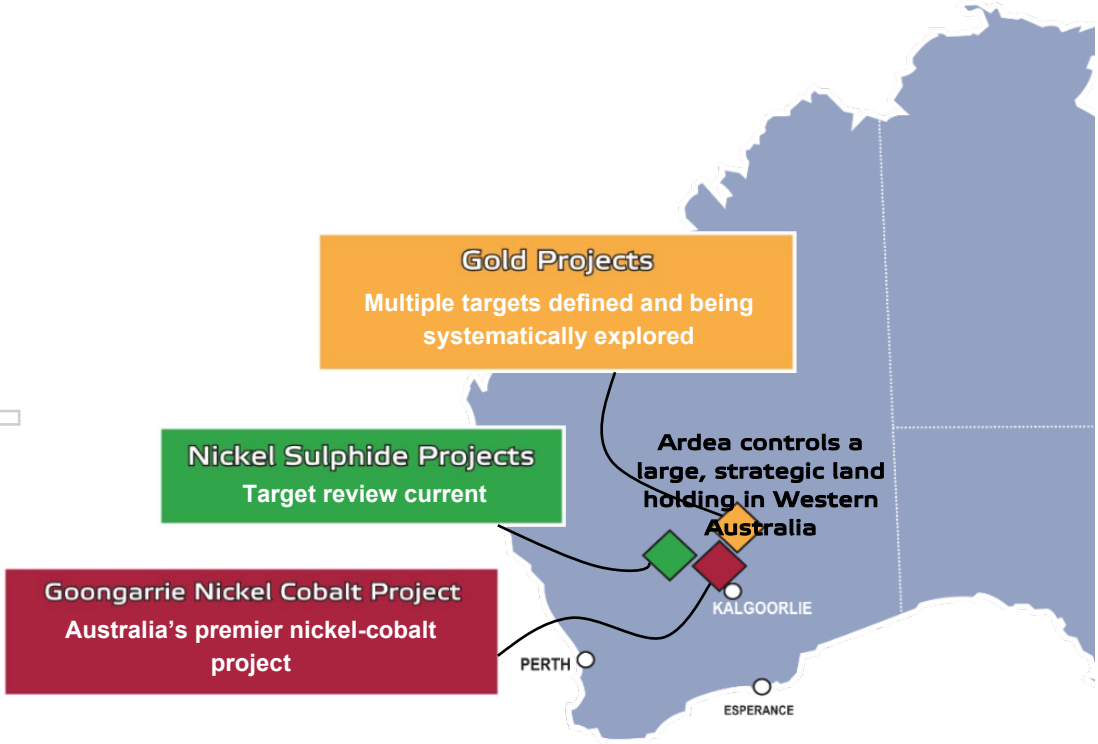
For further information regarding Ardea, please visit www.ardearesources.com.au or contact:

Andrew Penkethman
Managing Director and Chief Executive Officer
Tel +61 8 6244 5136

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 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.



Follow Ardea on social media

For personal use only

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.

For personal use only

Appendix 1 - Ardea Resource Ltd - Nickel Sulphide Targeting Update, September 2020

JORC 2012 Table 1

Note: This ASX report summarises historical exploration results which were sourced from Open File reports available on the Geological Survey of Western Australia WAMEX system and from data compiled from geological/geophysical consultants Newexco Exploration Pty Ltd (Newexco), plus data acquired from Heron Resource Ltd as part of the Ardea demerger process in 2016/17. Full auditing and verification of this information and data has not been undertaken by Ardea, but is believed to be sufficiently correct for the stage of exploration and style of reporting being undertaken in this ASX Release.

Section 1 Sampling Techniques and Data

(Criteria in this section applies to all succeeding sections)

Criteria	JORC Code explanation	Commentary
Sampling techniques	• *Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.* • *Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.* • *Aspects of the determination of mineralisation that are Material to the Public Report.*	**Emu Lake Drilling** • Samples from the diamond-core holes were taken from mostly NQ sized core and sampled on a nominal 1 metre basis taking into account smaller sample intervals up to geological contacts and massive sulphide zones. **Highway and Ghost Rocks Projects** • Samples taken from 1m and 2m split reverse circulation (RC) drilling.
Drilling techniques	• *Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details.*	**Emu Lake Drilling** • Diamond core drilling mostly undertaken by Westralian Diamond Drillers from Kalgoorlie Western Australia. **Highway and Ghost Rocks Projects** • Reverse circulation drilling.
Drill sample recovery	• *Method of recording and assessing core and chip sample recoveries and results assessed.*	• Drilling sample recovery for the diamond core drilling at Emu Lake was not recorded in the database at the time of drilling, no issues with recovery of samples were noted, however.
Logging	• *Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.*	• The diamond core and RC chips were geologically logged by qualified geologists and recorded in the available database.
Sub-sampling techniques and sample preparation	• *For all sample types, the nature, quality and appropriateness of the sample preparation technique.*	• Samples were prepared and assayed in industry standard laboratories and significant results reported to JORC (2012) standards.

For personal use only

Criteria	JORC Code explanation	Commentary
Quality of assay data and laboratory tests	• *The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.* • *Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.*	• Samples were prepared and assayed in industry standard laboratories and significant results reported to JORC (2012) standards.
Verification of sampling and assaying	• *The verification of significant intersections by either independent or alternative company personnel.* • *Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.* • *Discuss any adjustment to assay data.*	• No independent verification of results has been undertaken at this stage. • All field and laboratory data has been entered into an industry standard database. • No adjustment to assay data is known.
Location of data points	• *Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.*	• Drill collars were initially located with a combination of handheld GPS and licenced surveyor using a DGPS system, with accuracy of about 1-3m. Where recorded in the database, the final drill collars were surveyed by a licenced surveyor with accuracy of less than 5 centimetres.
Data spacing and distribution	• *Data spacing for reporting of Exploration Results.* • *Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.* • *Whether sample compositing has been applied.*	• Drilling was of an exploration nature and no resource style drilling requiring specific drill spacing was undertaken.
Orientation of data in relation to geological structure	• *Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.*	• The drilling orientation is designed to intersect the mineralised lenses at a close to perpendicular angle. At some prospects the true dip is unclear and can therefore potentially introduce sampling bias. Given the early stage of exploration and the nature of the results this potential issue to not considered material.
Sample security	• *The measures taken to ensure sample security.*	• The samples were taken and managed by reputable companies, however, details about specific security measures are not known.
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	• Given the early stage of the exploration results, no audits or reviews have been undertaken or considered necessary at this stage.

For personal use only

Section 2 **Reporting of Exploration Results**

(Criteria listed in the preceding section also apply to this section.)

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	• *Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.* • *The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.*	• The project area locations are shown on Figure 1 of this report and described in the body of the report. • The tenure is considered to be secure and held 100% by Ardea under granted Mining Leases and/or Exploration Licences. • Given the early stage of the exploration no mining specific applications have been made, and there are no known impediments (eg *overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings)* to mining in the tenure.
Exploration done by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	• The Emu Lake project has been explored for nickel sulphides since 2003 by Image Resources, Skryne Hill, Jubilee Mines, Emu Nickel, and Xstrata. The majority of the drilling was undertaken by these companies. • Heron Resources Ltd is acknowledged for the drilling and geological appraisals undertaken at the Highway, Ghost Rocks and other projects.
Geology	• *Deposit type, geological setting and style of mineralization.*	• The Company is seeking Archaean aged komatiite hosted nickel sulphide and related deposits in the project areas. At Bedonia, nickel-copper-PGE's are also being explored for in the Proterozoic Jimberlana layered mafic dyke complex.
Drill hole Information	• *A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:*	• Significant intercepts from the Emu Lake drilling are provided in the body of the report.
Data aggregation methods	• *In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.* • *Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.*	• The reported assays are weighted for their assay interval width. • No cutting of grades has been undertaken.
Relationship between mineralization widths and	• *These relationships are particularly important in the reporting of Exploration Results.* • *If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.*	• True width of the reported sulphide zones has not been attempted during this early stage of reporting. True width is considered to be approximately the same as reported down-hole width.

For personal use only

Criteria	JORC Code explanation	Commentary
intercept lengths		
Diagrams	• *Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.*	• Where relevant, a diagram showing the hole positions relevant for the current phase of exploration is included in the release.
Balanced reporting	• *Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Results.*	• The reporting is considered to be balanced taking into account the early stage of the exploration and the summary nature of this ASX report.
Other substantive exploration data	• *Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.*	• Selected drill holes have been cased with 40 and 50 millimetre PVC tubing for potential down-hole DHEM surveying which may be undertaken by Ardea in the future.

Future work	• *The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).*	• Ardea is seeking Archaean komatiite hosted nickel sulphide deposits on its extensive Eastern Goldfields of Western Australia tenement holding. At Bedonia, nickel-copper-PGE's are also being explored for in the Proterozoic Jimberlana layered mafic dyke complex.
		• This ASX report summarises Ardea's key nickel sulphide projects – from this body of work the following programs are proposed for near future implementation:
		  • DHEM surveys with modern day, high-powered systems to detect nickel sulphide bodies
		  • Moving Loop EM surveys over areas of anomalous geochemistry
		  • Following from this RC and/or diamond core drilling of specific targets.